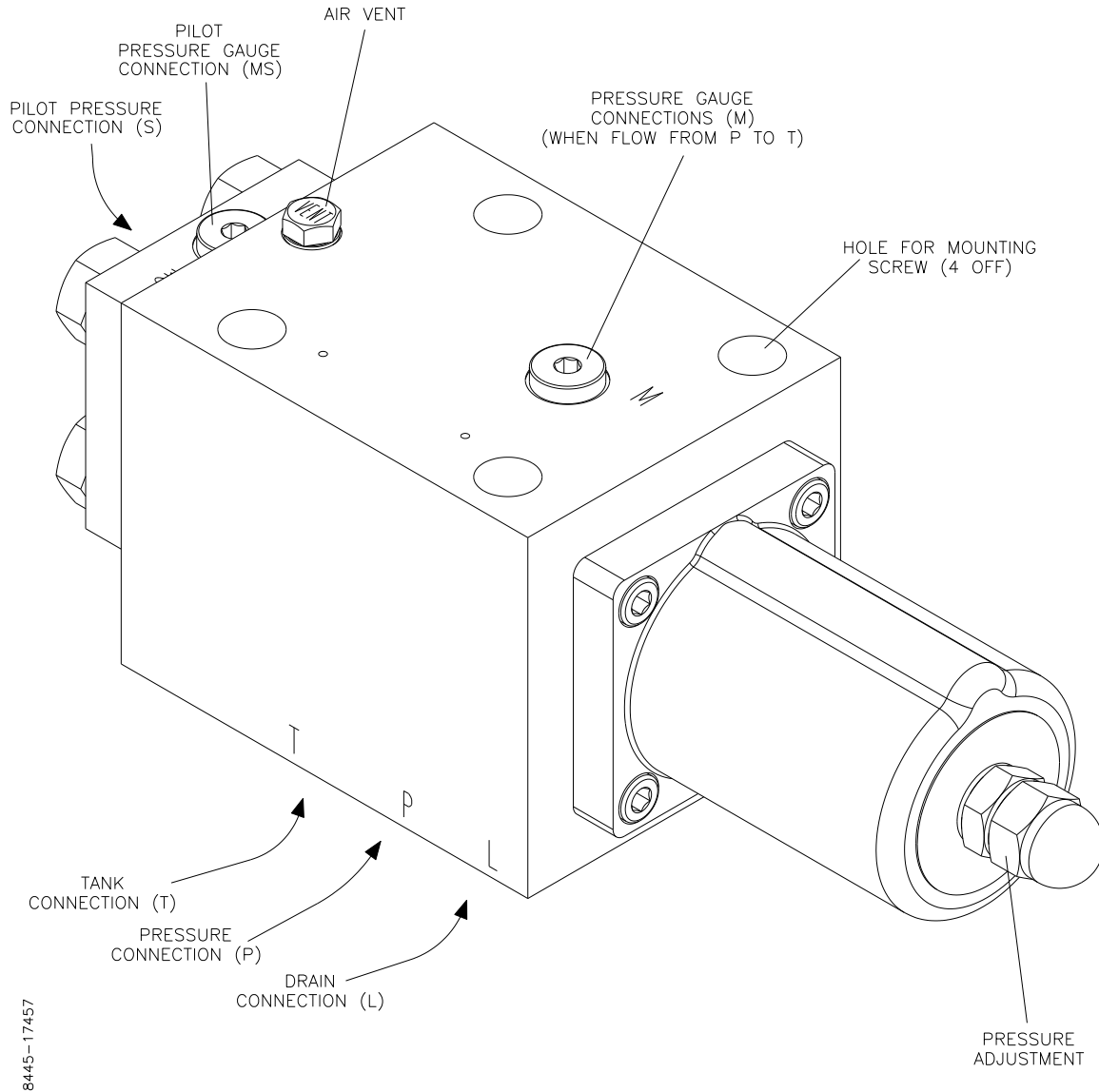


**COUNTER BALANCE VALVES 7AVB****GENERAL DESCRIPTION**

*Figure 1 7AVB General Arrangement*

The Counter Balance Valves 7AVB are seawater resistant load control valve. The valves are designed for applications used in lowering operations and have the following characteristics:

- Delivered as single valve or with check valve for free flow.
- Delivered with sub plate with threaded ports, SAE flanges or for gasket mounting to a valve unit.
- Adjustable pilot pressure.
- Delivered with flow capacity up to 650 l/min. (Version for 900 l/min will soon be available)

For more details about types and options, please refer to section 'Modular Code'.

