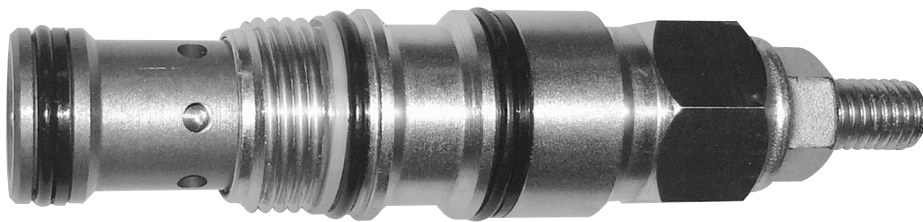




Oilpath T11A Counterbalance Cartridges



HYDRAFORCE
POWER FORWARD



Authorised Australian Distributor For



Fit your Product with OILPATH T11A Counterbalance Cartridge Valves

INDEX

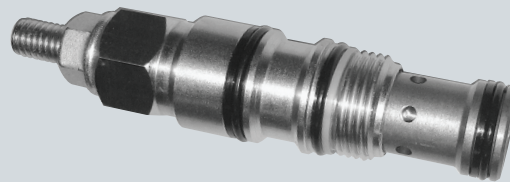
1. NORMAL T11A 3:1	3
2. NORMAL T11A 5:1	4
3. NORMAL T11A 10:1	5
4. NORMAL T11A GT 3:1	6
5. NORMAL T11A GT 10:1	7
6. NORMAL RISTRICTED T11A 9:1	8
7. PRODUCT SELECTION CHARTS	9



New Oilpath Counterbalance Cartridges from Valvole Italia

After years of resistance HydraForce have finally entered the Counterbalance Market, they accomplished this by striking an exclusive partnership with Valvole Italia a specialist Load Holding Company, focused exclusively on the design and manufacturing of load holding product.

As HydraForce's Australian Partner Oilpath are stocking a range of T11A counterbalance cartridges that are competitively priced and technically superior to product already in the market. Oilpath will build stock in other configurations when demand dictates, please ask if required.



Product Strengths

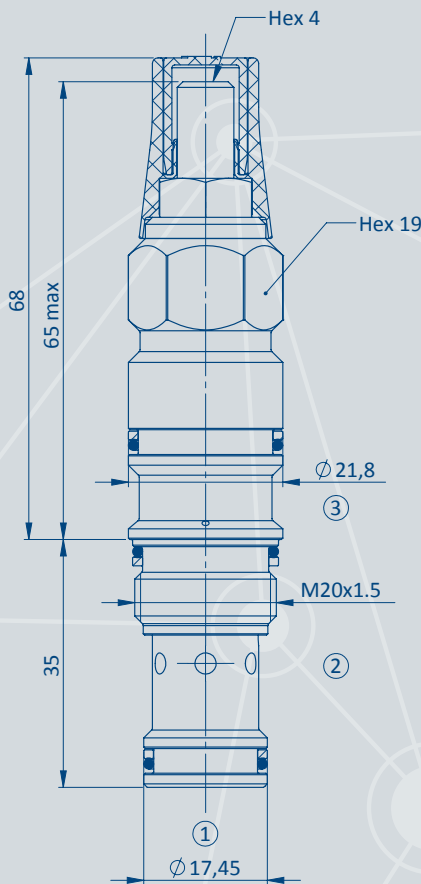
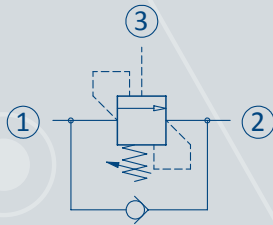
- Modular concepts available utilising same internal components
- Stainless Steel and Nickel plated options
- Customisable pistons for specific applications optimising performance
- Cartridges proven through severe durability tests
- Proven superior stability over all other valves in market
- Superior pressure drop performance
- T11A GT Series suitable for 75 lpm with 26 bar pressure drop
- Valves designed & manufactured by a pure Load Holding Company
- T11A cartridges manufacture with smaller inscribed hexagon heads (19mm)

Other Counterbalance Products Available

Please be aware that other counterbalance products are available such as T2A and Industry standard cavity, Vented Cartridges, Rotary Actuator Cartridges, Parts in a block, and other counterbalance solutions. Please call Oilpath to discuss your requirements.



