Galtech
OLEODINAMICA

Pompe e motori ad ingranaggi
Gear pumps & motors

CATALOGO TECNICO - *TECHNICAL CATALOGUE*

walvoil
FLUID POWER E|MOTION

A member of
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Ulteriori informazioni
Il catalogo mostra il prodotto nelle configurazioni più comuni.
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ATTENZIONE!
Specifiche tecniche, disegni e descrizioni riportati nel presente catalogo, sono riferiti al prodotto standard al momento dell'entrata in stampa.
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6th Edition November 2018

POMPE & MOTORI AD INGRANAGGI
GEAR PUMPS & MOTORS

edizione - *edition*: **D1WGEM01IE**

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Galtech OLEODINAMICA

POMPE AD INGRANAGGI
GEAR PUMPS

INTRODUZIONE • *INTRODUCTION*

La pompa ad ingranaggi esterni è un componente ampiamente utilizzato per applicazioni oleodinamiche: la sua semplicità nella costruzione (rispetto ad altre tipologie di pompe più complesse come ad esempio pompe orbitali o a pistoni) unita alla grande versatilità, resistenza e lunga durata consentono una manutenzione ridotta e costi d'acquisto più contenuti.

Tali pompe possono sia lavorare in condizioni gravose con l'erogazione di elevate potenze idrauliche, sia in condizioni standard con una bassa emissione acustica ed elevati rendimenti idromeccanici e volumetrici grazie all'ottima bilanciatura.

La gamma Galtech grazie un costante lavoro di ricerca unito all'esperienza pluriennale, alla meticolosa scelta dei materiali e alla costante cura nel processo non solo di produzione, ma anche nei test di validazione si è ampliata mantenendo elevati standard qualitativi.

Le pompe ad ingranaggi esterni sono costituite da 3 gruppi: 1SP, 2SP (a 12 denti) e 3GP (a 10 denti) con ben 32 cilindrate da 0.89 a 77 cc/giro adatte alle più variate applicazioni sia industriali che nel campo del mobile con elevati rapporti potenza/peso e potenza/dimensioni.

Si possono raggiungere pressioni elevate fino a 300 bar e velocità massime di rotazione di 4000 giri/min.

Le pompe Galtech possono essere assemblate con totale intercambiabilità sia con flange standard (europea, tedesca, SAE) sia con tipologie speciali ed utilizzate con una vasta gamma di alberi come quelli conici, cilindrici scanalati e fresati con dente frontale.

Sono disponibili vari coperchi e flange in ghisa per ridurre la rumorosità e aumentare i limiti operativi. Inoltre è possibile montare coperchi con valvola limitatrice di pressione e valvole regolatrici di flusso.

Tutte le pompe sono predisposte per il montaggio in una o più ulteriori unità per la realizzazione di pompe multiple: diverse soluzioni di accoppiamento sono disponibili per privilegiare la compattezza costruttiva o una intercambiabilità più flessibile.

The external gear pump is widely used for oleodynamic applications: its simplicity in construction (compared to other types of more complex pumps such as orbital or axial piston pumps) coupled with great versatility, strength and durability allow reduced maintenance and lower purchasing costs.

These pumps can work both under harsh conditions with high hydraulic power supply, both in standard conditions with a low noise level and high hydromechanical efficiency and excellent volumetric balancing.

The Galtech range thanks to a constant research combined with years of experience, meticulous choise of materials and constant care of the process not only in production, but also in the validation tests, has expanded while maintaining high quality standards.

The external gear pumps consist of 3 groups: 1SP, 2SP (12 teeth) and 3GP (10 teeth) with 32 displacements from 0.89 to 77 cc/rev suited to various applications in the field of mobile with high industrial power-to-weight and power/size ratios.

You can reach high pressures up to 300 bar and maximum speeds of rotation of 4000 rpm.

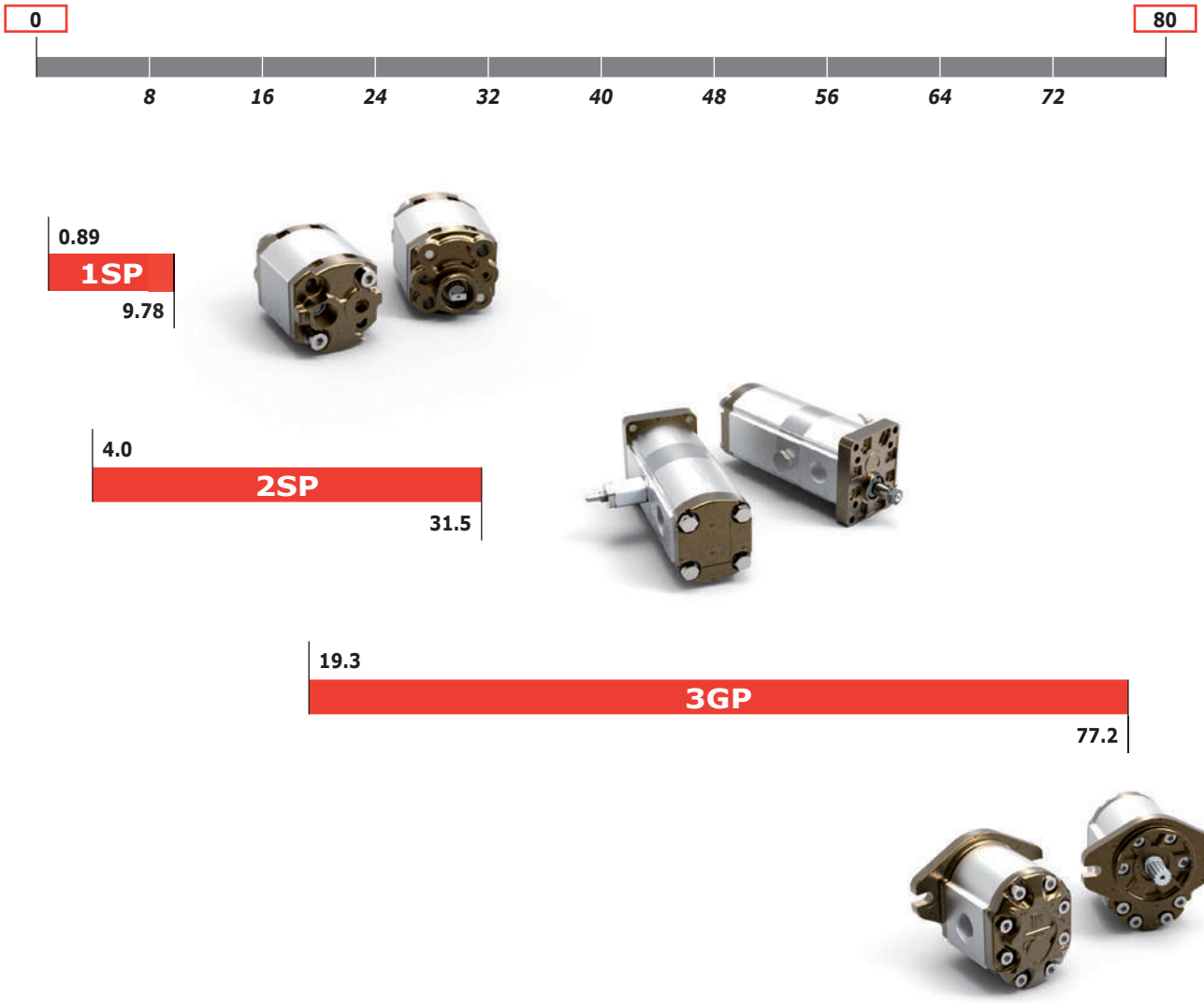
Galtech pumps can be assembled with complete interchangeability both with standard flanges (European, German, SAE) and with special flanges used with a variety of shafts as those the cylindrical, conical grooved and milled ones with front tooth.

Several cast iron covers and flanges are available to reduce noise and to increase the operating limits. Covers with pressure relief valve and flow control valves can be assembled as well.

All the pumps are arranged for the mounting into one or more additional units to complete multiple pumps: different coupling solutions are available to privilege the construction compactness or a more flexible interchangeability.

POMPE AD INGRANAGGI GAMMA PRODOTTO
GEAR PUMPS PRODUCT RANGE

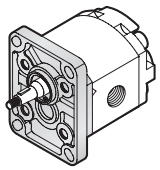
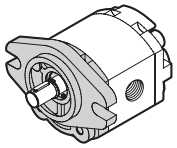
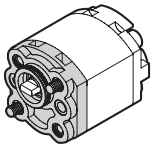
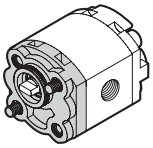
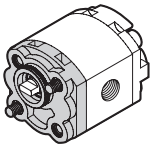
Le cilindrate disponibili sono evidenziate nel seguente diagramma (cm^3/giro):
The available displacements are shown below (cm^3/rev):



POMPE AD INGRANAGGI GAMMA PRODOTTO
GEAR PUMPS PRODUCT RANGE

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	*in³/rev*	*giri/min - rpm*	*l/min*	*Gal/min*	*giri/min - rpm*
1SP 009	0.89	*0.05*	6000	5.3	*1.40*	600
1SP 012	1.18	*0.07*	6000	7.1	*1.88*	600
1SP 016	1.6	*0.10*	6000	9.6	*2.54*	400
1SP 020	2.0	*0.12*	5500	11	*2.91*	400
1SP 025	2.5	*0.15*	5000	12.5	*3.30*	400
1SP 032	3.2	*0.20*	4500	14.4	*3.80*	400
1SP 037	3.7	*0.23*	4000	14.8	*3.91*	400
1SP 042	4.2	*0.26*	3500	14.7	*3.88*	400
1SP 050	5.0	*0.31*	3000	15	*3.96*	400
1SP 063	6.3	*0.38*	2700	17	*4.49*	400
1SP 078	7.76	*0.47*	2500	19.4	*5.13*	400
1SP 098	9.78	*0.60*	2000	19.6	*5.18*	400

FLANGE - *FLANGES*

EUR	SAEAA	MC32	E32BX - E32BC	E32CX - E32CC
				
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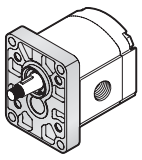
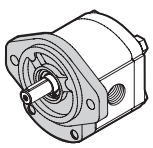
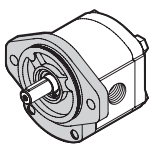
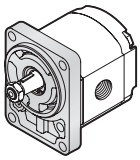
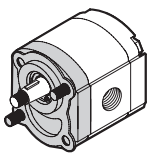
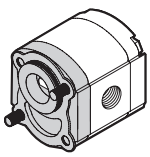
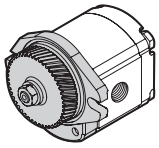
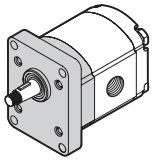
POMPE AD INGRANAGGI GAMMA PRODOTTO
GEAR PUMPS PRODUCT RANGE

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	*in³/rev*	*giri/min - rpm*	*l/min*	*Gal/min*	*giri/min - rpm*
2SP 040	4	*0.24*	4000	16	*4.23*	500
2SP 060	6	*0.37*	4000	24	*6.34*	500
2SP 080	8.5	*0.52*	3500	29.7	*7.85*	500
2SP 110	11	*0.67*	3500	38.5	*10.17*	500
2SP 140	14	*0.85*	3500	49	*12.95*	500
2SP 160	16.5	*1.01*	3500	57.7	*15.24*	500
2SP 190	19.5	*1.19*	3300	64.3	*16.99*	500
2SP 220	22.5	*1.37*	2800	63	*16.64*	500
2SP 260	26	*1.59*	2500	65	*17.17*	500
2SP 310	31.5	*1.92*	2200	69	*18.22*	500

FLANGE - *FLANGES*

EUR	SAEA	SAEAOR	B80C	B50C	E52C	P400D	SUPEUR
							
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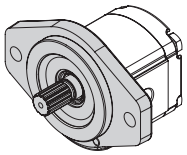
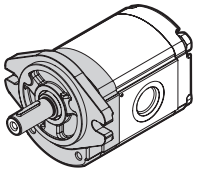
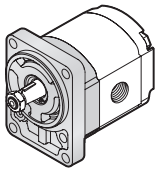
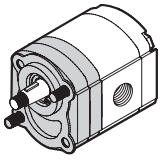
FLANGE - *FLANGES*

SAEB*	SUPSAE	SUPB80C	SUPB50CX
			
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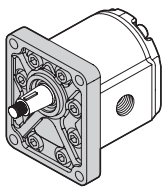
***** Contattare il servizio commerciale. / *Available soon. Please contact our Sales Dpt.*

POMPE AD INGRANAGGI GAMMA PRODOTTO
GEAR PUMPS PRODUCT RANGE

GRUPPO GROUP 3GP	CILINDRATA DISPLACEMENT		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	*in³/rev*	*giri/min - rpm*	*l/min*	*Gal/min*	*giri/min - rpm*
3GP 190	19.3	*1.2*	3500	67.6	*17.84*	600
3GP 230	23.0	*1.4*	3500	80.3	*21.22*	600
3GP 300	30.2	*1.8*	3300	99.7	*26.33*	600
3GP 340	33.8	*2.1*	3300	111.6	*29.49*	600
3GP 370	37.5	*2.3*	3300	123.6	*32.66*	600
3GP 440	44.6	*2.7*	3000	133.8	*35.35*	600
3GP 530	53.0	*3.2*	3000	159.1	*42.04*	600
3GP 620	62.7	*3.8*	2500	156.8	*41.41*	600
3GP 700	70.5	*4.3*	2500	176.3	*46.58*	600
3GP 770	77.2	*4.7*	2200	169.8	*44.84*	600

FLANGE - *FLANGES*

EUR



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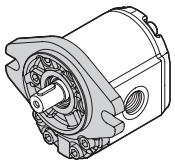
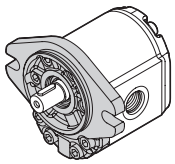
SAEB*



SAEBOR



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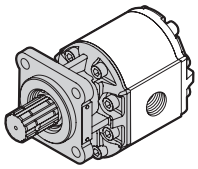
ZFC



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POMPE AD INGRANAGGI INFORMAZIONI TECNICHE
GEAR PUMPS TECHNICAL INFORMATION

FLUIDI IDRAULICI • *HYDRAULIC FLUIDS*

È consigliabile utilizzare oli idraulici di origine minerale con buone caratteristiche antischiuma, antiusura, antiossidanti, anticorrosione e con proprietà di rapida disareazione ed elevato indice di viscosità;

• viscosità raccomandata 15÷92 mm^2/s

• viscosità limite d'avviamento 2000 mm^2/s

Durante il normale funzionamento la temperatura dell'olio dovrà essere compresa tra 20° C e 65° C con valori limite compresi tra -20° C e 80° C con le guarnizioni in NBR e -15 °C e 100 °C con le stesse in Viton.

It is advisable to use hydraulic oils of mineral origin with anti-foaming, antiwear, anti-oxidant and anti-corrosion characteristics and rapid air removal properties and a high viscosity index;

• *Recommended viscosity 15÷92 mm^2/s (cSt)*

• *Start-up viscosity limit 2000 mm^2/s (cSt)*

During normal operation, the oil temperature must be between 20°C and 65°C with limit values between -20°C and 80°C with NBR gasket and limit values between -15°C and 100°C with Viton gasket.

PRESSIONE DI ASPIRAZIONE • *SUCTION PRESSURE*

La pressione di esercizio in aspirazione deve essere compresa nell'intervallo 0.7 - 3 bar (assoluti).
Per valori superiori (fino a 30 bar) è necessario ricorrere ad anelli di tenuta per alte pressioni.

The allowed working pressure supplied must be in the range 0.7 - 3 bar (absolute).
For higher values (up to 30 bar), it is necessary to use sealing ring for high pressures.

CONDOTTI DI ASPIRAZIONE • *SUCTION PIPES*

Particolare attenzione dovrà essere posta nel dimensionamento delle tubazioni (rigide o flessibili) evitando lunghezze sproporzionate, improvvise variazioni di sezione, piccoli raggi di curvatura scegliendo comunque sezioni dei condotti di aspirazione che garantiscano una velocità dell'olio compresa fra 0.6 e 2 m/s.

Particular attention must be given to the sizing of rigid or flexible pipes, avoiding disproportionate lengths, sudden variations in cross section or small curvature radius, in any case selecting pipe cross-sections that guarantee an oil speed between 0.6 and 2 m/s.

FILTRAZIONE • *FILTRATION*

Per eliminare eventuali impurità presenti nell'olio e garantire una durata superiore alla pompa, è necessario introdurre nell'impianto un'efficace filtrazione verificandone periodicamente la funzionalità.

I livelli di filtrazione raccomandati sono i seguenti:

Utilizzo fino a 150 bar:
21/19/16 (ISO 4406) classe 10 (NAS 1638)

Utilizzo oltre 150 bar:
20/18/15 (ISO 4406) classe 9 (NAS 1638)

In order to eliminate any oil impurity and to guarantee a longer duration of the pump, the system must be equipped with effective filtration, whose operation must be periodically checked.

The recommended filtration levels are as follows:

Up to 150 bar:
21/19/16 (ISO 4406) classe 10 (NAS 1638)

Over 150 bar:
20/18/15 (ISO 4406) classe 9 (NAS 1638)

NOTE INSTALLAZIONE • *INSTALLATION NOTES*

Prima di avviare l'impianto a regime, sono consigliati alcuni accorgimenti:

• Verificare che il senso di rotazione sia coerente con quello dell'albero da cui proviene il moto.

• Verificare che nelle flange di connessione alle porte di aspirazione e mandata non siano presenti trucioli, sporco o altro.

• Se la pompa è sottoposta a verniciatura, proteggere l'anello di tenuta verificando che la zona di contatto fra anello di tenuta e albero sia priva di polvere o di sedimenti abrasivi che possono accelerare le usure e causare delle perdite.

• Assicurarsi che il giunto utilizzato per la trasmissione compensi disallineamenti assiali che potrebbero pregiudicare l'integrità del motore.

Before starting the system setting, some precautions are recommended:

• *Check that the direction of rotation is consistent with the drive shaft one.*

• *Remove all dirt, chips and all foreign bodies from flanges connecting inlet and delivery ports.*

• *Protect the drive shaft sealing ring during pump painting; check that the contact area between ring and shaft is clean: dust or abrasive sediments could accelerate the wear and cause leakages.*

• *Make sure that the transmission joint balances any axial misalignment that might compromise the engine working.*

POMPE AD INGRANAGGI INFORMAZIONI TECNICHE
GEAR PUMPS TECHNICAL INFORMATION

• In caso di carichi radiali e/o assiali sull'albero della pompa (come ad esempio quando il trascinamento viene effettuato tramite pulegge e cinghie) è necessario optare per le versioni disponibili con supporto rinforzato.

• Il giunto di collegamento fra alberi scanalati dovrà essere opportunamente lubrificato, libero di muoversi assialmente e di lunghezza adatta a coprire tutta l'estensione dei due alberi (motore e pompa).

Durante il primo avviamento:

• scollegare lo scarico della pompa per permettere di spurgare l'aria nel circuito e, in caso di valvole di massima, tarare le valvole limitatrici di pressione al minimo valore.

• Evitare partenze sotto carico in condizioni di bassa temperatura o di lunghi periodi di inattività.

• Per verificare l'effettivo riempimento sfiatare il circuito dopo un primo avviamento di qualche istante dove è stata attivata tutta la componentistica.

• Tenendo controllata la temperatura del fluido e delle parti in movimento e la velocità di rotazione è infine possibile aumentare la pressione fino al raggiungimento delle condizioni di esercizio previste che devono mantenersi entro i limiti indicati del presente catalogo.

• With radial and/or axial loads on the pump shaft (such as when driving is carried out through pulleys or chains) use the available versions with strengthen shaft.

• The coupling joint between the spline shafts has to be properly lubricated, free to move axially and of a suitable length to cover both motor and pump shafts.

Installation notes:

• disconnect the drain pump to bleed off the air in the circuit and set the pressure relief valve at the minimum value.

• Do not start the system under load at low temperatures or after long stops.

• Check the whole system filling by bleeding off the whole air amount after few minutes of system working.

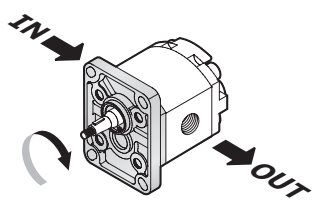
• Increase the pressure until you reach the operating values by keeping checked the fluid and the moving parts temperature and the rotation speed. Maintain the set values within the limits specified in this catalogue.

DEFINIZIONE DEL VERSO DI ROTAZIONE GUARDANDO L'ALBERO DI TRASCINAMENTO
DEFINITION OF ROTATION DIRECTION BY LOOKING AT THE DRIVE SHAFT

USCITA FLUIDO AD ALTA PRESSIONE
HIGH PRESSURE FLUID EXIT

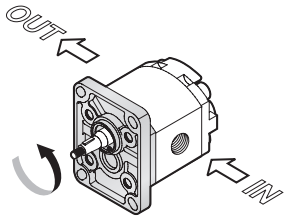
D	ROTAZIONE DESTRA *CLOCKWISE ROTATION*	S	ROTAZIONE SINISTRA *ANTICLOCKWISE ROTATION*

Aspirazione - bassa pressione
Suction *- low pressure*



Mandata - alta pressione
Delivery *- high pressure*

Mandata - alta pressione
Delivery *- high pressure*



Aspirazione - bassa pressione
Suction *- low pressure*

SENSO DI ROTAZIONE • *ROTATION WISE*

Il senso di rotazione viene definito S (sinistro) e D (destro) osservando l'albero frontalmente. In caso di rotazione sinistra "S" l'aspirazione sarà a destra dell'albero di trascinamento mentre la mandata sarà alla sua sinistra; il contrario sarà per pompa monodirezionale destra "D". In fase di ordine è necessario precisare il senso di rotazione desiderato, oppure intervenire modificando l'assetto interno come illustrato di seguito (inversione).

The rotation wise is defined as S (anticlockwise) or D (clockwise) by observing the shaft from the front. In case of anticlockwise rotation "S" the suction will be to the right of the drive shaft while the deliery will be to your left; the opposite will be for monodirectional pump right "D". When ordering, it is necessary to specify the required rotation; direction or it is possible to modify the internal structure as illustrated below (reversal).

POMPE AD INGRANAGGI INFORMAZIONI TECNICHE
GEAR PUMPS TECHNICAL INFORMATION

INVERSIONE • *REVERSAL*

Il senso di rotazione delle pompe è evidenziato da una freccia sulla targhetta.
La targhetta è posizionata sul corpo. (vedi pag.10)

L'inversione del senso di rotazione di una pompa si esegue nel seguente modo:

- Smontare la pompa come da fig. 1.
- Sfilare gli ingranaggi C e D e rimontarli secondo la fig. 2
- Rimontare la boccola B nella stessa posizione della fig. 1
- Capovolgere la flangia A e rimontare la pompa serrando le viti con una chiave dinamometrica.
- Per le pompe 3PG, smontare solo la flangia anteriore.

Pump wise rotation is indicated by an arrow on the label.
The plate is placed on the body (see page 10).

How to invert the pump wise rotation:

- *Disassemble pump as shown in fig. 1.*
- *Pull off C - D gears and reassemble them according to fig. 2.*
- *Reassemble B bushing as before.*
- *Reverse the A flange and reassemble the pump by tightening the screws by dynamometric wrench.*
- *For the 3GP pumps, disassemble only front flange.*

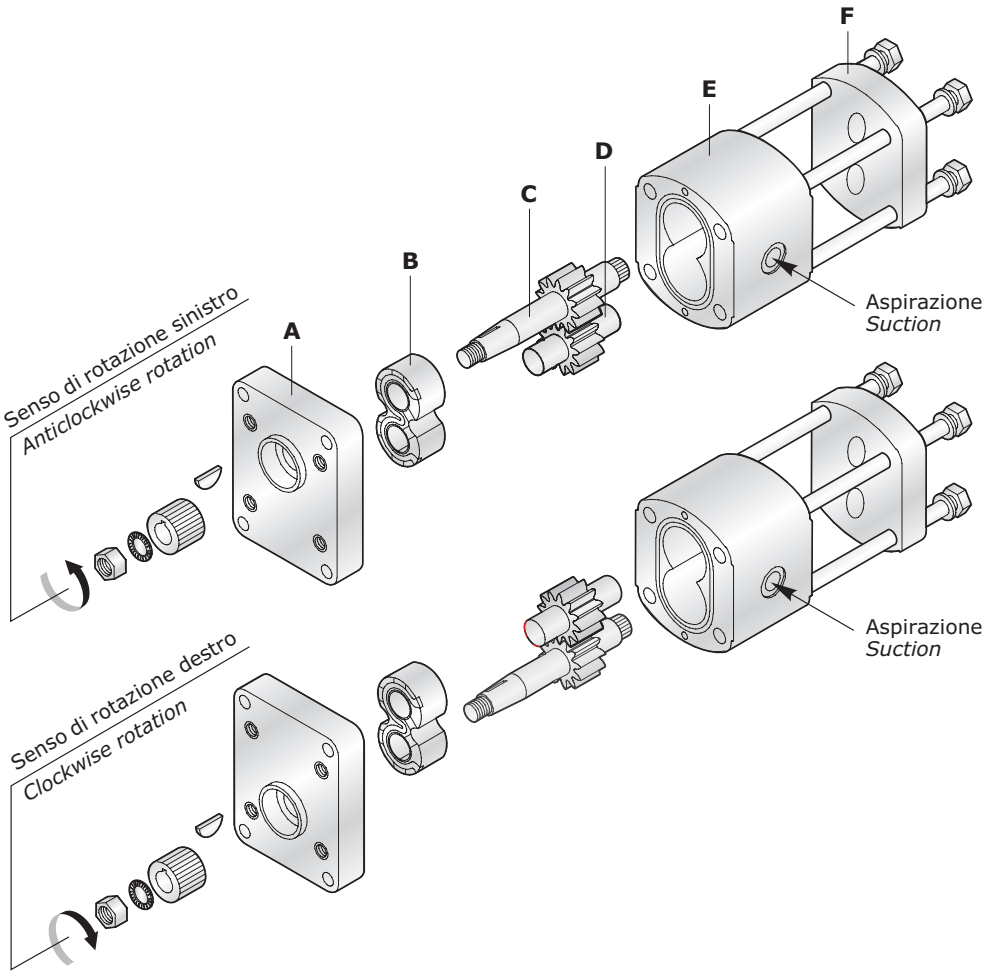
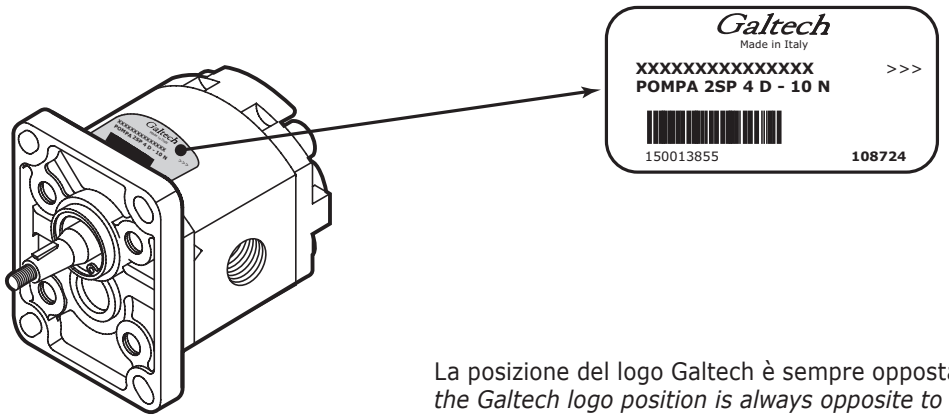


Fig. 1

Fig. 2

POMPE AD INGRANAGGI INFORMAZIONI TECNICHE
GEAR PUMPS TECHNICAL INFORMATION

TARGHETTA • *PLATE*



La posizione del logo Galtech è sempre opposta alla flangia.
the Galtech logo position is always opposite to the flange.

TIPO DI POMPA - *PUMP TYPE*	GRUPPO - *GROUP* **1SP**	GRUPPO - *GROUP* **2SP**	GRUPPO - *GROUP* **3GP**
Numero di viti ***Screws number***	4	4	16
Tipo di filetto ***Thread type***	M8	M10	M10
Coppia di serraggio viti ***Screw tightening torque***	30 Nm / *266 in-lbs*	50 Nm / *443 in-lbs*	60 Nm / *531 in-lbs*
Tipo di giunto ***Coupling type***	1IS 12M	2IS 14M / 2IS 15M	3IS 18M
Coppia di serraggio dado giunto ***Nut coupling tightening torque***	9 ÷ 10 Nm / *80 ÷ 90 in-lbs*	22 ÷ 25 Nm / *195 ÷ 221 in-lbs* 32 ÷ 35 Nm / *283 ÷ 310 in-lbs*	50 ÷ 55 Nm / *443 ÷ 487 in-lbs*

POMPE AD INGRANAGGI INFORMAZIONI TECNICHE
GEAR PUMPS TECHNICAL INFORMATION

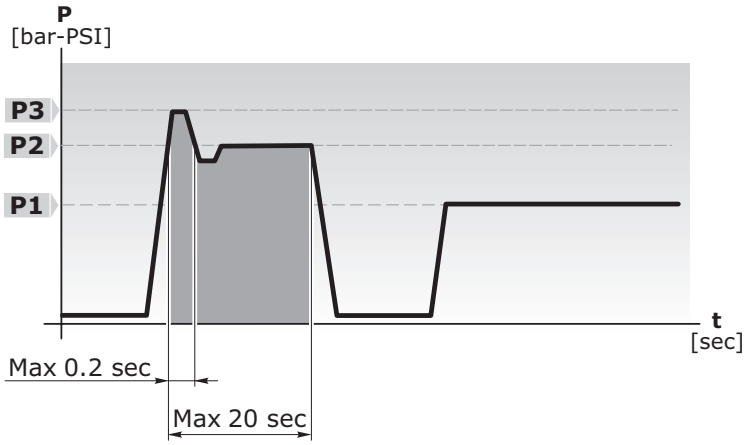
DEFINIZIONE DELLE PRESSIONI • *DEFINITION OF PRESSURES*

Le pompe possono essere sottoposte alle pressioni P1, P2, P3 indicate nelle tabelle delle prestazioni.

Il grafico seguente ne illustra le definizioni e l'applicabilità rispettando i limiti delle velocità di rotazione riportati.

The pumps can be subjected to the P1, P2 or P3 pressures shown in the performance tables.

The following diagram illustrates the definitions and applicability by respecting the included ritation speed limits.



P3 Pressione massima di picco
Max peak pressure

P2 Pressione massima intermittente
Max intermittent pressure

P1 Pressione massima continua
Continuos max pressure

MISURE IDRAULICHE - *HYDRAULIC MEASURES*		
Q	Portata *Flow*	[l/min] [Gal/min]
M	Coppia *Torque*	[Nm] [lfb.in]
P	Potenza *Power*	[kW] [HP]
V	Cilindrata *Displacement*	[cm³/giro] [in³/rev]
n	Velocità *Speed*	[min⁻¹]
Δp	Pressione *Pressure*	[bar] [PSI]
η_v	Rendimento volumetrico *Volumetric efficiency*	
η_m	Rendimento meccanico *Mechanical efficiency*	
η_t	Rendimento totale *Overal efficiency*	

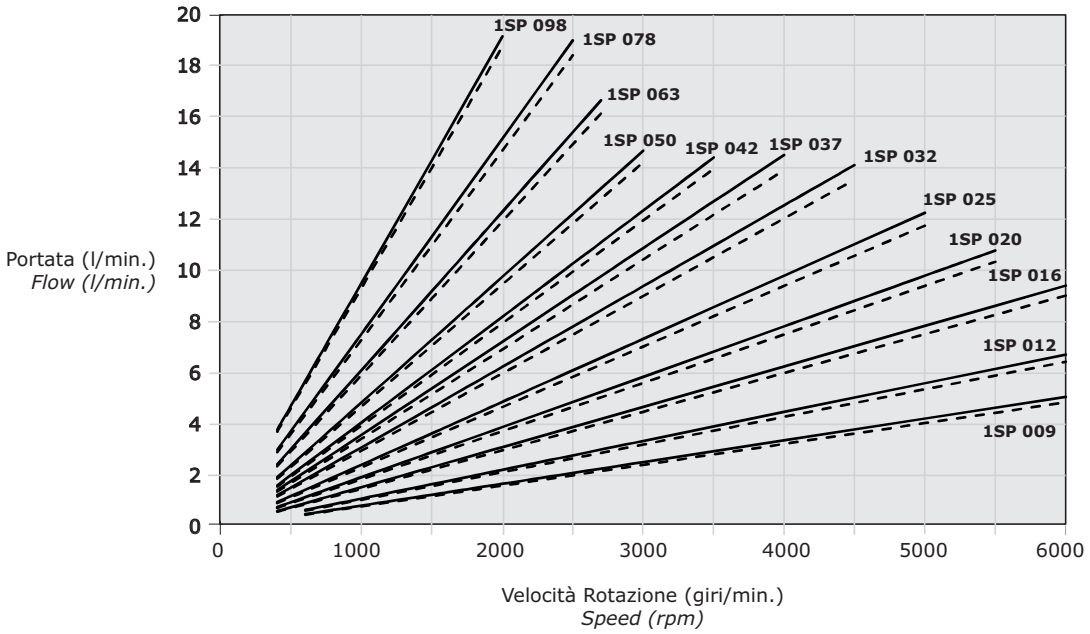
FORMULE UTILI - *USEFUL FORMULAS*		
Q =	$V \cdot \eta_v \cdot n / 1000$	[l/min]
	$V \cdot \eta_v \cdot n / 231$	[Gal/min]
M =	$\frac{\Delta p \cdot V}{62.83 \cdot \eta_m}$	[Nm]
	$\frac{\Delta p \cdot V}{2 \cdot 3.14 \cdot \eta_m}$	[lfb.in]
P =	$\frac{\Delta p \cdot V \cdot n}{600 \cdot 1000 \cdot \eta_t}$	[kW]
	$\frac{\Delta p \cdot V \cdot n}{395934 \cdot \eta_t}$	[HP]

FATTORE CONVERSIONE - *CONVERSION FACTOR*	
1 l/min	0.2641 US Gal/min
1 Nm	8.851 in-lbs
1 Nm	0.7375 ft-lbs
1 N	0.2248 lbs
1 kW	1.34 HP
1 cm³/giro	0.061 in³/rev
1 bar	14.5 PSI
1 mm	0.0394 in
1 kg	2.205 lbs

POMPE AD INGRANAGGI PRESTAZIONI
GEAR PUMPS PERFORMANCES

GRUPPO *GROUP* 1SP

DIAGRAMMA PORTATA - VELOCITÀ DI ROTAZIONE
FLOW - ROTATION SPEED CHART

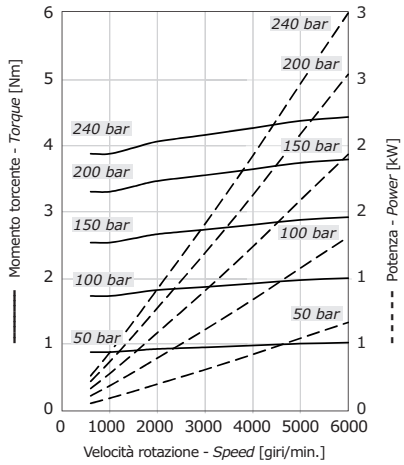


GRUPPO *GROUP* 1SP

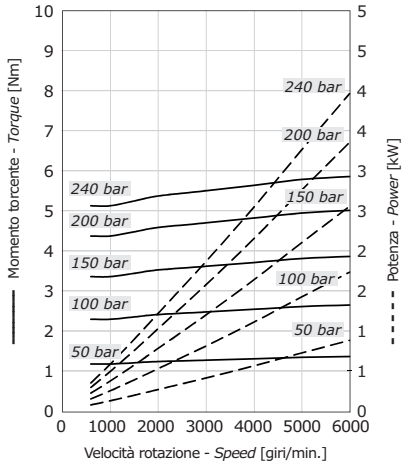
DIAGRAMMI POTENZE
POWER DIAGRAM

Grafici rilevati a banco di collaudo a 40°C con olio VG46
Diagrams recorded on test bench at 40°C with VG46 mineral oil

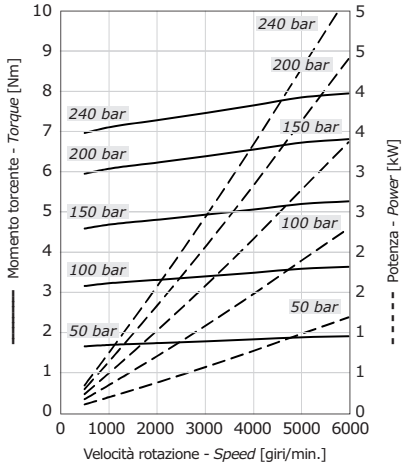
1SP 009



1SP 012

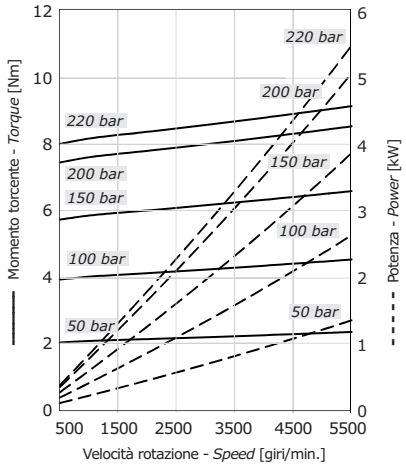


1SP 016

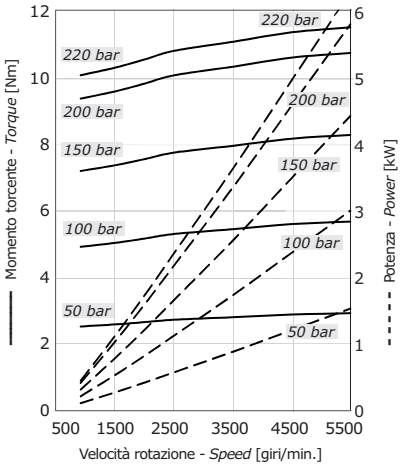


POMPE AD INGRANAGGI PRESTAZIONI
GEAR PUMPS PERFORMANCES

1SP 020



1SP 025



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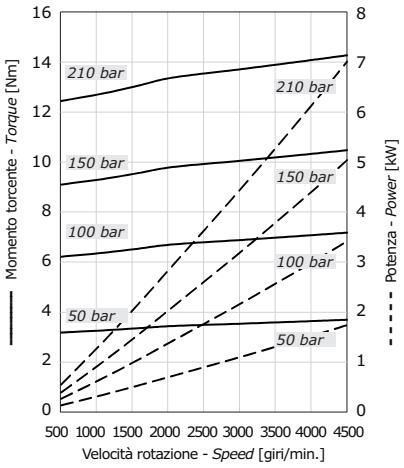

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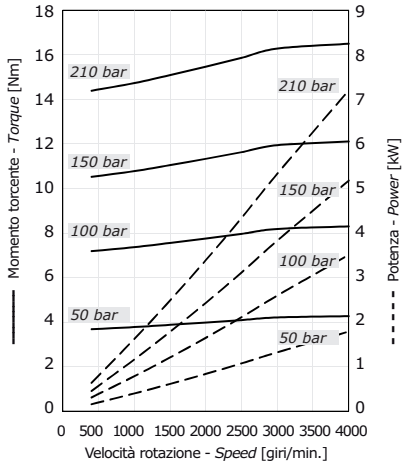

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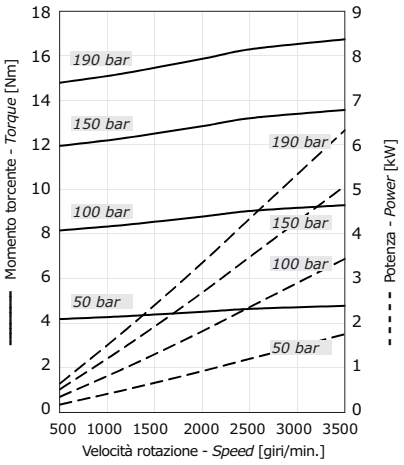

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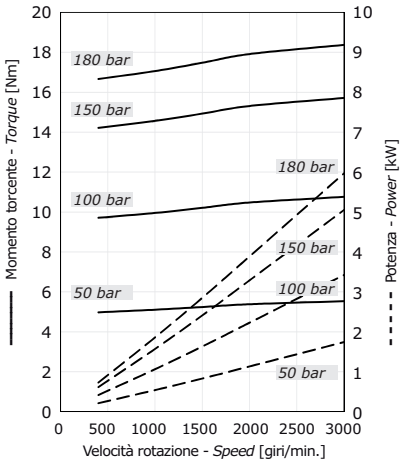

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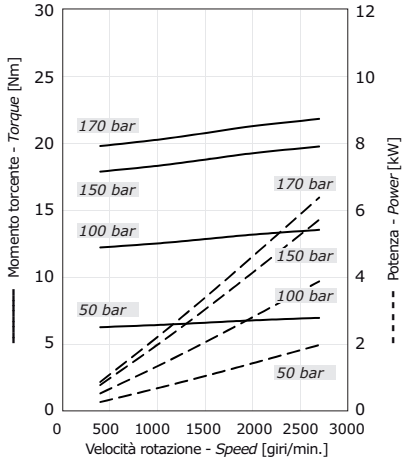

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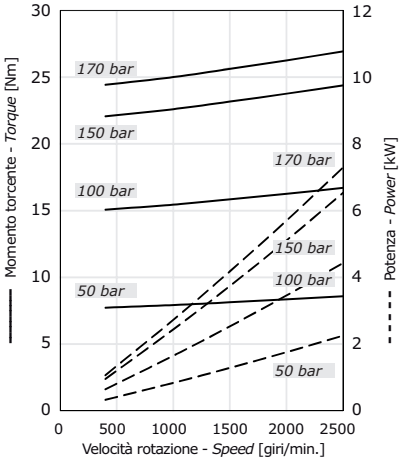
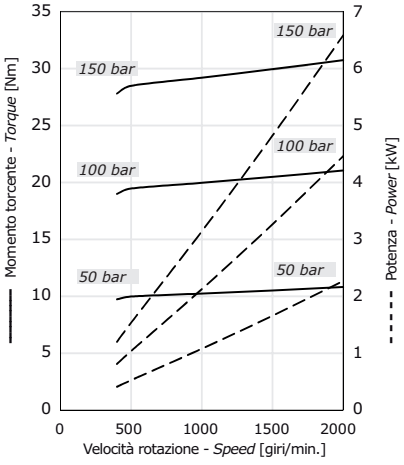


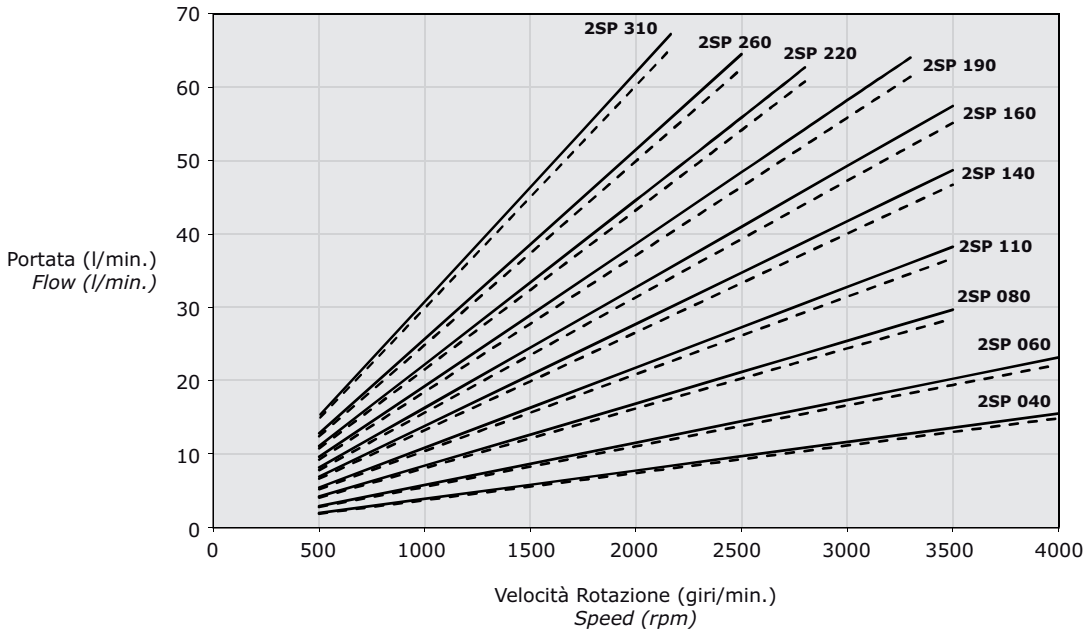
1SP 098



POMPE AD INGRANAGGI PRESTAZIONI
GEAR PUMPS PERFORMANCES

GRUPPO *GROUP* 2SP

DIAGRAMMA PORTATA - VELOCITÀ DI ROTAZIONE
FLOW - ROTATION SPEED CHART

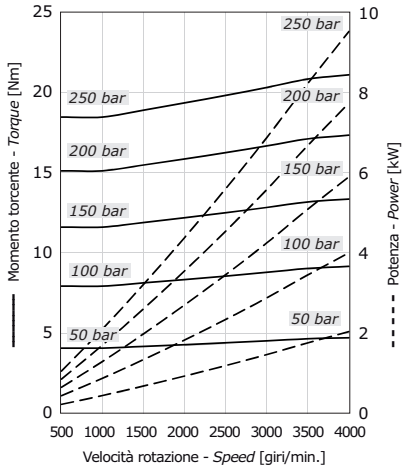


GRUPPO *GROUP* 2SP

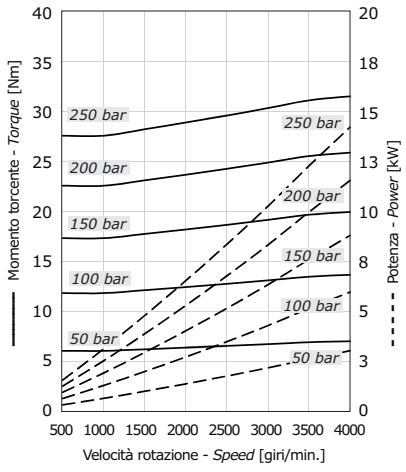
DIAGRAMMI POTENZE
POWER DIAGRAM

Grafici rilevati a banco di collaudo a 40°C con olio VG46
Diagrams recorded on test bench at 40°C with VG46 mineral oil

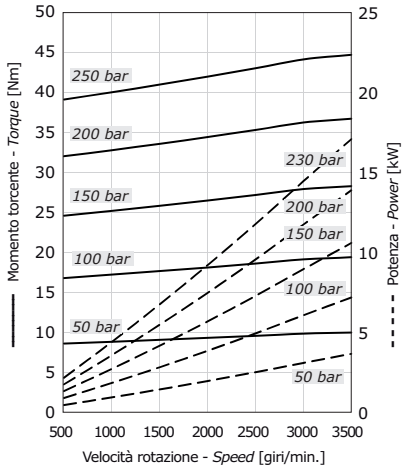
2SP 040



2SP 060

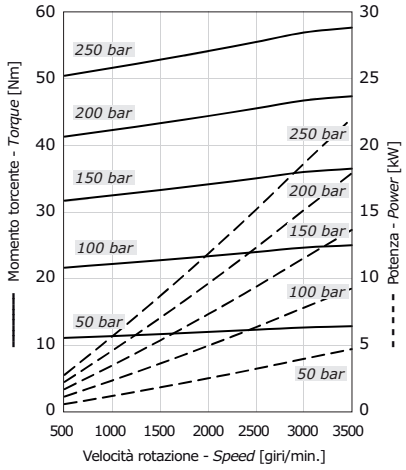


2SP 080



POMPE AD INGRANAGGI PRESTAZIONI
GEAR PUMPS PERFORMANCES

2SP 110



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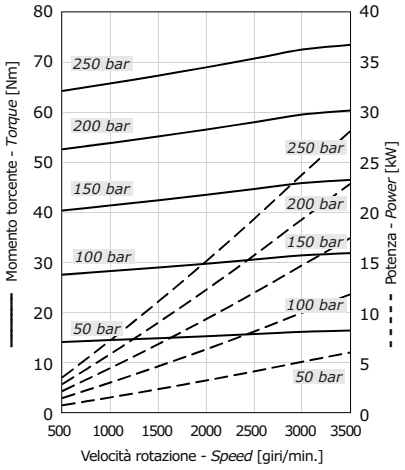

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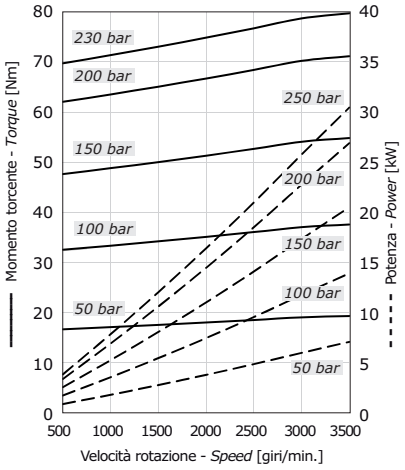
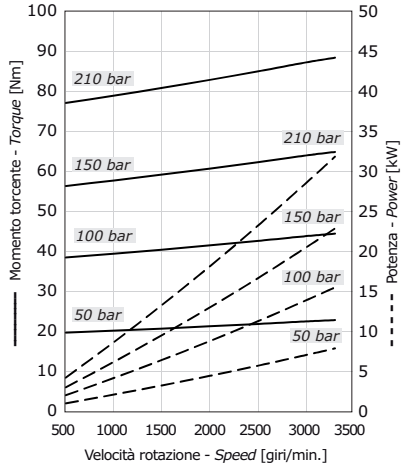


2SP 190



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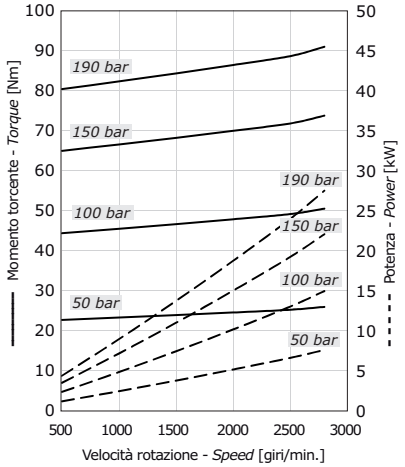

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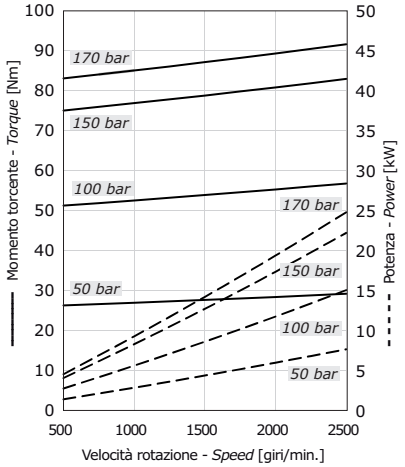

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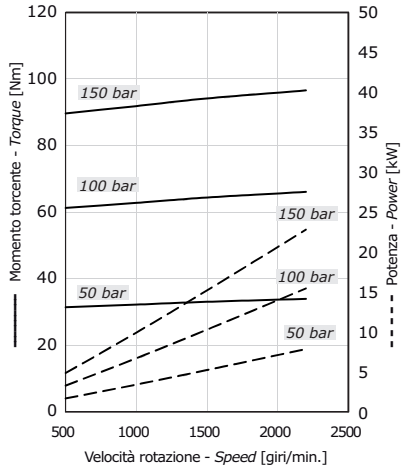
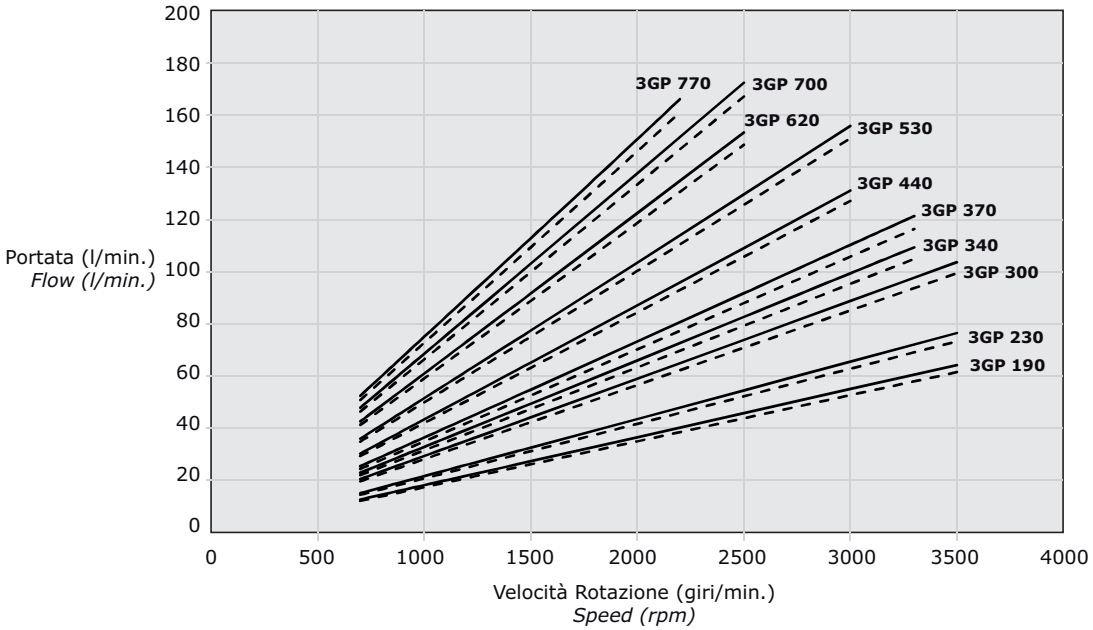


POMPE AD INGRANAGGI PRESTAZIONI
GEAR PUMPS PERFORMANCES

GRUPPO *GROUP* 3GP

DIAGRAMMA PORTATA - VELOCITÀ DI ROTAZIONE
FLOW - ROTATION SPEED CHART

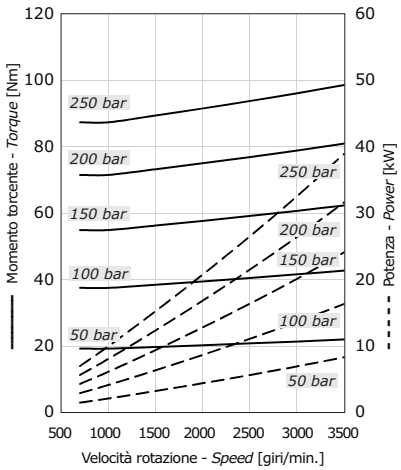


GRUPPO *GROUP* 3GP

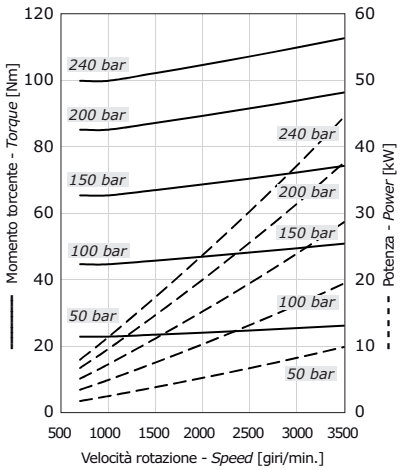
DIAGRAMMI POTENZE
POWER DIAGRAM

Grafici rilevati a banco di collaudo a 40°C con olio VG46
Diagrams recorded on test bench at 40°C with VG46 mineral oil

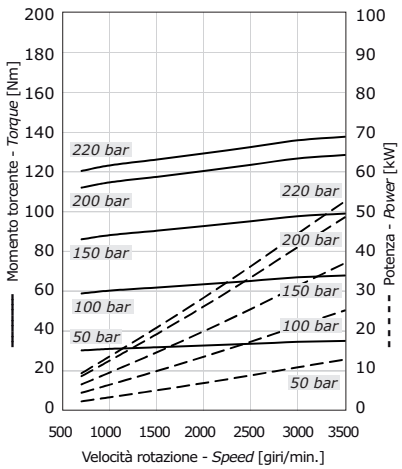
3GP 190



3GP 230

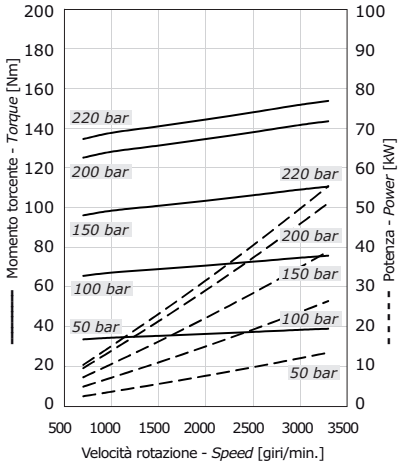


3GP 300

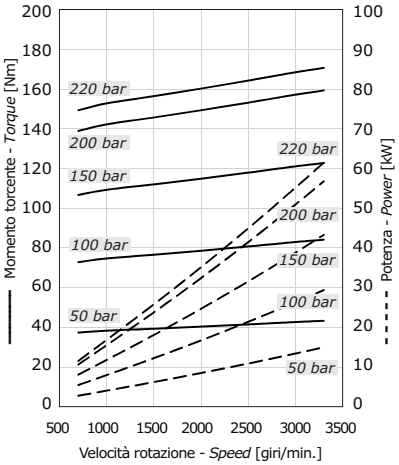


POMPE AD INGRANAGGI PRESTAZIONI
GEAR PUMPS PERFORMANCES

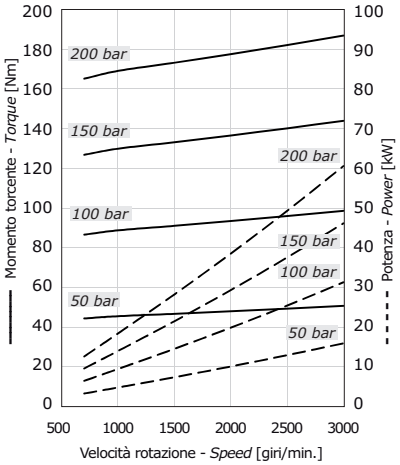
3GP 340



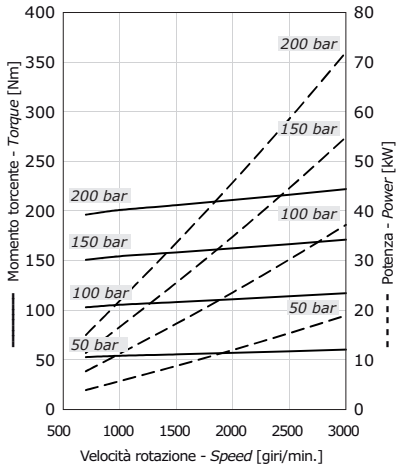
3GP 370



3GP 440



3GP 530



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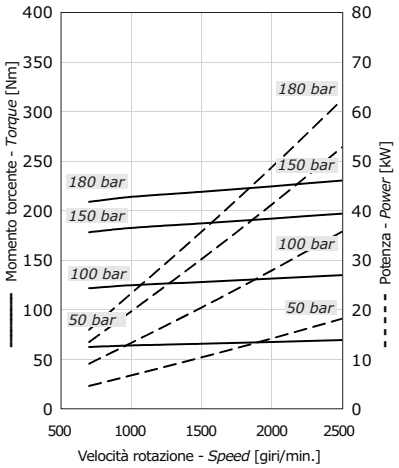

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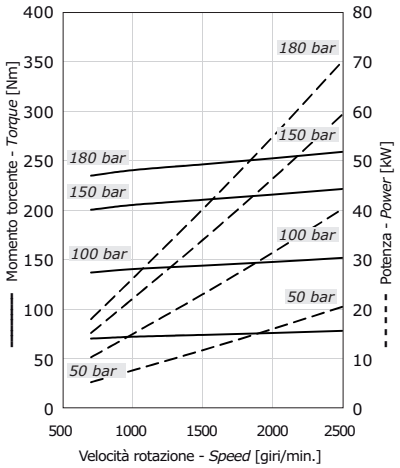

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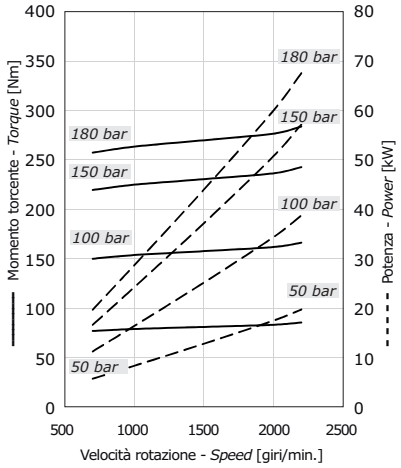


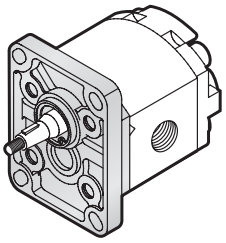
POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

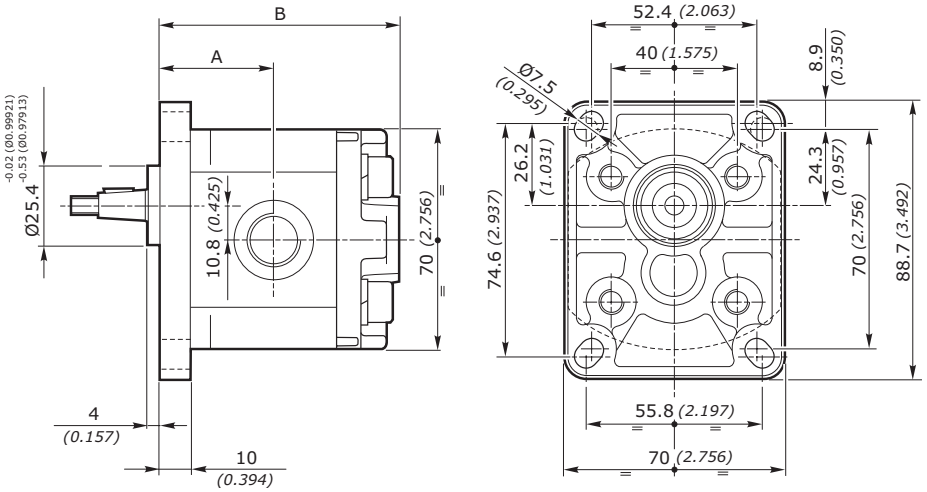
FLANGIA EUROPEA EUR *STANDARD FLANGE*

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
1SP 009	0.89	*0.05*	260	*3770*	280	*4060*	290	*4205*	6000	5.3	*1.40*	600
1SP 012	1.18	*0.07*	260	*3770*	280	*4060*	290	*4205*	6000	7.1	*1.88*	600
1SP 016	1.6	*0.10*	260	*3770*	280	*4060*	290	*4205*	6000	9.6	*2.54*	400
1SP 020	2.0	*0.12*	260	*3770*	280	*4060*	290	*4205*	5500	11	*2.91*	400
1SP 025	2.5	*0.15*	260	*3770*	280	*4060*	290	*4205*	5000	12.5	*3.30*	400
1SP 032	3.2	*0.20*	260	*3770*	280	*4060*	290	*4205*	4500	14.4	*3.80*	400
1SP 037	3.7	*0.23*	250	*3625*	270	*3915*	280	*4060*	4000	14.8	*3.91*	400
1SP 042	4.2	*0.26*	250	*3625*	270	*3915*	280	*4060*	3500	14.7	*3.88*	400
1SP 050	5.0	*0.31*	250	*3625*	270	*3915*	280	*4060*	3000	15	*3.96*	400
1SP 063	6.3	*0.38*	170	*2465*	190	*2755*	210	*3045*	2700	17	*4.49*	400
1SP 078	7.76	*0.47*	170	*2465*	190	*2755*	210	*3045*	2500	19.4	*5.13*	400
1SP 098	9.78	*0.60*	150	*2175*	170	*2465*	190	*2755*	2000	19.6	*5.18*	400

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*





GRUPPO - GROUP 1	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
1SP 009	34.80	*1.370*	73.6	*2.898*	0.91	*2.01*
1SP 012	35.35	*1.392*	74.7	*2.941*	0.93	*2.05*
1SP 016	36.20	*1.425*	76.4	*3.008*	0.95	*2.09*
1SP 020	36.95	*1.455*	77.9	*3.067*	0.97	*2.14*
1SP 025	37.95	*1.494*	79.9	*3.146*	1.00	*2.21*
1SP 032	39.30	*1.547*	82.6	*3.252*	1.04	*2.29*
1SP 037	40.30	*1.587*	84.6	*3.331*	1.07	*2.36*
1SP 042	41.25	*1.624*	86.5	*3.406*	1.10	*2.43*
1SP 050	42.80	*1.685*	89.6	*3.528*	1.14	*2.51*
1SP 063	45.35	*1.785*	94.7	*3.728*	1.22	*2.69*
1SP 078	48.20	*1.898*	100.4	*3.953*	1.30	*2.87*
1SP 098	52.15	*2.053*	108.3	*4.264*	1.41	*3.11*

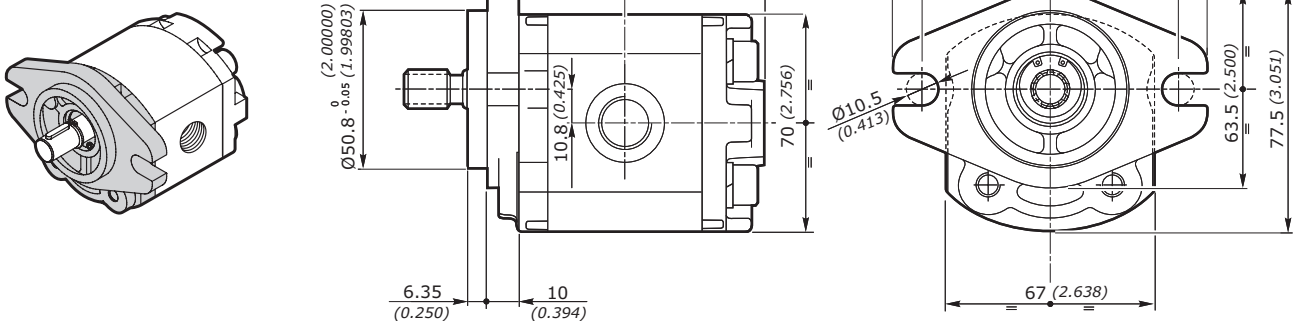
POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

FLANGIA SAE SAEAA *SAE FLANGE*

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
1SP 009	0.89	*0.05*	260	*3770*	280	*4060*	290	*4205*	6000	5.3	*1.40*	600
1SP 012	1.18	*0.07*	260	*3770*	280	*4060*	290	*4205*	6000	7.1	*1.88*	600
1SP 016	1.6	*0.10*	260	*3770*	280	*4060*	290	*4205*	6000	9.6	*2.54*	400
1SP 020	2.0	*0.12*	260	*3770*	280	*4060*	290	*4205*	5500	11	*2.91*	400
1SP 025	2.5	*0.15*	260	*3770*	280	*4060*	290	*4205*	5000	12.5	*3.30*	400
1SP 032	3.2	*0.20*	260	*3770*	280	*4060*	290	*4205*	4500	14.4	*3.80*	400
1SP 037	3.7	*0.23*	250	*3625*	270	*3915*	280	*4060*	4000	14.8	*3.91*	400
1SP 042	4.2	*0.26*	250	*3625*	270	*3915*	280	*4060*	3500	14.7	*3.88*	400
1SP 050	5.0	*0.31*	250	*3625*	270	*3915*	280	*4060*	3000	15	*3.96*	400
1SP 063	6.3	*0.38*	170	*2465*	190	*2755*	210	*3045*	2700	17	*4.49*	400
1SP 078	7.76	*0.47*	170	*2465*	190	*2755*	210	*3045*	2500	19.4	*5.13*	400
1SP 098	9.78	*0.60*	150	*2175*	170	*2465*	190	*2755*	2000	19.6	*5.18*	400

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*



GRUPPO - GROUP 1	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
1SP 009	38.30	*1.508*	77.10	*3.035*	0.91	*2.01*
1SP 012	38.85	*1.530*	78.20	*3.079*	0.93	*2.05*
1SP 016	39.70	*1.563*	79.90	*3.146*	0.95	*2.09*
1SP 020	40.45	*1.593*	81.40	*3.205*	0.97	*2.14*
1SP 025	41.45	*1.632*	83.40	*3.283*	1.00	*2.21*
1SP 032	42.80	*1.685*	86.10	*3.390*	1.04	*2.29*
1SP 037	43.80	*1.724*	88.10	*3.469*	1.07	*2.36*
1SP 042	44.75	*1.762*	90.00	*3.543*	1.10	*2.43*
1SP 050	46.30	*1.823*	93.10	*3.665*	1.14	*2.51*
1SP 063	48.85	*1.923*	98.20	*3.866*	1.22	*2.69*
1SP 078	51.70	*2.035*	103.90	*4.091*	1.30	*2.87*
1SP 098	55.65	*2.191*	111.80	*4.402*	1.41	*3.11*

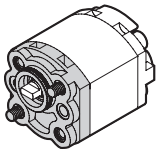
POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

FLANGIA PER MINICENTRALINA MC32 *POWER-PACK FLANGE*

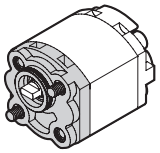
GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
1SP 009	0.89	*0.05*	260	*3770*	280	*4060*	290	*4205*	6000	5.3	*1.40*	600
1SP 012	1.18	*0.07*	260	*3770*	280	*4060*	290	*4205*	6000	7.1	*1.88*	600
1SP 016	1.6	*0.10*	260	*3770*	280	*4060*	290	*4205*	6000	9.6	*2.54*	400
1SP 020	2.0	*0.12*	260	*3770*	280	*4060*	290	*4205*	5500	11	*2.91*	400
1SP 025	2.5	*0.15*	260	*3770*	280	*4060*	290	*4205*	5000	12.5	*3.30*	400
1SP 032	3.2	*0.20*	260	*3770*	280	*4060*	290	*4205*	4500	14.4	*3.80*	400
1SP 037	3.7	*0.23*	250	*3625*	270	*3915*	280	*4060*	4000	14.8	*3.91*	400
1SP 042	4.2	*0.26*	250	*3625*	270	*3915*	280	*4060*	3500	14.7	*3.88*	400
1SP 050	5.0	*0.31*	250	*3625*	270	*3915*	280	*4060*	3000	15	*3.96*	400
1SP 063	6.3	*0.38*	170	*2465*	190	*2755*	210	*3045*	2700	17	*4.49*	400
1SP 078	7.76	*0.47*	170	*2465*	190	*2755*	210	*3045*	2500	19.4	*5.13*	400
1SP 098	9.78	*0.60*	150	*2175*	170	*2465*	190	*2755*	2000	19.6	*5.18*	400

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

MC32

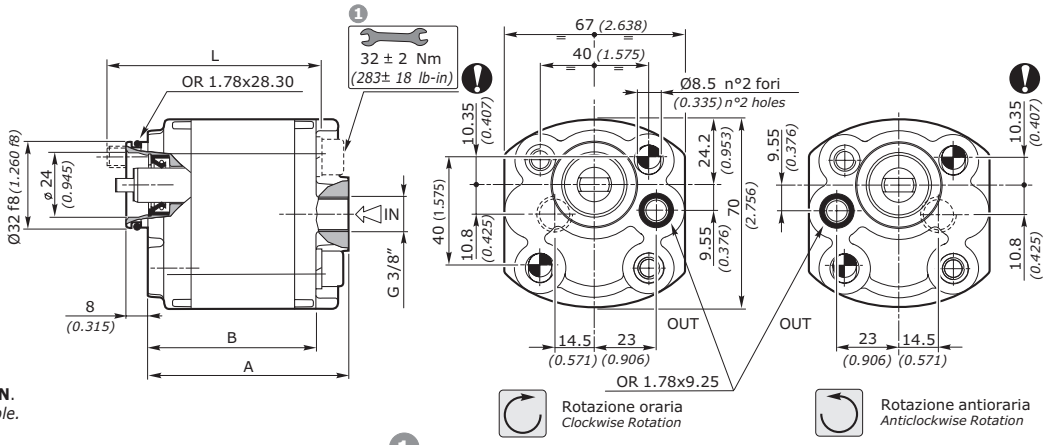


MC32N



E' disponibile la flangia senza foro **MC32N**.
*The flange without hole **MC32N** is available.*

DIMENSIONI • *DIMENSIONS*



1

Coppia di serraggio viti: 32 ± 2Nm (viti classe 10.9-12.9 UNI EN 20898/1)
Il kit viti per il fissaggio della pompa è da ordinare separatamente.
Codice di ordinazione: **0019W** (+ lunghezza **L** - vedi tabella)

Il fissaggio della pompa può essere effettuato con 2 viti prigioniere (25 ± 2Nm).
Fissare la pompa mediante dadi autobloccanti (32 ± 2 Nm).

1

Screw tightening torque: 283 ± 18 lb-in (screws 10.9-12.9 UNI EN 20898/1).
The screw kit for the pump assembly should be ordered separately.
*Ordering code: **0019W** (+ length **L** - see table)*

The pump assembling should be made by 2 screws (221 ± 18 lb-in).
Fix the pump by self-locking nuts (283 ± 18 lb-in).

GRUPPO - GROUP 1	A		B		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	kg	lbs
1SP 009	73.1	*2.878*	61.6	*2.425*	80	*3.150*	0.91	*2.01*
1SP 012	74.2	*2.921*	62.7	*2.469*	80	*3.150*	0.93	*2.05*
1SP 016	75.9	*2.988*	64.4	*2.535*	80	*3.150*	0.95	*2.09*
1SP 020	77.4	*3.047*	65.9	*2.594*	80	*3.150*	0.97	*2.14*
1SP 025	79.4	*3.126*	67.9	*2.673*	85	*3.346*	1.00	*2.21*
1SP 032	82.1	*3.232*	70.6	*2.780*	85	*3.346*	1.04	*2.29*
1SP 037	84.1	*3.311*	72.6	*2.858*	90	*3.543*	1.07	*2.36*
1SP 042	86.0	*3.386*	74.5	*2.933*	90	*3.543*	1.10	*2.43*
1SP 050	89.1	*3.508*	77.6	*3.055*	95	*3.740*	1.14	*2.51*
1SP 063	94.2	*3.709*	82.7	*3.256*	100	*3.937*	1.22	*2.69*
1SP 078	99.9	*3.933*	88.4	*3.480*	105	*4.134*	1.30	*2.87*
1SP 098	107.8	*4.244*	96.3	*3.791*	115	*4.528*	1.41	*3.11*

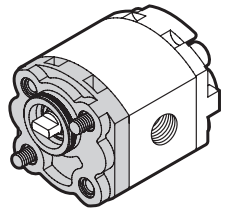
POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

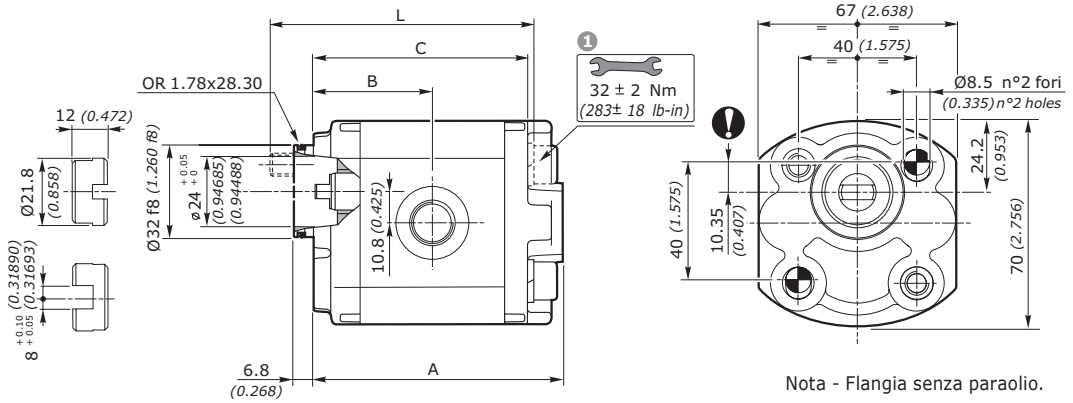
FLANGIA TEDESCA FISSAGGIO MINICENTRALINA **E32BX** *POWER-PACK FIXING GERMAN FLANGE*

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
1SP 009	0.89	0.05	260	3770	280	4060	290	4205	6000	5.3	1.40	600
1SP 012	1.18	0.07	260	3770	280	4060	290	4205	6000	7.1	1.88	600
1SP 016	1.6	0.10	260	3770	280	4060	290	4205	6000	9.6	2.54	400
1SP 020	2.0	0.12	260	3770	280	4060	290	4205	5500	11	2.91	400
1SP 025	2.5	0.15	260	3770	280	4060	290	4205	5000	12.5	3.30	400
1SP 032	3.2	0.20	260	3770	280	4060	290	4205	4500	14.4	3.80	400
1SP 037	3.7	0.23	250	3625	270	3915	280	4060	4000	14.8	3.91	400
1SP 042	4.2	0.26	250	3625	270	3915	280	4060	3500	14.7	3.88	400
1SP 050	5.0	0.31	250	3625	270	3915	280	4060	3000	15	3.96	400
1SP 063	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400
1SP 078	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400
1SP 098	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*





Nota - Flangia senza paraolio.
Note - Flange without shaft seal.

1 Coppia di serraggio viti: 32 ± 2Nm (viti classe 10.9-12.9 UNI EN 20898/1)
Il kit viti per il fissaggio della pompa è da ordinare separatamente.
Codice di ordinazione: **0019W** (+ lunghezza **L** - vedi tabella)

Il fissaggio della pompa può essere effettuato con 2 viti prigioniere (25 ± 2Nm).
Fissare la pompa mediante dadi autobloccanti (32 ± 2 Nm).

1 *Screw tightening torque: 283 ± 18 lb-in (screws 10.9-12.9 UNI EN 20898/1).*
The screw kit for the pump assembly should be ordered separately.
*Ordering code: **0019W** (+ length **L** - see table)*

The pump assembling should be made by 2 screws (221 ± 18 lb-in).
Fix the pump by self-locking nuts (283 ± 18 lb-in).

GRUPPO - GROUP 1	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
1SP 009	73.6	2.898	34.80	1.370	61.6	2.425	80	3.150	0.91	2.01
1SP 012	74.7	2.941	35.35	1.392	62.7	2.469	80	3.150	0.93	2.05
1SP 016	76.4	3.008	36.20	1.425	64.4	2.535	80	3.150	0.95	2.09
1SP 020	77.9	3.067	36.95	1.455	65.9	2.594	80	3.150	0.97	2.14
1SP 025	79.9	3.146	37.95	1.494	67.9	2.673	85	3.346	1.00	2.21
1SP 032	82.6	3.252	39.30	1.547	70.6	2.780	85	3.346	1.04	2.29
1SP 037	84.6	3.331	40.30	1.587	72.6	2.858	90	3.543	1.07	2.36
1SP 042	86.5	3.406	41.25	1.624	74.5	2.933	90	3.543	1.10	2.43
1SP 050	89.6	3.528	42.80	1.685	77.6	3.055	95	3.740	1.14	2.51
1SP 063	94.7	3.728	45.35	1.785	82.7	3.256	100	3.937	1.22	2.69
1SP 078	100.4	3.953	48.20	1.898	88.4	3.480	105	4.134	1.30	2.87
1SP 098	108.3	4.264	52.15	2.053	96.3	3.791	115	4.528	1.41	3.11

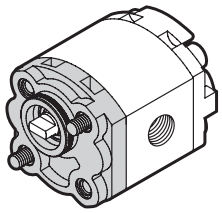
POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

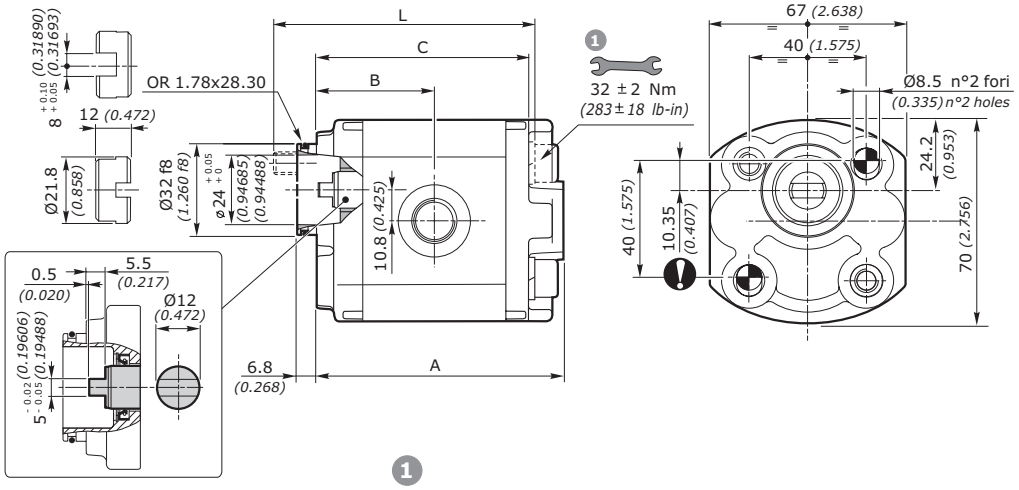
FLANGIA TEDESCA FISSAGGIO MINICENTRALINA CON ANELLO DI TENUTA **E32BC** ***POWER-PACK FIXING GERMAN FLANGE WITH SEAL SHAFT***

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
1SP 009	0.89	0.05	260	3770	280	4060	290	4205	6000	5.3	1.40	600
1SP 012	1.18	0.07	260	3770	280	4060	290	4205	6000	7.1	1.88	600
1SP 016	1.6	0.10	260	3770	280	4060	290	4205	6000	9.6	2.54	400
1SP 020	2.0	0.12	260	3770	280	4060	290	4205	5500	11	2.91	400
1SP 025	2.5	0.15	260	3770	280	4060	290	4205	5000	12.5	3.30	400
1SP 032	3.2	0.20	260	3770	280	4060	290	4205	4500	14.4	3.80	400
1SP 037	3.7	0.23	250	3625	270	3915	280	4060	4000	14.8	3.91	400
1SP 042	4.2	0.26	250	3625	270	3915	280	4060	3500	14.7	3.88	400
1SP 050	5.0	0.31	250	3625	270	3915	280	4060	3000	15	3.96	400
1SP 063	6.3	0.38	170	2465	190	2755	210	3045	2700	17	4.49	400
1SP 078	7.76	0.47	170	2465	190	2755	210	3045	2500	19.4	5.13	400
1SP 098	9.78	0.60	150	2175	170	2465	190	2755	2000	19.6	5.18	400

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*





1 Coppia di serraggio viti: 32 ± 2Nm (viti classe 10.9-12.9 UNI EN 20898/1)
Il kit viti per il fissaggio della pompa è da ordinare separatamente.
Codice di ordinazione: **0019W** (+ lunghezza **L** - vedi tabella)

Il fissaggio della pompa può essere effettuato con 2 viti prigioniere (25 ± 2Nm).
Fissare la pompa mediante dadi autobloccanti (32 ± 2 Nm).

1 *Screw tightening torque: 283 ± 18 lb-in (screws 10.9-12.9 UNI EN 20898/1).*
The screw kit for the pump assembly should be ordered separately.
*Ordering code: **0019W** (+ length **L** - see table)*

The pump assembling should be made by 2 screws (221 ± 18 lb-in).
Fix the pump by self-locking nuts (283 ± 18 lb-in).

