



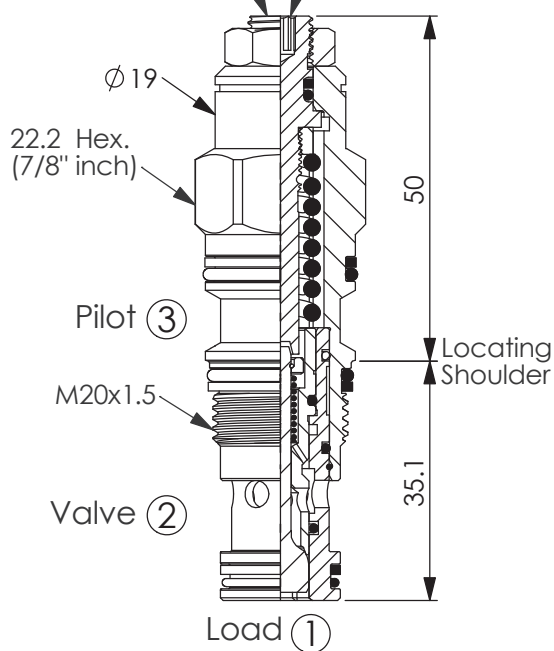
ZAWORY HAMUJĄCO-PRZCIĄŻENIOWE

COUNTERBALANCE VALVE

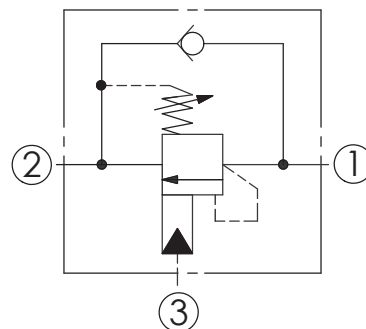
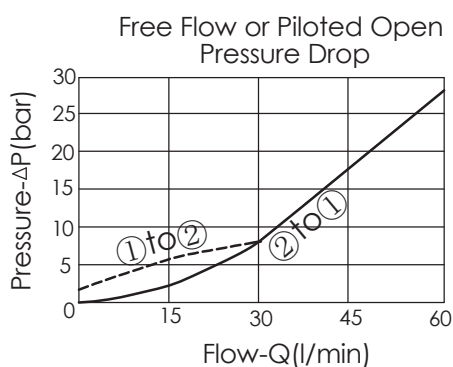
Ordering Code: **CB-11A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option:
Maximum extension from locating shoulder.
(L Control shown)



UNIT:mm



TECHNICAL DATA

Max. Operating pressure:	350	bar
Max. Setting:	280	bar
Rated flow:	60	l/min
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Weight:	0.16	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	

X PILOT RATIO

33	3 : 1
3A	1.5 : 1 (with sealed pilot)
3C	3 : 1 (with sealed pilot)
3Q	2 : 1 (with bleed through pilot)

Z OPTIONS

L	Leakproof hex. socket screw.	
LP	Leakproof hex. socket screw. With stainless steel external metal components	
C	Stainless Steel Tamper Resistant Cover.	
T	Three-winged Handknob Kit.	

Y SPRINGS

ADJUSTMENT RANGES (2 bar Cracking Pressure)

H 70 to 280 bar (210 bar Standard Setting)

I 25 to 105 bar (70 bar Standard Setting)

SPECIAL PURPOSES (0.3 bar Cracking Pressure)

A 70 to 280 bar (210 bar Standard Setting)

B 25 to 105 bar (70 bar Standard Setting)

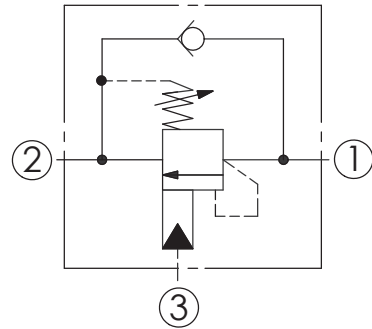
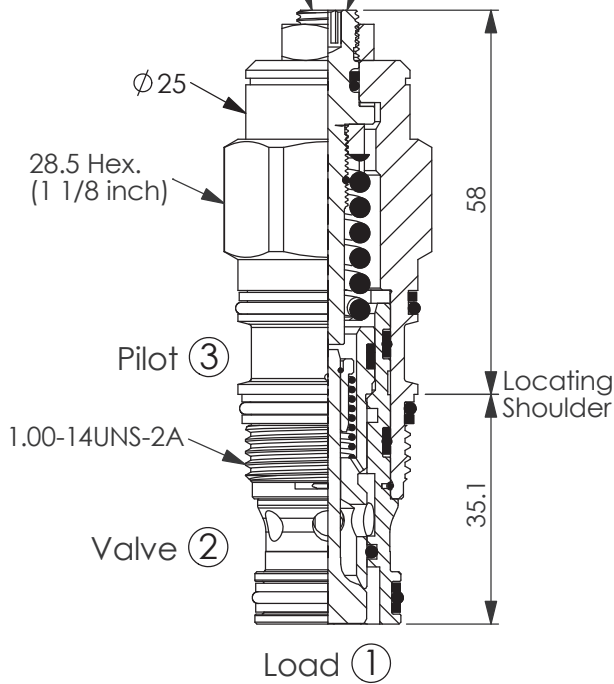
E 16 to 55 bar (25 bar Standard Setting)

COUNTERBALANCE VALVE

Ordering Code: **CB-2A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

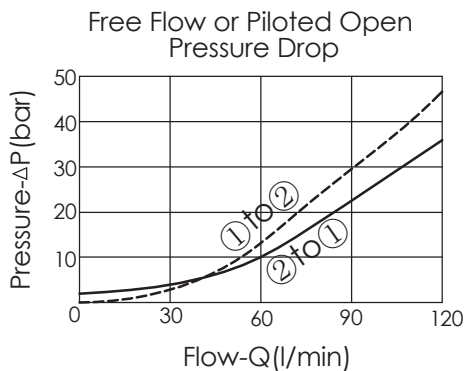
Control Option: Maximum extension from locating shoulder. (L Control shown)



TECHNICAL DATA

Max. Operating pressure:	350	bar
Max. Setting:	280	bar
Rated flow:	120	l/min
Cavity-Tooling:	2A-3	
Installation torque:	60-70	Nm
Weight:	0.29 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	

UNIT:mm



X PILOT RATIO

33	3 : 1
3A	1.5 : 1 (with sealed pilot)
3C	3 : 1 (with sealed pilot)
3Q	2 : 1 (with bleed through pilot)

Y

SPRINGS

ADJUSTMENT RANGES(2 bar Cracking Pressure)

H 70-280 bar (210 bar Standard Setting)

I 25-105 bar (70 bar Standard Setting)

SPECIAL PURPOSES(0.3 bar Cracking Pressure)

A 70-280 bar (210 bar Standard Setting)

B 25-105 bar (70 bar Standard Setting)

E 16-55 bar (25 bar Standard Setting)

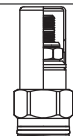
Z

OPTIONS

L Leakproof hex. socket screw.



C Stainless Steel Tamper Resistant Cover.



COUNTERBALANCE VALVE

Ordering Code: **CB-17A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

Ø30

31.7 Hex. (1 1/4 inch)

70

Pilot ③

M36x2

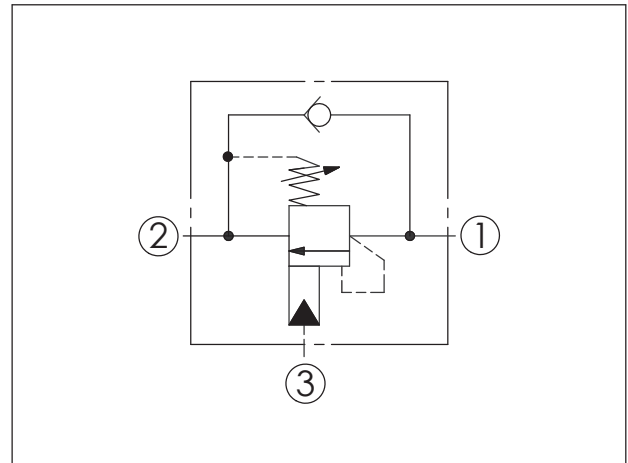
Valve ②

Locating Shoulder

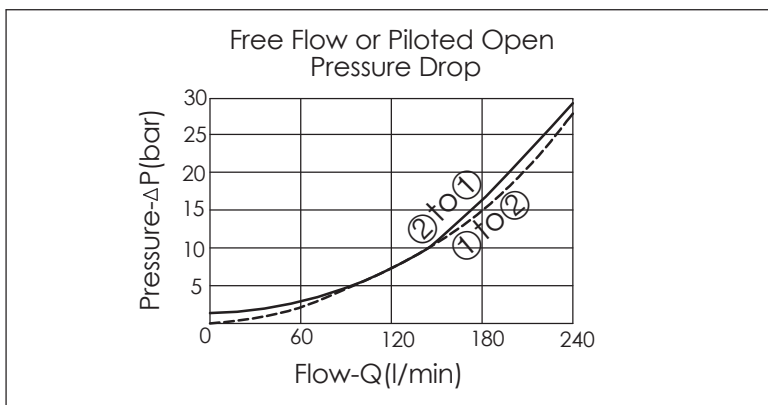
46

Load ①

UNIT:mm


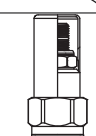


TECHNICAL DATA	
Max. Operating pressure:	350 bar
Max. Setting:	280 bar
Rated flow:	240 l/min
Cavity-Tooling:	17A-3
Installation torque:	200-215 Nm
Weight:	0.6 kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.



X	PILOT RATIO
3A	1.5 : 1 (with sealed pilot)
3C	3 : 1 (with sealed pilot)

Y	SPRINGS
ADJUSTMENT RANGES (2 bar Cracking Pressure)	
H	70 to 280 bar (210 bar Standard Setting)
I	25 to 105 bar (70 bar Standard Setting)
SPECIAL PURPOSES (0.3 bar Cracking Pressure)	
A	70 to 280 bar (210 bar Standard Setting)
B	25 to 105 bar (70 bar Standard Setting)
E	16 to 55 bar (25 bar Standard Setting)

Z	OPTIONS
L	Leakproof hex. socket screw. 
C	Stainless Steel Tamper Resistant Cover. 

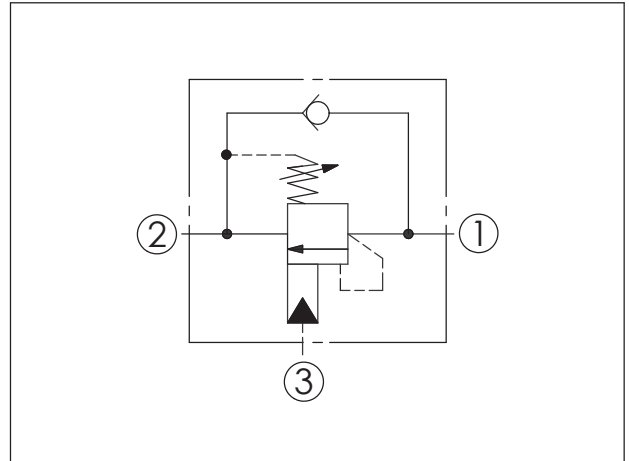
COUNTERBALANCE VALVE

Ordering Code: **CB-19A-X-Y-Z**

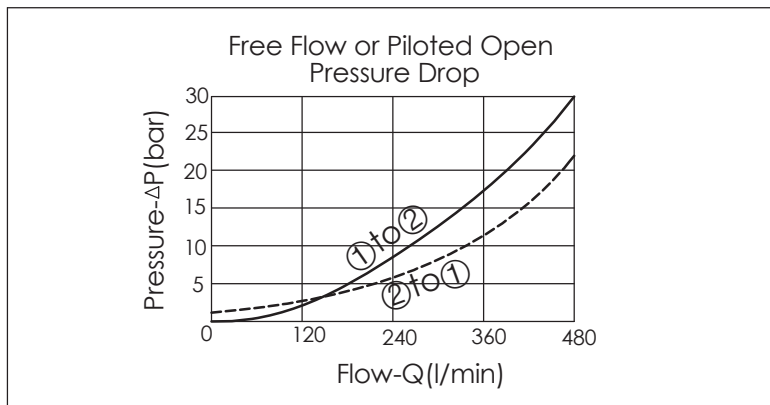
Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

UNIT:mm



TECHNICAL DATA	
Max. Operating pressure:	350 bar
Max. Setting:	280 bar
Rated flow:	480 l/min
Cavity-Tooling:	19A-3
Installation torque:	465-500 Nm
Weight:	1.4 kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.



X	PILOT RATIO
3A	1.5 : 1 (with sealed pilot)
3C	3 : 1 (with sealed pilot)

Y	SPRINGS
ADJUSTMENT RANGES(2 bar Cracking Pressure)	
H	70 to 280 bar (210 bar Standard Setting)
I	25 to 105 bar (70 bar Standard Setting)
SPECIAL PURPOSES(0.3 bar Cracking Pressure)	
A	70 to 280 bar (210 bar Standard Setting)
B	25 to 105 bar (70 bar Standard Setting)
E	16 to 55 bar (25 bar Standard Setting)

Z	OPTIONS
L	Leakproof hex. socket screw.
C	Stainless Steel Tamper Resistant Cover.

COUNTERBALANCE VALVE

Ordering Code: **CB-11A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

Ø19

22.2 Hex. (7/8 inch)

50

Pilot ③

M20x1.5

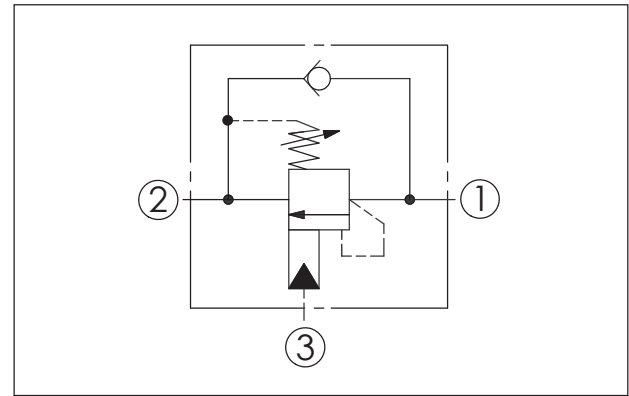
Valve ②

Load ①

35.1

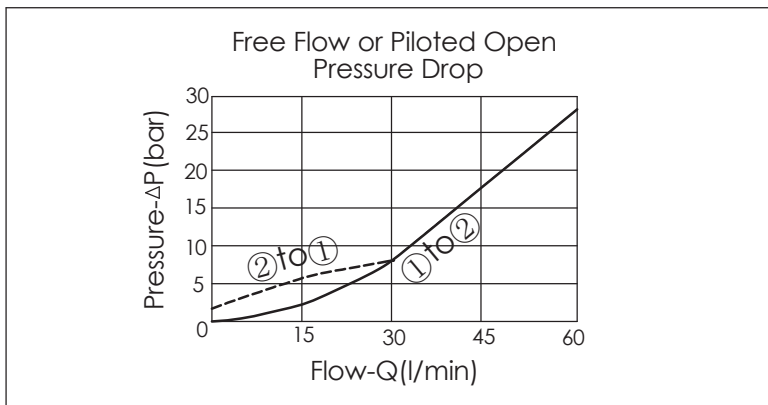
Locating Shoulder

UNIT:mm



TECHNICAL DATA		
Max. Setting:	350	bar
Rated flow:	60	l/min
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Weight:	0.16 (Z:L,LP)	kg
Pressure Setting:	Setting should be at least 1.3 times the maximum load induced pressure.	

X	PILOT RATIO	
30	10 : 1	
33	3 : 1 (Only Y=J and Y=C)	
34	4.5 : 1	
3B	2.3 : 1 (with sealed pilot)	
3D	4.5 : 1 (with sealed pilot)	
3J	10 : 1 (with sealed pilot)	
3P	16 : 1 (with sealed pilot)	



Y	SPRINGS	
	ADJUSTMENT RANGES (2 bar Cracking Pressure)	
J	140-350 bar	(210 bar Standard Setting)
K	70-175 bar	(140 bar Standard Setting)
	SPECIAL PURPOSES (0.3 bar Cracking Pressure)	
C	140-350 bar	(210 bar Standard Setting)
D	70-175 bar	(140 bar Standard Setting)

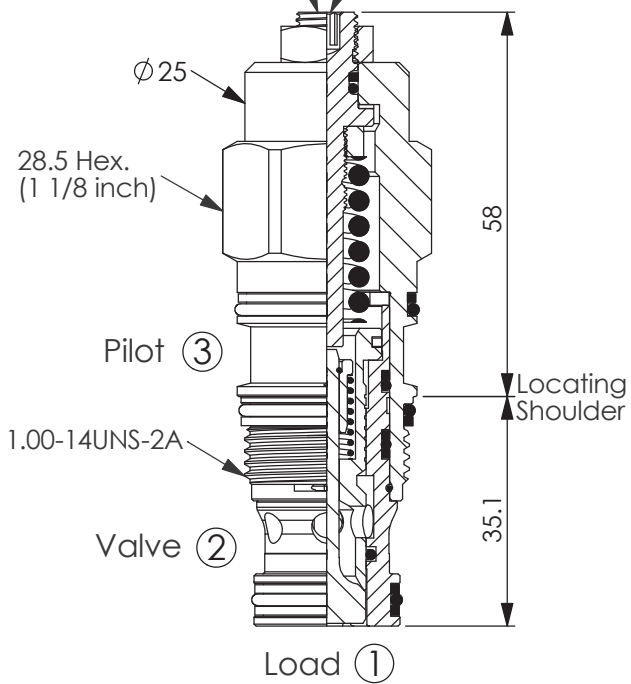
Z	OPTIONS	
L	Leakproof hex. socket screw.	
LP	Leakproof hex. socket screw. With stainless steel external metal components	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE

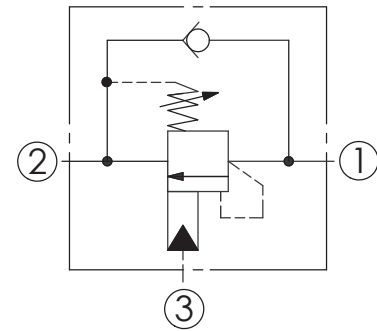
Ordering Code: **CB-2A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option:
Maximum extension
from locating shoulder.
(L Control shown)



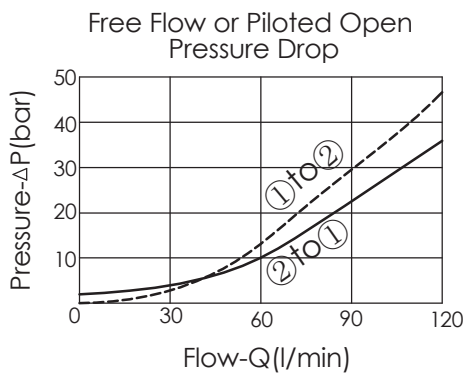
UNIT:mm



TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	120	l/min
Cavity-Tooling:	2A-3	
Installation torque:	60-70	Nm
Weight:	0.3	kg
Pressure Setting:		

Setting should be at least 1.3 times the maximum load induced pressure.



X PILOT RATIO

30	10 : 1	
34	4.5 : 1	
3B	2.3 : 1 (with sealed pilot)	
3D	4.5 : 1 (with sealed pilot)	

Y SPRINGS

ADJUSTMENT RANGES(2 bar Cracking Pressure)

J	140 to 350 bar (210 bar Standard Setting)	
K	70 to 175 bar (140 bar Standard Setting)	
SPECIAL PURPOSES(0.3 bar Cracking Pressure)		
C	140 to 350 bar (210 bar Standard Setting)	
D	70 to 175 bar (140 bar Standard Setting)	

Z OPTIONS

L	Leakproof hex. socket screw.		
LP	Leakproof hex. socket screw. With stainless steel external metal components		
C	Stainless Steel Tamper Resistant Cover.		

COUNTERBALANCE VALVE

Ordering Code: **CB-17A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

Ø30

31.7 Hex. (1 1/4 inch)

70

Pilot (3)

M36x2

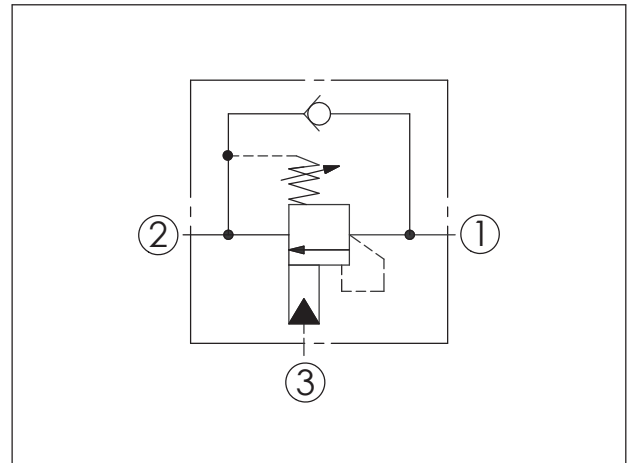
Valve (2)

46

Load (1)

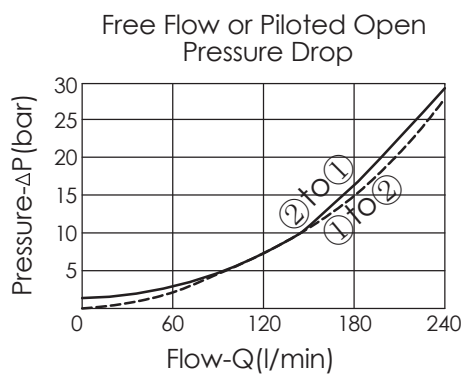
Locating Shoulder

UNIT:mm



TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	240	l/min
Cavity-Tooling:	17A-3	
Installation torque:	200-215	Nm
Weight:	0.6	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X PILOT RATIO

3B	2.3 : 1 (with sealed pilot)
3D	4.5 : 1 (with sealed pilot)
3J	10 : 1 (with sealed pilot)

Y SPRINGS

ADJUSTMENT RANGES(2 bar Cracking Pressure)

J 140 to 350 bar (210 bar Standard Setting)

K 70 to 175 bar (140 bar Standard Setting)

SPECIAL PURPOSES(0.3 bar Cracking Pressure)

C 140 to 350 bar (210 bar Standard Setting)

D 70 to 175 bar (140 bar Standard Setting)

Z OPTIONS

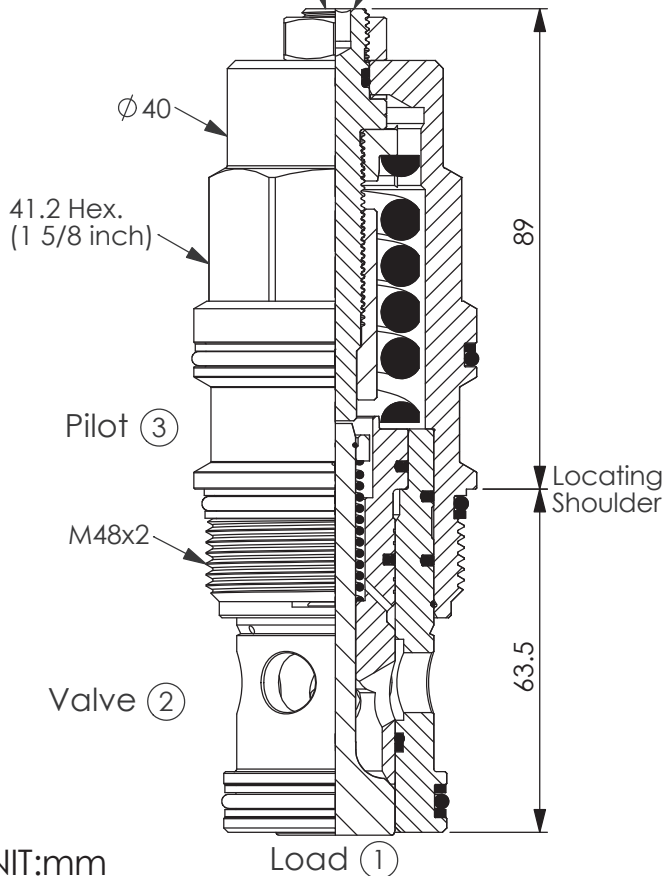
L	Leakproof hex. socket screw.	
LP	Leakproof hex. socket screw. With stainless steel external metal components	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE

Ordering Code: **CB-19A-X-Y-Z**

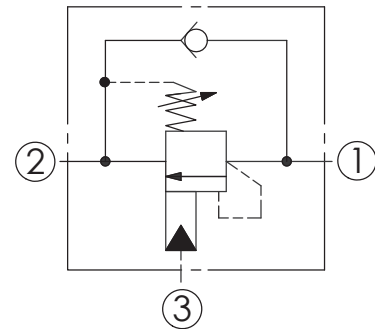
Turn screw clockwise to reduce setting and release load.

Control Option:
Maximum extension from locating shoulder.
(L Control shown)



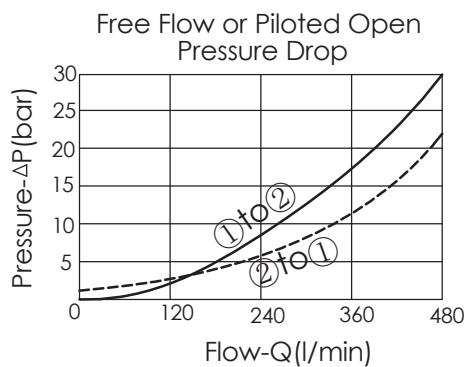
UNIT:mm

Load (1)



TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	480	l/min
Cavity-Tooling:	19A-3	
Installation torque:	465-500	Nm
Weight:	1.40 (Z:L,LP)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X PILOT RATIO

3B	2.3 : 1 (with sealed pilot)
3D	4.5 : 1 (with sealed pilot)
3J	10 : 1 (with sealed pilot)

Y SPRINGS

ADJUSTMENT RANGES(2 bar Cracking Pressure)

J 140-350 bar (210 bar Standard Setting)

K 70-175 bar (140 bar Standard Setting)

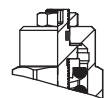
SPECIAL PURPOSES(0.3 bar Cracking Pressure)

C 140-350 bar (210 bar Standard Setting)

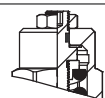
D 70-175 bar (140 bar Standard Setting)

Z OPTIONS

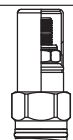
L Leakproof hex. socket screw.



LP Leakproof hex. socket screw. With stainless steel external metal components



C Stainless Steel Tamper Resistant Cover.



