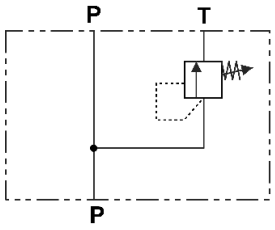
Line Mount Valves



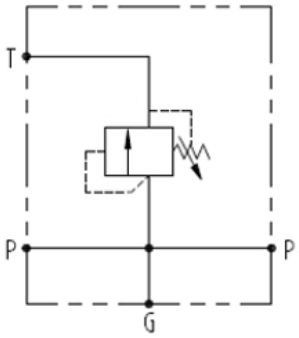

Pressure Relief Valves (Direct Acting Poppet) - Steel Body



Order Code	Ports Size	Max. Flow (L/min)	Adjustable Pressure (bar)	Factory Set (bar)	Max. Pressure (bar)
HDR-G1/4-210	G 1/4	25	70 - 210	200	315
HDR-G3/8-210	G 3/8	50			
HDR-G1/2-210	G 1/2	80			
HDR-G3/4-210	G 3/4	120			
HDR-G1-210	G 1	220			

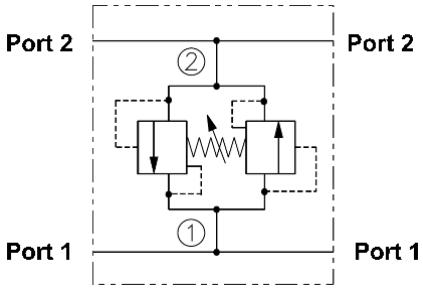
Order Code	Ports Size	Max. Flow (L/min)	Adjustable Pressure (bar)	Factory Set (bar)	Max. Pressure (bar)
HDR-G1/4-315	G 1/4	25	100 - 315	200	315
HDR-G3/8-315	G 3/8	50			
HDR-G1/2-315	G 1/2	80			
HDR-G3/4-315	G 3/4	120			
HDR-G1-315	G 1	220			

Pressure Relief Valve (Direct Acting) - Alloy Body



Order Code	Port Size	Gauge Port	Max. Flow (L/min)	Adjustable Pressure (bar)	Factory Set (bar)	Max. Pressure (bar)
MRDFA-LAN-S1	G 1	G 1/4	200	35 - 210	196.5	210

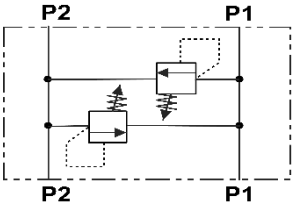
Bi-Directional Pressure Relief Valves (Direct Acting, Differential Area, Poppet) - Alloy Body



Order Code	Port Size	Max. Flow (L/min)	Adjustable Pressure (bar)	Factory Set (bar)	Max. Pressure (bar)
LBRV2-10-24/0138	N/A	60	14 - 168	138	240
LBRV2-10-30/0138			100 - 210		
LB10-2-A-4G4	G 1/2	N/A	N/A	N/A	210

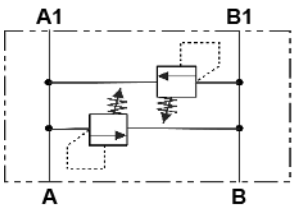
Note: *Cartridge & Body are sold separately and not assembled.*

Cross Line Pressure Relief Valves (Direct Acting Poppet) - Steel Body



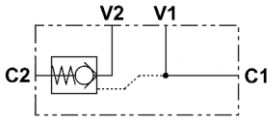
Order Code	Port Size	Max. Flow (L/min)	Adjustable Pressure (bar)	Factory Set (bar)	Max. Pressure (bar)
VAIL-G3/8-210	G 3/8	25	70 - 210	200	315
VAIL-G1/2-210	G 1/2	50			
VAIL-G3/4-210	G 3/4	100			
VAIL-G1-210	G 1	120			

Order Code	Port Size	Max. Flow (L/min)	Adjustable Pressure (bar)	Factory Set (bar)	Max. Pressure (bar)
VAIL-G3/8-315	G 3/8	25	100 - 315	200	315
VAIL-G1/2-315	G 1/2	50			
VAIL-G3/4-315	G 3/4	100			
VAIL-G1-315	G 1	120			



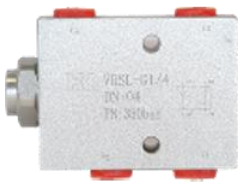
Order Code	Port Size	Max. Flow (L/min)	Adjustable Pressure (bar)	Factory Set (bar)	Max. Pressure (bar)
NHDR-G3/8-A250-B250	G 3/8	45	20 - 250	200	315
NHDR-G1/2-A250-B250	G 1/2	60			

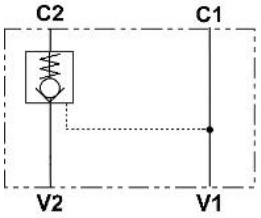
Single Pilot Operated Check Valves - Steel Body



Order Code	Port Size	Max. Flow (L/min)	Max. Pressure (bar)	Pilot Ratio	Free Flow Cracking Pressure (bar)	Length (mm)
VRSE-G1/4	G 1/4	20	350	4.5 : 1	3.5	116
VRSE-G3/8	G 3/8	50		4.0 : 1		139
VRSE-G1/2	G 1/2	80	300			173

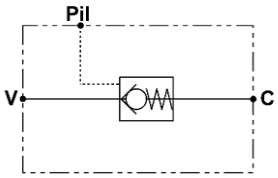
Single Pilot Operated Check Valves - Steel Body





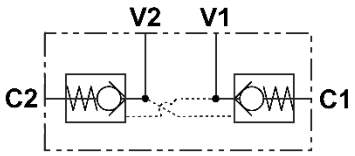
Order Code	Port Size	Max. Flow (L/min)	Max. Pressure (bar)	Pilot Ratio	Free Flow Cracking Pressure (bar)
VRSL-G1/4	G 1/4	20	350	7.1 : 1	3.5
VRSL-G3/8	G 3/8	30			
VRSL-G1/2	G 1/2	50		3.2 : 1	
VRSL-G3/4	G 3/4	100		4.0 : 1	

Barrel Pilot Operated Check Valves - Steel Body



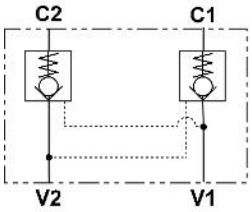
Order Code	Port Size	Pilot Port	Max. Flow (L/min)	Max. Pressure (bar)	Pilot Ratio	Free Flow Cracking Pressure (bar)
VRPE-G1/4	G 1/4	G 1/4	25	350	3.6 : 1	3.5
VRPE-G3/8	G 3/8		40		3.2 : 1	
VRPE-G1/2	G 1/2		60		2.8 : 1	
VRPE-G3/4	G 3/4		100	300	3.2 : 1	
VRPE-G1	G 1		150		6.2 : 1	

Double Pilot Operated Check Valves - Steel Body



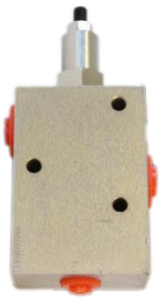
Order Code	Port Size	Max. Flow (L/min)	Max. Pressure (bar)	Pilot Ratio	Free Flow Cracking Pressure (bar)	Length (mm)
VRDE-G1/4	G 1/4	20	350	4.5 : 1	3.5	116
VRDE-G3/8	G 3/8	50		4.0 : 1		139
VRDE-G1/2	G 1/2	80	300			173