GRUPPO - GROUP 1	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
1SP 009	73.6	2.898	34.80	1.370	61.6	2.425	80	3.150	0.91	2.01
1SP 012	74.7	2.941	35.35	1.392	62.7	2.469	80	3.150	0.93	2.05
1SP 016	76.4	3.008	36.20	1.425	64.4	2.535	80	3.150	0.95	2.09
1SP 020	77.9	3.067	36.95	1.455	65.9	2.594	80	3.150	0.97	2.14
1SP 025	79.9	3.146	37.95	1.494	67.9	2.673	85	3.346	1.00	2.21
1SP 032	82.6	3.252	39.30	1.547	70.6	2.780	85	3.346	1.04	2.29
1SP 037	84.6	3.331	40.30	1.587	72.6	2.858	90	3.543	1.07	2.36
1SP 042	86.5	3.406	41.25	1.624	74.5	2.933	90	3.543	1.10	2.43
1SP 050	89.6	3.528	42.80	1.685	77.6	3.055	95	3.740	1.14	2.51
1SP 063	94.7	3.728	45.35	1.785	82.7	3.256	100	3.937	1.22	2.69
1SP 078	100.4	3.953	48.20	1.898	88.4	3.480	105	4.134	1.30	2.87
1SP 098	108.3	4.264	52.15	2.053	96.3	3.791	115	4.528	1.41	3.11

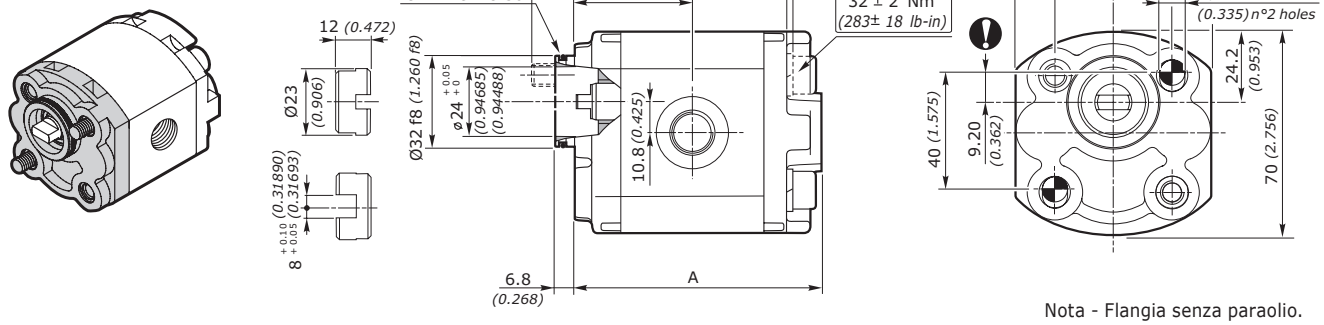
POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

FLANGIA PER ELETTROPOMPA E32CX *ELECTRO-PUMP FLANGE*

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
1SP 009	0.89	*0.05*	260	*3770*	280	*4060*	290	*4205*	6000	5.3	*1.40*	600
1SP 012	1.18	*0.07*	260	*3770*	280	*4060*	290	*4205*	6000	7.1	*1.88*	600
1SP 016	1.6	*0.10*	260	*3770*	280	*4060*	290	*4205*	6000	9.6	*2.54*	400
1SP 020	2.0	*0.12*	260	*3770*	280	*4060*	290	*4205*	5500	11	*2.91*	400
1SP 025	2.5	*0.15*	260	*3770*	280	*4060*	290	*4205*	5000	12.5	*3.30*	400
1SP 032	3.2	*0.20*	260	*3770*	280	*4060*	290	*4205*	4500	14.4	*3.80*	400
1SP 037	3.7	*0.23*	250	*3625*	270	*3915*	280	*4060*	4000	14.8	*3.91*	400
1SP 042	4.2	*0.26*	250	*3625*	270	*3915*	280	*4060*	3500	14.7	*3.88*	400
1SP 050	5.0	*0.31*	250	*3625*	270	*3915*	280	*4060*	3000	15	*3.96*	400
1SP 063	6.3	*0.38*	170	*2465*	190	*2755*	210	*3045*	2700	17	*4.49*	400
1SP 078	7.76	*0.47*	170	*2465*	190	*2755*	210	*3045*	2500	19.4	*5.13*	400
1SP 098	9.78	*0.60*	150	*2175*	170	*2465*	190	*2755*	2000	19.6	*5.18*	400

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*



Nota - Flangia senza paraolio.
Note - Flange without shaft seal.

1 Coppia di serraggio viti: 32 ± 2Nm (viti classe 10.9-12.9 UNI EN 20898/1)
Il kit viti per il fissaggio della pompa è da ordinare separatamente.
Codice di ordinazione: **0019W** (+ lunghezza **L** - vedi tabella)

Il fissaggio della pompa può essere effettuato con 2 viti prigioniere (25 ± 2Nm).
Fissare la pompa mediante dadi autobloccanti (32 ± 2 Nm).

1 *Screw tightening torque: 283 ± 18 lb-in (screws 10.9-12.9 UNI EN 20898/1).*
The screw kit for the pump assembly should be ordered separately.
*Ordering code: **0019W** (+ length **L** - see table)*

The pump assembling should be made by 2 screws (221 ± 18 lb-in).
Fix the pump by self-locking nuts (283 ± 18 lb-in).

GRUPPO - GROUP 1	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
1SP 009	73.6	*2.898*	34.80	*1.370*	61.6	*2.425*	80	*3.150*	0.91	*2.01*
1SP 012	74.7	*2.941*	35.35	*1.392*	62.7	*2.469*	80	*3.150*	0.93	*2.05*
1SP 016	76.4	*3.008*	36.20	*1.425*	64.4	*2.535*	80	*3.150*	0.95	*2.09*
1SP 020	77.9	*3.067*	36.95	*1.455*	65.9	*2.594*	80	*3.150*	0.97	*2.14*
1SP 025	79.9	*3.146*	37.95	*1.494*	67.9	*2.673*	85	*3.346*	1.00	*2.21*
1SP 032	82.6	*3.252*	39.30	*1.547*	70.6	*2.780*	85	*3.346*	1.04	*2.29*
1SP 037	84.6	*3.331*	40.30	*1.587*	72.6	*2.858*	90	*3.543*	1.07	*2.36*
1SP 042	86.5	*3.406*	41.25	*1.624*	74.5	*2.933*	90	*3.543*	1.10	*2.43*
1SP 050	89.6	*3.528*	42.80	*1.685*	77.6	*3.055*	95	*3.740*	1.14	*2.51*
1SP 063	94.7	*3.728*	45.35	*1.785*	82.7	*3.256*	100	*3.937*	1.22	*2.69*
1SP 078	100.4	*3.953*	48.20	*1.898*	88.4	*3.480*	105	*4.134*	1.30	*2.87*
1SP 098	108.3	*4.264*	52.15	*2.053*	96.3	*3.791*	115	*4.528*	1.41	*3.11*

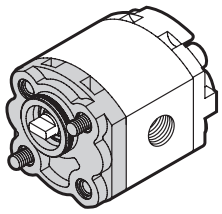
POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

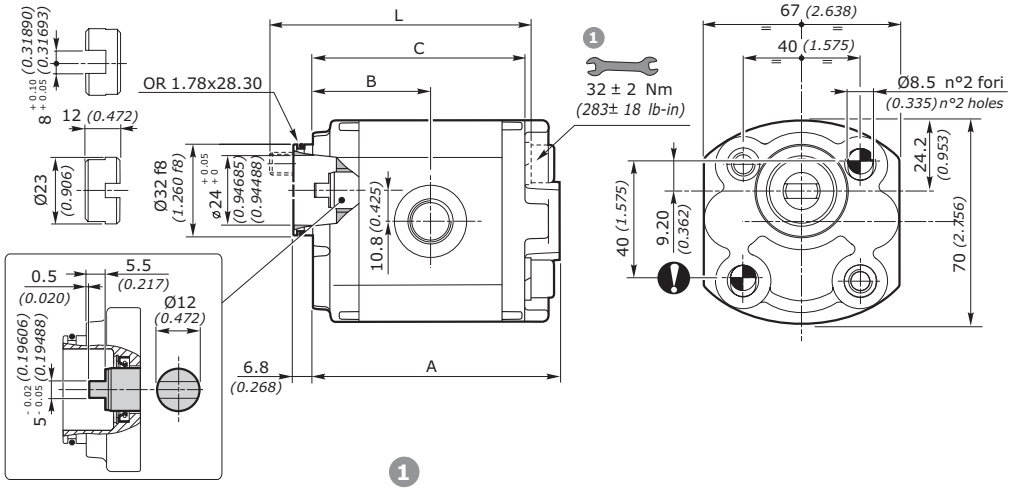
FLANGIA PER ELETTROPOMPA CON ANELLO DI TENUTA **E32CC** ***ELECTRO-PUMP FLANGE WITH SEAL SHAFT***

GRUPPO GROUP 1SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
1SP 009	0.89	*0.05*	260	*3770*	280	*4060*	290	*4205*	6000	5.3	*1.40*	600
1SP 012	1.18	*0.07*	260	*3770*	280	*4060*	290	*4205*	6000	7.1	*1.88*	600
1SP 016	1.6	*0.10*	260	*3770*	280	*4060*	290	*4205*	6000	9.6	*2.54*	400
1SP 020	2.0	*0.12*	260	*3770*	280	*4060*	290	*4205*	5500	11	*2.91*	400
1SP 025	2.5	*0.15*	260	*3770*	280	*4060*	290	*4205*	5000	12.5	*3.30*	400
1SP 032	3.2	*0.20*	260	*3770*	280	*4060*	290	*4205*	4500	14.4	*3.80*	400
1SP 037	3.7	*0.23*	250	*3625*	270	*3915*	280	*4060*	4000	14.8	*3.91*	400
1SP 042	4.2	*0.26*	250	*3625*	270	*3915*	280	*4060*	3500	14.7	*3.88*	400
1SP 050	5.0	*0.31*	250	*3625*	270	*3915*	280	*4060*	3000	15	*3.96*	400
1SP 063	6.3	*0.38*	170	*2465*	190	*2755*	210	*3045*	2700	17	*4.49*	400
1SP 078	7.76	*0.47*	170	*2465*	190	*2755*	210	*3045*	2500	19.4	*5.13*	400
1SP 098	9.78	*0.60*	150	*2175*	170	*2465*	190	*2755*	2000	19.6	*5.18*	400

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*





1 Coppia di serraggio viti: 32 ± 2Nm (viti classe 10.9-12.9 UNI EN 20898/1)
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Codice di ordinazione: **0019W** (+ lunghezza **L** - vedi tabella)

Il fissaggio della pompa può essere effettuato con 2 viti prigioniere (25 ± 2Nm).
Fissare la pompa mediante dadi autobloccanti (32 ± 2 Nm).

1 *Screw tightening torque: 283 ± 18 lb-in (screws 10.9-12.9 UNI EN 20898/1).*
The screw kit for the pump assembly should be ordered separately.
*Ordering code: **0019W** (+ length **L** - see table)*

The pump assembling should be made by 2 screws (221 ± 18 lb-in).
Fix the pump by self-locking nuts (283 ± 18 lb-in).

GRUPPO - GROUP 1	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
1SP 009	73.6	*2.898*	34.80	*1.370*	61.6	*2.425*	80	*3.150*	0.91	*2.01*
1SP 012	74.7	*2.941*	35.35	*1.392*	62.7	*2.469*	80	*3.150*	0.93	*2.05*
1SP 016	76.4	*3.008*	36.20	*1.425*	64.4	*2.535*	80	*3.150*	0.95	*2.09*
1SP 020	77.9	*3.067*	36.95	*1.455*	65.9	*2.594*	80	*3.150*	0.97	*2.14*
1SP 025	79.9	*3.146*	37.95	*1.494*	67.9	*2.673*	85	*3.346*	1.00	*2.21*
1SP 032	82.6	*3.252*	39.30	*1.547*	70.6	*2.780*	85	*3.346*	1.04	*2.29*
1SP 037	84.6	*3.331*	40.30	*1.587*	72.6	*2.858*	90	*3.543*	1.07	*2.36*
1SP 042	86.5	*3.406*	41.25	*1.624*	74.5	*2.933*	90	*3.543*	1.10	*2.43*
1SP 050	89.6	*3.528*	42.80	*1.685*	77.6	*3.055*	95	*3.740*	1.14	*2.51*
1SP 063	94.7	*3.728*	45.35	*1.785*	82.7	*3.256*	100	*3.937*	1.22	*2.69*
1SP 078	100.4	*3.953*	48.20	*1.898*	88.4	*3.480*	105	*4.134*	1.30	*2.87*
1SP 098	108.3	*4.264*	52.15	*2.053*	96.3	*3.791*	115	*4.528*	1.41	*3.11*

POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

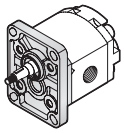
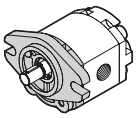
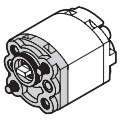
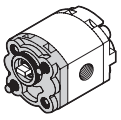
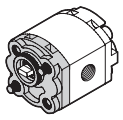
CODICE ORDINAZIONE • *ORDER CODE*

1SP - A - 020 - D - EUR -B - N - 10 - 0 - G

SIGLA - *CODE*	TIPO - *TYPE*	DESCRIZIONE - *DESCRIPTION*	PAGINA - *PAGE*
1SP	Tipo pompa *Pump type*	Pompa singola - gruppo 1 *Single pump - group 1*	4
A	Materiale flangia e coperchio *Flange and cover material*	**A** = alluminio / *aluminium*	
020	Cilindrata *Displacement*	Cilindrata = 2 cm^3/giro *Displacement = 0.12 in^3/rev*	4
D	Senso di rotazione *Rotation wise*	**D** = Rotazione destra / *Clockwise rotation* **S** = Rotazione sinistra / *Anticlockwise rotation* **R** = Reversibile / *Reversible*	8
EUR	Tipo Flangia *Flange type*	Flangia europea standard *Standard European flange*	26
B	Tipo anello di tenuta *Seal ring type*	Vedi tabella compatibilità *See compatibility table*	
N	Tipo guarnizione *Gasket type*	**N** = NBR **V** = Viton	27
10	Tipo Albero *Shaft type*	Vedi tabella compatibilità *See compatibility table*	
0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	30
G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	

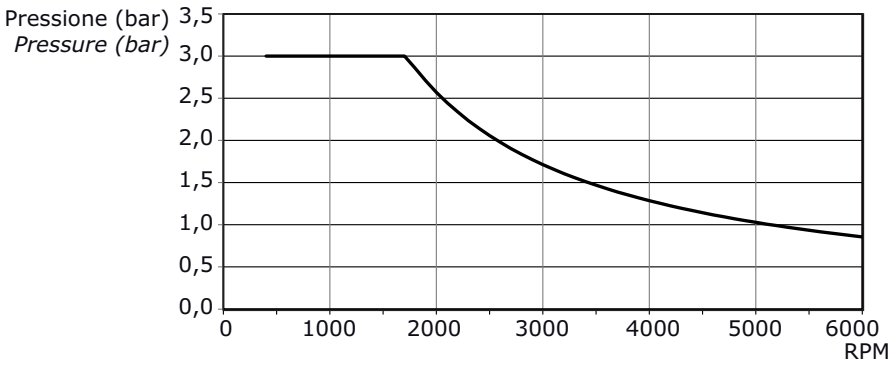
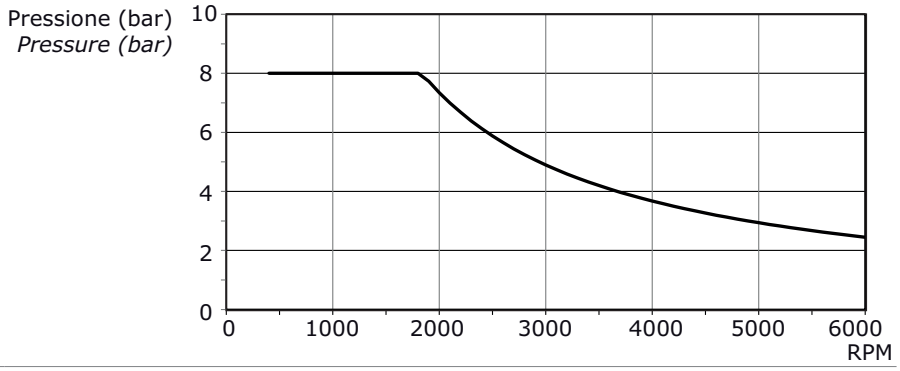
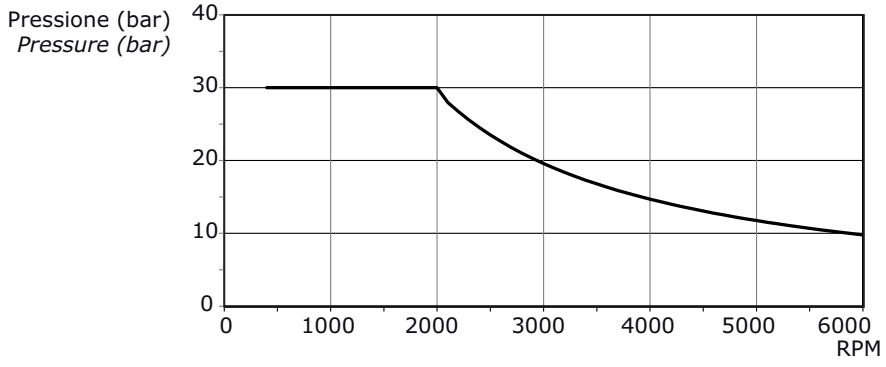
POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

TIPOLOGIA FLANGIA • *FLANGE TYPE*

	EUR	SAEAA	MC32	E32BX - E32BC	E32CX - E32CC
1SP					
A alluminio-*aluminium*	◇	◇	◇	◇	◇
G ghisa-*cast iron*	non disponibile *not available*	non disponibile *not available*	non disponibile *not available*	non disponibile *not available*	non disponibile *not available*

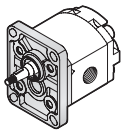
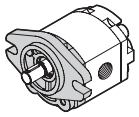
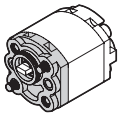
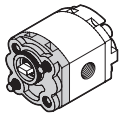
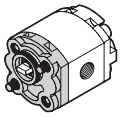
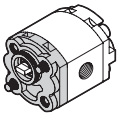
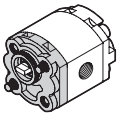
◇ = Combinazione standard - *Standard combination*

ANELLO DI TENUTA • *SEAL RING*

SIGLA - *CODE*	TIPO - *TYPE*	DIAGRAMMA - *DIAGRAM*
A	Flangia senza anello di tenuta *Flange without seal ring*	/
B	Anello di tenuta fino a **3** bar *Sealing ring up to **3** bar*	
H	Anello di tenuta fino a **8** bar *Sealing ring up to **8** bar*	
K	Anello di tenuta fino a **30** bar *Sealing ring up to **30** bar*	

POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

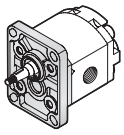
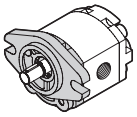
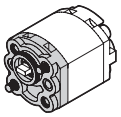
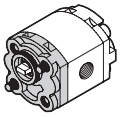
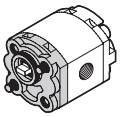
COMBINAZIONE FLANGIA - ANELLO DI TENUTA - GUARNIZIONE • *FLANGE - SEAL RING - GASKET COMBINATION*

1SP	EUR			SAEAA			MC32			E32BX	E32BC		E32CX	E32CC	
															
	Anello - *seal ring*			Anello - *seal ring*			Anello - *seal ring*			Anello - *seal ring*	Anello - *seal ring*		Anello - *seal ring*	Anello - *seal ring*	
	B	H	K	B	H	K	B	H	K	A	B	K	A	B	K
NBR **N**	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	●	◇	◇	●
Viton **V**	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

esempio • *example:* **1SP - A - 020 - D - EUR - B - N - 10 - 0 - G**

EUR = Flangia europea / *European flange*
B = Anello tenuta fino a 3 bar / Seal ring up to 3 *bar*
N = *Guarnizione in NBR / NBR o-ring*

COMBINAZIONE ALBERO - FLANGIA • *SHAFT - FLANGE COMBINATION*

1SP	EUR	SAEAA	MC32	E32BX-E32BC	E32CX-E32CC
					
10 Conico 1:8 *Tapered 1:8*	◇	●	●		
11 Conico 1:5 *Tapered 1:5*	●	●	●		
13 Cilindrico SAEAA *Parallel shaft SAEAA*	●	◇			
14 Scanalato SAEAA 9T *SAEAA 9T splined*	●	◇			
15 Scanalato DIN 5480 6T 12x9 *DIN 5480 Splined*	●	●	●		
17 Fresato a dente frontale *Dihedral claw*				◇	◇
27 Fresato a dente frontale (con anello) *Dihedral claw (with sealing ring)*	●	●	◇		

◇ = Combinazione standard - *Standard combination* ● = Combinazione disponibile - *Available combination*

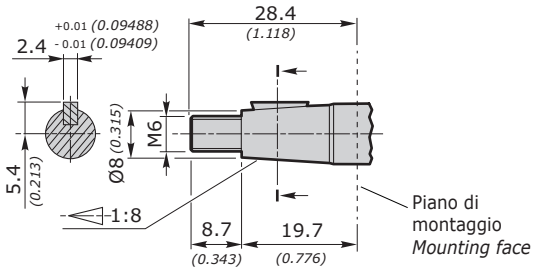
POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

1SP

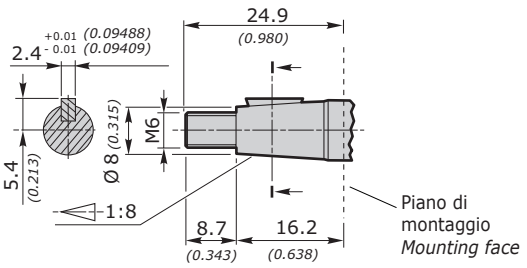
DIMENSIONI ALBERO - *SHAFT DIMENSIONS*

10
Conico 1:8
Tapered 1:8

Coppia 30 Nm
Torque 22 ft-lbs



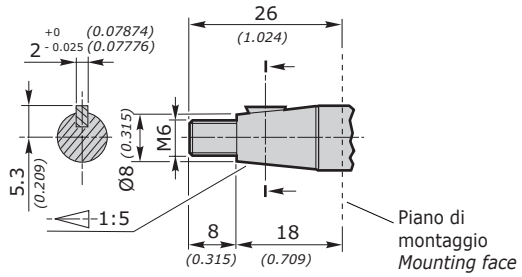
Disponibile per - *available for:* **EUR - MC32**



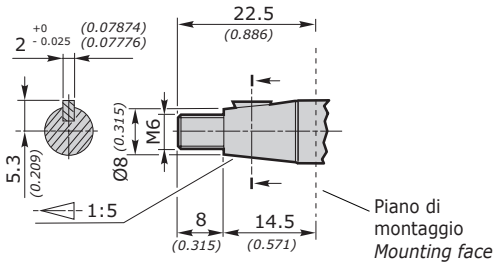
Disponibile per - *available for:* **SAEAA**

11
Conico 1:5
Tapered 1:5

Coppia 30 Nm
Torque 22 ft-lbs



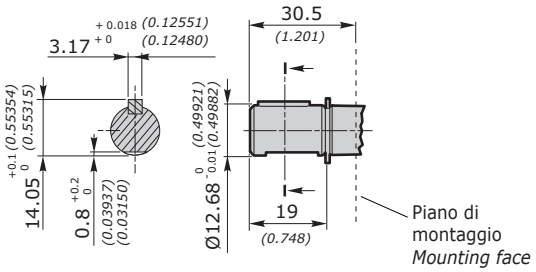
Disponibile per - *available for:* **EUR - MC32**



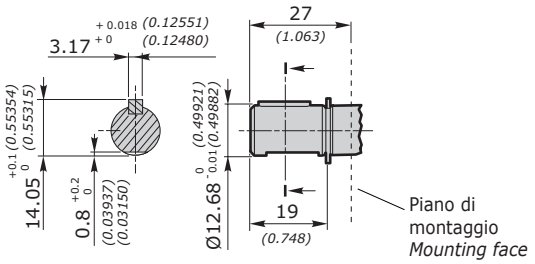
Disponibile per - *available for:* **SAEAA**

13
Cilindrico
SAEAA
Parallel shaft
SAEAA

Coppia 35 Nm
Torque 26 ft-lbs



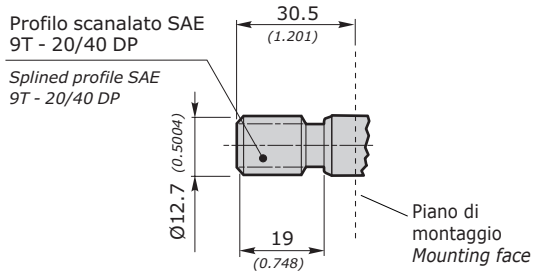
Disponibile per - *available for:* **EUR**



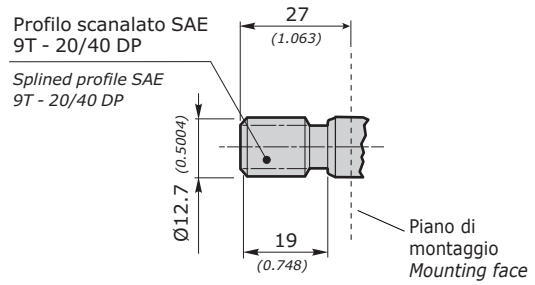
Disponibile per - *available for:* **SAEAA**

14
Scanalato
SAEAA 9T
SAEAA
9T splined

Coppia 40 Nm
Torque 30 ft-lbs



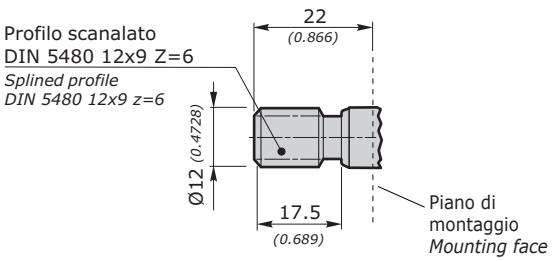
Disponibile per - *available for:* **EUR**



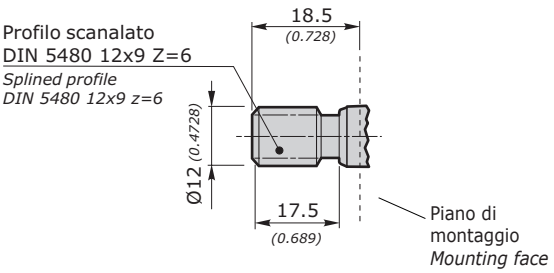
Disponibile per - *available for:* **SAEAA**

15
Scanalato
DIN 5480
6T 12x9
DIN 5480
splined

Coppia 30 Nm
Torque 22 ft-lbs



Disponibile per - *available for:* **EUR - MC32**



Disponibile per - *available for:* **SAEAA**

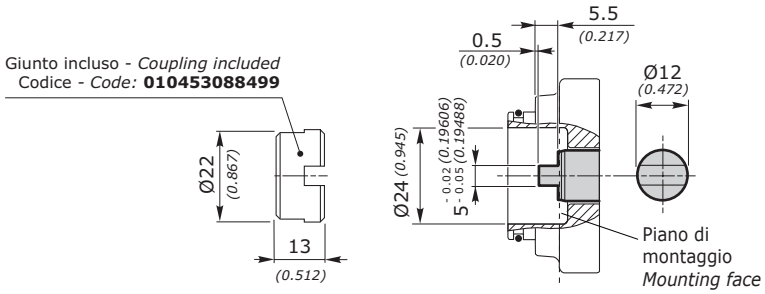
POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

1SP

DIMENSIONI ALBERO - *SHAFT DIMENSIONS*

17
Fresato
a dente frontale
Dihedral craw

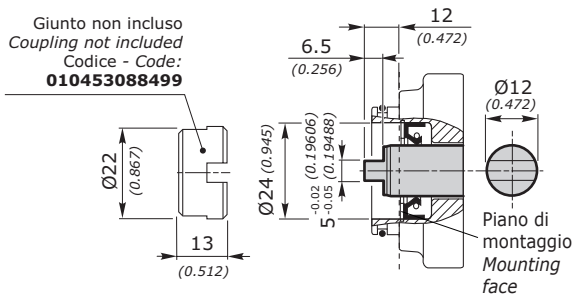
Coppia 25 Nm
Torque 19 ft-lbs



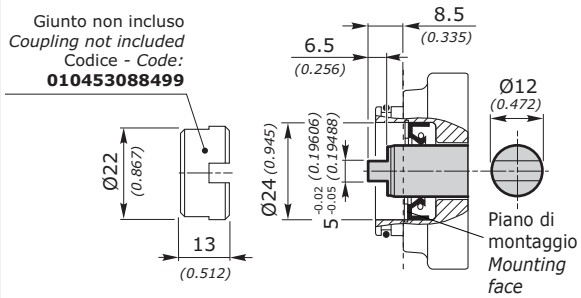
Disponibile per - *available for:* **E32BX - E32BC - E32CX - E32CC**

27
Fresato
a dente frontale
(con anello)
Dihedral claw
(with sealing ring)

Coppia 25 Nm
Torque 19 ft-lbs



Disponibile per - *available for:* **EUR - MC32**

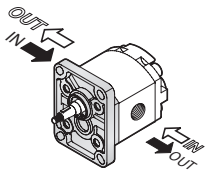
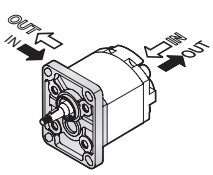
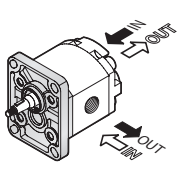
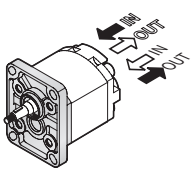
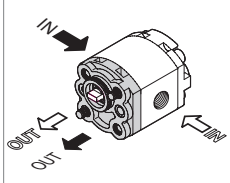
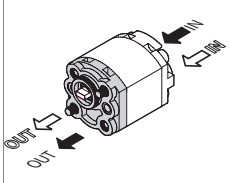


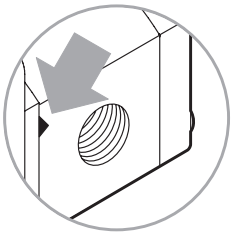
Disponibile per - *available for:* **SAEAA**

POSIZIONE CONNESSIONE • *CONNECTION POSITION*

Rotazione destra - **D**
*Clockwise rotation - **D***

Rotazione sinistra - **S**
*Anti-clockwise rotation - **S***

0	**1**	**3**	**4**	**2** (per - *for* MC32)	**5** (per - *for* MC32)
					



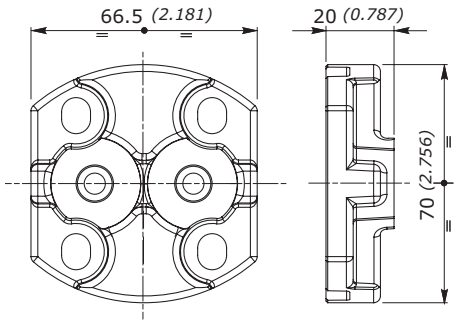
Il segno del corpo indica il lato aspirazione per le pompe
The sign on the body identifies the suction side for the pumps

IN = ASPIRAZIONE - *SUCTION*
OUT = MANDATA - *DELIVERY*

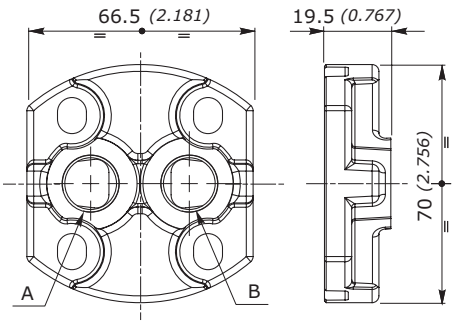
POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

COPERCHIO STANDARD • *STANDARD COVER*

Per posizioni **0 e 2**
*For position **0** and **2***



Per posizioni **1, 3, 4 e 5**
*For position **1, 3, 4 e 5***



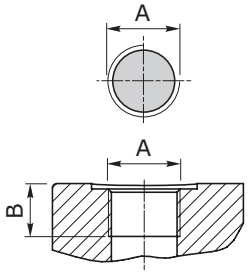
CONNESSIONI / *CONNECTION*	A	B
GAS	G 3/8	G 3/8
SAE	SAE 6	SAE 6

TIPO CONNESSIONE • *CONNECTION TYPE*

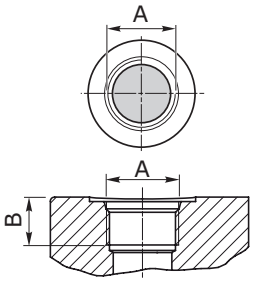
Le connessioni rappresentate corrispondono alle versioni standard; per connessioni differenti, contattare il nostro Ufficio Commerciale.

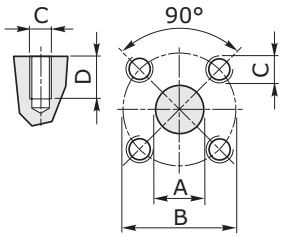
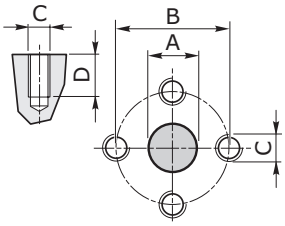
The connection types shown correspond to standard configurations; for different applications contact our Commercial Dept.

1SP		POSIZIONE CONNESSIONE - *CONNECTION POSITION*					
		0	**1**	**3**	**4**	**2**	**5**
GAS	**G**	◇	◇	◇	◇	◇	◇
UNF	**U**	◇	◇	◇	◇	◇	◇
FLANGIATE *FLANGED*	**T**	◇				◇	
	N	◇				◇	

GAS	UNI ISO 228/1	SIGLA *CODE*	CIL. *DISPL.*	ASPIRAZIONE - *SUCTION* **IN**			MANDATA - *DELIVERY* **OUT**		
				A	**B**		**A**	**B**	
		**G**	009	G 3/8"	14 [mm] *0.552 [inch]*	40 [Nm] *354 [in.lbs]*	G 3/8"	14 [mm] *0.552 [inch]*	40 [Nm] *354 [in.lbs]*
			012						
			016						
			020						
			025						
			032						
			037						
			042						
			050						
			063						
			078						
			098						

POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

UNF	ANSI/ASME B1.1	SIGLA *CODE*	CIL. *DISPL.*	ASPIRAZIONE - *SUCTION* **IN** A	B		MANDATA - *DELIVERY* **OUT** A	B	
		U	009	SAE 6 9/16"-18 UNF	13 [mm] *0.512 [inch]*	40 [Nm] *354 [in.lbs]*	SAE 6 9/16"-18 UNF	13 [mm] *0.512 [inch]*	40 [Nm] *354 [in.lbs]*
			012						
			016						
			020						
			025	SAE 8 3/4"-14 UNF	15 [mm] *0.591 [inch]*	50 [Nm] *443 [in.lbs]*	SAE 8 3/4"-14 UNF	15 [mm] *0.591 [inch]*	50 [Nm] *443 [in.lbs]*
			032						
			037						
			042						
			050						
			063						
			078						
			098						

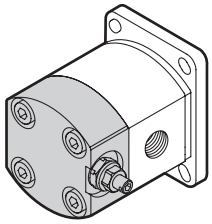
FLANGIATE FLANGED	ISO/R 262	SIGLA *CODE*	CIL. *DISPL.*	ASPIRAZIONE - *SUCTION* **IN** A	B	C	D		MANDATA - *DELIVERY* **OUT** A	B	C	D	
		T	009	12 [mm] *0.472 [inch]*	30 [mm] *1.181 [inch]*	M6	13 [mm] *0.512 [inch]*	8 [Nm] *71 [in.lbs]*	12 [mm] *0.472 [inch]*	30 [mm] *1.181 [inch]*	M6	13 [mm] *0.512 [inch]*	8 [Nm] *71 [in.lbs]*
			012										
			016										
			020										
			025										
			032										
			037										
			042										
			050										
			063										
			078										
			098										
		N	009	10 [mm] *0.394 [inch]*	26 [mm] *1.024 [inch]*	M5	11 [mm] *0.433 [inch]*	7 [Nm] *62 [in.lbs]*	10 [mm] *0.394 [inch]*	26 [mm] *1.024 [inch]*	M5	11 [mm] *0.433 [inch]*	7 [Nm] *62 [in.lbs]*
			012										
			016										
			020										
			025	13 [mm] *0.512 [inch]*	30 [mm] *1.181 [inch]*	M6	11 [mm] *0.433 [inch]*	8 [Nm] *71 [in.lbs]*	13 [mm] *0.512 [inch]*	30 [mm] *1.181 [inch]*	M6	11 [mm] *0.433 [inch]*	8 [Nm] *71 [in.lbs]*
			032										
			037										
			042										
			050										
			063										
			078										
			098										

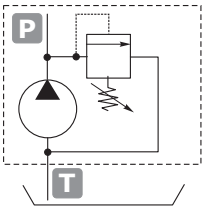
POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

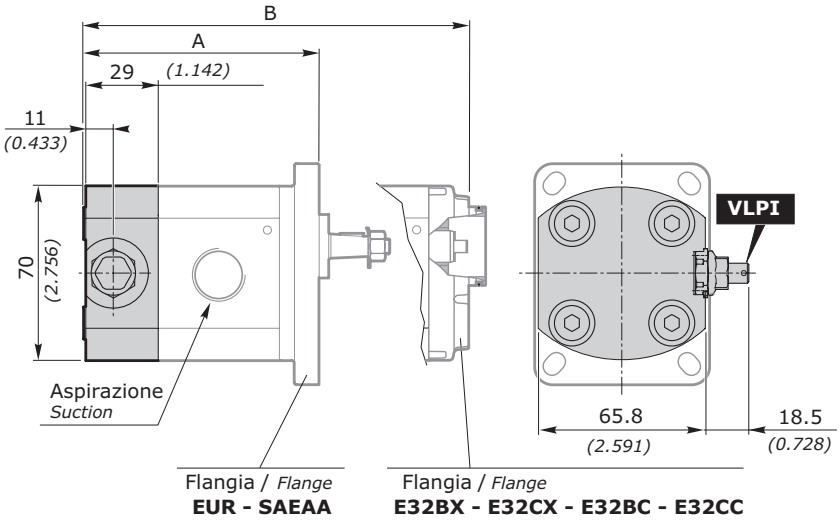
OPZIONI • *OPTIONS*

VLPI

VALVOLA LIMITATRICE DI PRESSIONE A SCARICO INTERNO
PRESSURE RELIEF VALVE WITH INTERNAL EXHAUST







GRUPPO GROUP 1	A EUR		A SAEAA		B E32BX - E32CX E32BC - E32CC	
	mm	inch	mm	inch	mm	inch
1SP 009	82.6	*3.252*	86.1	*3.390*	82.6	*3.252*
1SP 012	83.7	*3.295*	87.2	*3.433*	83.7	*3.295*
1SP 016	85.4	*3.362*	88.9	*3.500*	85.4	*3.362*
1SP 020	86.9	*3.421*	90.4	*3.559*	86.9	*3.421*
1SP 025	88.9	*3.500*	92.4	*3.638*	88.9	*3.500*
1SP 032	91.6	*3.606*	95.1	*3.744*	91.6	*3.606*
1SP 037	93.6	*3.685*	97.1	*3.823*	93.6	*3.685*
1SP 042	95.5	*3.760*	99.0	*3.898*	95.5	*3.760*
1SP 050	98.6	*3.882*	102.1	*4.020*	98.6	*3.882*
1SP 063	103.7	*4.083*	107.2	*4.220*	103.7	*4.083*
1SP 078	109.4	*4.307*	112.9	*4.445*	109.4	*4.307*
1SP 098	117.3	*4.618*	120.8	*4.756*	117.3	*4.618*

ATTENZIONE:

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore (previsto solo scarico interno).
Il corpo VLP è disponibile in alluminio.

L'apertura della valvola limitatrice di pressione deve avvenire per tempi non superiori ai 10 secondi ogni minuto, per evitare il surriscaldamento della pompa.

WARNING:

The pressure relief valve can be applied by substituting the rear cover (only internal relief is set).
VLP cover is available in aluminum.

The opening of the pressure relief valve should be carried out for times not over 10" each minute, to avoid the overheating of the pump.

esempio • *example:* **1SP - A - 020 - D - EUR - B - N - 10 - 0 - G - VLPI (N 120)**

VLPI = Coperchio con VPL a scarico interno / *Cover with VPL with internal exhaust*
N = Tipo molla - vedi tabella / *Spring type - see table*
120 = Taratura - vedi tabella / *Setting - see table*

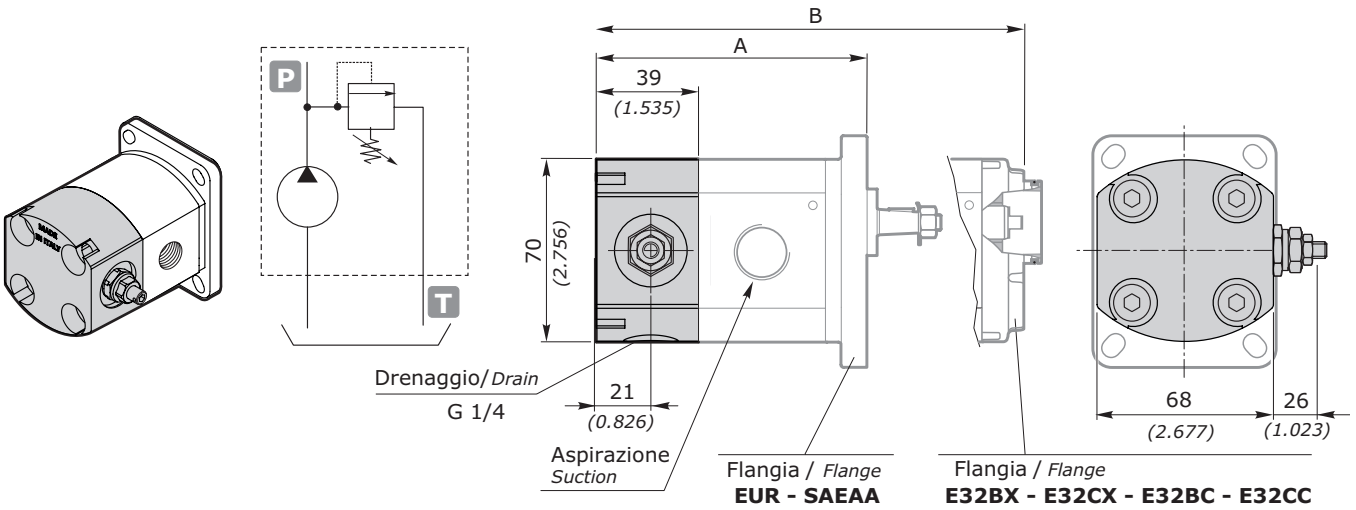
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	B	molla nera - *black spring*	N	molla rossa - *red spring*	R
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

POMPE AD INGRANAGGI GRUPPO 1SP
GEAR PUMPS GROUP 1SP

VLPE

VALVOLA LIMITATRICE DI PRESSIONE A SCARICO ESTERNO
PRESSURE RELIEF VALVE WITH EXTERNAL EXHAUST



GRUPPO GROUP 1	A EUR		A SAEAA		B E32BX - E32CX E32BC - E32CC	
	mm	inch	mm	inch	mm	inch
1SP 009	92.6	*3.645*	96.1	*3.783*	92.6	*3.645*
1SP 012	93.7	*3.688*	97.2	*3.826*	93.7	*3.688*
1SP 016	95.4	*3.755*	98.9	*3.893*	95.4	*3.755*
1SP 020	96.9	*3.814*	100.4	*3.952*	96.9	*3.814*
1SP 025	98.9	*3.893*	102.4	*4.031*	98.9	*3.893*
1SP 032	101.6	*4*	105.1	*4.137*	101.6	*4*
1SP 037	103.6	*4.078*	107.1	*4.216*	103.6	*4.078*
1SP 042	105.5	*4.153*	109.0	*4.291*	105.5	*4.153*
1SP 050	108.6	*4.275*	112.1	*4.413*	108.6	*4.275*
1SP 063	113.7	*4.476*	117.2	*4.614*	113.7	*4.476*
1SP 078	119.4	*4.7*	122.9	*4.838*	119.4	*4.7*
1SP 098	127.3	*5.011*	130.8	*5.149*	127.3	*5.011*

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore. Il coperchio VLP è disponibile in alluminio. E' rappresentata una pompa con rotazione destra. Nelle pompe con rotazione sinistra, la valvola è dal lato opposto

The pressure relief valve can be applied by substituting the rear cover. VLP cover is available in aluminum. The showed pump is with clockwise rotation. In the case of pumps with anticlockwise rotation, the valve is on the opposite side.

esempio ● *example:* **1SP - A - 020 - D - EUR - B - N - 10 - 0 - G - VLPE (N 120)**

VLPE = Coperchio con VPL a scarico esterno / *Cover with VPL with external exhaust*
N = Tipo molla - vedi tabella / *Spring type - see table*
120 = Taratura - vedi tabella / *Setting - see table*

TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	**B**	molla nera - *black spring*	**N**	molla rossa - *red spring*	**R**
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

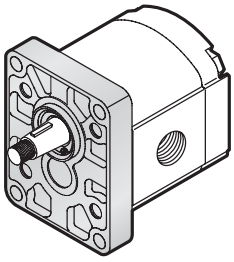
FLANGIA EUROPEA EUR *EUROPEAN FLANGE*

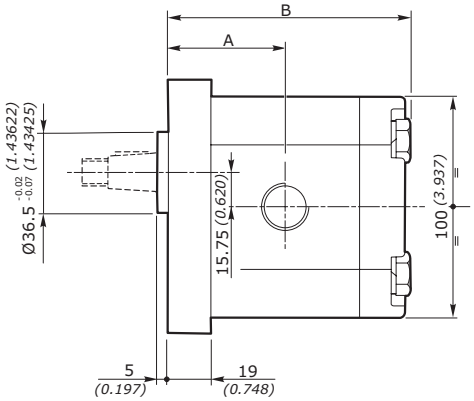
FLANGIA E COPERCHIO IN ALLUMINIO - *FLANGE AND COVER IN ALUMINIUM*

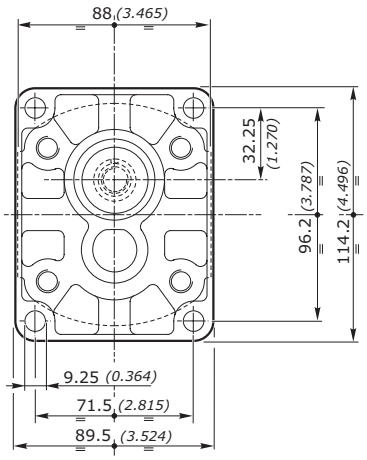
GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	*0.24*	250	*3625*	270	*3915*	290	*4205*	4000	16	*4.23*	500
2SP 060	6	*0.37*	250	*3625*	270	*3915*	290	*4205*	4000	24	*6.34*	500
2SP 080	8.5	*0.52*	250	*3625*	270	*3915*	290	*4205*	3500	29.7	*7.85*	500
2SP 110	11	*0.67*	250	*3625*	270	*3915*	290	*4205*	3500	38.5	*10.17*	500
2SP 140	14	*0.85*	250	*3625*	270	*3915*	290	*4205*	3500	49	*12.95*	500
2SP 160	16.5	*1.01*	230	*3335*	240	*3480*	250	*3625*	3500	57.7	*15.24*	500
2SP 190	19.5	*1.19*	210	*3045*	220	*3190*	230	*3335*	3300	64.3	*16.99*	500
2SP 220	22.5	*1.37*	190	*2755*	200	*2900*	210	*3045*	2800	63	*16.64*	500
2SP 260	26	*1.59*	170	*2465*	180	*2610*	190	*2755*	2500	65	*17.17*	500
2SP 310	31.5	*1.92*	130	*1885*	140	*2030*	150	*2175*	2200	69	*18.22*	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*







GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	44.4	*1.748*	93.0	*3.661*	2.30	*5.07*
2SP 060	46.0	*1.811*	96.3	*3.791*	2.45	*5.40*
2SP 080	48.1	*1.894*	100.5	*3.957*	2.60	*5.73*
2SP 110	50.2	*1.976*	104.6	*4.118*	2.70	*5.95*
2SP 140	52.7	*2.075*	109.6	*4.315*	2.80	*6.17*
2SP 160	54.8	*2.157*	113.8	*4.480*	2.95	*6.51*
2SP 190	57.3	*2.256*	118.8	*4.677*	3.10	*6.84*
2SP 220	59.8	*2.354*	123.8	*4.874*	3.25	*7.17*
2SP 260	62.7	*2.469*	129.6	*5.102*	3.40	*7.50*
2SP 310	66.9	*2.636*	138.0	*5.437*	3.61	*7.96*

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

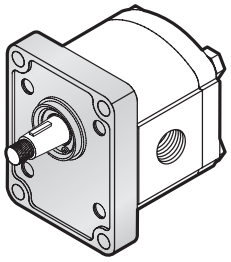
FLANGIA EUROPEA EUR *EUROPEAN FLANGE*

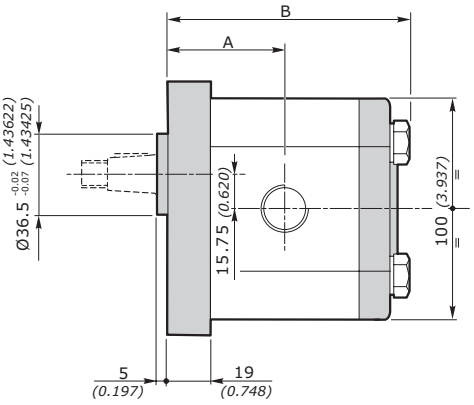
FLANGIA E COPERCHIO IN GHISA - *FLANGE AND COVER IN CAST IRON*

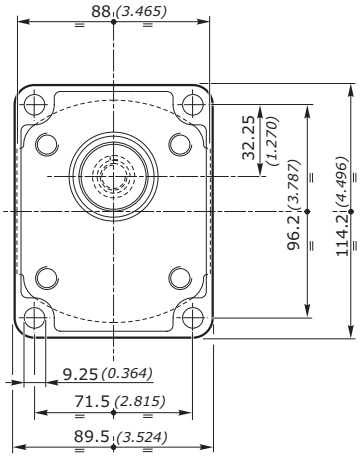
GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	*0.24*	260	*3770*	280	*4060*	300	*4350*	4000	16	*4.23*	500
2SP 060	6	*0.37*	260	*3770*	280	*4060*	300	*4350*	4000	24	*6.34*	500
2SP 080	8.5	*0.52*	260	*3770*	280	*4060*	300	*4350*	3500	29.7	*7.85*	500
2SP 110	11	*0.67*	260	*3770*	280	*4060*	300	*4350*	3500	38.5	*10.17*	500
2SP 140	14	*0.85*	260	*3770*	280	*4060*	300	*4350*	3500	49	*12.95*	500
2SP 160	16.5	*1.01*	240	*3480*	250	*3625*	260	*3770*	3500	57.7	*15.24*	500
2SP 190	19.5	*1.19*	220	*3190*	230	*3335*	240	*3480*	3300	64.3	*16.99*	500
2SP 220	22.5	*1.37*	200	*2900*	210	*3045*	220	*3190*	2800	63	*16.64*	500
2SP 260	26	*1.59*	180	*2610*	190	*2755*	200	*2900*	2500	65	*17.17*	500
2SP 310	31.5	*1.92*	140	*2030*	150	*2175*	160	*2320*	2200	69	*18.22*	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*







GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	44.4	*1.748*	93.0	*3.661*	3.40	*7.50*
2SP 060	46.0	*1.811*	96.3	*3.791*	3.55	*7.83*
2SP 080	48.1	*1.894*	100.5	*3.957*	3.70	*8.16*
2SP 110	50.2	*1.976*	104.6	*4.118*	3.80	*8.38*
2SP 140	52.7	*2.075*	109.6	*4.315*	3.90	*8.60*
2SP 160	54.8	*2.157*	113.8	*4.480*	4.05	*8.93*
2SP 190	57.3	*2.256*	118.8	*4.677*	4.20	*9.26*
2SP 220	59.8	*2.354*	123.8	*4.874*	4.35	*9.59*
2SP 260	62.7	*2.469*	129.6	*5.102*	4.50	*9.92*
2SP 310	66.9	*2.636*	138.0	*5.437*	4.71	*7.96*

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

FLANGIA SAE SAEA-SAEAOR *SAE FLANGE*

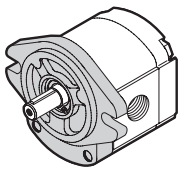
FLANGIA E COPERCHIO IN ALLUMINIO - *FLANGE AND COVER IN ALUMINIUM*

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	*0.24*	250	*3625*	270	*3915*	290	*4205*	4000	16	*4.23*	500
2SP 060	6	*0.37*	250	*3625*	270	*3915*	290	*4205*	4000	24	*6.34*	500
2SP 080	8.5	*0.52*	250	*3625*	270	*3915*	290	*4205*	3500	29.7	*7.85*	500
2SP 110	11	*0.67*	250	*3625*	270	*3915*	290	*4205*	3500	38.5	*10.17*	500
2SP 140	14	*0.85*	250	*3625*	270	*3915*	290	*4205*	3500	49	*12.95*	500
2SP 160	16.5	*1.01*	230	*3335*	240	*3480*	250	*3625*	3500	57.7	*15.24*	500
2SP 190	19.5	*1.19*	210	*3045*	220	*3190*	230	*3335*	3300	64.3	*16.99*	500
2SP 220	22.5	*1.37*	190	*2755*	200	*2900*	210	*3045*	2800	63	*16.64*	500
2SP 260	26	*1.59*	170	*2465*	180	*2610*	190	*2755*	2500	65	*17.17*	500
2SP 310	31.5	*1.92*	130	*1885*	140	*2030*	150	*2175*	2200	69	*18.22*	500

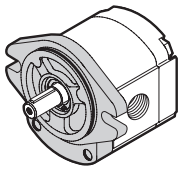
Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

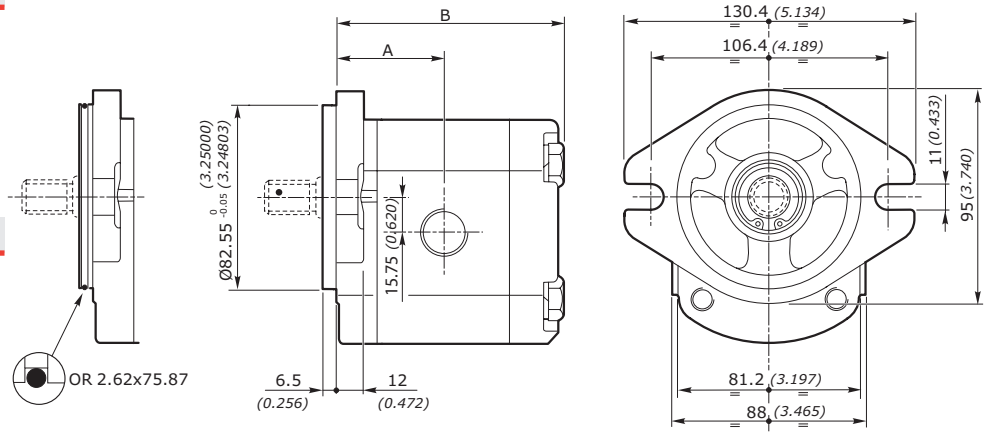
DIMENSIONI • *DIMENSIONS*

SAEA



SAEAOR





GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	44.4	*1.748*	93.0	*3.661*	2.30	*5.07*
2SP 060	46.0	*1.811*	96.3	*3.791*	2.45	*5.40*
2SP 080	48.1	*1.894*	100.5	*3.957*	2.60	*5.73*
2SP 110	50.2	*1.976*	104.6	*4.118*	2.70	*5.95*
2SP 140	52.7	*2.075*	109.6	*4.315*	2.80	*6.17*
2SP 160	54.8	*2.157*	113.8	*4.480*	2.95	*6.51*
2SP 190	57.3	*2.256*	118.8	*4.677*	3.10	*6.84*
2SP 220	59.8	*2.354*	123.8	*4.874*	3.25	*7.17*
2SP 260	62.7	*2.469*	129.6	*5.102*	3.40	*7.50*
2SP 310	66.9	*2.636*	138.0	*5.437*	3.61	*7.96*

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

FLANGIA SAE SAEA-SAEAOR *SAE FLANGE*

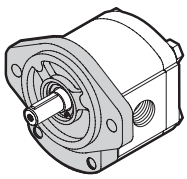
FLANGIA E COPERCHIO IN GHISA - *FLANGE AND COVER IN CAST IRON*

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	*0.24*	260	*3770*	280	*4060*	300	*4350*	4000	16	*4.23*	500
2SP 060	6	*0.37*	260	*3770*	280	*4060*	300	*4350*	4000	24	*6.34*	500
2SP 080	8.5	*0.52*	260	*3770*	280	*4060*	300	*4350*	3500	29.7	*7.85*	500
2SP 110	11	*0.67*	260	*3770*	280	*4060*	300	*4350*	3500	38.5	*10.17*	500
2SP 140	14	*0.85*	260	*3770*	280	*4060*	300	*4350*	3500	49	*12.95*	500
2SP 160	16.5	*1.01*	240	*3480*	250	*3625*	260	*3770*	3500	57.7	*15.24*	500
2SP 190	19.5	*1.19*	220	*3190*	230	*3335*	240	*3480*	3300	64.3	*16.99*	500
2SP 220	22.5	*1.37*	200	*2900*	210	*3045*	220	*3190*	2800	63	*16.64*	500
2SP 260	26	*1.59*	180	*2610*	190	*2755*	200	*2900*	2500	65	*17.17*	500
2SP 310	31.5	*1.92*	140	*2030*	150	*2175*	160	*2320*	2200	69	*18.22*	500

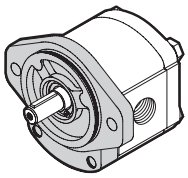
Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

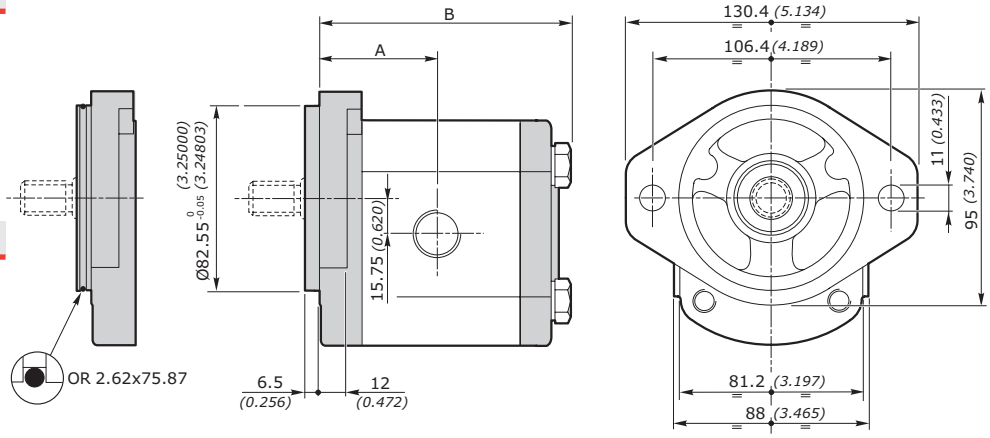
DIMENSIONI • *DIMENSIONS*

SAEA



SAEAOR





GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	44.4	*1.748*	93.0	*3.661*	3.40	*7.50*
2SP 060	46.0	*1.811*	96.3	*3.791*	3.55	*7.83*
2SP 080	48.1	*1.894*	100.5	*3.957*	3.70	*8.16*
2SP 110	50.2	*1.976*	104.6	*4.118*	3.80	*8.38*
2SP 140	52.7	*2.075*	109.6	*4.315*	3.90	*8.60*
2SP 160	54.8	*2.157*	113.8	*4.480*	4.05	*8.93*
2SP 190	57.3	*2.256*	118.8	*4.677*	4.20	*9.26*
2SP 220	59.8	*2.354*	123.8	*4.874*	4.35	*9.59*
2SP 260	62.7	*2.469*	129.6	*5.102*	4.50	*9.92*
2SP 310	66.9	*2.636*	138.0	*5.437*	4.71	*7.96*

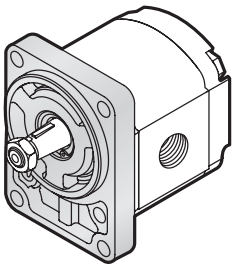
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

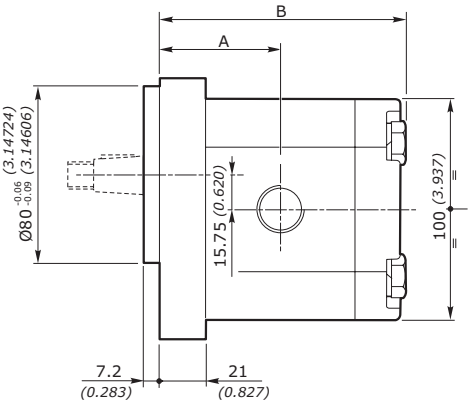
FLANGIA TEDESCA B80C *GERMAN FLANGE*

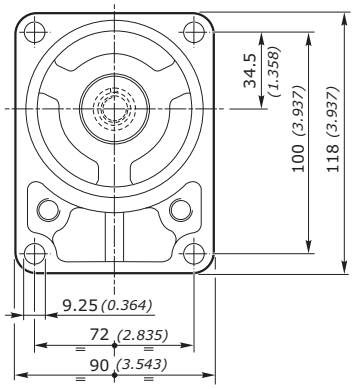
GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	*0.24*	250	*3625*	270	*3915*	290	*4205*	4000	16	*4.23*	500
2SP 060	6	*0.37*	250	*3625*	270	*3915*	290	*4205*	4000	24	*6.34*	500
2SP 080	8.5	*0.52*	250	*3625*	270	*3915*	290	*4205*	3500	29.7	*7.85*	500
2SP 110	11	*0.67*	250	*3625*	270	*3915*	290	*4205*	3500	38.5	*10.17*	500
2SP 140	14	*0.85*	250	*3625*	270	*3915*	290	*4205*	3500	49	*12.95*	500
2SP 160	16.5	*1.01*	230	*3335*	240	*3480*	250	*3625*	3500	57.7	*15.24*	500
2SP 190	19.5	*1.19*	210	*3045*	220	*3190*	230	*3335*	3300	64.3	*16.99*	500
2SP 220	22.5	*1.37*	190	*2755*	200	*2900*	210	*3045*	2800	63	*16.64*	500
2SP 260	26	*1.59*	170	*2465*	180	*2610*	190	*2755*	2500	65	*17.17*	500
2SP 310	31.5	*1.92*	130	*1885*	140	*2030*	150	*2175*	2200	69	*18.22*	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*







GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	46.4	*1.827*	95.0	*3.740*	2.30	*5.07*
2SP 060	48.0	*1.890*	98.3	*3.870*	2.45	*5.40*
2SP 080	50.1	*1.972*	102.5	*4.035*	2.60	*5.73*
2SP 110	52.2	*2.055*	106.6	*4.197*	2.70	*5.95*
2SP 140	54.7	*2.154*	111.6	*4.394*	2.80	*6.17*
2SP 160	56.8	*2.236*	115.8	*4.559*	2.95	*6.51*
2SP 190	59.3	*2.335*	120.8	*4.756*	3.10	*6.84*
2SP 220	61.8	*2.433*	125.8	*4.953*	3.25	*7.17*
2SP 260	64.7	*2.547*	131.6	*5.181*	3.40	*7.50*
2SP 310	68.9	*2.715*	140.0	*5.516*	3.61	*7.96*

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

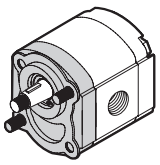
FLANGIA B50C *FLANGE*

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	*0.24*	250	*3625*	270	*3915*	290	*4205*	4000	16	*4.23*	500
2SP 060	6	*0.37*	250	*3625*	270	*3915*	290	*4205*	4000	24	*6.34*	500
2SP 080	8.5	*0.52*	250	*3625*	270	*3915*	290	*4205*	3500	29.7	*7.85*	500
2SP 110	11	*0.67*	250	*3625*	270	*3915*	290	*4205*	3500	38.5	*10.17*	500
2SP 140	14	*0.85*	250	*3625*	270	*3915*	290	*4205*	3500	49	*12.95*	500
2SP 160	16.5	*1.01*	230	*3335*	240	*3480*	250	*3625*	3500	57.7	*15.24*	500
2SP 190	19.5	*1.19*	210	*3045*	220	*3190*	230	*3335*	3300	64.3	*16.99*	500
2SP 220	22.5	*1.37*	190	*2755*	200	*2900*	210	*3045*	2800	63	*16.64*	500
2SP 260	26	*1.59*	170	*2465*	180	*2610*	190	*2755*	2500	65	*17.17*	500
2SP 310	31.5	*1.92*	130	*1885*	140	*2030*	150	*2175*	2200	69	*18.22*	500

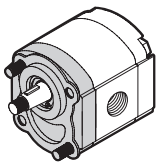
Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

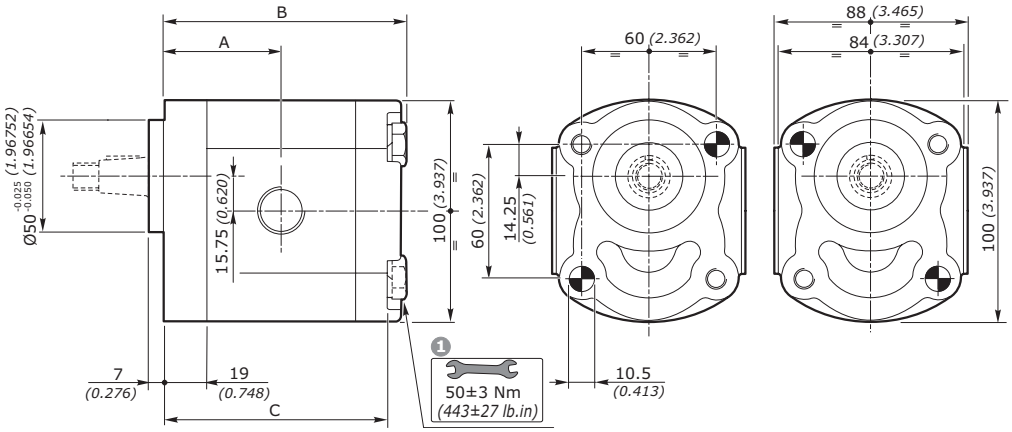
DIMENSIONI • *DIMENSIONS*

B50CX



B50CY





1 Coppia di serraggio viti: 50 ± 3Nm (viti classe 10.9-12.9 UNI EN 20898/1)
Il kit viti per il fissaggio della pompa è da ordinare separatamente.
Codice di ordinazione: **0029W** (+ lunghezza **L** - vedi tabella)
Il fissaggio della pompa può essere effettuato con 2 viti prigioniere classe 10.9-12.9 UNI EN 20898/1 preserrate: 40 ± 3Nm. Fissare la pompa mediante dadi autobloccanti con coppia si serraggio: 50 ± 3Nm

1 *Screw tightening torque: 443 ± 27 lb-in (screws 10.9-12.9 UNI EN 20898/1).*
The screw kit for the pump assembly should be ordered separately.
*Ordering code: **0029W** (+ length **L** - see table)*
The pump assembling should be made with 2 screws stud type 10.9-12.9 UNI EN 20898/1 pre-tighten 354 ± 27 lb-in. Fix the pump by self-locking nuts with tightening torque: 443 ± 27 lb-in

GRUPPO - GROUP 2	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
2SP 040	44.4	*1.748*	93.0	*3.661*	84.0	*3.307*	105	*4.134*	2.30	*5.07*
2SP 060	46.0	*1.811*	96.3	*3.791*	87.3	*3.437*	105	*4.134*	2.45	*5.40*
2SP 080	48.1	*1.894*	100.5	*3.957*	91.5	*3.602*	110	*4.331*	2.60	*5.73*
2SP 110	50.2	*1.976*	104.6	*4.118*	95.6	*3.764*	115	*4.528*	2.70	*5.95*
2SP 140	52.7	*2.075*	109.6	*4.315*	100.6	*3.961*	120	*4.724*	2.80	*6.17*
2SP 160	54.8	*2.157*	113.8	*4.480*	104.8	*4.126*	125	*4.921*	2.95	*6.51*
2SP 190	57.3	*2.256*	118.8	*4.677*	109.8	*4.323*	130	*5.118*	3.10	*6.84*
2SP 220	59.8	*2.354*	123.8	*4.874*	114.8	*4.520*	135	*5.315*	3.25	*7.17*
2SP 260	62.7	*2.469*	129.6	*5.102*	120.6	*4.748*	140	*5.512*	3.40	*7.50*
2SP 310	66.9	*2.636*	138.0	*5.437*	129.0	*5.083*	150	*5.910*	3.61	*7.96*

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

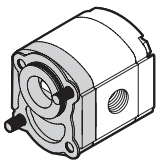
FLANGIA E52C *FLANGE*

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	*0.24*	250	*3625*	270	*3915*	290	*4205*	4000	16	*4.23*	500
2SP 060	6	*0.37*	250	*3625*	270	*3915*	290	*4205*	4000	24	*6.34*	500
2SP 080	8.5	*0.52*	250	*3625*	270	*3915*	290	*4205*	3500	29.7	*7.85*	500
2SP 110	11	*0.67*	250	*3625*	270	*3915*	290	*4205*	3500	38.5	*10.17*	500
2SP 140	14	*0.85*	250	*3625*	270	*3915*	290	*4205*	3500	49	*12.95*	500
2SP 160	16.5	*1.01*	230	*3335*	240	*3480*	250	*3625*	3500	57.7	*15.24*	500
2SP 190	19.5	*1.19*	210	*3045*	220	*3190*	230	*3335*	3300	64.3	*16.99*	500
2SP 220	22.5	*1.37*	190	*2755*	200	*2900*	210	*3045*	2800	63	*16.64*	500
2SP 260	26	*1.59*	170	*2465*	180	*2610*	190	*2755*	2500	65	*17.17*	500
2SP 310	31.5	*1.92*	130	*1885*	140	*2030*	150	*2175*	2200	69	*18.22*	500

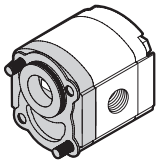
Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

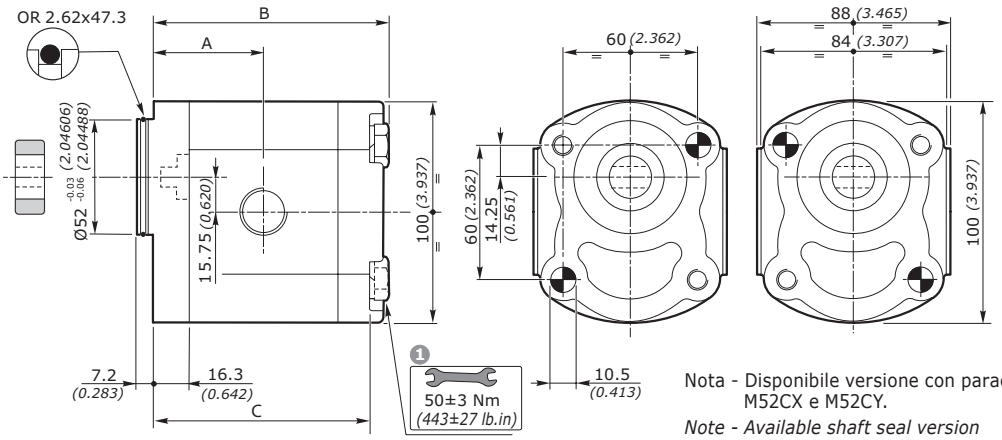
DIMENSIONI • *DIMENSIONS*

E52CX



E52CY





Nota - Disponibile versione con paraolio M52CX e M52CY.
Note - Available shaft seal version M52CX and M52CY.

1
Coppia di serraggio viti: 50 ± 3Nm (viti classe 10.9-12.9 UNI EN 20898/1)
Il kit viti per il fissaggio della pompa è da ordinare separatamente.
Codice di ordinazione: **0029W** (+ lunghezza L - vedi tabella)
Il fissaggio della pompa può essere effettuato con 2 viti prigioniere classe 10.9-12.9 UNI EN 20898/1 preserrate: 40 ± 3Nm. Fissare la pompa mediante dadi autobloccanti con coppia si serraggio: 50 ± 3Nm

1
Screw tightening torque: 443 ± 27 lb-in (screws 10.9-12.9 UNI EN 20898/1).
The screw kit for the pump assembly should be ordered separately.
*Ordering code: **0029W** (+ length **L** - see table)*
The pump assembling should be made with 2 screws stud type 10.9-12.9 UNI EN 20898/1 pre-tighten 354 ± 27 lb-in. Fix the pump by self-locking nuts with tightening torque: 443 ± 27 lb-in

GRUPPO - GROUP 2	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
2SP 040	41.7	*1.642*	90.3	*3.555*	81.3	*3.201*	100	*3.937*	2.30	*5.07*
2SP 060	43.3	*1.705*	93.6	*3.685*	84.6	*3.331*	105	*4.134*	2.45	*5.40*
2SP 080	45.4	*1.787*	97.8	*3.850*	88.8	*3.496*	110	*4.331*	2.60	*5.73*
2SP 110	47.5	*1.870*	101.9	*4.012*	92.9	*3.657*	115	*4.528*	2.70	*5.95*
2SP 140	50.0	*1.969*	106.9	*4.209*	97.9	*3.854*	120	*4.724*	2.80	*6.17*
2SP 160	52.1	*2.051*	111.1	*4.374*	102.1	*4.020*	120	*4.724*	2.95	*6.51*
2SP 190	54.6	*2.150*	116.1	*4.571*	107.1	*4.217*	125	*4.921*	3.10	*6.84*
2SP 220	57.1	*2.248*	121.1	*4.768*	112.1	*4.413*	130	*5.118*	3.25	*7.17*
2SP 260	60.0	*2.362*	126.9	*4.996*	117.9	*4.642*	140	*5.512*	3.40	*7.50*
2SP 310	64.2	*2.529*	135.3	*5.331*	126.3	*4.988*	145	*5.713*	3.61	*7.96*

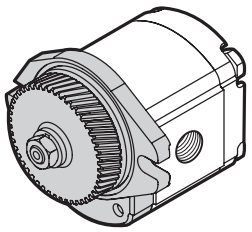
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

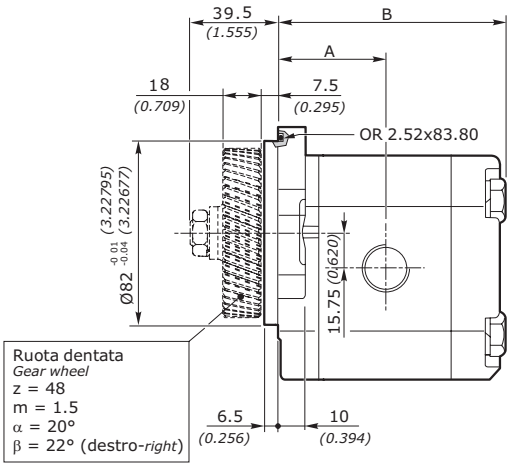
FLANGIA PERKINS P400D *PERKINS FLANGE*

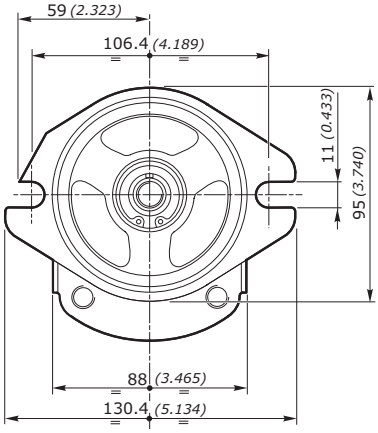
GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	*0.24*	250	*3625*	270	*3915*	290	*4205*	4000	16	*4.23*	500
2SP 060	6	*0.37*	250	*3625*	270	*3915*	290	*4205*	4000	24	*6.34*	500
2SP 080	8.5	*0.52*	250	*3625*	270	*3915*	290	*4205*	3500	29.7	*7.85*	500
2SP 110	11	*0.67*	250	*3625*	270	*3915*	290	*4205*	3500	38.5	*10.17*	500
2SP 140	14	*0.85*	250	*3625*	270	*3915*	290	*4205*	3500	49	*12.95*	500
2SP 160	16.5	*1.01*	230	*3335*	240	*3480*	250	*3625*	3500	57.7	*15.24*	500
2SP 190	19.5	*1.19*	210	*3045*	220	*3190*	230	*3335*	3300	64.3	*16.99*	500
2SP 220	22.5	*1.37*	190	*2755*	200	*2900*	210	*3045*	2800	63	*16.64*	500
2SP 260	26	*1.59*	170	*2465*	180	*2610*	190	*2755*	2500	65	*17.17*	500
2SP 310	31.5	*1.92*	130	*1885*	140	*2030*	150	*2175*	2200	69	*18.22*	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*







GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	44.4	*1.748*	93.0	*3.661*	2.30	*5.07*
2SP 060	46.0	*1.811*	96.3	*3.791*	2.45	*5.40*
2SP 080	48.1	*1.894*	100.5	*3.957*	2.60	*5.73*
2SP 110	50.2	*1.976*	104.6	*4.118*	2.70	*5.95*
2SP 140	52.7	*2.075*	109.6	*4.315*	2.80	*6.17*
2SP 160	54.8	*2.157*	113.8	*4.480*	2.95	*6.51*
2SP 190	57.3	*2.256*	118.8	*4.677*	3.10	*6.84*
2SP 220	59.8	*2.354*	123.8	*4.874*	3.25	*7.17*
2SP 260	62.7	*2.469*	129.6	*5.102*	3.40	*7.50*
2SP 310	66.9	*2.636*	138.0	*5.437*	3.61	*7.96*

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

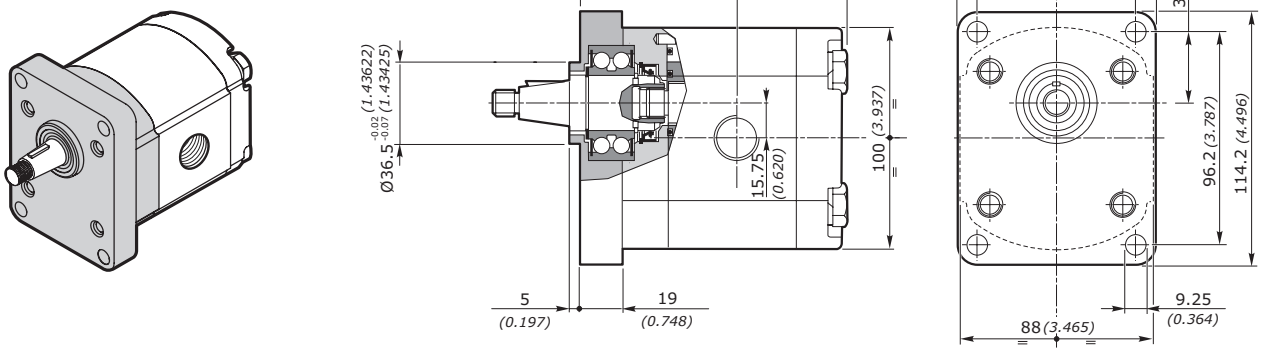
VERSIONE DA UTILIZZARE IN PRESENZA DI CARICHI ASSIALI E/O RADIALI
VERSION TO BE USED WITH AXIAL AND/OR RADIAL LOADS

FLANGIA SUPEUR *FLANGE*

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	*0.24*	250	*3625*	270	*3915*	290	*4205*	4000	16	*4.23*	500
2SP 060	6	*0.37*	250	*3625*	270	*3915*	290	*4205*	4000	24	*6.34*	500
2SP 080	8.5	*0.52*	250	*3625*	270	*3915*	290	*4205*	3500	29.7	*7.85*	500
2SP 110	11	*0.67*	250	*3625*	270	*3915*	290	*4205*	3500	38.5	*10.17*	500
2SP 140	14	*0.85*	250	*3625*	270	*3915*	290	*4205*	3500	49	*12.95*	500
2SP 160	16.5	*1.01*	230	*3335*	240	*3480*	250	*3625*	3500	57.7	*15.24*	500
2SP 190	19.5	*1.19*	210	*3045*	220	*3190*	230	*3335*	3300	64.3	*16.99*	500
2SP 220	22.5	*1.37*	190	*2755*	200	*2900*	210	*3045*	2800	63	*16.64*	500
2SP 260	26	*1.59*	170	*2465*	180	*2610*	190	*2755*	2500	65	*17.17*	500
2SP 310	31.5	*1.92*	130	*1885*	140	*2030*	150	*2175*	2200	69	*18.22*	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*



La flangia SUPEUR è sempre allestita con anello di rinforzo.
SUPEUR flange is always equipped with sealing ring

GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	64.4	*2.535*	113.0	*4.449*	2.80	*6.17*
2SP 060	66.0	*2.598*	116.3	*4.579*	2.95	*6.50*
2SP 080	68.1	*2.681*	120.5	*4.744*	3.10	*6.84*
2SP 110	70.2	*2.764*	124.6	*4.906*	3.20	*7.06*
2SP 140	72.7	*2.863*	129.6	*5.102*	3.30	*7.28*
2SP 160	74.8	*2.945*	133.8	*5.268*	3.45	*7.61*
2SP 190	77.3	*3.043*	138.8	*5.465*	3.60	*7.94*
2SP 220	79.8	*3.142*	143.8	*5.661*	3.75	*8.27*
2SP 260	82.7	*3.256*	149.6	*5.890*	3.90	*8.60*
2SP 310	86.9	*3.424*	158.0	*6.225*	4.11	*9.06*

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

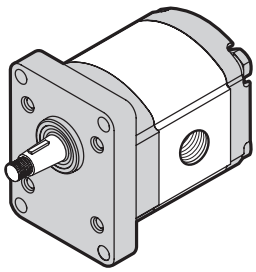
FLANGIA SUPEUR *FLANGE*

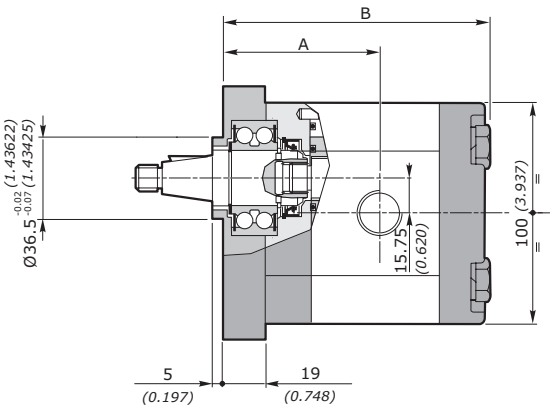
FLANGIA E COPERCHIO IN GHISA - *FLANGE AND COVER IN CAST IRON*

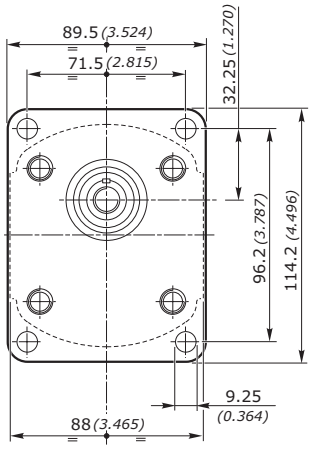
GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	0.24	260	3770	280	4060	300	4350	4000	16	4.23	500
2SP 060	6	0.37	260	3770	280	4060	300	4350	4000	24	6.34	500
2SP 080	8.5	0.52	260	3770	280	4060	300	4350	3500	29.7	7.85	500
2SP 110	11	0.67	260	3770	280	4060	300	4350	3500	38.5	10.17	500
2SP 140	14	0.85	260	3770	280	4060	300	4350	3500	49	12.95	500
2SP 160	16.5	1.01	240	3480	250	3625	260	3770	3500	57.7	15.24	500
2SP 190	19.5	1.19	220	3190	230	3335	240	3480	3300	64.3	16.99	500
2SP 220	22.5	1.37	200	2900	210	3045	220	3190	2800	63	16.64	500
2SP 260	26	1.59	180	2610	190	2755	200	2900	2500	65	17.17	500
2SP 310	31.5	1.92	140	2030	150	2175	160	2320	2200	69	18.22	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*







La flangia SUPEUR è sempre allestita con anello di rinforzo.
SUPEUR flange is always equipped with sealing ring

GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	64.4	2.535	113.0	4.449	3.467	7.643
2SP 060	66.0	2.598	116.3	4.579	3.617	7.974
2SP 080	68.1	2.681	120.5	4.744	3.767	8.304
2SP 110	70.2	2.764	124.6	4.906	3.867	8.525
2SP 140	72.7	2.863	129.6	5.102	3.967	8.745
2SP 160	74.8	2.945	133.8	5.268	4.117	9.076
2SP 190	77.3	3.043	138.8	5.465	4.267	9.407
2SP 220	79.8	3.142	143.8	5.661	4.417	9.737
2SP 260	82.7	3.256	149.6	5.890	4.567	10.068
2SP 310	86.9	3.424	158.0	6.225	4.777	10.531

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

FLANGIA SAE SAEB* *SAEB FLANGE*

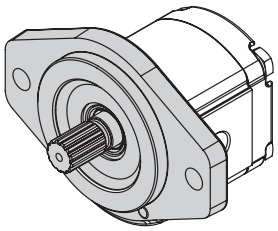
FLANGIA E COPERCHIO IN GHISA - *FLANGE AND COVER IN CAST IRON*

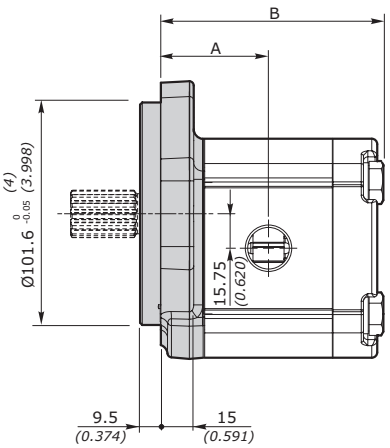
GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	*0.24*	260	*3770*	280	*4060*	300	*4350*	4000	16	*4.23*	500
2SP 060	6	*0.37*	260	*3770*	280	*4060*	300	*4350*	4000	24	*6.34*	500
2SP 080	8.5	*0.52*	260	*3770*	280	*4060*	300	*4350*	3500	29.7	*7.85*	500
2SP 110	11	*0.67*	260	*3770*	280	*4060*	300	*4350*	3500	38.5	*10.17*	500
2SP 140	14	*0.85*	260	*3770*	280	*4060*	300	*4350*	3500	49	*12.95*	500
2SP 160	16.5	*1.01*	240	*3480*	250	*3625*	260	*3770*	3500	57.7	*15.24*	500
2SP 190	19.5	*1.19*	220	*3190*	230	*3335*	240	*3480*	3300	64.3	*16.99*	500
2SP 220	22.5	*1.37*	200	*2900*	210	*3045*	220	*3190*	2800	63	*16.64*	500
2SP 260	26	*1.59*	180	*2610*	190	*2755*	200	*2900*	2500	65	*17.17*	500
2SP 310	31.5	*1.92*	140	*2030*	150	*2175*	160	*2320*	2200	69	*18.22*	500

