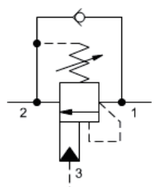
Counterbalance Valve

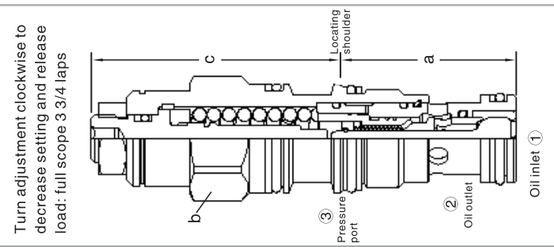
Description

Standard capacity,maximum setting pressure 280 bar,pilot ratio 3:1,1.5:1,2:1.

Code symbol 、profile and specifications



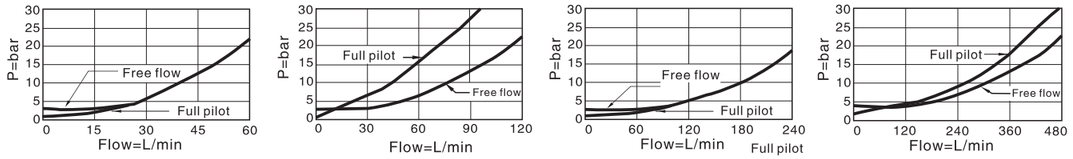
3–Port Non–vented



Flow	Model	Cavity	Size				Torque (Nm)
			a	b	c		
					L	C	
60 L/min	CBCA–LHN	T–11A	35,1	22,2	49,8	58,2	45–50
120 L/min	CBEA–LHN	T–2A	35,1	28,6	60,5	63,5	60–70
240 L/min	CBGA–LHN	T–17A	46,0	31,8	69,9	84,1	200–215
480 L/min	CBIA–LHN	T–19A	63,5	41,3	89,9	103,9	465–500

Pressure drop vs.flow

Free flow and piloted open pressure drop



- When the valve is set at the maximum pressure of 280 bar, the load pressure it can bear is 215 bar.
- Maximum internal leakage during reseating=0,4 cc/min.
- The factory set pressure is set with a flow of 30 cc/mln.
- Reseat exceeds 85% of set pressure when the valve is standard set. Settings lower than the standard set pressure may result in lower reseat percentages.
- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Two check valve cracking pressures are available. Use the 25 psi (1,7 bar) check unless actuator cavitation is a concern.

Order model

CB * * — * * * *

Flow
- C 60 L/min
- E 120 L/min
- G 240 L/min
- I 480 L/min

Pilot ratio
- A 3:1 Pilot ratio
- B 1.5:1 Pilot ratio (Sealing pressure)
- Y 2:1 Pilot ratio (Permeable pressure)

Control **
- L Standard screw adjustment
- C*Tamper resistant –factory set
- *Please specity the pressure to be set when ordeting

Functional setting range
- H 70–280 bar Check 1.7 bar Stanadard setting 210 bar
- I 28–105 bar Check 1.7 bar Standard setting 70 bar
- A 70–280 bar Check 0.3 bar Standard setting 210 bar
- B 28–105 bar Check 0.3 bar Standard setting 70 bar

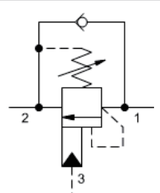
Seal material
- N Buna–N
- V Viton

Counterbalance Valve

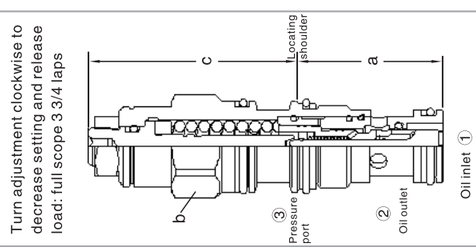
Description

Standard capacity,maximum setting pressure 350 bar,pilot ratio 4.5:1,10:1,2.3:1.