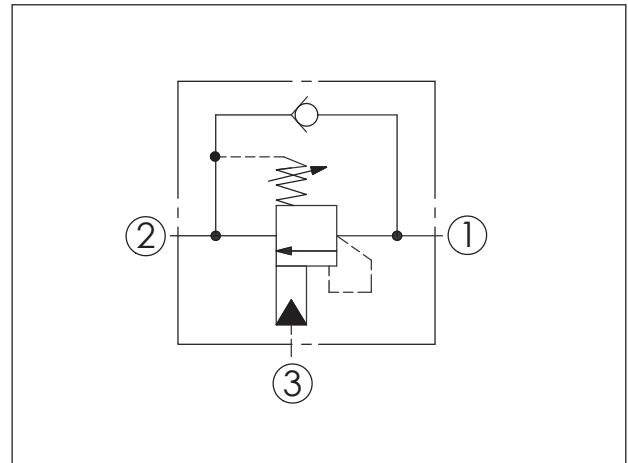
COUNTERBALANCE VALVE

Ordering Code: **CB-2A-X-Y-Z-1**

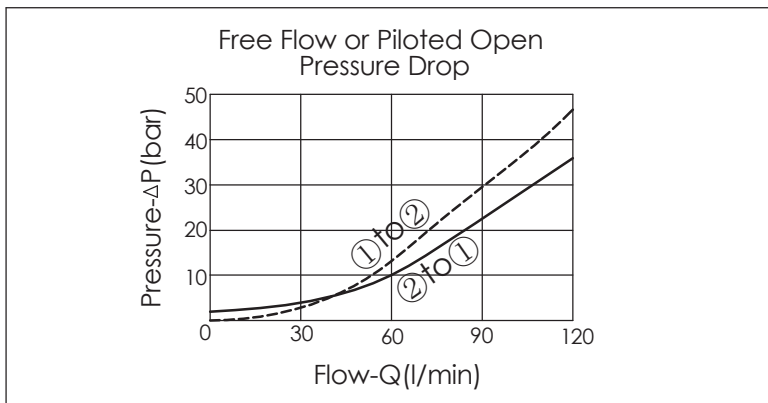
Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

UNIT:mm



TECHNICAL DATA		
Max. Setting:	350	bar
Rated flow:	120	l/min
Cavity-Tooling:	2A-3	
Installation torque:	60-70	Nm
Weight:	0.3	kg
Pressure Setting:		
Setting should be 1.3 times maximum load induced pressure.		



X	PILOT RATIO	
3A	1 : 1 (with sealed pilot)	

Y	SPRINGS	
	ADJUSTMENT RANGES(2 bar Cracking Pressure)	
J	140 to 350 bar (210 bar Standard Setting)	
K	70 to 175 bar (140 bar Standard Setting)	
SPECIAL PURPOSES(0.3 bar Cracking Pressure)		
C	140 to 350 bar (210 bar Standard Setting)	
D	70 to 175 bar (140 bar Standard Setting)	

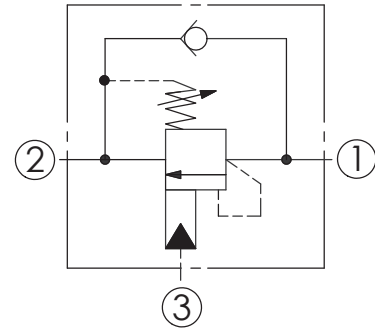
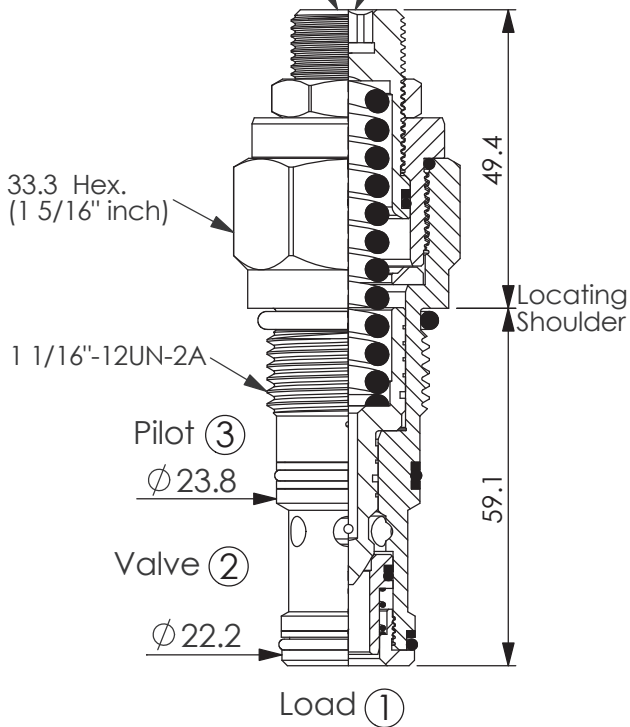
Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE

Ordering Code: **CB-12B-X-Y-Z**

Turn screw
counterclockwise
to reduce setting
and release load.

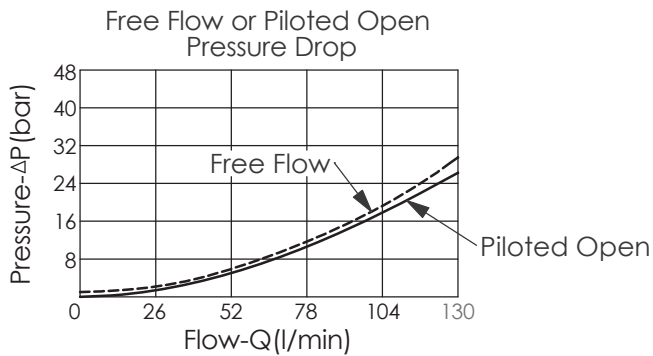
Control Option:
Maximum extension
from locating shoulder.
(L Control shown)



TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	130	l/min
Cavity-Tooling:	12B-3	
Installation torque:	95-100	Nm
Weight:	0.38	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	

UNIT:mm



X PILOT RATIO

34 4 : 1

Y

SPRINGS

0.3 bar Cracking Pressure

A 42 to 280 bar (210 bar Standard Setting)

D 21 to 210 bar (140 bar Standard Setting)

W 70 to 350 bar (210 bar Standard Setting)

Z

OPTION

L

Leakproof hex. socket screw.



COUNTERBALANCE VALVE

Ordering Code: **CB-10WB-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

Ø19

25.4 Hex. (1 inch)

7/8-14 UNF-2A

Pilot ③

Valve ②

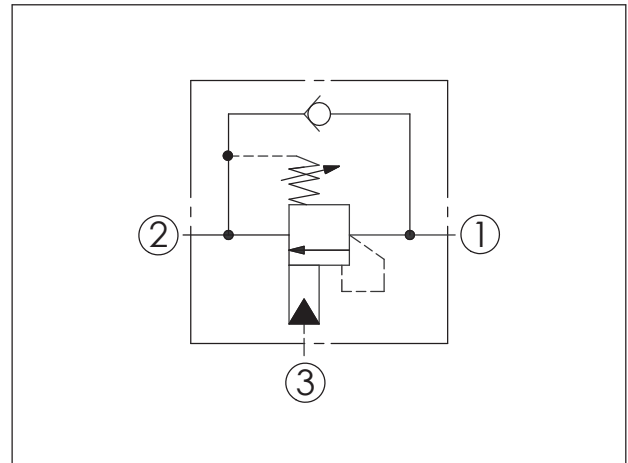
Load ①

36.5

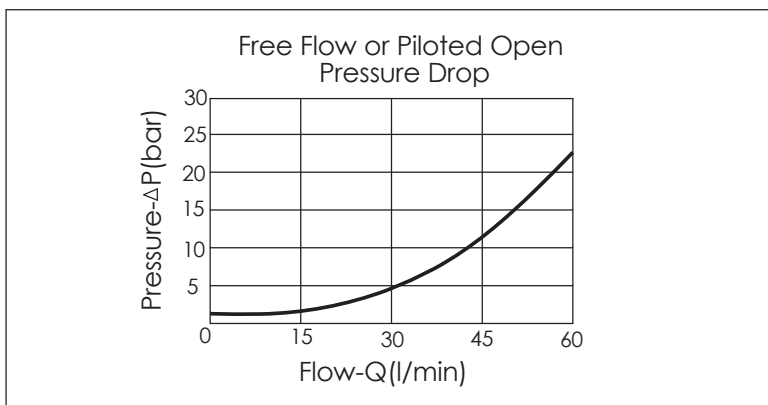
52.5

Locating Shoulder

UNIT:mm



TECHNICAL DATA		
Max. Setting:	350	bar
Rated flow:	60	l/min
Cavity-Tooling:	10WB-3	
Installation torque:	35-45	Nm
Weight:	0.17	kg
Pressure Setting:		
Setting should be at least 1.3 times the maximum load induced pressure.		



X	PILOT RATIO	
3C	3 : 1 (with sealed pilot)	

Y	SPRINGS	
	ADJUSTMENT RANGES (2 bar Cracking Pressure)	
H	70 to 280 bar	(210 bar Standard Setting)
I	25 to 105 bar	(70 bar Standard Setting)
	SPECIAL PURPOSES (0.3 bar Cracking Pressure)	
A	70 to 280 bar	(210 bar Standard Setting)
B	25 to 105 bar	(70 bar Standard Setting)

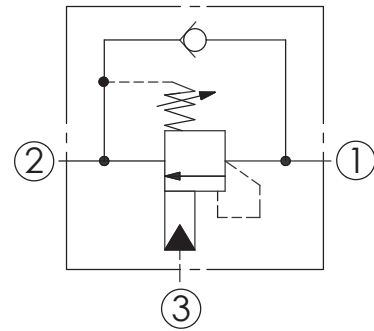
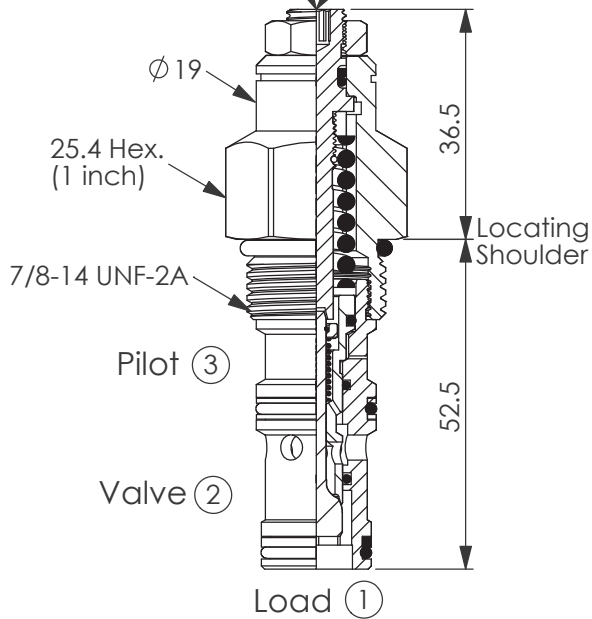
Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE

Ordering Code: **CB-10WB-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option:
Maximum extension from locating shoulder.
(L Control shown)



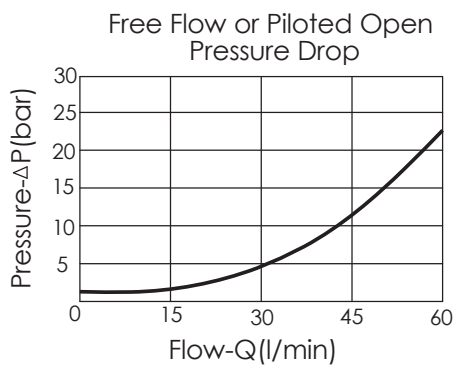
TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	60	l/min
Cavity-Tooling:	10WB-3	
Installation torque:	35-45	Nm
Weight:	0.17	kg

Pressure Setting:

Setting should be at least 1.3 times the maximum load induced pressure.

UNIT:mm



X PILOT RATIO

3J 10 : 1 (with sealed pilot)

Y SPRINGS

ADJUSTMENT RANGES (2 bar Cracking Pressure)

J 140 to 350 bar (210 bar Standard Setting)

K 70 to 175 bar (140 bar Standard Setting)

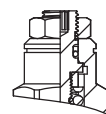
SPECIAL PURPOSES (0.3 bar Cracking Pressure)

C 140 to 350 bar (210 bar Standard Setting)

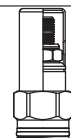
D 70 to 175 bar (140 bar Standard Setting)

Z OPTIONS

L Leakproof hex. socket screw.



C Stainless Steel Tamper Resistant Cover.

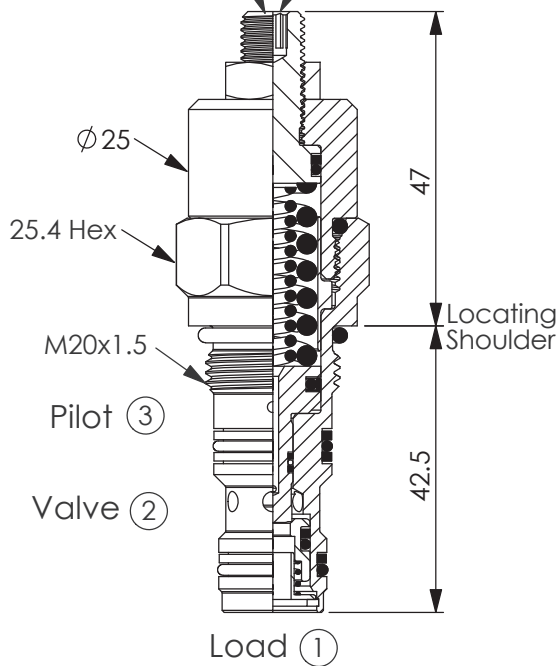


COUNTERBALANCE VALVE

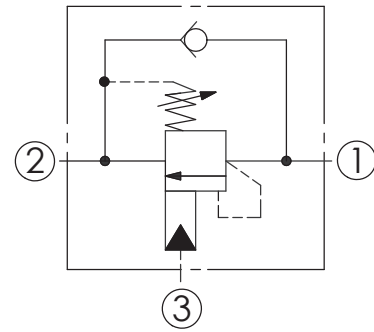
Ordering Code: **CB-20MS-X-Y-Z**

Turn screw counter clockwise to reduce setting and release load.

Control Option:
Maximum extension
from locating shoulder.
(L Control shown)



UNIT:mm

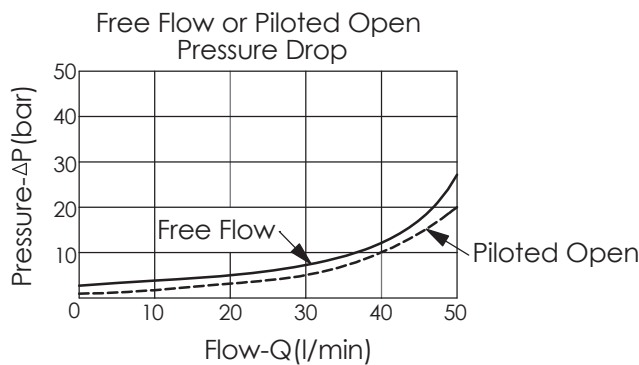


TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	30	l/min
Cavity-Tooling:	20MS-3	
Installation torque:	40-50	Nm
Weight:	0.20	kg

Pressure Setting:

Setting should be 1.3 times maximum load induced pressure.



X PILOT RATIO

35 5 : 1

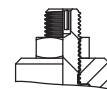
Y SPRINGS

ADJUSTMENT RANGES(2 bar Cracking Pressure)

J 140 to 350 bar (210 bar Standard Setting)

Z OPTIONS

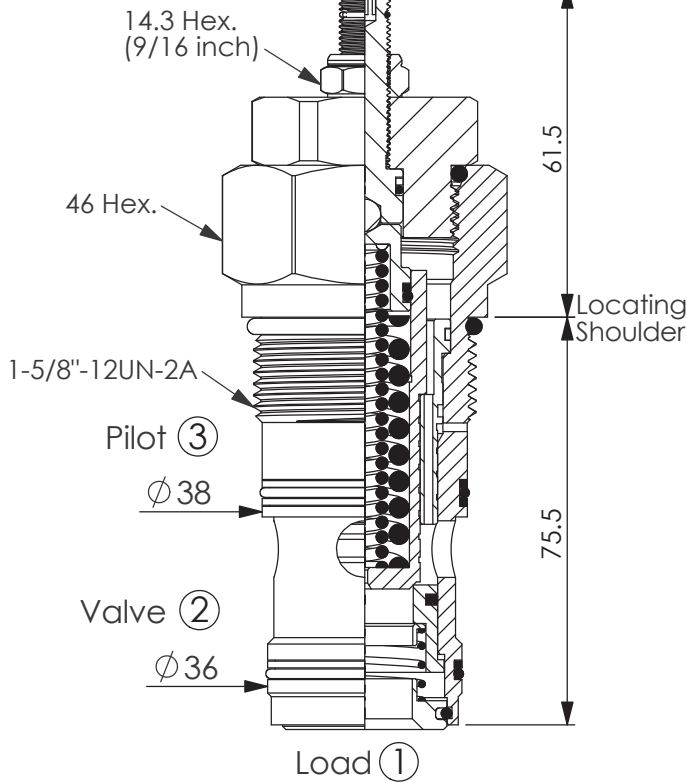
L Leakproof hex. socket screw.



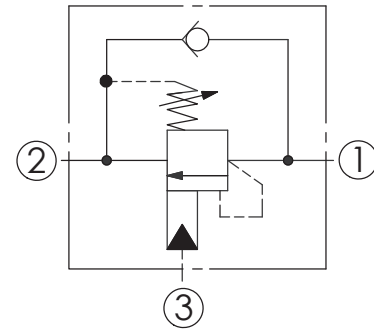
COUNTERBALANCE VALVE

Ordering Code: **CB-20WS-X-Y-Z**

Turn screw counterclockwise to reduce setting and release load.
Hex Scket Adjust 5.0 Hex.

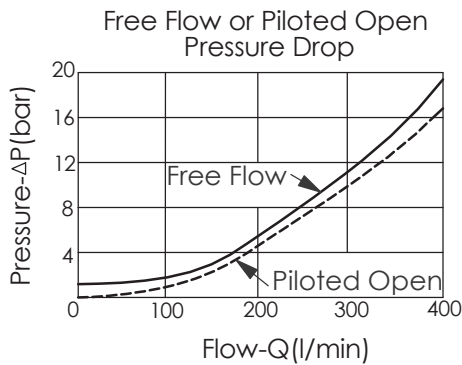


UNIT:mm



TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	300	l/min
Cavity-Tooling:	20WS	
Installation torque:	150-160	Nm
Weight:	0.90	kg



X	PILOT RATIO	
33	3 : 1 (Standard)	
38	8 : 1	

Y

SPRINGS

PILOT ADJUSTMENT RANGES

J

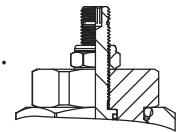
70 to 350 bar
(210 bar Standard Setting
Standard Setting made at 4.8 litres/min)

Z

OPTIONS

L

Leakproof hex. socket screw.

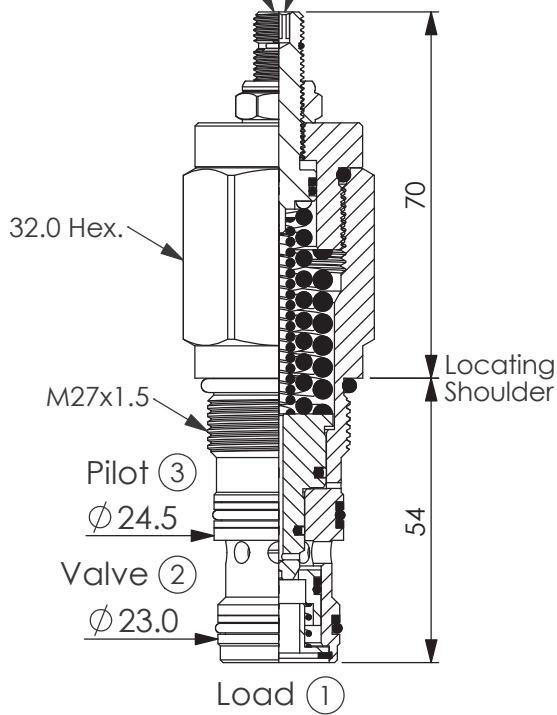


COUNTERBALANCE VALVE

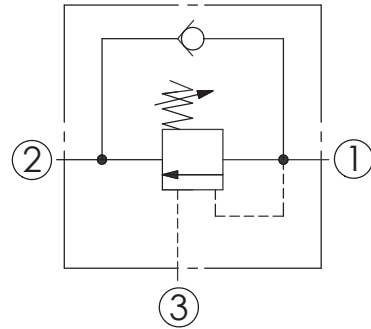
Ordering Code: **CB-27M-X-Y-Z**

Turn screw counterclockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)



UNIT:mm



TECHNICAL DATA

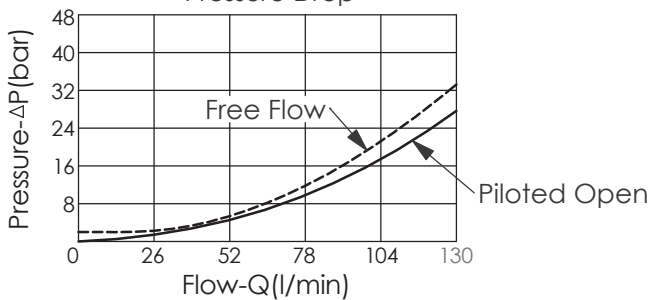
Max. Setting:	350	bar
Rated flow:	130	l/min
Cavity-Tooling:	27M-3	
Installation torque:	50-60	Nm
Weight:	0.43	kg

Pressure Setting:

Setting should be 1.3 times maximum load induced pressure.

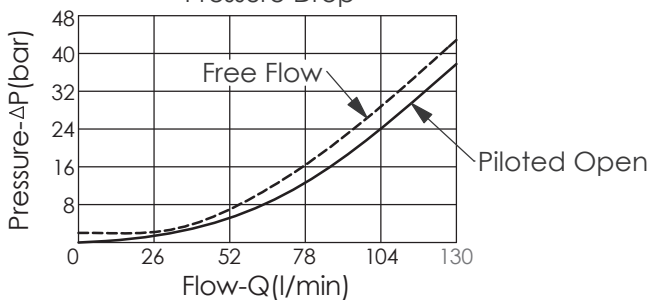
X:3D

Free Flow or Piloted Open Pressure Drop



X:3H

Free Flow or Piloted Open Pressure Drop



X

PILOT RATIO

3D 4 : 1 (with sealed pilot)

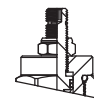
3H 8 : 1 (with sealed pilot)

Z

OPTIONS

L

Leakproof hex. socket screw.



Y

SPRINGS

ADJUSTMENT RANGES(2 bar Cracking Pressure)

J

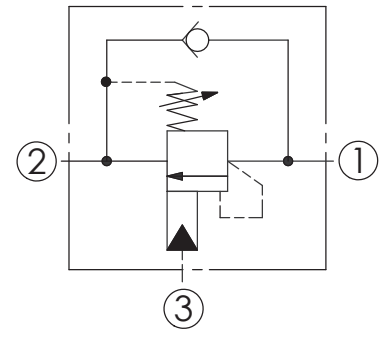
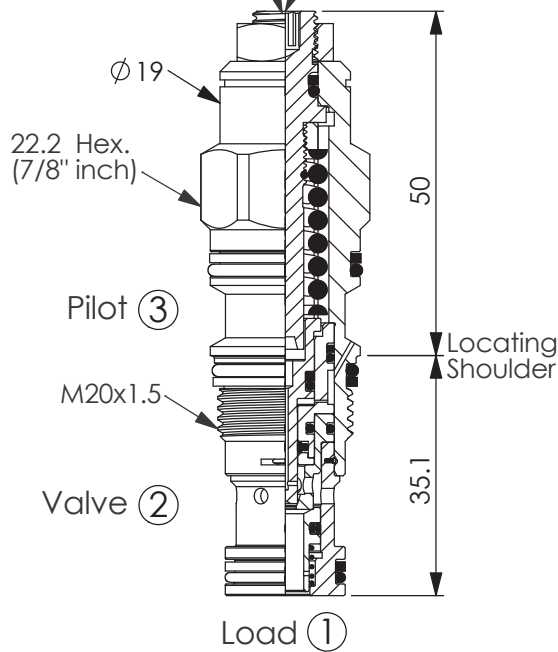
200 to 350 bar (210 bar Standard Setting)

COUNTERBALANCE VALVE

Ordering Code: **CB-11A-X-Y-Z30**

Turn screw clockwise to reduce setting and release load.

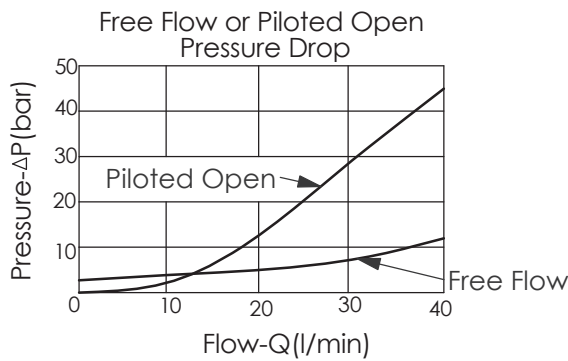
Control Option: Maximum extension from locating shoulder. (L Control shown)



TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	30	l/min
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Weight:	0.15 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	

UNIT:mm



X PILOT RATIO

3D 4.5 : 1 (with sealed pilot)

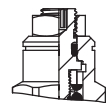
Y SPRINGS

ADJUSTMENT RANGES(2 bar Cracking Pressure)

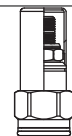
H 70-280 bar (210 bar Standard Setting)

Z OPTIONS

L Leakproof hex. socket screw.



C Stainless Steel Tamper Resistant Cover.