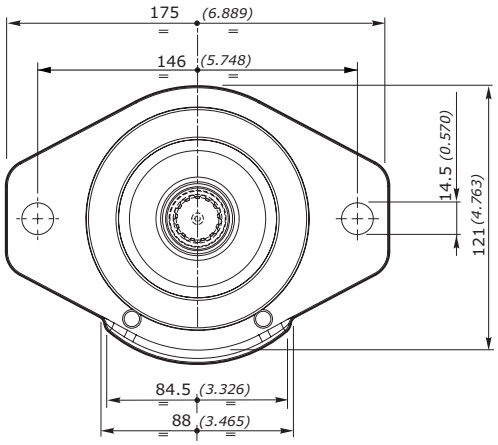
Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

***** Contattare il servizio commerciale. */ Available soon. Please contact our Sales Dpt.*

DIMENSIONI • *DIMENSIONS*







* Configurabile come 1ª pompa in tandem; elementi interni non intercambiabili
Configuration as 1st tandem pump; internal elements are not interchangeable

GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	45.4	*1.787*	94	*3.701*	4.90	*10.80*
2SP 060	47.0	*1.850*	97.3	*3.831*	5.05	*11.13*
2SP 080	49.1	*1.933*	101.5	*3.996*	5.20	*11.46*
2SP 110	51.2	*2.016*	105.6	*4.157*	5.30	*11.68*
2SP 140	53.7	*2.114*	110.6	*4.354*	5.40	*11.90*
2SP 160	55.8	*2.197*	114.8	*4.520*	5.55	*12.24*
2SP 190	58.3	*2.295*	119.8	*4.717*	5.70	*12.57*
2SP 220	60.8	*2.394*	124.8	*4.913*	5.85	*12.90*
2SP 260	63.7	*2.508*	130.6	*5.142*	6.00	*13.23*
2SP 310	67.9	*2.673*	139	*5.472*	6.20	*13.67*

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

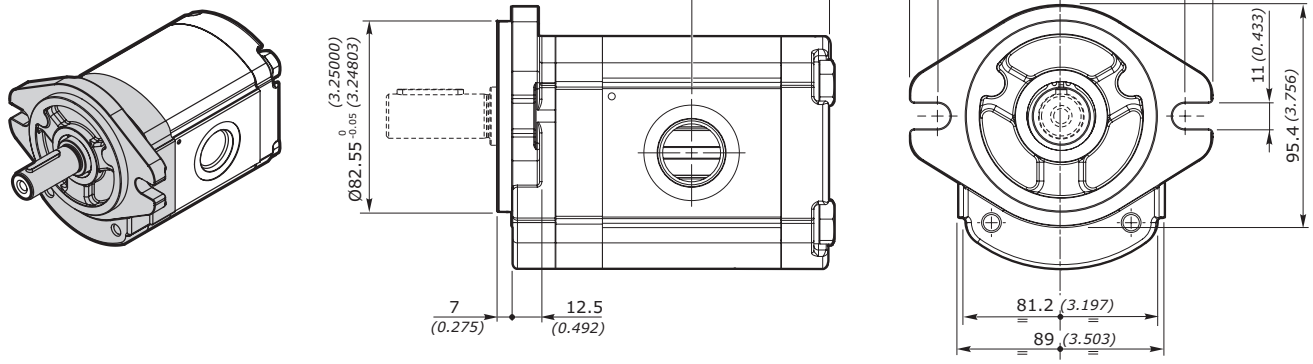
FLANGIA SUPSAE *FLANGE*

FLANGIA E COPERCHIO IN ALLUMINIO - *FLANGE AND COVER IN ALUMINIUM*

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	0.24	250	3625	270	3915	290	4205	4000	16	4.23	500
2SP 060	6	0.37	250	3625	270	3915	290	4205	4000	24	6.34	500
2SP 080	8.5	0.52	250	3625	270	3915	290	4205	3500	29.7	7.85	500
2SP 110	11	0.67	250	3625	270	3915	290	4205	3500	38.5	10.17	500
2SP 140	14	0.85	250	3625	270	3915	290	4205	3500	49	12.95	500
2SP 160	16.5	1.01	230	3335	240	3480	250	3625	3500	57.7	15.24	500
2SP 190	19.5	1.19	210	3045	220	3190	230	3335	3300	64.3	16.99	500
2SP 220	22.5	1.37	190	2755	200	2900	210	3045	2800	63	16.64	500
2SP 260	26	1.59	170	2465	180	2610	190	2755	2500	65	17.17	500
2SP 310	31.5	1.92	130	1885	140	2030	150	2175	2200	69	18.22	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*



GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	64.4	2.535	113.0	4.448	2.80	6.172
2SP 060	66.0	2.598	116.3	4.578	2.95	6.503
2SP 080	68.1	2.681	120.5	4.744	3.10	6.834
2SP 110	70.2	2.763	124.6	4.905	3.20	7.054
2SP 140	72.7	2.862	129.6	5.102	3.30	7.275
2SP 160	74.8	2.944	133.8	5.267	3.45	7.605
2SP 190	77.3	3.043	138.8	5.464	3.60	7.936
2SP 220	79.8	3.141	143.8	5.661	3.75	8.267
2SP 260	82.7	3.255	149.6	5.889	3.90	8.598
2SP 310	86.9	3.421	138.0	6.220	4.10	9.038

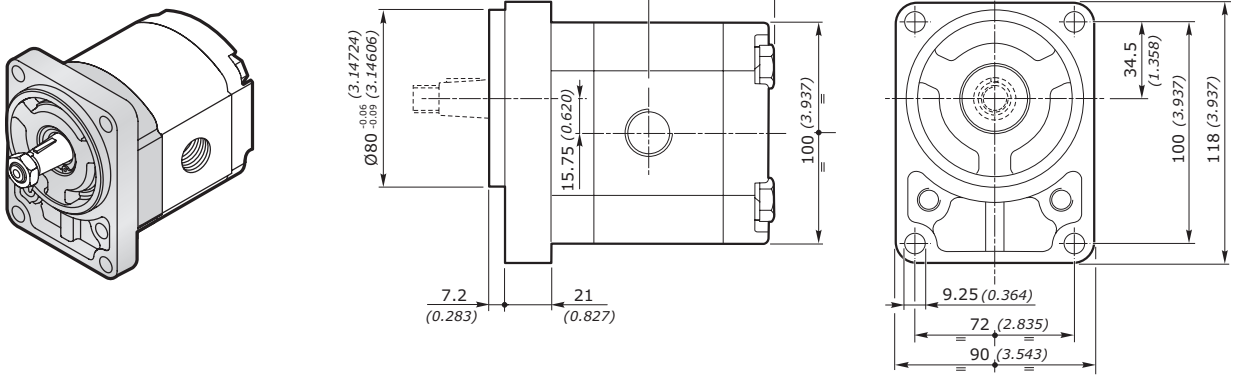
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

FLANGIA SUPB80C *FLANGE*

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	*0.24*	250	*3625*	270	*3915*	290	*4205*	4000	16	*4.23*	500
2SP 060	6	*0.37*	250	*3625*	270	*3915*	290	*4205*	4000	24	*6.34*	500
2SP 080	8.5	*0.52*	250	*3625*	270	*3915*	290	*4205*	3500	29.7	*7.85*	500
2SP 110	11	*0.67*	250	*3625*	270	*3915*	290	*4205*	3500	38.5	*10.17*	500
2SP 140	14	*0.85*	250	*3625*	270	*3915*	290	*4205*	3500	49	*12.95*	500
2SP 160	16.5	*1.01*	230	*3335*	240	*3480*	250	*3625*	3500	57.7	*15.24*	500
2SP 190	19.5	*1.19*	210	*3045*	220	*3190*	230	*3335*	3300	64.3	*16.99*	500
2SP 220	22.5	*1.37*	190	*2755*	200	*2900*	210	*3045*	2800	63	*16.64*	500
2SP 260	26	*1.59*	170	*2465*	180	*2610*	190	*2755*	2500	65	*17.17*	500
2SP 310	31.5	*1.92*	130	*1885*	140	*2030*	150	*2175*	2200	69	*18.22*	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*



GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SP 040	66.4	*2.614*	115.0	*4.527*	2.763	*6.09*
2SP 060	68	*2.677*	118.3	*4.657*	2.913	*6.42*
2SP 080	70.1	*2.760*	122,5	*4.823*	3.063	*6.75*
2SP 110	72.2	*2.842*	126.6	*4.984*	3.163	*6.97*
2SP 140	74.7	*2.941*	131.6	*5.181*	3.263	*7.20*
2SP 160	76.8	*3.023*	135.8	*5.346*	3.413	*7.52*
2SP 190	79.3	*3.122*	140.8	*5.543*	3.563	*7.85*
2SP 220	81.8	*3.220*	145.8	*5.740*	3.713	*8.18*
2SP 260	84.7	*3.334*	151.6	*5.968*	3.863	*8.52*
2SP 310	88.9	*3.500*	160.0	*6.299*	4.073	*8.98*

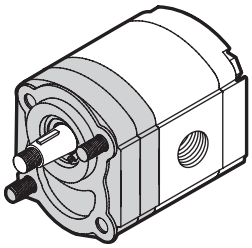
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

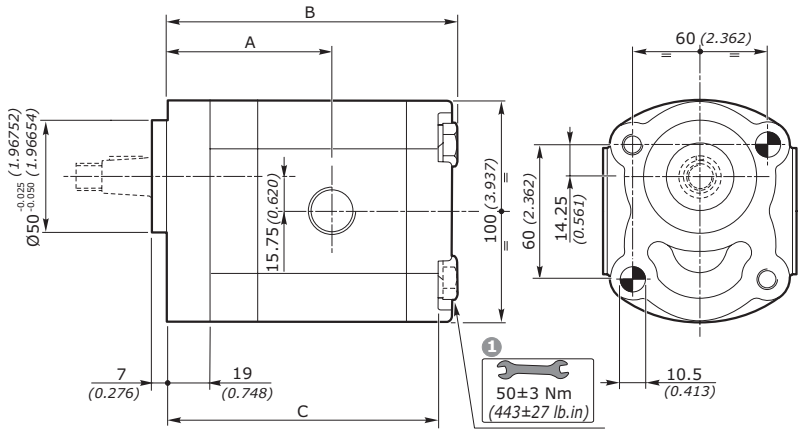
FLANGIA SUPB50CX *FLANGE*

GRUPPO GROUP 2SP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SP 040	4	*0.24*	250	*3625*	270	*3915*	290	*4205*	4000	16	*4.23*	500
2SP 060	6	*0.37*	250	*3625*	270	*3915*	290	*4205*	4000	24	*6.34*	500
2SP 080	8.5	*0.52*	250	*3625*	270	*3915*	290	*4205*	3500	29.7	*7.85*	500
2SP 110	11	*0.67*	250	*3625*	270	*3915*	290	*4205*	3500	38.5	*10.17*	500
2SP 140	14	*0.85*	250	*3625*	270	*3915*	290	*4205*	3500	49	*12.95*	500
2SP 160	16.5	*1.01*	230	*3335*	240	*3480*	250	*3625*	3500	57.7	*15.24*	500
2SP 190	19.5	*1.19*	210	*3045*	220	*3190*	230	*3335*	3300	64.3	*16.99*	500
2SP 220	22.5	*1.37*	190	*2755*	200	*2900*	210	*3045*	2800	63	*16.64*	500
2SP 260	26	*1.59*	170	*2465*	180	*2610*	190	*2755*	2500	65	*17.17*	500
2SP 310	31.5	*1.92*	130	*1885*	140	*2030*	150	*2175*	2200	69	*18.22*	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*





1
Coppia di serraggio viti: 50 ± 3Nm (viti classe 10.9-12.9 UNI EN 20898/1)
Il kit viti per il fissaggio della pompa è da ordinare separatamente.
Codice di ordinazione: **0029W** (+ lunghezza **L** - vedi tabella)
Il fissaggio della pompa può essere effettuato con 2 viti prigioniere classe 10.9-12.9 UNI EN 20898/1 preserrate: 40 ± 3Nm. Fissare la pompa mediante dadi autobloccanti con coppia si serraggio: 50 ± 3Nm

1
Screw tightening torque: 443 ± 27 lb-in (screws 10.9-12.9 UNI EN 20898/1).
The screw kit for the pump assembly should be ordered separately.
*Ordering code: **0029W** (+ length **L** - see table)*
The pump assembling should be made with 2 screws stud type 10.9-12.9 UNI EN 20898/1 pre-tighten 354 ± 27 lb-in. Fix the pump by self-locking nuts with tightening torque: 443 ± 27 lb-in

GRUPPO - GROUP 2	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
2SP 040	64.4	*2.535*	113.0	*4.448*	104.0	*4.094*	125	*4.921*	2.76	*6.08*
2SP 060	66.0	*2.598*	116.3	*4.578*	107.3	*4.224*	125	*4.921*	2.91	*6.41*
2SP 080	68.1	*2.681*	120.5	*4.744*	111.5	*4.390*	130	*5.118*	3.06	*6.75*
2SP 110	70.2	*2.763*	124.6	*4.905*	115.6	*4.551*	135	*5.314*	3.16	*6.97*
2SP 140	72.7	*2.862*	129.6	*5.102*	120.6	*4.748*	140	*5.512*	3.26	*7.19*
2SP 160	74.8	*2.944*	133.8	*5.267*	124.8	*4.913*	145	*5.709*	3.41	*7.52*
2SP 190	77.3	*3.043*	138.8	*5.464*	129.8	*5.110*	150	*5.905*	3.56	*7.85*
2SP 220	79.8	*3.141*	143.8	*5.661*	134.8	*5.307*	155	*6.102*	3.71	*8.18*
2SP 260	82.7	*3.256*	149.6	*5.890*	140.6	*5.535*	160	*6.299*	3.86	*8.51*
2SP 310	86.9	*3.421*	158.0	*6.220*	149.0	*5.866*	170	*6.692*	4.07	*8.97*

CARICO DINAMICO EQUIVALENTE • *EQUIVALENT DYNAMIC LOAD*

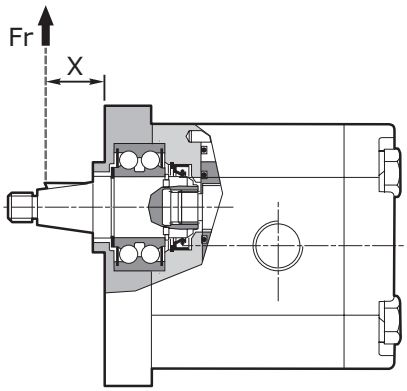
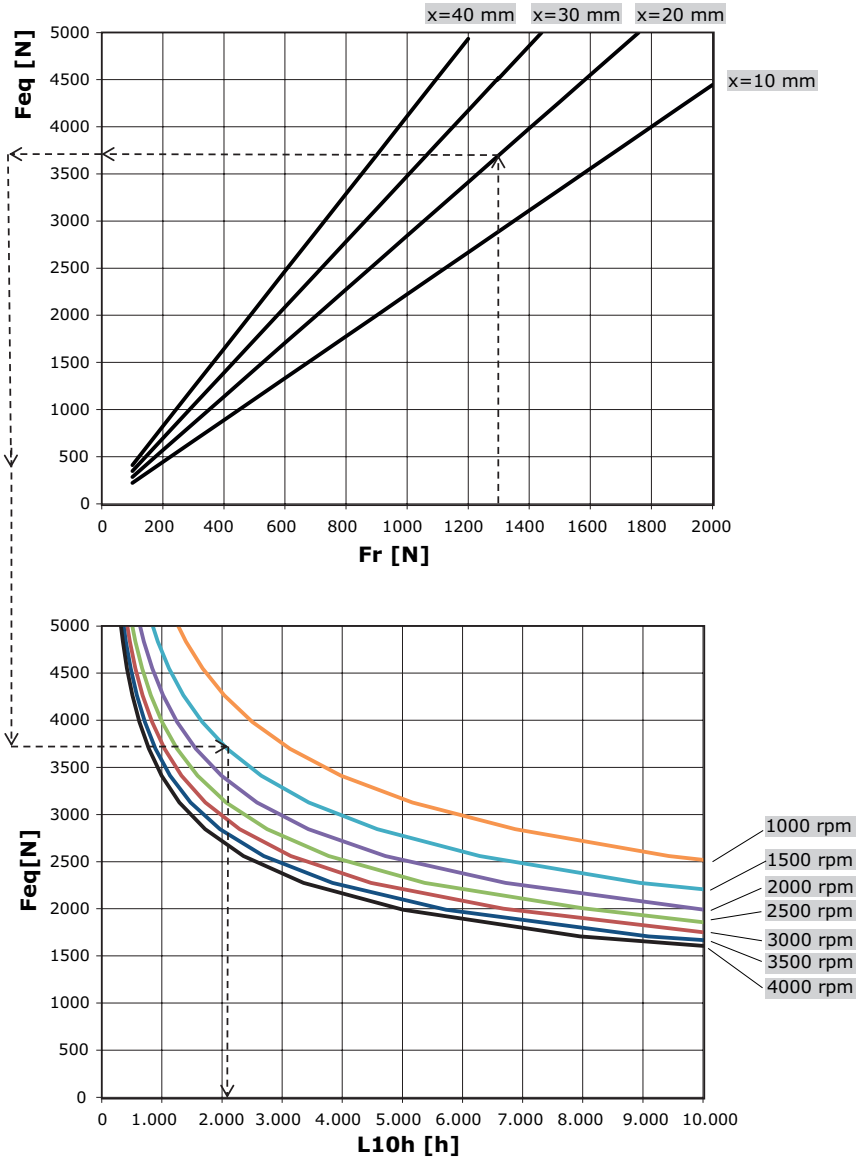


DIAGRAMMA CUSCINETTI • *DIAGRAM BEARING EXPECTED LIFE*



In caso di carichi combinati applicati all'albero (radiale + assiale) contattare il nostro Ufficio Tecnico.
In case of both radial and axial loads applied to the shaft please contact our technical department.

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

CODICE ORDINAZIONE • *ORDER CODE*

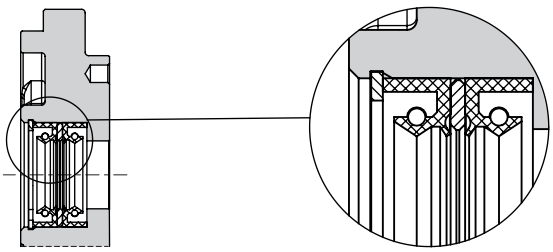
2SP - G - 140 - D - EUR - B - N - 10 - 0 - G

SIGLA - *CODE*	TIPO - *TYPE*	DESCRIZIONE - *DESCRIPTION*	PAGINA - *PAGE*
2SP	Tipo pompa *Pump type*	Pompa singola gruppo 2 *Single pump group 2*	5
G	Materiale flangia e coperchio *Flange and cover material*	**A** = alluminio / *aluminium* **G** = Ghisa / *Cast iron*	50
140	Cilindrata *Displacement*	Cilindrata = 14 cm^3/giro *Displacement = 0.85 in^3/rev*	5
D	Senso di rotazione *Rotation wise*	**D** = Rotazione destra / *Clockwise rotation* **S** = Rotazione sinistra / *Anticlockwise rotation* **R** = Reversibile / *Reversible*	8
EUR	Tipo Flangia *Flange type*	Flangia standard *Standard flange*	50
B	Tipo anello di tenuta *Seal ring type*	Vedi tabella compatibilità *See compatibility table*	51
N	Tipo guarnizione *Gasket type*	**N** = NBR **V** = Viton	50
10	Tipo Albero *Shaft type*	Vedi tabella compatibilità *See compatibility table*	52
0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	57
G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	58

VERSIONI CON DOPPIO PARAOLIO • *DOUBLE SHAFT SEAL VERSION*

Disponibili versioni con doppio paraolio per EUR, SAEA, SAEAOR e B50C.

Available versions with double shaft seal for EUR, SAEA, SAEAOR and B50C.



esempio • *example:*

2SP - A - 160 - S - SAEA2 - B - N - 14 - N

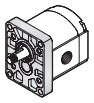
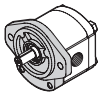
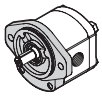
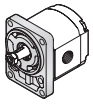
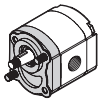
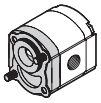
SAEA2= Doppio paraolio / *Double Shaft Seal*

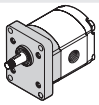
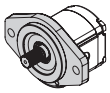
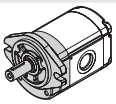
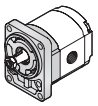
Nota - La versione con paraolio è fornita con anelli a bassa pressione o alta pressione tipo K (vedi pag.51).

Note - The version with shaft seal is supplied with K rings type with low pressure or high pressure (see page 51).

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

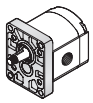
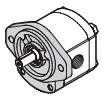
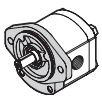
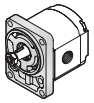
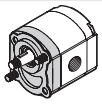
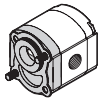
TIPOLOGIA FLANGIA • *FLANGE TYPE*

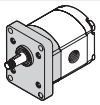
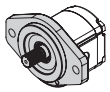
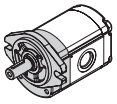
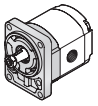
2SP	EUR	SAEA	SAEAOR	B80C	B50C	E52C
						
A alluminio *aluminium*	◇	◇	◇	◇	◇	◇
G ghisa *cast iron*	◇	◇	◇	non disponibile *not available*	non disponibile *not available*	non disponibile *not available*

2SP	P400D	SUPEUR	SAEB*	SUPSAE	SUPB80C	SUPB50CX
						
A alluminio *aluminium*	◇	◇	non disponibile *not available*	◇	◇	◇
G ghisa *cast iron*	non disponibile *not available*	◇	◇	non disponibile *not available*	non disponibile *not available*	non disponibile *not available*

* Contattare il servizio commerciale. / *Available soon. Please contact our Sales Dpt.*

COMBINAZIONE FLANGIA - ANELLO DI TENUTA - GUARNIZIONE • *FLANGE - SEAL RING - GASKET COMBINATION*

2SP	EUR			SAEA			SAEAOR			B80C			B50C			E52C
																
	Anello-*Seal ring*			Anello-*Seal ring*			Anello-*Seal ring*			Anello-*Seal ring*			Anello-*Seal ring*			Anello-*Seal ring*
	B	**H**	**K**	**B**	**H**	**K**	**B**	**H**	**K**	**B**	**H**	**K**	**B**	**H**	**K**	**A**
NBR **N**	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Viton **V**	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

2SP	P400D			SUPEUR		SAEB*	SUPSAE	SUPB80C	SUPB50CX
									
	Anello-*Seal ring*			Anello-*Seal ring*		Anello-*Seal ring*	Anello-*Seal ring*	Anello-*Seal ring*	Anello-*Seal ring*
	B	**H**	**K**	**B**	**K**	**H**			
NBR **N**	◇	◇	◇	◇	◇	◇	◇	◇	◇
Viton **V**	●	●	●	●	●	●	●	●	●

* Contattare il servizio commerciale. / *Available soon. Please contact our Sales Dpt.*

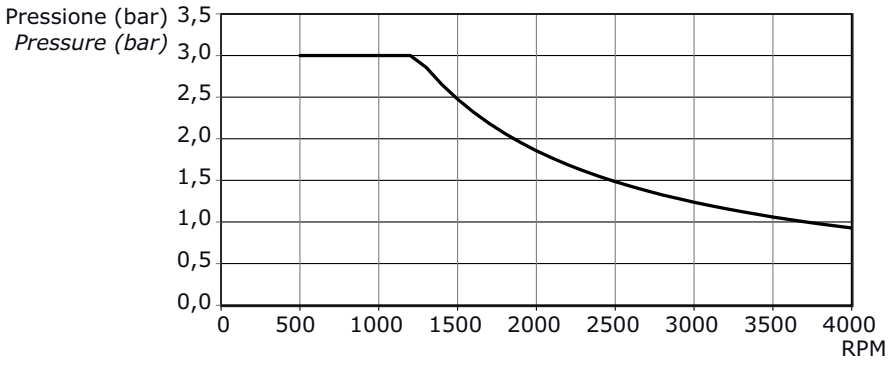
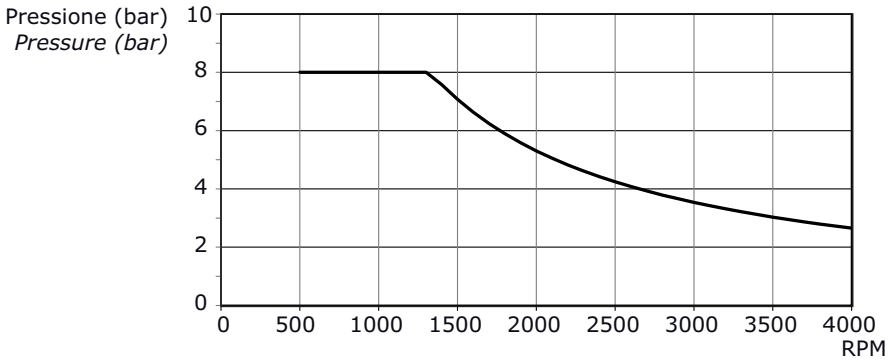
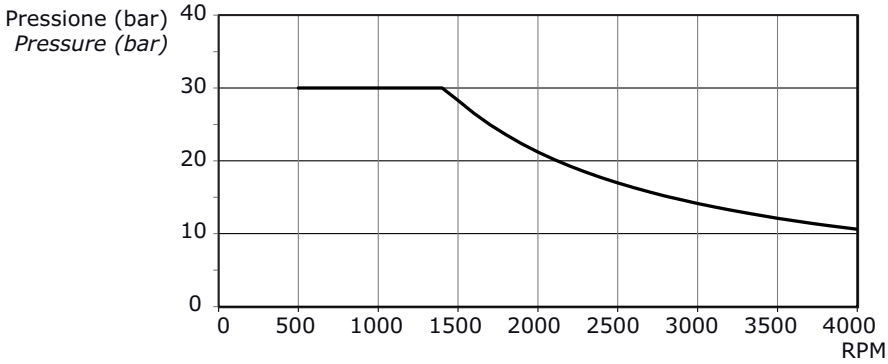
esempio • *example:* **2SP - A - 140 - D - EUR - B - N - 10 - 0 - G**

EUR = Flangia europea / *European flange*
B = Anello tenuta fino a 3 bar / Seal ring up to 3 *bar*
N = *Guarnizione in NBR / NBR o-ring*

◇ = Combinazione standard - *Standard combination* ● = Combinazione disponibile - *Available combination*

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

ANELLO DI TENUTA • *SEAL RING*

SIGLA - *CODE*	TIPO - *TYPE*	DIAGRAMMA - *DIAGRAM*
A	Flangia senza anello di tenuta *Flange without seal ring*	/
B	Anello di tenuta fino a **3** bar *Sealing ring up to **3** bar*	
H	Anello di tenuta fino a **8** bar *Sealing ring up to **8** bar*	
K	Anello di tenuta fino a **30** bar *Sealing ring up to **30** bar*	

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

COMBINAZIONE ALBERO - FLANGIA • *SHAFT - FLANGE COMBINATION*

2SP	EUR	SAEA	SAEAOR	B80C	B50C	E52C	P400D	SUPEUR	SAEB*	SUPSAE	SUPB80C	SUPB50CX
10 Conico 1:8 *Tapered 1:8*	◇	●	●	●	◇		◇	◇	●	◇		
11 Conico 1:5 *Tapered 1:5*	●	●	●	◇	●			●	●		◇	◇
12 Cilindrico EUR *EUR Parallel shaft*	◇	●	●	◇	◇				●			
13 Cilindr. SAEA *SAEA parallel shaft*	●	◇	◇	●	●				●			
14 Scanalato SAEA 9T *SAEA 9T splined*	●	◇	◇	●	●				●			
15 Scanalato DIN5482 9T (26/24) *DIN5482 9T splined (26/24)*	●	●	●	◇	●				●			
16 Scanalato DIN5482 9T (20) *DIN5482 9T splined (20)*	●	●	●	◇	●			●	●			
17 Fresato a dente frontale *Dihedral claw*						◇						
30 Scanalato SAE *SAE splined*										●		
31 Cilindrico SAE *SAE Parallel shaft*										●		
40 Scanalato SAE 10T (52) *SAE 10T splined (52)*	●	●	●						●			
41 Scanalato SAE 10T (37.5) *SAE 10T splined (37.5)*	●	●	●						●			
42 Scanalato SAEA 11T (55.6) *SAEA 11T splined (55.6)*	●	●	●						●			
43 Scanalato SAEA 11T (31.5) *SAEA 11T splined (31.5)*	●	●	●						●			
44 Scanalato SAEA 11T (13.5) *SAEA 11T splined (13.5)*						●						
45 Scanalato SAEB 13T (41.2) *SAEB 13T splined (41.2)*									◇			
46 Cilindrico SAEB *SAEB Parallel shaft*										●		
47 Cilindrico *Parallel shaft*											●	

◇ = Combinazione standard - *Standard combination* ● = Combinazione disponibile - *Available combination*

* Contattare il servizio commerciale. */Available soon. Please contact our Sales Dpt.*

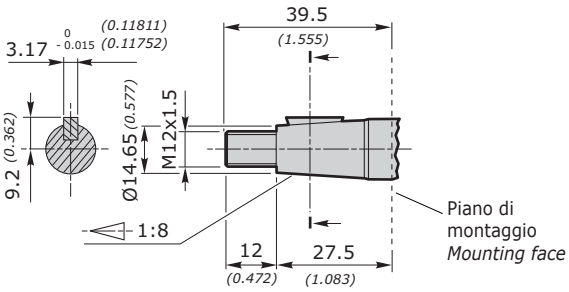
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

2SP

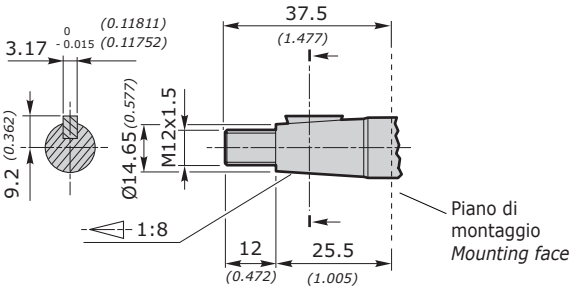
DIMENSIONI ALBERO - *SHAFT DIMENSIONS*

10
Conico 1:8
Tapered 1:8

Coppia 140 Nm
Torque 104 ft-lbs



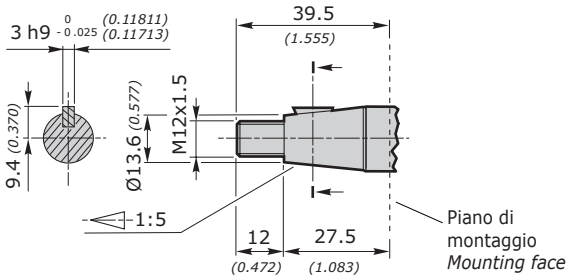
Disponibile per - *available for:* **EUR-SAEA-SAEAOR-B50C-P400D-SUPEUR**



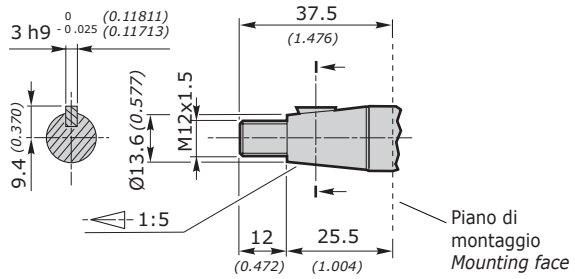
Disponibile per - *available for:* **B80C**

11
Conico 1:5
Tapered 1:5

Coppia 140 Nm
Torque 104 ft-lbs



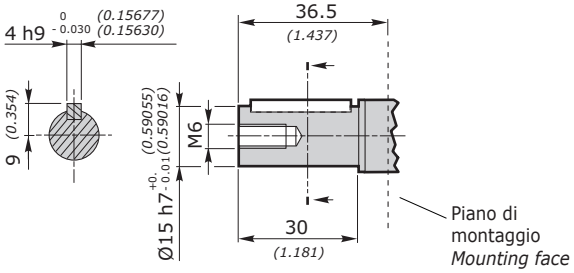
Disponibile per - *available for:* **EUR - SAEA - SAEAOR - B50C**



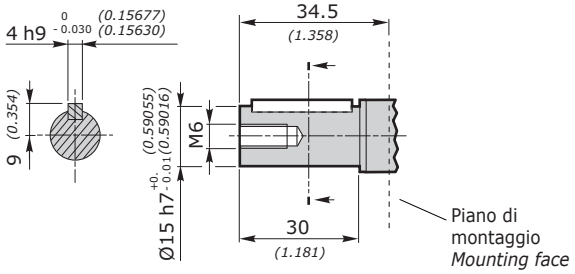
Disponibile per - *available for:* **B80C**

12
Cilindrico EUR
EUR Parallel shaft

Coppia 80 Nm
Torque 59 ft-lbs



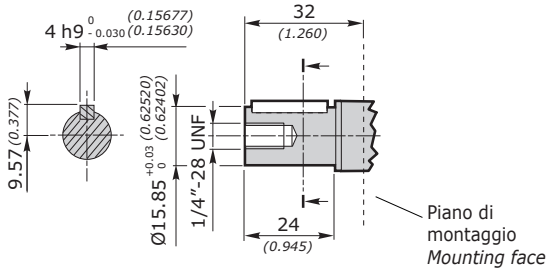
Disponibile per - *available for:* **EUR - SAEA - SAEAOR - B50C**



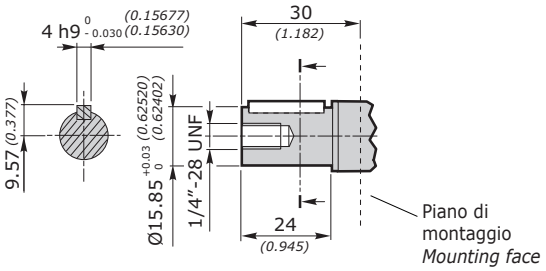
Disponibile per - *available for:* **B80C**

13
Cilindrico SAEA
SAEA Parallel shaft

Coppia 90 Nm
Torque 67 ft-lbs



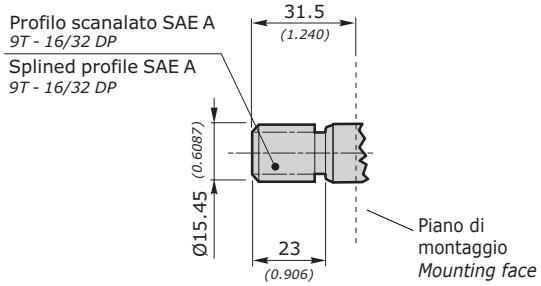
Disponibile per - *available for:* **EUR - SAEA - SAEAOR - B50C**



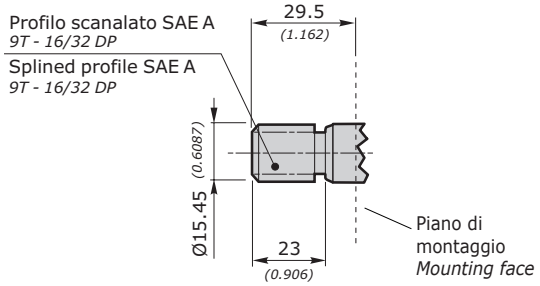
Disponibile per - *available for:* **B80C**

14
Scanalato SAEA 9T
SAEA 9T splined

Coppia 100 Nm
Torque 74 ft-lbs



Disponibile per - *available for:* **EUR - SAEA - SAEAOR - B50C**



Disponibile per - *available for:* **B80C**

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

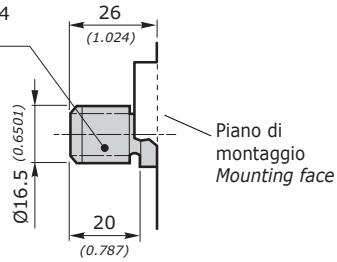
2SP

DIMENSIONI ALBERO - *SHAFT DIMENSIONS*

15
Scanalato DIN5482 B 17x14
DIN5482 9T splined (26/24)

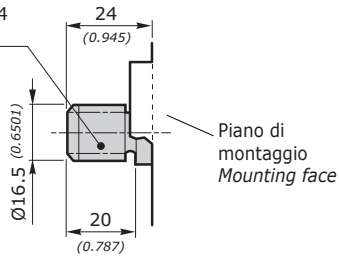
Coppia 100 Nm
Torque 74 ft-lbs

Profilo scanalato B 17x14
DIN 5482 n°denti = 9
Splined profile B 17x14
DIN 5482 n°of teeth = 9



Disponibile per - *available for:* **EUR - SAEA - SAEAOR - B50C**

Profilo scanalato B 17x14
DIN 5482 n°denti = 9
Splined profile B 17x14
DIN 5482 n°of teeth = 9

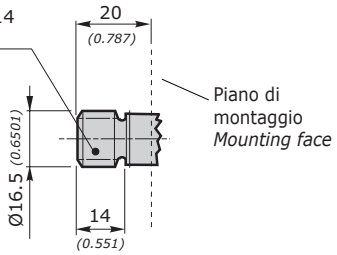


Disponibile per - *available for:* **B80C**

16
Scanalato DIN5482 B 17x14
DIN5482 9T splined (20)

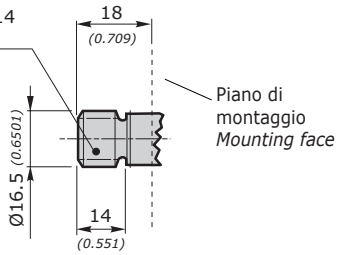
Coppia 100 Nm
Torque 74 ft-lbs

Profilo scanalato B 17x14
DIN 5482 n°denti = 9
Splined profile B 17x14
DIN 5482 n°of teeth = 9



Disponibile per - *available for:* **EUR - SAEA - SAEAOR - B50C**

Profilo scanalato B 17x14
DIN 5482 n°denti = 9
Splined profile B 17x14
DIN 5482 n°of teeth = 9

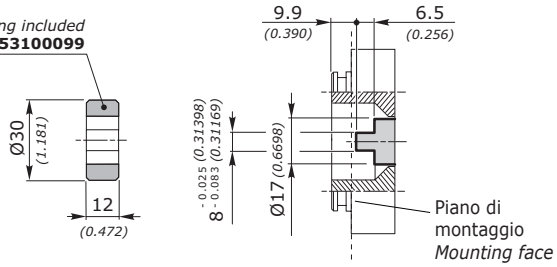


Disponibile per - *available for:* **B80C**

17
Fresato a dente frontale
Dihedral claw

Coppia 80 Nm
Torque 59 ft-lbs

Giunto incluso - *Coupling included*
Codice - *Code:* **010453100099**

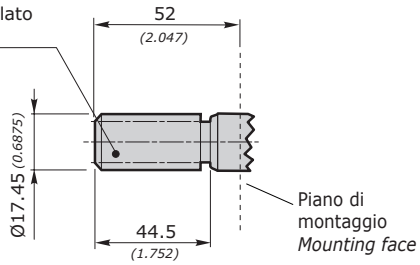


Disponibile per - *available for:* **E52C**

40
Scanalato SAE 10T (52)
SAE 10T splined (52)

Coppia 130 Nm
Torque 96 ft-lbs

Profilo scanalato
Splined profile
z = 10T
16/32 DP
α = 30°

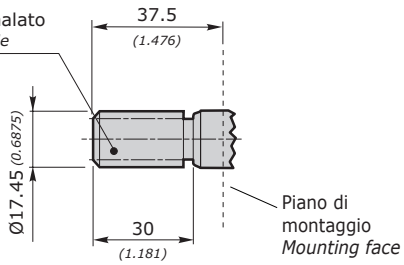


Disponibile per - *available for:* **SAEA - SAEAOR**

41
Scanalato SAE 10T (37.5)
SAE 10T splined (37.5)

Coppia 130 Nm
Torque 96 ft-lbs

Profilo scanalato
Splined profile
z = 10T
16/32 DP
α = 30°



Disponibile per - *available for:* **SAEA - SAEAOR**

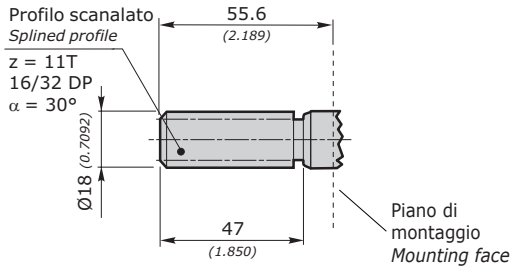
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

2SP

DIMENSIONI ALBERO - *SHAFT DIMENSIONS*

42
Scanalato SAEA 11T (55.6)
SAEA 11T splined (55.6)

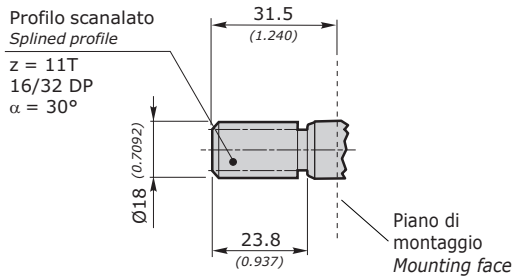
Coppia 150 Nm
Torque 111 ft-lbs



Disponibile per - *available for:* **SAEA - SAEAOR**

43
Scanalato SAEA 11T (31.5)
SAEA 11T splined (31.5)

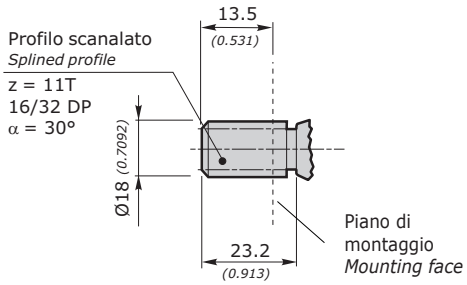
Coppia 150 Nm
Torque 111 ft-lbs



Disponibile per - *available for:* **SAEA - SAEAOR**

44
Scanalato SAEA 11T (13.5)
SAEA 11T splined (13.5)

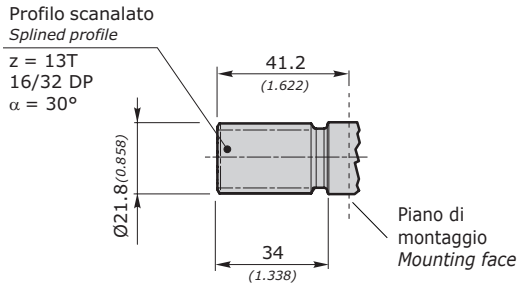
Coppia 150 Nm
Torque 111 ft-lbs



Disponibile per - *available for:* **E52C**

45
Scanalato SAEB 13T (41.2)
SAEB 13T splined (41.2)

Coppia 280 Nm
Torque 207 ft-lbs

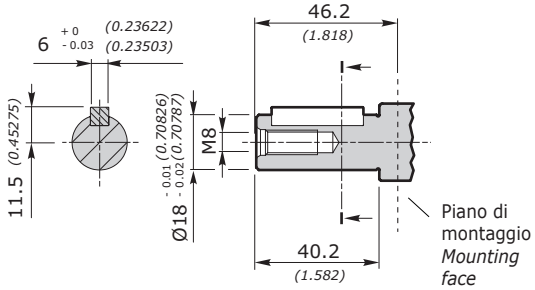


Disponibile per - *available for:* **SAEB**

46*
Cilindrico
Parallel shaft

Coppia 110 Nm
Torque 81 ft-lbs

* Solo per versione con cuscinetto.
Available only for version with bearing



Disponibile per - *available for:* **SUPEUR - SUPSAE**

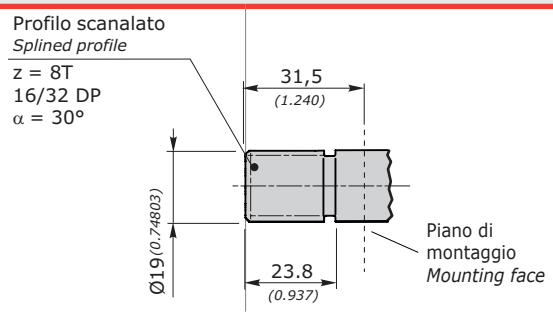
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

2SP

DIMENSIONI ALBERO - *SHAFT DIMENSIONS*

30
Scanalato SAE 11T
SAE *11T splined*

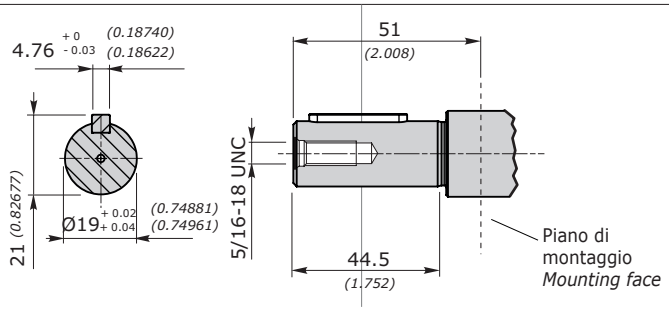
Coppia 150 Nm
Torque 111 ft-lbs



Disponibile per - *available for:* **SUPSAE**

31
Cilindrico SAE
SAE Parallel shaft

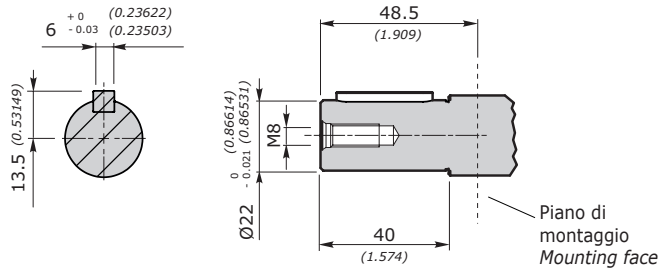
Coppia 90 Nm
Torque 67 ft-lbs



Disponibile per - *available for:* **SUPSAE**

47
Cilindrico Ø 22
Ø 22 Parallel shaft

Coppia 110 Nm
Torque 81 ft-lbs



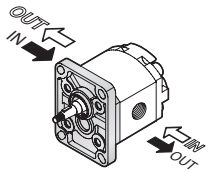
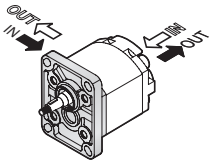
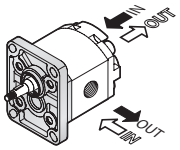
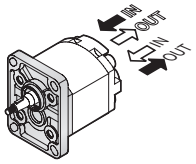
Disponibile per - *available for:* **SUPB80C**

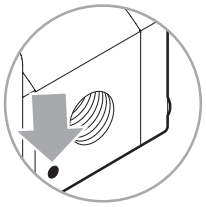
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

POSIZIONE CONNESSIONE • *CONNECTION POSITION*

Rotazione destra - **D**
*Clockwise rotation - **D***

Rotazione sinistra - **S**
*Anti-clockwise rotation - **S***

0	1	3	4
			

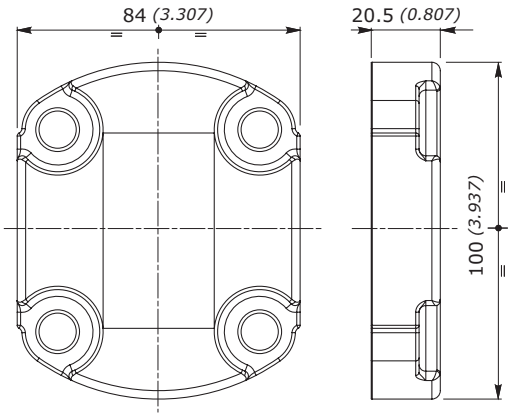


Il segno del corpo indica il lato aspirazione per le pompe
The sign on the body identifies the suction side for the pumps

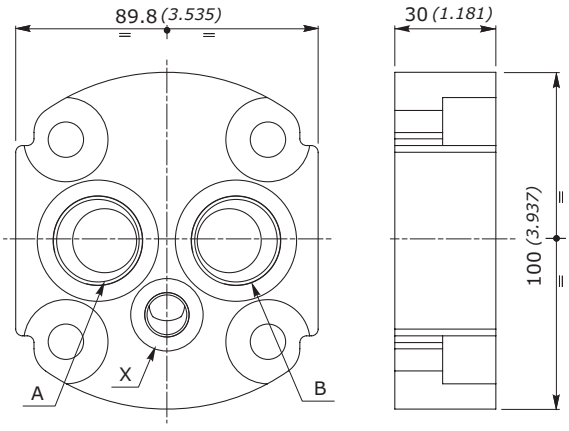
IN = ASPIRAZIONE - *SUCTION*
OUT = MANDATA - *DELIVERY*

COPERCHIO STANDARD • *STANDARD COVER*

Per posizione **0**
*For position **0***



Per posizioni **1, 3, 4**
*For position **1, 3, 4***



	CONNESSIONI / *CONNECTION*		
	A	**B**	**X**
GAS	G 3/4	G 3/4	G 1/4
SAE	SAE 12	SAE 12	SAE 6

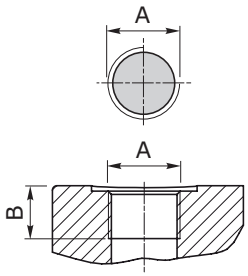
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

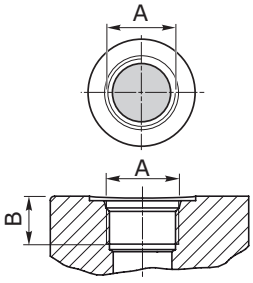
TIPO CONNESSIONE • *CONNECTION TYPE*

Le connessioni rappresentate corrispondono alle versioni standard; per connessioni differenti, contattare il nostro Ufficio Commerciale.

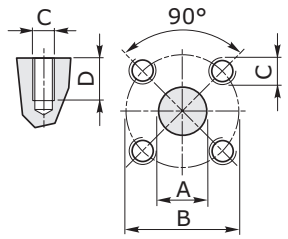
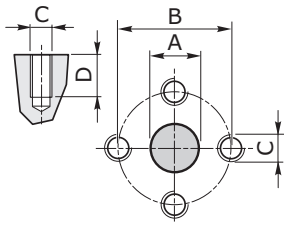
The connection types shown correspond to standard configuration; for different applications contact our Commercial Dept.

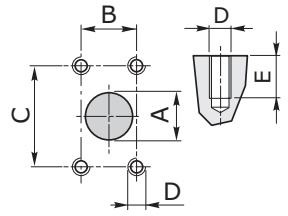
2SP		POSIZIONE CONNESSIONE - *CONNECTION POSITION*			
		0	**1**	**3**	**4**
GAS	**G**	◇	◇	◇	◇
UNF	**U**	◇	◇	◇	◇
FLANGIATE *FLANGED*	**T**	◇			
	N	◇			
	M	◇			
	F	◇			

GAS	UNI ISO 228/1	SIGLA *CODE*	CIL. *DISPL.*	ASPIRAZIONE - *SUCTION* **IN** A	B		MANDATA - *DELIVERY* **OUT** A	B	
		**G**	40	G 1/2"	16 [mm] *0.630 [inch]*	50 [Nm] *443 [in.lbs]*	G 1/2"	16 [mm] *0.630 [inch]*	50 [Nm] *443 [in.lbs]*
			60						
			80						
			110	G 3/4"	17 [mm] *0.670 [inch]*	60 [Nm] *531 [in.lbs]*			
			140						
			160						
			190						
			220						
			260						
			310						

UNF	ANSI/ASME B1.1	SIGLA *CODE*	CIL. *DISPL.*	ASPIRAZIONE *SUCTION* **IN** A	B		MANDATA *DELIVERY* **OUT** A	B	
		**U**	40	SAE 10 7/8"-14 UNF	17 [mm] *0.670 [inch]*	55 [Nm] *487 [in-lbs]*	SAE 10 7/8"-14 UNF	17 [mm] *0.670 [inch]*	55 [Nm] *487 [in-lbs]*
			60						
			80						
			110	SAE 12 1"1/16-12 UN	20 [mm] *0.788 [inch]*	60 [Nm] *531 [in.lbs]*			
			140						
			160						
			190						
			220						
			260						
			310						
		W	40	SAE 16 1"5/16-12 UN	20 [mm] *0.788 [inch]*	70 [Nm] *620 [in.lbs]*	SAE 12 1"1/16-12 UN	20 [mm] *0.788 [inch]*	60 [Nm] *531 [in.lbs]*
			60						
			80						
			110						
			140						
			160						
			190						
			220						
			260						
			310						

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

FLANGIATE FLANGED	ISO/R 262	SIGLA *CODE*	CIL. *DISPL.*	ASPIRAZIONE *SUCTION* **IN** A	B	C	D		MANDATA *DELIVERY* **OUT** A	B	C	D	
		**T**	40	20 [mm] *0.787 [inch]*	40 [mm] *1.575 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*	15 [mm] *0.591 [inch]*	35 [mm] *1.378 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*
			60										
			80										
			110										
			140										
			160										
			190										
			220										
			260										
			310										
		**N**	40	13 [mm] *0.512 [inch]*	30 [mm] *1.181 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*	13 [mm] *0.512 [inch]*	30 [mm] *1.181 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*
			60										
			80										
			110	19 [mm] *0.748 [inch]*	40 [mm] *1.575 [inch]*	M8	14 [mm] *0.552 [inch]*	15 [Nm] *133 [in.lbs]*					
			140										
			160										
			190										
			220										
			260										
			310										
		M	40	non disponibile *not available*					non disponibile *not available*				
			60										
			80										
			110	19 [mm] *0.748 [inch]*	40 [mm] *1.575 [inch]*	M8	14 [mm] *0.552 [inch]*	15 [Nm] *133 [in.lbs]*	19 [mm] *0.748 [inch]*	40 [mm] *1.575 [inch]*	M8	14 [mm] *0.552 [inch]*	15 [Nm] *133 [in.lbs]*
			140										
			160										
			190										
			220										
			260										
			310										

FLANGIATE FLANGED	ISO/R 262	SIGLA *CODE*	CIL. *DISPL.*	ASPIRAZIONE *SUCTION* **IN** A	B	C	D	E		MANDATA *DELIVERY* **OUT** A	B	C	D	E	
		**F***	40	20 [mm] *0.787 [inch]*	17,4 [mm] *0.685 [inch]*	38 [mm] *1.496 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*	15 [mm] *0.591 [inch]*	17,4 [mm] *0.685 [inch]*	38 [mm] *1.496 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*
			60												
			80												
			110												
			140	26 [mm] *1.024 [inch]*	22.4 [mm] *0.882 [inch]*	47.6 [mm] *1.874 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*						
			160												
			190												
			220												
			260												
			310												

***: Le flange non corrispondono a norma SAEJ518. Flange a norma disponibili a richiesta, contattare il Servizio Commerciale.**

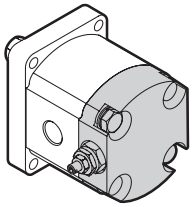
****: Flanges F do not correspond to SAEJ518. Flanges SAEJ518 available on request, please contact our Sales Dpt.***

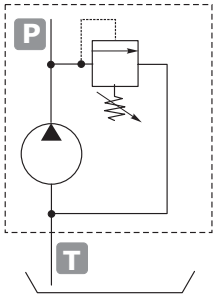
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

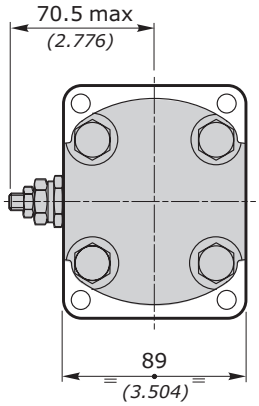
OPZIONI • *OPTIONS*

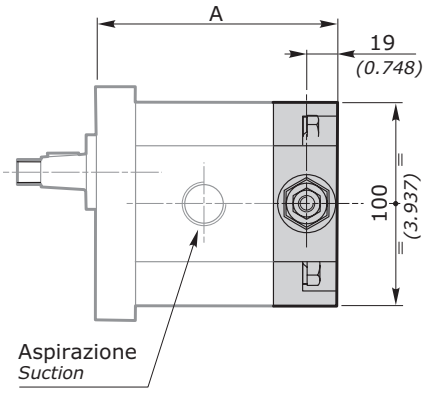
VLPI

VALVOLA LIMITATRICE DI PRESSIONE A SCARICO INTERNO
PRESSURE RELIEF VALVE WITH INTERNAL EXHAUST









GRUPPO GROUP 2	A EUR-SAEA-B50C		B80C		E52C	
	mm	*inch*	*mm*	*inch*	*mm*	*inch*
2SP 040	104.8	*4.126*	106.8	*4.205*	102.1	*4.020*
2SP 060	108.1	*4.256*	110.1	*4.335*	105.4	*4.150*
2SP 080	112.3	*4.421*	114.3	*4.500*	109.6	*4.315*
2SP 110	116.4	*4.583*	118.4	*4.661*	113.7	*4.476*
2SP 140	121.4	*4.780*	123.4	*4.858*	118.7	*4.673*
2SP 160	125.6	*4.945*	127.6	*5.024*	122.9	*4.839*
2SP 190	130.6	*5.142*	132.6	*5.220*	127.9	*5.035*
2SP 220	135.6	*5.339*	137.6	*5.417*	132.9	*5.232*
2SP 260	141.4	*5.567*	143.4	*5.646*	138.7	*5.461*
2SP 310	149.8	*5.902*	151.8	*5.981*	147.1	*5.796*

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore. Il corpo VLP è disponibile in alluminio. E' rappresentata una pompa con rotazione sinistra.

L'apertura della valvola limitatrice di pressione deve avvenire per tempi non superiori ai 10 secondi ogni minuto, per evitare il surriscaldamento della pompa.

The pressure relief valve can be applied by substituting the rear cover. VLP cover is available in aluminum. The showed pump is with anticlockwise rotation.

The opening of the pressure relief valve should be carried out for times not over 10" each minute, to avoid the pump overheating.

esempio • *example:* **2SP - A - 140 - D - EUR - B - N - 10 - 0 - G - VLPI (N 120)**

VLPI = Coperchio con VPL a scarico interno / *Cover with VPL with internal exhaust*
N = Tipo molla - vedi tabella / *Spring type - see table*
120 = Taratura - vedi tabella / *Setting - see table*

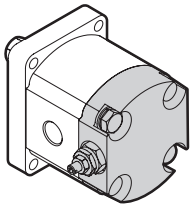
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	**B**	molla nera - *black spring*	**N**	molla rossa - *red spring*	**R**
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

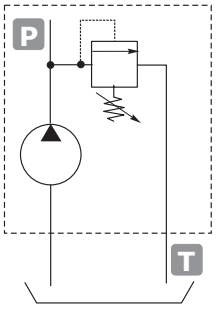
NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

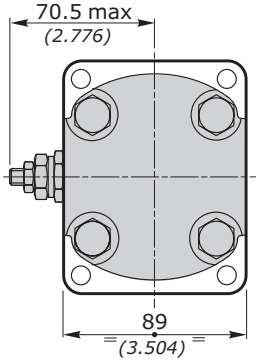
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

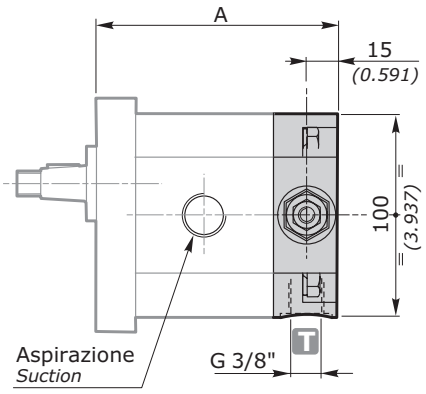
VLPE

VALVOLA LIMITATRICE DI PRESSIONE A SCARICO ESTERNO
PRESSURE RELIEF VALVE WITH EXTERNAL EXHAUST









GRUPPO GROUP 2	A					
	EUR-SAEA-B50C		B80C		E52C	
	mm	*inch*	*mm*	*inch*	*mm*	*inch*
2SP 040	100.8	*3.969*	102.8	*4.047*	98.1	*3.862*
2SP 060	104.1	*4.098*	106.1	*4.177*	101.4	*3.992*
2SP 080	108.3	*4.264*	110.3	*4.343*	105.6	*4.157*
2SP 110	112.4	*4.425*	114.4	*4.504*	109.7	*4.319*
2SP 140	117.4	*4.622*	119.4	*4.701*	114.7	*4.516*
2SP 160	121.6	*4.787*	123.6	*4.866*	118.9	*4.681*
2SP 190	126.6	*4.984*	128.6	*5.063*	123.9	*4.878*
2SP 220	131.6	*5.181*	133.6	*5.260*	128.9	*5.075*
2SP 260	137.4	*5.409*	139.4	*5.488*	134.7	*5.303*
2SP 310	145.8	*5.745*	147.8	*5.823*	143.1	*5.638*

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore. Il coperchio VLP è disponibile in alluminio. E' rappresentata una pompa con rotazione sinistra. Nelle pompe con rotazione destra, la valvola è dal lato opposto

The pressure relief valve can be applied by substituting the rear cover. VLP cover is available in aluminum. The showed pump is with anticlockwise rotation. In the case of pumps with clockwise rotation, the valve is on the opposite side.

esempio ● *example:* **2SP - A - 140 - D - EUR - B - N - 10 - 0 - G - VLPE N 120**

VLPE = Coperchio con VPL a scarico esterno / *Cover with VPL with external exhaust*
N = Tipo molla - vedi tabella / *Spring type - see table*
120 = Taratura - vedi tabella / *Setting - see table*

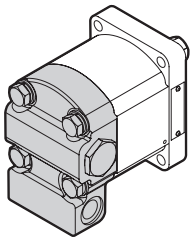
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	**B**	molla nera - *black spring*	**N**	molla rossa - *red spring*	**R**
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

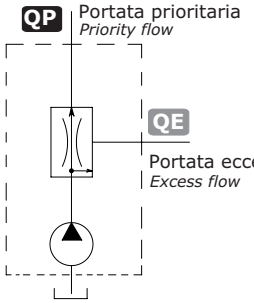
NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

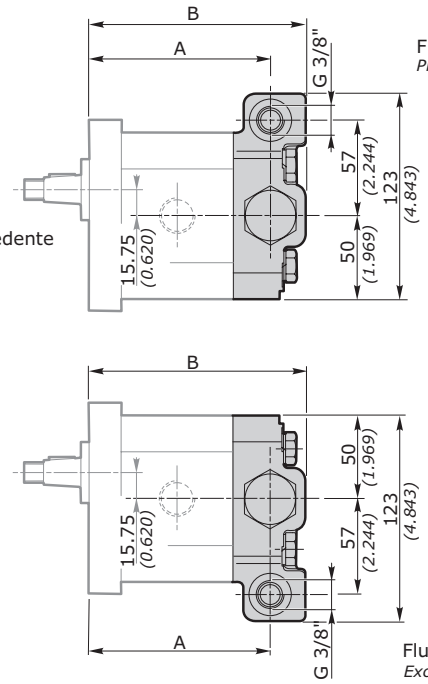
VRF

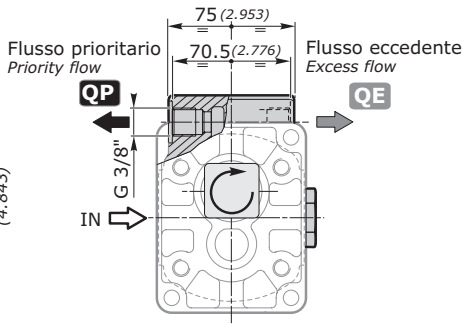
VALVOLA REGOLATRICE DI FLUSSO
PRIORITY FLOW DIVIDER VALVE

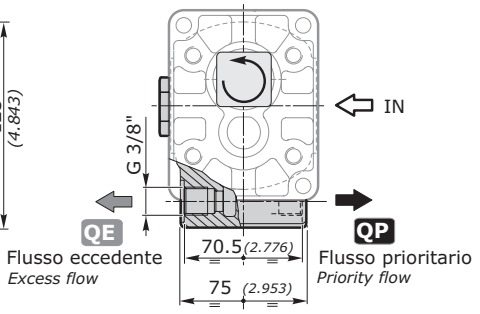




Flusso eccedente per utilizzi o serbatoio
Exceeding flow to actuator or to tank







GRUPPO GROUP 2	A						B					
	EUR - SAEA - B50C		B80C		E52C		EUR - SAEA - B50C		B80C		E52C	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
2SP 040	91.8	*3.614*	93.8	*3.693*	89.1	*3.508*	112.8	*4.441*	114.8	*4.520*	110.1	*4.335*
2SP 060	95.1	*3.744*	97.1	*3.823*	92.4	*3.638*	116.1	*4.571*	118.1	*4.650*	113.4	*4.465*
2SP 080	99.3	*3.909*	101.3	*3.988*	96.6	*3.803*	120.3	*4.736*	122.3	*4.815*	117.6	*4.630*
2SP 110	103.4	*4.071*	105.4	*4.150*	100.7	*3.965*	124.4	*4.898*	126.4	*4.976*	121.7	*4.791*
2SP 140	108.4	*4.268*	110.4	*4.346*	105.7	*4.161*	129.4	*5.094*	131.4	*5.173*	126.7	*4.988*
2SP 160	112.6	*4.433*	114.6	*4.512*	109.9	*4.327*	133.6	*5.260*	135.6	*5.339*	130.9	*5.154*
2SP 190	117.6	*4.630*	119.6	*4.709*	114.9	*4.524*	138.6	*5.457*	140.6	*5.535*	135.9	*5.350*
2SP 220	122.6	*4.827*	124.6	*4.906*	119.9	*4.720*	143.6	*5.654*	145.6	*5.732*	140.9	*5.547*
2SP 260	128.4	*5.055*	130.4	*5.134*	125.7	*4.949*	149.4	*5.882*	151.4	*5.961*	146.7	*5.776*
2SP 310	136.8	*5.390*	138.8	*5.469*	134.1	*5.284*	157.8	*6.217*	159.8	*6.296*	155.1	*6.111*

esempio ● *example:* **2SP - A - 140 - D - EUR - B - N - 10 - 0 - G - VRF 5**

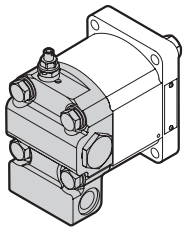
VRF = Coperchio con VRF / *Cover with VRF*
5 = portata prioritaria - vedi tabella / *Priority flow - see table*

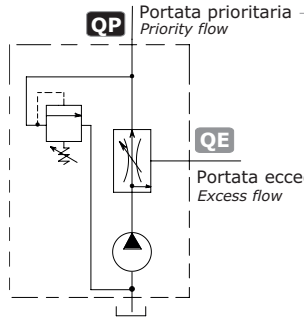
VALORE VALUE	PORTATE - FLOWS	
	l/min	US gal/min
5	5	1.32
7	7	*1.85*
8	8	*2.12*
11	11	*2.91*
14	14	*3.70*
21	21	*6.54*

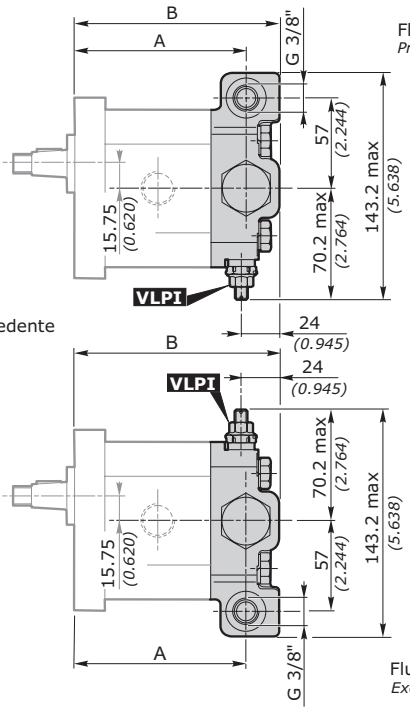
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

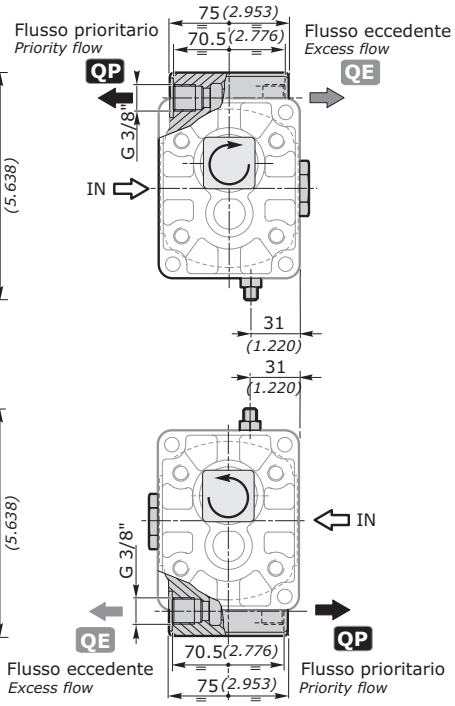
VRFVLPI

VALVOLA REGOLATRICE DI FLUSSO E VALVOLA LIMITATRICE DI PRESSIONE (SCARICO INTERNO)
PRIORITY FLOW DIVIDER VALVE AND PRESSURE RELIEF VALVE (INTERNAL EXHAUST)









VALORE VALUE	PORTATE - FLOWS	
	l/min	US gal/min
5	5	1.32
7	7	*1.85*
8	8	*2.12*
11	11	*2.91*
14	14	*3.70*
21	21	*6.54*

GRUPPO GROUP 2	A						B					
	STD - SAEA - B50C		B80C		E52C		STD - SAEA - B50C		B80C		E52C	
	mm	*inch*	*mm*	*inch*	*mm*	*inch*	*mm*	*inch*	*mm*	*inch*	*mm*	*inch*
2SP 040	91.8	*3.614*	93.8	*3.693*	89.1	*3.508*	112.8	*4.441*	114.8	*4.520*	110.1	*4.335*
2SP 060	95.1	*3.744*	97.1	*3.823*	92.4	*3.638*	116.1	*4.571*	118.1	*4.650*	113.4	*4.465*
2SP 080	99.3	*3.909*	101.3	*3.988*	96.6	*3.803*	120.3	*4.736*	122.3	*4.815*	117.6	*4.630*
2SP 110	103.4	*4.071*	105.4	*4.150*	100.7	*3.965*	124.4	*4.898*	126.4	*4.976*	121.7	*4.791*
2SP 140	108.4	*4.268*	110.4	*4.346*	105.7	*4.161*	129.4	*5.094*	131.4	*5.173*	126.7	*4.988*
2SP 160	112.6	*4.433*	114.6	*4.512*	109.9	*4.327*	133.6	*5.260*	135.6	*5.339*	130.9	*5.154*
2SP 190	117.6	*4.630*	119.6	*4.709*	114.9	*4.524*	138.6	*5.457*	140.6	*5.535*	135.9	*5.350*
2SP 220	122.6	*4.827*	124.6	*4.906*	119.9	*4.720*	143.6	*5.654*	145.6	*5.732*	140.9	*5.547*
2SP 260	128.4	*5.055*	130.4	*5.134*	125.7	*4.949*	149.4	*5.882*	151.4	*5.961*	146.7	*5.776*
2SP 310	136.8	*5.390*	138.8	*5.469*	134.1	*5.284*	157.8	*6.217*	159.8	*6.296*	155.1	*6.111*

esempio ● *example:* **2SP - A - 140 - D - EUR - B - N - 10 - G - VRF 5 VLPI (N 120)**

VRF = Coperchio con VRF / *Cover with VRF*
5 = portata prioritaria - vedi tabella / *Priority flow - see table*
VLPI = Coperchio con VPL a scarico interno / *Cover with VPL with internal exhaust*
N = Tipo molla - vedi tabella / *Spring type - see table*
120 = Taratura - vedi tabella / *Setting - see table*

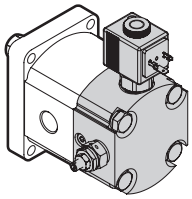
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	**B**	molla nera - *black spring*	**N**	molla rossa - *red spring*	**R**
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

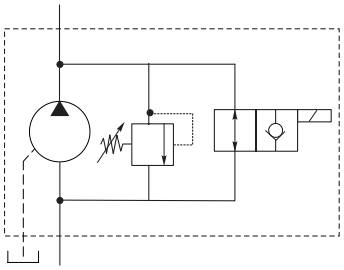
NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

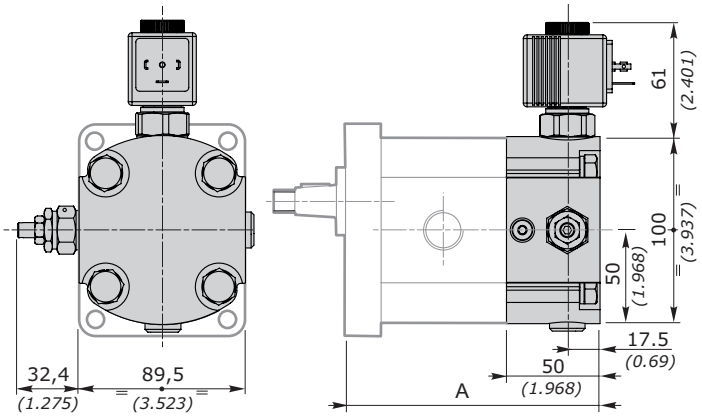
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

UNLD

VALVOLA UNLOADING
UNLOADING VALVE







GRUPPO GROUP 2	A					
	EUR-SAEA B50C		B80C		E52C	
	mm	inch	mm	inch	mm	inch
2SM 040	123.8	*4.874*	125.8	*4.952*	121.1	*4.767*
2SM 060	127.1	*5.003*	129.1	*5.082*	124.4	*4.897*
2SM 080	131.3	*5.169*	133.3	*5.248*	128.6	*5.062*
2SM 110	135.4	*5.330*	137.4	*5.409*	132.7	*5.224*
2SM 140	140.4	*5.527*	142.4	*5.606*	137.7	*5.421*
2SP 160	144.6	*5.692*	146.6	*5.771*	141.9	*5.586*
2SP 190	149.6	*5.889*	151.6	*5.968*	146.9	*5.793*
2SP 220	154.6	*6.086*	156.6	*6.165*	151.9	*5.980*
2SP 260	160.4	*6.314*	162.4	*6.393*	157.7	*6.208*
2SP 310	168.8	*6.645*	170.8	*6.724*	166.1	*6.539*

esempio ● *example:* **2SP-A-140-D-EUR-B-N-10-0-T-NA(UNLD)-VLPI(N100)-12VDC**

UNLD = Coperchio con valvola unloading standard - *Standard cover with unloading valve*
N = Tipo molla - vedi tabella / *Spring type - see table*
100 = Taratura - vedi tabella / *Setting - see table*

TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	**B**	molla nera - *black spring*	**N**	molla rossa - *red spring*	**R**
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

NOTA: In caso si omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

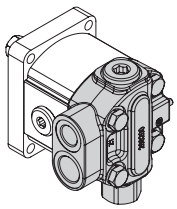
POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

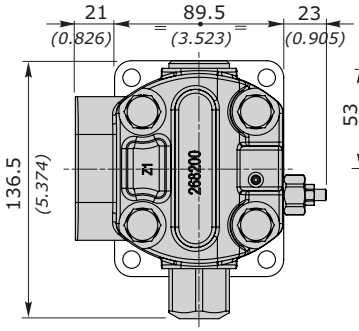
CP (LS)

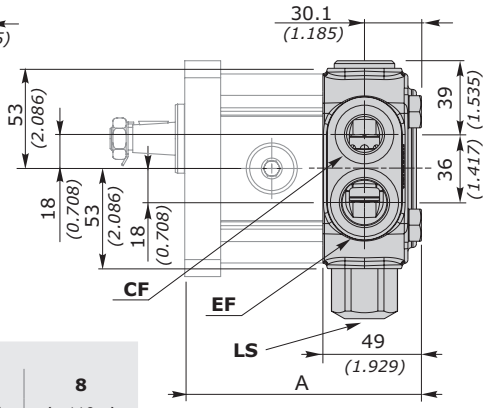
VALVOLA PRIORITARIA
PRIORITY VALVE

Con questa valvola è necessario un ingranaggio condotto speciale

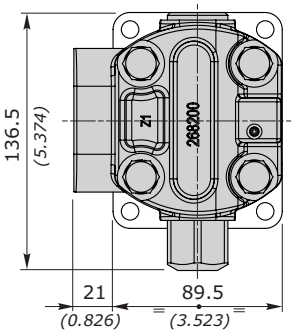
With this valve a special drive gear is needed







Versione senza VMP
Version without VMP



COPERCHIO / *COVER*

1	2	3	4	5	6	7	8
CP	M	I	(7	\ 0.7	- 0.6)	- VMP02	(110)

1	/		coperchio con valvola prioritaria - *cover with priority valve*
2	posiz. bocche coperchio *cover ports position*	**A**	lato aspirazione corpo - *body suction side*
		M	lato mandata corpo- *body delivery side*
3	posizione bocca LS *LS port position*	**I**	sul lato inferiore del coperchio *on bottom side of the cover*
		S	sul lato superiore del coperchio *on upper side of the cover*
4	configurazione molla *spring configuration*	**4**	4 bar - *58 psi*
		7	7 bar - *101.5 psi*
		10	10 bar - *145 psi*
5	dimensione strozzatore tipo 2 *type 2 orifice dimension*	**0.7**	foro da 0.7 - *0.7 hole*
6	caratteristiche strozzatore tipo 3 *type 3 orifice features*	**0.6**	**vedere la tabella sotto** - ***see below***
7	VMP02 opzionale in pos. M *optional VMP02, position M*	**VMP02**	con valvola VMP02- *with VMP02 valve*
		-	senza valvola VMP02- *without VMP02 valve*
8	taratura VMP02 - *VMP02 setting*	**110**	110 bar - *1590 psi*

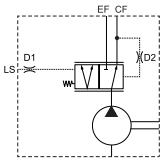
CARATTERISTICHE STROZZATORI TIPO 3 E MOLLA
ORIFICES TYPE 3 FEATURES AND SPRING

mm	in	molla *spring*	Pressione di Stand-By / *Stand-By pressure* 5 l/min - *1.32 USgpm* bar	*psi*	80 l/min - *21.13 USgpm* bar	*psi*
X	***X***	4	4	*58*	5	*72.5*
0.5	***0.019***		5	*72.5*	6.5	*94.2*
0.6	***0.023***		6	*87*	7.5	*108.7*
0.7	***0.027***		7	*101.5*	10	*145*
X	***X***	7	7	*101.5*	9	*130.5*
0.5	***0.019***		9	*130.5*	11	*159.5*
0.6	***0.023***		11	*159.5*	14	*203*
0.7	***0.027***		14	*203*	18	*261*
X	***X***	10	10	*145*	13	*188.5*
0.5	***0.019***		12.5	*181.2*	16.5	*239.2*
0.6	***0.023***		15.5	*224.7*	20	*290*
0.7	***0.027***		20	*290*	26	*377*

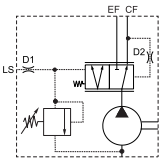
X= statico / *static*

CONNESSIONI / *CONNECTION*

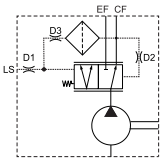
	CF	EF	LS
GAS	G 1/2	G 3/4	G 1/4
SAE	SAE 8	SAE 10	SAE 4



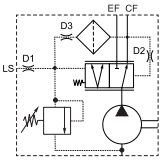
Statico
Static



Statico con valvola
Static with valve



Dinamico
Dynamic



Dinamico con valvola
Dynamic with valve

GRUPPO GROUP 2	A EUR-SAEA-B50C mm	inch	B80C mm	inch	E52C mm	inch
2SP 040	123.3	*4.854*	125.3	*4.933*	120.6	*4.748*
2SP 060	126.6	*4.984*	128.6	*5.062*	123.9	*4.877*
2SP 080	130.8	*5.149*	132.8	*5.228*	128.1	*5.043*
2SP 110	134.9	*5.311*	136.9	*5.389*	132.2	*5.204*
2SP 140	139.9	*5.507*	141.9	*5.586*	137.2	*5.401*
2SP 160	144.1	*5.673*	146.1	*5.751*	141.4	*5.566*
2SP 190	149.1	*5.870*	151.1	*5.948*	146.4	*5.763*
2SP 220	154.1	*6.067*	156.1	*6.145*	151.4	*5.960*
2SP 260	159.9	*6.295*	161.9	*6.374*	157.2	*6.188*
2SP 310	168.3	*6.625*	170.3	*6.704*	165.6	*6.519*

esempio ● *example:* **2SP - A - 140 - D - EUR - B - N - 10 - G - CPMI (7\0.7-0.6) - VMP02(110)**

CP = Coperchio con valvola prioritaria / *Cover with priority valve*
7 = Tipo molla - vedi tabella / *Spring type - see table*
110 = Taratura - vedi tabella / *Setting - see table*

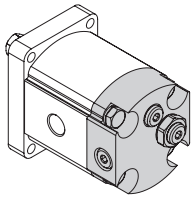
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS TV	TS	TR
bar	5 ÷ 80	50 ÷ 220	180 ÷ 350
psi	*72 ÷ 1160*	*725 ÷ 3190*	*2610 ÷ 5075*
STANDARD	70 bar *(1015 psi)*	150 bar *(2175 psi)*	250 bar *(3625 psi)*

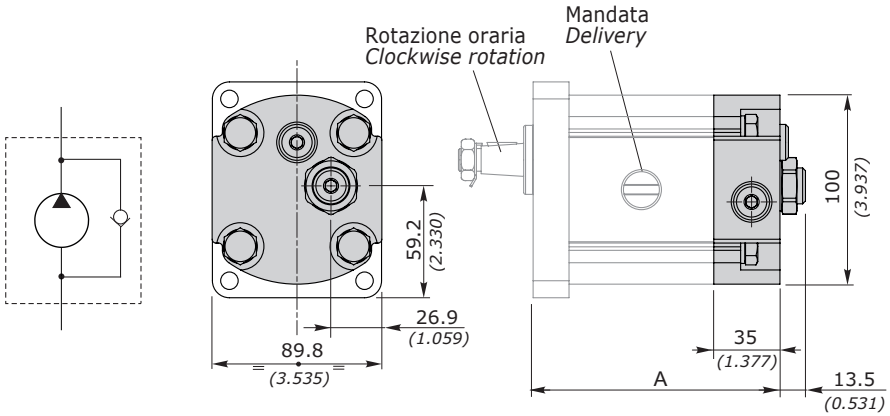
NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

VA

VALVOLA ANTICAVITAZIONE
ANTICAVITATION VALVE





GRUPPO GROUP 2	A					
	EUR-SAEA-B50C		B80C		E52C	
	mm	inch	mm	inch	mm	inch
2SP 040	109.3	*4.303*	111.3	*4.381*	106.6	*4.196*
2SP 060	112.6	*4.433*	114.6	*4.511*	109.9	*4.326*
2SP 080	116.8	*4.598*	118.8	*4.677*	114.1	*4.492*
2SP 110	120.9	*4.759*	122.9	*4.838*	118.2	*4.653*
2SP 140	125.9	*4.956*	127.9	*5.035*	123.2	*4.850*
2SP 160	130.1	*5.122*	132.1	*5.200*	127.4	*5.015*
2SP 190	135.1	*5.318*	137.1	*5.397*	132.4	*5.212*
2SP 220	140.1	*5.515*	142.1	*5.594*	137.4	*5.409*
2SP 260	145.9	*5.744*	147.9	*5.822*	143.2	*5.637*
2SP 310	154.3	*6.074*	156.3	*6.153*	151.6	*5.968*

esempio ● *example:* **2SP - A - 110 - D - EUR - H - N - 10 - G - VA**

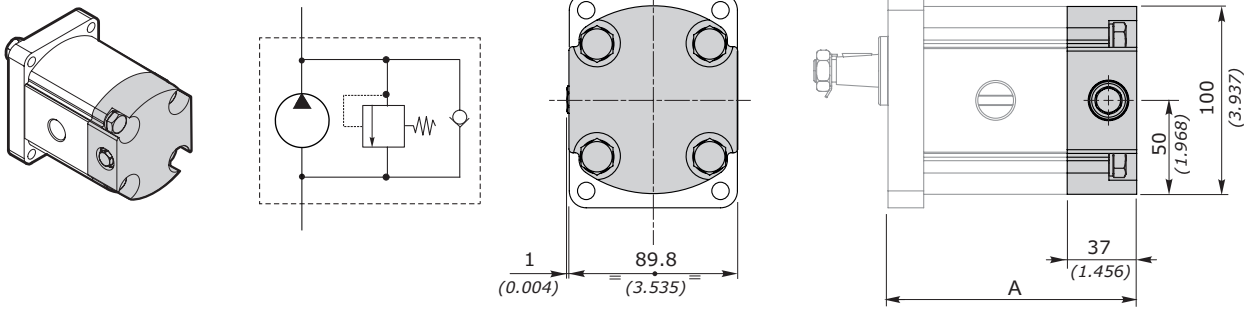
D = Rotazione destra / *Clockwise rotation*
S = Rotazione sinistra / *Anticlockwise rotation*
D(R) = Reversibile, montata unidirezionale e valvola come motore destro
Reversible, mounted as clockwise rotation and valve as right gear motor
S(R) = Reversibile, montata unidirezionale e valvola come motore sinistro
Reversible, mounted as anticlockwise rotation and valve as left gear motor
R....VA(D)/VA(S) = Reversibile / *Reversible*

VA = Coperchio con valvola anticavitazione / *Cover with anticavitation valve*
R....VA(D) = Valvola montata come motore destro / *Valve mounted as right gear motor*
R....VA(S) = Valvola montata come motore sinistro / *Valve mounted as left gear motor*

NOTA: Nell'esempio viene descritta una pompa a rotazione destra con valvola anticavitazione montata come pompa destra, per altre configurazioni contattare il Servizio Commerciale
NOTE: in the example is represented gear pump with clockwise rotation and anticavitation valve mounted as right gear pump. For other configurations please contact our Sales Dpt.