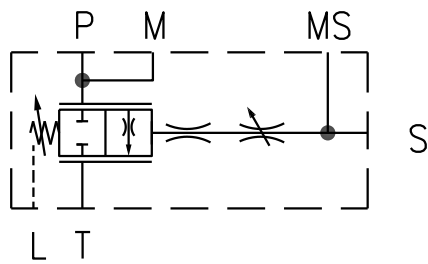
# Counter Balance Valves 7AVB

## MODULAR CODE

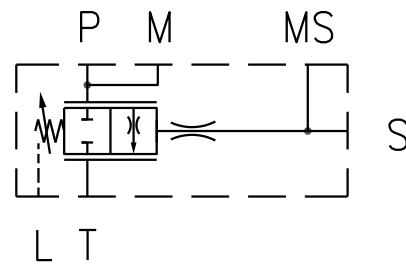
Options	Remarks	Design Code	Fill in
<b>Mounting</b>			<b>7AVB</b>
SUB Plate	Single Valve		
Threads	With check valve for free flow	<b>T</b>	
Flanges		<b>U</b>	
SUB Plate		<b>V</b>	
<b>Adjustable pilot pressure</b>			
	No options	<b>1</b>	<b>1</b>
<b>Size</b>			
10 mm	150 l/min	<b>2</b>	
20 mm	450 l/min	<b>4</b>	
30 mm	650 l/min	<b>6</b>	
<b>Stabilize pilot pressure</b>			
Fixed nozzle			
Adjustable throttle valve		<b>1A</b>	
<b>Drain</b>			
External drain connection	No options	<b>L</b>	<b>L</b>

In example a 7AVB valve with sub plate (the valve has check valve for free flow) 650 l/min flow, adjustable throttle valve and external drain connection will have modular code:

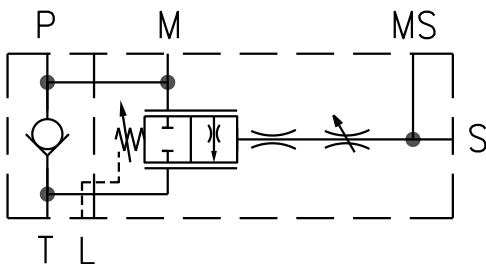
**7AVBV161AL.**



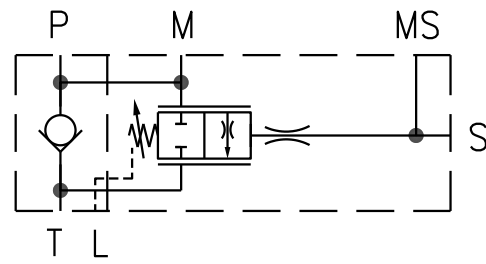
7AVB1\*1AL



7AVB1\*L



7AVBT1\*1AL



7AVBT1\*L

# Counter Balance Valves 7AVB

## DIMENSIONS

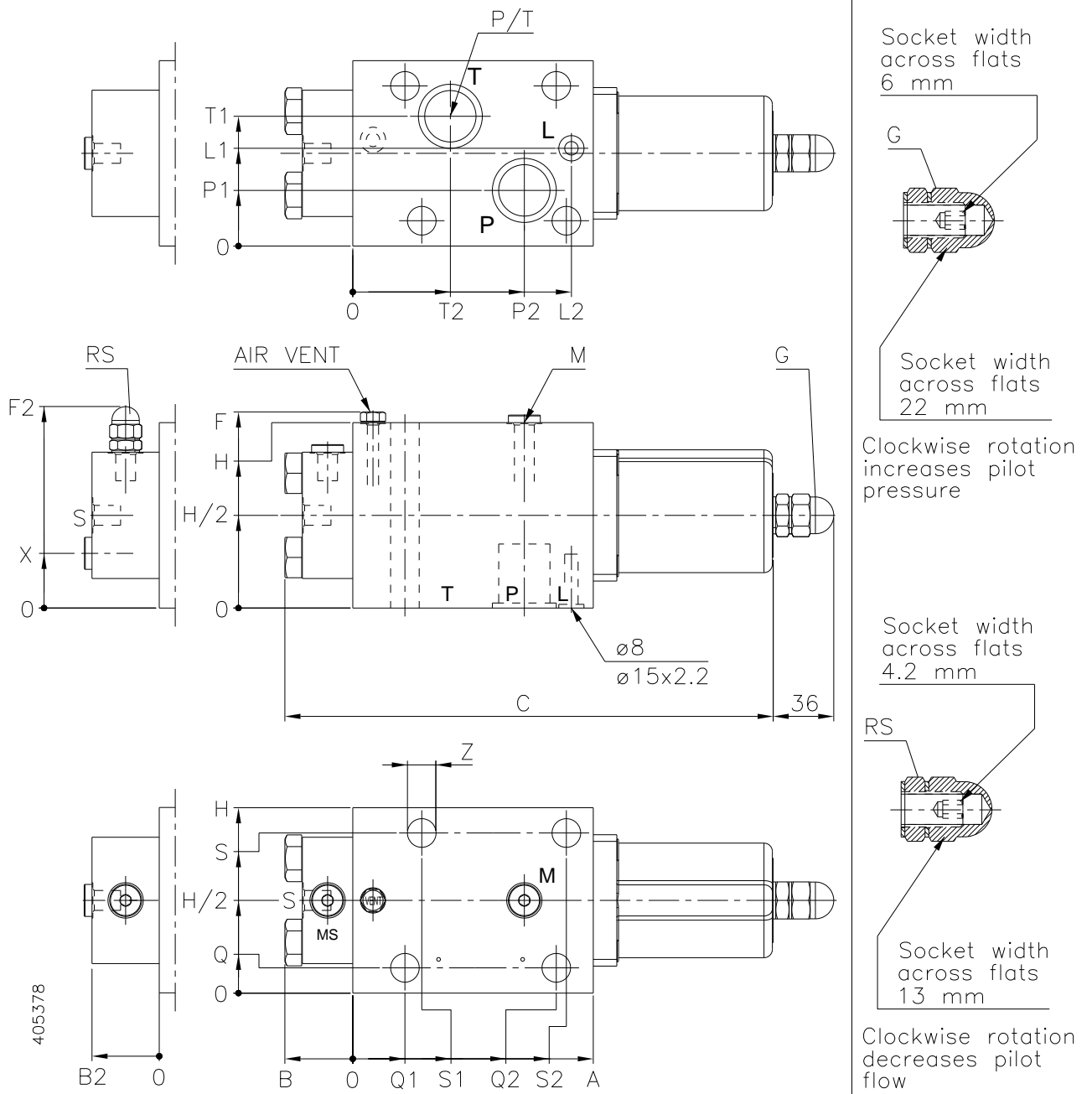


Figure 2 7AVB Dimensions (Sub plate version)

### 7AVB:

Size [mm]	A	B	C	F	H	L1	L2	P1	P2	Q	Q1
10	85	30	200	64	60	33	72.5	18	62.5	8	-
20	104	30	242	84	80	43	92.5	25	74	10	32
30	143	30	281	114	110	58	130	33	102	15	31
	<b>Q2</b>	<b>S</b>	<b>S1</b>	<b>S2</b>	<b>T1</b>	<b>T2</b>	<b>X</b>	<b>Z</b>	<b>B2</b>	<b>F2</b>	<b>M/MS/S</b>
10	70	52	32	-	42	39.5	25	9	36	99	¼" BSPP
20	85	70	40	89	55	47	45	9	44	119	¼" BSPP
30	121	95	41	127	77	58	60	17	44	139	¼" BSPP