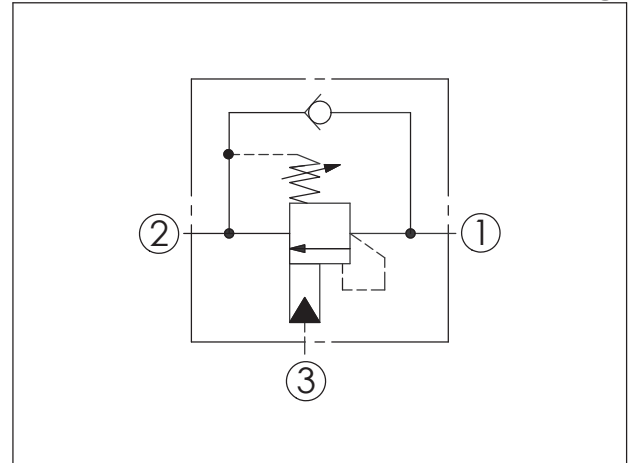
COUNTERBALANCE VALVE (Restrictive 280 Bar Maximum Setting)

Ordering Code: **CB-11A-X-Y-Z20**

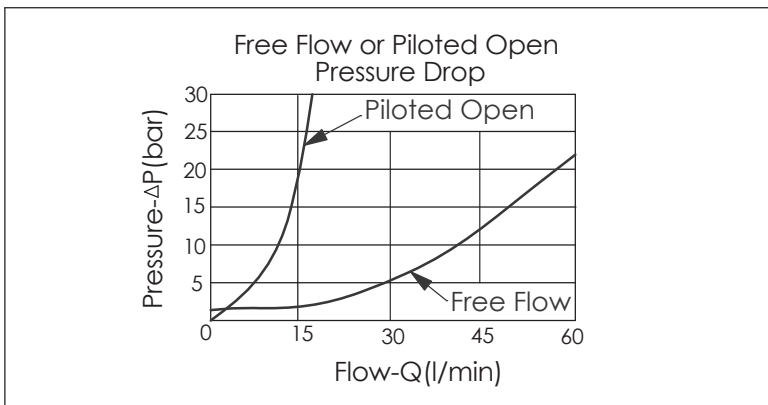
Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

UNIT:mm



TECHNICAL DATA		
Max. Setting:	280	bar
Rated flow:	20 l/min From Port ① to ②	
	60 l/min From Port ② to ①	
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Weight:	0.15 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X	PILOT RATIO	
3C	3 : 1	(with sealed pilot)
3Q	2 : 1	(with bleed through pilot)

Y	SPRINGS	
	ADJUSTMENT RANGES (2 bar Cracking Pressure)	
H	70-280 bar	(210 bar Standard Setting)
I	25-105 bar	(70 bar Standard Setting)
SPECIAL PURPOSES (0.3 bar Cracking Pressure)		
A	70-280 bar	(210 bar Standard Setting)
B	25-105 bar	(70 bar Standard Setting)
E	16-55 bar	(25 bar Standard Setting)

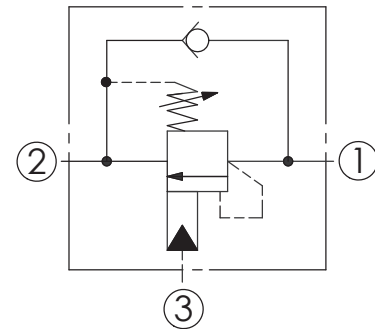
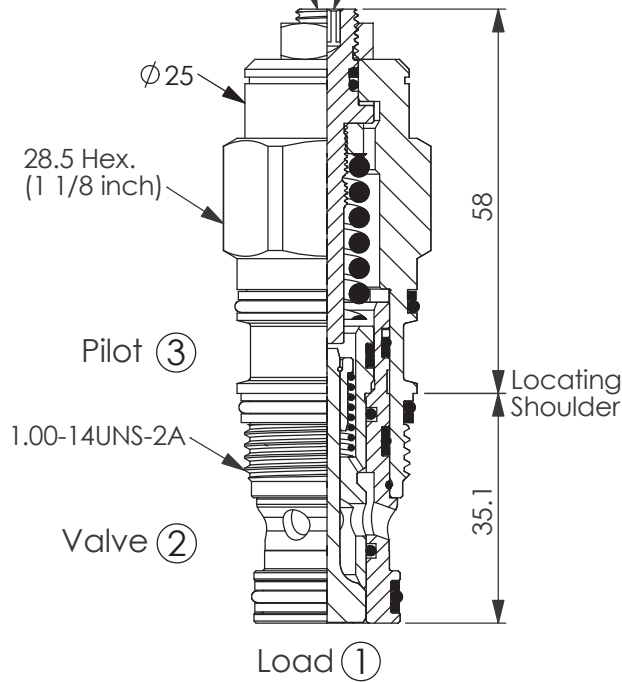
Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	
C1	Plastic Tamper Resistant Cover	

COUNTERBALANCE VALVE (Restrictive 280 Bar Maximum Setting)

Ordering Code: **CB-2A-X-Y-Z32**

Turn screw clockwise to reduce setting and release load.

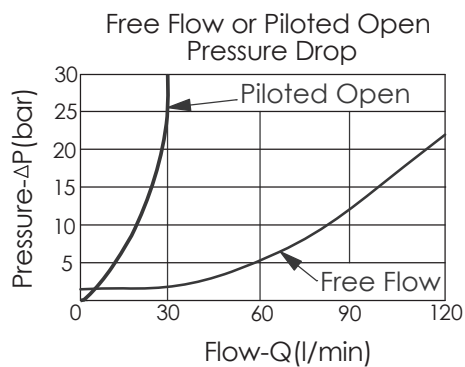
Control Option:
Maximum extension from locating shoulder.
(L Control shown)



TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	32 l/min From Port ① to ②	
	120 l/min From Port ② to ①	
Cavity-Tooling:	2A-3	
Installation torque:	60-70	Nm
Weight:	0.31 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	

UNIT:mm



X PILOT RATIO

3C 3 : 1 (with sealed pilot)

Y

SPRINGS

ADJUSTMENT RANGES (2 bar Cracking Pressure)

H 70-280 bar (210 bar Standard Setting)

I 25-105 bar (70 bar Standard Setting)

SPECIAL PURPOSES (0.3 bar Cracking Pressure)

A 70-280 bar (210 bar Standard Setting)

B 25-105 bar (70 bar Standard Setting)

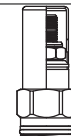
Z

OPTIONS

L Leakproof hex. socket screw.



C Stainless Steel Tamper Resistant Cover.



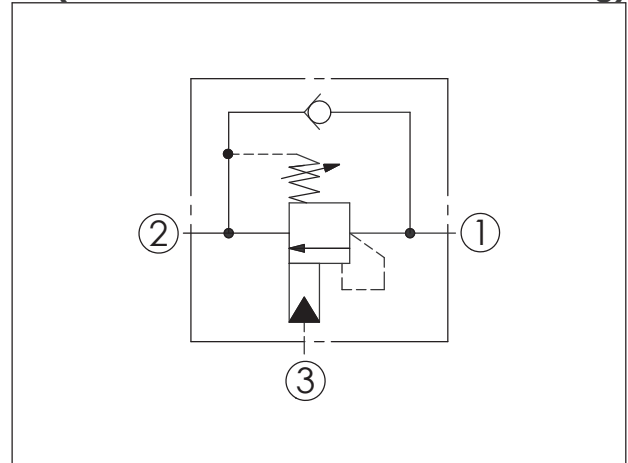
COUNTERBALANCE VALVE (Restrictive 280 Bar Maximum Setting)

Ordering Code: **CB-17A-X-Y-Z60**

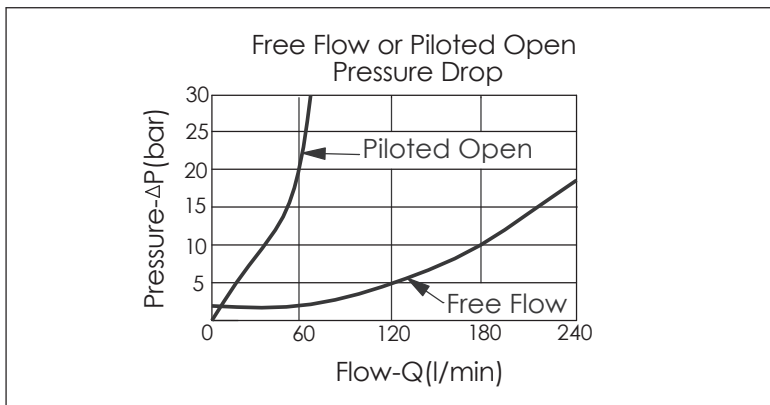
Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

UNIT:mm



TECHNICAL DATA		
Max. Setting:	280	bar
Rated flow:	60 l/min From Port ① to ②	240 l/min From Port ② to ①
Cavity-Tooling:	17A-3	
Installation torque:	200-215	Nm
Weight:	0.61 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X	PILOT RATIO
3C	3 : 1 (with sealed pilot)

Y	SPRINGS
ADJUSTMENT RANGES(2 bar Cracking Pressure)	
H	70-280 bar (210 bar Standard Setting)
I	25-105 bar (70 bar Standard Setting)
SPECIAL PURPOSES(0.3 bar Cracking Pressure)	
A	70-280 bar (210 bar Standard Setting)
B	25-105 bar (70 bar Standard Setting)

Z	OPTIONS
L	Leakproof hex. socket screw.
C	Stainless Steel Tamper Resistant Cover.

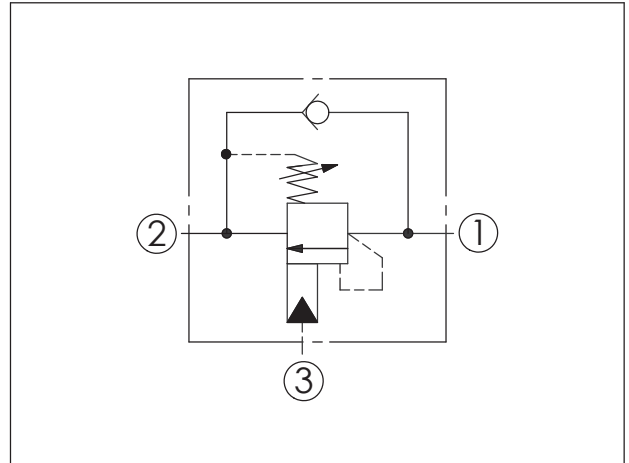
COUNTERBALANCE VALVE (Restrictive 280 Bar Maximum Setting)

Ordering Code: **CB-19A-X-Y-Z80**

Turn screw clockwise to reduce setting and release load.

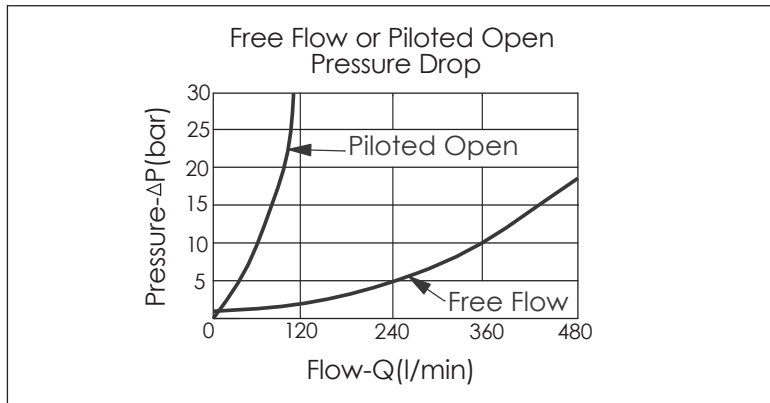
Control Option: Maximum extension from locating shoulder. (L Control shown)

UNIT:mm



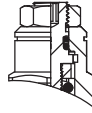
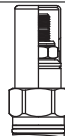
TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	80 l/min From Port ① to ②	480 l/min From Port ② to ①
Cavity-Tooling:	19A-3	
Installation torque:	465-500	Nm
Weight:	1.37 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X	PILOT RATIO
3C	3 : 1 (with sealed pilot)

Y	SPRINGS
	ADJUSTMENT RANGES(2 bar Cracking Pressure)
H	70-280 bar (210 bar Standard Setting)
I	25-105 bar (70 bar Standard Setting)
	SPECIAL PURPOSES(0.3 bar Cracking Pressure)
A	70-280 bar (210 bar Standard Setting)
B	25-105 bar (70 bar Standard Setting)

Z	OPTIONS
L	Leakproof hex. socket screw. 
C	Stainless Steel Tamper Resistant Cover. 

COUNTERBALANCE VALVE (Restrictive 350 Bar Maximum Setting)

Ordering Code: **CB-11A-X-Y-Z20**

Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

Ø19

22.2 Hex. (7/8" inch)

50

Pilot (3)

M20x1.5

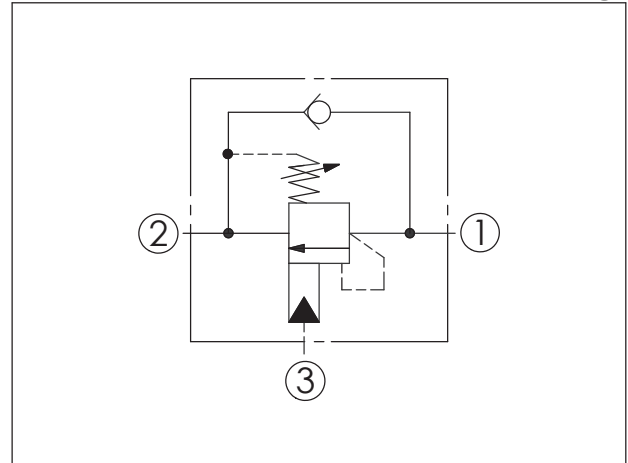
Valve (2)

Load (1)

Locating Shoulder

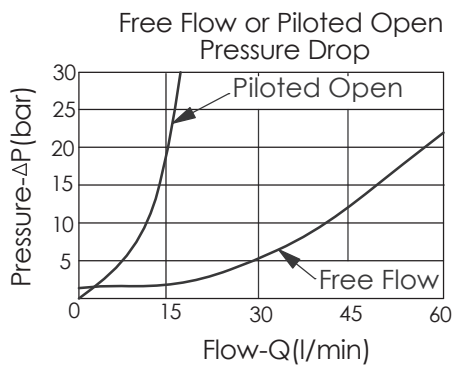
35.1

UNIT:mm



TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	20 l/min From Port ① to ②	60 l/min From Port ② to ①
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Weight:	0.15 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X PILOT RATIO

3B	2.3 : 1 (with sealed pilot)
3D	4.5 : 1 (with sealed pilot)

Y SPRINGS

ADJUSTMENT RANGES (2 bar Cracking Pressure)

J 140-350 bar (210 bar Standard Setting)

K 70-175 bar (140 bar Standard Setting)

SPECIAL PURPOSES (0.3 bar Cracking Pressure)

C 140-350 bar (210 bar Standard Setting)

D 70-175 bar (140 bar Standard Setting)

Z OPTIONS

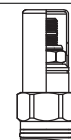
L Leakproof hex. socket screw.



LP Leakproof hex. socket screw. With stainless steel external metal components



C Stainless Steel Tamper Resistant Cover.

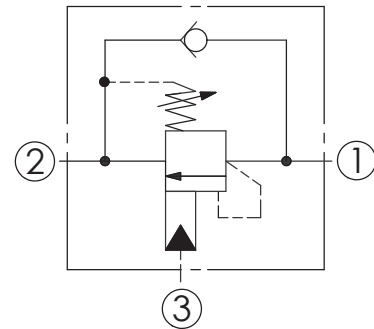
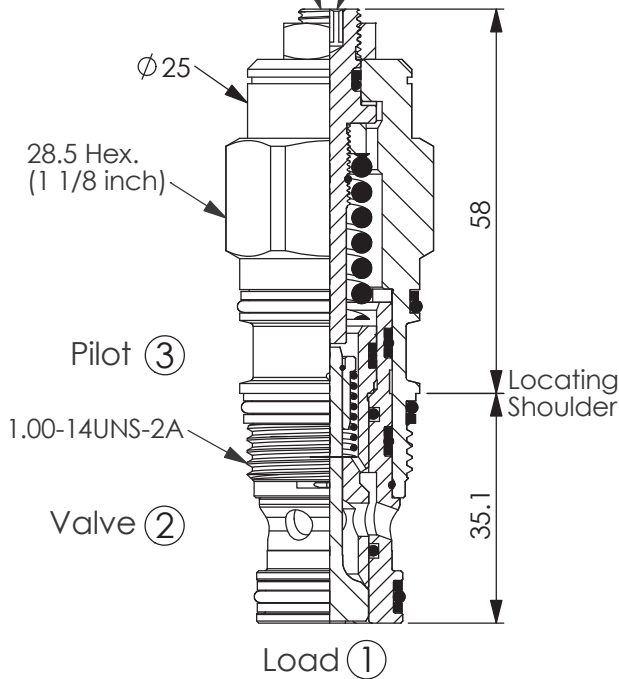


COUNTERBALANCE VALVE (Restrictive 350 Bar Maximum Setting)

Ordering Code: **CB-2A-X-Y-Z32**

Turn screw clockwise to reduce setting and release load.

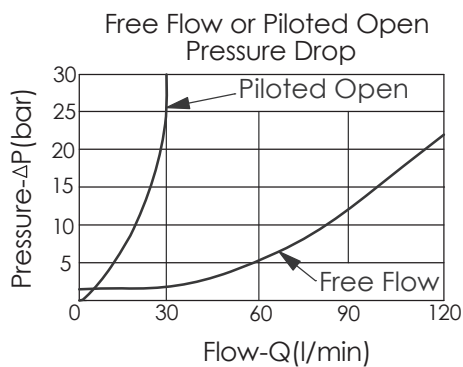
Control Option:
Maximum extension from locating shoulder.
(L Control shown)



TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	32 l/min From Port ① to ②	120 l/min From Port ② to ①
Cavity-Tooling:	2A-3	
Installation torque:	60-70	Nm
Weight:	0.30 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	

UNIT:mm



X PILOT RATIO

3D 4.5 : 1 (with sealed pilot)

Y SPRINGS

ADJUSTMENT RANGES(2 bar Cracking Pressure)

J 140-350 bar (210 bar Standard Setting)

K 70-175 bar (140 bar Standard Setting)

SPECIAL PURPOSES(0.3 bar Cracking Pressure)

C 140-350 bar (210 bar Standard Setting)

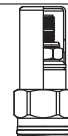
D 70-175 bar (140 bar Standard Setting)

Z OPTIONS

L Leakproof hex. socket screw.



C Stainless Steel Tamper Resistant Cover.



COUNTERBALANCE VALVE (Restrictive 350 Bar Maximum Setting)

Ordering Code: **CB-17A-X-Y-Z60**

Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

Ø30

31.7 Hex. (1 1/4 inch)

Pilot (3)

M36x2

Valve (2)

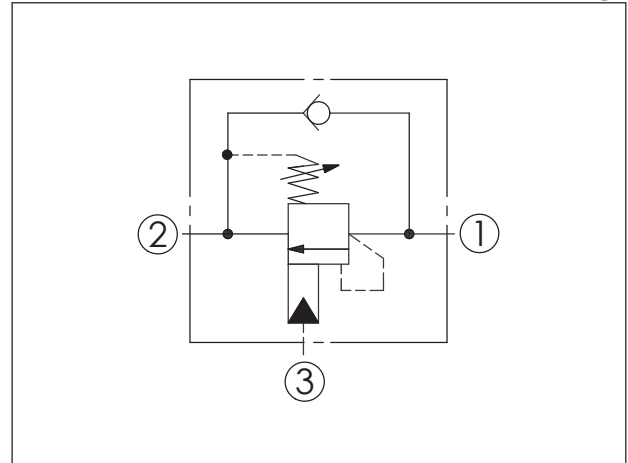
Load (1)

70

46

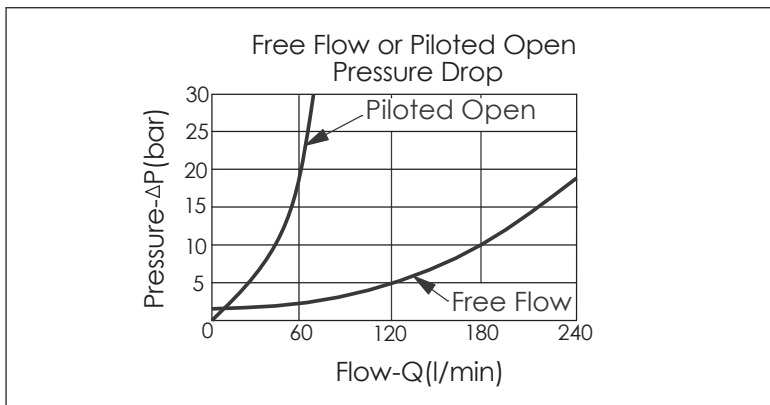
Locating Shoulder

UNIT:mm




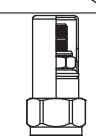
TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	60 l/min From Port ① to ②	240 l/min From Port ② to ①
Cavity-Tooling:	17A-3	
Installation torque:	200-215	Nm
Weight:	0.61 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



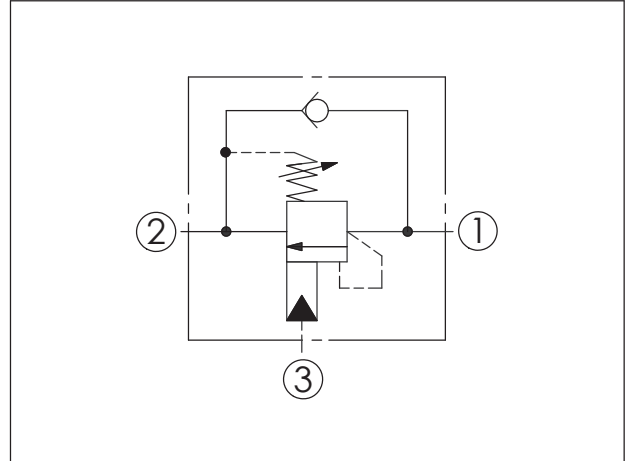
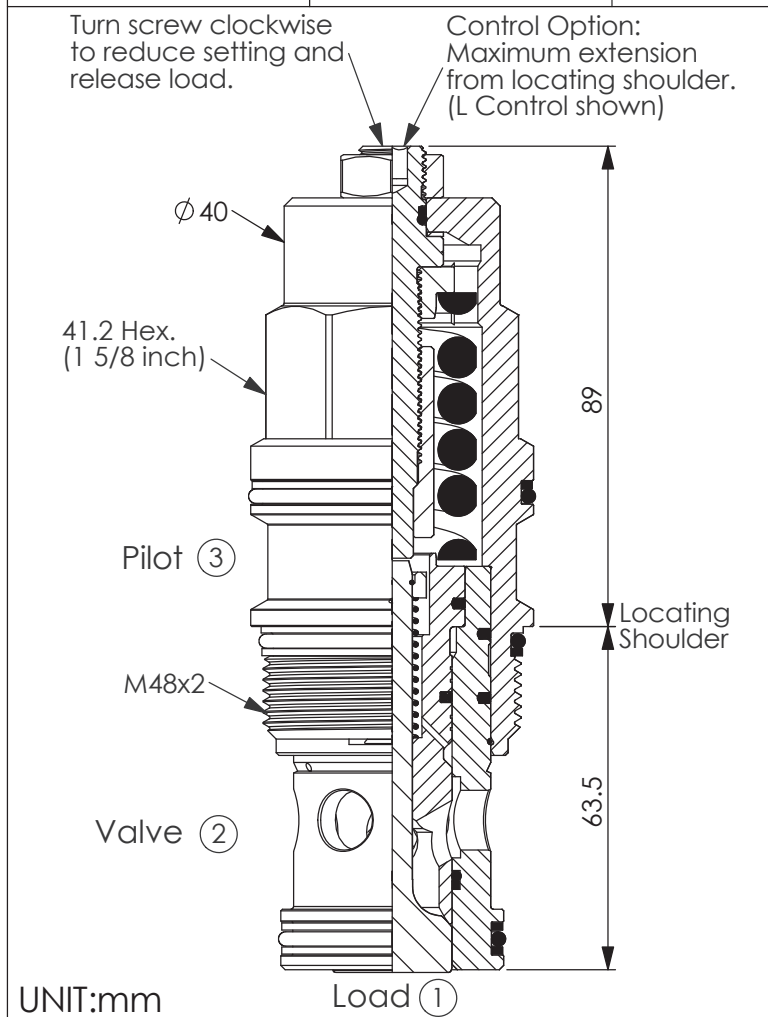
X	PILOT RATIO
3D	4.5 : 1 (with sealed pilot)

Y	SPRINGS
ADJUSTMENT RANGES (2 bar Cracking Pressure)	
J	140-350 bar (210 bar Standard Setting)
K	70-175 bar (140 bar Standard Setting)
SPECIAL PURPOSES (0.3 bar Cracking Pressure)	
C	140-350 bar (210 bar Standard Setting)
D	70-175 bar (140 bar Standard Setting)

Z	OPTIONS
L	Leakproof hex. socket screw. 
C	Stainless Steel Tamper Resistant Cover. 