POMPE AD INGRANAGGI GRUPPO 2SP
GEAR PUMPS GROUP 2SP

VMA — VALVOLA ANTICAVITAZIONE E ANTIURTO
ANTICAVITATION AND ANTISHOCK VALVE



GRUPPO GROUP 2	A EUR-SAEA-B50C mm	inch	B80C mm	inch	E52C mm	inch
2SP 040	111.3	*4.381*	113.3	*4.450*	108.6	*4.275*
2SP 060	114.6	*4.511*	116.6	*4.590*	111.9	*4.405*
2SP 080	118.8	*4.677*	120.8	*4.755*	116.1	*4.570*
2SP 110	122.9	*4.838*	124.9	*4.917*	120.2	*4.732*
2SP 140	127.9	*5.035*	129.9	*5.114*	125.2	*4.929*
2SP 160	132.1	*5.200*	134.1	*5.279*	129.4	*5.094*
2SP 190	137.1	*5.397*	139.1	*5.476*	134.4	*5.291*
2SP 220	142.1	*5.594*	144.1	*5.673*	139.4	*5.488*
2SP 260	147.9	*5.822*	149.9	*5.901*	145.2	*5.716*
2SP 310	156.3	*6.153*	158.3	*6.232*	153.6	*6.047*

esempio ● *example:* **2SP - A - 140 - D - EUR - B - N - 10 - G - VMA**

VMA = Coperchio con valvola anticavitazione / *Cover with anticavitation valve*

VALVOLE ANTICAVITAZIONE A TARATURA FISSA - FIXED SETTING ANTICAVITATION VALVES																			
bar	50	63	80	100	110	125	140	150	160	175	190	200	210	230	240	250	260	270	280
psi	*725*	*914*	*1150*	*1450*	*1590*	*1800*	*2050*	*2150*	*2300*	*2550*	*2750*	*2900*	*3050*	*3350*	*3500*	*3600*	*3750*	*3900*	*4050*

taratura riferita a 10 l/min / *setting is referred to 2.6 US gpm*

NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard.
NOTE: Without setting request, it will be considered standard.

POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

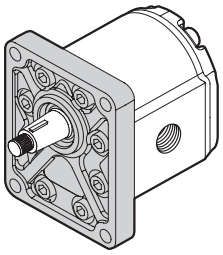
FLANGIA EUROPEA EUR *EUROPEAN FLANGE*

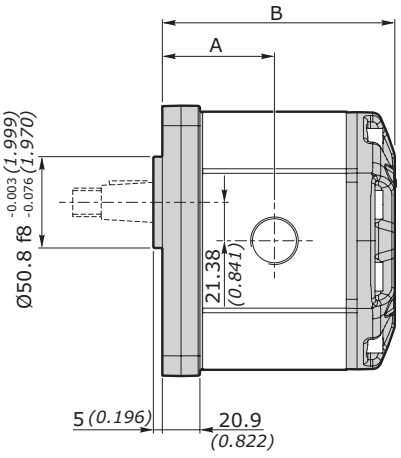
FLANGIA E COPERCHIO IN GHISA - *CAST IRON FLANGE AND COVER*

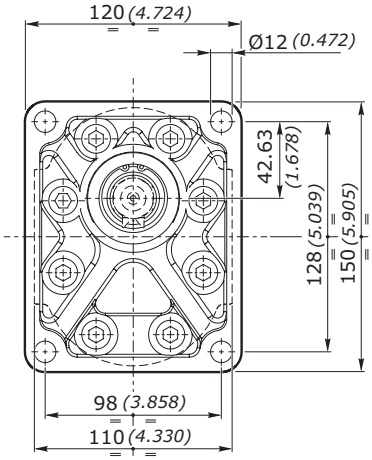
GRUPPO GROUP 3GP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	in³/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
3GP 190	19.3	1.2	250	3625	265	3840	280	4260	3500	67.6	17.84	600
3GP 230	23.0	1.4	250	3625	265	3840	280	4060	3500	80.3	21.22	600
3GP 300	30.2	1.8	240	3480	255	3695	270	3915	3300	99.7	26.33	600
3GP 340	33.8	2.1	240	3480	255	3695	270	3915	3300	111.6	29.49	600
3GP 370	37.5	2.3	230	3335	245	3550	260	3770	3300	123.6	32.66	600
3GP 440	44.6	2.7	220	3190	235	3405	250	3625	3000	133.8	35.35	600
3GP 530	53.0	3.2	210	3045	225	3262	240	3480	3000	159.1	42.04	600
3GP 620	62.7	3.8	190	2755	200	2900	210	3045	2500	156.8	41.41	600
3GP 700	70.5	4.3	180	2610	190	2755	200	2900	2500	176.3	46.58	600
3GP 770	77.2	4.7	170	2465	180	2610	190	2755	2200	169.8	44.84	600

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*







GRUPPO - GROUP 3	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
3GP 190	62.4	2.456	128.3	5.051	7.67	16.91
3GP 230	63.9	2.515	131.3	5.169	7.81	17.21
3GP 300	66.9	2.633	137.3	5.405	8.09	17.82
3GP 340	68.4	2.692	140.3	5.523	8.22	18.12
3GP 370	69.9	2.751	143.3	5.641	8.36	18.43
3GP 440	72.9	2.870	149.3	5.877	8.64	19.04
3GP 530	76.4	3.007	156.3	6.153	8.96	19.75
3GP 620	80.4	3.165	164.3	6.468	9.33	20.56
3GP 700	86.9	3.421	170.8	6.724	9.63	21.22
3GP 770	92.4	3.637	176.3	6.940	9.88	21.77

POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

FLANGIA SAE SAEB-SAEBOR *SAE FLANGE*

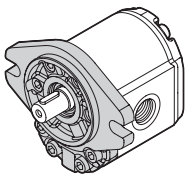
FLANGIA E COPERCHIO IN GHISA - *CAST IRON FLANGE AND COVER*

GRUPPO GROUP 3GP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
3GP 190	19.3	1.2	250	3625	265	3840	280	4260	3500	67.6	17.84	600
3GP 230	23.0	1.4	250	3625	265	3840	280	4060	3500	80.3	21.22	600
3GP 300	30.2	1.8	240	3480	255	3695	270	3915	3300	99.7	26.33	600
3GP 340	33.8	2.1	240	3480	255	3695	270	3915	3300	111.6	29.49	600
3GP 370	37.5	2.3	230	3335	245	3550	260	3770	3300	123.6	32.66	600
3GP 440	44.6	2.7	220	3190	235	3405	250	3625	3000	133.8	35.35	600
3GP 530	53.0	3.2	210	3045	225	3262	240	3480	3000	159.1	42.04	600
3GP 620	62.7	3.8	190	2755	200	2900	210	3045	2500	156.8	41.41	600
3GP 700	70.5	4.3	180	2610	190	2755	200	2900	2500	176.3	46.58	600
3GP 770	77.2	4.7	170	2465	180	2610	190	2755	2200	169.8	44.84	600

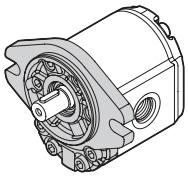
Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

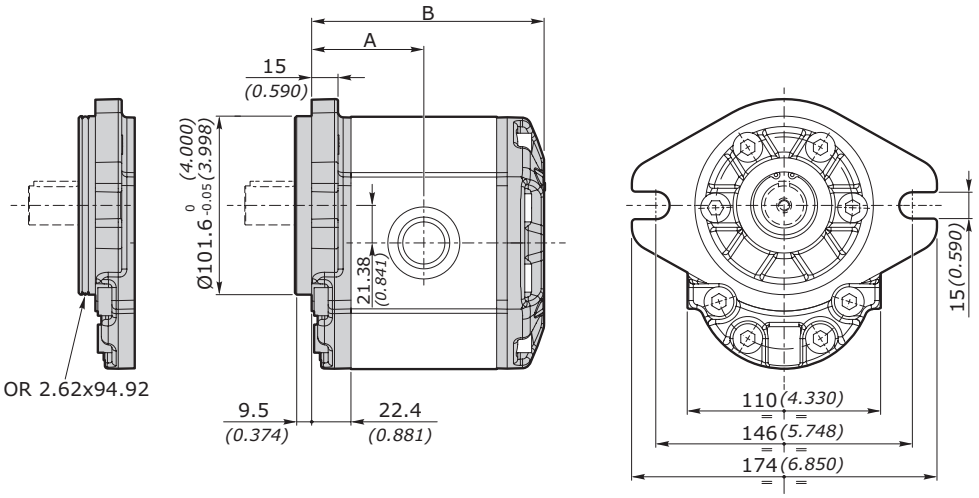
DIMENSIONI • *DIMENSIONS*

SAEB



SAEBOR





GRUPPO - GROUP 3	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
3GP 190	62.4	2.456	128.3	5.051	7.67	16.91
3GP 230	63.9	2.515	131.3	5.169	7.81	17.21
3GP 300	66.9	2.633	137.3	5.405	8.09	17.82
3GP 340	68.4	2.692	140.3	5.523	8.22	18.12
3GP 370	69.9	2.751	143.3	5.641	8.36	18.43
3GP 440	72.9	2.870	149.3	5.877	8.64	19.04
3GP 530	76.4	3.007	156.3	6.153	8.96	19.75
3GP 620	80.4	3.165	164.3	6.468	9.33	20.56
3GP 700	86.9	3.421	170.8	6.724	9.63	21.22
3GP 770	92.4	3.637	176.3	6.940	9.88	21.77

POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

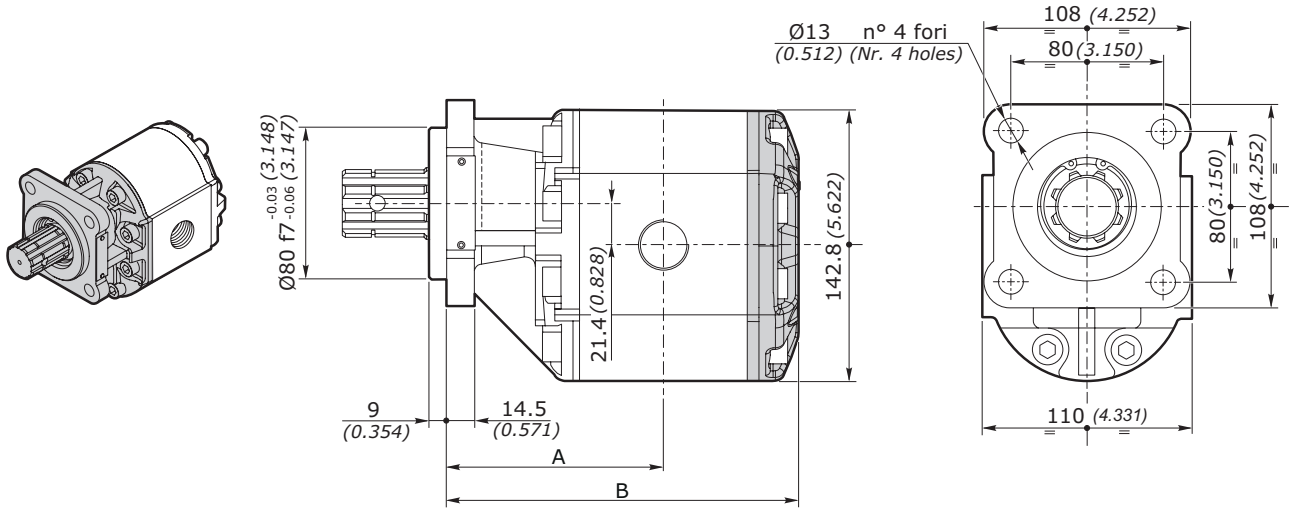
FLANGIA ZFC *FLANGE*

FLANGIA E COPERCHIO IN GHISA - *CAST IRON FLANGE AND COVER*

GRUPPO GROUP 3GP	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE P1		P2		P3		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
3GP 190	19.3	1.2	250	3625	265	3840	280	4260	3500	67.6	17.84	600
3GP 230	23.0	1.4	250	3625	265	3840	280	4060	3500	80.3	21.22	600
3GP 300	30.2	1.8	240	3480	255	3695	270	3915	3300	99.7	26.33	600
3GP 340	33.8	2.1	240	3480	255	3695	270	3915	3300	111.6	29.49	600
3GP 370	37.5	2.3	230	3335	245	3550	260	3770	3300	123.6	32.66	600
3GP 440	44.6	2.7	220	3190	235	3405	250	3625	3000	133.8	35.35	600
3GP 530	53.0	3.2	210	3045	225	3262	240	3480	3000	159.1	42.04	600
3GP 620	62.7	3.8	190	2755	200	2900	210	3045	2500	156.8	41.41	600
3GP 700	70.5	4.3	180	2610	190	2755	200	2900	2500	176.3	46.58	600
3GP 770	77.2	4.7	170	2465	180	2610	190	2755	2200	169.8	44.84	600

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*



GRUPPO - GROUP 3	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
3GP 190	110.5	4.350	177.4	6.984	7.67	16.91
3GP 230	112.0	4.409	180.4	7.102	7.81	17.21
3GP 300	115.0	4.527	186.4	7.338	8.09	17.82
3GP 340	116.5	4.586	189.4	7.456	8.22	18.12
3GP 370	118.0	4.645	192.4	7.574	8.36	18.43
3GP 440	121.0	4.763	198.4	7.811	8.64	19.04
3GP 530	124.5	4.901	205.4	8.086	8.96	19.75
3GP 620	128.5	5.059	213.4	8.401	9.33	20.56
3GP 700	131.7	5.185	219.9	8.657	9.63	21.22
3GP 770	134.5	5.295	225.4	8.874	9.88	21.77

POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

CODICE ORDINAZIONE • *ORDER CODE*

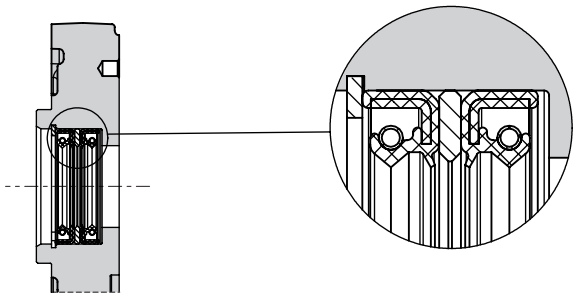
3GP - G - 340 - D - EUR - B - N - 10 - 0 - G

SIGLA - *CODE*	TIPO - *TYPE*	DESCRIZIONE - *DESCRIPTION*	PAGINA - *PAGE*
3GP	Tipo pompa *Pump type*	Pompa singola gruppo 3 *Single pump group 3*	6
G	Materiale flangia e coperchio *Flange and cover material*	**G** = Ghisa / *Cast iron*	72
340	Cilindrata *Displacement*	Cilindrata = 33.8 cm^3/giro *Displacement = 2.1 in^3/rev*	6
D	Senso di rotazione *Rotation wise*	**D** = Rotazione destra / *Clockwise rotation* **S** = Rotazione sinistra / *Anticlockwise rotation* **R** = Reversibile / *Reversible*	8
EUR	Tipo Flangia *Flange type*	Flangia standard europea *European standard flange*	72
B	Tipo anello di tenuta *Seal ring type*	Vedi tabella compatibilità *See compatibility table*	
N	Tipo guarnizione *Gasket type*	**N** = NBR **V** = Viton	73
10	Tipo Albero *Shaft type*	Vedi tabella compatibilità *See compatibility table*	
0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	75
G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	

VERSIONI CON DOPPIO PARAOLIO • *DOUBLE SHAFT SEAL VERSION*

Disponibili versioni con doppio paraolio per EUR, SAEB, SAEBOR.

Available versions with double shaft seal for EUR, SAEB, SAEBOR.



esempio • *example:*

3GP - G - 340 - D - EUR2 - B - N - 10 - 0 - F

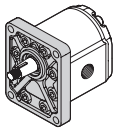
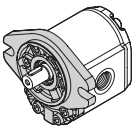
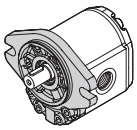
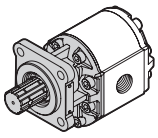
EUR2= Doppio paraolio / *Double Shaft Seal*

Nota - La versione con paraolio è fornita con anelli a bassa pressione o alta pressione tipo K (vedi pag. 72).

Note - The version with shaft seal is supplied with K rings type with low pressure or high pressure (see page 72).

POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

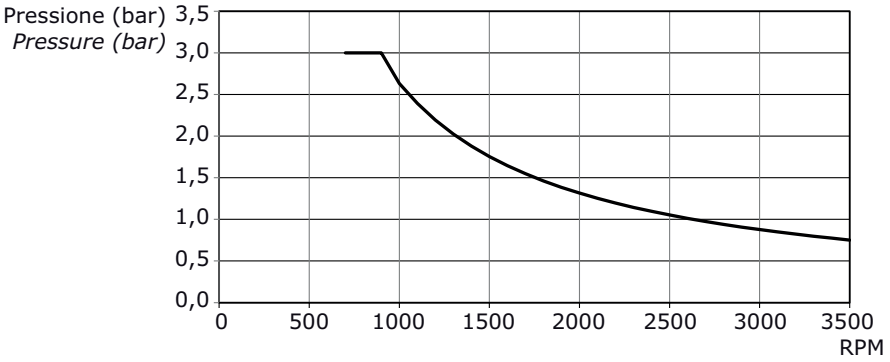
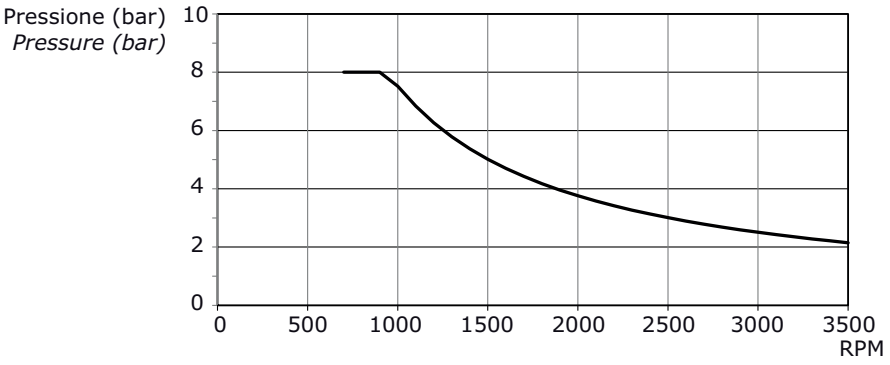
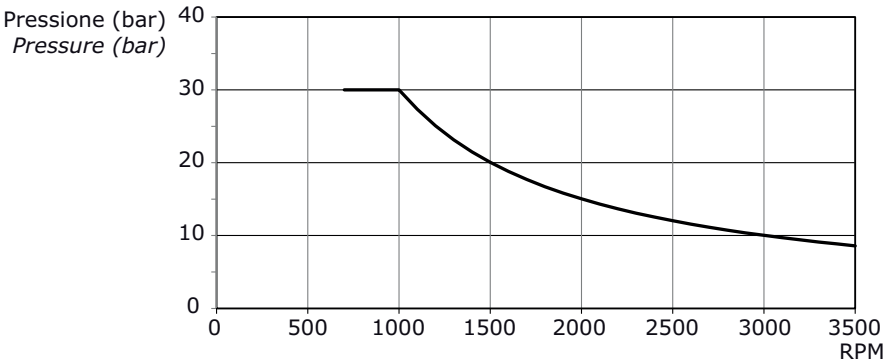
TIPOLOGIA FLANGIA • *FLANGE TYPE*

3GP	EUR	SAEB*	SAEBOR	ZFC
				
A alluminio *aluminium*	non disponibile *not available*	non disponibile *not available*	non disponibile *not available*	non disponibile *not available*
G ghisa *cast iron*	◇	◇	◇	◇

◇ = Combinazione standard - *Standard combination*

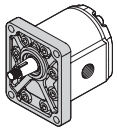
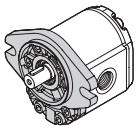
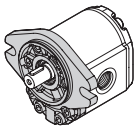
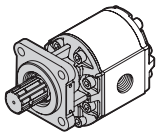
***** Contattare il servizio commerciale. */ Available soon. Please contact our Sales Dpt.*

ANELLO DI TENUTA • *SEAL RING*

SIGLA - *CODE*	TIPO - *TYPE*	DIAGRAMMA - *DIAGRAM*
B	Anello di tenuta fino a **3** bar *Sealing ring up to **3** bar*	
H	Anello di tenuta fino a **8** bar *Sealing ring up to **8** bar*	
K	Anello di tenuta fino a **30** bar *Sealing ring up to **30** bar*	

POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

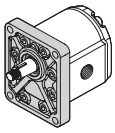
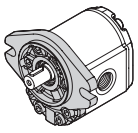
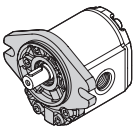
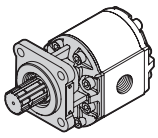
COMBINAZIONE FLANGIA - ANELLO DI TENUTA - GUARNIZIONE • *FLANGE - SEAL RING - GASKET COMBINATION*

3GP		EUR			SAEB*			SAEBOR			ZFC
											
		Anello - *seal ring*			Anello - *seal ring*			Anello - *seal ring*			Anello - *seal ring*
		B	H	K	B	H	K	B	H	K	B
NBR	N	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Viton	V	●	●	●	●	●	●	●	●	●	●

esempio • *example:* **3GP - G - 340 - D - EUR - B - N - 10 - 0 - G**

EUR = Flangia europea / *European flange*
B = Anello tenuta fino a 3 bar / Seal ring up to 3 *bar*
N = *Guarnizione in NBR / NBR o-ring*

COMBINAZIONE ALBERO - FLANGIA • *SHAFT - FLANGE COMBINATION*

3GP	EUR	SAEB*	SAEBOR	ZFC
				
10 Conico 1:8 *Tapered 1:8*	◇	●	●	
13 Cilindrico SAEB *SAEB Parallel shaft*	●	◇	◇	
14 Scanalato SAEB 13T (38.2) *SAEB 13T splined (38.2)*	●	◇	◇	
14R Scanalato SAEB 13T (44.7) *SAEB 13T splined (44.7)*	●	●	●	
24 Scanalato UNI8953 *UNI8953 Splined*				◇

◇ = Combinazione standard - *Standard combination*
● = Combinazione disponibile - *Available combination*

* Contattare il servizio commerciale. / *Available soon. Please contact our Sales Dpt.*

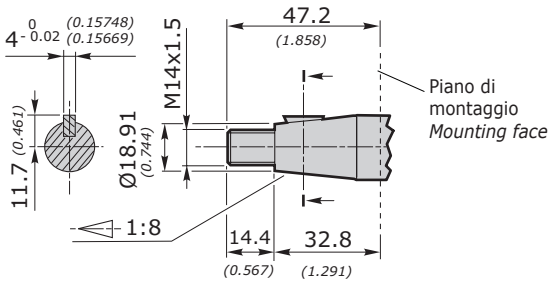
POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

3GP

DIMENSIONI ALBERO - *SHAFT DIMENSIONS*

10
Conico 1:8
Tapered 1:8

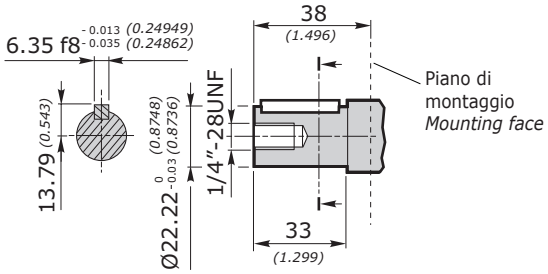
Coppia 240 Nm
Torque 178 ft-lbs



Disponibile per - *available for:* **EUR - SAEB - SAEBOR**

13
Cilindrico SAEB
SAEB Parallel shaft

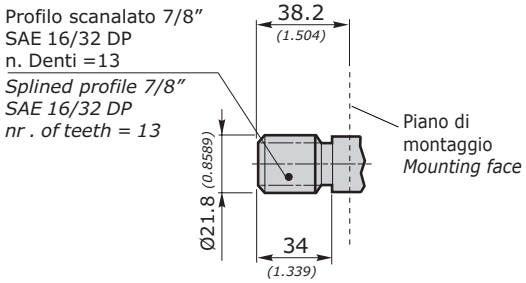
Coppia 200 Nm
Torque 148 ft-lbs



Disponibile per - *available for:* **EUR - SAEB - SAEBOR**

14
Scanalato SAEB
13T (38.2)
SAEB 13T splined (38.2)

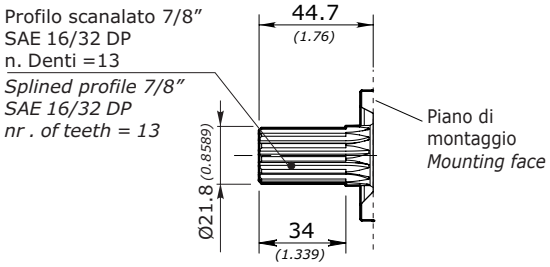
Coppia 270 Nm
Torque 200 ft-lbs



Disponibile per - *available for:* **EUR - SAEB - SAEBOR**

14R
Scanalato SAEB
13T (44.7)
SAEB 13T splined (44.7)

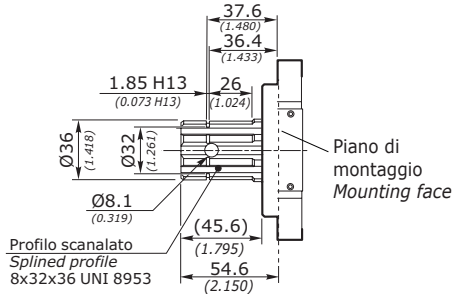
Coppia 270 Nm
Torque 200 ft-lbs



Disponibile per - *available for:* **EUR - SAEB - SAEBOR**

24
Scanalato
UNI8953
UNI8953 Splined

Coppia 330 Nm
Torque 245 ft-lbs

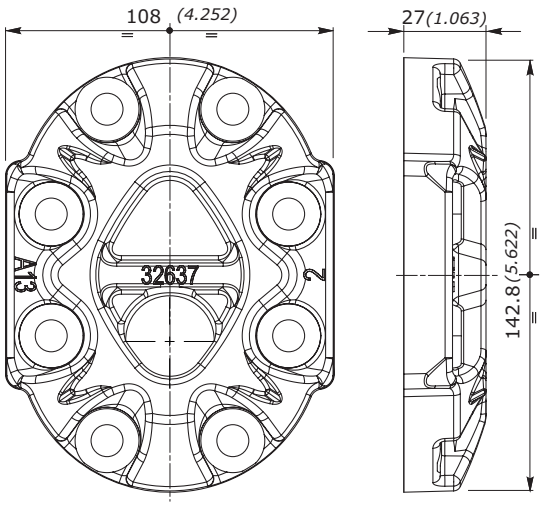


Disponibile per - *available for:* **ZFC**

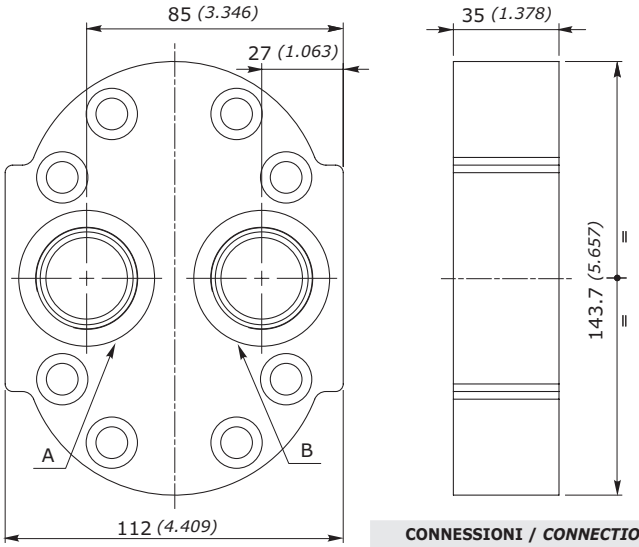
POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

COPERCHIO STANDARD • *STANDARD COVER*

Per posizione **0**
For position ***0***



Per posizioni **1, 3, 4**
For position **1, 3, 4**

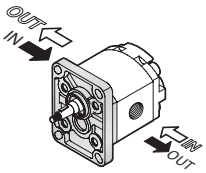
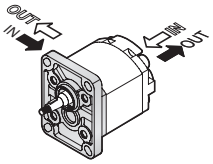
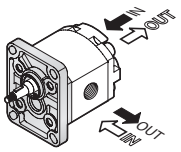
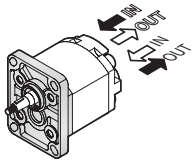


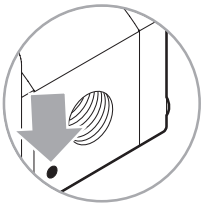
CONNESSIONI / *CONNECTION*	A	B
GAS	G 1	G 1
SAE	SAE 16	SAE 12

POSIZIONE CONNESSIONE • *CONNECTION POSITION*

Rotazione destra - **D**
Clockwise rotation - ***D***

Rotazione sinistra - **S**
Anti-clockwise rotation - ***S***

0	1	3	4
			



Il segno del corpo indica il lato aspirazione per le pompe
The sign on the body identifies the suction side for the pumps

IN = ASPIRAZIONE - *SUCTION*
OUT = MANDATA - *DELIVERY*

TIPO CONNESSIONE • *CONNECTION TYPE*

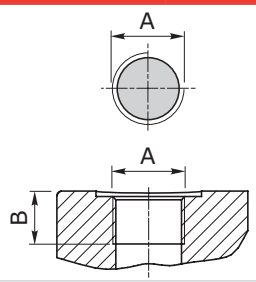
Le connessioni rappresentate corrispondono alle versioni standard; per connessioni differenti, contattare il nostro Ufficio Commerciale.

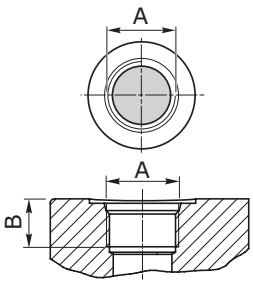
The connection types shown correspond to standard configuration; for different applications contact our Commercial Dept.

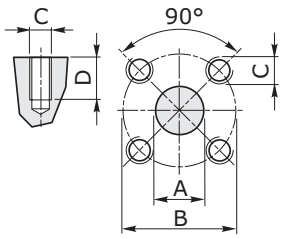
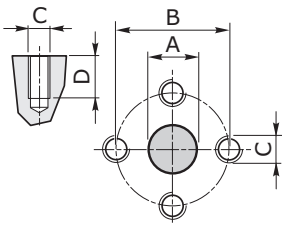
3GP		POSIZIONE CONNESSIONE - *CONNECTION POSITION*			
		0	**1**	**3**	**4**
GAS	**G**	◇	◇	◇	◇
UNF	**W**	◇	◇	◇	◇
FLANGIATE *FLANGED*	**T**	◇			
	N	◇			
	F	◇			

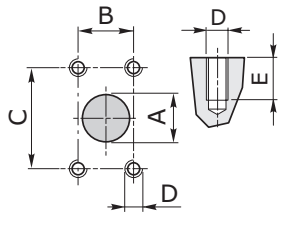
POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

TIPO CONNESSIONE • *CONNECTION TYPE*

GAS	UNI ISO 228/1	SIGLA *CODE*	CIL. *DISPL.*	ASPIRAZIONE - *SUCTION* **IN** A	B		MANDATA - *DELIVERY* **OUT** A	B	
		**G**	190	G 1"	20 [mm] *0.788 [inch]*	70 [Nm] *620 [in.lbs]*	G 3/4"	17 [mm] *0.670 [inch]*	60 [mm] *531 [in.lbs]*
			230						
			300						
			340						
			370						
			440						
			530						
			620						
			700	G 1" 1/4	20 [mm] *0.788 [inch]*	80 [Nm] *709 [in.lbs]*	G 1"	20 [mm] *0.788 [inch]*	70 [Nm] *620 [in.lbs]*
			770						

UNF	ANSI/ASME B1.1	SIGLA *CODE*	CIL. *DISPL.*	ASPIRAZIONE *SUCTION* **IN** A	B		MANDATA *DELIVERY* **OUT** A	B	
		**W**	190	SAE 16 1"5/16-12 UN	20 [mm] *0.788 [inch]*	70 [Nm] *620 [in.lbs]*	SAE 12 1"1/16-12 UN	20 [mm] *0.788 [inch]*	60 [Nm] *531 [in.lbs]*
			230						
			300						
			340	SAE 20 1"5/8-12 UN	20 [mm] *0.788 [inch]*	80 [Nm] *709 [in.lbs]*	SAE 16 1"5/16-12 UN	20 [mm] *0.788 [inch]*	70 [Nm] *620 [in.lbs]*
			370						
			440						
			530						
			620						
			700	SAE 24 1"7/8-12 UN	20 [mm] *0.788 [inch]*	90 [Nm] *798 [in.lbs]*	SAE 20 1"5/8-12 UN	20 [mm] *0.788 [inch]*	80 [Nm] *709 [in.lbs]*
			770						

FLANGIATE FLANGED	ISO/R 262	SIGLA *CODE*	CIL. *DISPL.*	ASPIRAZIONE *SUCTION* **IN** A	B	C	D		MANDATA *DELIVERY* **OUT** A	B	C	D	
		**T**	190	26 [mm] *1.024 [inch]*	55 [mm] *2.167 [inch]*	M8	16 [mm] *0.630 [inch]*	15 [Nm] *133 [in.lbs]*	18 [mm] *0.709 [inch]*	55 [mm] *2.167 [inch]*	M8	16 [mm] *0.630 [inch]*	15 [Nm] *133 [in.lbs]*
			230										
			300										
			340										
			370										
			440										
			530										
			620										
			700										
			770										
		**N**	190	27 [mm] *1.064 [inch]*	51 [mm] *2.009 [inch]*	M10	15 [mm] *0.591 [inch]*	20 [Nm] *177 [in.lbs]*	19 [mm] *0.748 [inch]*	40 [mm] *1.575 [inch]*	M8	15 [mm] *0.591 [inch]*	15 [Nm] *71 [in.lbs]*
			230										
			300										
			340										
			370										
			440										
			530										
			620										
			700										
			770										

FLANGIATE FLANGED	ISO/R 262	SIGLA *CODE*	CIL. *DISPL.*	ASPIRAZIONE *SUCTION* **IN** A	B	C	D	E		MANDATA *DELIVERY* **OUT** A	B	C	D	E	
		**F***	190	26.2 [mm] *1.031 [inch]*	27 [mm] *1.063 [inch]*	52.4 [mm] *2.063 [inch]*	M8	15 [mm] *0.591 [inch]*	15 [Nm] *71 [in.lbs]*	24 [mm] *0.945 [inch]*	26.2 [mm] *1.031 [inch]*	52.4 [mm] *2.063 [inch]*	M8	15 [mm] *0.591 [inch]*	15 [Nm] *71 [in.lbs]*
			230												
			300												
			340												
			370												
			440	35.6 [mm] *1.402 [inch]]*	42 [mm] *1.654 [inch]*	69.8 [mm] *2.748 [inch]*	M8	15 [mm] *0.591 [inch]*	15 [Nm] *71 [in.lbs]*						
			530												
			620												
			700												
			770												

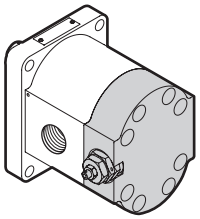
***: Le flange non corrispondono a norma SAEJ518. Flange a norma disponibili a richiesta, contattare il Servizio Commerciale.**

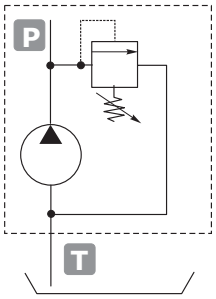
****: Flanges F do not correspond to SAEJ518. Flanges SAEJ518 available on request, please contact our Sales Dpt.***

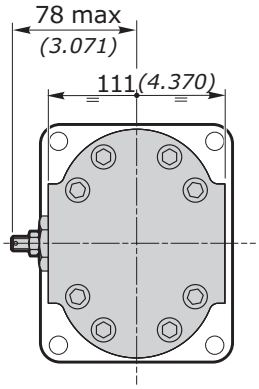
POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

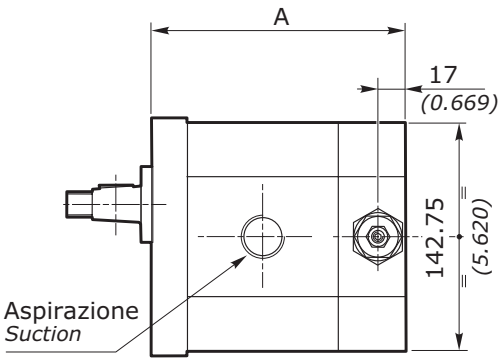
OPZIONI • *OPTIONS*

VLPI — VALVOLA LIMITATRICE DI PRESSIONE A SCARICO INTERNO
PRESSURE RELIEF VALVE WITH INTERNAL EXHAUST









GRUPPO GROUP 3	A EUR - SAEB - SAEBOR	
	mm	*inch*
3GP 190	146.30	*5.759*
3GP 230	149.30	*5.877*
3GP 300	155.30	*6.114*
3GP 340	158.30	*6.232*
3GP 370	161.30	*6.350*
3GP 440	167.30	*6.586*
3GP 530	174.30	*6.862*
3GP 620	182.30	*7.177*
3GP 700	188.30	*7.413*
3GP 770	194.30	*7.649*

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore (previsto solo scarico interno).
Coperchio VLP disponibile in alluminio
È rappresentata una pompa con rotazione sinistra.

L'apertura della valvola limitatrice di pressione deve avvenire per tempi non superiori ai 7 secondi ogni minuto, per evitare il surriscaldamento della pompa.

The pressure relief valve can be applied by substituting the rear cover (only internal relief is set).
VLP cover available in aluminum.
The showed pump is with anticlockwise rotation.

The opening of the pressure relief valve should be carried out for times not over 7" each minute, to avoid the pump overheating of the pump.

esempio • *example:* **3GP - A - 340 - D - EUR - B - N - 10 - 0 - G - VLPI (N 120)**

VLPI = Coperchio con VPL a scarico interno / *Cover with VPL with internal exhaust*
N = Tipo molla - vedi tabella / *Spring type - see table*
120 = Taratura - vedi tabella / *Setting - see table*

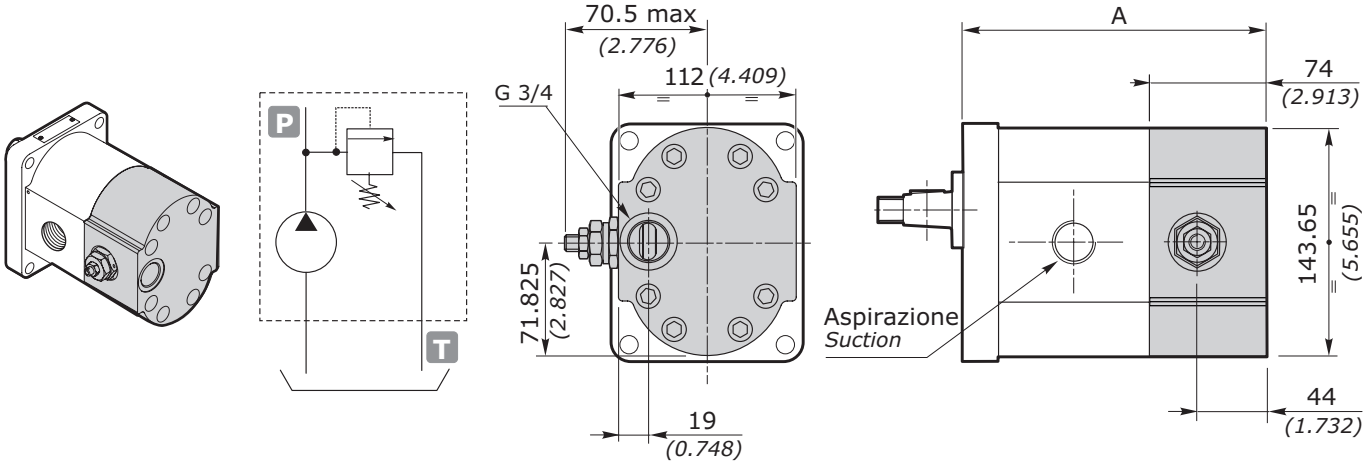
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	**B**	molla nera - *black spring*	**N**	molla rossa - *red spring*	**R**
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

NOTA: In caso si omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

POMPE AD INGRANAGGI GRUPPO 3GP
GEAR PUMPS GROUP 3GP

VLPE

VALVOLA LIMITATRICE DI PRESSIONE A SCARICO ESTERNO
PRESSURE RELIEF VALVE WITH EXTERNAL EXHAUST



GRUPPO GROUP 3	A EUR - SAEB - SAEBOR	
	mm	*inch*
3GP 190	176.30	*6.941*
3GP 230	179.30	*7.059*
3GP 300	185.30	*7.295*
3GP 340	188.30	*7.413*
3GP 370	191.30	*7.531*
3GP 440	197.30	*7.767*
3GP 530	204.30	*8.043*
3GP 620	212.30	*8.358*
3GP 700	218.30	*8.594*
3GP 770	224.30	*8.830*

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore. Il coperchio VLP è disponibile in alluminio. E' rappresentata una pompa con rotazione sinistra. Nelle pompe con rotazione destra, la valvola è dal lato opposto

The pressure relief valve can be applied by substituting the rear cover. VLP cover is available in aluminum. The showed pump is with anticlockwise rotation. In the case of pumps with clockwise rotation, the valve is on the opposite side.

esempio ● *example:* **3GP - A - 230 - D - EUR - B - N - 10 - 0 - G - VLPE (N 120)**

VLPE = Coperchio con VPL a scarico esterno / *Cover with VPL with external exhaust*
N = Tipo molla - vedi tabella / *Spring type - see table*
120 = Taratura - vedi tabella / *Setting - see table*

TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	**B**	molla nera - *black spring*	**N**	molla rossa - *red spring*	**R**
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

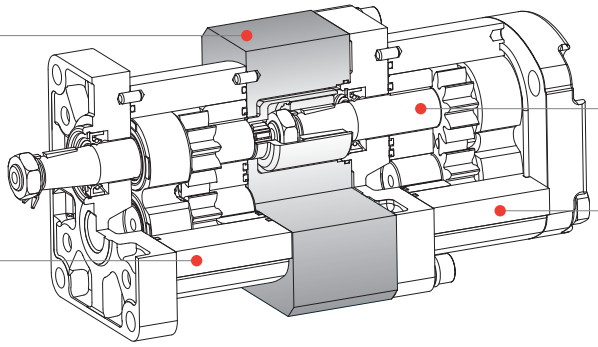
POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS

INTRODUZIONE • *INTRODUCTION*

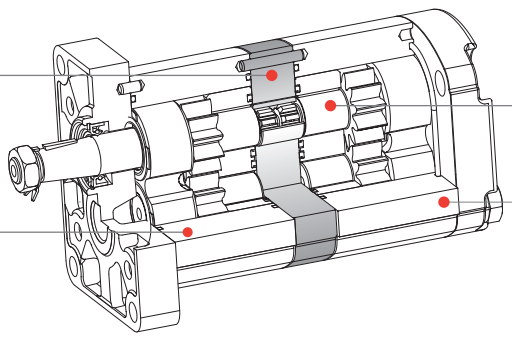
Le pompe Galtech possono essere facilmente combinate in unità multiple con differenti cilindrate e gruppi.
Sono disponibili due tipologie di kit intermedi per combinare le pompe: STANDARD e CORTO.
L'accoppiamento STANDARD consente di flangiare una pompa standard, con albero di tipo 10, senza alcuna necessità di rimuovere la flangia anteriore. Questo kit intermedio permette inoltre di gestire aspirazioni di fluidi differenti o da serbatoi differenti, essendo gli stadi della pompa perfettamente separati grazie alla presenza dell'anello di tenuta montato sull'albero. Questa soluzione molto versatile semplifica la gestione dello stock, consentendo di assemblare una pompa multipla partendo da pompe standard, senza la necessità di gestire pompe intermedie o secondarie. E' particolarmente indicata per applicazioni del settore industriale come centrali, elettropompe, ecc. Più compatta è invece la soluzione CORTA, dove la pompa secondaria non ha flangia e monta un albero speciale di tipo 18. L'accoppiamento di tipo CORTO, in combinazione con appositi componenti, consente di realizzare pompe multiple con aspirazione comune, riducendo il numero dei tubi e favorendo una riduzione degli ingombri. Questa soluzione con ingombri longitudinali ridotti è indicata per applicazioni del settore mobile, come macchine agricole, movimento terra, ecc.

The Galtech pumps can be easily combined into multiple units with different displacements and groups.
There are two types of intermediate kits that allows to combine pumps together: STANDARD and SHORT.
The STANDARD coupling allows flange a standard pump with type shaft 10 without any need to remove the front flange.
This intermediate kit also allows to manage different fluids or fluids coming from different reservoirs, as the stages of the pump are perfectly separated between them, thanks to the presence of the seal ring mounted on the shaft.
This highly versatile solution simplifies stock management by allowing to assemble multiple pumps starting from standard pumps, without the need to manage intermediate or secondary pumps. It is particularly suitable for the industrial applications such as power plants, pumps, etc.
More compact is instead the SHORT solution, where the secondary pump has no flange, and mounting a special shaft type 18. The coupling SHORT type, in combination with appropriate components, allows to realize multiple pumps with common aspiration, reducing the number of pipes and favoring a reduction of overall dimensions.
This compact solution is suitable for the furniture industry applications, such as agricultural machinery, earthmoving, etc.

TANDEM STANDARD (TS) • *(TS) STANDARD TANDEM*



TANDEM CORTO (TC) • *(TC) SHORT TANDEM*



COPPIE TRASMISSIBILI DALLA GIUNZIONE - *MAX. COUPLING TORQUE*	TANDEM STANDARD - *STANDARD TANDEM*	TANDEM CORTO - *SHORT TANDEM*
GRUPPO - *GROUP* **1SP**	30 [Nm] - *22 [ft.lbs]*	30 [Nm] - *22 [ft.lbs]*
GRUPPO - *GROUP* **2SP**	80 [Nm] - *59 [ft.lbs]*	80 [Nm] - *59 [ft.lbs]*
GRUPPO - *GROUP* **3GP**	230 [Nm] - *170 [ft.lbs]*	230 [Nm] - *170 [ft.lbs]*

VERIFICA COPPIE • *TORQUE CALCULATION*

Nella configurazione di una pompa multipla, vanno considerate le seguenti regole:

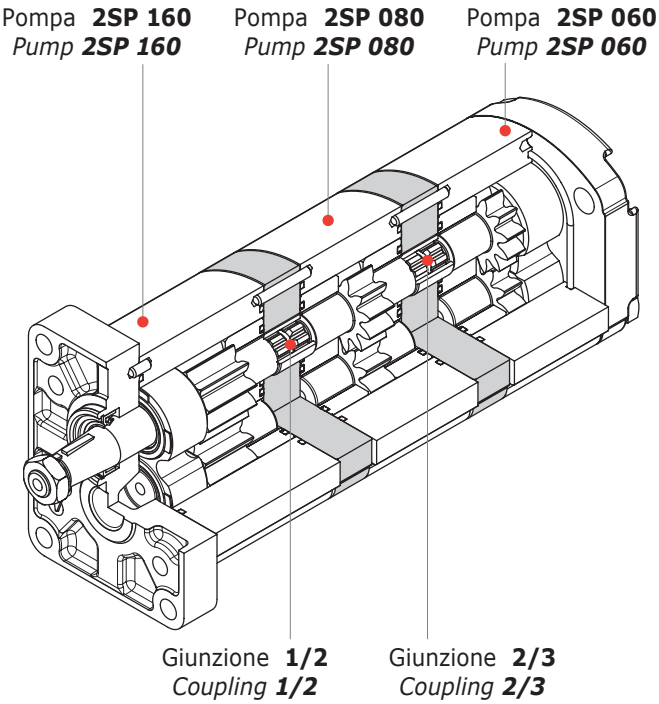
- Le varie unità vanno assemblate in ordine decrescente di potenza assorbita (di conseguenza anche coppia).
- La velocità massima di rotazione della pompa multipla è pari a quella dell'unità con velocità massima minore.
- Le pressioni di lavoro di ogni stadio coincidono con quelle della corrispondente pompa singola.
- La coppia trasmessa da ogni giunzione va verificata in modo che la somma delle coppie richieste dalle pompe successive sia inferiore al valore massimo trasmissibile dal giunto (vedi tabella).
- La somma delle coppie richieste dalle unità della pompa multipla deve risultare inferiore alla massima coppia trasmissibile dell'albero scelto.
- La potenza assorbita dalla pompa multipla è pari alla somma delle potenze assorbite dalle singole unità.

In multiple pump definition, the following aspects should be considered:

- *Different units must be assembled from the biggest to the smallest in terms of required power and torque*
- *Maximum rotation speed of multiple pump is equal to the unit with lowest maximum admissible speed*
- *Admissible working pressures of each stage of the multiple pump are the same of the corresponding single pump*
- *Transmissible torque must be verified for every single coupling: the sum of torque values of following stages must be lower than the maximum transmissible torque of the coupling (see table)*
- *The sum of the torques required by the multiple pump units must be lower than the maximum shaft torque capacity*
- *The power required by multiple pump is equal to the sum of the power absorbed by the individual units.*

ESEMPIO POMPA TRIPLA *TRIPLE PUMP EXAMPLE*	UNITÀ *STAGE*	PRESSIONE LAVORO *WORKING PRESSURE*	COPPIA *TORQUE*
	2SP 160	150 bar	$M1 = \frac{150 \cdot 16}{62{,}83 \cdot 0{,}9}$ 42,4 Nm
2SP 160... + 2SP 080... + 2SP 060...	2SP 80	180 bar	$M2 = \frac{180 \cdot 8}{62{,}83 \cdot 0{,}9}$ 25,5 Nm
	2SP 60	120 bar	$M3 = \frac{120 \cdot 6}{62{,}83 \cdot 0{,}9}$ 12,7 Nm

$$\mathbf{M = \frac{\Delta p \cdot V}{62.83 \cdot \eta_m}}$$



- VERIFICA GIUNZIONE 2/3 - *COUPLING 2/3:*

M3 = 12,7 Nm < 80 Nm √

- VERIFICA GIUNZIONE 1/2 - *COUPLING 1/2:*

M2+M3 = 25,5 + 12,7 Nm = 38,2 Nm < 80 Nm √

- VERIFICA ALBERO (TIPO 10) - *SHAFT (TYPE 10)*

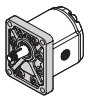
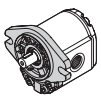
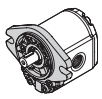
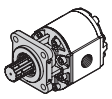
M1 + M2 + M3 = 42,4 + 25,5 + 12,7 Nm = 80,6 Nm < 140 Nm √

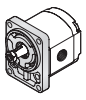
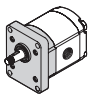
- VELOCITÀ MASSIMA - *MAXIMUM SPEED*

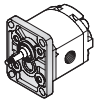
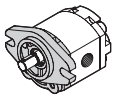
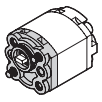
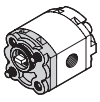
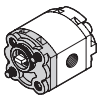
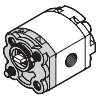
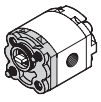
3500 giri/min - *rpm*

POMPE MULTIPLE AD INGRANAGGI COMBINAZIONI
MULTIPLE GEAR PUMPS COMBINATIONS

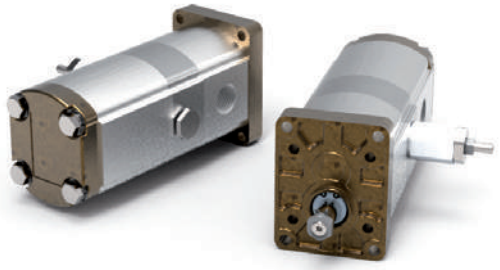
COMBINAZIONI POMPE MULTIPLE AD INGRANAGGI *MULTIPLE GEAR PUMPS COMBINATIONS*			POMPA - *PUMP* 2		
			1SP	2SP	3GP
POMPA - *PUMP* 1	1SP	Standard *Standard* **TS**	010911000000000		
		Corto *Short* **TC**	010911308680___[1] 0109110100000005		
		Corto con aspirazione unica *Short with common suction* **..M/..U**	010911010000000		
	2SP	Standard *Standard* **TS**	010921100000000	010922000000000	
		Corto *Short* **TC**	010921010000000	010922291890___[2] 0109220100000005	
		Corto con aspirazione unica *Short with common suction* **..M/..U**	0109210101000004	010922010000000	
	3GP	Standard *Standard* **TS**	010G31000000000	010G32000000000	010G33000000000
		Corto *Short* **TC**	010G31010000000	010932100000000	010933100000000
		Corto con aspirazione unica *Short with common suction* **..M/..U**		0109321020000003 0109321010000004	0109331020000003 0109331010000004

EUR	SAEB	SAEBOR	ZFC
			
60	61	61	62

EUR	SAEA	SAEAOR	B80C	B50C	E52C	P400D	SUPEUR	SAEB
								
36	38	38	40	41	42	43	44	45

EUR	SAEAA	MC32	E32BX	E32BC	E32CX	E32CC
						
20	21	22	23	24	25	26

(1) = vedi tabella 1.a pagina 82 / *see table 1.a page 82*
(2) = vedi tabella 2.a pagina 82 / *see table 2.a page 82*
(3) = rotazione sinistra / *anticlockwise rotation*
(4) = rotazione destra / *clockwise rotation*
(5) = senza kit tiranti / without tie rods kit



POMPE MULTIPLE AD INGRANAGGI COMBINAZIONI
MULTIPLE GEAR PUMPS COMBINATIONS

1.a

ELENCO CODICI KIT FLANGIA INTERMEDIA E TIRANTE **1SP - 1SP** (TANDEM CORTO)
*PART LIST INTERMEDIATE FLANGE AND TIE ROD KIT **1SP - 1SP** (SHORT TANDEM)*

1SP	009	012	016	020	025	032	037	042	050	063	078	098
009	100											
012	100	100										
016	100	100	100									
020	100	100	100	100								
025	100	100	100	100	100							
032	100	100	100	100	200	200						
037	100	100	200	200	200	200	200					
042	100	200	200	200	200	200	200	300				
050	200	200	200	200	200	200	300	300	300			
063	200	200	200	200	300	300	300	300	300	400		
078	300	300	300	300	300	300	400	400	400	400	500	
098	300	300	300	400	400	400	400	400	500	500	600	600

Esempio codice di ordinazione / *Order code example*: 010911308680**100**
010911308680 = codice fisso - *fixed code*
100 = vedi tabella 1.a - *see table 1.a*

2.a

ELENCO CODICI KIT FLANGIA INTERMEDIA E TIRANTE **2SP - 2SP** (TANDEM CORTO)
*PART LIST INTERMEDIATE FLANGE AND TIE ROD KIT **2SP - 2SP** (SHORT TANDEM)*

2SP	040	060	080	110	140	160	190	220	260	310
040	100									
060	100	100								
080	100	100	200							
110	100	200	200	200						
140	200	200	200	300	300					
160	200	200	300	300	300	400				
190	200	300	300	300	400	400	500			
220	300	300	300	400	400	500	500	500		
260	300	400	400	400	500	500	500	600	600	
310	400	400	500	500	500	600	600			

Esempio codice di ordinazione / *Order code example*: 010922291890**100**
01092229189**0** = codice fisso - *fixed code*
100 = vedi tabella 2.a - *see table 2.a*

DESCRIZIONE TANDEM CORTO ASPIRAZIONE UNICA • *TANDEM SHORT WITH COMMON SUCTION DESCRIPTION*

esempio • *example:* **1SP - A - 009 - D - EUR - B - N - 10 - 0U - G / TC / 1SP - A - 009 - 0M - G**

0U = Aspirazione unica e mandata in posizione 0
Common suction and delivery on position 0
0M = Mandata in posizione 0 / *Delivery on position 0*

esempio • *example:* **1SP - A - 009 - D - EUR - B - N - 10 - 0M - G / TC / 1SP - A - 009 - 4U - G**

0M = Mandata in posizione 0 / *Delivery on position 0*
4U = Aspirazione unica in posizione 4 / *Common suction on position 4*

esempio • *example:* **1SP-A-009-D-EUR-B-N-10-0M-G/TC/1SP-A-009-0U-G/TC/1SP-A-009-0M**

0M = Mandata in posizione 0 / *Delivery on position 0*
4U = Aspirazione unica in posizione 4 / *Common suction on position 4*
0M = Mandata in posizione 0 / *Delivery on position 0*

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS

CODICE ORDINAZIONE • *ORDER CODE*

POMPA DOPPIA • *DOUBLE PUMP*
1SP + 1SP

PRIMA POMPA *FIRST PUMP* — SECONDA POMPA *SECOND PUMP*

1SP - A - 020 - D - EUR - B - N - 10 - 0 - G / TS / 1SP - A - 020 - 0 - G

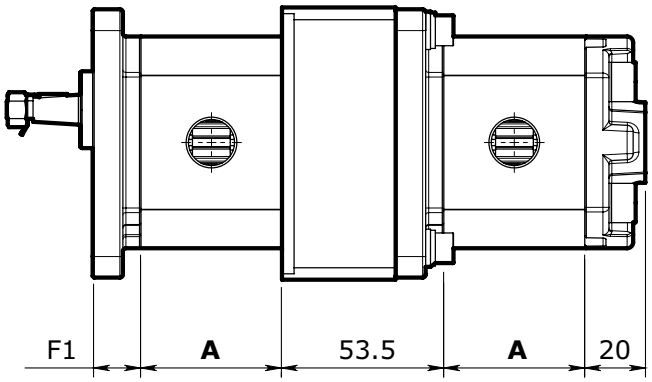
KIT INTERMEDIO *INTERMEDIATE KIT*

SIGLA - *CODE*		TIPO - *TYPE*	DESCRIZIONE - *DESCRIPTION*	PAGINA - *PAGE*
PRIMA POMPA - *FIRST PUMP*	**1SP**	Tipo pompa *Pump type*	Pompa singola - gruppo 1 *Single pump - group 1*	4
	A	Materiale flangia e coperchio *Flange and cover material*	**A** = alluminio / *aluminium*	
	020	Cilindrata *Displacement*	Cilindrata = 2 cm³/giro *Displacement = 0.12 in³/rev*	4
	D	Senso di rotazione *Rotation wise*	**D** = Rotazione destra / *Clockwise rotation* **S** = Rotazione sinistra / *Anticlockwise rotation* **R** = Reversibile / *Reversible*	8
	EUR	Tipo Flangia *Flange type*	Flangia europea standard *Standard European flange*	26
	B	Tipo anello di tenuta *Seal ring type*	Vedi tabella compatibilità *See compatibility table*	
	N	Tipo guarnizione *Gasket type*	**N** = NBR **V** = Viton	27
	10	Tipo Albero *Shaft type*	Vedi tabella compatibilità *See compatibility table*	28
	0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	30
	G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	
TS		Tipo TANDEM *TANDEM type*	**TS** = Tandem Standard / *Standard tandem* **TC** = Tandem Corto / *Short tandem* **..M/..U** *= Tandem Corto con aspirazione unica / *Tandem short with common suction*	
SECONDA POMPA - *SECOND PUMP*	**1SP**	Tipo pompa *Pump type*	Pompa singola - gruppo 1 *Single pump - group 1*	4
	A	Materiale flangia e coperchio *Flange and cover material*	**A** = alluminio / *aluminium*	
	020	Cilindrata *Displacement*	Cilindrata = 2 cm³/giro *Displacement = 0.12 in³/rev*	4
	0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	30
	G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS

DIMENSIONI • *DIMENSIONS*

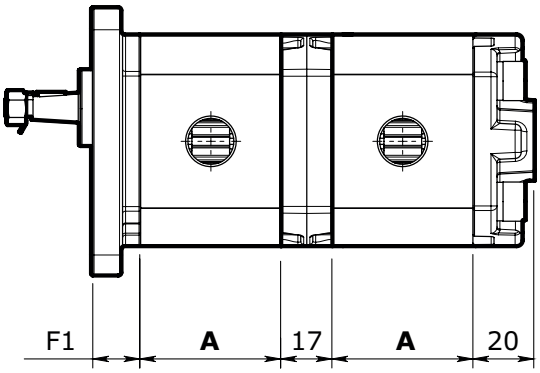
TANDEM STANDARD TS • *TS STANDARD TANDEM*



TANDEM CORTO TC • *TC SHORT TANDEM*

Le dimensioni sono le stesse per tandem corto con aspirazione unica **..M/..U**.

*Dimensions are the same for tandem short with common suction **..M/..U**.*



1SP		CILINDRATA - *DISPLACEMENT*											
		009	**012**	**016**	**020**	**025**	**032**	**037**	**042**	**050**	**063**	**078**	**098**
A	mm	37.6	38.7	40.4	41.9	43.9	46.6	48.6	50.0	53.6	58.7	64.4	72.3
	in	*1.48*	*1.52*	*1.59*	*1.65*	*1.73*	*1.83*	*1.91*	*1.99*	*2.11*	*2.31*	*2.54*	*2.85*

1SP		FLANGIA - *FLANGE*						
		EUR	**SAEAA**	**MC32**	**E32BX**	**E32BC**	**E32CX**	**E32CC**
F1	mm	16	19,5	16	16	16	16	16
	in	*0,63*	*0,77*	*0,63*	*0,63*	*0,63*	*0,63*	*0,63*

(*) - Per descrizione tandem corto con aspirazione unica vedere pag. 82. Contattare il Servizio Commerciale per combinazioni e flange disponibili.

(*) - For Tandem short with common suction see page 82. Please contact our Sales Dpt for available combinations and flanges.

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS

VD

POMPA CON VALVOLA DISGIUNTRICE **1SP + 1SP**
*HIGH LOW PUMPS **1SP + 1SP***

La pompa con valvola disgiuntrice è una pompa in tandem a due stadi con una valvola di sequenza posta nella flangia intermedia. Quando la pompa lavora a bassa pressione la portata delle due pompe si somma per un avvicinamento o allontanamento rapido. Quando la pressione supera il valore di taratura della valvola di sequenza, questa mette a scarico la seconda pompa. La versatilità delle nostre pompe consente il montaggio di una pompa con valvola disgiuntrice utilizzando pompe singole ed effettuando solo operazioni di disassemblaggio/assemblaggio di estrema semplicità.

The high low pump is a two-stages tandem pump with a sequence valve on the intermediate flange.
When the pumps work at low pressure, the flows of the two pumps add up, allowing a rapid approaching or moving away of the actuator.
When the pressure exceeds the setting value of the sequence valve, the second pump's exhaust goes to the tank.
The versatility of our pumps allows the assembling of a high low pump by using single pumps and only by carrying out very simple assembling/disassembling processes.

CARATTERISTICHE TECNICHE • *TECHNICAL FEATURES*

• Le prestazioni delle unità che compongono la pompa multipla sono identiche a quelle delle singole pompe precedenti.
• Questa pompa ha l'aspirazione unica e la mandata unica, l'aspirazione deve sempre essere nel secondo stadio e la mandata nel primo.
Può essere dotata di tutte le tipologie di flange presenti nella nostra gamma, di alberi e le relative connessioni.
• La valvola disgiuntrice è registrabile da 20 a 100 bar.

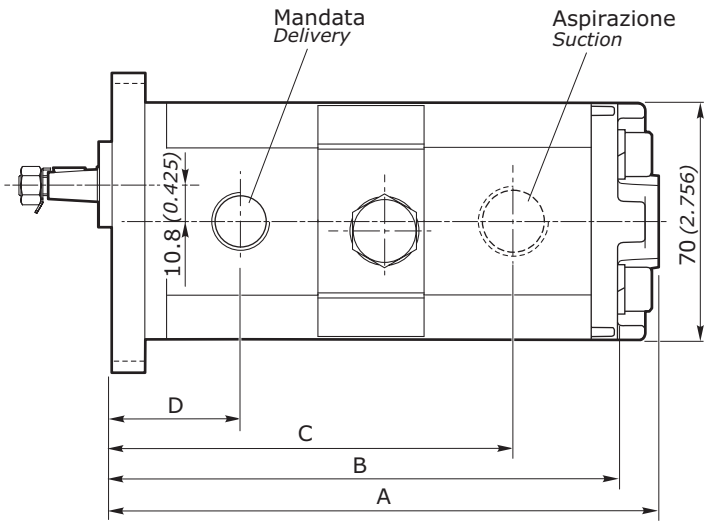
• The performances of the units which make the multiple pump are the same as the previous single pumps.
• This pump has common suction and delivery: the suction always has to be at the second stage, while delivery always has to be at the first stage.
It can be supplied with every kind of flanges, shafts and corresponding connections available in our range.
• The high low pump can be set at 20 bar up to 100 bar.

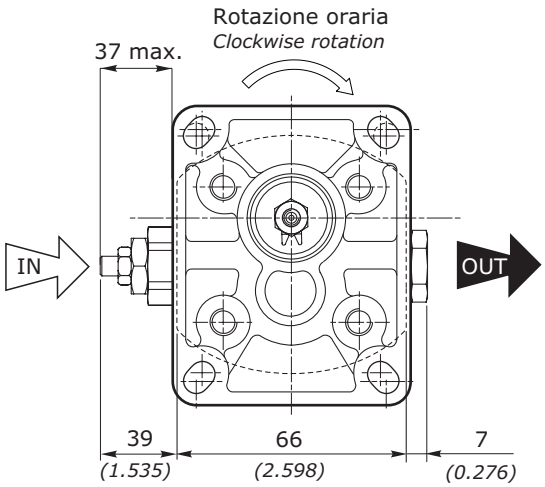
CILINDRATA 1° STADIO DISPLACEMENT 1ST STAGE		CILINDRATA 2° STADIO DISPLACEMENT 2ND STAGE		DIMENSIONI - DIMENSIONS								MASSA MASS	
				A		B		C		D			
cm³/giro	in³/rev	cm³/giro	in³/rev	mm	inch	mm	inch	mm	inch	mm	inch	Kg	lbs
		3.7	*0.23*	154.2	*6.071*	142.2	*5.598*	109.9	*4.327*			1.89	*4.17*
		4.2	*0.26*	156.1	*6.146*	144.1	*5.673*	110.9	*4.364*			1.91	*4.21*
0.9	*0.05*	**5.0**	*0.31*	159.2	*6.268*	147.2	*5.795*	112.4	*4.425*	34.8	*1.370*	1.96	*4.32*
		6.3	*0.38*	164.3	*6.469*	152.3	*5.996*	115.0	*4.526*			2.04	*4.50*
		7.8	*0.47*	160.0	*6.299*	148.0	*5.827*	112.8	*4.441*			2.13	*4.70*
		9.8	*0.60*	177.9	*7.004*	165.9	*6.531*	121.8	*4.793*			2.23	*4.92*
		3.7	*0.23*	155.3	*6.114*	143.3	*5.642*	111.0	*4.370*			1.91	*4.21*
		4.2	*0.26*	157.2	*6.189*	145.2	*5.717*	112.0	*4.407*			1.92	*4.23*
1.2	*0.07*	**5.0**	*0.31*	160.3	*6.311*	148.3	*5.839*	113.5	*4.469*	35.1	*1.382*	1.98	*4.37*
		6.3	*0.38*	165.4	*6.512*	153.4	*6.039*	116.1	*4.569*			2.05	*4.52*
		7.8	*0.47*	161.1	*6.343*	149.1	*5.870*	113.9	*4.484*			2.14	*4.72*
		9.8	*0.60*	179.0	*7.047*	167.0	*6.575*	122.9	*4.837*			2.25	*4.96*
		3.7	*0.23*	157.0	*6.181*	145.0	*5.709*	112.7	*4.437*			1.93	*4.26*
		4.2	*0.26*	158.9	*6.256*	146.9	*5.783*	113.7	*4.474*			1.95	*4.30*
1.6	*0.10*	**5.0**	*0.31*	162.0	*6.378*	150.0	*5.906*	115.2	*4.535*	36.2	*1.425*	2.00	*4.41*
		6.3	*0.38*	167.1	*6.579*	155.1	*6.106*	117.8	*4.636*			2.07	*4.56*
		7.8	*0.47*	162.8	*6.409*	150.8	*5.937*	115.6	*4.551*			2.17	*4.78*
		9.8	*0.60*	180.7	*7.114*	168.7	*6.642*	124.6	*4.904*			2.27	*5.01*
		3.7	*0.23*	158.5	*6.240*	146.5	*5.768*	114.2	*4.496*			1.95	*4.30*
		4.2	*0.26*	160.4	*6.315*	148.4	*5.843*	115.2	*4.533*			1.97	*4.34*
2.0	*0.12*	**5.0**	*0.31*	163.5	*6.437*	151.5	*5.965*	116.7	*4.594*	37.0	*1.457*	2.02	*4.45*
		6.3	*0.38*	168.6	*6.638*	156.6	*6.165*	119.3	*4.695*			2.09	*4.61*
		7.8	*0.47*	164.3	*6.469*	152.3	*5.996*	117.1	*4.610*			2.19	*4.83*
		9.8	*0.60*	182.2	*7.173*	170.2	*6.701*	126.1	*4.963*			2.29	*5.05*
		3.7	*0.23*	160.5	*6.319*	148.5	*5.846*	116.2	*4.575*			1.98	*4.37*
		4.2	*0.26*	162.4	*6.394*	150.4	*5.921*	117.2	*4.612*			1.99	*4.39*
2.5	*0.15*	**5.0**	*0.31*	165.5	*6.516*	153.5	*6.043*	118.7	*4.673*	38.0	*1.496*	2.04	*4.50*
		6.3	*0.38*	170.6	*6.717*	158.6	*6.244*	121.3	*4.774*			2.12	*4.67*
		7.8	*0.47*	166.3	*6.547*	154.3	*6.075*	119.1	*4.689*			2.21	*4.87*
		9.8	*0.60*	184.2	*7.252*	172.2	*6.780*	128.1	*5.041*			2.32	*5.12*
		3.7	*0.23*	163.2	*6.425*	151.2	*5.953*	118.9	*4.681*			2.01	*4.43*
		4.2	*0.26*	165.1	*6.500*	153.1	*6.028*	119.9	*4.719*			2.03	*4.48*
3.2	*0.20*	**5.0**	*0.31*	168.2	*6.622*	156.2	*6.150*	121.4	*4.780*	39.3	*1.547*	2.08	*4.59*
		6.3	*0.38*	173.3	*6.823*	161.3	*6.350*	124.0	*4.880*			2.15	*4.74*
		7.8	*0.47*	169.0	*6.654*	157.0	*6.181*	121.8	*4.795*			2.25	*4.96*
		9.8	*0.60*	186.9	*7.358*	174.9	*6.886*	130.8	*5.148*			2.35	*5.18*

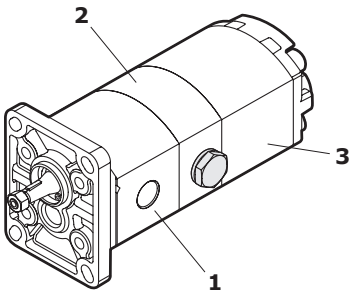
Nota - Per accoppiamenti di cilindrate differenti e relative dimensioni contattare il servizio commerciale.

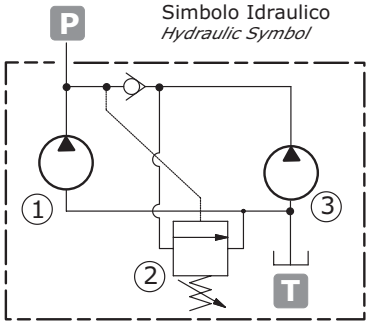
Note - For different couplings of displacements and related dimensions please contact our Sales Dpt.

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS









1 Stadio alta pressione
Stage high pressure

2 Flangia intermedia con valvola disgiuntrice
Intermediate flange with high low pump

3 Stadio bassa pressione
Stage low pressure

esempio • *example:* **1SP - A - 020 - D - EUR - B - N - 10 - 0 - G / VD 100 / 1SP - A - 050 - 0 - G**

VD = Valvola disgiuntrice / *High low pump*
100 = Campo di Taratura 20÷100 (bar) / *Setting range 20÷100 (bar)*

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS

CODICE ORDINAZIONE • *ORDER CODE*

POMPA DOPPIA • *DOUBLE PUMP*
2SP + 1SP

PRIMA POMPA *FIRST PUMP* — SECONDA POMPA *SECOND PUMP*

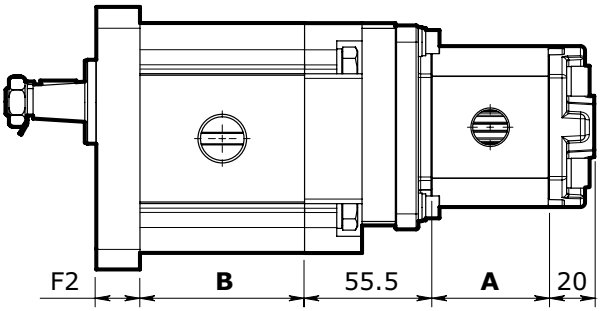
2SP - A - 140 - D - EUR - B - N - 10 - 0 - G / TS / 1SP - A - 020 - 0 - G

KIT INTERMEDIO *INTERMEDIATE KIT*

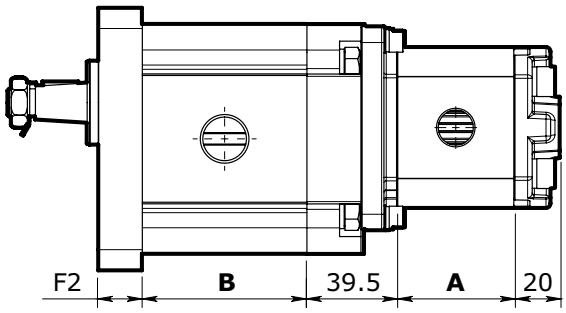
SIGLA - *CODE*		TIPO - *TYPE*	DESCRIZIONE - *DESCRIPTION*	PAGINA - *PAGE*
PRIMA POMPA - *FIRST PUMP*	**2SP**	Tipo pompa *Pump type*	Pompa singola - gruppo 2 *Single pump - group 2*	5
	A	Materiale flangia e coperchio *Flange and cover material*	**A** = alluminio / *aluminium*	
	140	Cilindrata *Displacement*	Cilindrata = 12 cm³/giro *Displacement = 0.85 in³/rev*	5
	D	Senso di rotazione *Rotation wise*	**D** = Rotazione destra / *Clockwise rotation* **S** = Rotazione sinistra / *Anticlockwise rotation* **R** = Reversibile / *Reversible*	8
	EUR	Tipo Flangia *Flange type*	Flangia europea standard *Standard european flange*	50
	B	Tipo anello di tenuta *Seal ring type*	Vedi tabella compatibilità *See compatibility table*	51
	N	Tipo guarnizione *Gasket type*	**N** = NBR **V** = Viton	50
	10	Tipo Albero *Shaft type*	Vedi tabella compatibilità *See compatibility table*	52
	0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	57
	G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	58
TS		Tipo TANDEM *TANDEM type*	**TS** = Tandem Standard / *Standard tandem* **TC** = Tandem Corto / *Short tandem* **..M/..U*** = Tandem Corto con aspirazione unica / *Tandem short with common suction*	
SECONDA POMPA - *SECOND PUMP*	**1SP**	Tipo pompa *Pump type*	Pompa singola - gruppo 1 *Single pump - group 1*	4
	A	Materiale flangia e coperchio *Flange and cover material*	**A** = alluminio / *aluminium*	
	020	Cilindrata *Displacement*	Cilindrata = 2 cm³/giro *Displacement = 0.12 in³/rev*	4
	0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	29
	G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	30

DIMENSIONI • *DIMENSIONS*

TANDEM STANDARD TS • *TS STANDARD TANDEM*



TANDEM CORTO TC • *TC SHORT TANDEM*



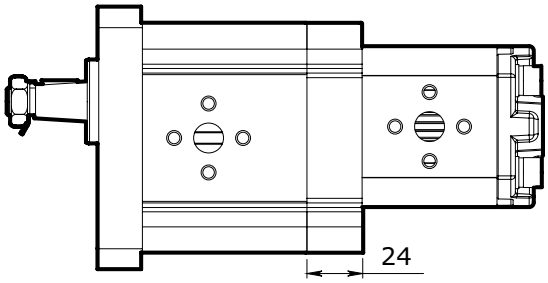
1SP		CILINDRATA - *DISPLACEMENT*											
		009	**012**	**016**	**020**	**025**	**032**	**037**	**042**	**050**	**063**	**078**	**098**
A	mm	37.6	38.7	40.4	41.9	43.9	46.6	48.6	50.0	53.6	58.7	64.4	72.3
	in	*1.48*	*1.52*	*1.59*	*1.65*	*1.73*	*1.83*	*1.91*	*1.99*	*2.11*	*2.31*	*2.54*	*2.85*

2SP		CILINDRATA - *DISPLACEMENT*									
		040	**060**	**080**	**110**	**140**	**160**	**190**	**220**	**260**	**310**
B	mm	50.8	54.1	58.3	62.4	67.4	71.6	76.6	81.6	87.4	95.8
	in	*2.00*	*2.13*	*2.30*	*2.46*	*2.65*	*2.82*	*3.02*	*3.21*	*3.44*	*3.77*

2SP		FLANGIA - *FLANGE*						
		EUR	**SAEA**	**B80C**	**B50C**	**E32C**	**M52C**	**P400D**
F2	mm	19	19	21	19	16.3	16.3	19
	in	*0.75*	*0.75*	*0.83*	*0.75*	*0.64*	*0.64*	*0.75*

TANDEM CORTO CON ASPIRAZIONE UNICA ..M/..U • *..M/..U SHORT TANDEM WITH COMMON SUCTION*

Le dimensioni non indicate sono le stesse del tandem corto **TC**.



*Dimensions not indicated are the same as short tandem **TC**.*

(*) - Per descrizione tandem corto con aspirazione unica vedere pag. 82. Contattare il Servizio Commerciale per combinazioni e flange disponibili.

(*) - For Tandem short with common suction see page 82. Please contact our Sales Dpt for available combinations and flanges.

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS

CODICE ORDINAZIONE • *ORDER CODE*

POMPA DOPPIA • *DOUBLE PUMP*
2SP + 2SP

PRIMA POMPA *FIRST PUMP* — SECONDA POMPA *SECOND PUMP*

2SP - A - 140 - D - EUR - B - N - 10 - 0 - G / TS / 2SP - A - 140 - 0 - G

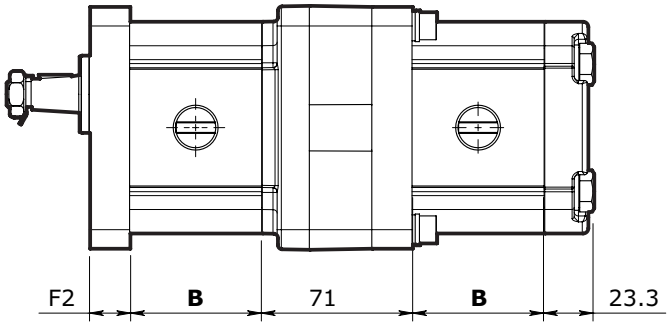
KIT INTERMEDIO *INTERMEDIATE KIT*

SIGLA - *CODE*		TIPO - *TYPE*	DESCRIZIONE - *DESCRIPTION*	PAGINA - *PAGE*
PRIMA POMPA - *FIRST PUMP*	**2SP**	Tipo pompa *Pump type*	Pompa singola - gruppo 2 *Single pump - group 2*	5
	A	Materiale flangia e coperchio *Flange and cover material*	**A** = alluminio / *aluminium*	
	140	Cilindrata *Displacement*	Cilindrata = 14 cm^3/giro *Displacement = 0.85 in^3/rev*	5
	D	Senso di rotazione *Rotation wise*	**D** = Rotazione destra / *Clockwise rotation* **S** = Rotazione sinistra / *Anticlockwise rotation* **R** = Reversibile / *Reversible*	8
	EUR	Tipo Flangia *Flange type*	Flangia europea standard *Standard european flange*	50
	B	Tipo anello di tenuta *Seal ring type*	Vedi tabella compatibilità *See compatibility table*	51
	N	Tipo guarnizione *Gasket type*	**N** = NBR **V** = Viton	50
	10	Tipo Albero *Shaft type*	Vedi tabella compatibilità *See compatibility table*	52
	0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	57
	G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	58
TS		Tipo TANDEM *TANDEM type*	**TS** = Tandem Standard / *Standard tandem* **TC** = Tandem Corto / *Short tandem* **..M/..U*** = Tandem Corto con aspirazione unica / *Tandem short with common suction*	
SECONDA POMPA - *SECOND PUMP*	**2SP**	Tipo pompa *Pump type*	Pompa singola - gruppo 2 *Single pump - group 2*	5
	A	Materiale flangia e coperchio *Flange and cover material*	**A** = alluminio / *aluminium*	
	140	Cilindrata *Displacement*	Cilindrata = 14 cm^3/giro *Displacement = 0.85 in^3/rev*	5
	0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	57
	G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	58

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS

DIMENSIONI • *DIMENSIONS*

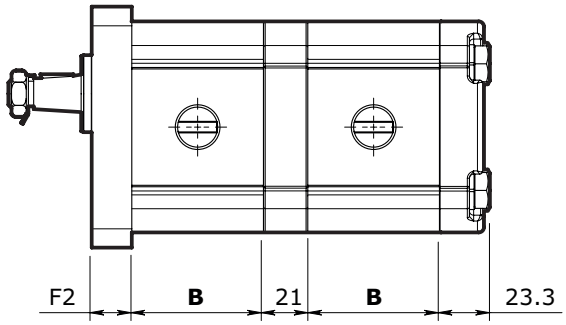
TANDEM STANDARD TS • *TS STANDARD TANDEM*



TANDEM CORTO TC • *TC SHORT TANDEM*

Le dimensioni sono le stesse per tandem corto con aspirazione unica **..M/..U**.

Dimensions are the same for tandem short with common suction ***..M/..U***.



2SP		CILINDRATA - *DISPLACEMENT*									
		040	**060**	**080**	**110**	**140**	**160**	**190**	**220**	**260**	**310**
B	mm	50.8	54.1	58.3	62.4	67.4	71.6	76.6	81.6	87.4	95.8
	in	*2.00*	*2.13*	*2.30*	*2.46*	*2.65*	*2.82*	*3.02*	*3.21*	*3.44*	*3.77*

2SP		FLANGIA - *FLANGE*					
		EUR	**SAEA**	**B80C**	**B50C**	**E32C**	**P400D**
F2	mm	19	19	21	19	16.3	19
	in	*0.75*	*0.75*	*0.83*	*0.75*	*0.64*	*0.75*

(*) - Per descrizione tandem corto con aspirazione unica vedere pag. 82. Contattare il Servizio Commerciale per combinazioni e flange disponibili.

(*) - For Tandem short with common suction see page 82. Please contact our Sales Dpt for available combinations and flanges.

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS

VD

POMPA CON VALVOLA DISGIUNTRICE **2SP + 2SP**
*HIGH LOW PUMPS **2SP + 2SP***

La pompa con valvola disgiuntrice è una pompa in tandem a due stadi con una valvola di sequenza posta nella flangia intermedia. Quando la pompa lavora a bassa pressione la portata delle due pompe si somma per un avvicinamento o allontanamento rapido. Quando la pressione supera il valore di taratura della valvola di sequenza, questa mette a scarico la seconda pompa. La versatilità delle nostre pompe consente il montaggio di una pompa con valvola disgiuntrice utilizzando pompe singole ed effettuando solo operazioni di disassemblaggio/assemblaggio di estrema semplicità.