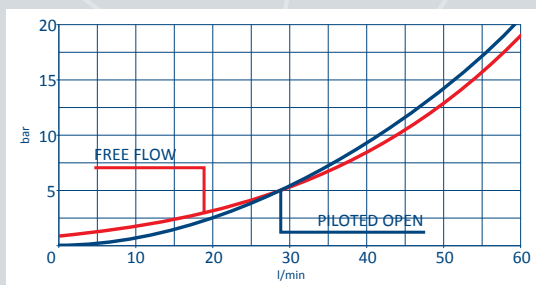
Counterbalance Cartridges



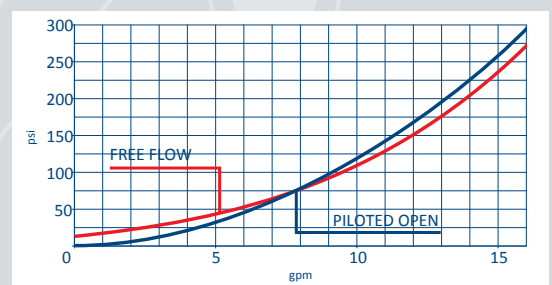
Technical Details

cavity	T11A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	350 bar (5000 psi)
minimum setting	35 bar (500 psi)
pressure increase per turn	206 bar (spring D) - 132 bar (spring M) - 33 bar (spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reseal	5 drops / minute
operating characteristic	standard
reseal	>85%
maximum recommended load pressure at maximum setting	270 bar (3900 psi)
valve hex size	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/20

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
 0 = BUNA SEALS
 6 = BUNA tamper resistant
 2 = VITON SEALS
 7 = VITON tamper resistant

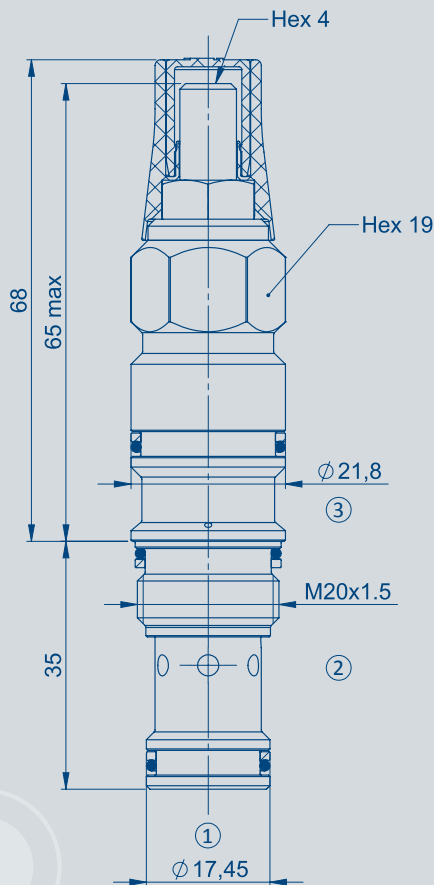
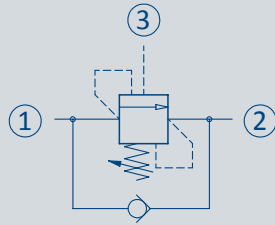
For full product code see chart on Page 9

