



# DENISON HYDRAULICS

## 3-Way Vent Valve

### Series VV01



Pressure control valve R4  
and vent valve VV01 with DC solenoid



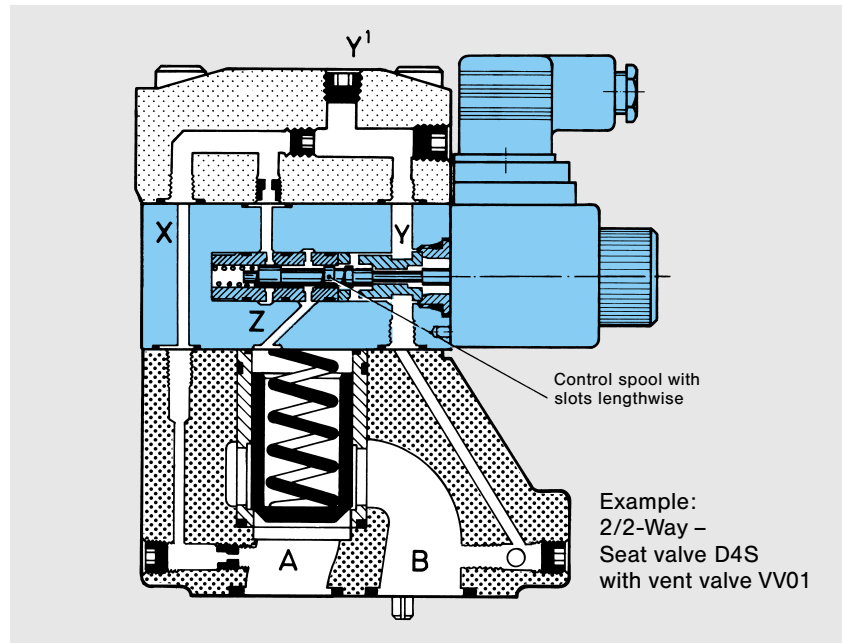
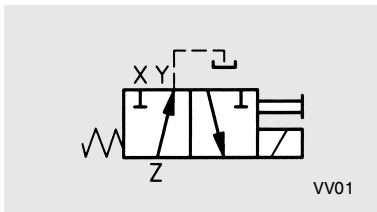
Vent valve VV01 with  
AC solenoid

Publ. 3-EN 2150-A, replaces 3-EN 215-C

### FEATURES

- Compatible with DENISON pilot operated pressure controls and 2-way seat valves.
- Due to sandwich design, this electrically operated vent valve can be installed into existing valves.
- No extra components such as subplates, fittings and piping required.
- Wet pin solenoids for direct or alternating current.
- Leakproof construction up to 140/210 bars.
- With or without manual over-ride.
- Electrical connection is by a standard plug-in connector according to ISO 4400 or DIN 43650.
- Each valve tested prior to delivery.
- Worldwide DENISON service.

### SYMBOL (Example)



### DESCRIPTION

DENISON Vent Valves are electrically operated 3/2 way devices. They are designed specially to unload pilot operated pressure control and seat valves. Vent Valves direct the pilot oil to the power component to allow it's designated function at system pressure, or to the pilot oil return to allow unloading. The DENISON design allows the VV01 to be sandwiched between the power component or main body and the pilot section or cap of the valve that it is controlling. Two different control spools are available for the functions "power component unloaded in normal position" and "power component unloaded in switch position". The leakproof solenoids have only one type of tube cartridge and permit change of coil and current without interfering the hydraulic circuit. Optimal material quality and stringent manufacturing procedures ensure high reliability under exacting operating conditions. All the valve components are quality controlled based on international standards, thus ensuring worldwide interchangeability of units. Performance details for the vent valve are covered by the information on the following pages. For full details of pilot operated pressure valves and 2-way seat valves compatible with this vent valve, please refer to the corresponding bulletin. A free of charge advisory service is available from your local DENISON office, should you have special operational applications.

## TECHNICAL DATA

<b>GENERAL</b>	• Type of unit	3/2-Vent Valve		
	• Port arrangement	Identical with DENISON pilot valve series R4, R5, D4S, D5S and CAR		
	• Weight	1.7 kg		
	• Mounting position	Optional but horizontal recommended		
	• Ambient temperature range	– 20 ... + 50 °C		
	• Suitability for special working conditions	Further information required		
<b>HYDRAULIC CHARACTERISTICS</b>	• Operating pressure range			
	– port X	Up to 350 bar		
	– port Y	Up to 140 bar (AC) Up to 210 bar (DC)		
	• Fluid temperature range	– 18 ... + 80 °C		
	• Viscosity range	10 ... 650 cSt		
	• Recommended operating viscosity	30 cSt		
	• Nominal flow	3.8 l/min		
<b>TYPE OF ACTUATOR</b>	• Overlap	Positive		
	• Electric	By solenoid		
	• Type of current	Alternating current (AC) Direct current (DC)		
	• Nominal voltage	Refer to ordering code page 4		
	• Permissible voltage difference	+ 5 ... – 10 %		
	• Max. coil temperature	+ 180 °C (temperature class H)		
	• Input power	31 W		
	• Holding	78 VA		
	• Inrush	264 VA		
	• Relative operating period	100 %		
	• Type of protection	IP 65		
		AC	DC	DC-Quick energizing <sup>1)</sup>
	• Solenoid energized	20 ms	46 ms	30 ms
<b>RESPONSE TIMES</b>	• Solenoid de-energized	18 ms	27 ms	30 ms
	• Cycle	...7200 1/h	...16000 1/h	on request