The high low pump is a two-stage tandem pump having a sequence valve on the intermediate flange.
When the pumps works at low pressure, the flows of the two pumps add up, allowing a rapid approaching or moving away of the actuator.
When the pressure exceeds the setting value of the sequence valve, the second pump's exhaust goes to the tank. The versatility of our pumps allows the assembling of a high low pump by using single pumps and only by carrying out very simple assembling/disassembling processes.

CARATTERISTICHE TECNICHE • *TECHNICAL FEATURES*

• Le prestazioni delle unità che compongono la pompa multipla sono identiche a quelle delle singole pompe precedenti.
• Questa pompa ha l'aspirazione unica e la mandata unica, l'aspirazione deve sempre essere nel secondo stadio e la mandata nel primo. Può essere dotata di tutte le tipologie di flange presenti nella nostra gamma, di alberi e le relative connessioni (tranne gli attacchi N, M e F).
• La valvola disgiuntrice è registrabile da 25 a 100 bar.

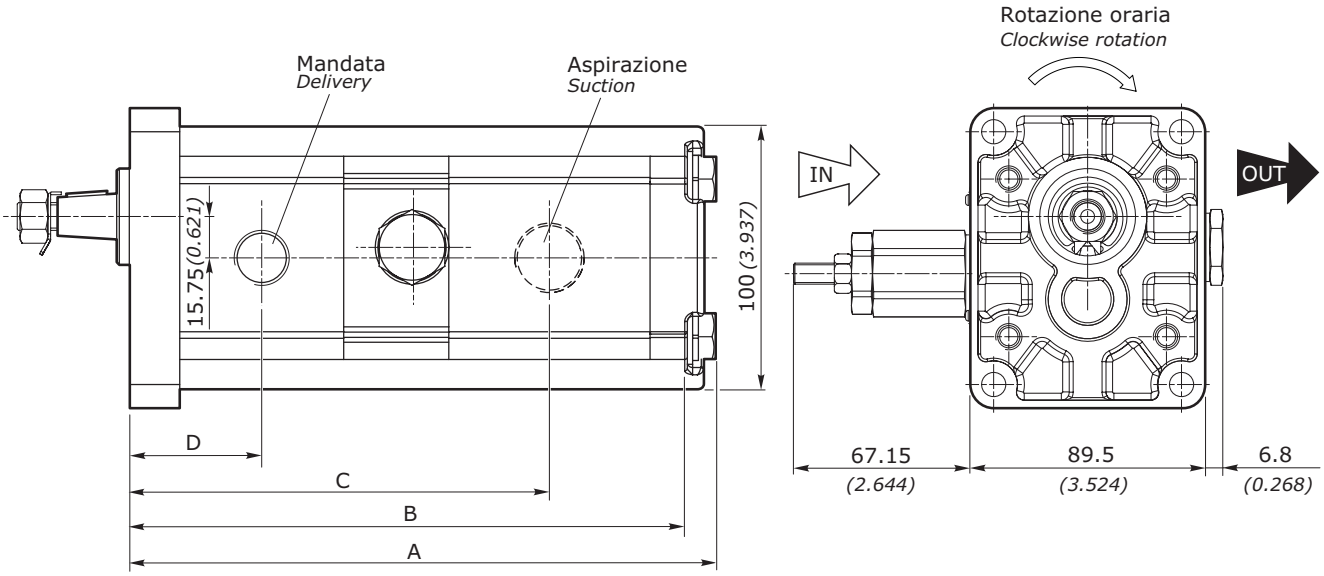
• *The performances of the units of the multiple pump are the same as the previous.*
• *This pump has common suction and delivery: the suction has always to be at the second stage, while delivery has always to be at the first stage. It can be supplied with every kind of flanges, shafts and corresponding connections except for the connections type N, M and F.*
• *The high low pump can be set from 25 bar up to 100 bar.*

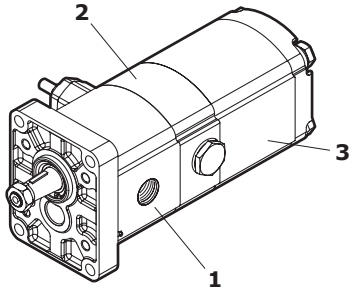
CILINDRATA 1° STADIO DISPLACEMENT 1ST STAGE		CILINDRATA 2° STADIO DISPLACEMENT 2ND STAGE		DIMENSIONI - DIMENSIONS								MASSA MASS	
				A		B		C		D			
cm^3/giro	in^3/rev	cm^3/giro	in^3/rev	mm	inch	mm	inch	mm	inch	mm	inch	Kg	lbs
		16	*0.88*	204.7	*8.06*	195.6	*7.70*	145.6	*5.73*			5.22	*11.52*
		19	*1.05*	209.7	*8.26*	200.6	*7.90*	148.1	*5.83*			5.34	*11.78*
4	*0.22*	**22**	*1.21*	214.7	*8.45*	205.6	*8.09*	150.6	*5.93*	44.4	*1.75*	5.47	*12.07*
		26	*1.43*	220.5	*8.68*	211.4	*8.32*	153.5	*6.04*			5.61	*12.38*
		31	*1.71*	223.8	*8.81*	214.7	*8.45*	155.2	*6.12*			5.77	*12.73*
		16	*0.88*	208.0	*8.19*	198.9	*7.83*	148.9	*5.86*			5.29	*11.67*
		19	*1.05*	213.0	*8.39*	203.9	*8.03*	151.4	*5.96*			5.42	*11.96*
6	*0.33*	**22**	*1.21*	218.0	*8.58*	208.9	*8.22*	153.9	*6.06*	46.1	*1.82*	5.54	*12.22*
		26	*1.43*	223.8	*8.81*	214.7	*8.45*	156.8	*6.17*			5.75	*12.68*
		31	*1.71*	229.1	*9.02*	218.0	*8.58*	158.5	*6.25*			5.86	*12.93*
		16	*0.88*	214.2	*8.43*	203.1	*8.00*	153.1	*6.03*			5.43	*11.98*
		19	*1.05*	219.2	*8.63*	208.1	*8.19*	155.6	*6.13*			5.57	*12.29*
8	*0.44*	**22**	*1.21*	224.2	*8.83*	213.1	*8.39*	158.1	*6.22*	48.2	*1.90*	5.71	*12.60*
		26	*1.43*	230.0	*9.06*	218.9	*8.62*	161.0	*6.34*			5.85	*12.91*
		31	*1.71*	233.3	*9.19*	222.2	*8.75*	162.7	*6.41*			5.97	*13.17*
		16	*0.88*	218.3	*8.59*	207.2	*8.16*	157.2	*6.19*			5.54	*12.22*
		19	*1.05*	223.3	*8.79*	212.2	*8.35*	159.7	*6.29*			5.69	*12.55*
11	*0.61*	**22**	*1.21*	228.3	*8.99*	217.2	*8.55*	162.2	*6.39*	50.2	*1.98*	5.82	*12.84*
		26	*1.43*	234.1	*9.22*	223.0	*8.78*	165.1	*6.50*			5.98	*13.19*
		31	*1.71*	235.4	*9.27*	226.3	*8.91*	166.8	*6.57*			6.17	*13.61*
		16	*0.88*	223.3	*8.79*	212.2	*8.35*	162.2	*6.39*			5.69	*12.55*
		19	*1.05*	228.3	*8.99*	217.2	*8.55*	164.7	*6.48*			5.81	*12.82*
14	*0.77*	**22**	*1.21*	233.3	*9.19*	222.2	*8.75*	167.2	*6.58*	52.7	*2.07*	5.94	*13.10*
		26	*1.43*	239.1	*9.41*	228.0	*8.98*	170.1	*6.70*			6.08	*13.41*
		31	*1.71*	240.4	*9.46*	231.3	*9.11*	171.8	*6.77*			6.20	*13.68*

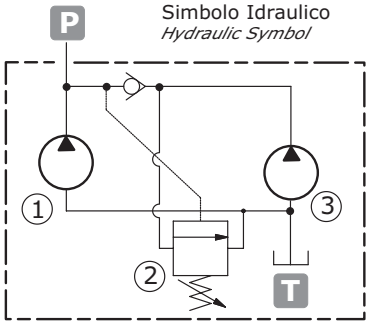
Nota - Per accoppiamenti di cilindrate differenti e relative dimensioni contattare il servizio commerciale.

Note - For different couplings of displacements and related dimensions please contact our Sales Dpt.

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS







1 Stadio alta pressione
Stage high pressure

2 Flangia intermedia con valvola disgiuntrice
Intermediate flange with high low pump

3 Stadio bassa pressione
Stage low pressure

esempio ● *example:* **2SP - A - 110 - D - EUR - B - N - 10 - 0 - G / VD 100 / 2SP - A - 140 - 0 - G**

VD = Valvola disgiuntrice / *High low pump*
100 = Campo di Taratura 25÷100 (bar) / *Setting range 25÷100 (bar)*

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS

CODICE ORDINAZIONE • *ORDER CODE*

POMPA DOPPIA • *DOUBLE PUMP*
3GP + 1SP

PRIMA POMPA *FIRST PUMP* — SECONDA POMPA *SECOND PUMP*

3GP - G - 340 - D - EUR - B - N - 10 - 0 - G / TS / 1SP - A - 020 - 0 - G

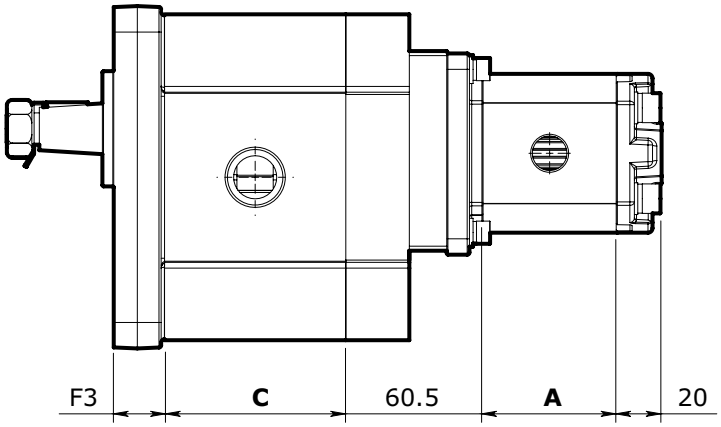
KIT INTERMEDIO *INTERMEDIATE KIT*

SIGLA - *CODE*		TIPO - *TYPE*	DESCRIZIONE - *DESCRIPTION*	PAGINA - *PAGE*
PRIMA POMPA - *FIRST PUMP*	**3GP**	Tipo pompa *Pump type*	Pompa singola - gruppo 3 *Single pump - group 3*	6
	G	Materiale flangia e coperchio *Flange and cover material*	**G** = ghisa / *cast iron*	
	340	Cilindrata *Displacement*	Cilindrata = 33,8 cm^3/giro *Displacement = 2.1 in^3/rev*	6
	D	Senso di rotazione *Rotation wise*	**D** = Rotazione destra / *Clockwise rotation* **S** = Rotazione sinistra / *Anticlockwise rotation* **R** = Reversibile / *Reversible*	8
	EUR	Tipo Flangia *Flange type*	Flangia europea standard *Standard European flange*	72
	B	Tipo anello di tenuta *Seal ring type*	Vedi tabella compatibilità *See compatibility table*	
	N	Tipo guarnizione *Gasket type*	**N** = NBR **V** = Viton	73
	10	Tipo Albero *Shaft type*	Vedi tabella compatibilità *See compatibility table*	
	0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	75
	G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	76
TS		Tipo TANDEM *TANDEM type*	**TS** = Tandem Standard / *Standard tandem* **TC** = Tandem Corto / *Short tandem*	
SECONDA POMPA - *SECOND PUMP*	**1SP**	Tipo pompa *Pump type*	Pompa singola - gruppo 1 *Single pump - group 1*	4
	A	Materiale flangia e coperchio *Flange and cover material*	**A** = alluminio / *aluminium*	
	020	Cilindrata *Displacement*	Cilindrata = 2 cm^3/giro *Displacement = 0.12 in^3/rev*	4
	0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	29
	G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	30

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS

DIMENSIONI • *DIMENSIONS*

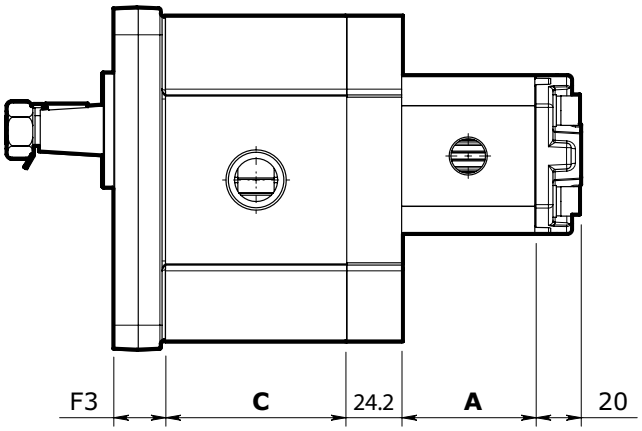
TANDEM STANDARD TS • *TS STANDARD TANDEM*



TANDEM CORTO TC • *TC SHORT TANDEM*

Le dimensioni sono le stesse per tandem corto con aspirazione unica **..M/..U**.

*Dimensions are the same for tandem short with common suction **..M/..U**.*



1SP		CILINDRATA - *DISPLACEMENT*											
		009	**012**	**016**	**020**	**025**	**032**	**037**	**042**	**050**	**063**	**078**	**098**
A	mm	37.6	38.7	40.4	41.9	43.9	46.6	48.6	50.0	53.6	58.7	64.4	72.3
	in	*1.48*	*1.52*	*1.59*	*1.65*	*1.73*	*1.83*	*1.91*	*1.99*	*2.11*	*2.31*	*2.54*	*2.85*

3GP		CILINDRATA - *DISPLACEMENT*									
		190	**230**	**300**	**340**	**370**	**440**	**530**	**620**	**700**	**770**
C	mm	79.9	82.9	88.9	91.9	94.9	100.9	107.9	115.9	112.5	127.9
	in	*3.15*	*3.26*	*3.50*	*3.62*	*3.74*	*3.97*	*4.25*	*4.56*	*4.82*	*5.04*

3GP		FLANGIA - *FLANGE*		
		EUR	**SAEB***	**ZFC**
F3	mm	22.4	22.4	70.5
	in	*0.88*	*0.88*	*2.78*

* Contattare il servizio commerciale. */ Available soon. Please contact our Sales Dpt.*

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS

CODICE ORDINAZIONE • *ORDER CODE*

POMPA DOPPIA • *DOUBLE PUMP*
3GP + 2SP

PRIMA POMPA *FIRST PUMP* — SECONDA POMPA *SECOND PUMP*

3GP - G - 340 - D - EUR - B - N - 10 - 0 - G / TS / 2SP - A - 140 - 0 - G

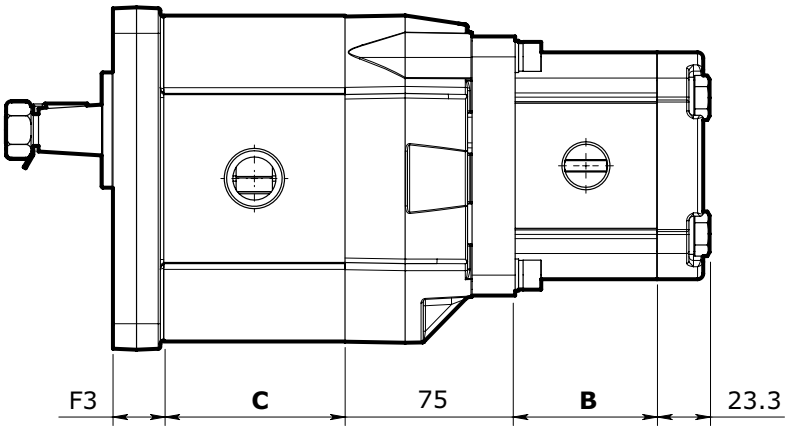
KIT INTERMEDIO *INTERMEDIATE KIT*

SIGLA - *CODE*		TIPO - *TYPE*	DESCRIZIONE - *DESCRIPTION*	PAGINA - *PAGE*
PRIMA POMPA - *FIRST PUMP*	**3GP**	Tipo pompa *Pump type*	Pompa singola - gruppo 3 *Single pump - group 3*	6
	G	Materiale flangia e coperchio *Flange and cover material*	**G** = ghisa / *cast iron*	
	340	Cilindrata *Displacement*	Cilindrata = 33.8 cm³/giro *Displacement = 2.1 in³/rev*	6
	D	Senso di rotazione *Rotation wise*	**D** = Rotazione destra / *Clockwise rotation* **S** = Rotazione sinistra / *Anticlockwise rotation* **R** = Reversibile / *Reversible*	8
	EUR	Tipo Flangia *Flange type*	Flangia europea standard *Standard European flange*	72
	B	Tipo anello di tenuta *Seal ring type*	Vedi tabella compatibilità *See compatibility table*	
	N	Tipo guarnizione *Gasket type*	**N** = NBR **V** = Viton	73
	10	Tipo Albero *Shaft type*	Vedi tabella compatibilità *See compatibility table*	
	0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	75
	G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	76
TS		Tipo TANDEM *TANDEM type*	**TS** = Tandem Standard / *Standard tandem* **TC** = Tandem Corto / *Short tandem* **..M/..U*** = Tandem Corto con aspirazione unica / *Tandem short with common suction*	
SECONDA POMPA - *SECOND PUMP*	**2SP**	Tipo pompa *Pump type*	Pompa singola - gruppo 2 *Single pump - group 2*	5
	A	Materiale flangia e coperchio *Flange and cover material*	**A** = alluminio / *aluminium*	
	140	Cilindrata *Displacement*	Cilindrata = 14 cm³/giro *Displacement = 0.85 in³/rev*	5
	0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	57
	G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	58

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS

DIMENSIONI • *DIMENSIONS*

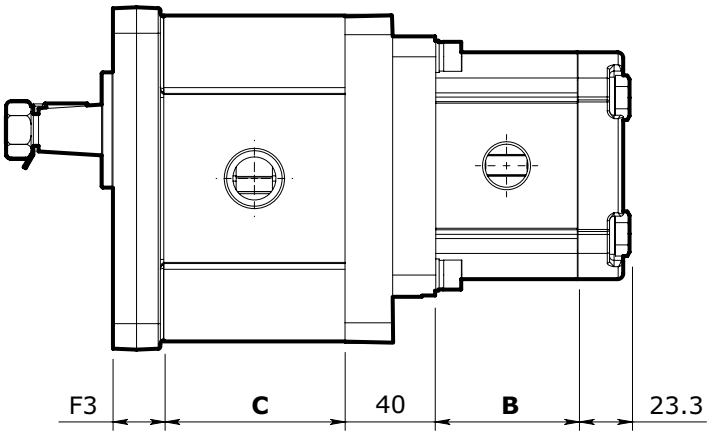
TANDEM STANDARD TS • *TS STANDARD TANDEM*



TANDEM CORTO TC • *TC SHORT TANDEM*

Le dimensioni sono le stesse per tandem corto con aspirazione unica **..M/..U**.

Dimensions are the same for tandem short with common suction ***..M/..U***.



2SP		CILINDRATA - *DISPLACEMENT*									
		040	**060**	**080**	**110**	**140**	**160**	**190**	**220**	**260**	**310**
B	mm	50.8	54.1	58.3	62.4	67.4	71.6	76.6	81.6	87.4	95.8
	in	*2.00*	*2.13*	*2.30*	*2.46*	*2.65*	*2.82*	*3.02*	*3.21*	*3.44*	*3.77*

3GP		CILINDRATA - *DISPLACEMENT*									
		190	**230**	**300**	**340**	**370**	**440**	**530**	**620**	**700**	**770**
C	mm	79.9	82.9	88.9	91.9	94.9	100.9	107.9	115.9	112.5	127.9
	in	*3.15*	*3.26*	*3.50*	*3.62*	*3.74*	*3.97*	*4.25*	*4.56*	*4.82*	*5.04*

3GP		FLANGIA - *FLANGE*		
		EUR	**SAEB***	**ZFC**
F3	mm	22.4	22.4	70.5
	in	*0.88*	*0.88*	*2.78*

***** Contattare il servizio commerciale. */ Available soon. Please contact our Sales Dpt.*

(*) - Per descrizione tandem corto con aspirazione unica vedere pag. 82. Contattare il Servizio Commerciale per combinazioni e flange disponibili.

(*) - For Tandem short with common suction see page 82. Please contact our Sales Dpt for available combinations and flanges.

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS

CODICE ORDINAZIONE • *ORDER CODE*

POMPA DOPPIA • *DOUBLE PUMP*
3GP + 3GP

PRIMA POMPA *FIRST PUMP* — SECONDA POMPA *SECOND PUMP*

3GP - G - 340 - D - EUR - B - N - 10 - 0 - G / TS / 3GP - G - 340 - 0 - G

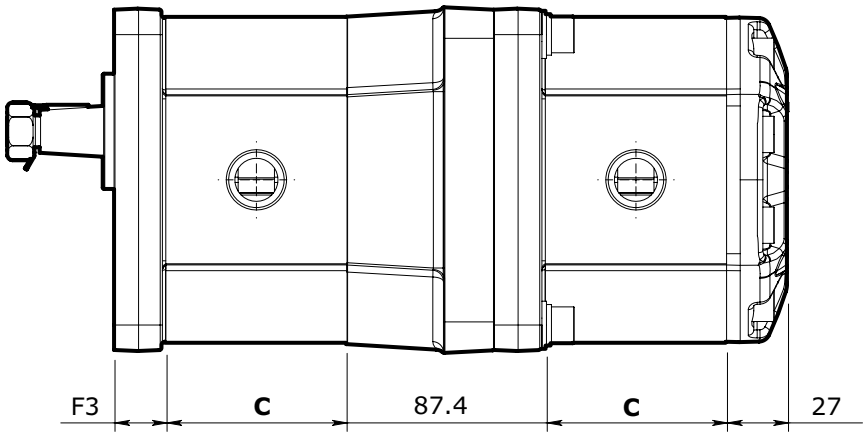
KIT INTERMEDIO *INTERMEDIATE KIT*

SIGLA - *CODE*		TIPO - *TYPE*	DESCRIZIONE - *DESCRIPTION*	PAGINA - *PAGE*
PRIMA POMPA - *FIRST PUMP*	**3GP**	Tipo pompa *Pump type*	Pompa singola - gruppo 3 *Single pump - group 3*	6
	G	Materiale flangia e coperchio *Flange and cover material*	**G** = ghisa / *cast iron*	
	340	Cilindrata *Displacement*	Cilindrata = 33.8 cm³/g *Displacement = 2.1 in³/rev*	6
	D	Senso di rotazione *Rotation wise*	**D** = Rotazione destra / *Clockwise rotation* **S** = Rotazione sinistra / *Anticlockwise rotation*	8
	EUR	Tipo Flangia *Flange type*	Flangia europea standard *Standard European flange*	72
	B	Tipo anello di tenuta *Seal ring type*	Vedi tabella compatibilità *See compatibility table*	
	N	Tipo guarnizione *Gasket type*	**N** = NBR **V** = Viton	73
	10	Tipo Albero *Shaft type*	Vedi tabella compatibilità *See compatibility table*	
	0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	75
	G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	76
TS		Tipo TANDEM *TANDEM type*	**TS** = Tandem Standard / *Standard tandem* **TC** = Tandem Corto / *Short tandem* **..M/..U*** = Tandem Corto con aspirazione unica / *Tandem short with common suction*	
	3GP	Tipo pompa *Pump type*	Pompa singola - gruppo 3 *Single pump - group 3*	6
	G	Materiale flangia e coperchio *Flange and cover material*	**G** = ghisa / *cast iron*	
	340	Cilindrata *Displacement*	Cilindrata = 33.8 cm³/giro *Displacement = 2.1 in³/rev*	6
	0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	75
	G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	76

POMPE MULTIPLE AD INGRANAGGI
MULTIPLE GEAR PUMPS

DIMENSIONI • *DIMENSIONS*

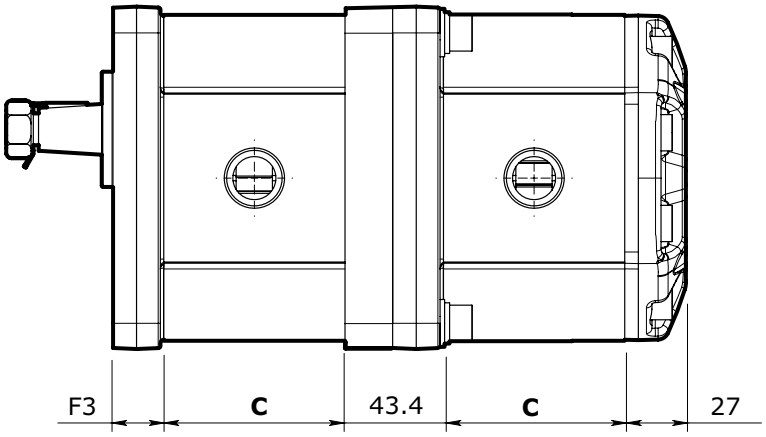
TANDEM STANDARD TS • *TS STANDARD TANDEM*



TANDEM CORTO TC • *TC SHORT TANDEM*

Le dimensioni sono le stesse per tandem corto con aspirazione unica **..M/..U**.

Dimensions are the same for tandem short with common suction ***..M/..U***.



3GP		CILINDRATA - *DISPLACEMENT*									
		190	**230**	**300**	**340**	**370**	**440**	**530**	**620**	**700**	**770**
C	mm	79.9	82.9	88.9	91.9	94.9	100.9	107.9	115.9	112.5	127.9
	in	*3.15*	*3.26*	*3.50*	*3.62*	*3.74*	*3.97*	*4.25*	*4.56*	*4.82*	*5.04*

3GP		FLANGIA - *FLANGE*		
		EUR	**SAEB***	**ZFC**
F3	mm	22.4	22.4	70.5
	in	*0.88*	*0.88*	*2.78*

***** Contattare il servizio commerciale. */ Available soon. Please contact our Sales Dpt.*

(*) - Per descrizione tandem corto con aspirazione unica vedere pag. 82. Contattare il Servizio Commerciale per combinazioni e flange disponibili.

(*) - For Tandem short with common suction see page 82. Please contact our Sales Dpt for available combinations and flanges.

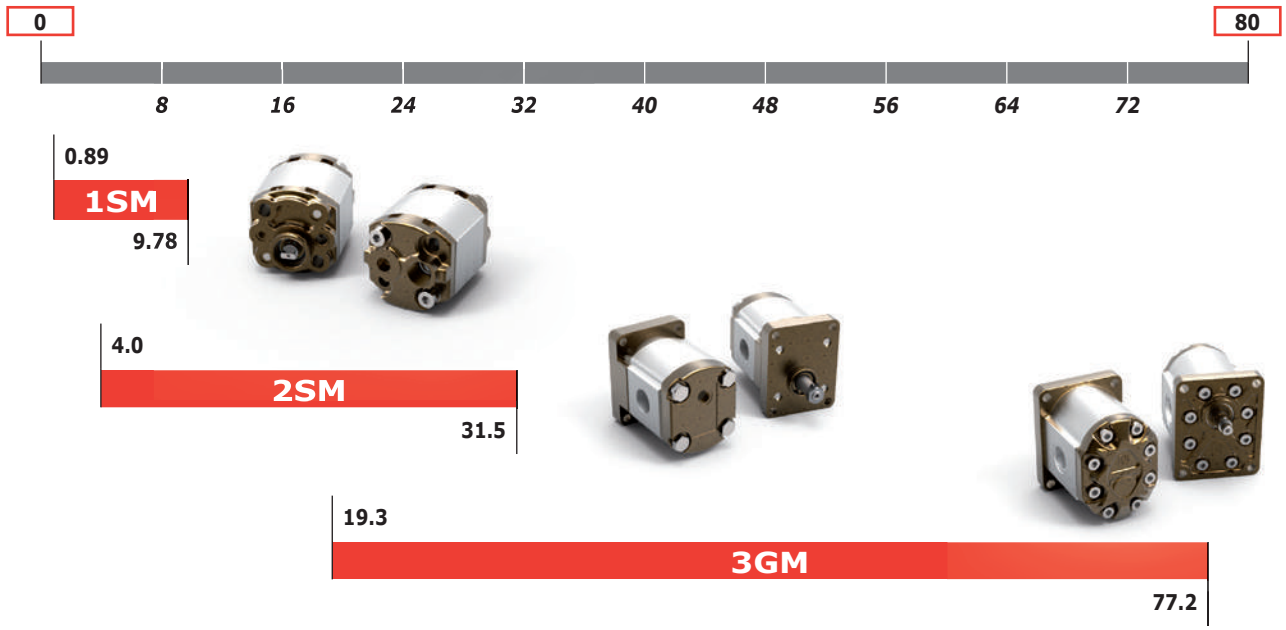
MOTORI AD INGRANAGGI
GEAR MOTORS

INTRODUZIONE • *INTRODUCTION*

Il motore ad ingranaggi esterni è un componete utilizzato per applicazioni oleodinamiche dove all'albero è richiesta una buona erogazione di coppia. La semplicità nella costruzione (rispetto ad altre tipologie di motori più complessi come ad esempio motori orbitali o a pistoni) unita alla grande versatilità, resistenza e lunga durata consentono una manutenzione ridotta e costi d'acquisto più contenuti.
Tali motori possono sia lavorare in condizioni gravose con elevate potenze idrauliche, sia in condizioni standard con una bassa emissione acustica ed elevati rendimenti idromeccanici e volumetrici grazie all'ottima bilanciatura.
La gamma Galtech grazie un costante lavoro di ricerca unito all'esperienza pluriennale, alla meticolosa scelta dei materiali e alla costante cura nel processo non solo di produzione, ma anche nei test di validazione si è ampliata mantenendo elevati standard qualitativi.
I motori ad ingranaggi esterni sono costituiti da 3 gruppi: 1SM, 2SM e 3GM con 20 cilindrate da 0.89 a 77.2 cc/giro adatte alle più variate applicazioni sia industriali che nel campo del mobile con elevati rapporti potenza/peso e potenza/dimensioni. Si possono raggiungere pressioni elevate fino a 270 bar e una velocità massima di rotazione di 4000 giri/min.
Sia nella versione monodirezionale che bidirezionale i motori Galtech possono essere assemblati con totale intercambiabilità sia con flange standard (europea, tedesca, SAE) sia con tipologie speciali ed utilizzare una vasta gamma di alberi come quelli conici, cilindrici scanalati e con dente frontale. Sono disponibili vari coperchi e flange in ghisa per ridurre la rumorosità e aumentare i limiti operativi. Inoltre è possibile montare coperchi valvola limitatrice di pressione anche per la regolazione a due velocità.

External gear motor is a component used for hydraulic applications where a good torque output is required to the shaft. Simple construction (compared with other types of more complex motors such as orbital or piston motors) and great versatility, durability and endurance allow to reduce maintenance and to lower the purchasing costs.
These motors can work both under heavy operating conditions with high hydraulic power outputs or in standard conditions with a low noise level and high hydromechanical and volumetric efficiencies by means of an excellent balancing.
Galtech range has been increased maintaining high quality standards by means of constant research combined with years of experience, meticulous choice of materials and constant care not only in the production processes but also in the validation tests.
External gear motor range present 3 groups: 1SM, 2SM and 3GM with 20 displacement sizes from 0.89 to 77.2 cc/rev. high pressures up to 270 bar and a maximum speed of 4000 RPM. These motors can be used for different industrial and mobile applications with good power/weight and power/size ratios.
Both unidirectional and bidirectional Galtech motors can be assembled with a full interchangeability with standard flanges (European, German, SAE) or with special types.
A wide variety of shafts can be used: tapered, splined, parallel and wth dihedral claw. Cast iron covers and flanges are available to reduce noise level and to increase the operating limits. It is also possible to assemble covers with pressure relief valve for two-speed adjustment

Le cilindrate disponibili sono evidenziate nel seguente diagramma (cm^3/giro):
Available displacements are shown below (cm^3/rev):

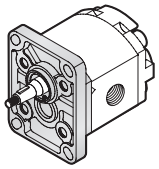


MOTORI AD INGRANAGGI GAMMA PRODOTTO
GEAR MOTORS PRODUCT RANGE

GRUPPO GROUP 1SM	CILINDRATA DISPLACEMENT		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW	
	cm³/giro	*in³/rev*	*giri/min - rpm*	*l/min*	*Gal/min*	*giri/min - rpm*	*l/min*	*Gal/min*
1SM 009	0.89	*0.05*	6000	5.3	*1.40*	600	0.49	0.13
1SM 012	1.18	*0.07*	6000	7.1	*1.88*	600	0.65	0.17
1SM 016	1.6	*0.10*	6000	9.6	*2.54*	400	0.61	0.16
1SM 020	2.0	*0.12*	5500	11	*2.91*	400	0.76	0.20
1SM 025	2.5	*0.15*	5000	12.5	*3.30*	400	0.95	0.25
1SM 032	3.2	*0.20*	4500	14.4	*3.80*	400	1.21	0.32
1SM 037	3.7	*0.23*	4000	14.8	*3.91*	400	1.40	0.37
1SM 042	4.2	*0.26*	3500	14.7	*3.88*	400	1.60	0.42
1SM 050	5.0	*0.31*	3000	15	*3.96*	400	1.90	0.50
1SM 063	6.3	*0.38*	2700	17	*4.49*	400	2.39	0.63
1SM 078	7.76	*0.47*	2500	19.4	*5.13*	400	2.95	0.78
1SM 098	9.78	*0.60*	2000	19.6	*5.18*	400	3.71	0.98

FLANGE - *FLANGES*

EUR



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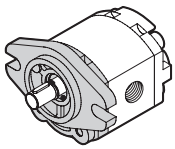
SAEAA



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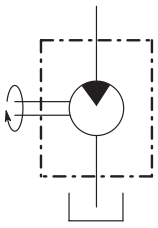
VERSIONI DISPONIBILI • *AVAILABLE VERSIONS*

Motore unidirezionale (D-S)
Unidirectional motor (D-S)

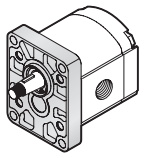


MOTORI AD INGRANAGGI GAMMA PRODOTTO
GEAR MOTORS PRODUCT RANGE

GRUPPO GROUP 2SM	CILINDRATA DISPLACEMENT		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW	
	cm³/giro	*in³/rev*	*giri/min - rpm*	*l/min*	*Gal/min*	*giri/min - rpm*	*l/min*	*Gal/min*
2SM 040	4	*0.24*	4000	16	*4.23*	500	*1.9*	0.50
2SM 060	6	*0.37*	4000	24	*6.34*	500	*2.85*	0.75
2SM 080	8.5	*0.52*	3500	29.7	*7.85*	500	*4.03*	1.06
2SM 110	11	*0.67*	3500	38.5	*10.17*	500	*5.22*	1.38
2SM 140	14	*0.85*	3500	49	*12.95*	500	*6.65*	1.76
2SM 160	16.5	*1.01*	3500	57.7	*15.24*	500	*7.83*	2.07
2SM 190	19.5	*1.19*	3300	64.3	*16.99*	500	*9.26*	2.45
2SM 220	22.5	*1.37*	2800	63	*16.64*	500	*10.68*	2.82
2SM 260	26	*1.59*	2500	65	*17.17*	500	*12.35*	3.26
2SM 310	31.5	*1.92*	2200	69	*18.22*	500	*15.75*	4.16

FLANGE - *FLANGES*

EUR



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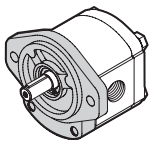
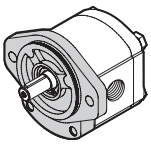
SAEA



SAEAOR



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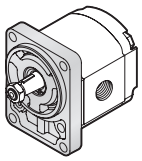

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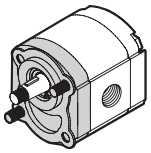

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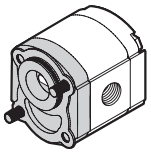

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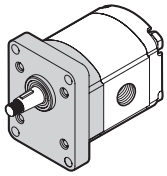
FLANGE - *FLANGES*

SUPEUR



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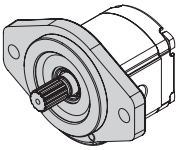

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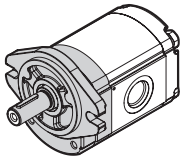

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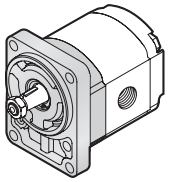

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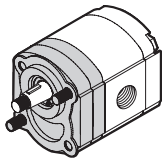

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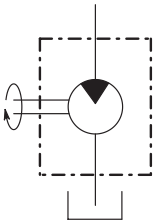
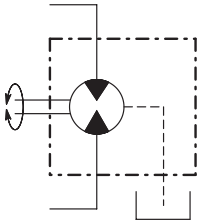
* Contattare il servizio commerciale. / *Available soon. Please contact our Sales Dpt.*

VERSIONI DISPONIBILI • *AVAILABLE VERSIONS*

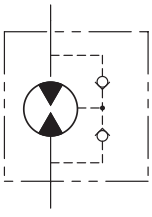
Motore unidirezionale (D-S)
Unidirectional motor (D-S)



Motore reversibile con drenaggio esterno (R)
Reversible motor with external drain (R)



Motore reversibile con drenaggio interno (X)
Reversible motor with internal drain (X)

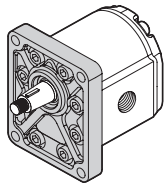


MOTORI AD INGRANAGGI GAMMA PRODOTTO
GEAR MOTORS PRODUCT RANGE

GRUPPO GROUP 3GM	CILINDRATA DISPLACEMENT		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED	PORTATA MIN MIN FLOW	
	cm³/giro	*in³/rev*	*giri/min - rpm*	*l/min*	*Gal/min*	*giri/min - rpm*	*l/min*	*Gal/min*
3GM 190	19.3	*1.2*	3500	67.6	*17.84*	600	12.8	*3.39*
3GM 230	23.0	*1.4*	3500	80.3	*21.22*	600	15.5	*4.03*
3GM 300	30.2	*1.8*	3300	99.7	*26.33*	600	20.1	*5.31*
3GM 340	33.8	*2.1*	3300	111.6	*29.49*	600	22.5	*5.94*
3GM 370	37.5	*2.3*	3300	123.6	*32.66*	600	24.9	*6.58*
3GM 440	44.6	*2.7*	3000	133.8	*35.35*	600	29.7	*7.84*
3GM 530	53.0	*3.2*	3000	159.1	*42.04*	600	35.3	*9.32*
3GM 620	62.7	*3.8*	2500	156.8	*41.41*	600	41.7	*11.01*
3GM 700	70.5	*4.3*	2500	176.3	*46.58*	600	46.9	*12.39*
3GM 770	77.2	*4.7*	2200	169.8	*44.84*	600	51.3	*13.56*

FLANGE - *FLANGES*

EUR



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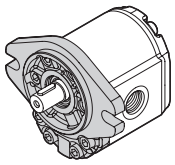
SAEB*



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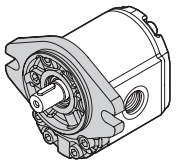

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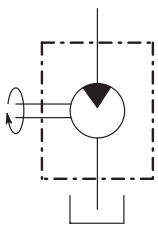
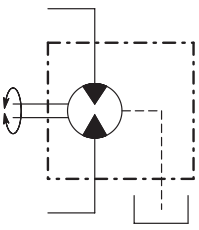
* Contattare il servizio commerciale. / *Available soon. Please contact our Sales Dpt.*

VERSIONI DISPONIBILI • *AVAILABLE VERSIONS*

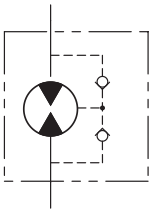
Motore unidirezionale (D-S)
Unidirectional motor (D-S)



Motore reversibile con drenaggio esterno (R)
Reversible motor with external drain (R)



Motore reversibile con drenaggio interno (X)
Reversible motor with internal drain (X)



MOTORI AD INGRANAGGI INFORMAZIONI TECNICHE
GEAR MOTORS TECHNICAL INFORMATIONS

FLUIDI IDRAULICI • *HYDRAULIC FLUIDS*

È consigliabile utilizzare oli idraulici di origine minerale con buone caratteristiche antischiuma, antiusura , antiossidanti, anticorrosione e con proprietà di rapida disareazione ed elevato indice di viscosità;

- viscosità raccomandata 15÷92 mm^2/s
- viscosità limite d'avviamento 2000 mm^2/s

Durante il normale funzionamento la temperatura dell'olio dovrà essere compresa tra 20° C e 65° C con valori limite compresi tra -20° C e 80° C con le guarnizioni in NBR e -15 °C e 100 °C con le stesse in Viton.

It is advisable to use hydraulic oils of mineral origin with anti-foaming, antiwear, anti-oxidant and anti-corrosion characteristics and rapid air removal properties and a high viscosity index;

- *Recommended viscosity 15÷92 mm^2/s (cSt)*
- *Start-up viscosity limit 2000 mm^2/s (cSt)*

During normal operation, the oil temperature must be between 20°C and 65°C with limit values between -20°C and 80°C with NBR gasket with limit values between -15°C and 100°C with Viton gasket.

PRESSIONE DI DRENAGGIO • *DRAINAGE PRESSURE*

Qualora il drenaggio non fosse interno il limite massimo di pressione su tale linea è pari a 6 bar.

Without external drain, 6 bar is the maximum counterpressure allowed is 6 bar.

FILTRAZIONE • *FILTRATION*

Per eliminare eventuali impurità presenti nell'olio e garantire una durata superiore del motore, è necessario introdurre nell'impianto un'efficace filtrazione verificandone periodicamente la funzionalità.
I livelli di filtrazione raccomandati sono i seguenti:

Utilizzo fino a 150 bar:
21/19/16 (ISO 4406) classe 10 (NAS 1638)

Utilizzo oltre 150 bar:
20/18/15 (ISO 4406) classe 9 (NAS 1638)

In order to eliminate any impurity present in the oil and to guarantee a longer duration of the motor, the system must be equipped with effective filtration which must be periodically checked to ensure that it is operating correctly.
The recommended filtration levels are the following:

Up to 150 bar:
21/19/16 (ISO 4406) classe 10 (NAS 1638)

Over 150 bar:
20/18/15 (ISO 4406) classe 9 (NAS 1638)

NOTE INSTALLAZIONE • *INSTALLATION NOTES*

Prima di avviare l'impianto a regime, sono consigliati alcuni accorgimenti:

- Verificare in caso di motore unidirezionale, che il senso di rotazione sia coerente con il lato da cui proviene l'alimentazione.
- Verificare che nelle flange di connessione alle porte di mandata non siano presenti trucioli, sporco o altro.
- Se il motore è sottoposto a verniciatura, proteggere l'anello di tenuta verificando anche che la zona di contatto fra anello di tenuta e albero sia priva di polvere o di sedimenti abrasivi che possono accelerare le usure e causare delle perdite.
- Assicurarsi che il giunto utilizzato per la trasmissione compensi disallineamenti assiali che potrebbero pregiudicare l'integrità del motore.
- In caso in cui il motore trasmetta dei carichi radiali e/o assiali sull'albero (come ad esempio quando trascina pulegge e cinghie) è necessario optare per le versioni con supporto rinforzato.
- Il giunto di collegamento fra alberi scanalati dovrà essere lubrificato, libero di muoversi assialmente e di lunghezza adatta a coprire tutta l'estensione dei due alberi (motore e pompa).

Durante il primo avviamento:

- scollegare lo scarico della pompa di alimentazione per permettere di spurgare l'aria nel circuito e, in caso di valvole di massima, tarare le valvole limitatrici di pressione al minimo valore.
- Evitare, in presenza di livelli di pressione di alimentazione superiori alla pressione massima continuativa, di sottoporre il motore ad un regime di rotazione inferiore a quello minimo consentito.
- Evitare partenze sotto carico in condizioni di bassa temperatura o di lunghi periodi di inattività.

Before starting to set the system, some precautions are recommended:

- *In case of a monodirectional motor, check for the direction of rotation to be consistent with the inlet side.*
- *Remove all dirt, chips and foreign bodies from flange connecting inlet and delivery ports.*
- *Protect the drive shaft sealing ring during pump painting; check that the contact area between ring and shaft is clean: dust or abrasive sediments could accelerate the wear and cause leakage.*
- *Make sure that the transmission joint balances any axial misalignment that might compromise the engine working.*
- *With radial and/or axial loads provided by the motor shaft (such as when it drives pulleys or chains) use the available versions with strengthen shaft.*
- *The coupling joint between the spline shafts has to be properly lubricated, free to move axially and of suitable length to cover both motor and pump shafts.*

During first system working:

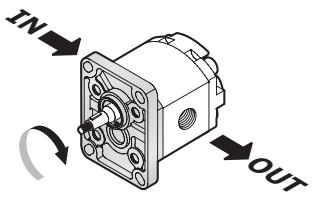
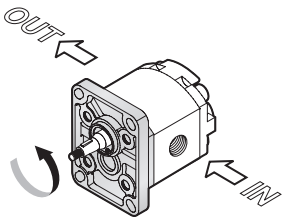
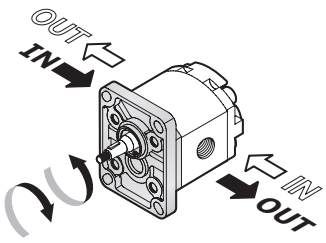
- *Disconnect the drain pump to bleed off the air in the circuit and, set the pressure relief valve if present at the minimum value.*
- *Avoid lower rotation speed than min. allowed with an inlet pressure higher than the continuous max pressure.*
- *Do not start the system under load at low temperatures or after long stops.*
- *Check the whole system filling by bleeding off the whole air*

• Per verificare l'effettivo riempimento sfiatare il circuito dopo un primo avviamento di qualche istante dove è stata attivata tutta la componentistica.
• Tenendo controllata la temperatura del fluido e delle parti in movimento e la velocità di rotazione è infine possibile aumentare la pressione fino al raggiungimento delle condizioni di esercizio previste che devono mantenersi entro i limiti indicati nel presente catalogo.

amount after few minutes of system working.
• Increase the pressure until you reach the operating values by keeping checked the fluid and the moving parts temperature and the rotation speed. Maintain the set values within the limits indicated in this catalogue.

DEFINIZIONE DEL VERSO DI ROTAZIONE GUARDANDO L'ALBERO DI TRASCINAMENTO
DEFINITION OF ROTATION LOOKING AT THE DRIVE SHAFT

USCITA FLUIDO AD ALTA PRESSIONE
HIGH PRESSURE FLUID EXIT

D	ROTAZIONE DESTRA *CLOCKWISE ROTATION*	S	ROTAZIONE SINISTRA *ANTICLOCKWISE ROTATION*	R	ROTAZIONE REVERSIBILE *CLOCKWISE ANTICLOCKWISE ROTATION*
Ingresso - alta pressione ***Inlet*** *- high pressure*		**Scarico** - bassa pressione ***Outlet*** *- low pressure*			
Scarico - bassa pressione ***Outlet*** *- low pressure*		**Ingresso** - alta pressione ***Inlet*** *- high pressure*			

SENSO DI ROTAZIONE • *ROTATION WISE*

Il senso di rotazione viene definito S (sinistro) e D (destro) osservando l'albero frontalmente.
In caso di rotazione sinistra S lo scarico sarà a sinistra dell'albero mentre l'ingresso alla sua destra; il contrario sarà per motore monodirezionale destro.
Se i motori sono monodirezionali in fase di ordine è necessario precisare il senso di rotazione desiderato, oppure intervenire modificando l'assetto interno come illustrato di seguito (inversione del senso di rotazione).

The rotation wise is defined by observing the shaft frontally: S (anticlowise) and D (clockwise).
In case of S anticlockwise rotation , outlet port will be the left of the shaft while inlet port to its right; the opposite layout is used in case of D clockwise rotation.
When ordering please specify the required rotation wise of monodirectional motors, otherwise modify the internal assembly layout as indicated below (wise rotation reversal).

INVERSIONE • *REVERSAL*

Il senso di rotazione dei motori è evidenziato da una freccia sulla targhetta.
La targhetta è posizionata sul corpo. (vedi pagina 105)

L'inversione del senso di rotazione di un motore si esegue nel seguente modo:

- Smontare il motore come da figura 1.
- Sfilare gli ingranaggi C e D e rimontarli secondo la figura 2
- Rimontare la boccola B nella stessa posizione della figura 1
- Capovolgere la flangia A e rimontare il motore serrando le viti con una chiave dinamometrica.
- Per i motori 3GM, smontare solo la flangia anteriore.

Motor wise rotation is indicated by an arrow on the label.
The plate is placed on the body (see page 105).

How to invert the motor wise rotation:

- *Disassemble motor as shown in figure 1.*
- *Pull off C-D gears and reassemble them according to figure 2.*
- *Reassemble bushing B as before.*
- *Reverse the flange A and reassemble the motor tightening the screws by dynamometric wrench.*
- *For the motors 3GM, disassemble only front flange.*

MOTORI AD INGRANAGGI INFORMAZIONI TECNICHE
GEAR MOTORS TECHNICAL INFORMATIONS

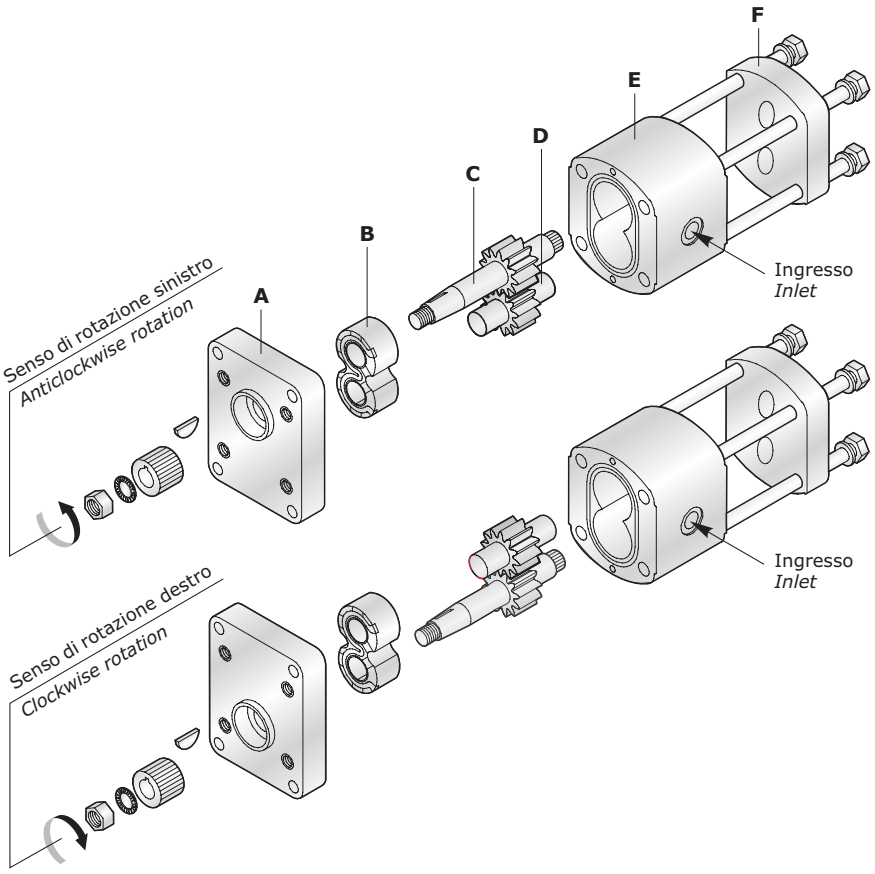
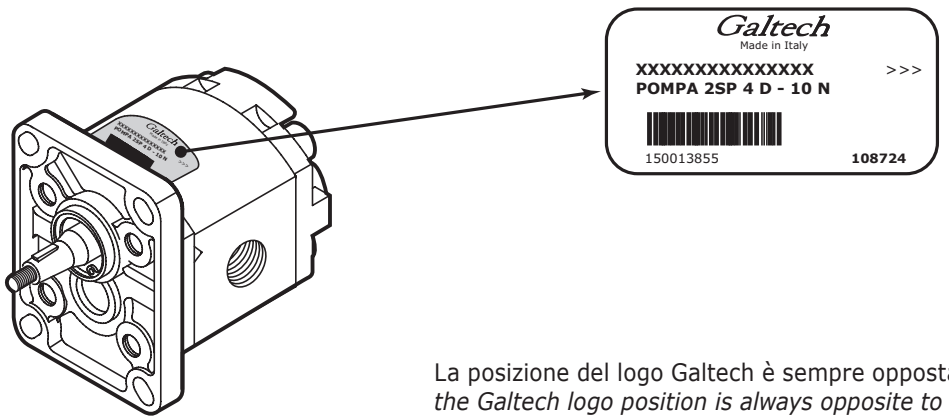


Fig. 1

Fig. 2

TARGHETTA • *PLATE*



La posizione del logo Galtech è sempre opposta alla flangia.
the Galtech logo position is always opposite to the flange.

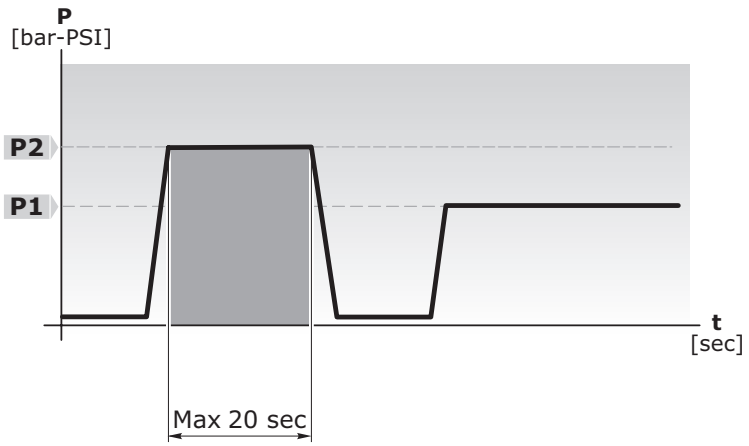
MOTORI AD INGRANAGGI INFORMAZIONI TECNICHE
GEAR MOTORS TECHNICAL INFORMATIONS

TIPO DI MOTORE - *MOTOR TYPE*	GRUPPO - *GROUP* **1SM**	GRUPPO - *GROUP* **2SM**	GRUPPO - *GROUP* **3GM**
Numero di viti ***Screw number***	4	4	16
Tipo di filetto ***Thread type***	M8	M10	M10
Coppia di serraggio viti ***Screw tightening torque***	30 Nm / 266 in-lbs	50 Nm / 443 in-lbs	60 Nm / 531 in-lbs
Tipo di giunto ***Coupling type***	1IS 12M	2IS 14M / 2IS 15M	3IS 18M
Coppia di serraggio dado giunto ***nut coupling tightening torque***	9 ÷ 10 Nm / 80 ÷ 90 in-lbs	22 ÷ 25 Nm / 195 ÷ 221 in-lbs 32 ÷ 35 Nm / 283 ÷ 310 in-lbs	50 ÷ 55 Nm / 443 ÷ 487 in-lbs

DEFINIZIONE DELLE PRESSIONI • *PRESSURE DEFINITION*

I motori possono essere sottoposti alle pressioni P1, P2, indicate nelle tabelle delle prestazioni.
Il grafico seguente ne illustra le definizioni e l'applicabilità rispettando i limiti delle velocità di rotazione riportati.

The motors can be subjected to the pressures P1, P2 indicated in the performance tables.
The following diagram illustrates their definitions and applicability, compared to the rotation speed limits included.



P2 Pressione massima intermittente
Max intermittent pressure

P1 Pressione massima continua
Continuos max pressure

MISURE IDRAULICHE - *HYDRAULIC MEASURES*		
Q	Portata *Flow*	[l/min] [Gal/min]
M	Coppia *Torque*	[Nm] [lfb.in]
P	Potenza *Power*	[kW] [HP]
V	Cilindrata *Displacement*	[cm³/giro] [in³/rev]
n	Velocità *Speed*	[min⁻¹]
Δp	Pressione *Pressure*	[bar] [PSI]
η_v	Rendimento volumetrico *Volumetric efficiency*	
η_m	Rendimento meccanico *Mechanical efficiency*	
η_t	Rendimento totale *Overal efficiency*	

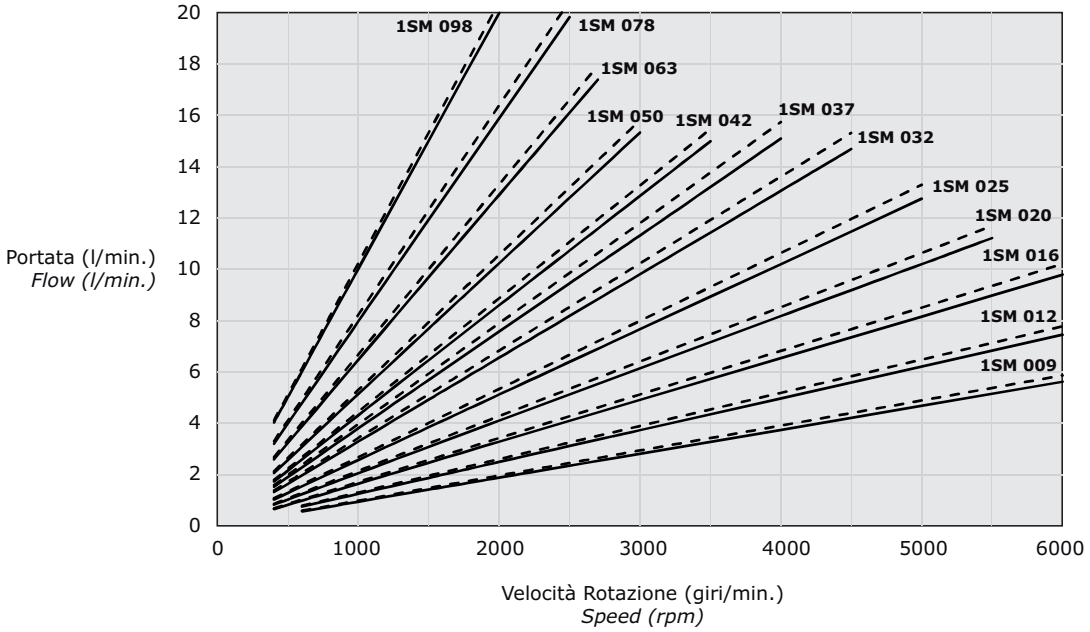
FORMULE UTILI - *USEFUL FORMULAS*		
Q =	$\frac{V \cdot n}{1000 \cdot \eta_v}$	[l/min]
	$\frac{V \cdot n}{231 \cdot \eta_v}$	[Gal/min]
M =	$\frac{\Delta p \cdot V \cdot \eta_m}{62.83}$	[Nm]
	$\frac{\Delta p \cdot V \cdot \eta_m}{2 \cdot 3.14}$	[lfb.in]
P =	$\frac{\Delta p \cdot V \cdot n \cdot \eta_t}{600 \cdot 1000}$	[kW]
	$\frac{\Delta p \cdot V \cdot n \cdot \eta_t}{395934}$	[HP]

FATTORE CONVERSIONE - *CONVERSION FACTOR*	
1 l/min	0.2641 US Gal/min
1 Nm	8.851 in-lbs
1 Nm	0.7375 ft-lbs
1 N	0.2248 lbs
1 kW	1.34 HP
1 cm³/giro	0.061 in³/rev
1 bar	14.5 PSI
1 mm	0.0394 in
1 kg	2.205 lbs

MOTORI AD INGRANAGGI PRESTAZIONI
GEAR MOTORS PERFORMANCES

GRUPPO *GROUP* 1SM

DIAGRAMMA PORTATA - VELOCITÀ DI ROTAZIONE
FLOW - ROTATION SPEED CHART

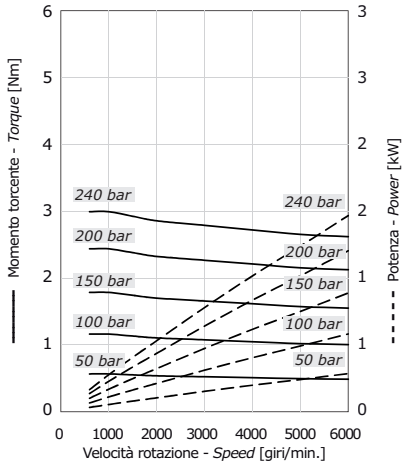


GRUPPO *GROUP* 1SM

DIAGRAMMI POTENZE
POWER DIAGRAM

Grafici rilevati a banco di collaudo a 40°C con olio VG46
Diagrams recorded on test bench at 40°C with VG46 mineral oil

1SM 009



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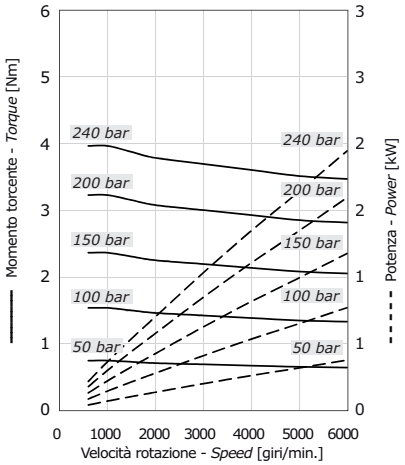
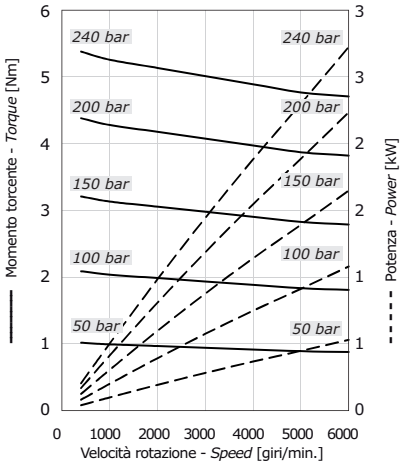
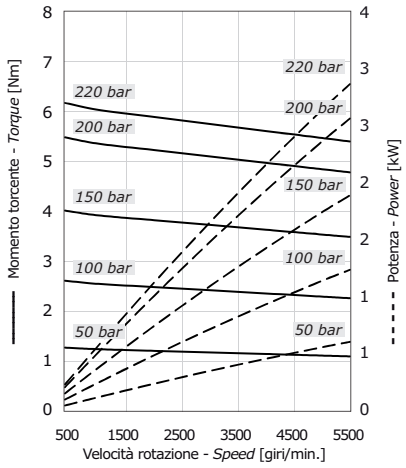


1SM 016

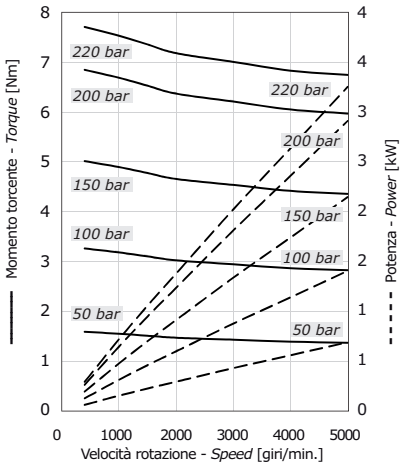


MOTORI AD INGRANAGGI PRESTAZIONI
GEAR MOTORS PERFORMANCES

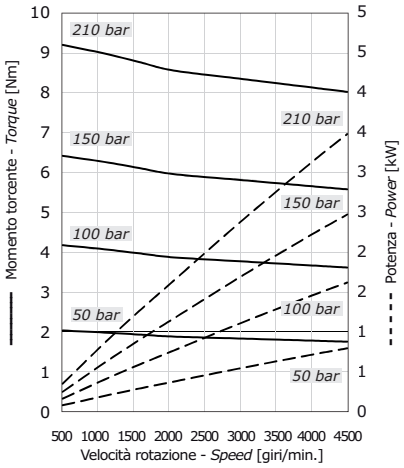
1SM 020



1SM 025



1SM 032



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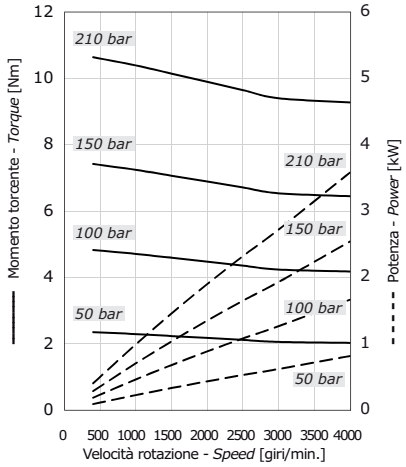
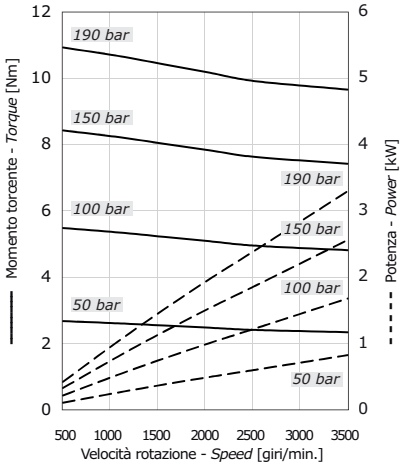


1SM 042



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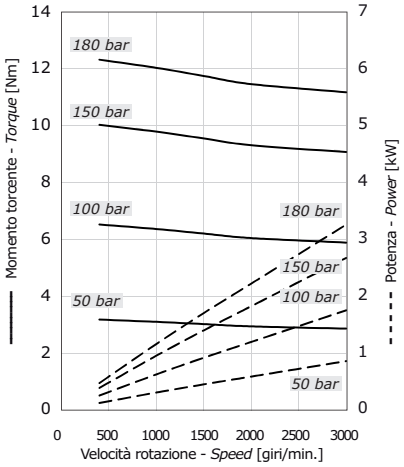

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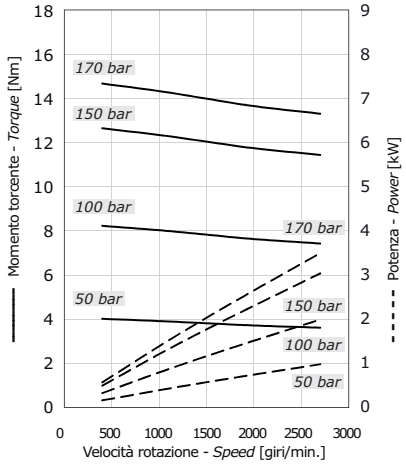

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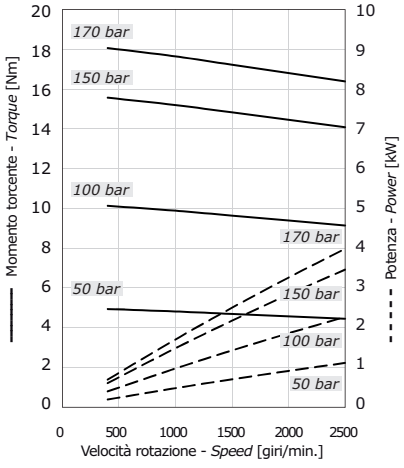
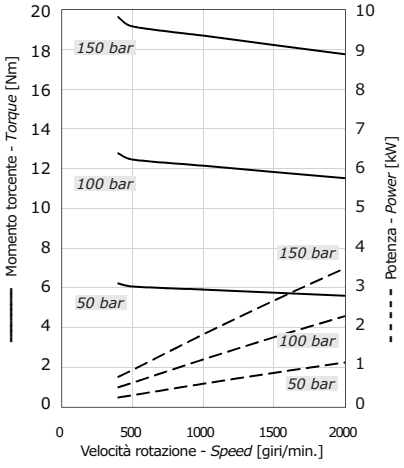


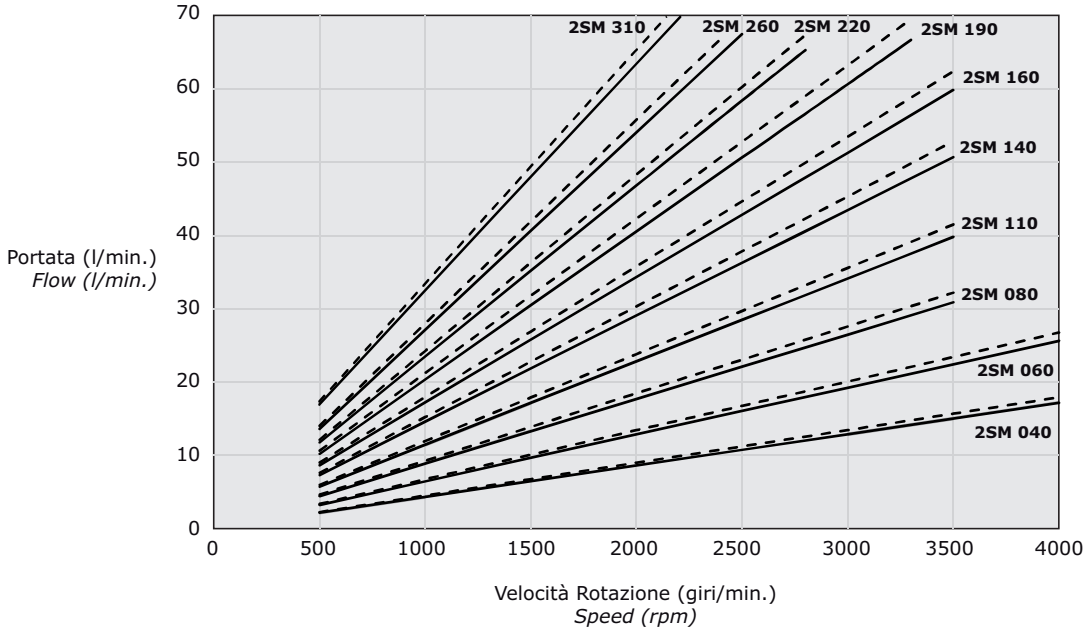
1SM 098



MOTORI AD INGRANAGGI PRESTAZIONI
GEAR MOTORS PERFORMANCES

GRUPPO *GROUP* 2SM

DIAGRAMMA PORTATA - VELOCITÀ DI ROTAZIONE
FLOW - ROTATION SPEED CHART

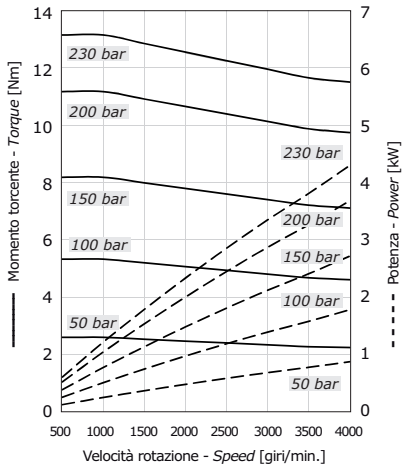


GRUPPO *GROUP* 2SM

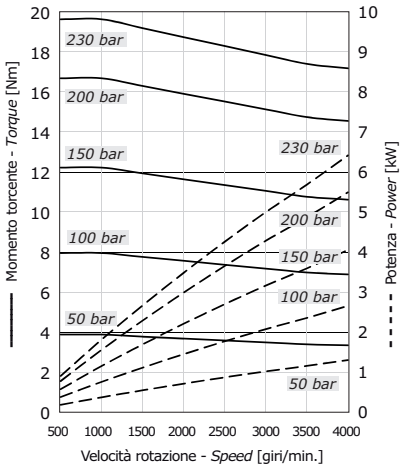
DIAGRAMMI POTENZE
POWER DIAGRAM

Grafici rilevati a banco di collaudo a 40°C con olio VG46
Diagrams recorded on test bench at 40°C with VG46 mineral oil

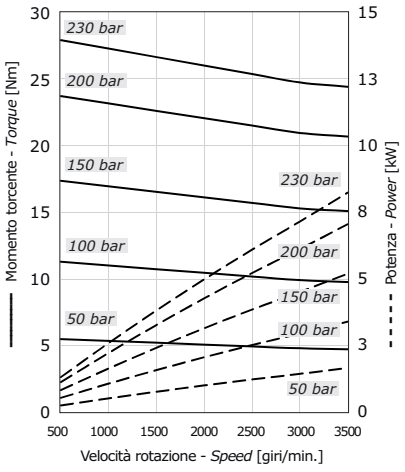
2SM 040



2SM 060

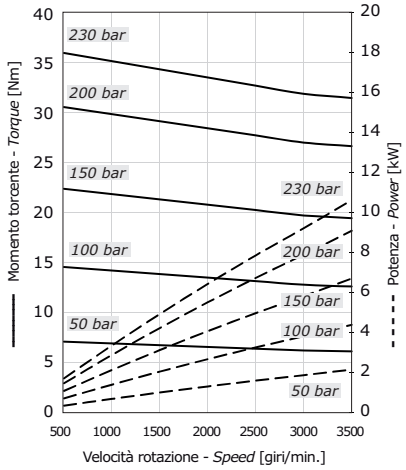


2SM 080



MOTORI AD INGRANAGGI PRESTAZIONI
GEAR MOTORS PERFORMANCES

2SM 110



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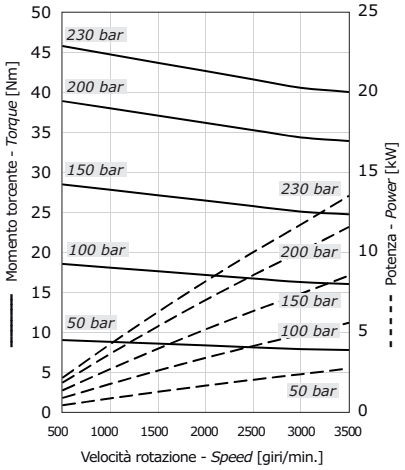

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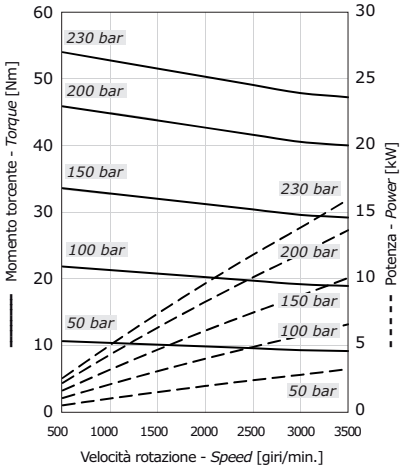

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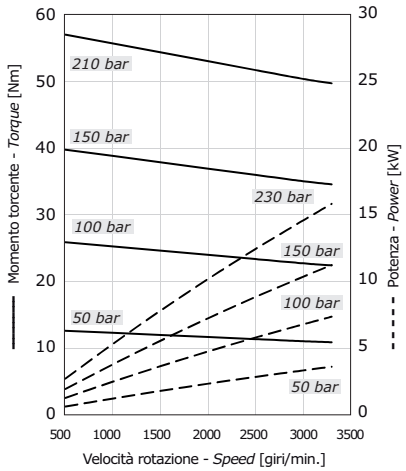

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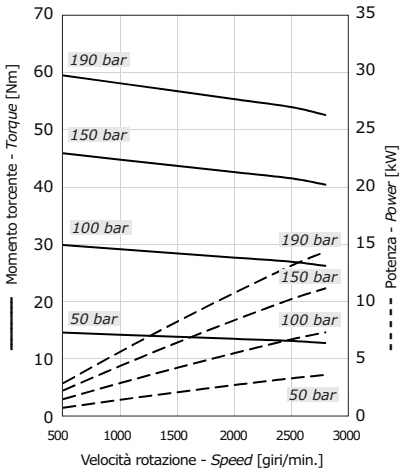

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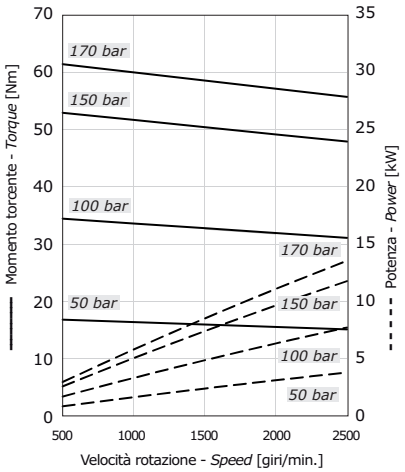

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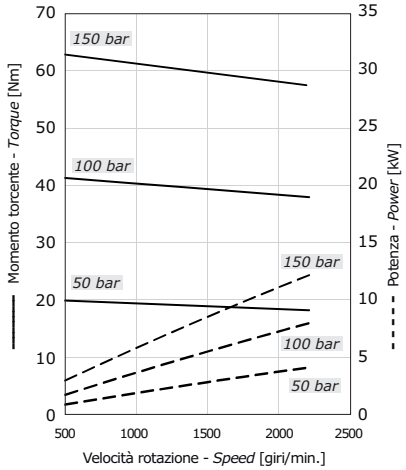
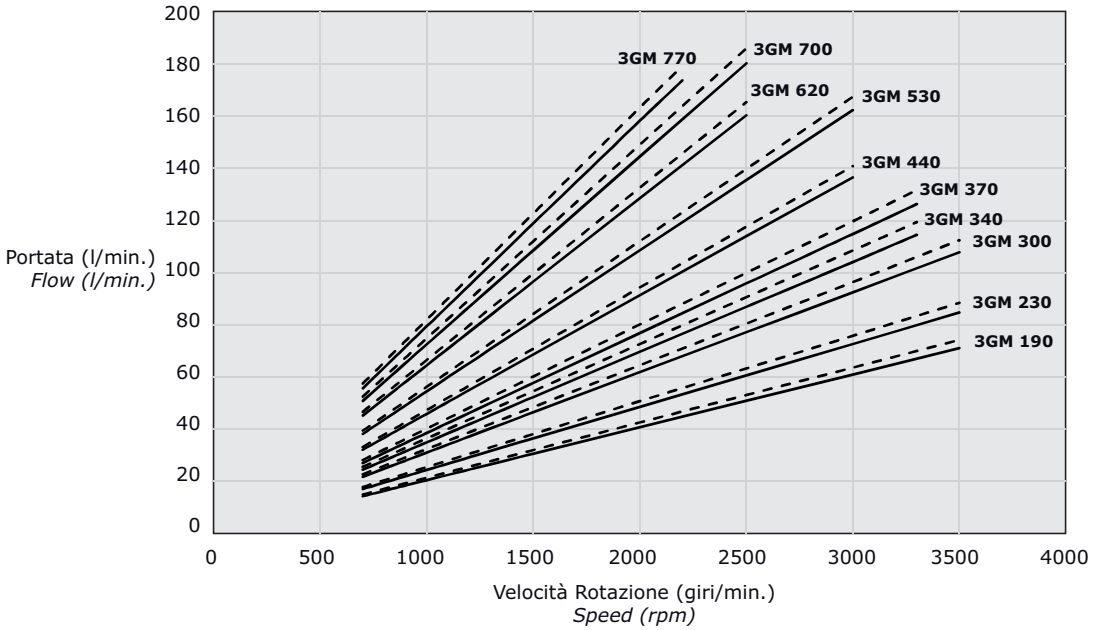


MOTORI AD INGRANAGGI PRESTAZIONI
GEAR MOTORS PERFORMANCES

GRUPPO *GROUP* 3GM

DIAGRAMMA PORTATA - VELOCITÀ DI ROTAZIONE
FLOW - ROTATION SPEED CHART

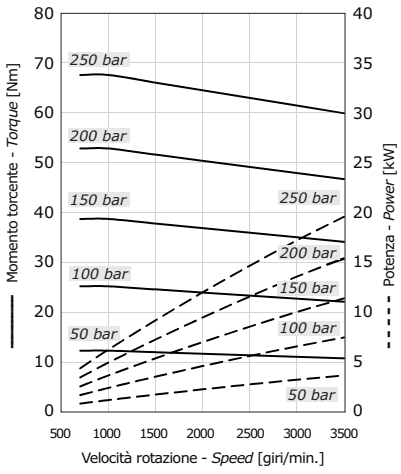


GRUPPO *GROUP* 3GM

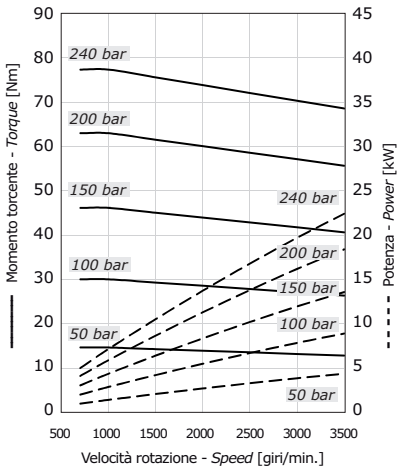
DIAGRAMMI POTENZE
POWER DIAGRAM

Grafici rilevati a banco di collaudo a 40°C con olio VG46
Diagrams recorded on test bench at 40°C with VG46 mineral oil

3GM 190



3GM 230



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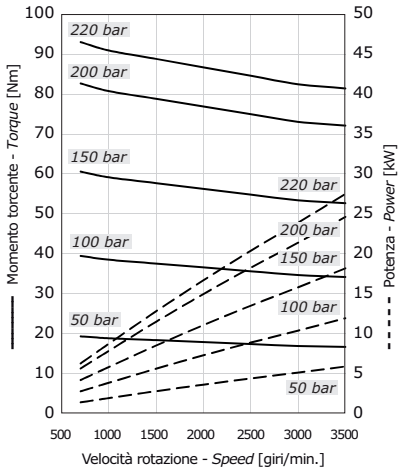
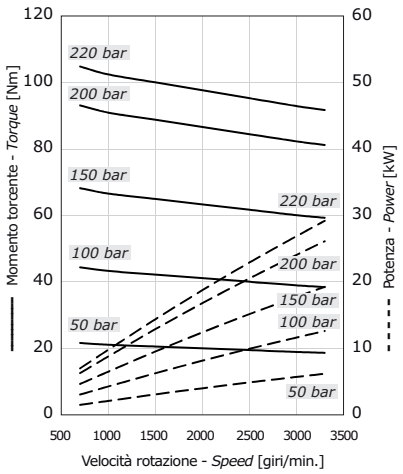
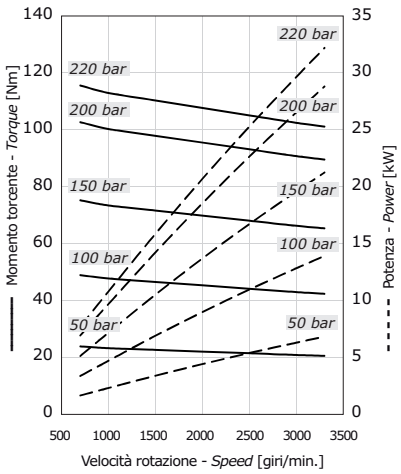


MOTORI AD INGRANAGGI PRESTAZIONI
GEAR MOTORS PERFORMANCES

3GM 340



3GM 370



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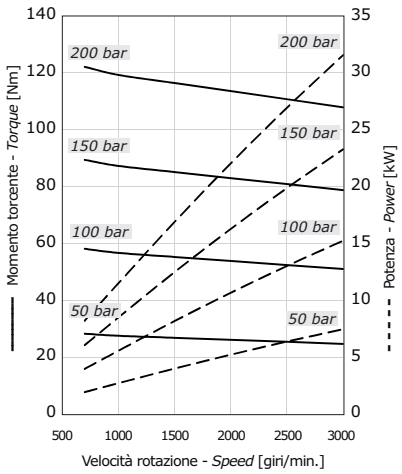
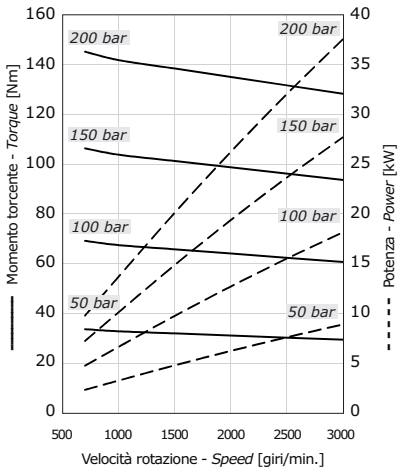
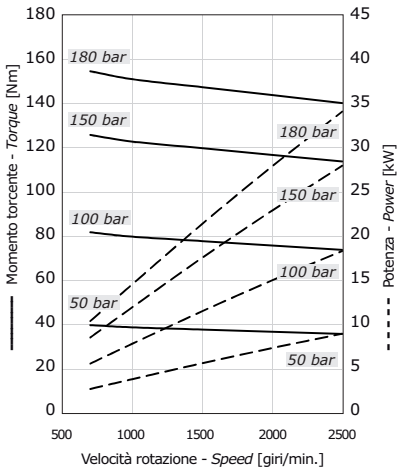


3GM 530



3GM 620



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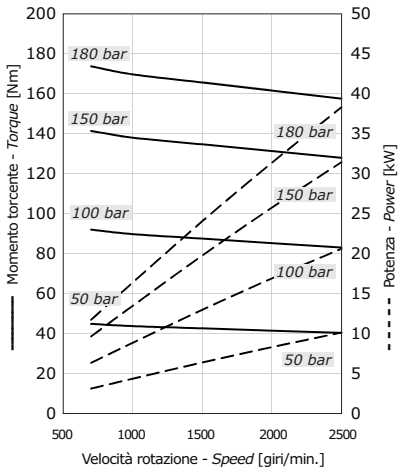
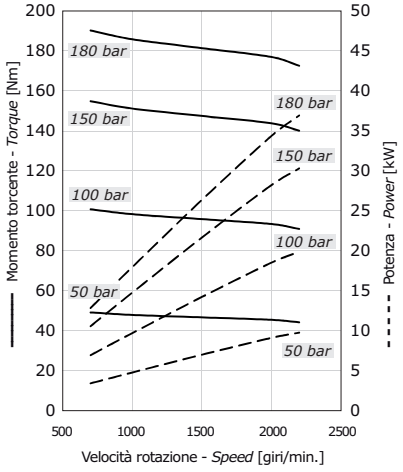


3GM 770



MOTORI AD INGRANAGGI GRUPPO 1SM
GEAR MOTORS GROUP 1SM

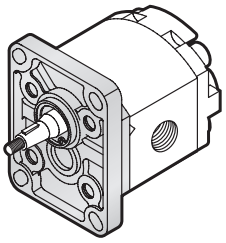
FLANGIA EUROPEA EUR *EUROPEAN FLANGE*

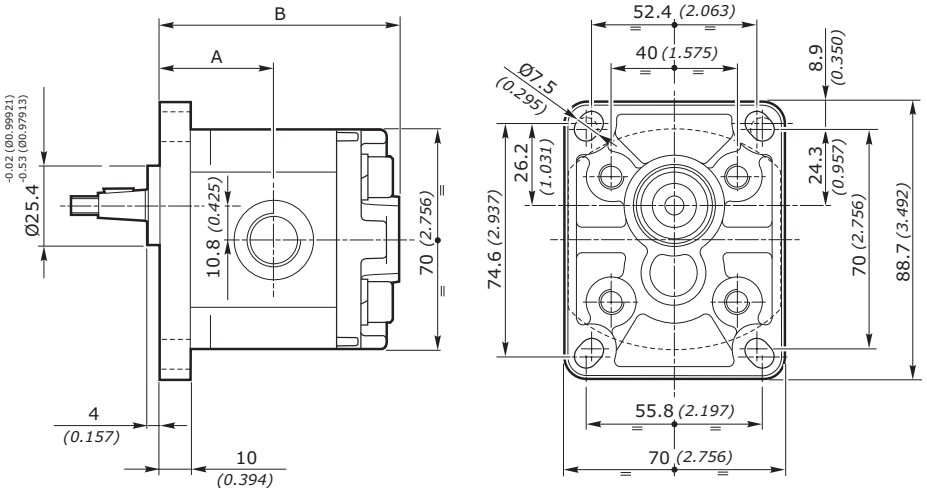
*Contattare il Servizio Commerciale per ordinare questi prodotti.
Please contact our Sales Dpt to order these products.