# Counter Balance Valves 7AVB

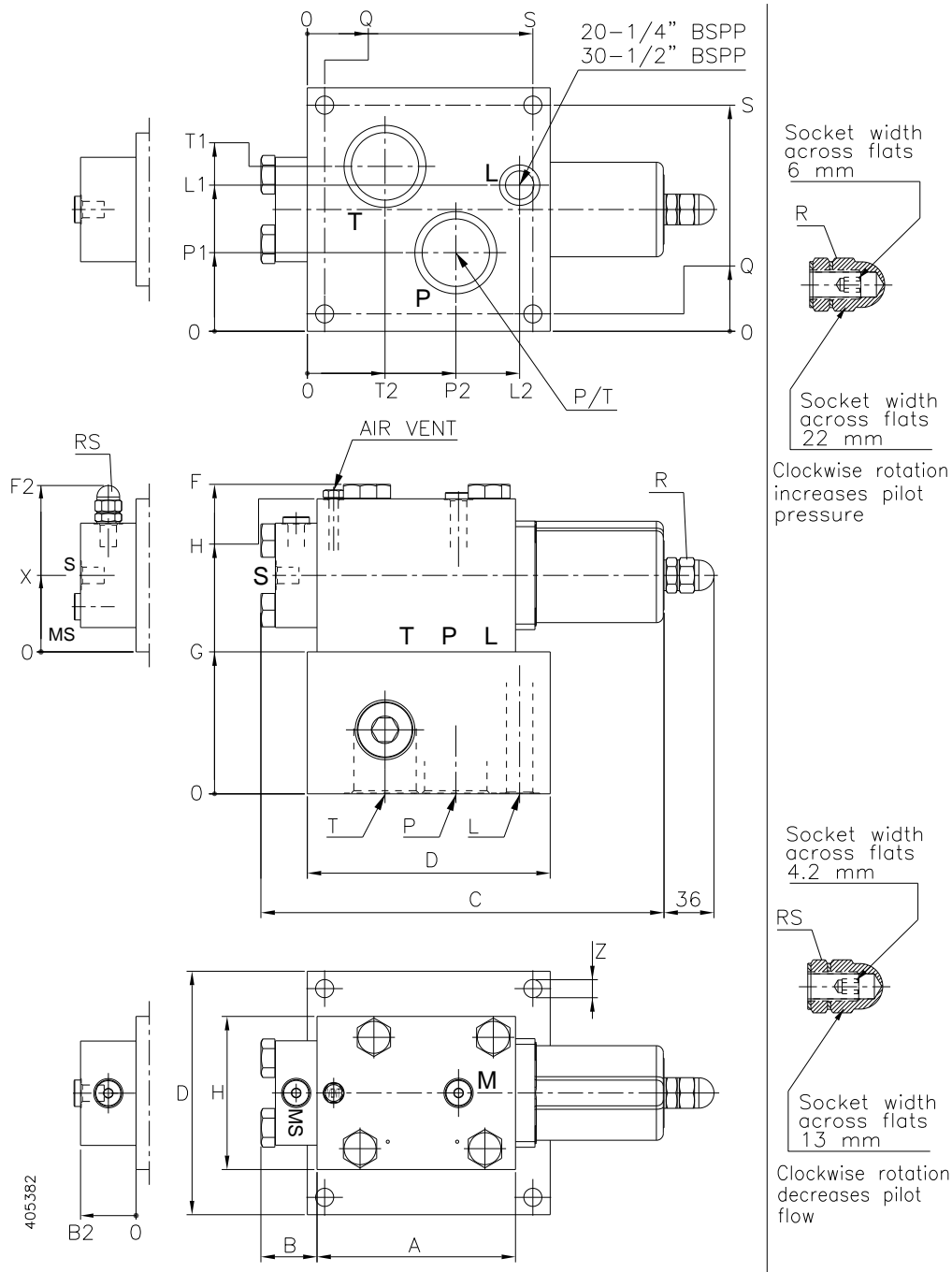


Figure 3 7AVBT Dimensions (Thread port version included free flow checks)

