

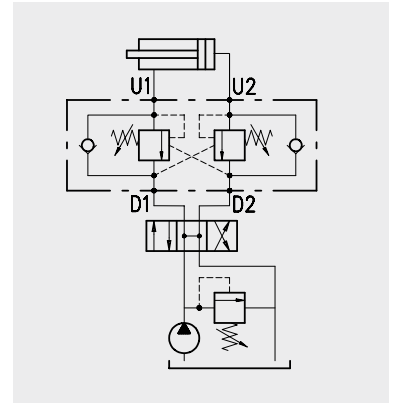
**Operation**

The oil flow is allowed from D1 (D2) to U1 (U2) and is stopped in the opposite way from U1 (U2) to D1 (D2) up to the spring setting value. Free oil flow from U1 (U2) to D1 (D2) is strictly possible when the pilot pressure in D2 and U2 (D1 and U1) is strong enough to pilot the valve poppet.

Use the following formula to assert the applicable pilot pressure:

**(valve setting - load pressure) ÷ pilot ratio = pilot pressure**

For example: If your pilot ratio is 1:4, your setting pressure is 250 bar (3600 psi) and your load pressure is 130 bar (1900 psi) then you will need 30 bar (430 psi) pilot pressure in order to displace the load [(250 bar-3600 psi - 130 bar-1900 psi) ÷ 4 = 30 bar-430 psi]. Should counterpressure arise in D1 (D2), the setting value of valve poppet (1:1 ratio) will increase and the pilot pressure be negatively affected (1:1 ratio). Lack of overcenter stability and troublesome motion even after complete valve assembly, will suggest that the valve application may require a PG version. Please contact our technical service for action.



**Performance**

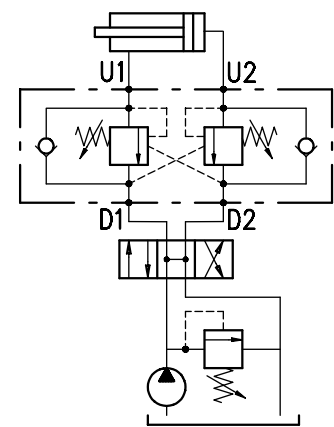
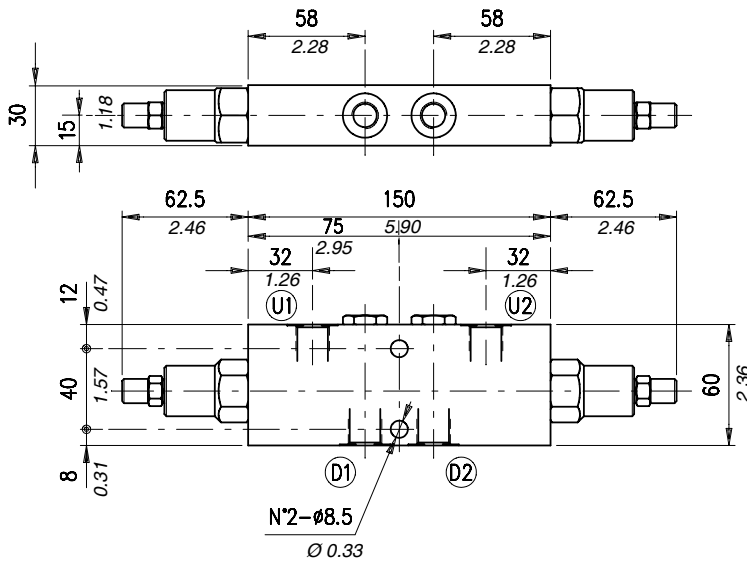
**Body valves**

Type	Max. flow		Maximum pressure		Application range with standard springs	Oil leakage from U1 (U2) to D1 (D2)	Pilot ratio	Weight		Overcenter cartridge
	l/min	US gpm	bar	psi				kg	lb	
VODL 38	35	9.2	210 (alum.) 350 (steel)	3050 (alum.) 5100 (steel)	5÷210 bar -72.5÷3050 psi (test setting 150 bar-2200 psi at 5 l/min.-1.3 US gpm)  50÷350 bar -725÷5100 psi (test setting 280 bar-4060 psi at 5 l/min.-1.3 US gpm)  100÷700 bar -1450÷10150 psi (test setting 350 bar-5100 psi at 5 l/min.-1.3 US gpm)	0,25 cm <sup>3</sup> /min -15x10 <sup>-3</sup> in <sup>3</sup> /min (5 drops) at 210 bar -3050 psi- and 80% of the spring setting value with oil viscosity of 46 cSt.	1:4 (standard type) 1:3 (on request only)	1,23 aluminium 2,21 steel	VMPD 38	
VODL 12	70	18					1,58 aluminium 2,83 steel	VMPD 12		
VODL 34 (100)	(34) 100	26					(34) 2,98	6,57 aluminium	VMPD 34	
							(100) 4,79	11,35 steel		
	(100) 180	48					(100) 9,52	20,99 aluminium		
							(100) 10,56	20,99 steel		
VODL/F 38	35	9.2					1,20 aluminium 2,20 steel	VMPD 38		
VODL/F 12	70	18					1,57 aluminium	VMPD 12		
							2,81 steel			
							6,19			

