



VALVES

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The product information and specifications within this catalogue should be viewed as a guide only and are subject to change without notice. Please refer to inside front cover for further details.



CHECK VALVES



BHA In-Line Check Valves - CV Series

SPECIFICATIONS:

- Working pressure up to 490 bar (7100 PSI)
- Steel construction
- Poppet style
- 7 Sizes 1/4" to 1-1/2"

Series	Max. Working Pressure bar	Max. Rated Flow (l/min)	Port Size
CV2A**	490	20	1/4"
CV3A**	490	35	3/8"
CV4A**	490	55	1/2"
CV6A**	390	95	3/4"
CV8A**	340	150	1"
CV10A**	340	265	1-1/4"
CV12A**	340	380	1-1/2"

ORDERING INFORMATION:

CV 4 A 65
(1) (2) (3) (4)

(1) PRODUCT TYPE

CV = Check Valve

(2) PORT SIZE

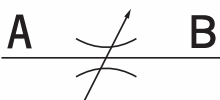
2 = 1/4"
3 = 3/8"
4 = 1/2"
6 = 3/4"
8 = 1"
10 = 1-1/4"
12 = 1-1/2"

(3) PORT TYPE

A = BSP
B = NPT

(4) CRACKING PRESSURE

05 = 0.35 bar (5 PSI)
65 = 4.5 bar (65 PSI)



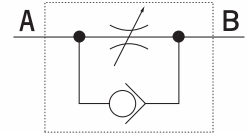
BHA In-Line Double Acting Flow Control Valves

	Series	Port Size	Working Pressure bar	Mounting Kit	Mounting Thread Size
Medium Pressure	FT1251/2-18	1/8" BSP	210	C	M15x1
	FT1251/2-14	1/4" BSP	210	B	M17x1
	FT1251/2-38	3/8" BSP	210	E	M20x1
	FT1251/2-12	1/2" BSP	210	A	M25x1.5
	FT1251/2-34	3/4" BSP	210	D	M30x1.5
High Pressure	FT257/2-18	1/8" BSP	400	B	M17x1
	FT257/2-14	1/4" BSP	400	G	M20x1
	FT257/2-38	3/8" BSP	400	H	M25x1.5
	FT257/2-12	1/2" BSP	400	J	M30x1.5
	FT257/2-34	3/4" BSP	400	K	M40x1.5
	FT257/2-100	1" BSP	320	F	M50x1.5
	FT257/2-114	1-1/4" BSP	320	F	M50x1.5



BHA In-Line Single Acting Needle Valves

	Series	Port Size	Working Pressure bar	Mounting Kit	Mounting Thread Size
Medium Pressure	FT1251/5-18	1/8" BSP	210	C	M15x1
	FT1251/5-14	1/4" BSP	210	B	M17x1
	FT1251/5-38	3/8" BSP	210	E	M20x1
	FT1251/5-12	1/2" BSP	210	A	M25x1.5
	FT1251/5-34	3/4" BSP	210	D	M30x1.5
High Pressure	FT257/5-18	1/8" BSP	400	B	M17x1
	FT257/5-14	1/4" BSP	400	G	M20x1
	FT257/5-38	3/8" BSP	400	H	M25x1.5
	FT257/5-12	1/2" BSP	400	J	M30x1.5
	FT257/5-34	3/4" BSP	400	K	M40x1.5
	FT257/5-100	1" BSP	320	F	M50x1.5
	FT257/5-114	1-1/4" BSP	320	F	M50x1.5
	FT257/5-112	1-1/2" BSP	320	F	M55x2

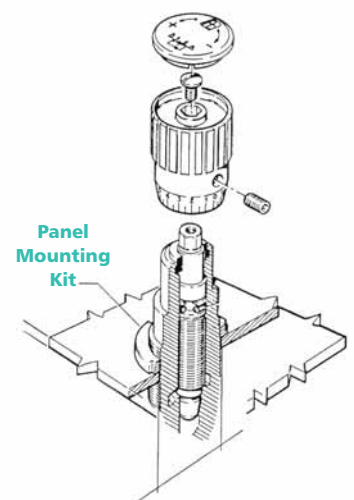


BHA Gauge Isolation Valve

Series	Port Size	Working Pressure Bar	Mounting Kit	Mounting Thread Size
FT290-14	1/4" BSP	400	FT205	M15x1
FT291-14	1/4" BSP	400	FT205	M15x1
FT292-14	1/4" BSP	400	FT204	M30x1.5

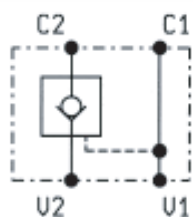
BHA Panel Mounting Kits

Kit	Part Number	KM Style	STD Hex	Mounting Thread Size
A	FT1203-12		4	M25x1.5
B	FT1203-14		4	M17x1
C	FT1203-18		4	M15x1
D	FT1203-34		4	M30x1.5
E	FT1203-38		4	M20x1
F	FT202-10	4		M50x1.5
G	FT202-4	4		M20x1
H	FT202-5	4		M25x1.5
J	FT202-6	4		M30x1.5
K	FT202-8	4		M40x1.5

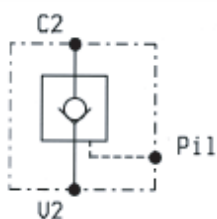




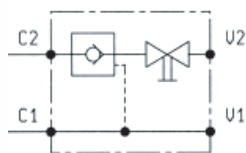
Oil Control Check Valves



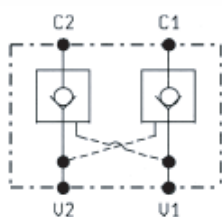
Pilot Operated
- Poppet & Ball Type -



Pilot Operated Check Valves
- Poppet Type with Vented Pilot Piston -



Pilot Operated Check Valves with Manual Shut Off
- Ball Type -



Dual Pilot Operated Check Valves
- Poppet Type -

Types & Functions	Standard Model	Q Max. l/min	Std Setting bar	Port Size	Pilot Ratio
Poppet Type - Pilot Operated	05.52.01.00.03.00	50	350	G1/2	3.2:1
	05.52.01.10.03.01	50	350	G1/2	3.2:1
	05.52.79.10.97.01	30	350	G3/8	7:1
	05.52.11.00.09.00	20	350	G1/4	4:1
	05.52.11.10.03.01	50	350	G1/2	3.2:1
	05.52.11.10.09.01	20	350	G1/4	4:1
Ball Type - Pilot Operated	04.33.01.00.99.00	90	350	Cartridge	4:1
	04.33.01.10.99.01	90	350	Cartridge	4:1
Poppet Type - Vented Pilot Piston	05.52.24.00.02.00	30	350	G3/8	10:1
	05.52.22.00.02.00	30	350	G3/8	10:1
Ball Type - Pilot Op. with Manual Shut-off	05.52.26.10.02.00	30	350	G3/8	5.4:1
Poppet Type - Dual Pilot Op.	05.53.01.00.03.00	50	350	G1/2	3.2:1
	05.53.01.00.03.01	50	350	G1/2	3.2:1
	05.53.43.00.97.01	30	350	G3/8	4:1
	05.53.01.10.03.01	50	350	G1/2	3.2:1
	05.53.03.00.03.00	50	350	G1/2	3.2:1
	05.53.03.00.03.01	50	350	G1/2	3.2:1
	05.53.03.00.09.00	20	350	G1/4	4:1
	05.53.03.00.09.01	20	350	G1/4	4:1
	05.53.03.10.09.01	20	350	G1/4	4:1



Oil Control S.R.L. was established in Nonantola, Italy in 1974 with the aim of rapidly growing the mobile machinery market with motion control valves.

From an initial emphasis on overcentre valves for cranes and aerial platforms, the company started successfully dealing with many other applications, mostly related to load control of mobile machinery such as tele-handlers, excavators, winches etc.

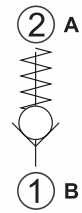
Now Oil Control is one of the world leaders in the design and manufacturing of hydraulic valves for lifting and earth moving equipment with a current full production of 1600 different types of valves.

Berendsen Fluid Power is the primary Australian distributor for Oil Control products having an extensive range available to the Australian market.



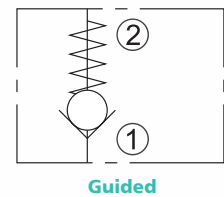
Check Valves

Types & Functions	Standard Model	Flow LPM	Pressure bar	O.D.	Coil	Cracking Pressure bar
Poppet	OD.44.02.00.02.01	30	350	G3/8	N/A	1.75
Type	OD.44.02.00.04.01	80	350	G3/4	N/A	0.3
	OD.44.02.00.09.01	15	350	G1/4	N/A	2.3

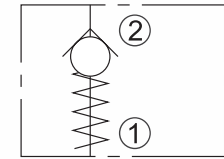


Check Valves

Types & Functions	Standard Model	Flow LPM	Cavity	Adjustment	Spring Bias bar
Guided	CV04-20-0-N-05	5	VC04-2	N/A	0.3
	CV08-20-0-N-04	30	VC08-2	N/A	0.3
	CV08-20-0-N-60	30	VC08-2	N/A	4.1
	CV10-20-0-N-05	57	VC10-2	N/A	0.34
	CV10-20-0-N-30	57	VC10-2	N/A	2.1
	CV12-20-0-N-05	95	VC12-2	N/A	0.34
	CV12-20-0-N-25	95	VC12-2	N/A	1.7
	CV12-20-0-N-60	95	VC12-2	N/A	4.1
	CV16-20-0-N-05	151	VC16-2	N/A	0.35
Reverse Flow	CV12-21-0-N-06	114	VC12-2	N/A	0.4
Direction	CV10-23-0-N-05	49	VC10-2	N/A	0.34
	CV10-23-0-N-55	49	VC10-2	N/A	3.8

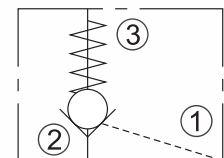


Guided



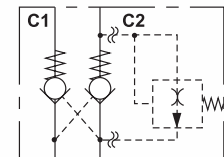
Reverse Flow Direction

Pilot-to-Open	PC08-30-0-N	18	VC08-3	N/A	1.72
	PC08-30-0-NS	18	VC08-3	N/A	6.2
	PC10-30-0-N	22	VC10-3	N/A	2.07

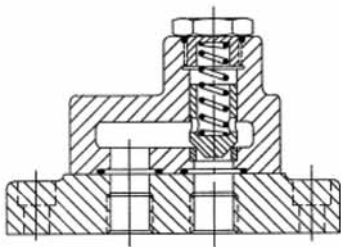


Pilot-to-Open

Lock Valve with Relief Op. In-Line Plumbed	DCV10-8T-N	45	N/A	N/A	2
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Lock Valve with Relief Op. In-Line Plumbed



C5GV-815
with sub-plate

Vickers Check Valves - Gasket Mounting Industrial Type

- Higher pressure rated C5GV Series at 350 bar

Base Model	Nominal Size	Mounting Interface	Cracking Pressure bar	Maximum bar	Nominal lpm
C5G-805	3/8"	Unique	Omit: 0.35	250	38
C5G-815	3/4"		S3: 3.5	250	76
C5G-825	1-1/4"		S8: 5.2	250	380
C5GV-815	3/4"		S12: 0.35*	350	76
C5GV-825UB	1-1/4"			350	380

* S12 with threaded plug in poppet for drilling through for providing small flow restriction in closed condition

MOUNTING SUB-PLATES FOR THE MODELS ABOVE:

Valve	Sub-Plate Model Code	Order Code	Main Ports	Bolt Kit (Seperate Order)
C5G-805				255619
C5G(V)-815	E-C4GM-815-R	TBA	G3/4	TBA
C5G(V)-825	E-C4GM-825-R	TBA	G1-1/4	TBA



Vickers Check Valves - Right Angle Pipe-Mounted Models

Base Model	Port Thread	Cracking Pressure bar	Maximum bar	Maximum lpm	Aux. Code
C2-815UB	G3/4	Omit: 0.35	210	60	UB (BSP Port)
C2-825UB	G1-1/4	S3: 3.5	210	170	
C2-830UB	G1-1/2	S8: 5.2	210	245	
		S12: 0.35*			

* S12 with threaded plug in poppet for drilling through for providing small flow restriction in closed condition

MOUNTING SUB-PLATES FOR THE MODELS ABOVE:

Vickers Check Valves - In-Line Models (Conventional Models)

Base Model	Port Thread	Cracking Pressure bar	Maximum bar	Maximum lpm	Design Code	Aux. Code
DT8P1-03	G3/8	5: 0.35 (5PSI)	210	30	11	UB (BSP Port)
DT8P1-06	G3/4	30: 2.1 (30PSI)	210	76	11	UB (BSP Port)
DT8P1-10	G1-1/4	65: 4.5 (65PSI)	210	190	11	UB (BSP Port)
DF10P1-16	2" Flange		210	500	20	JA



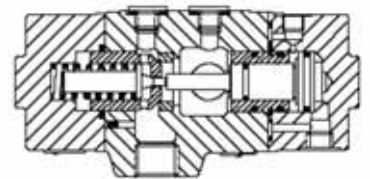
Vickers Check Valves - In-Line Models (High Pressure VU Series)

Base Model	Port Thread	Cracking Pressure bar	Maximum bar	Nominal Dia. mm	Flow* lpm	Order Code
PZBVU	G1/4	0.35 (5PSI)	300	6.3	20	CV-099
	G3/8	0.35 (5PSI)	300	10	30	CV-100
	G1/2	0.35 (5PSI)	300	12	55	CV-101
	G3/4	0.35 (5PSI)	300	20	90	CV-103
	G1	0.35 (5PSI)	300	25	175	CV-105
	G1-1/4	0.35 (5PSI)	300	31.5	275	CV-112
	G1-1/2	0.35 (5PSI)	300	40	480	CV-106
	G2	0.35 (5PSI)	200	50	750	CV-107
	G1/4	4.5 (65PSI)	300	6.3	20	CV-110
	G3/8	4.5 (65PSI)	300	10	30	CV-111
	G1/2	4.5 (65PSI)	300	12	55	CV-102
	G3/4	4.5 (65PSI)	300	20	90	CV-104
	G1	4.5 (65PSI)	300	25	175	CV-108
	G1-1/4	4.5 (65PSI)	300	31.5	275	CV-118
	G1-1/2	4.5 (65PSI)	300	40	480	CV-109
	G2	4.5 (65PSI)	200	50	750	CV-113

* Flow rate above based on 2 bar pressure drop at 50°C with viscosity 3E

Vickers Pilot Operated Check Valves - Thread Line Mounting Industrial Type

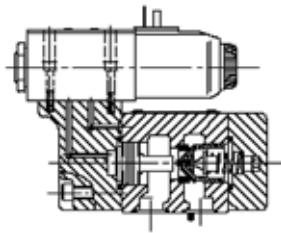
Base Model	Main Ports	Cracking Pressure bar	Decomp. Feature	Drain Port	Max. bar	Nom. lpm	Aux. Code*	Area Ratio**
4CT-06	3/4" PT	A: 2	Omit: w/o	Omit: Internal	210	125		3.5:1
		C: 5	D: Decomp.	GE5: External				
4CT-10	1-1/4" PT	F: 10	Omit: w/o		210	315		2.5:1
			D: Decomp.					



4CT-10
c/w decompression feature

* S100 in the Aux. Code is for manufacturing management code, and different code will be used depending on exact model.

** The area ratio above are guide only for non-decompression models. Consult Berendsen Fluid Power for exact pilot pressure requirements.



Typical PCG5V

Vickers Pilot Operated Check Valves - Gasket Mounting Industrial Type

SPECIFICATIONS:

- PCGV series w/o integral solenoid valve. PCG5V series have integral solenoid valves. Optional DG3VP poppet solenoid.
- Zero leakage design

Base Model	Mounting Interface	Cracking Pressure bar	Decomp. Feature	Drain Port	Max. bar	Nom. lpm	Design Code	Aux. Code	Area Ratio
PCGV-6	ISO 5718-6	A: 2	D: c/w	Internal -	350	150	10	N/A	3.5:1
PCG5V-6	ISO 5718-6	C: 5	Omit: if not	1:external	350	150	10	E-MU-*5	3.5:1
PCGV-8	ISO 5718-8	F: 10	required	Internal -	350	300	10	N/A	3.5:1
PCG5V-8	ISO 5718-8			1:external	350	300	10	E-MU-*5	3.5:1
4CGV-03	Nom. 3/8"			Internal	210	45	21		3.5:1
4CGV-06	Nom. 3/4"			Internal	210	114	20		3.5:1
4CGV-10	Nom. 1-1/4"			Internal	210	284	21		2.6:1

MOUNTING SUB-PLATES FOR THE MODELS ABOVE:

Valve	Sub-Plate Model Code	Order Code	Main Ports	Bolt Kit (Seperate Order)
PCGV-6	XCGVM-6-10-R	615458	G1	614938
PCGV-8	Consult BFP			614939
4CGV-03	E-RXGM-06X-20R	711589	G1/2	466309
4CGV-06	E-RXGM-06X-20R	711591	G1	466308
4CGV-10	E-RXGM-10X-20R	714465	G1-1/2	466414

Note: (1) PCG5V models are pilot check valves c/w DG4V-3-2AL. The Aux. Code includes coil voltage identification code. A: 110V50Hz, ED: 240V50Hz, H: 24VDC, G: 12VDC. Consult Berendsen Fluid Power for DG3VP-3 solenoid valve option.

(2) 4CG-** models above are internal drain type. GE5-JA-J code to be added for 4CG-03 and 06, and the base code becomes 4CG1-10 for the 4CG-10 model. (eg. 4CG-03-DA and not AD)

(3) The above pilot area ratio's are guide only for non-depression models. See Berendsen Fluid Power for decompression models and for exact pilot pressure requirements.

(4) 4CG-06 and PCGV-8 interfaces are physically interchangeable.



BALL VALVES

BHA High Pressure Ball Valves - HBV Series

SPECIFICATIONS:

- Steel body
- Hard chrome plated steel ball
- Delrin ball seals
- Viton O-rings
- Working pressure up to 500 bar (7250 PSI)



Series	Port Size	Bore mm	Working Pressure	
			bar	PSI
HBV-02B	1/8"	5	500	7250
HBV-04B	1/4"	6	500	7250
HBV-06B	3/8"	10	500	7250
HBV-08B	1/2"	13	500	7250
HBV-12B	3/4"	20	400	5800
HBV-16B	1"	25	350	5075
HBV-20B	1-1/4"	30	350	5075
HBV-24B	1-1/2"	38	350	5075
HBV-32B	2"	48	350	5075

ORDERING INFORMATION:

HBV 08 - B
(1) (2) (3)

(1) PRODUCT TYPE

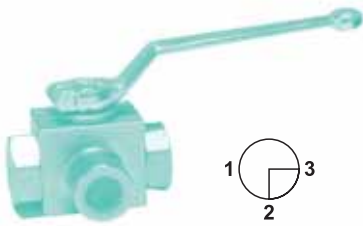
HBV = High Pressure Ball Valve

(3) PORT TYPE

B = BSP

(2) PORT SIZE

02 = 1/8"
 04 = 1/4"
 06 = 3/8"
 08 = 1/2"
 12 = 3/4"
 16 = 1"
 20 = 1-1/4"
 24 = 1-1/2"
 32 = 2"



BHA High Pressure Ball Valves (3 Way) - 3HBV Series

SPECIFICATIONS:

- 3 Way selector valves
- Steel body
- Hard chrome plated steel ball
- Delrin ball seals
- Viton O-rings
- Working pressure up to 400 bar (5800 PSI)

Series	Nominal Size		Working Pressure	
	mm	ins	bar	PSI
3HBV-04B	6	1/4"	400	5800
3HBV-06B	10	3/8"	400	5800
3HBV-08B	13	1/2"	350	5075
3HBV-12B	20	3/4"	350	5075
3HBV-16B	25	1"	350	5075
3HBV-20B	32	1-1/4"	350	5075
3HBV-24B	38	1-1/2"	350	5075
3HBV-32B	50	2"	350	5075

L configuration standard. T configuration available on request.