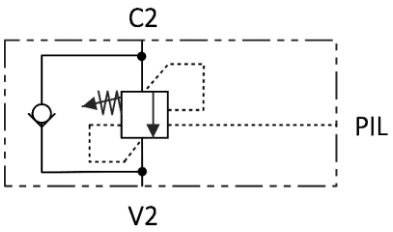
Double Pilot Operated Check Valves - Steel Body



Order Code	Port Size	Max. Flow (L/min)	Max. Pressure (bar)	Pilot Ratio	Free Flow Cracking Pressure (bar)
VRDL-G1/4	G 1/4	20	350	7.1 : 1	3.5
VRDL-G3/8	G 3/8	30			
VRDL-G1/2	G 1/2	50		3.2 : 1	
VRDL-G3/4	G 3/4	100		4.0 : 1	

3 Port Single Counterbalance Valves - Steel Body





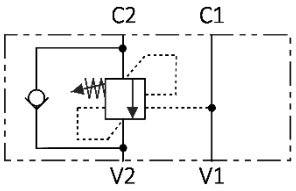
Order Code	Port Size	Pilot Port	Max. Flow (L/min)	Adjustable Pressure (bar)	Max. Pressure (bar)	Pilot Ratio	Free Flow Cracking Pressure (bar)
HOV3-G3/8-210	G 3/8	G 1/4	50	60 - 210	315	4.3 : 1	3.8
HOV3-G1/2-210	G 1/2		80				
HOV3-G3/4-210	G 3/4		120			6.8 : 1	2.5

Note: *Factory Set 200 bar. Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.*

Order Code	Port Size	Pilot Port	Max. Flow (L/min)	Adjustable Pressure (bar)	Max. Pressure (bar)	Pilot Ratio	Free Flow Cracking Pressure (bar)
HOV3-G3/8-315	G 3/8	G 1/4	50	100 - 315	315	4.3 : 1	3.8
HOV3-G1/2-315	G 1/2		80				
HOV3-G3/4-315	G 3/4		120			6.8 : 1	2.5

Note: *Factory Set 200 bar. Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.*

4 Port Single Counterbalance Valves - Steel Body



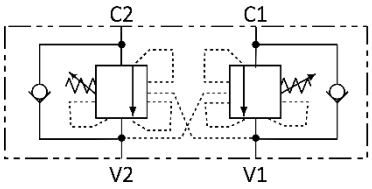
Order Code	Port Size	Max. Flow (L/min)	Adjustable Pressure (bar)	Max. Pressure (bar)	Pilot Ratio	Free Flow Cracking Pressure (bar)
HOV4-G3/8-210	G 3/8	50	60 - 210	315	4.3 : 1	3.8
HOV4-G1/2-210	G 1/2	80				
HOV4-G3/4-210	G 3/4	120			6.8 : 1	2.5

Note: *Factory Set 200 bar. Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.*

Order Code	Port Size	Max. Flow (L/min)	Adjustable Pressure (bar)	Max. Pressure (bar)	Pilot Ratio	Free Flow Cracking Pressure (bar)
HOV4-G3/8-315	G 3/8	50	100 - 315	315	4.3 : 1	3.8
HOV4-G1/2-315	G 1/2	80				
HOV4-G3/4-315	G 3/4	120			6.8 : 1	2.5

Note: *Factory Set 200 bar. Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.*

4 Port Dual Counterbalance Valves - Steel Body



Order Code	Port Size	Max. Flow (L/min)	Adjustable Pressure (bar)	Max. Pressure (bar)	Pilot Ratio	Free Flow Cracking Pressure (bar)
HOW-G3/8-210	G 3/8	50	60 - 210	315	4.3 : 1	3.8
HOW-G1/2-210	G 1/2	80				
HOW-G3/4-210	G 3/4	120			6.8 : 1	2.5

Note: *Factory Set 200 bar. Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.*

Order Code	Port Size	Max. Flow (L/min)	Adjustable Pressure (bar)	Max. Pressure (bar)	Pilot Ratio	Free Flow Cracking Pressure (bar)
HOW-G3/8-315	G 3/8	50	100 - 315	315	4.3 : 1	3.8
HOW-G1/2-315	G 1/2	80				
HOW-G3/4-315	G 3/4	120			6.8 : 1	2.5

Note: *Factory Set 200 bar. Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.*

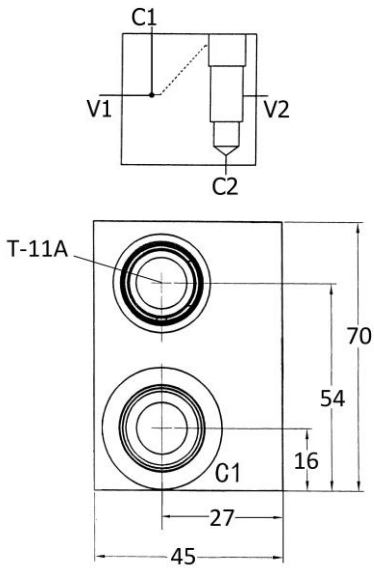
Cylinder Mount Counterbalance & Pilot Operated Check Valves

Order Code	Cavity	Ports	Material	Max. Pressure (bar)
LBHC-T11A-1-A-8T	T-11A x 1	3/4" UNO	Aluminium (6061T6)	210
LBHC-T11A-2-A-8T	T-11A x 2			
LBHC-T2A-1-A-12T	T-2A x 1	1 1/16" UNO		
LBHC-T2A-2-A-12T	T-2A x 2			

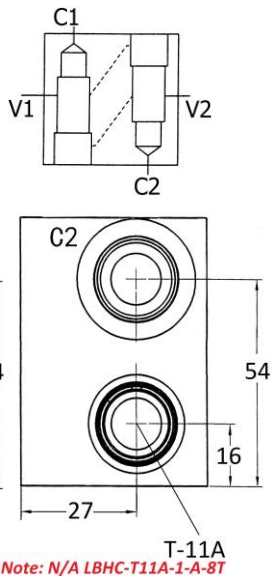
Note:

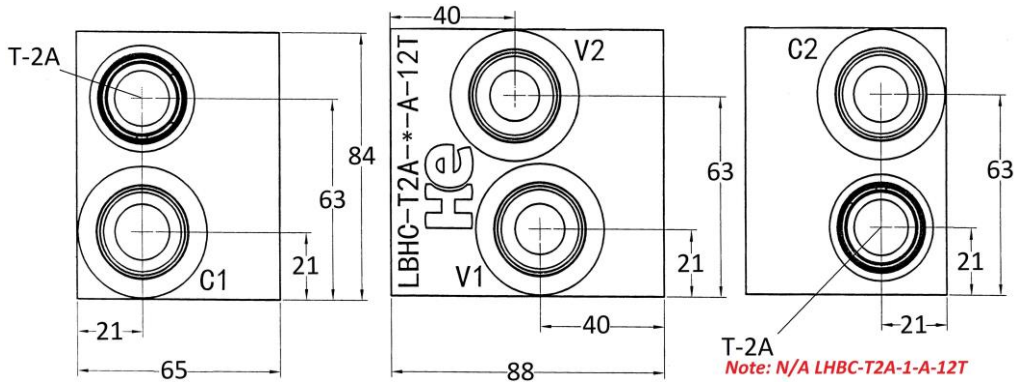
- *LBHC-T*A-1-A -*T (single cavity body), load is held on port C2.*
- *Cartridge Information on Page 4.09.*

