

Directional Control Valves

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MONOBLOCK DIRECTIONAL CONTROL VALVES

VM2 / VM3 / VM4 / VM5 / VMS5

SECTIONAL DIRECTIONAL CONTROL VALVES

VS3 / VS4 / VS6



VM2

ONLY ONE SECTION AVAILABLE

Nominal flow rate	45 l/min	12 US gpm
Operating pressure (maximum)	250 bar	3600 psi
Back pressure (maximum) on outlet port T	25 bar	360 psi



VM3

AVAILABLE SECTION FROM 1 TO 6

Nominal flow rate	45 l/min	12 US gpm
Operating pressure (maximum)	parallel or tandem circuit series circuit	315 bar 4600 psi 210 bar 3050 psi
Back pressure (maximum) on outlet port T	25 bar	360 psi



VM4

AVAILABLE SECTION FROM 1 TO 6

Nominal flow rate	60 l/min	16 US gpm
Operating pressure (maximum)	parallel or tandem circuit series circuit	315 bar 4600 psi 210 bar 3050 psi
Back pressure (maximum) on outlet port T	25 bar	360 psi



VM5

AVAILABLE SECTION FROM 1 TO 6

Nominal flow rate	80 l/min	21 US gpm
Operating pressure (maximum)	parallel or tandem circuit series circuit	315 bar 4600 psi 250 bar 3600 psi
Back pressure (maximum) on outlet port T	25 bar	360 psi



VSB5

AVAILABLE SECTION FROM 1 TO 6

With Independent load check valve in each section, and optional port relief.

Nominal flow rate		80 l/min	21 US gpm
Operating pressure (maximum)	parallel or tandem circuit	315 bar	4600 psi
	series circuit	250 bar	3600 psi
Back pressure (maximum)	on outlet port T	25 bar	360 psi



VS3

AVAILABLE SECTION FROM 1 TO 12

Nominal flow rate		50 l/min	13 US gpm
Operating pressure (maximum)	parallel or tandem circuit	315 bar	4600 psi
	series circuit	210 bar	3050 psi
Back pressure (maximum)	on outlet port T	25 bar	360 psi



VS4

AVAILABLE SECTION FROM 1 TO 12

Nominal flow rate		80 l/min	21 US gpm
Operating pressure (maximum)	parallel or tandem circuit	315 bar	4600 psi
	series circuit	210 bar	3050 psi
Back pressure (maximum)	on outlet port T	25 bar	360 psi



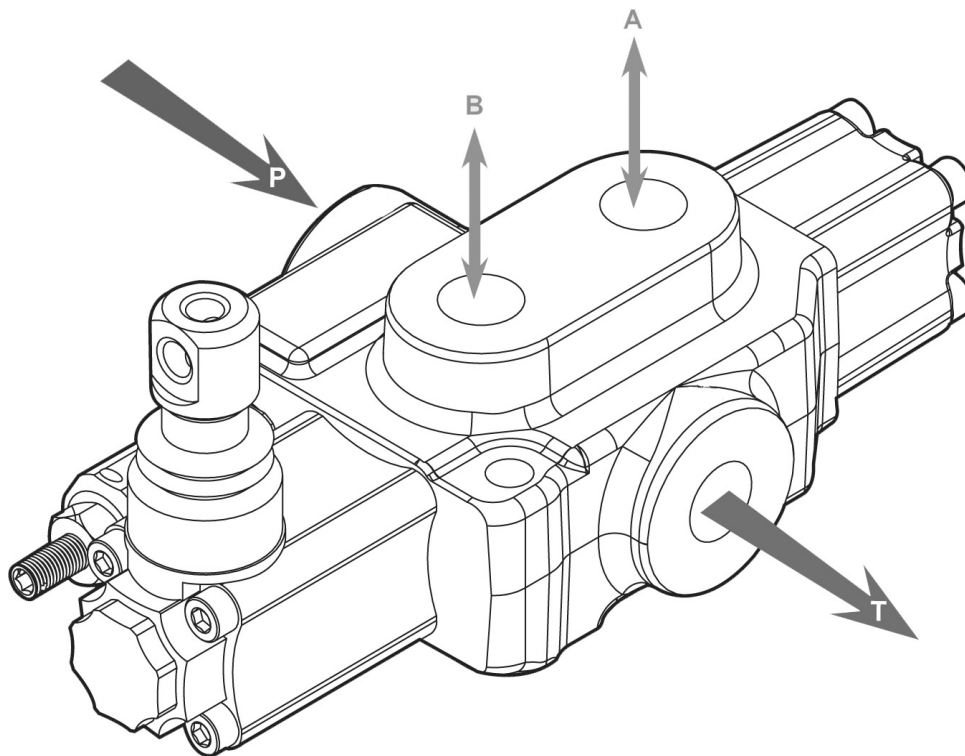
VS6

AVAILABLE SECTION FROM 1 TO 12

Nominal flow rate		140 l/min	37 US gpm
Operating pressure (maximum)	parallel or tandem circuit	315 bar	4600 psi
	series circuit	210 bar	3050 psi
Back pressure (maximum)	on outlet port T	25 bar	360 psi

VM2

Monoblock Directional Control Valves



VM2 Specifications

Nominal flow rate		45 l/min	12 US gpm
Operating pressure (maximum)		250 bar	3600 psi
Back pressure (maximum)	on outlet port T	25 bar	360 psi
Fluid temperature range	with NBR(BUNA-N) seals	from -20°C to 80°C	from -4° to 176°F
	with FPM(VITON) seals	from -20°C to 100°C	from -4° to 212°F
Viscosity	operating range	from 15 to 75 mm ² /s	from 15 to 75 cst
	min	12 mm ² /s	12 cst
	max	400 mm ² /s	400 cst
Ambient temperature range		from -40°C to 60°C	from -40° to 140°F

- All specifications, dimensions and design characteristics shown in this catalogue are subject to change without notice

VM2

Monoblock Directional Control Valves

VM2 / 1S 3 / 1 8 L / G-3 / M1
 1 2 3 4 5

- 1 Body
- 2 Inlet relief
- 3 Spool options
- 4 "B" side spool positioners
- 5 "A" side controls

1:	Body	WITHOUT SERVICE PORT VALVES PREARRANGEMENT (INCLUDE BODY, SEALS, RINGS AND LOAD CHECK VALVE.)	
	TYPE	DESCRIPTION	
	1 - S	1 section	
2:	Inlet Relief		
	TYPE	CODE	DESCRIPTION
	DG-2	VM32002	Range 40 to 80 bar / 580 to 1150 psi, standard setting 80 bar / 1150 psi
	DG-3	VM32003	Range 63 to 200 bar / 900 to 2900 psi, standard setting 120 bar / 1750 psi
	DG-4	VM32004	Range 160 to 315 bar / 2300 to 4600 psi, standard setting 220 bar / 3200 psi
	SV	VM32100	Relief valve blanking plug

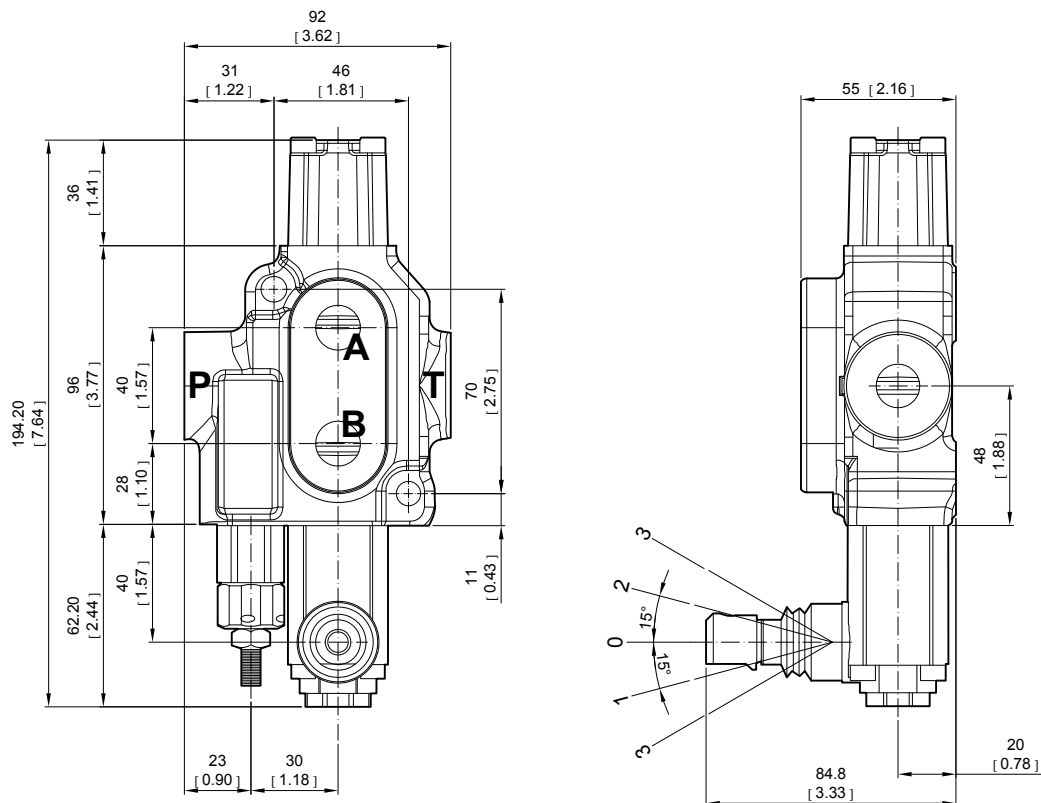
VM2

Monoblock Directional Control Valves

3: Spool Options			
TYPE	CODE	DESCRIPTION	
1	VM23001	Double acting, 3 positions, with A, B closed in neutral position	
2	VM23002	Double acting, 3 positions, with A, B closed to Tank in neutral position	
3	VM23003	Single acting on A closed in neutral position, 3 positions, B plugged	
4	VM23004	Single acting on B closed in neutral position, 3 positions, A plugged	
9	VM23009	Double acting, 3 positions, with P, T, A, B closed in neutral position (Closed center)	
10	VM23010	Double acting, 3 positions, with A, B open to Tank and P, T closed in neutral position (Closed center)	
4: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	
6-1	VM24061	Detent in pos. 1-0-2, without spring centered	
6-2	VM24062	2 positions, detent in pos. 0-2, without spring centered	
6-3	VM24063	2 positions, detent in pos. 1-0, without spring centered	
8D2	VM24200	With spring return to neutral position and pin with M8 male thread for dual control	
8EP3	VM24300	ON/OFF Electro-Pneumatic actuator	
8P	VM24080	ON/OFF Pneumatic actuator	
8MG1 (NO)	VM24801	Microswitch kit operated in pos. 1 (Normally Open)	
8MG2 (NO)	VM24802	Microswitch kit operated in pos. 2 (Normally Open)	
8MG3 (NO)	VM24803	Microswitch kit operated in pos. 1&2 (Normally Open)	
MG (NO)	VM24804	Microswitch with NO terminal	
8MG1 (NC)	VM248011	Microswitch kit operated in pos. 1 (Normally Closed)	
8MG2 (NC)	VM248021	Microswitch kit operated in pos. 2 (Normally Closed)	
8MG3 (NC)	VM248031	Microswitch kit operated in pos. 1&2 (Normally Closed)	
MG (NC)	VM248041	Microswitch with NC terminal	
8	VM24008	With spring return to neutral position	
8-1	VM24081	2 positions, with spring centered from pos. 1	
8-2	VM24082	2 positions, with spring centered from pos. 2	
9-1	VM24091	Detent in pos. 1, 2 with spring centered	
9-2	VM24092	Detent in pos. 2 with spring centered	
9-3	VM24093	Detent in pos. 1 with spring centered	
5: A Side controls			
TYPE	CODE	DESCRIPTION	
L	VM45000	Standard lever box	
SLP	VM45001	Without lever box, with dust-proof plate	
TQ	VM45003	Flexible cable connection	

VM2

Monoblock Directional Control Valves

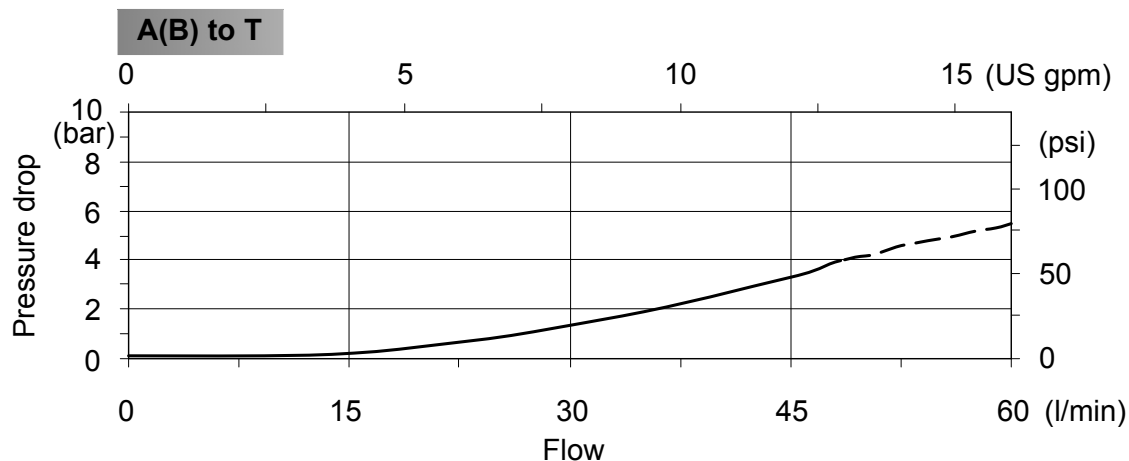
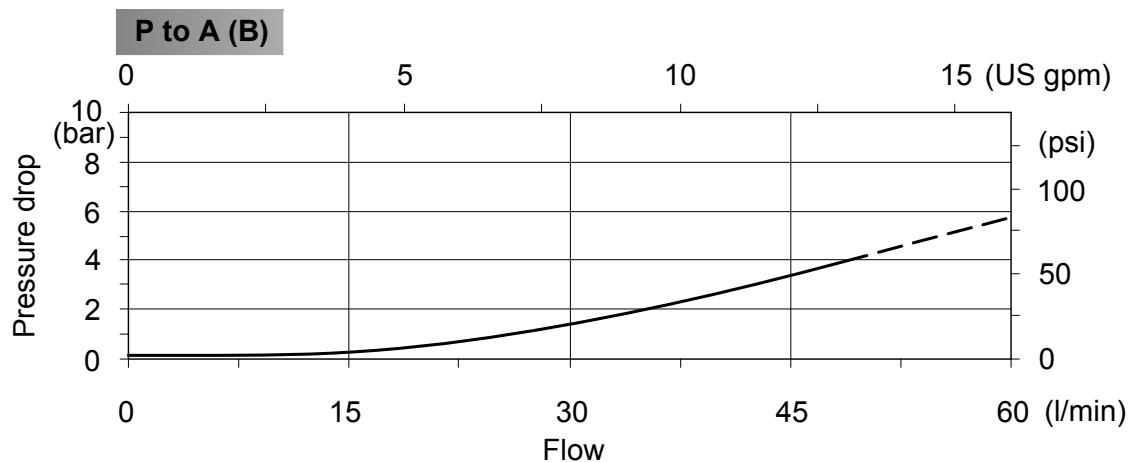
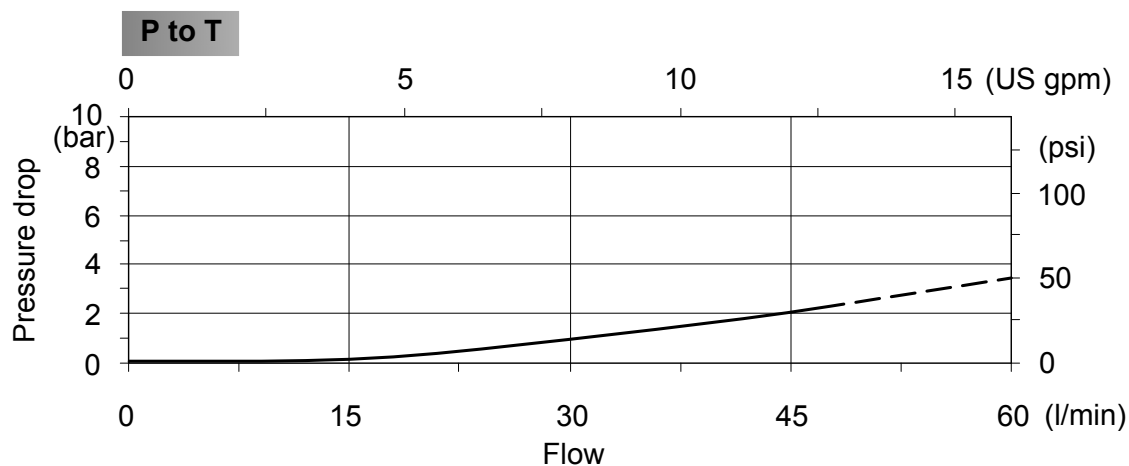


Ports	Inlet P	A and B	Outlet T
BSP	G3/8	G3/8	G3/8
UN-UNF	3/4-16 UNF-2B (SAE 8)	3/4-16 UNF-2B (SAE 8)	3/4-16 UNF-2B (SAE 8)
METRIC	M18x1.5	M18x1.5	M18x1.5

- G-1/2 : G4 G-3/8 : G3 G-3/4 : G6
- SAE 8 : E8 SAE 10 : E10 SAE 12 : E12 SAE 16 : E16

VM2 Performance curve chart

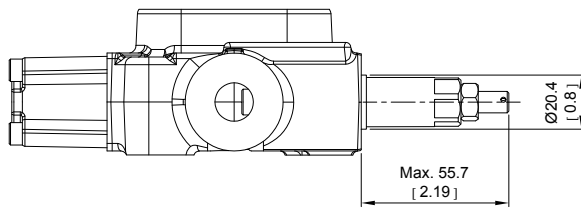
Monoblock Directional Control Valves



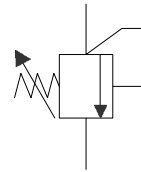
VM2 Inlet Relief (Options)

Monoblock Directional Control Valves

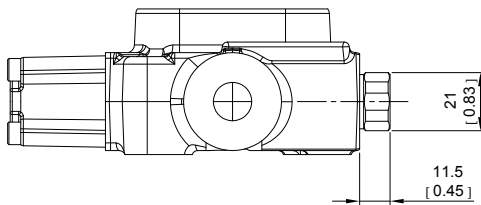
Type DG



Direct pressure relief valve:



Type SV



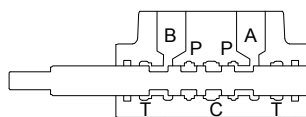
Relief valve blanking plug:



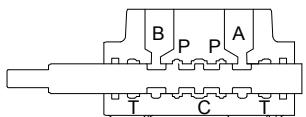
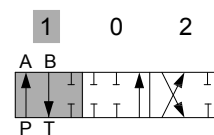
VM2 Spool Options

Monoblock Directional Control Valves

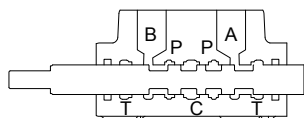
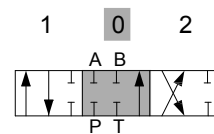
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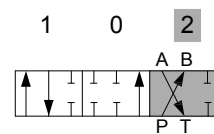
P → A
B → T
C closed



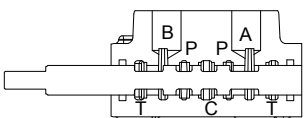
P & T & A & B closed
C open



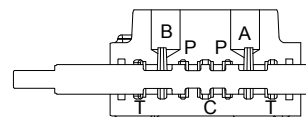
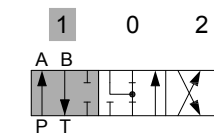
P → B
A → T
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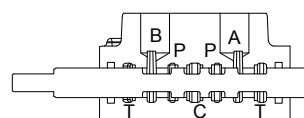
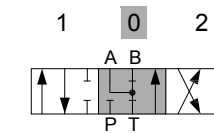
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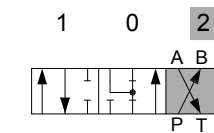
P → A
B → T
C closed



A & B → T
C open



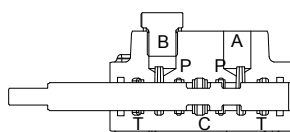
P → B
A → T
C closed



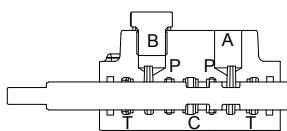
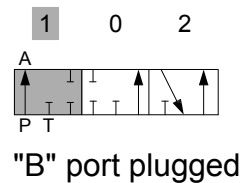
VM2 Spool Options

Monoblock Directional Control Valves

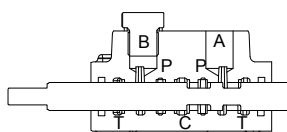
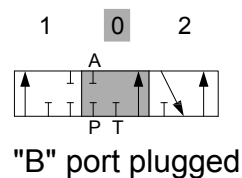
TYPE 3



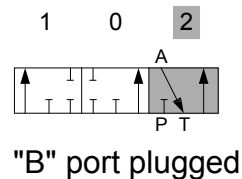
$P \rightarrow A$
C closed



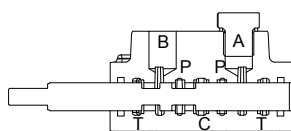
P & A & T closed
C open



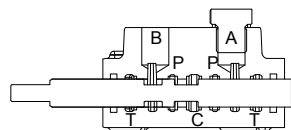
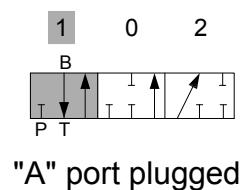
$A \rightarrow T$
C open



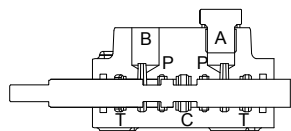
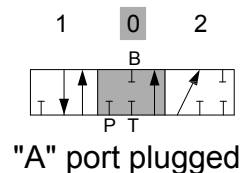
TYPE 4



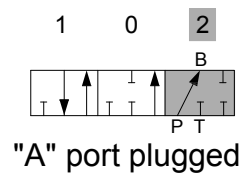
$B \rightarrow T$
closed



P & B & T closed
C open



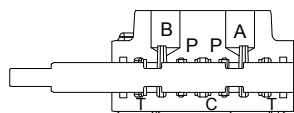
$P \rightarrow B$
C closed



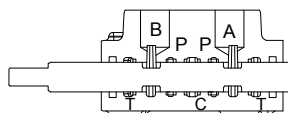
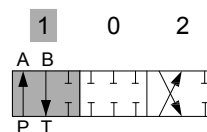
VM2 Spool Options

Monoblock Directional Control Valves

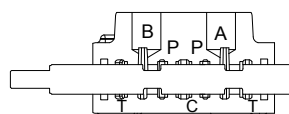
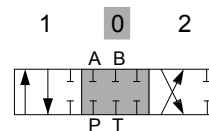
TYPE 9



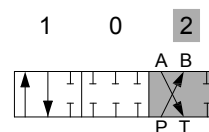
P → A
B → T
C closed



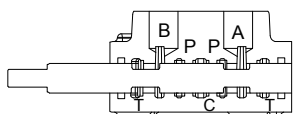
P & A & B & T closed
C closed



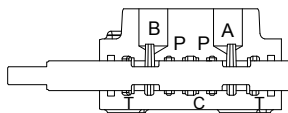
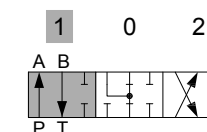
P → B
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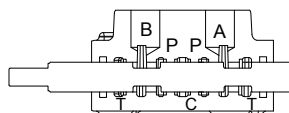
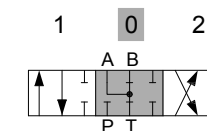
TYPE 10



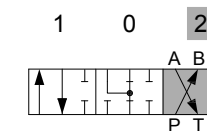
P → A
B → T
C closed



A & B → T
P & C closed

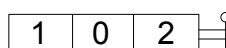
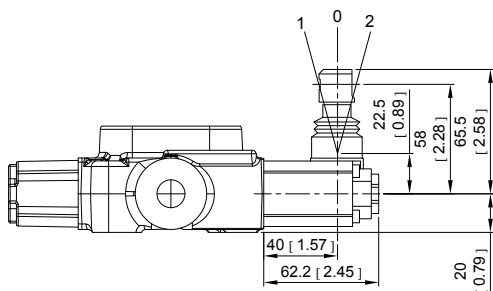


P → B
A → T
C closed



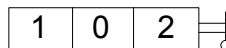
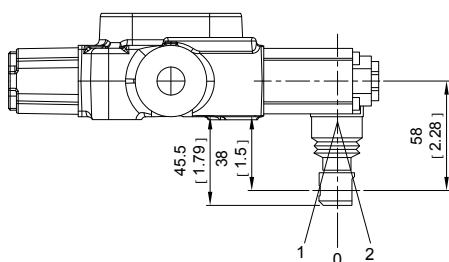
VM2 A Side Monoblock Directional Control Valves

Type L



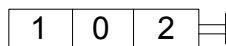
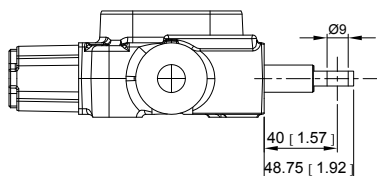
Type L:
STANDART LEVER KIT

Type R



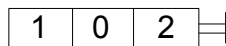
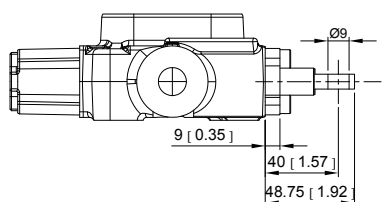
Type R:
STANDART LEVER KIT
(ROTATED 180 DEGREE)

Type SL



Type SL:
WITHOUT ANY COVER

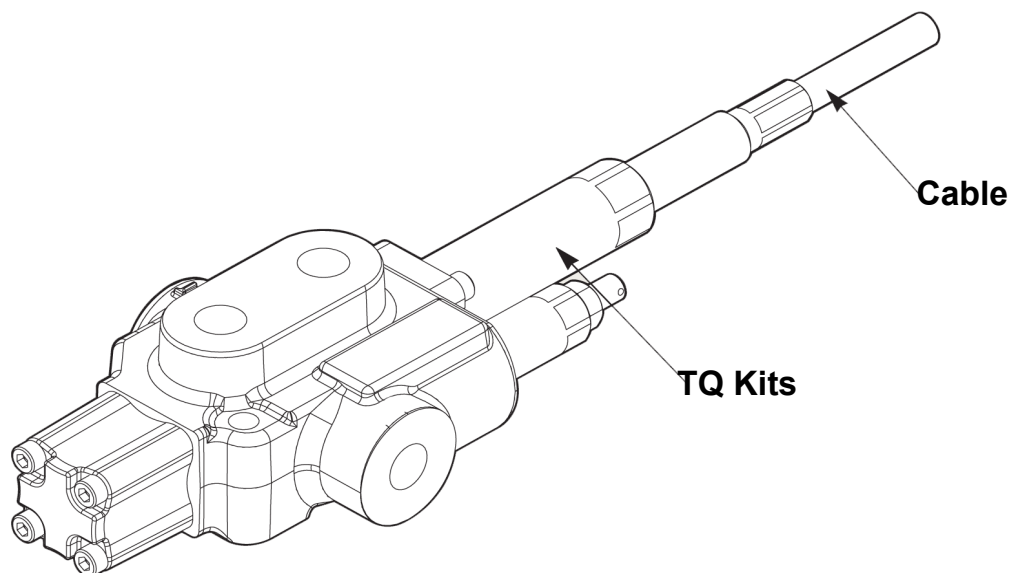
Type SLP



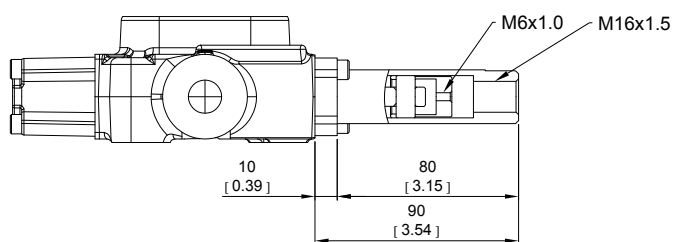
Type SLP:
WITH DUST-PROOF PLATE

VM2 A Side Monoblock Directional Control Valves

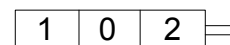
Note : CONNECTION KIT NOT INCLUDE CABLE



Type TQ

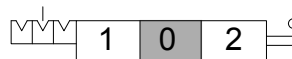
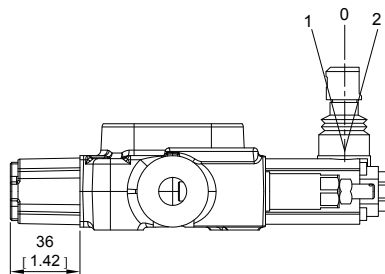


TQ Kit:



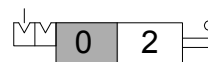
VM2 B Side Monoblock Directional Control Valves

Type 6



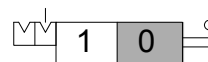
6-1 Kit:

DETENT IN POS. 1-0-2, WITHOUT SPRING CENTERED



6-2 Kit:

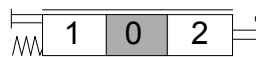
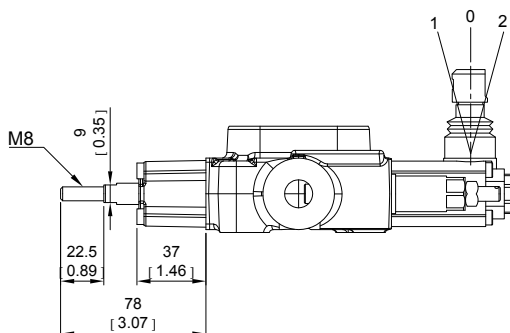
2 POSITIONS, DETENT IN POS. 0-2, WITHOUT SPRING CENTERED



6-3 Kit:

2 POSITIONS, DETENT IN POS. 1-0, WITHOUT SPRING CENTERED

Type 8D2



8D2 Kit:

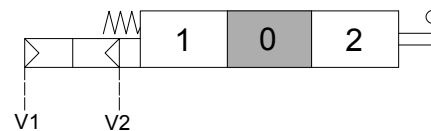
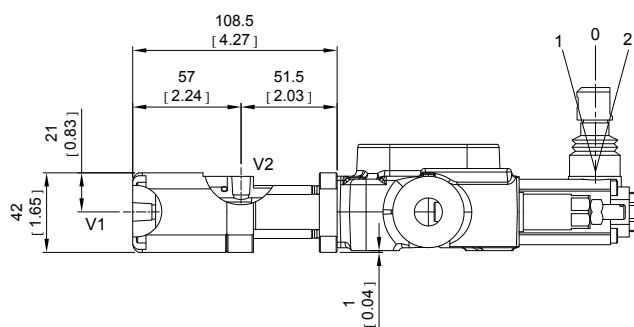
WITH SPRING RETURN TO NEUTRAL POSITION AND PIN WITH M8 MALE THREAD FOR DUAL CONTROL

VM2 B Side

Monoblock Directional Control Valves

Type 8P

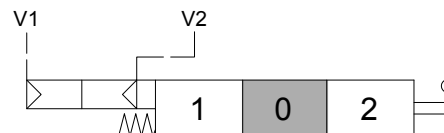
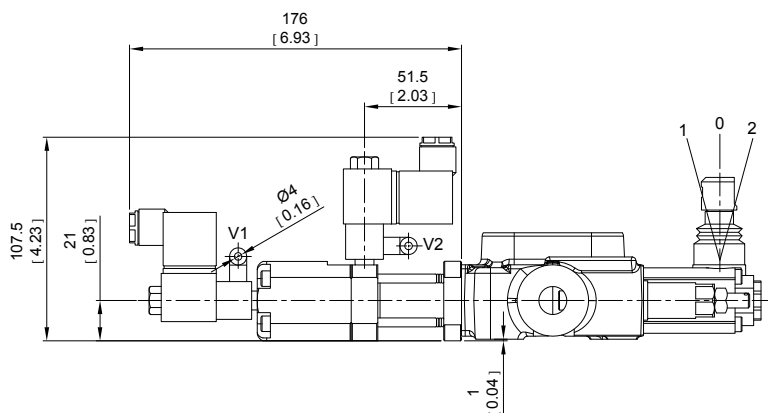
V1 & V2: NPT 1/8 - 27



Operating feature:

PILOT PRESSURE (MIN.): 5.5 BAR / 80 PSI
PILOT PRESSURE (MAX.): 10 BAR / 145 PSI

Type 8EP3



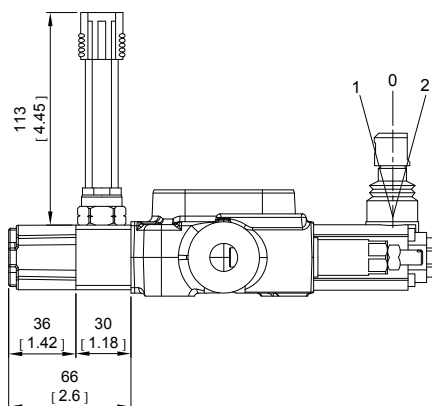
Solenoid operating features:

NOMINAL VOLTAGE: 24VDC
NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$
POWER RATING: 5W

VM2 B Side

Monoblock Directional Control Valves

Type 8MG



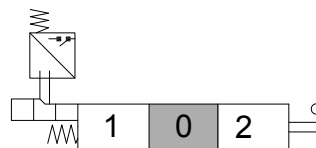
MICROSWITCH

Operating features:

MECHANICAL LITE: • 5X10⁵ OPERATIONS

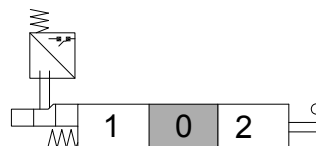
ELECTRICAL LITE (RESISTIVE LOAD):

- 10⁵ OPERATIONS - 7A / 13.5 VDC
- 5X10⁴ OPERATIONS - 10A / 12 VDC
- 5X10⁴ OPERATIONS - 3A / 28 VDC



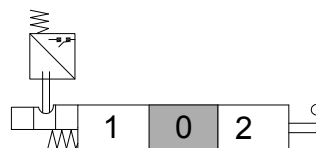
8MG1 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1



8MG2 Kit:

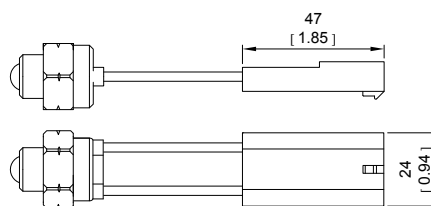
MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 2



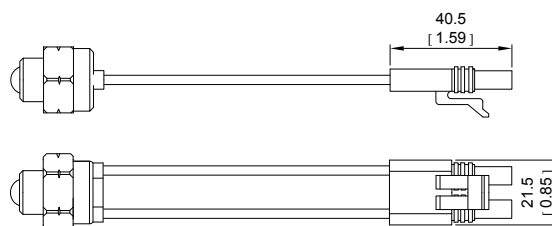
8MG3 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1 AND POS. 2

With NO contact (female connector with male end)



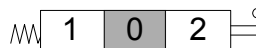
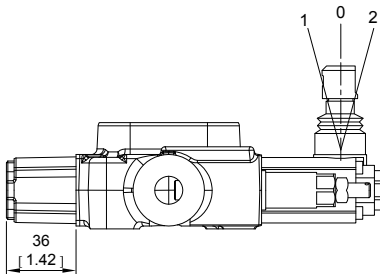
With NC contact (male connector with female end)



VM2 B Side

Monoblock Directional Control Valves

Type 8



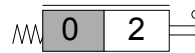
8 Kit:

SPRING RETURN TO NEUTRAL POSITION.



8-1 Kit:

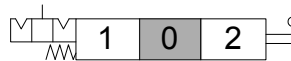
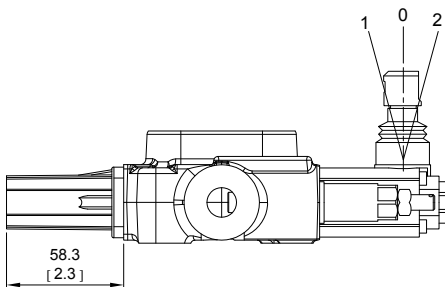
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)



8-2 Kit:

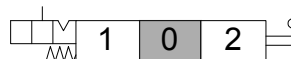
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)

Type 9



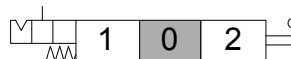
9-1 Kit:

DETENT IN POS. 1, 2 WITH SPRING CENTERED



9-2 Kit:

DETENT IN POS. 2 WITH SPRING CENTERED



9-3 Kit:

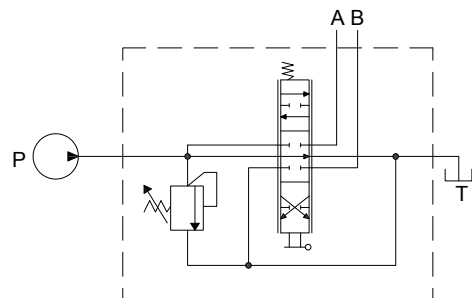
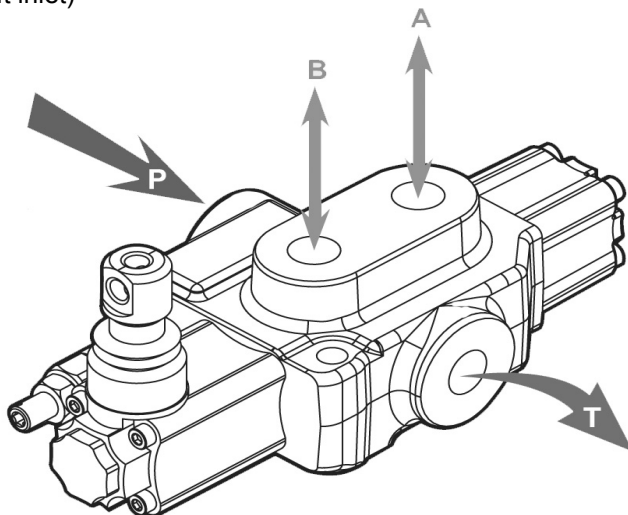
DETENT IN POS. 1 WITH SPRING CENTERED

VM2 Inlet

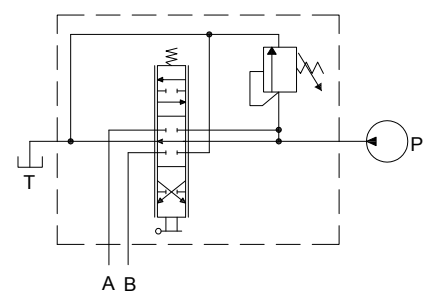
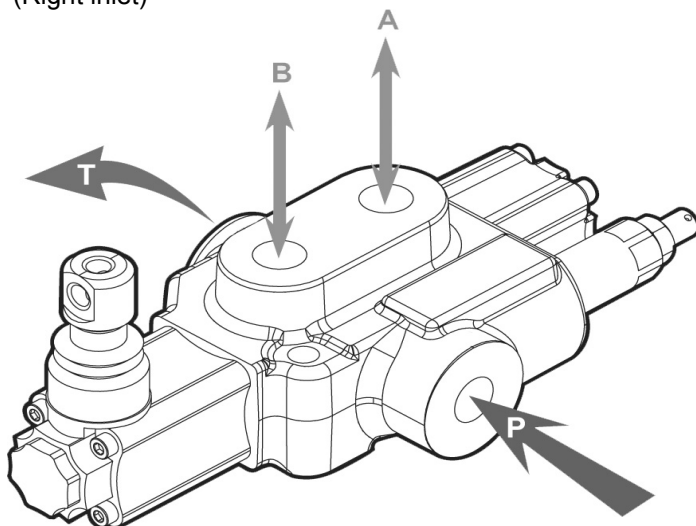
Monoblock Directional Control Valves

A symmetrical body allows the reverse assembly of spool and relative control kit and lever

(Left inlet)

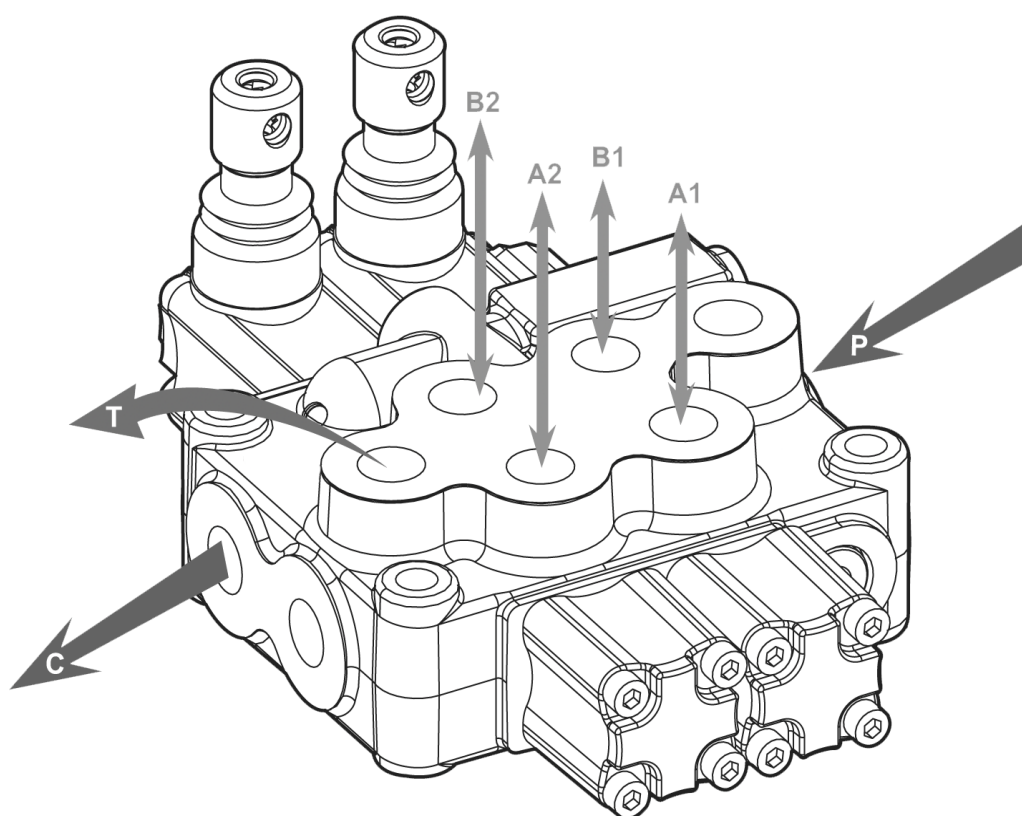


(Right inlet)



VM3

Monoblock Directional Control Valves



VM3 Specifications

Nominal flow rate		45 l/min	12 US gpm
Operating pressure (maximum)	parallel or tandem circuit	315 bar	4600 psi
	series circuit	210 bar	3050 psi
Back pressure (maximum)	on outlet port T	25 bar	360 psi
Fluid temperature range	with NBR(BUNA-N) seals	from -20°C to 80°C	from -4° to 176°F
	with FPM(VITON) seals	from -20°C to 100°C	from -4° to 212°F
Viscosity	operating range	from 15 to 75 mm ² /s	from 15 to 75 cst
	min	12 mm ² /s	12 cst
	max.	400 mm ² /s	400 cst
Ambient temperature range		from -40°C to 60°C	from -40° to 140°F

• All specifications, dimensions and design characteristics shown in this catalogue are subject to change without notice

VM3

Monoblock Directional Control Valves

VM3 / **2S** - **3** / **1 8 L** /G-3 /M3
 1 **2** **3** **4** **5**

- 1** Body
- 2** Inlet relief
- 3** Spool options
- 4** "B" side spool positioners
- 5** "A" side controls

1:	Body	WITHOUT SERVICE PORT VALVES PREARRANGEMENT (INCLUDE BODY, SEALS, RINGS AND LOAD CHECK VALVE.)	
	TYPE	DESCRIPTION	
	1 - S	1 section	
	2 - S	2 section	
	3 - S	3 section	
	4 - S	4 section	
	5 - S	5 section	
	6 - S	6 section	
2:	Inlet Relief		
	TYPE	CODE	DESCRIPTION
	DG-2	VM32002	Range 40 to 80 bar / 580 to 1150 psi, standard setting 80 bar / 1150 psi
	DG-3	VM32003	Range 63 to 200 bar / 900 to 2900 psi, standard setting 120 bar / 1750 psi
	DG-4	VM32004	Range 160 to 315 bar / 2300 to 4600 psi, standard setting 220 bar / 3200 psi
	SV	VM32100	Relief valve blanking plug

VM3

Monoblock Directional Control Valves

3: Spool Options			
TYPE	CODE	DESCRIPTION	
1	VM33001	Double acting, 3 positions, with A, B closed in neutral position	
2	VM33002	Double acting, 3 positions, with A, B open to Tank in neutral position	
3	VM33003	Single acting on A closed in neutral position, 3 positions, B plugged	
5	VM33005	Double acting, 3 positions, with B open to Tank in neutral position	
6	VM33006	Double acting, 3 positions, with A open to Tank in neutral position	
7	VM33007	Single acting on A open to Tank in neutral position, 3 positions, B plugged	
9	VM33009	Double acting, 3 positions, with P, T, A, B closed in neutral position (Closed center)	
10	VM33010	Double acting, 3 positions, with A, B open to Tank and P, T closed in neutral position (Closed center)	
5DY	VM33052	Double acting, 4 positions, floating circuit in 4th position with A, B open to Tank by pulling the lever	
5PYX	VM330511	Double acting, 4 positions, floating circuit in 4th position with A, B open to Tank by pushing the lever (with check valve)	
5PY	VM33051	Double acting, 4 positions, floating circuit in 4th position with A, B open to Tank by pushing the lever	
Z41	VM33041	Double acting, 4 positions, regenerative circuit in 4th position with P open to A, B by pulling the lever (Rest in pos.1)	
Z42	VM33042	Double acting, 4 positions, regenerative circuit in 4th position with P open to A, B by pulling the lever (Rest in pos.0)	
4: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	
6-1	VM44061	Detent in pos. 1-0-2, without spring centered	
6-2	VM44062	2 positions, detent in pos. 0-2, without spring centered	
6-3	VM44063	2 positions, detent in pos. 1-0, without spring centered	
8D2	VM44200	With spring return to neutral position and pin with M8 male thread for dual control	
8EP3	VM44300	ON/OFF Electro-Pneumatic actuator	
8P	VM44080	ON/OFF Pneumatic actuator	
8MG1 (NO)	VM44801	Microswitch kit operated in pos. 1 (Normally Open)	
8MG2 (NO)	VM44802	Microswitch kit operated in pos. 2 (Normally Open)	
8MG3 (NO)	VM44803	Microswitch kit operated in pos. 1&2 (Normally Open)	
MG (NO)	VM44804	Microswitch with NO terminal	
8MG1 (NC)	VM448011	Microswitch kit operated in pos. 1 (Normally Closed)	
8MG2 (NC)	VM448021	Microswitch kit operated in pos. 2 (Normally Closed)	
8MG3 (NC)	VM448031	Microswitch kit operated in pos. 1&2 (Normally Closed)	
MG (NC)	VM448041	Microswitch with NC terminal	
8	VM44008	With spring return to neutral position	
8-1	VM44081	2 positions, with spring centered from pos. 1	
8-2	VM44082	2 positions, with spring centered from pos. 2	
9-1	VM44091	Detent in pos. 1, 2 with spring centered	
9-2	VM44092	Detent in pos. 2 with spring centered	
9-3	VM44093	Detent in pos. 1 with spring centered	

VM3

Monoblock Directional Control Valves

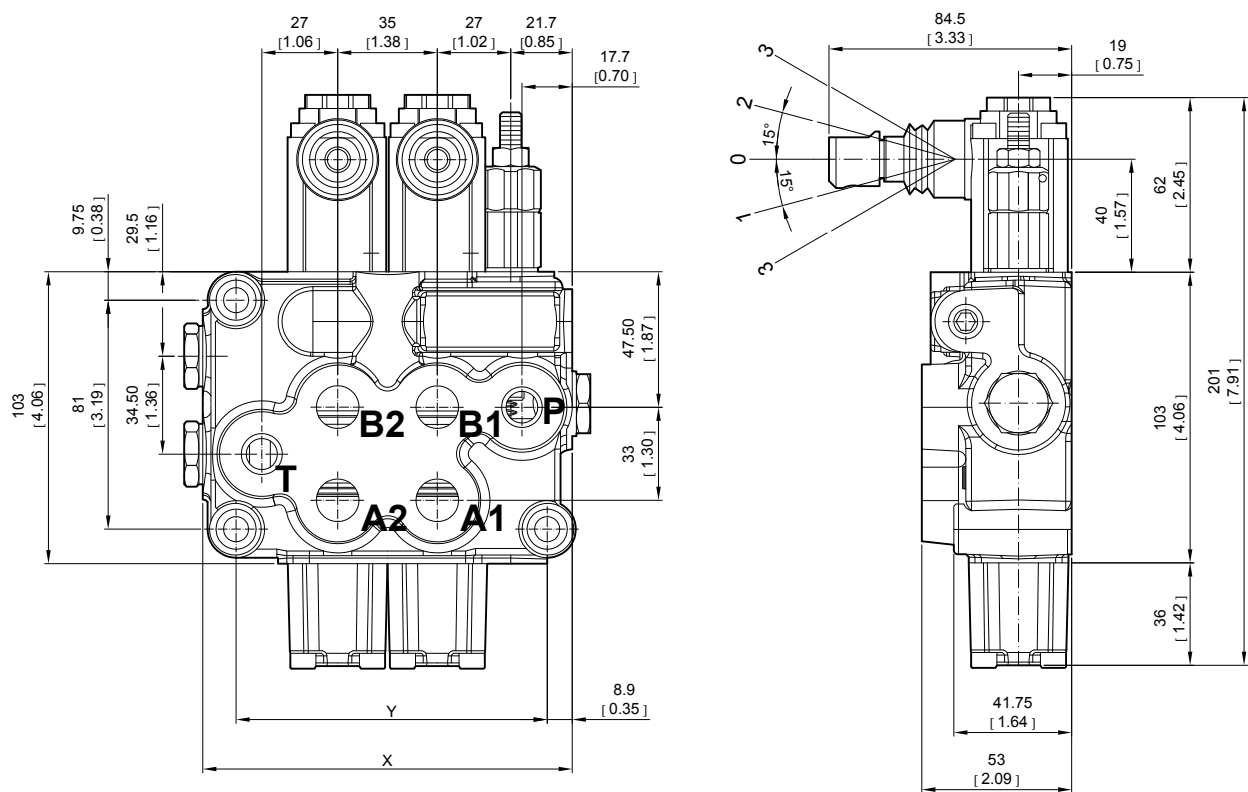
VM3 / 2S - 3 / 1 8 L / G-3 / M3
 1 2 3 4 5

- 1 Body
- 2 Inlet relief
- 3 Spool options
- 4 "B" side spool positioners
- 5 "A" side controls

4: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	
8ED3+RV-KE1R3	VM44201	1S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE2R3	VM44202	2S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE3R3	VM44203	3S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE4R3	VM44204	4S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE5R3	VM44205	5S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE6R3	VM44206	6S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ER3+KE1SO	VM44401	1S: ON/OFF Electro-Hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE2SO	VM44402	2S: ON/OFF Electro-Hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE3SO	VM44403	3S: ON/OFF Electro-Hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE4SO	VM44404	4S: ON/OFF Electro-Hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE5SO	VM44405	5S: ON/OFF Electro-Hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE6SO	VM44406	6S: ON/OFF Electro-Hydraulic control kit with collector kit for external pilot and drain	
5: A Side controls			
TYPE	CODE	DESCRIPTION	
L	VM45000	Standard lever box	
SLP	VM45001	Without lever box, with dust-proof plate	
LCB	VM45002	Joystick lever for 2 section operation	
TQ	VM45003	Flexible cable connection	

VM3 Dimensions

Monoblock Directional Control Valves



Standard threads

Ports	Inlet P	A and B	Outlet T and C
BSP	G3/8	G3/8	G3/8
UN-UNF	3/4-16 UNF-2B (SAE 8)	3/4-16 UNF-2B (SAE 8)	3/4-16 UNF-2B (SAE 8)
METRIC	M18x1.5	M18x1.5	M18x1.5

• G-1/2 : G4 G-3/8 : G3 G-3/4 : G6

• SAE 8 : E8 SAE 10 : E10 SAE 12 : E12 SAE 16 : E16

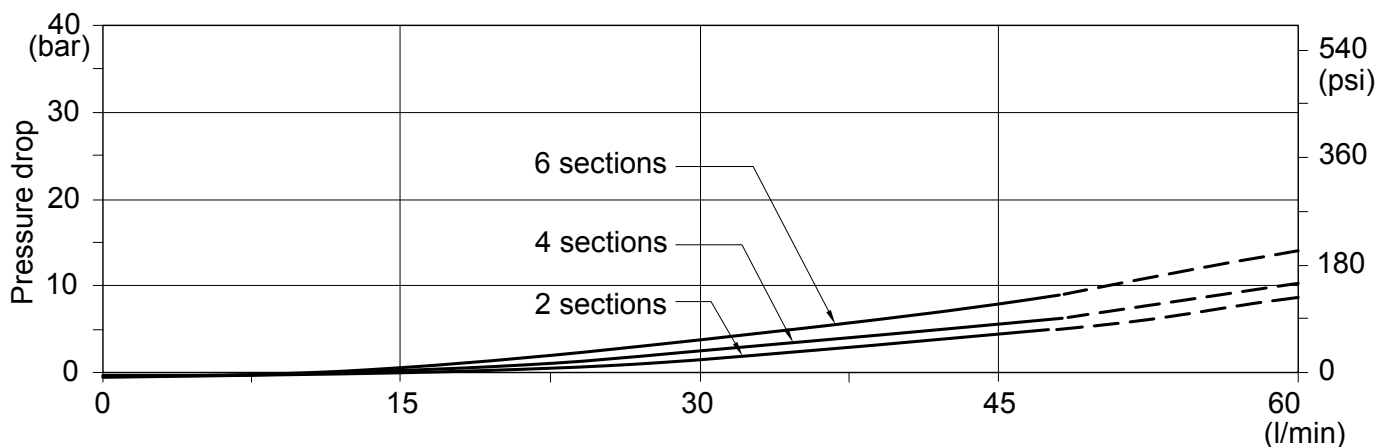
Standard dimensions

TYPE	X		Y	
	mm	in	mm	in
VM3/1S	93.5	3.68	73	2.87
VM3/2S	130.5	5.14	110	4.33
VM3/3S	165.5	6.52	147	5.79
VM3/4S	202.5	7.97	184	7.24
VM3/5S	239.5	9.43	221	8.7
VM3/6S	276.5	10.89	258	10.16