Body valves

Type	Max. flow		Maximum pressure		Application range with standard springs	Oil leakage from U1 (U2) to D1 (D2)	Pilot ratio	Weight		Overcenter cartridge
	l/min	US gpm	bar	psi				kg	lb	
VODL/F 34 (100)	(34) 100	26					1:7 (standard type) 1:3 (on request only)	(34) 2,90	6.39	VMPD 34
								aluminium		
								(34) 5,17	11.40	
								steel		
	(100) 180	48						(100) 4,76	10.49	
								aluminium		
								(100) 9,49	20.92	
								steel		
VODL/SC 38	40	11	210 (alum.)  350 (steel)	3050 (alum.)  5100 (steel)	50÷350 bar -725÷5100 psi (test setting 280 bar -4060 psi at 5 l/min.-1.3 US gpm)		1:4 (standard type) 1:3 (on request only)	1,13	2.49	-
								aluminium		
								2,16	4.76	
								steel		
VODL/SC 12	75	20			100÷700 bar -1450÷10150 psi (test setting 350 bar-5100 psi at 5 l/min.-1.3 US gpm)		1:7 (standard type) 1:3 (on request only)	1,47	3.24	-
								aluminium		
								2,89	6.37	
								steel		
VODL/SC 34	120	32					1:7 (standard type) 1:3 (on request only)	2,22	4.89	-
								aluminium		
								4,75	10.47	
								steel		
VODL/SC 100	180	48					1:7 (standard type) 1:3 (on request only)	4,28	9.43	-
								aluminium		
								9,73	21.45	
								steel		
VODL/SC/VU 14	20	5.2	350	5100	5÷210 bar -72.5÷3050 psi (test setting 150 bar -2200 psi at 5 l/min.-1.3 US gpm)		1:6	1,75	3.86	-
					50÷350 bar -725÷5100 psi (test setting 280 bar -4060 psi at 5 l/min.-1.3 US gpm)					
VODL/SC/C 1116/38	30	7.9	210 (alum. body white anodized) 350 (steel body yellow zinc plated)	3050 (alum. body white anodized) 5100 (steel body yellow zinc plated)	50÷350 bar -725÷5100 psi-; pressure increase =131 bar/turn -1900 psi (test setting 280 bar-4060 psi at 5 l/min.-1.3 US gpm)		1:4	1,1	2.42	-
								aluminium		
								2,1	4.63	
								steel		
VODL/SC/C 1116/12	60	16					1:4	1,4	3.09	-
								aluminium		
								2,8	6.17	
								steel		

**Dimensions and hydraulic circuit**

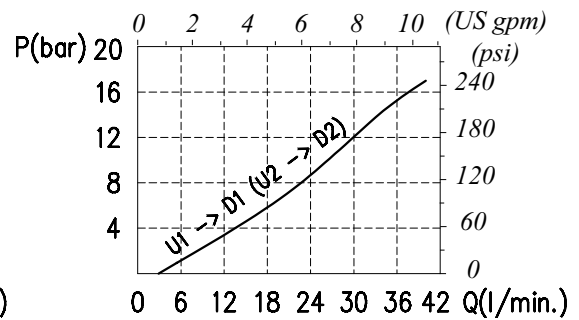
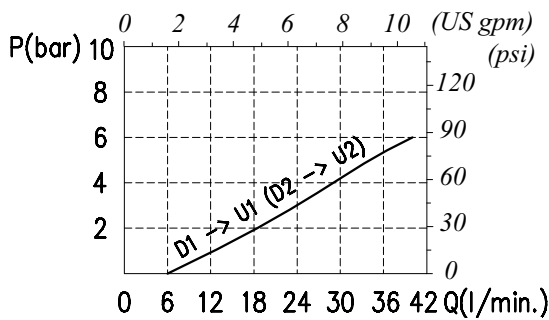