LBHC-T*A-1-A-*T



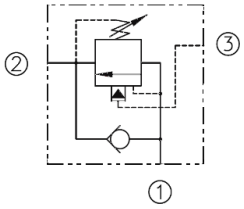
LBHC-T*A-2-A-*T





Continued Next Page

Counterbalance Valves

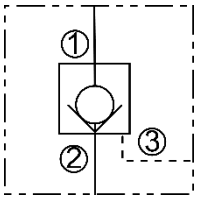


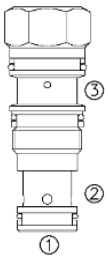
Order Code	Cavity	Max. Flow (L/min)	Pilot Ratio	Free Flow Cracking Pressure (bar)	Adjustable Pressure (bar)	Factory Set (bar)
LCBCA-LAN	T-11A	60	3 : 1	0.3	70 - 280	210
LCBCA-LHN			3 : 1	1.7	70 – 280	210
LCBCA-LIN			3 : 1	1.7	25 - 105	70
LCBCH-LJN			10 : 1	1.7	140 - 350	210
LCBEA-LHN	T-2A	120	3 : 1	1.7	70 - 280	210

Note:

- *Two check valve cracking pressures are available. Use the 1.7 bar check unless actuator cavitation is a concern. Generally, the 1.7 bar check spring is recommended for most applications as it is more robust and insensitive to rapid flow reversals. The 0.3 bar check spring should be used if there is a need to pull in make-up oil.*
- *Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.*
- *Additional information available on Page 9.18.*

Pilot Operated Check Valves





Order Code	Cavity	Max. Flow (L/min)	Max. Pressure (bar)	Pilot Ratio	Pilot Piston Seal	Free Flow Cracking Pressure (bar)
LCKCB-XCN	T-11A	60	350	3 : 1	No	2.0
LCKCD-XCN					Yes	

Elbow Fittings

Order Code	Threads	HC Cylinder Bore
6807-08-06-NWO	3/4” UNO x 9/16” UNO	1.5”- 2.0”
6807-08-08-NWO	3/4” UNO x 3/4” UNO	2.5”- 5.0”

Note:

- *Elbow Fitting allows direct mounting of body to cylinder port. Not available for LBHC-T2A-*-A-12T.*
- *Tube & Fittings from body to the other cylinder port are not supplied.*
- *LBHC-T*A-1-A -*T (single cavity body), load is held on port C2.*

Inline Check Valves (Poppet) - Steel Body (VUR Series being Superseded by DS Series)

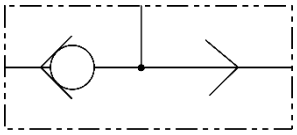
Order Code	Port Size	Cracking Pressure (bar)	Max. Flow (L/min)	Max. Pressure (bar)
VUR-G3/4-0.5	G 3/4		110	400
VUR-G1 1/4-0.5	G 1 1/4		210	350
VUR-G1 1/2-0.5	G 1 1/2		320	

Order Code	Port Size	Cracking Pressure (bar)	Max. Flow (L/min)	Max. Pressure (bar)
VUR-G1/4-5.0	G 1/4	5.0	30	500
VUR-G3/8-5.0	G 3/8		45	
VUR-G1 1/4-5.0	G 1 1/4		210	350
VUR-G1 1/2-5.0	G 1 1/2		320	

Order Code	Port Size	Cracking Pressure (bar)	Max. Flow (L/min)	Max. Pressure (bar)
DS-G1/4-0.5	G 1/4	0.5	15	315
DS-G3/8-0.5	G 3/8		30	
DS-G1/2-0.5	G 1/2		40	
DS-G3/4-0.5	G 3/4		120	
DS-G1-0.5	G 1		200	
DS-G1 1/4-0.5	G 1 1/4		300	
DS-G1 1/2-0.5	G 1 1/2		400	

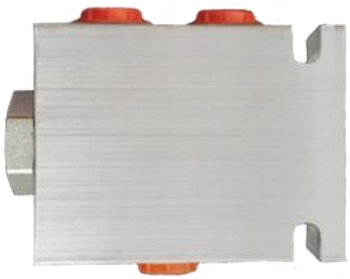
Order Code	Port Size	Cracking Pressure (bar)	Max. Flow (L/min)	Max. Pressure (bar)
DS-G1/4-5.0	G 1/4	5.0	15	315
DS-G3/8-5.0	G 3/8		30	
DS-G1/2-5.0	G 1/2		40	
DS-G3/4-5.0	G 3/4		120	
DS-G1-5.0	G 1		200	
DS-G1 1/4-5.0	G 1 1/4		300	
DS-G1 1/2-5.0	G 1 1/2		400	

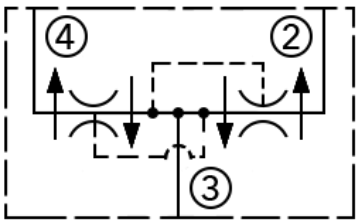
Shuttle Valves - Steel Body



Order Code	Port Size	Max. Flow (L/min)	Max. Pressure (bar)
VUSF-G1/4	G 1/4	20	350
VUSF-G3/8	G 3/8	45	
VUSF-G1/2	G 1/2	80	
VUSF-G3/4	G 3/4	110	

Flow Divider / Combiner - Alloy Body

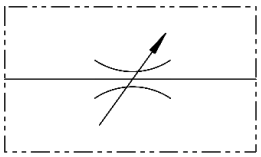




Order Code	Port Size	Max. Inlet Flow at ③ (L/min)	Ratio	Max. Pressure (bar)
LFD-10-3.0	N/A	11.4	50 : 50	240
LFD-10-6.0		22.7		
LFD-10-12.0		45.4		
LFD-10-16.0		60.6		
LB10-4-A-3G/S	G 3/8	N/A	N/A	210
LB10-4-A-4G/S	G 1/2			

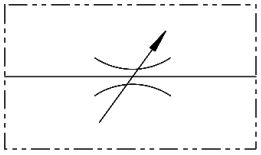
Note: *Cartridge & Body are sold separately and not assembled.*

Needle Valves



Order Code	Port Size	Max. Flow (L/min)	Max. Pressure (bar)	Materials
NV-G1/8	G 1/8	14	315	Body: Steel - Phosphate surface Knob: Aluminium - Zinc plated
NV-G1/4	G 1/4	40		
NV-G3/8	G 3/8	60		
NV-G1/2	G 1/2	85		
NV-G3/4	G 3/4	175		
NV-G1	G 1	200		
NV-G1 1/4	G 1 1/4	300		
NV-G1 1/2	G 1 1/2	400		

Note: *Locking Grub Screw on Knob.*



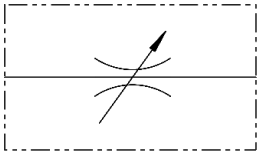
Order Code	Port Size	Max. Flow (L/min)	Max. Pressure (bar)	Materials
STB-G1/4	G 1/4	12	400	Body: Steel - Cr3+ (White Zinc Plating) Knob: Aluminium (Clear Anodised)
STB-G3/8	G 3/8	30		
STB-G1/2	G 1/2	50		
STB-G3/4	G 3/4	85		
STB-G1	G 1	150	320	

Note: *Locking Grub Screw on Knob.*

STB Series Panel Mount Nut

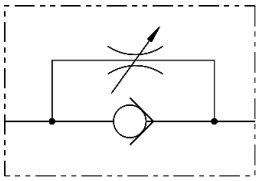
Order Code	Suits Valve	Material
STN-G1/4	STB-G1/4	Steel – Zinc Plated
STN-G3/8	STB-G3/8	
STN-G1/2	STB-G1/2	
STN-G3/4	STB-G3/4	
STN-G1	STB-G1	