ORDERING INFORMATION:

3HBV 08 - B
(1) (2) (3)

(1) PRODUCT TYPE

3HBV = 3- Way High Pressure Ball Valve

(2) PORT SIZE

04 = 1/4"
 06 = 3/8"
 08 = 1/2"
 12 = 3/4"
 16 = 1"
 20 = 1-1/4"
 24 = 1-1/2"
 32 = 2"

(3) PORT TYPE

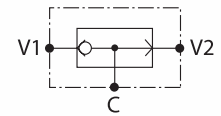
B = BSP
 N = NPT



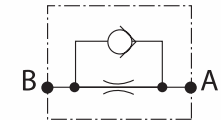
FLOW CONTROL VALVES

Oil Control Flow Control Valves

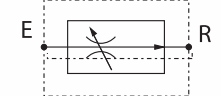
Types & Functions	Standard Model	Q Max. l/min	Std Setting bar	Port Size	Press. Range
Shuttle Valve	05.99.05.00.09	50	350	G1/4	N/A
- Ball Type	04.94.03.00.14.00	10	350	G1/8	N/A
One Way Restrictor	04.46.03.00.09.03	10	350	G1/4	1 mm
- with Different Orifice					
One Way Restrictor	OM.22.03.70.02	25	210	G3/8	Hand Knob
Flow Regulators 2 Way Restrictive	OM.22.03.70.03	50	210	G1/2	Hand Knob
Type - Pressure Compensated	OM.22.03.70.05	190	210	G1	Hand Knob
Compensated	OM.22.03.50.04	90	210	G3/4	Lever
	OM.22.03.50.03	50	210	G1/2	Lever
Flow Regulators w/Free Reverse Flow - Pressure Comp.	OM.24.03.70.03	50	210	G1/2	Hand Knob
Flow - Pressure Comp. w/ Free Reverse Flow	OM.24.03.70.04	90	210	G3/4	Hand Knob
Flow Regulators 3 Way Bypass Type - Pressure Comp.	OM.32.03.40.03	50	210	G1/2	Grad. H/Knob
Way Bypass Type - Pressure Comp.	OM.32.03.40.04	90	210	G3/4	Grad. H/Knob
	OM.32.03.70.02	25	210	G3/8	Hand Knob
	OM.32.03.70.03	50	210	G1/2	Hand Knob
	OM.32.03.50.03	50	210	G1/2	Lever
Flow Regulators 3 Way Bypass Type - Pressure Comp.	OM.33.03.50.02	30	210	G3/8	Lever
Way Bypass Type - Pressure Comp.	OM.33.03.70.03	50	210	G1/2	Hand Knob
with Priority - Pressure Comp.	OM.33.03.70.04	90	210	G3/4	Hand Knob
Flow Regulators 3 Way Bypass Type - Pressure Comp. w/ Free Reverse Flow	OM.39.03.40.04	90	210	G3/4	Grad. H/Knob
Way Bypass Type - Pressure Comp. w/ Free Reverse Flow	OM.39.03.70.03	50	210	G1/2	Hand Knob
Flow Regulators 3 Way Combination Type - Pressure Compensated, with Priority and By-Pass Outlets for Separate Actuators	OM.42.03.70.02	40	210	G3/8	Hand Knob
	OM.42.03.70.03	60	210	G1/2	Hand Knob
	OM.42.03.70.04	90	210	G3/4	Hand Knob
	OM.42.03.70.05	190	210	G1	Hand Knob
	OM.42.03.50.03	60	210	G1/2	Lever
	OM.42.03.50.04	90	210	G3/4	Lever



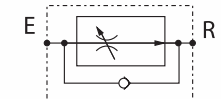
Shuttle Valve
- Ball Type -



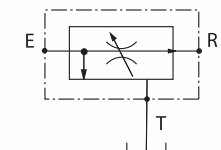
One Way Restrictors
- with Different Orifice -



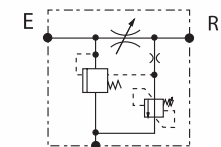
Flow Regulators Two Way Restrictive Type - Pressure Compensated -



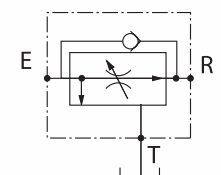
Flow Regulators Two Way Restrictive Type - Pressure Compensated with Free Reverse Flow -



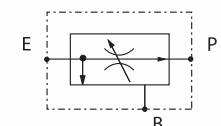
Flow Regulators Three Way By-Pass Type - Pressure Compensated -



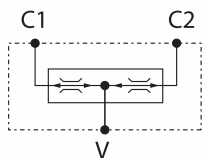
Flow Regulators Three Way By-Pass Type with Priority - Pressure Compensated -



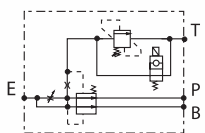
Flow Regulators Three Way By-Pass Type - Pressure Compensated with Free Reverse Flow -



Flow Regulators Three Way Combination Type - Pressure Compensated, with Priority and By-Pass Outlets for Separate Actuators -

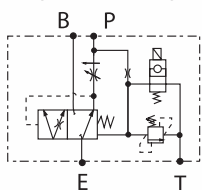


Flow Dividers/Combiners
- Pressure Compensated -



Flow Regulators Three Way Combination Type with Priority Solenoid & Relief Control

- Pressure Compensated, with Priority and By-Pass Outlets for Separate Actuators -
(OM.43.03.70.03)



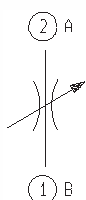
Flow Regulators Three Way Combination Type with Priority Solenoid & Relief Control

- Pressure Compensated, with Priority and By-Pass Outlets for Separate Actuators -
(OM.43.20.80.XX.20)

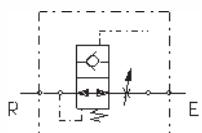
Oil Control Flow Control Valves (Cont.)

Types & Functions	Standard Model	Q Max. l/min	Std Setting bar	Port Size	Inlet Capacity l/min
Flow Dividers/Combiners -	OM.51.03.90.02.11	11	210	G3/8	6.5 - 11
Pressure Compensated	OM.51.03.90.02.22	22	210	G3/8	13 - 22
	OM.51.03.90.02.55	5.5	210	G3/8	2.8 - 5.8
	OM.51.03.90.03.22	22	210	G1/2	13 - 22
	OM.51.03.90.03.38	38	210	G1/2	25 - 38
	OM.51.03.90.04.52	52	210	G3/4	28 - 55
	OM.51.03.90.04.95	95	210	G3/4	56 - 95
	OM.51.03.90.05.15	150	210	G3/4	90 - 150
Flow Regulators 3 Way Combination	OM.43.03.70.03	90	210	G1/2	Hand Knob
Type w/ Priority Solenoid & Relief Control - Pressure	OM.43.20.80.04.20	200	350	G3/4	Hex. Socket
Comp. w/ Priority & Bypass Outlets for Separate Actuators	OM.43.20.80.05.20	300	350	G1	Hex. Socket
	OM.43.20.80.06.20	400	350	G1-1/4	Hex. Socket

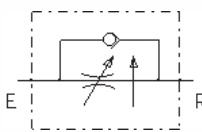
EDI SYSTEM Flow Control Valves



Flow Restrictors



Hose Burst Valves



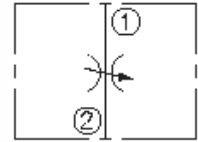
Pressure Compensated Flow Regulators

Types & Functions	Standard Model	Flow LPM	Press. bar	Cavity	Ports	Options
Flow Restrictors	OD.21.01.03.56	40	350	018-E	N/A	Hex. Socket Screw
	OD.21.01.04.56	40	350	018-E	N/A	Hand Knob
	OD.21.01.04.04	70	350	017-E	N/A	Hand Knob
Flow Restrictors w/Reverse Flow Check	OE.21.01.04.02	1-25	210	N/A	G3/8	N/A
O.D.						
Hose Burst Valves	OD.41.03.03.02.00	50	350	G3/8	N/A	N/A
	OD.41.03.03.03.00	80	350	G1/2	N/A	N/A
	OD.41.03.03.04.00	150	350	G3/4	N/A	N/A
	OD.41.03.03.09.00	25	350	G1/4	N/A	N/A
Cavity						
Pressure Compensated Flow Regulators	OE.22.01.04.02	1-18	210	N/A	G3/8	N/A

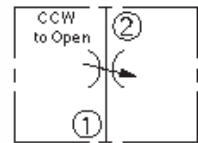


HYDRAFORCE Flow Control Valves

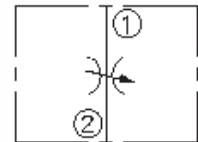
Types & Functions	Standard Model	Flow LPM	Cavity	Adjustment	Setting
Needle Valve	NV08-20A-0-N	42	VC08-2	Hex Allen Head	N/A
	NV10-20A-0-N	56	VC10-2	Hex Allen Head	N/A
Rotary Flow Control	MR10-20-A-0-N	53	VC10-2	Lever Handle (Sold seperately)	N/A
Needle Valves	NV08-21E-0-N	38	VC08-2	Plastic Knob	N/A
Fine Adjustment	NV10-21E-0-N	56	VC10-2	Plastic Knob	N/A
Flow Control Free Flow	FC10-20A-0-N	45	VC10-2	Hex Allen Head	N/A
Flow Regulator, Pressure Comp., Fixed Setting	FR08-20F-0-N-M2	7.5	VC08-2	N/A	2.0 LPM
	FR08-20F-0-N-M7	7.5	VC08-2	N/A	7.0 LPM
	FR08-20F-0-N-M0.4	7.5	VC08-2	N/A	0.4 LPM
	FR10-20F-0-N-M0.4	22.7	VC10-2	N/A	0.4 LPM
	FR10-20F-0-N-6.0	22.7	VC10-2	N/A	6.0 GPM



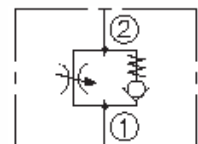
Needle Valve



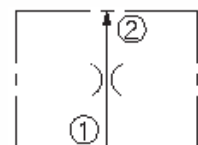
Rotary Flow Control



Needle Valves Fine Adjustment



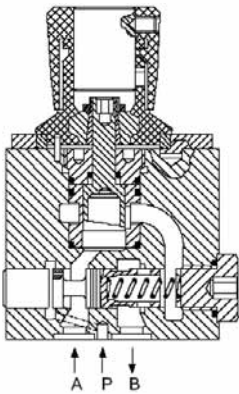
Flow Control Free Flow



Flow Regulator, Pressure Compensated, Fixed Setting



FRG-03



FCG-3 Typical section (P port anti-jump option connection-optional)

Vickers Gasket Mounting Industrial Type - FCG Series

- Compact, pressure compensated flow control c/w integral reverse flow check
- Optional anti-jump feature, which is primarily designed for meter-in applications. The anti-jump P port can be connected to an upstream point that provides pilot pressure continuously

Base Model	Base Function	Mounting Interface	Control Flow Range lpm	Max. bar	Design Code	Aux. Code
FCG-02	p. compensated	Unique	300: 0.03-4.9	250	50	
	c/w reverse check		1500: 0.2-24.5			
FCG-03	p. compensated	Unique	28: Max. 106	210	22	UG
	c/w reverse check					
FRG-03	p. compensated	Unique	28: Max. 106	210	22	B/C/F*
	c/w pressure control					
FCG-3	p. compensated c/w reverse check	Cetop-3 (See below)	16(A): 0.015-1.6	A Model: 160 Others: 315	K-10	
			32(A): 0.015-3.2			
			63(A): 0.025-6.3			
			120(A): 0.08-12			
			180(A): 0.08-18			

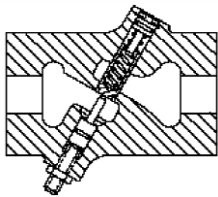
* Relief pressure range.

Code A for FCG-3 model represents anti-jump feature. Code K denotes manual adjust w/o key lock.

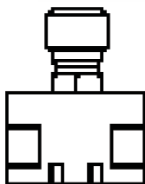
MOUNTING SUB-PLATES FOR THE MODELS ABOVE:

Valve	Sub-Plate Model Code	Order Code	Main Ports	Bolt Kit (Separate Order)
FCG-02	FGM-02-20-JA-J	41893372	3/8" PT (JIS)	Bolts included
FCG-03	E-FGM-03Y-10R	711913	G3/4	466308
FCG -3	DGVM-3-11R (250 bar)	866305	G3/8	986743

Note: FCG-3 interface basically conforms to ISO4401 Size 3 (Cetop-3), except for 2 bolt mount, and port arrangement. Check these differences carefully for mounting the valve onto the Cetop-3 interface, or stackable modules.



(E) FN series



FN(1)-4K

Vickers In-Line Flow Controls

Base Model	Base Function	Ports	Max. Flow lpm	Max. bar	Design Code	Aux. Code
FN-03	non-compensated	G3/8	38	210	20	B
EFN-06	c/w reverse check	G3/4	76	210	21	B
EFN-10		G1-1/4	189	210	11	B
FN(1)-4K		G1/4	9 (FN), 2(FN1)	140	20	

Aux. Code B represents port threads to BSPP.

Vickers Deceleration Valves

- Mechanical type deceleration valve, which reduces controlled flow through mechanical action

Base Model	Reduced Flow	Actuation	Mounting or Ports	Max. bar	Max. lpm	Order Code
DG16S2-010A-52	Non-adjustable	Roller cam	Cetop-5	210	45	590420
DT15S2-060-K-11	Adjustable	Roller cam	3/4" NPTF	210	225	361135
DG15S2-060-K-11	Adjustable	Roller cam	Unique Subplate	210	225	361137

DT15S2 model above includes an integral reverse flow check. Models w/o check are available.



Vickers Pre-Set Flow Control c/w Hydrostat Relief Valve

Base Model	Port Thread	Flow Setting (in 1/10 gpm)	Relief Setting (in 10 PSI)	Design Code
FM3	14S: 7/8"-14 UNF	020 (ie. 2gpm)	050 (ie. 500PSI)	10
		030	075	
		040	100	
		050	125	
		060	150	
		070	175	
		080	200	
		100	225	
		120	250	
		130		
		140		
		160		
		200		
		250		

Relief setting can be altered by simple hydrostat replacement.

FM3-AU32 Suffixed models (adjustable type) are obsolete, and no longer available.

Vickers FT Series In-Line Flow Controls

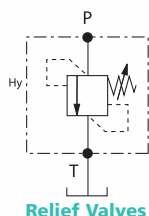
- Steel construction for high pressure ratings
- Pressure compensated, and non-compensated models
- Micro metre type adjustment for accurate flow control over a wide range

Base Model	Base Function	Ports	Max. Flow lpm	Max. bar	Order Code
FT257/2	Non-compensated w/o reverse check (Bi-directional control)	G1/4	15	400	FV-100
		G3/8	30	400	FV-104
		G1/2	50	400	FV-101
		G3/4	80	400	FV-102
		G1	150	320	FV-103
FT257/5	Non-compensated c/w reverse check	G1/4	15	400	FC-100
		G3/8	30	400	FC-104
		G1/2	50	400	FC-101
		G3/4	80	400	FC-102
		G1	150	320	FC-103
FT270/5	Pressure compensated c/w reverse check	G1/4	12.5	210	FP-100
		G3/8	25	210	FP-103
		G1/2	50	210	FP-101
		G3/4	80	210	FP-102



RELIEF VALVES

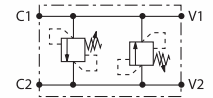
Oil Control Relief Valves



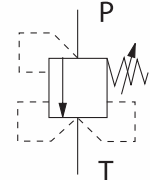
Types & Functions	Standard Model	Q Max. l/min	Std Setting bar	Port Size	Adjustment
Direct Acting	04.11.22.03.99.20	3	210	Cartridge	Hex. Socket
Poppet Type	04.11.22.03.99.35	3	350	Cartridge	Hex. Socket
	04.11.23.03.99.20	20	210	Cartridge	Hex. Socket
	04.11.23.03.99.35	20	350	Cartridge	Hex. Socket
	05.13.07.03.02.20	20	210	G3/8	Hex. Socket
	04.11.18.03.99.10	30	100	Cartridge	Hex. Socket
	04.11.18.03.99.20	30	210	Cartridge	Hex. Socket
	04.11.18.03.99.35	30	350	Cartridge	Hex. Socket
	05.13.01.03.02.05	30	50	G3/8	Hex. Socket
	05.13.01.03.02.10	30	100	G3/8	Hex. Socket
	05.13.01.03.02.20	30	210	G3/8	Hex. Socket
	05.13.01.03.02.35	30	350	G3/8	Hex. Socket
	05.13.01.03.03.05	30	50	G1/2	Hex. Socket
	05.13.01.03.03.10	30	100	G1/2	Hex. Socket
	05.13.01.03.03.20	30	210	G1/2	Hex. Socket
	05.13.01.03.03.35	30	350	G1/2	Hex. Socket
	05.13.01.04.03.20	30	210	G1/2	Hand Knob
	04.11.05.03.99.20	80	210	Cartridge	Hex. Socket
	05.13.02.03.03.20	80	210	G1/2	Hex. Socket
	05.13.02.03.04.05	80	50	G3/4	Hex. Socket
	05.13.02.03.04.20	80	210	G3/4	Hex. Socket
	05.13.02.04.03.20	80	210	G1/2	Hand Knob
Direct Acting	05.12.01.03.03.35	40	350	G1/2	Hex. Socket
Differential Type	04.15.02.03.99.35	150	350	Cartridge	Hex. Socket
	05.12.02.03.03.10	150	50	G3/4	Hex. Socket
	05.12.02.03.03.35	150	350	G3/4	Hex. Socket
	05.12.02.03.04.05	150	50	G1	Hex. Socket
	05.12.02.03.04.20	150	210	G1	Hex. Socket
	05.12.02.03.04.35	150	350	G1	Hex. Socket
	04.15.03.03.99.35	240	350	Cartridge	Hex. Socket
	05.12.03.03.05.20	240	210	G1	Hex. Socket
	05.12.03.03.05.35	240	350	G1	Hex. Socket
Pilot Operated	04.12.04.03.99.20	150	210	Cartridge	Hex. Socket
Spool Type	04.12.04.04.99.20	150	210	Cartridge	Hand Knob
	05.11.05.03.04.20	150	210	G3/4	Hex. Socket
	05.11.05.04.04.20	150	210	G3/4	Hand Knob
	04.12.05.03.99.20	150	210	Cartridge	Hex. Socket
	04.12.05.03.99.35	150	350	Cartridge	Hex. Socket



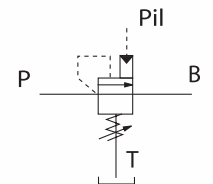
Types & Functions	Standard Model	Q Max. l/min	Std Setting bar	Port Size	Adjustment
Dual Cross Over	05.16.03.03.02.10	30	100	G3/8	Hex. Socket
Relief Valves - Direct Acting	05.16.03.03.02.20	30	210	G3/8	Hex. Socket
	05.16.03.03.03.20	30	210	G1/2	Hex. Socket
	05.16.01.03.03.20	80	200	G1/2	Hex. Socket
	05.16.01.03.04.20	80	200	G3/4	Hex. Socket
	05.15.01.03.04.35	150	350	G3/4	Hex. Socket
Direct Acting w/ Anti-Cavitation	05.16.05.03.03.20	80	350	G1/2	Hex. Socket
Relief Valves Self Compensated - Direct Acting Poppet Type	04.18.01.03.99.20	150	210	Cartridge	Hex. Socket
Priority Unloading Valves - With Internal & External Piloet Control	04.75.10.03.99.20	40	210	Cartridge	Re-seat 85%



Dual Cross Over Relief Valves - Direct Acting -



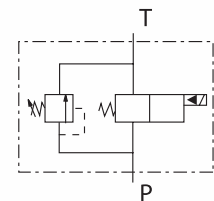
Relief Valves Self Compensated - Direct Acting Poppet Type -



Priority Unloading Valves - Internal Pilot Control -

EDI Relief Valves

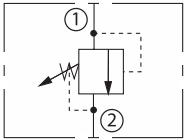
Types & Functions	Standard Model	Flow LPM	Adj. Press. bar	Ports	Coil	Options
Relief Valves with Solenoid Operated Bypass	OL.20.09.07.17	20	80-210	G1/4	S8	Hex. Socket Screw



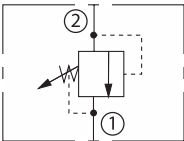
Relief Valves With Solenoid Operated Bypass



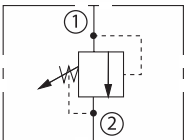
HYDRAFORCE Relief Valves



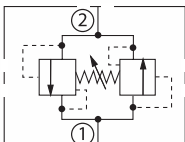
Double Acting Poppet



Relief Differential Area Poppet



Relief, Pilot Operated Spool



Relief, Bi-Directional

Types & Functions	Standard Model	Flow LPM	Cavity	Adjustment	Spring Range - bar
Double Acting Poppet	RV08-20A-0-N-09	22	VC08-2	Hex Allen Head	6.9 to 75.86
	RV08-20A-0-N-18	22	VC08-2	Hex Allen Head	17.24 to 158.62
	RV08-20A-0-N-33	22	VC08-2	Hex Allen Head	17.24 to 248.28
	RV08-20F-0-N-33/20	22	VC08-2	Factory Preset Non-Adj.	17.24 to 248.28
	RV58-20A-0-P-46	22	VC08-2	Hex Allen Head	27.6 to 317.2
	RV10-20A-0-N-06	38	VC10-2	Hex Allen Head	3.45 to 41.38
	RV10-20A-0-N-12	38	VC10-2	Hex Allen Head	10.34 to 82.76
	RV10-20A-0-N-33	38	VC10-2	Hex Allen Head	17.24 to 227.59
Relief	RV08-22A-0-N-26	30	VC08-2	Hex Allen Head	17.24 to 220.69
Differential	RV10-22A-0-N-06	114	VC10-2	Hex Allen Head	10.34 to 41.38
Area Poppet	RV10-22A-0-N-13	114	VC10-2	Hex Allen Head	10.34 to 89.66
	RV10-22A-0-N-25	114	VC10-2	Hex Allen Head	17.24 to 165.52
	RV10-22A-0-N-35	114	VC10-2	Hex Allen Head	17.24 to 241.38
	RV10-22A-0-NC-35	114	VC10-2	Hex Allen Head	17.24 to 241.38
	RV10-22H-0-N-35	114	VC10-2	Factory Preset Hidden	17.24 to 241.38
	RV50-22A-0-P-50	75	VC10-2	Hex Allen Head	34.5 to 344.8
Relief, Pilot Operated	RV10-26A-0-N-04	113	VC10-2	Hex Allen Head	6.9 to 27.6
	RV10-26A-0-N-15	113	VC10-2	Hex Allen Head	10.3 to 103.4
Spool	RV10-26A-0-N-30	113	VC10-2	Hex Allen Head	27.6 to 206.9
	RV10-26A-0-NC-15	113	VC10-2	Hex Allen Head	10.3 to 103.4
	RV10-26A-0-NC-30	113	VC10-2	Hex Allen Head	27.6 to 206.9
	RV50-26A-0-P-50	113	VC10-2	Hex Allen Head	20.7 to 344.8
	RV12-26A-0-N-35	150	VC12-2	Hex Allen Head	31 to 240
Relief, Bi-Directional	CR10-28A-0-N-24	60	VC10-2	Hex Allen Head	14 to 168

