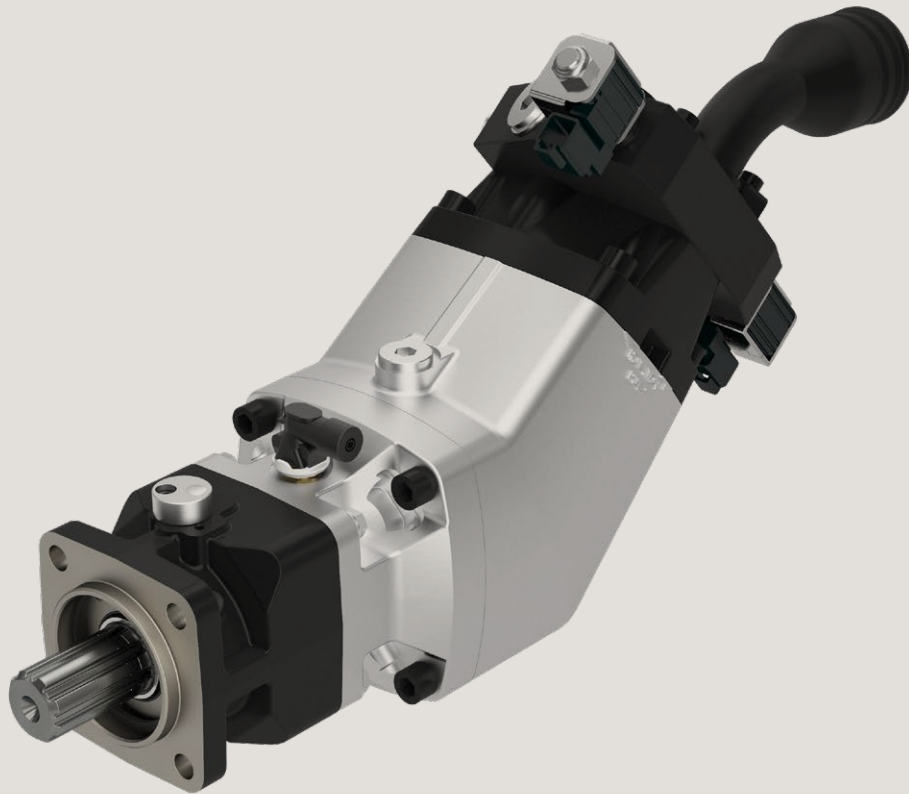


**F4 Twin-flow Pump**



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## Specifications

Frame size F4-	53/53	70/35
<b>Displacement</b> [cm <sup>3</sup> /rev]		
Port A	55	69
Port B	52	36
<b>Max operating pressure</b> [bar]		
continuous	350	350
intermittent <sup>2)</sup>	400	400
<b>Mass moment of inertia J</b> [kgm <sup>2</sup> ]	0.0091	0.0090
<b>Max Shaft speed</b> [rpm]		
(unloaded pump; low pressure)	2550	2550
<b>Max selfpriming speed</b> [rpm]		
Ports A <sup>1)</sup> and B <sup>1)</sup> pressurised	1800	1800
Port A <sup>1)</sup> unloaded, pressure in port B	2100	2100
<b>Max input power<sup>2)</sup></b> [kW]	127	110
<b>Weight</b> [kg]	29.5	29.5

<sup>1)</sup> Valid at an inlet pressure of 1.0 bar (abs.) when operating on mineral oil at a viscosity of 30 mm<sup>2</sup>/s (cSt).

<sup>2)</sup> Max 6 seconds in any one minute.

## BPV-F4 Bypass valve 12 or 24 VDC Without manual override

Bypass valve, type	BPV-F4
Max pressure, continuous	350 bar
intermittent	400 bar
Solenoid voltage	24 VDC,
Power requirement	14 W
Operating mode	Activated solenoid: Check valve closed

Accessories / Spare Parts see page 64.

- It can be utilised for either left hand or right hand pumps.
- The valve function must only be activated or released (by means of the 24 VDC solenoid) at no-load (below 20 bar) system pressure.