GRUPPO GROUP 1SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX MAX PRESSURE P1		PRESSIONE MAX MAX PRESSURE P2		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	in³/rev	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
1SM 009*	0.89	*0.05*	260	*3770*	280	*4060*	6000	5.3	*1.40*	600
1SM 012*	1.18	*0.07*	260	*3770*	280	*4060*	6000	7.1	*1.88*	600
1SM 016*	1.6	*0.10*	260	*3770*	280	*4060*	6000	9.6	*2.54*	400
1SM 020*	2.0	*0.12*	260	*3770*	280	*4060*	5500	11	*2.91*	400
1SM 025*	2.5	*0.15*	260	*3770*	280	*4060*	5000	12.5	*3.30*	400
1SM 032*	3.2	*0.20*	260	*3770*	280	*4060*	4500	14.4	*3.80*	400
1SM 037	3.7	*0.23*	250	*3625*	270	*3915*	4000	14.8	*3.91*	400
1SM 042	4.2	*0.26*	250	*3625*	270	*3915*	3500	14.7	*3.88*	400
1SM 050	5.0	*0.31*	250	*3625*	270	*3915*	3000	15	*3.96*	400
1SM 063	6.3	*0.38*	170	*2465*	190	*2755*	2700	17	*4.49*	400
1SM 078	7.76	*0.47*	170	*2465*	190	*2755*	2500	19.4	*5.13*	400
1SM 098	9.78	*0.60*	150	*2175*	170	*2465*	2000	19.6	*5.18*	400

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*





GRUPPO - GROUP 1	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
1SM 009	34.80	*1.370*	73.6	*2.898*	0.91	*2.01*
1SM 012	35.35	*1.392*	74.7	*2.941*	0.93	*2.05*
1SM 016	36.20	*1.425*	76.4	*3.008*	0.95	*2.09*
1SM 020	36.95	*1.455*	77.9	*3.067*	0.97	*2.14*
1SM 025	37.95	*1.494*	79.9	*3.146*	1.00	*2.21*
1SM 032	39.30	*1.547*	82.6	*3.252*	1.04	*2.29*
1SM 037	40.30	*1.587*	84.6	*3.331*	1.07	*2.36*
1SM 042	41.25	*1.624*	86.5	*3.406*	1.10	*2.43*
1SM 050	42.80	*1.685*	89.6	*3.528*	1.14	*2.51*
1SM 063	45.35	*1.785*	94.7	*3.728*	1.22	*2.69*
1SM 078	48.20	*1.898*	100.4	*3.953*	1.30	*2.87*
1SM 098	52.15	*2.053*	108.3	*4.264*	1.41	*3.11*

MOTORI AD INGRANAGGI GRUPPO 1SM
GEAR MOTORS GROUP 1SM

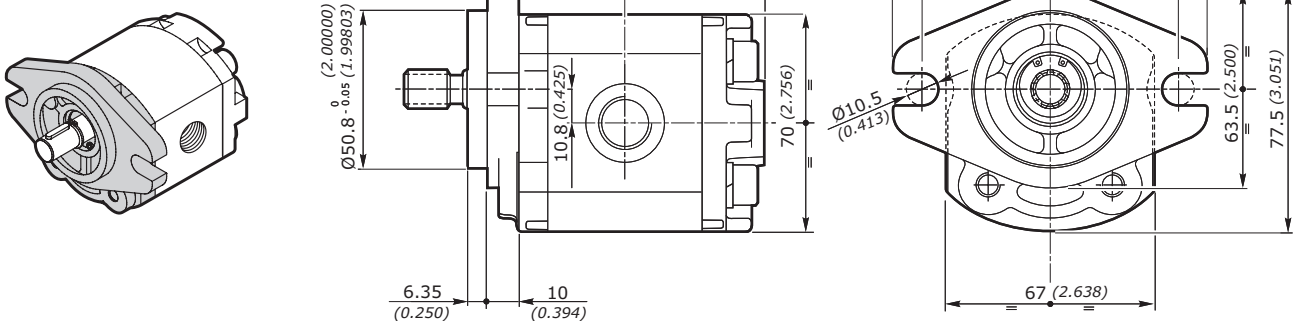
FLANGIA SAE SAEAA *SAE FLANGE*

*Contattare il Servizio Commerciale per ordinare questi prodotti.
Please contact our Sales Dpt to order these products.

GRUPPO GROUP 1SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX MAX PRESSURE P1		PRESSIONE MAX MAX PRESSURE P2		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	bar	psi	bar	psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
1SM 009*	0.89	*0.05*	260	*3770*	280	*4060*	6000	5.3	*1.40*	600
1SM 012*	1.18	*0.07*	260	*3770*	280	*4060*	6000	7.1	*1.88*	600
1SM 016*	1.6	*0.10*	260	*3770*	280	*4060*	6000	9.6	*2.54*	400
1SM 020*	2.0	*0.12*	260	*3770*	280	*4060*	5500	11	*2.91*	400
1SM 025*	2.5	*0.15*	260	*3770*	280	*4060*	5000	12.5	*3.30*	400
1SM 032*	3.2	*0.20*	260	*3770*	280	*4060*	4500	14.4	*3.80*	400
1SM 037	3.7	*0.23*	250	*3625*	270	*3915*	4000	14.8	*3.91*	400
1SM 042	4.2	*0.26*	250	*3625*	270	*3915*	3500	14.7	*3.88*	400
1SM 050	5.0	*0.31*	250	*3625*	270	*3915*	3000	15	*3.96*	400
1SM 063	6.3	*0.38*	170	*2465*	190	*2755*	2700	17	*4.49*	400
1SM 078	7.76	*0.47*	170	*2465*	190	*2755*	2500	19.4	*5.13*	400
1SM 098	9.78	*0.60*	150	*2175*	170	*2465*	2000	19.6	*5.18*	400

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*



GRUPPO - GROUP 1	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
1SP 009	38.30	*1.508*	77.10	*3.035*	0.91	*2.01*
1SP 012	38.85	*1.530*	78.20	*3.079*	0.93	*2.05*
1SP 016	39.70	*1.563*	79.90	*3.146*	0.95	*2.09*
1SP 020	40.45	*1.593*	81.40	*3.205*	0.97	*2.14*
1SP 025	41.45	*1.632*	83.40	*3.283*	1.00	*2.21*
1SP 032	42.80	*1.685*	86.10	*3.390*	1.04	*2.29*
1SP 037	43.80	*1.724*	88.10	*3.469*	1.07	*2.36*
1SP 042	44.75	*1.762*	90.00	*3.543*	1.10	*2.43*
1SP 050	46.30	*1.823*	93.10	*3.665*	1.14	*2.51*
1SP 063	48.85	*1.923*	98.20	*3.866*	1.22	*2.69*
1SP 078	51.70	*2.035*	103.90	*4.091*	1.30	*2.87*
1SP 098	55.65	*2.191*	111.80	*4.402*	1.41	*3.11*

MOTORI AD INGRANAGGI GRUPPO 1SM
GEAR MOTORS GROUP 1SM

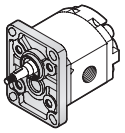
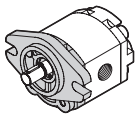
CODICE ORDINAZIONE • *ORDER CODE*

1SM - A - 020 - D - EUR - H - N - 10 - 0 - G

SIGLA - *CODE*	TIPO - *TYPE*	DESCRIZIONE - *DESCRIPTION*	PAGINA - *PAGE*
1SM	Tipo motore *Motor type*	Motore - gruppo 1 *Motor - group 1*	100
A	Materiale flangia e coperchio *Flange and cover material*	**A** = alluminio / *aluminium*	116
020	Cilindrata *Displacement*	Cilindrata = 2 cm^3/g *Displacement = 0.12 in^3/rev*	100
D	Senso di rotazione *Rotation wise*	**D** = Rotazione destra / *Clockwise rotation* **S** = Rotazione sinistra / *Anticlockwise rotation* **R** = Reversibile / *Reversible*	104
EUR	Tipo Flangia *Flange type*	Flangia europea standard *Standard European flange*	116
H	Tipo anello di tenuta *Seal ring type*	Vedi tabella compatibilità *See compatibility table*	
N	Tipo guarnizione *Gasket type*	**N** = NBR **V** = Viton	117
10	Tipo Albero *Shaft type*	Vedi tabella compatibilità *See compatibility table*	
0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	119
G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	120

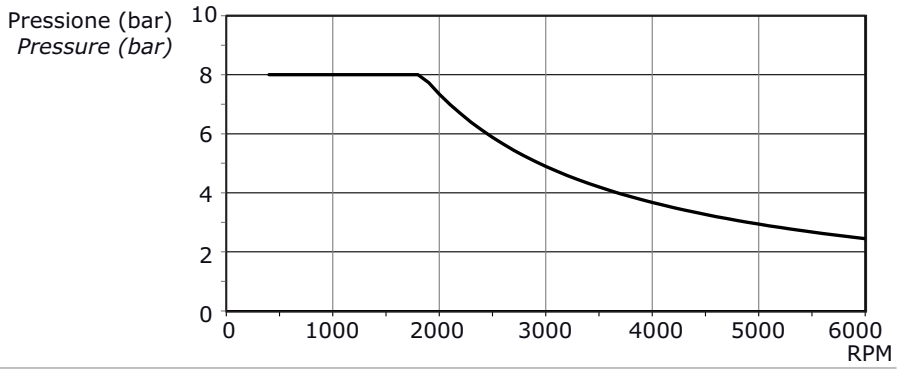
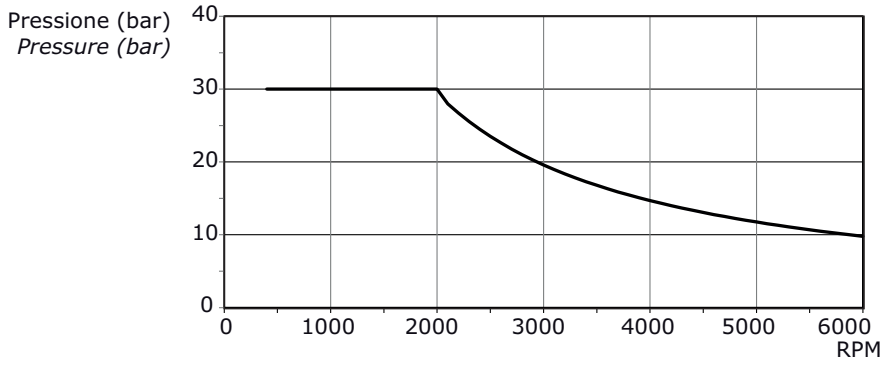
MOTORI AD INGRANAGGI GRUPPO 1SM
GEAR MOTORS GROUP 1SM

TIPOLOGIA FLANGIA • *FLANGE TYPE*

1SM	EUR	SAEAA
		
A alluminio-*aluminium*	◇	◇
G ghisa-*cast iron*	non disponibile *not available*	non disponibile *not available*

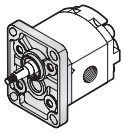
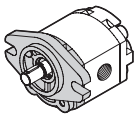
◇ = Combinazione standard - *Standard combination*

ANELLO DI TENUTA • *SEAL RING*

SIGLA - *CODE*	TIPO - *TYPE*	DIAGRAMMA - *DIAGRAM*
A	Flangia senza anello di tenuta *Flange without seal ring*	/
H	Anello di tenuta fino a **8** bar *Sealing ring up to **8** bar*	
K	Anello di tenuta fino a **30** bar *Sealing ring up to **30** bar*	

MOTORI AD INGRANAGGI GRUPPO 1SM
GEAR MOTORS GROUP 1SM

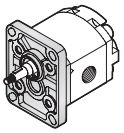
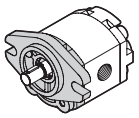
COMBINAZIONE FLANGIA - ANELLO DI TENUTA - GUARNIZIONE • *FLANGE - SEAL RING - GASKET COMBINATION*

1SM	EUR			SAEAA		
						
	Anello - *seal ring*			Anello - *seal ring*		
	H	**K**	**W**	**H**	**K**	**W**
NBR **N**	◇	◇	◇	◇	◇	◇
Viton **V**	●	●	●	●	●	●

esempio • *example:* **1SM - A - 020 - D - EUR - H - N - 10 - 0 - G**

EUR = Flangia europea / *European flange*
H = Anello tenuta fino a 8 bar / Seal ring up to 8 *bar*
N = *Guarnizione in NBR / NBR o-ring*

COMBINAZIONE ALBERO - FLANGIA • *SHAFT - FLANGE COMBINATION*

1SM	EUR	SAEAA
		
10 Conico 1:8 *Tapered 1:8*	◇	●
11 Conico 1:5 *Tapered 1:5*	●	●
13 Cilindrico SAEAA *Parallel shaft SAEAA*	●	◇
14 Scanalato SAEAA 9 denti *SAEAA 9T splined*	●	◇
15 Scanalato DIN5480 6T 12x9 *DIN5480 Splined*	●	●
17 Fresato a dente frontale *Dihedral claw*		
27 Fresato a dente frontale (con anello) *Dihedral claw (with sealing ring)*	●	●

◇ = Combinazione standard - *Standard combination*
● = Combinazione disponibile - *Available combination*

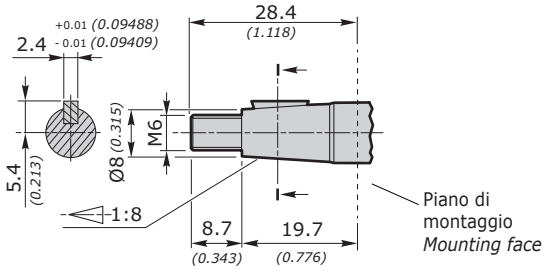
MOTORI AD INGRANAGGI GRUPPO 1SM
GEAR MOTORS GROUP 1SM

1SM

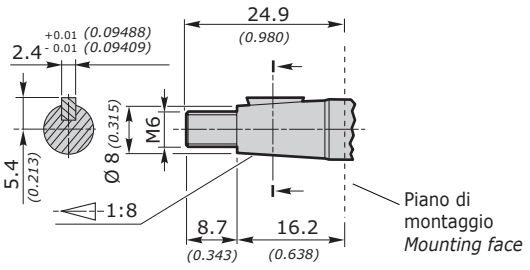
DIMENSIONI ALBERO - *SHAFT DIMENSIONS*

10
Conico 1:8
Tapered 1:8

Coppia 30 Nm
Torque 22 ft-lbs



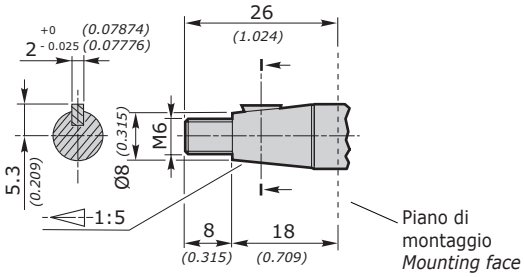
Disponibile per - *available for:* **EUR - MC32**



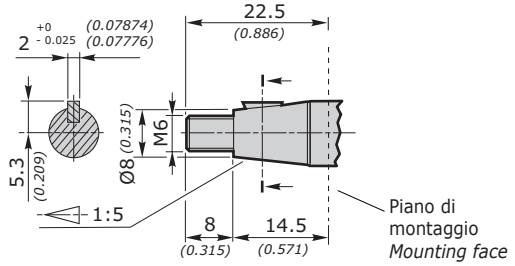
Disponibile per - *available for:* **SAEAA**

11
Conico 1:5
Tapered 1:5

Coppia 30 Nm
Torque 22 ft-lbs



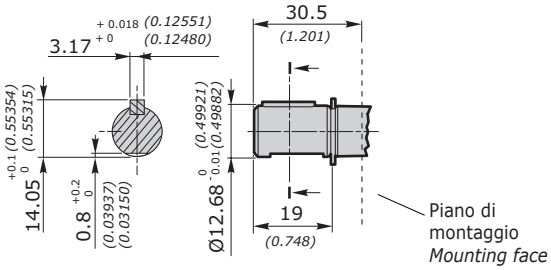
Disponibile per - *available for:* **EUR - MC32**



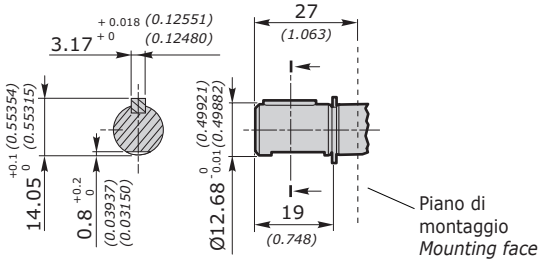
Disponibile per - *available for:* **SAEAA**

13
Cilindrico SAEAA
Parallel shaft SAEAA

Coppia 35 Nm
Torque 26 ft-lbs



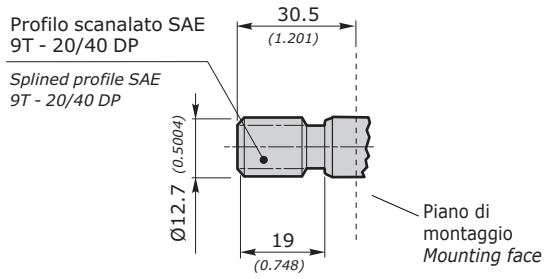
Disponibile per - *available for:* **EUR**



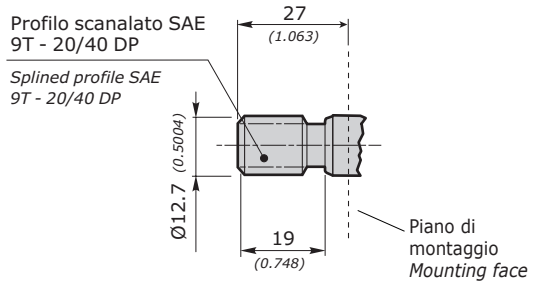
Disponibile per - *available for:* **SAEAA**

14
Scanalato SAEAA 9 denti
SAEAA 9T splined

Coppia 40 Nm
Torque 30 ft-lbs



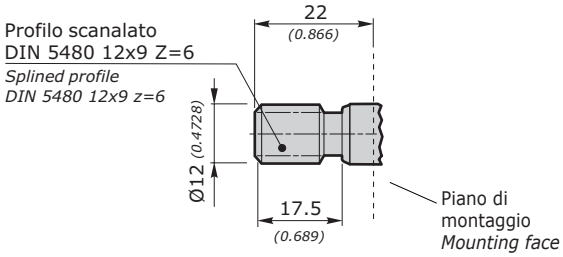
Disponibile per - *available for:* **EUR**



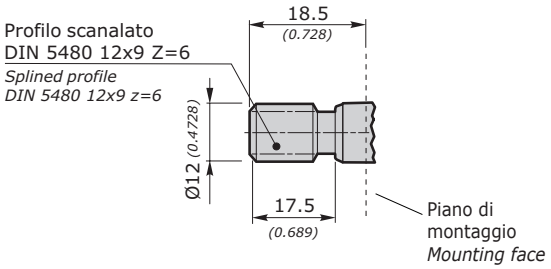
Disponibile per - *available for:* **SAEAA**

15
Scanalato DIN 5480 6T 12x9
DIN 5480 splined

Coppia 30 Nm
Torque 22 ft-lbs



Disponibile per - *available for:* **EUR - MC32**



Disponibile per - *available for:* **SAEAA**

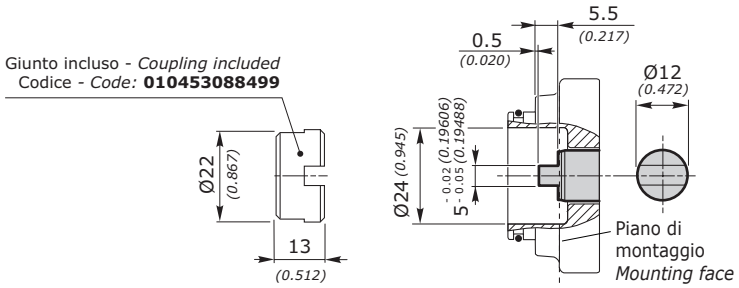
MOTORI AD INGRANAGGI GRUPPO 1SM
GEAR MOTORS GROUP 1SM

1SM

DIMENSIONI ALBERO - *SHAFT DIMENSIONS*

17
Fresato
a dente frontale
Dihedral craw

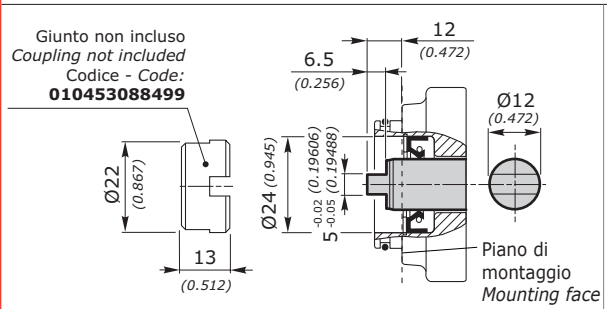
Coppia 25 Nm
Torque 19 ft-lbs



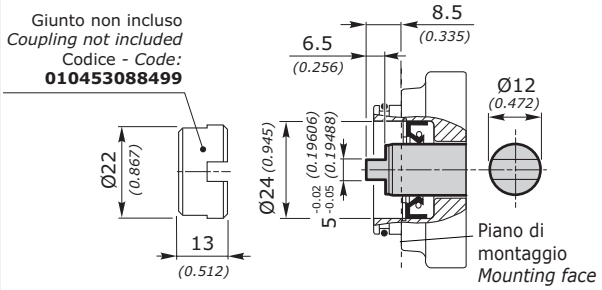
Disponibile per - *available for:* **E32BX - E32BC - E32CX - E32CC**

27
Fresato
a dente frontale
(con anello)
Dihedral claw
(with sealing ring)

Coppia 25 Nm
Torque 19 ft-lbs



Disponibile per - *available for:* **EUR - MC32**

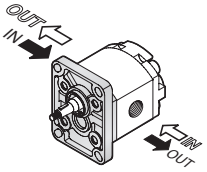
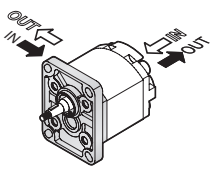
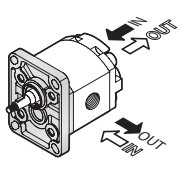
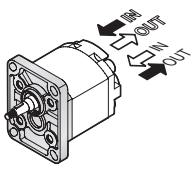


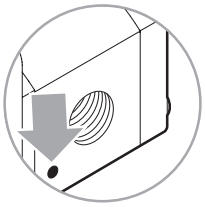
Disponibile per - *available for:* **SAEAA**

POSIZIONE CONNESSIONE • *CONNECTION POSITION*

Rotazione destra - **D**
*Right rotation - **D***

Rotazione sinistra - **S**
*Left rotation - **S***

0	1	3	4
			



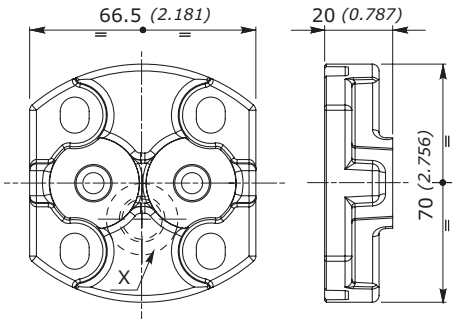
Il segno del corpo indica il LATO SCARICO per i motori
The sign on the body identifies the OUTLET SIDE for the motors

IN = INGRESSO - *INLET*
OUT = SCARICO - *OUTLET*

MOTORI AD INGRANAGGI GRUPPO 1SM
GEAR MOTORS GROUP 1SM

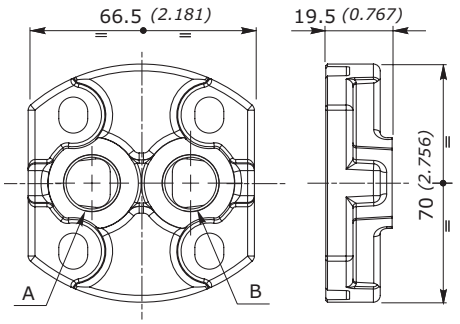
COPERCHIO STANDARD • *STANDARD COVER*

Per posizione **0**
*For position **0***



CONNESSIONI / *CONNECTION*	X
GAS	G 1/4
SAE	SAE 6

Per posizioni **1, 3** e **4**
*For position **1, 3** and **4***



CONNESSIONI / *CONNECTION*	A	B
GAS	G 3/8	G 3/8
SAE	SAE 8	SAE 6

NOTA - (X) Coperchio standard disponibile con drenaggio G 1/4 e SAE 6 contattare il Servizio Commerciale.

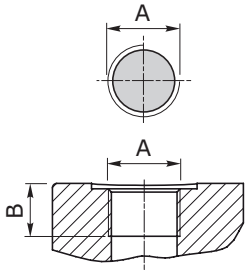
Note - (X) Available standard cover with drain G 1/4 and SAE 6. Please contact our Sales Dpt.

TIPO CONNESSIONE • *CONNECTION TYPE*

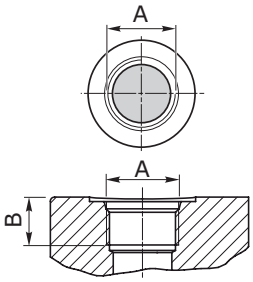
Le connessioni rappresentate corrispondono alle versioni standard; per connessioni differenti, contattare il nostro Ufficio Commerciale.

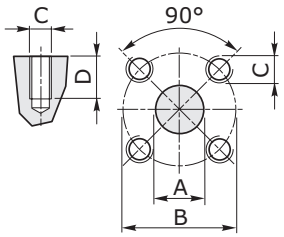
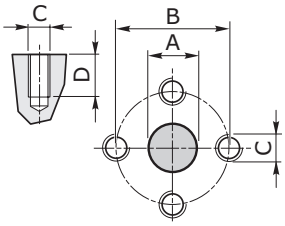
The connection types shown correspond to standard configurations; for different applications contact our Commercial Dept.

1SM		POSIZIONE CONNESSIONE - *CONNECTION POSITION*				
		0	**1**	**3**	**4**	**DRENAGGIO** ***DRAIN***
GAS	**G**	◇	◇	◇	◇	◇
UNF	**U**	◇	◇	◇	◇	◇
FLANGIATE *FLANGED*	**T**	◇				
	N	◇				

GAS	UNI ISO 228/1	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT**			INGRESSO - *INLET* **IN**		
				A	**B**		**A**	**B**	
		**G**	009	G 3/8"	14 [mm] *0.552 [inch]*	40 [Nm] *354 [in.lbs]*	G 3/8"	14 [mm] *0.552 [inch]*	40 [Nm] *354 [in.lbs]*
			012						
			016						
			020						
			025						
			032						
			037						
			042						
			050						
			063						
			078						
			098						

MOTORI AD INGRANAGGI GRUPPO 1SM
GEAR MOTORS GROUP 1SM

UNF	ANSI/ASME B1.1	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT** A	B		INGRESSO - *INLET* **IN** A	B	
		**U**	009	SAE 6 9/16"-18 UNF	13 [mm] *0.512 [inch]*	40 [Nm] *354 [in.lbs]*	SAE 6 9/16"-18 UNF	13 [mm] *0.512 [inch]*	40 [Nm] *354 [in.lbs]*
			012						
			016						
			020						
			025	SAE 8 3/4"-14 UNF	15 [mm] *0.591 [inch]*	50 [Nm] *443 [in.lbs]*	SAE 8 3/4"-14 UNF	15 [mm] *0.591 [inch]*	50 [Nm] *443 [in.lbs]*
			032						
			037						
			042						
			050						
			063						
			078						
			098						

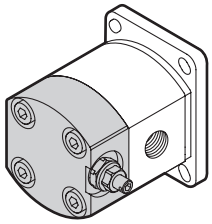
FLANGIATE FLANGED	ISO/R 262	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT** A	B	C	D		INGRESSO - *INLET* **IN** A	B	C	D	
		**T**	009	12 [mm] *0.472 [inch]*	30 [mm] *1.181 [inch]*	M6	13 [mm] *0.512 [inch]*	8 [Nm] *71 [in.lbs]*	12 [mm] *0.472 [inch]*	30 [mm] *1.181 [inch]*	M6	13 [mm] *0.512 [inch]*	8 [Nm] *71 [in.lbs]*
			012										
			016										
			020										
			025										
			032										
			037										
			042										
			050										
			063										
			078										
			098										
		**N**	009	10 [mm] *0.394 [inch]*	26 [mm] *1.024 [inch]*	M5	11 [mm] *0.433 [inch]*	7 [Nm] *62 [in.lbs]*	10 [mm] *0.394 [inch]*	26 [mm] *1.024 [inch]*	M5	11 [mm] *0.433 [inch]*	7 [Nm] *62 [in.lbs]*
			012										
			016										
			020										
			025	13 [mm] *0.512 [inch]*	30 [mm] *1.181 [inch]*	M6	11 [mm] *0.433 [inch]*	8 [Nm] *71 [in.lbs]*	13 [mm] *0.512 [inch]*	30 [mm] *1.181 [inch]*	M6	11 [mm] *0.433 [inch]*	8 [Nm] *71 [in.lbs]*
			032										
			037										
			042										
			050										
			063										
			078										
			098										

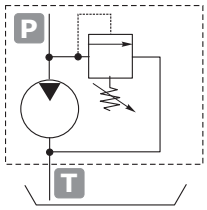
MOTORI AD INGRANAGGI GRUPPO 1SM
GEAR MOTORS GROUP 1SM

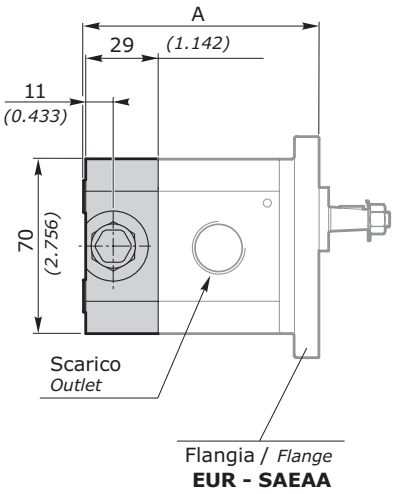
OPZIONI • *OPTIONS*

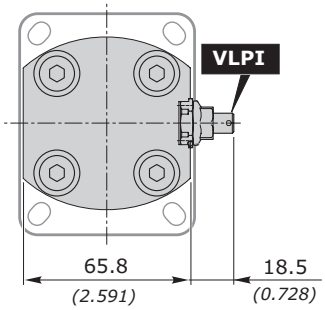
VLPI

VALVOLA LIMITATRICE DI PRESSIONE A SCARICO INTERNO
PRESSURE RELIEF VALVE WITH INTERNAL EXHAUST









GRUPPO GROUP 1	A EUR		A SAEAA	
	mm	*inch*	*mm*	*inch*
1SM 009	82.6	*3.252*	86.1	*3.390*
1SM 012	83.7	*3.295*	87.2	*3.433*
1SM 016	85.4	*3.362*	88.9	*3.500*
1SM 020	86.9	*3.421*	90.4	*3.559*
1SM 025	88.9	*3.500*	92.4	*3.638*
1SM 032	91.6	*3.606*	95.1	*3.744*
1SM 037	93.6	*3.685*	97.1	*3.823*
1SM 042	95.5	*3.760*	99.0	*3.898*
1SM 050	98.6	*3.882*	102.1	*4.020*
1SM 063	103.7	*4.083*	107.2	*4.220*
1SM 078	109.4	*4.307*	112.9	*4.445*
1SM 098	117.3	*4.618*	120.8	*4.756*

ATTENZIONE:

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore (previsto solo scarico interno).
Il coperchio VLP è disponibile in allumnio.

WARNING:

The pressure relief valve can be applied by replacing the rear cover (only internal relief is set).
VLP cover is available in aluminum.

esempio • *example:* **1SM - A - 020 - D - EUR - H - N - 10 - 0 - G - VLPI (N 120)**

VLPI = Coperchio con VPL a scarico interno / *Cover with VPL with internal exhaust*
N = Tipo molla - vedi tabella / *Spring type - see table*
120 = Taratura - vedi tabella / *Setting - see table*

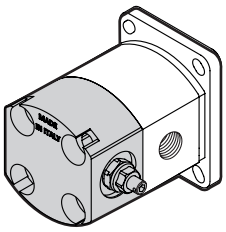
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	**B**	molla nera - *black spring*	**N**	molla rossa - *red spring*	**R**
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

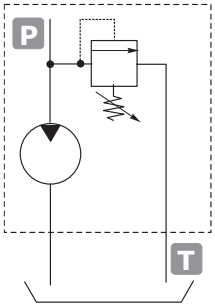
NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

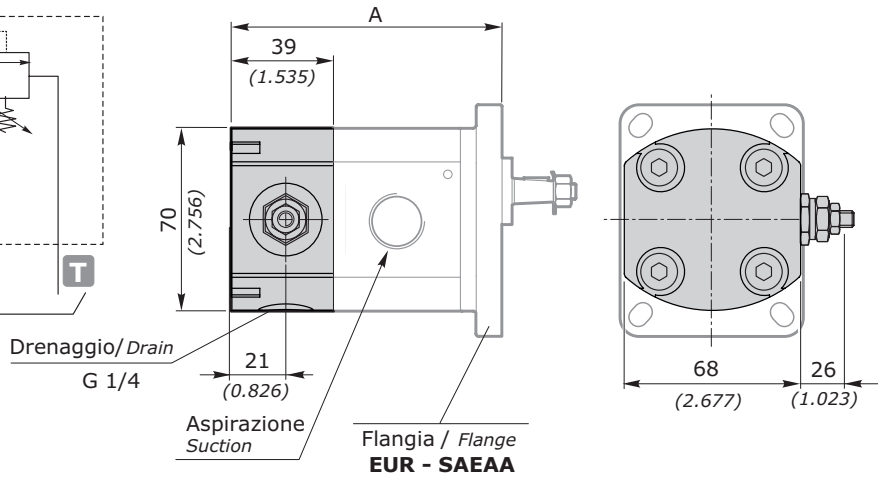
MOTORI AD INGRANAGGI GRUPPO 1SM
GEAR MOTORS GROUP 1SM

VLPE

VALVOLA LIMITATRICE DI PRESSIONE A SCARICO ESTERNO
PRESSURE RELIEF VALVE WITH EXTERNAL EXHAUST







GRUPPO GROUP 1	A EUR		A SAEAA	
	mm	inch	mm	inch
1SP 009	92.6	*3.645*	96.1	*3.783*
1SP 012	93.7	*3.688*	97.2	*3.826*
1SP 016	95.4	*3.755*	98.9	*3.893*
1SP 020	96.9	*3.814*	100.4	*3.952*
1SP 025	98.9	*3.893*	102.4	*4.031*
1SP 032	101.6	*4*	105.1	*4.137*
1SP 037	103.6	*4.078*	107.1	*4.216*
1SP 042	105.5	*4.153*	109.0	*4.291*
1SP 050	108.6	*4.275*	112.1	*4.413*
1SP 063	113.7	*4.476*	117.2	*4.614*
1SP 078	119.4	*4.7*	122.9	*4.838*
1SP 098	127.3	*5.011*	130.8	*5.149*

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore. Il coperchio VLP è disponibile in alluminio. E' rappresentato un motore con rotazione sinistra. Nei motori con rotazione destra, la valvola è dal lato opposto.

The pressure relief valve can be applied by substituting the rear cover. VLP cover is available in aluminum. The showed motor is with anticlockwise rotation. In the case of motor with clockwise rotation, the valve is on the opposite side.

esempio ● *example:* **1SM - A - 020 - D - EUR - H - N - 10 - 0 - G - VLPE (N 120)**

VLPE = Coperchio con VPL a scarico esterno / *Cover with VPL with external exhaust*
N = Tipo molla - vedi tabella / *Spring type - see table*
120 = Taratura - vedi tabella / *Setting - see table*

TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	B	molla nera - *black spring*	N	molla rossa - *red spring*	R
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

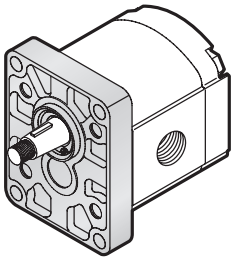
FLANGIA EUROPEA EUR *EUROPEAN FLANGE*

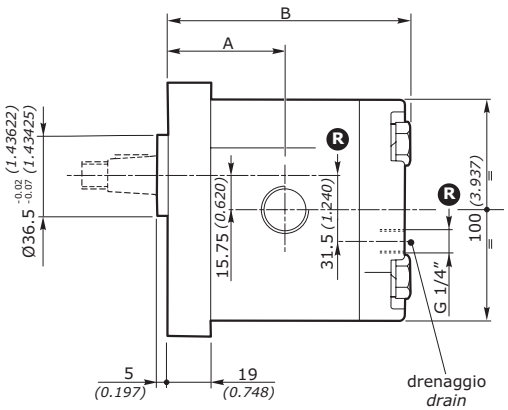
FLANGIA E COPERCHIO IN ALLUMINIO - *FLANGE AND COVER IN ALUMINIUM*

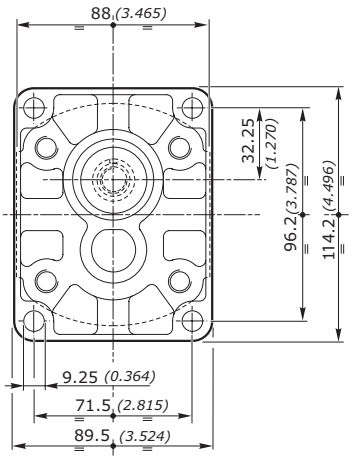
GRUPPO GROUP 2SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE S - D		R		S - D		R		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	*in³/rev*	**P1** *bar*	**P1** *psi*	**P1** *bar*	**P1** *psi*	**P2** *bar*	**P2** *psi*	**P2** *bar*	**P2** *psi*	*giri/min - rpm*	*l/min*	*Gal/min*	*giri/min - rpm*
2SM 040	4	*0.24*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	4000	16	*4.23*	500
2SM 060	6	*0.37*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	4000	24	*6.34*	500
2SM 080	8.5	*0.52*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	29.7	*7.85*	500
2SM 110	11	*0.67*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	38.5	*10.17*	500
2SM 140	14	*0.85*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	49	*12.95*	500
2SM 160	16.5	*1.01*	230	*3335*	195	*2827*	240	*3480*	205	*2972*	3500	57.7	*15.24*	500
2SM 190	19.5	*1.19*	210	*3045*	180	*2610*	220	*3190*	190	*2755*	3300	64.3	*16.99*	500
2SM 220	22.5	*1.37*	190	*2755*	160	*2320*	200	*2900*	170	*2465*	2800	63	*16.64*	500
2SM 260	26	*1.59*	170	*2465*	145	*2102*	180	*2610*	155	*2248*	2500	65	*17.17*	500
2SM 310	31.5	*1.92*	130	*1885*	110	*1595*	140	*2030*	120	*1740*	2200	69	*18.22*	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*







R Solo per motori reversibili - *Only for reversible motors*

GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	*inch*	*mm*	*inch*	*kg*	*lbs*
2SM 040	44.4	*1.748*	93.0	*3.661*	2.30	*5.07*
2SM 060	46.0	*1.811*	96.3	*3.791*	2.45	*5.40*
2SM 080	48.1	*1.894*	100.5	*3.957*	2.60	*5.73*
2SM 110	50.2	*1.976*	104.6	*4.118*	2.70	*5.95*
2SM 140	52.7	*2.075*	109.6	*4.315*	2.80	*6.17*
2SM 160	54.8	*2.157*	113.8	*4.480*	2.95	*6.51*
2SM 190	57.3	*2.256*	118.8	*4.677*	3.10	*6.84*
2SM 220	59.8	*2.354*	123.8	*4.874*	3.25	*7.17*
2SM 260	62.7	*2.469*	129.6	*5.102*	3.40	*7.50*
2SM 310	66.9	*2.636*	138.0	*5.437*	3.61	*7.96*

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

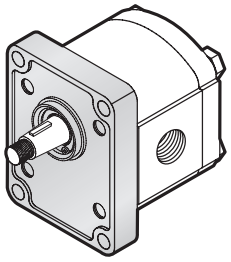
FLANGIA EUROPEA EUR *EUROPEAN FLANGE*

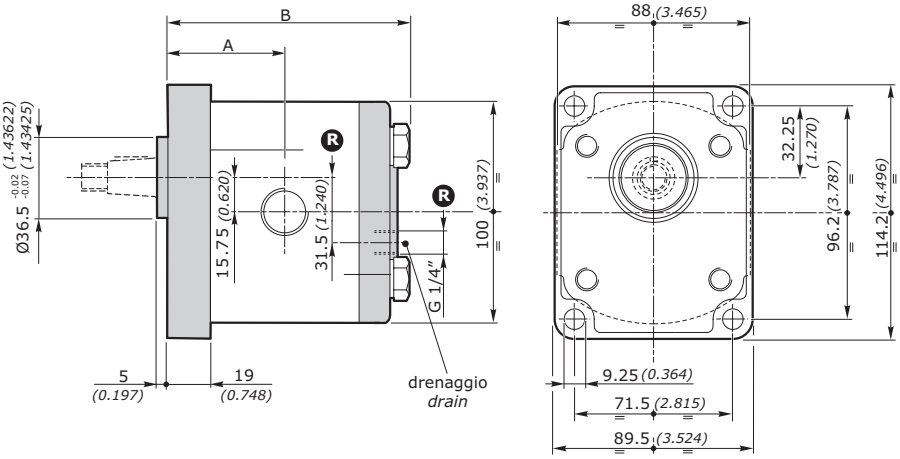
FLANGIA E COPERCHIO IN GHISA - *FLANGE AND COVER IN CAST IRON*

GRUPPO GROUP 2SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE S - D		R		S - D		R		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	P1 bar	P1 psi	P1 bar	P1 psi	P2 bar	P2 psi	P2 bar	P2 psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SM 040	4	0.24	260	3770	220	3190	280	4060	240	3480	4000	16	4.23	500
2SM 060	6	0.37	260	3770	220	3190	280	4060	240	3480	4000	24	6.34	500
2SM 080	8.5	0.52	260	3770	220	3190	280	4060	240	3480	3500	29.7	7.85	500
2SM 110	11	0.67	260	3770	220	3190	280	4060	240	3480	3500	38.5	10.17	500
2SM 140	14	0.85	260	3770	220	3190	280	4060	240	3480	3500	49	12.95	500
2SM 160	16.5	1.01	240	3480	205	2972	250	3625	215	3117	3500	57.7	15.24	500
2SM 190	19.5	1.19	220	3190	190	2755	230	3335	200	2900	3300	64.3	16.99	500
2SM 220	22.5	1.37	200	2900	170	2465	210	3045	180	2610	2800	63	16.64	500
2SM 260	26	1.59	180	2610	155	2248	190	2755	165	2392	2500	65	17.17	500
2SM 310	31.5	1.92	140	2030	120	1740	150	2175	130	1885	2200	69	18.22	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*





Ⓡ Solo per motori reversibili - *Only for reversible motors*

GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SM 040	44.4	1.748	93.0	3.661	3.40	7.50
2SM 060	46.0	1.811	96.3	3.791	3.55	7.83
2SM 080	48.1	1.894	100.5	3.957	3.70	8.16
2SM 110	50.2	1.976	104.6	4.118	3.80	8.38
2SM 140	52.7	2.075	109.6	4.315	3.90	8.60
2SM 160	54.8	2.157	113.8	4.480	4.05	8.93
2SM 190	57.3	2.256	118.8	4.677	4.20	9.26
2SM 220	59.8	2.354	123.8	4.874	4.35	9.59
2SM 260	62.7	2.469	129.6	5.102	4.50	9.92
2SM 310	66.9	2.636	138.0	5.437	4.71	7.96

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

FLANGIA SAE SAEA-SAEAOR *SAE FLANGE*

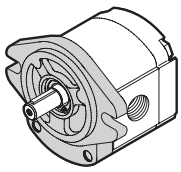
FLANGIA E COPERCHIO IN ALLUMINIO - *FLANGE AND COVER IN ALUMINIUM*

GRUPPO GROUP 2SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE								VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
			S - D		R		S - D		R					
	cm³/giro	in³/rev	P1 bar	P1 psi	P1 bar	P1 psi	P2 bar	P2 psi	P2 bar	P2 psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SM 040	4	0.24	250	3625	210	3045	270	3915	230	3335	4000	16	4.23	500
2SM 060	6	0.37	250	3625	210	3045	270	3915	230	3335	4000	24	6.34	500
2SM 080	8.5	0.52	250	3625	210	3045	270	3915	230	3335	3500	29.7	7.85	500
2SM 110	11	0.67	250	3625	210	3045	270	3915	230	3335	3500	38.5	10.17	500
2SM 140	14	0.85	250	3625	210	3045	270	3915	230	3335	3500	49	12.95	500
2SM 160	16.5	1.01	230	3335	195	2827	240	3480	205	2972	3500	57.7	15.24	500
2SM 190	19.5	1.19	210	3045	180	2610	220	3190	190	2755	3300	64.3	16.99	500
2SM 220	22.5	1.37	190	2755	160	2320	200	2900	170	2465	2800	63	16.64	500
2SM 260	26	1.59	170	2465	145	2102	180	2610	155	2248	2500	65	17.17	500
2SM 310	31.5	1.92	130	1885	110	1595	140	2030	120	1740	2200	69	18.22	500

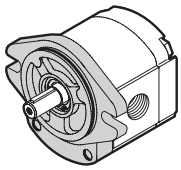
Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

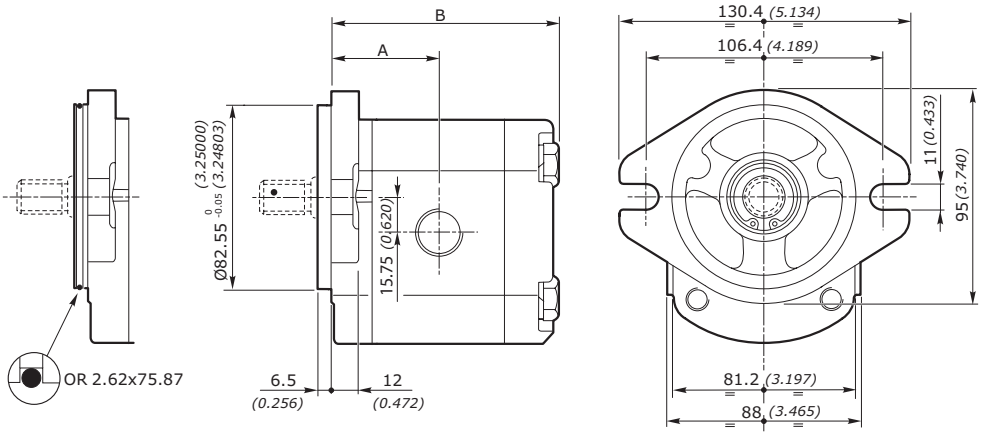
DIMENSIONI • *DIMENSIONS*

SAEA



SAEAOR





R Solo per motori reversibili - *Only for reversible motors*

GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SM 040	44.4	1.748	93.0	3.661	2.30	5.07
2SM 060	46.0	1.811	96.3	3.791	2.45	5.40
2SM 080	48.1	1.894	100.5	3.957	2.60	5.73
2SM 110	50.2	1.976	104.6	4.118	2.70	5.95
2SM 140	52.7	2.075	109.6	4.315	2.80	6.17
2SM 160	54.8	2.157	113.8	4.480	2.95	6.51
2SM 190	57.3	2.256	118.8	4.677	3.10	6.84
2SM 220	59.8	2.354	123.8	4.874	3.25	7.17
2SM 260	62.7	2.469	129.6	5.102	3.40	7.50
2SM 310	66.9	2.636	138.0	5.437	3.61	7.96

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

FLANGIA SAE SAEA-SAEAOR *SAE FLANGE*

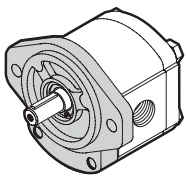
FLANGIA E COPERCHIO IN GHISA - *FLANGE AND COVER IN CAST IRON*

GRUPPO GROUP 2SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE								VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
			S - D		R		S - D		R					
	cm^3/giro	in^3/rev	P1 bar	P1 psi	P1 bar	P1 psi	P2 bar	P2 psi	P2 bar	P2 psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SM 040	4	0.24	260	3770	220	3190	280	4060	240	3480	4000	16	4.23	500
2SM 060	6	0.37	260	3770	220	3190	280	4060	240	3480	4000	24	6.34	500
2SM 080	8.5	0.52	260	3770	220	3190	280	4060	240	3480	3500	29.7	7.85	500
2SM 110	11	0.67	260	3770	220	3190	280	4060	240	3480	3500	38.5	10.17	500
2SM 140	14	0.85	260	3770	220	3190	280	4060	240	3480	3500	49	12.95	500
2SM 160	16.5	1.01	240	3480	205	2972	250	3625	215	3117	3500	57.7	15.24	500
2SM 190	19.5	1.19	220	3190	190	2755	230	3335	200	2900	3300	64.3	16.99	500
2SM 220	22.5	1.37	200	2900	170	2465	210	3045	180	2610	2800	63	16.64	500
2SM 260	26	1.59	180	2610	155	2248	190	2755	165	2392	2500	65	17.17	500
2SM 310	31.5	1.92	140	2030	120	1740	150	2175	130	1885	2200	69	18.22	500

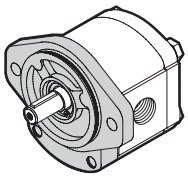
Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

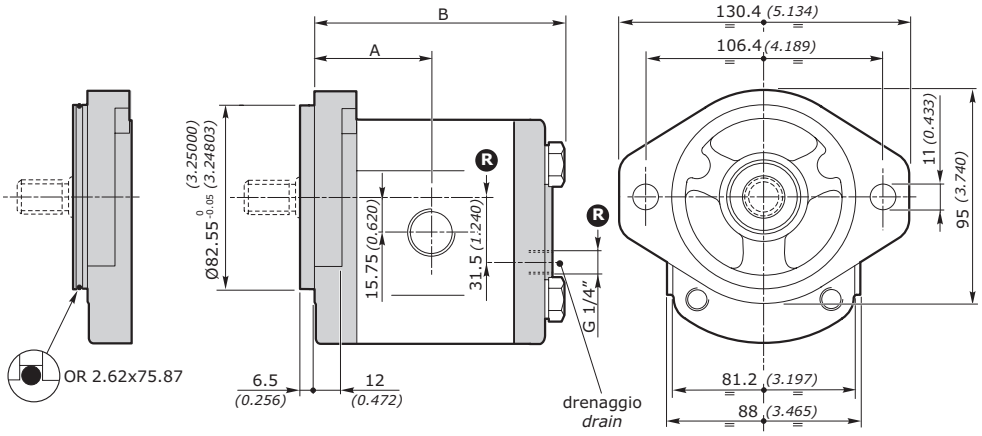
DIMENSIONI • *DIMENSIONS*

SAEA



SAEAOR





Ⓡ Solo per motori reversibili - *Only for reversible motors*

GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SM 040	44.4	1.748	93.0	3.661	3.40	7.50
2SM 060	46.0	1.811	96.3	3.791	3.55	7.83
2SM 080	48.1	1.894	100.5	3.957	3.70	8.16
2SM 110	50.2	1.976	104.6	4.118	3.80	8.38
2SM 140	52.7	2.075	109.6	4.315	3.90	8.60
2SM 160	54.8	2.157	113.8	4.480	4.05	8.93
2SM 190	57.3	2.256	118.8	4.677	4.20	9.26
2SM 220	59.8	2.354	123.8	4.874	4.35	9.59
2SM 260	62.7	2.469	129.6	5.102	4.50	9.92
2SM 310	66.9	2.636	138.0	5.437	4.71	7.96

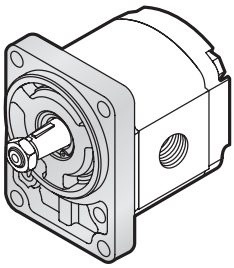
MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

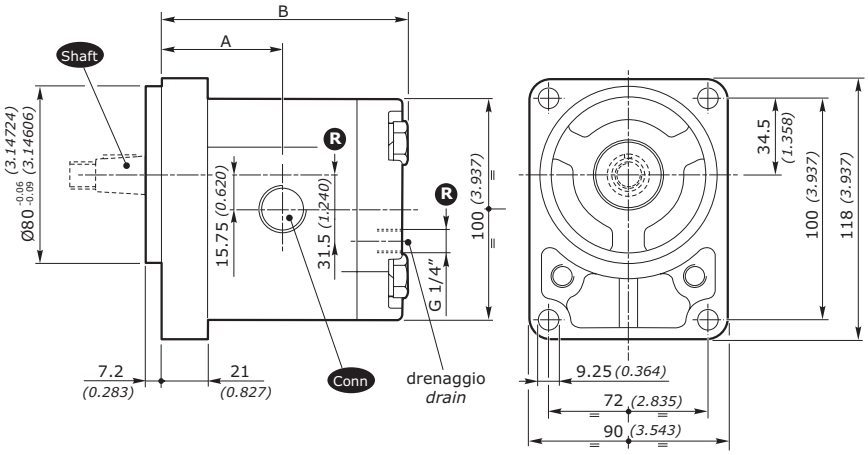
FLANGIA TEDESCA B80C *GERMAN FLANGE*

GRUPPO GROUP 2SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE S - D		R		S - D		R		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	P1 bar	P1 psi	P1 bar	P1 psi	P2 bar	P2 psi	P2 bar	P2 psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SM 040	4	*0.24*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	4000	16	*4.23*	500
2SM 060	6	*0.37*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	4000	24	*6.34*	500
2SM 080	8.5	*0.52*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	29.7	*7.85*	500
2SM 110	11	*0.67*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	38.5	*10.17*	500
2SM 140	14	*0.85*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	49	*12.95*	500
2SM 160	16.5	*1.01*	230	*3335*	195	*2827*	240	*3480*	205	*2972*	3500	57.7	*15.24*	500
2SM 190	19.5	*1.19*	210	*3045*	180	*2610*	220	*3190*	190	*2755*	3300	64.3	*16.99*	500
2SM 220	22.5	*1.37*	190	*2755*	160	*2320*	200	*2900*	170	*2465*	2800	63	*16.64*	500
2SM 260	26	*1.59*	170	*2465*	145	*2102*	180	*2610*	155	*2248*	2500	65	*17.17*	500
2SM 310	31.5	*1.92*	130	*1885*	110	*1595*	140	*2030*	120	*1740*	2200	69	*18.22*	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*





Ⓡ Solo per motori reversibili - *Only for reversible motors*

GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SM 040	46.4	*1.827*	95.0	*3.740*	2.30	*5.07*
2SM 060	48.0	*1.890*	98.3	*3.870*	2.45	*5.40*
2SM 080	50.1	*1.972*	102.5	*4.035*	2.60	*5.73*
2SM 110	52.2	*2.055*	106.6	*4.197*	2.70	*5.95*
2SM 140	54.7	*2.154*	111.6	*4.394*	2.80	*6.17*
2SM 160	56.8	*2.236*	115.8	*4.559*	2.95	*6.51*
2SM 190	59.3	*2.335*	120.8	*4.756*	3.10	*6.84*
2SM 220	61.8	*2.433*	125.8	*4.953*	3.25	*7.17*
2SM 260	64.7	*2.547*	131.6	*5.181*	3.40	*7.50*
2SM 310	68.9	*2.715*	140.0	*5.516*	3.61	*7.96*

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

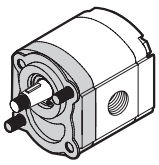
FLANGIA B50C *FLANGE*

GRUPPO GROUP 2SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE S - D		R		S - D		R		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	P1 bar	P1 psi	P1 bar	P1 psi	P2 bar	P2 psi	P2 bar	P2 psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SM 040	4	0.24	250	3625	210	3045	270	3915	230	3335	4000	16	4.23	500
2SM 060	6	0.37	250	3625	210	3045	270	3915	230	3335	4000	24	6.34	500
2SM 080	8.5	0.52	250	3625	210	3045	270	3915	230	3335	3500	29.7	7.85	500
2SM 110	11	0.67	250	3625	210	3045	270	3915	230	3335	3500	38.5	10.17	500
2SM 140	14	0.85	250	3625	210	3045	270	3915	230	3335	3500	49	12.95	500
2SM 160	16.5	1.01	230	3335	195	2827	240	3480	205	2972	3500	57.7	15.24	500
2SM 190	19.5	1.19	210	3045	180	2610	220	3190	190	2755	3300	64.3	16.99	500
2SM 220	22.5	1.37	190	2755	160	2320	200	2900	170	2465	2800	63	16.64	500
2SM 260	26	1.59	170	2465	145	2102	180	2610	155	2248	2500	65	17.17	500
2SM 310	31.5	1.92	130	1885	110	1595	140	2030	120	1740	2200	69	18.22	500

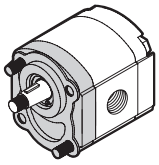
Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

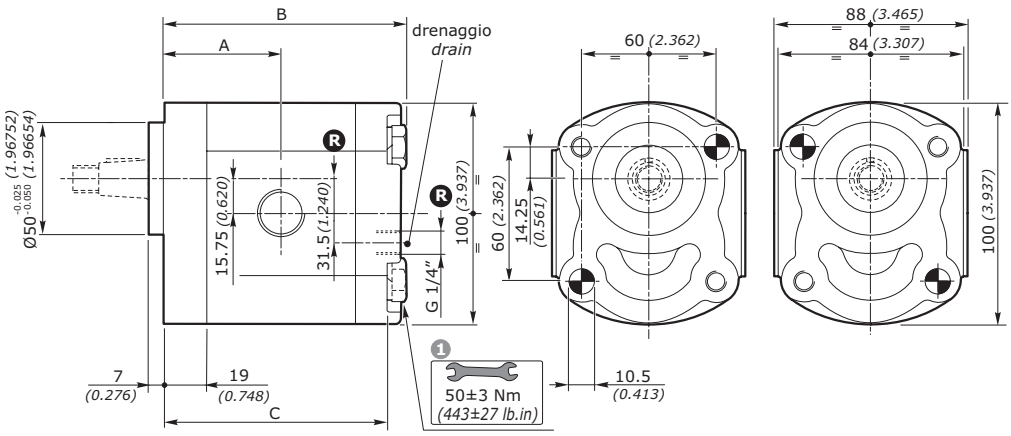
DIMENSIONI • *DIMENSIONS*

B50CX



B50CY





R Solo per motori reversibili - *Only for reversible motors*

1 Coppia di serraggio viti: 50 ± 3Nm (viti classe 10.9-12.9 UNI EN 20898/1)
Il kit viti per il fissaggio della pompa è da ordinare separatamente.
Codice di ordinazione: **0029W** (+ lunghezza **L** - vedi tabella)
Il fissaggio del motore può essere effettuato con 2 viti prigioniere classe 10.9-12.9 UNI EN 20898/1 preserrate: 40 ± 3Nm. Fissare lil motore mediante dadi autobloccanti con coppia si serraggio: 50 ± 3Nm

1 *Screw tightening torque: 443 ± 27 lb-in (screws 10.9-12.9 UNI EN 20898/1).*
The screw kit for the pump assembly should be ordered separately.
*Ordering code: **0029W** (+ length **L** - see table)*
The motor assembling should be made with 2 stud type 10.9-12.9 UNI EN 20898/1 pre-tighten 354 ± 27 lb-in screws. Fix the motor by self-locking nuts with tightening torque: 443 ± 27 lb-in

GRUPPO - GROUP 2	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
2SM 040	44.4	1.748	93.0	3.661	84.0	3.307	105	4.134	2.30	5.07
2SM 060	46.0	1.811	96.3	3.791	87.3	3.437	105	4.134	2.45	5.40
2SM 080	48.1	1.894	100.5	3.957	91.5	3.602	110	4.331	2.60	5.73
2SM 110	50.2	1.976	104.6	4.118	95.6	3.764	115	4.528	2.70	5.95
2SM 140	52.7	2.075	109.6	4.315	100.6	3.961	120	4.724	2.80	6.17
2SM 160	54.8	2.157	113.8	4.480	104.8	4.126	125	4.921	2.95	6.51
2SM 190	57.3	2.256	118.8	4.677	109.8	4.323	130	5.118	3.10	6.84
2SM 220	59.8	2.354	123.8	4.874	114.8	4.520	135	5.315	3.25	7.17
2SM 260	62.7	2.469	129.6	5.102	120.6	4.748	140	5.512	3.40	7.50
2SM 310	66.9	2.636	138.0	5.437	129.0	5.083	150	5.910	3.61	7.96

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

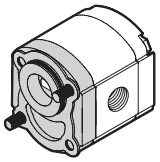
FLANGIA E52C *FLANGE*

GRUPPO GROUP 2SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE								VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
			S - D		R		S - D		R					
	cm^3/giro	in^3/rev	P1 bar	P1 psi	P1 bar	P1 psi	P2 bar	P2 psi	P2 bar	P2 psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SM 040	4	0.24	250	3625	210	3045	270	3915	230	3335	4000	16	4.23	500
2SM 060	6	0.37	250	3625	210	3045	270	3915	230	3335	4000	24	6.34	500
2SM 080	8.5	0.52	250	3625	210	3045	270	3915	230	3335	3500	29.7	7.85	500
2SM 110	11	0.67	250	3625	210	3045	270	3915	230	3335	3500	38.5	10.17	500
2SM 140	14	0.85	250	3625	210	3045	270	3915	230	3335	3500	49	12.95	500
2SM 160	16.5	1.01	230	3335	195	2827	240	3480	205	2972	3500	57.7	15.24	500
2SM 190	19.5	1.19	210	3045	180	2610	220	3190	190	2755	3300	64.3	16.99	500
2SM 220	22.5	1.37	190	2755	160	2320	200	2900	170	2465	2800	63	16.64	500
2SM 260	26	1.59	170	2465	145	2102	180	2610	155	2248	2500	65	17.17	500
2SM 310	31.5	1.92	130	1885	110	1595	140	2030	120	1740	2200	69	18.22	500

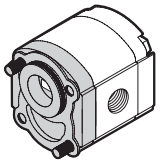
Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

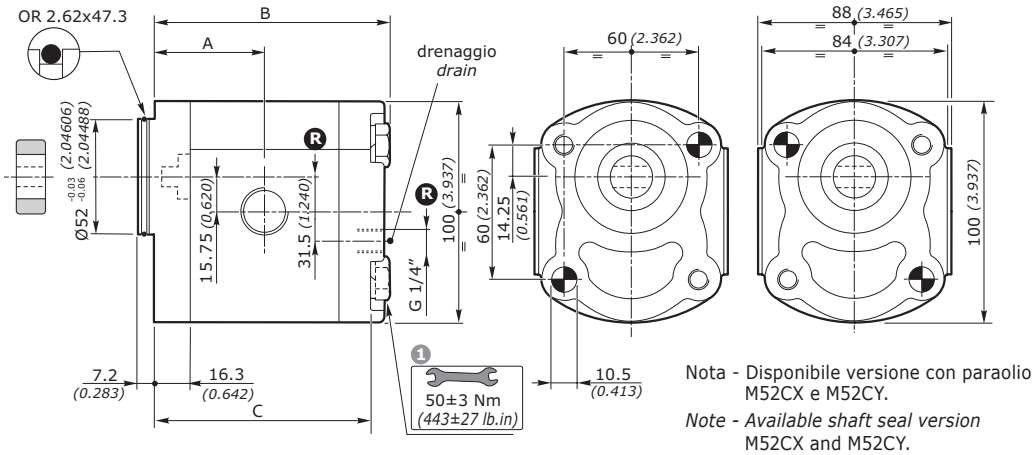
DIMENSIONI • *DIMENSIONS*

E52CX



E52CY





Nota - Disponibile versione con paraolio M52CX e M52CY.
Note - Available shaft seal version M52CX and M52CY.

Ⓡ Solo per motori reversibili - *Only for reversible motors*

① Coppia di serraggio viti: 50 ± 3Nm (viti classe 10.9-12.9 UNI EN 20898/1)
Il kit viti per il fissaggio del motore è da ordinare separatamente.
Codice di ordinazione: 0029W (+ lunghezza L - vedi tabella)
Il fissaggio del motore può essere effettuato con 2 viti prigioniere classe 10.9-12.9 UNI EN 20898/1 preserrate: 40 ± 3Nm. Fissare il motore mediante dadi autobloccanti con coppia si serraggio: 50 ± 3Nm

① *Screw tightening torque: 443 ± 27 lb-in (screws 10.9-12.9 UNI EN 20898/1).*
The screw kit for the pump assembly should be ordered separately.
*Ordering code: **0029W** (+ length **L** - see table)*
The motor assembling should be made with 2 stud type 10.9-12.9 UNI EN 20898/1 pre-tighten 354 ± 27 lb-in screws. Fix the motor by self-locking nuts with tightening torque: 443 ± 27 lb-in

GRUPPO - GROUP 2	A		B		C		L ①		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
2SP 040	41.7	1.642	90.3	3.555	81.3	3.201	100	3.937	2.30	5.07
2SP 060	43.3	1.705	93.6	3.685	84.6	3.331	105	4.134	2.45	5.40
2SP 080	45.4	1.787	97.8	3.850	88.8	3.496	110	4.331	2.60	5.73
2SP 110	47.5	1.870	101.9	4.012	92.9	3.657	115	4.528	2.70	5.95
2SP 140	50.0	1.969	106.9	4.209	97.9	3.854	120	4.724	2.80	6.17
2SP 160	52.1	2.051	111.1	4.374	102.1	4.020	120	4.724	2.95	6.51
2SP 190	54.6	2.150	116.1	4.571	107.1	4.217	125	4.921	3.10	6.84
2SP 220	57.1	2.248	121.1	4.768	112.1	4.413	130	5.118	3.25	7.17
2SP 260	60.0	2.362	126.9	4.996	117.9	4.642	140	5.512	3.40	7.50
2SP 310	64.2	2.529	135.3	5.331	126.3	4.988	145	5.713	3.61	7.96

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

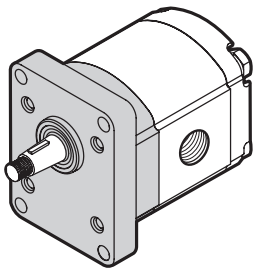
VERSIONE DA UTILIZZARE IN PRESENZA DI CARICHI ASSIALI E/O RADIALI
VERSION TO BE USED WITH AXIAL AND/OR RADIAL LOADS

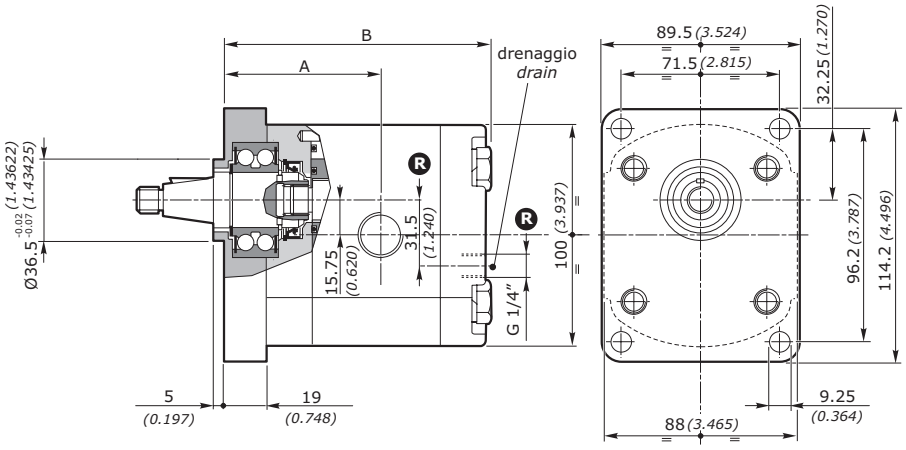
FLANGIA SUPEUR *FLANGE*

GRUPPO GROUP 2SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE S - D		R		S - D		R		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	*in³/rev*	**P1** *bar*	**P1** *psi*	**P1** *bar*	**P1** *psi*	**P2** *bar*	**P2** *psi*	**P2** *bar*	**P2** *psi*	*giri/min - rpm*	*l/min*	*Gal/min*	*giri/min - rpm*
2SM 040	4	*0.24*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	4000	16	*4.23*	500
2SM 060	6	*0.37*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	4000	24	*6.34*	500
2SM 080	8.5	*0.52*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	29.7	*7.85*	500
2SM 110	11	*0.67*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	38.5	*10.17*	500
2SM 140	14	*0.85*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	49	*12.95*	500
2SM 160	16.5	*1.01*	230	*3335*	195	*2827*	240	*3480*	205	*2972*	3500	57.7	*15.24*	500
2SM 190	19.5	*1.19*	210	*3045*	180	*2610*	220	*3190*	190	*2755*	3300	64.3	*16.99*	500
2SM 220	22.5	*1.37*	190	*2755*	160	*2320*	200	*2900*	170	*2465*	2800	63	*16.64*	500
2SM 260	26	*1.59*	170	*2465*	145	*2102*	180	*2610*	155	*2248*	2500	65	*17.17*	500
2SM 310	31.5	*1.92*	130	*1885*	110	*1595*	140	*2030*	120	*1740*	2200	69	*18.22*	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*





Ⓡ Solo per motori reversibili - *Only for reversible motors*

La flangia SUPEUR è sempre allestita con anello di rinforzo. *SUPEUR flange is always equipped with sealing ring*

GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	*inch*	*mm*	*inch*	*kg*	*lbs*
2SP 040	64.4	*2.535*	113.0	*4.449*	2.80	*6.17*
2SP 060	66.0	*2.598*	116.3	*4.579*	2.95	*6.50*
2SP 080	68.1	*2.681*	120.5	*4.744*	3.10	*6.84*
2SP 110	70.2	*2.764*	124.6	*4.906*	3.20	*7.06*
2SP 140	72.7	*2.863*	129.6	*5.102*	3.30	*7.28*
2SP 160	74.8	*2.945*	133.8	*5.268*	3.45	*7.61*
2SP 190	77.3	*3.043*	138.8	*5.465*	3.60	*7.94*
2SP 220	79.8	*3.142*	143.8	*5.661*	3.75	*8.27*
2SP 260	82.7	*3.256*	149.6	*5.890*	3.90	*8.60*
2SP 310	86.9	*3.424*	158.0	*6.225*	4.11	*9.06*

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

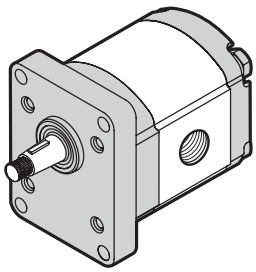
FLANGIA SUPEUR *FLANGE*

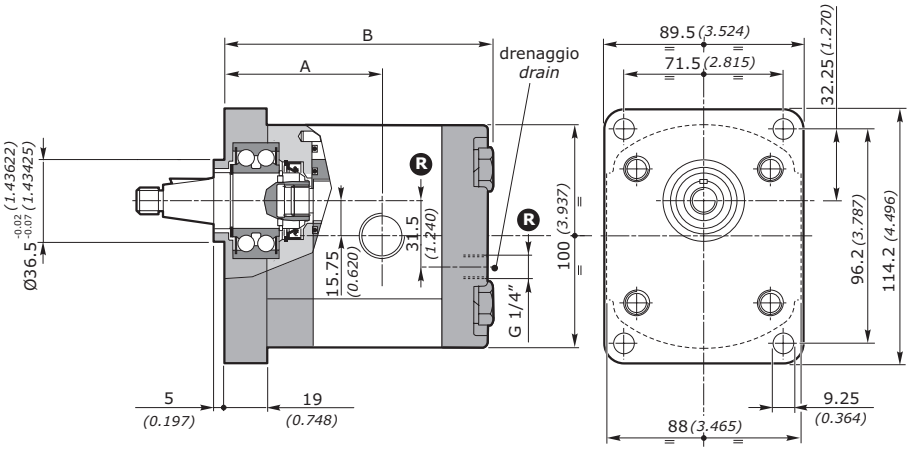
FLANGIA E COPERCHIO IN GHISA - *FLANGE AND COVER IN CAST IRON*

GRUPPO GROUP 2SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE S - D		R		S - D		R		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm^3/giro	in^3/rev	P1 bar	P1 psi	P1 bar	P1 psi	P2 bar	P2 psi	P2 bar	P2 psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SM 040	4	0.24	260	3770	220	3190	280	4060	240	3480	4000	16	4.23	500
2SM 060	6	0.37	260	3770	220	3190	280	4060	240	3480	4000	24	6.34	500
2SM 080	8.5	0.52	260	3770	220	3190	280	4060	240	3480	3500	29.7	7.85	500
2SM 110	11	0.67	260	3770	220	3190	280	4060	240	3480	3500	38.5	10.17	500
2SM 140	14	0.85	260	3770	220	3190	280	4060	240	3480	3500	49	12.95	500
2SM 160	16.5	1.01	240	3480	205	2972	250	3625	215	3117	3500	57.7	15.24	500
2SM 190	19.5	1.19	220	3190	190	2755	230	3335	200	2900	3300	64.3	16.99	500
2SM 220	22.5	1.37	200	2900	170	2465	210	3045	180	2610	2800	63	16.64	500
2SM 260	26	1.59	180	2610	155	2248	190	2755	165	2392	2500	65	17.17	500
2SM 310	31.5	1.92	140	2030	120	1740	150	2175	130	1885	2200	69	18.22	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*





Ⓡ Solo per motori reversibili - *Only for reversible motors*

La flangia SUPEUR è sempre allestita con anello di rinforzo. *SUPEUR flange is always equipped with sealing ring*

GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SM 040	64.4	2.535	113.0	4.449	3.467	7.643
2SM 060	66.0	2.598	116.3	4.579	3.617	7.974
2SM 080	68.1	2.681	120.5	4.744	3.767	8.304
2SM 110	70.2	2.764	124.6	4.906	3.867	8.525
2SM 140	72.7	2.863	129.6	5.102	3.967	8.745
2SM 160	74.8	2.945	133.8	5.268	4.117	9.076
2SM 190	77.3	3.043	138.8	5.465	4.267	9.407
2SM 220	79.8	3.142	143.8	5.661	4.417	9.737
2SM 260	82.7	3.256	149.6	5.890	4.567	10.068
2SM 310	86.9	3.424	158.0	6.225	4.777	10.531

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

FLANGIA SAE SAEB* (1) *SAEB FLANGE*

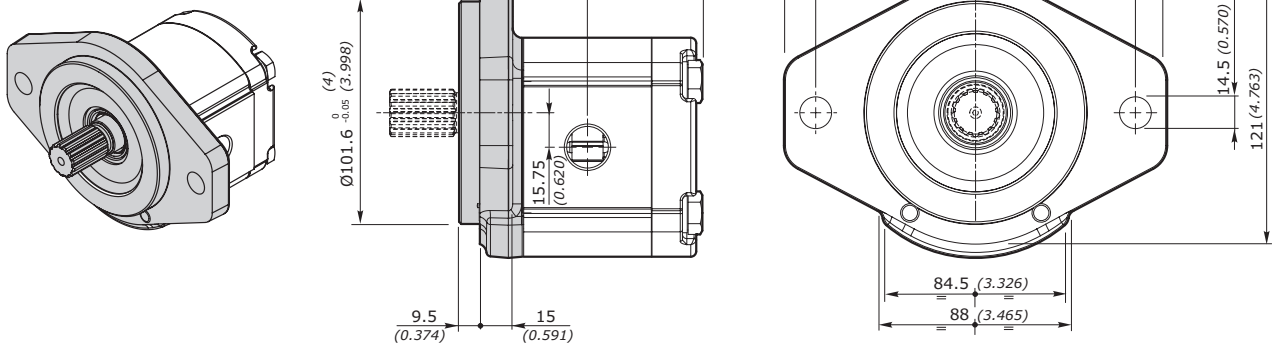
FLANGIA E COPERCHIO IN GHISA - *FLANGE AND COVER IN CAST IRON*

GRUPPO GROUP 2SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE S - D		R		S - D		R		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	*in³/rev*	**P1** *bar*	**P1** *psi*	**P1** *bar*	**P1** *psi*	**P2** *bar*	**P2** *psi*	**P2** *bar*	**P2** *psi*	*giri/min - rpm*	*l/min*	*Gal/min*	*giri/min - rpm*
2SM 040	4	*0.24*	260	*3770*	220	*3190*	280	*4060*	240	*3480*	4000	16	*4.23*	500
2SM 060	6	*0.37*	260	*3770*	220	*3190*	280	*4060*	240	*3480*	4000	24	*6.34*	500
2SM 080	8.5	*0.52*	260	*3770*	220	*3190*	280	*4060*	240	*3480*	3500	29.7	*7.85*	500
2SM 110	11	*0.67*	260	*3770*	220	*3190*	280	*4060*	240	*3480*	3500	38.5	*10.17*	500
2SM 140	14	*0.85*	260	*3770*	220	*3190*	280	*4060*	240	*3480*	3500	49	*12.95*	500
2SM 160	16.5	*1.01*	240	*3480*	205	*2972*	250	*3625*	215	*3117*	3500	57.7	*15.24*	500
2SM 190	19.5	*1.19*	220	*3190*	190	*2755*	230	*3335*	200	*2900*	3300	64.3	*16.99*	500
2SM 220	22.5	*1.37*	200	*2900*	170	*2465*	210	*3045*	180	*2610*	2800	63	*16.64*	500
2SM 260	26	*1.59*	180	*2610*	155	*2248*	190	*2755*	165	*2392*	2500	65	*17.17*	500
2SM 310	31.5	*1.92*	140	*2030*	120	*1740*	150	*2175*	130	*1885*	2200	69	*18.22*	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

* Contattare il servizio commerciale. / *Available soon. Please contact our Sales Dpt.*

DIMENSIONI • *DIMENSIONS*



(1) Configurabile come motore unidirezionale; elementi interni non intercambiabili
Configuration as unidirectional gear motor; internal elements are not interchangeable

GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	*inch*	*mm*	*inch*	*kg*	*lbs*
2SM 040	45.4	*1.787*	94	*3.701*	4.90	*10.80*
2SM 060	47.0	*1.850*	97.3	*3.831*	5.05	*11.13*
2SM 080	49.1	*1.933*	101.5	*3.996*	5.20	*11.46*
2SM 110	51.2	*2.016*	105.6	*4.157*	5.30	*11.68*
2SM 140	53.7	*2.114*	110.6	*4.354*	5.40	*11.90*
2SM 160	55.8	*2.197*	114.8	*4.520*	5.55	*12.24*
2SM 190	58.3	*2.295*	119.8	*4.717*	5.70	*12.57*
2SM 220	60.8	*2.394*	124.8	*4.913*	5.85	*12.90*
2SM 260	63.7	*2.508*	130.6	*5.142*	6.00	*13.23*
2SM 310	67.9	*2.673*	139	*5.472*	6.20	*13.67*

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

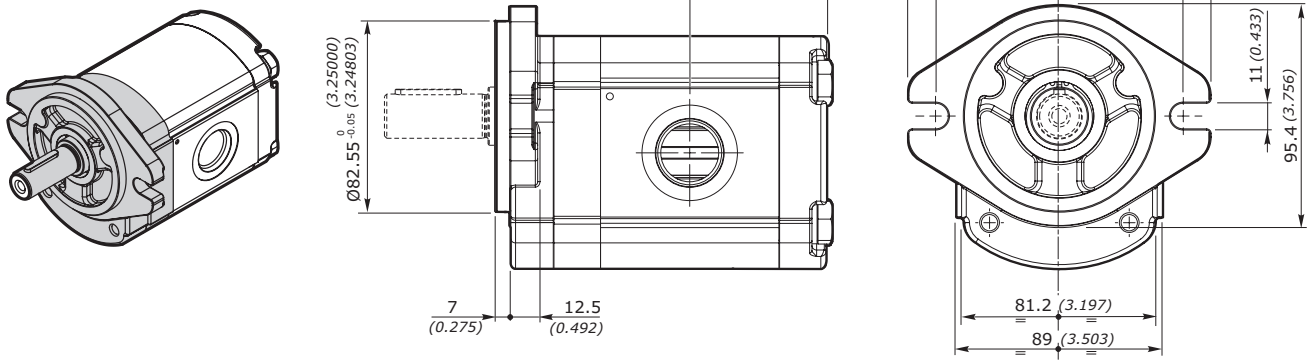
FLANGIA SUPSAE *FLANGE*

FLANGIA E COPERCHIO IN ALLUMINIO - *FLANGE AND COVER IN ALUMINIUM*

GRUPPO GROUP 2SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE								VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
			S - D		R		S - D		R					
	cm³/giro	*in³/rev*	**P1** *bar*	**P1** *psi*	**P1** *bar*	**P1** *psi*	**P2** *bar*	**P2** *psi*	**P2** *bar*	**P2** *psi*	*giri/min - rpm*	*l/min*	*Gal/min*	*giri/min - rpm*
2SM 040	4	*0.24*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	4000	16	*4.23*	500
2SM 060	6	*0.37*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	4000	24	*6.34*	500
2SM 080	8.5	*0.52*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	29.7	*7.85*	500
2SM 110	11	*0.67*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	38.5	*10.17*	500
2SM 140	14	*0.85*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	49	*12.95*	500
2SM 160	16.5	*1.01*	230	*3335*	195	*2827*	240	*3480*	205	*2972*	3500	57.7	*15.24*	500
2SM 190	19.5	*1.19*	210	*3045*	180	*2610*	220	*3190*	190	*2755*	3300	64.3	*16.99*	500
2SM 220	22.5	*1.37*	190	*2755*	160	*2320*	200	*2900*	170	*2465*	2800	63	*16.64*	500
2SM 260	26	*1.59*	170	*2465*	145	*2102*	180	*2610*	155	*2248*	2500	65	*17.17*	500
2SM 310	31.5	*1.92*	130	*1885*	110	*1595*	140	*2030*	120	*1740*	2200	69	*18.22*	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*



GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	*inch*	*mm*	*inch*	*kg*	*lbs*
2SM 040	64.4	*2.535*	113.0	*4.448*	2.80	*6.172*
2SM 060	66.0	*2.598*	116.3	*4.578*	2.95	*6.503*
2SM 080	68.1	*2.681*	120.5	*4.744*	3.10	*6.834*
2SM 110	70.2	*2.763*	124.6	*4.905*	3.20	*7.054*
2SM 140	72.7	*2.862*	129.6	*5.102*	3.30	*7.275*
2SM 160	74.8	*2.944*	133.8	*5.267*	3.45	*7.605*
2SM 190	77.3	*3.043*	138.8	*5.464*	3.60	*7.936*
2SM 220	79.8	*3.141*	143.8	*5.661*	3.75	*8.267*
2SM 260	82.7	*3.255*	149.6	*5.889*	3.90	*8.598*
2SM 310	86.9	*3.421*	138.0	*6.220*	4.10	*9.038*