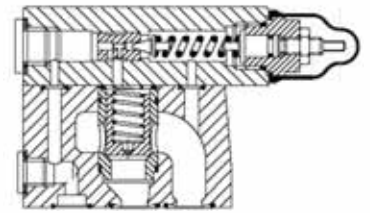


Vickers Pressure Relief Valves

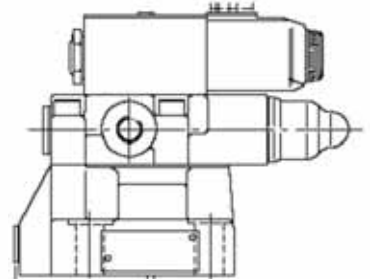
GASKET MOUNTED MODELS:

Base Model	Mounting Interface	Control Pressure Range bar	Adjustment Type	Design Code	Aux. Code	Max. Flow lpm
CG2V-6	ISO6264-6	B: 3 - 70	W: Screw & lock	10	N/A	200
CG2V-6*	ISO6264-6	C: 3 - 140	nut	10	EN55	200
CG2V-8	ISO6264-8	F: 3 - 210		10	N/A	400
CG3V-8*	ISO6264-8	G: 3 - 350		10	EN55	400
CG-03	Unique	B(V)(Y): max. 70	Handwheel	15	(S81)-JA	40
CG-06	Unique	C(V)(Y): max. 140		50	N/A	227
CG-10	Unique	F(V)(Y): max. 210		30	N/A	454
TCG	Relief Valve w/o, or c/w solenoid controlled multi-pressure control					

'V' in the model code for CG-03/06/10 represents high vent spring, 'Y' denotes external drain. S81 for CG-03 denotes valve c/w handwheel adjuster. If omitted, valve w/o handwheel (screw adjust). **Note:** CG3V model with EN55 suffix is a main stage valve for a solenoid controlled relief (CG5V), and a solenoid valve (DG4V-3-0B) will be ordered separately, together with the bolt kit 616452. CG3V-EN55 also functions as CG2V, if DGMA-3-B-10 (466385) blanking plate is mounted onto the top with bolt kit 466834.



CG2V relief



CG5V solenoid controlled

MOUNTING SUB-PLATES FOR THE MODELS ABOVE:

Valve Model	Sub-Plate Model	Main Ports	Order Code	Bolt Kit (Separate Order)
CG*V-6	CGVM-6	G1	615457	BKCG2V-6 (614936)
CG*V-8	ECGM-06-10R (210 bar)	G3/4	711903	BKCG2V-8 (614937)
CG-03	CGMT-03-10-JA-J	3/8" PT (JIS)	TBA	Bolt supplied
CG-06	ECGM-06-10R	G3/4	711903	Consult BFP
CG-10	CGM-10S-20	1-5/8"-12 UN	295271	BKCG10-616 (255616)

ECGM-06 is rated at 210 bar pressure, and has G3/4 ports. Check your requirements when used with CG*V-8.

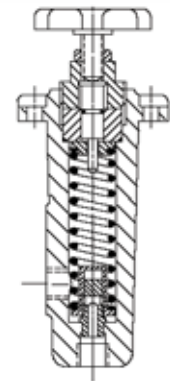
Vickers Pressure Relief Valves - Thread Connected Models

Base Model	Main Ports	Control Pressure Range bar	Adjustment Type	Design Code	Aux. Code	Max. Flow lpm
C-175	G1/4	B: 5.2 - 70	Handwheel	11	UB: G1/4	12
		C: 35 - 140				
		F: 104 - 210				
CT-06	G3/4	B(V): 8.5 - 70	Handwheel	50	UB-AU	227
CT5-060A*	G3/4	C(V): 35 - 140	(Screw w/CT5	50	UB-AU	227
CT-10	G1-1/4	F(V): 104 - 210	models)	20	JA-J	454
CT5-100A*	G1-1/4			30	UB-AU	454

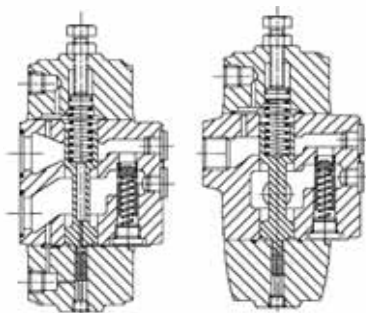
'V' in the model code for CT(5)-06/10 denotes high vent spring.

A nipple/orifice (P/N H-3839) is available for C-175-AU20 modification (P port orifice)

Note: CT5-06/10A models above are main stage valve only. Solenoid valve (DG4V-3-0BL) will be ordered separately, together with 4 off 010358 screw, if used as CT5 solenoid controlled relief valve.



C-175 panel mount relief for remote control



Typical RCG and RCT sections

Vickers Pressure Control "R" Valves

- Pressure actuated sliding spool type pressure control valves. Various control functions depending on pilot and drain arrangement
- Valves w/o reverse flow check (R Model) and c/w check (RC Model)

GASKET MOUNTED MODELS:

Base Model	Mounting Interface	Control Pressure Range	Remote Control	Valve Type	Design Code	Max. Flow lpm
RG-03	Unique	X: 0.7 - 2.1 bar	N/A	1: Int. pilot	23/30	45
RCG-03	(nominal 3/8")	Y: 1.4 - 4.1 bar Z: 2.4 - 8.6 bar	N/A	Int. drain 2: Int. pilot		45
RG-06	Unique	A: 5.2 - 17.2 bar	Omitted	Ext. drain		113
RCG-06	(nominal 3/4")	B: 8.6 - 34.5 bar D: 17.3 - 70 bar	P: Remote	3: Ext. pilot Ext. drain		113
RG-10	Unique	F: 35 - 140 bar	Omitted	4: Ext. pilot		284
RCG-10	(nominal 1-1/4")		P: Remote	Int. drain		284

MOUNTING SUB-PLATES FOR THE MODELS ABOVE:

Base Model	Sub-Plate Model	Main Ports	Order Codes	Bolt Kits (Seperate Order)
R(C)G-03	E-RXGM-03X-20R	G1/2	711589	466309
R(C)G-06	E-RXGM-06X-20R	G1	711591	466308
R(C)G-10	E-RXGM-10X-20R	G1-1/2	714465	466414

Vickers Pressure Control "R" Valves - Thread Connected Models

Base Model	Main Ports	Control Pressure Range	Remote Control	Valve Type	Design Code	Max. Flow lpm
RT-03	G3/8	X: 0.7 - 2.1 bar	N/A	1: Int. pilot	23UB	45
RCT-03	G3/8	Y: 1.4 - 4.1 bar Z: 2.4 - 8.6 bar	N/A	Int. drain 2: Int. pilot	23UB	45
RT-06	G3/4	A: 5.2 - 17.2 bar	Omitted	Ext. drain	23UB	113
RCT-06	G3/4	B: 8.6 - 34.5 bar D: 17.3 - 70 bar	P: Remote	3: Ext. pilot Ext. drain	23UB	113
RT-10	G1-1/4	F: 35 - 140 bar	Omitted	4: Ext. pilot	22UB	284
RCT-10	PT1-1/4		P: Remote	Int. drain	22-JA-J	284

TYPICAL APPLICATIONS:

Valve Type	Function
1	Counterbalance, or brake valve
2	Sequence - directly operated
3	Sequence - remotely operated
4	Unloading valve - remotely operated

Remote Control 'P' Feature:

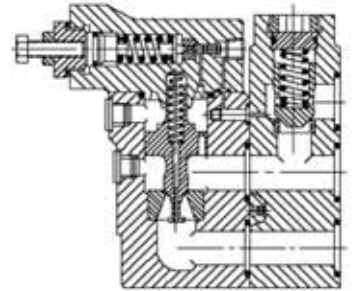
Available only with certain R(C)G and R(C)T models with pressure ranges A, B, D and F. Low pressure remote control is achieved via an auxiliary port.



Vickers Unloading Valves

EURG1 - GASKET MOUNTED, EURT1 - THREAD CONNECTED: COMPLETE VALVES

Base Model	Mounting or Main Ports	Control Pressure Range	Adjustment type	Design Code	Aux. Code	Max. Flow lpm
EURG1-06	Unique	B: 25 - 70 bar	Screw c/w	13	UG	95
EURG1-10	Unique	C: 35 - 140 bar	locknut	13	UG	246
EURT1-06	G3/4	F: 105 - 210 bar		12	UB	75
EURT2-10	G1-1/4			12	UB	190



MOUNTING SUB-PLATES FOR EURG1:

Base Model	Sub-Plate Model	Main Ports	Order Codes	Bolt Kits (Seperate Order)
EURG1-06	EURG1M-06-20R	G3/4	464019	BKUR06-682 (255682)
EURG1-10	EURG1M-10-20R	G1-1/4	464020	BKUR10-683 (255683)

COVER SUB-ASSEMBLIES FOR EURG1 VALVES (AS SPARE PART):

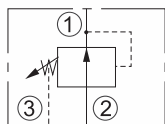
Part Number	Description
767723	URG1-06-C-12/13 Cover Kit
941298	UGR1-10-C-12/13 Cover Kit

EURG1 and EURT1 are external drain models. EURG2 and EURT2 are internal drain models.

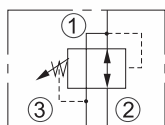


REDUCING VALVES

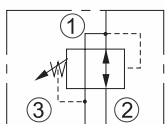
HYDRAFORCE Reducing Valves



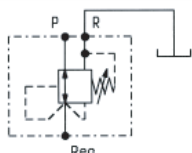
Pilot Operated Direct Acting Spool



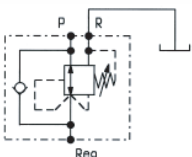
Pressure Reducing/Relieving



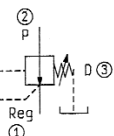
Pressure Reducing/Relieving Pilot Operated



Pressure Reducing Valves
- Direct Acting with Relief Feature -



Pressure Reducing Valves
- Direct Acting with Relief Feature & Free Reverse Flow -



Pressure Reducing Valves
- Direct Acting with Relief Feature & Pilot Operated

Types & Functions	Standard Model	Flow LPM	Cavity	Adjustment	Spring Range - bar
Pilot Operated Direct Acting Spool	PR10-31A-0-N-35	26	VC10-3	Hex Allen Head	48.3 to 241
Pressure Reducing/Relieving	PR08-32A-0-N-03	11	VC08-3	Hex Allen Head	3.4 to 20.7
	PR08-32A-0-N-06	11	VC08-3	Hex Allen Head	6.9 to 41.4
	PR08-32A-0-N-12	11	VC08-3	Hex Allen Head	20.7 to 82.8
	PR08-32A-3B-N-22	11	VC08-3	Hex Allen Head	34.5 to 151.7
	PR10-32A-0-N-04	30	VC10-3	Hex Allen Head	5.5 to 27.6
	PR10-32A-0-N-21	30	VC10-3	Hex Allen Head	27.6 to 145
Pressure Reducing/Relieving Pilot Operated	PR10-36A-0-N-04	56	VC10-3	Hex Allen Head	6.9 to 27.6
	PR10-36A-0-N-15	56	VC10-3	Hex Allen Head	10.3 to 103
	PR10-36A-0-N-30	56	VC10-3	Hex Allen Head	27.6 to 207
	PR50-36A-0-P-50	56	VC10-3	Hex Allen Head	20 to 345

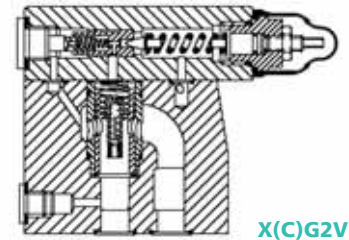
Oil Control Reducing Valves

Types & Functions	Standard Models	Q Max. l/min	Std Setting bar	Port Size	Adjustment
Pressure Reducing Valves - Direct Acting w/ Relief Feature	05.90.27.03.02.04	20	42	G3/8	Hex. Socket
	05.90.27.04.02.04	20	42	G3/8	Hand Knob
Direct Acting w/ Relief Feature & Free Reverse Flow	05.90.19.03.02.04	20	42	G3/8	Hex. Socket
	05.90.19.03.02.10	20	105	G3/8	Hex. Socket
	05.90.19.04.02.04	20	42	G3/8	Hand Knob
	05.90.19.04.02.10	20	105	G3/8	Hand Knob
Direct Acting w/ Relief	04.93.01.03.99.20	120	210	Cart	Hex. Socket
Pilot Operated	05.90.33.03.03.20	120	210	G1/2	Hex. Socket
	05.90.33.03.04.20	120	210	G3/4	Hex. Socket



Vickers Pressure Reducing Valves

- High response cartridge type X(C)G2V series. Also, an integral outlet-to-pilot check prevents excessive outlet port pressure build-up
- Solenoid controlled XCG5V
- Valve w/o reverse check (X models), or c/w check (XC models)



X(C)G2V

GASKET MOUNTED MODELS:

Base Model	Interface or Main Ports	Control Pressure Range	Adj. or Flow Code	Design Code	Aux. Code	Max. Flow lpm
XG2V-6	ISO 5781-6	A: 2 - 30 bar	W: Screw &	10	N/A	200
XCG2V-6	ISO 5781-6	B: 5 - 70 bar	locknut	10	N/A	200
XCG3V-6*	ISO 5781-6	C: 5 - 140 bar		10	EN55	200
XG2V-8	ISO 5781-8	F: 5 - 210 bar		10	N/A	300
XCG2V-8	ISO 5781-8	G: 5 - 330 bar		10	N/A	300
XCG3V-8*	ISO 5781-8			10	EN55	300
XG1-3	Unique	F: 3.5 - 140 bar	K: Knob	2-30	JA	11.3
XG-03	Unique (nom. 3/8")	1: up to 70 bar	B: 26 lpm	30	N/A	B: 26 lpm
XCG-03	Unique (nom. 3/8")	2: up to 140 bar	F: 53 lpm	30	N/A	F: 53 lpm
XG-06	Unique (nom. 3/4")	3: up to 220 bar	B: 57 lpm	30	N/A	B: 57 lpm
XCG-06	Unique (nom. 3/4")		F: 114 lpm	30	N/A	F: 114 lpm
XG-10	Unique (nom. 1-1/4")		B: 190 lpm	30	N/A	B: 190 lpm
XCG-10	Unique (nom. 1-1/4")		F: 284 lpm	30	N/A	F: 284 lpm

MOUNTING SUB-PLATES FOR THE MODELS ABOVE:

Base Model	Sub-Plate Model	Main Ports	Order Codes	Bolt Kits (Seperate Order)
X(C)G*V-6	XCGVM-6-10R	G1	615458	614934
X(C)G*V-8	Consult BFP			614934
XG(1)-3	DGME-03-JA-20-R-J	PT3/8"	48508412	466310
X(C)G-03	E-RXGM-03X-20R	G1/2	711589	466309
X(C)G-06	E-RXGM-06X-20R	G1	711591	466308
X(C)G-10	E-RXGM-10X-20R	G1-1/2	714465	466414

Note: XCG3V models with EN55 suffix listed above have the Cetop-3 interface on the top, but no plate is fitted. They can also be used as XCG2V plain reducing valve, if DGMA-3-B-10 (466385) blanking plate is mounted onto the top of the valve with bolt kit BK466834 (466834).

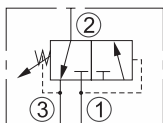
Vickers Pressure Reducing Valves - Thread Connected Models

Base Model	Main Ports	Control Pressure Range	Flow Code	Design Code	Aux. Code	Max. Flow lpm
XT-03	G3/8	1: up to 70 bar	B: 26 lpm	22/23	UB	B: 26 lpm
XCT-03	G3/8	2: up to 140 bar	F: 53 lpm	22/23	UB	F: 53 lpm
XT-06	PT3/4"	3: up to 200 bar	B: 57 lpm	20	JA-J	B: 57 lpm
XCT-06	PT3/4"	(Omit for XCT-06)	F: 110 lpm	20	JA-J	F: 110 lpm
XT-10	G1-1/4		B: 190 lpm	22/23	UB	B: 190 lpm
XCT-10	G1-1/4		F: 284 lpm	22/23	UB	F: 284 lpm

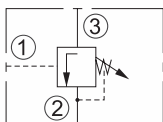


SEQUENCE VALVES

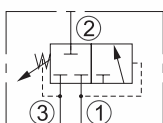
HYDRAFORCE Sequence Valves



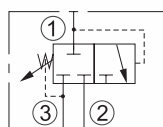
Sequence, Internal Pilot & Vent
(PS10-30A-0-N-XX)



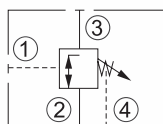
Sequence, External Pilot,
Internal Vent



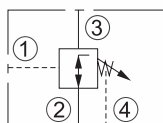
Sequence, Internal Pilot & Vent
(PS10-38A-0-N-35)



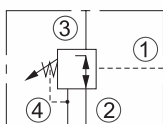
Sequence, Pilot Operated Internal
Pilot, External Drain



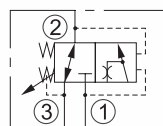
Sequence, Normally Closed, External
Pilot & Drain



Sequence, Normally Open, External
Pilot & Vent



Sequence, External Pilot, Internal
Drain



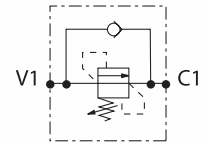
Sequence, Kick Down

Types & Functions	Standard Model	Flow LPM	Cavity	Adjustment	Spring Range - bar
Sequence,	PS10-30A-0-N-04	34	VC10-3	Hex Allen Head	2.8 to 27.6
Internal Pilot	PS10-30A-0-N-21	34	VC10-3	Hex Allen Head	14.5 to 144.8
& Vent					
Sequence,	PS08-32A-0-N-24	15	VC08-3	Hex Allen Head	20.7 to 165.5
External Pilot,	PS10-33A-0-N-35	22	VC10-3	Hex Allen Head	35 to 240
Internal Vent					
Sequence,	PS10-38A-0-N-35	22	VC10-3	Hex Allen Head	34.5 to 240
Internal Pilot					
& Vent					
Sequence,	PS10-36A-0-N-35	57	VC10-3	Hex Allen Head	34.5 to 240
Pilot Operated	PS10-36A-0-N-30	57	VC10-3	Hex Allen Head	27.6 to 206.9
Internal Pilot,					
External Drain					
Sequence,	PS10-40A-0-N-04	22	VC10-4	Hex Allen Head	2.8 to 27.6
Normally	PS10-40A-0-N-22	22	VC10-4	Hex Allen Head	15.2 to 151.7
Closed,					
External Pilot					
& Drain					
Sequence,	PS10-41A-0-N-22	30	VC10-4	Hex Allen Head	15.2 to 151.7
Normally Open,					
External Pilot					
& Vent					
Sequence,	PS10-43A-0-N-22	30	VC10-4	Hex Allen Head	15.2 to 151.7
External Pilot,					
Internal Drain					
Sequence,	KS10-30A-0-N-30C	11	VC10-3	Hex Allen Head	27.6 to 207
Kick Down					

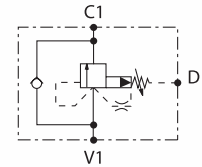


Oil Control Sequence Valves

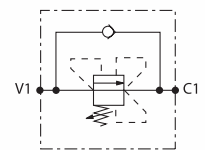
Types & Functions	Standard Model	Q Max. l/min	Std Setting bar	Port Size	Adjustment
Direct Acting	05.21.07.03.02.05	30	50	G3/8	Hex. Socket
Poppet Type	05.21.07.03.02.10	30	100	G3/8	Hex. Socket
	05.21.07.03.02.20	30	210	G3/8	Hex. Socket
	05.21.07.03.03.20	30	210	G1/2	Hex. Socket
	05.21.07.03.03.35	30	350	G1/2	Hex. Socket
Pilot Operated	05.24.02.03.04.20	150	210	G3/4	Hex. Socket
Vented Spool					
Direct Acting Self Comp.	05.21.11.03.03.20	30	210	G1/2	Hex. Socket
Comp.	05.22.03.03.03.10	80	100	G1/2	Hex. Socket
	05.22.03.03.03.20	80	210	G1/2	Hex. Socket
Pilot Operated Self Comp.	05.24.06.03.04.20	150	210	G3/4	Hex. Socket