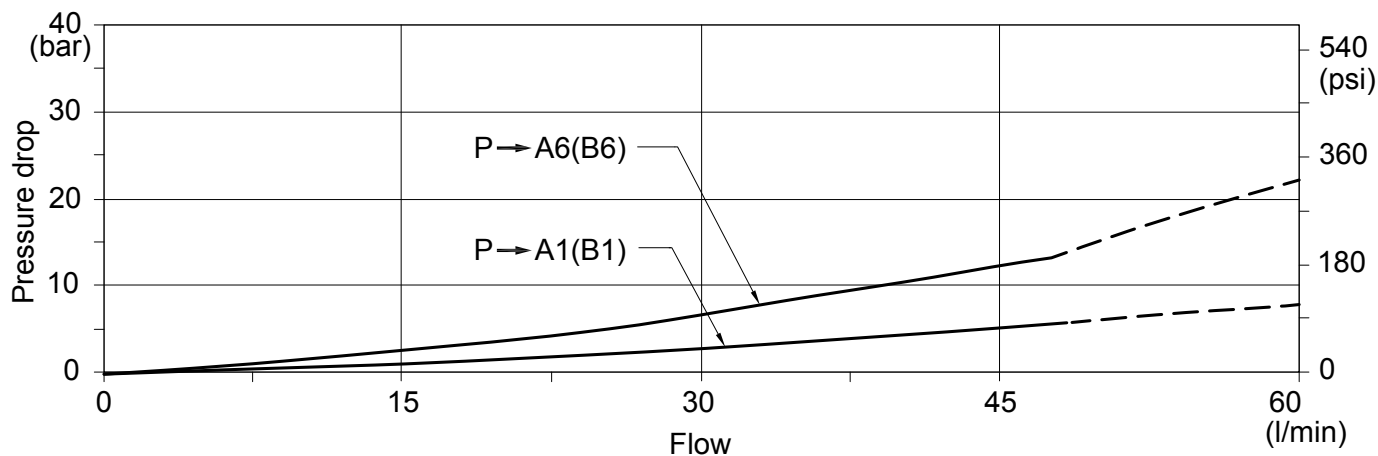
VM3 Performance curve chart

Monoblock Directional Control Valves

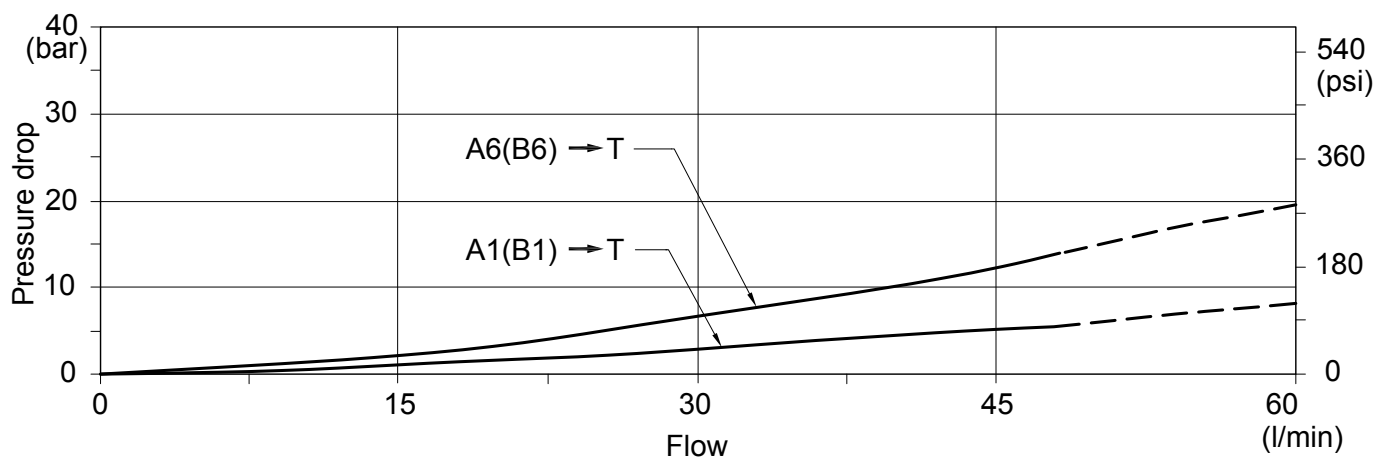
P to T



P to A (B)

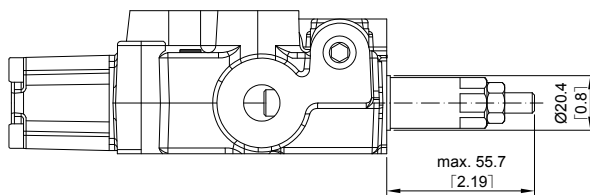


A(B) to T

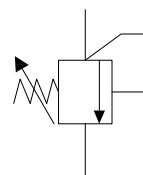


VM3 Inlet Relief (Optional) Monoblock Directional Control Valves

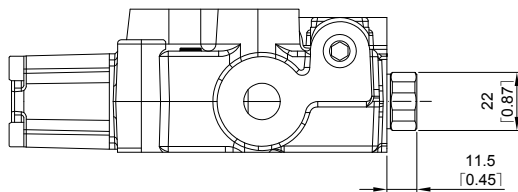
Type DG



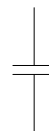
Direct pressure relief valve:



Type SV



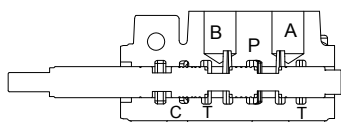
Relief valve blanking plug:



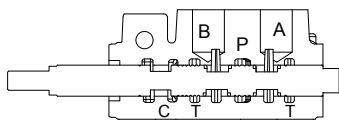
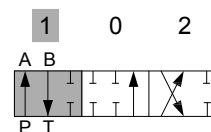
VM3 Spool Options

Monoblock Directional Control Valves

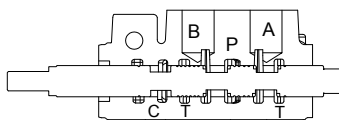
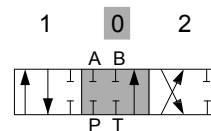
TYPE 1



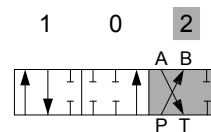
P → A
B → T
C closed



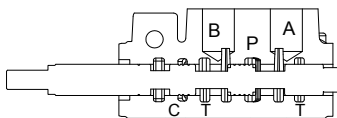
A & B & P & T closed
C open



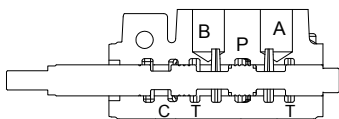
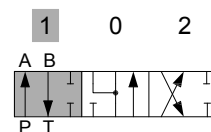
P → B
A → T
C closed



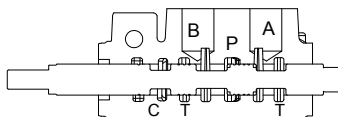
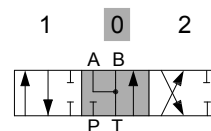
TYPE 2



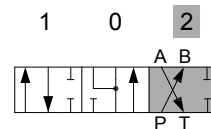
P → A
B → T
C closed



A & B → T
P closed
C open



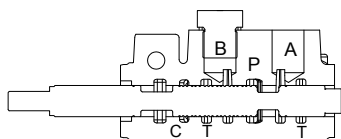
P → B
A → T
C closed



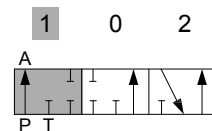
VM3 Spool Options

Monoblock Directional Control Valves

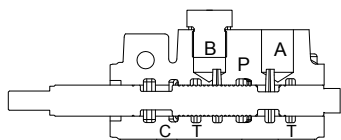
TYPE 3



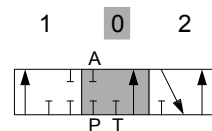
$P \rightarrow A$
C & T closed



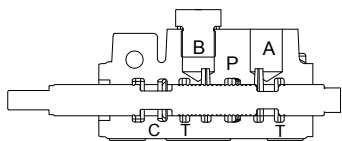
"B" port plugged



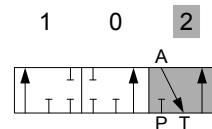
P & A & T closed
C open



"B" port plugged

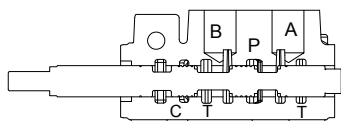


$A \rightarrow T$
P closed
C open

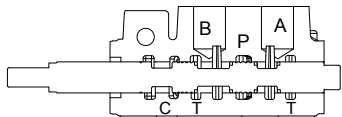
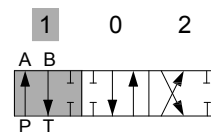


"B" port plugged

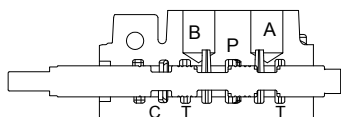
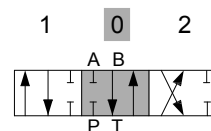
TYPE 5



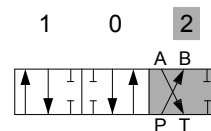
$P \rightarrow A$
 $B \rightarrow T$
C closed



$B \rightarrow T$
A & P closed
C open



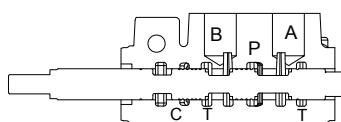
$P \rightarrow B$
 $A \rightarrow T$
C closed



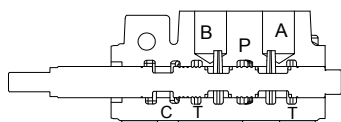
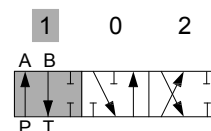
VM3 Spool Options

Monoblock Directional Control Valves

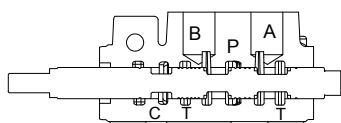
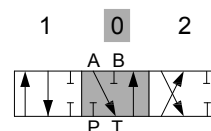
TYPE 6



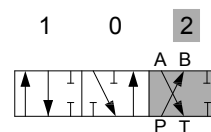
P → A
B → T
C closed



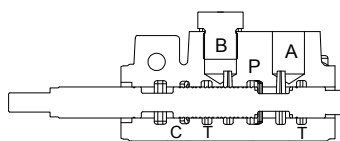
A → T
P & B closed
C open



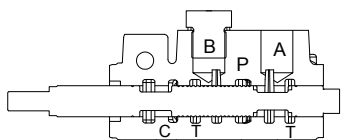
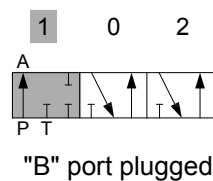
P → B
A → T
C closed



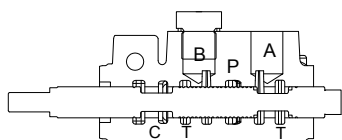
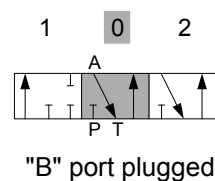
TYPE 7



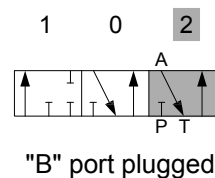
P → A
C & T closed



A → T
P closed
C open



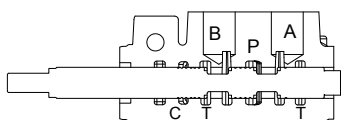
A → T
P closed
C open



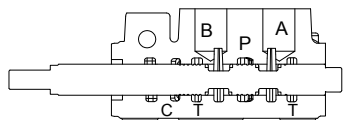
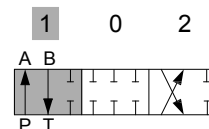
VM3 Spool Options

Monoblock Directional Control Valves

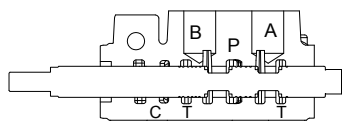
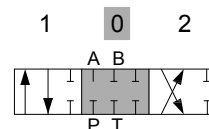
TYPE 9



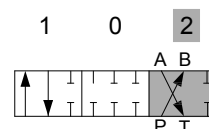
P → A
B → T
C closed



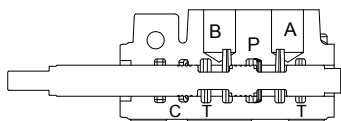
A & B & P & T closed
C closed



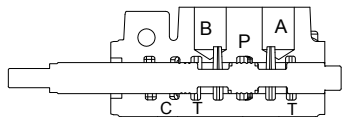
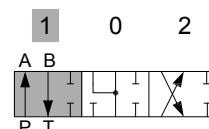
P → B
A → T
C closed



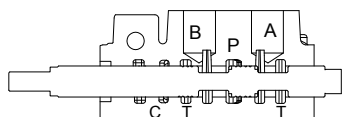
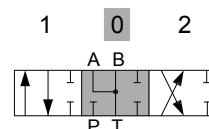
TYPE 10



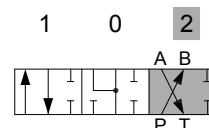
P → A
B → T
C closed



A & B → T
P & C closed



P → B
A → T
C closed

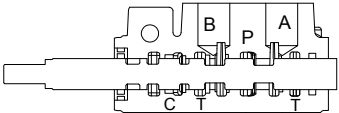
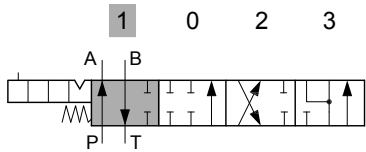
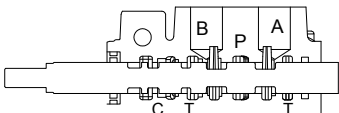
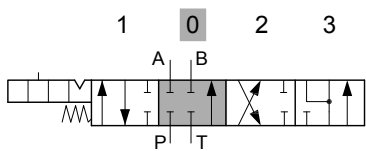
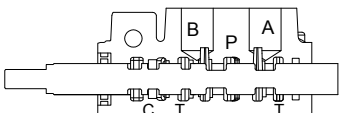
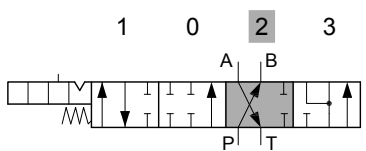
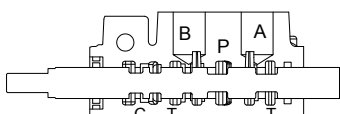
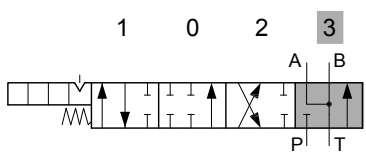


VM3 Spool Options

Monoblock Directional Control Valves

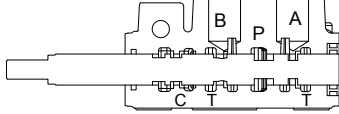
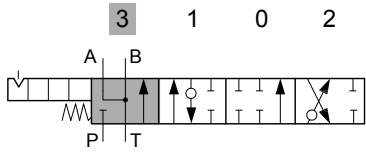
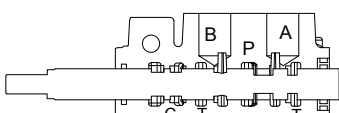
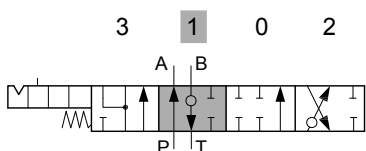
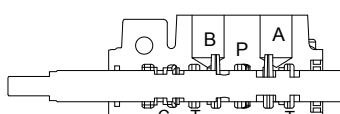
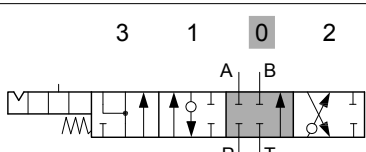
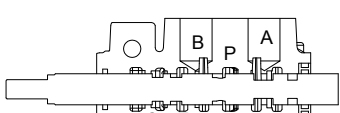
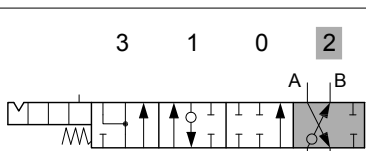
TYPE 5DY

NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER

	<p>P → A</p> <p>B → T</p> <p>C closed</p>	
	<p>P & A & B & T closed</p> <p>C open</p>	
	<p>P → B</p> <p>A → T</p> <p>C closed</p>	
	<p>A & B → T</p> <p>P closed</p> <p>C open</p>	

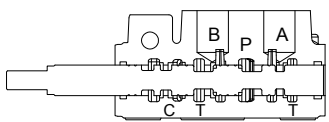
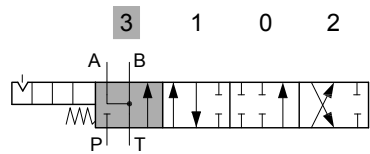
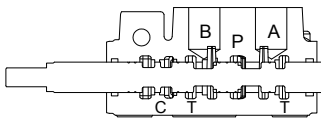
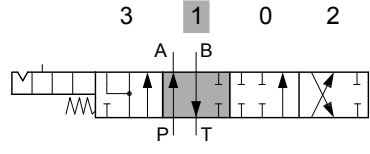
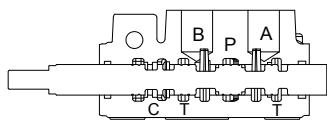
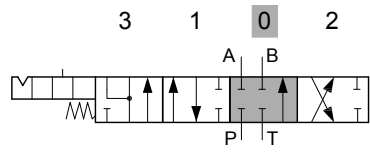
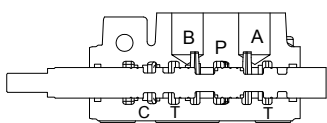
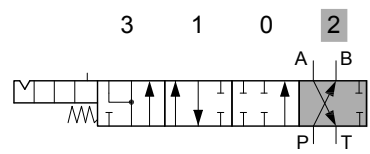
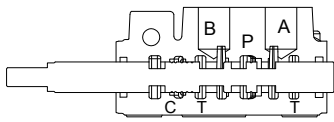
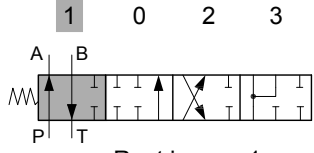
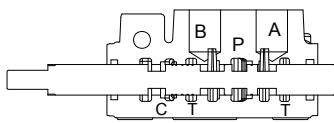
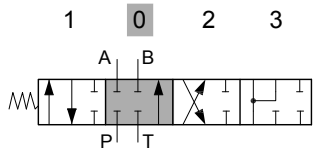
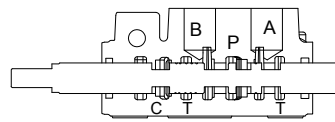
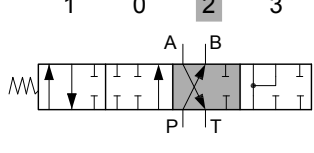
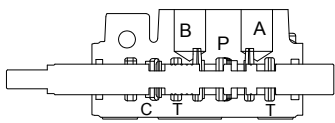
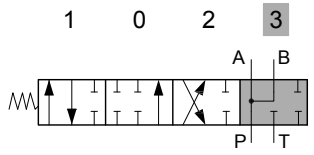
TYPE 5PYX

NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER

	<p>A & B → T</p> <p>P closed</p> <p>C open</p>	
	<p>P → A</p> <p>B → T</p> <p>C closed</p>	
	<p>P & A & B & T closed</p> <p>C open</p>	
	<p>P → B</p> <p>A → T</p> <p>C closed</p>	

VM3 Spool Options

Monoblock Directional Control Valves

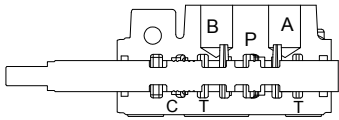
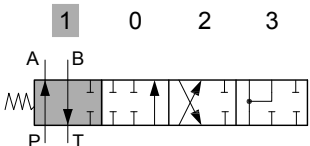
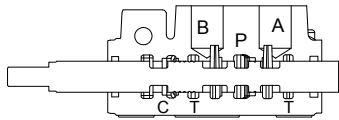
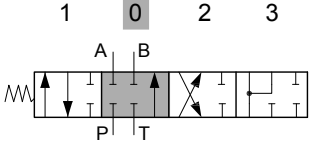
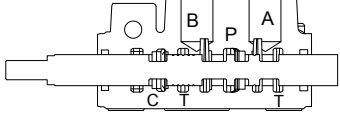
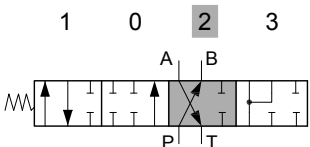
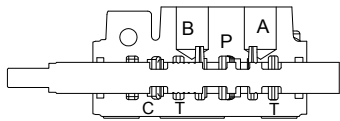
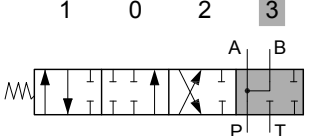
TYPE 5PY		NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER
	A & B → T P closed C open	
	P → A B → T C closed	
	P & A & B & T closed C open	
	P → B A → T C closed	
TYPE Z41		NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER
	P → A B → T C closed	 Rest in pos. 1
	P & A & B & T closed C open	
	P → B A → T C closed	
	P → A & B T & C closed	

VM3 Spool Options

Monoblock Directional Control Valves

TYPE Z42

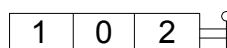
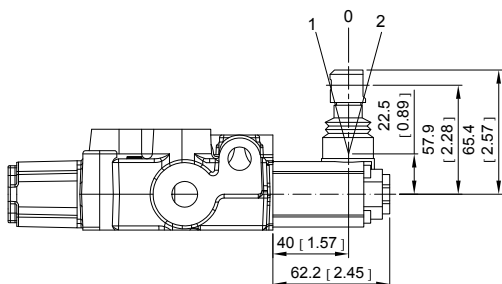
NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER

	<p>P → A B → T C closed</p>	
	<p>P & A & B & T closed C open</p>	 <p>Rest in pos. 0</p>
	<p>P → B A → T C closed</p>	
	<p>P → A & B T & C closed</p>	

VM3 A Side

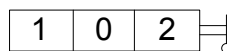
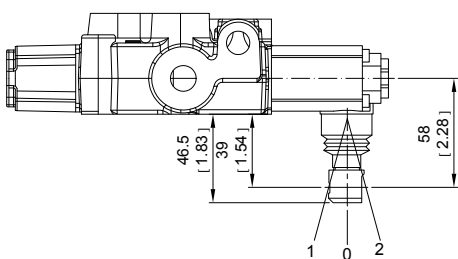
Monoblock Directional Control Valves

Type L



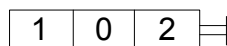
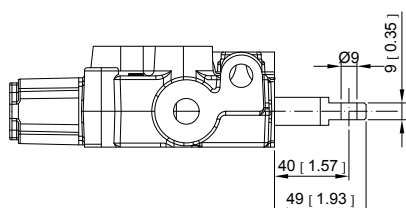
Type L:
STANDART LEVER KIT

Type R



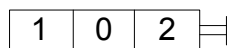
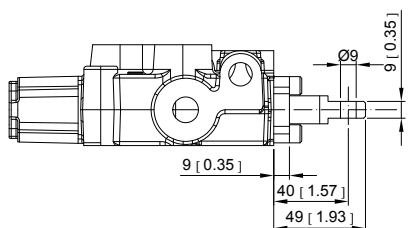
Type R:
STANDART LEVER KIT
(ROTATED 180 DEGREE)

Type SL



Type SL:
WITHOUT ANY COVER

Type SLP

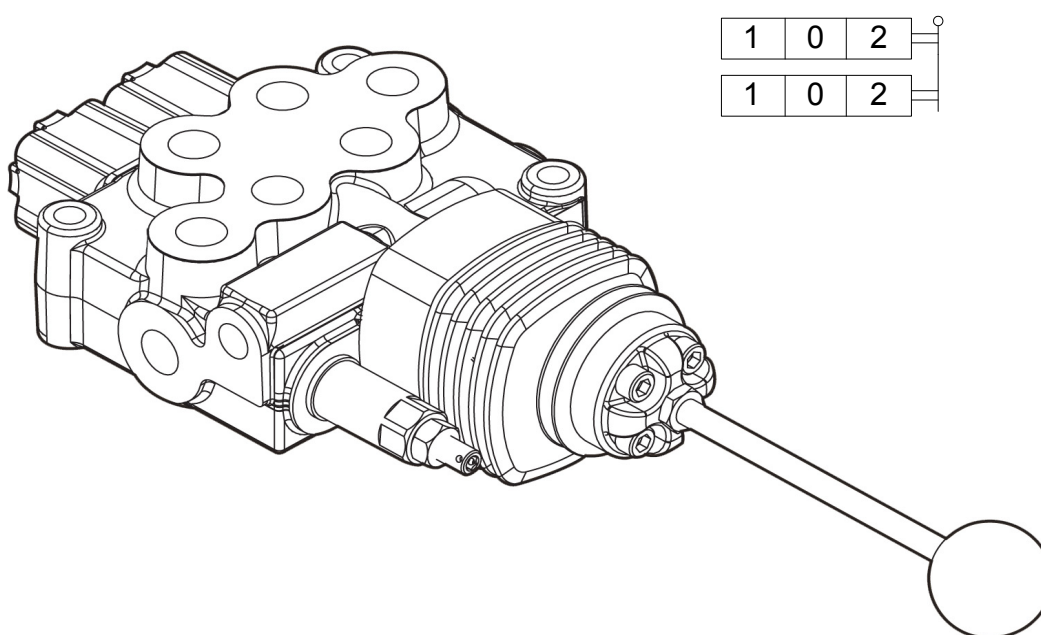


Type SLP:
WITH DUST-PROOF PLATE

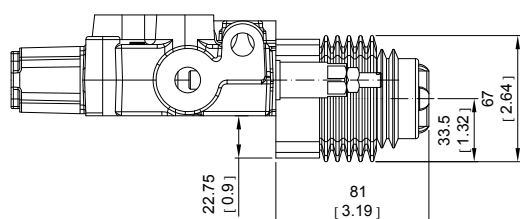
VM3 A Side

Monoblock Directional Control Valves

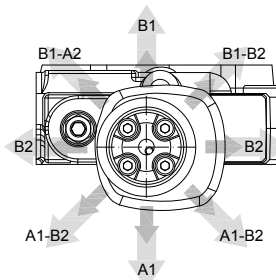
LCB: Joystick control



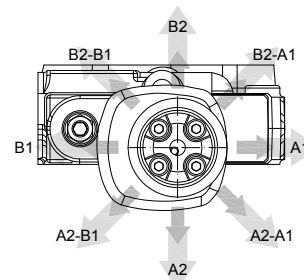
Type LCB



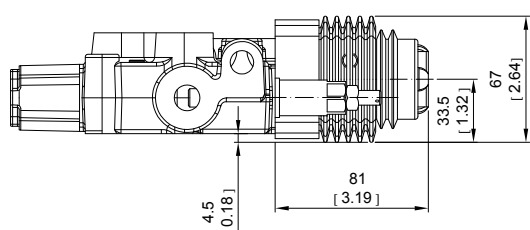
LCB 1



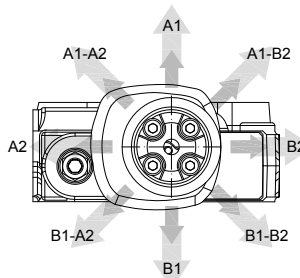
LCB 2



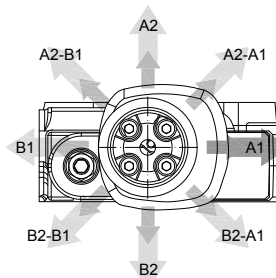
Type LCB



LCB 3

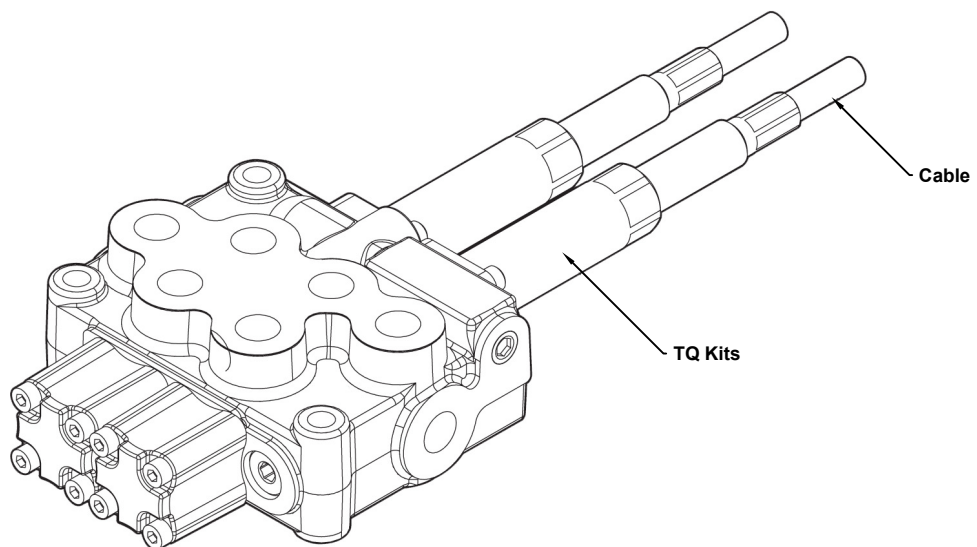


LCB 4

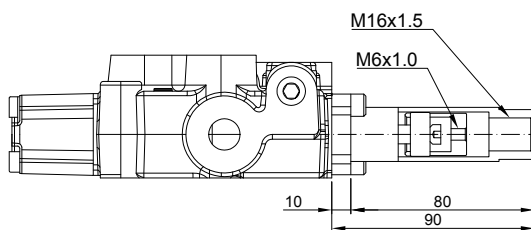


VM3 B Side Monoblock Directional Control Valves

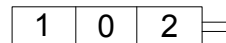
Note : CONNECTION KIT NOT INCLUDE CABLE



Type TQ



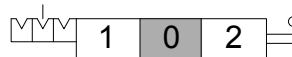
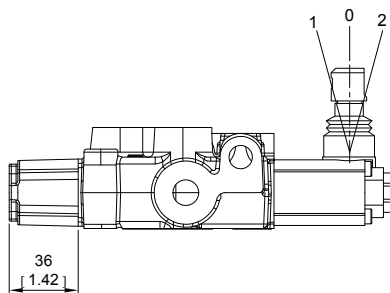
TQ Kit:



VM3 B Side

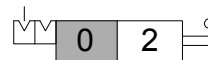
Monoblock Directional Control Valves

Type 6



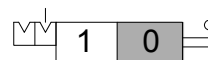
6-1 Kit:

DETENT IN POS. 1-0-2, WITHOUT SPRING CENTERED



6-2 Kit:

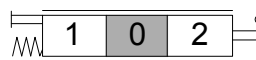
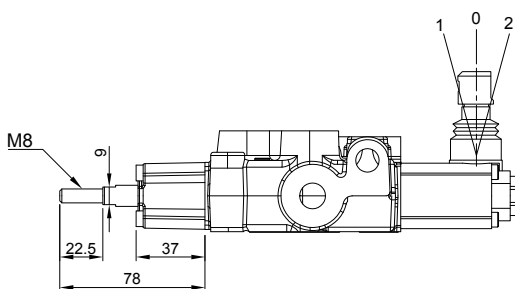
2 POSITIONS, DETENT IN POS. 0-2, WITHOUT SPRING CENTERED



6-3 Kit:

2 POSITIONS, DETENT IN POS. 1-0, WITHOUT SPRING CENTERED

Type 8D2



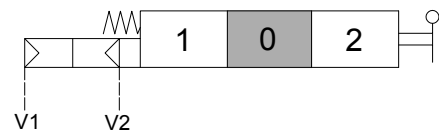
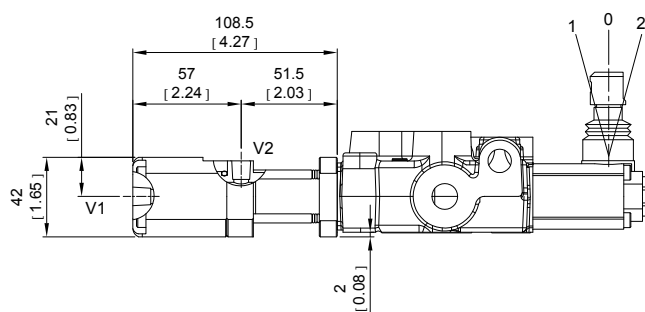
8D2 Kit:

WITH SPRING RETURN TO NEUTRAL POSITION AND PIN WITH M8 MALE THREAD FOR DUAL CONTROL

VM3 B Side Monoblock Directional Control Valves

Type 8P

V1 & V2: NPT 1/8 - 27

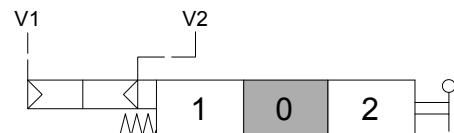
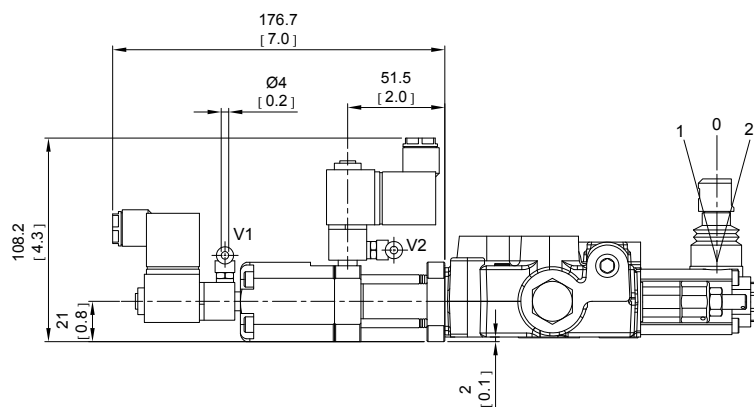


Operating feature:

PILOT PRESSURE (MIN.): 5.5 BAR / 80 PSI
PILOT PRESSURE (MAX.): 10 BAR / 145 PSI

Type 8EP3

ON/OFF electro-pneumatic control:



Description:

NOMINAL VOLTAGE: 24VDC

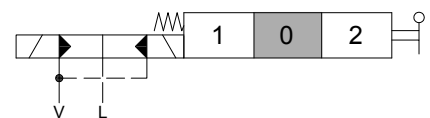
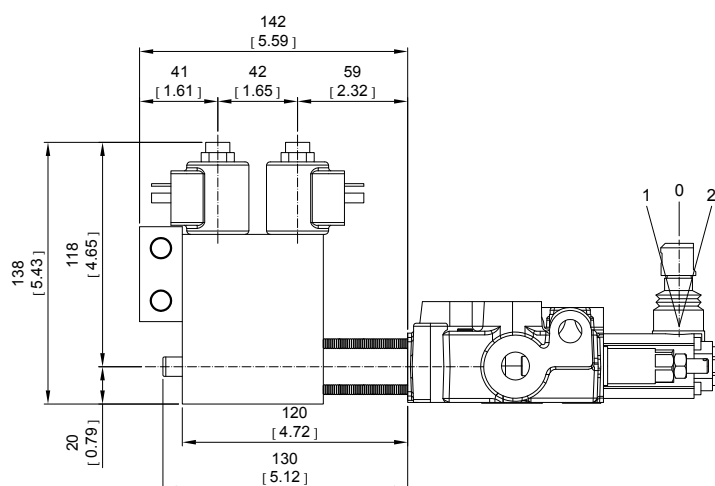
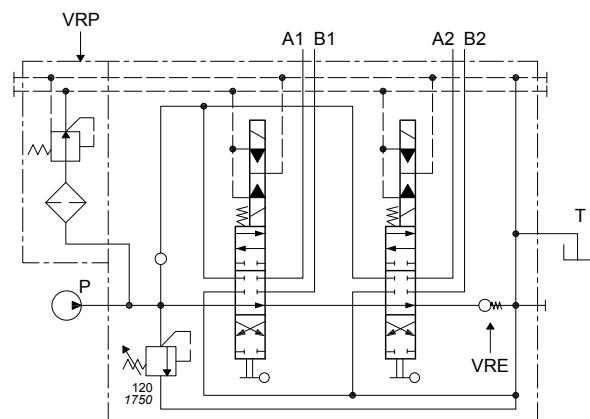
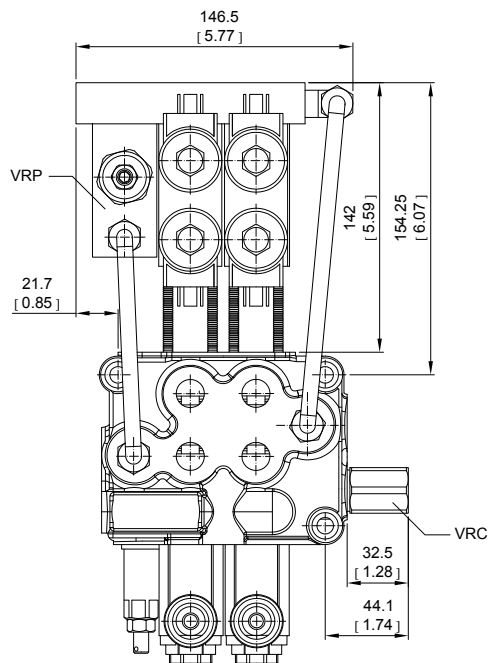
Solenoid operating features:

NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$
POWER RATING: 5W

VM3 B Side

Monoblock Directional Control Valves

Type 8ED3



Operating features:

PILOT PRESSURE:

- MIN. 10 BAR / 145 PSI
- MAX. 50 BAR / 725 PSI

MAX. BACKPRESSURE ON DRAIN L: 25 BAR / 360 PSI

Coil features:

NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$

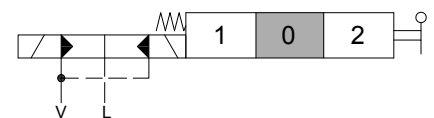
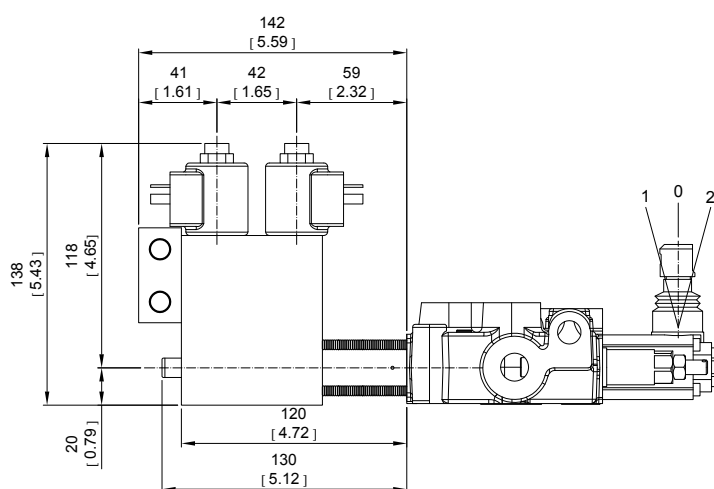
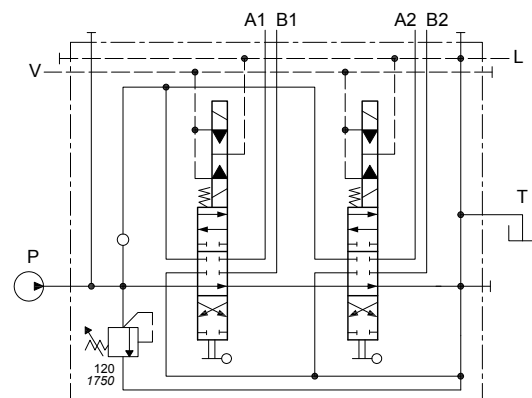
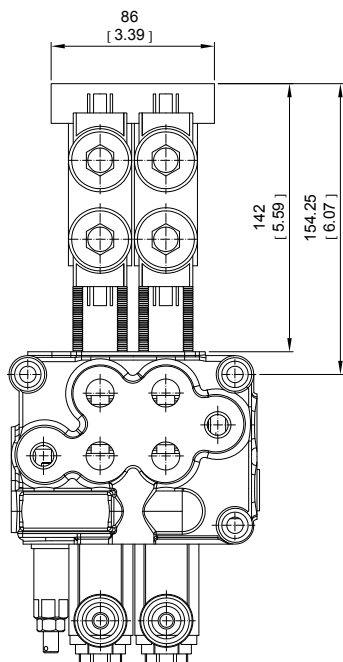
ELECTRIC POWER: 21 W

STANDARD VOLTAGE: 12 VDC / 24 VDC

VM3 B Side

Monoblock Directional Control Valves

Type 8ER3



Operating features:

PILOT PRESSURE: • MIN. 10 BAR / 145 PSI
• MAX. 50 BAR / 725 PSI
MAX. BACKPRESSURE ON DRAIN L: 25 BAR / 360 PSI

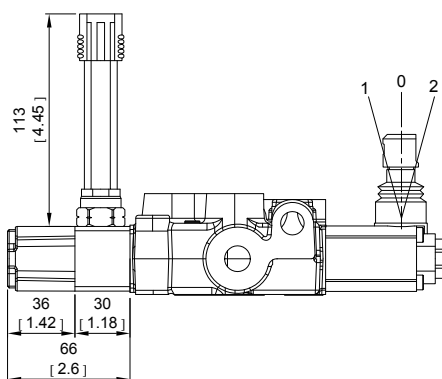
Coil features:

NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$
ELECTRIC POWER: 21 W
STANDARD VOLTAGE: 12 VDC / 24 VDC

VM3 B Side

Monoblock Directional Control Valves

Type 8MG



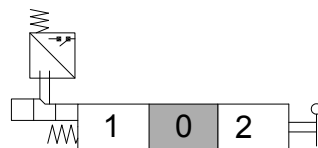
MICROSWITCH

Operating features:

MECHANICAL LIFE: • 5X10⁵ OPERATIONS

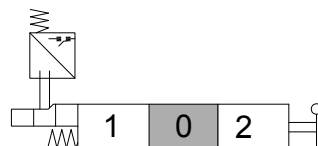
ELECTRICAL LIFE (RESISTIVE LOAD):

- 10⁵ OPERATIONS - 7A / 13.5 VDC
- 5X10⁴ OPERATIONS - 10A / 12 VDC
- 5X10⁴ OPERATIONS - 3A / 28 VDC



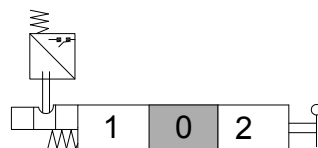
8MG1 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1



8MG2 Kit:

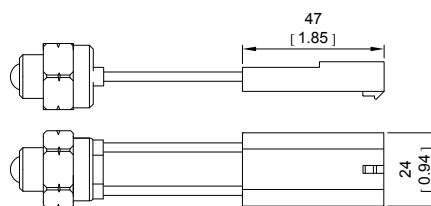
MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 2



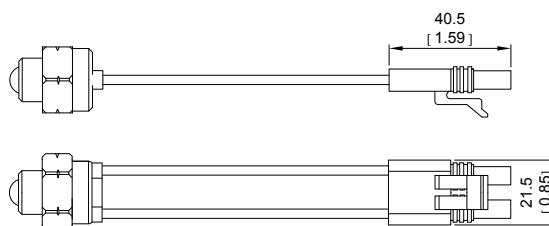
8MG3 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1 AND POS. 2

With NO contact (female connector with male end)



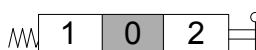
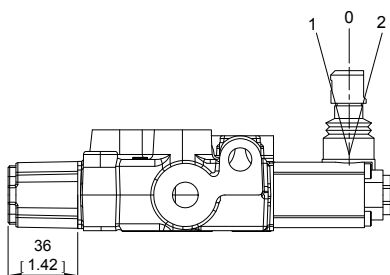
With NC contact (male connector with female end)



VM3 B Side

Monoblock Directional Control Valves

Type 8



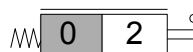
8 Kit:

SPRING RETURN TO NEUTRAL POSITION.



8-1 Kit:

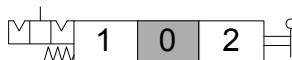
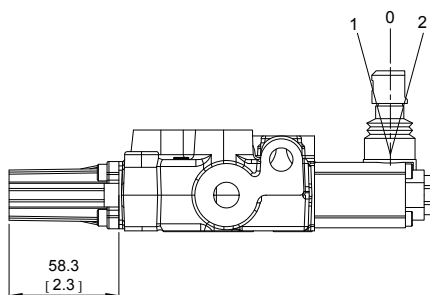
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)



8-2 Kit:

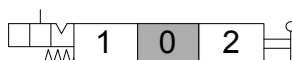
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)

Type 9



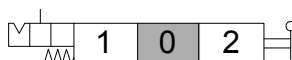
9-1 Kit:

DETENT IN POS. 1, 2 WITH SPRING CENTERED



9-2 Kit:

DETENT IN POS. 2 WITH SPRING CENTERED

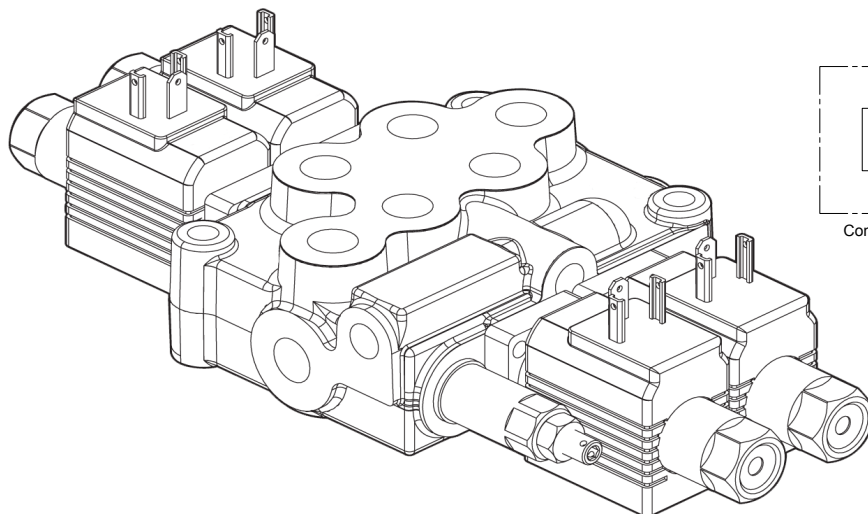


9-3 Kit:

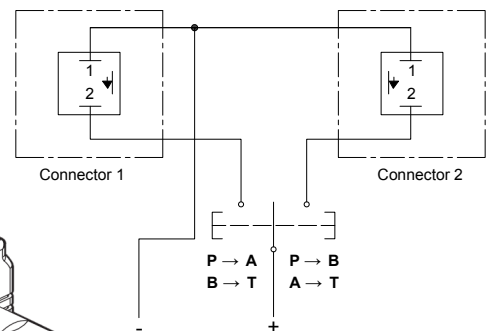
DETENT IN POS. 1 WITH SPRING CENTERED

VM3 B Side (Optional controls)

Monoblock Directional Control Valves



Electric wiring example



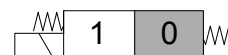
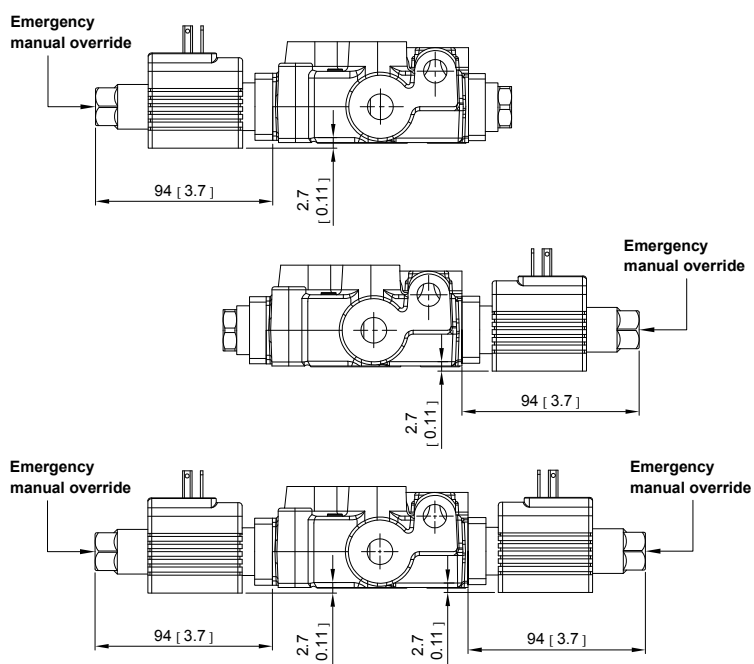
Coil features:

NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$

ELECTRIC POWER: 36 W

STANDARD VOLTAGE: 12 VDC / 24 VDC

Type 8ES



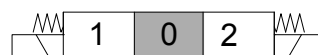
8ES1 Kit:

ACTING IN 1



8ES2 Kit:

ACTING IN 2



8ES3 Kit:

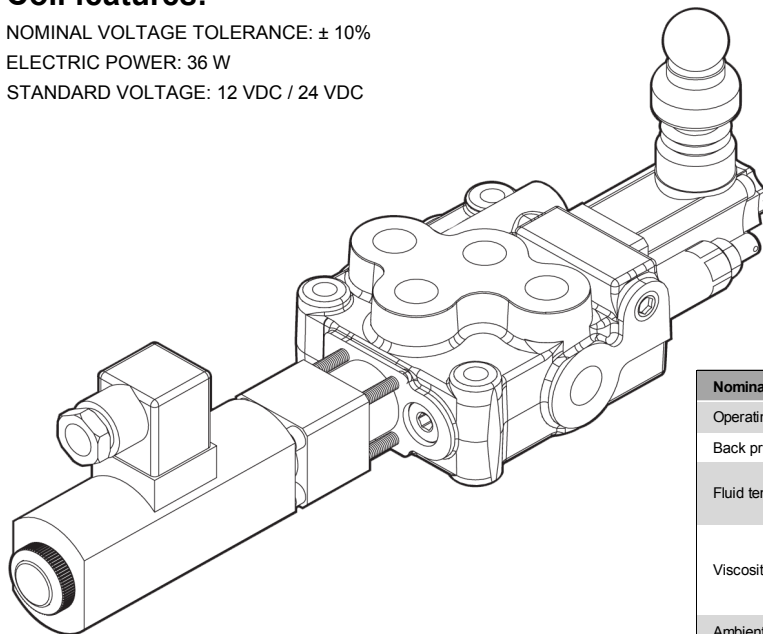
ACTING IN 1 & 2

VM3 B Side (Optional controls)

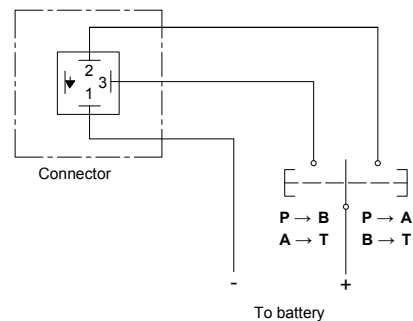
Monoblock Directional Control Valves

Coil features:

NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$
 ELECTRIC POWER: 36 W
 STANDARD VOLTAGE: 12 VDC / 24 VDC

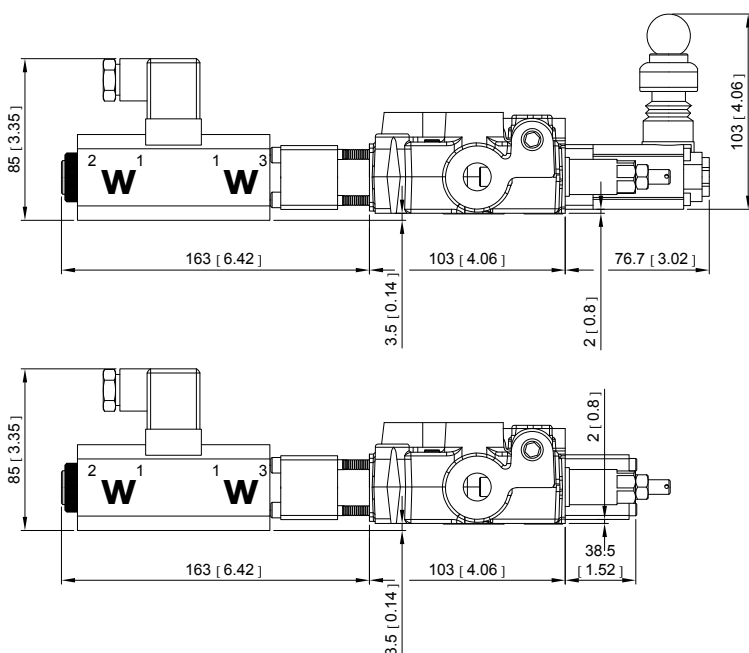


Electric wiring example

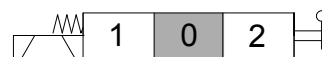


Nominal flow rate		45 l/min	12 US gpm
Operating pressure (max.)	parallel circuit	250 bar	3600 psi
Back pressure (max.)	on outlet port T	25 bar	360 psi
Fluid temperature	with NBR seals	-20°C ~ 80°C	-4° ~ 176°F
	with FPM seals	-20°C ~ 100°C	-4° ~ 212°F
Viscosity	operating range	15 ~ 75 mm ² /s	15 ~ 75 cst
	min	12 mm ² /s	12 cst
	max.	400 mm ² /s	400 cst
Ambient temperature		-40°C ~ 60°C	-40° ~ 140°F

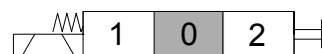
Type 8ESN



8ESNLES Kit:



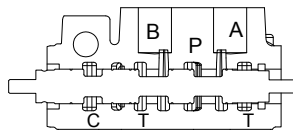
8ESNCAE Kit:



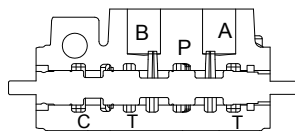
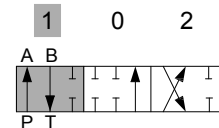
VM3 Special spool (Options for 8ES Kit)