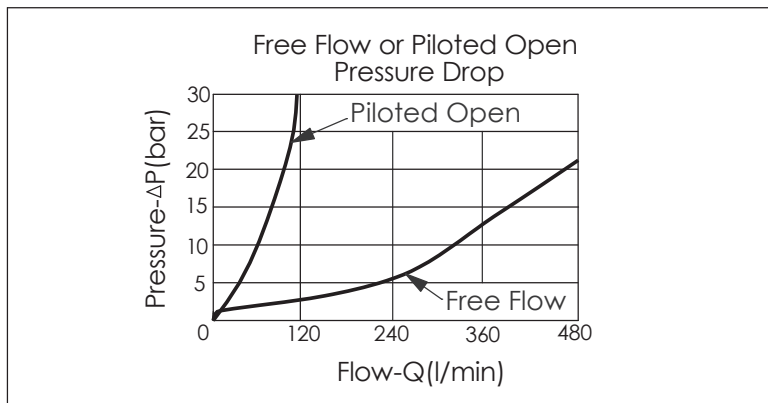
COUNTERBALANCE VALVE (Restrictive 350 Bar Maximum Setting)

Ordering Code: **CB-19A-X-Y-Z80**



TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	80 l/min From Port ① to ②	480 l/min From Port ② to ①
Cavity-Tooling:	19A-3	
Installation torque:	465-500	Nm
Weight:	1.37 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X	PILOT RATIO	
3D	4.5 : 1 (with sealed pilot)	

Y	SPRINGS	
	ADJUSTMENT RANGES(2 bar Cracking Pressure)	
J	140-350 bar (210 bar Standard Setting)	
K	70-175 bar (140 bar Standard Setting)	
	SPECIAL PURPOSES(0.3 bar Cracking Pressure)	
C	140-350 bar (210 bar Standard Setting)	
D	70-175 bar (140 bar Standard Setting)	

Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

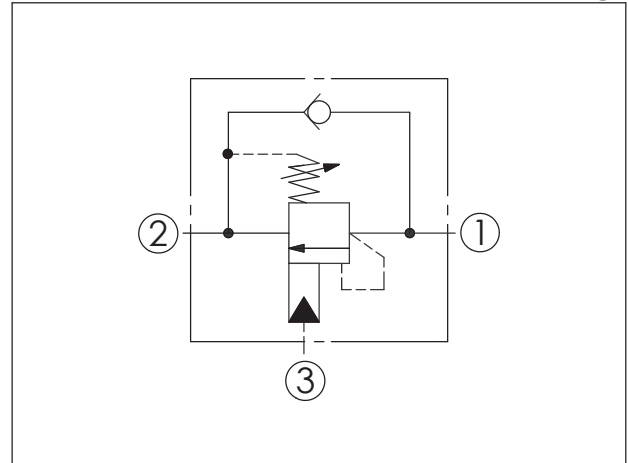
COUNTERBALANCE VALVE (Semi-Restrictive, 280 Bar Maximum Setting)

Ordering Code: **CB-11A-X-Y-Z40**

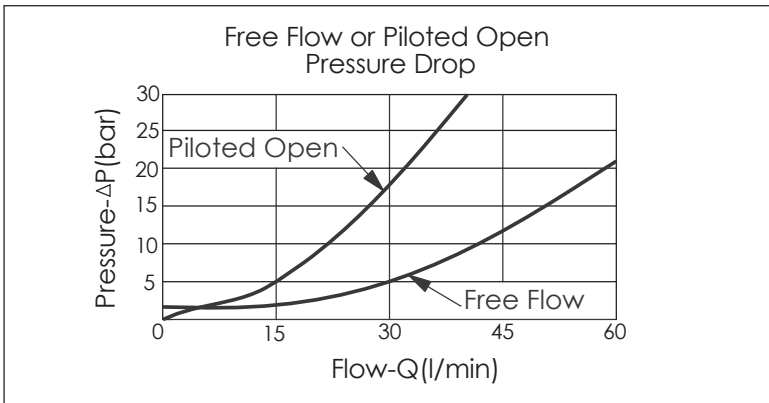
Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

UNIT:mm



TECHNICAL DATA		
Max. Setting:	280	bar
Rated flow:	40 l/min From Port ① to ②	
	60 l/min From Port ② to ①	
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Weight:	0.15 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X	PILOT RATIO	
3A	1.5 : 1 (with sealed pilot)	
3C	3 : 1 (with sealed pilot)	

Y	SPRINGS	
	ADJUSTMENT RANGES (2 bar Cracking Pressure)	
H	70-280 bar (210 bar Standard Setting)	
I	25-105 bar (70 bar Standard Setting)	
	SPECIAL PURPOSES (0.3 bar Cracking Pressure)	
A	70-280 bar (210 bar Standard Setting)	
B	25-105 bar (70 bar Standard Setting)	

Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE (Semi-Restrictive, 280 Bar Maximum Setting)

Ordering Code: **CB-2A-X-Y-Z80**

Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

Ø25

28.5 Hex. (1 1/8 inch)

58

Pilot ③

1.00-14UNS-2A

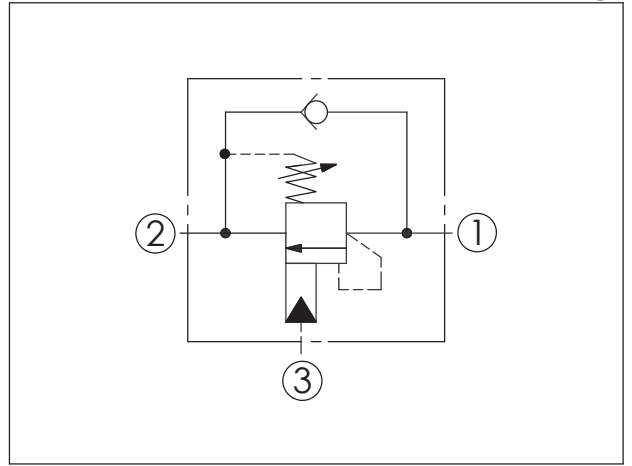
Valve ②

35.1

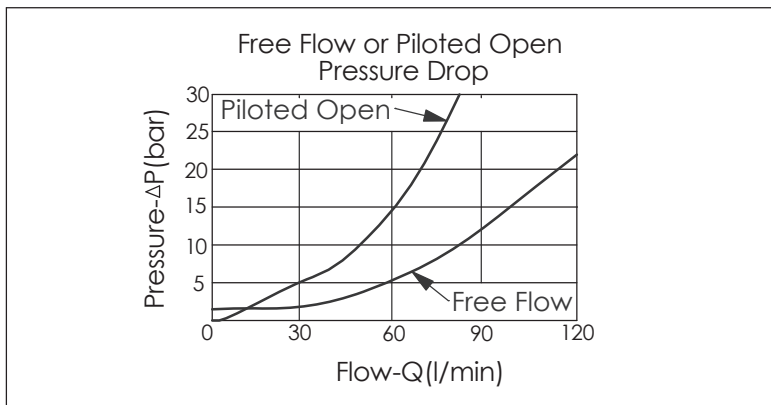
Locating Shoulder

Load ①

UNIT:mm



TECHNICAL DATA		
Max. Setting:	280	bar
Rated flow:	80 l/min From Port ① to ②	
	120 l/min From Port ② to ①	
Cavity-Tooling:	2A-3	
Installation torque:	60-70	Nm
Weight:	0.30 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X	PILOT RATIO	
3C	3	: 1 (with sealed pilot)

Y	SPRINGS	
	ADJUSTMENT RANGES (2 bar Cracking Pressure)	
H	70-280 bar	(210 bar Standard Setting)
I	25-105 bar	(70 bar Standard Setting)
	SPECIAL PURPOSES (0.3 bar Cracking Pressure)	
A	70-280 bar	(210 bar Standard Setting)
B	25-105 bar	(70 bar Standard Setting)

Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE (Semi-Restrictive, 280 Bar Maximum Setting)

Ordering Code: **CB-17A-X-Y-Z160**

Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

Ø30

31.7 Hex. (1 1/4 inch)

Pilot ③

M36x2

Valve ②

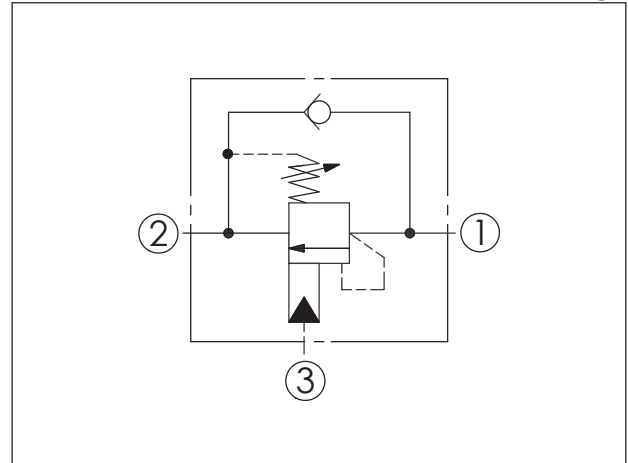
Load ①

Locating Shoulder

70

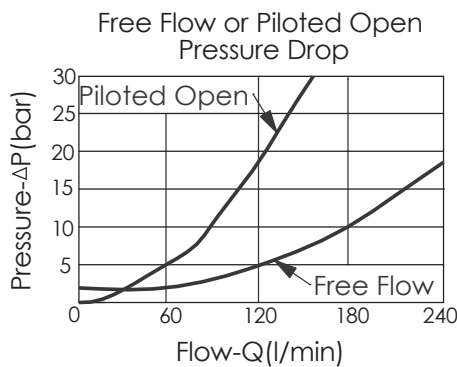
46

UNIT:mm



TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	160 l/min From Port ① to ②	240 l/min From Port ② to ①
Cavity-Tooling:	17A-3	
Installation torque:	200-215	Nm
Weight:	0.61 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X PILOT RATIO

3C 3 : 1 (with sealed pilot)

Y SPRINGS

ADJUSTMENT RANGES (2 bar Cracking Pressure)

H 70-280 bar (210 bar Standard Setting)

I 25-105 bar (70 bar Standard Setting)

SPECIAL PURPOSES (0.3 bar Cracking Pressure)

A 70-280 bar (210 bar Standard Setting)

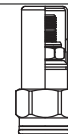
B 25-105 bar (70 bar Standard Setting)

Z OPTIONS

L Leakproof hex. socket screw.



C Stainless Steel Tamper Resistant Cover.

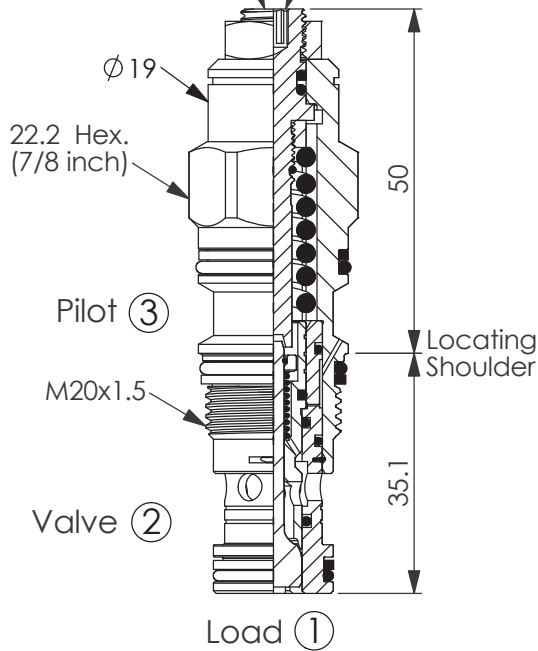


COUNTERBALANCE VALVE (Semi-Restrictive, 420 Bar Maximum Setting)

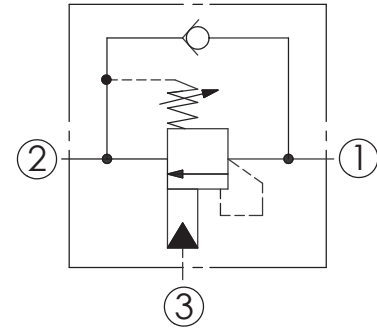
Ordering Code: **CB-11A-X-Y-Z40**

Turn screw clockwise to reduce setting and release load.

Control Option:
Maximum extension from locating shoulder.
(L Control shown)



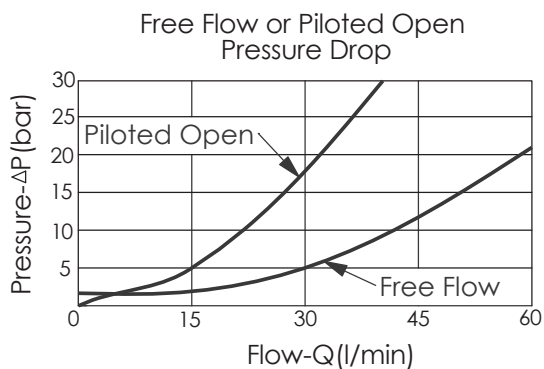
UNIT:mm



TECHNICAL DATA

Max. Setting:	420	bar
Rated flow:	40 l/min From Port ① to ②	
	60 l/min From Port ② to ①	
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Weight:	0.15 (Z:L)	kg
Pressure Setting:		

Setting should be 1.3 times maximum load induced pressure.



X PILOT RATIO

3B	2.3 : 1 (with sealed pilot)
3D	4.5 : 1 (with sealed pilot)

Y SPRINGS

ADJUSTMENT RANGES (2 bar Cracking Pressure)

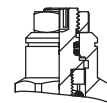
G	140-420 bar (420 bar Standard Setting)
J	140-350 bar (210 bar Standard Setting)
K	70-175 bar (140 bar Standard Setting)

SPECIAL PURPOSES (0.3 bar Cracking Pressure)

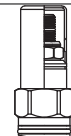
C	140-350 bar (210 bar Standard Setting)
D	70-175 bar (140 bar Standard Setting)

Z OPTIONS

L Leakproof hex. socket screw.



C Stainless Steel Tamper Resistant Cover.



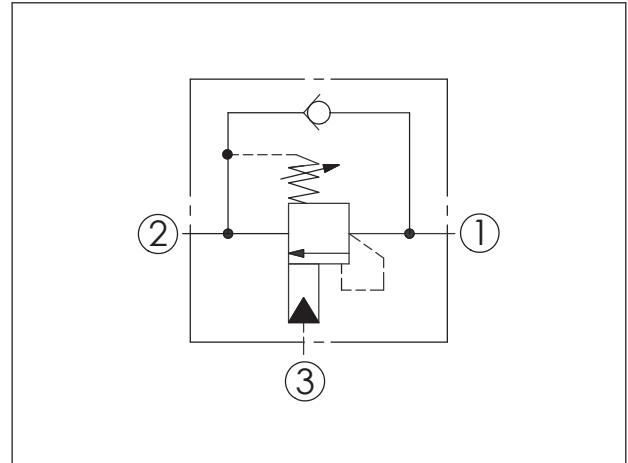
COUNTERBALANCE VALVE (Semi-Restrictive, 350 Bar Maximum Setting)

Ordering Code: **CB-2A-X-Y-Z80**

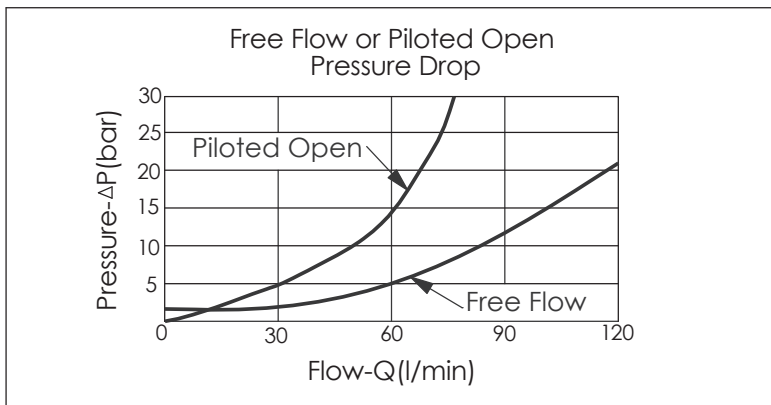
Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

UNIT:mm



TECHNICAL DATA		
Max. Setting:	350	bar
Rated flow:	80 l/min From Port ① to ②	
	120 l/min From Port ② to ①	
Cavity-Tooling:	2A-3	
Installation torque:	60-70	Nm
Weight:	0.29 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X	PILOT RATIO	
3B	2.3:1 (with sealed pilot)	
3D	4.5:1 (with sealed pilot)	

Y	SPRINGS	
	ADJUSTMENT RANGES(2 bar Cracking Pressure)	
J	140-350 bar (210 bar Standard Setting)	
K	70-175 bar (140 bar Standard Setting)	
SPECIAL PURPOSES(0.3 bar Cracking Pressure)		
C	140-350 bar (210 bar Standard Setting)	
D	70-175 bar (140 bar Standard Setting)	

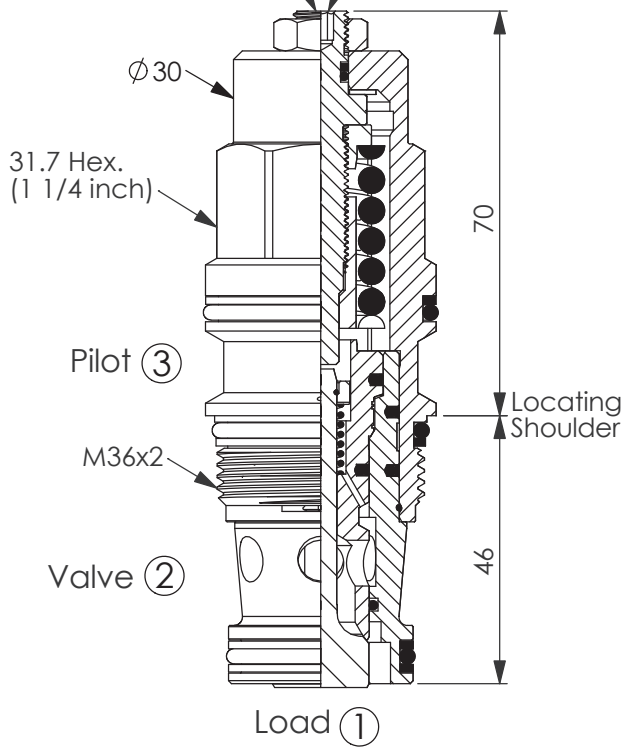
Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE (Semi-Restrictive, 350 Bar Maximum Setting)

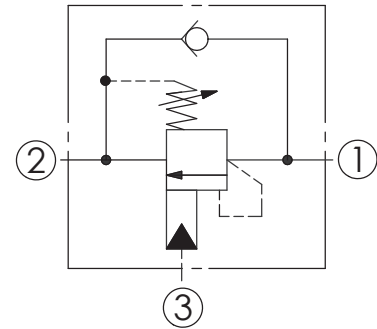
Ordering Code: **CB-17A-X-Y-Z160**

Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

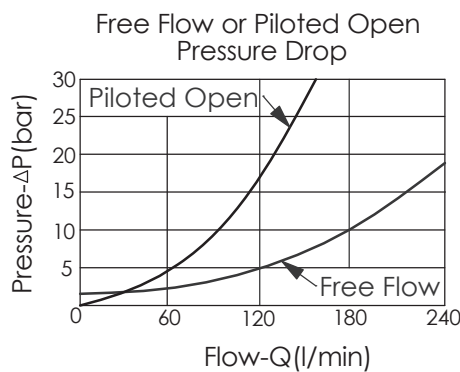


UNIT:mm



TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	160 l/min From Port ① to ②	240 l/min From Port ② to ①
Cavity-Tooling:	17A-3	
Installation torque:	200-215	Nm
Weight:	0.61 (Z:L)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X PILOT RATIO

3D 4.5 : 1 (with sealed pilot)

Y SPRINGS

ADJUSTMENT RANGES (2 bar Cracking Pressure)

J 140-350 bar (210 bar Standard Setting)

K 70-175 bar (140 bar Standard Setting)

SPECIAL PURPOSES (0.3 bar Cracking Pressure)

C 140-350 bar (210 bar Standard Setting)

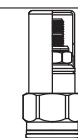
D 70-175 bar (140 bar Standard Setting)

Z OPTIONS

L Leakproof hex. socket screw.



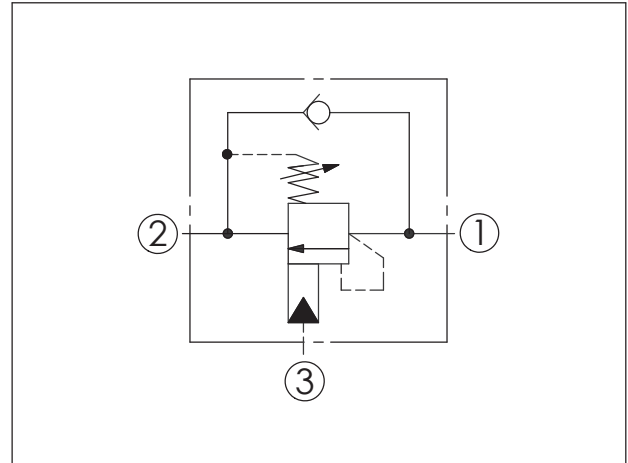
C Stainless Steel Tamper Resistant Cover.



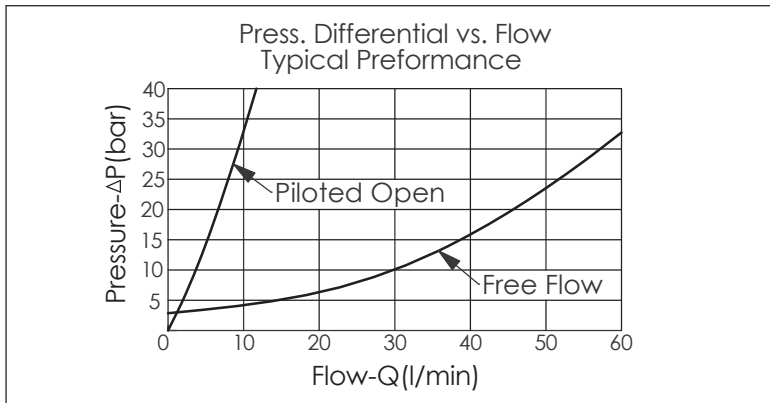
COUNTERBALANCE VALVE (Ultra-Restrictive, 280 Bar Maximum Setting)

Ordering Code: **CB-11A-X-Y-Z10**

UNIT:mm



TECHNICAL DATA	
Max. Setting:	280 bar
Rated flow:	10 l/min From Port ① to ② 60 l/min From Port ② to ①
Cavity-Tooling:	11A-3
Installation torque:	40-50 Nm
Weight:	0.15 (Z:L,LP) kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.



Y	SPRINGS	
	ADJUSTMENT RANGES (2 bar Cracking Pressure)	
H	70-280 bar (210 bar Standard Setting)	
I	25-105 bar (70 bar Standard Setting)	
	SPECIAL PURPOSES (0.3 bar Cracking Pressure)	
A	70-280 bar (210 bar Standard Setting)	
B	25-105 bar (70 bar Standard Setting)	

X	PILOT RATIO	
3A	1.5 : 1 (with sealed pilot)	
3C	3 : 1 (with sealed pilot)	

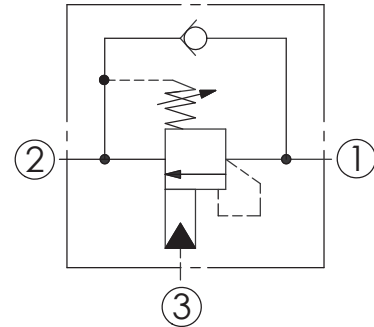
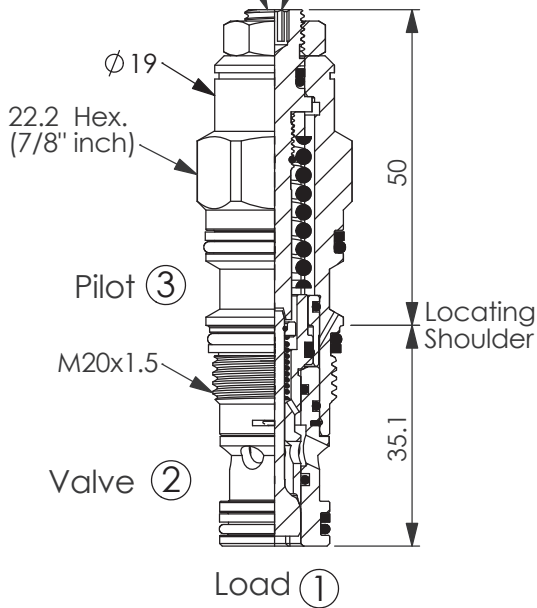
Z	OPTIONS	
L	Leakproof hex. socket screw.	
LP	Leakproof hex. socket screw. With stainless steel external metal components	
C	Stainless Steel Tamper Resistant Cover.	
CP	Stainless Steel Tamper Resistant Cover. With stainless steel external metal components	

COUNTERBALANCE VALVE (Ultra-Restrictive, 350 Bar Maximum Setting)

Ordering Code: **CB-11A-X-Y-Z10**

Turn screw clockwise to reduce setting and release load.

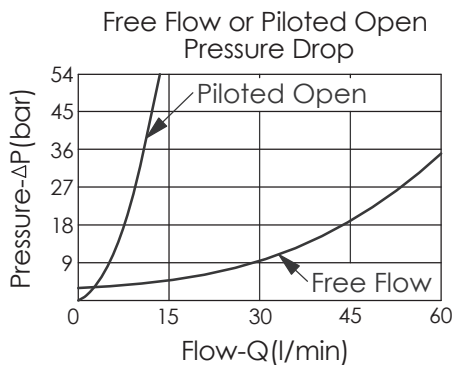
Control Option: Maximum extension from locating shoulder. (L Control shown)



TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	10 l/min From Port ① to ②	
	60 l/min From Port ② to ①	
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Weight:	0.15 (Z:L,LP)	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	

UNIT:mm



X PILOT RATIO

3D	4.5 : 1 (with sealed pilot)	
3J	10 : 1 (with sealed pilot)	

Y

SPRINGS

ADJUSTMENT RANGES(2 bar Cracking Pressure)

J 140-350 bar (210 bar Standard Setting)

K 70-175 bar (140 bar Standard Setting)

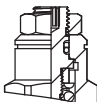
SPECIAL PURPOSES(0.3 bar Cracking Pressure)

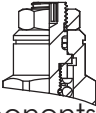
C 140-350 bar (210 bar Standard Setting)

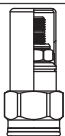
D 70-175 bar (140 bar Standard Setting)

Z

OPTIONS

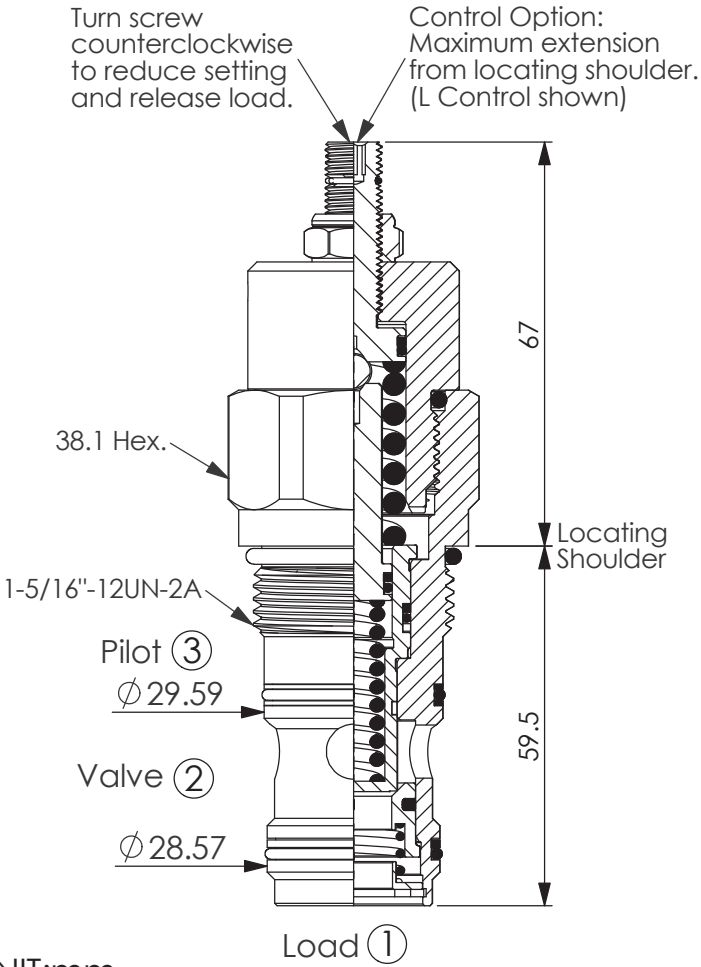
L Leakproof hex. socket screw. 

LP Leakproof hex. socket screw. With stainless steel external metal components 

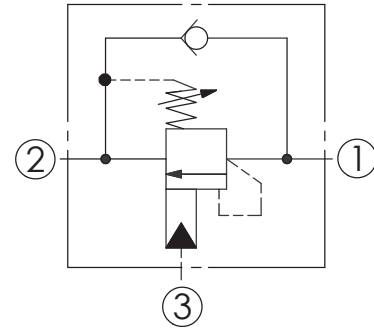
C Stainless Steel Tamper Resistant Cover. 

COUNTERBALANCE VALVE (Pilot Assisted Relief With Check)

Ordering Code: **CB-16WC-X-Y-Z**

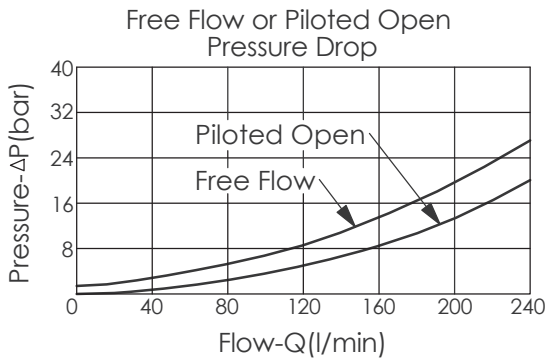


UNIT:mm



TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	180	l/min
Cavity-Tooling:	16WC-3	
Installation torque:	100	Nm
Weight:	0.56	kg
Pressure Setting:	Setting should be at least 1.3 times the maximum load induced pressure.	