C | 0 | 0 | | | | | | | 0 | 3 | 1 | 1 | 0 | 0 | A

Setting (bar)
 Spring
 T = 35-105 bar
 M = 70-210 bar

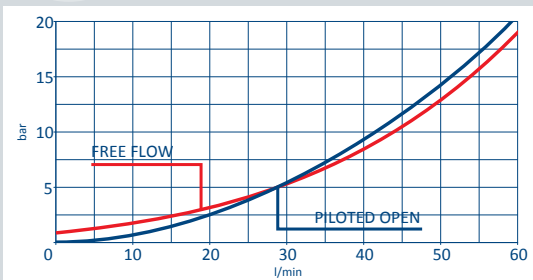


Technical Details

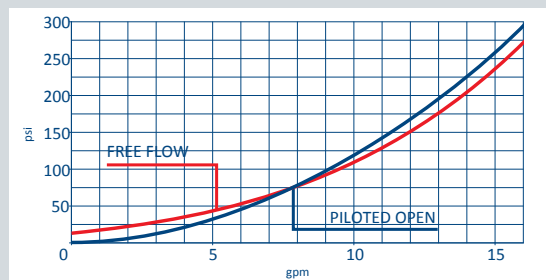


cavity	T11A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	5:1
maximum setting	360 bar (5220 psi)
minimum setting	50 bar (725 psi)
pressure increase per turn	223 bar (spring D) - 57 bar (spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reset	5 drops / minute
operating characteristic	standard
reset	>85%
maximum recommended load pressure at maximum setting	270 bar (3900 psi)
valve hex size	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/22

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves



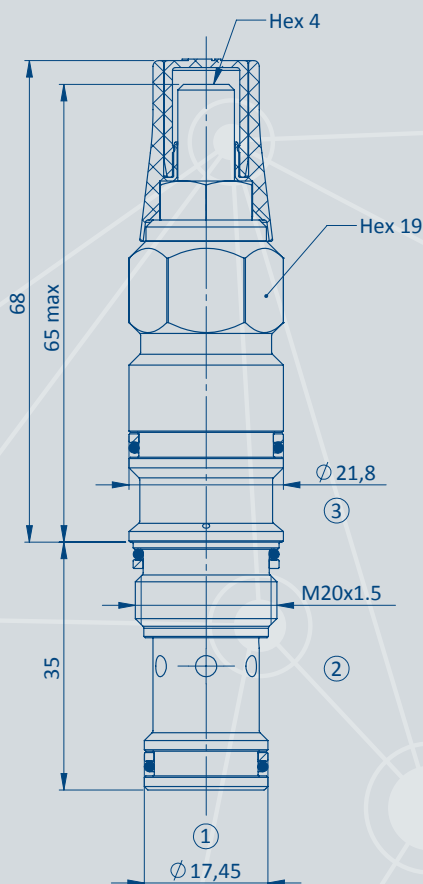
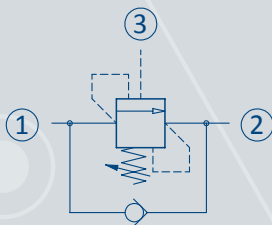
Seals and anti-tamper options
 0 = BUNA SEALS
 6 = BUNA tamper resistant
 2 = VITON SEALS
 7 = VITON tamper resistant

For full product code see chart on Page 9

C | 0 | 0 | | | | | | | 0 | 5 | 1 | 1 | 0 | 0 | A

Setting (bar)

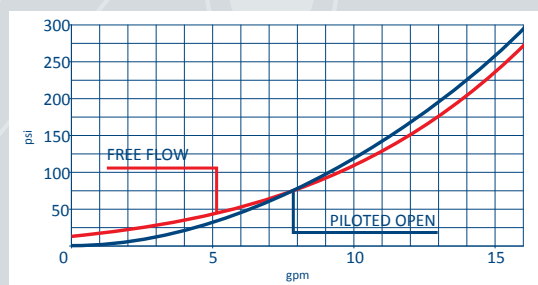
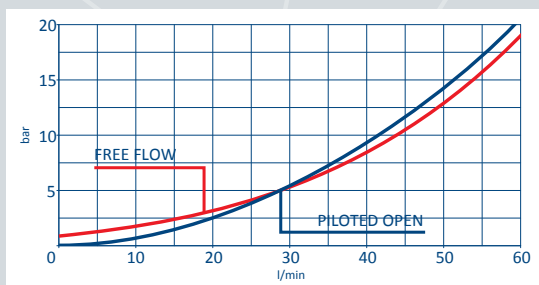
Spring
 T = 50-210 bar