Barrel Needle Valves



Order Code	Port Size	Max. Flow (L/min)	Max. Pressure (bar)
VBRF-G1/4	G 1/4	12	320
VBRF-G3/8	G 3/8	30	
VBRF-G1/2	G 1/2	50	
VBRF-G3/4	G 3/4	85	280
VBRF-G1	G 1	120	250

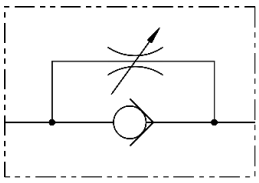
Flow Control Valves



Order Code	Port Size	Max. Flow (L/min)	Max. Pressure (bar)	Materials
FC-G1/8	G 1/8	14	315	Body: Steel - Phosphate surface Knob: Aluminium - Zinc plated
FC-G1/4	G 1/4	40		
FC-G3/8	G 3/8	60		
FC-G1/2	G 1/2	85		
FC-G3/4	G 3/4	175		
FC-G1	G 1	200		
FC-G1 1/4	G 1 1/4	300		
FC-G1 1/2	G 1 1/2	400		

Note:

- *Locking Grub Screw on Knob.*
- *Free Flow Cracking Pressure 0.5 bar.*

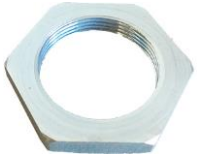


Order Code	Port Size	Max. Flow (L/min)	Max. Pressure (bar)	Materials
STU-G1/4	G 1/4	12	400	Body: Steel - Cr3+ (White Zinc Plating) Knob: Aluminium (Clear Anodised)
STU-G3/8	G 3/8	30		
STU-G1/2	G 1/2	50		
STU-G3/4	G 3/4	85		
STU-G1	G 1	150	320	

Note:

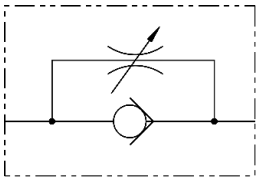
- *Locking Grub Screw on Knob.*
- *Free Flow Cracking Pressure 0.5 bar.*

STU Series Panel Mount Nut



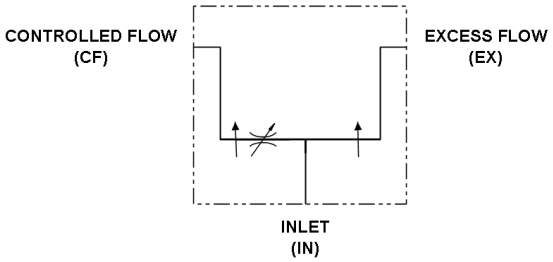
Order Code	Suits Valve	Material
STN-G1/4	STU-G1/4	Steel – Zinc Plated
STN-G3/8	STU-G3/8	
STN-G1/2	STU-G1/2	
STN-G3/4	STU-G3/4	
STN-G1	STU-G1	

Barrel Flow Control Valves



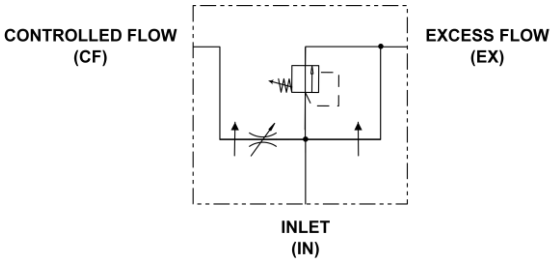
Order Code	Port Size	Max. Flow (L/min)	Max. Pressure (bar)	Free Flow Cracking Pressure (bar)
VURF-G1/4	G 1/4	12	320	0.5
VURF-G3/8	G 3/8	30		
VURF-G1/2	G 1/2	50		
VURF-G3/4	G 3/4	85	280	
VURF-G1	G 1	120	250	

Priority Flow Control Valves



Order Code	Port Size	Max. Flow - IN & CF (L/min)	Max. Pressure (bar)
FC51-G3/8	G 3/8	30	207
FC51-G1/2	G 1/2	60	
FC51-G3/4	G 3/4	114	
FC51-G1	G 1	190	
FC51-G1 1/4	G 1 1/4	340	

Priority Flow Control Valves with Relief



Order Code	Port Size	Max. Flow - IN & CF (L/min)	Preset Pressure (bar)	Adjustable Pressure (bar)	Max. Pressure (bar)
FCR51-G3/8	G 3/8	30	145	52 - 207	207
FCR51-G1/2	G 1/2	60			
FCR51-G3/4	G 3/4	114			

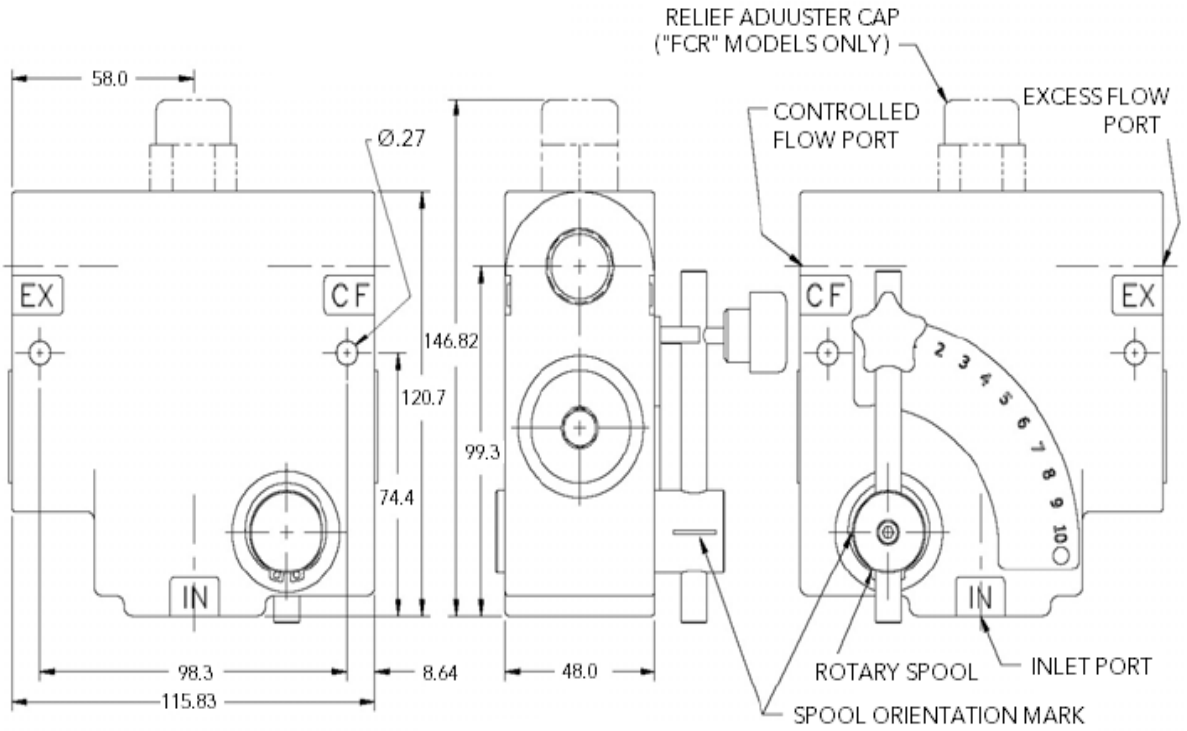
General Information

The Hoyea full range pressure compensating variable flow control is designed so that the orifice area varies as the lever is rotated. Fluid travels past the variable orifice, through the compensator spool and then out the controlled flow port. Therefore, the flow out of the CF port is proportional to the orifice area which can vary from closed to open. The sum of the controlled flow and the excess flow equals the inlet flow and as the controlled flow increases the excess flow decreases. Both outlet flows are pressure compensated with a spool that maintains a constant flow by adjusting for pressure. Hunting between the compensated pump and valve is dampened with a dashpot on the compensator spool. Therefore, the outlet flow is smooth and constant regardless of the pressure on the CF and EX port. External seals on the rotary spool prevent contamination from getting between the spool and the casting, thus preventing the spool from locking in one position.