Sequence Valves
- Direct Acting Poppet Type -



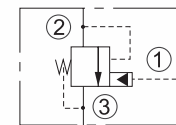
Sequence Valves
- Pilot Operated Vented Spool -



Sequence Valves
- Direct Acting Self Compensated -

HYDRAFORCE Unloading Valve

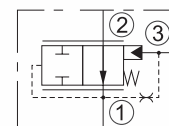
Types & Functions	Standard Model	Flow LPM	Cavity	Adjustment	Spring Range - bar
Unloading	UP10-30A-0-N-70	3.8	VC10-3	Hex Allen Head	70%
Pilot, Internal Drain	UP10-30A-0-N-80	3.8	VC10-3	Hex Allen Head	80%



Unloading Pilot, Internal Drain

HYDRAFORCE Logic Element

Types & Functions	Standard Model	Flow LPM	Cavity	Adjustment	Spring Range - bar
Spool Logic Element	ER10-S30-0-N	68	VC10-S3	N/A	5.5 bar

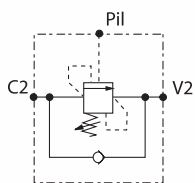


Spool Logic Element



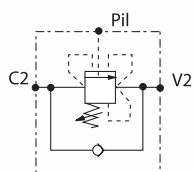
COUNTER BALANCE VALVES

Oil Control Counter Balance Valves



Pilot Assisted Overcentre Valves

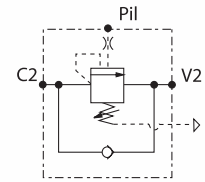
Types & Functions	Standard Model	Q Max. l/min	Std Setting bar	Port Size	Pilot Ratio
Pilot Assisted	04.52.04.03.99.20	60	210	Cartridge	4.2:1
Overcentre Valves	04.52.04.03.99.35	60	350	Cartridge	4.2:1
- Cartridge Type	04.52.02.03.99.35	150	350	Cartridge	4.6:1
	04.52.11.03.99.35	150	350	Cartridge	4:1
	04.52.12.03.99.35	300	350	Cartridge	4:1
Series "30"					
	08.41.01.03.02.20	40	210	G3/8	4.2:1
	08.41.01.03.02.35	40	350	G3/8	4.2:1
	08.41.01.03.03.20	60	210	G1/2	4.2:1
	08.41.01.03.03.35	60	350	G1/2	4.2:1
	08.41.02.03.02.35	40	350	G3/8	4.2:1
Series "VBSO-SE"					
	05.41.01.03.03.20	120	210	G1/2	8.2:1
	05.41.01.03.03.35	120	350	G1/2	8.2:1
	05.41.01.03.04.20	140	210	G3/4	8.2:1
	05.41.01.03.04.35	140	350	G3/4	8.2:1
	05.41.01.10.03.35	120	210	G1/2	3.2:1
Series "NBA"					
	05.43.01.10.02.20	40	210	G3/8	3:1
	05.43.01.10.02.35	40	350	G3/8	3:1
	05.43.01.37.02.20	40	210	G3/8	9.1:1
	05.43.01.03.03.20	70	210	G1/2	10.5:1
	05.43.01.03.03.35	70	350	G1/2	10.5:1
	05.43.01.10.03.35	70	350	G1/2	3:1
	05.43.22.10.02.20	40	210	G3/8	3.6:1
	05.43.22.37.02.20	40	210	G3/8	9.1:1
	05.43.22.03.03.35	70	350	G1/2	10.5:1
	05.43.22.10.03.35	70	350	G1/2	3:1
Series "NA"					
	05.41.62.03.03.35	80	350	G1/2	7.6:1
	05.41.62.03.04.35	120	350	G3/4	7.6:1
	05.41.62.03.05.20	220	210	G1	8:1
	05.41.62.03.05.35	220	350	G1	8:1
	05.41.62.10.03.35	80	350	G1/2	3:1
	05.41.62.10.04.20	120	210	G3/4	3:1
	05.41.62.10.04.35	120	350	G3/4	3:1
	05.41.62.10.05.20	220	210	G1	2.8:1
	05.41.62.10.05.35	220	350	G1	2.8:1
Series "VBSO-SE"					
	05.41.06.02.03.20	120	210	G1/2	8.2:1
Pilot Assisted	05.41.06.02.04.35	140	350	G3/4	8.2:1
Overcentre Valves	05.41.06.10.03.20	120	210	G1/2	3.2:1
"CC" Type	05.41.06.10.04.35	120	350	G1/2	3.2:1



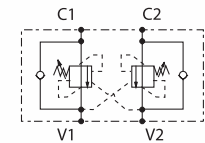
Pilot Assisted Overcentre Valves
"CC" Type



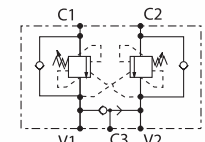
Types & Functions	Standard Model	Q Max. l/min	Std Setting bar	Port Size	Pilot Ratio
Series "NBA"					
Pilot Assisted Overcentre Valves "CC" Type (cont.)	05.43.31.03.03.35	70	350	G1/2	10.5:1
Series "NA"					
	08.45.17.03.03.35	60	350	G1/2	4.2:1
Cartridge Type					
Pilot Assisted Overcentre Valves "CCAP" Type	04.59.03.03.99.35	170	350	Cartridge	4:1
Series "NN"					
Dual Pilot Assisted Overcentre Valves	05.42.47.03.02.20	40	210	G3/8	6.6:1
	05.42.47.03.02.35	40	350	G3/8	6.6:1
	05.42.47.10.02.20	40	210	G3/8	2.9:1
	05.42.47.10.02.35	40	350	G3/8	2.9:1
	05.42.48.03.02.35	40	350	G3/8	6.6:1
Series "VBSO-DE"					
	05.42.01.03.03.20	120	210	G1/2	8.2:1
	05.42.01.03.03.35	120	350	G1/2	8.2:1
	05.42.01.03.04.35	140	350	G3/4	8.2:1
	05.42.01.10.03.35	120	350	G1/2	3.2:1
Series "NBA"					
	05.42.38.10.02.35	40	350	G3/8	3.6:1
Series "NA"					
	05.42.25.03.03.35	80	350	G1/2	7.6:1
	05.42.25.10.02.35	40	350	G3/8	3.6:1
	05.42.25.10.03.35	80	350	G1/2	3:1
Series "30"					
	08.44.07.03.02.20		210	G3/8	4.2:1
	08.44.07.03.02.35		350	G3/8	4.2:1
Dual Pilot Assisted Overcentre Valves w/ Brake Release Port	08.44.10.03.03.20	60	210	G1/2	4.2:1
Series "VBSO-DE"					
Dual Pilot Assisted Overcentre Valves "CC" Type	05.42.05.02.03.35	120	350	G1/2	8.2:1
	05.42.05.10.03.35	120	350	G1/2	3.2:1
Series "SICN" with "ST" Feature					
Motion Control Valves w/ Brake Release Port	05.71.45.03.04.35	120	350	G3/4	7.6:1
	05.71.45.10.04.35	120	350	G3/4	3:1
Series "SICN" w/ Dual Press Setting "PDRM"					
	05.71.47.03.04.35	120	350	G3/4	7.6:1



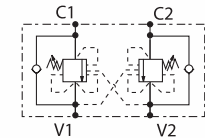
Pilot Assisted Overcentre Valves "CCAP" Type



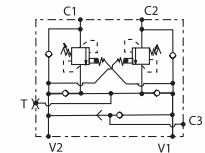
Dual Pilot Assisted Overcentre Valves



Dual Pilot Assisted Overcentre Valves with Brake Release Port

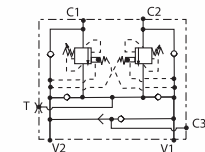


Dual Pilot Assisted Overcentre Valves "CC" Type



Motion Control Valves with Brake Release Port

- Series "SICN" with "ST" Feature -

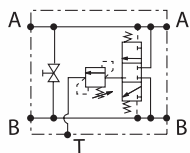


Motion Control Valves with Brake Release Port - Series "SICN" with Dual Press Setting "PDRM" -

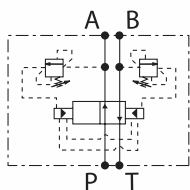


DIRECTIONAL VALVES

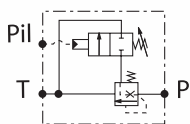
Oil Control Directional Valves



Purge Valves for Hydrostatic Transmissions
- With Bypass for Towing -



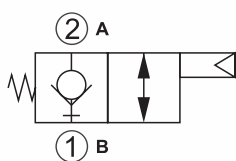
Automatic Directional Valves
- Spool Type -



Pilot Operated Unloading Valves
- w/Seperate Port for Pilot Control -

Types & Functions	Standard Model	Q Max. l/min	Std Setting bar	Port Size	Adj. Press Range (bar)
Purge Valves for Hydrostatic Transmissions	08.64.05.00.04		350	G3/4	5 - 25
Automatic Directional Valves - Spool Type	05.90.14.03.29.20	30	210	CETOP 3	Hex. Socket
Pilot Operated Unloading Valves	05.93.04.03.03.20		300	G1/2	Hex. Socket

EDI SYSTEM Directional Valves



2 Way Pneumatic Pilot Operated
- Normally Closed -

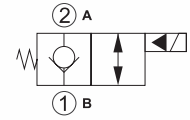
Types & Functions	Standard Model	Flow LPM	Pressure bar	Cavity	Coil	Option
2 Way Pneumatic Pilot Operated	OD.65.05.18.14	40	350	018-E	N/A	N/A



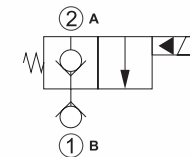
EDI SYSTEM Solenoid Directional Valves

Types & Functions	Standard Model	Flow LPM	Pressure bar	Cavity	Coil	Option
2 Way Pilot Operated Poppet Style Cartridge Only Models	OD.15.05.17.37.00	70	350	017-E	S8	Standard
Models - Normally Closed - Reverse Flow Energised						
2 Way Pilot Operated Poppet Style Cartridge Only Models	OD.15.11.21.37.00	150	350	021-E	S8	Standard
Models - Normally Closed - Internal Reverse Check Valve						
2 Way Pilot Operated Poppet Style Cartridge Only Models	OD.15.06.18.18.00	40	350	018-E	S8	Manual Override
Models - Normally Open - Reverse Flow De-Energised						
2 Way Pilot Operated Poppet Style Cartridge Only Models	OD.15.31.18.37.00	40	350	018-E	S8	Standard
Models - Normally Closed						
2 Way Pilot Operated Double Lock Cartridge Only Models	OD.15.32.18.17.00	40	350	018-E	S8	Standard
Models - Normally Open						
2 Way Direct Acting Cartridge Only Models	OD.11.02.18.20.00	1.5	350	018-E	S8	Standard
Models - Poppet Style - Normally Open						
Explosion Proof Solenoids* - Normally Closed	OD.15.05.18.98.0C	N/A	N/A	06	24VDC	N/A

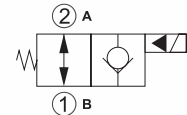
* To be fitted onto 2 way pilot operated cartridge valves, all sizes.



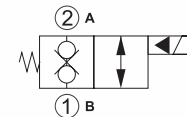
2 Way Pilot Operated Poppet Style Cartridge Only Models
- Normally Closed-Reverse Flow Energised -



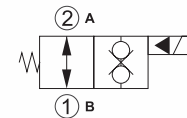
2 Way Pilot Operated Poppet Style Cartridge Only Models
- Normally Closed-Internal Reverse Check Valve -



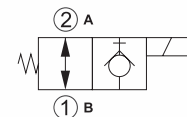
2 Way Pilot Operated Poppet Style Cartridge Only Models
- Normally Open-Reverse Flow De-Energised -



2 Way Pilot Operated Double Lock Cartridge Only Models
- Normally Closed -



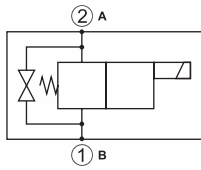
2 Way Pilot Operated Double Lock Cartridge Only Models
- Normally Open -



2 Way Direct Acting Cartridge Only Models - Poppet Style-Normally Open -



EDI SYSTEM Solenoid Directional Valves (Cont.)



2 Way Cartridge
in Manifold Models

Types & Functions	Standard Model	Flow LPM	Pressure bar	Cavity	Coil	Option
2 Way Cartridge in Manifold Models - Normally Closed	OE.15.05.17.37.03.00	70	250	G1/2	S8	Standard
2 Way Cartridge in Manifold Models - Normally Open	OE.15.06.17.17.03.00	70	250	G1/2	S8	Standard
2 Way Cartridge in Manifold Models - Double Lock Normally Closed	OE.15.05.21.37.05	150	250	G1	S8	Standard
2 Way Cartridge in Manifold Models - Double Lock Normally Open	OE.15.06.17.17.05.00	70	250	G1	S8	Standard
2 Way Cartridge in Manifold Models - Double Lock Normally Open	OE.15.31.18.37.02.00	40	250	G3/8	S8	Standard

EDI SYSTEM Coils

S8 CLASS F INSULATION:

These coils are housed in polyamide resin casing (nylon 6) reinforced with fibreglass (DC Voltages) or Crastin (RAC Voltages).

FEATURES:

- Weight: 0.180 Kg
- Ambient temperature range - 25°C to 50°C
- Available on request: Different voltages - working duty ED 50%
- Inlet voltage fluctuations must not exceed $\pm 10\%$ to obtain correct operation and long life of coils

Very Important: All 8A and 8I Series valves are designed to operate only with DC power supply. All S8 windings are DC. AC Service is possible using DIN 43650 connectors with rectifier.

ORDERING INFORMATION:

OD.02 - K - X - Y - Z
(1) (2) (3) (4) (5)

(1) PRODUCT TYPE

OD.02

(2) K

K = 11
Heat Insulation: Class F
Temperature: 155°C

(3) & (4) X - Y

X-Y = 01.30
Connections: DIN 43650 - ISO 4400
Circuit: Standard
Voltage: DC - RAC

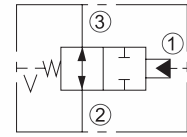
(5) Z

Z	Nominal Voltage (V)	Resistance Ω ($\pm 7\%$)	Power W	Current A		Heat Rise ΔT °C
				Cold Coil	Hot Coil	
		Ta= 20 - 25°C	Cold Coil	Cold Coil	Hot Coil	1 Hour Energised at
						Ta= 20 - 25°C Nominal Voltage
OB	12 DC	8.7	17	1.38	0.97	105 - 110
OC	24 DC	32	17	0.74	0.52	105 - 110
OV	24 RAC	27	17	0.81	0.65	105 - 110
OW	110 RAC	564	17	0.19	0.15	105 - 110
OZ	220 RAC	2323	17	0.09	0.07	105 - 110

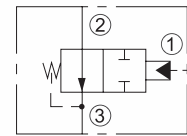


HYDRAFORCE Directional Valves

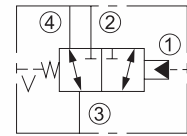
Types & Functions	Standard Model	Flow LPM	Cavity	Coils	Spring Bias bar
Piloted 2 Way Spool, Normally Open, External Vent	PD10-30-0-N-110	38	VC10-3	N/A	7.6
Piloted 2 Way Spool, Normally Open, Internal Vent	PD10-35-0-VS-110	38	VC10-3	N/A	7.6
Piloted 3 Way Spool, External Vent	PD10-40-0-N-170 PD10-40-0-NS-110 PD16-40-0-N-110 PD16-40-0-N-60	30 30 170 170	VC10-4 VC10-4 VC16-4 VC16-4	N/A N/A N/A N/A	11.7 7.6 7.6 4.1
Piloted 3 Way Spool, Internal Vent	PD10-41-0-N-110 PD10-41-0-NS-110 PD10-42-0-NS-110	30 30 38	VC10-4 VC10-4 VC10-4	N/A N/A N/A	7.6 7.6 7.6
Piloted 2 Way Spool, Ported Vent	PD16-44-0-N-170	170	VC16-4	N/A	11.7
Piloted Spool Type, Logic Element	EP10-S35-0-N-110 EP10-S35-0-N-40	76 76	VC10-S3 VC10-S3	N/A N/A	7.6 2.8
Piloted Poppet Type, Logic Element	EP20-S38-0-N-80	302	VC20-S3	N/A	5.5



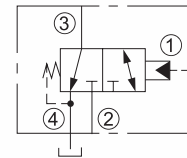
Piloted 2 Way Spool, Normally Open, External Vent



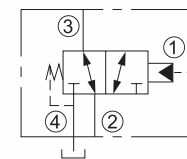
Piloted 2 Way Spool, Normally Open, Internal Vent



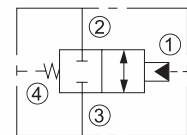
Piloted 3 Way Spool, External Vent



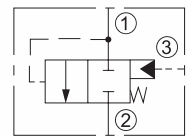
Piloted 3 Way Spool, Internal Vent
(PD10-41-0-N-110, PD10-41-0-NS-110)



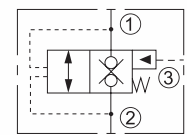
Piloted 3 Way Spool, Internal Vent
(PD10-42-0-NS-110)



Piloted 2 Way Spool, Ported Vent



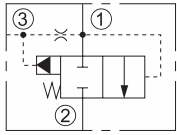
Piloted Spool Type, Logic Element



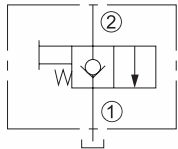
Piloted Poppet Type, Logic Element



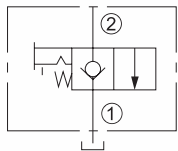
Hydraforce Directional Valves (Cont.)



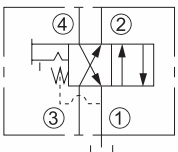
Vented Spool Type, Logic Element



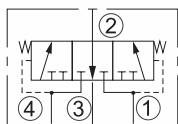
Manual, Spring Return Pull-to-Open,
2 Way, Normally Closed, with Lock Option
(MP10-20D-0-V)



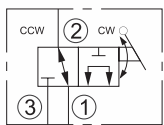
Manual, Spring Return Pull-to-Open,
2 Way, Normally Closed, with Lock Option
(MP10-22D-0-N)



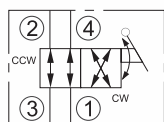
Manual, Spring Return Pull-to-Shift,
4 Way, with Lock Position Option



Brake Release



Manual Rotary, 3 Way, 2 position



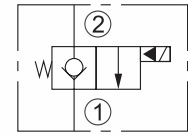
Manual Rotary, 4 Way, 2 position

Types & Functions	Standard Model	Flow LPM	Cavity	Coils	Spring Bias bar
Vented Spool Type,	EV16-S34-0-N-70	189	VC16-S3	N/A	4.8
Logic Element	EV20-S34-0-N-80	379	VC20-S3	N/A	5.5
Manual, Spring Return	MP10-20D-0-V	57	VC10-2	Black Plastic Knob/	Black Plastic Knob/
Pull-to-Open, 2 Way,	MP10-22D-0-N	57	VC10-2	Lock Position Pin	Lock Position Pin
Normally Closed					
w/Lock Option					
Manual, Spring Return	MP10-40D-0-V	37	VC10-4	Black Plastic Knob/	Black Plastic Knob/
Pull-to-Shift, 4 Way,				Lock Position Pin	Lock Position Pin
w/Lock Position					
Option					
Brake Release	BV10-40-0-N	7.5	VC10-4	N/A	N/A
Manual Rotary,	MR10-31-0-N	26.5	VC10-3	N/A	N/A
3 Way, 2 Position					
Manual Rotary,	MR10-40-0-N	11.4	VC10-4	N/A	N/A
4 Way, 2 Position					

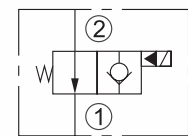


HYDRAFORCE Solenoid Directional Valves

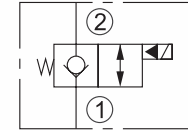
Types & Functions	Standard Model	Flow LPM	Cavity	Option	Coils
Poppet, 2 way	SV08-20-0-N-0	23	VC08-2	None	6301012-DS 12VDC
Normally Closed	SV08-20-0-P-0	23	VC08-2	None	6301024-DS 24VDC
					6302012-DL 12VDC
					6306012-DG 12VDC
					6306024-DG 24VDC
	SV10-20-0-N-0	45	VC10-2	None	6356012-DG 12VDC
	SV10-20Y-0-N-0	45	VC10-2	Manual Override	6356024-DG 24VDC
	SV12-20-0-N-0	114	VC12-2	None	6356048-DG 48VDC
	SV16-20-0-N-0	132	VC16-2	None	6366115-AG 115VAC
					6366230-AG 230VAC
Poppet, 2 way	SV08-21-0-N-0	30	VC08-2	None	6301012-DS 12VDC
Normally Open	SV08-21K-0-N-0	30	VC08-2	Manual Override	6301024-DS 24VDC
					6302012-DL 12VDC
					6306012-DG 12VDC
					6306024-DG 24VDC
	SV10-21-0-N-0	57	VC10-2	None	6356012-DG 12VDC
	SV16-21-0-N-0	132	VC16-2	None	6356024-DG 24VDC
					6356048-DG 48VDC
					6366115-AG 115VAC
					6366230-AG 230VAC
Poppet, 2 Way	SV08-22-0-N-0	23	VC08-2	None	6301012-DS 12VDC
Normally Closed					6301024-DS 24VDC
w/Reverse Flow					6302012-DL 12VDC
Energised					6306012-DG 12VDC
					6306024-DG 24VDC
	SV10-22-0-N-0	45	VC10-2	None	6356012-DG 12VDC
	SV12-22-0-N-0	114	VC12-2	None	6356024-DG 24VDC
	SV16-22-0-N-0	132	VC16-2	None	6356048-DG 48VDC
					6366115-AG 115VAC
					6366230-AG 230VAC
Poppet, 2 Way	SV08-23-0-N-0	30	VC08-2	None	6301012-DS 12VDC
Normally Open					6301024-DS 24VDC
w/Reverse Flow					6302012-DL 12VDC
De-Energised					6306012-DG 12VDC
					6306024-DG 24VDC
	SV10-23-0-N-0	57	VC10-2	None	6356012-DG 12VDC
	SV16-23-0-N-0	132	VC16-2	None	6356024-DG 24VDC
					6356048-DG 48VDC
					6366115-AG 115VAC
					6366230-AG 230VAC



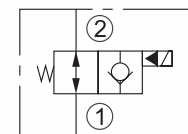
Poppet, 2 way Normally Closed



Poppet, 2 way Normally Open



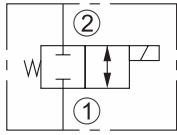
Poppet, 2 way Normally Closed with Reverse Flow Energised



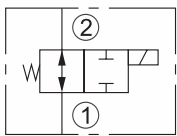
Poppet, 2 way Normally Open with Reverse Flow De-Energised



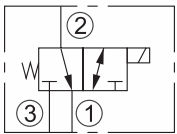
Hydraforce Solenoid Directional Valves (Cont.)