Technical Details

cavity	T11A
capacity	60 lpm (16 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	10:1
maximum setting	420 bar (6000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	115 bar (spring D) - 63 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reset	5 drops / minute
operating characteristic	standard
reset	>85%
maximum recommended load pressure at maximum setting	270 bar (3900 psi)
valve hex size	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/26

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reset value is obtained with valve set @ maximum setting



Performance curves

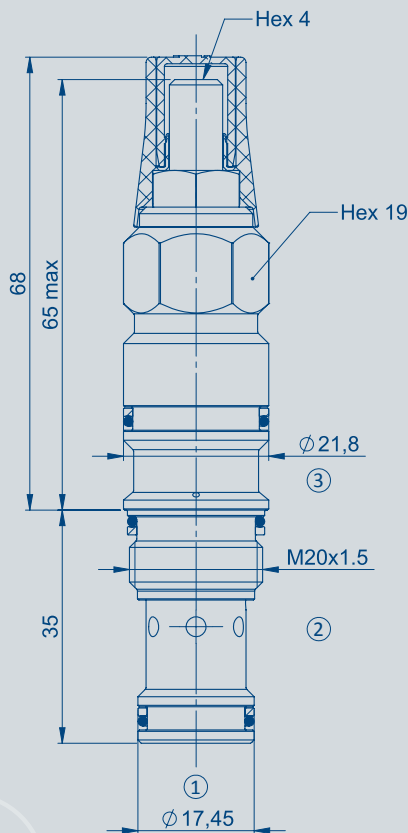
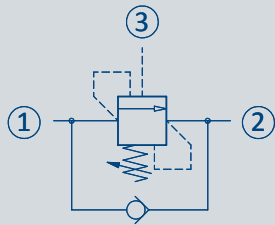
Seals and anti-tamper options
 0 = BUNA SEALS
 6 = BUNA tamper resistant
 2 = VITON SEALS
 7 = VITON tamper resistant

For full product code see chart on Page 9

C | 0 | 0 | | | | | 1 | 0 | 1 | 1 | 0 | 0 | A

Setting (bar)

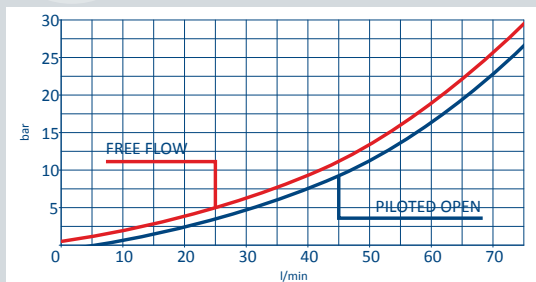
Spring
 M = 70-210 bar



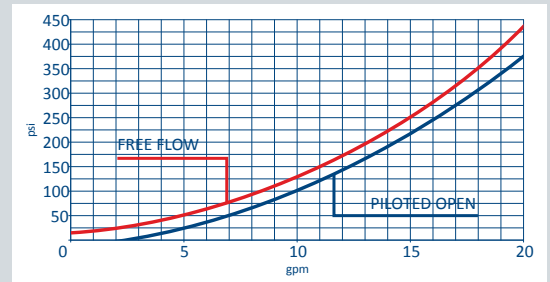
Technical Details

cavity	T11A
capacity	75 lpm (20 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	3:1
maximum setting	265 bar (3800 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	206 bar (spring D) - 132 bar (spring M) - 33 bar (spring T)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reset	5 drops / minute
operating characteristic	standard
reset	>85%
maximum recommended load pressure at maximum setting	210 bar (3000 psi)
valve hex size	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/28