The adjustable ball spring relief valve (FCR51 Models) allows pressure compensated flow up to the pressure relief setting. Once the pressure on the CF port increases above the relief setting the relief valve opens and diverts flow to the **EX** port while maintaining the pressure on the CF port. ***Note:*** *The **EX** port must be connected back to tank.*

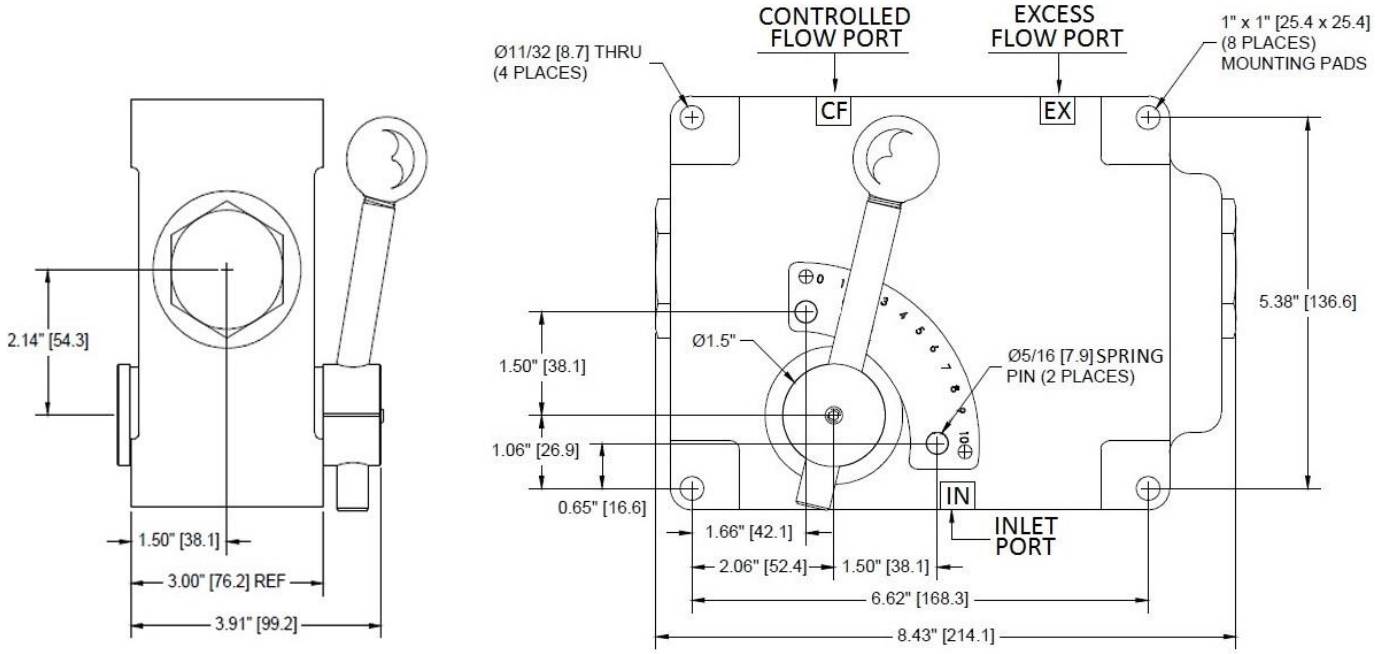
Continued Next Page

FC(R)51-G3/8, G1/2 & G3/4



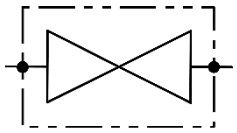
NOTE: ALL DIMENSIONS ARE
FOR REFERENCE ONLY.

FC51-G1 & G1 1/4



NOTE: ALL DIMENSIONS ARE
FOR REFERENCE ONLY

2 Way Steel Ball Valves



Order Code	Port Size	Nominal Dia. (DN)	Ball Hole Dia.	Max. Pressure (bar)
KHB-G1/8-04-11231-B	G 1/8	04	4	500
KHB-G1/4-06-11231-B-MH	G 1/4	06	6	
KHB-G3/8-10-11231-B-MH	G 3/8	10	10	
KHB-G1/2-13-11231-B-MH	G 1/2	13	13	
KHB-G3/4-20-11231-B-MH	G 3/4	20	20	315
KHB-G1-25-11231-B-MH	G 1	25	25	
KHB-G1 1/4-32-11231-B-MH	G 1 1/4	32	32	
KHB-G1 1/2-40-11231-B-MH	G 1 1/2	40	40	

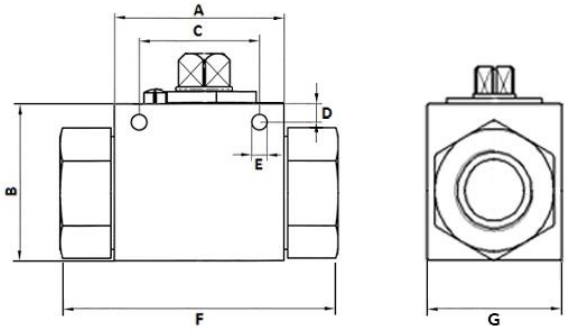
Note: *Ball Seal material is POM, Valve Stem & Body Seal material is NBR.*

2 Way SUS 316 Ball Valves

Order Code	Port Size	Nominal Dia. (DN)	Ball Hole Dia.	Max. Pressure (bar)
KHB-G1/4-06-33231	G 1/4	06	6	500
KHB-G3/8-10-33231	G 3/8	10	10	
KHB-G1/2-13-33231	G 1/2	13	13	

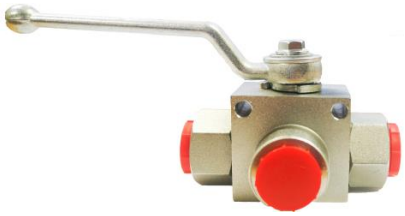
Note: *Ball Seal material is POM, Valve Stem & Body Seal material is NBR.*

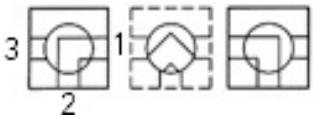
2 Way Ball Valve Dimensions

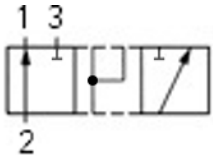


Port Size	A	B	C	D	E	F	G
G 1/8	40	32	N/A	N/A	N/A	69	26
G 1/4	40	32	31.5	4.8	Ø 4.5	69	26
G 3/8	42	40	31.5	5.0	Ø 6.5	72	34
G 1/2	48	45	38.5	6.0	Ø 6.5	83	35
G 3/4	60	56	48.5	6.0	Ø 6.5	95	48
G 1	64	64	50.5	7.0	Ø 8.5	113	58
G 1 1/4	72	75	50.5	7.0	Ø 8.5	110	68
G 1 1/2	80	86	63.0	7.0	Ø 8.5	130	80