Code symbol 、profile and specifications



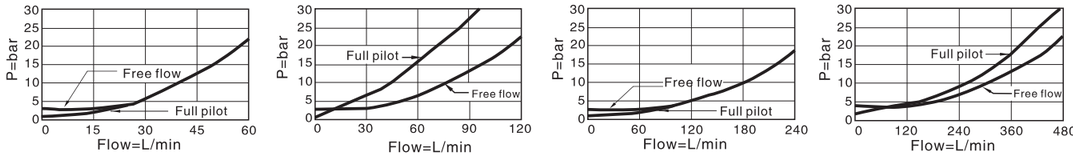
3-Port Non-vented



Flow	Model	Cavity	Size				Torque (Nm)
			a	b	c		
					L	C	
60 L/min	CBCG–LJN	T–11A	35,1	22,2	50,0	58,2	45–50
120 L/min	CBEG–LJN	T–2A	35,1	28,6	60,5	63,5	60–70
240 L/min	CBGG–LJN	T–17A	46,0	31,8	69,9	84,1	200–215
480 L/min	CBIG–LJN	T–19A	63,5	41,3	89,9	103,9	465–500

Pressure drop vs.flow

Free flow and piloted open pressure drop



- When the valve is set at the maximum pressure of 350 bar, the load pressure it can bear is 270 bar.
- Maximum internal leakage during reseating=0,4 cc/min.
- The factory set pressure is set with a flow of 30 cc/mln.
- Reseat exceeds 85% of set pressure when the valve is standard set. Settings lower than the standard set pressure may result in lower reseat percentages.
- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Two check valve cracking pressures are available. Use the 25 psi (1,7 bar) check unless actuator cavitation is a concern.

Order model

CB * * — * * * *

Flow
- C 60 L/min
- E 120 L/min
- G 240 L/min
- I 480 L/min

Pilot ratio
- G 4.5:1 Pilot ratio
- H 10:1 Pilot ratio
- L 2:3:1 Pilot ratio (Sealing pressure)

Control **
- L Standard screw adjustment
- C*Tamper resistant –factory set
- *Please specity the pressure to be set when ordeting

Functional setting range
- J 140–350 bar Check1.7 bar Stanadard setting 210 bar
- K 70–175 bar Check 1.7 bar Standard setting 140 bar
- C 140–350 bar Check 0.3 bar Standard setting 210 bar
- D 70–175 bar Check 0.3 bar Standard setting 140 bar

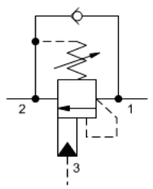
Seal material
- N Buna–N
- V Viton

Counterbalance Valve

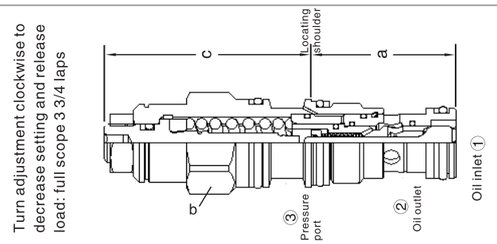
Description

Semi-restritive，maximum setting pressure 280 Bar; pilot ratio 1.5:1，3:1.

Code symbol 、profile and specifications



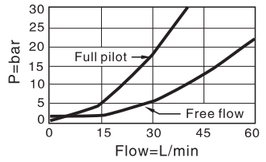
3-Port Non-vented



Flow	Model	Cavity	Size				Torque (Nm)
			a	b	c		
					L	C	
40 L/min	CBBC-LHN	T-11A	35,1	22,2	50.0	58,2	45-50
80 L/min	CBDC-LHN	T-2A	35,1	28,6	60,5	63,5	60-70
160 L/min	CBFC-LHN	T-17A	46,0	31,8	69,9	84,1	200-215

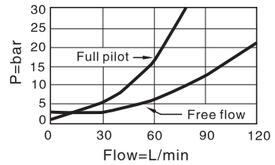
Pressure drop vs.flow

CBB*

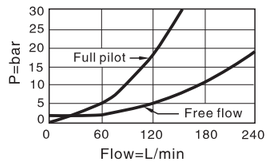


CBD*

Free flow and piloted open pressure drop



CBF*



- When the valve is set at the maximum pressure of 280 bar, the load pressure it can bear is 215 bar.
- Maximum internal leakage during reseating=0,4 cc/min.
- The factory set pressure is set with a flow of 30 cc/mln.
- Reseat exceeds 85% of set pressure when the valve is standard set. Settings lower than the standard set pressure may result in lower reseat percentages.
- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Two check valve cracking pressures are available. Use the 25 psi (1,7 bar) check unless actuator cavitation is a concern.