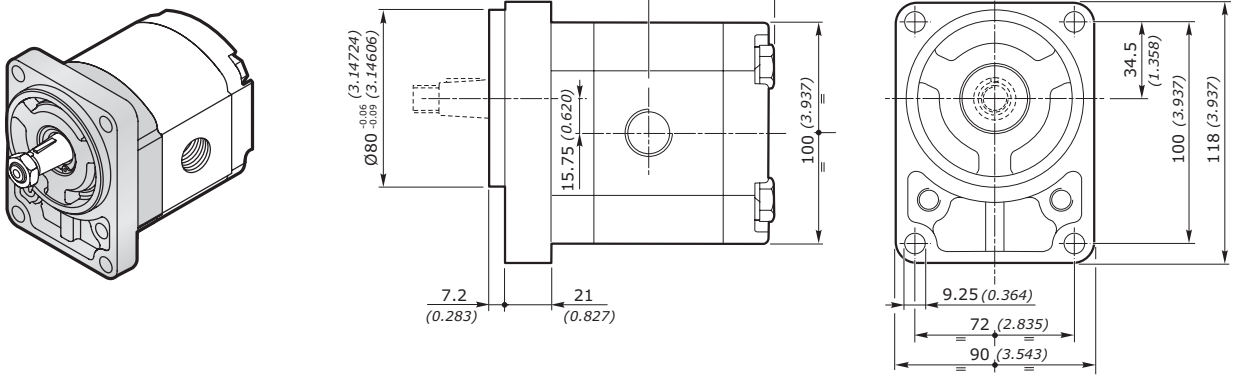
MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

FLANGIA SUPB80C *FLANGE*

GRUPPO GROUP 2SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE								VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
			S - D		R		S - D		R					
	cm^3/giro	in^3/rev	P1 bar	P1 psi	P1 bar	P1 psi	P2 bar	P2 psi	P2 bar	P2 psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SM 040	4	0.24	250	3625	210	3045	270	3915	230	3335	4000	16	4.23	500
2SM 060	6	0.37	250	3625	210	3045	270	3915	230	3335	4000	24	6.34	500
2SM 080	8.5	0.52	250	3625	210	3045	270	3915	230	3335	3500	29.7	7.85	500
2SM 110	11	0.67	250	3625	210	3045	270	3915	230	3335	3500	38.5	10.17	500
2SM 140	14	0.85	250	3625	210	3045	270	3915	230	3335	3500	49	12.95	500
2SM 160	16.5	1.01	230	3335	195	2827	240	3480	205	2972	3500	57.7	15.24	500
2SM 190	19.5	1.19	210	3045	180	2610	220	3190	190	2755	3300	64.3	16.99	500
2SM 220	22.5	1.37	190	2755	160	2320	200	2900	170	2465	2800	63	16.64	500
2SM 260	26	1.59	170	2465	145	2102	180	2610	155	2248	2500	65	17.17	500
2SM 310	31.5	1.92	130	1885	110	1595	140	2030	120	1740	2200	69	18.22	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*



GRUPPO - GROUP 2	A		B		MASSA - MASS	
	mm	inch	mm	inch	kg	lbs
2SM 040	66.4	2.614	115.0	4.527	2.763	6.09
2SM 060	68	2.677	118.3	4.657	2.913	6.42
2SM 080	70.1	2.760	122,5	4.823	3.063	6.75
2SM 110	72.2	2.842	126.6	4.984	3.163	6.97
2SM 140	74.7	2.941	131.6	5.181	3.263	7.20
2SM 160	76.8	3.023	135.8	5.346	3.413	7.52
2SM 190	79.3	3.122	140.8	5.543	3.563	7.85
2SM 220	81.8	3.220	145.8	5.740	3.713	8.18
2SM 260	84.7	3.334	151.6	5.968	3.863	8.52
2SM 310	88.9	3.500	160.0	6.299	4.073	8.98

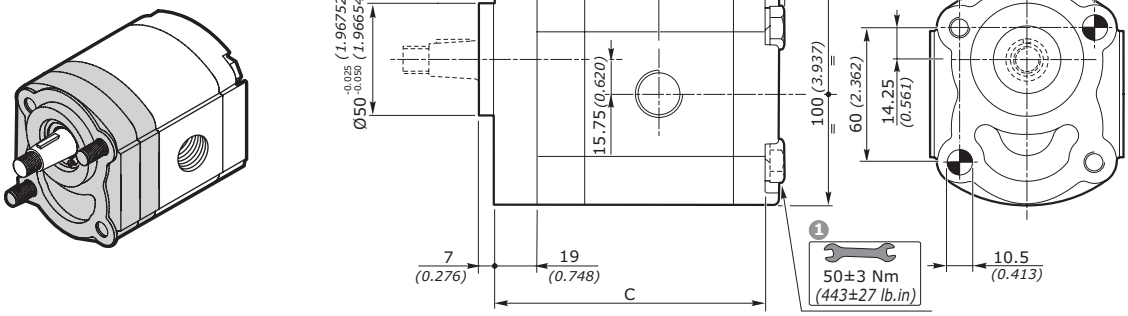
MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

FLANGIA SUPB50CX *FLANGE*

GRUPPO GROUP 2SM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE								VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
			S - D		R		S - D		R					
	cm^3/giro	in^3/rev	P1 bar	P1 psi	P1 bar	P1 psi	P2 bar	P2 psi	P2 bar	P2 psi	giri/min - rpm	l/min	Gal/min	giri/min - rpm
2SM 040	4	*0.24*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	4000	16	*4.23*	500
2SM 060	6	*0.37*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	4000	24	*6.34*	500
2SM 080	8.5	*0.52*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	29.7	*7.85*	500
2SM 110	11	*0.67*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	38.5	*10.17*	500
2SM 140	14	*0.85*	250	*3625*	210	*3045*	270	*3915*	230	*3335*	3500	49	*12.95*	500
2SM 160	16.5	*1.01*	230	*3335*	195	*2827*	240	*3480*	205	*2972*	3500	57.7	*15.24*	500
2SM 190	19.5	*1.19*	210	*3045*	180	*2610*	220	*3190*	190	*2755*	3300	64.3	*16.99*	500
2SM 220	22.5	*1.37*	190	*2755*	160	*2320*	200	*2900*	170	*2465*	2800	63	*16.64*	500
2SM 260	26	*1.59*	170	*2465*	145	*2102*	180	*2610*	155	*2248*	2500	65	*17.17*	500
2SM 310	31.5	*1.92*	130	*1885*	110	*1595*	140	*2030*	120	*1740*	2200	69	*18.22*	500

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*



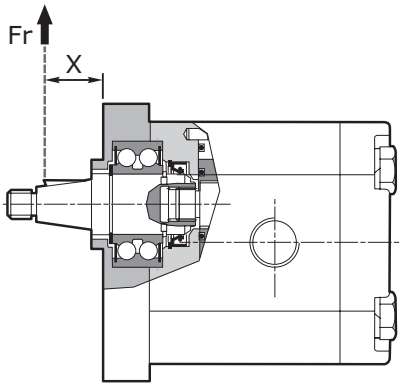
1
Coppia di serraggio viti: 50 ± 3Nm (viti classe 10.9-12.9 UNI EN 20898/1)
Il kit viti per il fissaggio della pompa è da ordinare separatamente.
Codice di ordinazione: **0029W** (+ lunghezza **L** - vedi tabella)
Il fissaggio della pompa può essere effettuato con 2 viti prigioniere classe 10.9-12.9 UNI EN 20898/1 preserrate: 40 ± 3Nm. Fissare la pompa mediante dadi autobloccanti con coppia si serraggio: 50 ± 3Nm

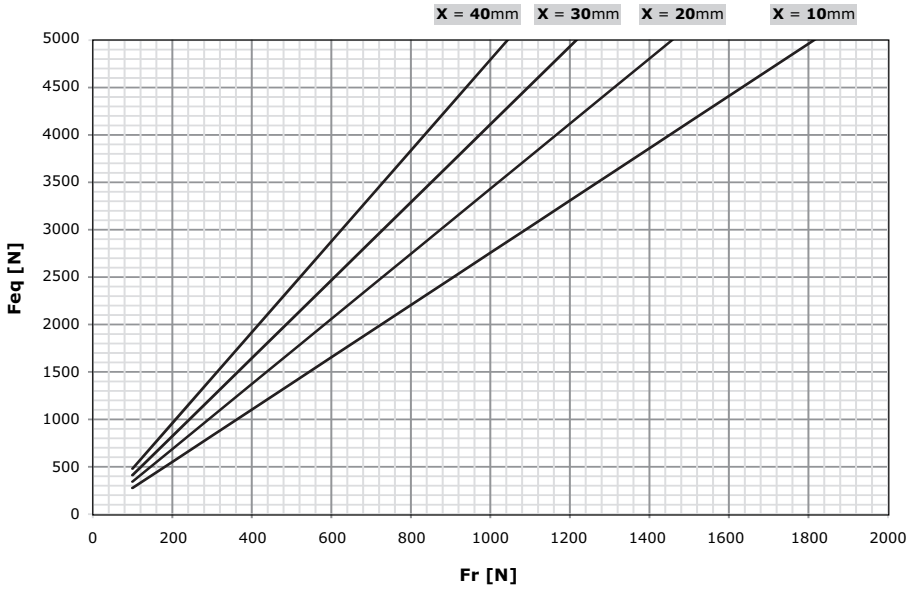
1
Screw tightening torque: 443 ± 27 lb-in (screws 10.9-12.9 UNI EN 20898/1).
The screw kit for the pump assembly should be ordered separately.
*Ordering code: **0029W** (+ length **L** - see table)*
The pump assembling should be made with 2 screws stud type 10.9-12.9 UNI EN 20898/1 pre-tighten 354 ± 27 lb-in. Fix the pump by self-locking nuts with tightening torque: 443 ± 27 lb-in

GRUPPO - GROUP 2	A		B		C		L 1		MASSA - MASS	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
2SM 040	64.4	*2.535*	113.0	*4.448*	104.0	*4.094*	125	*4.921*	2.76	*6.08*
2SM 060	66.0	*2.598*	116.3	*4.578*	107.3	*4.224*	125	*4.921*	2.91	*6.41*
2SM 080	68.1	*2.681*	120.5	*4.744*	111.5	*4.390*	130	*5.118*	3.06	*6.75*
2SM 110	70.2	*2.763*	124.6	*4.905*	115.6	*4.551*	135	*5.314*	3.16	*6.97*
2SM 140	72.7	*2.862*	129.6	*5.102*	120.6	*4.748*	140	*5.512*	3.26	*7.19*
2SM 160	74.8	*2.944*	133.8	*5.267*	124.8	*4.913*	145	*5.709*	3.41	*7.52*
2SM 190	77.3	*3.043*	138.8	*5.464*	129.8	*5.110*	150	*5.905*	3.56	*7.85*
2SM 220	79.8	*3.141*	143.8	*5.661*	134.8	*5.307*	155	*6.102*	3.71	*8.18*
2SM 260	82.7	*3.256*	149.6	*5.890*	140.6	*5.535*	160	*6.299*	3.86	*8.51*
2SM 310	86.9	*3.421*	158.0	*6.220*	149.0	*5.866*	170	*6.692*	4.07	*8.97*

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

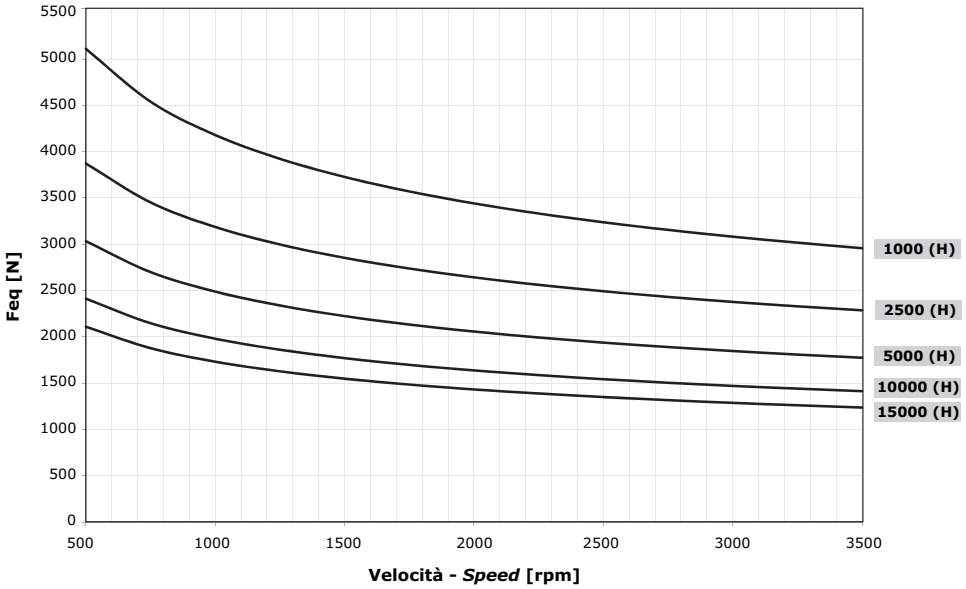
CARICO DINAMICO EQUIVALENTE • *EQUIVALENT DYNAMIC LOAD*





In caso di carichi combinati applicati all'albero (radiale + assiale) contattare il nostro Ufficio Tecnico.
In case of both radial and axial loads applied to the shaft please contact our technical department.

DIAGRAMMA CUSCINETTI • *DIAGRAM BEARING EXPECTED LIFE*



MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

CODICE ORDINAZIONE • *ORDER CODE*

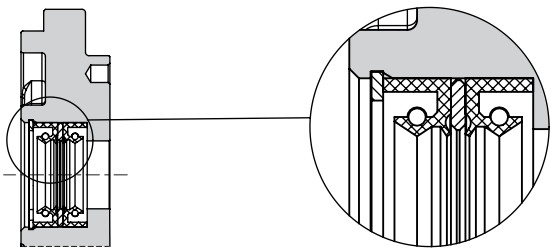
2SM - G - 140 - D - EUR - H - N - 10 - 0 - G

SIGLA - *CODE*	TIPO - *TYPE*	DESCRIZIONE - *DESCRIPTION*	PAGINA - *PAGE*
2SM	Tipo motore *Motor type*	Motore - gruppo 2 *Motor - group 2*	101
G	Materiale flangia e coperchio *Flange and cover material*	**A** = alluminio / *aluminium* **G** = Ghisa / *Cast iron*	139
140	Cilindrata *Displacement*	Cilindrata = 14 cm^3/g *Displacement = 0.85 in^3/rev*	101
D	Senso di rotazione *Rotation wise*	**D** = Rotazione destra / *Clockwise rotation* **S** = Rotazione sinistra / *Anticlockwise rotation* **R** = Reversibile / *Reversible* **X** = Reversibile con drenaggio interno *Reversible with internal drain*	104
EUR	Tipo Flangia *Flange type*	Flangia standard *Standard flange*	139
H	Tipo anello di tenuta *Seal ring type*	Vedi tabella compatibilità *See compatibility table*	
N	Tipo guarnizione *Gasket type*	**N** = NBR **V** = Viton	140
10	Tipo Albero *Shaft type*	Vedi tabella compatibilità *See compatibility table*	
0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	144
G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	145

VERSIONI CON DOPPIO PARAOLIO • *DOUBLE SHAFT SEAL VERSION*

Disponibili versioni con doppio paraolio per EUR, SAEA, SAEAOR e B50C.

Available versions with double shaft seal for EUR, SAEA, SAEAOR and B50C.



esempio • *example:*

2SM - A - 140 - D - EUR - SAE2 - N - 10 - 0 - G

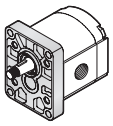
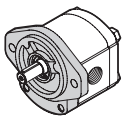
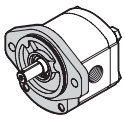
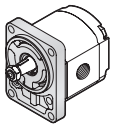
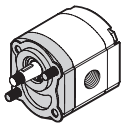
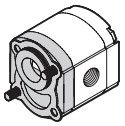
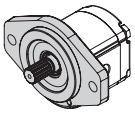
SAE2= Doppio paraolio / *Double Shaft Seal*

Nota - La versione con paraolio è fornita con anelli a bassa pressione o alta pressione tipo K. (vedi pag.139).

Note - The version with shaft seal is supplied with K rings type with low pressure or high pressure. (see page 139).

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

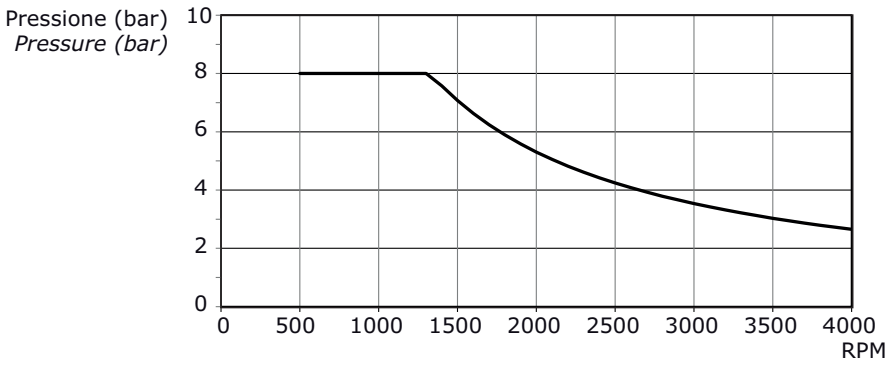
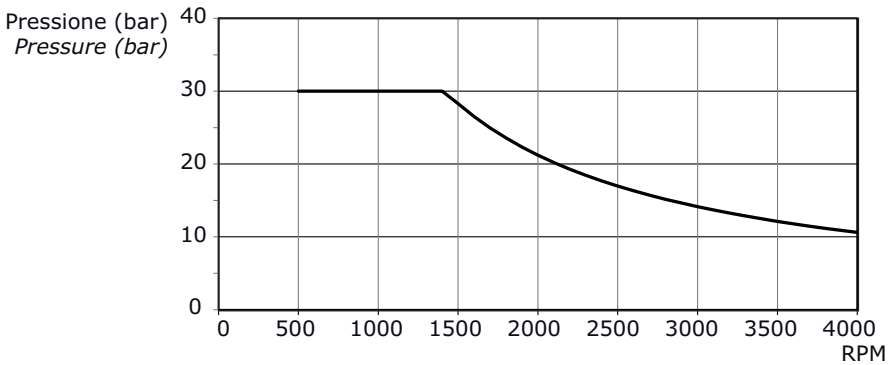
TIPOLOGIA FLANGIA • *FLANGE TYPE*

	EUR	SAEA	SAEAOR	B80C	B50C	E52C	SAEB*
2SM							
A alluminio *aluminium*	◇	◇	◇	◇	◇	◇	non disponibile *not available*
G ghisa *cast iron*	◇	◇	◇	non disponibile *not available*	non disponibile *not available*	non disponibile *not available*	◇

◇ = Combinazione standard - *Standard combination*

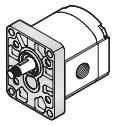
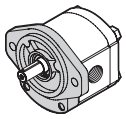
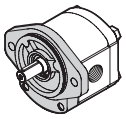
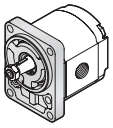
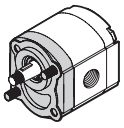
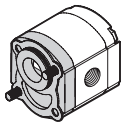
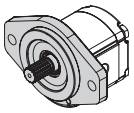
* Contattare il servizio commerciale. */ Available soon. Please contact our Sales Dpt.*

ANELLO DI TENUTA • *SEAL RING*

SIGLA - *CODE*	TIPO - *TYPE*	DIAGRAMMA - *DIAGRAM*
A	Flangia senza anello di tenuta *Flange without seal ring*	/
H	Anello di tenuta fino a **8** bar *Sealing ring up to **8** bar*	
K	Anello di tenuta fino a **30** bar *Sealing ring up to **30** bar*	

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

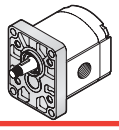
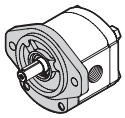
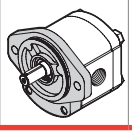
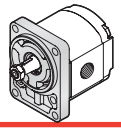
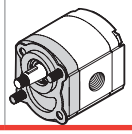
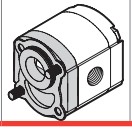
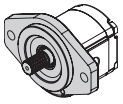
COMBINAZIONE FLANGIA - ANELLO DI TENUTA - GUARNIZIONE • *FLANGE - SEAL RING - GASKET COMBINATION*

2SM		EUR			SAEA			SAEAOR			B80C			B50C			E52C	SAEB*
																		
		Anello - *Seal ring*			Anello - *Seal ring*			Anello - *Seal ring*			Anello - *Seal ring*			Anello - *Seal ring*			Anello - *Seal ring*	Anello-*Seal ring*
		H	K	W	H	K	W	H	K	W	H	K	W	H	K	W	A	H
NBR	N	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
Viton	V	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

esempio • *example:* **1SM - A - 140 - D - EUR - H - N - 10 - 0 - G**

EUR = Flangia europea / *European flange*
H = Anello tenuta fino a 8 bar / Seal ring up to 8 *bar*
N = *Guarnizione in NBR / NBR o-ring*

COMBINAZIONE ALBERO - FLANGIA • *SHAFT - FLANGE COMBINATION*

2SM	EUR	SAEA	SAEAOR	B80C	B50C	E52C	SAEB*
							
10 Conico 1:8-*Tapered 1:8*	◇	●	●	●	◇		●
11 Conico 1:5-*Tapered 1:5*	●	●	●	◇	●		●
12 Cilindrico EUR-*EUR Parallel shaft*	●	●	●	●	●		●
13 Cilindrico SAEA-*SAEA parallel shaft*	●	◇	◇	●	●		●
14 Scanalato SAEA 9T-*SAEA 9T splined*	●	◇	◇	●	●		●
15 Scanalato DIN5482 9T (26/24) *DIN5482 9T splined (26/24)*	●	●	●	◇	●		●
16 Scanalato DIN5482 9T (20)-*DIN5482 9T splined (20)*	●	●	●	◇	●		●
17 Fresato a dente frontale-*Dihedral claw*						◇	
40 Scanalato SAE 10 denti (52)-*SAE 10T splined (52)*		●	●				●
41 Scanalato SAE 10T (37.5)-*SAE 10T splined (37.5)*		●	●				●
42 Scanalato SAEA 11T (55.6)-*SAEA 11T splined (55.6)*		●	●				●
43 Scanalato SAEA 11T (31.5)-*SAEA 11T splined (31.5)*		●	●				●
44 Scanalato SAEA 11T (13.5)-*SAEA 11T splined (13.5)*						●	
45 Scanalato SAEB 13T (41.2)-*SAEB 13T splined*							◇

◇ = Combinazione standard - *Standard combination* ● = Combinazione disponibile - *Available combination*

* Contattare il Servizio Commerciale. / *Available soon. Please contact our Sales Dpt.*

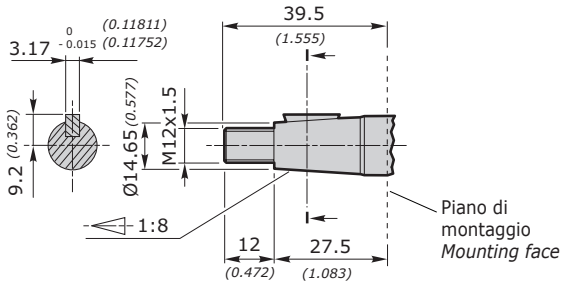
MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

2SM

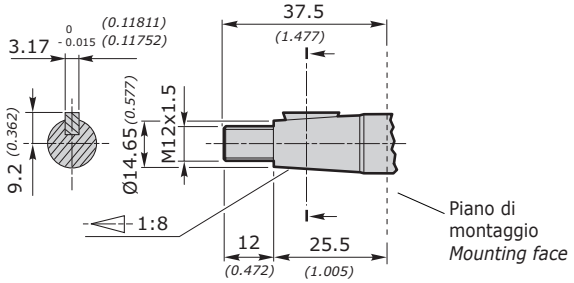
DIMENSIONI ALBERO - *SHAFT DIMENSIONS*

10
Conico 1:8
Tapered 1:8

Coppia 140 Nm
Torque 104 ft-lbs



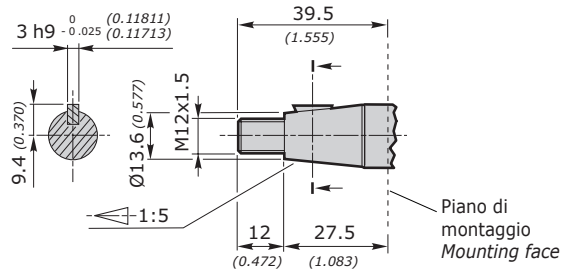
Disponibile per - *available for:* **EUR-SAEA-SAEAOR-B50C-P400D-SUPEUR**



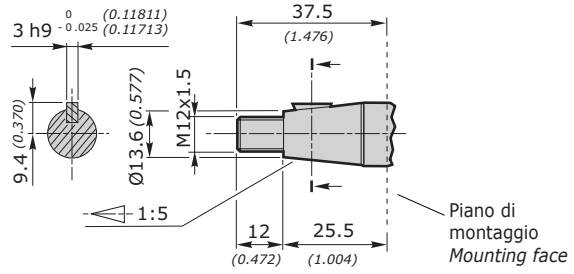
Disponibile per - *available for:* **B80C**

11
Conico 1:5
Tapered 1:5

Coppia 140 Nm
Torque 104 ft-lbs



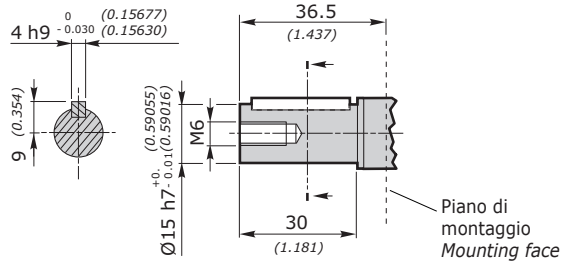
Disponibile per - *available for:* **EUR - SAEA - SAEAOR - B50C**



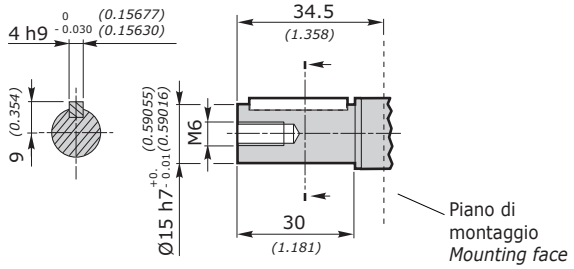
Disponibile per - *available for:* **B80C**

12
Cilindrico EUR
EUR Parall shaft

Coppia 80 Nm
Torque 59 ft-lbs



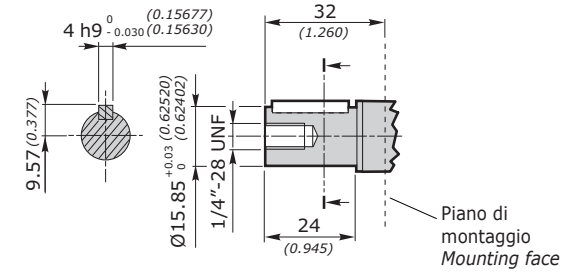
Disponibile per - *available for:* **EUR - SAEA - SAEAOR - B50C**



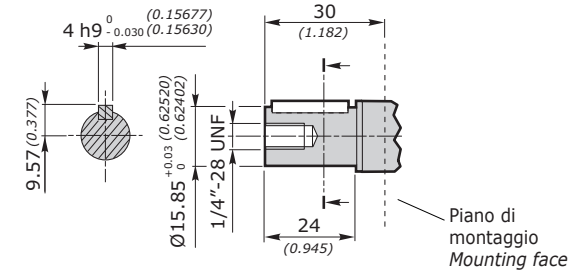
Disponibile per - *available for:* **B80C**

13
Cilindrico SAEA
SAEA parall shaft

Coppia 90 Nm
Torque 67 ft-lbs



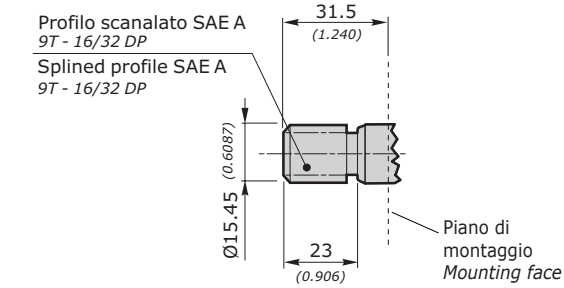
Disponibile per - *available for:* **EUR - SAEA - SAEAOR - B50C**



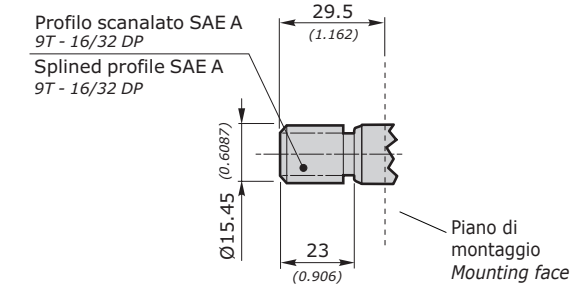
Disponibile per - *available for:* **B80C**

14
Scanalato SAEA 9T
SAEA 9T splined

Coppia 100 Nm
Torque 74 ft-lbs



Disponibile per - *available for:* **EUR - SAEA - SAEAOR - B50C**



Disponibile per - *available for:* **B80C**

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

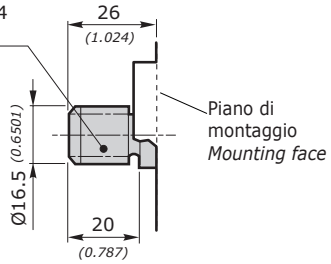
2SM

DIMENSIONI ALBERO - *SHAFT DIMENSIONS*

15
Scanalato DIN5482 9T (26/24)
DIN5482 9T splined (26/24)

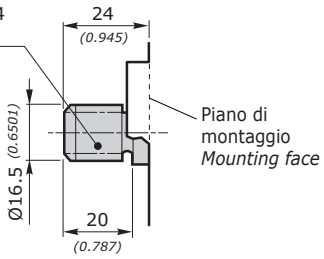
Coppia 100 Nm
Torque 74 ft-lbs

Profilo scanalato B 17x14
DIN 5482 n°denti = 9
Splined profile B 17x14
DIN 5482 n°of teeth = 9



Disponibile per - *available for:* **EUR - SAEA - SAEAOR - B50C**

Profilo scanalato B 17x14
DIN 5482 n°denti = 9
Splined profile B 17x14
DIN 5482 n°of teeth = 9

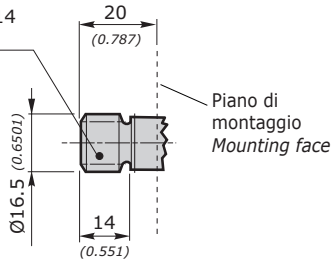


Disponibile per - *available for:* **B80C**

16
Scanalato DIN5482 9T (20)
DIN5482 9T splined (20)

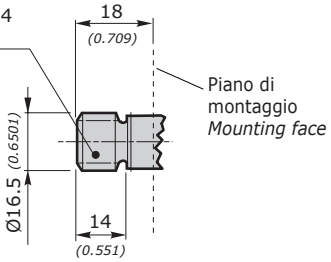
Coppia 100 Nm
Torque 74 ft-lbs

Profilo scanalato B 17x14
DIN 5482 n°denti = 9
Splined profile B 17x14
DIN 5482 n°of teeth = 9



Disponibile per - *available for:* **EUR - SAEA - SAEAOR - B50C**

Profilo scanalato B 17x14
DIN 5482 n°denti = 9
Splined profile B 17x14
DIN 5482 n°of teeth = 9

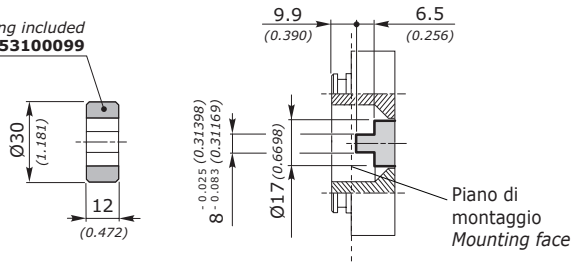


Disponibile per - *available for:* **B80C**

17
Fresato a dente frontale
Dihedral claw

Coppia 80 Nm
Torque 59 ft-lbs

Giunto incluso - *Coupling included*
Codice - *Code:* **010453100099**



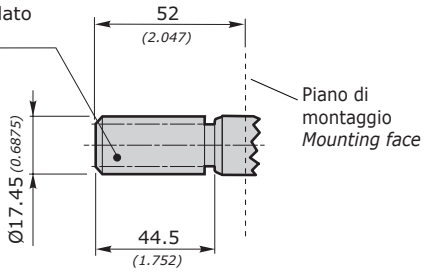
Nota - E' disponibile l'albero senza giunto.
Note - Available shaft without coupling.

Disponibile per - *available for:* **E52C**

40
Scanalato SAE 10 T (52)
SAE 10T splined (52)

Coppia 130 Nm
Torque 96 ft-lbs

Profilo scanalato
Splined profile
z = 10T
16/32 DP
α = 30°

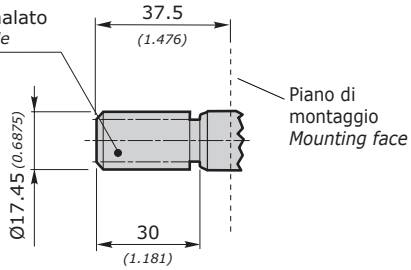


Disponibile per - *available for:* **SAEA - SAEAOR**

41
Scanalato SAE 10T (37.5)
SAE 10T splined (37.5)

Coppia 130 Nm
Torque 96 ft-lbs

Profilo scanalato
Splined profile
z = 10T
16/32 DP
α = 30°



Disponibile per - *available for:* **SAEA - SAEAOR**

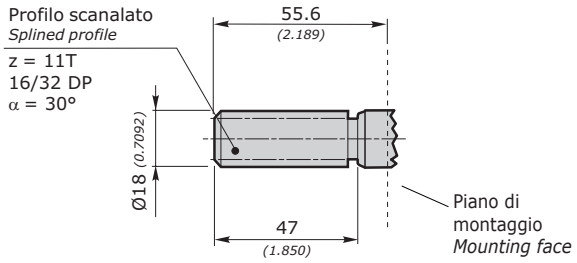
MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

2SM

DIMENSIONI ALBERO - *SHAFT DIMENSIONS*

42
Scanalato SAEA 11T (55.6)
SAEA 11T splined (55.6)

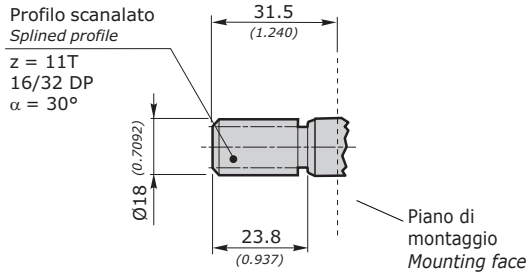
Coppia 150 Nm
Torque 111 ft-lbs



Disponibile per - *available for:* **SAEA - SAEAOR**

43
Scanalato SAEA 11T (31.5)
SAEA 11T splined (31.5)

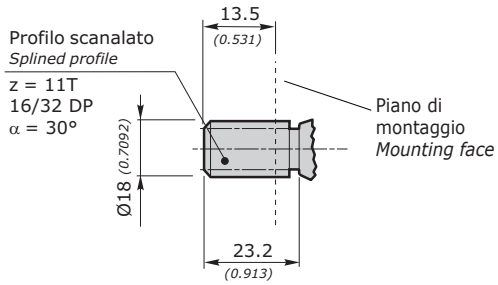
Coppia 150 Nm
Torque 111 ft-lbs



Disponibile per - *available for:* **SAEA - SAEAOR**

44
Scanalato SAEA 11T (13.5)
SAEA 11T splined (13.5)

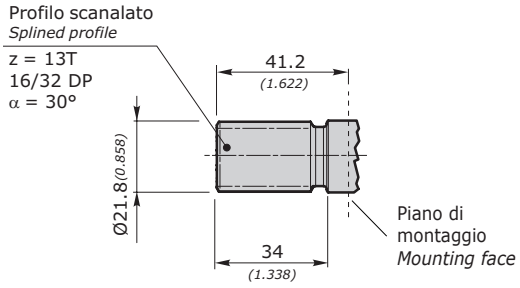
Coppia 150 Nm
Torque 111 ft-lbs



Disponibile per - *available for:* **E52C**

45
Scanalato SAEB 13T (41.2)
SAEB 13T splined (41.2)

Coppia 280 Nm
Torque 207 ft-lbs



Disponibile per - *available for:* **SAEB**

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

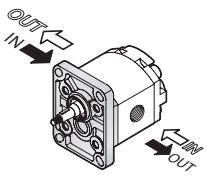
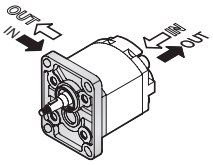
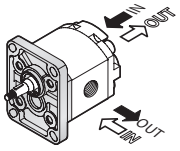
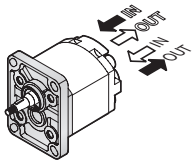
POSIZIONE CONNESSIONE PER MOTORI (D-S) • *CONNECTION POSITION FOR (D-S) MOTORS*

Rotazione destra - **D**
*Clockwise rotation - **D***

Rotazione sinistra - **S**
*Anticlockwise rotation - **S***

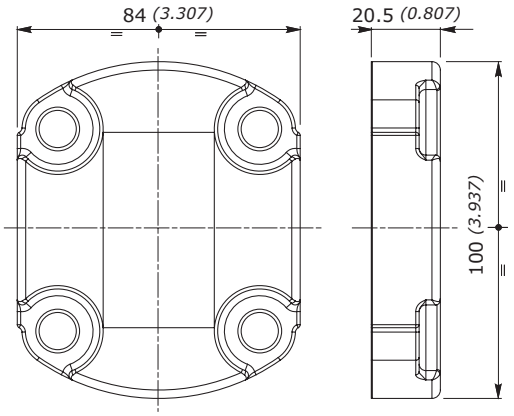
POSIZIONE CONNESSIONE PER MOTORI (R) • *CONNECTION POSITION FOR (R) MOTORS*

Rotazione - **R**
*Rotation - **R***

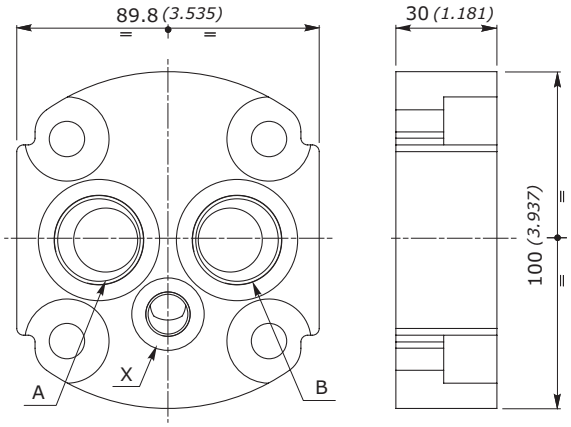
0	1	3	4
			

COPERCHIO STANDARD • *STANDARD COVER*

Per posizione **0**
*For position **0***



Per posizioni **1, 3, 4**
*For position **1, 3, 4***



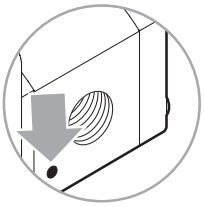
	CONNESSIONI / *CONNECTION*		
	A	**B**	**X**
GAS	G 3/4	G 3/4	G 1/4
SAE	SAE 12	SAE 12	SAE 6

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

TIPO CONNESSIONE PER MOTORI D-S • *CONNECTION TYPE FOR D-S MOTORS*

Le connessioni rappresentate corrispondono alle versioni standard; per connessioni differenti, contattare il nostro Ufficio Commerciale.

The connection types shown correspond to standard configurations; for different applications contact our Commercial Dept.

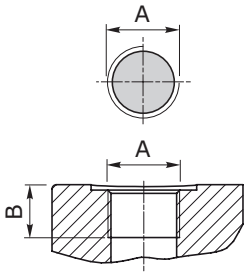


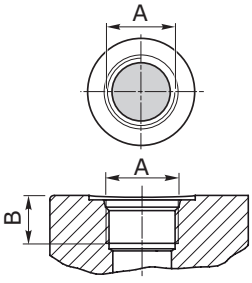
Il segno del corpo indica il LATO SCARICO per i motori

The sign on the body identifies the OUTLET SIDE for the motors

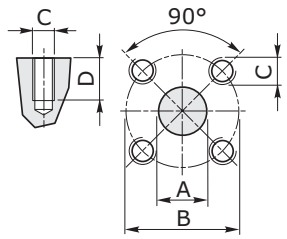
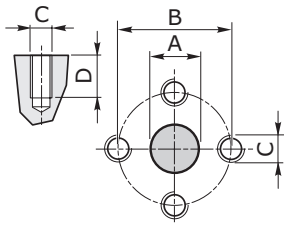
IN = INGRESSO - *INLET*
OUT = SCARICO - *OUTLET*

2SM		POSIZIONE CONNESSIONE - *CONNECTION POSITION*				
		0	**1**	**3**	**4**	**DRENAGGIO *DRAIN***
GAS	**G**	◇	◇	◇	◇	◇
UNF	**U**	◇	◇	◇	◇	◇
	W	◇				
FLANGIATE *FLANGED*	**T**	◇				
	N	◇				
	M	◇				
	F	◇				

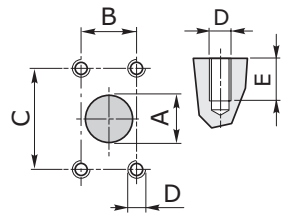
GAS	UNI ISO 228/1	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT** A	B		INGRESSO - *INLET* **IN** A	B	
		**G**	40	G 1/2"	16 [mm] *0.630 [inch]*	50 [Nm] *443 [in.lbs]*	G 1/2"	16 [mm] *0.630 [inch]*	50 [Nm] *443 [in.lbs]*
			60						
			80						
			110	G 3/4"	17 [mm] *0.670 [inch]*	60 [Nm] *531 [in.lbs]*			
			140						
			160						
			190						
			220						
			260						
			310						

UNF	ANSI/ASME B1.1	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT** A	B		INGRESSO - *INLET* **IN** A	B	
		**U**	40	SAE 10 7/8"-14 UNF	17 [mm] *0.670 [inch]*	55 [Nm] *487 [in-lbs]*	SAE 10 7/8"-14 UNF	17 [mm] *0.670 [inch]*	55 [Nm] *487 [in-lbs]*
			60						
			80						
			110	SAE 12 1"1/16-12 UN	20 [mm] *0.788 [inch]*	60 [Nm] *531 [in.lbs]*			
			140						
			160						
			190						
			220						
			260						
			310						
		W	40	SAE 16 1"5/16-12 UN	20 [mm] *0.788 [inch]*	70 [Nm] *620 [in.lbs]*	SAE 12 1"1/16-12 UN	20 [mm] *0.788 [inch]*	60 [Nm] *531 [in.lbs]*
			60						
			80						
			110						
			140						
			160						
			190						
			220						
			260						
			310						

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

FLANGIATE FLANGED	ISO/R 262	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT** A	B	C	D		INGRESSO - *INLET* **IN** A	B	C	D	
		**T**	40 60 80 110 140 160 190 220 260 310	20 [mm] *0.787 [inch]*	40 [mm] *1.575 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*	15 [mm] *0.591 [inch]*	35 [mm] *1.378 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*
		**N**	40 60 80	13 [mm] *0.512 [inch]*	30 [mm] *1.181 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*	13 [mm] *0.512 [inch]*	30 [mm] *1.181 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*
			110 140 160 190 220 260 310	19 [mm] *0.748 [inch]*	40 [mm] *1.575 [inch]*	M8	14 [mm] *0.552 [inch]*	15 [Nm] *133 [in.lbs]*					
		M	40 60 80	non disponibile *not available*					non disponibile *not available*				
			110 140 160 190 220 260 310	19 [mm] *0.748 [inch]*	40 [mm] *1.575 [inch]*	M8	14 [mm] *0.552 [inch]*	15 [Nm] *133 [in.lbs]*	19 [mm] *0.748 [inch]*	40 [mm] *1.575 [inch]*	M8	14 [mm] *0.552 [inch]*	15 [Nm] *133 [in.lbs]*

Standard Galtech — *Galtech standard*

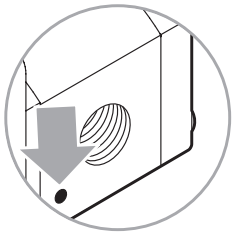
FLANGIATE FLANGED	ISO/R 262	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT** A	B	C	D	E		INGRESSO - *INLET* **IN** A	B	C	D	E	
		**F**	40 60 80 110	20 [mm] *0.787 [inch]*	17,4 [mm] *0.685 [inch]*	38 [mm] *1.496 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*	15 [mm] *0.591 [inch]*	17,4 [mm] *0.685 [inch]*	38 [mm] *1.496 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*
			140 160 190 220 260 310	26 [mm] *1.024 [inch]*	47.6 [mm] *1.874 [inch]*	22.4 [mm] *0.882 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*						

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

TIPO CONNESSIONE PER MOTORI (R) • *CONNECTION TYPE FOR (R) MOTORS*

Le connessioni rappresentate corrispondono alle versioni standard; per connessioni differenti, contattare il nostro Ufficio Commerciale.

The connection types shown correspond to standard configurations; for different applications contact our Commercial Dept.

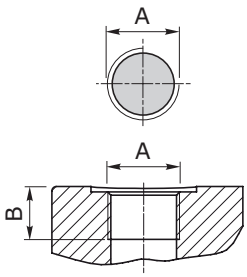


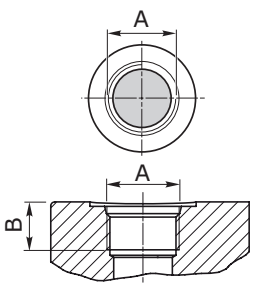
L'eventuale segno sul corpo dei Motori REVERSIBILI non è da considerare.

Any sign on the body of REVERSIBLE Motors has not to be considered.

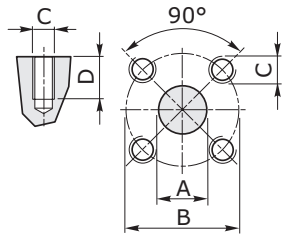
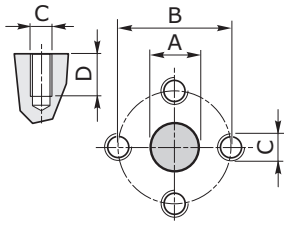
IN = INGRESSO - *INLET*
OUT = SCARICO - *OUTLET*

GAS	**G**	◇	◇	◇	◇
UNF	**U**	◇	◇	◇	◇
FLANGIATE *FLANGED*	**T**	◇			
	N	◇			
	F	◇			

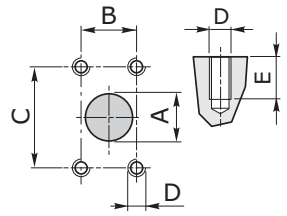
GAS	UNI ISO 228/1	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT** A	B		INGRESSO - *INLET* **IN** A	B	
		**G**	40	G 1/2″	16 [mm] *0.630 [inch]*	50 [Nm] *443 [in.lbs]*	G 1/2″	16 [mm] *0.630 [inch]*	50 [Nm] *443 [in.lbs]*
			60						
			80						
			110	G 3/4″	17 [mm] *0.670 [inch]*	60 [Nm] *531 [in.lbs]*	G 3/4″	17 [mm] *0.670 [inch]*	60 [Nm] *531 [in.lbs]*
			140						
			160						
			190						
			220						
			260						
			310						

UNF	ANSI/ASME B1.1	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT** A	B		INGRESSO - *INLET* **IN** A	B	
		**U**	40	SAE 10 7/8″-14 UNF	17 [mm] *0.670 [inch]*	55 [Nm] *487 [in-lbs]*	SAE 10 7/8″-14 UNF	17 [mm] *0.670 [inch]*	55 [Nm] *487 [in-lbs]*
			60						
			80						
			110	SAE 12 1″1/16-12 UN	20 [mm] *0.788 [inch]*	60 [Nm] *531 [in.lbs]*	SAE 12 1″1/16-12 UN	20 [mm] *0.788 [inch]*	60 [Nm] *531 [in.lbs]*
			140						
			160						
			190						
			220						
			260						
			310						

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

FLANGIATE FLANGED	ISO/R 262	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT**					INGRESSO - *INLET* **IN**				
				A	**B**	**C**	**D**		**A**	**B**	**C**	**D**	
		**T**	40	15 [mm] *0.591 [inch]*	35 [mm] *1.378 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*	15 [mm] *0.591 [inch]*	35 [mm] *1.378 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*
			60										
			80										
			110	20 [mm] *0.787 [inch]*	40 [mm] *1.575 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*	20 [mm] *0.787 [inch]*	40 [mm] *1.575 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*
			140										
			160										
			190										
			220										
			260										
			310										
		**N**	40	13 [mm] *0.512 [inch]*	30 [mm] *1.181 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*	13 [mm] *0.512 [inch]*	30 [mm] *1.181 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*
			60										
			80										
			110	19 [mm] *0.748 [inch]*	40 [mm] *1.575 [inch]*	M8	14 [mm] *0.552 [inch]*	15 [Nm] *133 [in.lbs]*	19 [mm] *0.748 [inch]*	40 [mm] *1.575 [inch]*	M8	14 [mm] *0.552 [inch]*	15 [Nm] *133 [in.lbs]*
			140										
			160										
			190										
			220										
			260										
			310										

Standard Galtech — *Galtech standard*

FLANGIATE FLANGED	ISO/R 262	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT**						INGRESSO - *INLET* **IN**					
				A	**B**	**C**	**D**	**E**		**A**	**B**	**C**	**D**	**E**	
		**F***	40	20 [mm] *0.787 [inch]*	17,4 [mm] *0.685 [inch]*	38 [mm] *1.496 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*	20 [mm] *0.787 [inch]*	17,4 [mm] *0.685 [inch]*	38 [mm] *1.496 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*
			60												
			80												
			110												
			140	26 [mm] *1.024 [inch]*	22.4 [mm] *0.882 [inch]*	47.6 [mm] *1.874 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*	26 [mm] *1.024 [inch]*	47.6 [mm] *1.874 [inch]*	22.4 [mm] *0.882 [inch]*	M6	15 [mm] *0.591 [inch]*	8 [Nm] *71 [in.lbs]*
			160												
			190												
			220												
			260												
			310												

***: Le flange non corrispondono a norma SAEJ518. Flange a norma disponibili a richiesta, contattare il Servizio Commerciale.**

****: Flanges F do not correspond to SAEJ518. Flanges SAEJ518 available on request, please contact our Sales Dpt.***

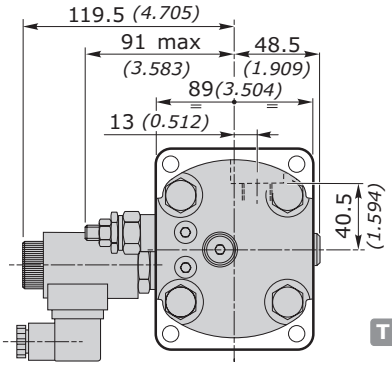
MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

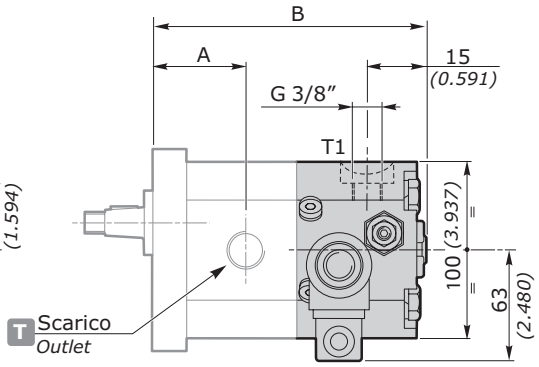
VLP

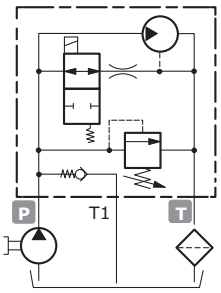
MOTORE UNIDIREZIONALE A 2 VELOCITÀ CON VALVOLA LIMITATRICE DI PRESSIONE
2 SPEED UNIDIRECTIONAL MOTOR WITH PRESSURE RELIEF VALVE

Solo per motori con flangia e coperchio in alluminio. *Only for motors with alluminium flange and cover.*

ROTAZIONE DESTRA - *CLOCKWISE ROTATION*

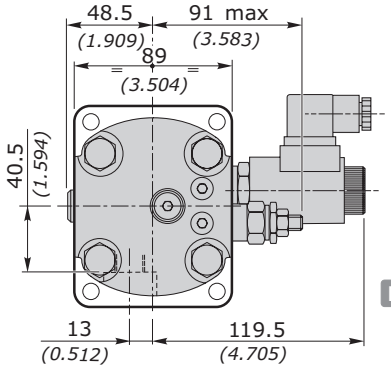


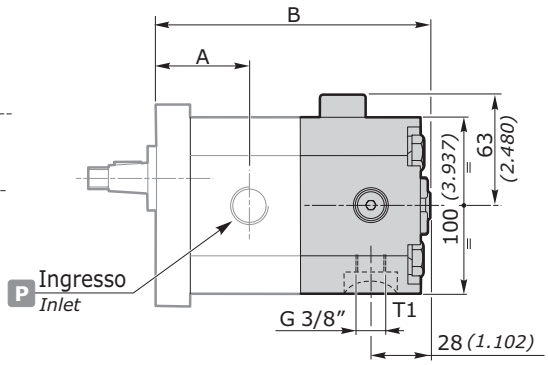


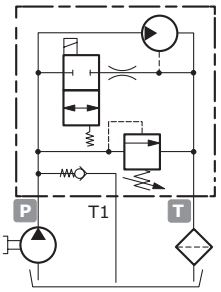


Elettrovalvola normalmente aperta (NA)
Usually open (NA)

ROTAZIONE SINISTRA - *ANTICLOCKWISE ROTATION*







Elettrovalvola normalmente chiusa (NC)
Usually closed (NC)

A	*mm*	44.4	46.0	48.1	50.2	52.7	54.8	57.3	59.8	62.7	66.9
	inch	*1.748*	*1.811*	*1.894*	*1.976*	*2.075*	*2.157*	*2.256*	*2.354*	*2.469*	*2.636*
B	*mm*	142.3	*145.6*	149.8	*153.9*	*158.9*	*163.1*	*168.1*	*173.1*	*182.0*	*190.4*
	inch	*5.602*	*5.732*	*5.898*	*6.059*	*6.256*	*6.421*	*6.618*	*6.815*	*7.165*	*7.502*

esempio ● *example:* **2SM - A - 080 - D - EUR - H - N - 10 - 0 - N - NA 24VDC VLP (N 150)**

NA = Normalmente aperta / *Usually open* **NC =** Normalmente chiusa / *Usually closed*
24VDC = Tensione magnete / *Electromagnete voltage* (12VDC - 24VDC - 48VDC)
VLP = Coperchio con VPL / *Cover with VPL*
N = Tipo molla - vedi tabella / *Spring type - see table*
150 = Taratura - vedi tabella / *Setting - see table*

TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	**B**	molla nera - *black spring*	**N**	molla rossa - *red spring*	**R**
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

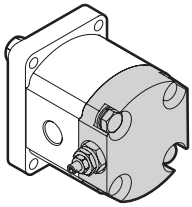
NOTA: In caso si omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

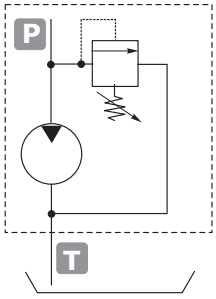
MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

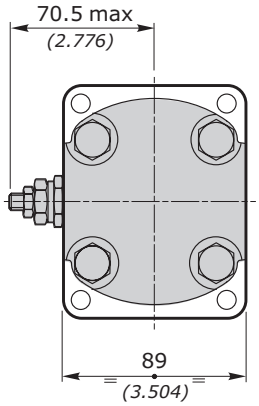
OPZIONI • *OPTIONS*

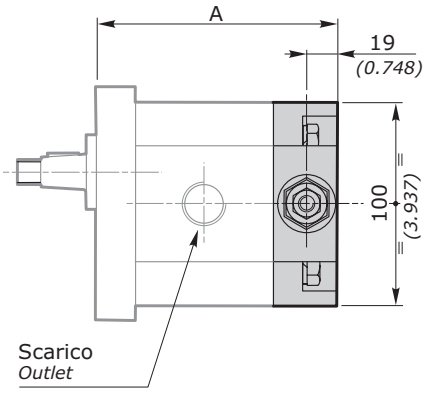
VLPI

VALVOLA LIMITATRICE DI PRESSIONE A SCARICO INTERNO
PRESSURE RELIEF VALVE WITH INTERNAL EXHAUST









GRUPPO GROUP 2	A EUR-SAEA-B50C		B80C		E52C	
	mm	*inch*	*mm*	*inch*	*mm*	*inch*
2SM 040	104.8	*4.126*	106.8	*4.205*	102.1	*4.020*
2SM 060	108.1	*4.256*	110.1	*4.335*	105.4	*4.150*
2SM 080	112.3	*4.421*	114.3	*4.500*	109.6	*4.315*
2SM 110	116.4	*4.583*	118.4	*4.661*	113.7	*4.476*
2SM 140	121.4	*4.780*	123.4	*4.858*	118.7	*4.673*
2SM 160	125.6	*4.945*	127.6	*5.024*	122.9	*4.839*
2SM 190	130.6	*5.142*	132.6	*5.220*	127.9	*5.035*
2SM 220	135.6	*5.339*	137.6	*5.417*	132.9	*5.232*
2SM 260	141.4	*5.567*	143.4	*5.646*	138.7	*5.461*
2SM 310	149.8	*5.902*	151.8	*5.981*	147.1	*5.796*

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore. Il coperchio VLP è disponibile in alluminio. E' rappresentato un motore con rotazione destra. Nei motori con rotazione sinistra, la valvola è nel lato opposto.

The pressure relief valve can be applied by replacing the rear cover. VLP cover is available in aluminum. The motor shown here is clockwise rotation. In case of Motor with anticlockwise rotation, the valve is on the opposite side.

esempio • *example:* **2SM - A - 140 - D - EUR - H - N - 10 - 0 - G - VLPI (N 120)**

VLPI = Coperchio con VPL a scarico interno / *Cover with VPL with internal exhaust*
N = Tipo molla - vedi tabella / *Spring type - see table*
120 = Taratura - vedi tabella / *Setting - see table*

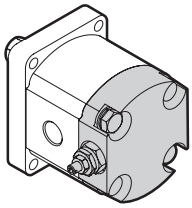
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	**B**	molla nera - *black spring*	**N**	molla rossa - *red spring*	**R**
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

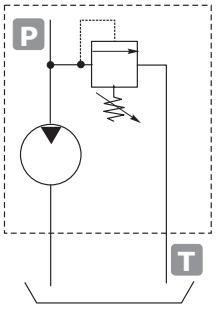
NOTA: In caso si omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

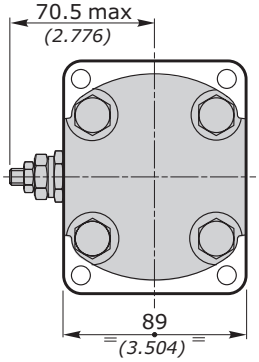
MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

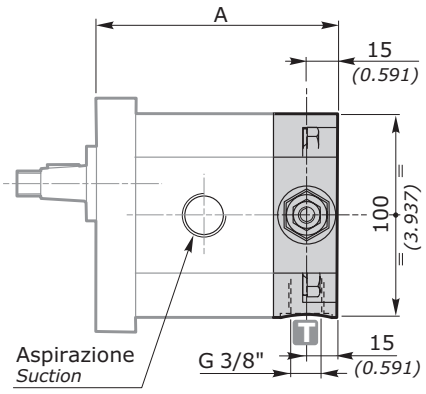
VLPE

VALVOLA LIMITATRICE DI PRESSIONE A SCARICO ESTERNO
PRESSURE RELIEF VALVE WITH EXTERNAL EXHAUST









GRUPPO GROUP 2	A EUR-SAEA-B50C		B80C		E52C	
	mm	*inch*	*mm*	*inch*	*mm*	*inch*
2SM 040	100.8	*3.969*	102.8	*4.047*	98.1	*3.862*
2SM 060	104.1	*4.098*	106.1	*4.177*	101.4	*3.992*
2SM 080	108.3	*4.264*	110.3	*4.343*	105.6	*4.157*
2SM 110	112.4	*4.425*	114.4	*4.504*	109.7	*4.319*
2SM 140	117.4	*4.622*	119.4	*4.701*	114.7	*4.516*
2SM 160	121.6	*4.787*	123.6	*4.866*	118.9	*4.681*
2SM 190	126.6	*4.984*	128.6	*5.063*	123.9	*4.878*
2SM 220	131.6	*5.181*	133.6	*5.260*	128.9	*5.075*
2SM 260	137.4	*5.409*	139.4	*5.488*	134.7	*5.303*
2SM 310	145.8	*5.745*	147.8	*5.823*	143.1	*5.638*

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore. Il coperchio VLP è disponibile in alluminio. E' rappresentato un motore con rotazione destra. Nei motori con rotazione sinistra, la valvola è dal lato opposto

The pressure relief valve can be applied by substituting the rear cover. VLP cover is available in aluminum. The showed motor is with clockwise rotation. In the case of motors with anticlockwise rotation, the valve is on the opposite side.

esempio ● *example:* **2SM - A - 140 - D - EUR - H - N - 10 - 0 - G - VLPE (N 120)**

VLPE = Coperchio con VPL a scarico esterno / *Cover with VPL with external exhaust*
N = Tipo molla - vedi tabella / *Spring type - see table*
120 = Taratura - vedi tabella / *Setting - see table*

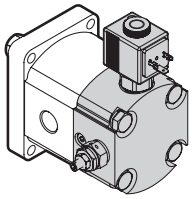
TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	**B**	molla nera - *black spring*	**N**	molla rossa - *red spring*	**R**
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

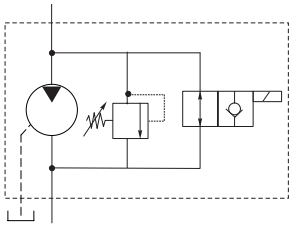
NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

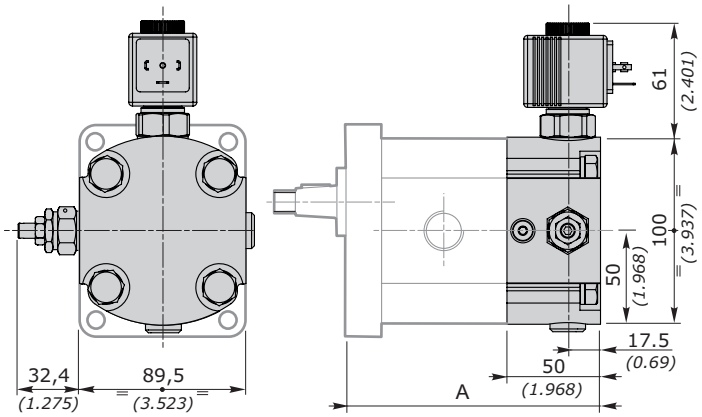
MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

UNLD

VALVOLA UNLOADING
UNLOADING VALVE







GRUPPO GROUP 2	A					
	EUR-SAEA B50C		B80C		E52C	
	mm	*inch*	*mm*	*inch*	*mm*	*inch*
2SM 040	123.8	*4.874*	125.8	*4.952*	121.1	*4.767*
2SM 060	127.1	*5.003*	129.1	*5.082*	124.4	*4.897*
2SM 080	131.3	*5.169*	133.3	*5.248*	128.6	*5.062*
2SM 110	135.4	*5.330*	137.4	*5.409*	132.7	*5.224*
2SM 140	140.4	*5.527*	142.4	*5.606*	137.7	*5.421*
2SP 160	144.6	*5.692*	146.6	*5.771*	141.9	*5.586*
2SP 190	149.6	*5.889*	151.6	*5.968*	146.9	*5.793*
2SP 220	154.6	*6.086*	156.6	*6.165*	151.9	*5.980*
2SP 260	160.4	*6.314*	162.4	*6.393*	157.7	*6.208*
2SP 310	168.8	*6.645*	170.8	*6.724*	166.1	*6.539*

esempio ● *example:* **2SM-A-140-D-EUR-H-N-10-0-T-NA(UNLD)-VLPI(N100)-12VDC**

UNLD = Coperchio con valvola unloading standard - *Standard cover with unloading valve*
N = Tipo molla - vedi tabella / *Spring type - see table*
100 = Taratura - vedi tabella / *Setting - see table*

TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	**B**	molla nera - *black spring*	**N**	molla rossa - *red spring*	**R**
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

NOTA: In caso si omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

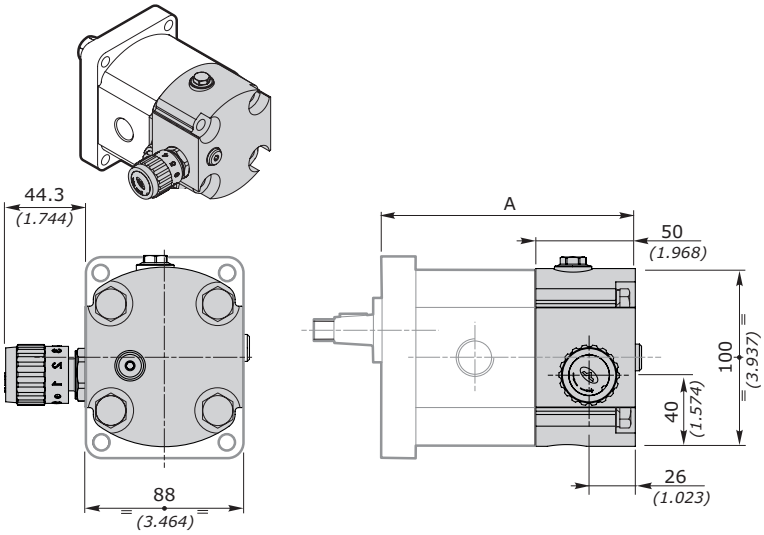
MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

VRFR

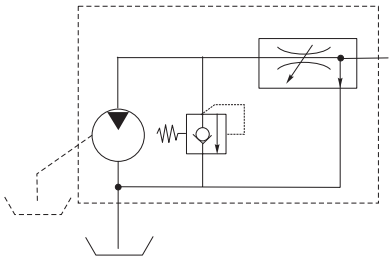
VALVOLA REGOLATRICE DI PORTATA COMPENSATA
FLOW CONTROL PRESSURE COMPENSATED VALVE

VRFR35-U(110)

Fino a 35 lpm controllati in ingresso - *inlet control up to 35 lpm*

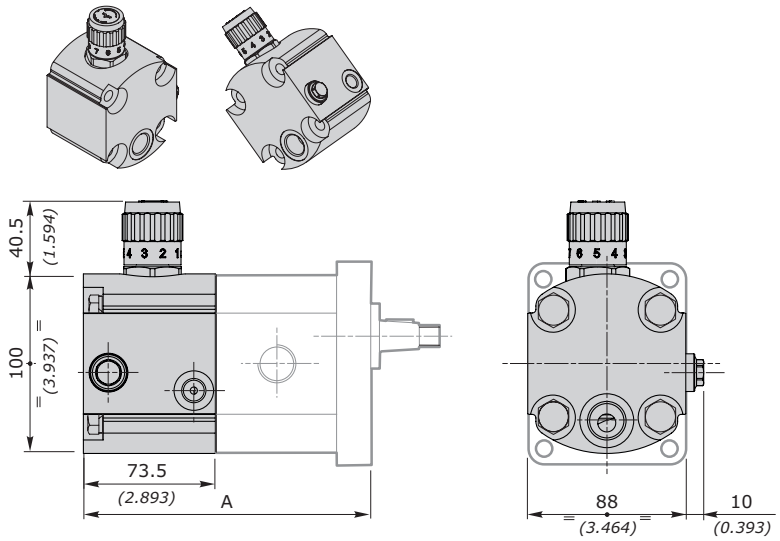


GRUPPO GROUP 2	A (PP10) EUR-SAEA-B50C mm	inch	B80C mm	inch	E52C mm	inch
2SM 040	127.8	*5.031*	129.8	*5.110*	125.1	*4.925*
2SM 060	131.1	*5.161*	133.1	*5.240*	128.4	*5.055*
2SM 080	135.3	*5.326*	137.3	*5.405*	132.6	*5.220*
2SM 110	139.4	*5.488*	141.4	*5.566*	136.7	*5.381*
2SM 140	144.4	*5.685*	146.4	*5.763*	141.7	*5.578*
2SM 160	148.6	*5.850*	150.6	*5.929*	145.9	*5.744*
2SM 190	153.6	*6.047*	155.6	*6.125*	150.9	*5.940*
2SM 220	158.6	*6.244*	160.6	*6.322*	155.9	*6.137*
2SM 260	164.4	*6.472*	166.4	*6.551*	161.7	*6.366*
2SM 310	172.8	*6.803*	174.8	*6.881*	170.1	*6.696*



VRFR55-U(110)

Fino a 55 lpm controllati in ingresso - *inlet control up to 55 lpm*



GRUPPO GROUP 2	A (PP12) EUR-SAEA-B50C mm	inch	B80C mm	inch	E52C mm	inch
2SM 040	151.3	*5.956*	153.3	*6.035*	148.6	*5.850*
2SM 060	154.6	*6.086*	156.6	*6.165*	151.9	*5.980*
2SM 080	158.8	*6.251*	160.8	*6.330*	156.1	*6.145*
2SM 110	162.9	*6.413*	164.9	*6.492*	160.2	*6.307*
2SM 140	167.9	*6.610*	169.9	*6.688*	165.2	*6.503*
2SM 160	172.1	*6.775*	174.1	*6.854*	169.4	*6.669*
2SM 190	177.1	*6.972*	179.1	*7.051*	174.4	*6.866*
2SM 220	182.1	*7.169*	184.1	*7.248*	179.4	*7.062*
2SM 260	187.9	*7.397*	189.9	*7.476*	185.2	*7.291*
2SM 310	196.3	*7.728*	198.3	*7.807*	193.6	*7.622*

esempio ● *example:* **2SM - A - 140 - D - EUR - H - N - 10 - 0 - N - VRFR55 - U(110)**

VRFR55 = Coperchio con valvola regolatrice di portata / *Cover with flow control pressure compensated valve*
110 = Taratura - vedi tabella / *Setting - see table*

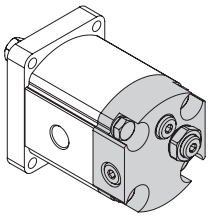
VALVOLE ANTICAVITAZIONE A TARATURA FISSA - FIXED SETTING ANTICAVITATION VALVES																
bar	50	63	80	100	110	125	140	150	160	175	190	200	210	230	240	250
psi	*725*	*914*	*1150*	*1450*	*1590*	*1800*	*2050*	*2150*	*2300*	*2550*	*2750*	*2900*	*3050*	*3350*	*3500*	*3600*

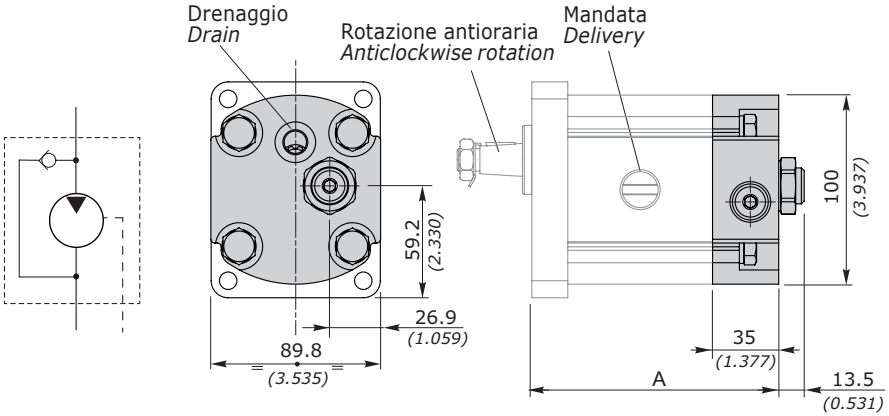
NOTE: La valvola VLPI va ordinata separatamente.
In caso si omissione del valore di taratura, esso sarà inteso standard.
NOTES: VLPI valve must be ordered separately. Without setting request, it will be considered standard.

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

VA

VALVOLA ANTICAVITAZIONE
ANTICAVITATION VALVE





GRUPPO GROUP 2	A					
	EUR-SAEA-B50C		B80C		E52C	
	mm	inch	mm	inch	mm	inch
2SM 040	109.3	*4.303*	111.3	*4.381*	106.6	*4.196*
2SM 060	112.6	*4.433*	114.6	*4.511*	109.9	*4.326*
2SM 080	116.8	*4.598*	118.8	*4.677*	114.1	*4.492*
2SM 110	120.9	*4.759*	122.9	*4.838*	118.2	*4.653*
2SM 140	125.9	*4.956*	127.9	*5.035*	123.2	*4.850*
2SM 160	130.1	*5.122*	132.1	*5.200*	127.4	*5.015*
2SM 190	135.1	*5.318*	137.1	*5.397*	132.4	*5.212*
2SM 220	140.1	*5.515*	142.1	*5.594*	137.4	*5.409*
2SM 260	145.9	*5.744*	147.9	*5.822*	143.2	*5.637*
2SM 310	154.3	*6.074*	156.3	*6.153*	151.6	*5.968*

esempio ● *example:* **2SM - A - 110 - S - EUR - H - N - 10 - 0 - G - VA**

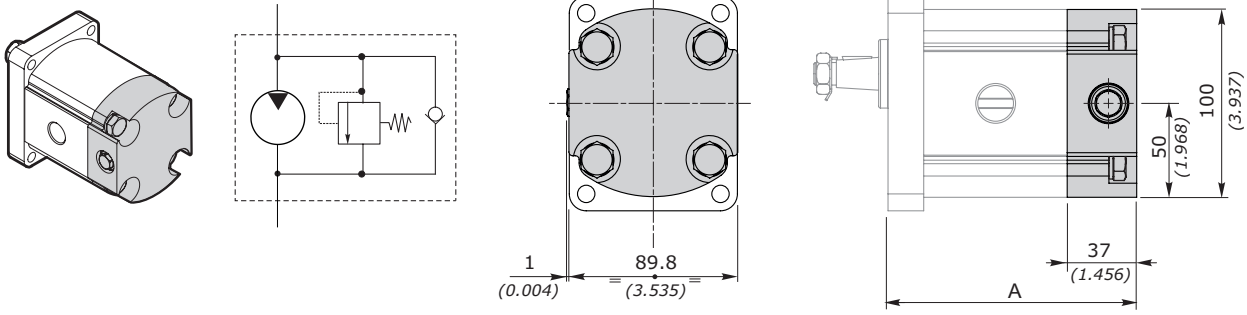
D = Rotazione destra / *Clockwise rotation*
S = Rotazione sinistra / *Anticlockwise rotation*
D(R) = Reversibile, montata unidirezionale e valvola come motore destro
Reversible, mounted as clockwise rotation and valve as right gear motor
S(R) = Reversibile, montata unidirezionale e valvola come motore sinistro
Reversible, mounted as anticlockwise rotation and valve as left gear motor
R....VA(D)/VA(S) = Reversibile / *Reversible*

VA = Coperchio con valvola anticavitazione / *Cover with anticavitation valve*
R....VA(D) = Valvola montata come motore destro / *Valve mounted as right gear motor*
R....VA(S) = Valvola montata come motore sinistro / *Valve mounted as left gear motor*

NOTA: Nell'esempio viene descritto un motore a rotazione sinistra con valvola anticavitazione montata come motore sinistro, per altre configurazioni contattare il Servizio Commerciale
NOTE: in the example is represented gear motor with anticlockwise rotation and anticavitation valve mounted as left gear motor. For other configurations please contact our Sales Dpt.

MOTORI AD INGRANAGGI GRUPPO 2SM
GEAR MOTORS GROUP 2SM

VMA VALVOLA ANTICAVITAZIONE E ANTIURTO
ANTICAVITATION AND ANTISHOCK VALVE



GRUPPO GROUP 2	A EUR-SAEA-B50C mm	inch	B80C mm	inch	E52C mm	inch
2SP 040	111.3	*4.381*	113.3	*4.450*	108.6	*4.275*
2SP 060	114.6	*4.511*	116.6	*4.590*	111.9	*4.405*
2SP 080	118.8	*4.677*	120.8	*4.755*	116.1	*4.570*
2SP 110	122.9	*4.838*	124.9	*4.917*	120.2	*4.732*
2SP 140	127.9	*5.035*	129.9	*5.114*	125.2	*4.929*
2SP 160	132.1	*5.200*	134.1	*5.279*	129.4	*5.094*
2SP 190	137.1	*5.397*	139.1	*5.476*	134.4	*5.291*
2SP 220	142.1	*5.594*	144.1	*5.673*	139.4	*5.488*
2SP 260	147.9	*5.822*	149.9	*5.901*	145.2	*5.716*
2SP 310	156.3	*6.153*	158.3	*6.232*	153.6	*6.047*

esempio ● *example:* **2SM - A - 140 - D - EUR - H - N - 10 - 0 - G - VMA**

VMA = Coperchio con valvola anticavitazione / *Cover with anticavitation valve*

VALVOLE ANTICAVITAZIONE A TARATURA FISSA - FIXED SETTING ANTICAVITATION VALVES																
bar	50	63	80	100	110	125	140	150	160	175	190	200	210	230	240	250
psi	*725*	*914*	*1150*	*1450*	*1590*	*1800*	*2050*	*2150*	*2300*	*2550*	*2750*	*2900*	*3050*	*3350*	*3500*	*3600*

NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard.
NOTE: Without setting request, it will be considered standard.

MOTORI AD INGRANAGGI GRUPPO 3GM
GEAR MOTORS GROUP 3GM

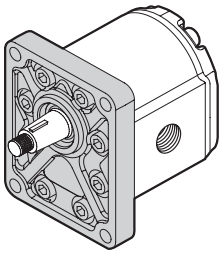
FLANGIA EUROPEA EUR *EUROPEAN FLANGE*

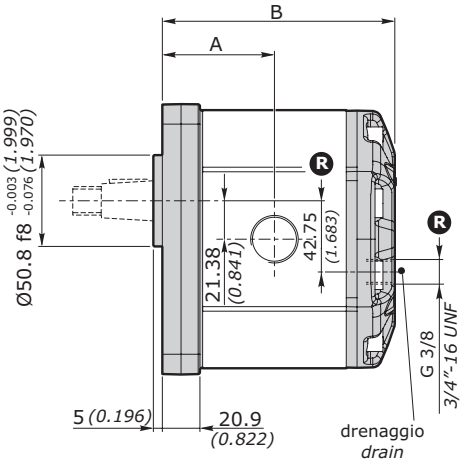
FLANGIA E COPERCHIO IN GHISA - *CAST IRON FLANGE AND COVER*

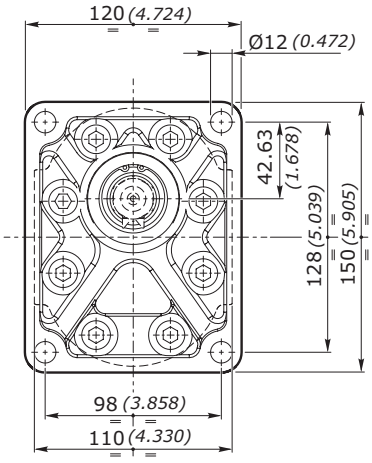
GRUPPO GROUP 3GM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE S - D		R		S - D		R		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	*in³/rev*	**P1** *bar*	**P1** *psi*	**P1** *bar*	**P1** *psi*	**P2** *bar*	**P2** *psi*	**P2** *bar*	**P2** *psi*	*giri/min - rpm*	*l/min*	*Gal/min*	*giri/min - rpm*
3GM 190	19.3	*1.2*	250	*3625*	215	*3117*	265	*3842*	230	*3335*	3500	67.6	*17.84*	600
3GM 230	23.0	*1.4*	250	*3625*	215	*3117*	265	*3842*	230	*3335*	3500	80.3	*21.22*	600
3GM 300	30.2	*1.8*	240	*3480*	205	*2972*	255	*3621*	220	*3190*	3300	99.7	*26.33*	600
3GM 340	33.8	*2.1*	240	*3480*	205	*2972*	255	*3621*	220	*3190*	3300	111.6	*29.49*	600
3GM 370	37.5	*2.3*	230	*3335*	195	*2827*	245	*3552*	210	*3045*	3300	123.6	*32.66*	600
3GM 440	44.6	*2.7*	220	*3190*	190	*2755*	235	*3407*	205	*2972*	3000	133.8	*35.35*	600
3GM 530	53.0	*3.2*	210	*3045*	180	*2610*	225	*3262*	195	*2827*	3000	159.1	*42.04*	600
3GM 620	62.7	*3.8*	190	*2755*	160	*2320*	200	*2900*	170	*2465*	2500	156.8	*41.41*	600
3GM 700	70.5	*4.3*	180	*2610*	155	*2247*	190	*2755*	165	*2392*	2500	176.3	*46.58*	600
3GM 770	77.2	*4.7*	170	*2465*	145	*2102*	180	*2610*	155	*2247*	2200	169.8	*44.84*	600

Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

DIMENSIONI • *DIMENSIONS*







Ⓡ Solo per motori reversibili - *Only for reversible motors*

GRUPPO - GROUP 3	A		B		MASSA - MASS	
	mm	*inch*	*mm*	*inch*	*kg*	*lbs*
3GM 190	62.4	*2.456*	128.3	*5.051*	7.67	*16.91*
3GM 230	63.9	*2.515*	131.3	*5.169*	7.81	*17.21*
3GM 300	66.9	*2.633*	137.3	*5.405*	8.09	*17.82*
3GM 340	68.4	*2.692*	140.3	*5.523*	8.22	*18.12*
3GM 370	69.9	*2.751*	143.3	*5.641*	8.36	*18.43*
3GM 440	72.9	*2.870*	149.3	*5.877*	8.64	*19.04*
3GM 530	76.4	*3.007*	156.3	*6.153*	8.96	*19.75*
3GM 620	80.4	*3.165*	164.3	*6.468*	9.33	*20.56*
3GM 700	86.9	*3.421*	170.8	*6.724*	9.63	*21.22*
3GM 770	92.4	*3.637*	176.3	*6.940*	9.88	*21.77*

MOTORI AD INGRANAGGI GRUPPO 3GM
GEAR MOTORS GROUP 3GM

FLANGIA SAE SAEB-SAEBOR* *SAE FLANGE*

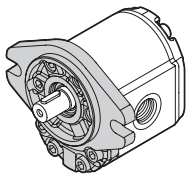
FLANGIA E COPERCHIO IN GHISA - *CAST IRON FLANGE AND COVER*

GRUPPO GROUP 3GM	CILINDRATA DISPLACEMENT		PRESSIONE MAX - MAX PRESSURE S - D		R		S - D		R		VELOCITÀ MAX MAX SPEED	PORTATA MAX MAX FLOW		VELOCITÀ MIN MIN SPEED
	cm³/giro	*in³/rev*	**P1** *bar*	**P1** *psi*	**P1** *bar*	**P1** *psi*	**P2** *bar*	**P2** *psi*	**P2** *bar*	**P2** *psi*	*giri/min - rpm*	*l/min*	*Gal/min*	*giri/min - rpm*
3GM 190	19.3	*1.2*	250	*3625*	215	*3117*	265	*3842*	230	*3335*	3500	67.6	*17.84*	600
3GM 230	23.0	*1.4*	250	*3625*	215	*3117*	265	*3842*	230	*3335*	3500	80.3	*21.22*	600
3GM 300	30.2	*1.8*	240	*3480*	205	*2972*	255	*3621*	220	*3190*	3300	99.7	*26.33*	600
3GM 340	33.8	*2.1*	240	*3480*	205	*2972*	255	*3621*	220	*3190*	3300	111.6	*29.49*	600
3GM 370	37.5	*2.3*	230	*3335*	195	*2827*	245	*3552*	210	*3045*	3300	123.6	*32.66*	600
3GM 440	44.6	*2.7*	220	*3190*	190	*2755*	235	*3407*	205	*2972*	3000	133.8	*35.35*	600
3GM 530	53.0	*3.2*	210	*3045*	180	*2610*	225	*3262*	195	*2827*	3000	159.1	*42.04*	600
3GM 620	62.7	*3.8*	190	*2755*	160	*2320*	200	*2900*	170	*2465*	2500	156.8	*41.41*	600
3GM 700	70.5	*4.3*	180	*2610*	155	*2247*	190	*2755*	165	*2392*	2500	176.3	*46.58*	600
3GM 770	77.2	*4.7*	170	*2465*	145	*2102*	180	*2610*	155	*2247*	2200	169.8	*44.84*	600

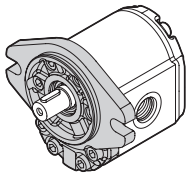
Nota - Per valori di pressione superiori a quelli indicati contattare il Servizio Commerciale.
Note - for higher pressure values please contact our Sales Dpt.