3 Way Steel Ball Valves (L – Type, Negative Overlap)



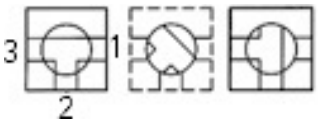


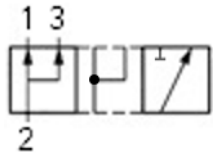


Order Code	Port Size	Nominal Dia. (DN)	Ball Hole Dia.	Max. Pressure (bar)
KHB3L-G1/8-04-11231-B	G 1/8	04	4	500
KHB3L-G1/4-06-11231-B-MH	G 1/4	06	6	
KHB3L-G3/8-10-11231-B-MH	G 3/8	10	10	
KHB3L-G1/2-13-11231-B-MH	G 1/2	13	12	
KHB3L-G3/4-20-11231-B-MH	G 3/4	20	20	315
KHB3L-G1-25-11231-B-MH	G 1	25	25	
KHB3L-G1 1/4-32-11231-B-MH	G 1 1/4	32	30	
KHB3L-G1 1/2-40-11231-B-MH	G 1 1/2	40	36	

Note: *Ball Seal material is POM, Valve Stem & Body Seal material is NBR.*

3 Way Steel Ball Valves (T – Type, Negative Overlap)





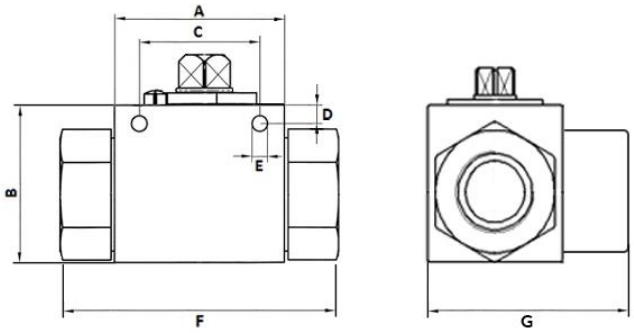
Order Code	Port Size	Nominal Dia. (DN)	Ball Hole Dia.	Max. Pressure (bar)
KHB3T-G1/8-04-11231-B	G 1/8	04	4	500
KHB3T-G1/4-06-11231-B-MH	G 1/4	06	6	
KHB3T-G3/8-10-11231-B-MH	G 3/8	10	10	
KHB3T-G1/2-13-11231-B-MH	G 1/2	13	12	
KHB3T-G3/4-20-11231-B-MH	G 3/4	20	20	315
KHB3T-G1-25-11231-B-MH	G 1	25	25	
KHB3T-G1 1/4-32-11231-B-MH	G 1 1/4	32	30	
KHB3T-G1 1/2-40-11231-B-MH	G 1 1/2	40	36	

Note: *Ball Seal material is POM, Valve Stem & Body Seal material is NBR.*

Negative Overlap:
With a negative overlapping ball in the mid position (45°) flow will be directed simultaneously from Port 2 to 1 & 3.
Blocking all ports by switching the ball in a middle position is not possible.

Continued Next Page

3 Way Ball Valve Dimensions



Port Size	A	B	C	D	E	F	G
G 1/8	39	32	N/A	N/A	N/A	69	49
G 1/4	39	32	31.5	4.8	Ø 4.5	69	49
G 3/8	41	40	31.5	5.0	Ø 6.5	72	52
G 1/2	48	45	38.5	6.0	Ø 6.5	83	53
G 3/4	59	56	48.5	6.0	Ø 6.5	95	73
G 1	63	63	50.5	7.0	Ø 8.5	113	85
G 1 1/4	72	75	50.5	7.0	Ø 8.5	110	93
G 1 1/2	80	86	63.0	7.0	Ø 8.5	130	108

Ball Valve Handles

Order Code	Port Size	Handle Marking	Stem Size (mm)	Screw Thread Size
KHBH-7	G 1/8 (Old Design)	SW7	7	M4
	G 1/4 (Old Design)			
KHBH-9	G 1/8 (New Design)	SW9	9	M5 – Old Design M6 – New Design
	G 1/4 (New Design)			
	G 3/8			
	G 1/2			
KHBH-12	G 3/4	SW12	12	
	G 1			
KHBH-14	G 1 1/4	SW14	14	M8
	G 1 1/2			

***Note**: Handle is marked as 2 way and includes one screw, one standard washer and two flow direction washers (3-Way L & 3-Way T). N/A - G 1/8 & G 1/4 Old Design. Supplied with one screw and one standard washer.*

Ball Valve Order Code

KHB – G** - 13 - 1 1 2 3 1 - B - MH

① ② ③ ④⑤⑥⑦⑧ ⑨ ⑩

① **Series Code**
KHB = 2 Way
KHB3L = 3 Way L Configuration
KHB3T = 3 Way T Configuration

② **Port Connection**
G** = (BSPP Female) (Standard)
M** = (Metric Male)
N** = (NPT Female)
R** = (BSPT / PT Female)
U** = (UNO Female)
LR** = (24° Cone Connection - Light Series)
(DIN 2353 / ISO 8434-1)
SR** = (24° Cone Connection - Heavy Series)
(DIN 2353 / ISO 8434-1)

③ **Nominal Diameter**

④ **Valve Body Material**
1 = Steel
2 = SUS304
3 = SUS316

⑤ **Ball & Stem Material**
1 = Steel
2 = SUS304
3 = SUS316

⑥ **Ball Seal Material**
2 = POM (Delrin®, - 30 °C ≈ +100 °C) (Standard)
3 = PTFE (Teflon®, - 200 °C ≈ +200 °C)
4 = PEEK (Polyetheretherketone, - 40 °C ≈ +250°C)

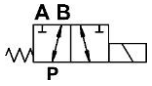
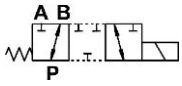
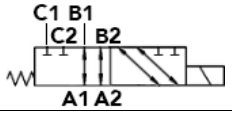
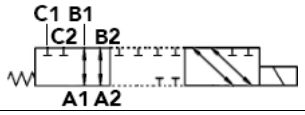
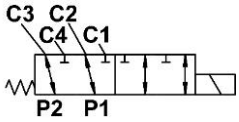
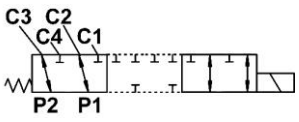
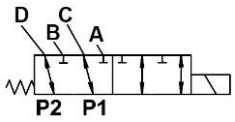
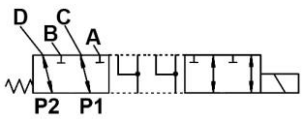
⑦ **Valve Stem & Body Seals**
2 = PTFE (Teflon®, - 200 °C ≈ +200 °C)
3 = NBR (Nitrile, Buna-N, - 30 °C ≈ +100 °C) (Standard)
4 = FPM (FKM, Viton®, - 200 °C ≈ +200 °C)

⑧ **Handle Type**
1 = Zinc Casting Offset (Crank) (Standard)
2 = Zinc Casting Straight

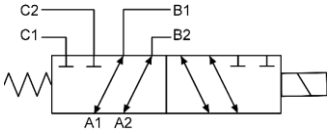
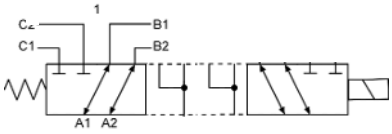
⑨ **Surface Treatment**
Omit for Stainless Steel
B = Cr3+ (White Zinc Plating) (Standard)
H = Chemical (Electroless) Nickel
P = Phosphoric