Order model

CB * * — * * * *

Flow
- B 40 L/min
- D 80 L/min
- F 160 L/min

Pilot ratio
- C 3:1 Pilot ratio (Sealing pressure)
- B 1.5:1 Pilot ratio (Sealing pressure)

Control **
- L Standard screw adjustment
- C*Tamper resistant –factory set
- *Please specity the pressure to be set when ordeting

Functional setting range
- H 70–280 bar
  Check 1.7 bar
  Stanadard setting 210 bar
- I 28–105 bar
  Check 1.7 bar
  Standard setting 70 bar
- A 70–280 bar
  Check 0.3 bar
  Standard setting 210 bar
- B 28–105 bar
  Check 0.3 bar
  Standard setting 70 bar

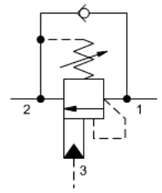
Seal material
- N Buna-N
- V Viton

Counterbalance Valve

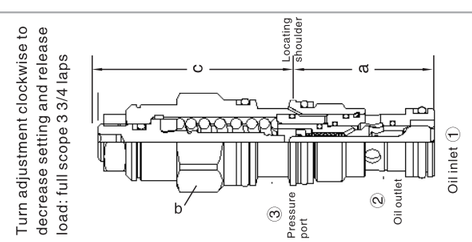
Description

Semi-restritive，maximum setting pressure 350 Bar; pilot ratio 4.5：1，2.3:1.

Code symbol 、profile and specifications



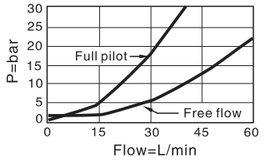
3-Port Non-vented



Flow	Model	Cavity	Size				Torque (Nm)
			a	b	c		
					L	C	
40 L/min	CBBD-LJN	T-11A	35,1	22,2	49.8	58,2	45-50
80 L/min	CBDD-LJN	T-2A	35,1	28,6	60,5	63,5	60-70
160 L/min	CBFD-LJN	T-17A	46,0	31,8	69,9	84,1	200-215

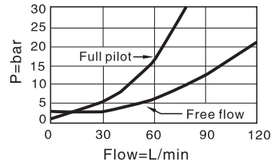
Pressure drop vs.flow

CBB*

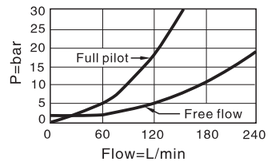


CBD*

Free flow and piloted open pressure drop



CBF*



- When the valve is set at the maximum pressure of 350 bar, the load pressure it can bear is 270 bar.
- Maximum internal leakage during reseating=0,4 cc/min.
- The factory set pressure is set with a flow of 30 cc/mln.
- Reseat exceeds 85% of set pressure when the valve is standard set. Settings lower than the standard set pressure may result in lower reseat percentages.
- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Two check valve cracking pressures are available. Use the 25 psi (1,7 bar) check unless actuator cavitation is a concern.