X

PILOT RATIO

33

3.5 : 1

Y

SPRINGS

PRESSURE RANGES

J

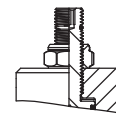
70 to 350 bar (210 bar Standard Setting)

Z

OPTIONS

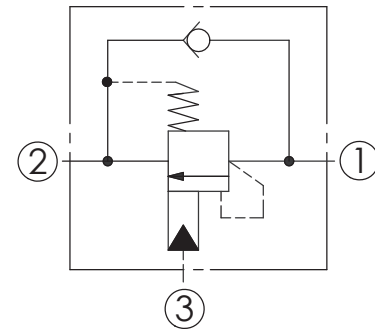
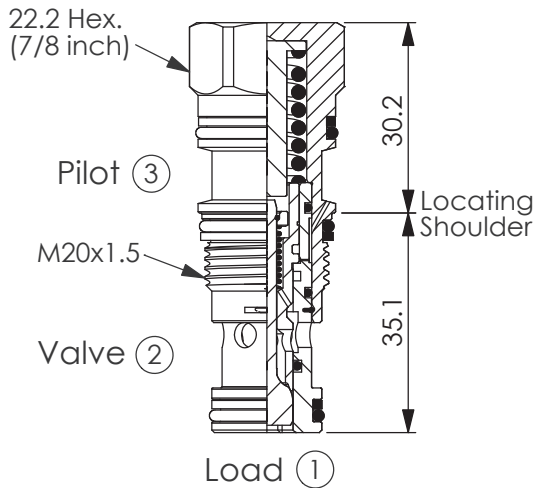
L

Leakproof hex. socket screw.



COUNTERBALANCE VALVE (Fixed Setting)

Ordering Code: **CB-11A-33-Y-Z**



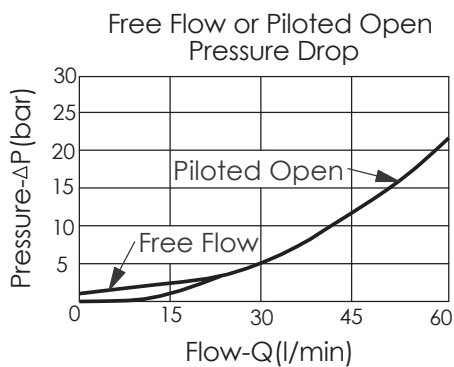
TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	60	l/min
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Weight:	0.12	kg

Pressure Setting:

Setting should be at least 1.3 times the maximum load induced pressure.

UNIT:mm



X	PILOT RATIO	
33	3	: 1

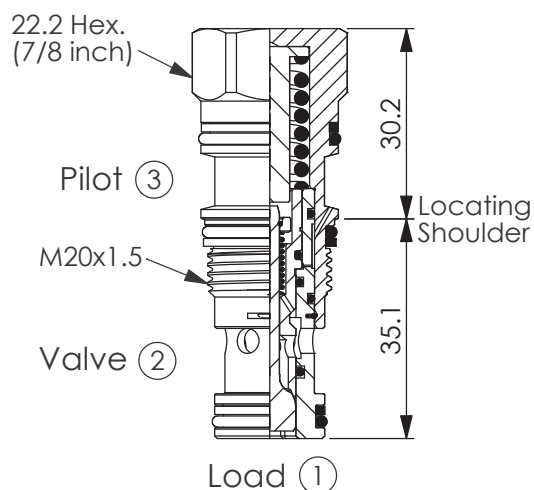
Y	SPRINGS	
	FIXED SETTING	
170	155-185 bar	
220	200-245 bar	
260	245-280 bar	

Z	OPTION	
N	Non-adjustable 2.0 bar Cracking Pressure	
Q	Non-adjustable 0.3 bar Cracking Pressure	

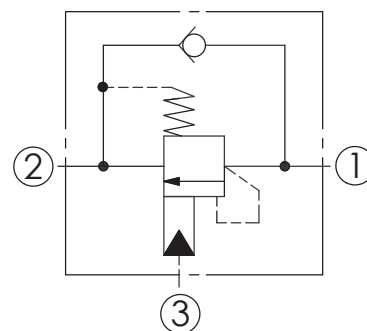
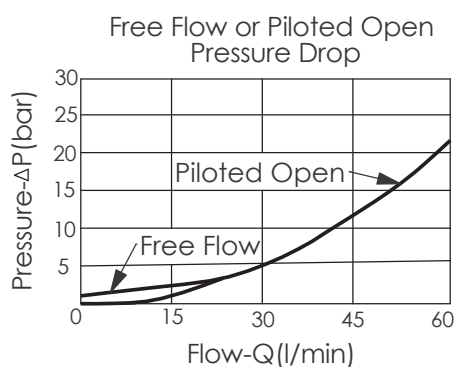
COUNTERBALANCE VALVE

(Fixed Setting)

Ordering Code: **CB-11A-X-Y-Z**



UNIT:mm



TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	60	l/min
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Weight:	0.12	kg

Pressure Setting:

Setting should be at least 1.3 times the maximum load induced pressure.

X PILOT RATIO

30	10 : 1
34	4.5 : 1
3D	4.5 : 1 (with sealed pilot)
3P	16 : 1 (with sealed pilot)

Y

SPRINGS

FIXED SETTING

120	100-140 bar
200	180-220 bar
240	220-260 bar
270	245-290 bar
315	285-340 bar
350	325-390 bar

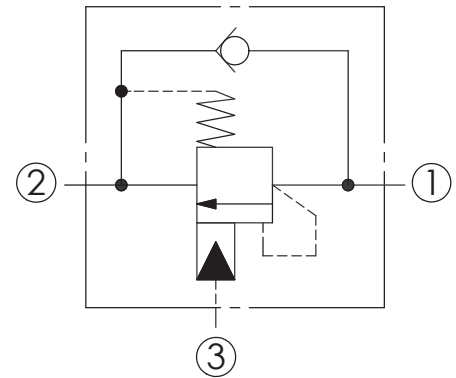
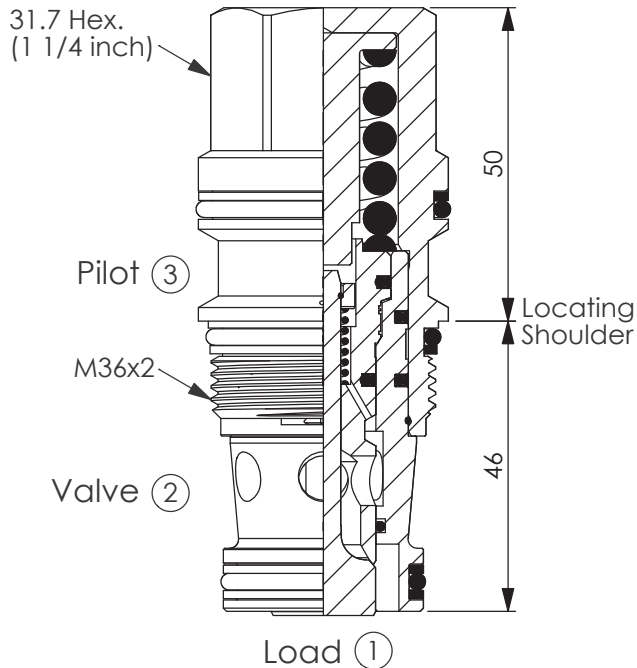
Z

OPTION

N	Non-adjustable 2.0 bar Cracking Pressure
Q	Non-adjustable 0.3 bar Cracking Pressure

COUNTERBALANCE VALVE (Fixed Setting)

Ordering Code: **CB-17A-X-Y-Z**



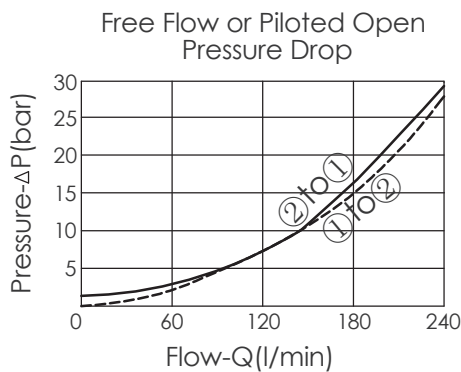
TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	240	l/min
Cavity-Tooling:	17A-3	
Installation torque:	200-215	Nm
Weight:	0.54	kg

Pressure Setting:

Setting should be at least 1.3 times the maximum load induced pressure.

UNIT:mm



X PILOT RATIO

3D 4.5 : 1 (with sealed pilot)

Y

SPRINGS

FIXED SETTING

240

220-260 bar

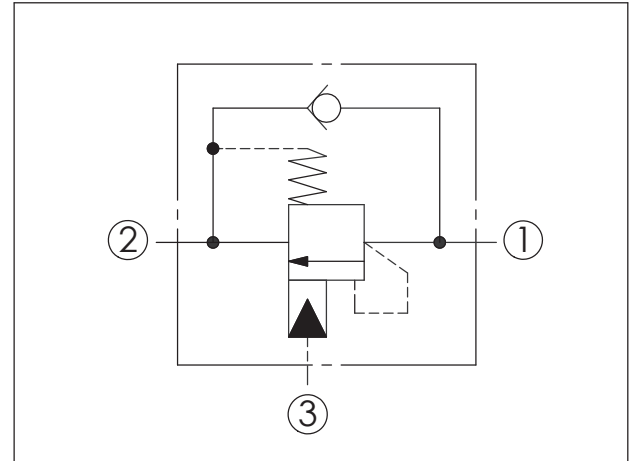
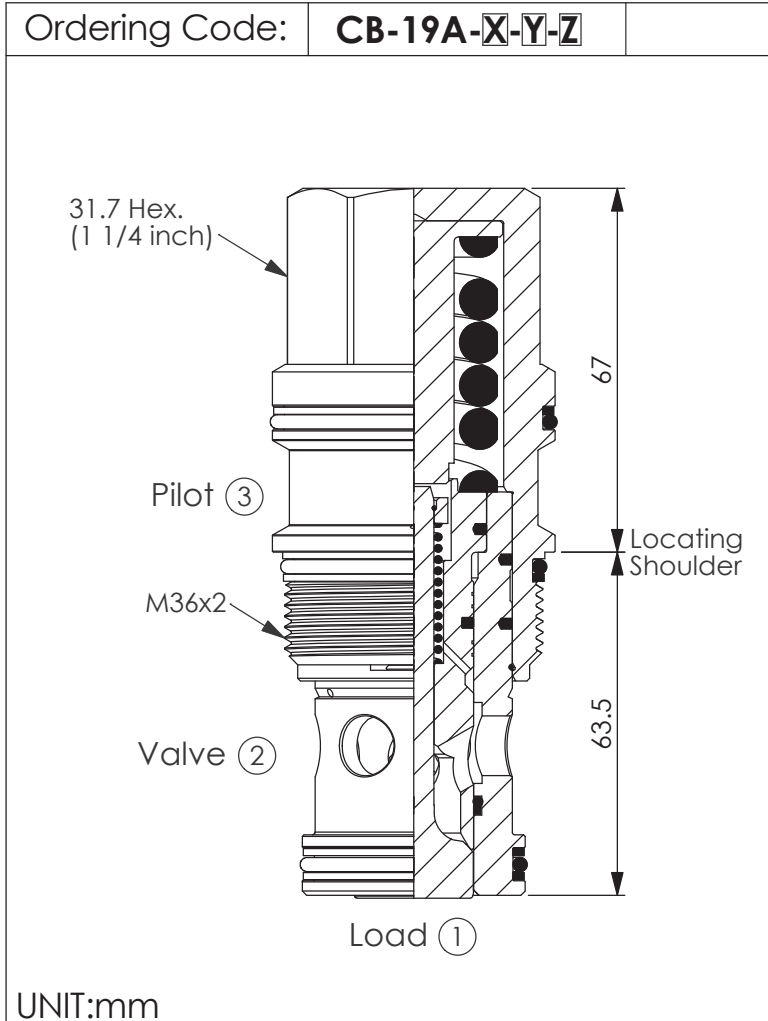
Z

OPTION

N

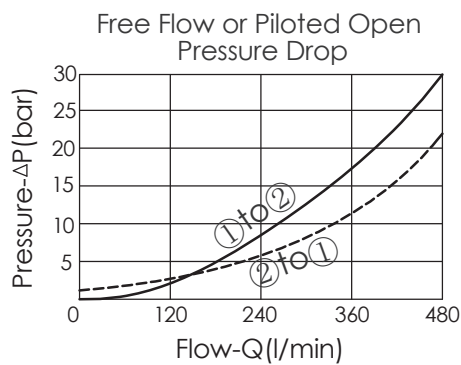
Non-adjustable
2.0 bar Cracking Pressure

COUNTERBALANCE VALVE (Fixed Setting)



TECHNICAL DATA

Max. Setting:	350	bar
Rated flow:	480	l/min
Cavity-Tooling:	19A-3	
Installation torque:	465-500	Nm
Weight:	1.24	kg
Pressure Setting:	Setting should be at least 1.3 times the maximum load induced pressure.	



X	PILOT RATIO
3D	4.5 : 1 (with sealed pilot)

Y	SPRINGS
	FIXED SETTING
240	220-260 bar

Z	OPTION
N	Non-adjustable 2.0 bar Cracking Pressure

COUNTERBALANCE VALVE (Semi-Restrictive, Non-vented, Fixed Setting)

Ordering Code: **CB-11A-X-Y-Z40**

22.2 Hex. (7/8 inch)

Pilot ③

M20x1.5

Valve ②

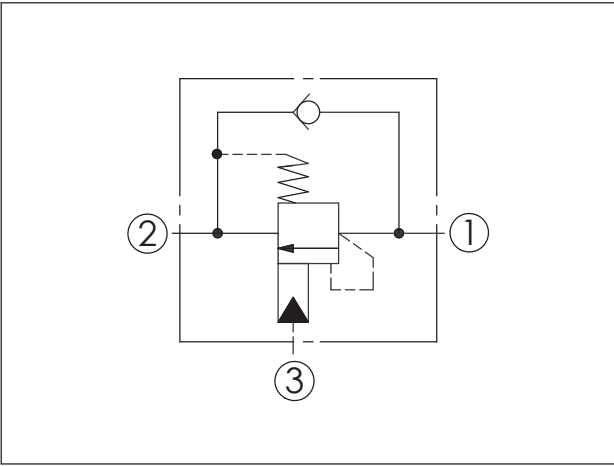
Load ①

30.2

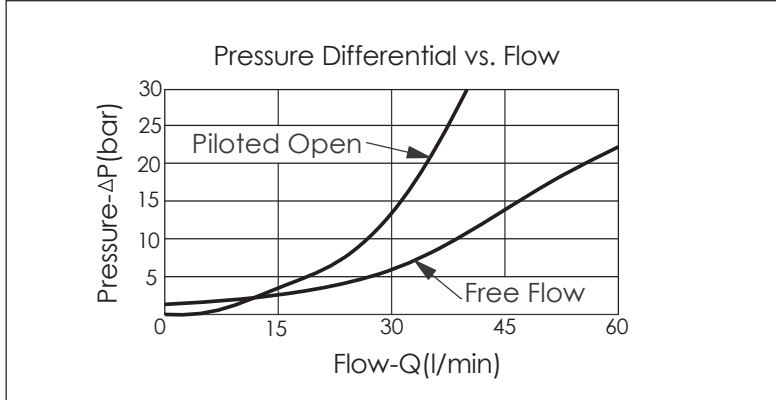
35.1

Locating Shoulder

UNIT:mm



TECHNICAL DATA		
Max. Setting:	350	bar
Rated flow:	40 l/min From Port ① to ② 60 l/min From Port ② to ①	
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Weight:	0.12	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X	PILOT RATIO	
3D	4.5 : 1 (with sealed pilot)	

Y	SPRINGS	
	FIXED SETTING	
350	325-390 bar	

Z	OPTION	
N	Non-adjustable 2.0 bar Cracking Pressure	
Q	Non-adjustable 0.3 bar Cracking Pressure	

COUNTERBALANCE VALVE (Without Pilot Assist, 3 Port Cavity)

Ordering Code: **CB-11A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

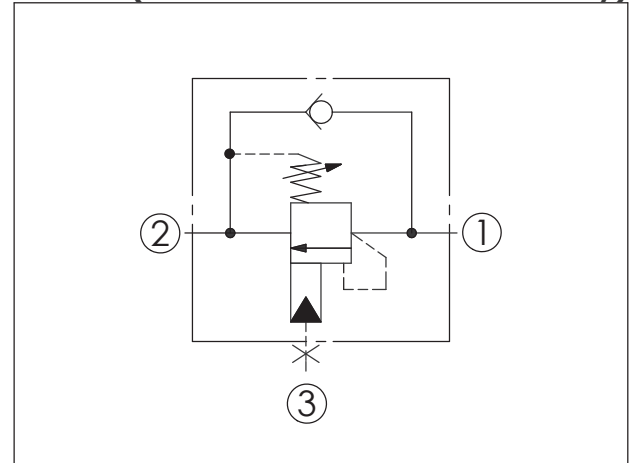
Without Pilot Assist ③

Valve ②

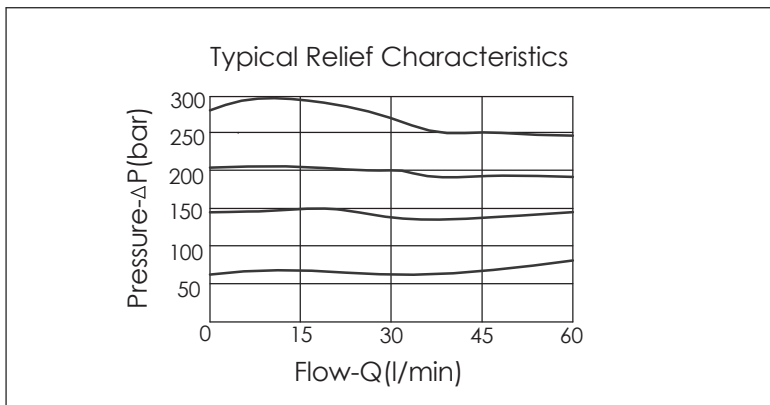
Load ①

Locating Shoulder

UNIT:mm



TECHNICAL DATA		
Max. Setting:	280	bar
Rated flow:	60	l/min
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Weight:	0.15	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X	PILOT RATIO	
23	Without Pilot Assist, 3 Port Cavity	

Y	SPRINGS	
ADJUSTMENT RANGES (2 bar Cracking Pressure)		
H	70 to 280 bar	(210 bar Standard Setting)
I	25 to 105 bar	(70 bar Standard Setting)
SPECIAL PURPOSES (0.3 bar Cracking Pressure)		
A	70 to 280 bar	(210 bar Standard Setting)
B	25 to 105 bar	(70 bar Standard Setting)
C	140 to 350 bar	(210 bar Standard Setting)
E	16 to 55 bar	(25 bar Standard Setting)

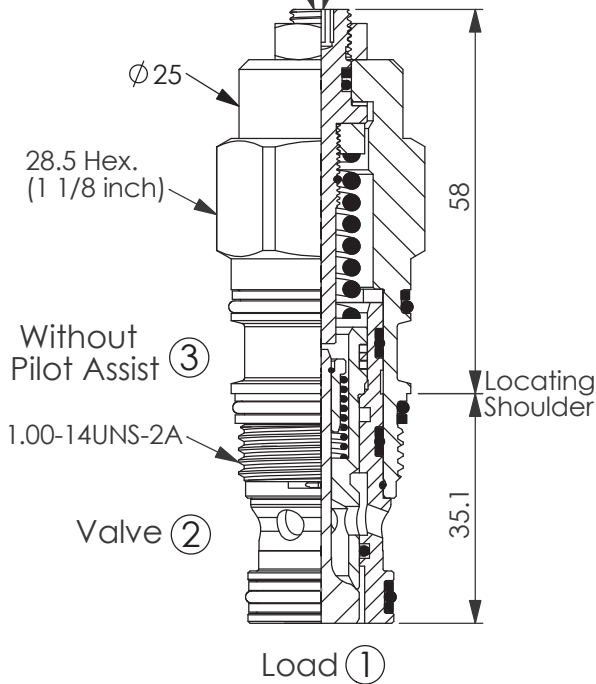
Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE (Without Pilot Assist, 3 Port Cavity)

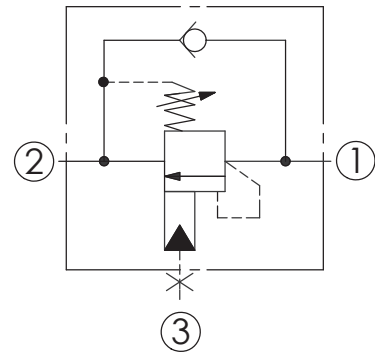
Ordering Code: **CB-2A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option:
Maximum extension from locating shoulder.
(L Control shown)



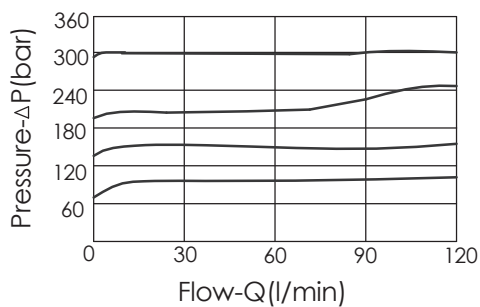
UNIT:mm



TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	120	l/min
Cavity-Tooling:	2A-3	
Installation torque:	60-70	Nm
Weight:	0.29	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	

Typical Relief Characteristics



X

PILOT RATIO

23

Without Pilot Assist,
3 Port Cavity

Y

SPRINGS

ADJUSTMENT RANGES(2 bar Cracking Pressure)

H

70 to 280 bar (210 bar Standard Setting)

I

25 to 105 bar (70 bar Standard Setting)

SPECIAL PURPOSES(0.3 bar Cracking Pressure)

A

70 to 280 bar (210 bar Standard Setting)

B

25 to 105 bar (70 bar Standard Setting)

E

16 to 55 bar (25 bar Standard Setting)

Z

OPTIONS

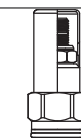
L

Leakproof hex.
socket screw.



C

Stainless Steel
Tamper Resistant
Cover.



COUNTERBALANCE VALVE (Without Pilot Assist, 3 Port Cavity)

Ordering Code: **CB-17A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

Ø30

31.7 Hex. (1 1/4 inch)

Without Pilot Assist ③

M36x2

Valve ②

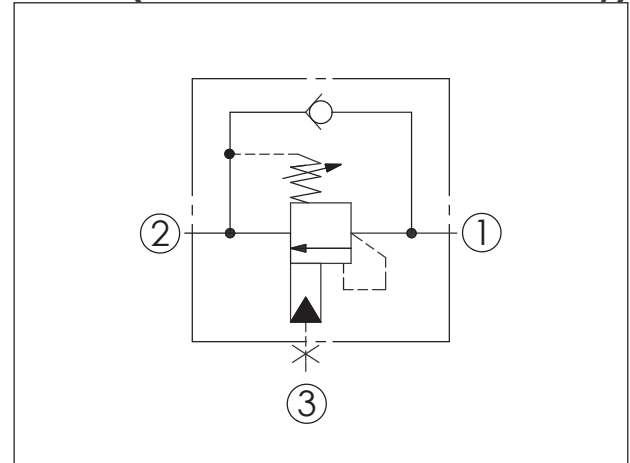
Load ①

70

46

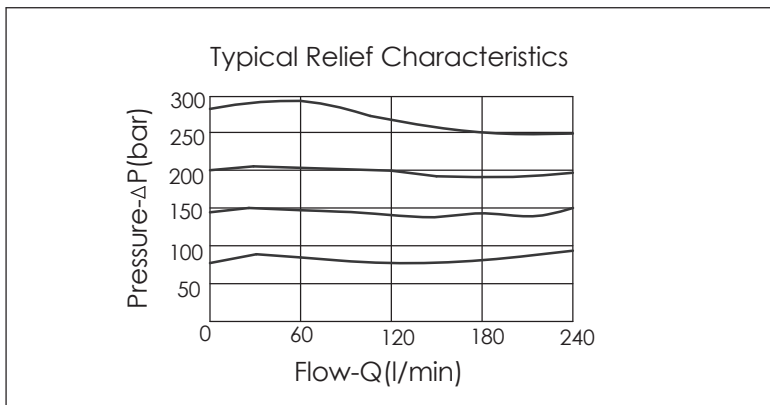
Locating Shoulder

UNIT:mm



TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	240	l/min
Cavity-Tooling:	17A-3	
Installation torque:	200-215	Nm
Weight:	0.6	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



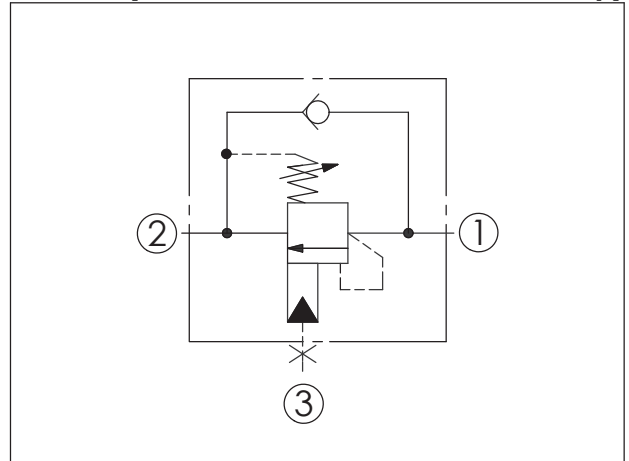
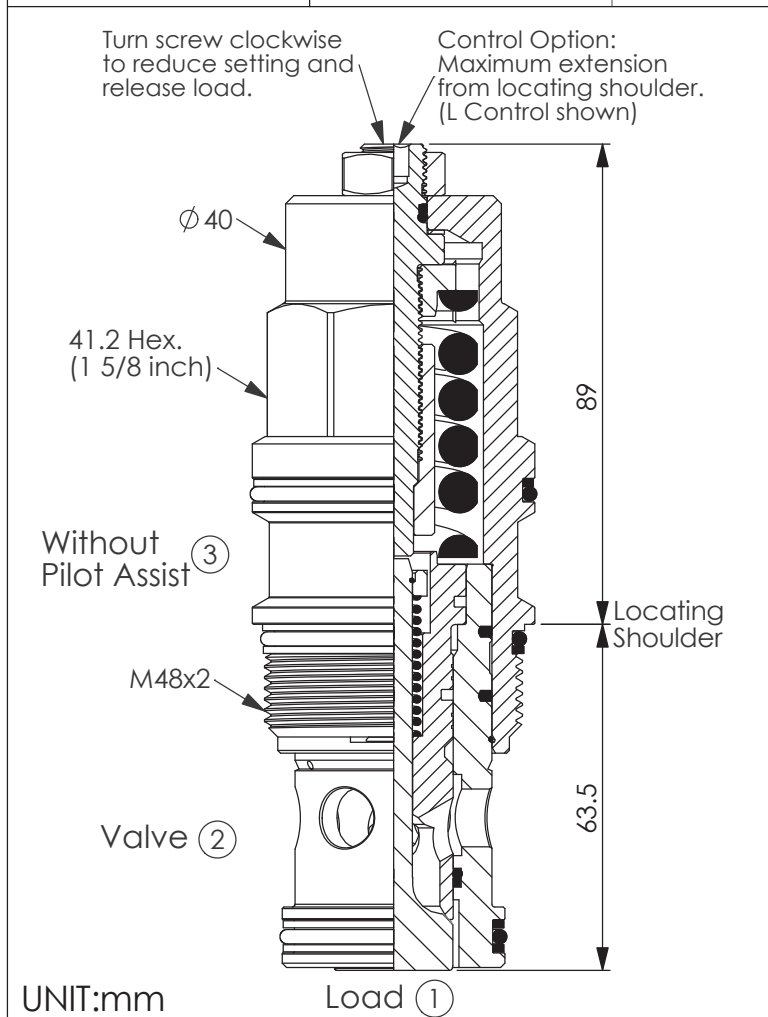
X	PILOT RATIO	
23	Without Pilot Assist, 3 Port Cavity	

