



## Type VODL/V1116/CS counterbalance valves

- Double acting
- Vented

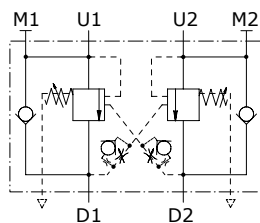
Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

### VODL/V1116/CS (38-12)

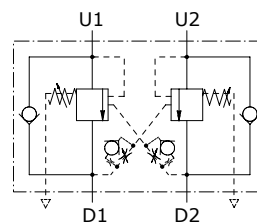
Nominal flow	60 l/min (15.9 US gpm)
Max. pressure	350 bar (5100 psi)
Oil leakage	0.25 cm <sup>3</sup> /min - 0.015 in <sup>3</sup> /min. (5 drops) at 210 bar - 3050 psi
Fluid	mineral based oil
Viscosity	from 10 to 200 cSt
Max. level of contamination	18/16/13 ISO4406
Fluid temperature	with NBR seals from -20°C (-4°F) to 80°C (176°F)
Environmental temp. for working conditions	from -40°C (-40°F) to 100°C (212°F)
Weight	<b>VODL/V1116/CS/38:</b> 3.64 kg (8.02 lb) - <b>VODL/V1116/CS/12:</b> 3.50 kg (7.72 lb)

NOTE - For different conditions, please contact Walvoil Sales Dpt.