Order model

CB * * — * * * *

Flow
- B 40 L/min
- D 80 L/min
- F 160 L/min

Pilot ratio
- D 4.5:1 Pilot ratio (Sealing pressure)
- L 2.3:1 Pilot ratio (Sealing pressure)

Control **
- L Standard screw adjustment
- C*Tamper resistant –factory set
- *Please specity the pressure to be set when ordeting

Functional setting range
- J 140–350 bar
  Check1.7 bar
  Stanadard setting 210 bar
- K 70–175 bar
  Check 1.7 bar
  Standard setting 140 bar
- C 140–350 bar
  Check 0.3 bar
  Standard setting 210 bar
- D 70–175 bar
  Check 0.3 bar
  Standard setting 140 bar

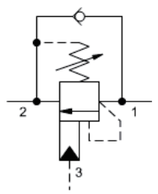
Seal material
- N Buna-N
- V Viton

Counterbalance Valve

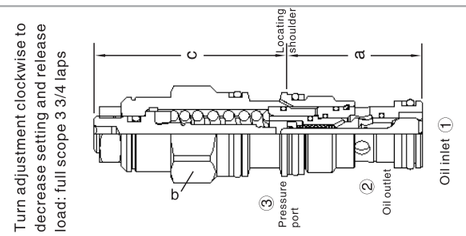
Description

Restrictive, maximum setting pressure 280 bar, pilot ratio3:1.2:1.

Code symbol 、profile and specifications



3–Port Non–vented

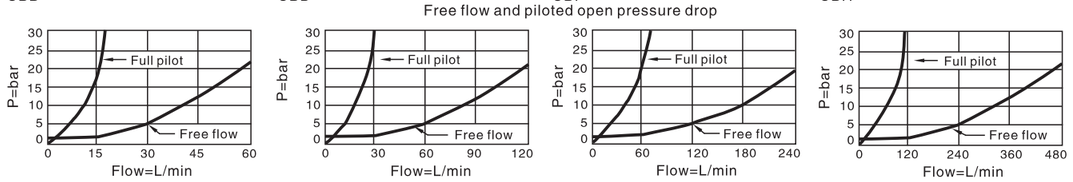


Flow	Model	Cavity	Size				Torque (Nm)
			a	b	c		
					L	C	
15 L/min	CBBA–LHN	T–11A	35,1	22,2	50.0	58,2	45–50
30 L/min	CBDA–LHN	T–2A	35,1	28,6	60,5	63,5	60–70
60 L/min	CBFA–LHN	T–17A	46,0	31,8	69,9	84,1	200–215
80 L/min	CBHA–LHN	T–19A	63,5	41,3	89,9	103,9	465–500

Pressure drop vs.flow

CBB* CBD* CBF* CBH*

Free flow and piloted open pressure drop



- When the valve is set at the maximum pressure of 280 bar, the load pressure it can bear is 215 bar.
- Maximum internal leakage during reseating=0,4 cc/min.
- The factory set pressure is set with a flow of 30 cc/mln.
- Reseat exceeds 85% of set pressure when the valve is standard set. Settings lower than the standard set pressure may result in lower reseat percentages.
- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Restrictive valves have no relief capacity other than as a thermal relief.
- Two check valve cracking pressures are available. Use the 25 psi (1,7 bar) check unless actuator cavitation is a concern.

Order model

CB * * — * * *

Flow
- B 15 L/min
- D 30 L/min
- F 60 L/min
- H 80 L/min

Pilot ratio
- A 3:1 Pilot ratio (Sealing pressure)
- Y 2:1 Pilot ratio (Permeable pressure)

Control **
- L Standard screw adjustment
- C*Tamper resistant –factory set
- *Please specity the pressure to be set when ordeting

Functional setting range
- H 70–280 bar Check 1.7 bar Stanadard setting 210 bar
- I 28–105 bar Check 1.7 bar Standard setting 140 bar
- A 70–280 bar Check 0.3 bar Standard setting 210 bar
- B 28–105 bar Check 0.3 bar Standard setting 70 bar

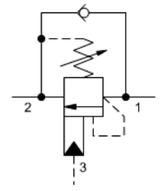
Seal material
- N Buna–N
- V Viton

Counterbalance Valve

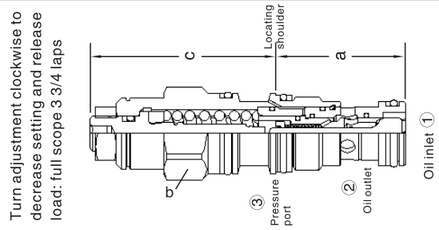
Description

Restrictive, maximum setting pressure 350 bar, pilot ratio 4.5:1.