Y	SPRINGS	
	ADJUSTMENT RANGES (2 bar Cracking Pressure)	
H	70 to 280 bar	(210 bar Standard Setting)
I	25 to 105 bar	(70 bar Standard Setting)
N	8 to 25 bar	(14 bar Standard Setting)
	SPECIAL PURPOSES (0.3 bar Cracking Pressure)	
A	70 to 280 bar	(210 bar Standard Setting)
B	25 to 105 bar	(70 bar Standard Setting)
E	16 to 55 bar	(25 bar Standard Setting)

Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

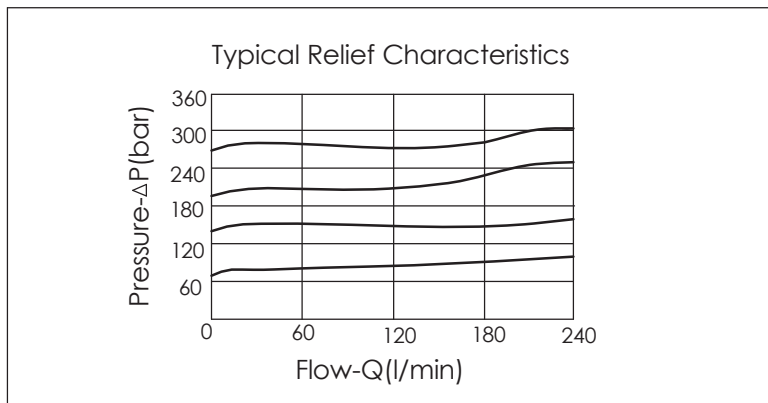
COUNTERBALANCE VALVE (Without Pilot Assist, 3 Port Cavity)

Ordering Code: **CB-19A-X-Y-Z**



TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	480	l/min
Cavity-Tooling:	19A-3	
Installation torque:	465-500	Nm
Weight:	1.36	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



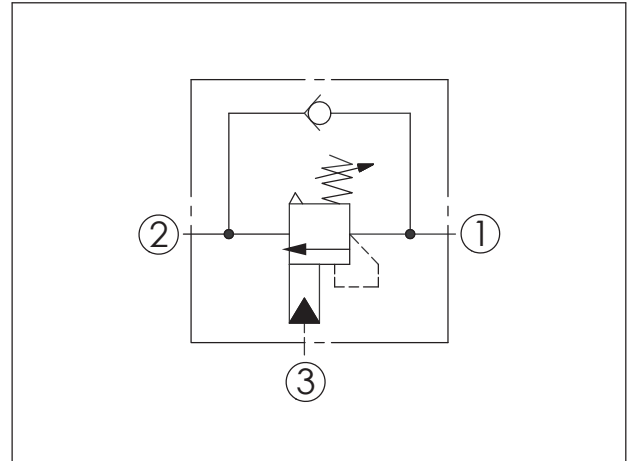
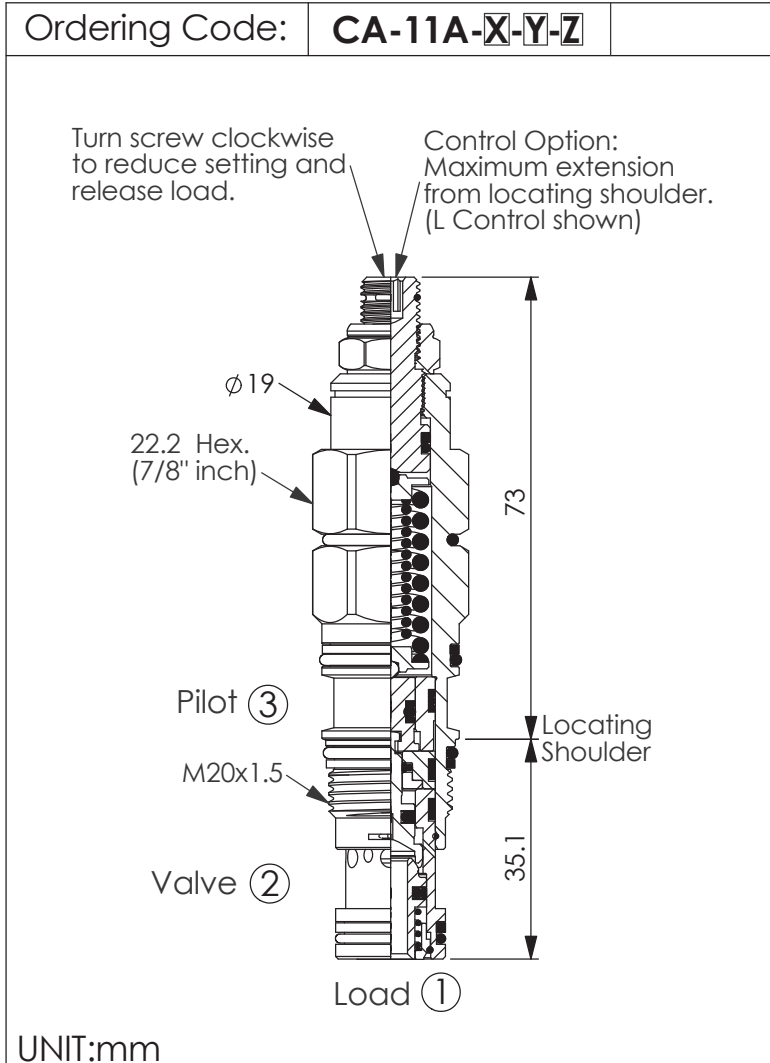
X	PILOT RATIO	
23	Without Pilot Assist, 3 Port Cavity	

Y	SPRINGS	
	ADJUSTMENT RANGES(2 bar Cracking Pressure)	
H	70 to 280 bar	(210 bar Standard Setting)
I	25 to 105 bar	(70 bar Standard Setting)
	SPECIAL PURPOSES(0.3 bar Cracking Pressure)	
A	70 to 280 bar	(210 bar Standard Setting)
B	25 to 105 bar	(70 bar Standard Setting)
E	16 to 55 bar	(25 bar Standard Setting)

Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE

(Vented, Atmospherically Referenced, 280 Bar Maximum Setting)



TECHNICAL DATA

Max. Setting: 280 bar

Rated flow: 60 l/min

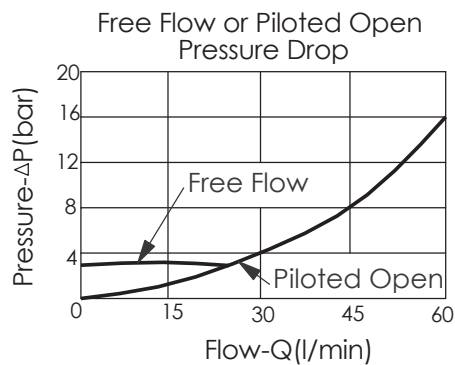
Cavity-Tooling: 11A-3

Installation torque: 40-50 Nm

Weight: 0.20 kg

Pressure Setting:

Setting should be 1.3 times maximum load induced pressure.



X	PILOT RATIO	
3A	1 : 1 (with sealed pilot)	
3C	3 : 1 (with sealed pilot)	

Z	OPTIONS	
L	Leakproof hex. socket screw.	
LP	Leakproof hex. socket screw. With stainless steel external metal components	
LS	Leakproof hex. socket screw. With stainless steel all metal components	
C	Stainless Steel Tamper Resistant Cover.	
T	Three-winged Handknob Kit.	

Y	SPRINGS	
	ADJUSTMENT RANGES (2.8 bar Cracking Pressure)	
H	70 to 280 bar (210 bar Standard Setting)	
I	25 to 105 bar (70 bar Standard Setting)	

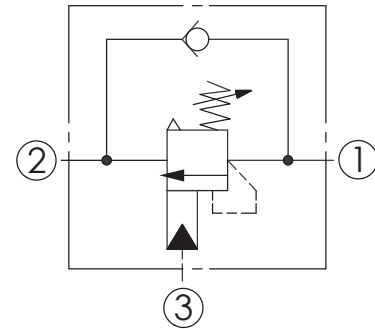
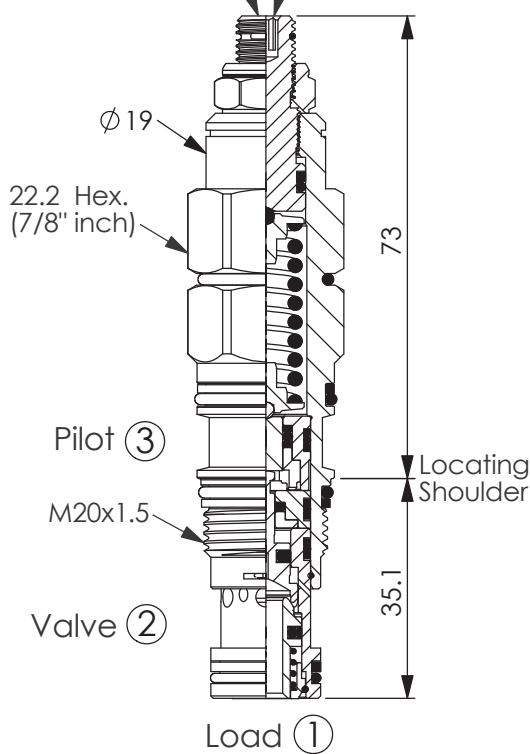
COUNTERBALANCE VALVE

(Vented, Atmospherically Referenced, 420 Bar Maximum Setting)

Ordering Code: **CA-11A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

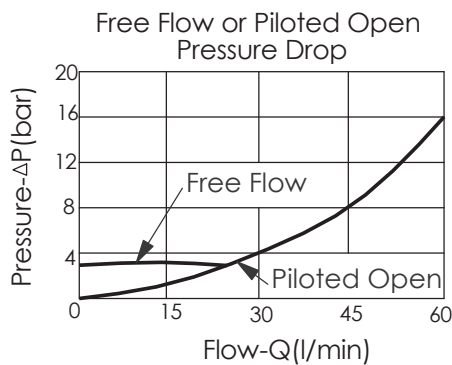
Control Option:
Maximum extension from locating shoulder.
(L Control shown)



TECHNICAL DATA

Max. Setting:	420	bar
Rated flow:	60	l/min
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Weight:	0.20	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	

UNIT:mm



X PILOT RATIO

3B	2 : 1 (with sealed pilot)
3E	5 : 1 (with sealed pilot)

Y SPRINGS

ADJUSTMENT RANGES(2.8 bar Cracking Pressure)

F	70 to 175 bar (140 bar Standard Setting)
G	140 to 420 bar (280 bar Standard Setting)

Z OPTIONS

L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE

(Vented, Atmospherically Referenced, 280 Bar Maximum Setting)

Ordering Code: **CA-2A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

28.5 Hex. (1 1/8" inch)

83

35.1

Locating Shoulder

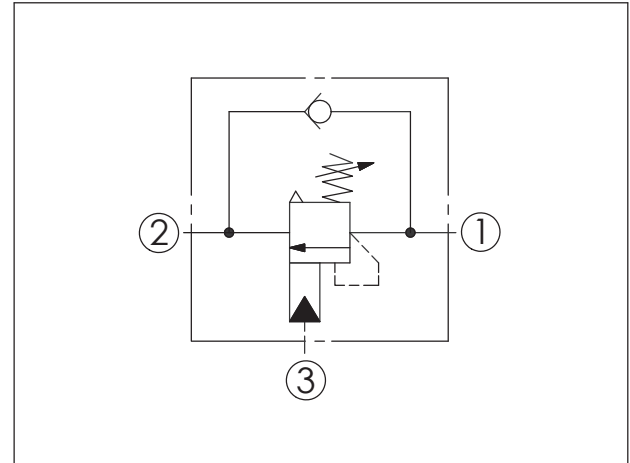
Pilot (3)

1.00-14UNS-2A

Valve (2)

Load (1)

UNIT:mm

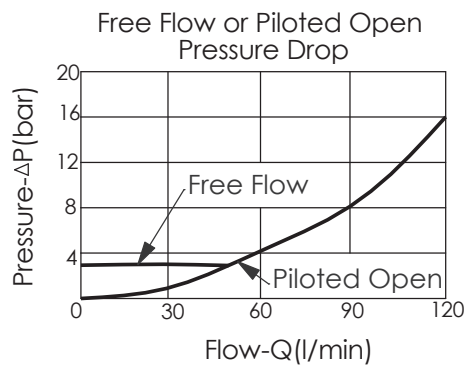


TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	120	l/min
Cavity-Tooling:	2A-3	
Installation torque:	60-70	Nm
Weight:	0.36	kg

Pressure Setting:

Setting should be 1.3 times maximum load induced pressure.



X

PILOT RATIO

3A	1 : 1 (with sealed pilot)
3C	3 : 1 (with sealed pilot)

Y

SPRINGS

ADJUSTMENT RANGES (2.8 bar Cracking Pressure)

H 70 to 280 bar (210 bar Standard Setting)

I 25 to 105 bar (70 bar Standard Setting)

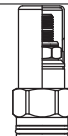
Z

OPTIONS

L Leakproof hex. socket screw.



C Stainless Steel Tamper Resistant Cover.



COUNTERBALANCE VALVE

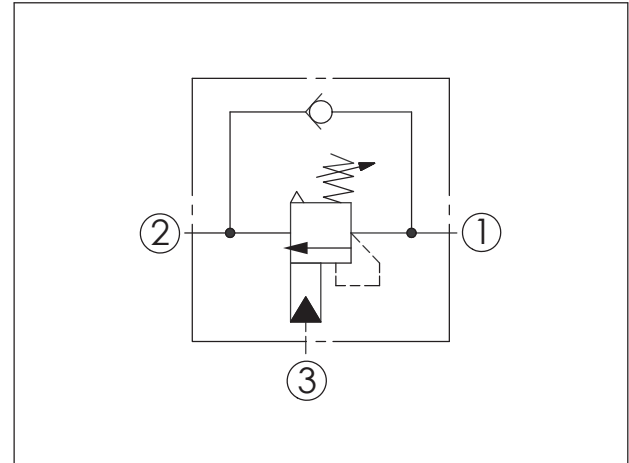
(Vented, Atmospherically Referenced, 280 Bar Maximum Setting)

Ordering Code: **CA-17A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

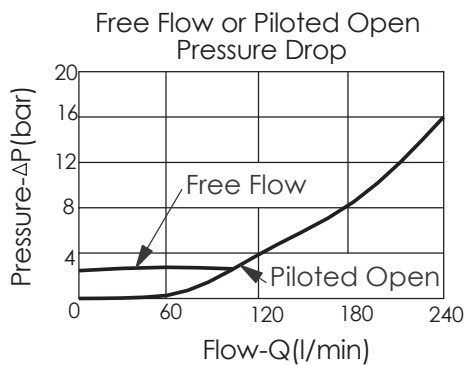
Control Option: Maximum extension from locating shoulder. (L Control shown)

UNIT:mm



TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	240	l/min
Cavity-Tooling:	17A-3	
Installation torque:	200-215	Nm
Weight:	0.74	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X

PILOT RATIO

3A	1 : 1 (with sealed pilot)
3C	3 : 1 (with sealed pilot)

Y

SPRINGS

H 70 to 280 bar (210 bar Standard Setting)

I 25 to 105 bar (70 bar Standard Setting)

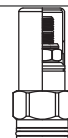
Z

OPTIONS

L Leakproof hex. socket screw.



C Stainless Steel Tamper Resistant Cover.



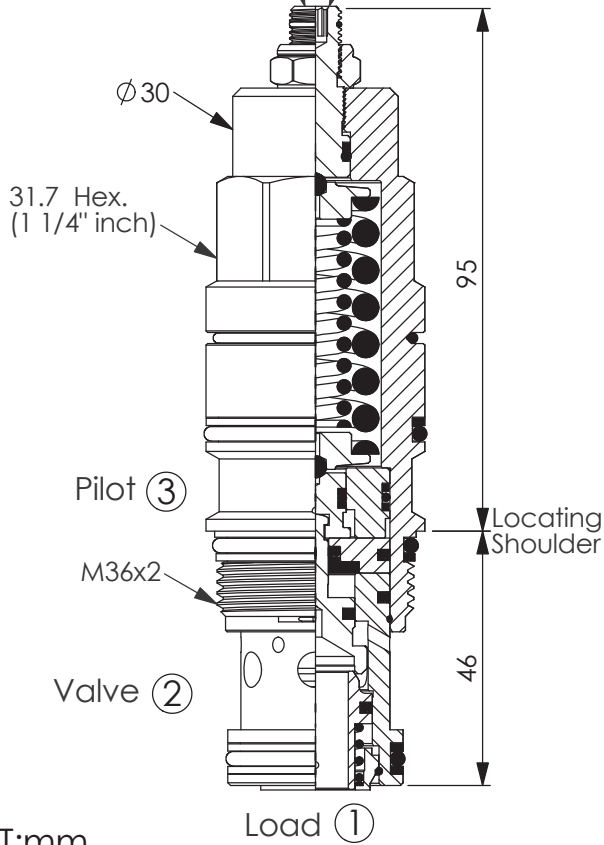
COUNTERBALANCE VALVE

(Vented, Atmospherically Referenced, 420 Bar Maximum Setting)

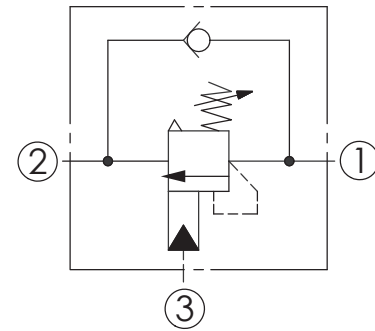
Ordering Code: **CA-17A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option:
Maximum extension from locating shoulder.
(L Control shown)

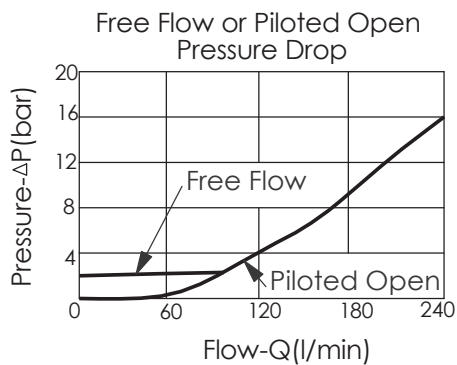


UNIT:mm



TECHNICAL DATA

Max. Setting:	420	bar
Rated flow:	240	l/min
Cavity-Tooling:	17A-3	
Installation torque:	200-215	Nm
Weight:	0.74	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X PILOT RATIO

3B	2 : 1 (with sealed pilot)
3E	5 : 1 (with sealed pilot)

Y SPRINGS

F 70 to 175 bar (140 bar Standard Setting)

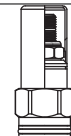
G 140 to 420 bar (280 bar Standard Setting)

Z OPTIONS

L Leakproof hex. socket screw.

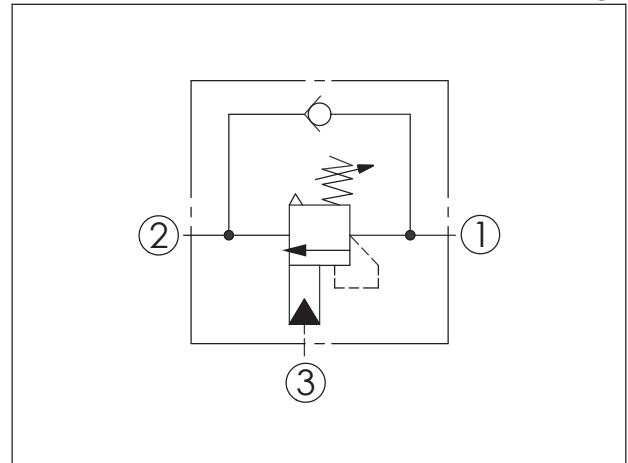
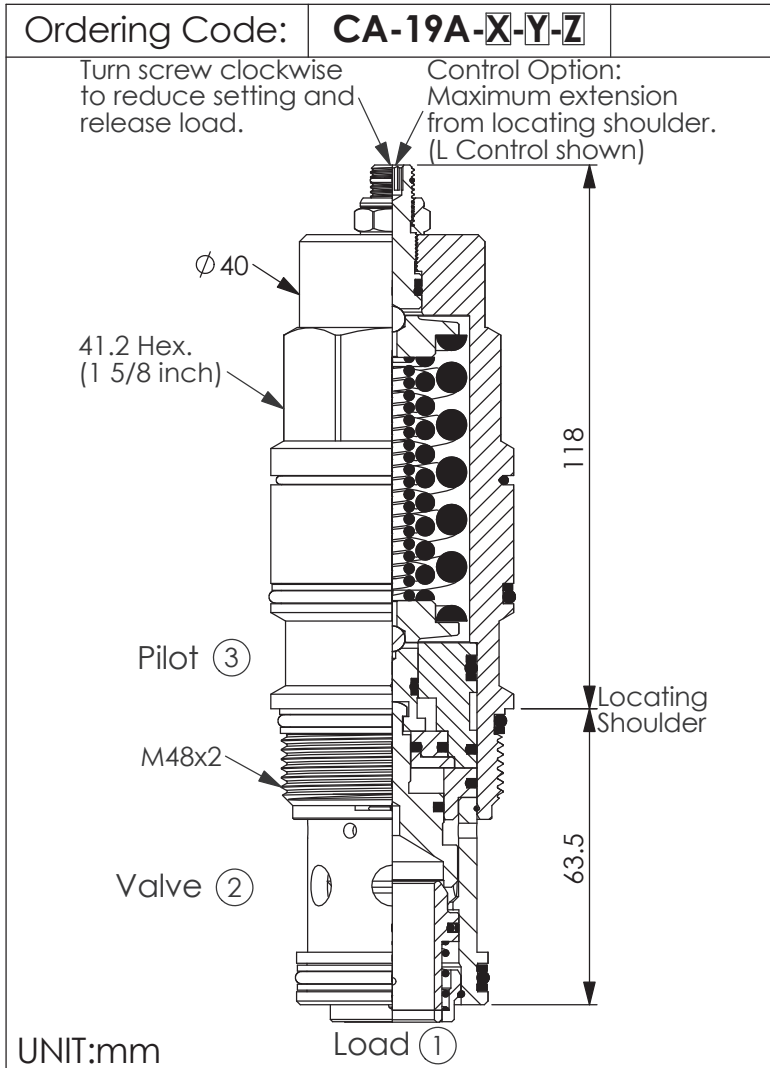


C Stainless Steel Tamper Resistant Cover.



COUNTERBALANCE VALVE

(Vented, Atmospherically Referenced, 280 Bar Maximum Setting)

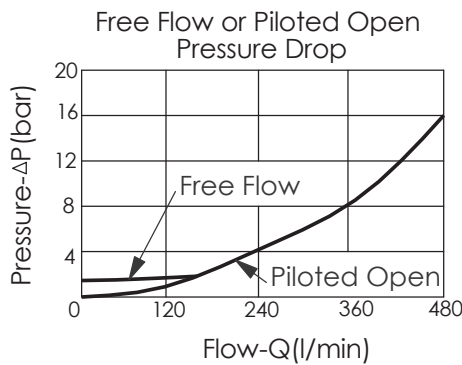


TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	480	l/min
Cavity-Tooling:	19A-3	
Installation torque:	475-500	Nm
Weight:	1.62	kg

Pressure Setting:

Setting should be 1.3 times maximum load induced pressure.