### VODL/V1116/CS

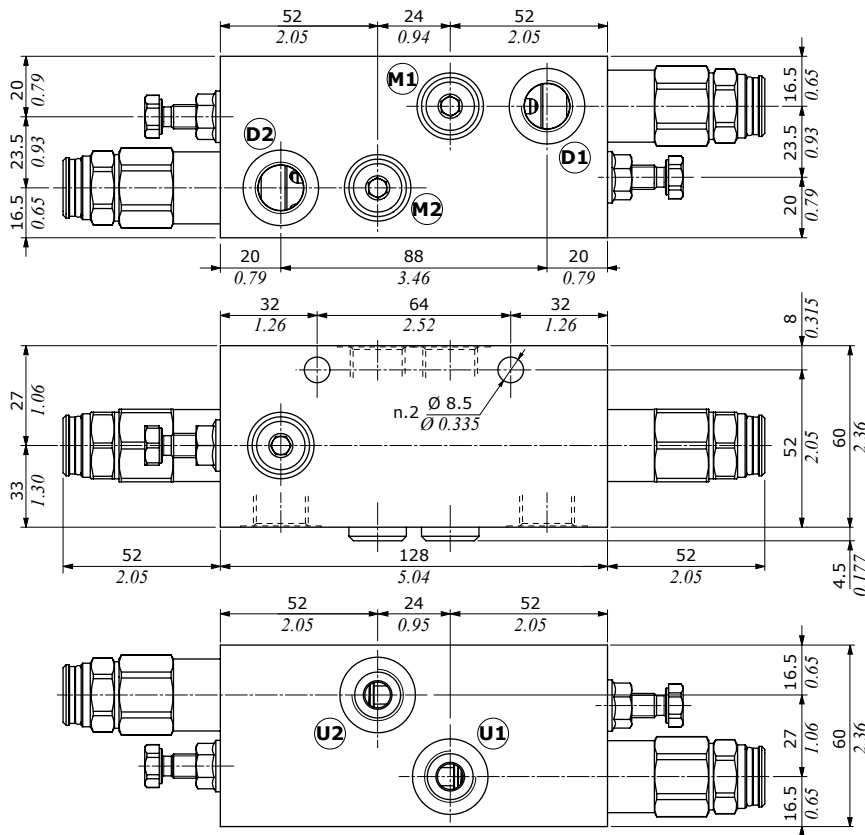


### VODL/V1116/CS/F2

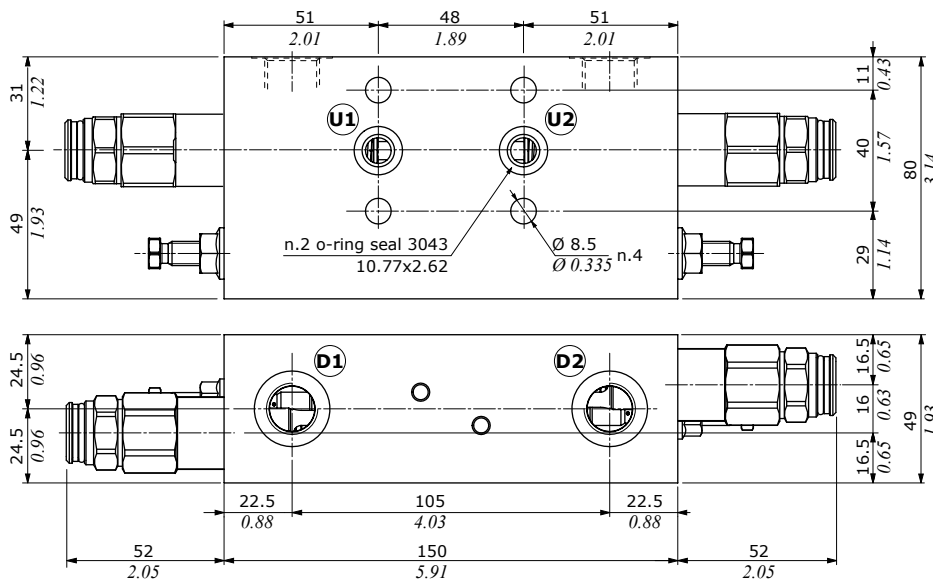


## Dimensions

### VODL/V1116/CS/38 - VODL/V1116/CS/12



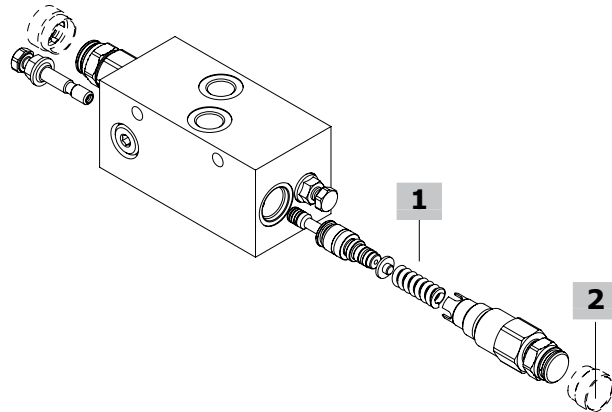
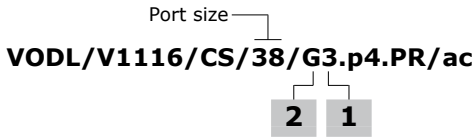
### VODL/V1116/CS/38F2 - VODL/V1116/CS/12F2



Valve type	D1	D2	U1	U2	M1	M2
VODL/V1116/CS/38	G3/8	G3/8	G3/8	G3/8	G1/4	G1/4
VODL/V1116/CS/12	G1/2	G1/2	G1/2	G1/2	G1/4	G1/4
VODL/V1116/CS/38F2	G3/8	G3/8	Ø8.5 - Ø0.335	Ø8.5 - Ø0.335	-	-
VODL/V1116/CS/12F2	G1/2	G1/2	Ø8.5 - Ø0.335	Ø8.5 - Ø0.335	-	-

Valve type	D1	D2	U1	U2	M1	M2
VODL/V1116/CS/S8	SAE8	SAE8	SAE8	SAE8	G1/4	G1/4
VODL/V1116/CS/S10	SAE10	SAE10	SAE10	SAE10	G1/4	G1/4
VODL/V1116/CS/S8F2	SAE8	SAE8	Ø8.5 - Ø0.335	Ø8.5 - Ø0.335	-	-
VODL/V1116/CS/S10F2	SAE10	SAE10	Ø8.5 - Ø0.335	Ø8.5 - Ø0.335	-	-

**Ordering codes and description composition**



**Complete valves**

**Vented (V) configuration with G3/8 thread**

*Pilot ratio 1:4*

TYPE: **VODL/V1116/CS/38/G3.p4.PR/ac** CODE: 1554522102  
DESCRIPTION: Steel body, range 50-210 bar (725-3050 psi),  
std setting 150 bar (2175 psi) @ 5 l/min (1.32 US gpm)

TYPE: **VODL/V1116/CS/38/G5.p4.PR/ac** CODE: 1554522100  
DESCRIPTION: Steel body, range 150-350 bar (2175-5075 psi),  
std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

*Pilot ratio 1:8*

TYPE: **VODL/V1116/CS/38/G5.p8.PR/ac** CODE: 1554522105  
DESCRIPTION: Steel body, range 180-350 bar (2610-5075 psi),  
std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