Spool, 2 Way Normally Closed

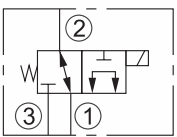


Spool, 2 Way Normally Open



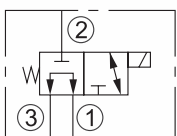
Spool, 3 Way

(SV08-30-0-N-0, SV08-30M-0-N-0, SV58-30-0-P-0)



Spool, 3 Way

(SV08-31-0-N-0, SV10-31-0-N-0)



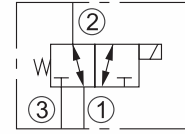
Spool, 3 Way

(SV08-33M-0-N-0)

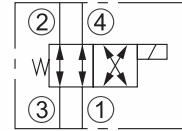
Types & Functions	Standard Model	Flow LPM	Cavity	Option	Coils
Spool, 2 Way Normally Closed	SV08-24-0-N-0	17	VC08-2	None	6301012-DS 12VDC
					6301024-DS 24VDC
					6302012-DL 12VDC
					6306012-DG 12VDC
					6306024-DG 24VDC
	SV10-24-0-N-0	38	VC10-2	None	6356012-DG 12VDC
	SV10-24M-0-N-0	38	VC10-2	Manual Override	6356024-DG 24VDC
					6356048-DG 48VDC
					6366115-AG 115VAC
					6366230-AG 230VAC
Spool, 2 Way Normally Open	SV08-25-0-N-0	9	VC08-2	None	6301012-DS 12VDC
					6301024-DS 24VDC
					6302012-DL 12VDC
					6306012-DG 12VDC
					6306024-DG 24VDC
	SV10-25-0-N-0	22	VC10-2	None	6356012-DG 12VDC
					6356024-DG 24VDC
					6356048-DG 48VDC
					6366115-AG 115VAC
					6366230-AG 230VAC
Spool, 3 Way	SV08-30-0-N-0	15	VC08-3	None	6301012-DS 12VDC
	SV08-30M-0-N-0	15	VC08-3	Manual Override	6301024-DS 24VDC
					6302012-DL 12VDC
					6306012-DG 12VDC
					6306024-DG 24VDC
	SV58-30-0-P-0	15	VC08-3	None	6356012-DG 12VDC
					6356024-DG 24VDC
					6356048-DG 48VDC
					6366115-AG 115VAC
					6366230-AG 230VAC
Spool, 3 Way	SV08-31-0-N-0	11	VC08-3	None	6301012-DS 12VDC
					6301024-DS 24VDC
					6302012-DL 12VDC
					6306012-DG 12VDC
					6306024-DG 24VDC
	SV10-31-0-N-0	22	VC10-3	None	6356012-DG 12VDC
					6356024-DG 24VDC
					6356048-DG 48VDC
					6366115-AG 115VAC
					6366230-AG 230VAC
Spool, 3 Way	SV08-33M-0-N-0	11	VC08-3	Manual Override	6301012-DS 12VDC
					6301024-DS 24VDC
					6302012-DL 12VDC
					6306012-DG 12VDC
					6306024-DG 24VDC



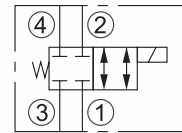
Types & Functions	Standard Model	Flow LPM	Cavity	Option	Coils				
Spool, 3 Way	SV10-34-0-N-0	23	VC10-3	None	6356012-DG 12VDC				
	SV10-34M-0-N-0	23	VC10-3	Manual Override	6356024-DG 24VDC				
					6356048-DG 48VDC				
					6366115-AG 115VAC				
					6366230-AG 230VAC				
SV12-34-0-N-0	60	VC12-3	None	6956012 12VDC					
				6956024 24VDC					
Spool, 4 Way, 2 Position	SV08-40-0-N-0	11	VC08-4	None	6301012-DS 12VDC				
					6301024-DS 24VDC				
					6302012-DL 12VDC				
					6306012-DG 12VDC				
					6306024-DG 24VDC				
SV10-40-0-N-0	22	VC10-4	None	6356012-DG 12VDC					
				6356024-DG 24VDC					
				6356048-DG 48VDC					
				6366115-AG 115VAC					
				6366230-AG 230VAC					
Spool, 4 Way, 2 Position	SV10-41-0-N-0	22	VC10-4	None	6356012-DG 12VDC				
					6356024-DG 24VDC				
					6356048-DG 48VDC				
					6366115-AG 115VAC				
					6366230-AG 230VAC				
Spool, 4 Way, 2 Position	SV10-42-0-N-0	22	VC10-4	None	6356012-DG 12VDC				
					6356024-DG 24VDC				
					6356048-DG 48VDC				
					6366115-AG 115VAC				
					6366230-AG 230VAC				
Spool, 4 Way, 3 Position, Tandem Centre	SV10-47A-0-N-0	14	VC10-4	None	6356012-DG 12VDC				
					6356024-DG 24VDC				
					6356048-DG 48VDC				
					6366115-AG 115VAC				
					6366230-AG 230VAC				
Spool, 4 Way, 3 Position, Open Centre	SV10-47B-0-N-0	22	VC10-4	None	6356012-DG 12VDC				
					6356024-DG 24VDC				
					6356048-DG 48VDC				
					6366115-AG 115VAC				
					6366230-AG 230VAC				
Spool, 4 Way, 3 Position, Closed Centre	SV10-47C-0-N-0	22	VC10-4	None	6356012-DG 12VDC				
					SV10-47CM-0-N-0	22	VC10-4	Manual Override	6356024-DG 24VDC
									6356048-DG 48VDC
									6366115-AG 115VAC
									6366230-AG 230VAC



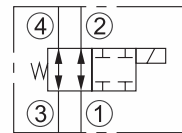
Spool, 3 Way
(SV10-34-0-N-0, SV10-34M-0-N-0, SV12-34-0-N-0)



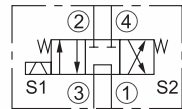
Spool, 4 Way, 2 Position
(SV08-40-0-N-0, SV10-40-0-N-0)



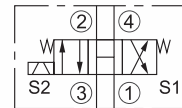
Spool, 4 Way, 2 Position
(SV10-41-0-N-0)



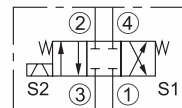
Spool, 4 Way, 2 Position
(SV10-42-0-N-0)



Spool, 4 Way, 3 Position Tandem Centre



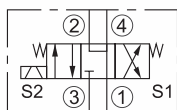
Spool, 4 Way, 3 Position Open Centre



Spool, 4 Way, 3 Position Closed Centre



Hydraforce Solenoid Directional Valves (Cont.)



Spool, 4 Way, 3 Position
Motor Spool

Types & Functions	Standard Model	Flow LPM	Cavity	Option	Coils
Spool, 4 Way,	SV08-47D-0-N-0	11	VC08-4	None	6301012-DS 12VDC
3 Position,	SV08-47DM-0-N-0	11	VC08-4	Manual Override	6301024-DS 24VDC
Motor Spool					6302012-DL 12VDC
					6306012-DG 12VDC
					6306024-DG 24VDC
	SV10-47DM-0-N-0	22	VC10-4	Manual Override	6356012-DG 12VDC
					6356024-DG 24VDC
					6356048-DG 48VDC
					6366115-AG 115VAC
					6366230-AG 230VAC

For information on "BHA Quick Hitch Valve", please refer to Pg. 29 in the "Accessories" Section



HYDRAFORCE Series E Environmental Coils

New Series E coils are the latest innovation in coil technology from Hydraforce. They are designed to meet the demanding requirements of mobile and industrial applications where weather resistance is required. Models with Deutsch and Metri-Pack® integral connectors meet or exceed all IP69K standards for weather resistance.

FEATURES:

- Thermal shock dunk test rated
- IP69K Rated with integral connectors
- Fully encapsulated windings
- Rugged metal shell
- Field retrofit-able
- High temperature operation

SERIES 08 "E" COILS:

4303612-ER	12VDC	Deutsch - DT04-2P Connector
4303624-ER	24VDC	Deutsch - DT04-2P Connector

SERIES 10 "E" COILS: (Also for use on 12-size & 16-size poppet valves)

4303712-ER	12VDC	Deutsch - DT04-2P Connector
4303724-ER	24VDC	Deutsch - DT04-2P Connector

SERIES 12 "E" COILS: (For 12-size spool valves only)

6956012-EG	12VDC	Din 43650 Connector
6956024-EG	24VDC	Din 43650 Connector



HYDRAFORCE Standard Cartridge Valve Housings

Aluminium Housings

Standard high tensile 6061T6 alloy housings are rated for 240 bar (3500 PSI) for a minimum of one million impulse cycles.

Increased surface hardness: Added tensile strength of cavity threads and reduced galling, which can occur when hard steel cartridge or fitting is screwed into a relatively soft supporting aluminium thread.

Improved surface finish: Cartridge O-rings slide more freely into harder, smooth sealed cavity surfaces.

Better appearance: Clear-coat anodizing produces a clean, neutral colour and surface appearance.

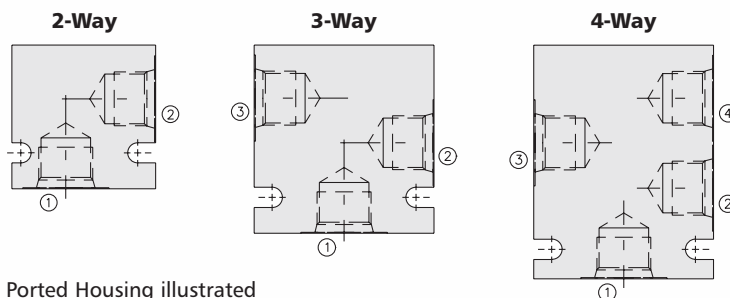
Ductile Iron and Steel Housings

Hydraforce has converted from steel to ductile iron for most standard housings and for custom manifolds designed for pressures up to 345 bar (5000 PSI). Steel housings available on request to 345 bar (5000 PSI).

Housing	Cavity	No. of Ways	Port Sizes
7024660	VC08-2	2	SAE 6 (9/16"-18 UNF)
7024680	VC08-2	2	SAE 8 (3/4"-16 UNF)
7028630	VC08-2	2	3/8" BSPP
7024280	VC10-2	2	SAE 8 (3/4"-16 UNF)
7028240	VC10-2	2	1/2" BSPP
7022250	VC12-2	2	SAE 12 (1 1/16"-12 UNF)
7022520	VC12-2	2	3/4" BSPP
7023240	VC16-2	2	SAE 16 (1 5/16"-12 UNF)
7023620	VC16-2	2	1" BSPP
7024760	VC08-3	3	SAE 6 (9/16"-18 UNF)
7028730	VC08-3	3	3/8" BSPP
7024380	VC10-3	3	SAE 8 (3/4"-16 UNF)
7028330	VC10-3	3	3/8" BSPP
7022340	VC12-3	3	SAE 12 (1 1/16"-12 UNF)
7022620	VC12-3	3	3/4" BSPP
7024860	VC08-4	4	SAE 6 (9/16"-18 UNF)
7024480	VC10-4	4	SAE 8 (3/4"-16 UNF)
7023820	VC16-4	4	1" BSPP
Flow Divider			
7028540			3/8" - 1/2" - 3/8" BSPP

Note: SAE Port Size SAE 10 (7/8"-14 UNF)
Other sizes available on request.

DIAGRAMS:



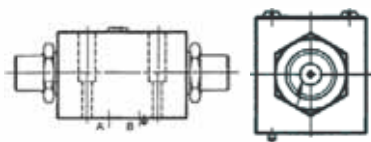
Note: SAE 8 Ported Housing illustrated



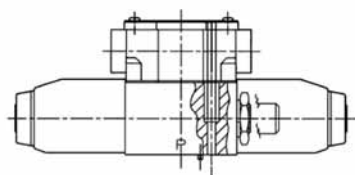
Vickers Industrial ISO 4401 (Cetop) Solenoid Operated Directional Valves

FEATURES:

- Milled metering notches on the spool enable precise control of flow rate change as the spool is shifted
- Easily interchangeable orifice plugs allow for fine tuning of valve shift time to each application
- Choice of flow and tank pressure ratings to match system requirements
- Installed cost and space savings from higher power/weight-and-size ratios
- Reduced internal leakage reduces power losses, increases system efficiency: the result of improved manufacture of spool and bores.
- Choice of numerous combinations of solenoid connectors and locations
- Multi-fluid capability without need to change seals
- Higher sustained machine productivity and higher up time because of the proven fatigue life and endurance, tested over 20 million cycles
- Solenoid coils can be changed quickly and easily without leakage from hydraulic system

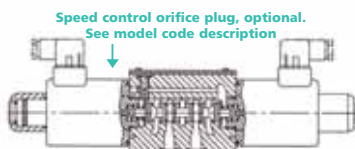


Vickers DG3V-3 Pilot Operated Cetop 3 Valve



Vickers DG4V-3(S)

Note: Flying lead type model is shown.



Speed control orifice plug, optional.
See model code description

Vickers DG4V-5 Cetop 5 Solenoid Valves

BASIC RATINGS - DIRECT-OPERATED TYPE SPOOL TYPE SOLENOID VALVES:

Base Models	CETOP Size	Description	Max. bar	Max. Tank bar	Max. Flow lpm	IP Rating	Weight Kg
DG4V-2	2	High performance	250	160	30	65	1.3
DG4V-3S	3	Standard performance	350	100	40	65	2.2
DG4V-3S-2	3	Soft shift valve	350	100	40	65	2.2
DG4V-3	3	High performance	350	210	80	65	2.2
DG4V-5	5	High performance	315	160*	120	65	6.3
DG4V-5-J99	5	Soft shift valve	315	160*	120	65	6.3

Note: Flow rate and pressure drop vary with spool type, flow path, or coil options.

* With DC coils. 120 bar for valves with AC coils.



SOLENOID VALVES - DIRECT OPERATED (SINGLE STAGE) SPOOL TYPE VALVES:

Base Models & Size	CETOP Size	Spool Option	Operation Code	Soft Shift Orifice Size	See Note	Wiring Type	Coil Voltage	Tank Press.	Design Code
DG4V-2	2	2	A(L)	N/A	(V)M	U: DIN	See	6	10
		0/2/6/7/8	B(L)			to 43650	below		
		0/2/6/7/8	C						
		2	N						
DG4V-3S (Standard Performance)	3	0/2	A(L)	N/A	(V)M	U: DIN	See	5	60
		0/2/6/8	B(L)	(See next row)		to 43650	below		
		0/2/6/8/31	C						
		52/56	C						
DG4V-3S (c/w Soft Shift Option)	3	2	A(L)	207: 0.7mm	(V)M	U: DIN	See	5	60
		0/2/6/8/31	B(L)	208: 0.8mm		to 43650	below		
		0/2/6/8/31	C	209: 0.9mm					
			N	220: 2.0mm					
DG4V-3 (High Performance)	3	0/2/22/24	A(L)	N/A	(V)M	U: DIN	See	6: AC	60
		0/2/6/7/8/31	B(L)			to 43650	below	7: DC	
		521/561	B						
		0/2/3/6/7/8/31	C						
		52/56	C						
DG4V-5	5	0/2/22/23	A(L)(J)	N/A	(V)M	U: DIN	See	6	20
		0/2/6/7/8/52	B(L)(J)	(See next row)		to 43650	below		
		0/1/2/3/6/7/8/21/52/56	C(J)						
		2/6	N(J)						
DG4V-5 (c/w Soft Shift Option)	5	2	A(L)(J)	J99: No orifice	(V)M	U: DIN	See	6	20-J**
		0/2/6	B(L)(J)	J08: 0.8mm		to 43650	below		See below
			C(J)	J10: 1.0mm					
			N(J)	J12: 1.2mm					

Operation Codes:

- A: Spring offset (end - end)
- B: Spring offset (centre - end)
- C: Spring centred (2-coils)
- N: No spring detent (2-coils)
- L: Left hand build



Vickers DG4V-5 Cetop 5 Solenoid Valves (Cont.)

ORDERING CODE:

DG4V **3S** **2** **AL** **V** **M** **U** **B** **6** **60**
(1) **(2)** **(3)** **(4)** **(5)** **(6)** **(7)** **(8)** **(9)** **(10)**

(1) MODEL SERIES

DG4V = Directional Valve; Subplate/manifold mounted; Solenoid Operated; Pressure rating 350 bar (5075 PSI) on P, A & B ports

(2) STANDARD OR HIGH PERFORMANCE

3 = High performance specification: up to 80 l/min (21 USgpm) at 350 bar (5075 PSI)
 3S = Standard performance specification: up to 40 l/min (10.5 USgpm) at 350 bar (5075 PSI)

(3) SPOOL TYPE

See "Functional Symbols" section below

(4) SPOOL SPRING ARRANGEMENT

A = Spring offset, end-to-end
 AL = Spring offset, end-to-end (left hand build)
 B = Spring offset, end-to-centre
 BL = Spring offset, end-to-centre (left hand build)
 C = Spring centred
 N = No spring detented

(5) SOLENOID ENERGIZATION IDENTITY

A = Solenoid "A" is at port "A" end and/or solenoid "B" is at port "B" end independent of spool type
 Omit for U.S. ANSI B93.9 standard requiring solenoid "A" energization to connect P to A and/or solenoid "B" to connect P to B, independent of solenoid location
Note: Type "8" spool valves conform to both U.S. and European solenoid designations. When ordering an "8" spool, designate a "V" in the model code.

(6) FLAG SYMBOL

M = Electrical options and features

(7) COIL TYPE

U = ISO 4400 (DIN 43650) mounting

(8) COIL RATING

For full power coils, contact your Berendsen representative
 A = 110V AC 50 Hz
 B = 110V AC 50 Hz/120V AC 60 Hz *
 C = 220V AC 50 Hz
 D = 220V AC 50 Hz/240V AC 60 Hz *
 G = 12V DC
 H = 24V DC
 * For 60 Hz or dual frequency

(9) PORT T CODE

For port T pressure ratings, contact your Berendsen representative
 5 = 100 bar (1500 PSI) for standard performance models, DG4V-3S, with AC or DC solenoids
 6 = 207 bar (3000 PSI) for AC high performance models, DG4V-3, including spool position indicator type S6
 7 = 207 bar (3000 PSI) for DC high performance models, DG4V-3, including spool position indicator type S6

(10) DESIGN NUMBER

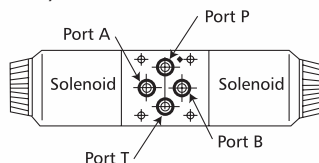
60 = Basic design
 61 = Type 8 spool

Functional Symbols

Spool types shown represent the highest proportion of market requirements. For other spool functions that may be required, consult Berendsen Fluid Power.

SOLENOIDS IDENTIFIED TO U.S. STANDARDS:

Functional symbols related to solenoid identity "A" and/or "B" according to NFPA/ANSI standards, i.e. energising solenoid "A" gives flow P to A, solenoid "B" gives flow P to B (as applicable).