D1-D2	U1-U2
G 3/8	G 3/8

**Rating diagrams**

Typical pressure drop vs. flow characteristics

Typical pressure drop vs. flow characteristics

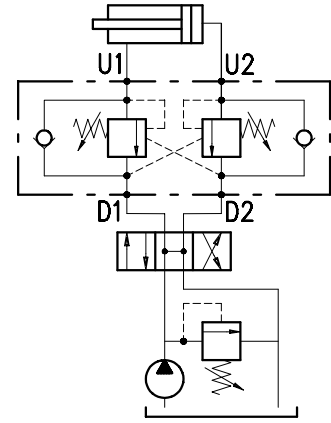
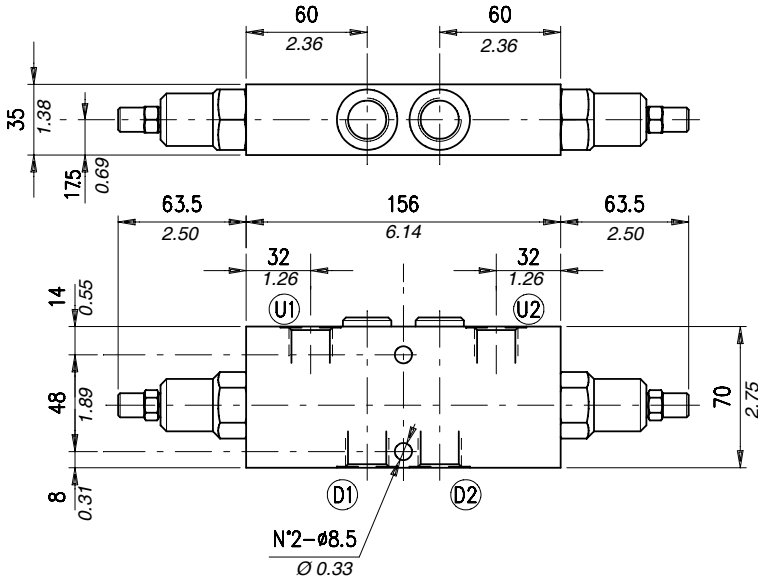


**Order code**

VODL / SC 38 / □□ . S . □□ . □□ . □□ / □□

Pressure settings	Pilot ratio	Type of pilot	Check valve seat	Body material
<b>TS</b> 5÷210 bar (72.5÷3050 psi)	<b>p3</b> 1:3	- Without damper	- See body	- Aluminium
<b>TR</b> 50÷350 bar (725÷5100 psi)	<b>p4</b> 1:4	(Standard)	<b>VRR</b> Hardened steel	<b>ac</b> Steel
<b>TG</b> 100÷700 bar (1450÷10150 psi)	(Standard)	<b>PG</b> With damper		

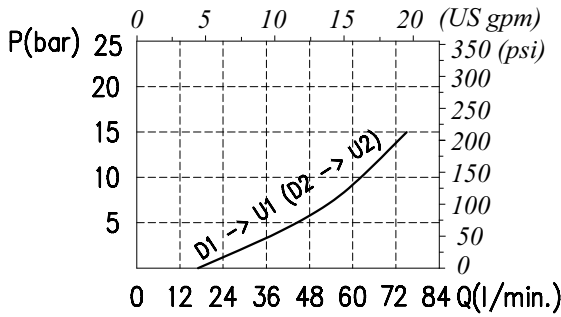
## Dimensions and hydraulic circuit



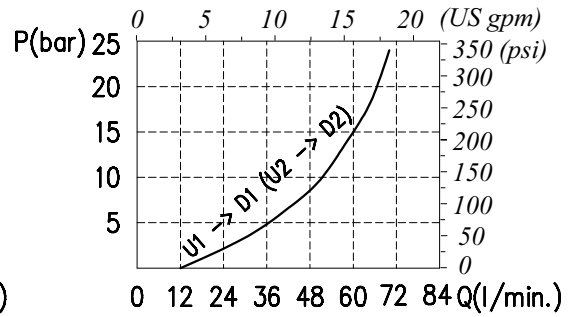
D1-D2	U1-U2
G 1/2	G 1/2

## Rating diagrams

Typical pressure drop vs. flow characteristics



Typical pressure drop vs. flow characteristics



## Order code

VODL / SC 12 / □□ . S . □□ . □□ . □□ / □□

Pressure settings

Pilot ratio

Type of pilot

Check valve seat

Body material

TS) 5÷210 bar (72.5÷3050 psi)

TR) 50÷350 bar (725÷5100 psi)  
(Standard)