*Zero differential pilot ratio*

TYPE: **VODL/V1116/CS/38/G3.p0.PR/ac** CODE: 1554522107  
DESCRIPTION: Steel body, range 5-210 bar (72.5-3050 psi), std setting  
150 bar (2175 psi) @ 5 l/min (1.32 US gpm)

TYPE: **VODL/V1116/CS/38/G5.p0.PR/ac** CODE: 1554522101  
DESCRIPTION: Steel body, range 50-350 bar (725-5075 psi), std setting  
280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

**Vented (V) configuration with G3/8 thread and F2 flange**

TYPE: **VODL/V1116/CS/38F2/G5.p4.PR/ac** CODE: 1556022100  
DESCRIPTION: Steel body, pilot ratio 1:4, range 150-350 bar  
(2175-5075 psi), std setting 280 bar (4060 psi) @ 5 min (1.32 US gpm)

TYPE: **VODL/V1116/CS/38F2/G5.p8.PR/ac** CODE: 1556022101  
DESCRIPTION: Steel body, pilot ratio 1:8, range 180-350 bar  
(2610-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

TYPE: **VODL/V1116/CS/38F2/G5.p0.PR/ac** CODE: 1556022102  
DESCRIPTION: Steel body, zero differential pilot ratio, range 50-350 bar  
(725-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

**Complete valves**

**Vented (V) configuration with SAE8 thread**

*Pilot ratio 1:4*

TYPE: **VODL/V1116/CS/S8/G3.p4.PR/ac** CODE: 1554522200  
DESCRIPTION: Steel body, range 50-210 bar (725-3050 psi),  
std setting 150 bar (2175 psi) @ 5 l/min (1.32 US gpm)

TYPE: **VODL/V1116/CS/S8/G5.p4.PR/ac** CODE: 1554522201  
DESCRIPTION: Steel body, range 150-350 bar (2175-5075 psi),  
std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

*Pilot ratio 1:8*

TYPE: **VODL/V1116/CS/S8/G5.p8.PR/ac** CODE: 1554522204  
DESCRIPTION: Steel body, range 180-350 bar (2610-5075 psi),  
std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

*Zero differential pilot ratio*

TYPE: **VODL/V1116/CS/S8/G3.p0.PR/ac** CODE: 1554522206  
DESCRIPTION: Steel body, range 5-210 bar (72.5-3050 psi), std setting  
150 bar (2175 psi) @ 5 l/min (1.32 US gpm)

TYPE: **VODL/V1116/CS/S8/G5.p0.PR/ac** CODE: 1554522207  
DESCRIPTION: Steel body, range 50-350 bar (725-5075 psi), std setting  
280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

**Vented (V) configuration with SAE8 thread and F2 flange**

TYPE: **VODL/V1116/CS/S8F2/G5.p4.PR/ac** CODE: 1556022200  
DESCRIPTION: Steel body, pilot ratio 1:4, range 150-350 bar  
(2175-5075 psi), std setting 280 bar (4060 psi) @ 5 min (1.32 US gpm)

TYPE: **VODL/V1116/CS/S8F2/G5.p8.PR/ac** CODE: 1556022201  
DESCRIPTION: Steel body, pilot ratio 1:8, range 180-350 bar  
(2610-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

TYPE: **VODL/V1116/CS/S8F2/G5.p0.PR/ac** CODE: 1556022202  
DESCRIPTION: Steel body, zero differential pilot ratio, range 50-350 bar  
(725-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

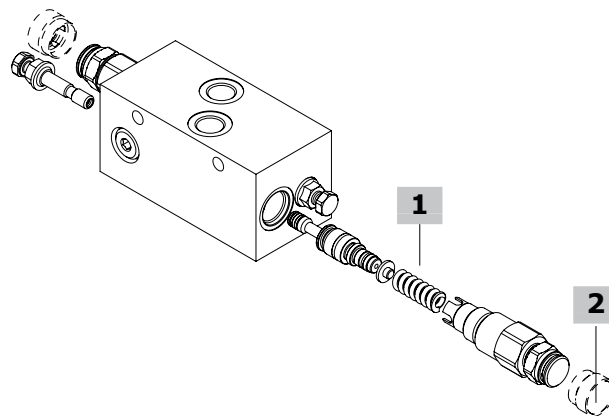
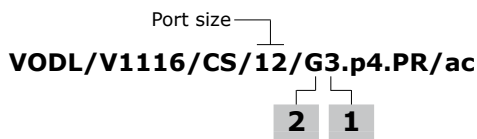
**1 Pressure setting spring**