<sup>1)</sup> double voltage

**If the performance characteristics outlined above do not meet your own particular requirements, please consult your local DENISON office.**

# ORDERING CODE – VENT VALVE VV01

**Model Number:** **VV01** **-** **3** . . ... - . - .

**1 Series** \_\_\_\_\_

**2 Spool Position** \_\_\_\_\_

1 = normal position: free flow from Z to Y  
switch position: X to Z

2 = normal position: X to Z  
switch position: free flow from Z to Y

**3 Control** \_\_\_\_\_

1 = solenoid with manual override  
2 = solenoid without manual override  
D = pneumatic } on request  
Q = hydraulic }

**4 Solenoid Voltage and Current** \_\_\_\_\_

W01 = 115 V / 60 Hz

W02 = 230 V / 60 Hz

W06 = 115 V / 50 Hz

W07 = 230 V / 50 Hz

}

AC

G0R = 12 V

G0Q = 24 V

G0H = 48 V

}

DC

**5 Design Letter** \_\_\_\_\_

D = for AC solenoid  
E = for DC solenoid

**6 Seal Class** \_\_\_\_\_

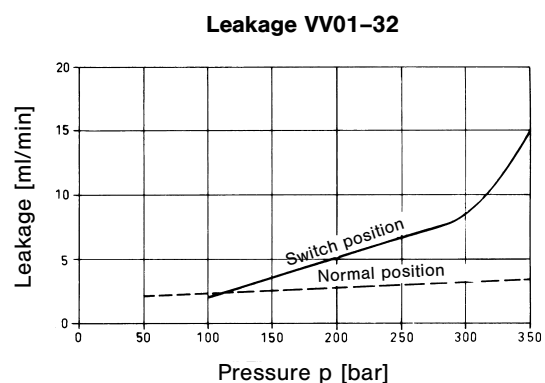
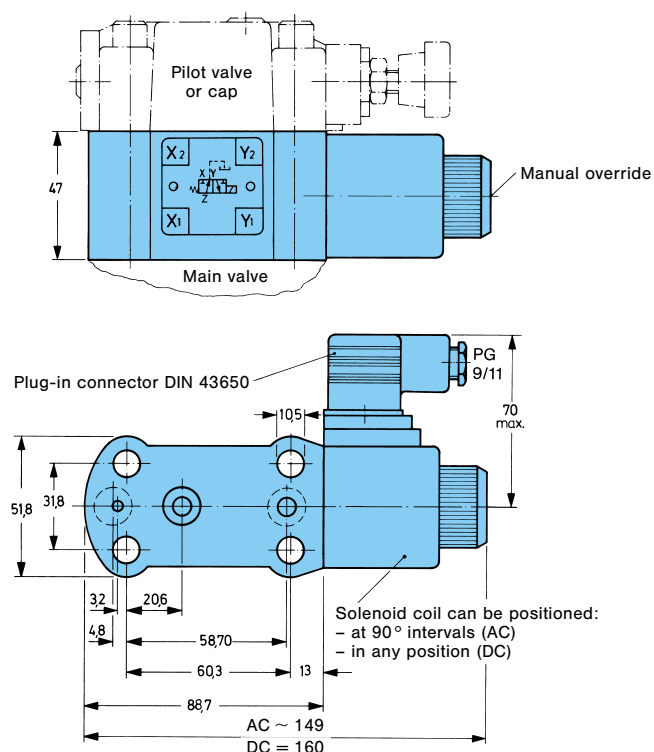
1 = NBR (Buna N) Standard  
4 = EPDM  
5 = FPM (Viton®)

**Note:**  
For VV01 with DC solenoid,  
plug-in connectors must be  
ordered separately.

Versions		
Standard < 250 V	PG 11	167-01008-8
with LED (red) 15...30 V		167-01101-8
with bridge rectifier 12...250 V		167-01014-8

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## DIMENSIONS, CURVE



### Note:

For full details of valves compatible with this vent valve refer to the following bulletins:

- 3-EN 2400: Pressure relief valves R4V
- 3-EN 2500: Unloading valves R4U
- 3-EN 2600: Sequence valves R4S
- 3-EN 2700: Pressure reducer valves R4R
- 3-EN 2850: Pressure valves R5 (2-port-flanged type)
- 3-EN 2900: Pressure valves R5 (3-port-flanged type)
- 7-EN 510: 2/2-way seat valves D4S
- 7-EN 5150: 2/2-way seat valves CAR
- 7-EN 520: 2/2-way seat valves D5S (2-port-flanged type)
- 7-EN 530: 2/2-way seat valves D5S (3-port-flanged type)

The product described is subject to continual development and the manufacturer reserves the right to change the specifications without notice.