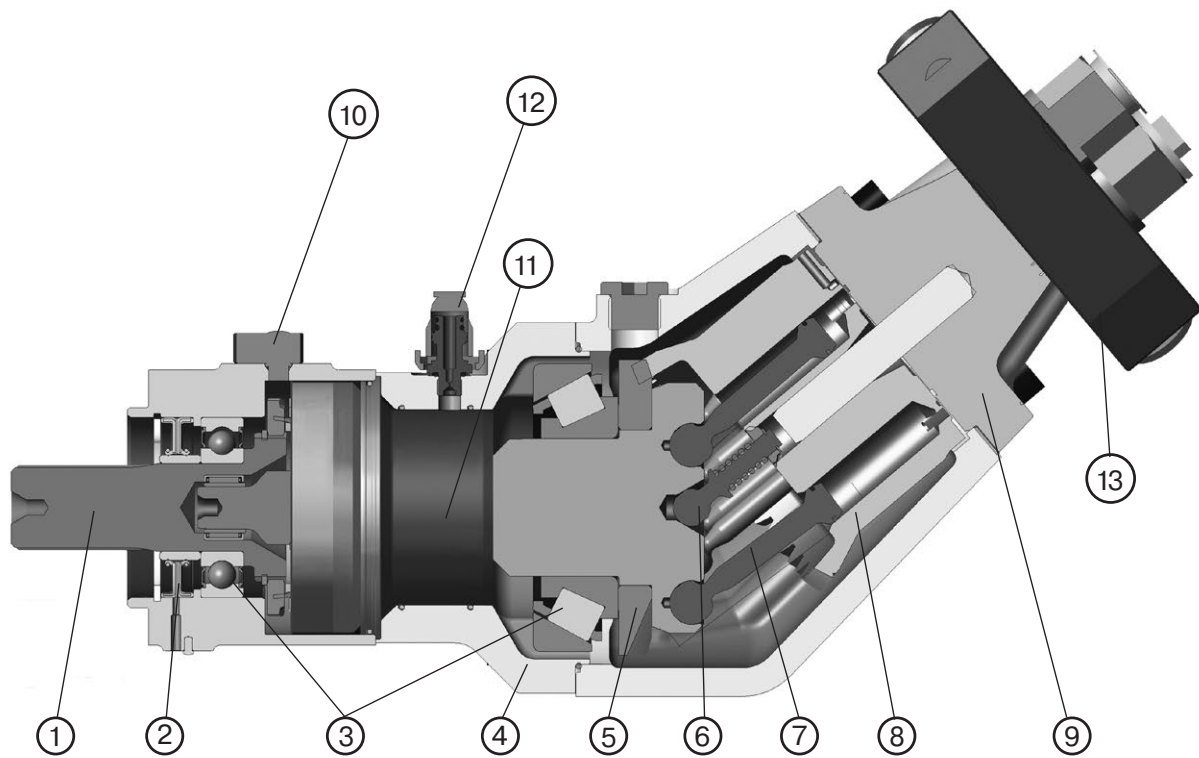
## Flow vs. shaft speed (theoretical)

Pump speed [rpm]	800	1000	1200	1400	1600	1800	1900	2000	2100
<b>F4-53/53 flow</b> [l/min]									
Port A	43	54	65	76	86	97	-	-	-
Port B	42	52	62	73	83	94	99	104	109
Total (ports A + B)	85	106	127	149	169	191	-	-	-
<b>F4-70/35 flow</b> [l/min]									
Port A	55	69	83	97	110	124	-	-	-
Port B	29	36	43	50	58	65	68	72	76
Total (ports A + B)	84	105	126	147	168	189	-	-	-

## Shaft torque vs. pressure (theoretical)

Pressure [bar]	150	200	250	300	350
<b>F4-53/53 torque</b> [Nm]					
Port A	129	171	214	257	300
Port B	124	165	206	248	289
Total (ports A + B)	253	336	420	505	589
<b>F4-70/35 torque</b> [Nm]					
Port A	164	219	274	329	383
Port B	86	114	143	171	200
Total (ports A + B)	250	333	417	500	583