TYPE	CODE	DESCRIPTION
<b>For 1:4 and zero differential pilot ratio</b>		
<b>3</b>	3ML1133201	For range 50-210 bar (725-3050 psi)
<b>5</b>	3ML1133200	For range 150-350 bar (2175-5075 psi)
<b>For 1:8 pilot ratio</b>		
<b>5</b>	3ML1133201	For range 180-350 bar (2610-5075 psi)

**2 Setting type**

TYPE	CODE	DESCRIPTION
<b>G</b>	-	Screw setting
<b>Z</b>	4COP130200	Antitampering cap

## Rating diagrams



### Complete valves

#### Vented (V) configuration with G1/2 thread

TYPE: **VODL/V1116/CS/12/G5.p4.PR/ac** CODE: 1554532100

DESCRIPTION: Steel body, pilot ratio 1:4, range 150-350 bar (2175-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

TYPE: **VODL/V1116/CS/12/G5.p8.PR/ac** CODE: 1554532101

DESCRIPTION: Steel body, pilot ratio 1:8, range 180-350 bar (2610-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

TYPE: **VODL/V1116/CS/12/G5.p0/ac** CODE: 1554532102

DESCRIPTION: Steel body, zero differential pilot ratio, range 50-350 bar (725-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

#### Vented (V) configuration with G1/2 thread and F2 flange

TYPE: **VODL/V1116/CS/12F2/G5.p4.PR/ac** CODE: 1556032100

DESCRIPTION: Steel body, pilot ratio 1:4, range 150-350 bar (2175-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

TYPE: **VODL/V1116/CS/12F2/G5.p8.PR/ac** CODE: 1556032101

DESCRIPTION: Steel body, pilot ratio 1:8, range 180-350 bar (2610-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

TYPE: **VODL/V1116/CS/12F2/G5.p0.PR/ac** CODE: 1556032102

DESCRIPTION: Steel body, zero differential pilot ratio, range 50-350 bar (725-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

For other configurations please contact our Sales Dpt.

#### Vented (V) configuration with SAE10 thread

TYPE: **VODL/V1116/CS/S10/G5.p4.PR/ac** CODE: 1554532200

DESCRIPTION: Steel body, pilot ratio 1:4, range 150-350 bar (2175-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

TYPE: **VODL/V1116/CS/S10/G5.p8.PR/ac** CODE: 1554532201

DESCRIPTION: Steel body, pilot ratio 1:8, range 180-350 bar (2610-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

TYPE: **VODL/V1116/CS/S10/G5.p0/ac** CODE: 1554532202

DESCRIPTION: Steel body, zero differential pilot ratio, range 50-350 bar (725-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

### Complete valves

#### Vented (V) configuration with SAE10 thread and F2 flange

TYPE: **VODL/V1116/CS/S10F2/G5.p4.PR/ac** CODE: 1556032200

DESCRIPTION: Steel body, pilot ratio 1:4, range 150-350 bar (2175-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

TYPE: **VODL/V1116/CS/S10F2/G5.p8.PR/ac** CODE: 1556032201

DESCRIPTION: Steel body, pilot ratio 1:8, range 180-350 bar (2610-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

TYPE: **VODL/V1116/CS/S10F2/G5.p0.PR/ac** CODE: 1556032202

DESCRIPTION: Steel body, zero differential pilot ratio, range 50-350 bar (725-5075 psi), std setting 280 bar (4060 psi) @ 5 l/min (1.32 US gpm)

For other configurations please contact our Sales Dpt.

### 1 Pressure setting spring

TYPE	CODE	DESCRIPTION
<b>3</b>	3ML1133201	For range 50-210 bar (725-3050 psi)
<b>5</b>	3ML1133200	For range 150-350 bar (2175-5075 psi)
<b>5</b>	3ML1133201	For range 180-350 bar (2610-5075 psi)

#### For 1:4 and zero differential pilot ratio

**3** 3ML1133201 For range 50-210 bar (725-3050 psi)

**5** 3ML1133200 For range 150-350 bar (2175-5075 psi)

#### For 1:8 pilot ratio

**5** 3ML1133201 For range 180-350 bar (2610-5075 psi)

### 2 Setting type

TYPE	CODE	DESCRIPTION
<b>G</b>	-	Screw setting
<b>Z</b>	4COP130200	Antitampering cap

## Rating diagrams

VODL/V/1116/CS pressure drop vs. flow from D1->U1 and U1 to D1 (D2->U2 and U2 to D2)