⑩ **MH**
Mounting Holes (N/A G1/8 & Standard G 1/4 to G 1 1/2)

Solenoid Selector (Diverter) Valves

Order Code	Port Size	Max. Flow (L/min)	Max. Pressure (bar)	Basic Symbol	Transient Condition
SV-3238-***-Z5L-50	G 3/8	50	210		
SV-3212-***-Z5L-50	G 1/2	80	210		
SV-6214-***-Z5L-50	G 1/4	25	250		
SV-6238-***-Z5L-50	G 3/8	40	210		
SV-6212-***-Z5L-50	G 1/2	60	210		
SV-6234-***-Z5L-50	G 3/4 Drain G 1/4	100	210 (Drain Plugged) 315 (Drain Connected)		

***Note*:** *Valves supplied with DIN Light Plug.*

Max. Flow: 80 L/min	Max. Pressure: 210 bar	Ports Size: G 1/2	
Order Code	**Description**	**Basic Symbol**	**Transient Condition**
SVV-4102266	SVV-G-12V		
SVV-4103561	SVV-G-24V		

***Note*:**

- *Valves supplied with DIN Light Plug.*
- *SVV Inlet Ports can be changed to Right Inlet by reversing Spool, End Plug & Solenoid.*

Continued Next Page

SV Series Selector (Diverter) Valve Order Code

SV - *2 - *** - Z5L - ** - **** - * - 50**
① ②③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① **Selector Valve – Solenoid Operated**

② **Valve Type:**
32 = 3 port / 2 position
62 = 6 port / 2 position

③ **Port Size:**
14 = G 1/4
38 = G 3/8
12 = G 1/2
34 = G 3/4

④ **Coil Voltage:**
D12 = 12V DC
D24 = 24V DC
D36 = 36V DC (N/A SV-6234)
D48 = 48V DC (N/A SV-6234)
R110 = 110V AC (Rectifier in coil) (N/A SV-6234)
R220 = 220V AC (Rectifier in coil) (N/A SV-6234)
Note: SV-3212 requires coil ID machined from 31.0mm to 31.5mm for D36, D48, R110 & R220.
Purchaser to make this modification.

⑤ **Electrical Connector:**
Z5L = DIN Plug with Light (standard)

⑥ **Manual Override Option:**
Omit = Plain override on solenoid end only
(No override in non-solenoid end of valve)
LMO = Locking Manual Override
N9 = Extended Push Pin with M5 male thread (N/A SV-6234)

⑦ **N9 Options:** (N/A SV-6234)
Omit = M5 male thread only
RB = Red Ball
RC = Rubber Cap (SV-3238 & SV-6238 only)

⑧ **Seal Material:**
Omit = NBR (Standard)
V = FPM (Indent)

⑨ **Design Number**

SV-*238 coil shown with N9 plus RB & RC fitted

SV Series Coils, Accessories & Spare Parts

Coil

Locking Manual Override

Rubber Cap

Red Ball

Core Tube with N9

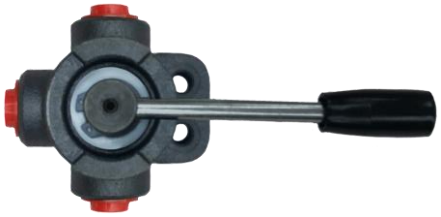
SV-*214 & SV-*238		
Order Code	**Description**	**Coil Dimensions**
FW-3-D12-Z5L-50	12V DC DIN Coil (DIN Light Plug included)	23 ID x 45 OD x 51 L
FW-3-D24-Z5L-50	24V DC DIN Coil (DIN Light Plug included)	
FW-3-D36-Z5L-50	36V DC DIN Coil (DIN Light Plug included)	
FW-3-D48-Z5L-50	48V DC DIN Coil (DIN Light Plug included)	
FW-3-R110-Z5L-50	110V AC Rectified DIN Coil (DIN Light Plug included)	
FW-3-R220-Z5L-50	220V AC Rectified DIN Coil (DIN Light Plug included)	
FW-3-DC-CT-50	DC Core Tube	
FW-3-DC-CT-N9-50	DC Core Tube with N9 Manual Override – M5 Male Thread	
FW-3-DC-LMO-50	DC Locking Manual Override	
FW-3-DC-NUT-50	DC Coil / Core Tube Nut (M22 x 1.5)	
FW-RB	Red Ball	
FW-3-RC-50	Rubber Cap (no manual override) – use with FW-3-DC-CT-N9-50	

SV-*212		
Order Code	**Description**	**Coil Dimensions**
FW-5-D12-Z5L-50	12V DC DIN Coil (DIN Light Plug included)	31.0 ID x 63 OD x 75 L
FW-5-D24-Z5L-50	24V DC DIN Coil (DIN Light Plug included)	
FW-5-D36-Z5L-50	36V DC DIN Coil (DIN Light Plug included)	
FW-5-D48-Z5L-50	48V DC DIN Coil (DIN Light Plug included)	
FW-5-R110-Z5L-50	110V AC Rectified DIN Coil (DIN Light Plug included)	
FW-5-R220-Z5L-50	220V AC Rectified DIN Coil (DIN Light Plug included)	
FW-5-D12-Z5L-51	12V DC DIN Coil (DIN Light Plug included)	31.5 ID x 63 OD x 75 L
FW-5-D24-Z5L-51	24V DC DIN Coil (DIN Light Plug included)	
FW-5-DC-CT-50	DC Core Tube	
FW-5-DC-CT-N9-50	DC Core Tube with N9 Manual Override - M5 Male Thread	
FW-5-DC-LMO-50	DC Locking Manual Override	
FW-5-DC-NUT-50	DC Coil / Core Tube Nut (M30 x 1.5)	
FW-RB	Red Ball - use with FW-5-DC-CT-N9-50	

DIN Plugs

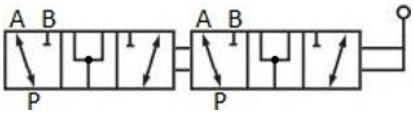
Order Code	Voltage	Description
DLP-A110	110V AC	DIN Light Plug
DLP-A220	220V AC	
DLP-D12	12V DC	
DLP-D24	24V DC	
DLP-D36	36V DC	
DLP-D48	48V DC	

Manual Selector (Diverter) Valves

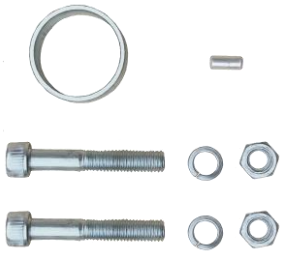


Order Code	Port Size	Max. Flow (L/min)	Max. Pressure (bar)	Basic Symbol
RV-3-G3/8-A	G 3/8	60	315	
RV-3-G1/2-A	G 1/2	90		
RV-3-G3/4-A	G 3/4	120		
RV-3-G1-A	G 1	200	250	

Note: *Closed Centre Crossover (Code B) are available as indent to customer order.*

Order Code	Port Size	Max. Flow (L/min)	Max. Pressure (bar)	Basic Symbol
RV-6-G3/8-A	G 3/8	60	315	
RV-6-G1/2-A	G 1/2	90		
RV-6-G3/4-A	G 3/4	120		
RV-6-G1-A	G 1	200	250	

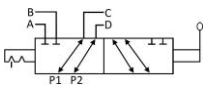
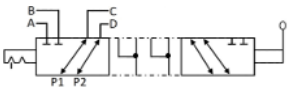
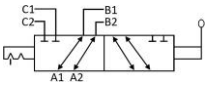
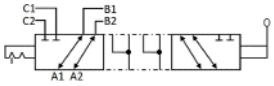
Note: *Closed Centre Crossover (Code B) are available as indent to customer order.*