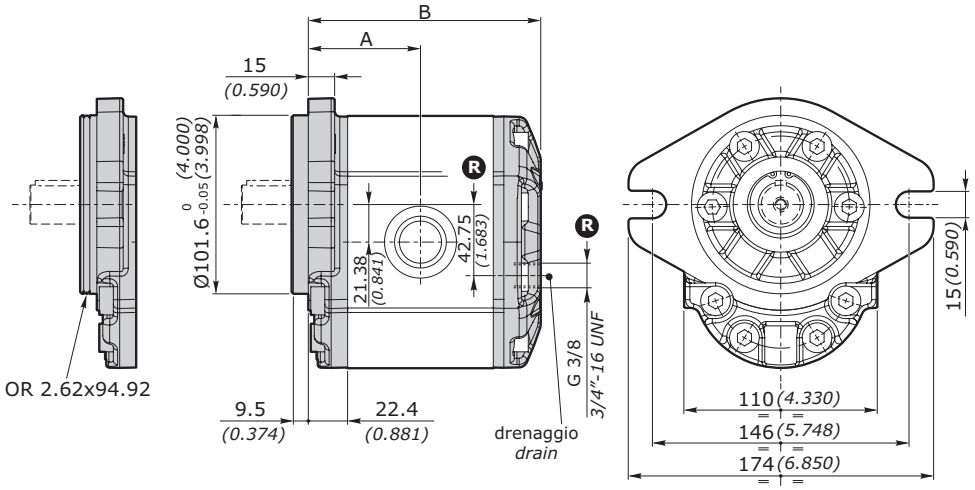
DIMENSIONI • *DIMENSIONS*

SAEB*



SAEBOR*





R Solo per motori reversibili - *Only for reversible motors*

* Contattare il servizio commerciale. / *Available soon. Please contact our Sales Dpt.*

GRUPPO - GROUP 3	A		B		MASSA - MASS	
	mm	*inch*	*mm*	*inch*	*kg*	*lbs*
3GM 190	62.4	*2.456*	128.3	*5.051*	7.67	*16.91*
3GM 230	63.9	*2.515*	131.3	*5.169*	7.81	*17.21*
3GM 300	66.9	*2.633*	137.3	*5.405*	8.09	*17.82*
3GM 340	68.4	*2.692*	140.3	*5.523*	8.22	*18.12*
3GM 370	69.9	*2.751*	143.3	*5.641*	8.36	*18.43*
3GM 440	72.9	*2.870*	149.3	*5.877*	8.64	*19.04*
3GM 530	76.4	*3.007*	156.3	*6.153*	8.96	*19.75*
3GM 620	80.4	*3.165*	164.3	*6.468*	9.33	*20.56*
3GM 700	86.9	*3.421*	170.8	*6.724*	9.63	*21.22*
3GM 770	92.4	*3.637*	176.3	*6.940*	9.88	*21.77*

MOTORI AD INGRANAGGI GRUPPO 3GM
GEAR MOTORS GROUP 3GM

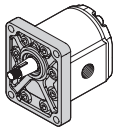
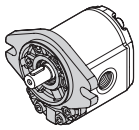
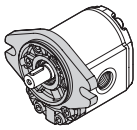
CODICE ORDINAZIONE • *ORDER CODE*

3GM - G - 340 - D - EUR - H - N - 10 - 0 - G

SIGLA - *CODE*	TIPO - *TYPE*	DESCRIZIONE - *DESCRIPTION*	PAGINA - *PAGE*
3GM	Tipo motore *Motor type*	Motore - gruppo 3 *Motor - group 3*	102
G	Materiale flangia e coperchio *Flange and cover material*	**G** = Ghisa / *Cast iron*	159
340	Cilindrata *Displacement*	Cilindrata = 33.8 cm^3/g *Displacement = 2.10 in^3/rev*	102
D	Senso di rotazione *Rotation wise*	**D** = Rotazione destra / *Clockwise rotation* **S** = Rotazione sinistra / *Anticlockwise rotation* **R** = Reversibile / *Reversible* **X** = Reversibile con drenaggio interno *Reversible with internal drain*	104
EUR	Tipo Flangia *Flange type*	Flangia standard europea *European standard flange*	159
H	Tipo anello di tenuta *Seal ring type*	Vedi tabella compatibilità *See compatibility table*	
N	Tipo guarnizione *Gasket type*	**N** = NBR **V** = Viton	160
10	Tipo Albero *Shaft type*	Vedi tabella compatibilità *See compatibility table*	160
0	Posizione connessione *Connection position*	Vedi tabella compatibilità *See compatibility table*	162
G	Tipo connessione *Connection type*	Vedi tabella compatibilità *See compatibility table*	163

MOTORI AD INGRANAGGI GRUPPO 3GM
GEAR MOTORS GROUP 3GM

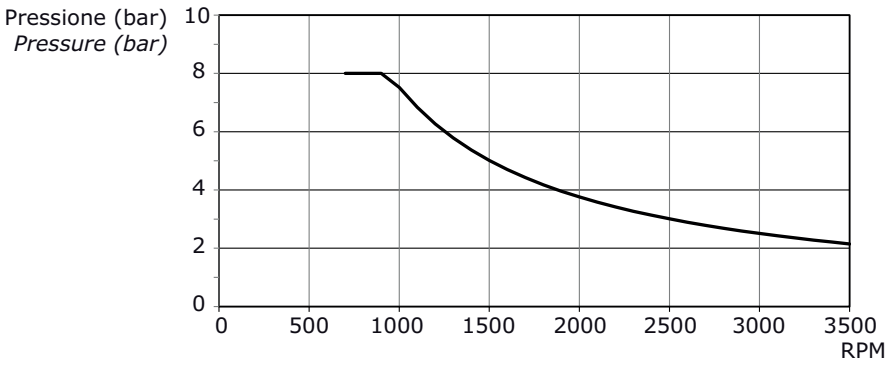
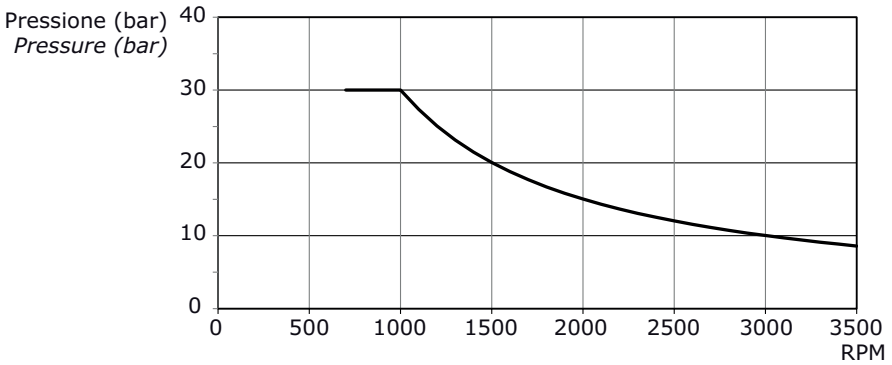
TIPOLOGIA FLANGIA • *FLANGE TYPE*

3GM	EUR	SAEB*	SAEBOR*
			
A alluminio *aluminium*	non disponibile *not available*	non disponibile *not available*	non disponibile *not available*
G ghisa *cast iron*	◇	◇	◇

◇ = Combinazione standard - *Standard combination*

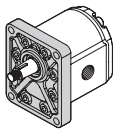
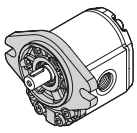
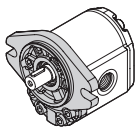
* Contattare il servizio commerciale. */Available soon. Please contact our Sales Dpt.*

ANELLO DI TENUTA • *SEAL RING*

SIGLA - *CODE*	TIPO - *TYPE*	DIAGRAMMA - *DIAGRAM*
H	Anello di tenuta fino a **8** bar *Sealing ring up to **8** bar*	
K	Anello di tenuta fino a **30** bar *Sealing ring up to **30** bar*	

MOTORI AD INGRANAGGI GRUPPO 3GM
GEAR MOTORS GROUP 3GM

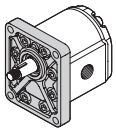
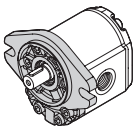
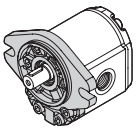
COMBINAZIONE FLANGIA - ANELLO DI TENUTA - GUARNIZIONE • *FLANGE - SEAL RING - GASKET COMBINATION*

3GM		EUR			SAEB*			SAEBOR*		
										
		Anello - *seal ring*			Anello - *seal ring*			Anello - *seal ring*		
		H	**K**	**W**	**H**	**K**	**W**	**H**	**K**	**W**
NBR	**N**	◇	◇	◇	◇	◇	◇	◇	◇	◇
Viton	**V**	●	●	●	●	●	●	●	●	●

esempio • *example:* **3GM - G - 340 - D - EUR - H - N - 10 - 0 - G**

EUR = flangia europea std / *Std European flange*
H = Anello tenuta fino a 8 bar / Seal ring up to 8 *bar*
N = *guarnizione in NBR / NBR o-ring*

COMBINAZIONE ALBERO - FLANGIA • *SHAFT - FLANGE COMBINATION*

3GM	EUR	SAEB*	SAEBOR*
			
10 Conico 1:8 *Tapered 1:8*	◇	●	●
13 Cilindrico SAEB *SAEB Parallel shaft*	●	◇	◇
14 Scanalato SAEB 13T (38.2) *SAEB 13T splined (38.2)*	●	◇	◇
14R Scanalato SAEB 13T (44.7) *SAEB 13T splined (44.7)*	●	●	●

◇ = Combinazione standard - *Standard combination* ● = Combinazione disponibile - *Available combination*

* Contattare il Servizio Commerciale. / *Available soon. Please contact our Sales Dpt.*

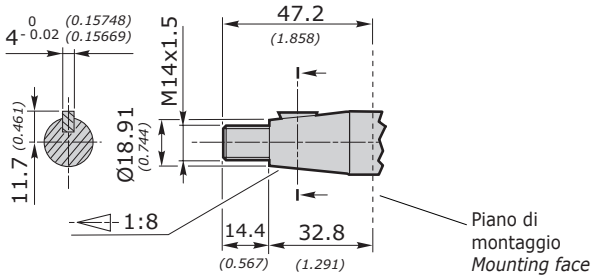
MOTORI AD INGRANAGGI GRUPPO 3GM
GEAR MOTORS GROUP 3GM

3GM

DIMENSIONI ALBERO - *SHAFT DIMENSIONS*

10
Conico 1:8
Tapered 1:8

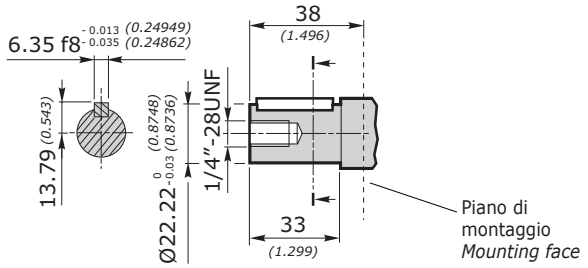
Coppia 240 Nm
Torque 178 ft-lbs



Disponibile per - *available for:* **EUR - SAEB - SAEBOR**

13
Cilindrico SAEB
SAEB Parallel shaft

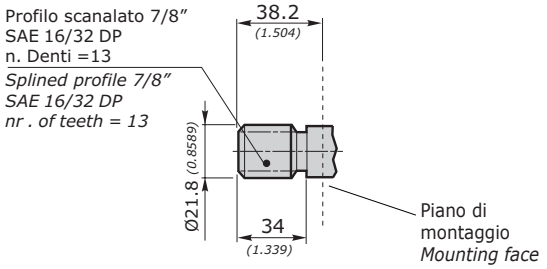
Coppia 200 Nm
Torque 148 ft-lbs



Disponibile per - *available for:* **EUR - SAEB - SAEBOR**

14
Scanalato SAEB
13T (38.2)
SAEB 13T splined (38.2)

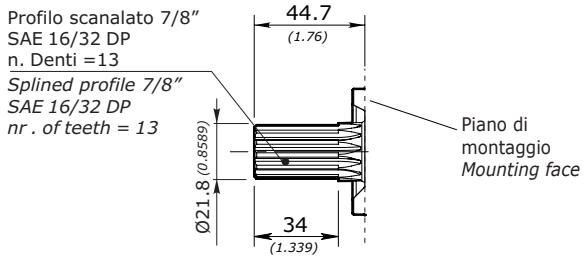
Coppia 270 Nm
Torque 200 ft-lbs



Disponibile per - *available for:* **EUR - SAEB - SAEBOR**

14R
Scanalato SAEB
13T (44.7)
SAEB 13T splined (44.7)

Coppia 270 Nm
Torque 200 ft-lbs



Disponibile per - *available for:* **EUR - SAEB - SAEBOR**

MOTORI AD INGRANAGGI GRUPPO 3GM
GEAR MOTORS GROUP 3GM

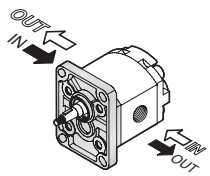
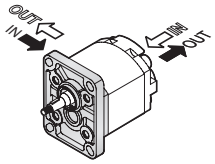
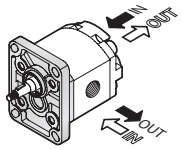
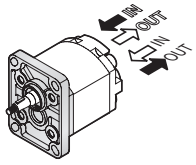
POSIZIONE CONNESSIONE PER MOTORI (D-S) • *CONNECTION POSITION FOR (D-S) MOTORS*

Rotazione destra - **D**
*Clockwise rotation - **D***

Rotazione sinistra - **S**
*Anticlockwise rotation - **S***

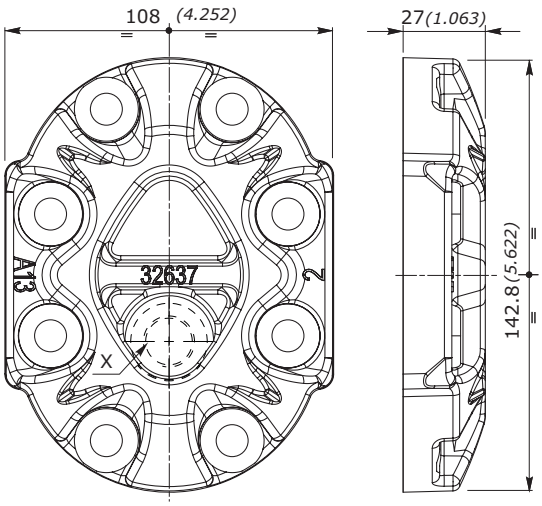
POSIZIONE CONNESSIONE PER MOTORI (R) • *CONNECTION POSITION FOR (R) MOTORS*

Rotazione - **R**
*Rotation - **R***

0	1	3	4
			

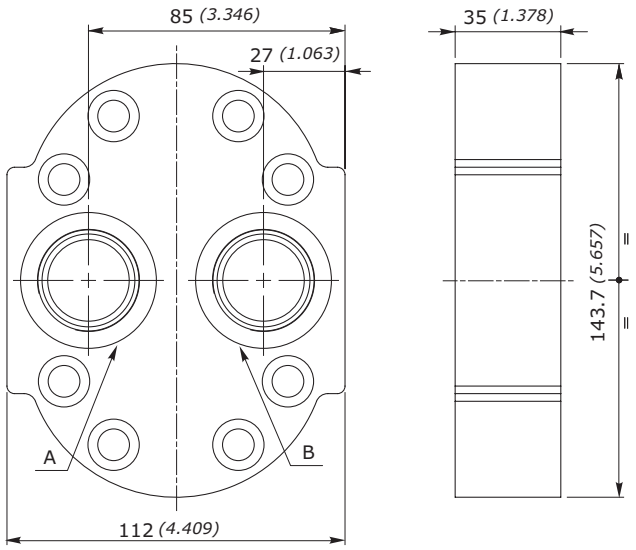
COPERCHIO STANDARD • *STANDARD COVER*

Per posizione **0**
*For position **0***



CONNESSIONI / *CONNECTION*	X
GAS	G 3/8
SAE	SAE 8

Per posizioni **1, 3, 4**
*For position **1, 3, 4***



CONNESSIONI / *CONNECTION*	A	B
GAS	G 1	G 1
SAE	SAE 16	SAE 12

NOTA - (X) Coperchio standard disponibile con drenaggio G 3/8 e SAE 8 contattare il Servizio Commerciale.

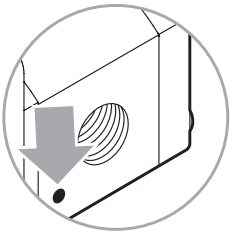
Note - (X) Available standard cover with drain G 3/8 and SAE 8. Please contact our Sales Dpt.

MOTORI AD INGRANAGGI GRUPPO 3GM
GEAR MOTORS GROUP 3GM

TIPO CONNESSIONE PER MOTORI D-S • *CONNECTION TYPE FOR D-S MOTORS*

Le connessioni rappresentate corrispondono alle versioni standard; per connessioni differenti, contattare il nostro Ufficio Commerciale.

The connection types shown correspond to standard configurations; for different applications contact our Commercial Dept.

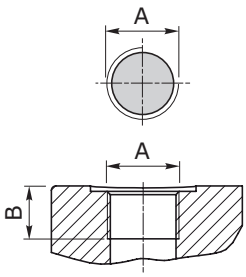


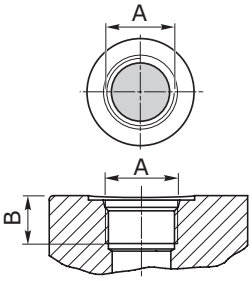
Il segno sul corpo indica il lato scarico per i motori

The sign on the body identifies the outlet side for the motors

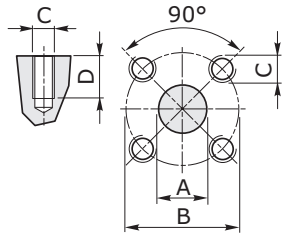
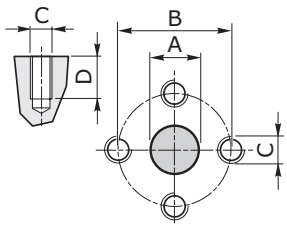
IN = INGRESSO - *INLET*
OUT = SCARICO - *OUTLET*

3GM		POSIZIONE CONNESSIONE - *CONNECTION POSITION*			
		0	**1**	**3**	**4**
GAS	**G**	◇	◇	◇	◇
UNF	**W**	◇	◇	◇	◇
FLANGIATE *FLANGED*	**T**	◇			
	N	◇			
	F	◇			

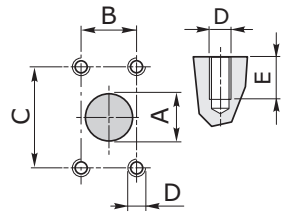
GAS	UNI ISO 228/1	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT** A	SCARICO - *OUTLET* **OUT** B	SCARICO - *OUTLET* **OUT**	INGRESSO - *INLET* **IN** A	INGRESSO - *INLET* **IN** B	INGRESSO - *INLET* **IN**
		**G**	190	G 1"	20 [mm] *0.788 [inch]*	70 [Nm] *620 [in.lbs]*	G 3/4"	17 [mm] *0.670 [in.lbs]*	60 [mm] *531 [in.lbs]*
			230						
			300						
			340						
			370						
			440						
			530						
			620						
			700						
			770						

UNF	ANSI/ASME B1.1	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT** A	SCARICO - *OUTLET* **OUT** B	SCARICO - *OUTLET* **OUT**	INGRESSO - *INLET* **IN** A	INGRESSO - *INLET* **IN** B	INGRESSO - *INLET* **IN**
		**W**	190	SAE 16 1"5/16-12 UN	20 [mm] *0.788 [inch]*	70 [Nm] *620 [in.lbs]*	SAE 12 1"1/16-12 UN	20 [mm] *0.788 [inch]*	60 [Nm] *531 [in.lbs]*
			230						
			300						
			340						
			370						
			440						
			530						
			620						
			700						
			770						

MOTORI AD INGRANAGGI GRUPPO 3GM
GEAR MOTORS GROUP 3GM

FLANGIATE FLANGED	ISO/R 262	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT** A	B	C	D		INGRESSO - *INLET* **IN** A	B	C	D	
		**T**	190 230 300 340 370 440 530 620 700 770	26 [mm] *1.024 [inch]*	55 [mm] *2.167 [inch]*	M8	16 [mm] *0.630 [inch]*	15 [Nm] *133 [in.lbs]*	18 [mm] *0.709 [inch]*	55 [mm] *2.167 [inch]*	M8	16 [mm] *0.630 [inch]*	15 [Nm] *133 [in.lbs]*
		**N**	190 230 300 340 370 440 530 620 700 770	27 [mm] *1.064 [inch]*	51 [mm] *2.009 [inch]*	M10	15 [mm] *0.591 [inch]*	20 [Nm] *177 [in.lbs]*	19 [mm] *0.748 [inch]*	40 [mm] *1.575 [inch]*	M8	15 [mm] *0.591 [inch]*	15 [Nm] *133 [in.lbs]*

Standard Galtech — *Galtech standard*

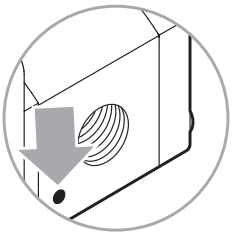
FLANGIATE FLANGED	ISO/R 262	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT** A	B	C	D	E		INGRESSO - *INLET* **IN** A	B	C	D	E	
		**F**	190 230 300 340 370	27 [mm] *1.063 [inch]*	26.2 [mm] *1.031 [inch]*	52.4 [mm] *2.063 [inch]*	M8	15 [mm] *0.591 [inch]*	15 [Nm] *133 [in.lbs]*	24 [mm] *0.945 [inch]*	26.2 [mm] *1.031 [inch]*	52.4 [mm] *2.063 [inch]*	M8	15 [mm] *0.591 [inch]*	15 [Nm] *133 [in.lbs]*
			440 530 620 700 770	42 [mm] *1.654 [inch]*	69.8 [mm] *2.748 [inch]*	35.6 [mm] *1.402 [inch]*	M8	15 [mm] *0.591 [inch]*	15 [Nm] *133 [in.lbs]*						

MOTORI AD INGRANAGGI GRUPPO 3GM
GEAR MOTORS GROUP 3GM

TIPO CONNESSIONE PER MOTORI (R) • *CONNECTION TYPE FOR (R) MOTORS*

Le connessioni rappresentate corrispondono alle versioni standard; per connessioni differenti, contattare il nostro Ufficio Commerciale.

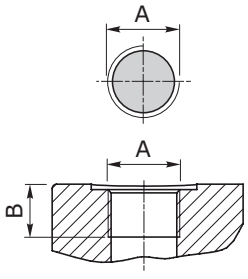
The connection types shown correspond to standard configurations; for different applications contact our Commercial Dept.

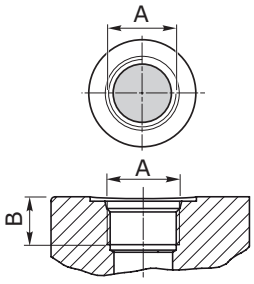


L'eventuale segno sul corpo dei Motori REVERSIBILI non è da considerare.
Any sign on the body of REVERSIBLE Motors has not to be considered.

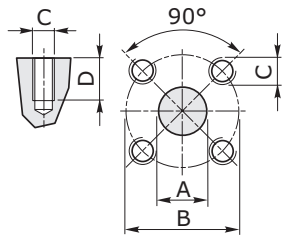
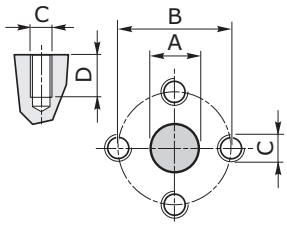
IN = MANDATA - *DELIVERY*
OUT = SCARICO - *OUTLET*

GAS	**G**	◇	◇	◇	◇
UNF	**W**	◇	◇	◇	◇
FLANGIATE *FLANGED*	**T**	◇			
	N	◇			
	F	◇			

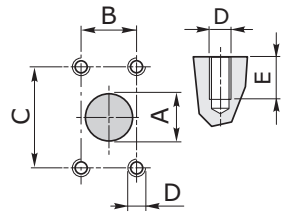
GAS	UNI ISO 228/1	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT** A	B		INGRESSO - *INLET* **IN** A	B	
		**G**	190	G 1"	20 [mm] *0.788 [inch]*	70 [Nm] *620 [in.lbs]*	G 1"	20 [mm] *0.788 [inch]*	70 [Nm] *620 [in.lbs]*
			230						
			300						
			340						
			370						
			440						
			530						
			620						
			700						
			770						

UNF	ANSI/ASME B1.1	SIGLA *CODE*	CIL. *DISPL.*	SCARICO - *OUTLET* **OUT** A	B		INGRESSO - *INLET* **IN** A	B	
		**W**	190	SAE 16 1"5/16-12 UN	20 [mm] *0.788 [inch]*	70 [Nm] *620 [in.lbs]*			
			230						
			300						
			340						
			370						
			440						
			530						
			620						
			700						
			770						

MOTORI AD INGRANAGGI GRUPPO 3GM
GEAR MOTORS GROUP 3GM

FLANGIATE FLANGED	ISO/R 262	SIGLA *CODE*	CIL. *DISPL.*	SCARICO *OUTLET* **OUT**					INGRESSO - *INLET* **IN**				
				A	**B**	**C**	**D**		**A**	**B**	**C**	**D**	
		**T**	190 230 300 340 370 440 530 620 700 770	26 [mm] *1.024 [inch]*	55 [mm] *2.167 [inch]*	M8	16 [mm] *0.630 [inch]*	15 [Nm] *133 [in.lbs]*					
		**N**	190 230 300 340 370 440 530 620 700 770	27 [mm] *1.064 [inch]*	51 [mm] *2.009 [inch]*	M10	15 [mm] *0.591 [inch]*	20 [Nm] *177 [in.lbs]*	27 [mm] *1.064 [inch]*	51 [mm] *2.009 [inch]*	M10	15 [mm] *0.591 [inch]*	20 [Nm] *177 [in.lbs]*

Standard Galtech — *Galtech standard*

FLANGIATE FLANGED	ISO/R 262	SIGLA *CODE*	CIL. *DISPL.*	SCARICO *OUTLET* **OUT**						INGRESSO - *INLET* **IN**					
				A	**B**	**C**	**D**	**E**		**A**	**B**	**C**	**D**	**E**	
		**F**	190 230 300 340 370	27 [mm] *1.064 [inch]*	26.2 [mm] *1.031 [inch]*	52.4 [mm] *2.063 [inch]*	M8	15 [mm] *0.591 [inch]*	15 [Nm] *133 [in.lbs]*						
			440 530 620 700 770	42 [mm] *1.654 [inch]*	35.6 [mm] *1.402 [inch]*	69.8 [mm] *2.748 [inch]*	M8	15 [mm] *0.591 [inch]*	15 [Nm] *133 [in.lbs]*						

***: Le flange non corrispondono a norma SAEJ518. Flange a norma disponibili a richiesta, contattare il Servizio Commerciale.**

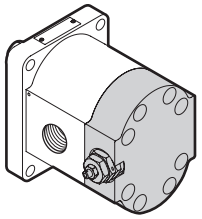
****: Flanges F do not correspond to SAEJ518. Flanges SAEJ518 available on request, please contact our Sales Dpt.***

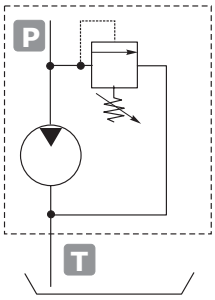
MOTORI AD INGRANAGGI GRUPPO 3GM
GEAR MOTORS GROUP 3GM

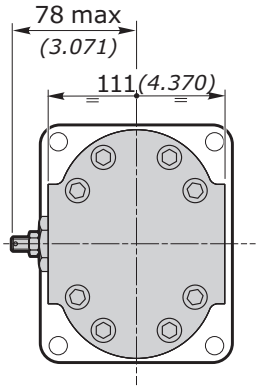
OPZIONI • *OPTIONS*

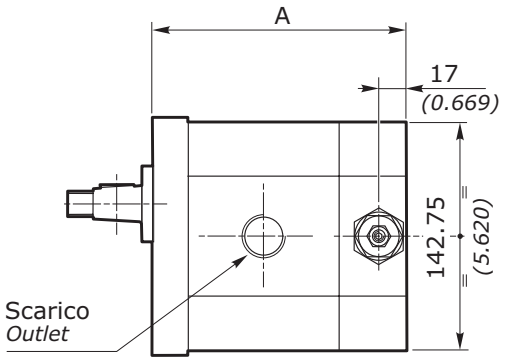
VLPI

VALVOLA LIMITATRICE DI PRESSIONE A SCARICO INTERNO
PRESSURE RELIEF VALVE WITH INTERNAL EXHAUST









GRUPPO GROUP 3	A EUR - SAEB - SAEBOR	
	mm	*inch*
3GM 190	146.30	*5.759*
3GM 230	149.30	*5.877*
3GM 300	155.30	*6.114*
3GM 340	158.30	*6.232*
3GM 370	161.30	*6.350*
3GM 440	167.30	*6.586*
3GM 530	174.30	*6.862*
3GM 620	182.30	*7.177*
3GM 700	188.30	*7.413*
3GM 770	194.30	*7.649*

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore (previsto solo scarico interno).
Il corpo VLP è disponibile in alluminio.
È rappresentato un motore con rotazione destra.

The pressure relief valve can be applied by replacing the rear cover (only internal relief is set).
VLP cover is available in aluminum.
The shown motor is with clockwise rotation.

esempio • *example:* **3GM - A - 340 - D - EUR - H - N - 10 - 0 - G - VLPI (N 120)**

VLPI = Coperchio con VPL a scarico interno / *Cover with VPL with internal exhaust*
N = Tipo molla - vedi tabella / *Spring type - see table*
120 = Taratura - vedi tabella / *Setting - see table*

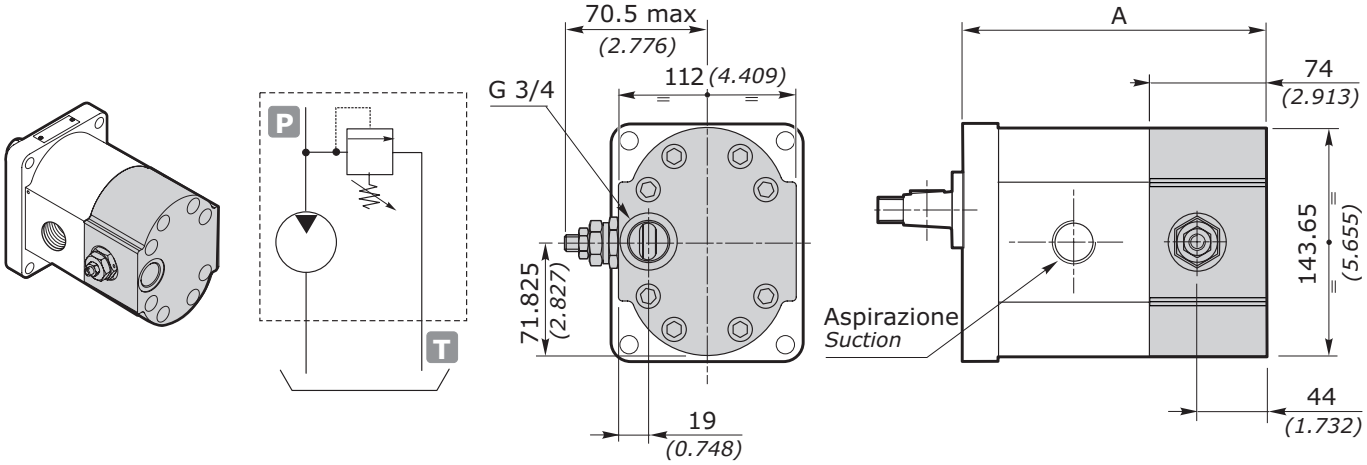
bar	30 ÷ 80	81 ÷ 200	201 ÷ 350
psi	*435 ÷ 1160*	*1175 ÷ 2900*	*2915 ÷ 5075*
STANDARD	70 bar *(1015 psi)*	150 bar *(2175 psi)*	250 bar *(3625 psi)*

NOTA: In caso si omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

MOTORI AD INGRANAGGI GRUPPO 3GM
GEAR MOTORS GROUP 3GM

VLPE

VALVOLA LIMITATRICE DI PRESSIONE A SCARICO ESTERNO
PRESSURE RELIEF VALVE WITH EXTERNAL EXHAUST



GRUPPO GROUP 3	A EUR - SAEB - SAEBOR	
	mm	*inch*
3GP 190	176.30	*6.941*
3GP 230	179.30	*7.059*
3GP 300	185.30	*7.295*
3GP 340	188.30	*7.413*
3GP 370	191.30	*7.531*
3GP 440	197.30	*7.767*
3GP 530	204.30	*8.043*
3GP 620	212.30	*8.358*
3GP 700	218.30	*8.594*
3GP 770	224.30	*8.830*

La valvola limitatrice di pressione si applica sostituendo il coperchio posteriore. Il coperchio VLP è disponibile in alluminio. E' rappresentato un motore con rotazione sinistra. Nei motori con rotazione destra, la valvola è dal lato opposto

The pressure relief valve can be applied by substituting the rear cover. VLP cover is available in aluminum. The showed motor is with anticlockwise rotation. In the case of motors with clockwise rotation, the valve is on the opposite side.

esempio ● *example:* **3GM - A - 230 - D - EUR - B - N - 10 - 0 - G - VLPE (N 120)**

VLPE = Coperchio con VPL a scarico esterno / *Cover with VPL with external exhaust*
N = Tipo molla - vedi tabella / *Spring type - see table*
120 = Taratura - vedi tabella / *Setting - see table*

TIPO - TYPE	CAMPI DI TARATURE - CALIBRATION FIELDS					
	molla bianca - *white spring*	**B**	molla nera - *black spring*	**N**	molla rossa - *red spring*	**R**
bar	30 ÷ 80		81 ÷ 200		201 ÷ 350	
psi	*435 ÷ 1160*		*1175 ÷ 2900*		*2915 ÷ 5075*	
STANDARD	70 bar *(1015 psi)*		150 bar *(2175 psi)*		250 bar *(3625 psi)*	

NOTA: In caso di omissione del valore di taratura, esso sarà inteso standard (vedi tabella).
NOTE: Without setting request, it will be considered standard (see table).

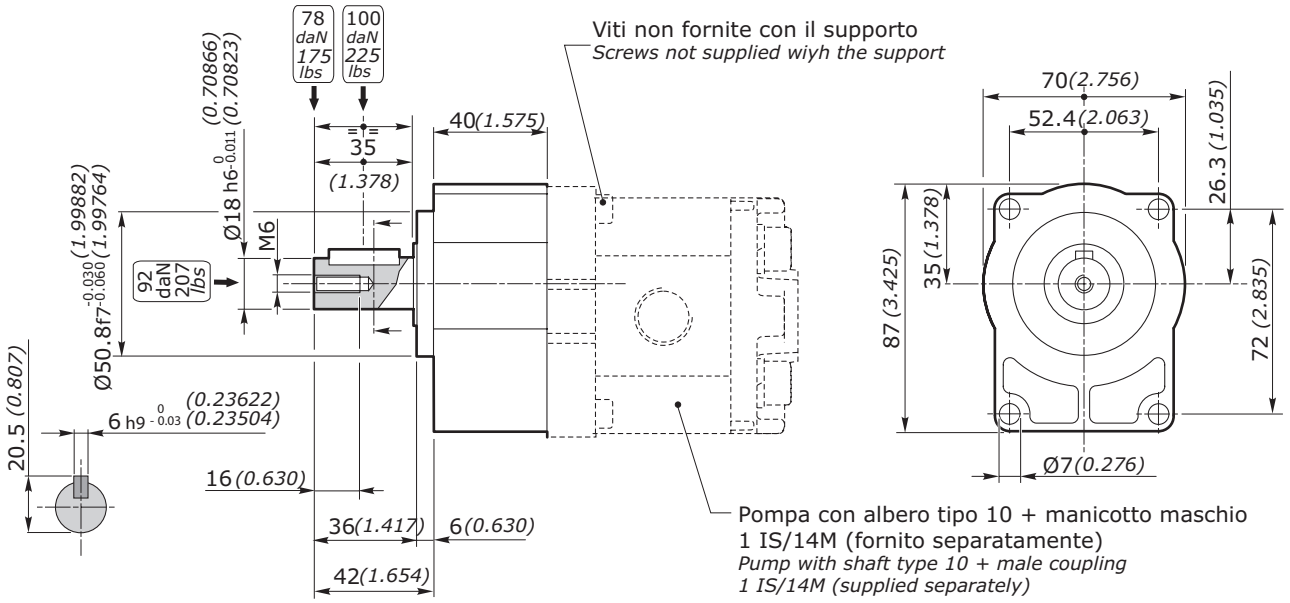
ACCESSORI
ACCESSORIES

SUPPORTI • *SUPPORTS*

GRUPPO - GROUP 1

SUPPORTO CON ALBERO TIPO 12 • *SUPPORT WITH SHAFT TYPE 12*

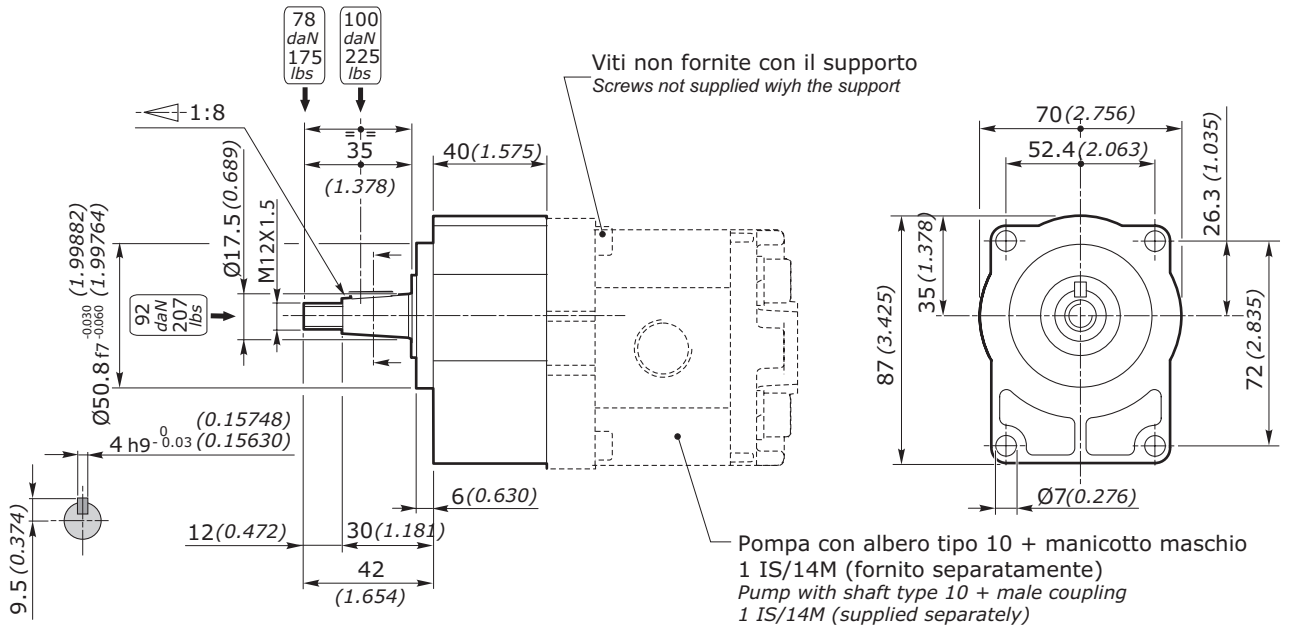
Codice ordinazione - *Order code:* **015104000000000**



GRUPPO - GROUP 1

SUPPORTO CON ALBERO TIPO 10 • *SUPPORT WITH SHAFT TYPE 10*

Codice ordinazione - *Order code:* **015105000000000**

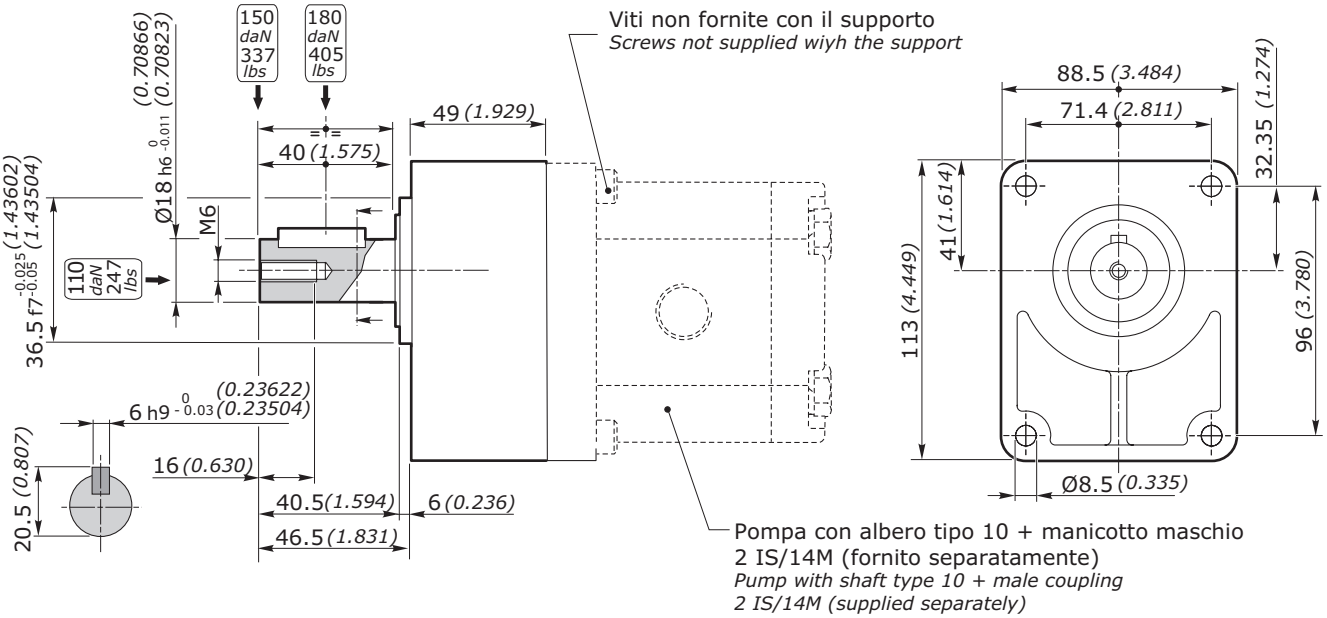


SUPPORTI • *SUPPORTS*

GRUPPO - GROUP 2

SUPPORTO CON ALBERO TIPO 12 • *SUPPORT WITH SHAFT TYPE 12*

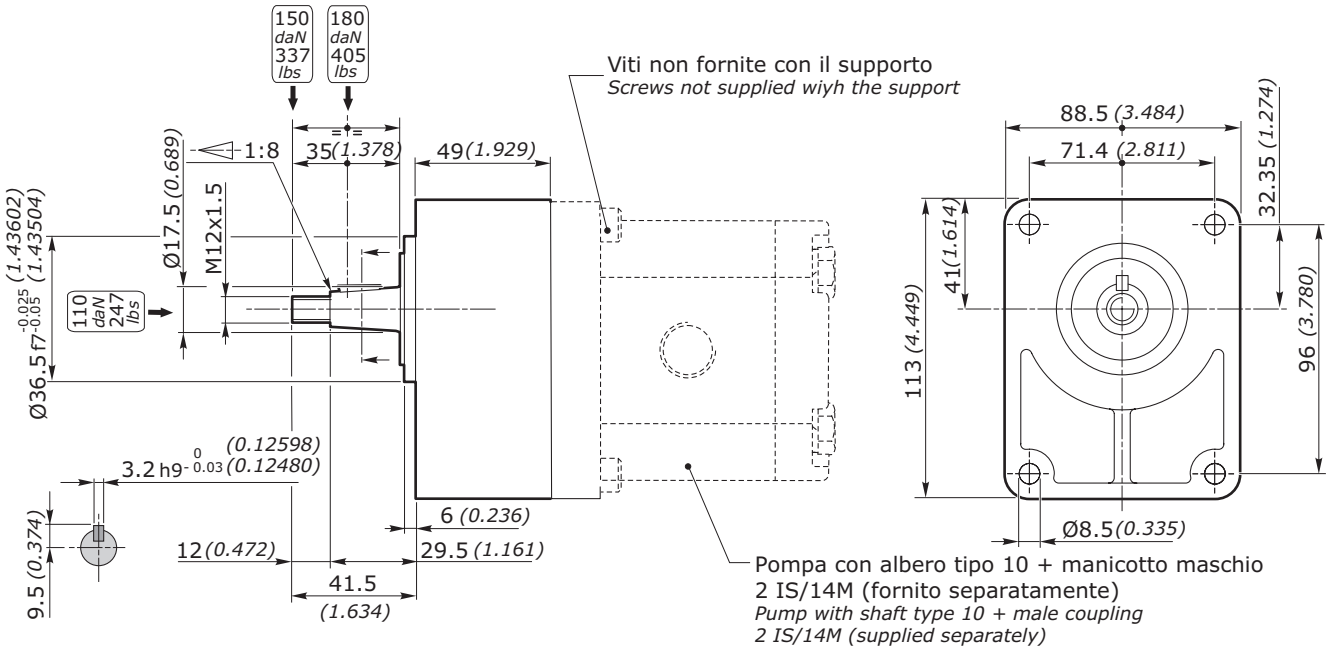
Codice ordinazione - *Order code:* **015212000000000**



GRUPPO - GROUP 2

SUPPORTO CON ALBERO TIPO 10 • *SUPPORT WITH SHAFT TYPE 10*

Codice ordinazione - *Order code:* **015212010000000**



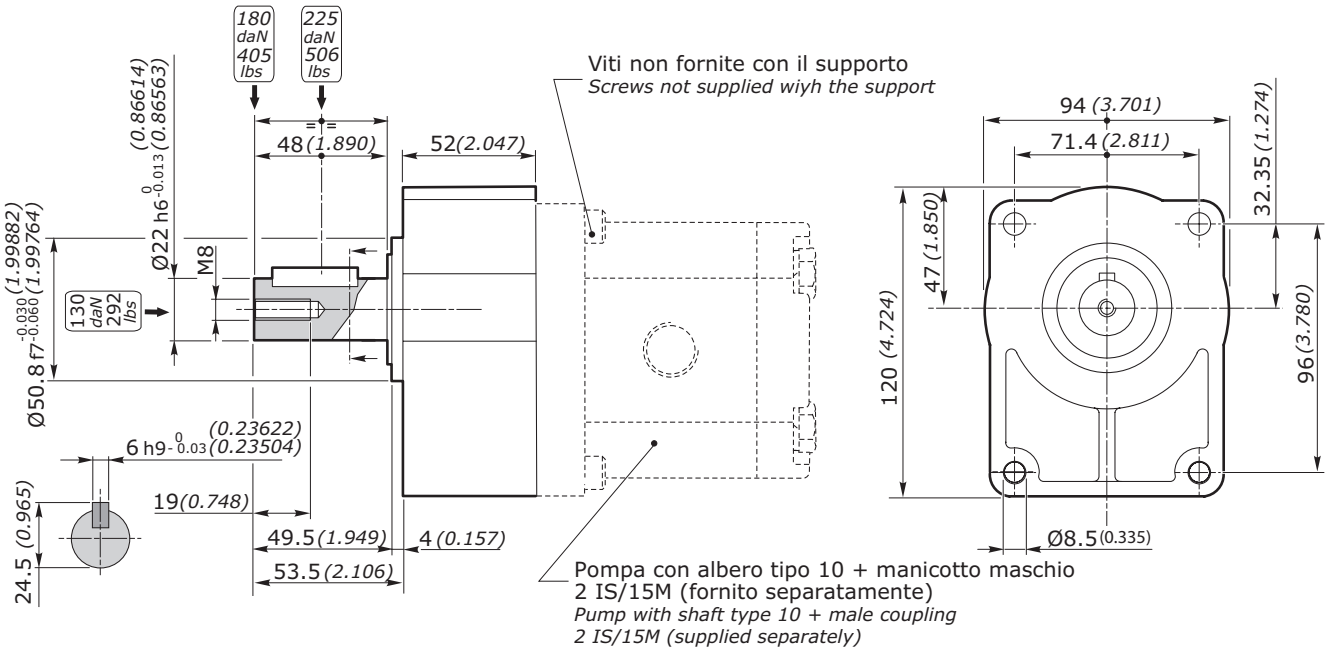
ACCESSORI
ACCESSORIES

SUPPORTI • *SUPPORTS*

GRUPPO - GROUP 2

SUPPORTO RINFORZATO CON ALBERO TIPO 12 • *REINFORCED SUPPORT WITH SHAFT TYPE 12*

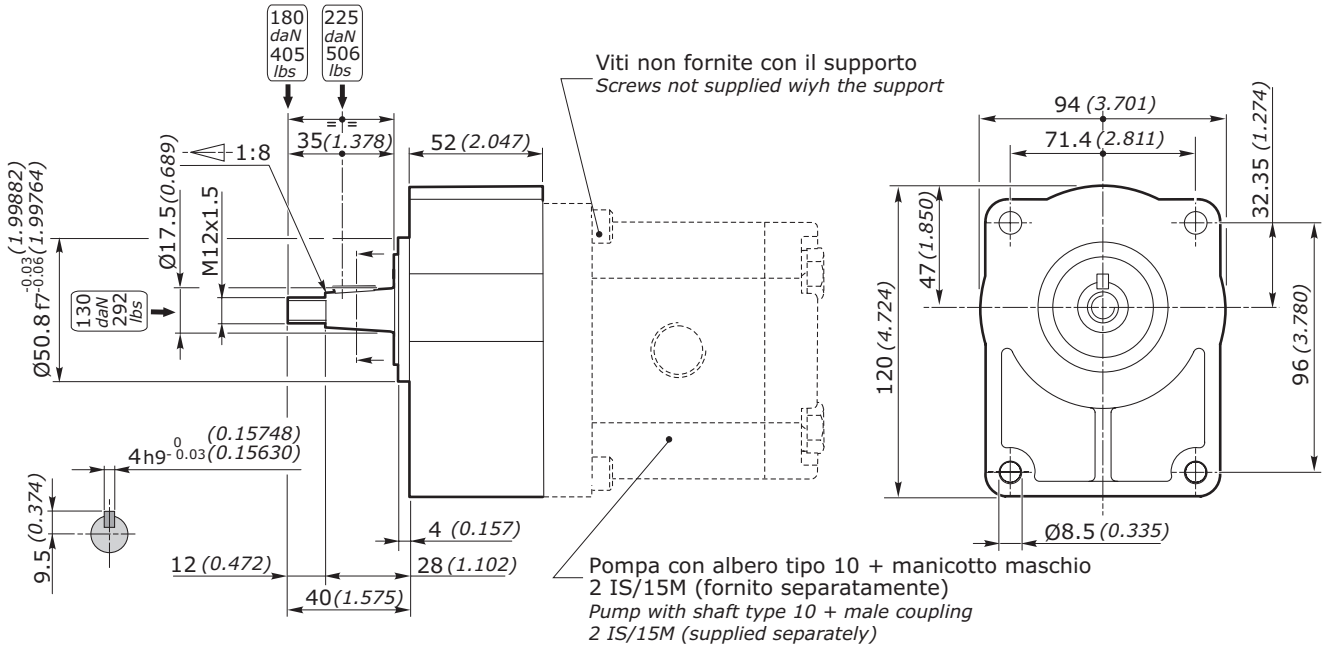
Codice ordinazione - *Order code:* **015213000000000**



GRUPPO - GROUP 2

SUPPORTO RINFORZATO CON ALBERO TIPO 10 • *RENFORCED SUPPORT WITH SHAFT TYPE 10*

Codice ordinazione - *Order code:* **015213010000000**

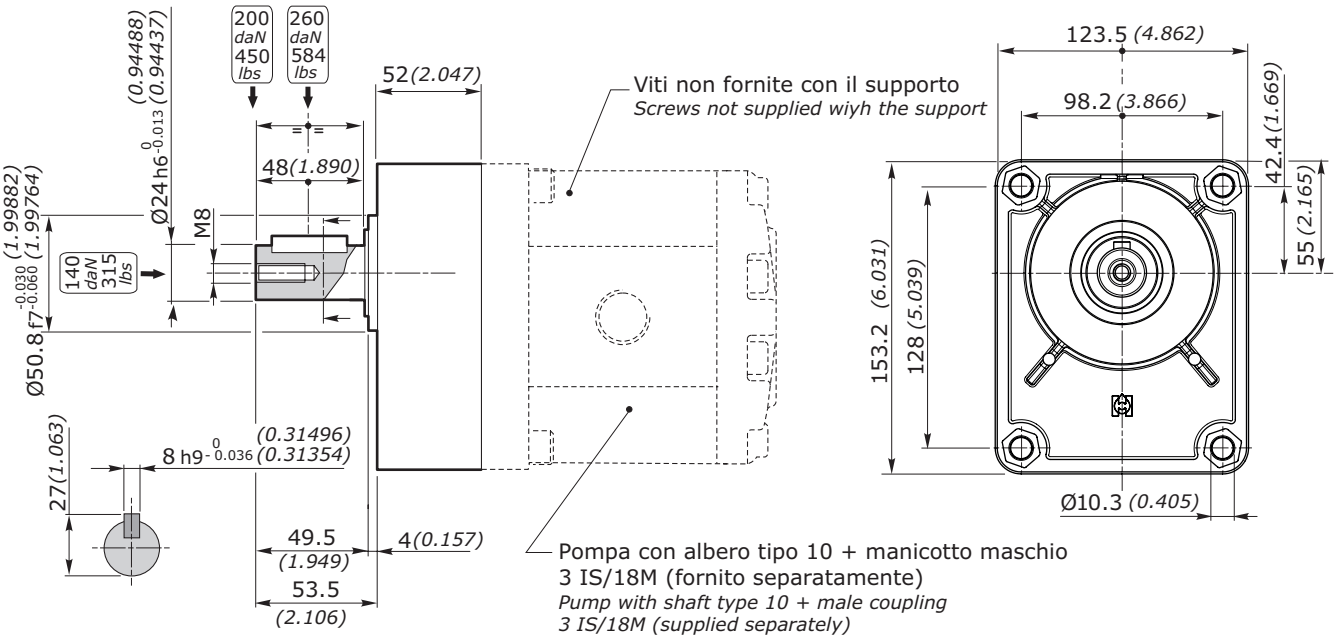


SUPPORTI • *SUPPORTS*

GRUPPO - GROUP 3

SUPPORTO CON ALBERO TIPO 12 • *SUPPORT WITH SHAFT TYPE 12*

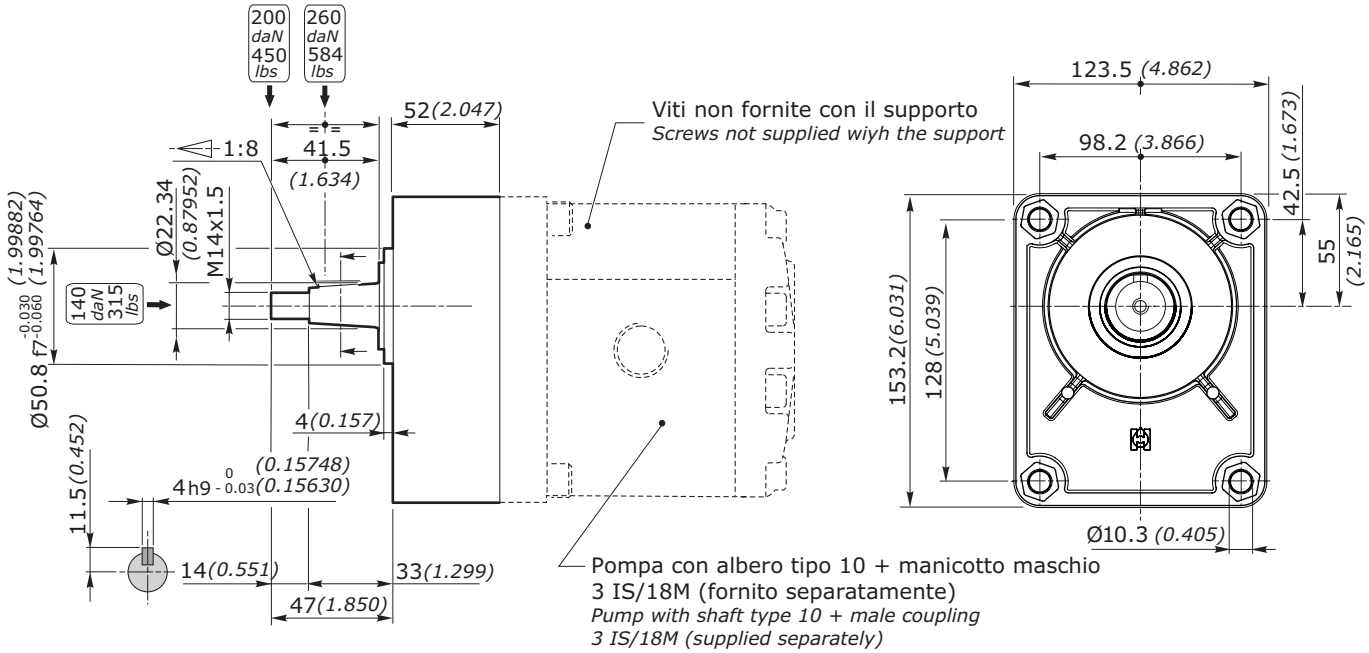
Codice ordinazione - *Order code:* **015302100000000**



GRUPPO - GROUP 3

SUPPORTO CON ALBERO TIPO 12 • *SUPPORT WITH SHAFT TYPE 12*

Codice ordinazione - *Order code:* **01530220000000**

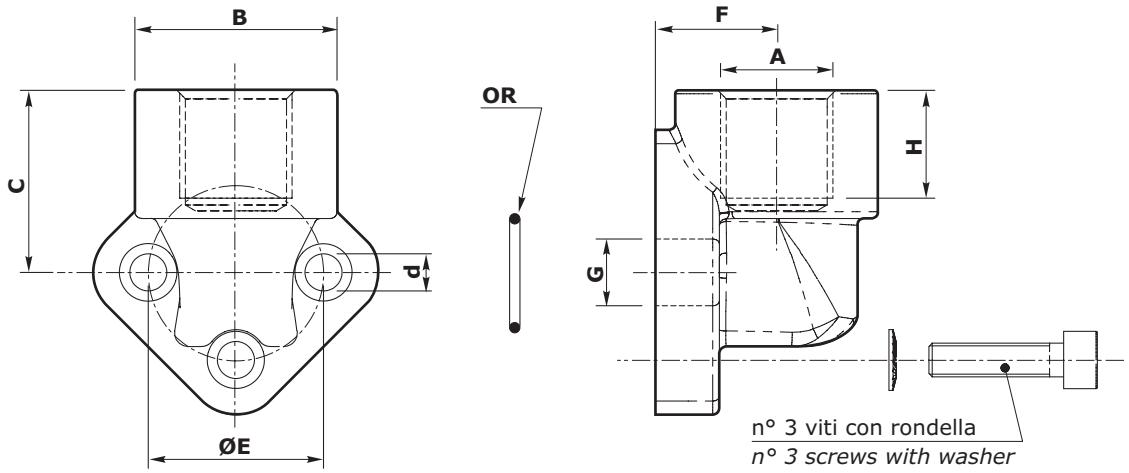


ACCESSORI
ACCESSORIES

RACCORDI • *CONNECTORS*

RACCORDO A GOMITO • *ELBOW CONNECTOR*

per connessioni tipo "N" - *for connections type "N"*



ACCIAIO • *STEEL*

TIPO - TYPE	A	B		C		d		E		F		G		H		OR
		mm	*inch*	*mm*	*inch*	*mm*	*inch*	*mm*	*inch*	*mm*	*inch*	*mm*	*inch*	*mm*	*inch*	
FG 3/8" - 26	G 3/8	30	*1.181*	27.5	*1.083*	5.5	*0.217*	26	*1.024*	17	*0.669*	11	*0.433*	12	*0.472*	14.00 X 1.78
FG 3/8" - 30	G 3/8	30	*1.181*	27.5	*1.083*	6.5	*0.256*	30	*1.181*	17	*0.669*	12	*0.472*	12	*0.472*	15.88 X 2.62
FG 1/2" - 30	G 1/2	30	*1.181*	27.5	*1.083*	6.5	*0.256*	30	*1.181*	17	*0.669*	12	*0.472*	12	*0.472*	15.88 X 2.62
FG 3/4" - 40	G 3/4	38	*1.496*	36	*1.417*	8.5	*0.335*	40	*1.575*	21	*0.817*	19	*0.748*	16	*0.630*	23.81 X 2.62
FG 1" - 51	G 1	45	*1.772*	47	*1.850*	10.5	*0.413*	51	*2.008*	26	*1.024*	25	*0.984*	18	*0.709*	31.42 X 2.62
FG 1"1/2 - 72.5	G 1"1/2	63	*2.480*	56	*2.205*	13	*0.512*	72,5	*2.854*	34.5	*1.358*	40	*1.575*	24	*0.945*	47.22 X 3.53

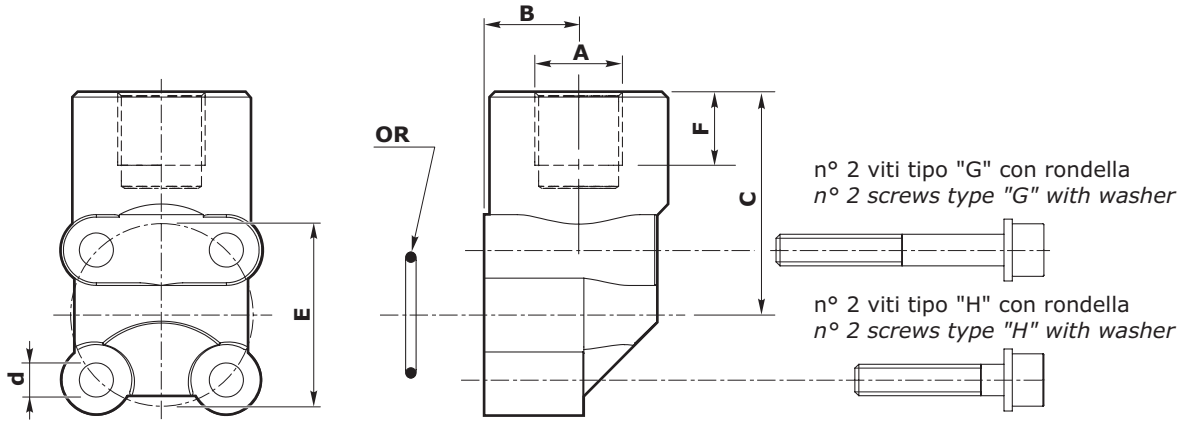
ACCIAIO - STEEL	
TIPO - TYPE	**CODICE ORDINAZIONE - ORDER CODE**
FG 3/8" - 26	016000000000000
FG 3/8" - 30	016100000000000
FG 1/2" - 30	016200000000000
FG 3/4" - 40	016300000000000
FG 1" - 51	016400000000000
FG 1"1/2 - 72.5	016500000000000

ACCESSORI
ACCESSORIES

RACCORDI • *CONNECTORS*

RACCORDO A GOMITO • *ELBOW CONNECTOR*

per connessioni tipo "T" - *for connections type "T"*



ACCIAIO • *STEEL*

TIPO - TYPE	A	B		C		d		E		F		OR	VITI TIPO **H** SCREW TYPE **H**	VITI TIPO **G** SCREW TYPE **G**
		mm	*inch*	*mm*	*inch*	*mm*	*inch*	*mm*	*inch*	*mm*	*inch*			
FG 3/8" 0.5 BKA	G 3/8	18	*0.709*	40	*1.575*	6.5	*0.256*	30	*1.181*	16	*0.630*	15.88 X 2.62	M6 X 35 UNI 5931	M6 X 45 UNI 5931
FG 1/2" 0.5 BKA	G 1/2	18	*0.709*	40	*1.575*	6.5	*0.256*	30	*1.181*	16	*0.630*	15.88 X 2.62		
FG 3/8" 1 BKA	G 3/8	18	*0.709*	40	*1.575*	6.5	*0.256*	35	*1.378*	16	*0.630*	18.72 X 2.62	M6 X 20 UNI 5931	M6 X 35 UNI 5931
FG 1/2" 1 BKA	G 1/2	18	*0.709*	40	*1.575*	6.5	*0.256*	35	*1.378*	16	*0.630*	18.72 X 2.62		
FG 1/2" 2 BKA	G 1/2	24	*0.945*	41.5	*1.634*	6.5	*0.256*	40	*1.575*	16	*0.630*	23.81 X 2.62		M6 X 45 UNI 5931
FG 3/4" 2 BKA	G 3/4	24	*0.945*	41.5	*1.634*	6.5	*0.256*	40	*1.575*	16	*0.630*	23.81 X 2.62		

ALLUMINIO • *ALUMINIUM*

TIPO - TYPE	A	B		C		d		E		F		OR	VITI TIPO **H** SCREW TYPE **H**	VITI TIPO **G** SCREW TYPE **G**
		mm	*inch*	*mm*	*inch*	*mm*	*inch*	*mm*	*inch*	*mm*	*inch*			
FG 3/8" 0.5 BKAL	G 3/8	18	*0.709*	40	*1.575*	6.5	*0.256*	30	*1.181*	14	*0.551*	15.88 X 2.62	M6 X 30 UNI 5931	M6 X 45 UNI 5931
FG 1/2" 0.5 BKAL	G 1/2	18	*0.709*	40	*1.575*	6.5	*0.256*	30	*1.181*	14	*0.551*	15.88 X 2.62		
FG 3/8" 1 BKAL	G 3/8	18	*0.709*	40	*1.575*	6.5	*0.256*	35	*1.378*	16	*0.630*	18.72 X 2.62		
FG 1/2" 1 BKAL	G 1/2	18	*0.709*	40	*1.575*	6.5	*0.256*	35	*1.378*	16	*0.630*	18.72 X 2.62		
FG 1/2" 2 BKAL	G 1/2	24	*0.945*	41.5	*1.634*	6.5	*0.256*	40	*1.575*	16	*0.630*	23.81 X 2.62	M6 X 35 UNI 5931	M6 X 55 UNI 5931
FG 3/4" 2 BKAL	G 3/4	24	*0.945*	41.5	*1.634*	6.5	*0.256*	40	*1.575*	16	*0.630*	23.81 X 2.62		

ACCIAIO - STEEL	
TIPO - TYPE	**CODICE ORDINAZIONE - ORDER CODE**
FG 3/8" 0.5 BKA	-
FG 1/2" 0.5 BKA	-
FG 3/8" 1 BKA	016999110000000
FG 1/2" 1 BKA	016999120000000
FG 1/2" 2 BKA	016999220000000
FG 3/4" 2 BKA	016999230000000

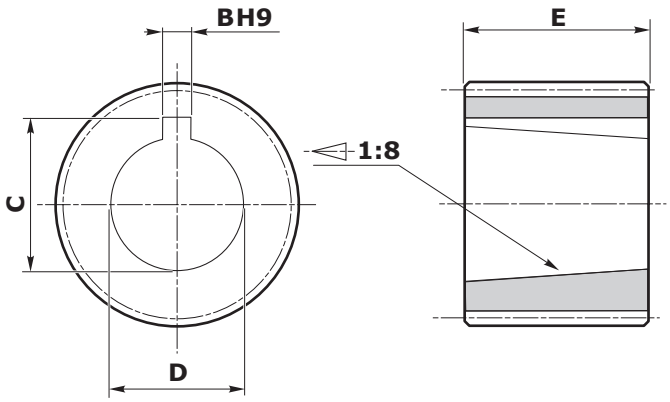
ALLUMINIO - ALUMINIUM	
TIPO - TYPE	**CODICE ORDINAZIONE - ORDER CODE**
FG 3/8" 0.5 BKAL	016998010000000
FG 1/2" 0.5 BKAL	016998020000000
FG 3/8" 1 BKAL	016998110000000
FG 1/2" 1 BKAL	016998120000000
FG 1/2" 2 BKAL	016998220000000
FG 3/4" 2 BKAL	016998230000000

ACCESSORI
ACCESSORIES

MANICOTTI DI TRASCINAMENTO • *MALE COUPLING*

MANICOTTO DI TRASCINAMENTO POMPE • *COUPLING FOR GEAR PUMPS*

maschio - *male*

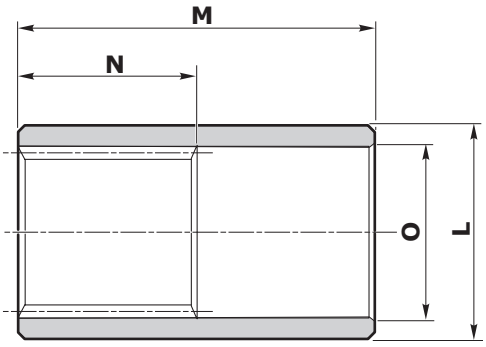


TIPO - TYPE	CODICE ORDINAZIONE - ORDER CODE
1 IS / 12M	018001000000000
1 IS / 14M	018002000000000
2 IS / 14M	018003000000000
2 IS / 15M	018004000000000
3 IS / 18M	018005000000000
4 IS / 23M	018006000000000

TIPO - TYPE	PROFILO PROFILE **DIN 5482**	N. DENTI N. TEETH	B		C		D		E		COPPIA SERRAGGIO DADO-GIUNTO NUT-JOINT SCREW TIGHTENING TORQUE	
			mm	*inch*	*mm*	*inch*	*mm*	*inch*	*mm*	*inch*	*Nm*	*in-lbs*
1 IS / 12M	B20 X 17	12	2.4	*0.094*	9.6	*0.378*	7.82	*0.308*	14.5	*0.571*	9 ÷ 10	*80 ÷ 89*
1 IS / 14M	B25 X 22	14	2.4	*0.094*	9.6	*0.378*	7.82	*0.308*	14.5	*0.571*	9 ÷ 10	*80 ÷ 89*
2 IS / 14M	B25 X 22	14	3.17	*0.125*	16.5	*0.650*	14.31	*0.563*	22	*0.866*	22 ÷ 25	*195 ÷ 221*
2 IS / 15M	B28 X 25	15	3.17	*0.125*	15.8	*0.622*	14.31	*0.563*	22	*0.866*	32 ÷ 35	*283 ÷ 310*
3 IS / 18M	B35 X 31	18	4	*0.157*	21	*0.827*	18.39	*0.724*	26	*1.024*	50 ÷ 55	*443 ÷ 487*
4 IS / 23M	B48 X 44	23	6.35	*0.250*	30.2	*1.189*	27.50	*1.083*	42	*1.654*	100 ÷ 120	*885 ÷ 1062*

MANICOTTO DI TRASCINAMENTO POMPE • *COUPLING FOR GEAR PUMPS*

femmina - *female*



TIPO - TYPE	CODICE ORDINAZIONE - ORDER CODE
1 IS / 12F	018021000000000
1 IS / 14F	018022000000000
2 IS / 15F	018023000000000
3 IS / 18F	018024000000000
4 IS / 23F	018025000000000

TIPO - TYPE	PROFILO PROFILE **DIN 5482**	N. DENTI N. TEETH	L		M		N		O	
			mm	*inch*	*mm*	*inch*	*mm*	*inch*	*mm*	*inch*
1 IS / 12F	A20 X 17	12	2.4	*0.094*	9.6	*0.378*	7.82	*0.308*	14.5	*0.571*
1 IS / 14F	A25 X 22	14	2.4	*0.094*	9.6	*0.378*	7.82	*0.308*	14.5	*0.571*
2 IS / 15F	A28 X 25	15	3.17	*0.125*	15.8	*0.622*	14.31	*0.563*	22	*0.866*
3 IS / 18F	A35 X 31	18	4	*0.157*	21	*0.827*	18.39	*0.724*	26	*1.024*
4 IS / 23F	A48 X 44	23	6.35	*0.250*	30.2	*1.189*	27.50	*1.083*	42	*1.654*

CODICI ORDINAZIONE
ORDER CODES

1SP	CODICI COMPLETI POMPA SINGOLA - GRUPPO 1 *COMPLETE ORDER CODE SINGLE PUMP - GROUP 1*	
CODICE *CODE*	SIGLA DI ORDINAZIONE COMPLETA *COMPLETE ORDER CODE*	DESCRIZIONE *DESCRIPTION*
1GP10010000	1SP-A-090-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 0.89 cm³/giro - connessione GAS *European flange - displacement 0.05 in³/rev - connection GAS*
1GP10010028	1SP-A-012-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 1.18 cm³/giro - connessione GAS *European flange - displacement 0.07 in³/rev - connection GAS*
1GP10010032	1SP-A-012-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 1.18 cm³/giro - connessione UNF *European flange - displacement 0.07 in³/rev - connection UNF*
1GP10010066	1SP-A-016-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 1.6 cm³/giro - connessione UNF *European flange - displacement 0.10 in³/rev - connection UNF*
1GP10010088	1SP-A-020-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 2.0 cm³/giro - connessione GAS *European flange - displacement 0.12 in³/rev - connection GAS*
1GP10010090	1SP-A-020-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 2.0 cm³/giro - connessione UNF *European flange - displacement 0.12 in³/rev - connection UNF*
1GP10010126	1SP-A-025-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 2.5 cm³/giro - connessione GAS *European flange - displacement 0.15 in³/rev - connection GAS*
1GP10010129	1SP-A-025-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 2.5 cm³/giro - connessione UNF *European flange - displacement 0.15 in³/rev - connection UNF*
1GP10010163	1SP-A-032-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 3.2 cm³/giro - connessione GAS *European flange - displacement 0.20 in³/rev - connection GAS*
1GP10010167	1SP-A-032-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 3.2 cm³/giro - connessione UNF *European flange - displacement 0.20 in³/rev - connection UNF*
1GP10010204	1SP-A-032-S-MC32-B-N-27-5-G	Flangia per minicentralina - cilindrata 3.2 cm³/giro - connessione GAS *Power-pack Flange - displacement 0.20 in³/rev - connection GAS*
1GP10010211	1SP-A-037-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 3.7 cm³/giro - connessione GAS *European flange - displacement 0.23 in³/rev - connection GAS*
1GP10010241	1SP-A-042-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 4.2 cm³/giro - connessione GAS *European flange - displacement 0.26 in³/rev - connection GAS*
1GP10010243	1SP-A-042-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 4.2 cm³/giro - connessione UNF *European flange - displacement 0.26 in³/rev - connection UNF*
1GP10010275	1SP-A-050-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 5.0 cm³/giro - connessione GAS *European flange - displacement 0.31 in³/rev - connection GAS*
1GP10010278	1SP-A-050-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 5.0 cm³/giro - connessione UNF *European flange - displacement 0.31 in³/rev - connection UNF*
1GP10010312	1SP-A-063-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 6.3 cm³/giro - connessione GAS *European flange - displacement 0.38 in³/rev - connection GAS*
1GP10010316	1SP-A-063-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 6.3 cm³/giro - connessione UNF *European flange - displacement 0.38 in³/rev - connection UNF*
1GP10010320	1SP-A-063-D-EUR-B-N-14-0-N	Flangia Europea - cilindrata 6.3 cm³/giro - albero 14 - connessione UNF *European flange - displacement 0.38 in³/rev - shaft 14 - connection UNF*
1GP10010374	1SP-A-078-S-MC32-B-N-27-5-G	Flangia per minicentralina - cilindrata 7.76 cm³/giro - connessione GAS *Power-pack flange - displacement 0.47 in³/rev - connection GAS*

CODICI ORDINAZIONE
ORDER CODES

2SP	CODICI COMPLETI POMPA SINGOLA - GRUPPO 2 *COMPLETE ORDER CODE SINGLE PUMP - GROUP 2*	
CODICE *CODE*	SIGLA DI ORDINAZIONE COMPLETA *COMPLETE ORDER CODE*	DESCRIZIONE *DESCRIPTION*
1GP20010000	2SP-A-040-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 4.0 cm³/giro - connessione GAS *European flange - displacement 0.24 in³/rev - connection GAS*
1GP20010005	2SP-A-040-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 4.0 cm³/giro - connessione UNF *European flange - displacement 0.24 in³/rev - connection UNF*
1GP20010075	2SP-A-060-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 6.0 cm³/giro - connessione GAS *European flange - displacement 0.37 in³/rev - connection GAS*
1GP20010081	2SP-A-060-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 6.0 cm³/giro - connessione UNF *European flange - displacement 0.37 in³/rev - connection UNF*
1GP20010172	2SP-A-080-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 8.5 cm³/giro - connessione GAS *European flange - displacement 0.52 in³/rev - connection GAS*
1GP20010179	2SP-A-080-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 8.5 cm³/giro - connessione UNF *European flange - displacement 0.52 in³/rev - connection UNF*
1GP20010299	2SP-A-110-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 11 cm³/giro - connessione GAS *European flange - displacement 0.67 in³/rev - connection GAS*
1GP20010307	2SP-A-110-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 11 cm³/giro - connessione UNF (destra) *European flange - displacement 0.67 in³/rev - connection UNF (right)*
1GP20010375	2SP-A-110-D-SAEA-B-N-14-0-N	Flangia SAEA - cilindrata 11 cm³/giro - albero 14 - connessione UNF *SAEA flange - displacement 0.67 in³/rev - shaft 14 - connection UNF*
1GP20010396	2SP-A-110-S-EUR-B-N-10-0-N	Flangia Europea - cilindrata 11 cm³/giro - connessione UNF (sinistra) *European flange - displacement 0.67 in³/rev - connection UNF (left)*
1GP20010447	2SP-A-140-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 14 cm³/giro - connessione GAS *European flange - displacement 0.85 in³/rev - connection GAS*
1GP20010454	2SP-A-140-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 14 cm³/giro - connessione UNF *European flange - displacement 0.85 in³/rev - connection UNF*
1GP20010515	2SP-A-140-D-SAEA-B-N-14-0-N	Flangia SAEA - cilindrata 14 cm³/giro - albero 14 - connessione UNF *SAEA flange - displacement 0.85 in³/rev - shaft 14 - connection UNF*
1GP20010572	2SP-A-160-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 16.5 cm³/giro - connessione GAS *European flange - displacement 1.01 in³/rev - connection GAS*
1GP20010579	2SP-A-160-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 16.5 cm³/giro - connessione UNF (destra) *European flange - displacement 1.01 in³/rev - connection UNF (right)*
1GP20010637	2SP-A-160-D-SAEA-B-N-14-0-N	Flangia SAEA - cilindrata 16.5 cm³/giro - albero 14 - connessione UNF *SAEA flange - displacement 1.01 in³/rev - shaft 14 - connection UNF*
1GP20010657	2SP-A-160-S-EUR-B-N-10-0-N	Flangia Europea - cilindrata 16.5 cm³/giro - connessione UNF (sinistra) *European flange - displacement 1.01 in³/rev - connection UNF (left)*
1GP20010706	2SP-A-190-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 19.5 cm³/giro - connessione GAS *European flange - displacement 1.19 in³/rev - connection GAS*
1GP20010715	2SP-A-190-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 19.5 cm³/giro - connessione UNF *European flange - displacement 1.19 in³/rev - connection UNF*
1GP20010814	2SP-A-220-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 22.5 cm³/giro - connessione GAS *European flange - displacement 1.37 in³/rev - connection GAS*
1GP20010821	2SP-A-220-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 22.5 cm³/giro - connessione UNF *European flange - displacement 1.37 in³/rev - connection UNF*
1GP20010921	2SP-A-260-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 26 cm³/giro - connessione GAS *European flange - displacement 1.59 in³/rev - connection GAS*
1GP20010929	2SP-A-260-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 26 cm³/giro - connessione UNF *European flange - displacement 1.59 in³/rev - connection UNF*

CODICI ORDINAZIONE
ORDER CODES

3GP	CODICI COMPLETI POMPA SINGOLA - GRUPPO 3 *COMPLETE ORDER CODE SINGLE PUMP - GROUP 3*	
CODICE *CODE*	SIGLA DI ORDINAZIONE COMPLETA *COMPLETE ORDER CODE*	DESCRIZIONE *DESCRIPTION*
1GP30010066	3GP-G-230-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 23 cm³/giro - connessione UNF *European flange - displacement 1.4 in³/rev - connection UNF*
1GP30010116	3GP-G-300-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 30.2 cm³/giro - connessione GAS *European flange - displacement 1.8 in³/rev - connection GAS*
1GP30010117	3GP-G-300-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 30.2 cm³/giro - connessione UNF *European flange - displacement 1.8 in³/rev - connection UNF*
1GP30010178	3GP-G-340-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 33.8 cm³/giro - connessione GAS *European flange - displacement 2.1 in³/rev - connection GAS*
1GP30010179	3GP-G-340-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 33.8 cm³/giro - connessione UNF *European flange - displacement 2.1 in³/rev - connection UNF*
1GP30010234	3GP-G-370-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 37.5 cm³/giro - connessione GAS *European flange - displacement 2.3 in³/rev - connection GAS*
1GP30010235	3GP-G-370-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 37.5 cm³/giro - connessione UNF *European flange - displacement 2.3 in³/rev - connection UNF*
1GP30010244	3GP-G-440-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 44.6 cm³/giro - connessione GAS *European flange - displacement 2.7 in³/rev - connection GAS*
1GP30010245	3GP-G-440-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 44.6 cm³/giro - connessione UNF *European flange - displacement 2.7 in³/rev - connection UNF*
1GP30010349	3GP-G-530-D-EUR-B-N-10-0-G	Flangia Europea - cilindrata 53 cm³/giro - connessione GAS *European flange - displacement 3.2 in³/rev - connection GAS*
1GP30010351	3GP-G-530-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 53 cm³/giro - connessione UNF *European flange - displacement 3.2 in³/rev - connection UNF*
1GP30010359	3GP-G-620-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 62.7 cm³/giro - connessione UNF *European flange - displacement 3.8 in³/rev - connection UNF*
1GP30010408	3GP-G-700-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 70.5 cm³/giro - connessione UNF *European flange - displacement 4.3 in³/rev - connection UNF*
1GP30010413	3GP-G-770-D-EUR-B-N-10-0-N	Flangia Europea - cilindrata 77.2 cm³/giro - connessione UNF *European flange - displacement 4.7 in³/rev - connection UNF*

CODICI ORDINAZIONE
ORDER CODES

2SM	CODICI COMPLETI MOTORE - GRUPPO 2 *COMPLETE ORDER CODE MOTOR - GROUP 2*	
CODICE *CODE*	SIGLA DI ORDINAZIONE COMPLETA *COMPLETE ORDER CODE*	DESCRIZIONE *DESCRIPTION*
1GM20010126	2SM-A-110-R-EUR-B-N-10-0-G	Flangia europea - cilindrata 11 cm³/giro - connessione GAS (reversibile) *European flange - displacement 0.67 in³/rev - connection GAS (reversible)*
1GM20010128	2SM-A-110-R-EUR-H-N-10-0-N	Flangia europea - cilindrata 11 cm³/giro - connessione UNF (reversibile) *European flange - displacement 0.67 in³/rev - connection UNF (reversible)*
1GM20010180	2SM-A-140-R-EUR-H-N-10-0-G	Flangia europea - cilindrata 14 cm³/giro - connessione GAS (reversibile) *European flange - displacement 0.85 in³/rev - connection GAS (reversible)*
1GM20010181	2SM-A-140-R-EUR-H-N-10-0-N	Flangia europea - cilindrata 14 cm³/giro - connessione UNF (reversibile) *European flange - displacement 0.85 in³/rev - connection UNF (reversible)*
1GM20010223	2SM-A-160-R-EUR-H-N-10-0-G	Flangia europea - cilindrata 16.5 cm³/giro - connessione GAS (reversibile) *European flange - displacement 1.01 in³/rev - connection GAS (reversible)*
1GM20010225	2SM-A-160-R-EUR-H-N-10-0-N	Flangia europea - cilindrata 16.5 cm³/giro - connessione UNF (reversibile) *European flange - displacement 1.01 in³/rev - connection UNF (reversible)*
1GM20010269	2SM-A-190-R-EUR-H-N-10-0-G	Flangia europea - cilindrata 19.5 cm³/giro - connessione GAS (reversibile) *European flange - displacement 1.19 in³/rev - connection GAS (reversible)*
1GM20010271	2SM-A-190-R-EUR-H-N-10-0-N	Flangia europea - cilindrata 19.5 cm³/giro - connessione UNF (reversibile) *European flange - displacement 1.19 in³/rev - connection UNF (reversible)*

NOTE
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NOTE
NOTES

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walvoil hydro control Galtech

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6th Edition November 2018

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