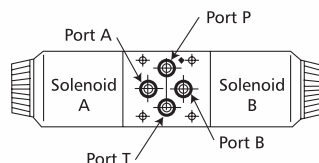


Solenoid	For Spool Type	Solenoid
B	All except "8"	A
A	"8" only	B

For Valves with type "8" spools, solenoid identity to U.S convention is the same as for European convention.

SOLENOIDS IDENTIFIED TO EUROPEAN STANDARDS: (Specify "V" in model code)

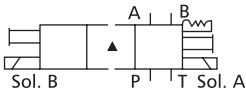
Functional symbols related to solenoid identity "A" and/or "B" according to European convention, i.e. solenoid "A" adjacent to "A" port, solenoid "B" adjacent to "B" port of valve.



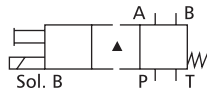


U.S. SOLENOID STANDARD:

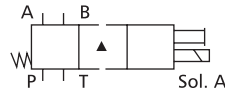
Double solenoid valves,
two position, detented



Single solenoid valves,
solenoid at port A end



Single solenoid valves,
solenoid at port B end



Double solenoid valves,
spring centred



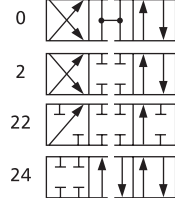
▲ Transient condition only

THE VALVE FUNCTION SCHEMATICS APPLY TO BOTH U.S. AND EUROPEAN VALVES:

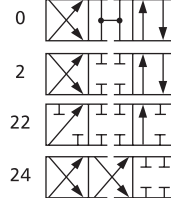
DG4V-3(S)-*N(V)



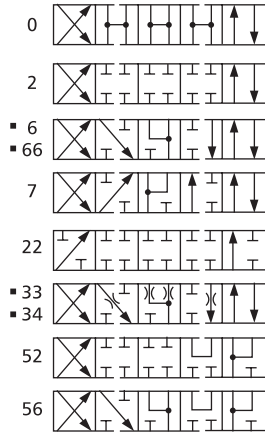
DG4V-3(S)-*A(V)



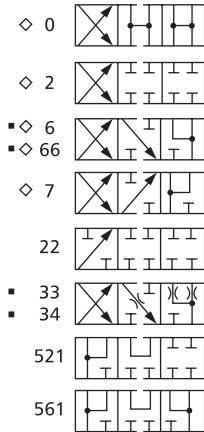
DG4V-3(S)-*AL(V)



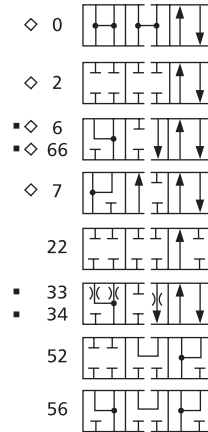
DG4V-3(S)-*C(V)



DG4V-3(S)-*B/F(V)



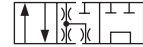
DG4V-3(S)-*BL/FL(V)



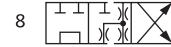
DG4V-3(S)-8C(V)



DG4V-3(S)-8BL(V)



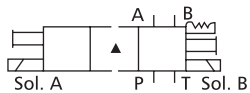
DG4V-3(S)-8B(V)



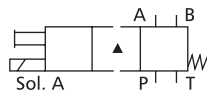
- For differences in valve function, refer to performance data
- ◇ F build spools

EUROPEAN SOLENOID STANDARD:

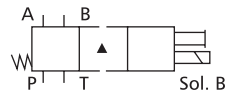
Double solenoid valves,
two position, detented



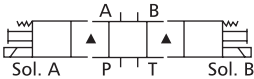
Single solenoid valves,
solenoid at port A end



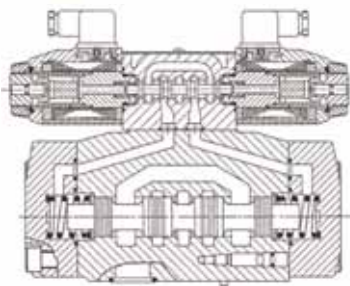
Single solenoid valves,
solenoid at port B end



Double solenoid valves,
spring centred



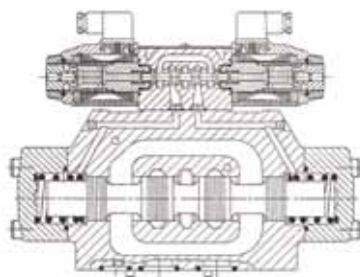
▲ Transient condition only



Vickers DG3V-7 and DG5V-7 - Pilot Operated and Solenoid Controlled Cetop 7 Valves

FEATURES:

- High pressure and flow capability for maximum cost-effectiveness
- Low headloss to minimise power wastage
- Low shock characteristics to maximise machine life
- Facility to change solenoid coils without disturbing the hydraulic envelope
- The many optional features, particularly for DG5V valves, permit matching to virtually every application within the valve's power capacity



Vickers DG3*-H8 and DG5*-H8 - Pilot Operated and Solenoid Controlled Cetop 8 Valves

FEATURES:

- High pressure and flow capability for maximum cost-effectiveness
- Low headloss to minimise power wastage
- Low shock characteristics to maximise machine life
- Facility to change solenoid coils without disturbing the hydraulic envelope
- The many optional features, particularly for DG5* valves, permit matching to virtually every application within the valve's power capacity

VICKERS

Part of the Eaton family since 1999, Vickers has long been a pioneer in providing power and motion control components to the industrial, aerospace, marine and defence industries.

Among Vickers high quality products are a number of new or upgraded hydraulic and electronic valves, including:

- Extended range of proportional, directional, pressure and flow control valves with the logical option of integrated electronics.
- Electronic amplifiers, control systems and signal processing modules for innovative system solutions.
- Full series of directional control valves.
- Comprehensive range of directional and stacking valves, complete with sub-plates and manifolds.
- Cartridge valves featuring Vickers' latest proportional controls, for a variety of pressure and flow control functions.



SOLENOID VALVES - PILOT OPERATED (TWO-STAGE) SPOOL TYPE VALVES:

Base Model	CETOP Size	Description	Max. bar	Max. Tank bar	Max. Flow lpm	IP Rating	Weight Kg
DG5V-7	7	High performance	350	350	300	65	9.1
DG5S-H8	8	Standard pressure	210	210	700	65	19.1
DG5V-H8	8	Higher pressure	350	350	700	65	19.1
DG5V-10	10	High performance	350	210	1100	65	55

* Flow rate and pressure drop vary with spool type, flow path, or coil option.

** These are based on external drain models. 100 bar for internal drain models, except for DG5V-10 where the maximum tank pressure varies with pilot valve models used

Base Models & Size	CETOP Size	Spool Option	Operation Code	Soft Shift Orifice Size	See Note	Wiring Type	Coil Voltage	Tank Press.	Design Code
DG5V-7	7	0/2	A(L)	Omit: (St'd)	(V)M	U: DIN	See	5	30
		2/6	B(L)	E: Internal pilot		to 43650	below		
		0/1/2/3/4/6/8/31/33/52	C	T: External Drain					
		0/2	N						
DG5S-H8 (Standard Pressure)	8	0/2	A(L)	Omit: (St'd)	(V)M	U: DIN	See	5	41
		0/2	B(L)	E: Internal pilot		to 43650	below		
		0/2/3/4/6/8/31/33	C	T: External Drain					
		0/2	N						
DG5V-H8 (High Pressure)	8	0/2	A(L)	Omit: (St'd)	(V)M	U: DIN	See	5	21
		0/2	B(L)	E: Internal pilot		to 43650	below		
		0/2/3/4/6/8/31/33	C	T: External Drain					
		0/2	N						
DG5V-10	10	Different model code with valves above							



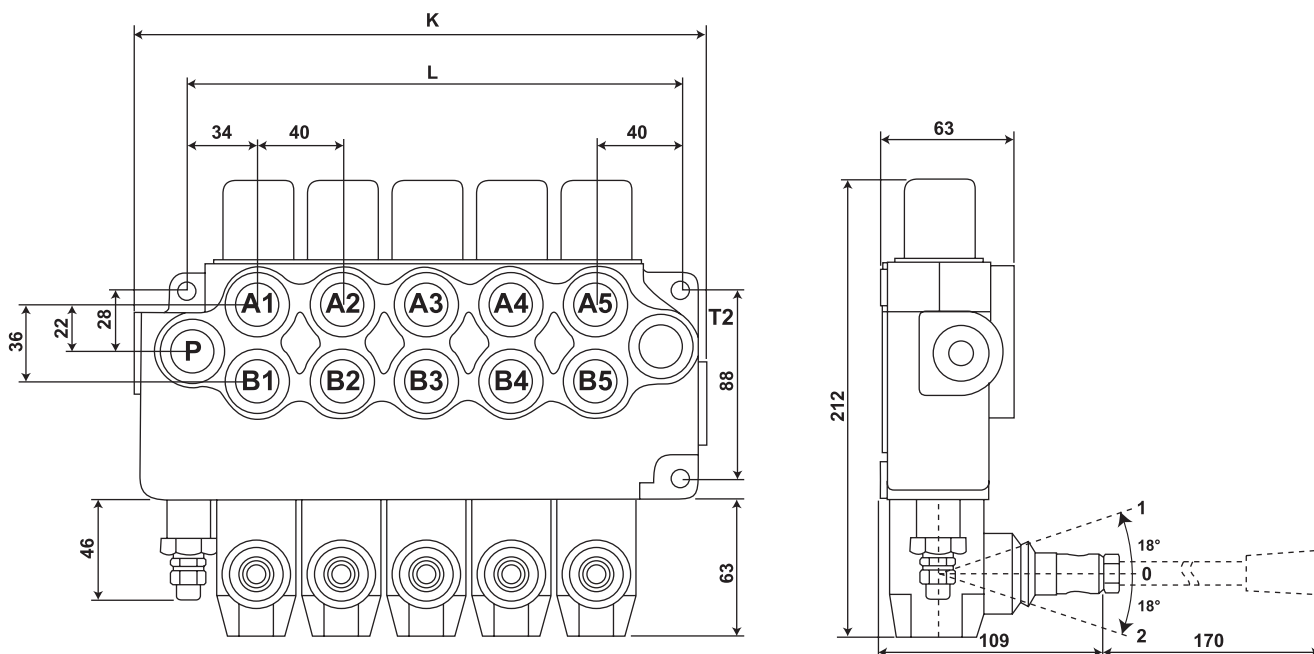
MONOBLOCK VALVES



Monoblock KVM10 Valves

- Monoblock Directional Control Valve Manually Operated,
Standard Double Acting - Spring Centre

Model Code	No. of Spools	Nominal Flow	Working Pressure	Port	L (mm)	Dimensions K (mm)	W (Kg)
KVM101	1	45 lpm (13 GPM)	350 bar (5000 PSI)	G3/8 or G1/2	73	126	3.68
KVM102	2	45 lpm (13 GPM)	350 bar (5000 PSI)	G3/8 or G1/2	114	166	5.68
KVM103	3	45 lpm (13 GPM)	350 bar (5000 PSI)	G3/8 or G1/2	154	206	7.6
KVM104	4	45 lpm (13 GPM)	350 bar (5000 PSI)	G3/8 or G1/2	194	246	9.64
KVM105	5	45 lpm (13 GPM)	350 bar (5000 PSI)	G3/8 or G1/2	234	286	12.9
KVM106	6	45 lpm (13 GPM)	350 bar (5000 PSI)	G3/8 or G1/2	274	326	15



Model Code	Description
200 0420 000	Main relief valve as spare part
200 1143 000	High pressure carry over
200 0362 000	Detent kit
200 0418 000	Spring cap complete
010 0686 000	KVM10 Motor spool

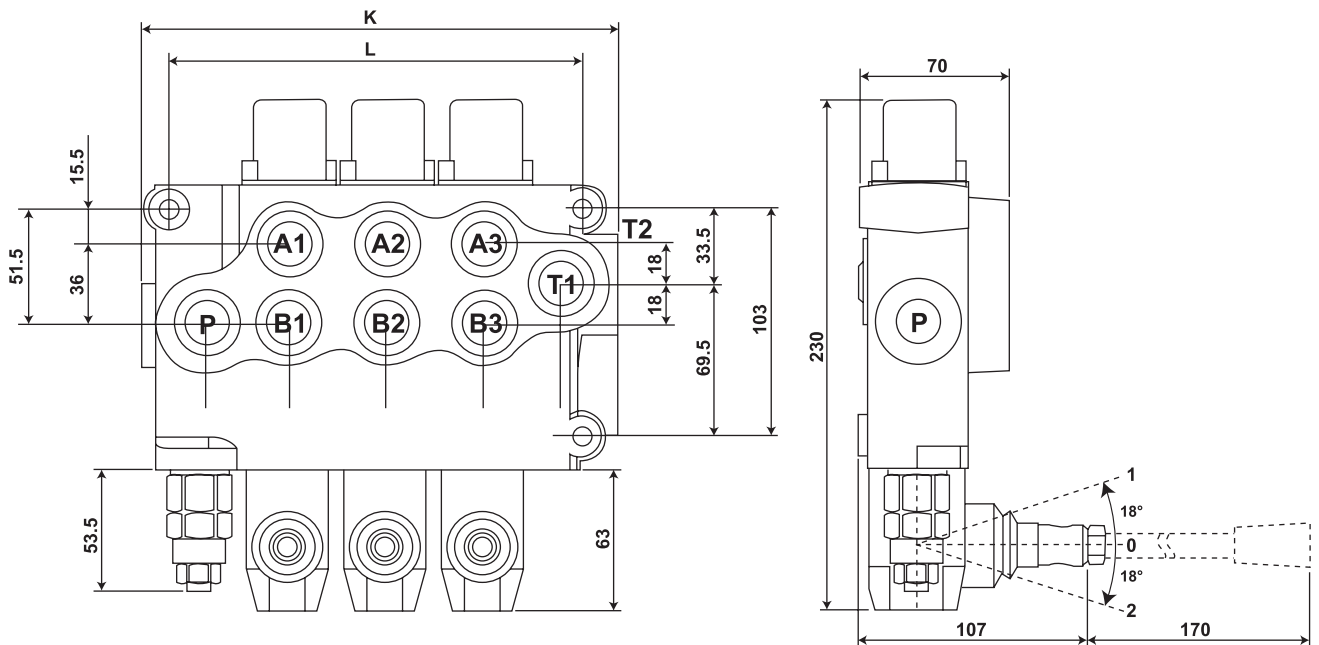
Note: Double acting spools can be machined.



Monoblock KVM15 Valves

- Monoblock Directional Control Valve Manually Operated,
Standard Double Acting - Spring Centre

Model Code	No. of Spools	Nominal Flow	Working Pressure	Port	Dimensions		
					L (mm)	K (mm)	W (Kg)
KVM151	1	70 lpm (20 GPM)	350 bar (5000 PSI)	G1/2	100	129	5.21
KVM152	2	70 lpm (20 GPM)	350 bar (5000 PSI)	G1/2	145	174	8.37
KVM153	3	70 lpm (20 GPM)	350 bar (5000 PSI)	G1/2	190	219	10.83
KVM154	4	70 lpm (20 GPM)	350 bar (5000 PSI)	G1/2	235	264	13.25
KVM155	5	70 lpm (20 GPM)	350 bar (5000 PSI)	G1/2	280	309	16.6
KVM156	6	70 lpm (20 GPM)	350 bar (5000 PSI)	G1/2	325	354	19.4



Model Code	Description
200 0166 00	Main relief valve as spare part
0100 0261 000	High pressure carry over
200 0363 000	Detent kit
200 0415 000	Spring cap complete
010 0690 000	KVM15 Motor spool

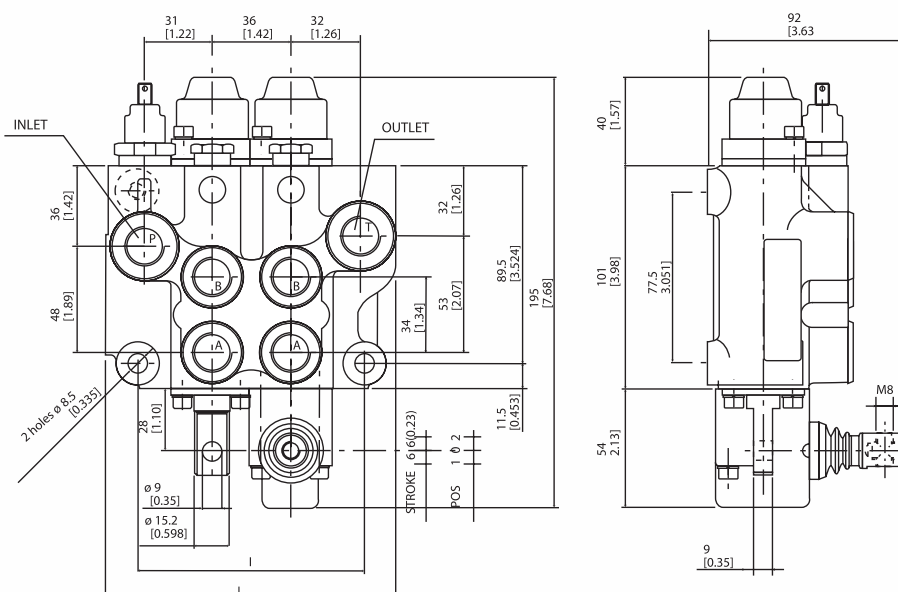
Note: Double acting spools can be machined.



sajami Monoblock VDM07 Valves

- Monoblock Directional Control Valve Manually Operated, Standard Double Acting - Spring Centre

Model Code	No. of Spools	Nominal Flow	Working Pressure	Port	Order Code
VDM07D175/P01A-NLA-C2-U4S	1	50 lpm (14 GPM)	280 bar (4000 PSI)	3/4-16 UNF	VDM07D-U4S
VDM07D175/2XP01A-NLA-C2-U4S	2	50 lpm (14 GPM)	280 bar (4000 PSI)	3/4-16 UNF	VDM07DD-U4S
VDM07D175/3XP01A-NLA-C2-U4S	3	50 lpm (14 GPM)	280 bar (4000 PSI)	3/4-16 UNF	VDM07DDD-U4S
VDM07D175/4XP01A-NLA-C2-U4S	4	50 lpm (14 GPM)	280 bar (4000 PSI)	3/4-16 UNF	VDM07DDDD-U4S
VDM07D175/5XP01A-NLA-C2-U4S	5	50 lpm (14 GPM)	280 bar (4000 PSI)	3/4-16 UNF	VDM07DDDDD-U4S
VDM07D175/6XP01A-NLA-C2-U4S	6	50 lpm (14 GPM)	280 bar (4000 PSI)	3/4-16 UNF	VDM07DDDDDD-U4S



Spool		1	2	3	4	5	6
I	mm	68	104	140	176	212	248
L	mm	96.5	132.5	168.5	204.5	240.5	276.5
M	Kg	2.8	4.5	6.3	8	9.7	11.4

Model Code	Description	Order Code
VDM07/U5S	High pressure carry over sleeve	R202-8020-0
VDM07/VS	Main relief valve (151 - 220 bar)	R201-7022-0
VDM07-VD6A VS Spring	Main relief valve spring (221 - 300 bar)	321611506
VDM07/R2	Detent on spool in - out position with spring return in neutral	R208-0030-0
VDM07/R4	Detent bushing - detent on spool <u>out</u> position with spring return in neutral	3208-162-01
VDM07/R5	Detent bushing - detent on spool <u>in</u> position with spring return in neutral	3208-162-06
VDM07/R9	Detent on spool in - neutral - out 3 positions without spring	R202-7645-0
VDM07-VD8A/Spool seal kit	Spool seal kit	R202-7259-0
VDM07/06 02A M	Motor spool (not stocked as spare part)*	320111379
VDM07/06 05A	Single acting spool A port working (not stocked as spare part)*	320111377
VDM07/06 06A	Single acting spool B port working (not stocked as spare part)*	320111378
VDM07/Spool 12A-F5 kit with F5 Det	Double acting spool third float position (spool out) detent on spool out position with spring return in neutral	R202-8286-0
VDM07/PP Control	Pneumatic proportional	R202-7577-0

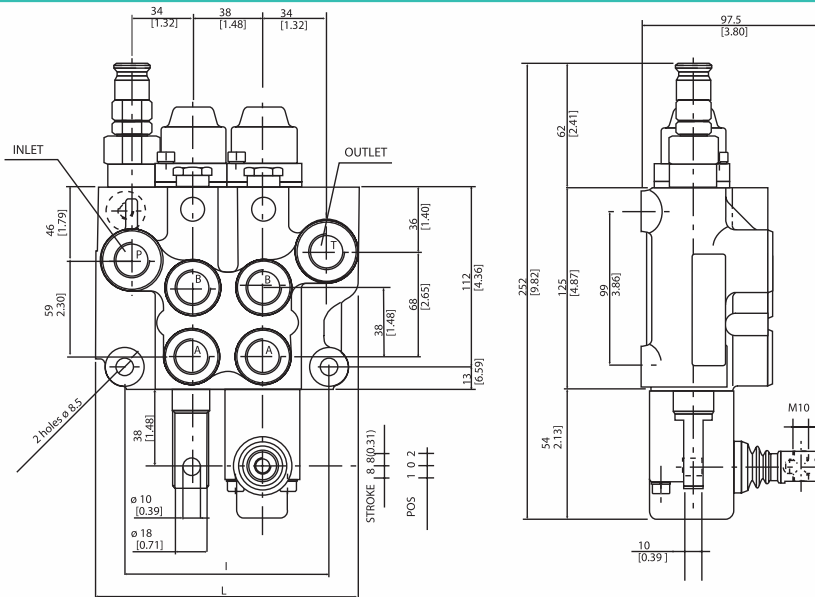
* Double acting spools can be machined.



sajami Monoblock VDM09 Valves

- Monoblock Directional Control Valve Manually Operated,
Standard Double Acting - Spring Centre

Model Code	No. of Spools	Nominal Flow	Working Pressure	Port	Order Code
VDM09D175/P01A-NLA-C2-U4S	1	75 lpm (21 GPM)	280 bar (4000 PSI)	7/8-16 UNF	VDM09D-U4S
VDM09D175/2XP01A-NLA-C2-U4S	2	75 lpm (21 GPM)	280 bar (4000 PSI)	7/8-16 UNF	VDM09DD-U4S
VDM09D175/3XP01A-NLA-C2-U4S	3	75 lpm (21 GPM)	280 bar (4000 PSI)	7/8-16 UNF	VDM09DDD-U4S
VDM09D175/4XP01A-NLA-C2-U4S	4	75 lpm (21 GPM)	280 bar (4000 PSI)	7/8-16 UNF	VDM09DDDD-U4S
VDM09D175/5XP01A-NLA-C2-U4S	5	75 lpm (21 GPM)	280 bar (4000 PSI)	7/8-16 UNF	VDM09DDDDD-U4S
VDM09D175/6XP01A-NLA-C2-U4S	6	75 lpm (21 GPM)	280 bar (4000 PSI)	7/8-16 UNF	VDM09DDDDDD-U4S



Spool		1	2	3	4	5	6
I	mm	76	114	152	190	228	266
L	mm	105	143	181	219	257	295
M	Kg	4.2	6.5	8.9	11.3	13.7	16.1

Model Code	Description	Order Code
VDM09/U5S	High pressure carry over sleeve	R219-8017-0
VDM09/VS	Main relief valve (141 - 280 bar)	R213-7001-0
VDM09/VS Spring	Main relief valve spring (40 - 140 bar)	321311509
VDM09/R2	Detent on spool in - out position with spring return in neutral	R219-0030-0
VDM09/R4	Detent bushing - detent on spool <u>out</u> position with spring return in neutral	3212-162-24
VDM09/R5	Detent bushing - detent on spool <u>in</u> position with spring return in neutral	3212-162-23
VDM09/Spool seal kit	Spool seal kit	R219-7264-0
VDM09/06 02A M	Motor spool (not stocked as spare part)*	321911328
VDM09/06 05A	Single acting spool A port working (not stocked as spare part)*	321911315
VDM09/06 06A	Single acting spool B port working (not stocked as spare part)*	321911319
VDM09/Spool 12A-F5 kit with F5 Det	Double acting spool third float position (spool out) detent on spool out position with spring return in neutral	R219-7629-0

* Double acting spools can be machined.