Code symbol 、profile and specifications



3-Port Non-vented

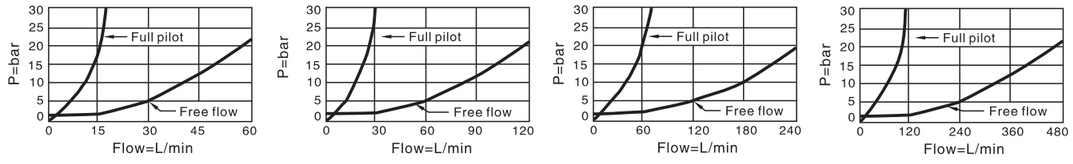


Flow	Model	Cavity	Size				Torque (Nm)
			a	b	c		
					L	C	
15 L/min	CBBG–LJN	T–11A	35,1	22,2	50.0	58,2	45–50
30 L/min	CBDG–LJN	T–2A	35,1	28,6	60,5	63,5	60–70
60 L/min	CBFG–LJN	T–17A	46,0	31,8	69,9	84,1	200–215
80 L/min	CBHG–LJN	T–19A	63,5	41,3	89,9	103,9	465–500

Pressure drop vs.flow

CBBG CBDG CBFG CBHG

Free flow and piloted open pressure drop



- When the valve is set at the maximum pressure of 350 bar, the load pressure it can bear is 270 bar.
- Maximum internal leakage during reseating=0,4 cc/min.
- The factory set pressure is set with a flow of 30 cc/mln.
- Reseat exceeds 85% of set pressure when the valve is standard set. Settings lower than the standard set pressure may result in lower reseat percentages.
- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.
- Backpressure at port 2 adds to the effective relief setting at a ratio of 1 plus the pilot ratio times the backpressure.
- Restrictive valves have no relief capacity other than as a thermal relief.
- Two check valve cracking pressures are available. Use the 25 psi (1,7 bar) check unless actuator cavitation is a concern.

Order model

CB * G — * * *

Flow
- B 15 L/min
- D 30 L/min
- F 60 L/min
- H 80L/min

Pilot ratio
- G 4.5:1 Pilot ratio (Sealing pressure)

Control **
- L Standard screw adjustment
- C*Tamper resistant –factory set
- * Please specity the pressure to be set when ordeting

Functional setting range
- J 140–350 bar Check1.7 bar Stanadard setting 210 bar
- K 70–175 bar Check 1.7 bar Standard setting 140 bar
- C 140–350 bar Check 0.3 bar Standard setting 210 bar
- D 70–175 bar Check 0.3 bar Standard setting 140 bar

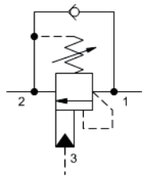
Seal material
- N Buna–N
- V Viton

Counterbalance Valve

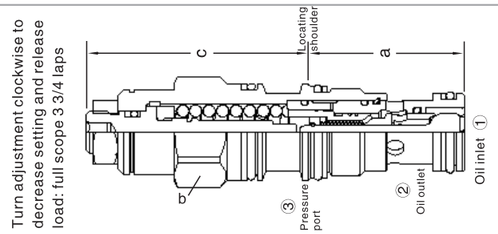
Description

Vented counterbalance valve–atmospherically referenced,pilot ratio 3:1,5:1,1:1,2:1.