## 7AVBT:

Size [mm]	A	B	C	D	F	G	H	L1	L2	P1
20	104	30	241	128	159	75	80	73	98.5	40
30	143	30	280	175	208	94	110	105	153	56.5
	P2	Q	S	T1	T2	X	Z	B2	F2	
20	81	9	119	97	48	45	9	44	119	
30	107	12.5	162.5	118.5	56	60	13	44	139	

# Counter Balance Valves 7AVB

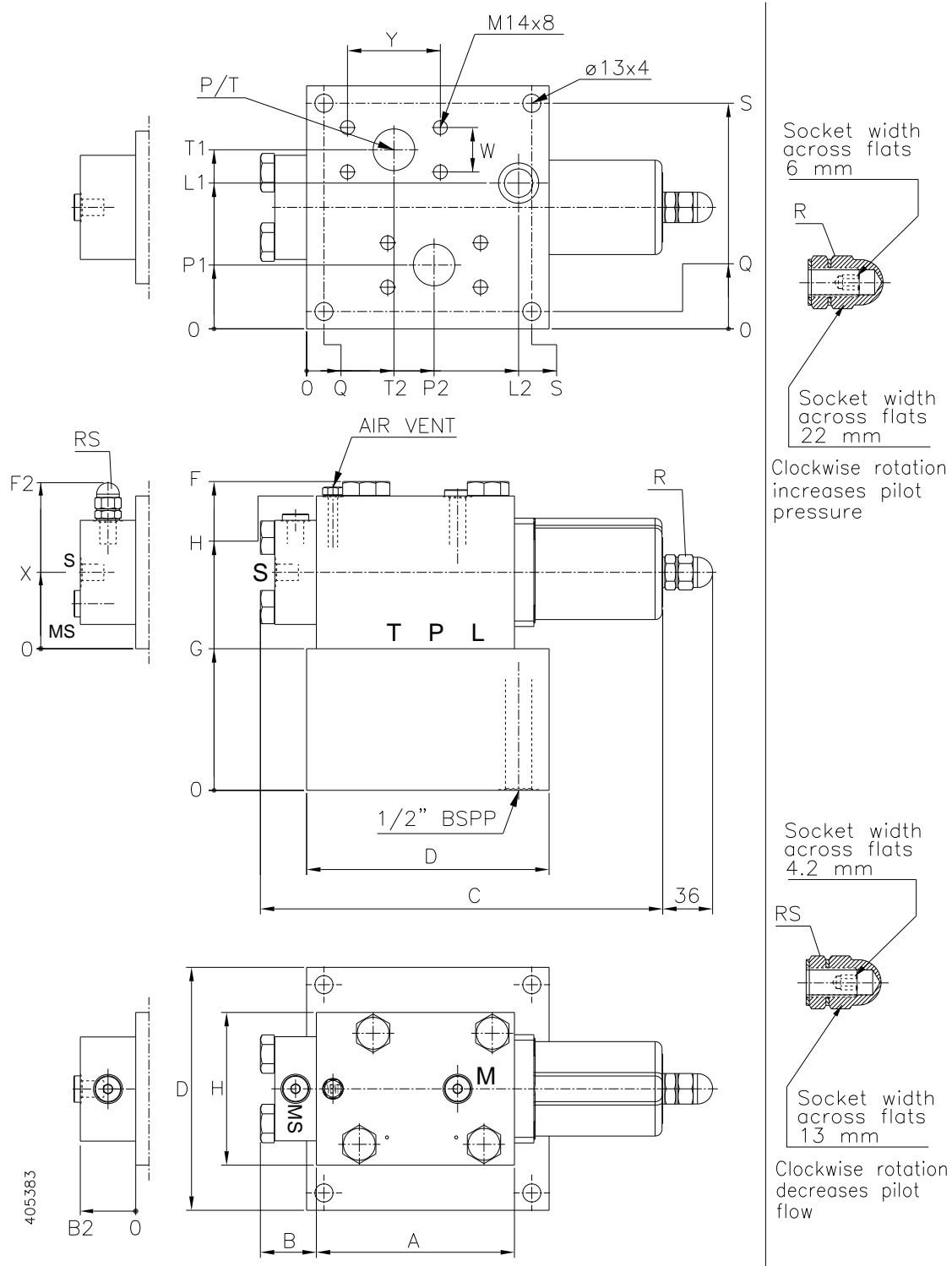


Figure 4 7AVBU Dimensions (SAE 6000 version included free flow check)