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reseal value is obtained with valve set @ maximum setting



Performance curves

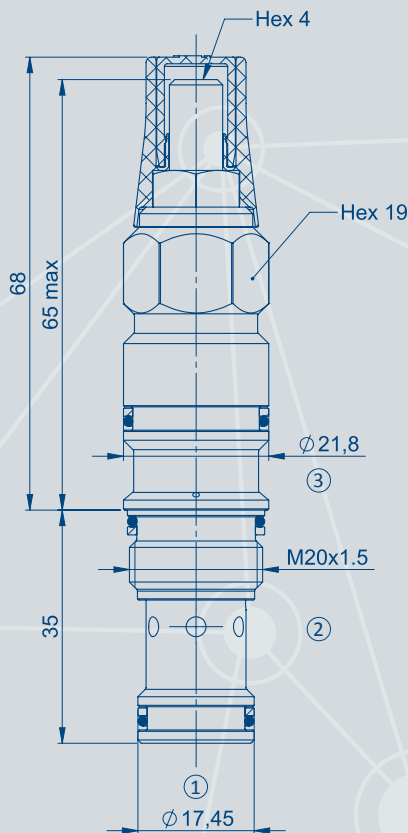
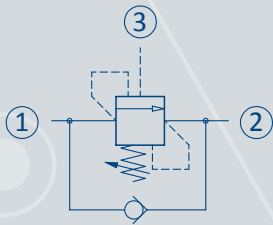


Seals and anti-tamper options
 0 = BUNA SEALS
 6 = BUNA tamper resistant
 2 = VITON SEALS
 7 = VITON tamper resistant

For full product code see chart on Page 9

C | 2 | 0 | | | | | | | 0 | 3 | 1 | 1 | 0 | 0 | A

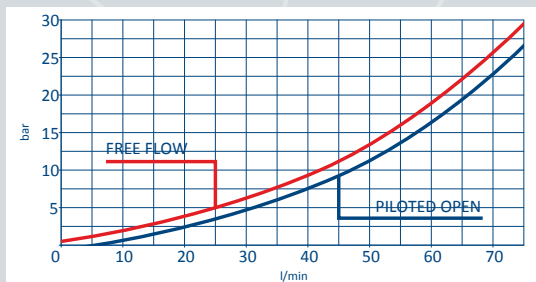
Setting (bar)
 Spring
 T = 35-95 bar
 M = 70-155 bar



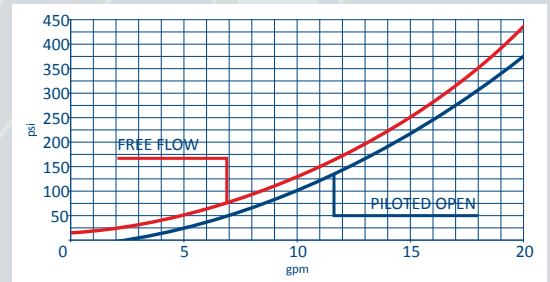
Technical Details

cavity	T11A
capacity	75 lpm (20 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	10:1
maximum setting	390 bar (5600 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	115 bar (spring D) - 63 bar (spring M)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reset	5 drops / minute
operating characteristic	standard
reset	>85%
maximum recommended load pressure at maximum setting	310 bar (4500 psi)
valve hex size	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/34

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reset value is obtained with valve set @ maximum setting