Code symbol 、profile and specifications



3-Port Non-vented

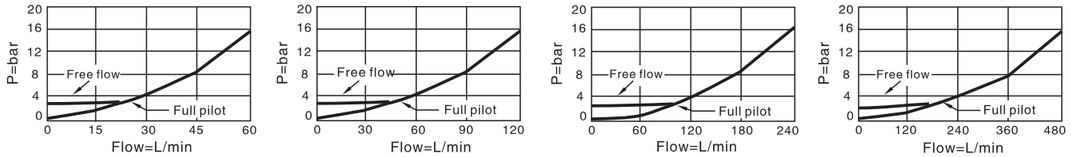


Flow	Model	Cavity	Size				Torque (Nm)
			a	b	c		
					L	C	
60 L/min	CACA–LHN	T–11A	35,1	22,2	73.4	82,6	45–50
120 L/min	CAEA–LHN	T–2A	35,1	28,6	83,6	89,9	60–70
240 L/min	CAGA–LHN	T–17A	46,0	31,8	95,0	100,8	200–215
480 L/min	CAIA–LHN	T–19A	63,5	41,3	116,3	126	465–500

Pressure drop vs.flow

CAC* CAE* CAG* CAI*

Free flow and piloted open pressure drop



- When CA*A,CA*K is set at pressure of 280 bar, the load pressure it can bear is 215 bar.
- When CA*A,CA*K is set at pressure of 420 bar, the load pressure it can bear is 320 bar.
- Maximum internal leakage during reseating=0,4 cc/min.
- The opening pressure of check valve =CAC*:2.8 bar,CAE*,CAG*:1.7 bar,CAI*:1.5 bar.
- The factory set pressure is set with a flow of 30 cc/mIn.
- Reseat exceeds 85% of set pressure when the valve is standard set. Settings lower than the standard set pressure may result in lower reseat percentages.
- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.
- Approximately 1 drop (0,07 cc) of fluid will pass from the pilot area to the vented spring chamber every 4000 cycles.

Order model

CA * * – * * * *

Flow
C 60 L/min
E 120 L/min
G 240 L/min
I 480 L/min

Pilot ratio
A 3:1 Pilot ratio
G 5:1 Pilot ratio
K 1:1 Pilot ratio
L 2:1 Pilot ratio

Control **
L Standard screw adjustment
C*Tamper resistant –factory set
*Please specity the pressure to be set when ordeting

Functional setting range
Only for CA*A,CA*K:
H 70–280 bar
Stanadard setting 210 bar
I 28–105 bar
Stanadard setting 70 bar
F 70–175 bar
Standard setting 140 bar
G 140–420 bar
Standard setting 280bar

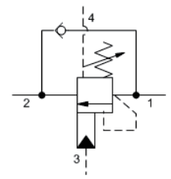
Seal material
N Buna–N
V Viton

Counterbalance Valve

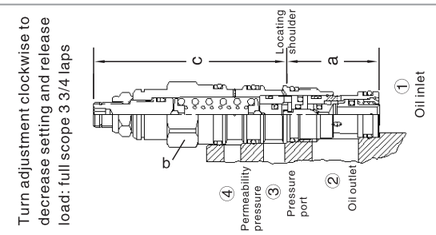
Description

Vented counterbalance valve–atmospherically referenced,maximum setting pressure 280 bar,pilot ratio 3:1,1:1.

Code symbol 、profile and specifications



4-Port Vented

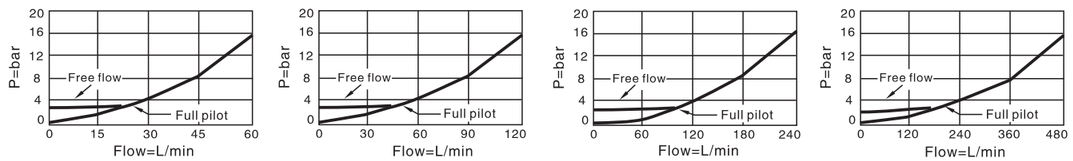


Flow	Model	Cavity	Size				Torque (Nm)
			a	b	c		
					L	C	
60 L/min	CWCA–LHN	T–21A	34,9	22,2	74,0	82,6	40–50
120 L/min	CWEA–LHN	T–22A	34,9	28,6	84,0	90,0	60–70
240 L/min	CWGA–LHN	T–23A	46,0	31,8	95,3	101,0	200–215
480 L/min	CWIA–LHN	T–24A	63,5	41,3	117,0	126,0	465–500

Pressure drop vs.flow

CWC* CWE* CWG* CWI*

Free flow and piloted open pressure drop



- When the valve is set at the maximum pressure of 280 bar, the load pressure it can bear is 215 bar.
- Maximum internal leakage during reseating=0,4 cc/min.
- The opening pressure of check valve =CWC*:2.8bar，CWE*,CWG*:1.7bar，CWI*:1.5bar.
- The factory set pressure is set with a flow of 30cc/mIn.
- Reseat exceeds 85% of set pressure when the valve is standard set. Settings lower than the standard set pressure may result in lower reseat percentages.
- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.