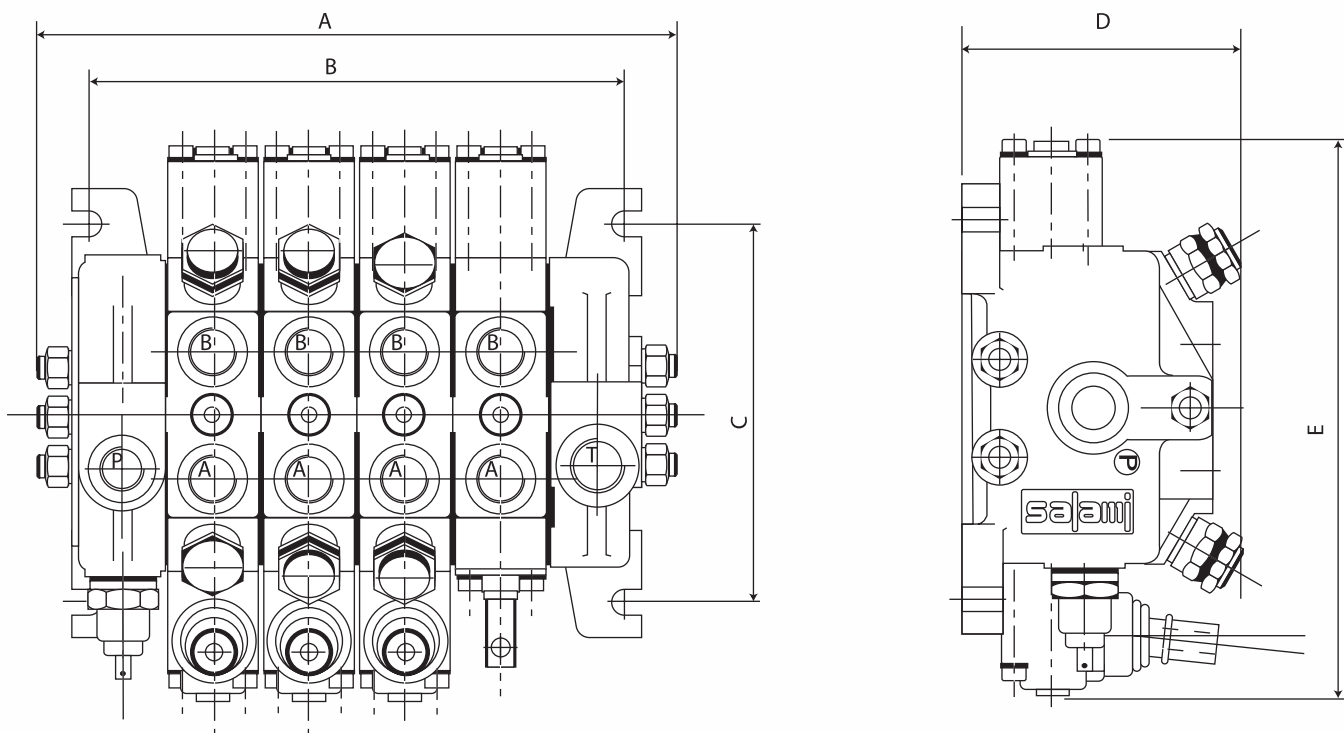
SECTIONAL VALVES

salamji VD6A & VD8A Sectional Valves

Specification	VD6A	VD8A
Nominal Flow Rate	45 lpm (12 GPM)	75 lpm (20 GPM)
Pressure @ P Port	315 bar (4500 PSI)	315 bar (4500 PSI)

Ports SAE ISO 176	VD6A	VD8A
P	3/4-16 UNF	7/8-14 UNF
A - B	3/4-16 UNF	7/8-14 UNF
T	7/8-14 UNF	1-1/16-12 UNF

DIAGRAM - MODEL VD6A:



Model	Spool		1	2	3	4	5	6	7	8
VD6A	A	mm	130	165	200	235	270	305	340	375
	B	mm	89	124	159	194	229	264	299	334
	C	mm	140	140	140	140	140	140	140	140
	D	mm	213	213	213	213	213	213	213	213
	E	mm	102	102	102	102	102	102	102	102
VD8A	A	mm	133	173	213	253	293	333	373	413
	B	mm	116	156	196	236	276	316	356	396
	C	mm	117	117	117	117	117	117	117	117
	D	mm	246	246	246	246	246	246	246	246
	E	mm	97	97	97	97	97	97	97	97

* VD8A Diagram not shown.

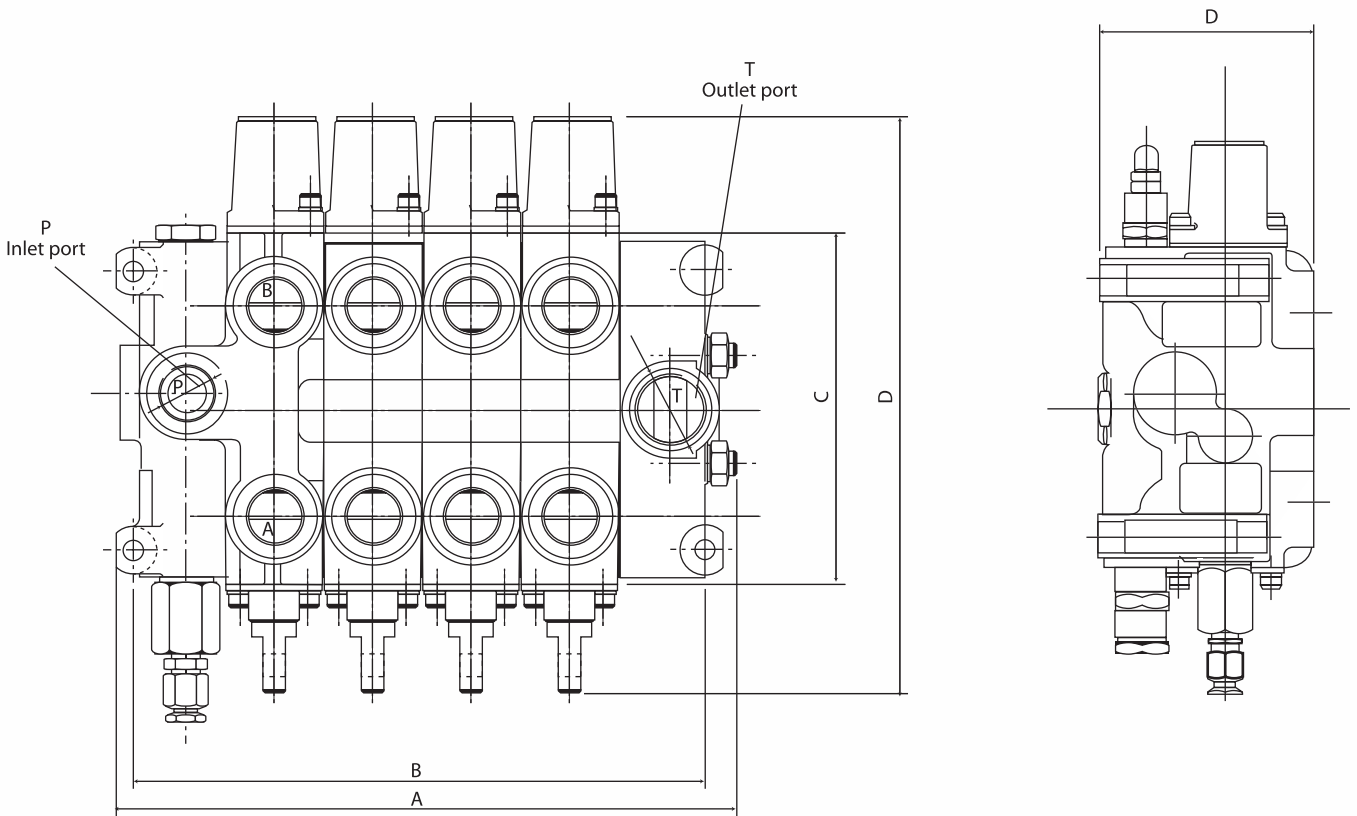


salamj VD10A & VD12A Sectional Valves

Specification	VD10A	VD12A
Nominal Flow Rate	115 lpm (32 GPM)	170 lpm (45 GPM)
Pressure @ P Port	280 bar (4000 PSI)	280 bar (4000 PSI)

Ports SAE ISO 176	VD10A	VD12A
P	1-1/16-12 UNF	1-5/16-12 UNF
A - B	1-1/16-12 UNF	1-5/16-12 UNF
T	1-1/16-12 UNF	1-5/16-12 UNF

DIAGRAM - MODEL VD10A:



Model	Spool		1	2	3	4	5	6	7	8
VD10A	A	mm	150	196	242	288	334	380	426	472
	B	mm	126	172	218	264	310	356	402	448
	C	mm	130	130	130	130	130	130	130	130
	D	mm	265.5	265.5	265.5	265.5	265.5	265.5	265.5	265.5
	E	mm	109	109	109	109	109	109	109	109
VD12A	A	mm	161.5	213.5	265.5	317.5	369.5	421.5	473.5	525.5
	B	mm	134	186	238	290	342	394	446	498
	C	mm	242	242	242	242	242	242	242	242
	D	mm	280.5	280.5	280.5	280.5	280.5	280.5	280.5	280.5
	E	mm	125	125	125	125	125	125	125	125

VD12A Diagram not shown.



HUSCO 5000 & 6000 Sectional Valves

International

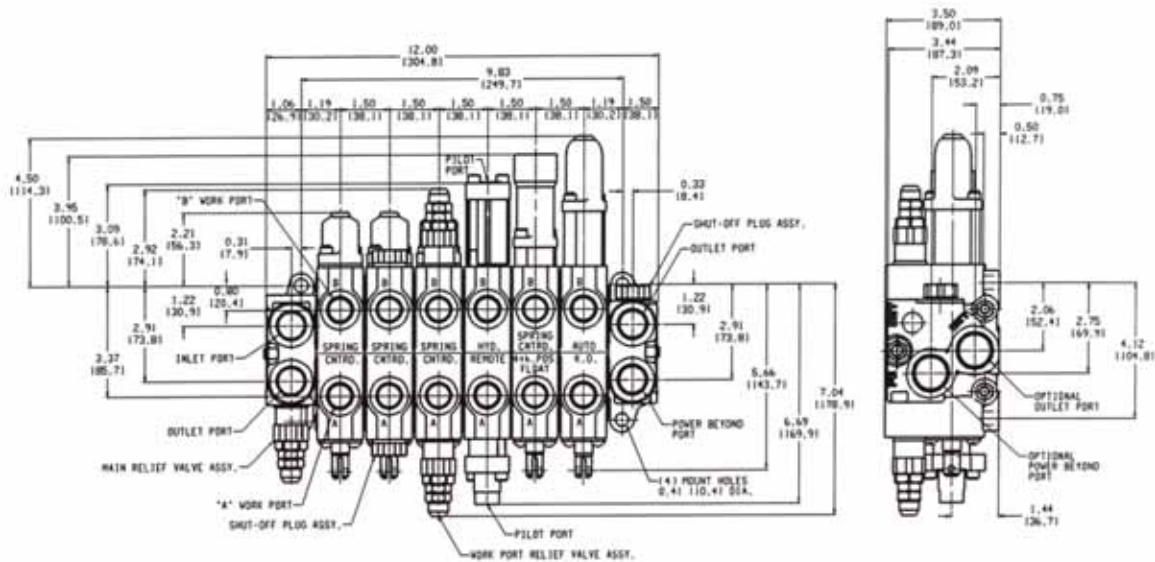


Specification	5000	6000
Nominal Flow Rate	75 lpm (20 GPM)	132 lpm (35 GPM)
Pressure @ P Port	207 bar (3000 PSI)	276 bar (4000 PSI)

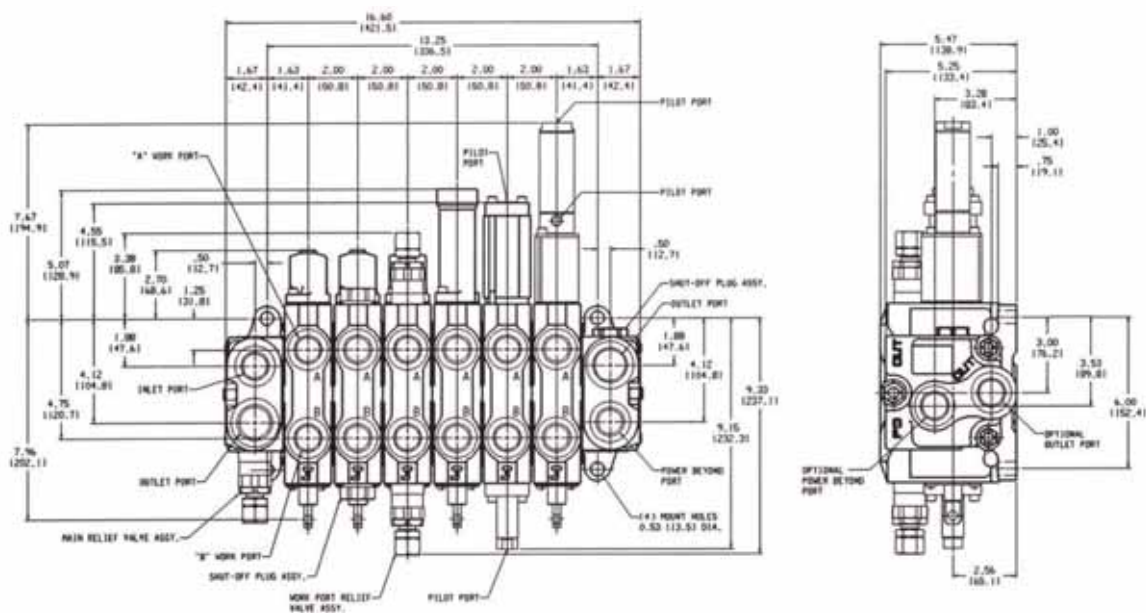
Ports SAE	5000		6000	
	Top	Side	Top	Side
P	10	12	12**	16
A - B	8		12	
T	10*	12*	12 *	16*

* Power beyond.
 ** 16 if under 2800 PSI.

MODEL 5000 VALVE ASSEMBLY:



MODEL 6000 VALVE ASSEMBLY:



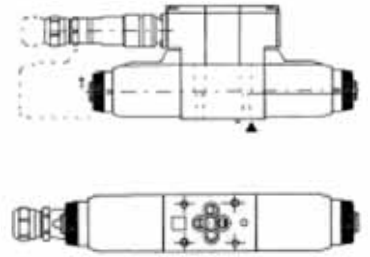


PROPORTIONAL VALVES

Vickers Proportional/Servo Valves

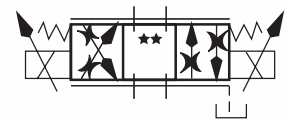
FEATURES:

- Sustained high machine productivity and uptime result from the proven fatigue life and endurance of reliable KDG4V and KTG4V valves.
- A wide variety of matching electronic amplifiers, valve options, and spool ratings allows the system designer flexibility in meeting application requirements.
- The fully encapsulated solenoid coils are impervious to common industrial fluids.
- Coils can be removed and replaced quickly and easily without breaking into the hydraulic envelope.
- The valves' standard ISO 4401-03 mounting is interchangeable with any NFPA D03 or CETOP 3 interface.
- The engineering resin junction box is NEMA 4 rated for resistance to water and all commonly used industrial fluids.