Monoblock Directional Control Valves

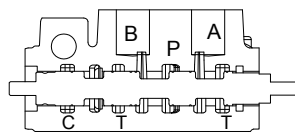
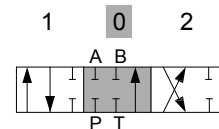
Type 8ES3#1



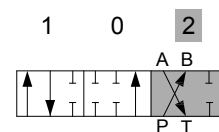
P → A
B → T
C closed



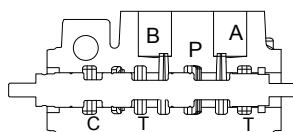
A & B & P & T closed
C open



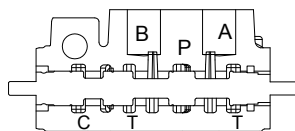
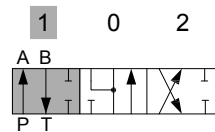
P → B
A → T
C closed



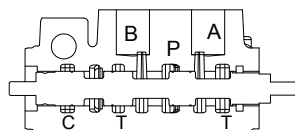
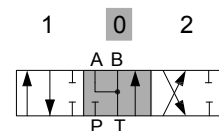
Type 8ES3#2



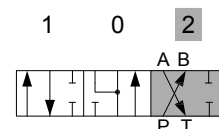
P → A
B → T
C closed



A & B → T
P closed
C open



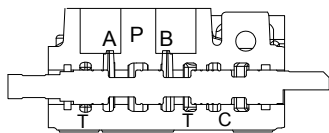
P → A
A → T
C closed



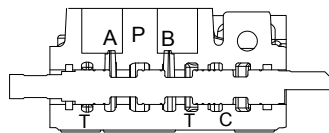
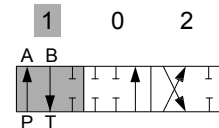
VM3 Special spool (Options for 8ESN Kit)

Monoblock Directional Control Valves

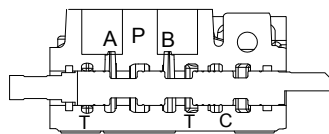
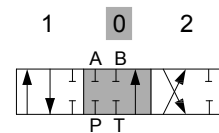
Type 8ESN#1



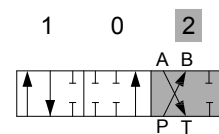
P → A
B → T
C closed



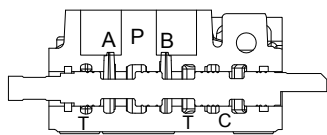
P & T & A & B closed
C open



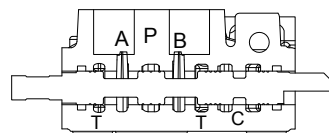
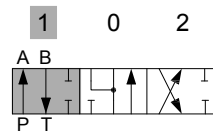
P → B
A → T
C closed



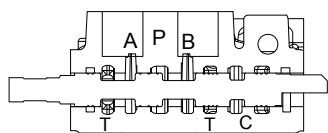
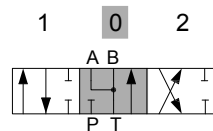
Type 8ESN#2



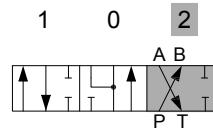
P → A
B → T
C closed



A & B → T
P closed
C open



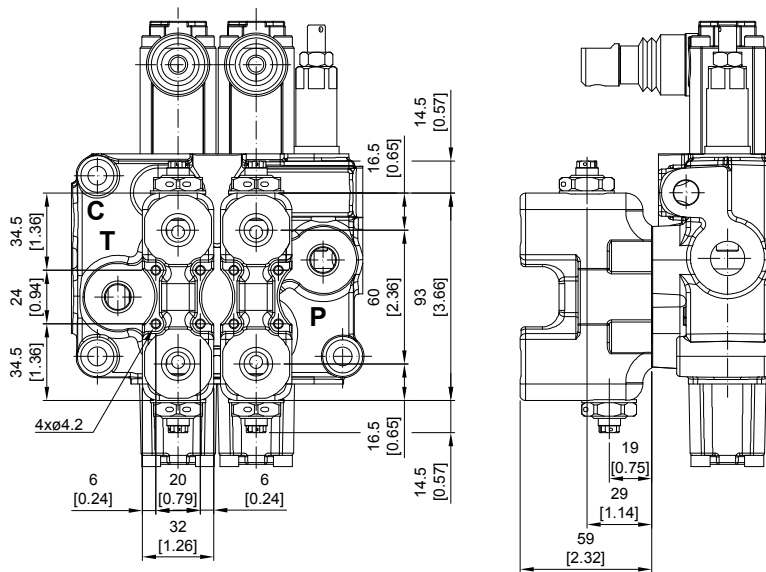
P → B
A → T
C closed



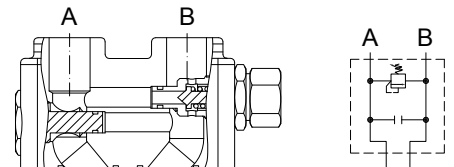
VM3 Service and auxiliary valves

Monoblock Directional Control Valves

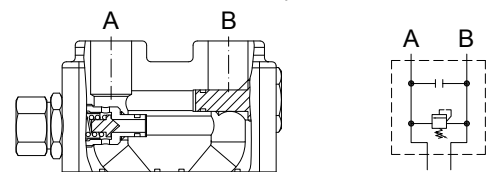
Type P



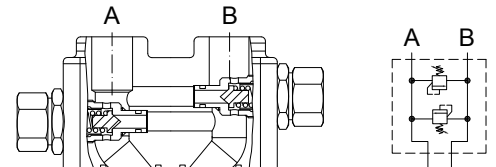
P1 Kit: Block with valve on port A



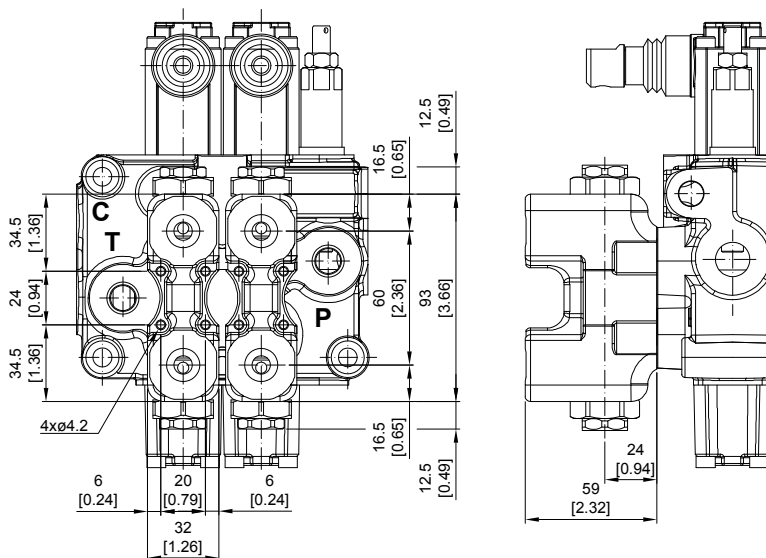
P2 Kit: Block with valve on port B



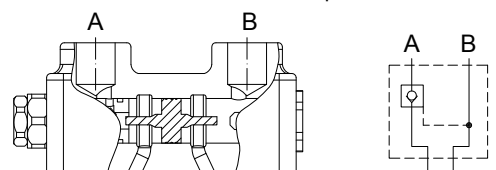
P3 Kit: Block with valve on port A and B



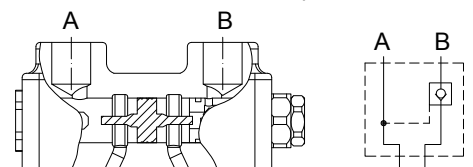
Type BSP Pilot check valves (With Pre-opening, supplied with mounting block)



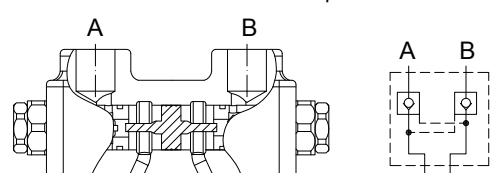
BSP1 Kit: Block with valve on port A



BSP2 Kit: Block with valve on port B



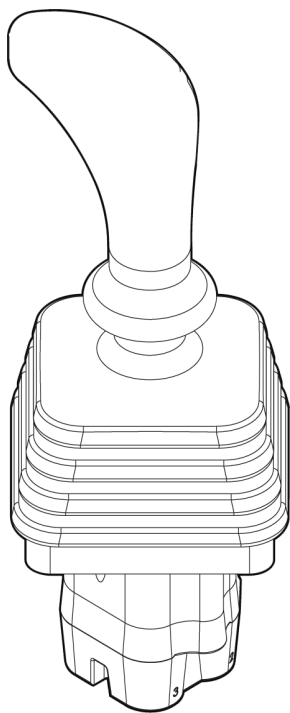
BSP3 Kit: Block with valve on port A and B



VM3 Accessories

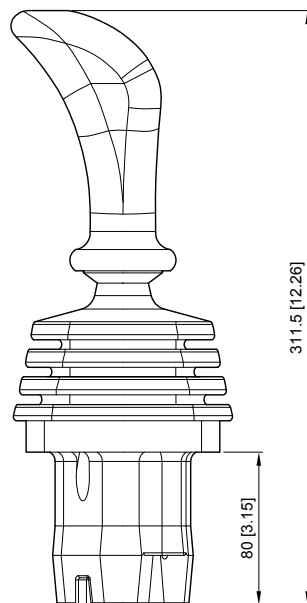
Monoblock Directional Control Valves

Type JHP-2

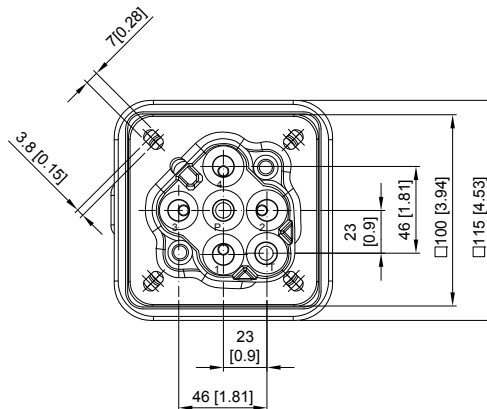
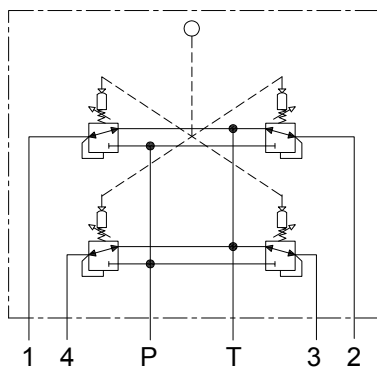


Specifications:

- This data sheet shows technical spec. with mineral oil of 46 mm²/s (cSt) viscosity at 40°C (104°F)
- Flow: 5~20 LPM
- Feeding pressure: 30~100 bar
- Max. backpressure: 3 bar
- Internal leakage at 30 bar: 10~18 cm³/min
- Fluid: mineral oil
- Fluid temperature: -10~80°C
- Ambient temperature: -40~60°C



HYDRAULIC SCHEME:



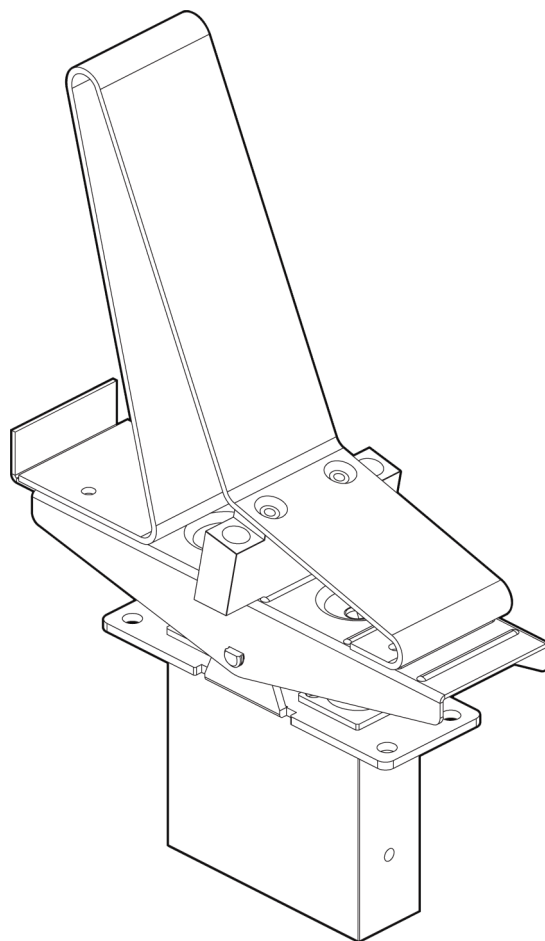
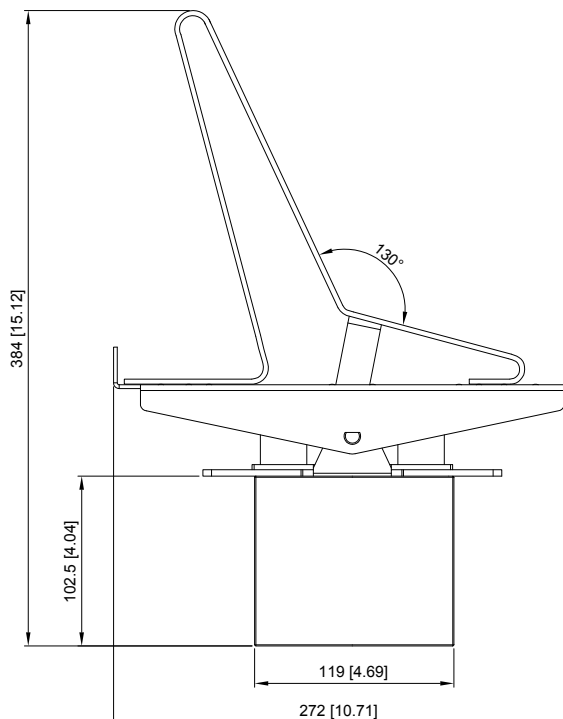
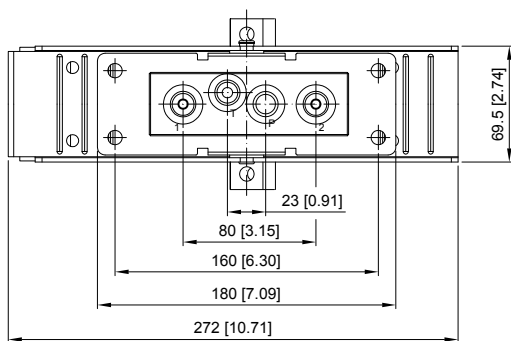
VM3 Accessories

Monoblock Directional Control Valves

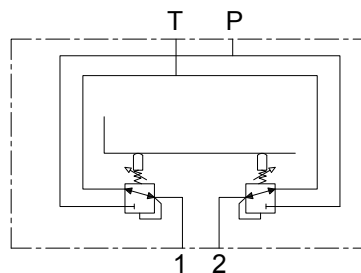
Type PHP-1

Specifications:

- This data sheet shows technical spec. with mineral oil of 46 mm²/s (cSt) viscosity at 40°C (104°F)
- Flow: 5~20 LPM
- Feeding pressure: 30~100 bar
- Max. backpressure: 3 bar
- Internal leakage at 30 bar: 10~18 cm³/min
- Fluid: mineral oil
- Fluid temperature: -10~80°C
- Ambient temperature: -40~60°C



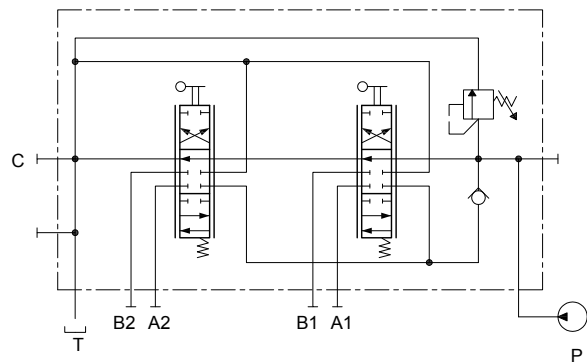
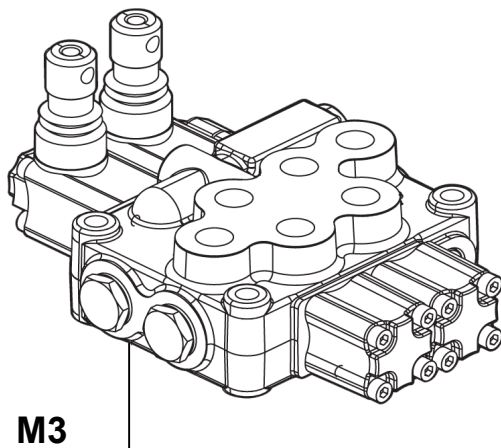
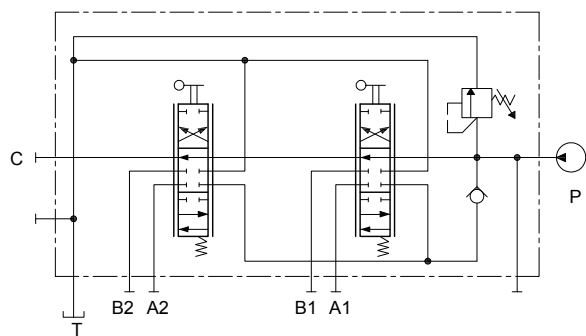
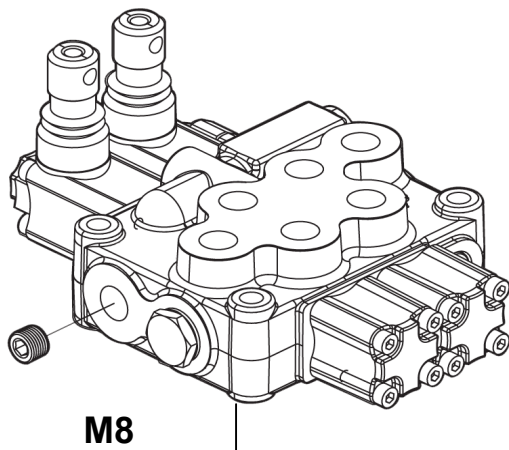
HYDRAULIC SCHEME:



VM3 Outlet

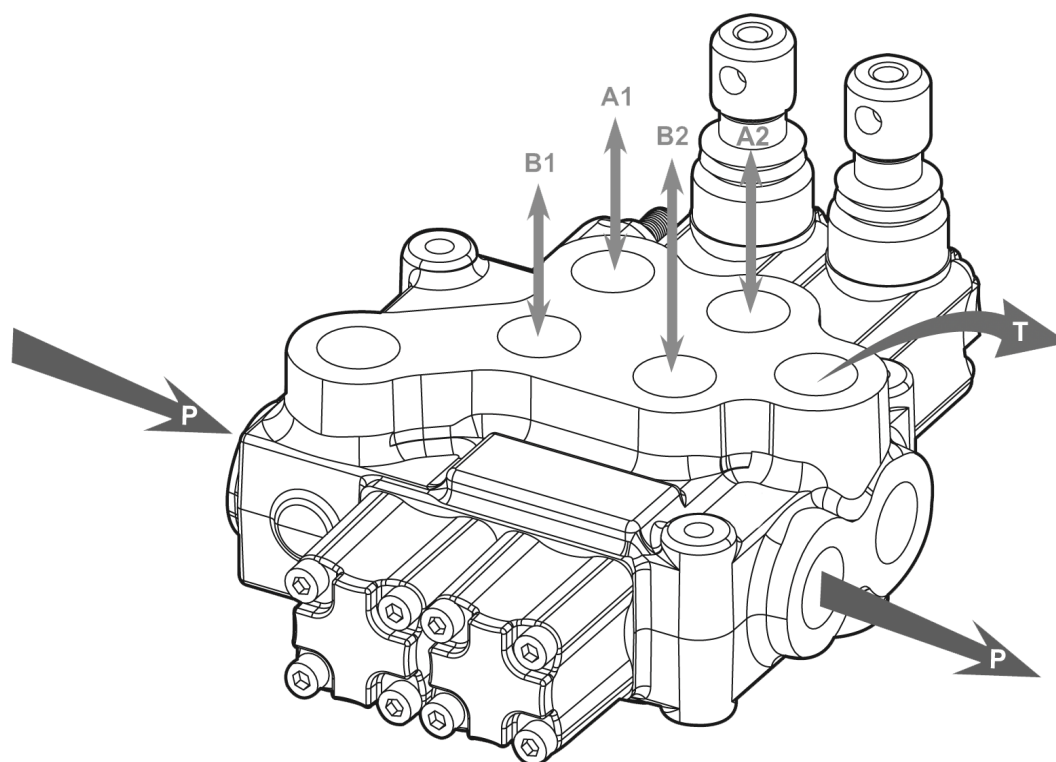
Monoblock Directional Control Valves

**Power Beyond Conversion plug
(Closed center plug)**



VM4

Monoblock Directional Control Valves



VM4 Specifications

Nominal flow rate		60 l/min	16 US gpm
Operating pressure (maximum)	parallel or tandem circuit	315 bar	4600 psi
	series circuit	210 bar	3050 psi
Back pressure (maximum)	on outlet port T	25 bar	360 psi
Fluid temperature range	with NBR(BUNA-N) seals	from -20°C to 80°C	from -4° to 176°F
	with FPM(VITON) seals	from -20°C to 100°C	from -4° to 212°F
Viscosity	operating range	from 15 to 75 mm ² /s	from 15 to 75 cst
	min	12 mm ² /s	12 cst
	max.	400 mm ² /s	400 cst
Ambient temperature range		from -40°C to 60°C	from -40° to 140°F

• All specifications, dimensions and design characteristics shown in this catalogue are subject to change without notice

VM4

Monoblock Directional Control Valves

VM4 / 2-S - 3 / 1 8 L / G-4 / M3

1
2
3
4
5

- 1 Body
- 2 Inlet relief
- 3 Spool options
- 4 "B" side spool positioners
- 5 "A" side controls

1:	Body	WITHOUT SERVICE PORT VALVES PREARRANGEMENT	
	TYPE	DESCRIPTION	
	1 - S	1 section	
	2 - S	2 section	
	3 - S	3 section	
	4 - S	4 section	
	5 - S	5 section	
	6 - S	6 section	
2:	Inlet Relief		
	TYPE	CODE	DESCRIPTION
	MG-2	VM42002	Range 40 to 80 bar / 580 to 1150 psi, standard setting 80 bar / 1150 psi
	MG-3 63-200bar	VM42003	Range 63 to 200 bar / 900 to 2900 psi, standard setting 120 bar / 1750 psi
	MG-4 160-315bar	VM42004	Range 160 to 315 bar / 2300 to 4600 psi, standard setting 220 bar / 3200 psi
	SV	VM42100	Relief valve blanking plug

VM4

Monoblock Directional Control Valves

3: Spool Options			
TYPE	CODE	DESCRIPTION	
1	VM43001	Double acting, 3 positions, with A, B closed in neutral position	
2	VM43002	Double acting, 3 positions, with A, B open to Tank in neutral position	
3	VM43003	Single acting on A closed in neutral position, 3 positions, B plugged	
4	VM43004	Single acting on B closed in neutral position, 3 positions, A plugged	
5	VM43005	Double acting, 3 positions, with B open to Tank in neutral position	
6	VM43006	Double acting, 3 positions, with A open to Tank in neutral position	
7	VM43007	Single acting on A open to Tank in neutral position, 3 positions, B plugged	
8	VM43008	Single acting on B open to Tank in neutral position, 3 positions, A plugged	
9	VM43009	Double acting, 3 positions, with P, T, A, B closed in neutral position (Closed center)	
10	VM43010	Double acting, 3 positions, with A, B open to Tank and P, T closed in neutral position (Closed center)	
5DY	VM43052	Double acting, 4 positions, floating circuit in 4th position with A, B open to Tank by pulling the lever	
5PYX	VM430511	Double acting, 4 positions, floating circuit in 4th position with A, B open to Tank by pushing the lever (with check valve)	
5PY	VM43051	Double acting, 4 positions, floating circuit in 4th position with A, B open to Tank by pushing the lever	
Z41	VM43041	Double acting, 4 positions, regenerative circuit in 4th position with P open to A, B by pulling the lever (Rest in pos.1)	
Z42	VM43042	Double acting, 4 positions, regenerative circuit in 4th position with P open to A, B by pulling the lever (Rest in pos.0)	
4: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	
6-1	VM44061	Detent in pos. 1-0-2, without spring centered	
6-2	VM44062	2 positions, detent in pos. 0-2, without spring centered	
6-3	VM44063	2 positions, detent in pos. 1-0, without spring centered	
8D2	VM44200	With spring return to neutral position and pin with M8 male thread for dual control	
8EP3	VM44300	ON/OFF Electro-Pneumatic actuator	
8P	VM44080	ON/OFF Pneumatic actuator	
8MG1 (NO)	VM44801	Microswitch kit operated in pos. 1 (Normally Open)	
8MG2 (NO)	VM44802	Microswitch kit operated in pos. 2 (Normally Open)	
8MG3 (NO)	VM44803	Microswitch kit operated in pos. 1&2 (Normally Open)	
MG (NO)	VM44804	Microswitch with NO terminal	
8MG1 (NC)	VM448011	Microswitch kit operated in pos. 1 (Normally Closed)	
8MG2 (NC)	VM448021	Microswitch kit operated in pos. 2 (Normally Closed)	
8MG3 (NC)	VM448031	Microswitch kit operated in pos. 1&2 (Normally Closed)	
MG (NC)	VM448041	Microswitch with NC terminal	
8	VM44008	With spring return to neutral position	
8-1	VM44081	2 positions, with spring centered from pos. 1	
8-2	VM44082	2 positions, with spring centered from pos. 2	
9-1	VM44091	Detent in pos. 1, 2 with spring centered	
9-2	VM44092	Detent in pos. 2 with spring centered	
9-3	VM44093	Detent in pos. 1 with spring centered	

VM4

Monoblock Directional Control Valves

VM4 / 2-S - 3 / 1 8 L / G-4 / M3

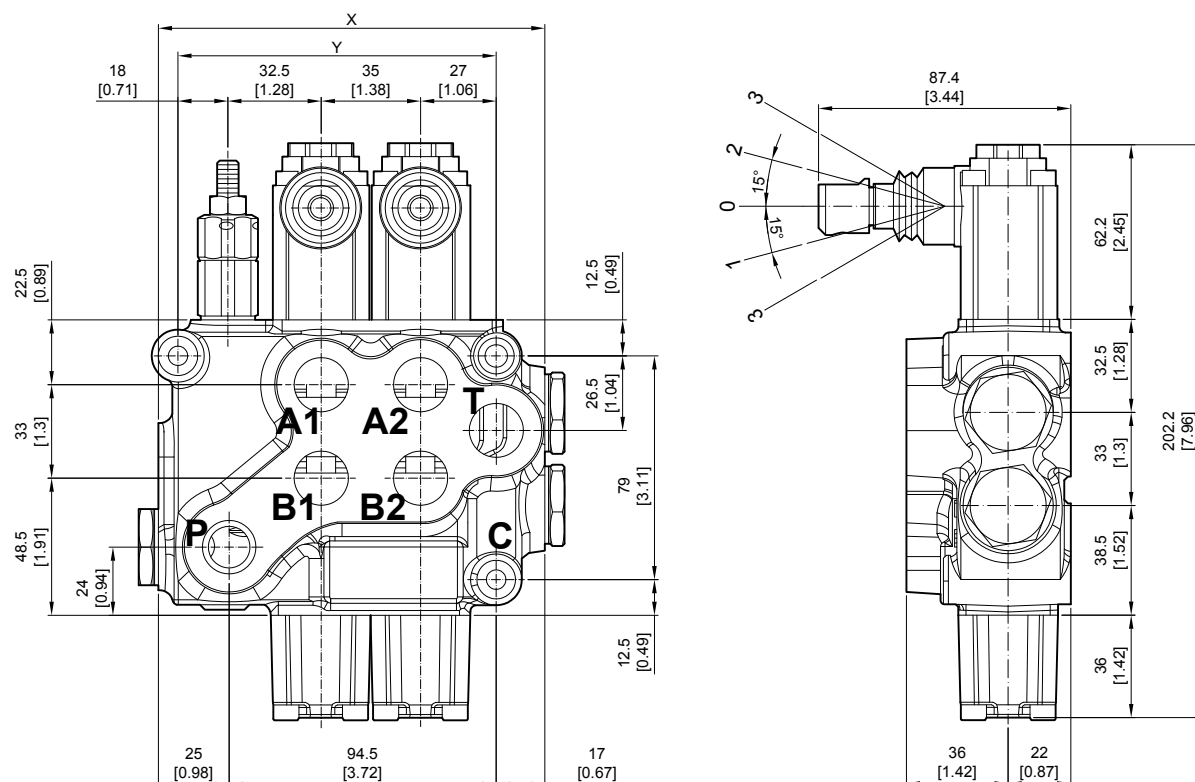
1
2
3
4
5

- 1 Body
- 2 Inlet relief
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4: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	
8ED3+RV-KE1R3	VM44201	1S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE2R3	VM44202	2S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE3R3	VM44203	3S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE4R3	VM44204	4S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE5R3	VM44205	5S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE6R3	VM44206	6S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ER3+KE1SO	VM44401	1S: ON/OFF Electro-Hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE2SO	VM44402	2S: ON/OFF Electro-Hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE3SO	VM44403	3S: ON/OFF Electro-Hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE4SO	VM44404	4S: ON/OFF Electro-Hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE5SO	VM44405	5S: ON/OFF Electro-Hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE6SO	VM44406	6S: ON/OFF Electro-Hydraulic control kit with collector kit for external pilot and drain	
5: A Side controls			
TYPE	CODE	DESCRIPTION	
L	VM45000	Standard lever box	
SLP	VM45001	Without lever box, with dust-proof plate	
LCB	VM45002	Joystick lever for 2 section operation	
TQ	VM45003	Flexible cable connection	

VM4 Dimensions

Monoblock Directional Control Valves



Standard threads

Ports	Inlet P	A and B	Outlet T and C
BSP	G1/2	G1/2	G1/2
UN-UNF	3/4-16 UNF-2B (SAE 8)	3/4-16 UNF-2B (SAE 8)	3/4-16 UNF-2B (SAE 8)
METRIC	M18x1.5	M18x1.5	M18x1.5

• G-1/2 : G4 G-3/8 : G3 G-3/4 : G6

• SAE 8 : E8 SAE 10 : E10 SAE 12 : E12 SAE 16 : E16

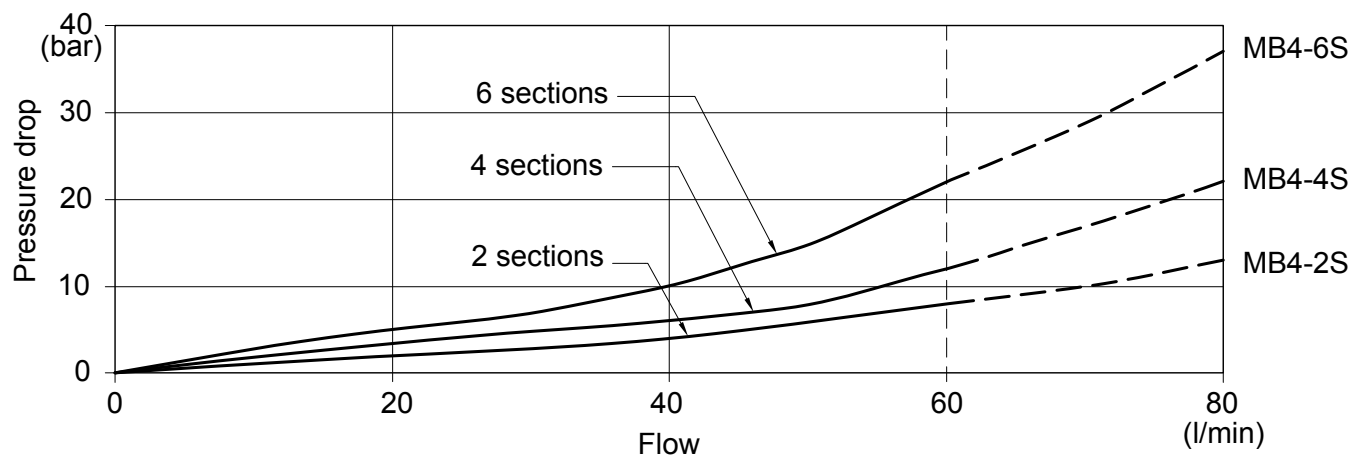
Standard dimensions

TYPE	X		Y	
	mm	in	mm	in
VM4/1S	101.5	4	77.5	3.05
VM4/2S	136.5	5.37	112.5	4.33
VM4/3S	171.5	6.75	147.5	5.81
VM4/4S	206.5	8.13	182.5	7.19
VM4/5S	241.5	9.51	217.5	8.56
VM4/6S	276.5	10.89	252.5	9.94

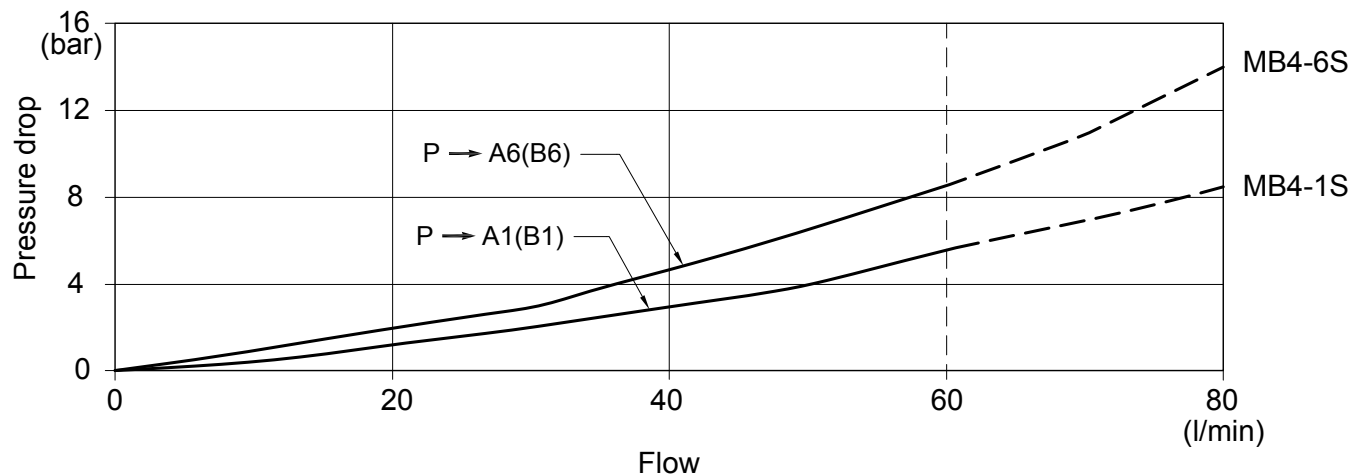
VM4 Performance curve chart

Monoblock Directional Control Valves

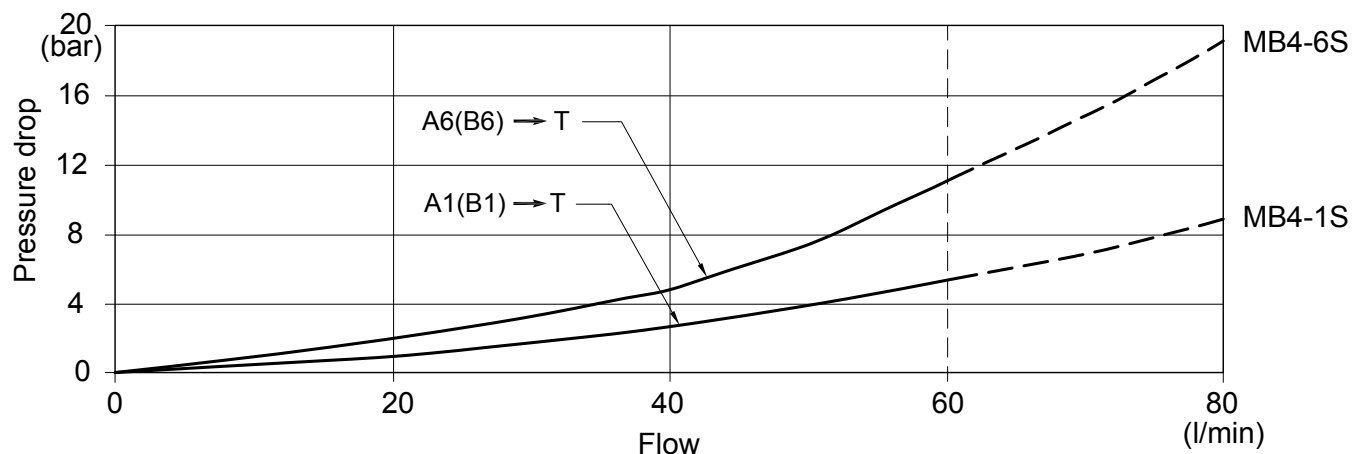
P to T



P to A (B)

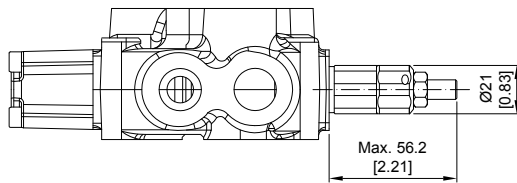


A(B) to T

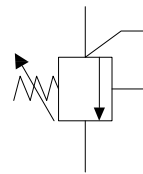


VM4 Inlet Relief (Optional) Monoblock Directional Control Valves

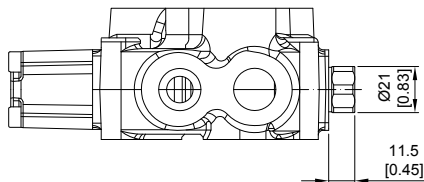
Type MG



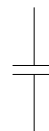
Direct pressure relief valve:



Type SV



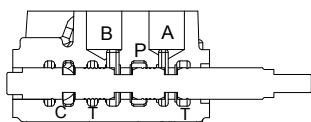
Relief valve blanking plug:



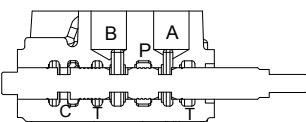
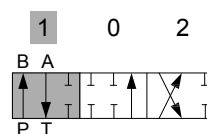
VM4 Spool Options

Monoblock Directional Control Valves

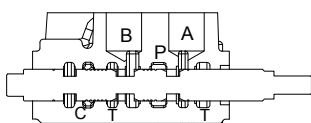
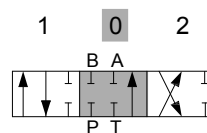
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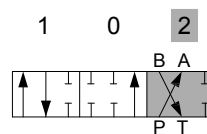
P → B
A → T
C closed



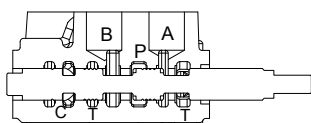
P & A & B & T closed
C open



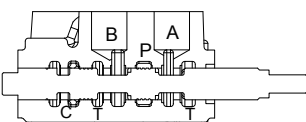
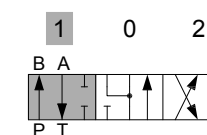
P → A
B → T
C closed



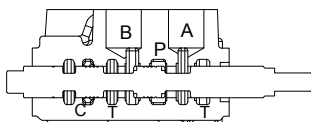
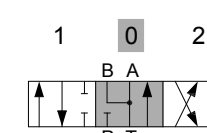
TYPE 2



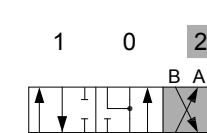
P → B
A → T
C closed



A & B → T
P closed
C open



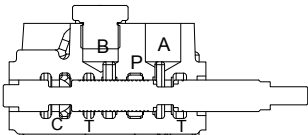
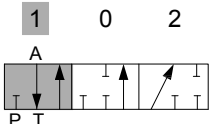
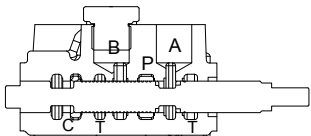
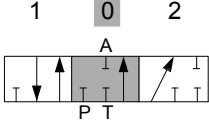
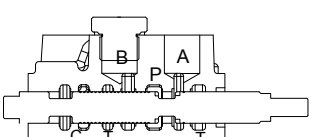
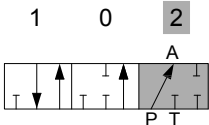
P → A
B → T
C closed



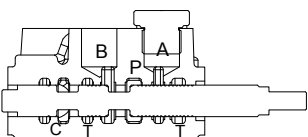
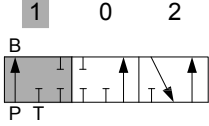
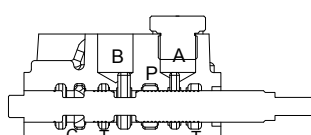
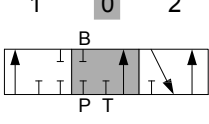
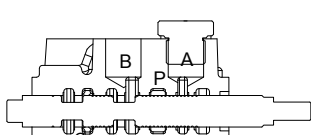
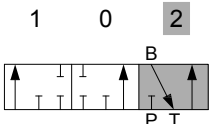
VM4 Spool Options

Monoblock Directional Control Valves

TYPE 3

	<p>A → T P closed C open</p>	<p>1 0 2</p>  <p>"B" port plugged</p>
	<p>P & A & T closed C open</p>	<p>1 0 2</p>  <p>"B" port plugged</p>
	<p>P → A T & C closed</p>	<p>1 0 2</p>  <p>"B" port plugged</p>

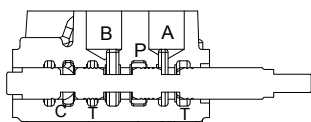
TYPE 4

	<p>P → B T & C closed</p>	<p>1 0 2</p>  <p>"A" port plugged</p>
	<p>P & B & T closed C open</p>	<p>1 0 2</p>  <p>"A" port plugged</p>
	<p>B → T P closed C open</p>	<p>1 0 2</p>  <p>"A" port plugged</p>

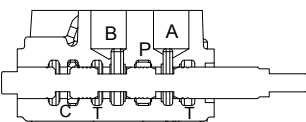
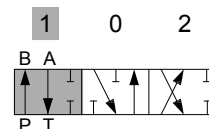
VM4 Spool Options

Monoblock Directional Control Valves

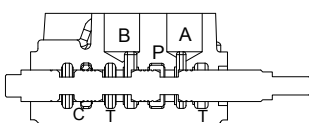
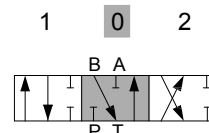
TYPE 5



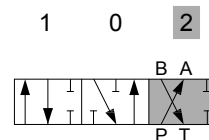
P → B
A → T
C closed



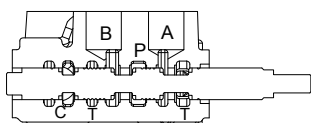
B → T
P & A closed
C open



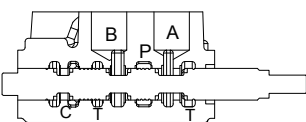
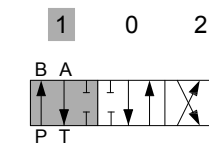
P → A
B → T
C closed



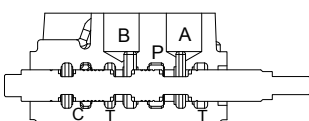
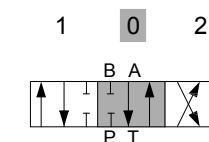
TYPE 6



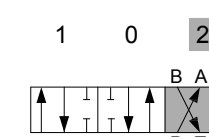
P → B
A → T
C closed



A → T
P & B closed
C open



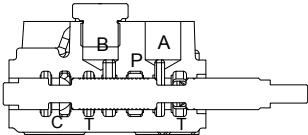
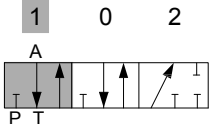
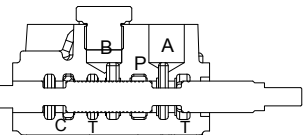
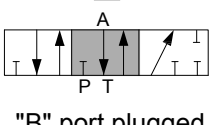
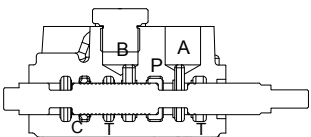
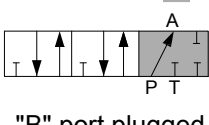
P → A
B → T
C closed



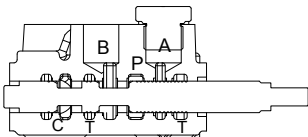
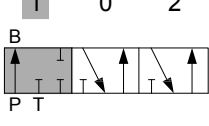
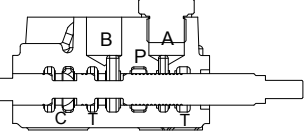
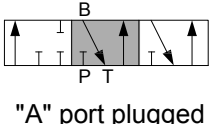
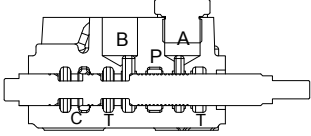
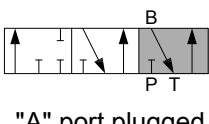
VM4 Spool Options

Monoblock Directional Control Valves

TYPE 7

	<p>A → T C open</p>	<p>1 0 2</p>  <p>"B" port plugged</p>
	<p>A → T C open</p>	<p>1 0 2</p>  <p>"B" port plugged</p>
	<p>P → A C closed</p>	<p>1 0 2</p>  <p>"B" port plugged</p>

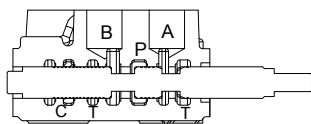
TYPE 8

	<p>P → B C closed</p>	<p>1 0 2</p>  <p>"A" port plugged</p>
	<p>B → T C open</p>	<p>1 0 2</p>  <p>"A" port plugged</p>
	<p>B → T C open</p>	<p>1 0 2</p>  <p>"A" port plugged</p>

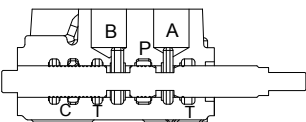
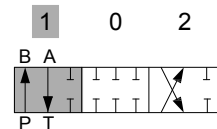
VM4 Spool Options

Monoblock Directional Control Valves

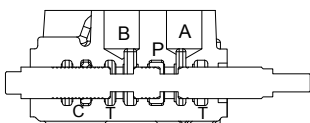
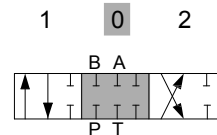
TYPE 9



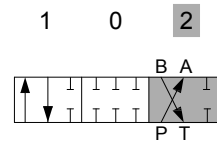
P → B
A → T
C closed



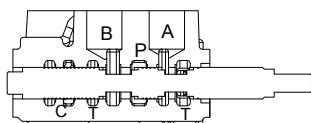
P & A & B & T closed
C closed



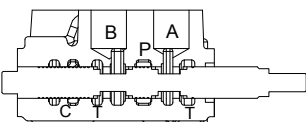
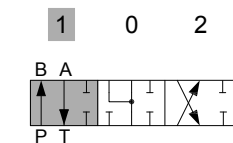
P → A
B → T
C closed



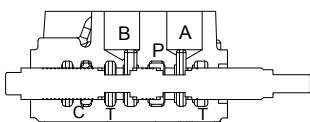
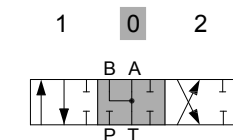
TYPE 10



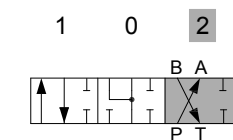
P → B
A → T
C closed



A & B → T
P & C close



P → A
B → T
C closed

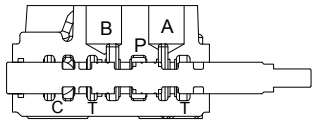
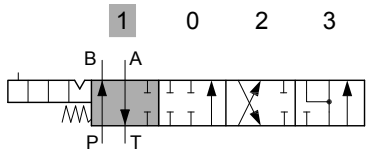
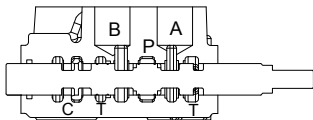
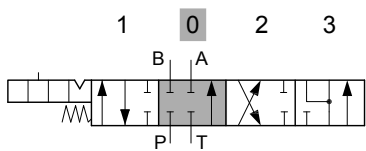
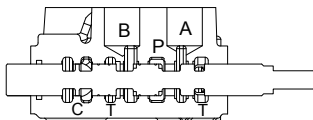
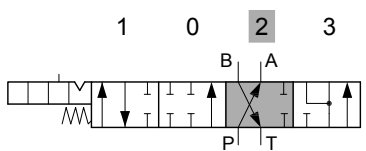
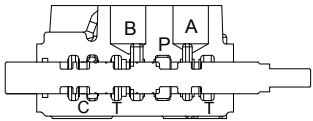
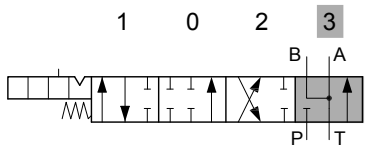


VM4 Spool Options

Monoblock Directional Control Valves

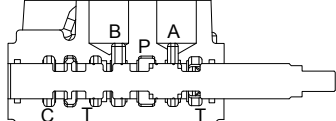
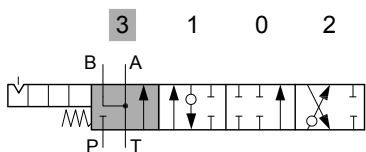
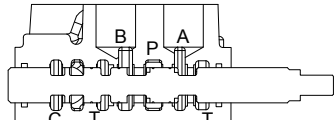
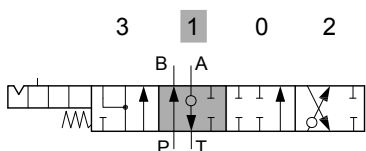
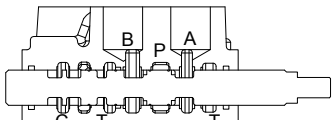
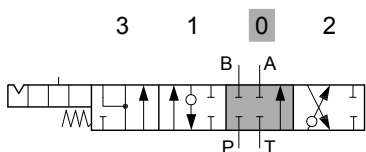
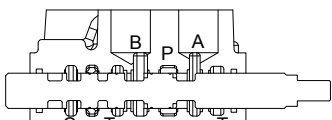
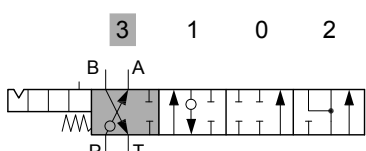
TYPE 5DY

NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER

	<p>P → B</p> <p>A → T</p> <p>C closed</p>	
	<p>P & T & A & B closed</p> <p>C open</p>	
	<p>P → A</p> <p>B → T</p> <p>C closed</p>	
	<p>A & B → T</p> <p>P closed</p> <p>C open</p>	

TYPE 5PYX

NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER

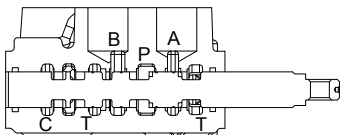
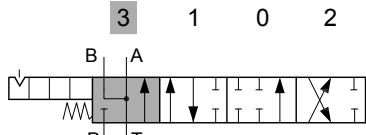
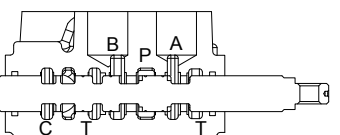
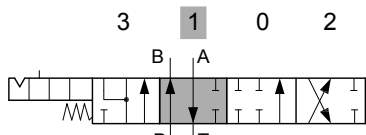
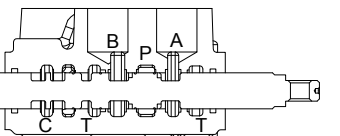
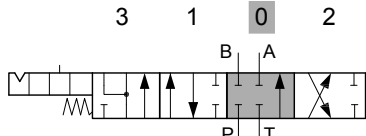
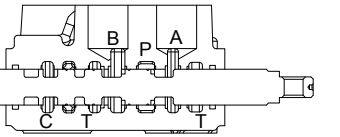
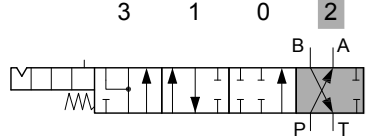
	<p>A & B → T</p> <p>P closed</p> <p>C open</p>	
	<p>P → B</p> <p>A → T</p> <p>C closed</p>	
	<p>P & T & A & B closed</p> <p>C open</p>	
	<p>P → A</p> <p>B → T</p> <p>C closed</p>	

VM4 Spool Options

Monoblock Directional Control Valves

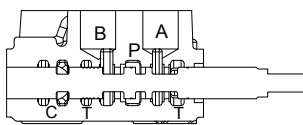
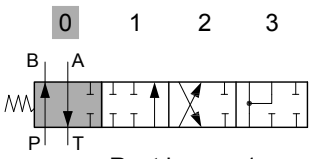
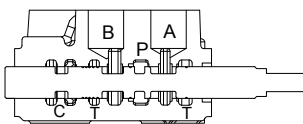
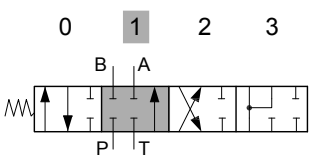
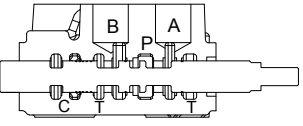
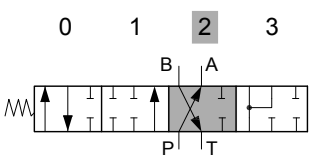
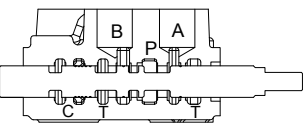
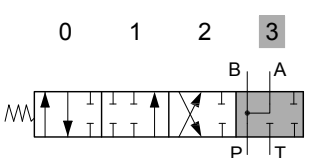
TYPE 5PY

NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER

	A & B → T P closed C open	
	P → B A → T C closed	
	P & T & A & B closed C open	
	P → A B → T C closed	