Performance curves



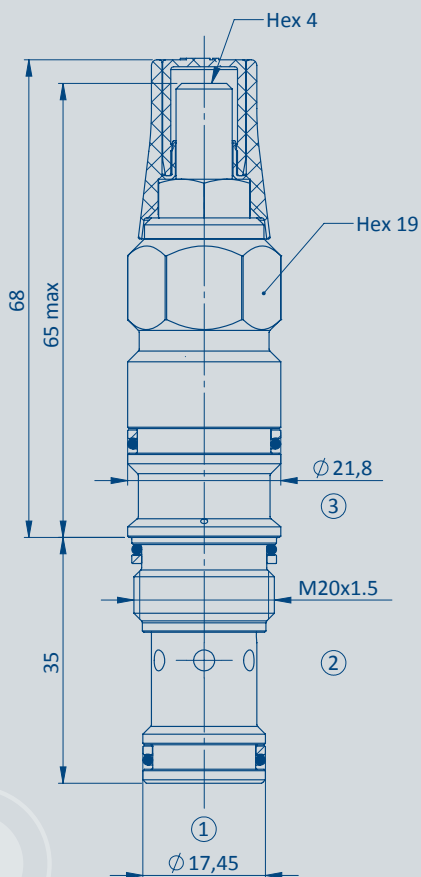
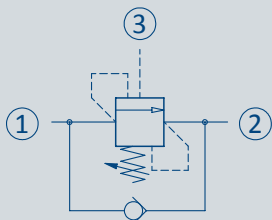
Seals and anti-tamper options
 0 = BUNA SEALS
 6 = BUNA tamper resistant
 2 = VITON SEALS
 7 = VITON tamper resistant

For full product code see chart on Page 9

C | 2 | 0 | | | | | 1 | 0 | 1 | 1 | 0 | 0 | A

Setting (bar)

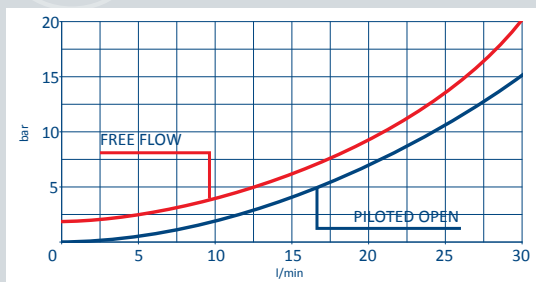
Spring
 M = 70-185 bar



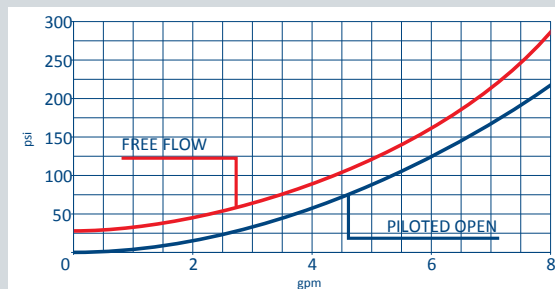
Technical Details

cavity	T11A
capacity	30 lpm (8 gpm)
max operating pressure	350 bar (5000 psi)
pilot ratio	9:1
maximum setting	280 bar (4000 psi)
minimum setting	70 bar (1000 psi)
pressure increase per turn	155 bar (2250 psi)
pressure setting established @	cracking pressure (1in3/min)
maximum valve leakage at reset	5 drops / minute
operating characteristic	standard
reset	>85%
maximum recommended load pressure at maximum setting	230 bar (3350 psi)
valve hex size	19
valve installation torque	40-45 Nm (30-35 lbf ft)
adjustment screw internal hex size	4
seal-lock hex size	13
seal-lock torque	12-15 Nm (9-11 lbf ft)
valve weight	0.150 Kg (0.33 lbs)
external component surface treatment	zinc plating + sealing
seal kit (nbr)	S00T11ASN900000
seal kit (viton)	S00T11ASV900000
temperature range	-30 to 100°C (-22 to 212°F) with BunaN seals;
fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 500 mm ² /s (cSt)
filtration	Nominal value max. 10µm (NAS 8) / ISO 4406 19/17/18