NON-FEEDBACK TYPE (NO LVDT)

Base Model	CETOP Size	Flow lpm*	Press. bar*
KDG4V-3S-*C***-M-U-*5	3	22	350
KDG4V-3-*C***-Z-M-U-H7	3	28	350
KDG4V-5-*C**N-H-M-U-H7	5	65	315
KDG5V-5-*C**N-E-Z-M-U-H1	5	85	315
KDG5V-7-*C***N-E-Z-M-U-H1	7	180	350
KDG5V-8-*C***N-E-Z-M-U-H1	8	280	350
KDG4V-3-33C30X-Z-M-U-H(R)7	3		350

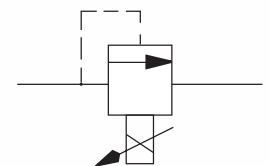


Base Model	CETOP Size	Flow lpm*	Press. bar*
KFDG4V-3-*C**N-Z-M-U-H7	3	28	350
KFDG4V-5-*C**N-Z-M-U-H7	5	70	315
KFDG5V-5-*C**N-(E)X-VM-U1	5	100	315
KFDG5V-7-*C***N-(E)X-VM-U1	7	200	350
KFDG5V-8-*C***N-(E)X-VM-U1	8	300	350



PRESSURE CONTROL VALVES

Base Model	Size iso	Flow lpm*	Press. bar*
KCG-3(L)-***-D-Z-M-U-*1	3	5*	350
KCG-6-W-***-3Z-M-U-*1	6	200	350
KCG-8-W-***-3Z-M-U-*1	8	400	350





Vickers Eurocard Amplifiers EEA-PAM-5** Series

SPECIFICATIONS:

- Basic 'analog input' type
- Version code A models

ORDERING INFORMATION:

EEA - PAM - 525 - A - 32
 (1) (2) (3) (4) (5)

(1) EUROCARD ELECTRONICS

(2) POWER AMPLIFIER MODULE

(3) SERIES NUMBER & COMPATIBLE VALVE

(4) VERSION CODE

(5) PRODUCT DESIGN NUMBER

Base Amplifiers	valves
EEA-PAM-513-A-32	KCG-3/6/8
EEA-PAM-523-A-32	KDG4V-3(S), KDG5V-5/7/8
EEA-PAM-525-A-32	KDG4V-5
EEA-PAM-533-A-32	KFDG4V-3
EEA-PAM-535-A-32	KFDG4V-5
EEA-PAM-553-A-32	KSDG4V-3
EEA-PAM-561-A-32	KFDG5V-5/7
EEA-PAM-568-A-32	KFDG5V-8
EEA-PAM-541-A-32	KHDG5V-5/7/8 Zero lap
EEA-PAM-581-A-32	KHDG5V-5/7/8 Over lap
Card Holder	P/N 732683

AMPLIFIER OPTIONS

Code	Function
A	Basic analog input
B	c/w 4 Commands and 2 ramp settings
C	c/w 4 Commands and 4 ramp settings
D	c/w PID Module for closed-loop
E	Strip guidance
F	CNC Adoption



Vickers Other Amplifiers

SPECIFICATIONS:

- Low cost, simple connector type amplifiers
- One Unit for each coil
- DIN 43650. IP67

POWER PLUG AMPLIFIERS (REQUIRED PER COIL):

Model Code	Application	Control Signal	Typical Valves and Coil Code Requirements	Supply Volt
EHH-AMP-702-A-20	Switching amplifier	Logic	DG4V-3/5-H	24v
EHH-AMP-702-C-20	Soft switch	Logic	KDG-H/KCG-H/EPV-12v/CMX-12v	24v
EHH-AMP-702-D-20	Proportional (1 ramp)	0-10v	KDG-H/KCG-H/EPV-12v/CMX-12v	24v
EHH-AMP-702-K-20	Proportional (1 ramp)	4-20mA	KDG-H/KCG-H/EPV-12v/CMX-12v	24v
EHH-AMP-712-D-20	Proportional (1 ramp)	0-10v	KDG-GP/KCG-GP/EPV-12v/CMX-12v	12v
EHH-AMP-712-G-20	Proportional (direct pot connect)	0-5v	KDG-GP/KCG-GP/EPV-12v/CMX-12v	12v
EPAD-A-1A6-12	Proportional (2 ramp)	0-10v	KDG-H/KCG-H/EPV-12v/CMX-12v	24v
EPAD-SC-1A6-12	Proportional (pre-set)	Logic	KDG-H/KCG-H/EPV-12v/CMX-12v	24v

Vickers Mobile Amplifiers (Controls 2 Coils)

SPECIFICATIONS:

- Stackable, aluminium-cast housed robust design
- Direct joystick/potentiometer connection capability
- 12 VDC and 24 VDC option
- Compatible with Vickers non-feedback valves, including Valvistor and CMX

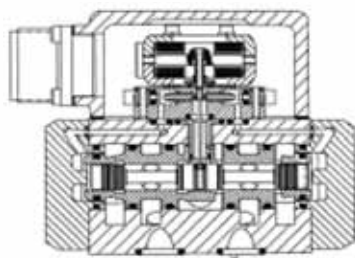
Model Code	Application	Control Signal	Typical Valves and Coil Code Requirements	Supply Volt
EHD-AMP-730-C16	Soft switch	Logic	KDG-H/KCG-H/EPV-12v/CMX-12v	24v
EHD-AMP-730-D16	Proportional (bi-directional)	Joystick	KDG-H/KCG-H/EPV-12v/CMX-12v	24v
EHD-AMP-730-E16	Proportional (uni-directional)	Joystick	KDG-H/KCG-H/EPV-12v/CMX-12v	24v
EHD-AMP-731-D16	Proportional (bi-directional)	Joystick	KDG-H/KCG-H/EPV-12v/CMX-12v	12v
EHD-AMP-731-E16	Proportional (bi-directional)	Joystick	KDG-H/KCG-H/EPV-12v/CMX-12v	12v

Vickers Power Supply Units

SPECIFICATIONS:

- Supply 24VDC to amplifiers based on AC input
- Universal input voltage from 85 to 264VAC
- Harmonic current regulation
- Overvoltage protected
- Short circuit, overcurrent protected

Model Code	Output	Input
PBB4C-24J	24VDC, 2.2A	85-264VAC
PBB4C-24L	24VDC, 3.2A	85-264VAC



Vickers Servovalves

FEATURES:

- Allows selection of the valve size best suited for an application
- The high strength aluminium alloy of the second stage valve body means lighter weight with rugged durability
- The symmetrical, dual-coil, quad air gap, dry torque motor in Vickers servovalves, with its extremely fast response to input signals, can produce highly accurate control profiles
- Higher frequency response - available on request - provides enhanced system bandwidth for critical performance requirements
- An integral 35 micron (absolute) filter provides extra first stage contamination protection
- The spool and sleeve are hardened stainless steel to minimise wear and erosion. The O-ring mounted sleeve eliminates spool binding and ensures smooth operation
- Customised spool lap and sleeve porting are available to provide the specific flow control required for special applications
- The SM4's symmetrical design provides inherently dependable metering of control flow with minimum null shifts. The result is more consistent machine operation
- Viton seals are standard (Registered Trademark of the DuPont Co.)
- The flexibility of standardised port circles, mounting patterns, and adapter manifolds makes Vickers servovalves a cost-effective choice for replacing existing servovalves and enhancing existing systems
- The SM4 features a simple interface to an available dual filter module that provides extra protection against pilot contamination
- Flushing valves are available that can greatly reduce initial system contamination levels prior to SM4 installation

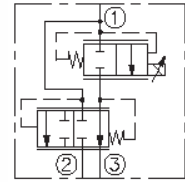
SM4 SERIES SERVO VALVES & AMPLIFIER:

Model Code	Valve Size Port Circle mm	Max. Flow lpm @ 70 bar delta-P	Max. bar	Coil Rating (Standard)	Design Code
SM4-10-(**) **	15.9	38	210	20/200	10
SM4-12-(**) **	19.8	45	210	200 mA, 20 ohms	10
SM4-15-(**) **	23.8	57	210		10
SM4-20-(**) **	22.2	76	210	80/40	10
SM4-40-(**) **	44.5	151	210	40 mA, 80 ohms	10
SM4FV-10/15-10	Flushing Plate	Order Code 633231			
EM-D-30	Analog Amplifier	Order Code 881771			

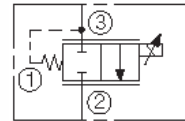


HYDRAFORCE Proportional Valves

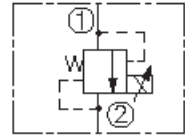
Types & Functions	Standard Model	Flow LPM	Cavity	Options	Coils
Flow Control	PV70-30AM-0-N-0	30	VC10-3	Manual Override	6507612-DG 12 VDC
Bypass Normally Closed	PV70-30BM-0-N-0	19	VC10-3	Manual Override	6507624-DG 24 VDC
	PV72-30AM-0-N-0	64	VC12-3	Manual Override	6956012 12 VDC 6956024 24 VDC
Flow Control	PV72-33AM-0-N-0	76	VC12-3	Manual Override	6956012 12 VDC 6956024 24 VDC
Normally Closed					
Pressure Control, Relief	TS38-20AM-0-N-0	12	VC08-2	Manual Override	6301012-DS 12 VDC 6301024-DS 24 VDC 6301012-DL 12 VDC 6301012-DG 12 VDC 6301024-DG 24 VDC
Pressure Control, Reducing/Relieving, Pilot Operated	EHPR08-33-0-N-24DG	4	VC08-3	None	6301012-DS 12 VDC 6301024-DS 24 VDC 6301012-DL 12 VDC 6301012-DG 12 VDC 6301024-DG 24 VDC



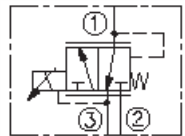
Flow Control Bypass Normally Closed



Flow Control Normally Closed



Pressure Control, Relief



Pressure Control, Reducing Relieving, Pilot Operated



SANDWICH MODULES

Vickers SystemStak Valves - Stackable Modules Cetop-3

CETOP-3 MODULES (315 BAR MAX. PRESSURE, 60 LPM MAX. FLOW RATE):

Control Function	Base Model(1)	Check Direction(2)	Control Flow/Location(3)	Control Range(4)	Adjust Type(5)	Aux. Code(6)	Design Code
Single Relief	DGMC-3	N/A	PT/AT/BT/AB	A/B/C/G	W	(B)	41
Dual Relief	DGMC2-3	N/A	AB/AT	A/B/C/G	W	***W-(B)	41
Counter Balance	DGMR-3	N/A	TA	A/B/C/F	W	(B)	40
Sequence	DGMR1-3	N/A	PP	A/B/C/F	W	(B)	40
Reducing/Relieving	DGMX2-3	N/A	PP/PA/PB	A/B/C/F	W	B	40
Single Check	DGMDC-3	X/Y	P/A/B/T	K/M/N	N/A	N/A	41
Dual Check	DGMDC-3	Y	A	K/M/N	N/A	BK/M/N	41
Single Pilot Check	DGMPC-3	No decomp.	AB/BA	K/M/N	N/A	N/A	41
Dual Pilot Check	DGMPC-3	No decomp.	AB	K/M/N	N/A	BAK/M/N	41
Dual P.C. c/w Decomp.	DGMPC-3	D	AB	K/M/N	N/A	DBAK/M/N	41
Pressure Switch	DGMPS-3	N/A	P/A/B	1/2/3	N/A	N/A	11
Single Flow Regulator	DGMFN-3	X/Y/Z	P/T/A/B	1/2	W	N/A	41
Dual Flow Regulator	DGMFN-3	X/Y	A	1/2	W	B1/2W	41

ORDERING INFORMATION:

DGMFN-3 - X - P - I - W -
 (1) (2) (3) (4) (5) (6)

(1) BASE MODEL CODE

(2) CHECK VALVE FLOW DIRECTION

X = Free flow away from actuator (meter-in)
 Y = Free flow towards actuator (meter-out)
 Z = w/o Free reverse check for DGMFN-3

(3) CONTROL FLOW OR CONTROL LOCATION

Two digit code with relief valves denotes controlled oil flow from and to, and two digit code with pilot operated valves denotes main control location and pilot source port.
 (eg. PT: P to T port, AB: in A line with pilot from B)
 One digit code denotes control location (eg. P: in P line)

(4) CONTROL RANGE (CRACKING PRESSURE FOR CHECK VALVES)

<u>Relief (and Dual Relief)</u>	<u>Check (and PC)</u>
A = 3 - 50 bar	K = 1 bar
B = 3 - 100 bar	M = 2.5 bar
C = 10 - 200 bar	N = 5 bar
G = 50 - 315 bar	<u>Pressure Switch</u>
<u>Other Pressure Controls</u>	1 = 7 - 70 bar
A = 3 - 30 bar	2 = 50 - 140 bar
B = 3.5 - 70 bar	3 = 100 - 250 bar
C = 10 - 140 bar	<u>Flow Regulator</u>
F = 20 - 250 bar	1 = Fine control (55 lpm @ 60 bar)
	2 = Standard control (55 lpm @ 13 bar)

(5) ADJUSTMENT TYPE

W = Screw and locknut (standard)
 H = Handknob
 K = Micrometer with keylock

(6) AUXILIARY CODE

With dual controls, second function (opposite side) will be coded in the similar manner as first function. Single "B" represents gage port option with G1/4".



CETOP-3 SYSTEMSTAK CONNECTION PLATES:

Control Function	Symbol	Model Code (Order Code)	Ports	Bolt Length	Max. bar
Blanking Plate		DGMA-3-B-10 (466385)	N/A	10mm	350
Crossover Plate P-A, B-T		DGMA-3-C1-10 (466386)	N/A	10mm	350
Crossover Plate P-B, A-T		DGMA-3-C2-10 (466387)	N/A	10mm	350
Tapping Plate A&B Ports		DGMA-3-T1-10-B (466381)	G1/8	20mm	350
Tapping Plate P&T Ports		DGMA-3-T2-10-B (466382)	G1/8	20mm	350
Adaptor Plate Cetop-3 (top) to 5		DGMA-3-01-10R (400733)	N/A	21mm	210 (onto Cetop-5)

Each Cetop-3 SystemStak valve has 40mm height. For bolt length, add 8-10mm for thread engagement in a sub-plate or manifold, and add a bolt clamp length of a valve, or a connection plate which will be mounted onto the top of your stacking bank. DG4V-3(S)-60 Design solenoid valves have 22mm clamp length.



MOUNTING BOLT KITS (M5):

Model Code	Length mm	Order Code
BK 466834 M	20	466834
BK 616452 M	30	616452
BK02-156493 M	40	02-156493
BKDG3-699 M	50	255699
BK 466836 M	60	466836
BK 464125 M	70	464125
BK 466837 M	80	466837
BK 466838 M	90	466838
BK 466839 M	100	466839
BK 466840 M	110	466840
BK 466841 M	120	466841
BK 466842 M	130	466842
BK 466843 M	140	466843
BK 466844 M	150	466844
BK 466845 M	160	466845
BK 466846 M	170	466846

* DG4V-3(S)-60 Design bolt clamp length is 22mm.



Vickers SystemStak Valves - Stackable Modules Cetop-5

CETOP-5 MODULES (315 BAR MAX. PRESSURE, 120 LPM MAX. FLOW RATE):

Control Function	Base Model(1)	Check Direction(2)	Control Flow/Location(3)	Control Range(4)	Adjust Type(5)	Aux. Code(6)	Design Code
Single Relief	DGMC-5	N/A	PT/AT/BT	A/B/F/G	H/W	(B)	30
Dual Relief	DGMC2-5	N/A	AB/AT	A/B/F/G	H/W	****-(B)	30
Counter Balance	DGMR-5	N/A	A	1-F	W	N/A	30
Sequence	DGMR1-5	N/A	PP	A/B/F/G	W	(B)	30
Reducing/Relieving	DGMX2-5	N/A	PP/PA/PB	A/B/F/G	H/W	B	30
Single Check	DGMDC-5	X/Y	P/A/B/T	K/M/N	N/A	N/A	30
Dual Check	DGMDC-5	X/Y	A	K/M/N	N/A	BK/M/N	30
Single Pilot Check	DGMPC-5	No decomp.	AB/BA	K/M/N	N/A	N/A	30
Dual Pilot Check	DGMPC-5	No decomp.	AB	K/M/N	N/A	BAK/M/N	30
Dual P.C. c/w Decomp.	DGMPC-5	D	AB	K/M/N	N/A	DBAK/M/N	30
Single Flow Regulator	DGMFN-5	X/Y	P/A/B	1/2	W	N/A	30
Dual Flow Regulator	DGMFN-5	X/Y	A	1/2	W	B2W	30

ORDERING INFORMATION:

DGMFN-5 - X - P - I - W -
 (1) (2) (3) (4) (5) (6)

(1) BASE MODEL CODE

(2) CHECK VALVE FLOW DIRECTION

X = Free flow away from actuator (meter-in)
 Y = Free flow towards actuator (meter-out)

(3) CONTROL FLOW OR CONTROL LOCATION

Two digit code with relief valves denotes controlled oil flow from and to, and two digit code with pilot operated valves denotes main control location and pilot source port.
 (eg. PT: P to T port, AB: in A line with pilot from B)
 One digit code denotes control location (eg. P: in P line)

(4) CONTROL RANGE (CRACKING PRESSURE FOR CHECK VALVES)

<u>Relief (and Dual Relief)</u>	<u>Check (and PC)</u>
A = 4 - 50 bar	K = 1 bar
B = 4 - 100 bar	M = 2.5 bar
C = 4 - 200 bar	N = 5 bar
G = 4 - 315 bar	<u>Flow Regulator</u>
<u>Other Pressure Controls</u>	1 = Fine control (120 lpm @ 60 bar)
A = Up to 50 bar	2 = Standard control (120 lpm @ 10 bar)
B = Up to 100 bar	<u>Counterbalance</u>
F = Up to 200 bar	1 = 4:1 Pilot ratio
G = Up to 315 bar	2 = 10:1 Pilot ratio

(5) ADJUSTMENT TYPE

W = Screw and locknut (standard)
 H = Handknob
 K = Micrometer with keylock

(6) AUXILIARY CODE

With dual controls, second function (opposite side) will be coded in the similar manner as first function. Single "B" represents gage port option with G1/4".



Each Cetop-5 SystemStak valve basically have 50mm height. Exceptional 60mm height for A & B cross-ported DGMC(2) relief (ie. DGMC(2)-5-AB models), and DGMR(1) sequence and counterbalance modules. For bolt length, add at least 12mm thread engagement in a sub-plate or manifold, and add a bolt clamp length of a unit to be mounted on to the top of your stacking bank. DG4V-5-20 Design valve has 30mm clamp length.

**MOUNTING BOLT KITS (M5):**

Model Code	Length mm	Order Code
BK 534567 M	30	534567
BKDG01-633 M	40	466310
BK 534569 M	45	534569
BK 638873 M	80	638873
BK 978478 M	85	978478
BK 534576 M	90	534576
BK 978479 M	100	978479
BK 534581 M	120	534581
BK 534582 M	130	534582
BK 638878 M	140	638878

DG4V-5-20 Design bolt clamp length is 30mm.

STUD KITS (M6):

Model Code	Length* mm	Order Code
BK 978457	136	978457
BK02-130951	161	02-130951
BK 978459	173	978459
BK 978460	188	978460
BK 978461	210	978461
BK 978462	235	978462

* The length above are net effective length. Actual length is 10mm longer for nut engagement.

Vickers SystemStak Valves - Stackable Modules Cetop-7**CETOP-7 MODULES (315 BAR MAX. PRESSURE, 200 LPM MAX. FLOW RATE):**

Control Function	Base Model(1)	Check Direction(2)	Control Flow/Location(3)	Control Range(4)	Adjust Type(5)	Aux. Code(6)	Design Code
Single Relief	DGMC-7	N/A	PT (P to T)	B/F/G	H	N/A	10-B
Single Relief	DGMC2-7	N/A	AB/AT (A/B to T)	B/F/G	H	N/A	10-B
Pressure Reducing	DGMX-7	N/A	PP (in P line)	B/G	H	N/A	10-B
Dual Pilot Check	DGMPC-7	N/A	AB	K	N/A	BAK	15
Single Flow Regulator	DGMFN-7	Y (meter-out)	A/B (A or B line)	2 (std)	H	N/A	10
Dual Flow Regulator	DGMFN-7	Y (meter-out)	A	2 (std)	H	B2H	11

Maximum flow rates vary with module functions.

DGMC(2) 200 lpm

DGMX 160 lpm

Others 180 lpm



Vickers SystemStak Valves - Stackable Modules Cetop-7 (Cont.)

ORDERING INFORMATION:

DGMFN-7 - Y - A - 2 - 4 -
 (1) (2) (3) (4) (5) (6)

(1) BASE MODEL CODE

(2) CHECK VALVE FLOW DIRECTION

Y = Free flow towards actuator (meter-out)

(3) CONTROL FLOW OR CONTROL LOCATION

Two digit code with relief valves denotes controlled oil flow from and to, and two digit code with pilot operated valves denotes main control location and pilot source port.
 (eg. PT: P to T port, AB: in A line with pilot from B)
 One digit code denotes control location (eg. P: in P line)

(4) CONTROL RANGE

Pressure Range
 B = 5 - 65 bar
 F = 10 - 210 bar
 G = 15 - 315 bar
 Cracking
 K = 3.6 bar

(5) ADJUSTMENT TYPE

H = Handknob (denotes thimble with lock screw)

(6) AUXILIARY CODE

With dual controls, second function (opposite side) will be coded in the similar manner as first function. Single "B" represents gage port option with G1/4".

CETOP-7 SYSTEMSTAK SUB-PLATE:

Sub-Plate Model	Description	Port Location & Size			Valve Mounting		Order Code
		Location	Main	Sub	Main	Sub	
EDGVM-7X-D-10R	Single Subplate	Rear	G3/4	G1/4	M10 x 4	M6 x 2	984617
EDGVM-7Y-D-10R	(Cast Iron)		G1	G1/4			984618

Cetop-7 SystemStak module height is 80mm. For bolt length, add a required thread engagement in a sub-plate, and add a bolt clamp length of a valve at the top of the stack. DG5V-7-30 Design valve has 33mm clamp length.

MOUNTING BOLT OR STUD KITS (M10 X 4, M6 X 2):

Model Code	Length* mm	Net Length* mm	Order Code
BKDG7-858918	45	45	858918
BKDG-7 M	60	60	791651
BK 709252	140	140	709252
BKDG7-858919	200	200	858919
BK 709253 stud	235	220	709253

Bolt kits above are not necessarily for the current design valve. Consult Berendsen Fluid Power for other sizes.

* DG5V-7-30 Design bolt clamp length is 33mm.



Vickers SystemStak Valves - Stackable Modules Cetop-8

Control Function	Base Model	Control Range	Max. bar	Max. lpm	Stack Height mm	Design Code
Single Relief	DGMC-06	B/C/F	210	227	70	60
Dual Pilot Check	DGMPC-06	DADB	210	227	101	51
Dual Flow Regulator	DGMFN-06	N/A	210	227	89	50

CETOP-8 SYSTEMSTAK SUB-PLATE:

Sub-Plate Model	Description	Port Location & Size			Valve Mounting		Order Code
		Location	Main	Sub	Main	Sub	
EDGVM-8X-D-10R	Single Subplate	Rear	G1	G1/4	M12 x 6	N/A	788245
EDGVM-8Y-D-10R	(Cast Iron)		G1-1/4	G1/4			788246

BOLT KITS (M12 X 6):

Model Code	Length* mm	Order Code
BKDG-H8-M	75	791551
KKDG-H8-976125	165	976125
BKDG-H8-976126	180	976126
BKDG-H8-976129	255	976129

Consult Berendsen Fluid Power for other sizes.

* DG5S-H8-41 Design bolt clamp length is 57mm.