TYPE Z41

NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER

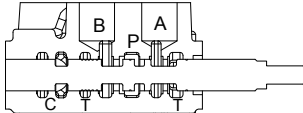
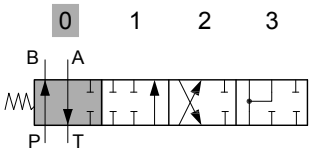
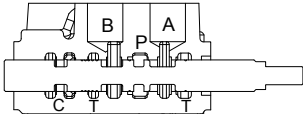
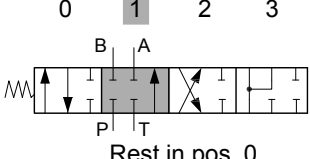
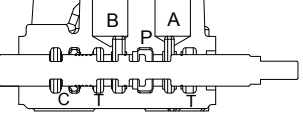
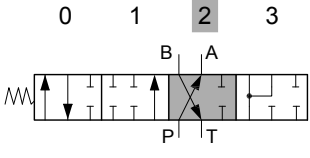
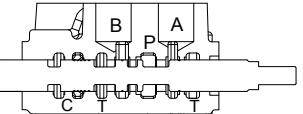
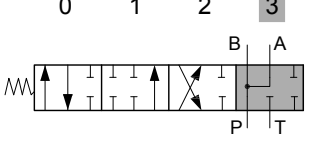
	P → B A → T C closed	 Rest in pos. 1
	P & A & B & T closed C open	
	P → A B → T C closed	
	P → A & B T & C closed	

VM4 Spool Options

Monoblock Directional Control Valves

TYPE Z42

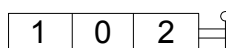
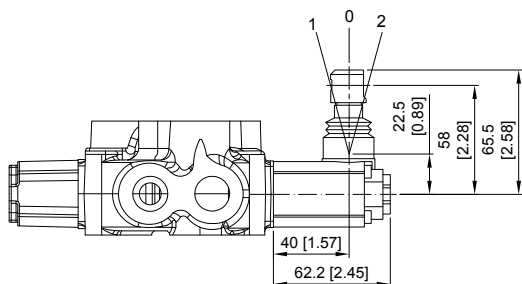
NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER

	<p> $P \rightarrow B$ $A \rightarrow T$ C closed </p>	
	<p> P & A & B & T closed C open </p>	 <p>Rest in pos. 0</p>
	<p> $P \rightarrow A$ $B \rightarrow T$ C closed </p>	
	<p> $P \rightarrow A \& B$ T & C closed </p>	

VM4 A Side

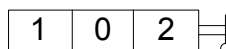
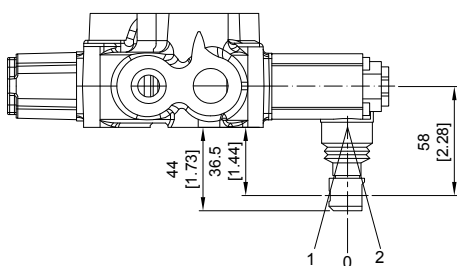
Monoblock Directional Control Valves

Type L



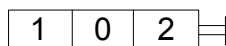
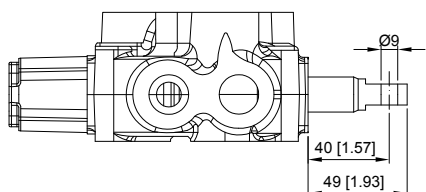
Type L:
STANDART LEVER KIT

Type R



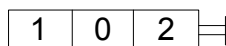
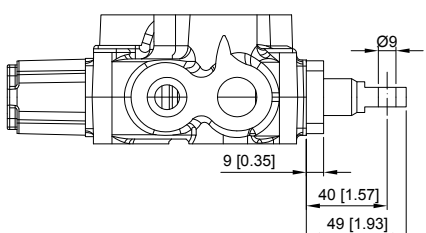
Type R:
STANDART LEVER KIT
(ROTATED 180 DEGREE)

Type SL



Type SL:
WITHOUT ANY COVER

Type SLP

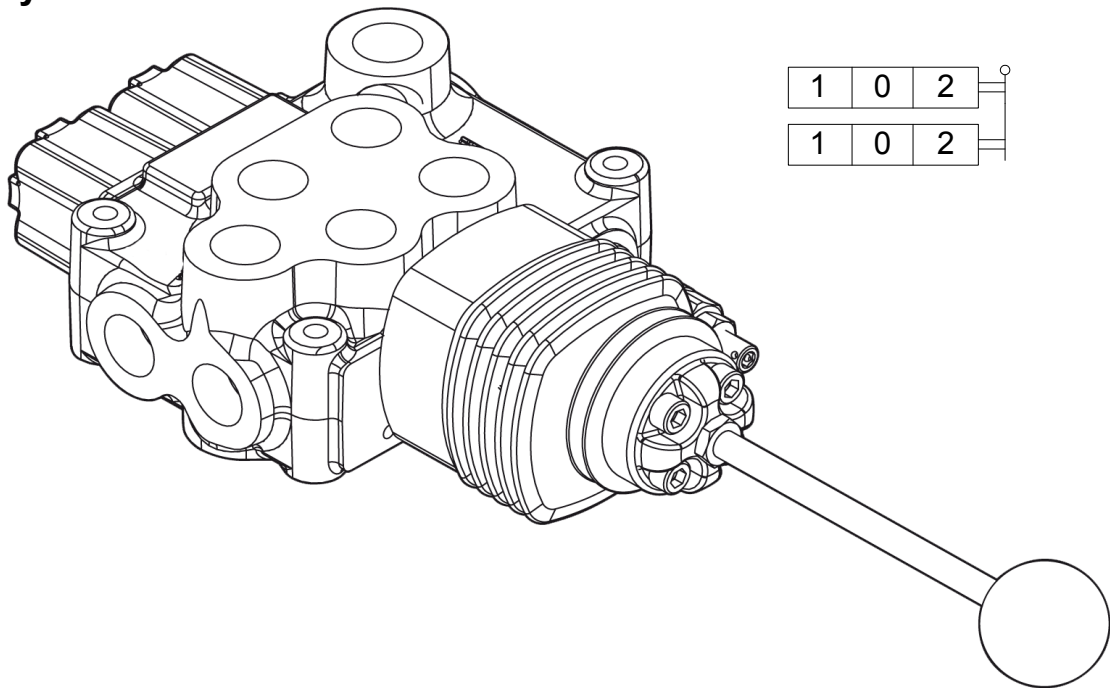


Type SLP:
WITH DUST-PROOF PLATE

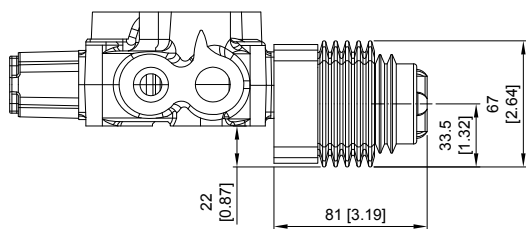
VM4 A Side

Monoblock Directional Control Valves

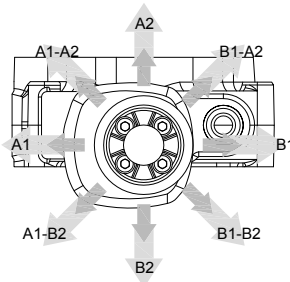
LCB: Joystick control



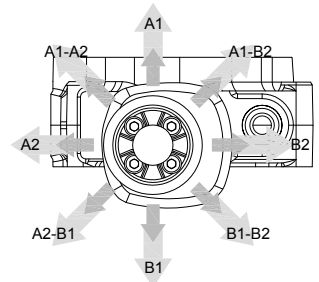
Type LCB



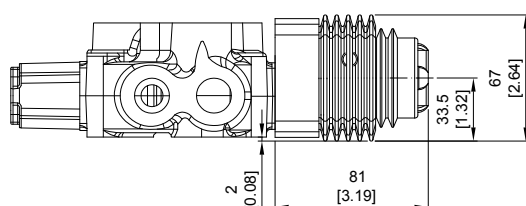
LCB 1



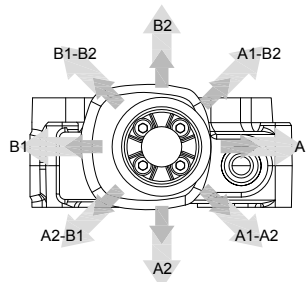
LCB 2



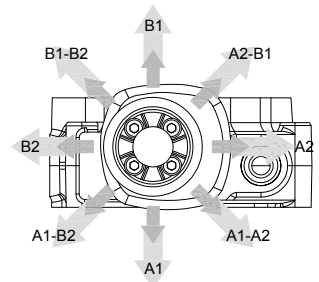
Type LCB



LCB 3

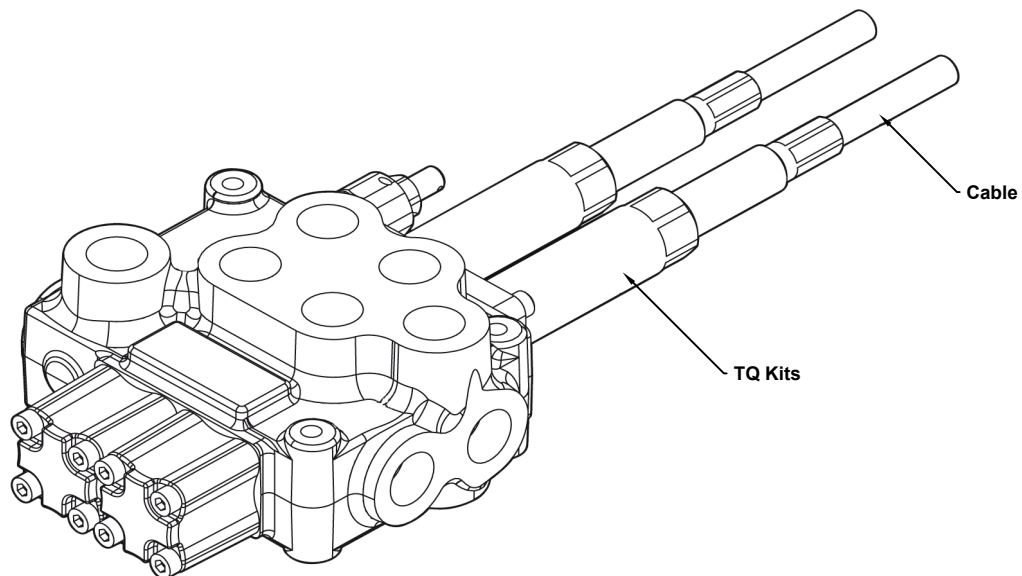


LCB 4

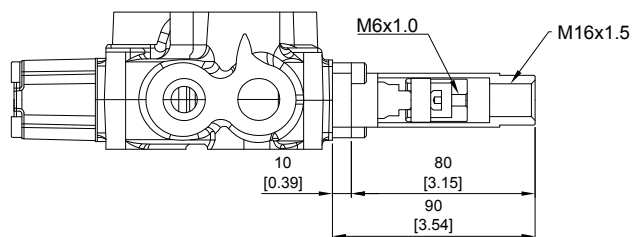


VM4 A Side Monoblock Directional Control Valves

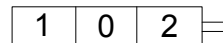
Note : CONNECTION KIT NOT INCLUDE CABLE



Type TQ



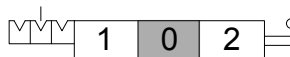
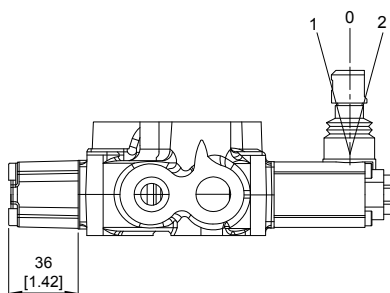
TQ Kit:



VM4 B Side

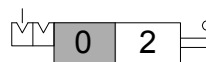
Monoblock Directional Control Valves

Type 6



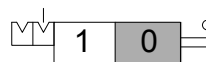
6-1 Kit:

DETENT IN POS. 1-0-2, WITHOUT SPRING CENTERED



6-2 Kit:

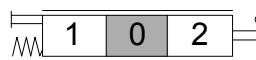
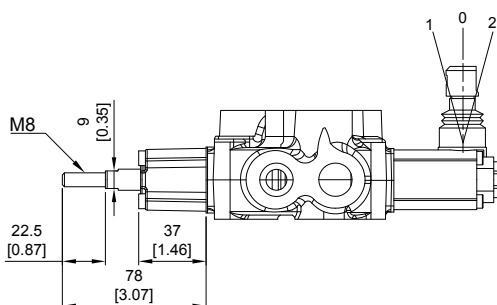
2 POSITIONS, DETENT IN POS. 0-2, WITHOUT SPRING CENTERED



6-3 Kit:

2 POSITIONS, DETENT IN POS. 1-0, WITHOUT SPRING CENTERED

Type 8D2



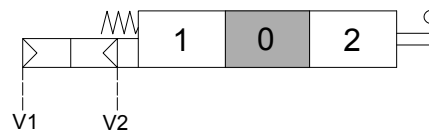
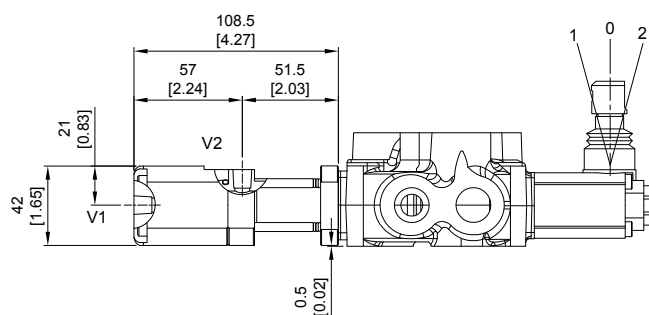
8D2 Kit:

WITH SPRING RETURN TO NEUTRAL POSITION AND PIN WITH M8 MALE THREAD FOR DUAL CONTROL

VM4 B Side Monoblock Directional Control Valves

Type 8P

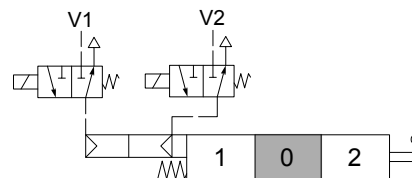
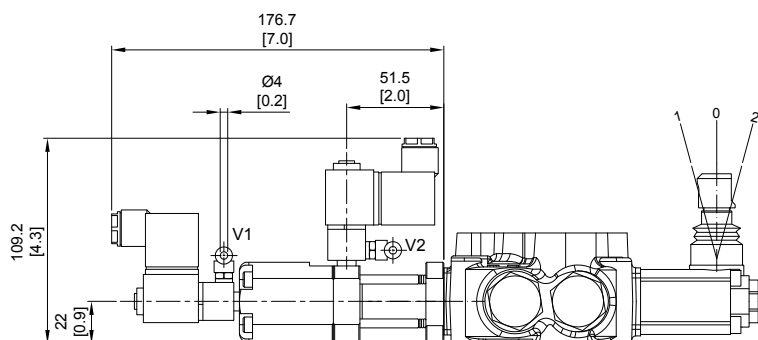
V1 & V2: NPT 1/8 - 27



Operating feature:

PILOT PRESSURE (MIN.)..... 5.5 BAR / 80 PSI
PILOT PRESSURE (MAX.)..... 10 BAR / 145 PSI

Type 8EP3



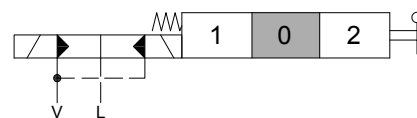
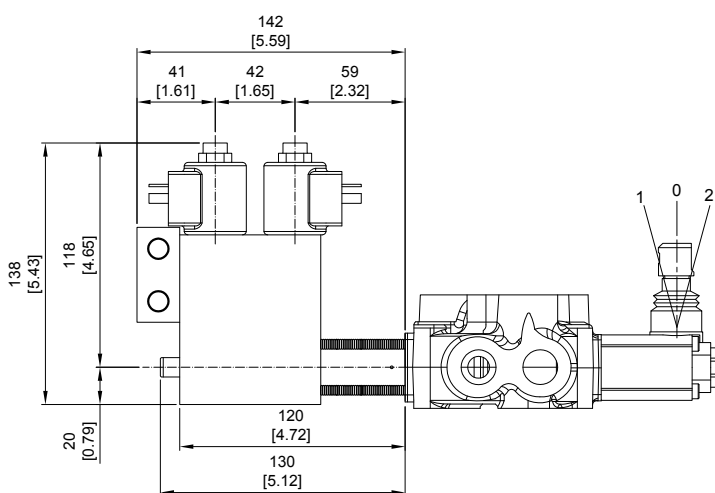
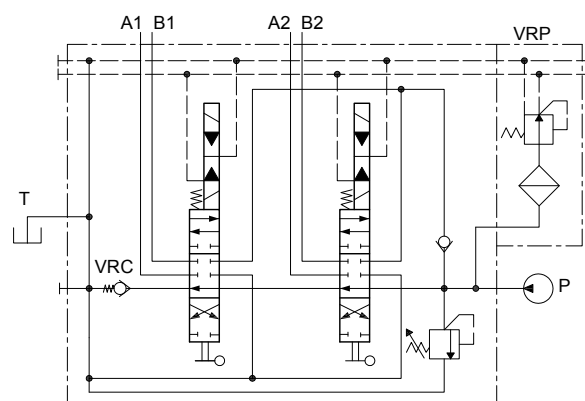
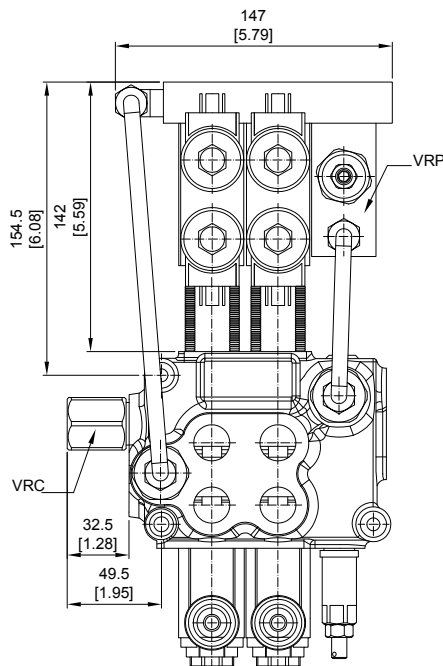
Solenoid operating features:

NOMINAL VOLTAGE: 24VDC
NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$
POWER RATING: 5W

VM4 B Side

Monoblock Directional Control Valves

Type 8ED3



Operating features:

PILOT PRESSURE: • MIN. 10 BAR / 145 PSI
• MAX. 50 BAR / 725 PSI
MAX. BACKPRESSURE ON DRAIN L: 25 BAR / 360 PSI

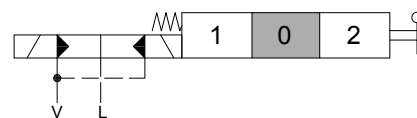
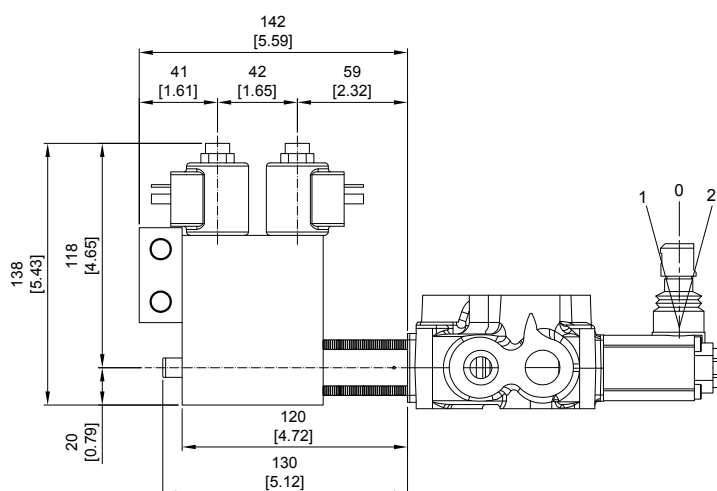
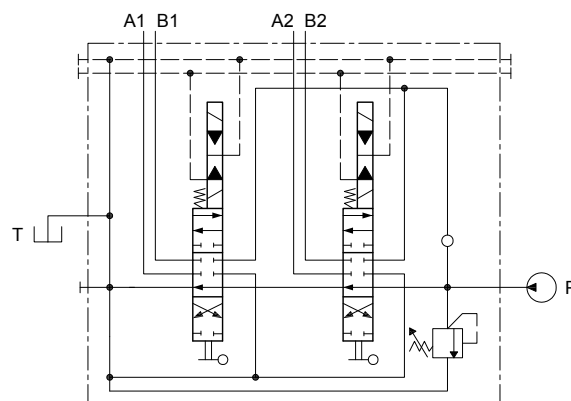
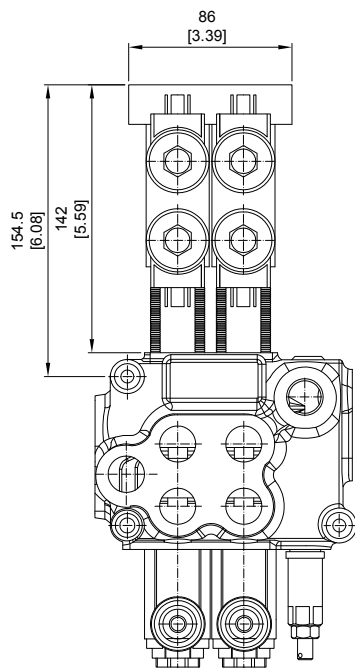
Coil features:

NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$
ELECTRIC POWER: 21 W
STANDARD VOLTAGE: 12 VDC / 24 VDC

VM4 B Side

Monoblock Directional Control Valves

Type 8ER3



Operating features:

PILOT PRESSURE: • MIN. 10 BAR / 145 PSI
• MAX. 50 BAR / 725 PSI
MAX. BACKPRESSURE ON DRAIN L: 25 BAR / 360 PSI

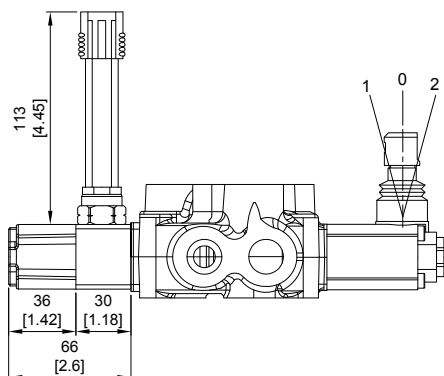
Coil features:

NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$
ELECTRIC POWER: 21 W
STANDARD VOLTAGE: 12 VDC / 24 VDC

VM4 B Side

Monoblock Directional Control Valves

Type 8MG



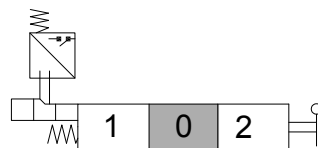
MICROSWITCH

Operating features:

MECHANICAL LITE: • 5X10⁵ OPERATIONS

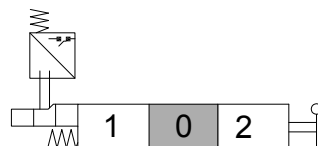
ELECTRICAL LITE (RESISTIVE LOAD):

- 10⁵ OPERATIONS - 7A / 13.5 VDC
- 5X10⁴ OPERATIONS - 10A / 12 VDC
- 5X10⁴ OPERATIONS - 3A / 28 VDC



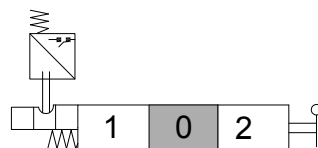
8MG1 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1



8MG2 Kit:

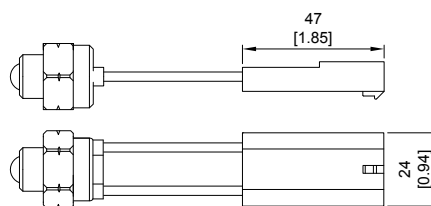
MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 2



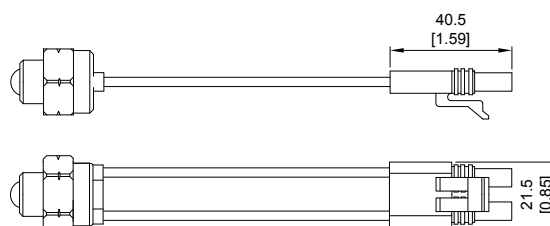
8MG3 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1 AND POS. 2

With NO contact (female connector with male end)



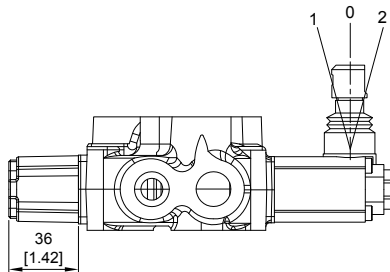
With NC contact (male connector with female end)



VM4 B Side

Monoblock Directional Control Valves

Type 8



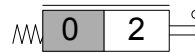
8 Kit:

SPRING RETURN TO NEUTRAL POSITION.



8-1 Kit:

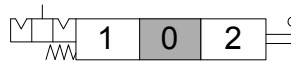
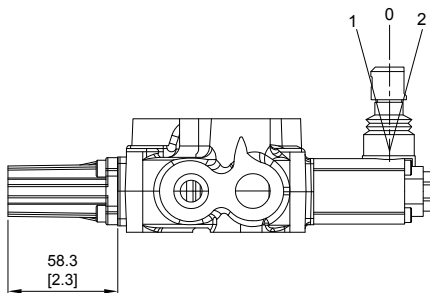
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)



8-2 Kit:

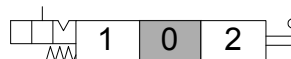
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)

Type 9



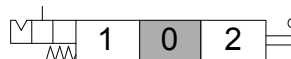
9-1 Kit:

DETENT IN POS. 1, 2 WITH SPRING CENTERED



9-2 Kit:

DETENT IN POS. 2 WITH SPRING CENTERED

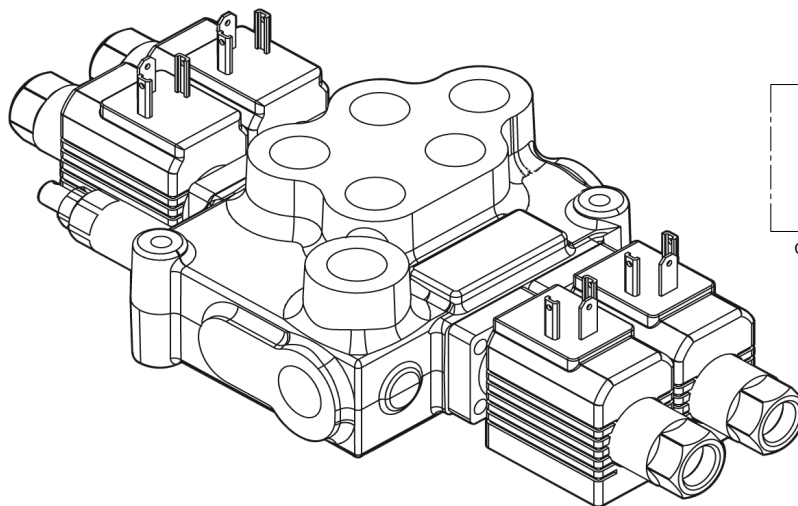


9-3 Kit:

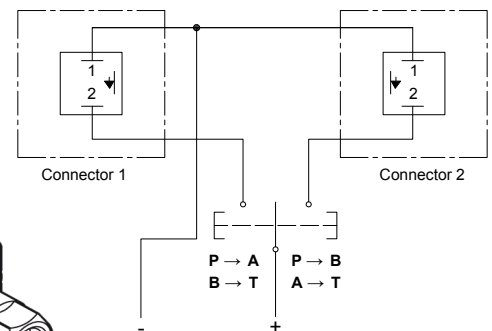
DETENT IN POS. 1 WITH SPRING CENTERED

VM4 B Side (Optional controls)

Monoblock Directional Control Valves



Electric wiring example



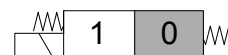
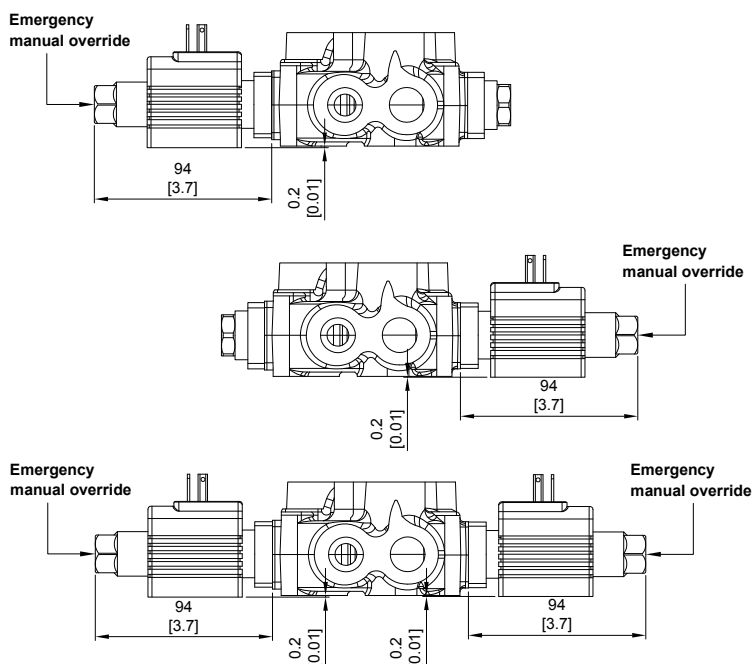
Coil features:

NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$

ELECTRIC POWER: 36 W

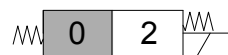
STANDARD VOLTAGE: 12 VDC / 24 VDC

Type 8ES



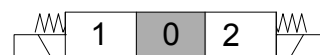
8ES1 Kit:

ACTING IN 1



8ES2 Kit:

ACTING IN 2



8ES3 Kit:

ACTING IN 1 & 2

VM4 B Side (Optional controls)

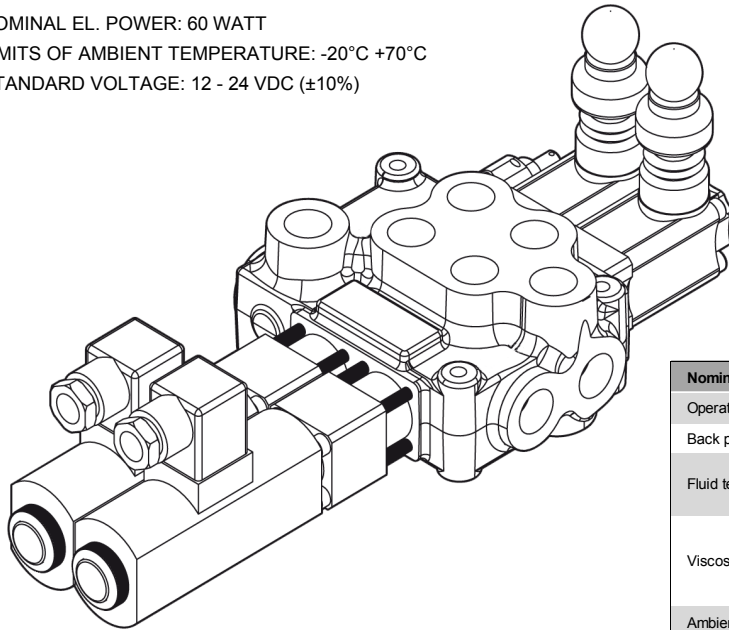
Monoblock Directional Control Valves

Coil features:

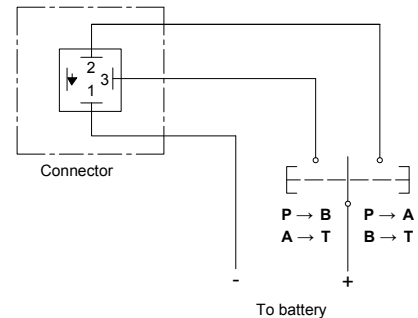
NOMINAL EL. POWER: 60 WATT

LIMITS OF AMBIENT TEMPERATURE: -20°C +70°C

STANDARD VOLTAGE: 12 - 24 VDC ($\pm 10\%$)

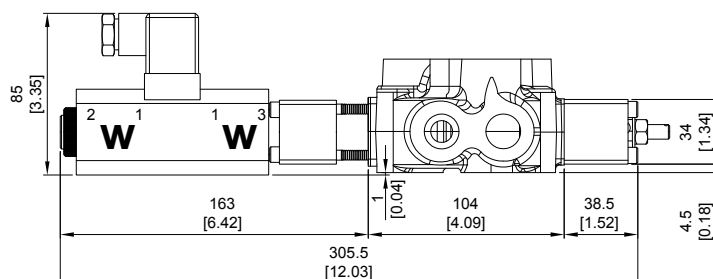
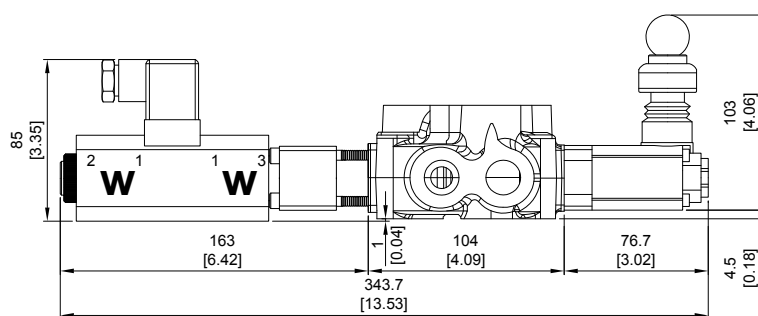


Electric wiring example

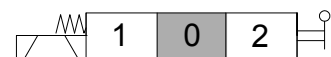


Nominal flow rating		60 l/min	16 US gpm
Operating pressure (max.)	parallel circuit	250 bar	3600 psi
Back pressure (max.)	on outlet port T	25 bar	360 psi
Fluid temperature	with NBR seals	-20°C ~ 80°C	-4° ~ 176°F
	with FPM seals	-20°C ~ 100°C	-4° ~ 212°F
Viscosity	operating range	15 ~ 75 mm ² /s	15 ~ 75 cst
	max.	400 mm ² /s	400 cst
	min.	12 mm ² /s	12 cst
Ambient temperature		-40°C ~ 60°C	-40° ~ 140°F

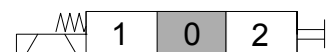
Type 8ESN



8ESNLES Kit:



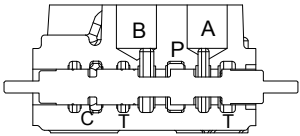
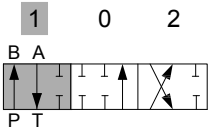
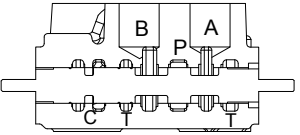
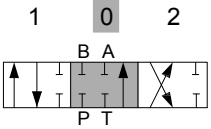
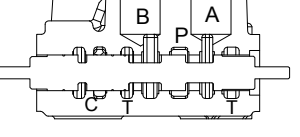
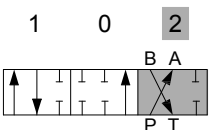
8ESNCAE Kit:



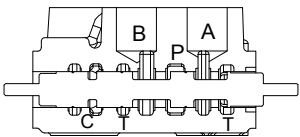
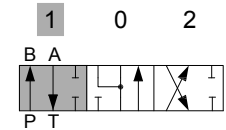
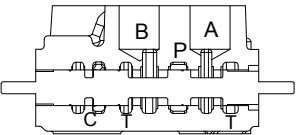
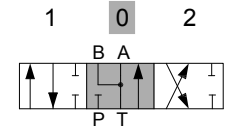
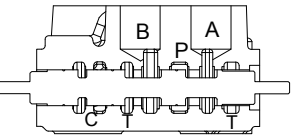
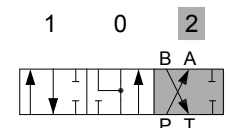
VM4 Spool Options (Options for 8ES Kit)

Monoblock Directional Control Valves

Type 8ES3#1

	<p>P → B A → T C closed</p>	
	<p>P & T & A & B closed C open</p>	
	<p>P → A B → T C closed</p>	

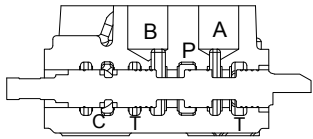
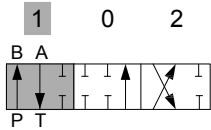
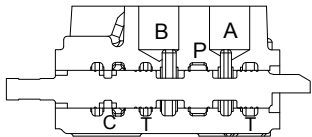
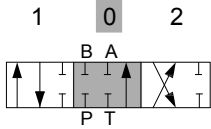
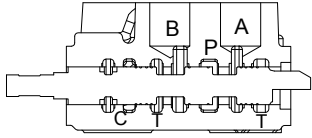
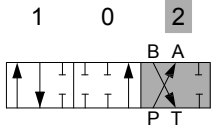
Type 8ES3#2

	<p>P → B A → T C closed</p>	
	<p>A & B → T P closed C open</p>	
	<p>P → A B → T C closed</p>	

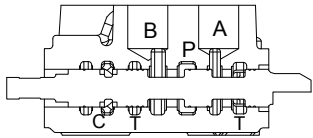
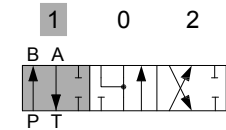
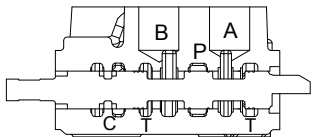
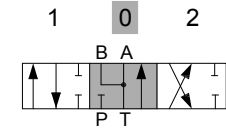
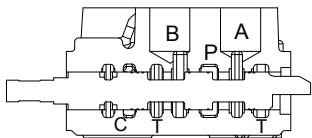
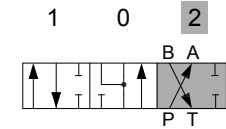
VM4 Spool Options (Options for 8ESN Kit)

Monoblock Directional Control Valves

Type 8ESN#1

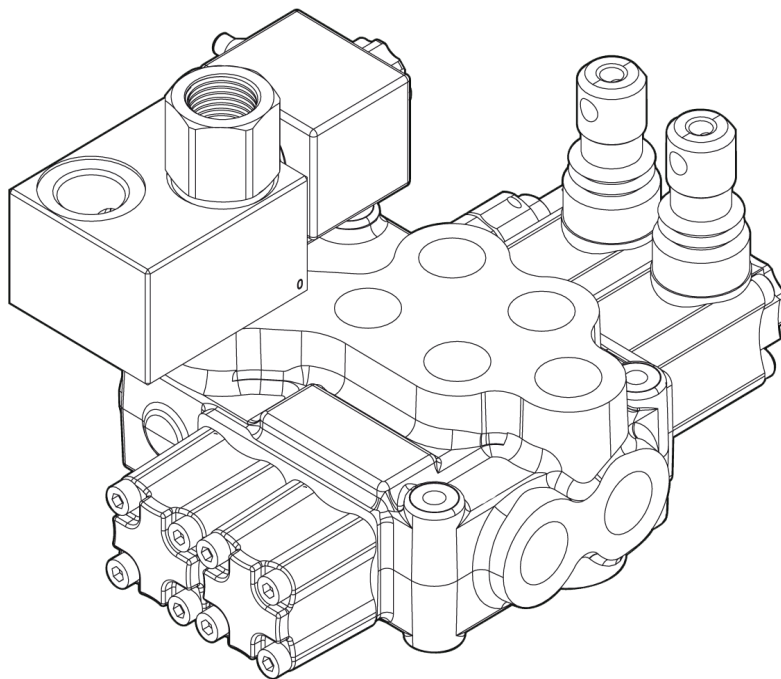
	<p>P → B A → T C closed</p>	
	<p>P & T & A & B closed C open</p>	
	<p>P → A B → T C closed</p>	

Type 8ESN#2

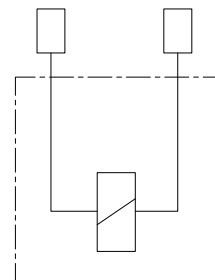
	<p>P → B A → T C closed</p>	
	<p>A & B → T P closed C open</p>	
	<p>P → A B → T C closed</p>	

VM4 (Option - Dump valve (Emergency stop valve))

Monoblock Directional Control Valves

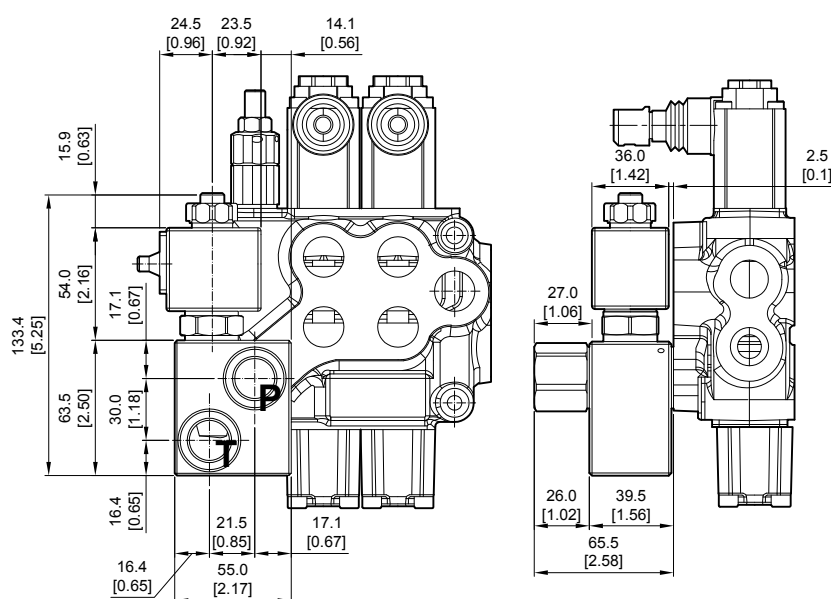


Electric wiring example

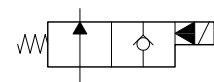


Coil features:

NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$
ELECTRIC POWER: 20W
STANDARD VOLTAGE: 12VDC / 24VDC



P & T : G1/2

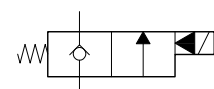


TYPE:

DUMP - G04 - 24VDC(NO)
DUMP - G04 - 12VDC(NO)

CODE:

VM45424
VM45412



TYPE:

DUMP - G04 - 24VDC(NC)
DUMP - G04 - 12VDC(NC)

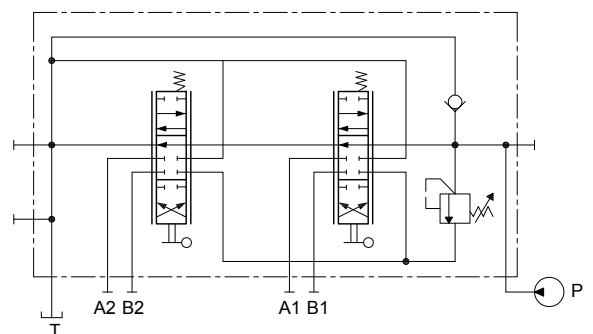
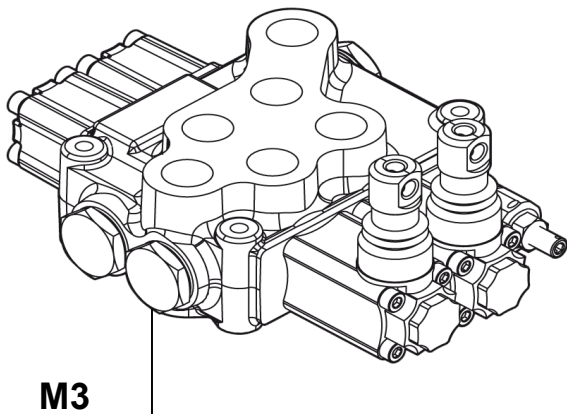
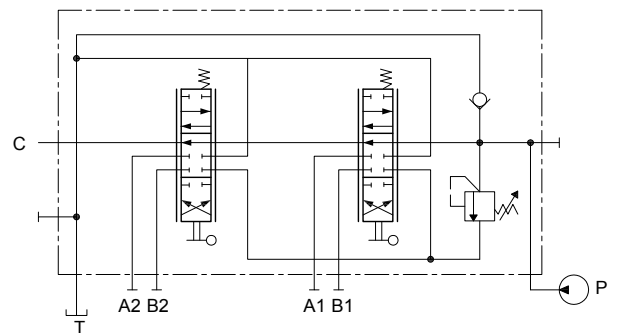
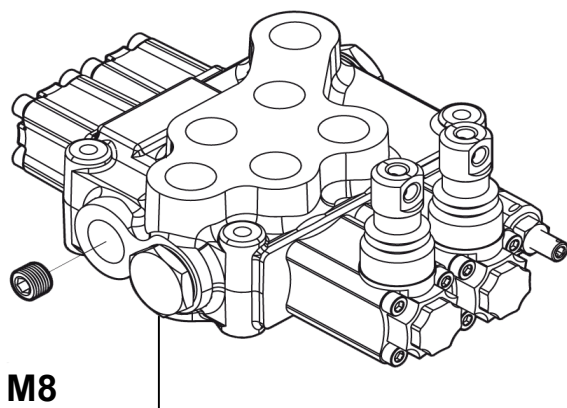
CODE:

VM454241
VM454121

VM4 Outlet

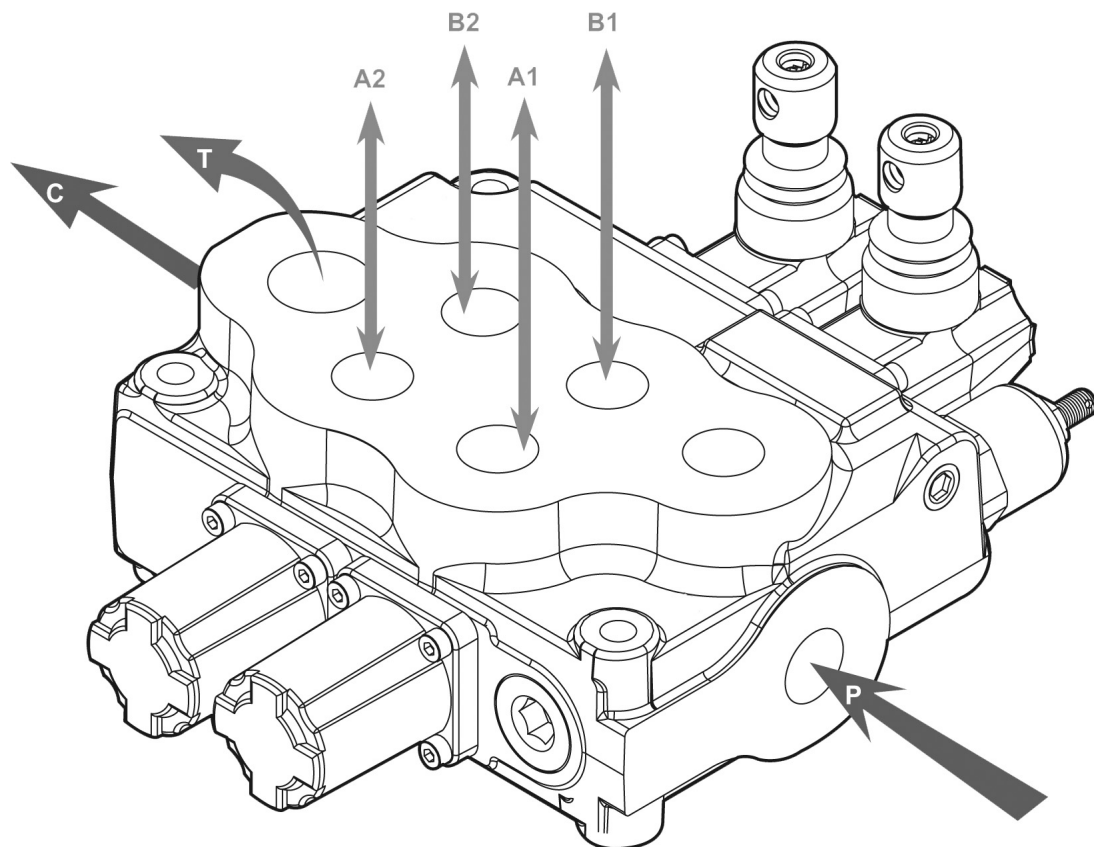
Monoblock Directional Control Valves

**Power Beyond Conversion plug
(Closed center plug)**



VM5

Monoblock Directional Control Valves



VM5 Specifications

Nominal flow rate		80 l/min	12 US gpm
Operating pressure (maximum)	parallel or tandem circuit	315 bar	4600 psi
	series circuit	250 bar	3600 psi
Back pressure (maximum)	on outlet port T	25 bar	360 psi
Fluid temperature range	with NBR(BUNA-N) seals	from -20°C to 80°C	from -4° to 176° F
	with FPM(VITON) seal	from -20°C to 100°C	from -4° to 212° F
Viscosity	operating range	from 15 to 75 mm ² /s	from 15 to 75 cst
	min	12 mm ² /s	12 cst
	max.	400 mm ² /s	400 cst
Ambient temperature range		from -40°C to 60°C	from -40° to 140° F

• All specifications, dimensions and design characteristics shown in this catalogue are subject to change without notice

VM5

Monoblock Directional Control Valves

VM5 / 2S - 3 / 1 8 L / G-4-6 / M3

1 2 3 4 5

- 1 Body
- 2 Inlet relief
- 3 Spool options
- 4 "B" side spool positioners
- 5 "A" side controls

1:	Body	WITHOUT SERVICE PORT VALVES PREARRANGEMENT (INCLUDE BODY, SEALS, RINGS AND LOAD CHECK VALVE.)	
	TYPE	DESCRIPTION	
	1 - S	1 section	
	2 - S	2 section	
	3 - S	3 section	
	4 - S	4 section	
	5 - S	5 section	
	6 - S	6 section	
2:	Inlet Relief		
	TYPE	CODE	DESCRIPTION
	XAG	VMX21000	Pilot operated pressure relief valve Range 25 to 315 bar / 360 to 4600 psi, standard setting 125 bar / 1800psi
	AG-2	VM52002	Direct pressure relief valve Range 80 to 160 bar / 1150 to 2300 psi, standard setting 125 bar / 1800 psi
	AG-3	VM52003	Direct pressure relief valve Range 125 to 250 bar / 1800 to 3600 psi, standard setting 175 bar / 2500 psi
	AG-4	VM52004	Direct pressure relief valve Range 200 to 315 bar / 2900 to 4600 psi, standard setting 220 bar / 3200 psi
	SV	VM52100	Relief valve blanking plug

VM5

Monoblock Directional Control Valves

3: Spool Options			
TYPE	CODE	DESCRIPTION	
1	VM53001	Double acting, 3 positions, with A, B closed in neutral position	
2	VM53002	Double acting, 3 positions, with A, B open to Tank in neutral position	
3	VM53003	Single acting on A closed in neutral position, 3 positions, B plugged	
4	VM53004	Single acting on B closed in neutral position, 3 positions, A plugged	
5	VM53005	Double acting, 3 positions, with B open to Tank in neutral position	
6	VM53006	Double acting, 3 positions, with A open to Tank in neutral position	
9	VM53009	Double acting, 3 positions, with P, T, A, B closed in neutral position (Closed center)	
10	VM53010	Double acting, 3 positions, with A, B open to Tank and P, T closed in neutral position (Closed center)	
5DY	VM53052	Double acting, 4 positions, floating circuit in 4th position with A, B open to Tank by pulling the lever	
5PY	VM53051	Double acting, 4 positions, floating circuit in 4th position with A, B open to Tank by pushing the lever	
4: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	
6-1	VM54061	Detent in pos. 1-0-2, without spring centered	
6-2	VM54062	2 positions, detent in pos. 0-2, without spring centered	
6-3	VM54063	2 positions, detent in pos. 1-0, without spring centered	
8D2	VM54082	With spring return to neutral position and pin with M8 male thread for dual control	
8EP3	VM54300	ON/OFF Electro-Pneumatic actuator	
8P	VM54080	ON/OFF Pneumatic actuator	
8MG1 (NO)	VM54801	Microswitch kit operated in pos. 1 (Normally Open)	
8MG2 (NO)	VM54802	Microswitch kit operated in pos. 2 (Normally Open)	
8MG3 (NO)	VM54803	Microswitch kit operated in pos. 1&2 (Normally Open)	
MG (NO)	VM54804	Microswitch with NO terminal	
8MG1 (NC)	VM548011	Microswitch kit operated in pos. 1 (Normally Closed)	
8MG2 (NC)	VM548021	Microswitch kit operated in pos. 2 (Normally Closed)	
8MG3 (NC)	VM548031	Microswitch kit operated in pos. 1&2 (Normally Closed)	
MG (NC)	VM548041	Microswitch with NC terminal	
8	VM54008	With spring return to neutral position	
8-1	VM54810	2 positions, with spring centered from pos. 1	
8-2	VM54820	2 positions, with spring centered from pos. 2	
9-1	VM54091	Detent in pos. 1, 2 with spring centered	
9-2	VM54092	Detent in pos. 2 with spring centered	
9-3	VM54093	Detent in pos. 1 with spring centered	
8ED3+RV-KE1R3	VM54201	1S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE2R3	VM54202	2S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE3R3	VM54203	3S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE4R3	VM54204	4S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE5R3	VM54205	5S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE6R3	VM54206	6S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	