- Turn adjustment clockwise to increase setting
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure
- Set your counterbalance valve at least 1.3 times the maximum load induced pressure
- This valve is not provided with positive seals on the pilot section
- Declared reset value is obtained with valve set @ maximum setting



Performance curves



Seals and anti-tamper options
 0 = BUNA SEALS
 6 = BUNA tamper resistant
 2 = VITON SEALS
 7 = VITON tamper resistant

For full product code see chart on Page 10

C | 0 | 4 | | | | | 0 | 9 | 1 | 1 | 0 | 0 | A

Setting (bar)

Spring
 M = 70-280 bar

Normal 60 lpm		VALVOLE MODEL CODE C00								
PRESSURE SETTING					SEALS	SPRING	PRESSURE SETTING	PILOT RATIO	CAVITY	
AVAILABLE SETTING RANGE 500-1500 PSI (35-105 BAR) 100 PSI / 5 BAR increments										
500-1500 psi (35-105 BAR)	C	0	0	0	0	T	XXXX	2	11	00A
1000-3000 PSI (70-210 BAR)	C	0	0	0	0	M	XXXX	2	11	00A
2000-5000 PSI (140-350 BAR)	C	0	0	0	0	D	XXXX	2	11	00A
500-1500 PSI (35-105 BAR)	C	0	0	2	2	T	XXXX	2	11	00A
1000-3000 PSI (70-210 BAR)	C	0	0	2	2	M	XXXX	2	11	00A
2000-5000 PSI (140-350 BAR)	C	0	0	2	2	D	XXXX	2	11	00A
500-1500 PSI (35-105 BAR)	C	0	0	0	0	T	XXXX	3	11	00A
1000-3000 PSI (70-210 BAR)	C	0	0	0	0	M	XXXX	3	11	00A
2000-5000 PSI (140-350 BAR)	C	0	0	0	0	D	XXXX	3	11	00A
500-1500 PSI (35-105 BAR)	C	0	0	2	2	T	XXXX	3	11	00A
1000-3000 PSI (70-210 BAR)	C	0	0	2	2	M	XXXX	3	11	00A
2000-5000 PSI (140-350 BAR)	C	0	0	2	2	D	XXXX	3	11	00A
700-3000 PSI (50-210 BAR)	C	0	0	0	0	M	XXXX	5	11	00A
3045-5200 PSI (210-360 BAR)	C	0	0	0	0	D	XXXX	5	11	00A
700-3000 PSI (50-210 BAR)	C	0	0	2	2	M	XXXX	5	11	00A
3045-5200 PSI (210-360 BAR)	C	0	0	2	2	D	XXXX	5	11	00A
1000-3000 PSI (70-210 BAR)	C	0	0	0	0	M	XXXX	8	11	00A
2000-5000 PSI (140-350 BAR)	C	0	0	0	0	D	XXXX	8	11	00A
1000-3000 PSI (70-210 BAR)	C	0	0	2	2	M	XXXX	8	11	00A
2000-5000 PSI (140-350 BAR)	C	0	0	2	2	D	XXXX	8	11	00A
1000-3000 PSI (70-210 BAR)	C	0	0	0	0	M	XXXX	11	11	00A
2000-5000 PSI (140-350 BAR)	C	0	0	0	0	D	XXXX	11	11	00A
1000-3000 PSI (70-210 BAR)	C	0	0	2	2	M	XXXX	11	11	00A
2000-5000 PSI (140-350 BAR)	C	0	0	2	2	D	XXXX	11	11	00A