Order Code	Port Size
RV-6-G3/8-ASSY KIT	G 3/8
RV-6-G1/2- ASSY KIT	G 1/2
RV-6-G3/4- ASSY KIT	G 3/4
RV-6-G1- ASSY KIT	G 1

Note: *RV-6-G**-A valve consists of 2 x RV-3-G**-A valves & 1 x RV-6-G**-ASSY KIT.*

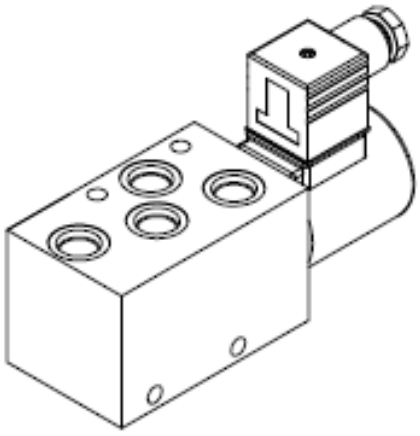
Continued Next Page

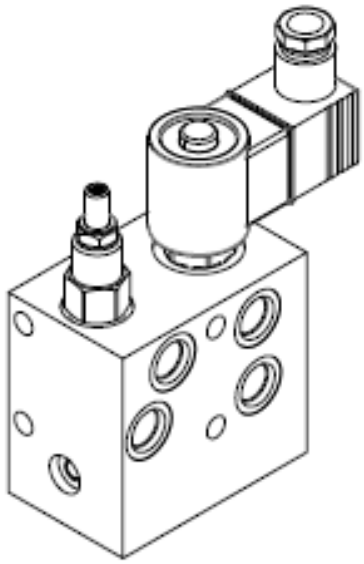
Max. Pressure: 315 bar					
Order Code	**Description**	**Port Size**	**Max. Flow (L/min)**	**Basic Symbol**	**Transient Condition**
DV60-4101034	DV60(R)-A11KZ1-G38	G 3/8	60		
DV90-4113644	DV90-A11KZ1-G	G 1/2	90		

Note:

- *Closed Centre Crossover (Code B) are available as indent to customer order.*
- *DV60 Inlet Ports can be changed to Left Inlet by reversing Spool & Controls.*
- *DV90 Inlet Ports can be changed to Right Inlet by reversing Spool & Controls. Post April 2021 stock only.*

Quick Hitch Valves - Steel Body





Order Code	Ports	Max. Flow (L/min)	Max. Inlet Pressure (bar)	Max. Outlet Pressure (bar)	Factory Set (bar)	Locking Manual Override
QHV-207-207-*H	G 1/4	11	207	207	N/A	No
QHV-207-207-*H-LMO						Yes
QHV-350-207-*H			350	207	172	No
QHV-350-207-*H-LMO						Yes
QHV-350-350-*H			350	350	N/A	No
QHV-350-350-*H-LMO						Yes

Note:

- ** = Coil Voltage*
  1 = 12V DC
  2 = 24V DC
- *All components are supplied loose for customer assembly.*
- *Lubricate cartridge valve seals with oil or grease before assembly.*
- *Valves supplied with DIN Light Plug.*
- *Coil must be installed with letters up, so they are closest to the Coil Retaining Nut.*
- *QHV-350-350-*H comes standard with Non-Locking Manual Override.*
  *For QHV-350-350-*H-LMO replace the standard Coil Retaining Nut with the special Coil Retaining Nut.*

QHV-207-207-*H-LMO & QHV-350-207-*H-LMO (Locking Manual Override) Operation:

- *Normal Operation, push red button in and turn clockwise.*
- *To override, push red button in, twist counterclockwise and release.*

QHV-350-350-*H (Non-Locking Manual Override) operation:

- *To override, push button in. This will shift the valve.*
- *To return to the de-energised position, release button.*

QHV-350-350-*H-LMO (Locking Manual Override) Operation:

- *To override, screw the knob clockwise until it stops. This will shift the valve.*
- *To return to the de-energised position, screw the knob counterclockwise until it stops.*

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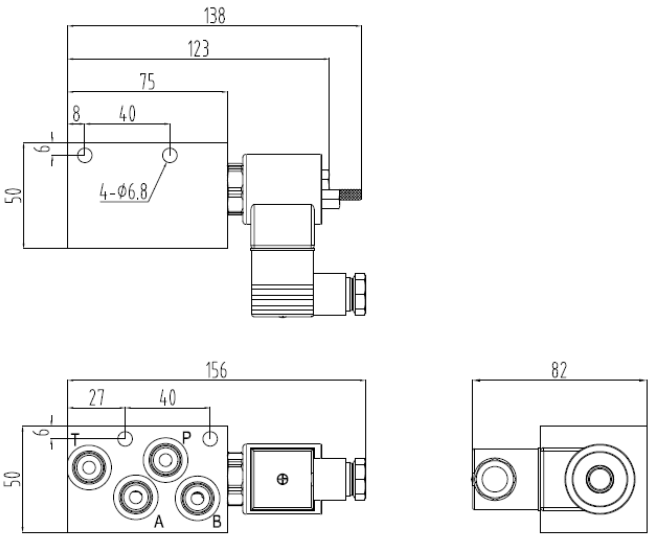
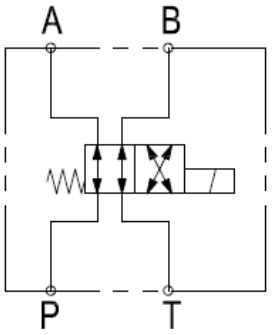
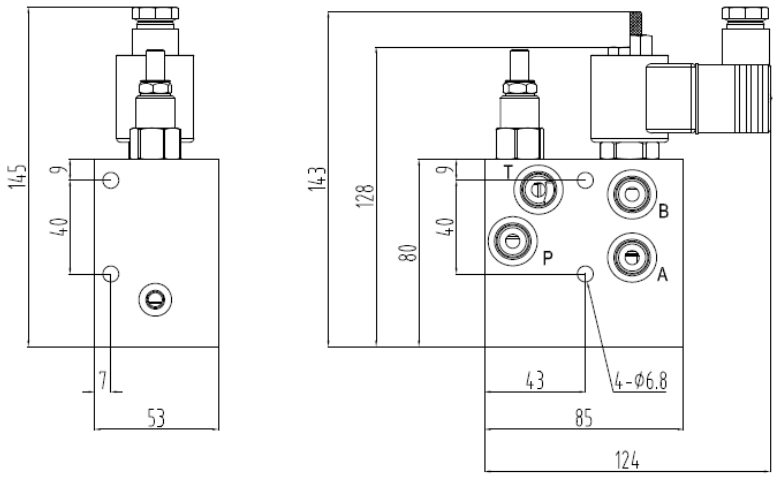
Quick Hitch Valve Dimensions

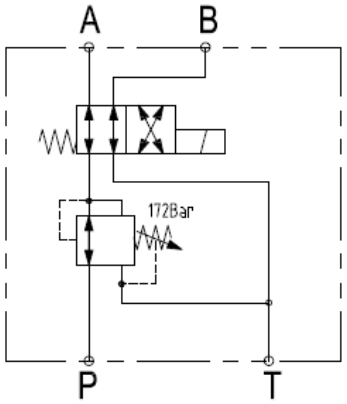
QHV-207-207-*H (-LMO)





QHV-350-207-*H (-LMO)





QHV-350-350-*H (-LMO)