**7AVBU:**

Size [mm]	A	B	B2	C	D	F	F2	G	H	L1	L2
30	143	30	44	280	175	224	139	110	110	105	153
	P1	P2	Q	S	T1	T2	W	X	Y	Z	
30	46	100	12.5	162.5	129	71	32	60	67	13	



## Counter Balance Valves 7AVB

**TECHNICAL DATA**

Description	Symbol	Data
Max. operating pressure in port P, A, B, T	$P_{max}$	350 bar
Max. pressure in port L (always in use)	$L_{max}$	10 bar
Test Pressure	P	420 bar
Hydraulic fluid		Mineral oils for hydraulic system
Viscosity range:	$\nu$	10 to 350 mm <sup>2</sup> /s (cST)
Viscosity index:	VI	> 120
Filtration, recommended filter with $\beta_{20} \geq 100$		Class 9 according to NAS 1638, 18/15 according to ISO 4406
Fluid temperature range:	T	-20°C to + 70°C
Ambient temperature range	T	-20°C to + 50°C
Standard Body Material		EN-GJS-400-15 (GGG 40)
Standard O-rings		Nitrile shore 70

**Flow and Weights:**

Size	Flow	Weight
10 mm	150 l/min	3.5 kg
20 mm	450 l/min	6.5 kg
30 mm	650 l/min	13.6 kg

## Counter Balance Valves 7AVB

**Interfaces:**
**7AVB(T)(V):**

<i>Size</i>	<i>Threads</i>	<i>MS/M/S</i>	<i>Screws</i>	<i>Tightening Torque [Nm]</i>
10 mm	½" BSPP	¼" BSPP	4 off M 8 – DIN 931	20
20 mm	1" BSPP	¼" BSPP	4 off M 8 – DIN 931	20
30 mm	1 ½" BSPP	¼" BSPP	4 off M 16 – DIN 931	80
	<i>O-rings (Sub-plate versions)</i>			<i>Size [mm]</i>
10 mm	4 off 1 off			15.08 x 2.62 9.92 x 2.62
20 mm	4 off 1 off			22.20 x 3.00 9.92 x 2.62
30 mm	4 off 1 off			31.34 x 3.53 9.92 x 2.62

**7AVBU:**

<i>Screws</i>	<i>Size</i>	<i>MS/M/S</i>	<i>SAE Flanges</i>
8 off M 14	30 mm	¼" BSPP	¼" SAE 6000



## Counter Balance Valves 7AVB

### INSTALLATION

The Counter Balance Valves 7AVB have a sub plate and are connected to the pipes as follows:

- 7AVBT - Threaded ports
- 7AVBU - SAE 6000 flanges
- 7AVBV – Valve unit

Please refer to ‘Interfaces’, for details about connections, flanges and screws.

### OPERATION

#### Opening pressure adjustment.

Install pressure gauges for measuring of pilot pressure and flow, and turn the hexagon screws until the requested pressures is achieved. Clockwise rotation increases the pilot pressure. Recommend opening pressure is 40 bar or higher.

### MAINTENANCE

Visually check the valve. If required, paint unpainted (damaged) areas.

### STORAGE

If storage longer than 6 months is expected, the valve must be kept in a dry room, free from dust and protected against sudden large temperature variations. For storage longer than 12 months, the valve must be filled with inhibition oil. Before use check all visible seals and flush with clean oil.

### MARKING

Inlets and outlets are marked, refer to figure in section ‘General Description’.