Order model

CW * * – * * *

Flow
C 60 L/min
E 120 L/min
G 240 L/min
I 480 L/min

Pilot ratio
A 3:1 Pilot ratio
K 1:1 Pilot ratio

Control **
L Standard screw adjustment
C*Tamper resistant –factory set
* Please specity the pressure to be set when ordeting

Functional setting range
H 70–280 bar
Stanadard setting 210 bar
I 28–105 bar
Stanadard setting 70 bar

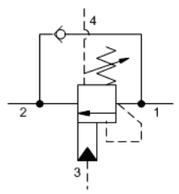
Seal material
N Buna–N
V Viton

Counterbalance Valve

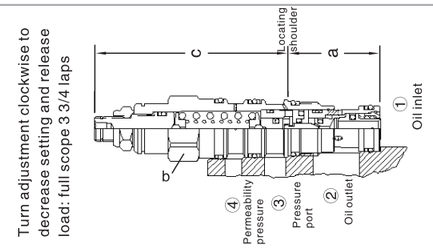
Description

Vented counterbalance valve–atmospherically referenced,maximum setting pressure 420 bar,pilot ratio 5:1,2:1.

Code symbol 、 profile and specifications



4-Port Vented

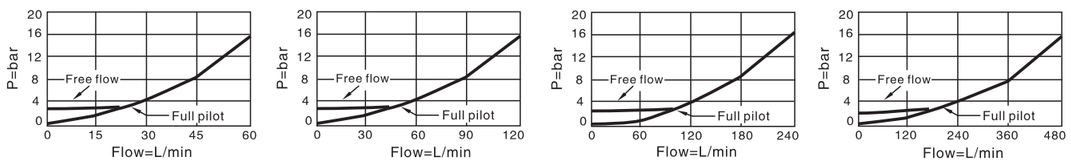


Flow	Model	Cavity	Size				Torque (Nm)
			a	b	c		
					L	C	
60 L/min	CWCG–LFN	T–21A	35,0	22,2	74.0	82,6	40–50
120 L/min	CWEG–LFN	T–22A	35,0	28,6	83,6	90,0	60–70
240 L/min	CWGG–LFN	T–23A	46,0	31,8	93,3	101,0	200–215
480 L/min	CWIG–LFN	T–24A	63,5	41,3	117,0	126,0	465–500

Pressure drop vs.flow

CWC* CWE* CWG* CWI*

Free flow and piloted open pressure drop



- When the valve is set at the maximum pressure of 420 bar, the load pressure it can bear is 320 bar.
- Maximum internal leakage during reseating=0,4 cc/min.
- The opening pressure of check valve =CWC*:2.8 bar， CWE*,CWG*:1.7 bar， CWI*:1.5 bar.
- The factory set pressure is set with a flow of 30 cc/mln.
- Reseat exceeds 85% of set pressure when the valve is standard set. Settings lower than the standard set pressure may result in lower reseat percentages.
- Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.

Order model

CW * * – * * * *

Flow
C 60 L/min
E 120 L/min
G 240 L/min
I 480 L/min

Pilot ratio
G 5:1 Pilot ratio
L 2:1 Pilot ratio

Control **
L Standard screw adjustment
C*Tamper resistant –factory set
*Please specity the pressure to be set when ordeting

Functional setting range
F 70–175 bar
Stanadard setting 140 bar
G 140–420 bar
Stanadard setting 280 bar

Seal material
N Buna–N
V Viton

HOYEA

Coil