X	PILOT RATIO	
3A	1 : 1 (with sealed pilot)	
3C	3 : 1 (with sealed pilot)	

Y	SPRINGS	
	ADJUSTMENT RANGES(2.8 bar Cracking Pressure)	
H	70 to 280 bar	(210 bar Standard Setting)
I	25 to 105 bar	(70 bar Standard Setting)

Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE

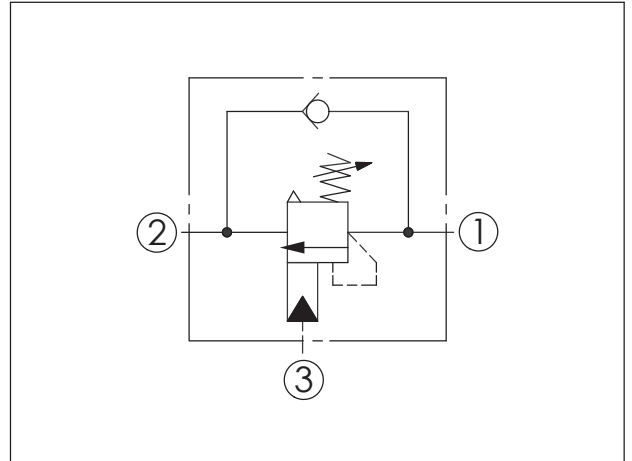
(Vented, Atmospherically Referenced, 420 Bar Maximum Setting)

Ordering Code: **CA-19A-X-Y-Z**

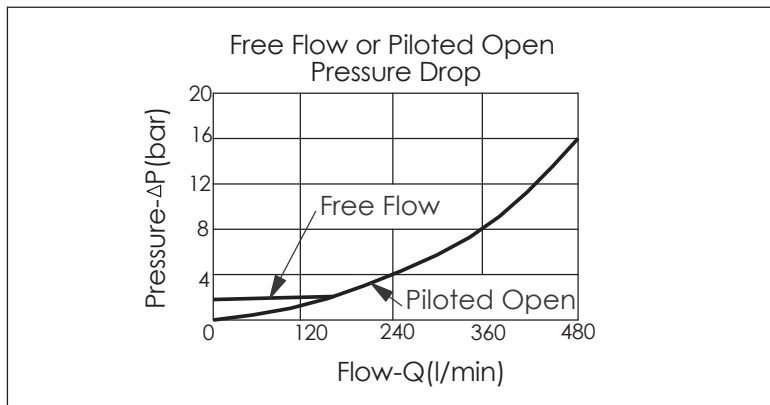
Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

UNIT:mm



TECHNICAL DATA		
Max. Setting:	420	bar
Rated flow:	480	l/min
Cavity-Tooling:	19A-3	
Installation torque:	475-500	Nm
Weight:	1.62	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X	PILOT RATIO	
3B	2 : 1 (with sealed pilot)	
3E	5 : 1 (with sealed pilot)	

Y	SPRINGS	
	ADJUSTMENT RANGES (2.8 bar Cracking Pressure)	
F	70 to 175 bar (140 bar Standard Setting)	
G	140 to 420 bar (280 bar Standard Setting)	

Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

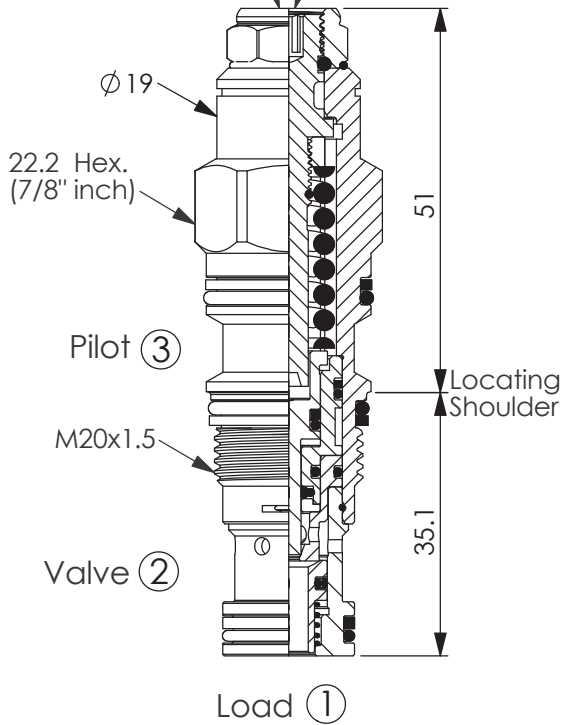
COUNTERBALANCE VALVE

(Vented, Atmospherically Referenced, 280 Bar Maximum Setting)

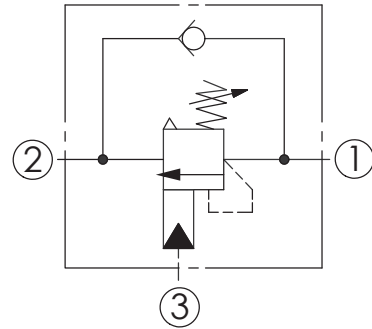
Ordering Code: **CA-11A-X-Y-Z-30**

Turn screw clockwise to reduce setting and release load.

Control Option:
Maximum extension
from locating shoulder.
(L Control shown)



UNIT:mm



TECHNICAL DATA

Max. Setting: 280 bar

Rated flow: 30 l/min

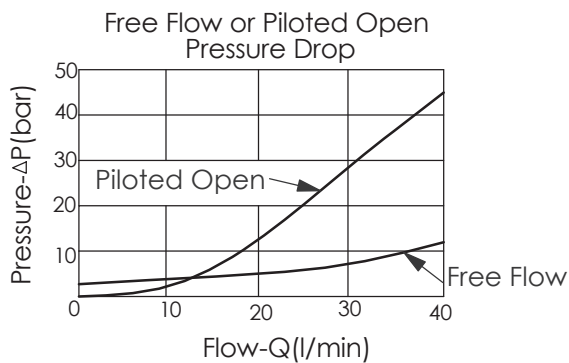
Cavity-Tooling: 11A-3

Installation torque: 40-50 Nm

Weight: 0.16 kg

Pressure Setting:

Setting should be 1.3 times maximum load induced pressure.



X

PILOT RATIO

3D 4.5 : 1 (with sealed pilot)

Y

SPRINGS

ADJUSTMENT RANGES(2.8 bar Cracking Pressure)

H

70 to 280 bar (210 bar Standard Setting)

Z

OPTIONS

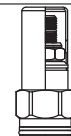
L

Leakproof hex. socket screw.



C

Stainless Steel Tamper Resistant Cover.

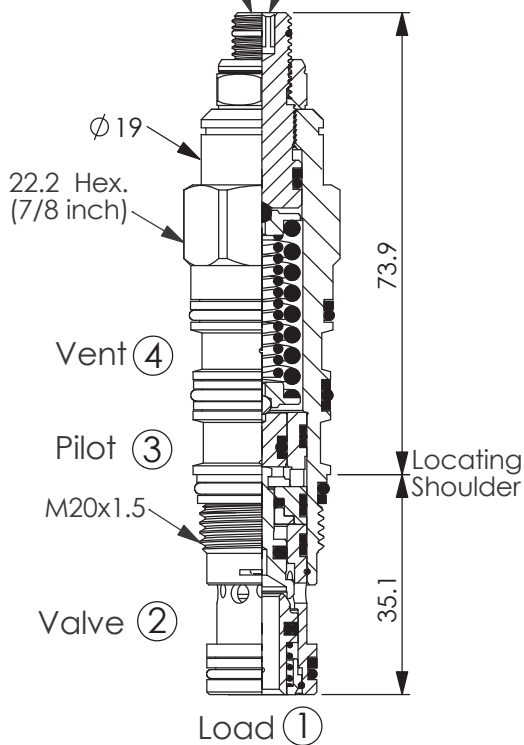


COUNTERBALANCE VALVE (Vented, 280 Bar Maximum Setting)

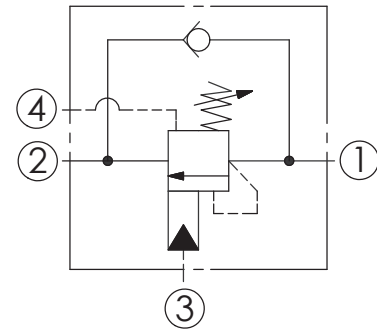
Ordering Code: **CW-21A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option:
Maximum extension from locating shoulder.
(L Control shown)

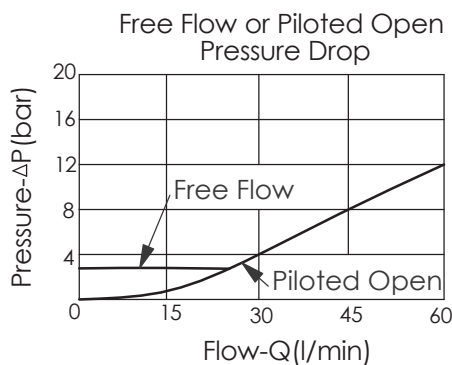


UNIT:mm



TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	60	l/min
Cavity-Tooling:	21A-4	
Installation torque:	40-50	Nm
Weight:	0.19	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X PILOT RATIO

4A	1 : 1 (with sealed pilot)
4C	3 : 1 (with sealed pilot)

Y

SPRINGS

ADJUSTMENT RANGES (2.8 bar Cracking Pressure)

H	70 to 280 bar (210 bar Standard Setting)
I	28 to 105 bar (70 bar Standard Setting)

Z

OPTIONS

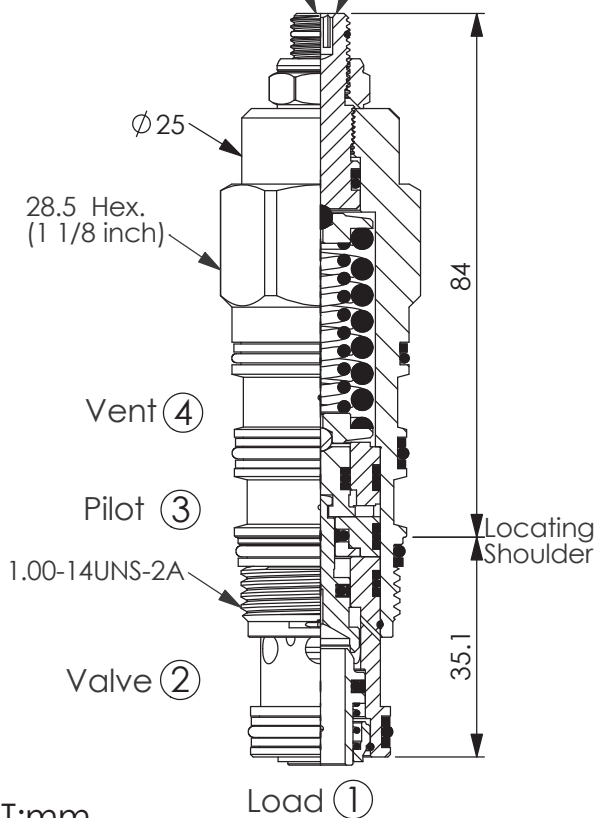
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE (Vented, 280 Bar Maximum Setting)

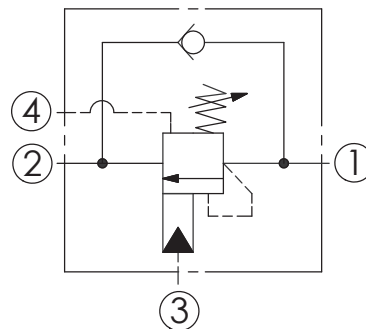
Ordering Code: **CW-22A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option:
Maximum extension
from locating shoulder.
(L Control shown)



UNIT:mm

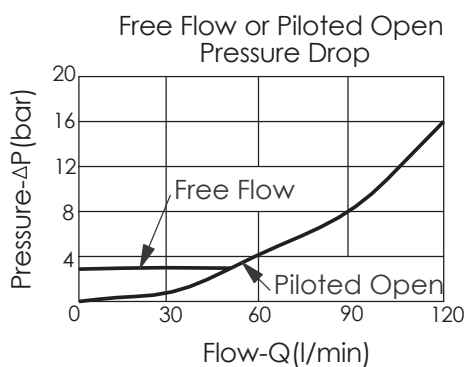


TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	120	l/min
Cavity-Tooling:	22A-4	
Installation torque:	60-70	Nm
Weight:	0.36	kg

Pressure Setting:

Setting should be 1.3 times maximum load induced pressure.



X PILOT RATIO

4A	1 : 1 (with sealed pilot)
4C	3 : 1 (with sealed pilot)

Y SPRINGS

ADJUSTMENT RANGES(2.8 bar Cracking Pressure)

H	70 to 280 bar (210 bar Standard Setting)
I	28 to 105 bar (70 bar Standard Setting)

Z OPTIONS

L Leakproof hex. socket screw.



C Stainless Steel Tamper Resistant Cover.



COUNTERBALANCE VALVE (Vented, 280 Bar Maximum Setting)

Ordering Code: **CW-23A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

Ø30

31.7 Hex. (1 1/4 inch)

Vent (4)

Pilot (3)

M36x2

Valve (2)

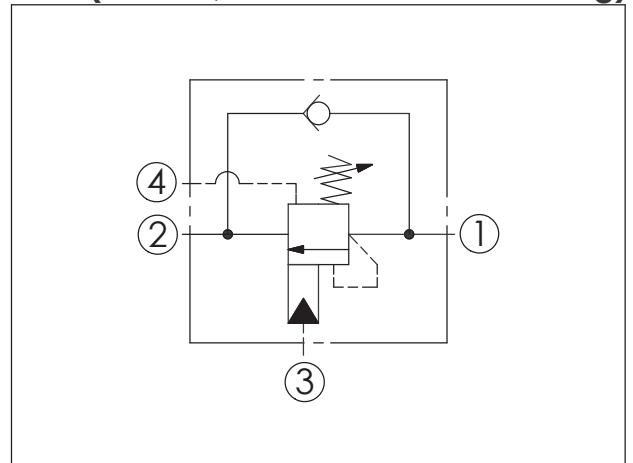
Load (1)

95

46

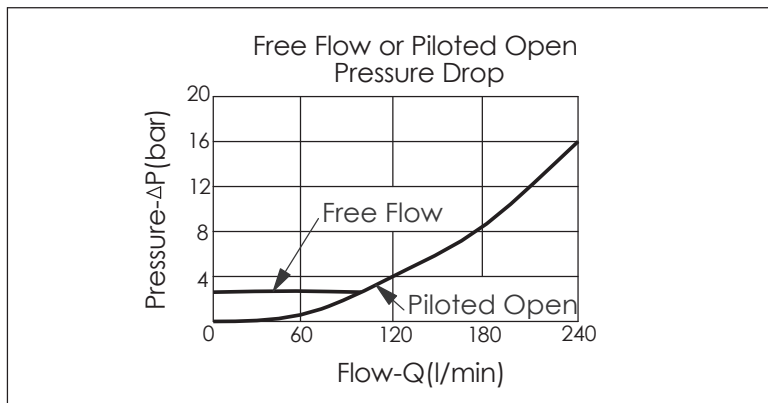
Locating Shoulder

UNIT:mm



TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	240	l/min
Cavity-Tooling:	23A-4	
Installation torque:	200-215	Nm
Weight:	0.72	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	

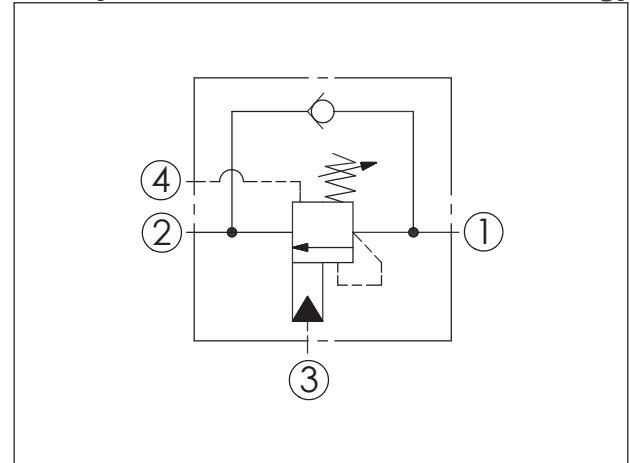
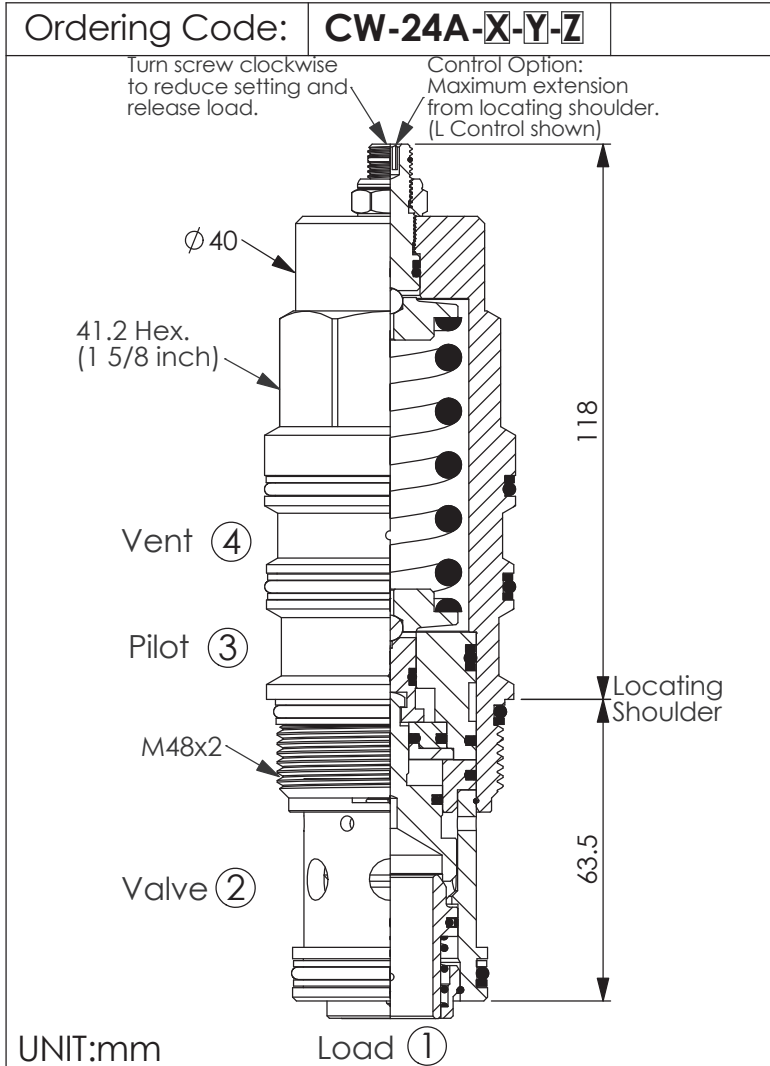


X	PILOT RATIO	
4A	1 : 1 (with sealed pilot)	
4C	3 : 1 (with sealed pilot)	

Y	SPRINGS	
	ADJUSTMENT RANGES (2.8 bar Cracking Pressure)	
H	70 to 280 bar (210 bar Standard Setting)	
I	28 to 105 bar (70 bar Standard Setting)	

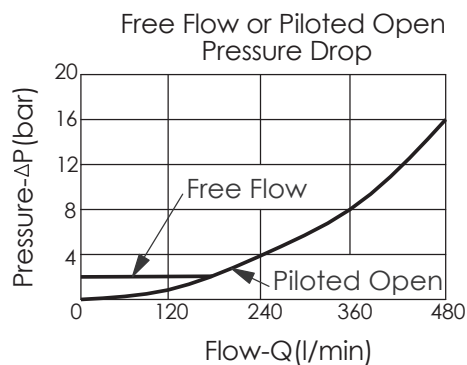
Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE (Vented, 280 Bar Maximum Setting)



TECHNICAL DATA

Max. Setting:	280	bar
Rated flow:	480	l/min
Cavity-Tooling:	24A-4	
Installation torque:	465-500	Nm
Weight:	1.59	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X PILOT RATIO

4A	1 : 1 (with sealed pilot)
4C	3 : 1 (with sealed pilot)

Y SPRINGS

ADJUSTMENT RANGES(2.8 bar Cracking Pressure)

H	70 to 280 bar (210 bar Standard Setting)
I	28 to 105 bar (70 bar Standard Setting)

Z OPTIONS

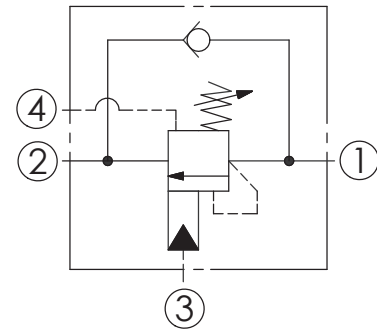
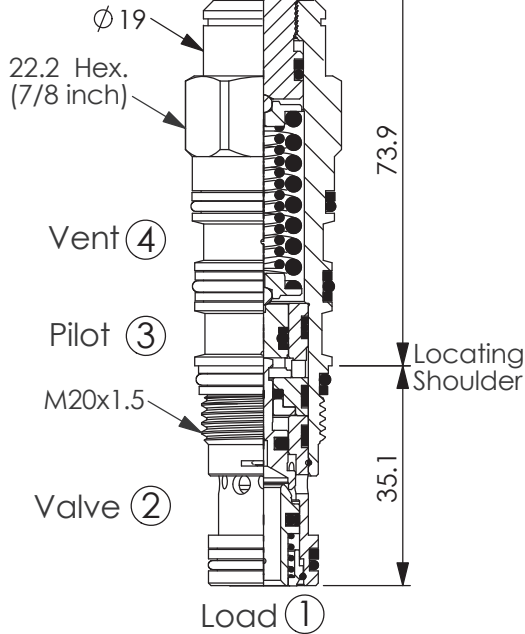
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE (Vented, 420 Bar Maximum Setting)

Ordering Code: **CW-21A-X-Y-Z**

Turn screw clockwise to reduce setting and release load.

Control Option:
Maximum extension from locating shoulder.
(L Control shown)



TECHNICAL DATA

Max. Setting: 420 bar

Rated flow: 60 l/min

Cavity-Tooling: 21A-4

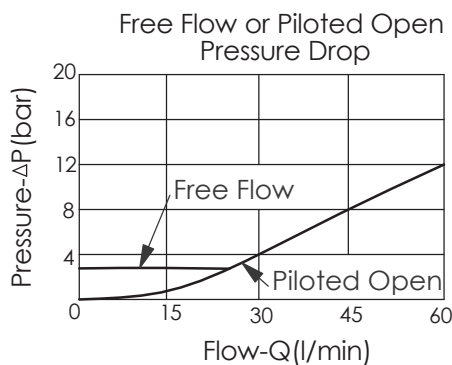
Installation torque: 40-50 Nm

Weight: 0.19 kg

Pressure Setting:

Setting should be 1.3 times maximum load induced pressure.

UNIT:mm



X PILOT RATIO

4B 2 : 1 (with sealed pilot)

4E 5 : 1 (with sealed pilot)

4J 10 : 1 (with sealed pilot)

Y

SPRINGS

ADJUSTMENT RANGES (2.8 bar Cracking Pressure)

F 70 to 175 bar (140 bar Standard Setting)

G 140 to 420 bar (280 bar Standard Setting)

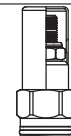
Z

OPTIONS

L Leakproof hex. socket screw.



C Stainless Steel Tamper Resistant Cover.



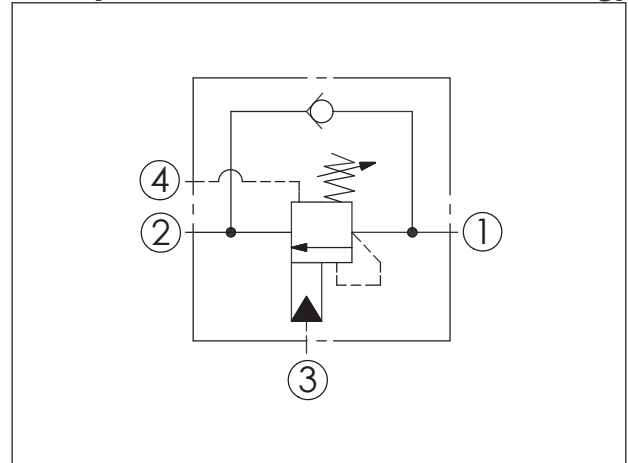
COUNTERBALANCE VALVE (Vented, 420 Bar Maximum Setting)

Ordering Code: **CW-22A-X-Y-Z**

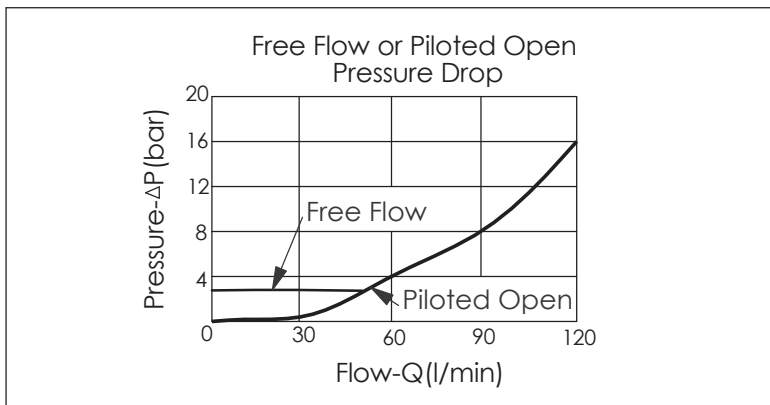
Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

UNIT:mm



TECHNICAL DATA		
Max. Setting:	420	bar
Rated flow:	120	l/min
Cavity-Tooling:	22A-4	
Installation torque:	60-70	Nm
Weight:	0.36	kg
Pressure Setting:		
Setting should be 1.3 times maximum load induced pressure.		