GT 75 lpm		VALVOLE MODEL CODE C20								
PRESSURE SETTING					SEALS	SPRING	PRESSURE SETTING	PILOT RATIO	CAVITY	
AVAILABLE SETTING RANGE USE 100 PSI OR 5 BAR increments										
500-1300 PSI (35-95 BAR)	C	2	0	0	0	T	XXXX	3	11	00A
1000-2200 PSI (70-155 BAR)	C	2	0	0	0	M	XXXX	3	11	00A
2000-3800 PSI (140-265 BAR)	C	2	0	0	0	D	XXXX	3	11	00A
500-1300 PSI (35-95 BAR)	C	2	0	2	2	T	XXXX	3	11	00A
1000-2200 PSI (70-155 BAR)	C	2	0	2	2	M	XXXX	3	11	00A
2000-3800 PSI (140-265 BAR)	C	2	0	2	2	D	XXXX	3	11	00A
1000-2700 PSI (70-190 BAR)	C	2	0	0	0	M	XXXX	8	11	00A
2000-4500 PSI (140-310 BAR)	C	2	0	0	0	D	XXXX	8	11	00A
1000-2700 PSI (70-190 BAR)	C	2	0	2	2	M	XXXX	8	11	00A
2000-4500 PSI (140-310 BAR)	C	2	0	2	2	D	XXXX	8	11	00A
1000-2600 PSI (70-185 BAR)	C	2	0	0	0	M	XXXX	10	11	00A
2000-5600 PSI (140-390 BAR)	C	2	0	0	0	D	XXXX	10	11	00A
1000-2600 PSI (70-185 BAR)	C	2	0	2	2	M	XXXX	10	11	00A
2000-5600 PSI (140-390 BAR)	C	2	0	2	2	D	XXXX	10	11	00A

Restricted		VALVOLE MODEL CODE C04							
AVAILABLE SETTING RANGE USE 100 PSI OR 5 BAR increments				SEALS	SPRING	PRESSURE SETTING	PILOT RATIO	CAVITY	
600-1500 PSI (40-105 BAR)	C	0	4	0	T	XXXX	3	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	0	M	XXXX	3	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	2	T	XXXX	3	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	2	M	XXXX	3	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	A	T	XXXX	3	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	A	M	XXXX	3	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	C	T	XXXX	3	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	C	M	XXXX	3	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	0	T	XXXX	4	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	0	M	XXXX	4	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	2	T	XXXX	4	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	2	M	XXXX	4	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	A	T	XXXX	4	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	A	M	XXXX	4	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	C	T	XXXX	4	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	C	M	XXXX	4	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	0	T	XXXX	7	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	0	M	XXXX	7	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	2	T	XXXX	7	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	2	M	XXXX	7	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	A	T	XXXX	7	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	A	M	XXXX	7	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	C	T	XXXX	7	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	C	M	XXXX	7	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	0	T	XXXX	9	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	0	M	XXXX	9	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	2	T	XXXX	9	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	2	M	XXXX	9	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	A	T	XXXX	9	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	A	M	XXXX	9	11	00A
600-1500 PSI (40-105 BAR)	C	0	4	C	T	XXXX	9	11	00A
1000-4000 PSI (70-280 BAR)	C	0	4	C	M	XXXX	9	11	00A



Oilpath Hydraulics

Oilpath Hydraulics remains the only Designer and Manufacturer of Hydraulic Directional Control Valves in Australia, utilising its experienced long serving team to supply hand honed and fitted spool valves to the highest Quality standards.

Oilpath also designs and manufactures integrated Hydraulic Control Manifolds utilising HydraForce Cartridge valves, and custom designs and manufactures special control equipment to customer requirements.

The Oilpath name is synonymous with directional control valves in the Agricultural Industry. Over the last 20 years Oilpath have also been developing the same excellent reputation for the design and manufacture of hydraulic control manifolds not only for agriculture but for a broad range of other end use applications throughout Australia.

Contact Us

Contact Oilpath or visit our Website for further information on the OP Control Valve range, or your Hydraulic Manifold requirements.

Oilpath Hydraulics Pty Ltd

PO Box 132 Edwardstown 5039 South Australia

P +61 8 8277 4933 F +61 8 8277 9126

E sales@oilpathhydraulics.com.au