VM5

Monoblock Directional Control Valves

VM5 / 2S - 3 / 1 8 L / G-4-6 / M3

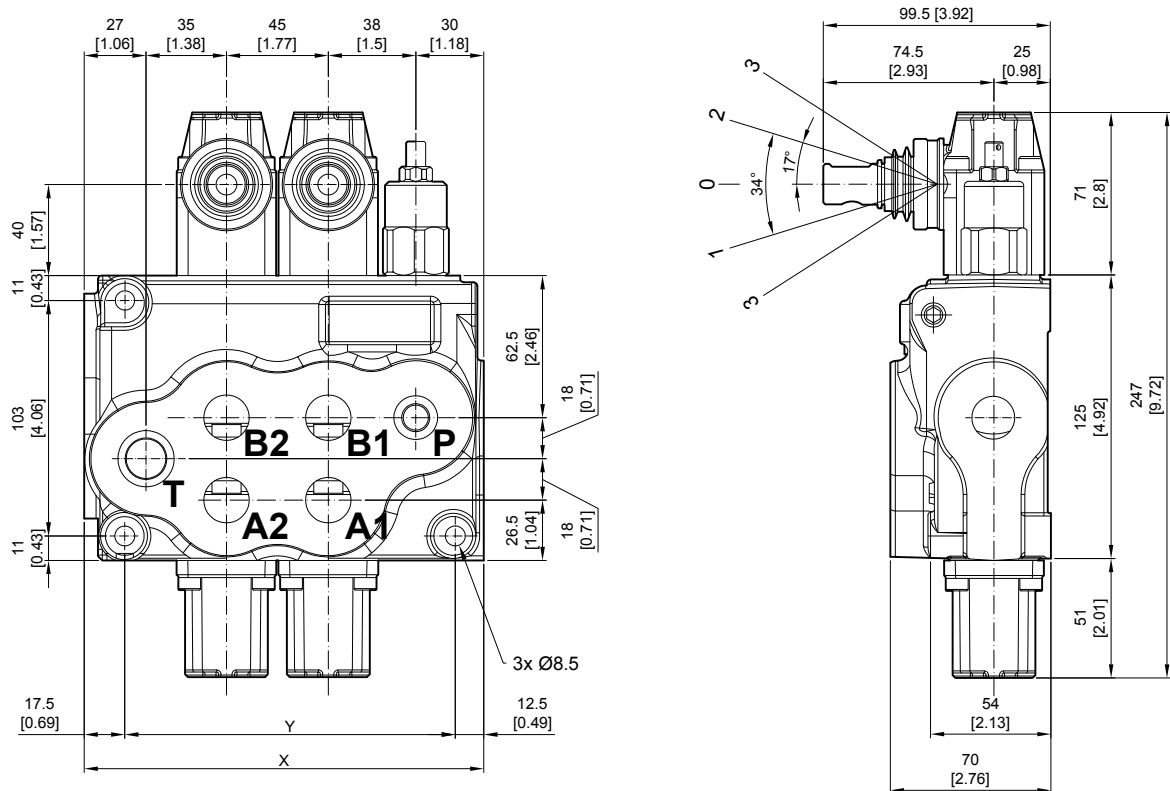
1
2
3
4
5

- 1 Body
- 2 Inlet relief
- 3 Spool options
- 4 "B" side spool positioners
- 5 "A" side controls

4: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	
8ER3+KE1SO	VM54401	1/S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE2SO	VM54402	2/S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE3SO	VM54403	3/S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE4SO	VM54404	4/S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE5SO	VM54405	5/S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE6SO	VM54406	6/S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
5: A Side controls			
TYPE	CODE	DESCRIPTION	
L	VM55000	Standard lever box	
SLP	VM55001	Without lever box, with dust-proof plate	
LCB	VM55002	Joystick lever for 2 section operation	
TQ	VM55003	Flexible cable connection	

VM5 Dimensions

Monoblock Directional Control Valves



Standard threads

Ports	Inlet P	A and B	Outlet T and carry-over C
BSP	G1/2	G1/2	G3/4
UN-UNF	1"1/16-12 UN (SAE 12)	7/8-14 UNF (SAE 10)	1"1/16-12 UN (SAE 12)
METRIC	M18x1.5	M18x1.5	M22x1.5

• G-1/2 : G4 G-3/8 : G3 G-3/4 : G6

• SAE 8 : E8 SAE 10 : E10 SAE 12 : E12 SAE 16 : E16

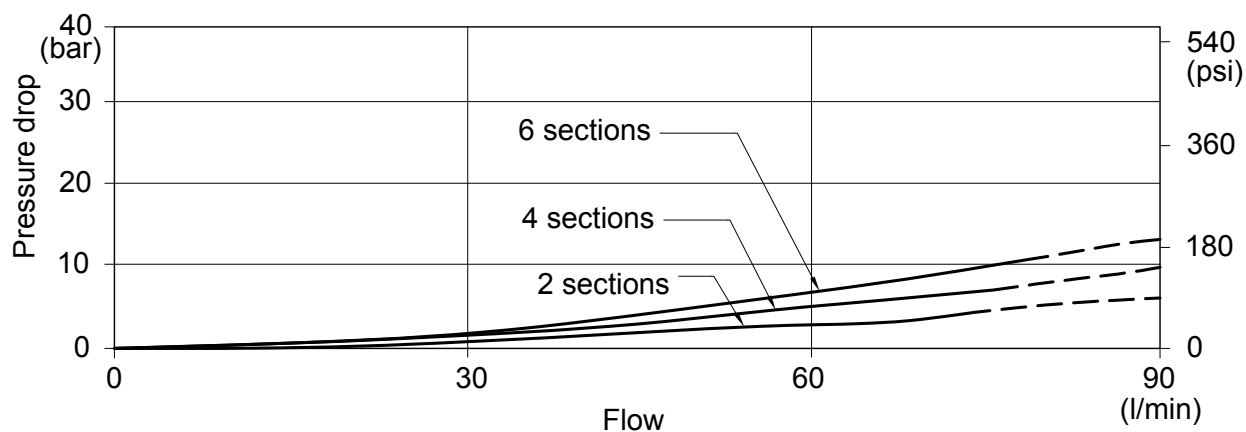
Standard dimensions

TYPE	X		Y	
	mm	in	mm	in
VM5/1S	130	5.12	100	3.94
VM5/2S	174.5	6.87	145	5.71
VM5/3S	219.5	8.64	190	7.48
VM5/4S	264.5	10.41	235	9.25
VM5/5S	309.5	12.19	280	11.02
VM5/6S	354.5	13.96	325	12.80

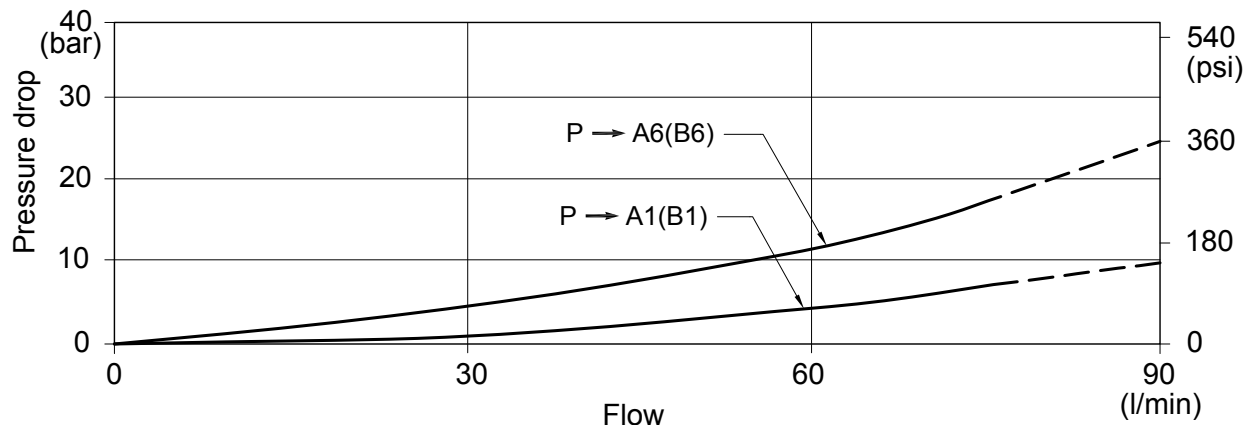
VM5 Performance curve chart

Monoblock Directional Control Valves

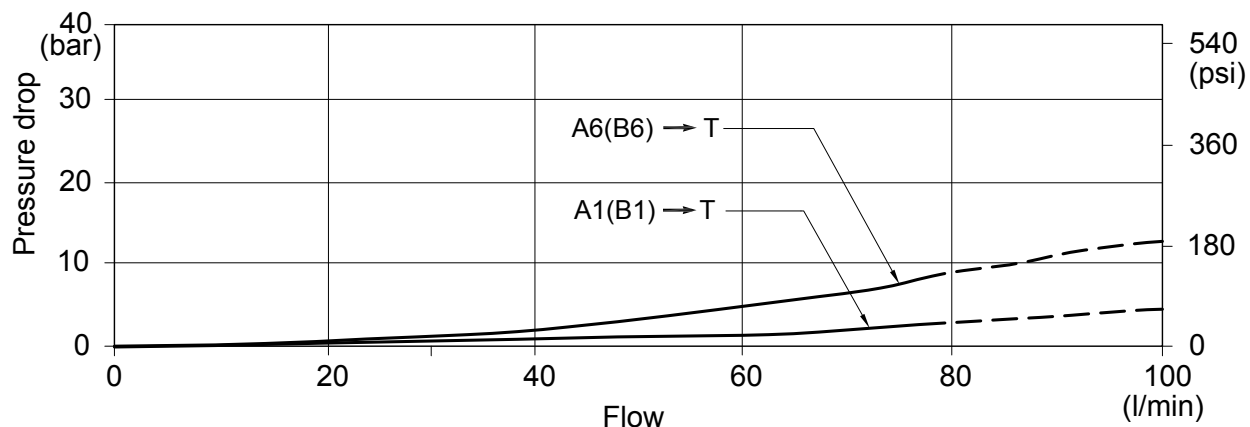
P to T



P to A (B)

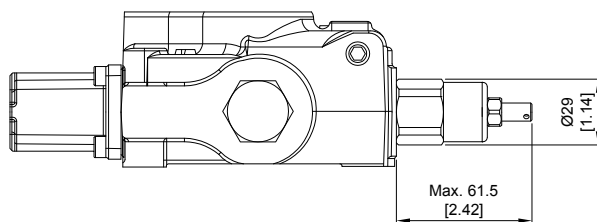


A(B) to T

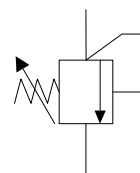


VM5 Inlet Relief (Optional) Monoblock Directional Control Valves

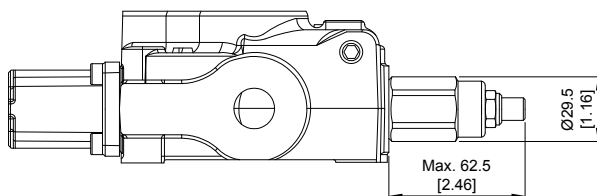
Type AG



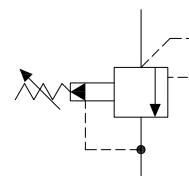
Direct pressure relief valve:



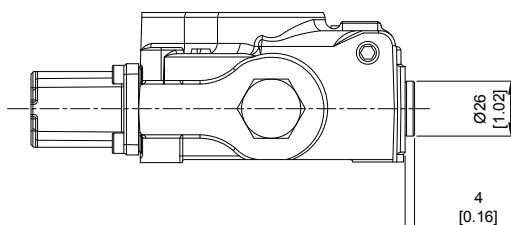
Type XAG



Pilot operated pressure relief valve:



Type SV



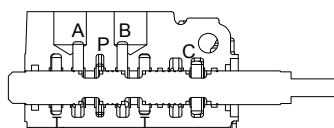
Relief valve blanking plug:



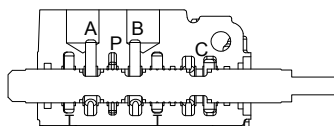
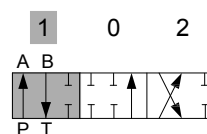
VM5 Spool Options

Monoblock Directional Control Valves

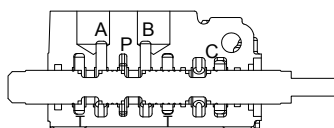
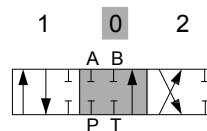
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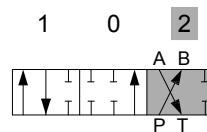
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B → T
C closed



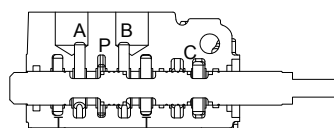
P & T & A & B closed
C open



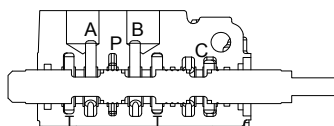
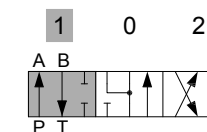
P → B
A → T
C closed



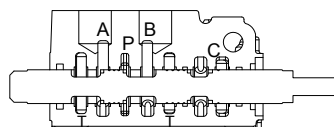
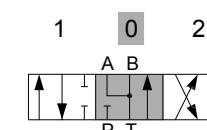
TYPE 2



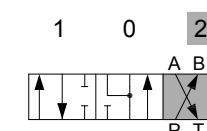
P → A
B → T
C closed



A & B → T
P closed
C open



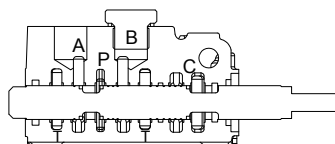
P → B
A → T
C closed



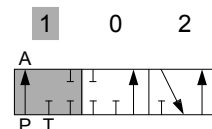
VM5 Spool Options

Monoblock Directional Control Valves

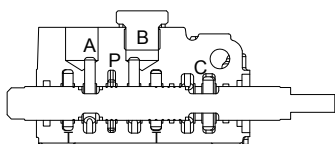
TYPE 3



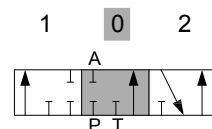
$P \rightarrow A$
T & C closed



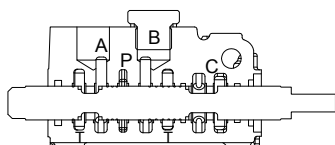
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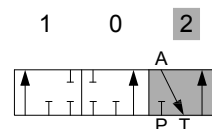
P & A & T closed
C open



"B" port plugged

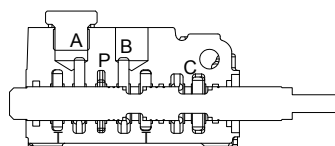


$A \rightarrow T$
P closed
C open

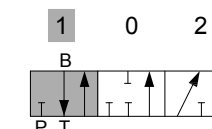


"B" port plugged

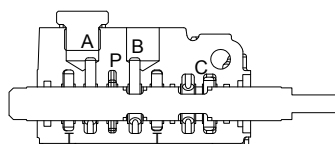
TYPE 4



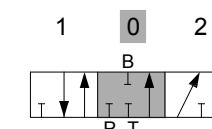
$B \rightarrow T$
P closed
C open



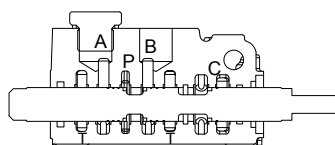
"A" port plugged



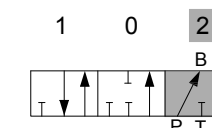
P & B & T closed
C open



"A" port plugged



$P \rightarrow B$
P & T closed

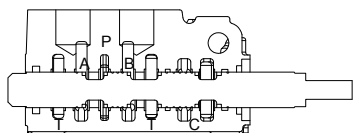


"A" port plugged

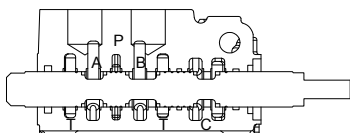
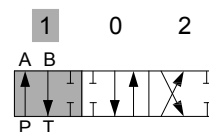
VM5 Spool Options

Monoblock Directional Control Valves

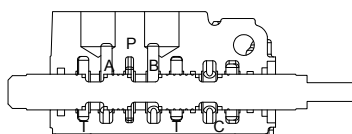
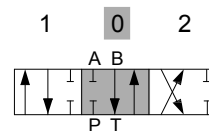
TYPE 5



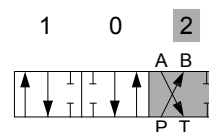
P → A
B → T
C closed



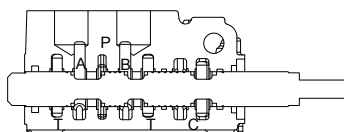
B → T
P & A closed
C open



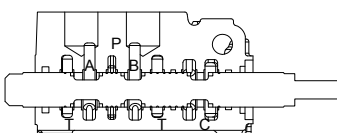
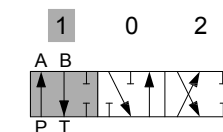
P → B
A → T
C closed



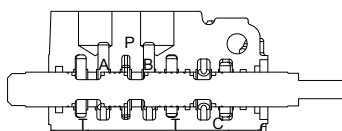
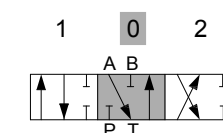
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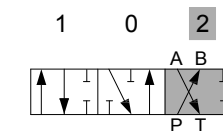
P → A
B → T
C closed



A → T
P & B closed
C open



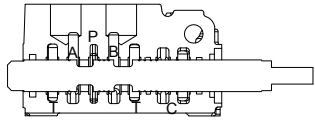
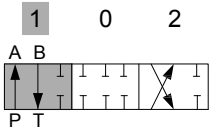
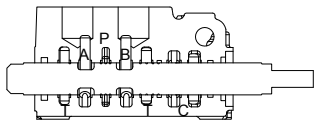
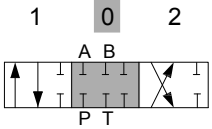
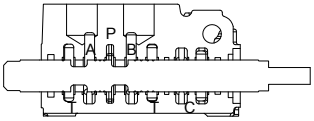
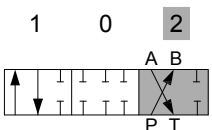
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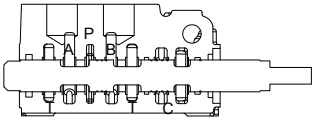
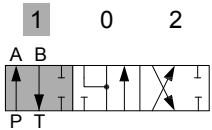
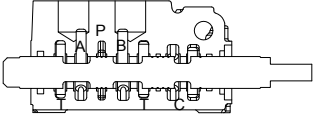
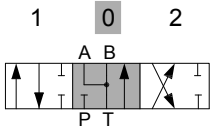
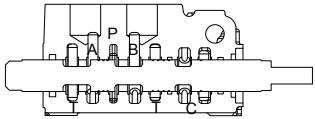
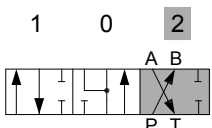
VM5 Spool Options

Monoblock Directional Control Valves

TYPE 9

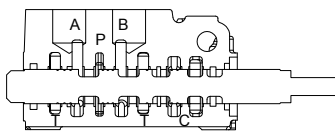
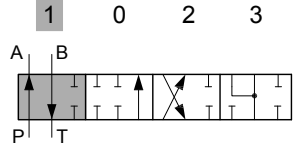
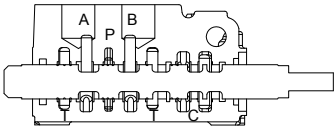
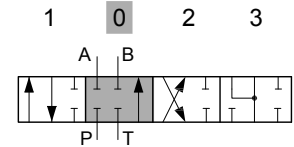
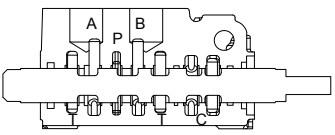
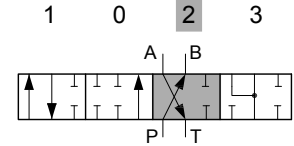
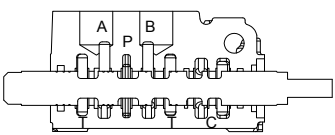
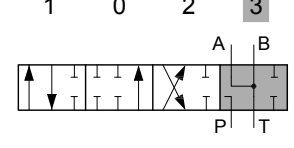
	<p>P → A B → T C closed</p>	
	<p>P & T & A & B closed C closed</p>	
	<p>P → B A → T C closed</p>	

TYPE 10

	<p>P → A B → T C closed</p>	
	<p>A & B → T P & C closed</p>	
	<p>P → B A → T C closed</p>	

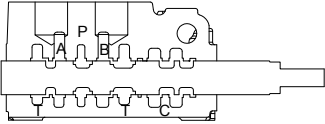
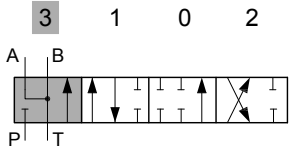
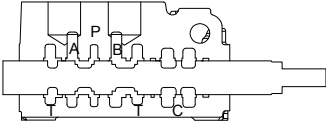
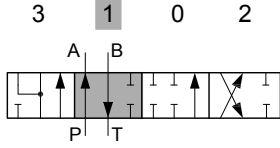
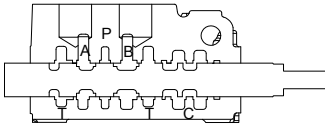
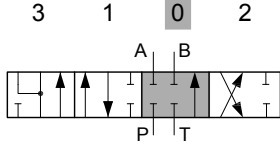
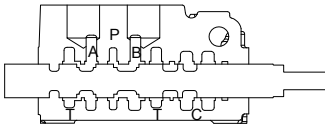
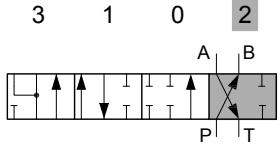
VM5 Spool Options

Monoblock Directional Control Valves

TYPE 5DY	NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER	
	<p>P → A B → T C closed</p>	
	<p>P & T & A & B closed C open</p>	
	<p>P → B A → T C closed</p>	
	<p>A & B → T P closed C open</p>	

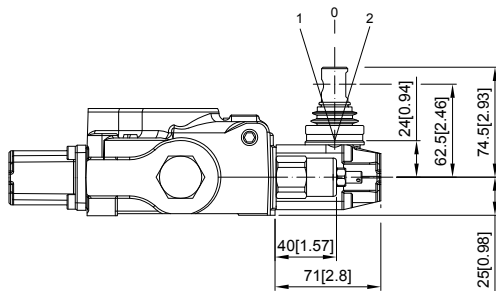
VM5 Spool Options

Monoblock Directional Control Valves

TYPE 5PY	NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER	
	<p>A & B → T P closed C open</p>	
	<p>P → A B → T C closed</p>	
	<p>P & T & A & B closed C open</p>	
	<p>P → B A → T C closed</p>	

VM5 A Side Monoblock Directional Control Valves

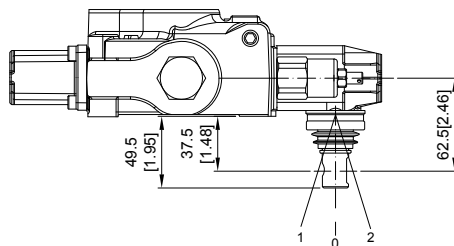
Type L



1 0 2

Type L:
STANDART LEVER KIT

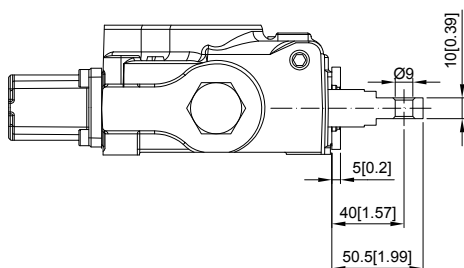
Type R



1 0 2

Type R:
STANDART LEVER KIT
(ROTATED 180 DEGREE)

Type SLP

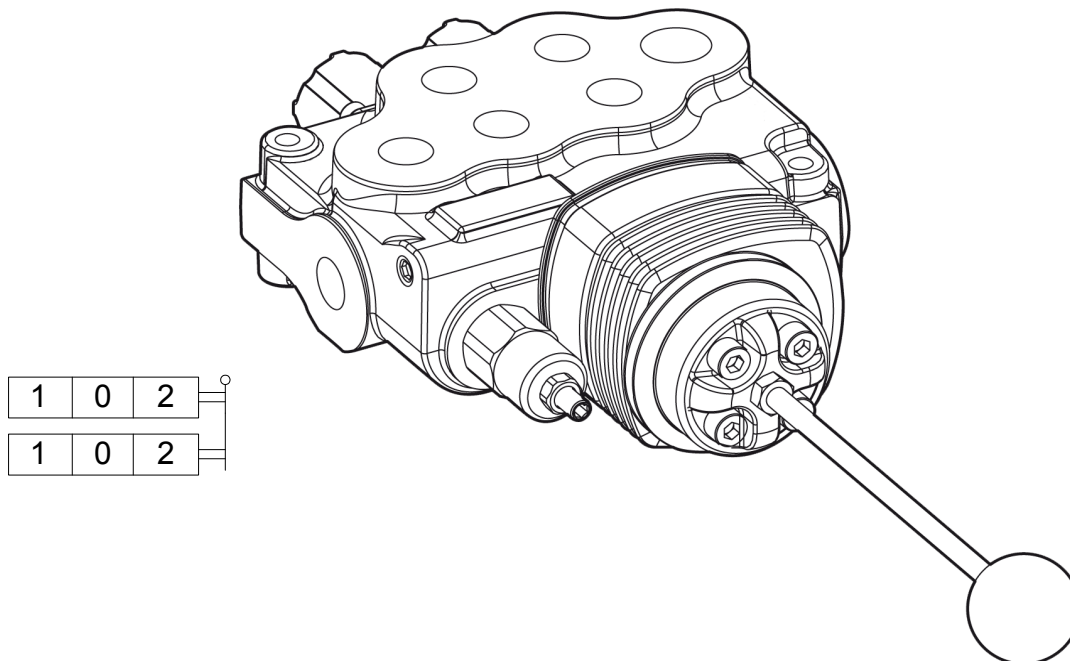


1 0 2

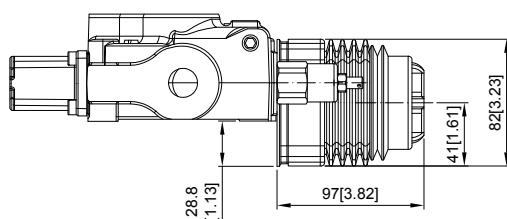
Type SLP:
WITH DUST-PROOF PLATE

VM5 A Side Monoblock Directional Control Valves

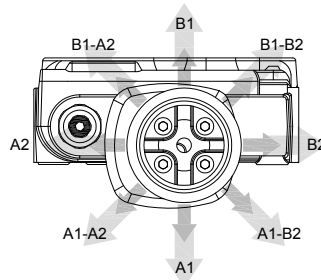
LCB: Joystick control



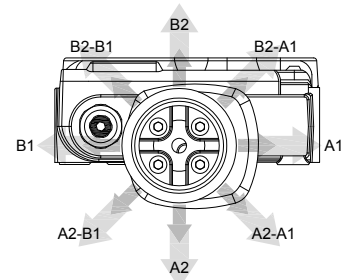
Type LCB



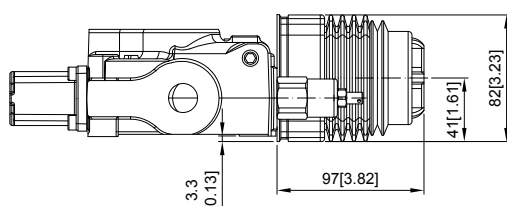
LCB 1



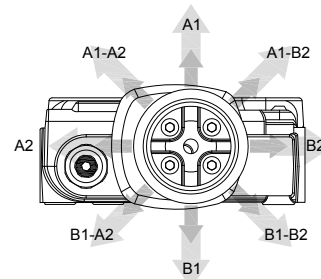
LCB 2



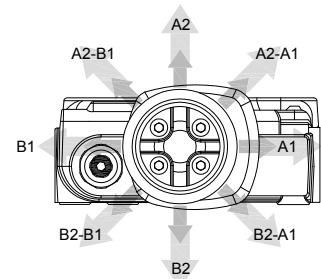
Type LCB



LCB 3

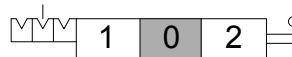
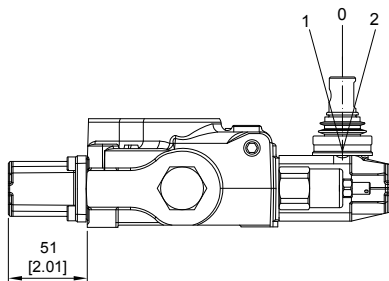


LCB 4



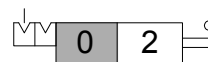
VM5 B Side Monoblock Directional Control Valves

Type 6



6-1 Kit:

DETENT IN POS. 1-0-2, WITHOUT SPRING CENTERED



6-2 Kit:

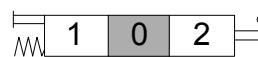
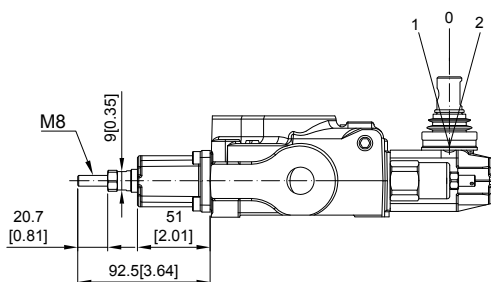
2 POSITIONS, DETENT IN POS. 0-2, WITHOUT SPRING CENTERED



6-3 Kit:

2 POSITIONS, DETENT IN POS. 1-0, WITHOUT SPRING CENTERED

Type 8D2



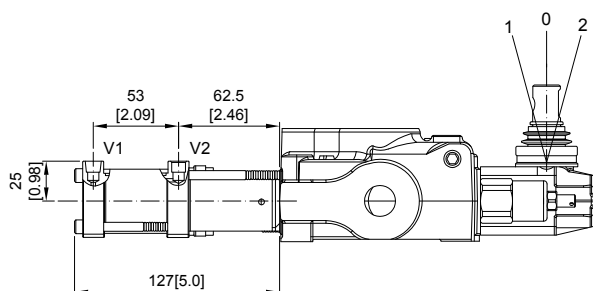
8D2 Kit:

WITH SPRING RETURN TO NEUTRAL POSITION AND PIN WITH M8 MALE THREAD FOR DUAL CONTROL

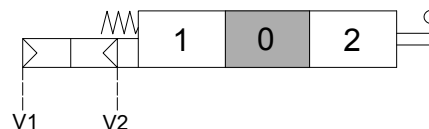
VM5 B Side Monoblock Directional Control Valves

Type 8P

V1 & V2: NPT 1/8 - 27



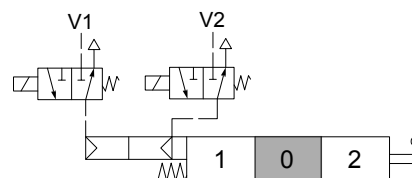
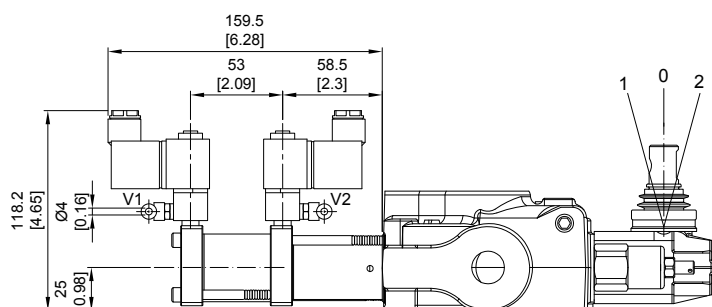
ON/OFF PNEUMATIC KIT



Operating feature:

PILOT PRESSURE (MIN.) 6 BAR / 87 PSI
PILOT PRESSURE (MAX.) 12 BAR / 174 PSI

Type 8EP3



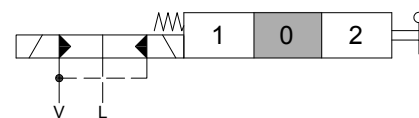
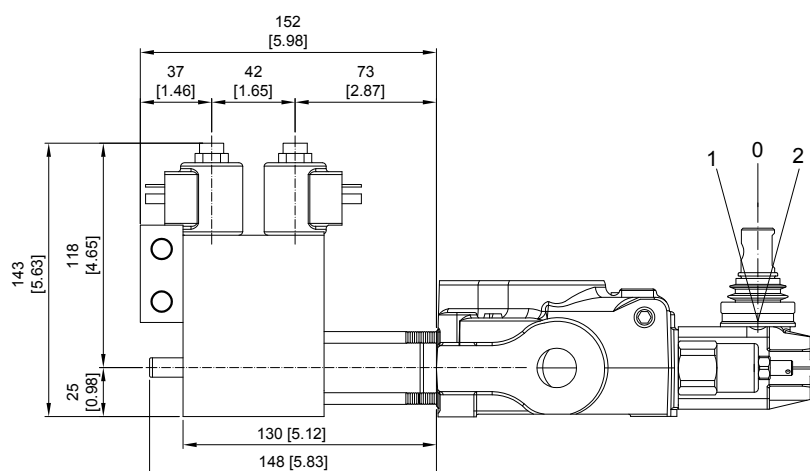
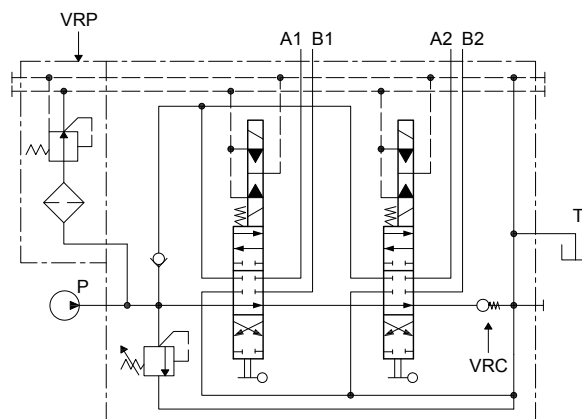
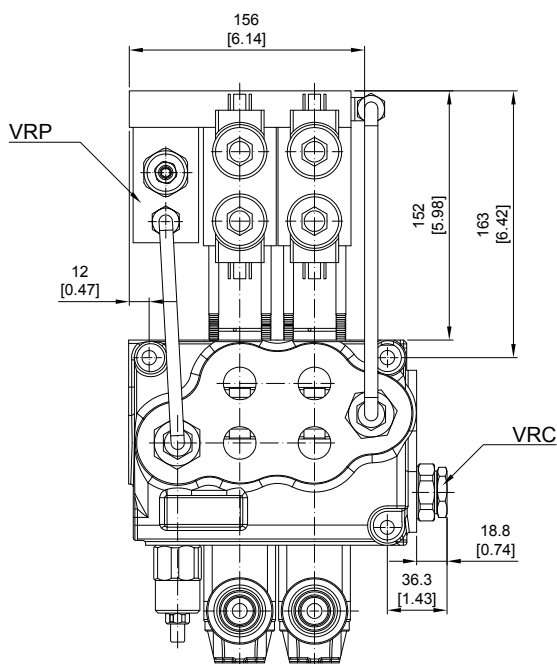
Solenoid operating features:

NOMINAL VOLTAGE: 24VDC
NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$
POWER RATING: 5W

VM5 B Side

Monoblock Directional Control Valves

Type 8ED3



Operating features:

PILOT PRESSURE:

- MIN. 10 BAR / 145 PSI
- MAX. 50 BAR / 725 PSI

MAX. BACKPRESSURE ON DRAIN L: 25 BAR / 360 PSI

Coil features:

NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$

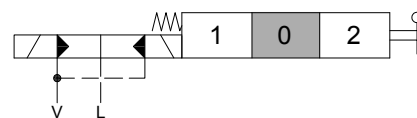
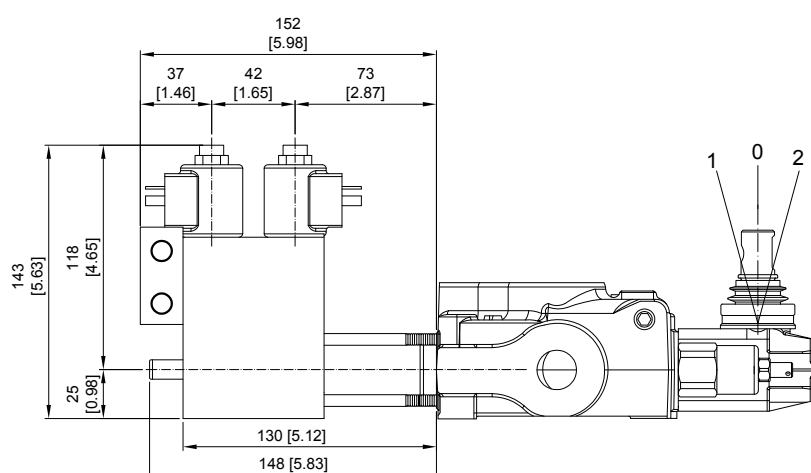
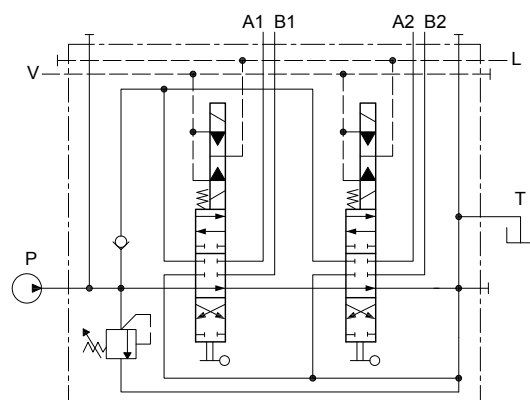
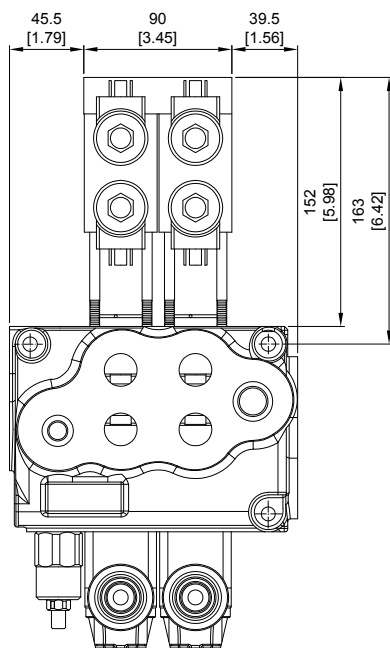
ELECTRIC POWER: 21 W

STANDARD VOLTAGE: 12 VDC / 24 VDC

VM5 B Side

Monoblock Directional Control Valves

Type 8ER3



Operating features:

PILOT PRESSURE:

- MIN. 10 BAR / 145 PSI
- MAX. 50 BAR / 725 PSI

MAX. BACKPRESSURE ON DRAIN L: 25 BAR / 360 PSI

Coil features:

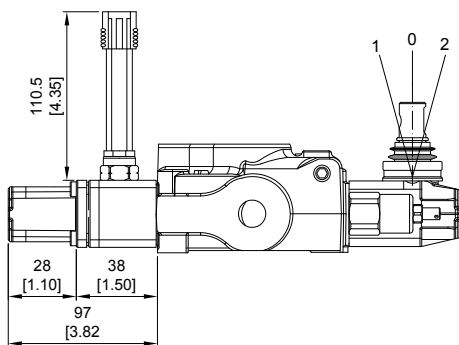
NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$

ELECTRIC POWER: 21 W

STANDARD VOLTAGE: 12 VDC / 24 VDC

VM5 B Side Monoblock Directional Control Valves

Type 8MG



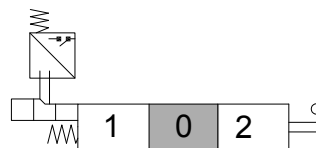
MICROSWITCH

Operating features:

MECHANICAL LIFE: • 5X10⁵ OPERATIONS

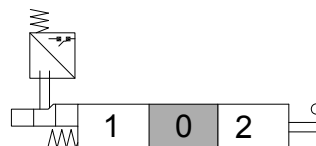
ELECTRICAL LIFE (RESISTIVE LOAD):

- 10⁵ OPERATIONS - 7A / 13.5 VDC
- 5X10⁴ OPERATIONS - 10A / 12 VDC
- 5X10⁴ OPERATIONS - 3A / 28 VDC



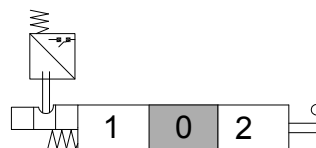
8MG1 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1



8MG2 Kit:

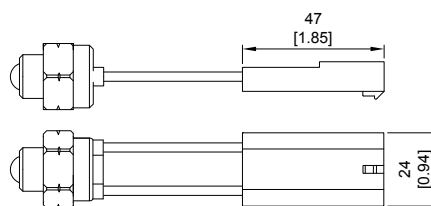
MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 2



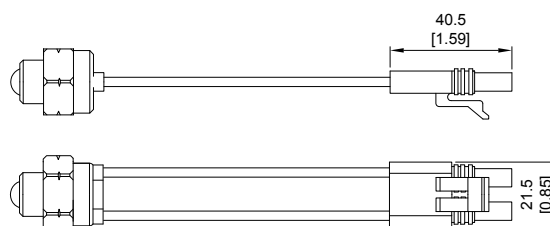
8MG3 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1 AND POS. 2

With NO contact (female connector with male end)

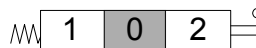
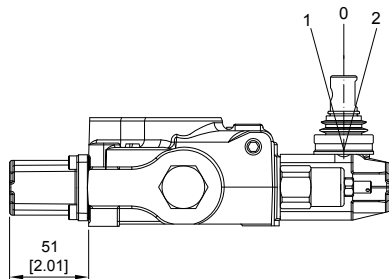


With NC contact (male connector with female end)



VM5 B Side Monoblock Directional Control Valves

Type 8



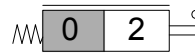
8 Kit:

SPRING RETURN TO NEUTRAL POSITION.



8-1 Kit:

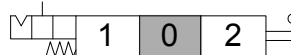
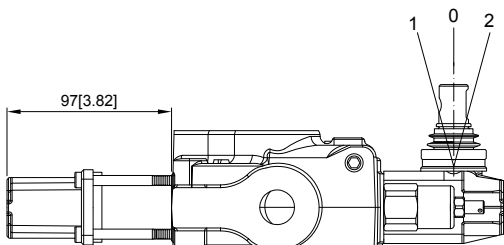
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)



8-2 Kit:

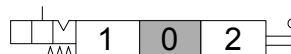
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)

Type 9



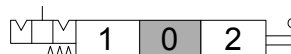
9-1 Kit:

DETENT IN POS. 1, 2 WITH SPRING CENTERED



9-2 Kit:

DETENT IN POS. 2 WITH SPRING CENTERED



9-3 Kit:

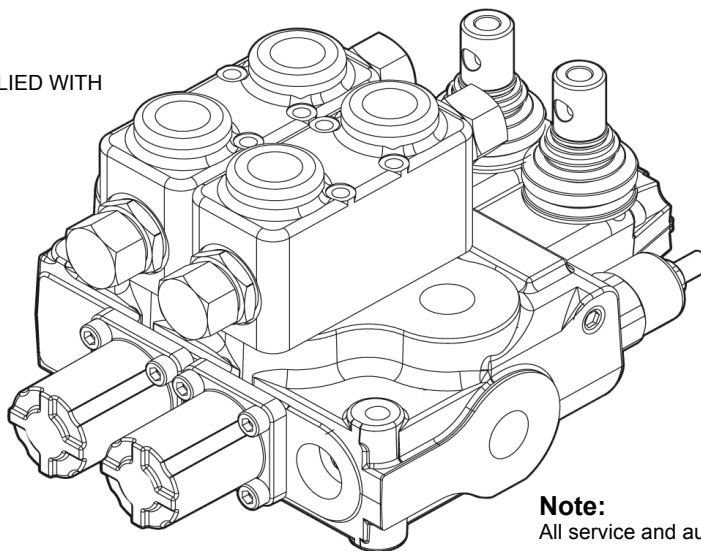
DETENT IN POS. 1 WITH SPRING CENTERED

VM5 Service and auxiliary valves

Monoblock Directional Control Valves

Anti-shock valves

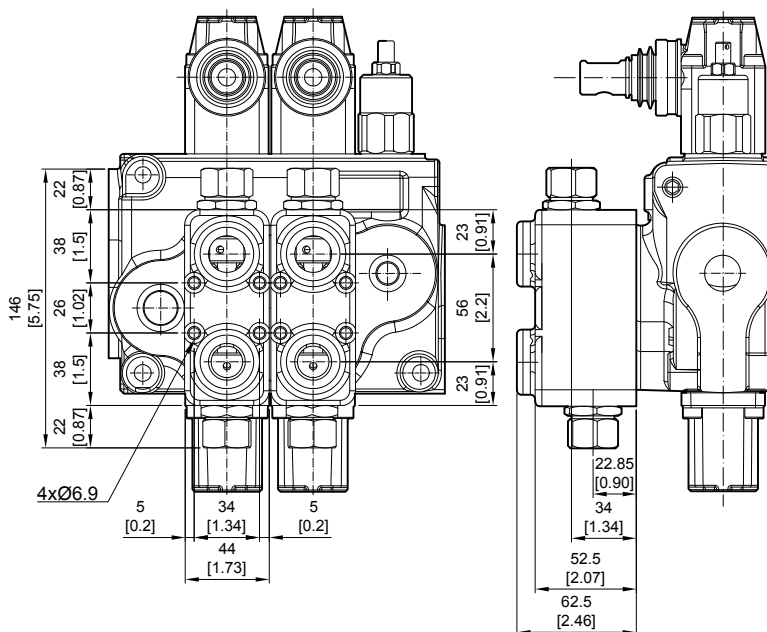
(CROSS RETURN TYPE, SUPPLIED WITH MOUNTING BLOCK)



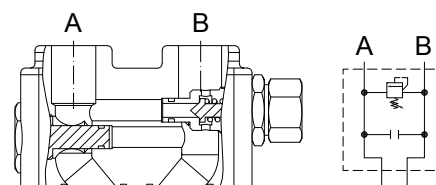
Note:

All service and auxiliary valves need special body

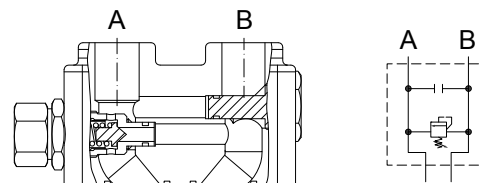
Type P



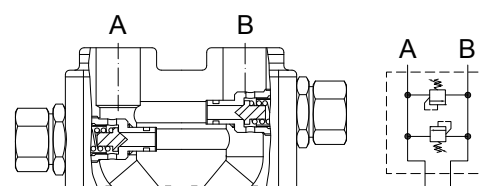
P1 Kit: VM56001, Block with valve on port A



P2 Kit: VM56002, Block with valve on port B



P3 Kit: VM56003, Block with valve on port A and B

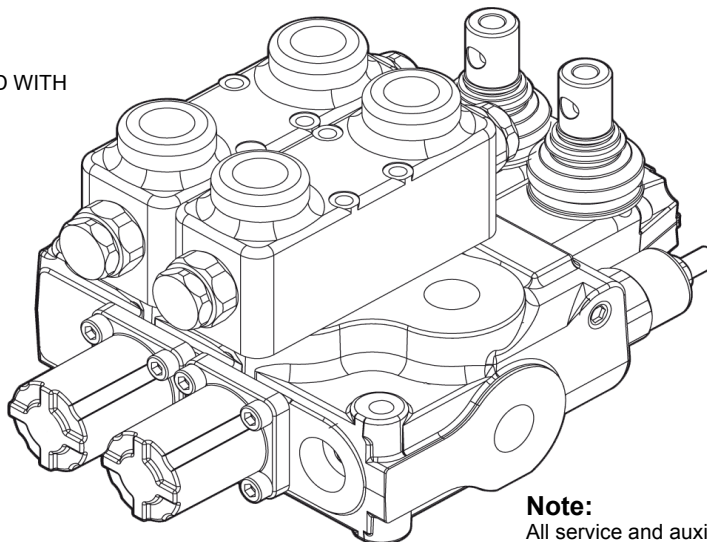


VM5 Service and auxiliary valves

Monoblock Directional Control Valves

Pilot check valves

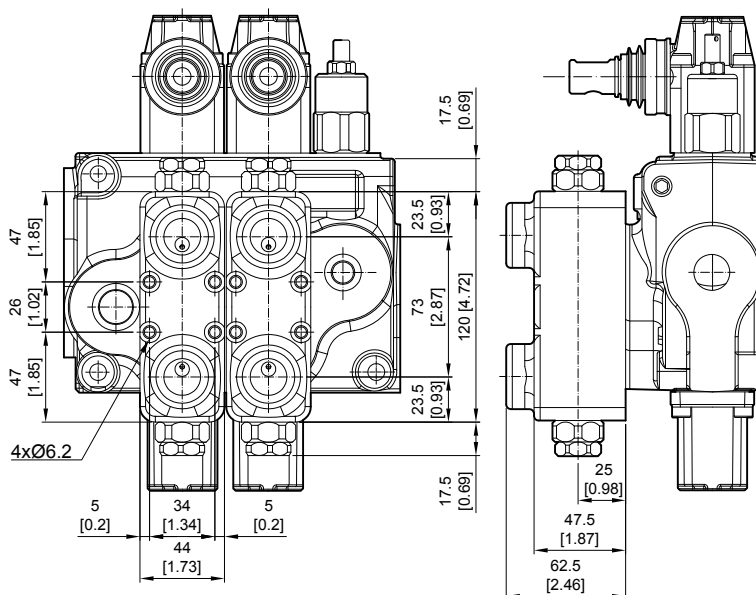
(WITH PRE-OPENING, SUPPLIED WITH MOUNTING BLOCK)



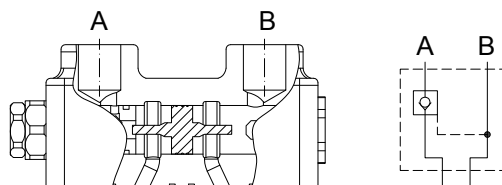
Note:

All service and auxiliary valves need special body

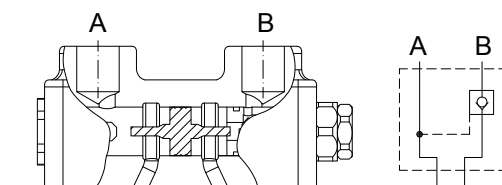
Type BSP Pilot check valves (With Pre-opening, supplied with mounting block)



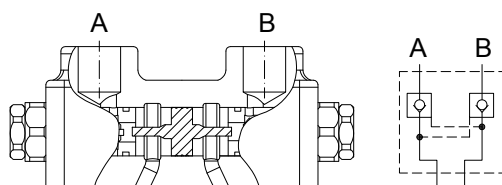
BSP1 Kit: VM57001, Block with valve on port A



BSP2 Kit: VM57002, Block with valve on port B



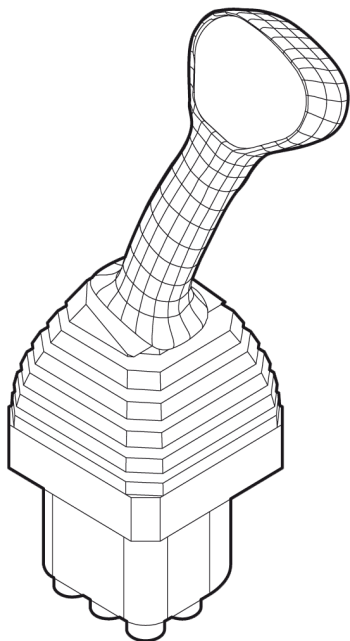
BSP3 Kit: VM57003, Block with valve on port A and B



VM5 Accessories

Monoblock Directional Control Valves

Type JS

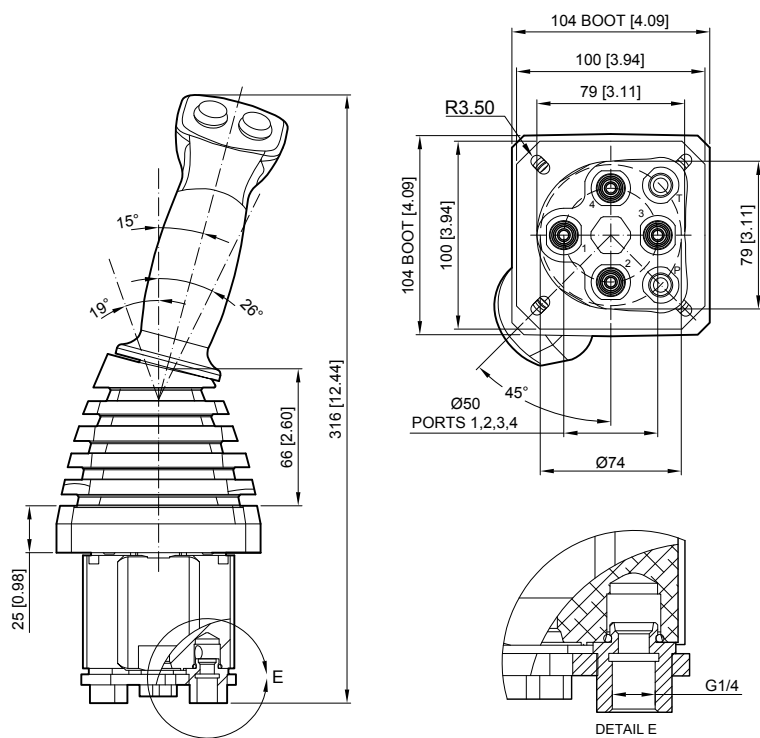


CODE: VMJS446

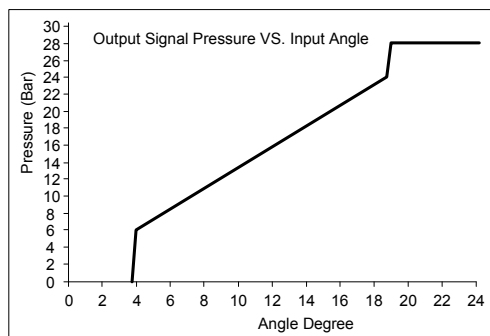
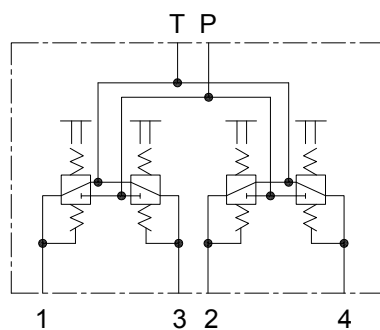
Hydraulic Pilot Valve - handle type

Specifications:

- This data sheet shows technical spec. with mineral oil of 46 mm²/s (cSt) viscosity at 40°C (104°F)
- Flow: 5~20 LPM
- Feeding pressure: 30~100 bar
- Max. backpressure: 3 bar
- Output pressure: see diagram
- Internal leakage at 30 bar: 18~24 cm³/min
- Fluid: mineral oil
- Fluid temperature: -10~80°C
- Ambient temperature: -40~60°C



HYDRAULIC SCHEME:



VM5 Accessories

Monoblock Directional Control Valves

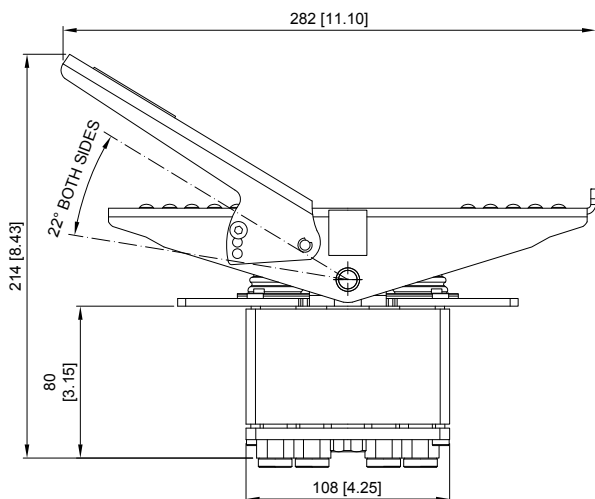
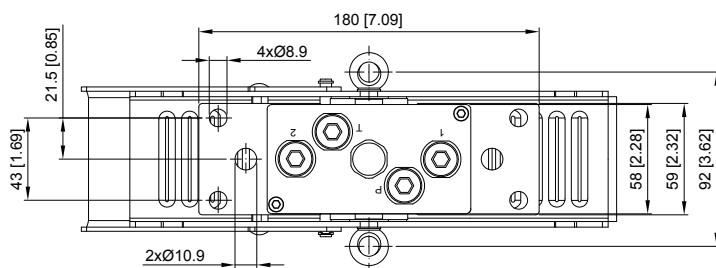
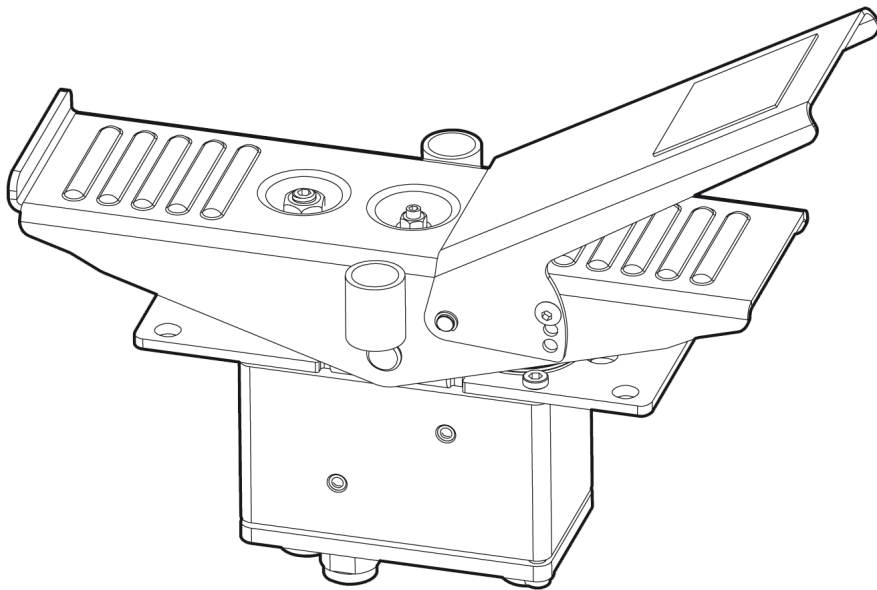
Type FP

CODE: VMFP246

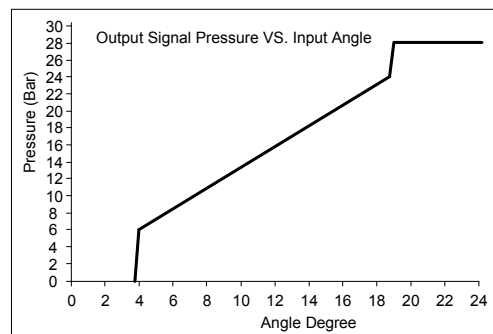
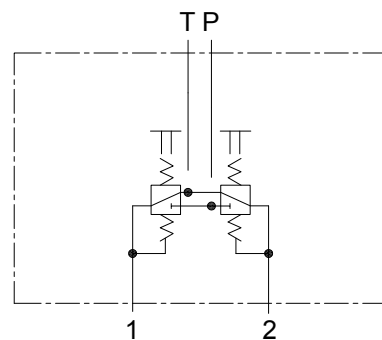
Hydraulic Pilot Valve - pedal type

Specifications:

- This data sheet shows technical spec. with mineral oil of 46 mm²/s (cSt) viscosity at 40°C (104°F)
- Flow: 5~20 LPM
- Feeding pressure: 30~100 bar
- Max. backpressure: 3 bar
- Output pressure: see diagram
- Internal leakage at 30 bar: 18~24 cm³/min
- Fluid: mineral oil
- Fluid temperature: -10~80°C
- Ambient temperature: -40~60°C



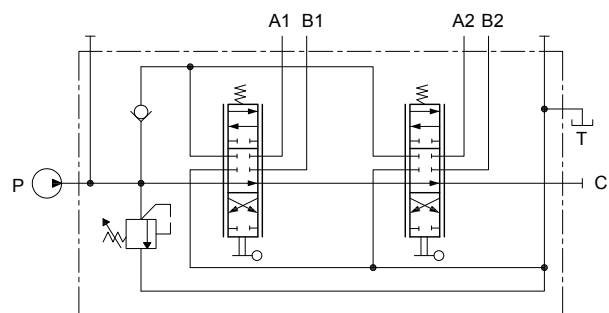
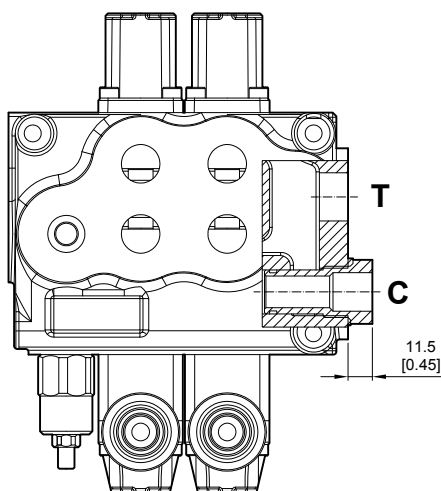
HYDRAULIC SCHEME:



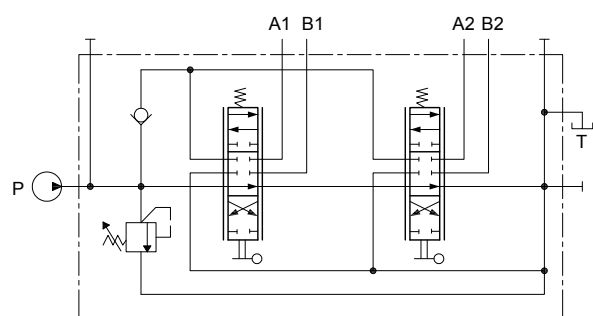
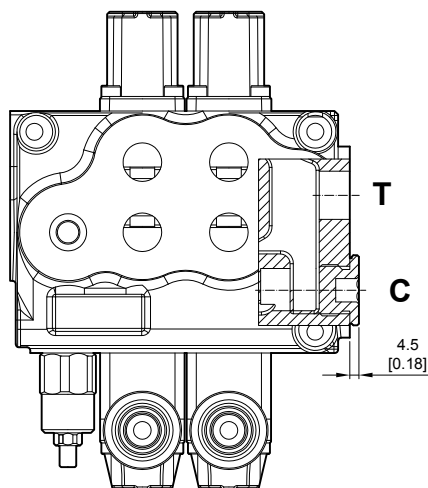
VM5 Outlet

Monoblock Directional Control Valves

M8 Power Beyond Conversion plug
(Closed center plug)

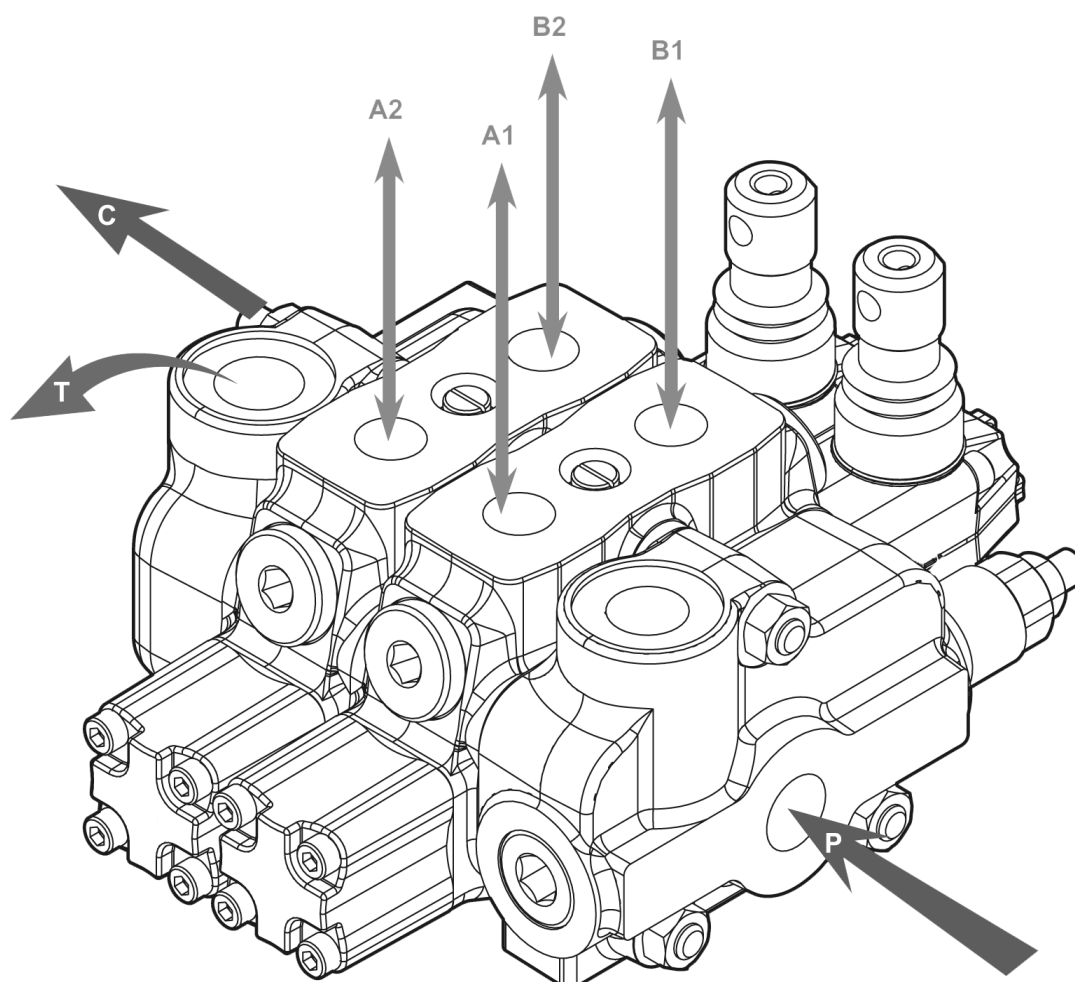


M3



VS3

Sectional Directional Control Valves



VS3 Specifications

Nominal flow rate		50 l/min	13 US gpm
Operating pressure (maximum)	parallel or tandem circuit	315 bar	4600 psi
	series circuit	210 bar	3050 psi
Back pressure (maximum)	on outlet port T	25 bar	360 psi
Fluid temperature range	with NBR(BUNA-N) seals	from -20°C to 80°C	from -4° to 176° F
	with FPM(VITON) seal	from -20°C to 100°C	from -4° to 212° F
Viscosity	operating range	from 15 to 75 mm ² /s	from 15 to 75 cst
	min	12 mm ² /s	12 cst
	max.	400 mm ² /s	400 cst
Ambient temperature range		from -40°C to 60°C	from -40° to 140° F

• All specifications, dimensions and design characteristics shown in this catalogue are subject to change without notice

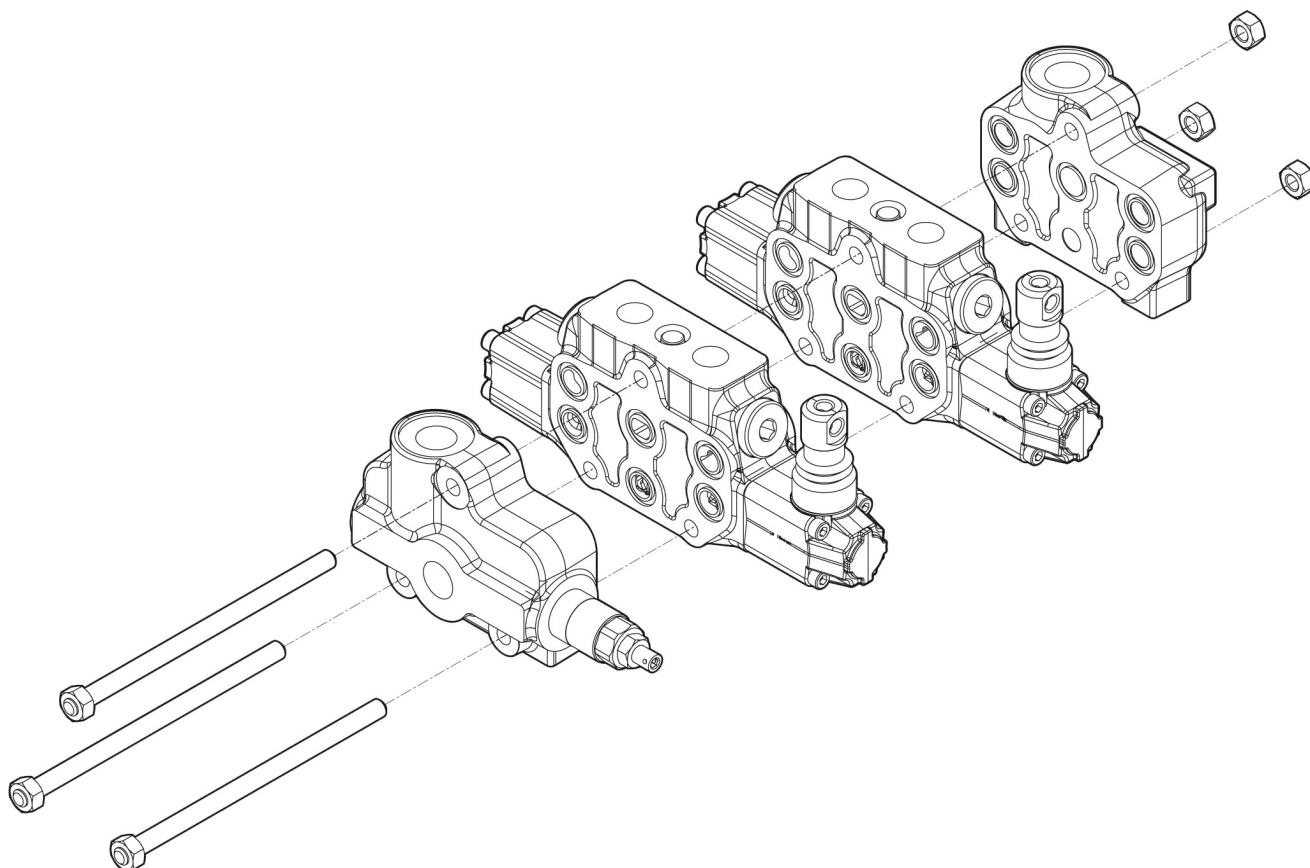
VS3 Complete

Sectional Directional Control Valves

HOW TO ORDER FOR A COMPLETE ASSEMBLED VALVE

VS3 / **2S** - **3** / **18L** / **28L** / **G-3-4** / **M3**

- 2S** No. of working section
- 3** Inlet cover with a main pressure relief valve
- 18L** 1st section (complete working section)
- 28L** Following section (complete working section)
- G-3-4** BSP ports
- M3** Outlet cover



VS3 Inlet Section

Sectional Directional Control Valves

FP VS3 / YG-3 / G3

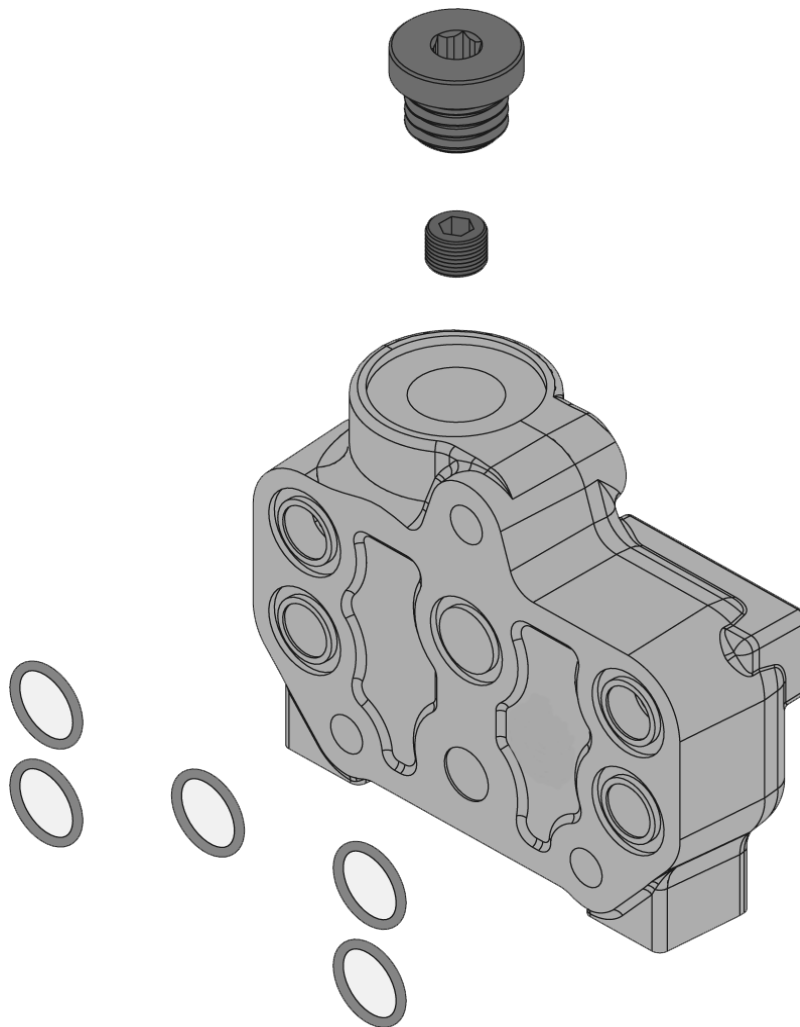
Inlet relief

Inlet Relief		
TYPE	CODE	DESCRIPTION
YG-2	VS33002	Range 40 to 80 bar / 1150 to 2300 psi, standard setting 125 bar / 1800 psi
YG-3	VS33003	Range 63 to 200 bar / 1800 to 3600 psi, standard setting 175 bar / 2500 psi
YG-4	VS33004	Range 160 to 315 bar / 2900 to 4600 psi, standard setting 220 bar / 3200 psi Standard setting is referred to 10 l/min - 2.6 US gpm flow.
SV	VS34000	Relief valve blanking plug
XYG	VS33000	Pilot operated pressure relief valve Range 25 to 315 bar/360 to 4600 psi, standard setting 125 bar/1800 psi

VS3 Outlet Section

Sectional Directional Control Valves

FT VS3 / G-4 / M3



VS3 Working Section

Sectional Directional Control Valves

EW VS3 / 1S / **1 8 L** / **P1 (G3-100)** / G-3

1
2
3
4

- 1 Spool options
- 2 "B" side Spool positioners
- 3 "A" side controls
- 4 Port relief

1: Spool Symbol		
TYPE	CODE	DESCRIPTION
1	VS32001	Double acting, 3 positions, with A and B closed in neutral position
1S	VS32010	Double acting, 3 positions, with A and B closed in neutral position, for series circuit
2	VS32002	Double acting, 3 positions, with A and B open to tank in neutral position
3	VS32003	Single acting on A closed in neutral position, 3 positions, B plugged
4	VS32004	Single acting on B closed in neutral position, 3 positions, A plugged
5	VS32005	Double acting, 3 positions, with B open to Tank in neutral position
6	VS32006	Double acting, 3 positions, with A open to Tank in neutral position
5PY	VS33051	Double acting, 4 positions, floating circuit in 4th position with A, B open to Tank by pushing the lever
2H	VS32020	Double acting with A, B open partially to Tank in neutral

VS3 Working Section

Sectional Directional Control Valves

EW VS3 / 1S / **1 8 L** / **P1 (G3-100)** / G-3

1
2
3
4

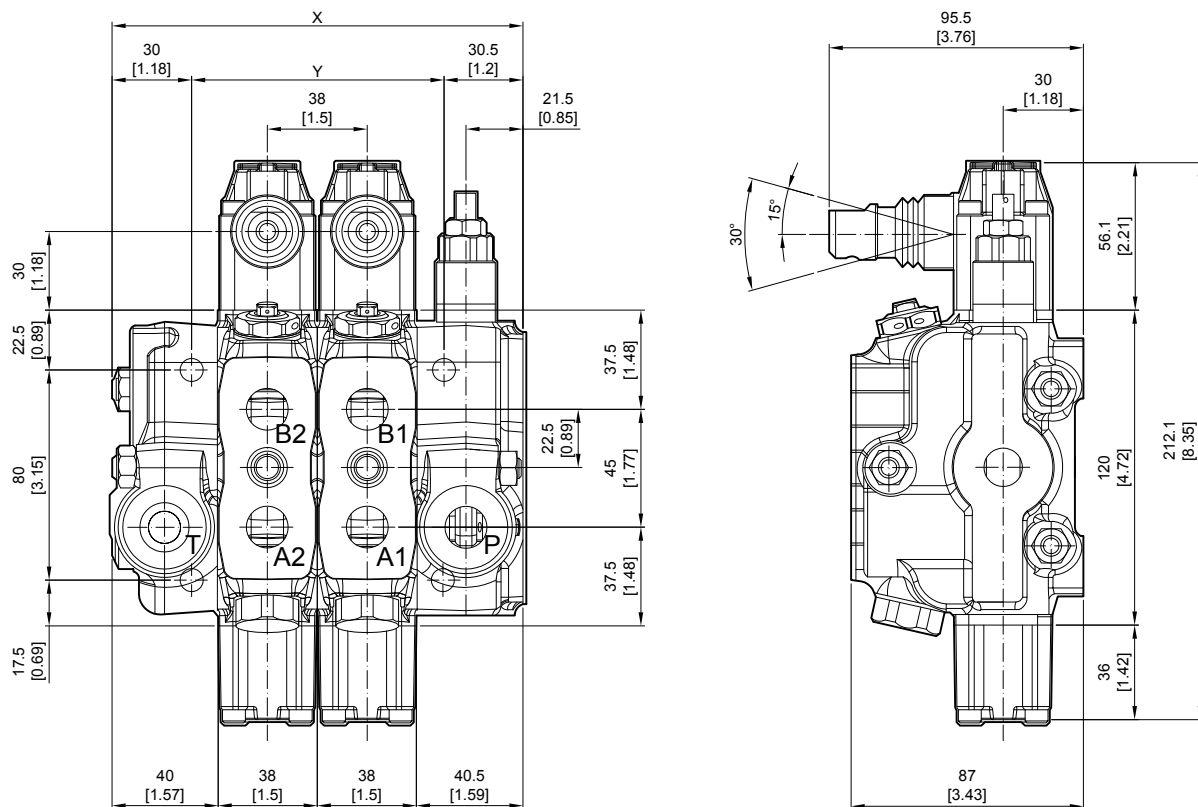
- 1** Spool options
- 2** "B" side Spool positioners
- 3** "A" side controls
- 4** Port relief

2: B Side Spool Positioners		
TYPE	CODE	DESCRIPTION
6-1	VS33061	Detent in pos. 1-0-2, without spring centered
6-2	VS33062	2 positions, detent in pos. 0-2, without spring centered
6-3	VS33063	2 positions, detent in pos. 1-0, without spring centered
8D2	VS33082	With spring return to neutral position and pin with M8 male thread for dual control
8P	VS33080	ON/OFF Pneumatic actuator
8EP3	VS34300	ON/OFF Electro-Pneumatic actuator
8MG1 (NO)	VS34801	Microswitch kit operated in pos. 1 (Normally Open)
8MG2 (NO)	VS34802	Microswitch kit operated in pos. 2 (Normally Open)
8MG3 (NO)	VS34803	Microswitch kit operated in pos. 1&2 (Normally Open)
MG(NO)	VS34804	Microswitch with NO terminal
8MG1 (NC)	VS348011	Microswitch kit operated in pos. 1 (Normally Closed)
8MG2 (NC)	VS348021	Microswitch kit operated in pos. 2 (Normally Closed)
8MG3 (NC)	VS348031	Microswitch kit operated in pos. 1&2 (Normally Closed)
MG(NC)	VS348041	Microswitch with NC terminal
8	VS33008	With spring return to neutral position
8-1	VS34081	2 positions, with spring centered from pos. 1
8-2	VS34082	2 positions, with spring centered from pos. 2
9-1	VS33091	Detent in pos. 1, 2 with spring centered
9-2	VS33092	Detent in pos. 2 with spring centered
9-3	VS33093	Detent in pos. 1 with spring centered

2: B Side Spool Positioners		
TYPE	CODE	DESCRIPTION
8ED3+RV-KE1R3	VS34201	1S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)
8ED3+RV-KE2R3	VS34202	2S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)
8ED3+RV-KE3R3	VS34203	3S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)
8ED3+RV-KE4R3	VS34204	4S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)
8ED3+RV-KE5R3	VS34205	5S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)
8ED3+RV-KE6R3	VS34206	6S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)
8ED3+RV-KE7R3	VS34207	7S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)
8ED3+RV-KE8R3	VS34208	8S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)
8ED3+RV-KE9R3	VS34209	9S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)
8ED3+RV-KE10R3	VS34210	10S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)
8ED3+RV-KE11R3	VS34211	11S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)
8ED3+RV-KE12R3	VS34212	12S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)
8ER3+KE1SO	VS33401	1S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain
8ER3+KE2SO	VS33402	2S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain
8ER3+KE3SO	VS33403	3S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain
8ER3+KE4SO	VS33404	4S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain
8ER3+KE5SO	VS33405	5S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain
8ER3+KE6SO	VS33406	6S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain
8ER3+KE7SO	VS33407	7S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain
8ER3+KE8SO	VS33408	8S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain
8ER3+KE9SO	VS33409	9S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain
8ER3+KE10SO	VS33410	10S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain
8ER3+KE11SO	VS33411	11S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain
8ER3+KE12SO	VS33412	12S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain
3: A Side controls		
TYPE	CODE	DESCRIPTION
L	VS34000	Standard lever
SLP	VS34003	Without lever, with dust proof plate
LCB	VS34002	Joystick lever for 2 section operation
TQ	VS34004	Flexible cable connection
4: Port Relief		
TYPE	CODE	DESCRIPTION
P (G2-63)	VS35002	Anti-shock valve, range 63 to 125 bar / from 900 to 1800 psi standard setting 63 bar / 900 psi
P (G3-100)	VS35003	Anti-shock valve, range 100 to 250 bar / from 1450 to 3600 psi standard setting 100 bar / 1450 psi
P (G4-200)	VS35004	Anti-shock valve, range 200 to 315 bar / from 2900 to 4600 psi standard setting 200 bar / 2900 psi
U (G2-63)	VS35012	Anti-shock valve and Anti-cavitation valve, range 63 to 125 bar / from 900 to 1800 psi standard setting 63 bar / 900 psi
U (G3-100)	VS35013	Anti-shock valve and Anti-cavitation valve, range 100 to 250 bar / from 1450 to 3600 psi standard setting 100 bar / 1450 psi
U (G4-200)	VS35014	Anti-shock valve and Anti-cavitation valve, range 200 to 315 bar / from 2900 to 4600 psi standard setting 200 bar / 2900 psi
C	VS35100	Anti-cavitation

VS3 Dimensions

Sectional Directional Control Valves



Standard threads

Ports	BSP	A and B	METRIC
P	G 3/8	7/8-14 (SAE 10)	M18 x 1.5
A and B	G 3/8	3/4-16 (SAE 8)	M18 x 1.5
T and C	G 1/2	7/8-14 (SAE 10)	M22 x 1.5

• G-1/2 : G4 G-3/8 : G3 G-3/4 : G6

• SAE 8 : E8 SAE 10 : E10 SAE 12 : E12 SAE 16 : E16

Standard dimensions

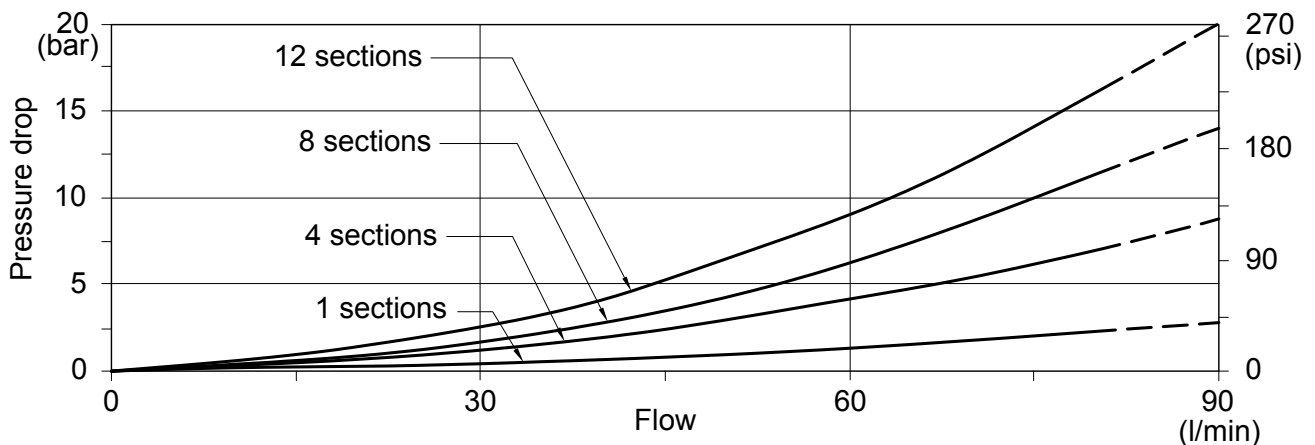
TYPE	X		Y	
	mm	in	mm	in
VS3/1S	118.5	4.66	58	2.28
VS3/2S	156.5	6.16	96	3.78
VS3/3S	194.5	7.66	134	5.28
VS3/4S	232.5	9.15	172	6.77
VS3/5S	270.5	10.65	210	8.27
VS3/6S	308.5	12.15	248	9.76

TYPE	X		Y	
	mm	in	mm	in
VS3/7S	346.5	13.65	286	11.26
VS3/8S	384.5	15.15	324	12.76
VS3/9S	422.5	16.65	362	14.26
VS3/10S	460.5	18.15	400	15.76
VS3/11S	498.5	19.65	438	17.26
VS3/12S	536.5	21.15	476	18.76

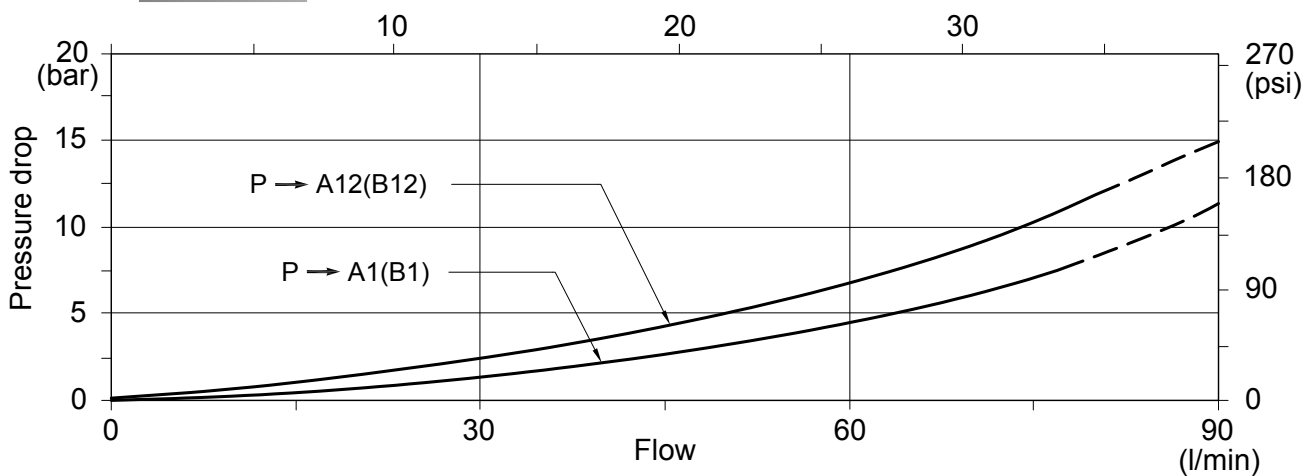
VS3 Performance Curve Chart

Sectional Directional Control Valves

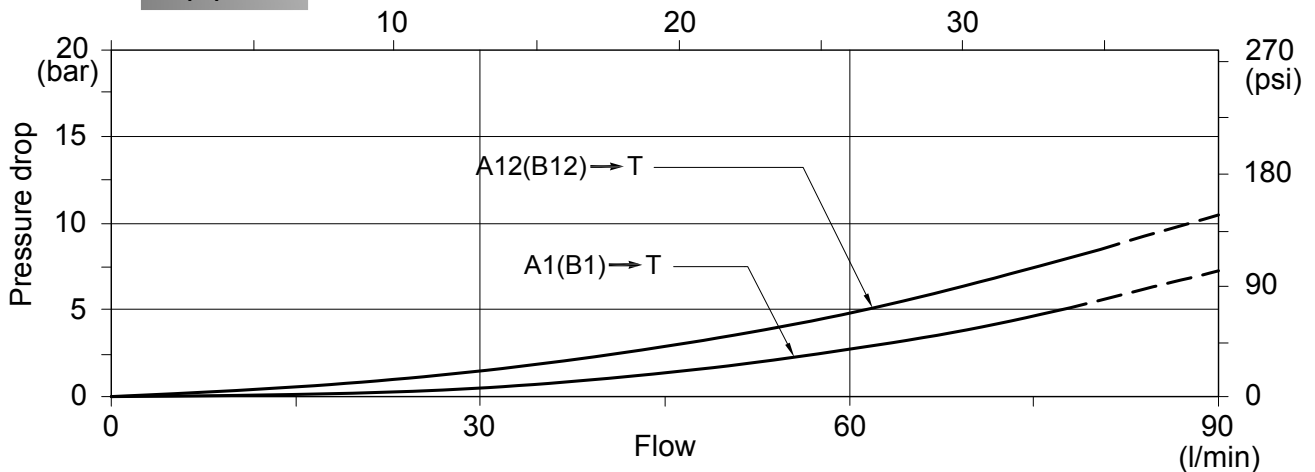
P to T



P to A (B)

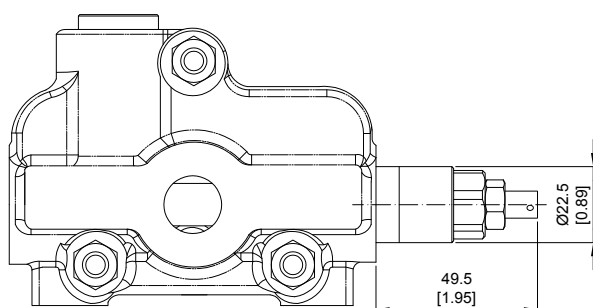


A(B) to T

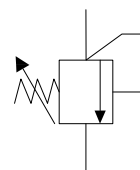


VS3 Inlet Relief (Optional) Sectional Directional Control Valves

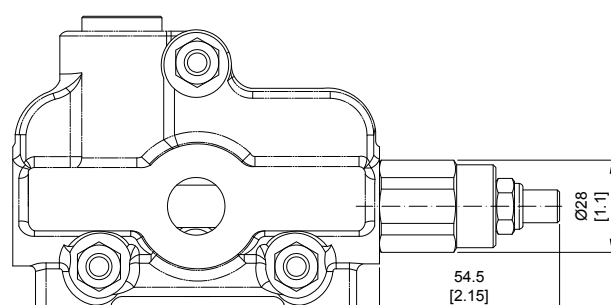
Type YG



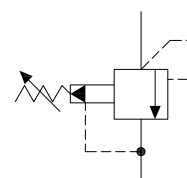
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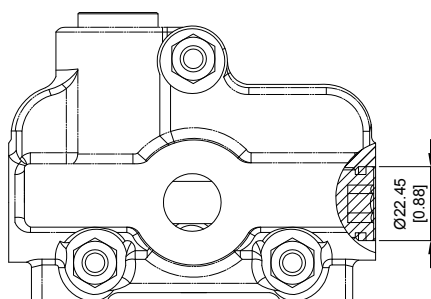
Type XYG



Pilot operated pressure relief valve:



Type SV



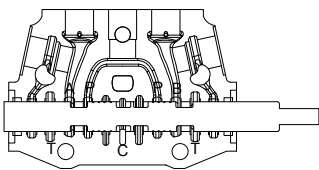
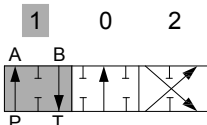
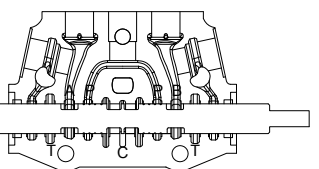
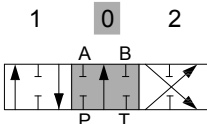
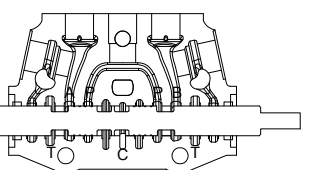
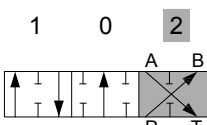
Relief valve blanking plug:



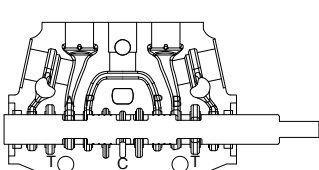
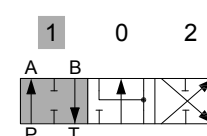
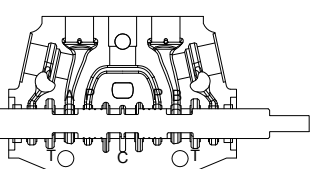
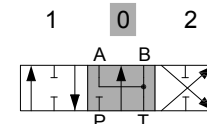
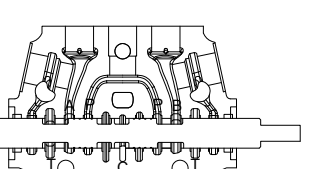
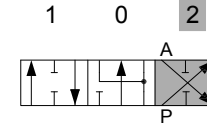
VS3 Spool Options

Sectional Directional Control Valves

TYPE 1

	<p>P → A B → T C closed</p>	
	<p>P & T & A & B closed C open</p>	
	<p>P → B A → T C closed</p>	

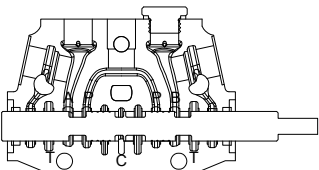
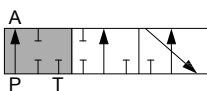
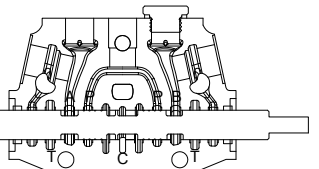
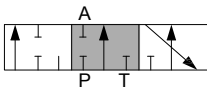
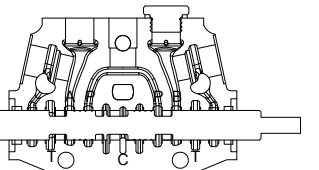
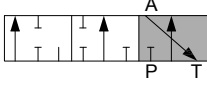
TYPE 2

	<p>P → A B → T C closed</p>	
	<p>A & B → T P closed C open</p>	
	<p>P → B A → T C closed</p>	

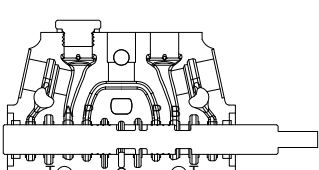
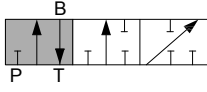
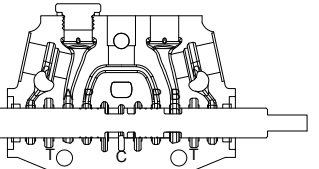
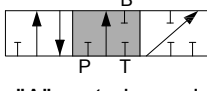
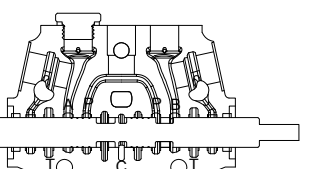
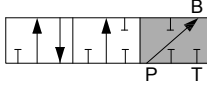
VS3 Spool Options

Sectional Directional Control Valves

TYPE 3

	<p>$P \rightarrow A$ C closed</p>	<p>1 0 2</p>  <p>"B" port plugged</p>
	<p>P & T & A & B closed C open</p>	<p>1 0 2</p>  <p>"B" port plugged</p>
	<p>$A \rightarrow T$ C open</p>	<p>1 0 2</p>  <p>"B" port plugged</p>

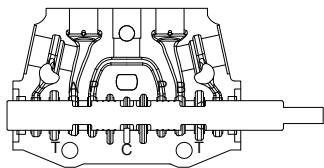
TYPE 4

	<p>$B \rightarrow T$ C open</p>	<p>1 0 2</p>  <p>"A" port plugged</p>
	<p>P & T & B closed C open</p>	<p>1 0 2</p>  <p>"A" port plugged</p>
	<p>$P \rightarrow B$ C closed</p>	<p>1 0 2</p>  <p>"A" port plugged</p>

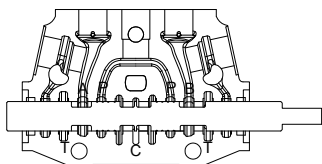
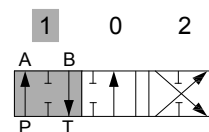
VS3 Spool Options

Sectional Directional Control Valves

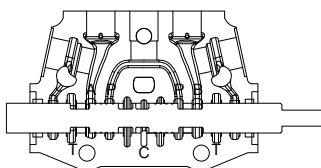
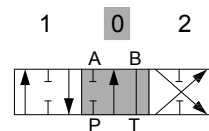
TYPE 5



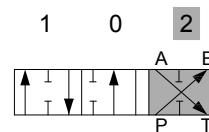
P → A
B → T
C closed



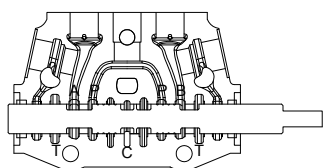
A & B → T
P closed
C open



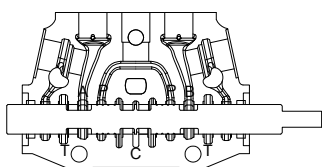
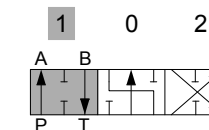
P → B
A → T
C closed



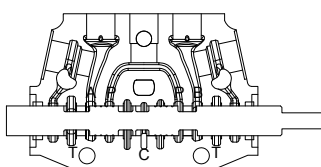
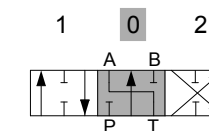
TYPE 6



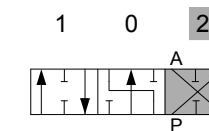
P → A
B → T
C closed



A & B → T
P closed
C open



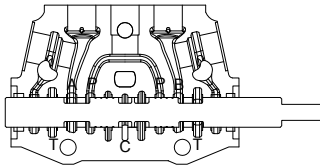
P → B
A → T
C closed



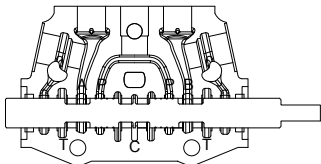
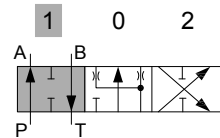
VS3 Spool Options

Sectional Directional Control Valves

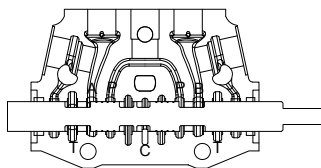
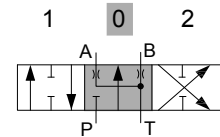
TYPE 2H



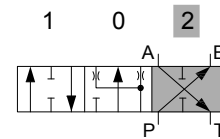
P → A
B → T
C closed



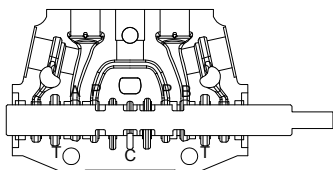
A & B → T
P closed
C open



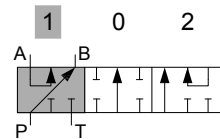
P → B
A → T
C closed



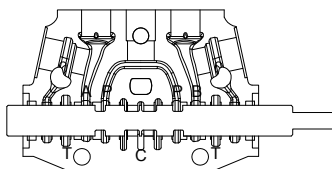
TYPE 1S



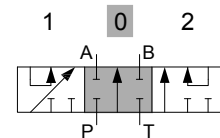
P → B
A → C



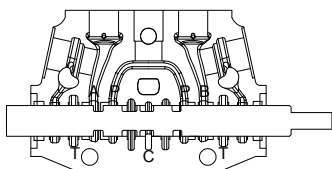
"B" port plugged



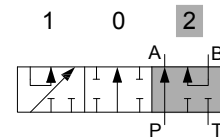
P & T & A & B closed
C open



"B" port plugged



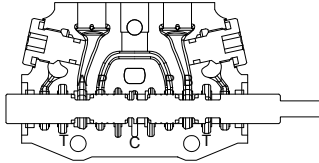
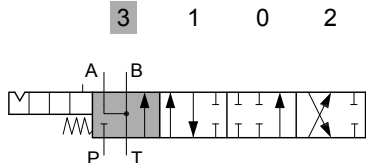
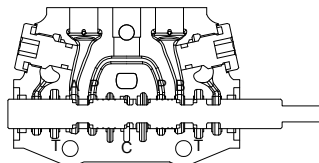
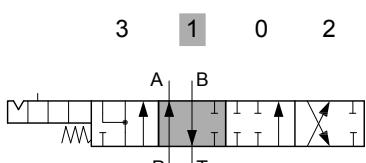
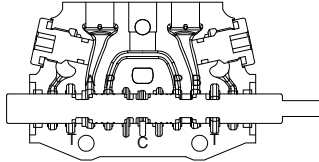
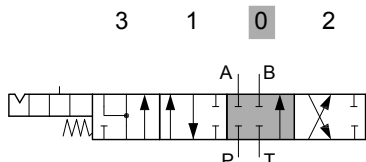
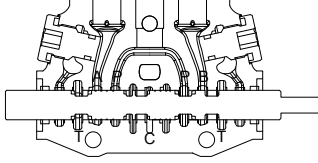
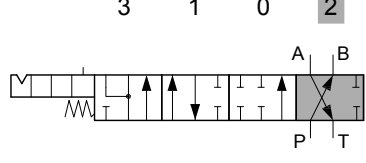
P → A
B → C



"B" port plugged

VS3 Spool Options

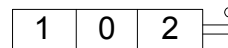
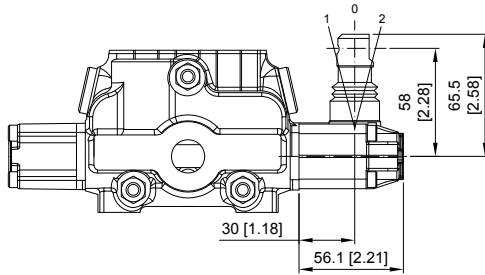
Sectional Directional Control Valves

TYPE 5PY		NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER
	<p>A & B → T P closed C open</p>	
	<p>P → A B → T C closed</p>	
	<p>P & A & B & T closed C open</p>	
	<p>P → B A → T C closed</p>	

VS3 A Side

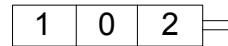
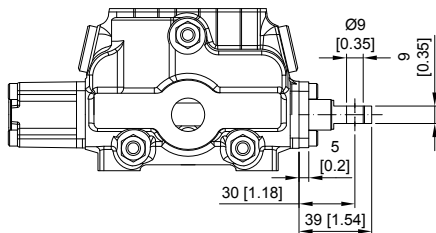
Sectional Directional Control Valves

Type L



Type L:
STANDART LEVER KIT

Type SLP

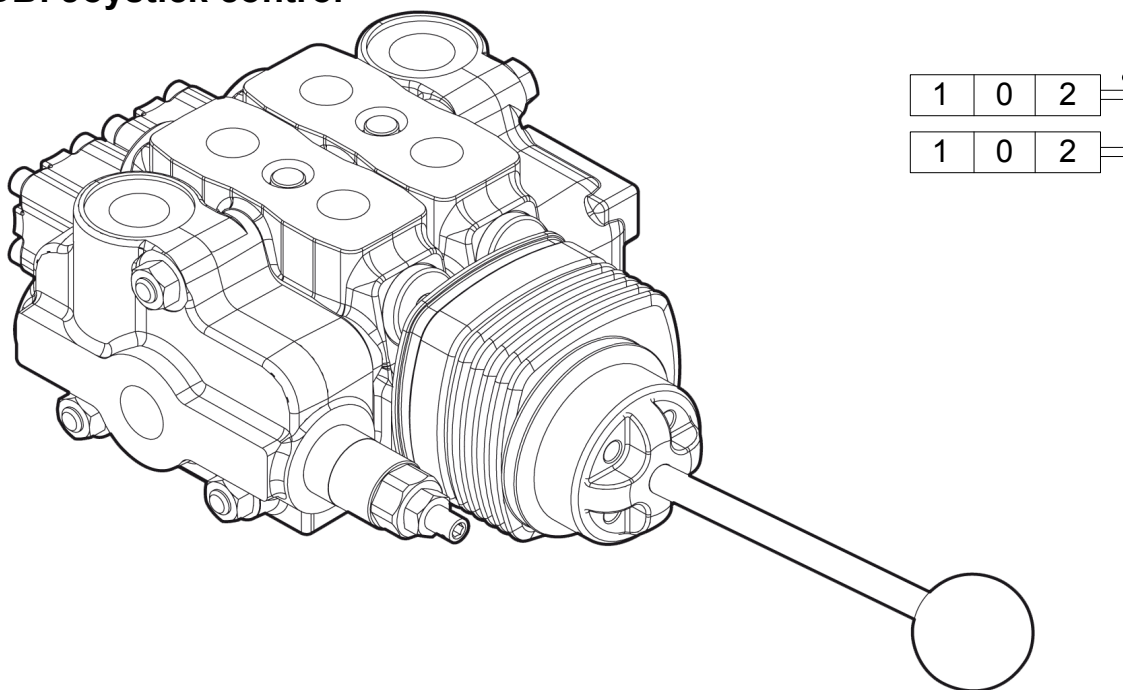


Type SLP:
WITH DUST-PROOF PLATE

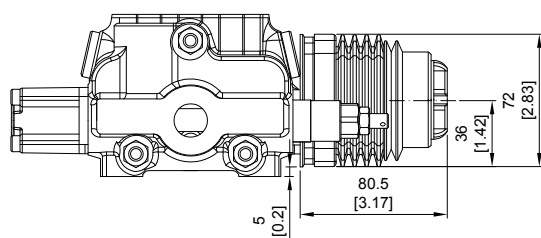
VS3 A Side

Sectional Directional Control Valves

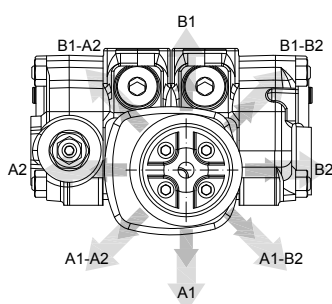
LCB: Joystick control



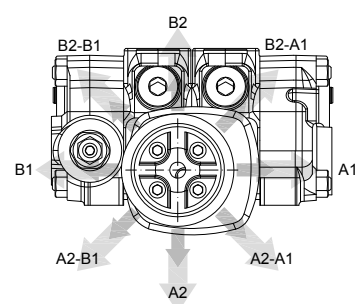
Type LCB



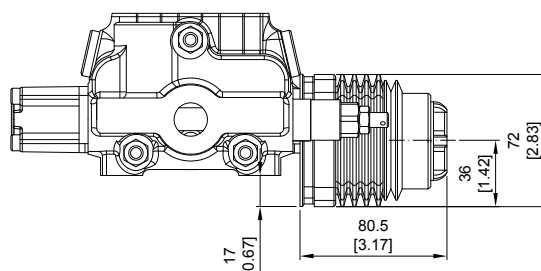
LCB 1



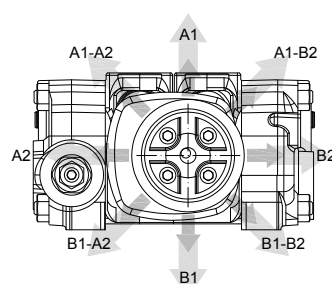
LCB 2



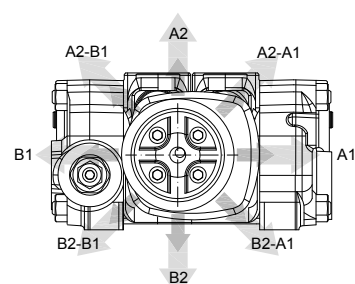
Type LCB



LCB 3



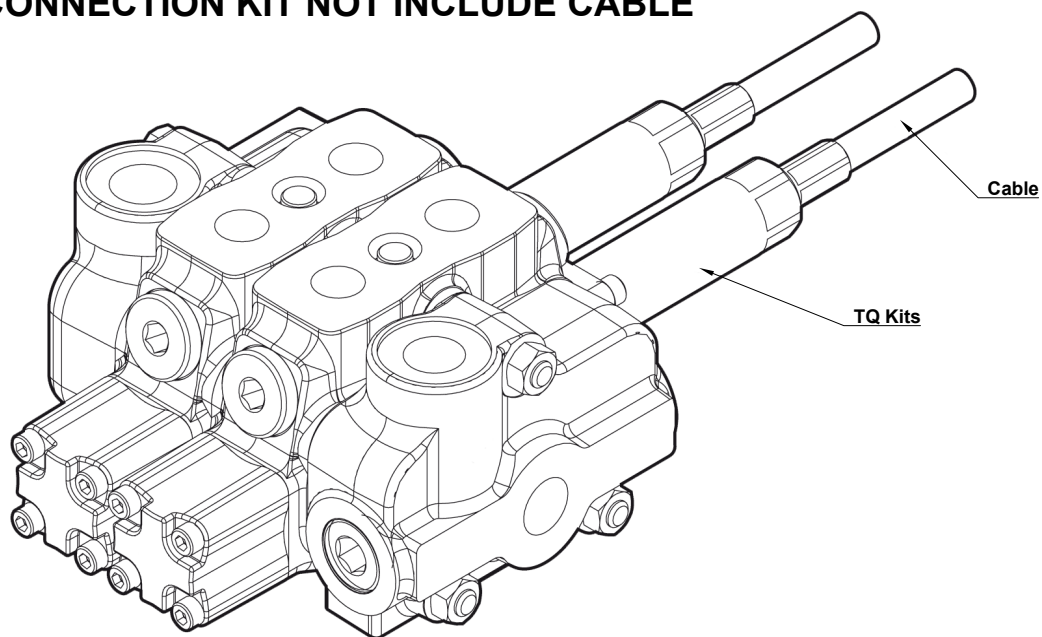
LCB 4



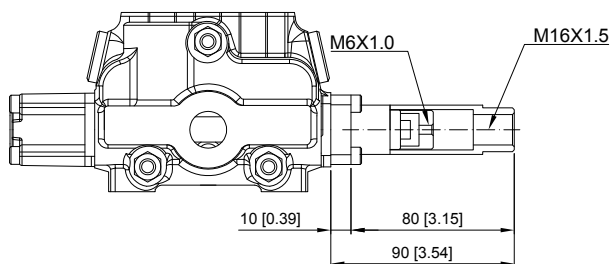
VS3 A Side

Sectional Directional Control Valves

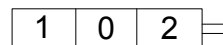
Note : CONNECTION KIT NOT INCLUDE CABLE



Type TQ

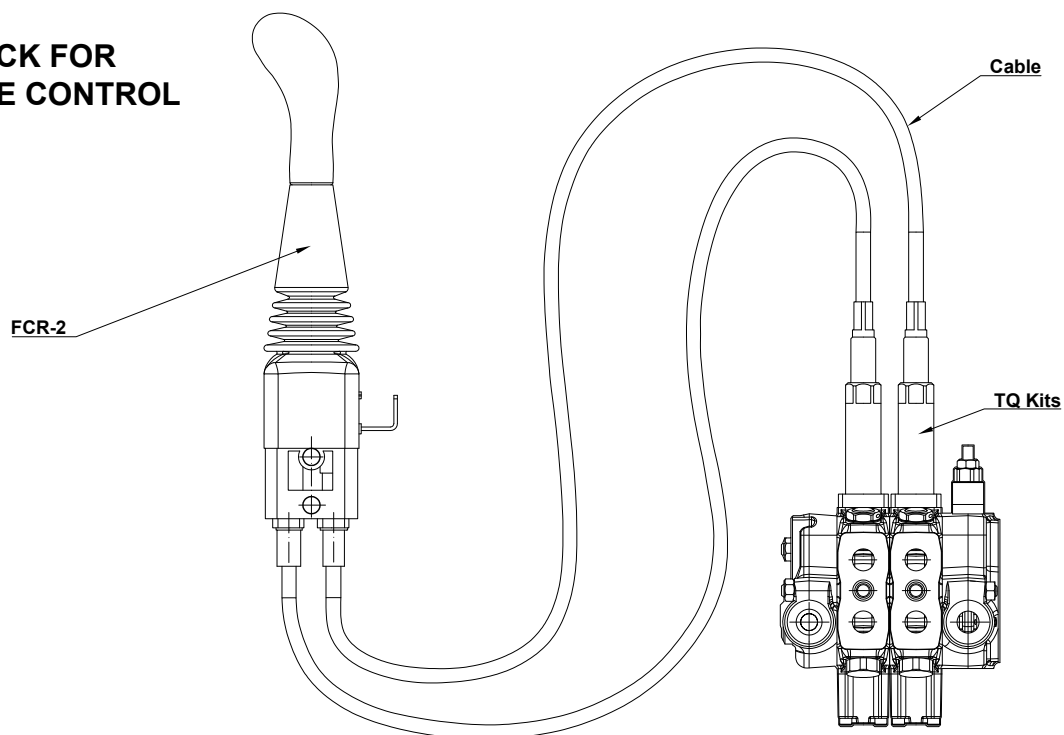


TQ Kit:

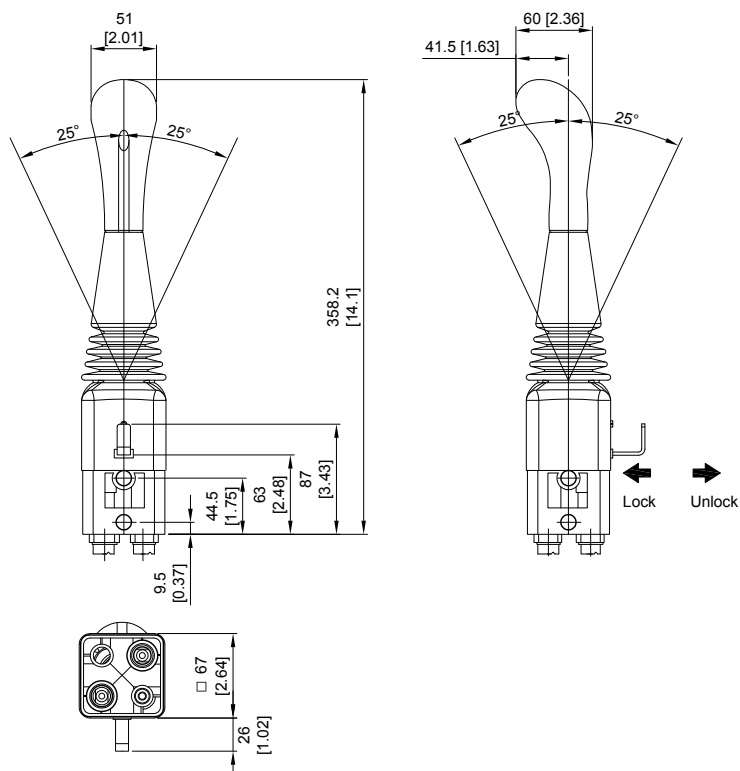


VS3 A Side Sectional Directional Control Valves

FCR-2: JOYSTICK FOR REMOTE CONTROL



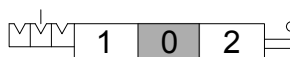
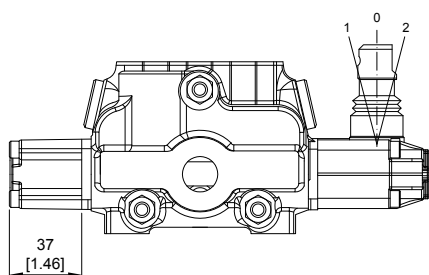
Type FCR-2



VS3 B Side

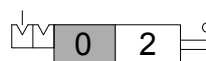
Sectional Directional Control Valves

Type 6



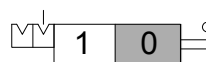
6-1 Kit:

DETENT IN POS. 1-0-2, WITHOUT SPRING CENTERED



6-2 Kit:

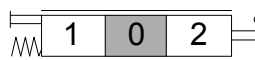
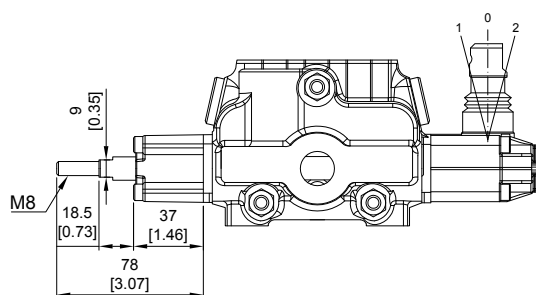
2 POSITIONS, DETENT IN POS. 0-2, WITHOUT SPRING CENTERED



6-3 Kit:

2 POSITIONS, DETENT IN POS. 1-0, WITHOUT SPRING CENTERED

Type 8D2



8D2 Kit:

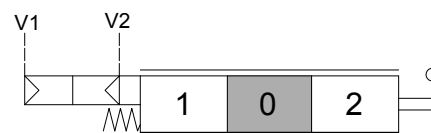
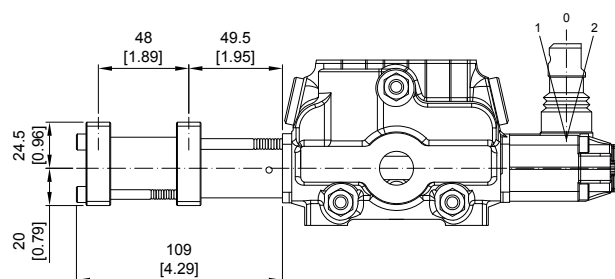
WITH SPRING RETURN TO NEUTRAL POSITION AND PIN WITH M8 MALE THREAD FOR DUAL CONTROL

VS3 B Side

Sectional Directional Control Valves

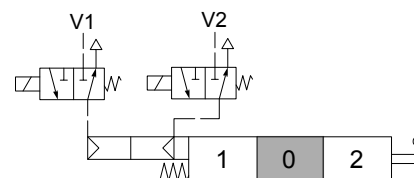
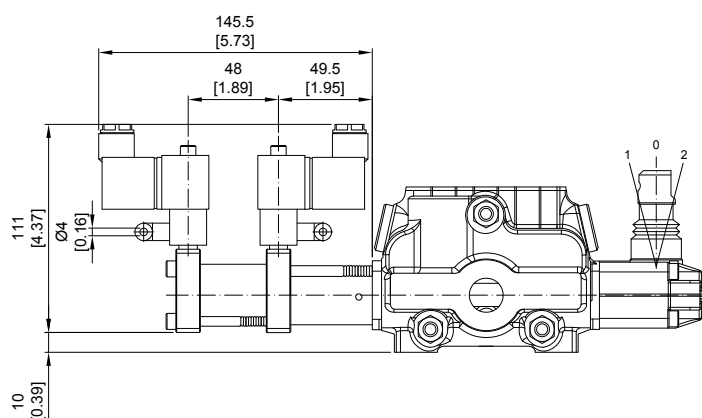
Type 8P

V1 & V2: NPT 1/8 - 27



Pilot pressure: FROM 7 TO 10 BAR / 101 TO 145 PSI

Type 8EP3



Solenoid operating features:

NOMINAL VOLTAGE: 24VDC

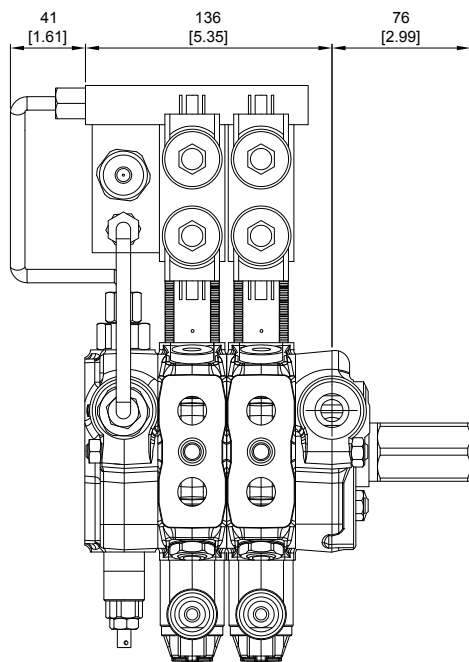
NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$

POWER RATING: 5W

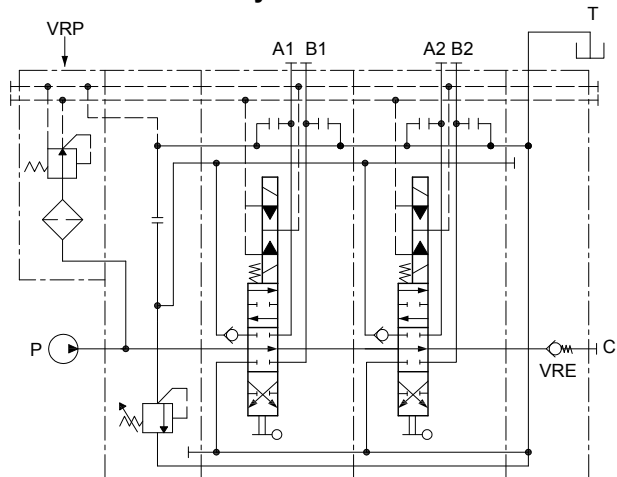
VS3 B Side

Sectional Directional Control Valves

Type 8ED3

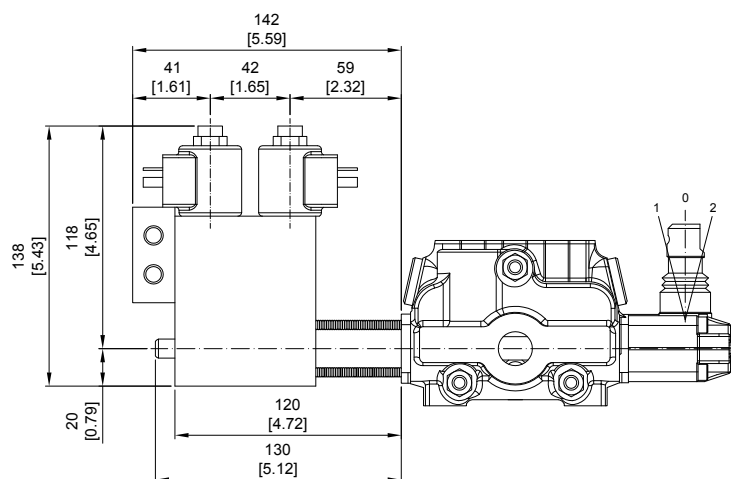


Hydraulic circuit



VRP valve operating features:

OUTLET PRESSURE: 25 BAR / 363 PSI
 MAX. FLOW: 8 L/MIN / 2.1 US GPM
 FILTERING: 80 μ

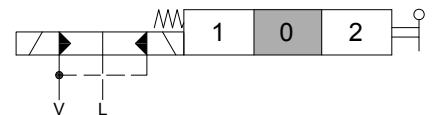


Operating features:

PILOT PRESSURE: • MIN. 10 BAR / 145 PSI
 • MAX. 50 BAR / 725 PSI
 MAX. BACKPRESSURE ON DRAIN L:
 25 BAR / 360 PSI

Solenoid operating features:

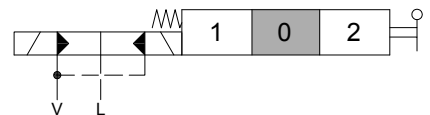
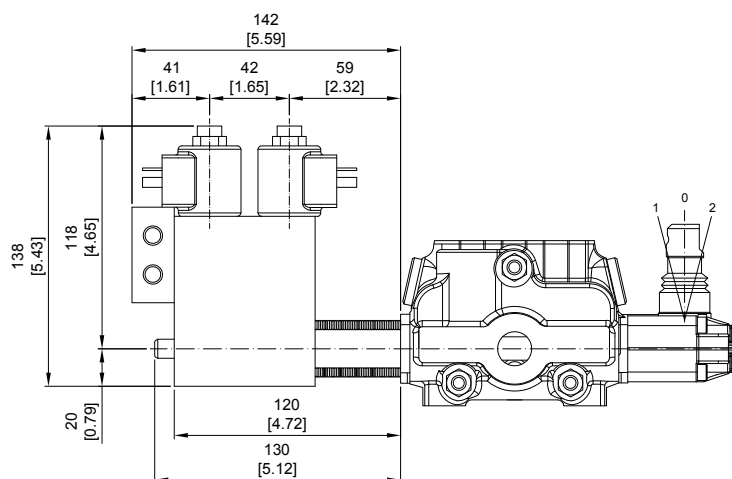
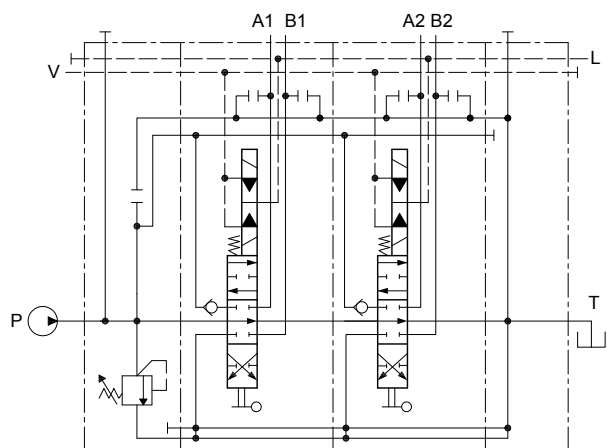
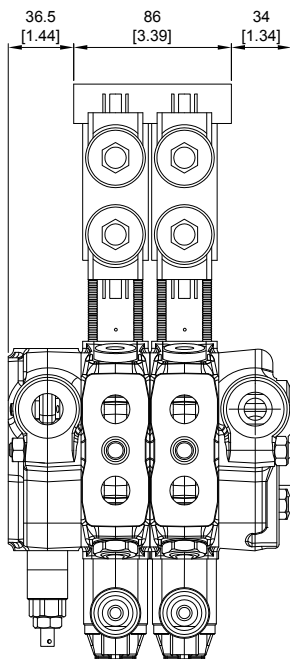
NOMINAL VOLTAGE: 12 VDC / 24 VDC
 POWER RATING: 21 W
 DUTY CYCLE: 100%



VS3 B Side

Sectional Directional Control Valves

Type 8ER3



Operating features:

PILOT PRESSURE: • MIN. 10 BAR / 145 PSI
• MAX. 50 BAR / 725 PSI

MAX. BACKPRESSURE ON DRAIN L:
25 BAR / 360 PSI

Solenoid operating features:

NOMINAL VOLTAGE: 12 VDC / 24 VDC

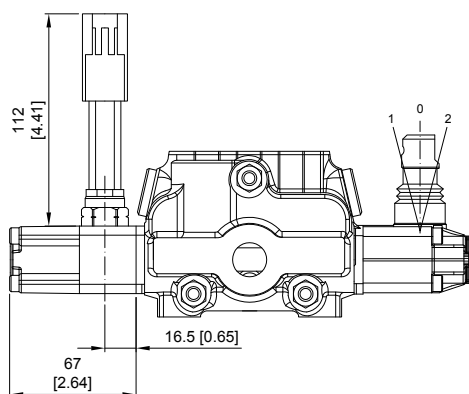
POWER RATING: 21 W

DUTY CYCLE: 100%

VS3 B Side

Sectional Directional Control Valves

Type 8MG



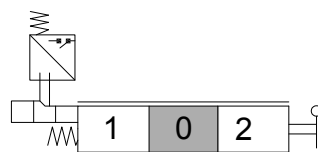
MICROSWITCH

Operating features:

MECHANICAL LITE: • 5X10⁵ OPERATIONS

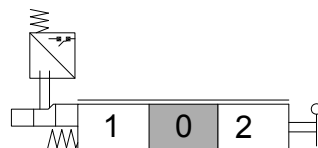
ELECTRICAL LITE (RESISTIVE LOAD):

- 10⁵ OPERATIONS - 7A / 13.5 VDC
- 5X10⁴ OPERATIONS - 10A / 12 VDC
- 5X10⁴ OPERATIONS - 3A / 28 VDC



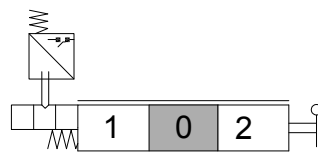
8MG1 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1



8MG2 Kit:

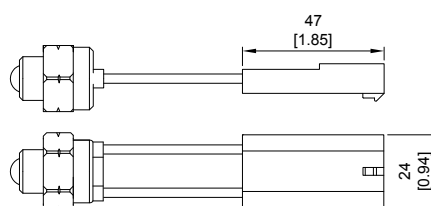
MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 2



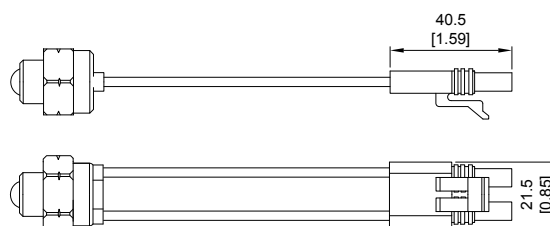
8MG3 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1 AND POS. 2

With NO contact (female connector with male end)



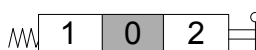
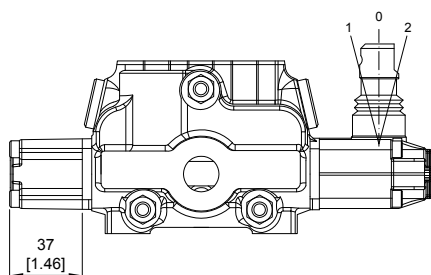
With NC contact (male connector with female end)



VS3 B Side

Sectional Directional Control Valves

Type 8



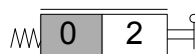
8 Kit:

SPRING RETURN TO NEUTRAL POSITION.



8-1 Kit:

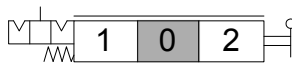
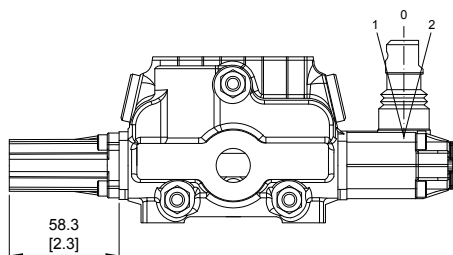
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)



8-2 Kit:

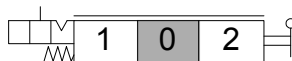
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)

Type 9



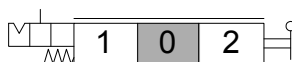
9-1 Kit:

DETENT IN POS. 1, 2 WITH SPRING CENTERED



9-2 Kit:

DETENT IN POS. 2 WITH SPRING CENTERED



9-3 Kit:

DETENT IN POS. 1 WITH SPRING CENTERED

VS3 B Side (Optional controls)

Sectional Directional Control Valves

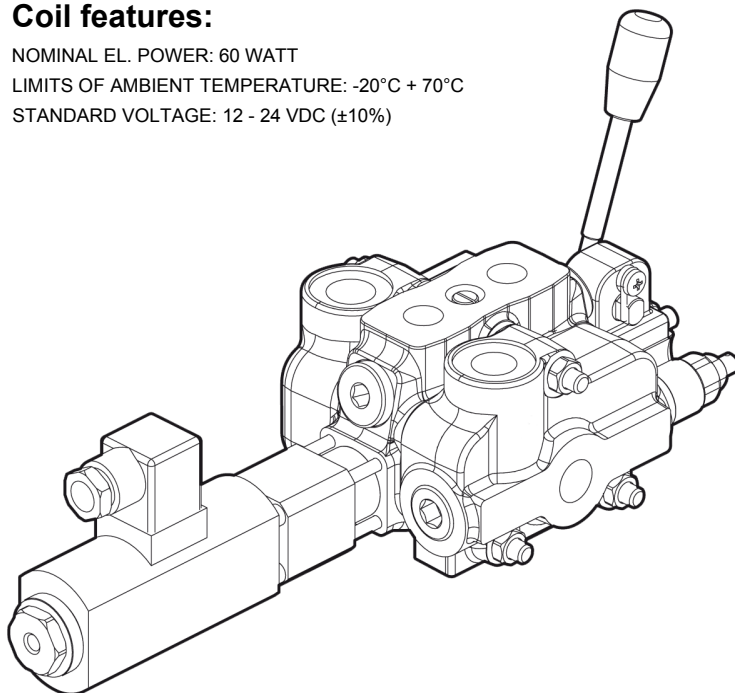
Type 8

Coil features:

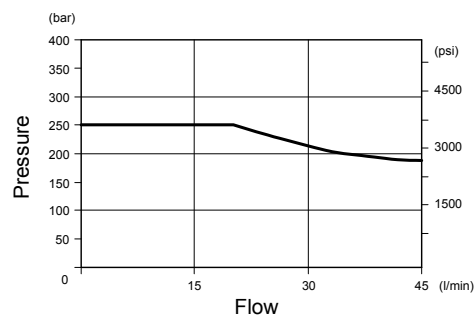
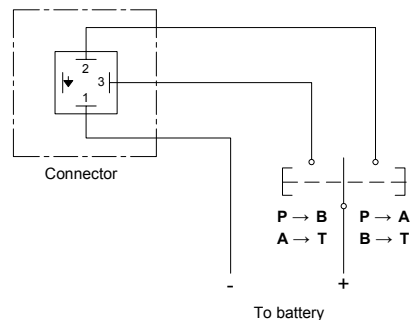
NOMINAL EL. POWER: 60 WATT

LIMITS OF AMBIENT TEMPERATURE: -20°C + 70°C

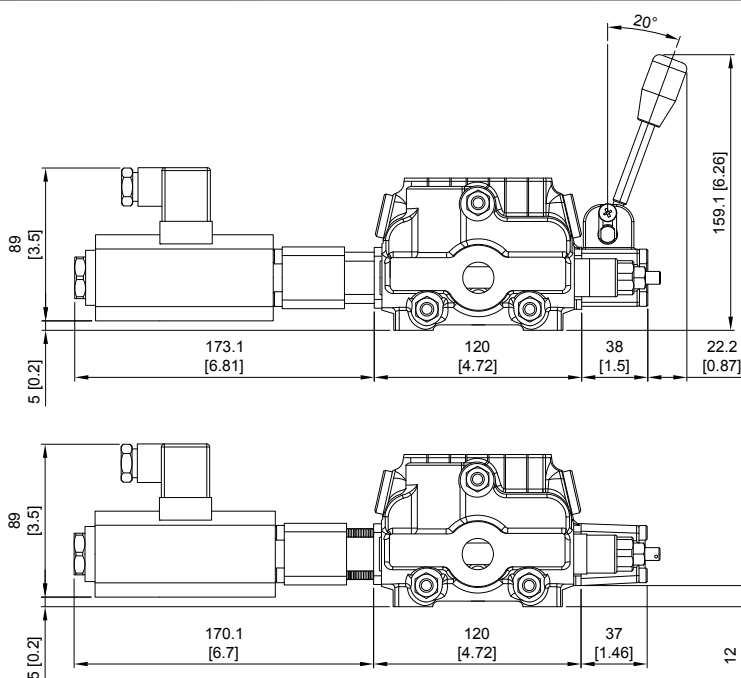
STANDARD VOLTAGE: 12 - 24 VDC (±10%)



Electric wiring example



Type 8ESN



8ESNLES Kit:



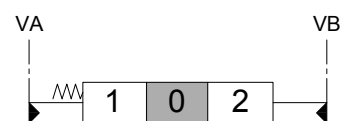
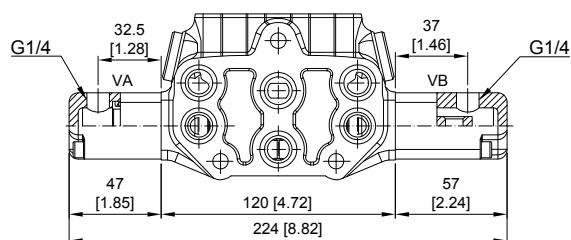
8ESNCAE Kit:



VS3 B Side (Optional controls)

Sectional Directional Control Valves

Type 8IM



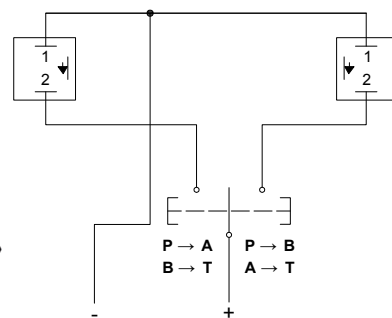
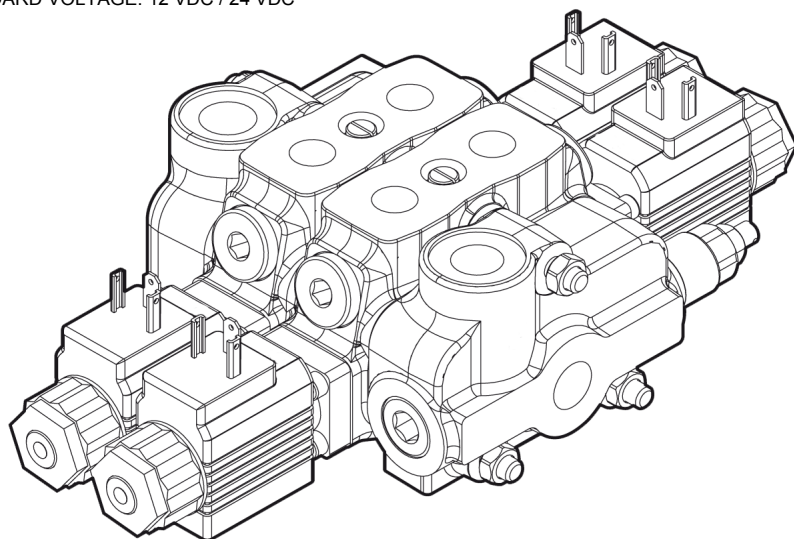
Operating features:

PILOT PRESSURE: MAX. 50 BAR
INTERNAL LEAKAGE A(B) -> T: MAX.6 CM³/MIN
(100 BAR / 40°C)

Type 8ES3

Coil features:

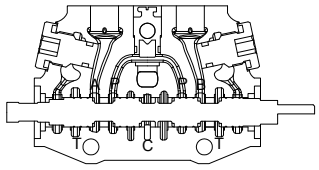
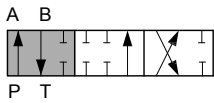
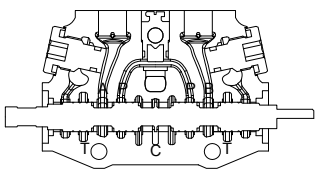
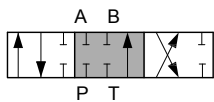
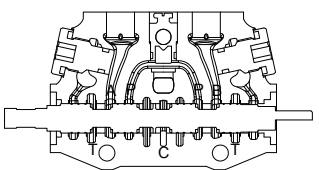
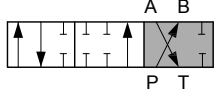
NOMINAL VOLTAGE TOLERANCE: 10%
ELECTRIC POWER: 36 W
STANDARD VOLTAGE: 12 VDC / 24 VDC



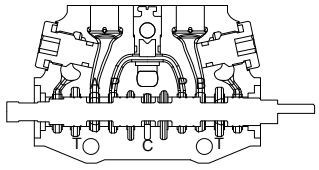
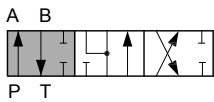
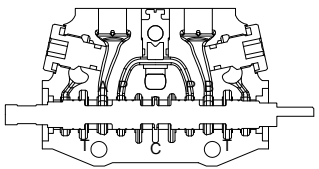
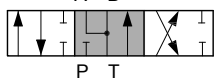
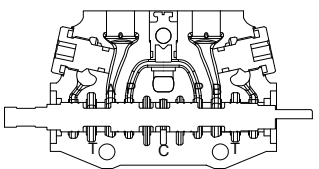
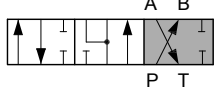
VS3 Special spool (Options for 8ESN Kit)

Sectional Directional Control Valves

Type 8ESN#1 (CODE: YLWSN32001-8ESN)

	<p>P → A B → T C closed</p>	<p>1 0 2</p> 
	<p>A & B & P & T closed C open</p>	<p>1 0 2</p> 
	<p>P → B A → T C closed</p>	<p>1 0 2</p> 

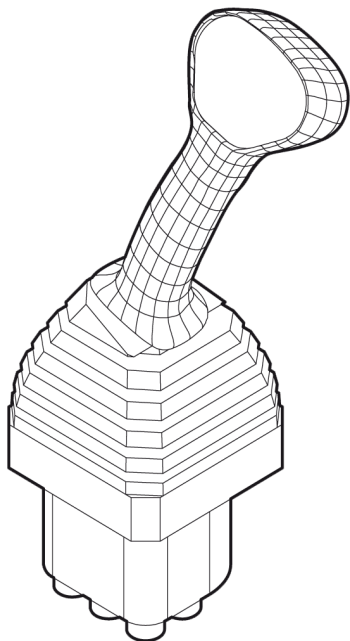
Type 8ESN#2 (CODE: YLWSN32002-8ESN)

	<p>P → A B → T C closed</p>	<p>1 0 2</p> 
	<p>A & B → T P closed C open</p>	<p>1 0 2</p> 
	<p>P → B A → T C closed</p>	<p>1 0 2</p> 

VS3 Accessories

Sectional Directional Control Valves

Type JS

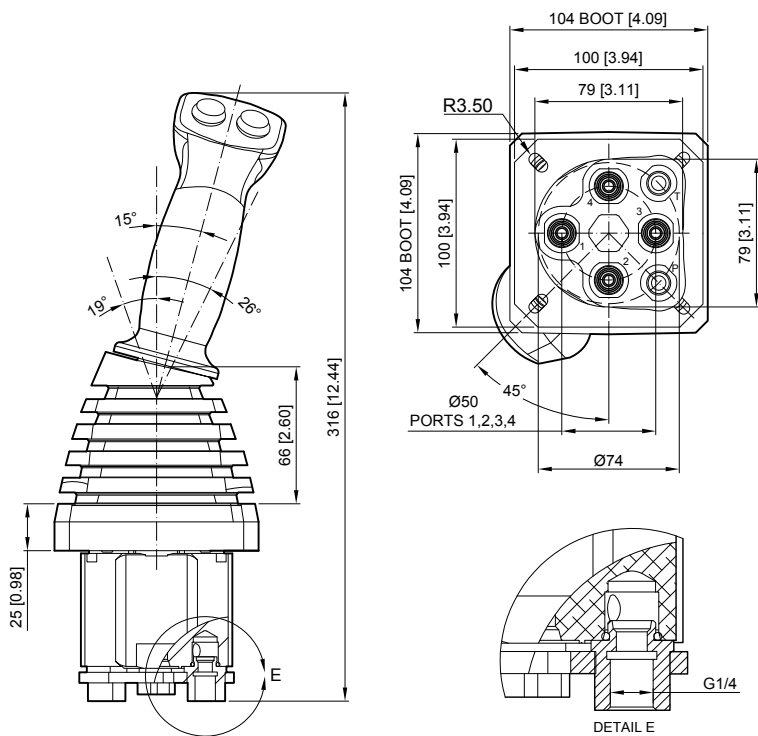


CODE: VSJS446

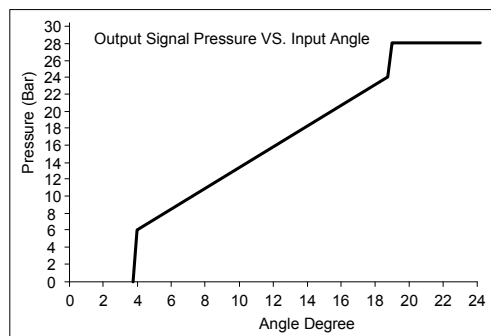
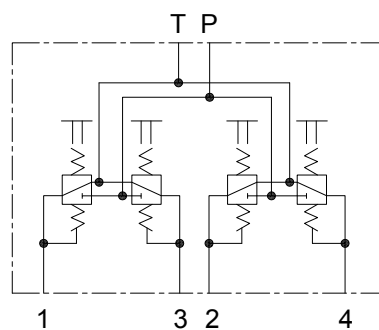
Hydraulic Pilot Valve - handle type

Specifications:

- This data sheet shows technical spec. with mineral oil of 46 mm²/s (cSt) viscosity at 40°C (104°F)
- Flow: 5~20 LPM
- Feeding pressure: 30~100 bar
- Max. backpressure: 3 bar
- Output pressure: see diagram
- Internal leakage at 30 bar: 18~24 cm³/min
- Fluid: mineral oil
- Fluid temperature: -10~80°C
- Ambient temperature: -40~60°C



HYDRAULIC SCHEME:



VS3 Accessories

Sectional Directional Control Valves

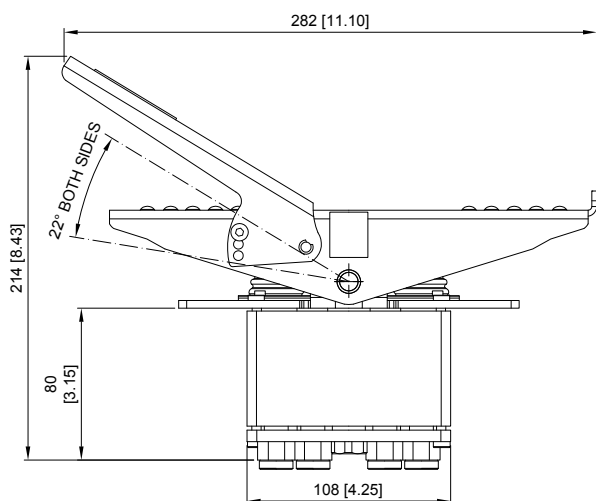
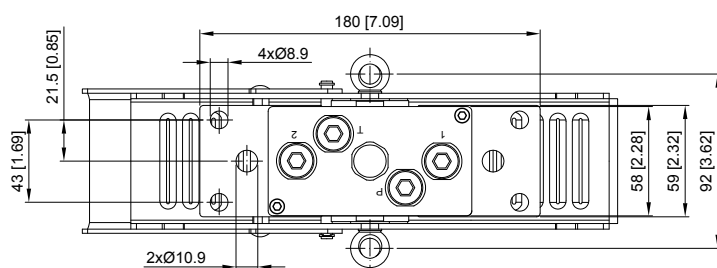
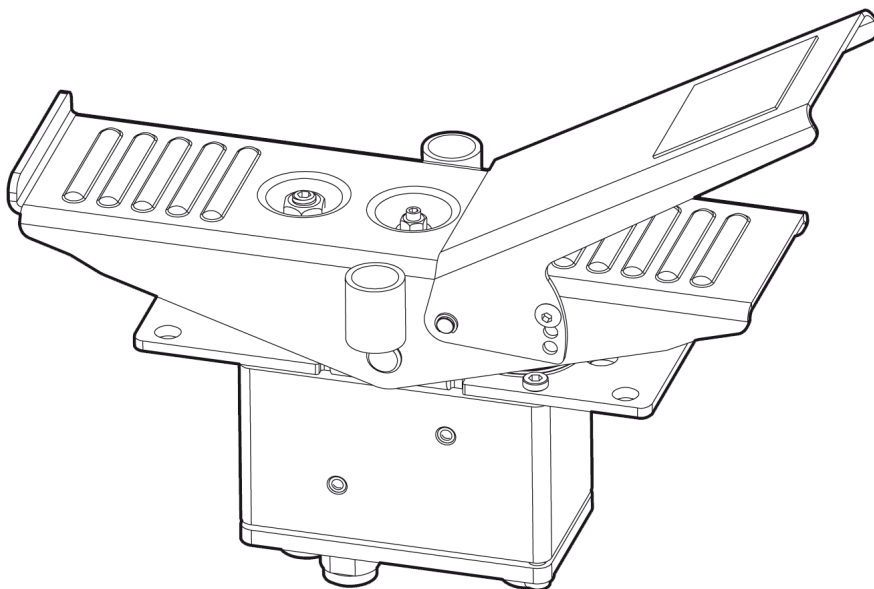
Type FP

CODE: VSFP246

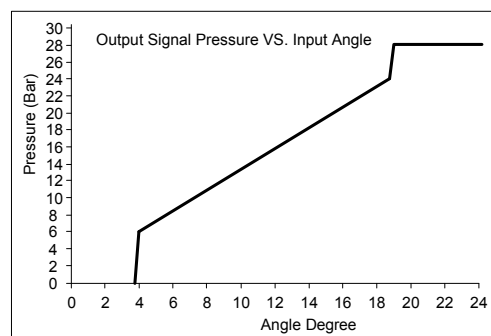
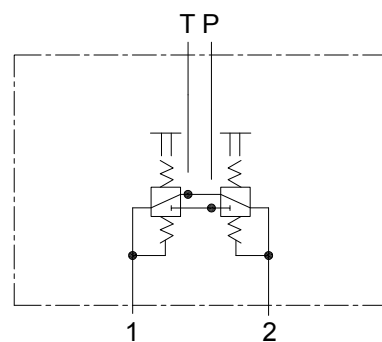
Hydraulic Pilot Valve - pedal type

Specifications:

- This data sheet shows technical spec. with mineral oil of 46 mm²/s (cSt) viscosity at 40°C (104°F)
- Flow: 5~20 LPM
- Feeding pressure: 30~100 bar
- Max. backpressure: 3 bar
- Output pressure: see diagram
- Internal leakage at 30 bar: 18~24 cm³/min
- Fluid: mineral oil
- Fluid temperature: -10~80°C
- Ambient temperature: -40~60°C



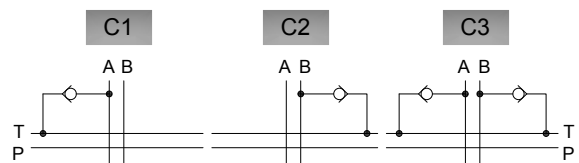
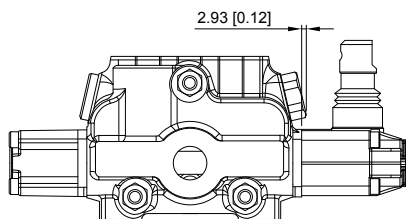
HYDRAULIC SCHEME:



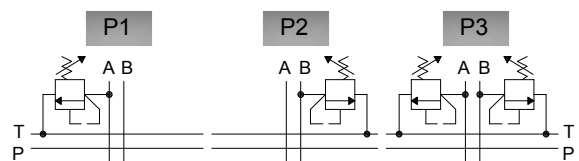
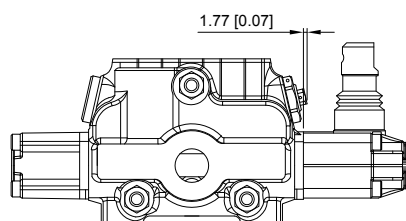
VS3 Port Relief

Sectional Directional Control Valves

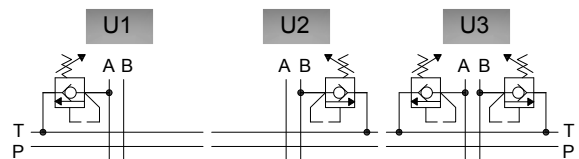
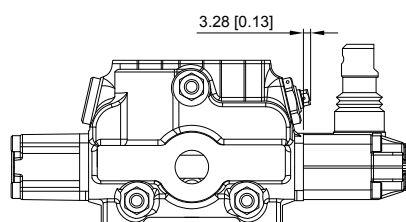
TYPE C



TYPE P



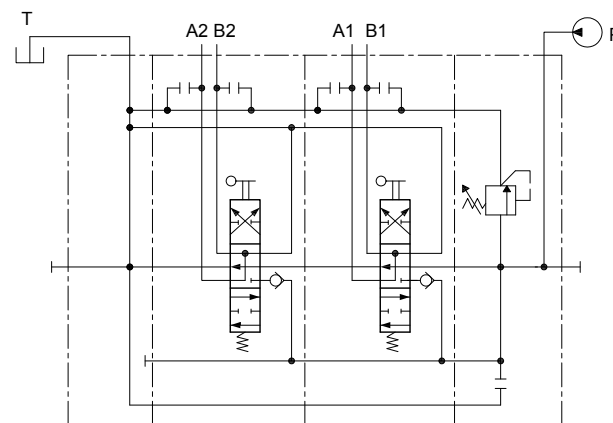
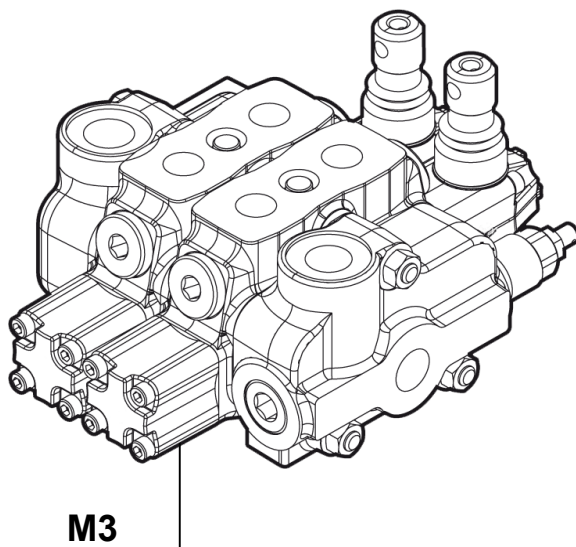
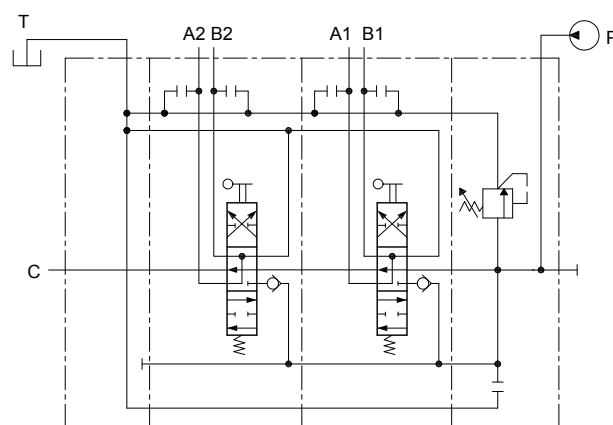
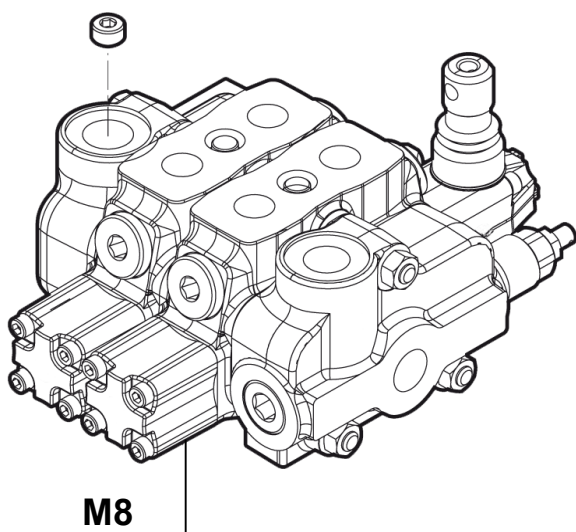
TYPE U



VS3 Outlet

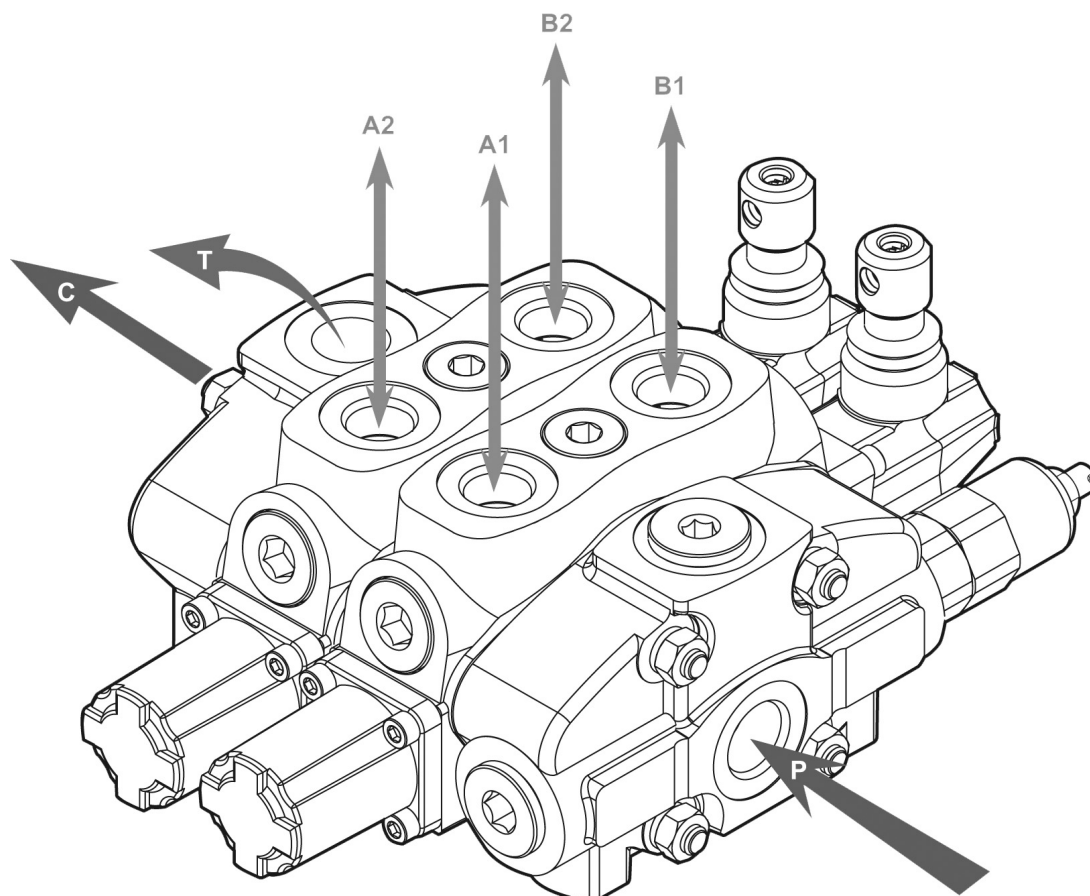
Sectional Directional Control Valves

Power Beyond Conversion plug
(Closed center plug)



VS4

Sectional Directional Control Valves



VS4 Specifications

Nominal flow rate		80 l/min	21 US gpm
Operating pressure (maximum)	parallel or tandem circuit	315 bar	4600 psi
	series circuit	210 bar	3050 psi
Back pressure (maximum)	on outlet port T	25 bar	360 psi
Fluid temperature range	with NBR(BUNA-N) seals	from -20°C to 80°C	from -4° to 176° F
	with FPM(VITON) seal	from -20°C to 100°C	from -4° to 212° F
Viscosity	operating range	from 15 to 75 mm ² /s	from 15 to 75 cst
	min	12 mm ² /s	12 cst
	max.	400 mm ² /s	400 cst
Ambient temperature range		from -40°C to 60°C	from -40° to 140° F

• All specifications, dimensions and design characteristics shown in this catalogue are subject to change without notice

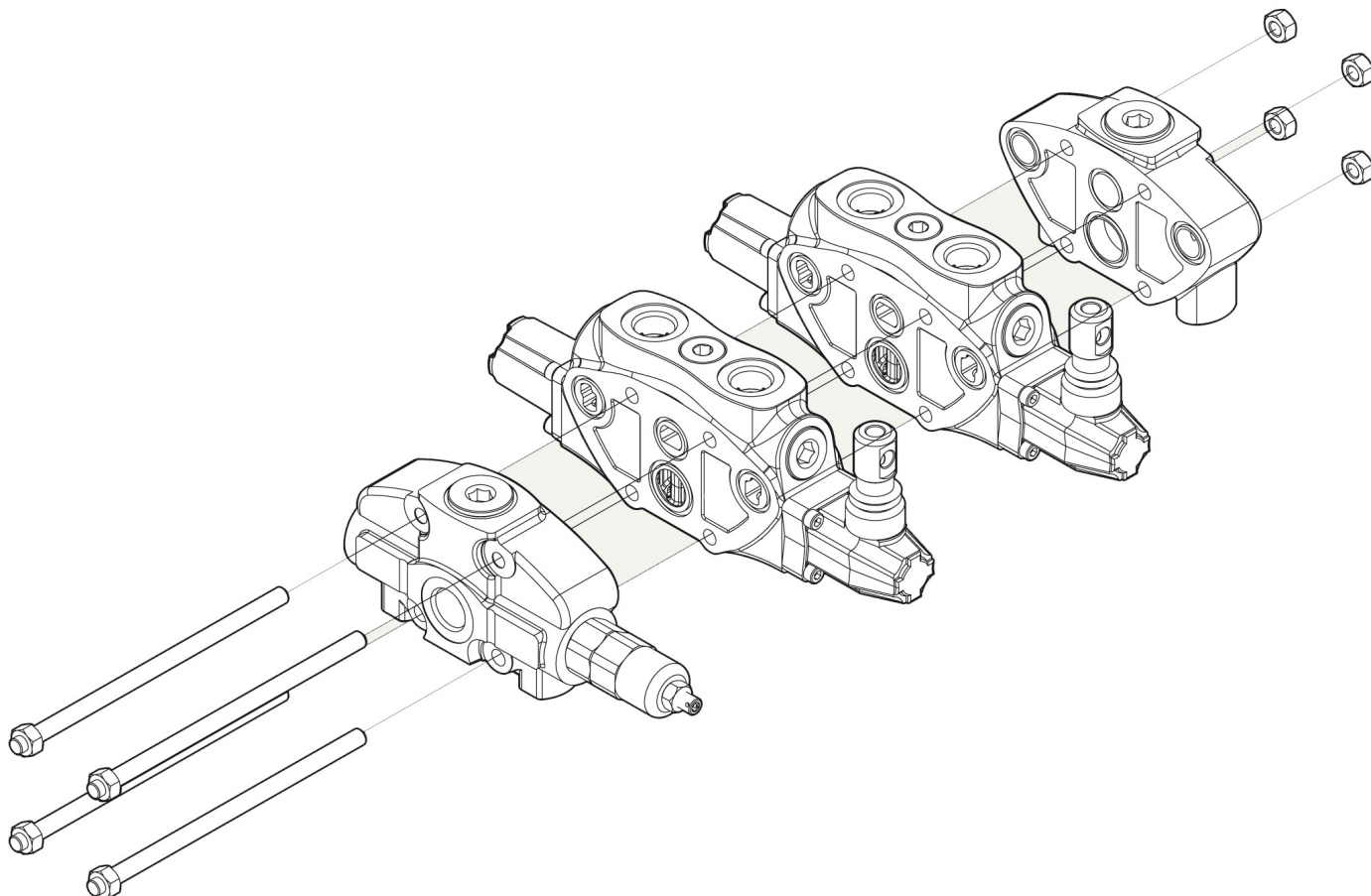
VS4 Complete

Sectional Directional Control Valves

HOW TO ORDER FOR A COMPLETE ASSEMBLED VALVE

VS4 / **2S** - **3** / **18L** / **28L** / **G-4-6** / **M3**

- 2S** No. of working section
- 3** Inlet cover with a main pressure relief valve
- 18L** 1st section (complete working section)
- 28L** Following section (complete working section)
- G-4-6** BSP ports
- M3** Outlet cover