● Pump cross section



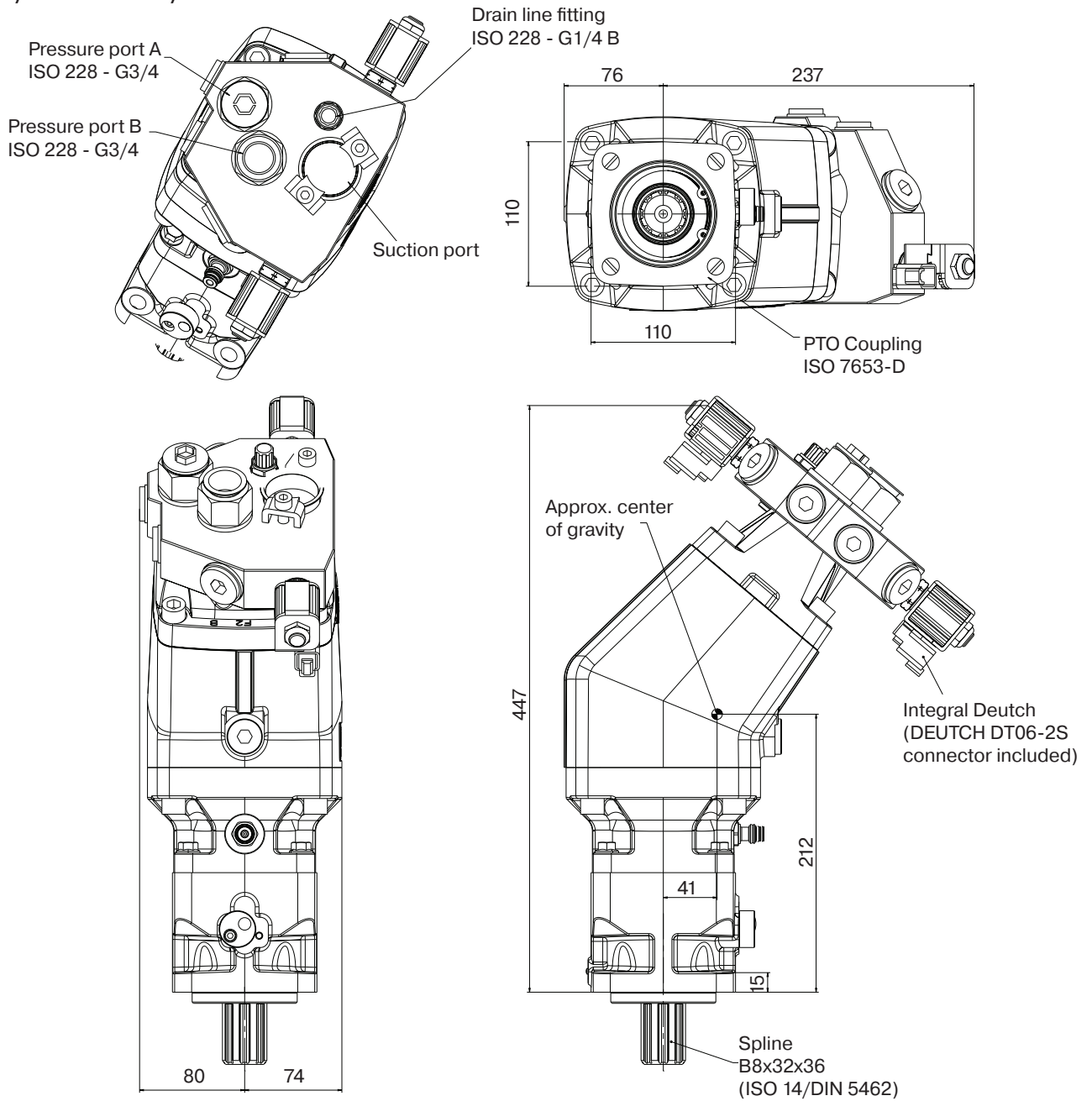
1. Input shaft  
2. Shaft seals  
3. Bearings  
4. Housing

5. Timing gear  
6. Barrel support  
7. Piston with piston ring  
8. Cylinder barrel

9. End cap  
10. Magnet  
11. Air cylinder  
12. Air fitting

13. Bypass Valve

**F4-53/53 and -70/35**



**Ordering code**

Example: **F4 - 53/53 - L**

Frame size [cm<sup>3</sup>/rev]

**53/53**

**70/35**

Direction of rotation

**L** Left hand

**R** Right hand

**NOTE:**

- Before start-up, tighten the inspection port plug to 70 – 100 Nm.
- To change the direction of rotation, **the end cap must be replaced.**

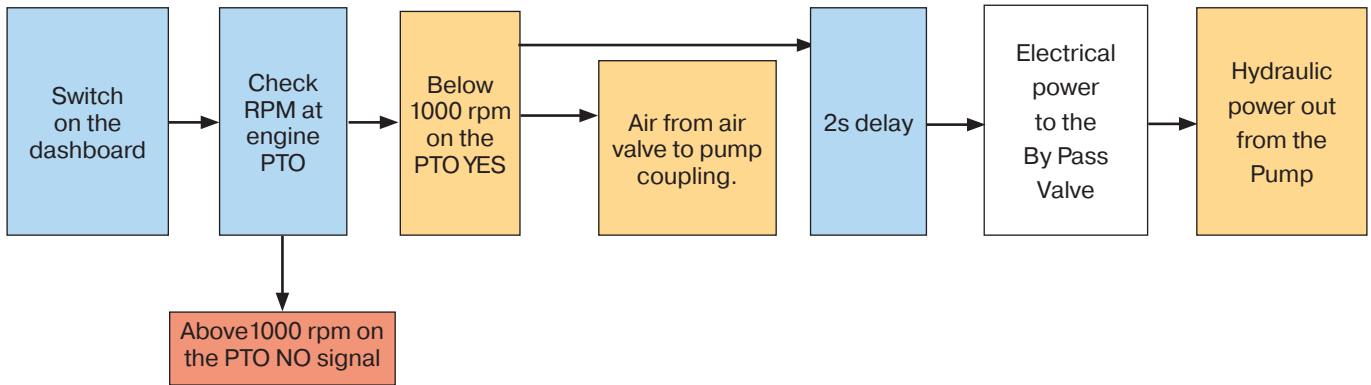
**NOTE:**

The pump **does not** include a suction fitting; it must be ordered separately. See page 63ff.

**Standard versions**

Designation	Ordering no.
F4-53/53-L	3724263
F4-53/53-R	3724262
F4-70/35-L	3724264
F4-70/35-R	3724153

● **Block diagram engaging the F4 pump**



● **Product Demand**

- Max pump shaft speed before the F4 can be engaged is 1000 rpm. (verify engine PTO speed)
- Air pressure > 5 bar before the clutch can start to engage the pump

- \* For electrical diagram, contact Parker Hannifin
- \* Check the bending torque limit on the PTO mount.  
 F4 - Bending torque 60 Nm

● **Interface**