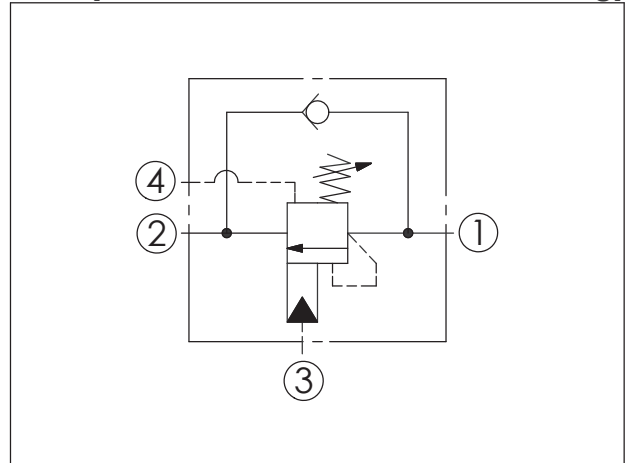
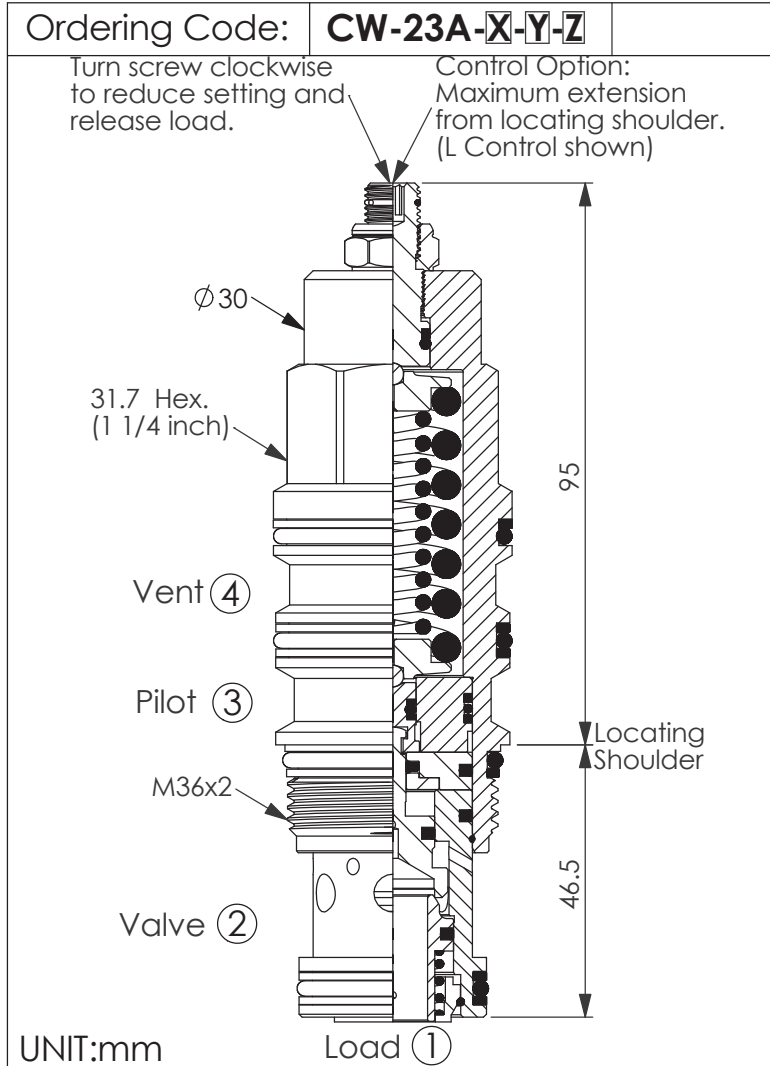


X	PILOT RATIO	
4B	2 : 1 (with sealed pilot)	
4E	5 : 1 (with sealed pilot)	

Y	SPRINGS	
ADJUSTMENT RANGES(2.8 bar Cracking Pressure)		
F	70 to 175 bar (140 bar Standard Setting)	
G	140 to 420 bar (280 bar Standard Setting)	

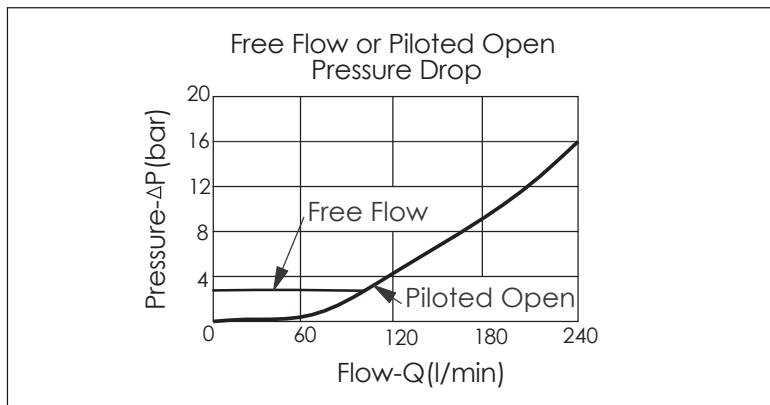
Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE (Vented, 420 Bar Maximum Setting)



TECHNICAL DATA

Max. Setting:	420	bar
Rated flow:	240	l/min
Cavity-Tooling:	23A-4	
Installation torque:	200-215	Nm
Weight:	0.73	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	

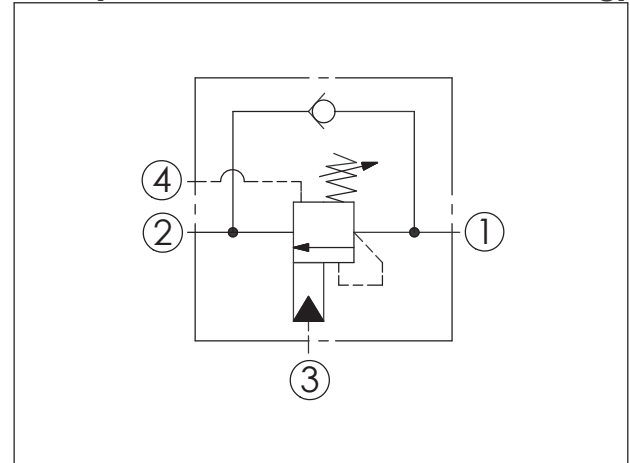
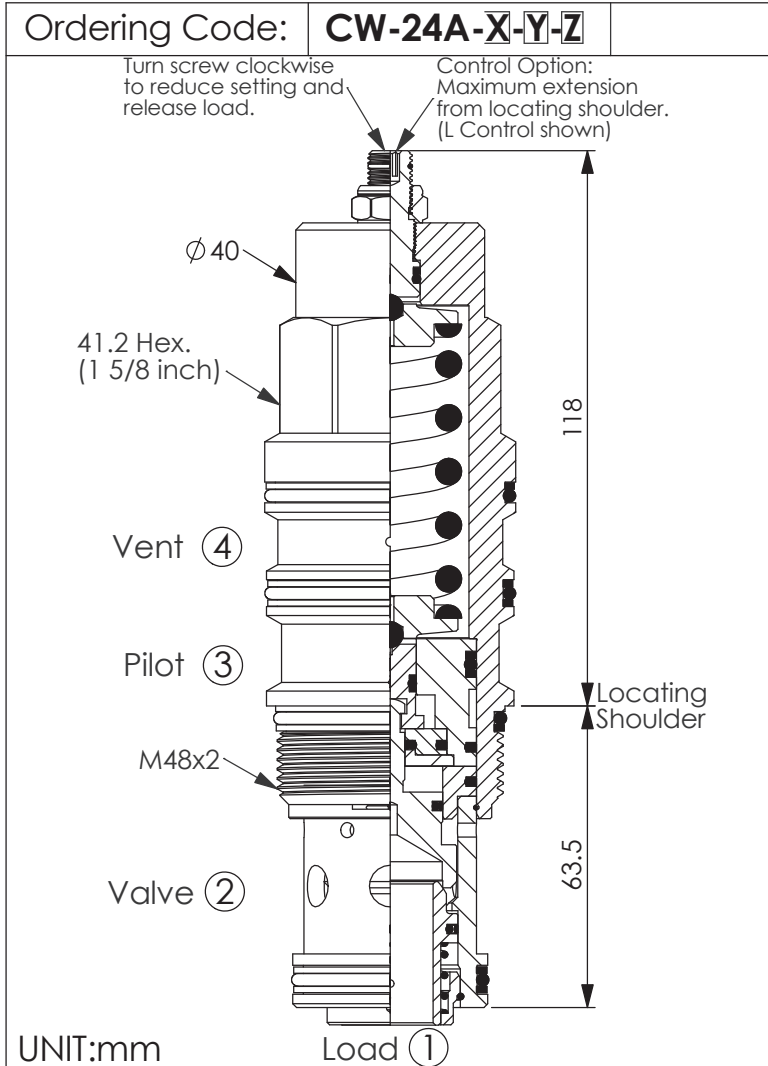


X	PILOT RATIO	
4B	2 : 1 (with sealed pilot)	
4E	5 : 1 (with sealed pilot)	

Y	SPRINGS	
	ADJUSTMENT RANGES (2.8 bar Cracking Pressure)	
F	70 to 175 bar (140 bar Standard Setting)	
G	140 to 420 bar (280 bar Standard Setting)	

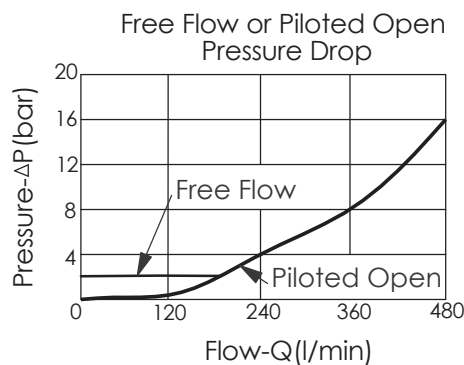
Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

COUNTERBALANCE VALVE (Vented, 420 Bar Maximum Setting)



TECHNICAL DATA

Max. Setting:	420	bar
Rated flow:	480	l/min
Cavity-Tooling:	24A-4	
Installation torque:	465-500	Nm
Weight:	1.60	kg
Pressure Setting:	Setting should be 1.3 times maximum load induced pressure.	



X PILOT RATIO

4B	2 : 1 (with sealed pilot)
4E	5 : 1 (with sealed pilot)

Y SPRINGS

ADJUSTMENT RANGES (2.8 bar Cracking Pressure)

F	70 to 175 bar (140 bar Standard Setting)
G	140 to 420 bar (280 bar Standard Setting)

Z OPTIONS

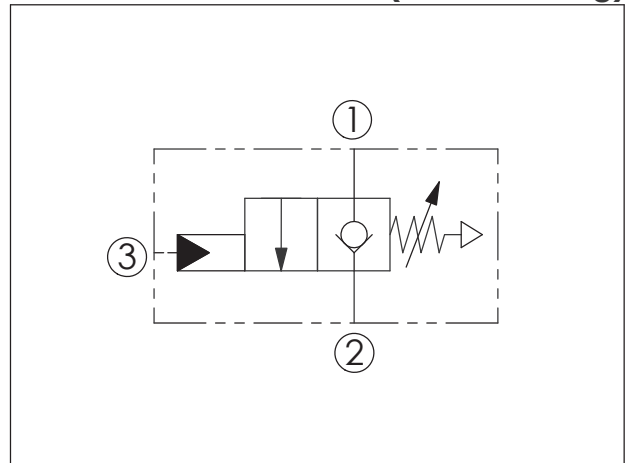
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

Ordering Code: **CA-11A-X-Y-Z**

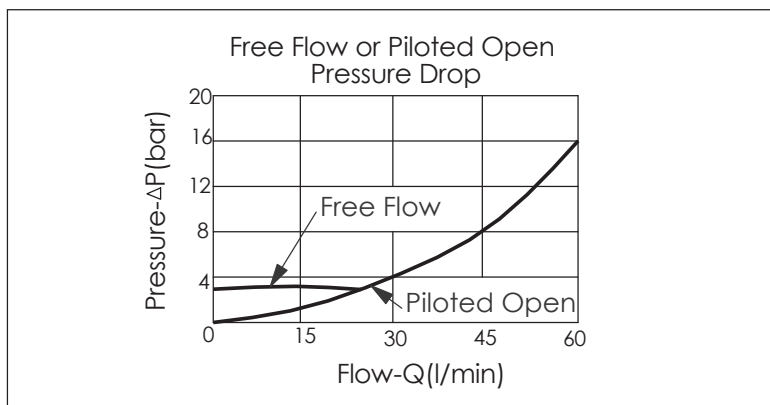
Turn screw clockwise to reduce setting and release load.

Control Option: Maximum extension from locating shoulder. (L Control shown)

UNIT:mm



TECHNICAL DATA		
Max. Operating Pressure:	420	bar
Rated flow:	60	l/min
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Weight:	0.20	kg



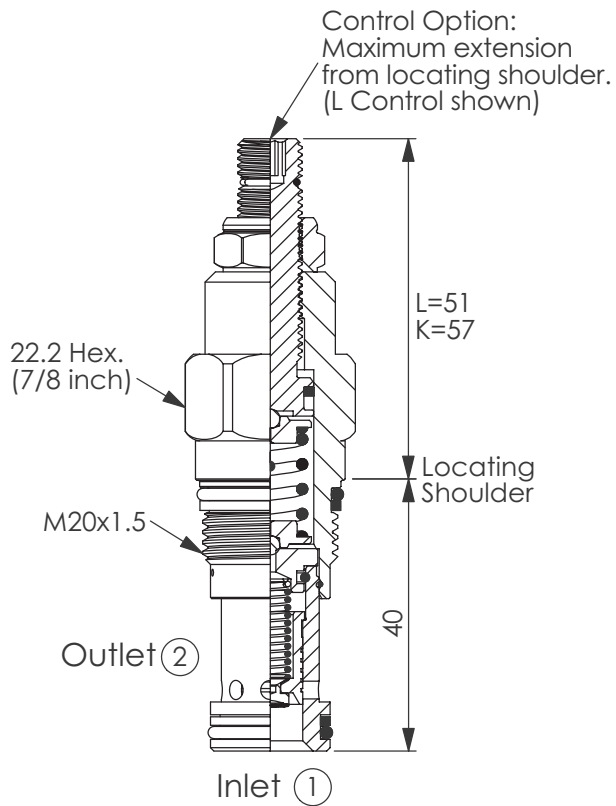
X	OPERATION	
3N	with sealed pilot	Atmospherically Referenced

Y	SPRINGS	
	PILOT ADJUSTMENT RANGS	
1050	20 to 105 bar	(70 bar Standard Setting)
2100	35 to 210 bar	(70 bar Standard Setting)

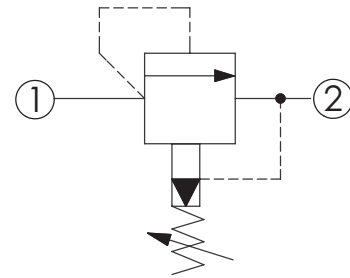
Z	OPTIONS	
L	Leakproof hex. socket screw.	
C	Stainless Steel Tamper Resistant Cover.	

RELIEF VALVE (Pilot Operated Balanced Piston)

Ordering Code: **RP-10A-X-Y-Z**



UNIT:mm



TECHNICAL DATA

Max.Operating pressure: 350 bar

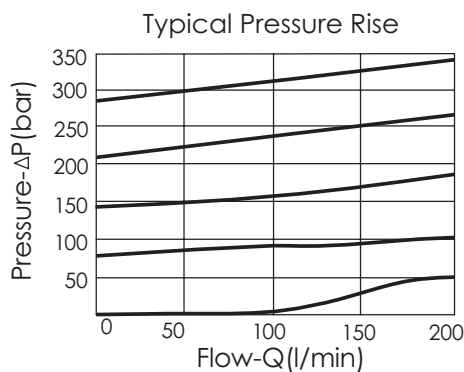
Rated flow: 95 l/min

Cavity-Tooling: 10A-2

Installation torque: 40-50 Nm

Weight: 0.14 kg

Will accept maximum pressure at port 2; suitable for use in cross port relief circuits. If used in cross port relief circuits, consider spool leakage.



X

OPERATION

20

1 to 2 (P to T)

Y

SPRINGS

ADJUSTMENT RANGES

A 7 to 210 bar (70 bar Standard Setting)

B 3.5 to 105 bar (70 bar Standard Setting)

C 10 to 420 bar (70 bar Standard Setting)

D 2 to 55 bar (25 bar Standard Setting)

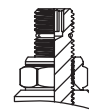
E 2 to 25 bar (14 bar Standard Setting)

W 10 to 315 bar (70 bar Standard Setting)

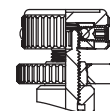
Z

OPTIONS

L Leakproof hex. socket screw.



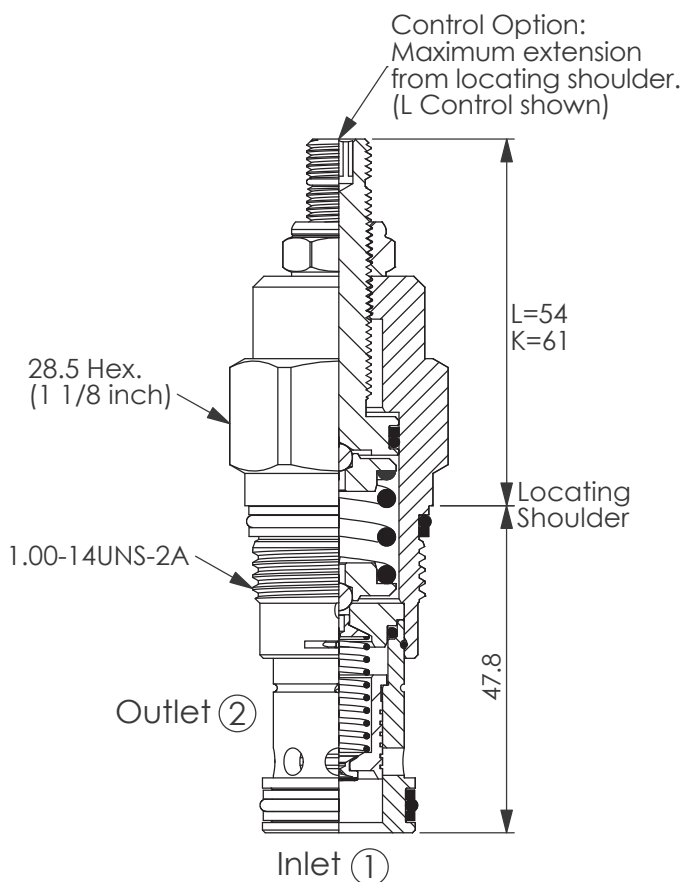
K Handknob with Lock Knob.



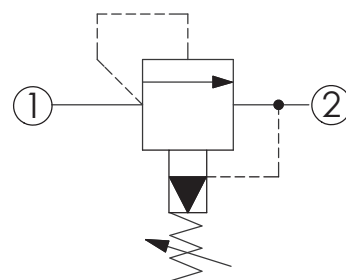
C Tamper Resistant Cover



Ordering Code: **RP-3A-X-Y-Z**



UNIT:mm



TECHNICAL DATA

Max.Operating pressure: 350 bar

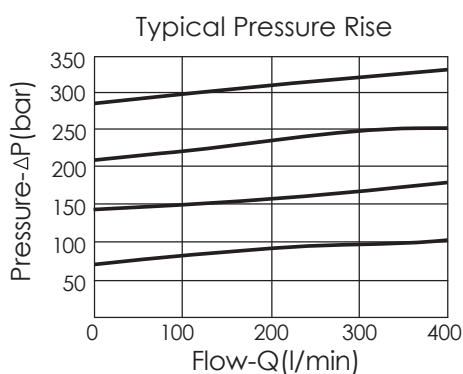
Rated flow: 200 l/min

Cavity-Tooling: 3A-2

Installation torque: 60-70 Nm

Weight: 0.25 kg

Will accept maximum pressure at port 2; suitable for use in cross port relief circuits. If used in cross port relief circuits, consider spool leakage.



X OPERATION

20 1 to 2 (P to T)

Response Time-Typical (10 ms)
Maximum Leakage (50 cc/min./70 bar)

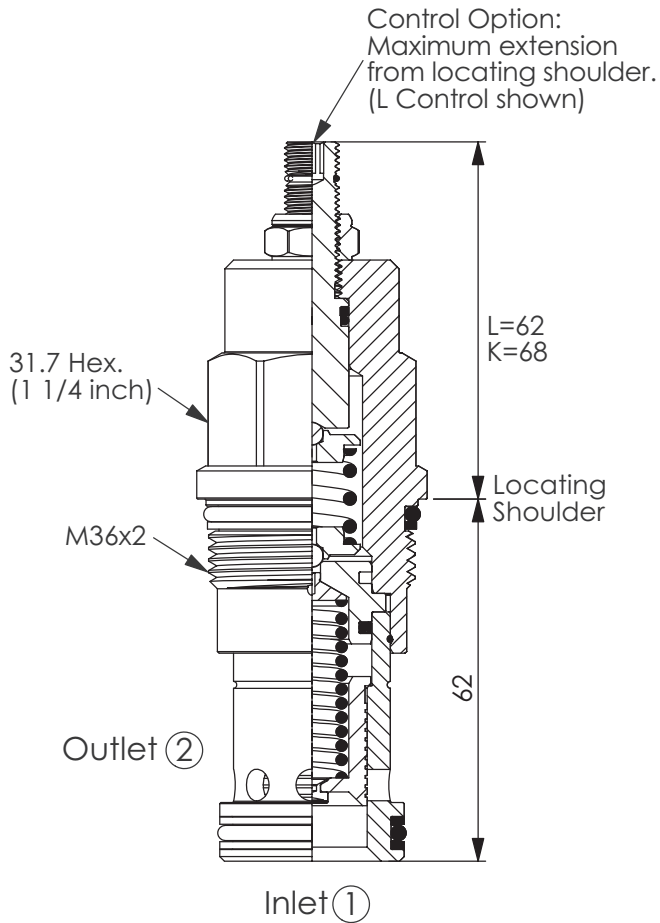
Y	SPRINGS	
	ADJUSTMENT RANGES	
A	7 to 210 bar	(70 bar Standard Setting)
B	3.5 to 105 bar	(70 bar Standard Setting)
C	10.5 to 420 bar	(70 bar Standard Setting)
D	1.7 to 55 bar	(28 bar Standard Setting)
E	1.7 to 28 bar	(14 bar Standard Setting)
N	4 to 55 bar	(28 bar Standard Setting)
Q	4 to 28 bar	(14 bar Standard Setting)
W	10 to 315 bar	(70 bar Standard Setting)

Z OPTIONS

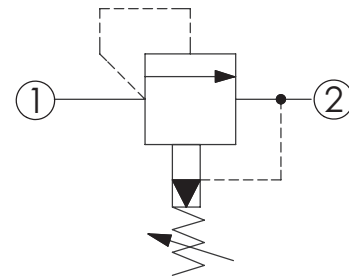
L	Leakproof hex. socket screw.	
K	Handknob with Lock Knob.	
C	Stainless Steel Tamper Resistant Cover.	

RELIEF VALVE (Pilot Operated Balanced Piston)

Ordering Code: **RP-16A-X-Y-Z**



UNIT:mm



TECHNICAL DATA

Max.Operating pressure: 350 bar

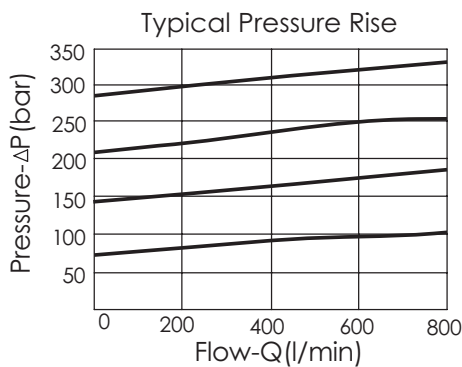
Rated flow: 380 l/min

Cavity-Tooling: 16A-2

Installation torque: 200-215 Nm

Weight: 0.53 kg

Will accept maximum pressure at port 2; suitable for use in cross port relief circuits. If used in cross port relief circuits, consider spool leakage.



X

OPERATION

20

1 to 2 (P to T)

Y

SPRINGS

ADJUSTMENT RANGES

A 7 to 210 bar (70 bar Standard Setting)

B 3.5 to 105 bar (70 bar Standard Setting)

C 10 to 420 bar (70 bar Standard Setting)

D 2 to 55 bar (25 bar Standard Setting)

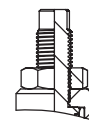
E 2 to 25 bar (14 bar Standard Setting)

W 10 to 315 bar (70 bar Standard Setting)

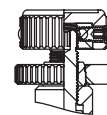
Z

OPTIONS

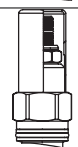
L Leakproof hex. socket screw.



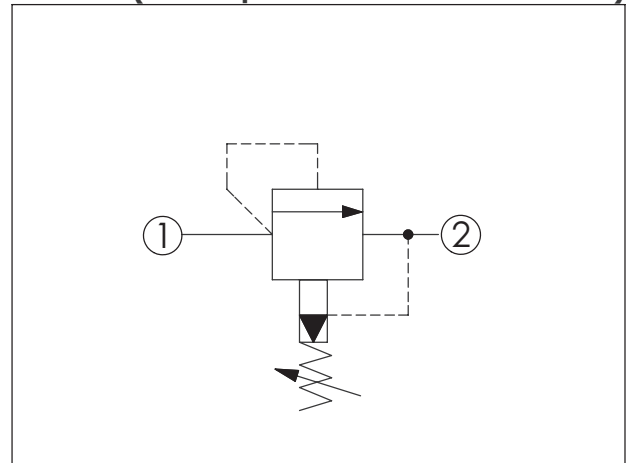
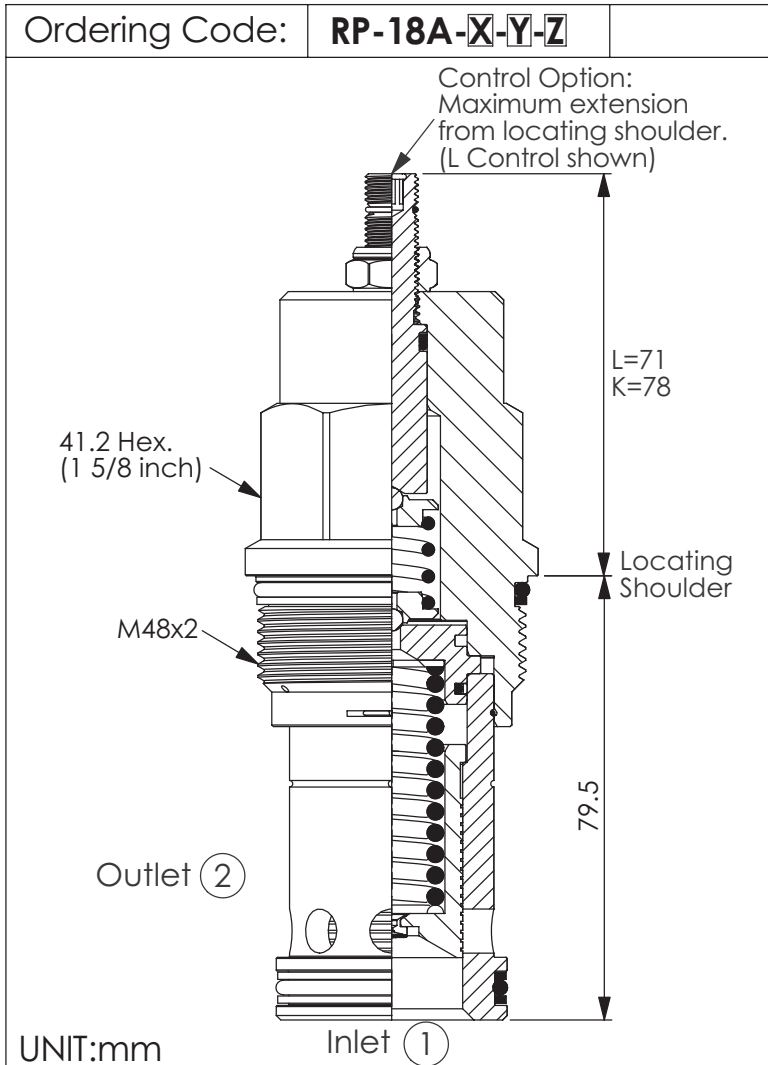
K Handknob with Lock Knob.



C Tamper Resistant Cover.



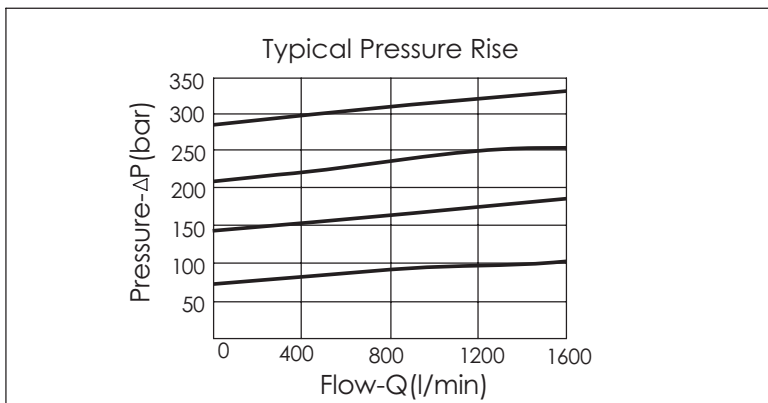
RELIEF VALVE (Pilot Operated Balanced Piston)



TECHNICAL DATA

Max.Operating pressure:	350 bar	
Rated flow:	760	l/min
Cavity-Tooling:	18A-2	
Installation torque:	465-500	Nm
Weight:	1.15	kg

Will accept maximum pressure at port 2; suitable for use in cross port relief circuits. If used in cross port relief circuits, consider spool leakage.



X	OPERATION	
20	1 to 2 (P to T)	

Y	SPRINGS	
	ADJUSTMENT RANGES	
A	7 to 210 bar	(70 bar Standard Setting)
B	3.5 to 105 bar	(70 bar Standard Setting)
C	10 to 420 bar	(70 bar Standard Setting)
D	2 to 55 bar	(25 bar Standard Setting)
E	2 to 25 bar	(14 bar Standard Setting)
W	10 to 315 bar	(70 bar Standard Setting)

Z	OPTIONS	
L	Leakproof hex. socket screw.	
K	Handknob with Lock Konb.	
C	Tamper Resistant Cover.	

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