TG) 100÷700 bar (1450÷10150 psi)

p3) 1:3

p7) 1:7

(Standard)

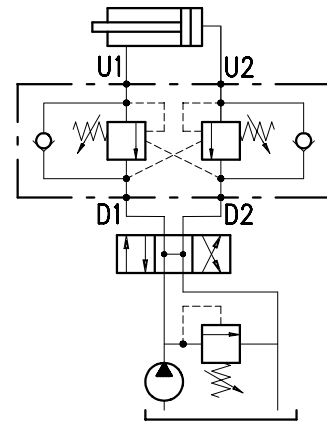
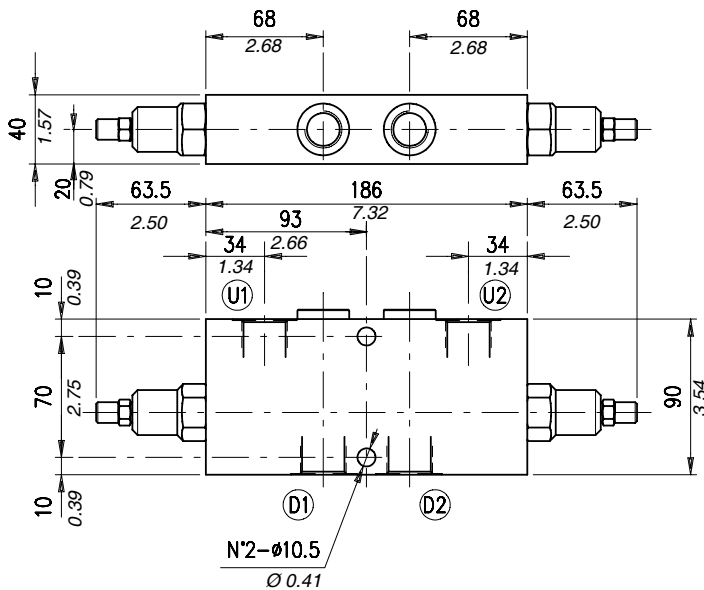
- Without damper  
(Standard)

PG) With damper

See body  
VRR) Hardened steel

- Aluminium  
acSteel

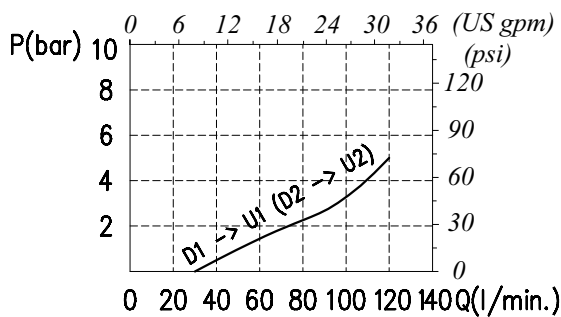
**Dimensions and hydraulic circuit**



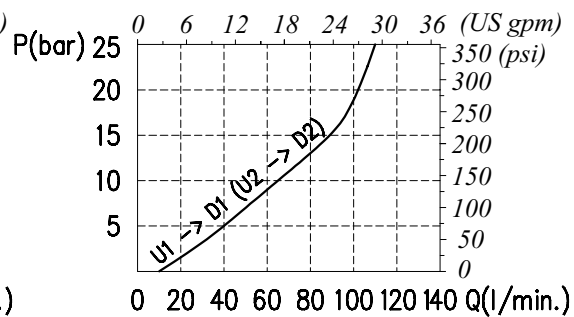
D1-D2	U1-U2
G 3/4	G 3/4

**Rating diagrams**

Typical pressure drop vs. flow characteristics

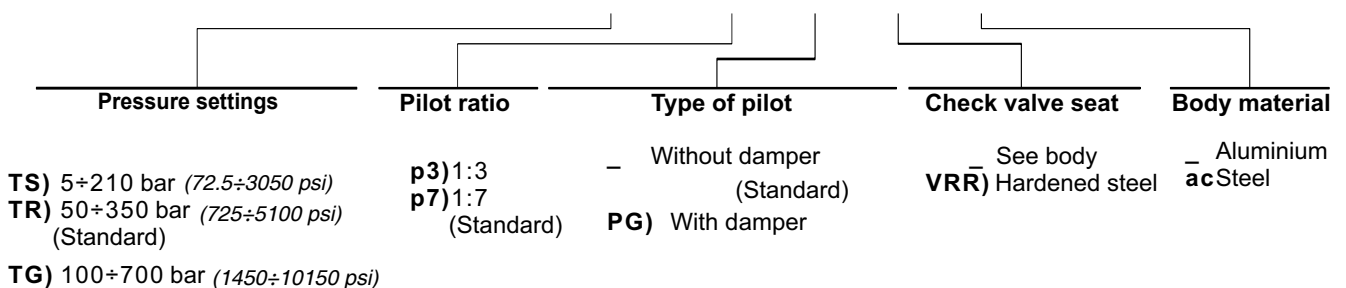


Typical pressure drop vs. flow characteristics

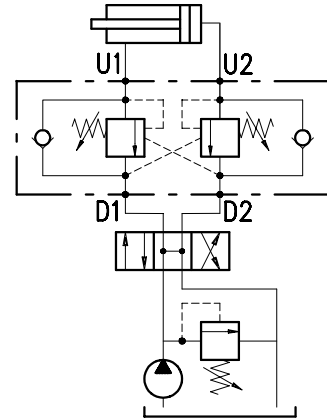
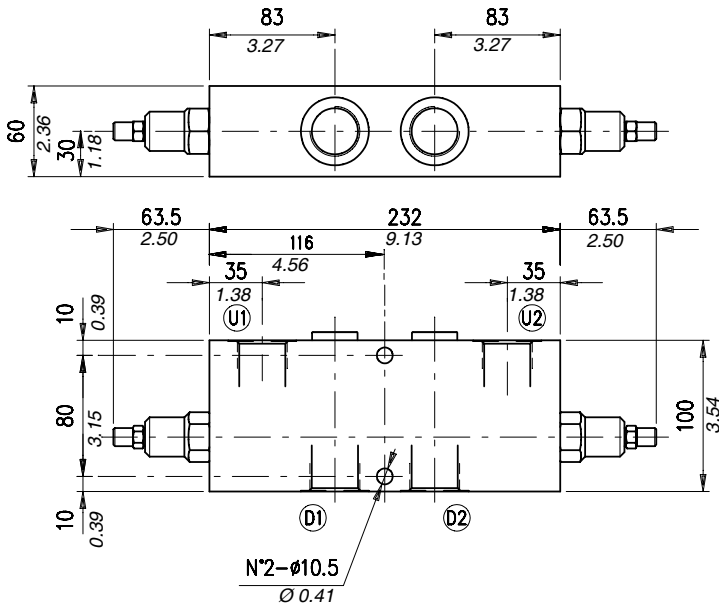


**Order code**

**VODL / SC 34 / □□ . S . □□ . □□ . □□ / □□**



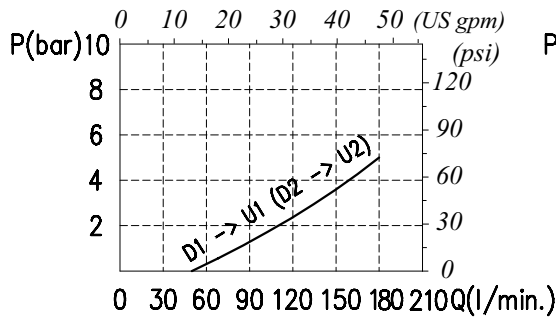
## Dimensions and hydraulic circuit



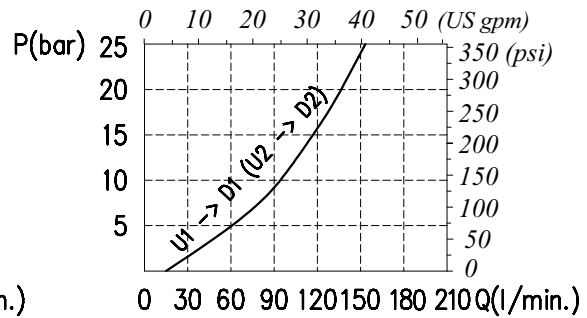
D1-D2	U1-U2
G 1	G 1

## Rating diagrams

Typical pressure drop vs. flow characteristics



Typical pressure drop vs. flow characteristics



## Order code

VODL / SC 100 / □□ . S . □□ . □□ . □□ / □□

Pressure settings

Pilot ratio

Type of pilot

Check valve seat

Body material

**TS** 5÷210 bar (72.5÷3050 psi)  
**TR** 50÷350 bar (725÷5100 psi)  
(Standard)

**TG** 100÷700 bar (1450÷10150 psi)

**p3**) 1:3  
**p7**) 1:7  
(Standard)

— Without damper  
(Standard)  
**PG**) With damper

— See body  
**VRR**) Hardened steel

— Aluminium  
**ac** Steel