VS4

Sectional Directional Control Valves

FP VS4 / SG-3 / G4

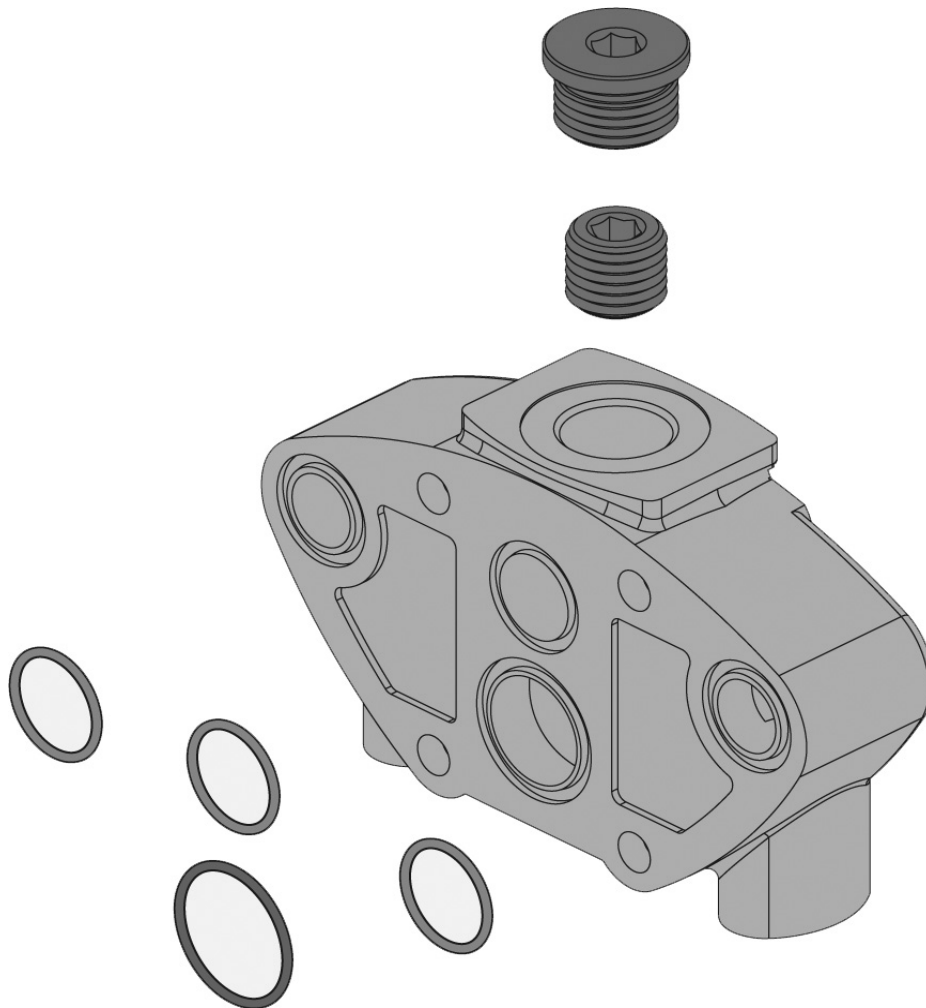
Inlet relief

Inlet Relief			
TYPE	CODE	DESCRIPTION	
SG-2	VS43002	Range 80 to 160 bar / 1150 to 2300 psi, standard setting 125 bar / 1800psi	
SG-3	VS43003	Range 125 to 250 bar / 1800 to 3600 psi, standard setting 175 bar / 2500 psi	
SG-4	VS43004	Range 200 to 315 bar / 2900 to 4600 psi, standard setting 220 bar / 3200 psi Standard setting is referred to 10 l/min - 2.6 US gpm flow.	
SV	VS44000	Relief valve blanking plug	
XSG	VSX21000	Pilot operated pressure relief valve Range 25 to 315 bar/360 to 4600 psi, standard setting 125 bar/1800 psi	

VS4 Outlet Section

Sectional Directional Control Valves

FT VS4 / G-6 / M3



VS4 Working Section

Sectional Directional Control Valves

EW VS4 / 1S / 1 8 L / P1 (G3-100) / G-4

1 2 3 4

- 1 Spool symbol
- 2 "B" side Spool positioners
- 3 "A" side controls
- 4 Port relief

1: Spool Symbol			
TYPE	CODE	DESCRIPTION	
1	VS42001	Double acting, 3 positions, with A and B closed in neutral position	
1S	VS42010	Double acting, 3 positions, with A and B closed in neutral position, for series circuit	
2	VS42002	Double acting, 3 positions, with A and B open to tank in neutral position	
3	VS42003	Single acting on A closed in neutral position, 3 positions, B plugged	
4	VS42004	Single acting on B closed in neutral position, 3 positions, A plugged	
5	VS42005	Double acting, 3 positions, with B open to Tank in neutral position	
6	VS42006	Double acting, 3 positions, with A open to Tank in neutral position	
5PY	VS43051	Double acting, 4 positions, floating circuit in 4th position with A, B open to Tank by pushing the lever	

VS4 Working Section

Sectional Directional Control Valves

EW VS4 / 1S / **1 8 L** / **P1 (G3-100)** / G-4

1
2
3
4

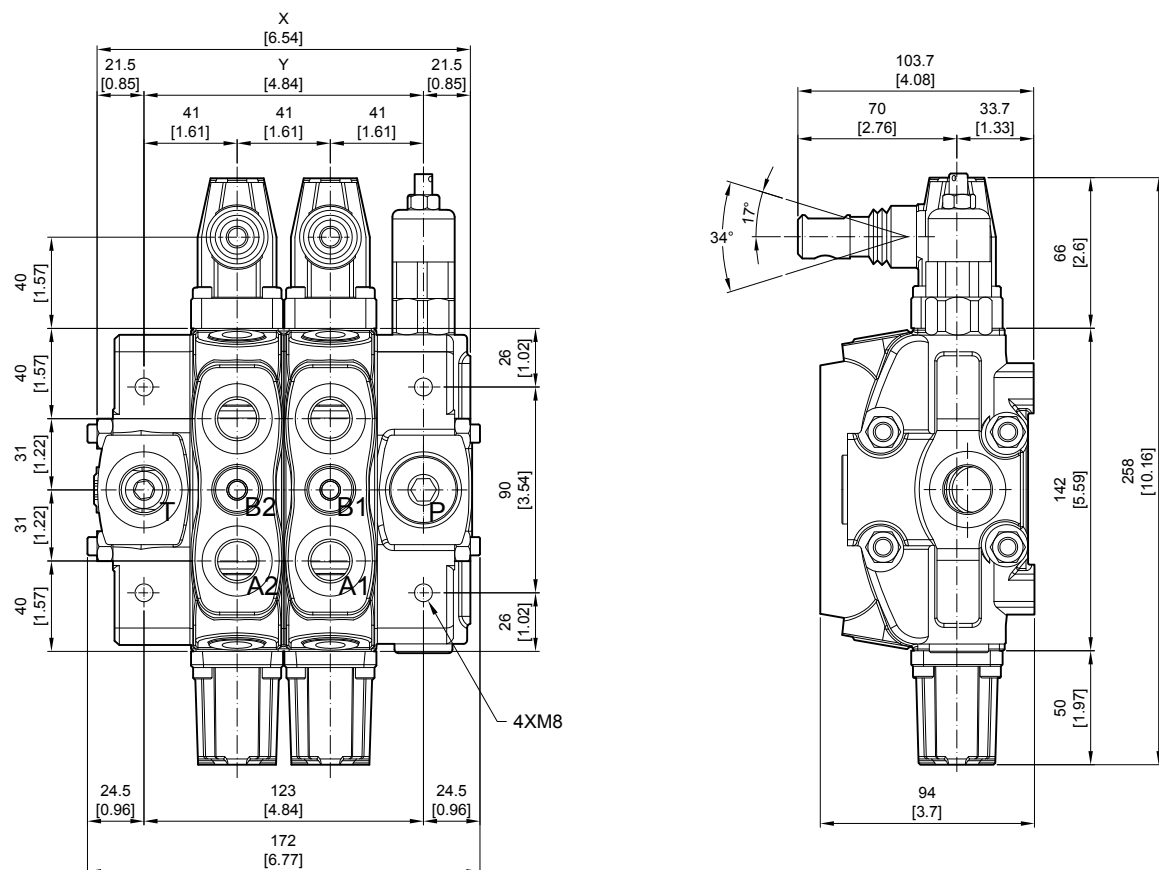
- 1** Spool symbol
- 2** "B" side Spool positioners
- 3** "A" side controls
- 4** Port relief

2: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	
6-1	VS43061	Detent in pos. 1-0-2, without spring centered	
6-2	VS43062	2 positions, detent in pos. 0-2, without spring centered	
6-3	VS43063	2 positions, detent in pos. 1-0, without spring centered	
8D2	VS43082	With spring return to neutral position and pin with M8 male thread for dual control	
8P	VS43080	ON/OFF Pneumatic actuator	
8EP3	VS44300	ON/OFF Electro-Pneumatic actuator	
8MG1 (NO)	VS43801	Microswitch kit operated in pos. 1 (Normally Open)	
8MG2 (NO)	VS43802	Microswitch kit operated in pos. 2 (Normally Open)	
8MG3 (NO)	VS43803	Microswitch kit operated in pos. 1&2 (Normally Open)	
MG(NO)	VS43804	Microswitch with NO terminal	
8MG1 (NC)	VS438011	Microswitch kit operated in pos. 1 (Normally Open)	
8MG2 (NC)	VS438021	Microswitch kit operated in pos. 2 (Normally Open)	
8MG3 (NC)	VS438031	Microswitch kit operated in pos. 1&2 (Normally Open)	
MG(NC)	VS438041	Microswitch with NC terminal	
8	VS43008	With spring return to neutral position	
8-1	VS44081	2 positions, with spring centered from pos. 1	
8-2	VS44082	2 positions, with spring centered from pos. 2	
9-1	VS43091	Detent in pos. 1, 2 with spring centered	
9-2	VS43092	Detent in pos. 2 with spring centered	
9-3	VS43093	Detent in pos. 1 with spring centered	

2: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	
8ED3+RV-KE1R3	VS43201	1S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE2R3	VS43202	2S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE3R3	VS43203	3S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE4R3	VS43204	4S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE5R3	VS43205	5S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE6R3	VS43206	6S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE7R3	VS43207	7S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE8R3	VS43208	8S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE9R3	VS43209	9S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE10R3	VS43210	10S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE11R3	VS43211	11S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE12R3	VS43212	12S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ER3+RV-KE1SO	VS43401	1S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+RV-KE2SO	VS43402	2S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+RV-KE3SO	VS43403	3S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+RV-KE4SO	VS43404	4S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+RV-KE5SO	VS43405	5S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+RV-KE6SO	VS43406	6S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+RV-KE7SO	VS43407	7S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+RV-KE8SO	VS43408	8S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+RV-KE9SO	VS43409	9S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+RV-KE10SO	VS43410	10S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+RV-KE11SO	VS43411	11S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+RV-KE12SO	VS43412	12S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
3: A Side controls			
TYPE	CODE	DESCRIPTION	
L	VS44000	Standard lever	
SLP	VS44001	Without lever, with dust proof plate	
LCB	VS44002	Joystick lever for 2 section operation	
TQ	VS44003	Flexible cable connection	
4: Port Relief			
TYPE	CODE	DESCRIPTION	
P (G2-63)	VS45002	Anti-shock valve, range 63 to 125 bar / from 900 to 1800 psi standard setting 63 bar / 900 psi	
P (G3-100)	VS45003	Anti-shock valve, range 100 to 250 bar / from 1450 to 3600 psi standard setting 100 bar / 1450 psi	
P (G4-200)	VS45004	Anti-shock valve, range 200 to 315 bar / from 2900 to 4600 psi standard setting 200 bar / 2900 psi	
PM (G2-63)	VS45005	Anti-shock valve, range 63 to 125 bar / from 900 to 1800 psi standard setting 63 bar / 900 psi, for low setting	
U (G2-63)	VS45012	Anti-shock valve and Anti-cavitation valve, range 63 to 125 bar / from 900 to 1800 psi standard setting 63 bar / 900 psi	
U (G3-100)	VS45013	Anti-shock valve and Anti-cavitation valve, range 100 to 250 bar / from 1450 to 3600 psi standard setting 100 bar / 1450 psi	
U (G4-200)	VS45014	Anti-shock valve and Anti-cavitation valve, range 200 to 315 bar / from 2900 to 4600 psi standard setting 200 bar / 2900 psi	
C	VS45100	Anti-cavitation	

VS4 Dimensions

Sectional Directional Control Valves



Standard threads

Ports	Inlet P and carry-over C	A and B	Outlet T
BSP	G1/2	G1/2	G3/4
UN-UNF	7/8-14 UNF-2B (SAE 10)	3/4-16 UNF-2B (SAE 8)	7/8-14 UNF-2B (SAE 10)
METRIC	M22x1.5	M22x1.5	M22x1.5

Pilot ports	Hydraulic	Pneumatic
BSP	G1/4	NPTF 1/8-27
UN-UNF	9/16-18 UNF-2B (SAE 6)	NPTF 1/8-27
METRIC	G1/4	NPTF 1/8-27

• G-1/2 : G4 G-3/8 : G3 G-3/4 : G6

• SAE 8 : E8 SAE 10 : E10 SAE 12 : E12 SAE 16 : E16

Standard dimensions

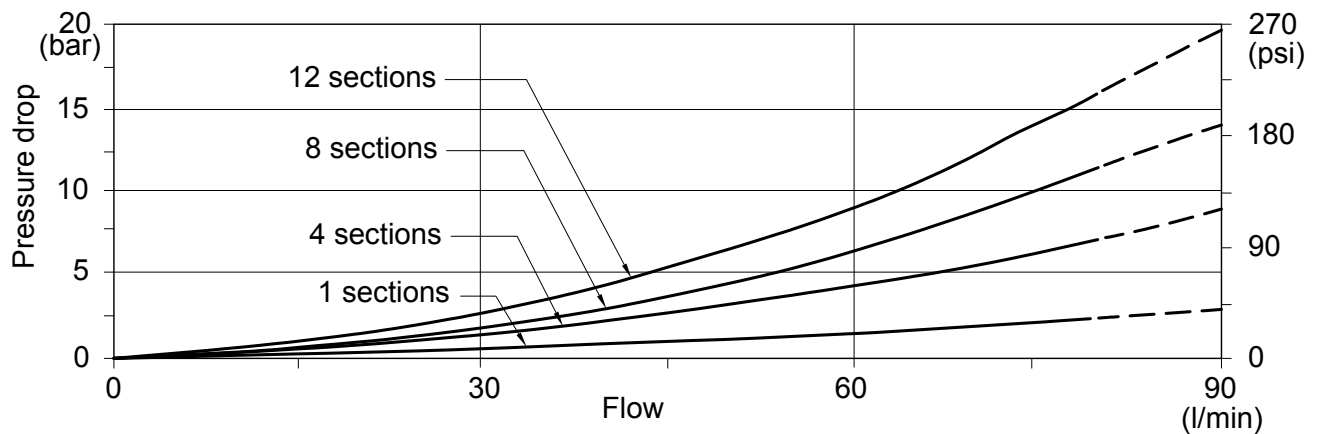
TYPE	X		Y	
	mm	in	mm	in
VS4/1S	128	5.04	82	3.23
VS4/2S	169	6.65	123	4.84
VS4/3S	210	8.27	164	6.46
VS4/4S	251	9.88	205	8.07
VS4/5S	292	11.5	246	9.69
VS4/6S	333	13.11	267	11.3

TYPE	X		Y	
	mm	in	mm	in
VS4/7S	374	14.72	328	12.91
VS4/8S	415	16.33	369	14.52
VS4/9S	456	17.94	410	16.13
VS4/10S	497	19.55	451	17.74
VS4/11S	538	21.16	492	19.35
VS4/12S	579	22.77	533	20.96

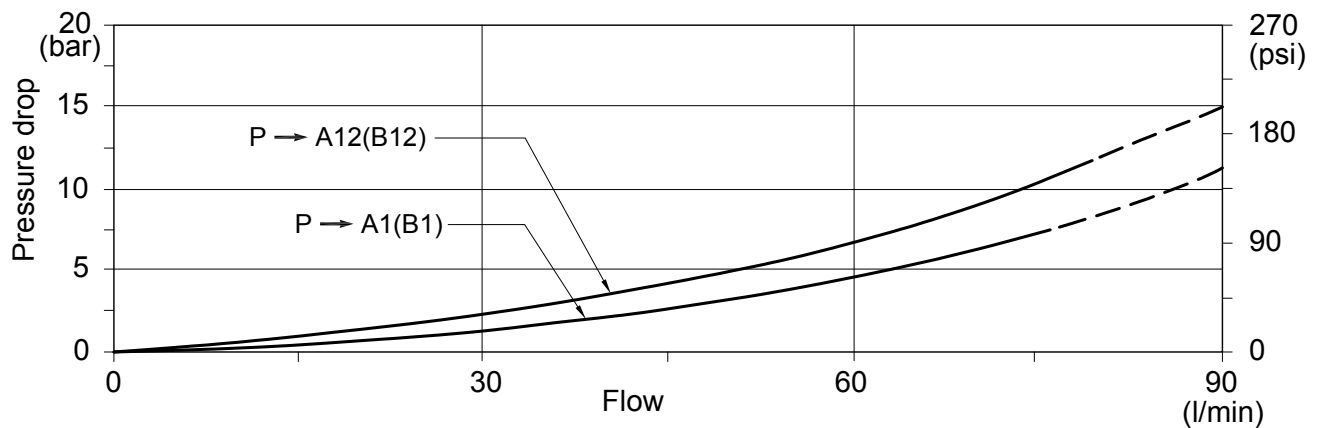
VS4 Performance curve chart

Sectional Directional Control Valves

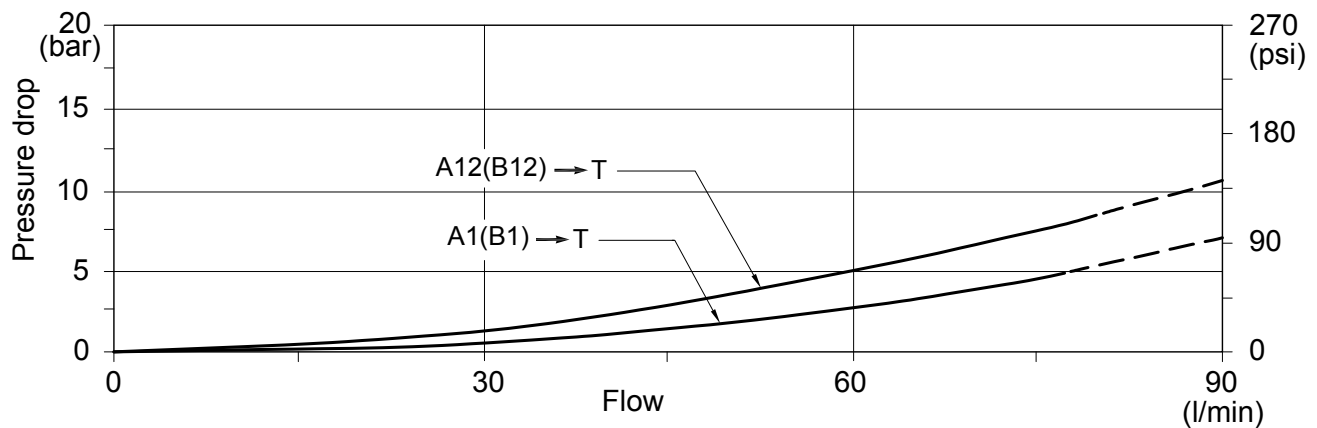
P to T



P to A (B)

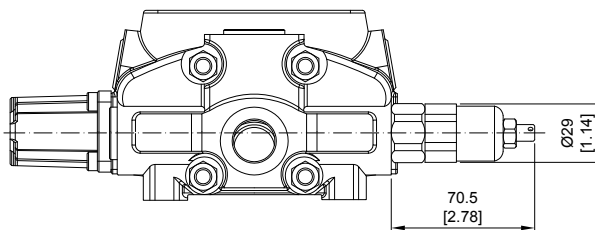


A(B) to T

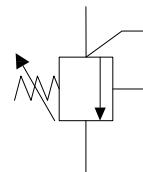


VS4 Inlet Relief (Optional) Sectional Directional Control Valves

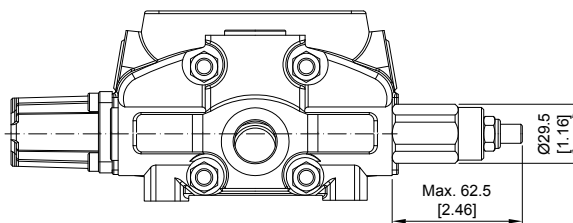
Type SG



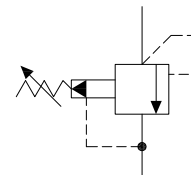
Direct pressure relief valve:



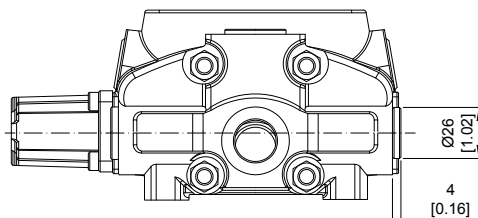
Type XSG



Pilot operated pressure relief valve:



Type SV



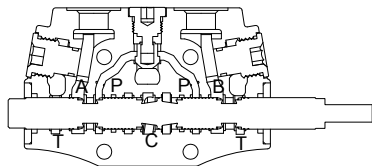
Relief valve blanking plug:



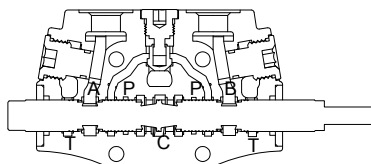
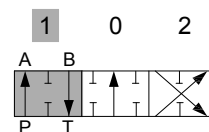
VS4 Spool Options

Sectional Directional Control Valves

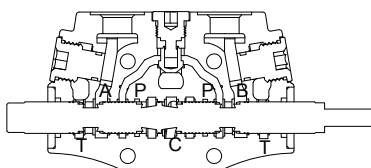
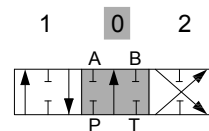
TYPE 1



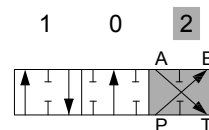
P → A
B → T
C closed



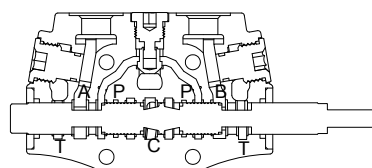
P & T & A & B closed
C open



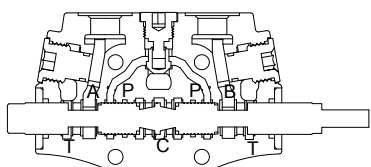
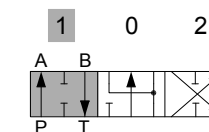
P → B
A → T
C closed



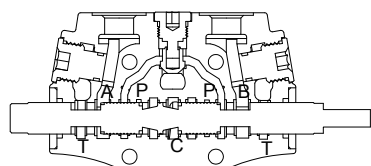
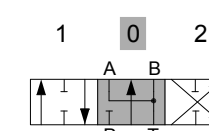
TYPE 2



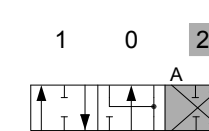
P → A
B → T
C closed



A & B → T
P closed
C open



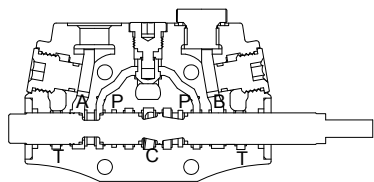
P → B
A → T
C closed



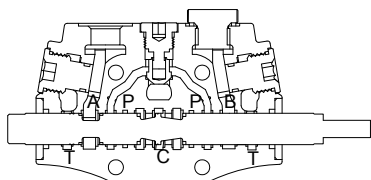
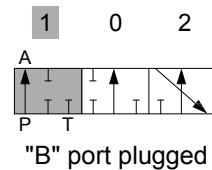
VS4 Spool Options

Sectional Directional Control Valves

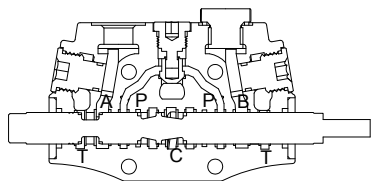
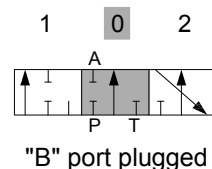
TYPE 3



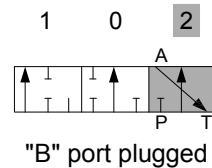
P → A
C closed



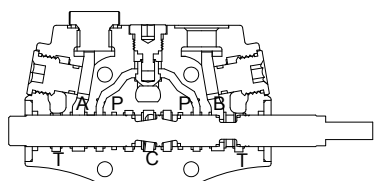
P & A closed
C open



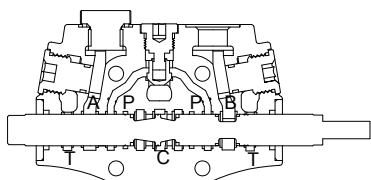
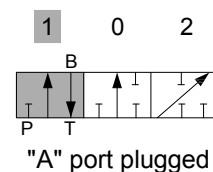
A → T
P closed
C open



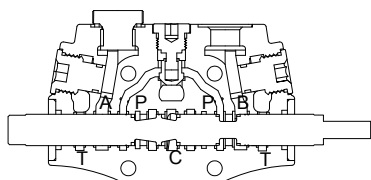
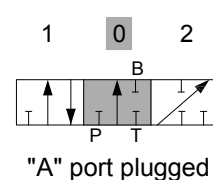
TYPE 4



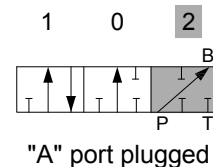
B → T
P closed
C open



P & B closed
C open



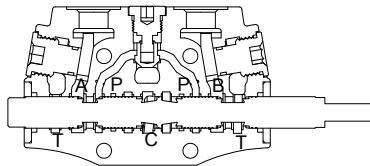
P → B
C closed



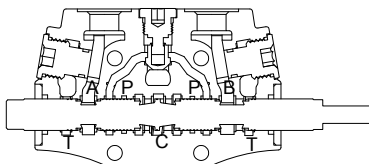
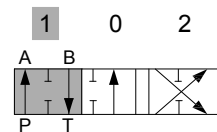
VS4 Spool Options

Sectional Directional Control Valves

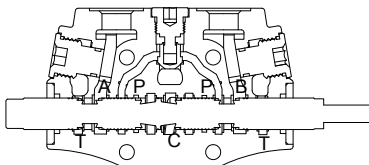
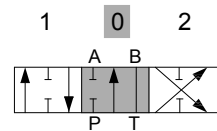
TYPE 5



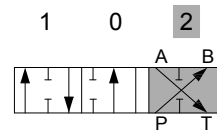
P → A
B → T
C closed



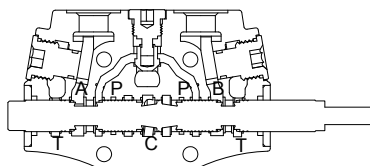
B → T
P & A closed
C open



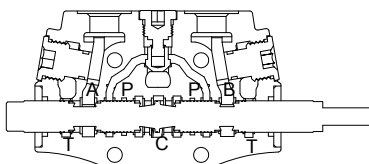
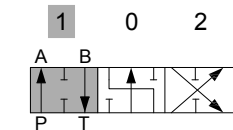
P → B
A → T
C closed



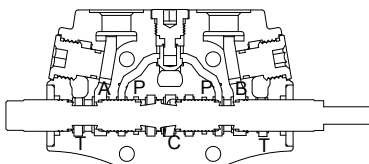
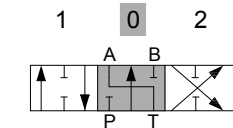
TYPE 6



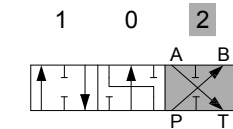
P → A
B → T
C closed



B → T
P & A closed
C open



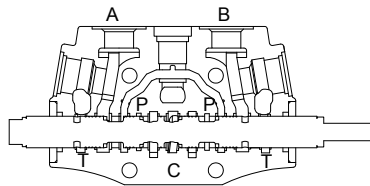
P → B
A → T
C closed



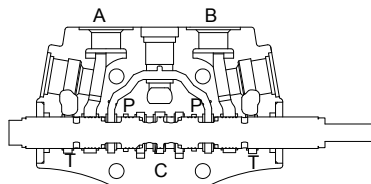
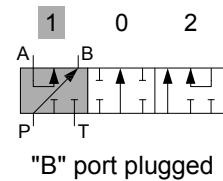
VS4 Spool Options

Sectional Directional Control Valves

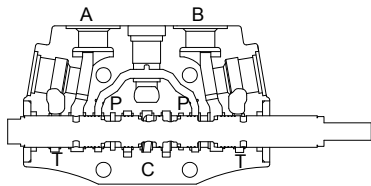
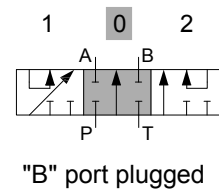
TYPE 1S



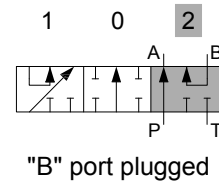
$P \rightarrow A$
 $B \rightarrow C$
 T closed



$P \& A \& B \& T$ closed
 C open

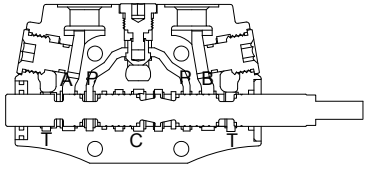
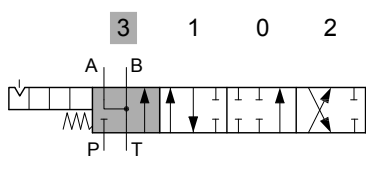
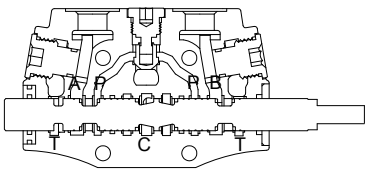
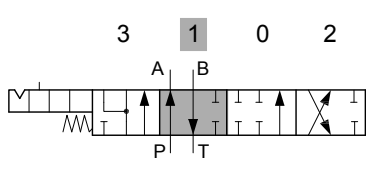
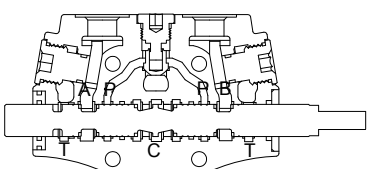
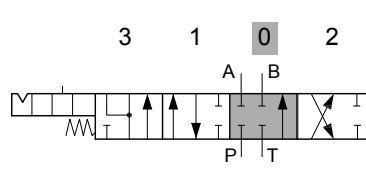
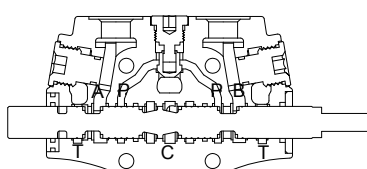
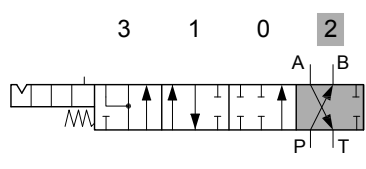


$P \rightarrow B$
 $A \rightarrow C$
 T closed



VS4 Spool Options

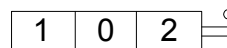
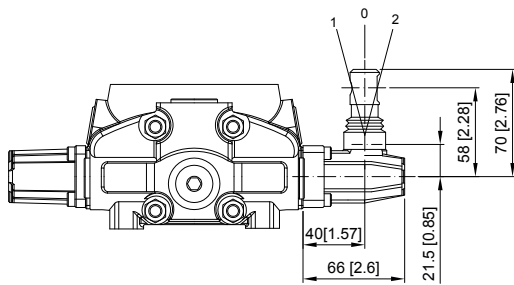
Sectional Directional Control Valves

TYPE 5PY	NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER	
	<p>A & B → T P closed C open</p>	
	<p>P → A B → T C closed</p>	
	<p>P & T & A & B closed C open</p>	
	<p>P → B A → T C closed</p>	

VS4 A Side

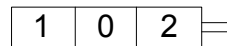
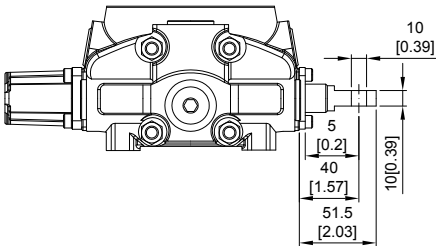
Sectional Directional Control Valves

Type L



Type L:
STANDART LEVER KIT

Type SLP

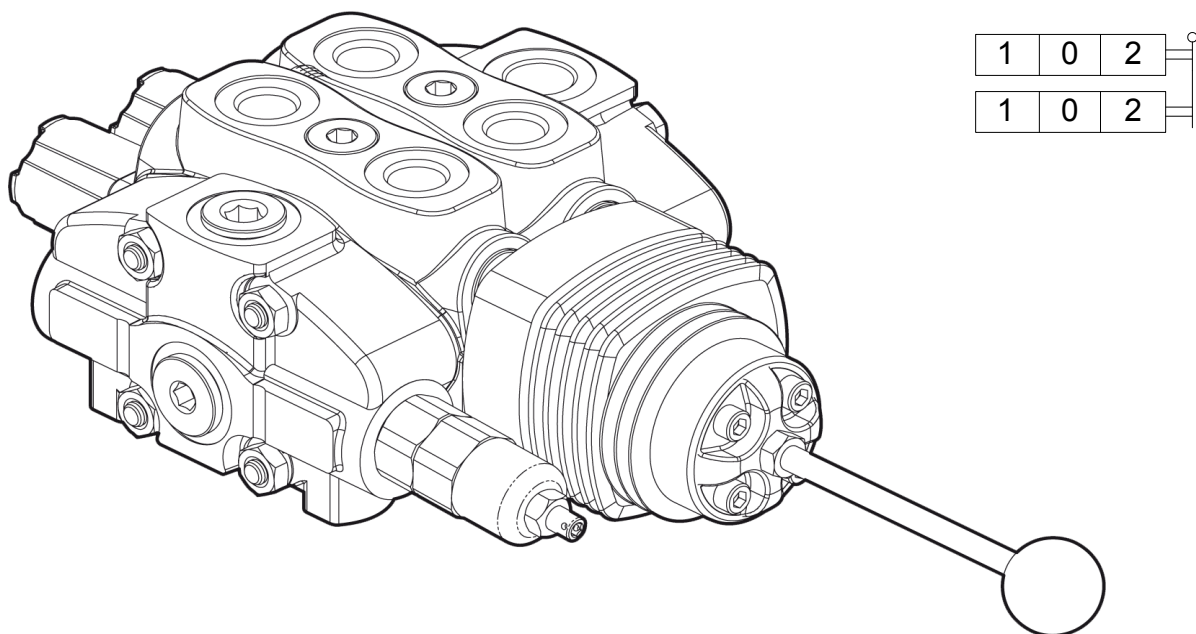


Type SLP:
WITH DUST-PROOF PLATE

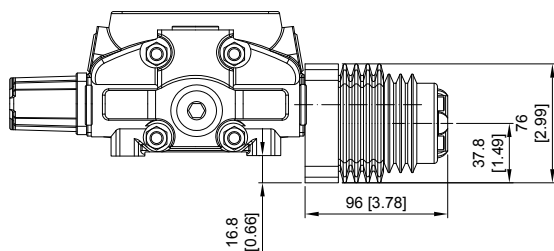
VS4 A Side

Sectional Directional Control Valves

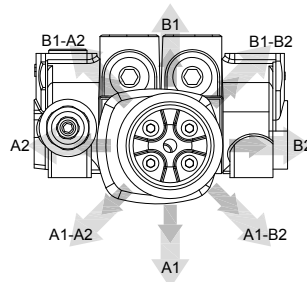
LCB: Joystick control



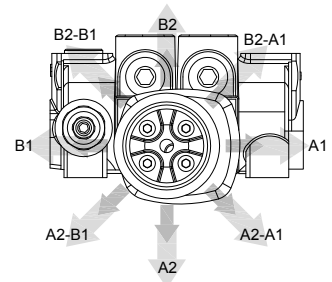
Type LCB



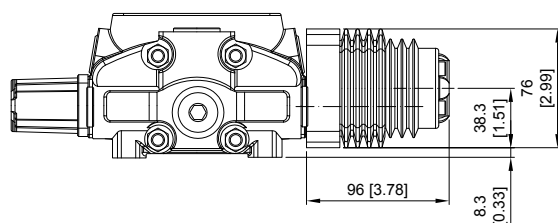
LCB 1



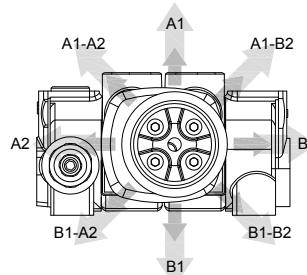
LCB 2



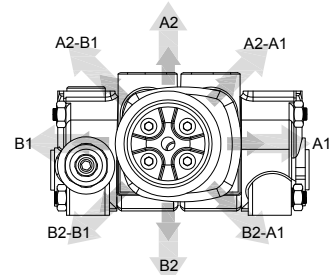
Type LCB



LCB 3



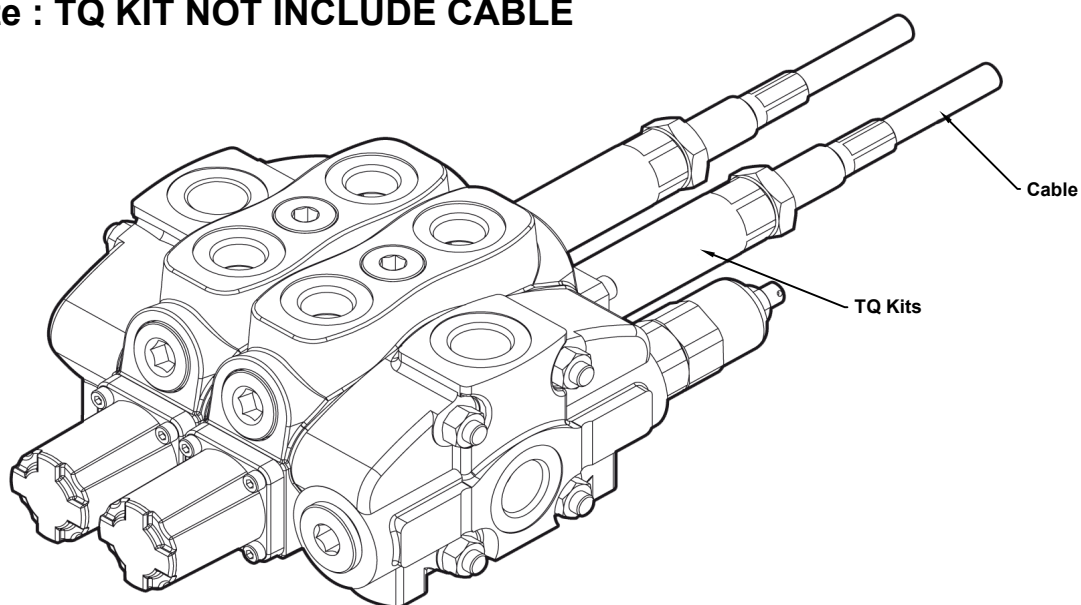
LCB 4



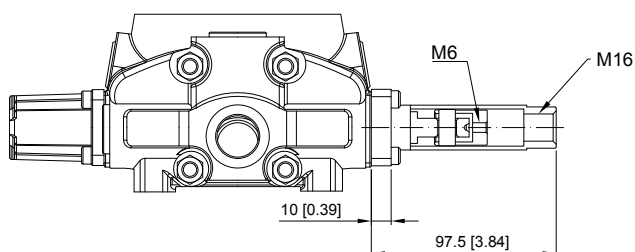
VS4 A Side

Sectional Directional Control Valves

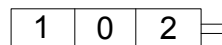
Note : TQ KIT NOT INCLUDE CABLE



Type TQ



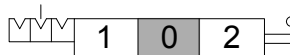
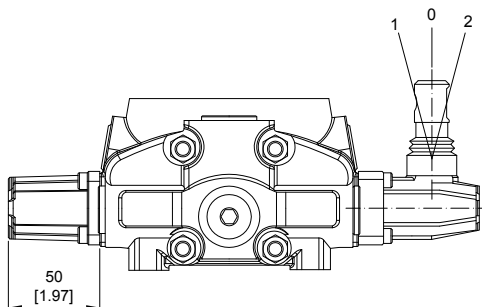
TQ Kit:



VS4 B Side

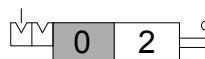
Sectional Directional Control Valves

Type 6



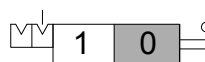
6-1 Kit:

DETENT IN POS. 1-0-2, WITHOUT SPRING CENTERED



6-2 Kit:

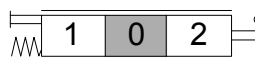
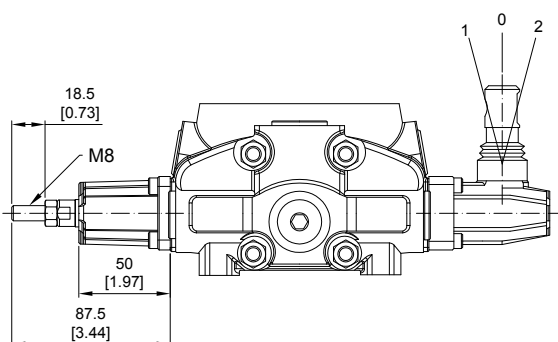
2 POSITIONS, DETENT IN POS. 0-2, WITHOUT SPRING CENTERED



6-3 Kit:

2 POSITIONS, DETENT IN POS. 1-0, WITHOUT SPRING CENTERED

Type 8D2



8D2 Kit:

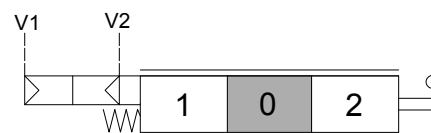
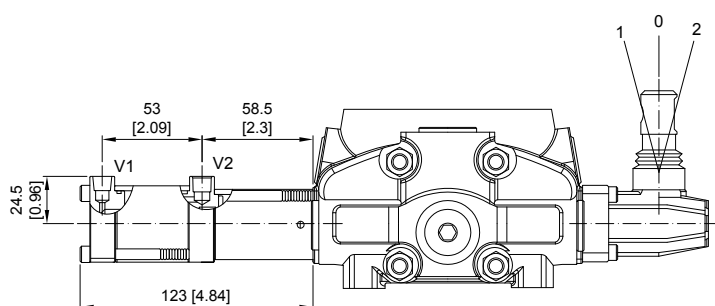
WITH SPRING RETURN TO NEUTRAL POSITION AND PIN WITH M8 MALE THREAD FOR DUAL CONTROL

VS4 B Side

Sectional Directional Control Valves

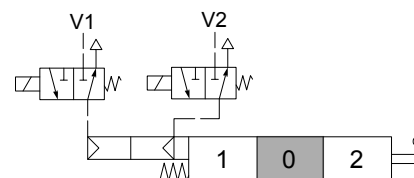
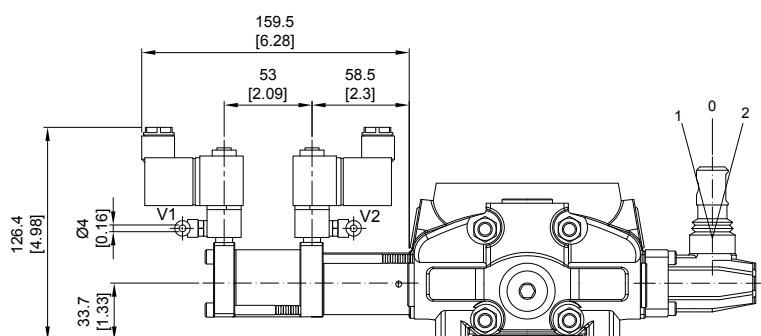
Type 8P

V1 & V2: NPT 1/8 - 27



Pilot pressure: FROM 7 TO 10 BAR / 101 TO 145 PSI

Type 8EP3



Solenoid operating features:

NOMINAL VOLTAGE: 24VDC

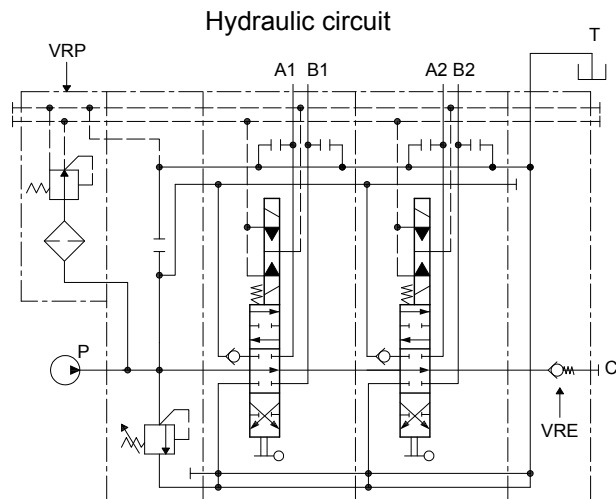
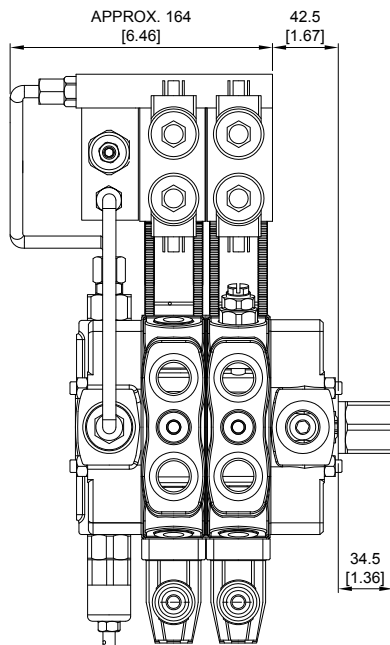
NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$

POWER RATING: 5W

VS4 B Side

Sectional Directional Control Valves

Type 8ED3

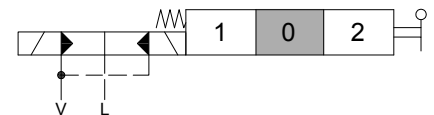
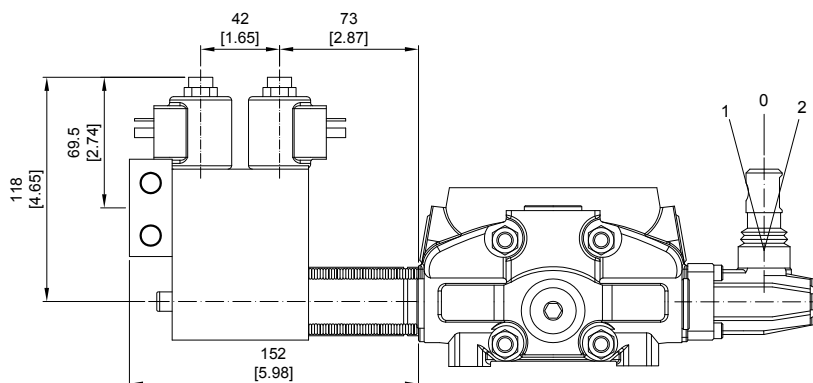


VRP valve operating features:

OUTLET PRESSURE: 25 BAR / 363 PSI

MAX. FLOW: 8 L/MIN / 2.1 US GPM

FLTERING: 80 μ



Operating features:

PILOT PRESSURE: • MIN. 10 BAR / 145 PSI
• MAX. 50 BAR / 725 PSI

MAX. BACKPRESSURE ON DRAIN L:
25 BAR / 360 PSI

Solenoid operating features:

NOMINAL VOLTAGE: 12 VDC / 24 VDC

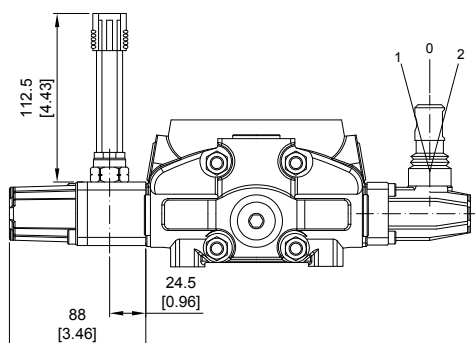
POWER RATING: 21 W

DUTY CYCLE: 100%

VS4 B Side

Sectional Directional Control Valves

Type 8MG



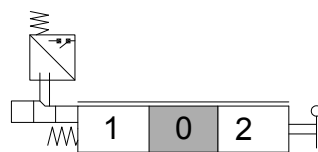
MICROSWITCH

Operating features:

MECHANICAL LITE: • 5X10⁵ OPERATIONS

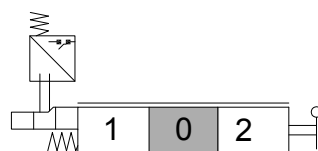
ELECTRICAL LITE (RESISTIVE LOAD):

- 10⁵ OPERATIONS - 7A / 13.5 VDC
- 5X10⁴ OPERATIONS - 10A / 12 VDC
- 5X10⁴ OPERATIONS - 3A / 28 VDC



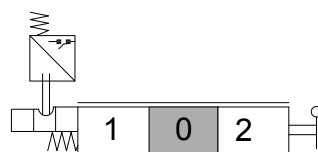
8MG1 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1



8MG2 Kit:

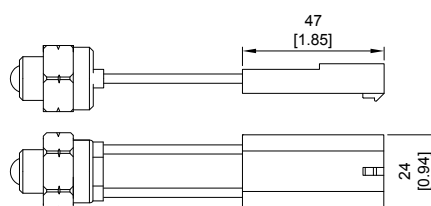
MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 2



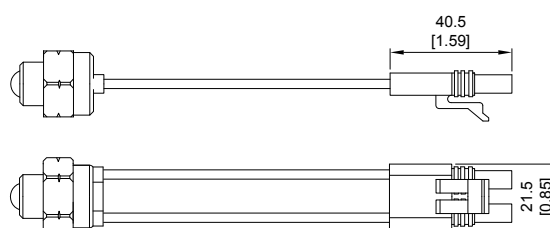
8MG3 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1 AND POS. 2

With NO contact (female connector with male end)



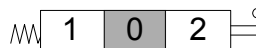
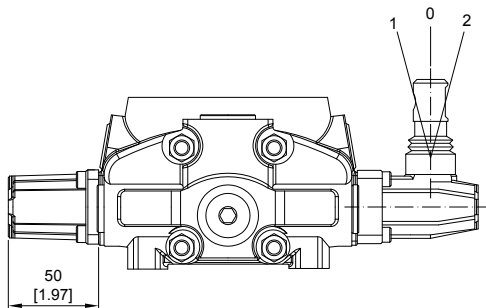
With NC contact (male connector with female end)



VS4 B Side

Sectional Directional Control Valves

Type 8



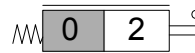
8 Kit:

SPRING RETURN TO NEUTRAL POSITION.



8-1 Kit:

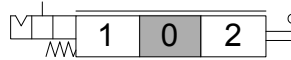
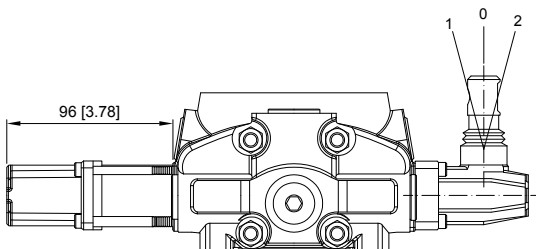
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)



8-2 Kit:

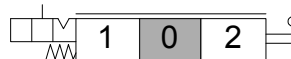
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)

Type 9



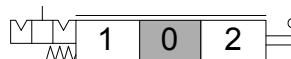
9-1 Kit:

DETENT IN POS. 1, 2 WITH SPRING CENTERED



9-2 Kit:

DETENT IN POS. 2 WITH SPRING CENTERED

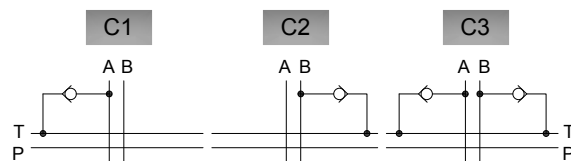
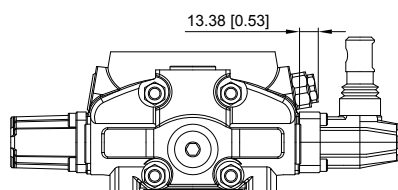


9-3 Kit:

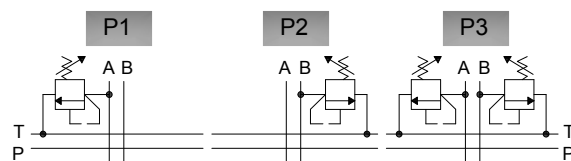
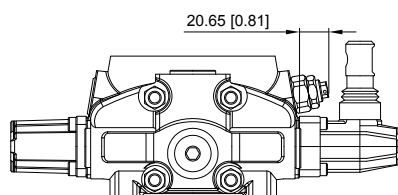
DETENT IN POS. 1 WITH SPRING CENTERED

VS4 Port Relief Sectional Directional Control Valves

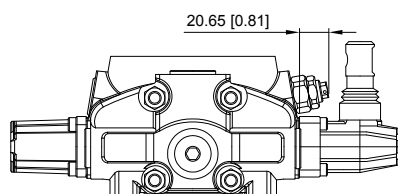
TYPE C



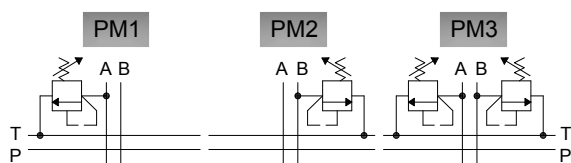
TYPE P



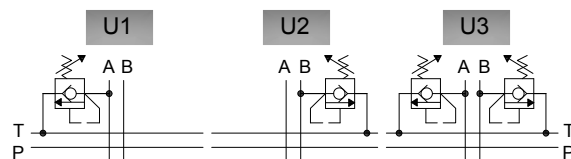
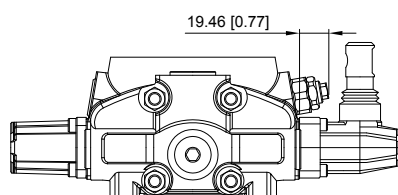
TYPE PM



PM G2-63 HIGH FLOW - LOW PRESSURE SETTING



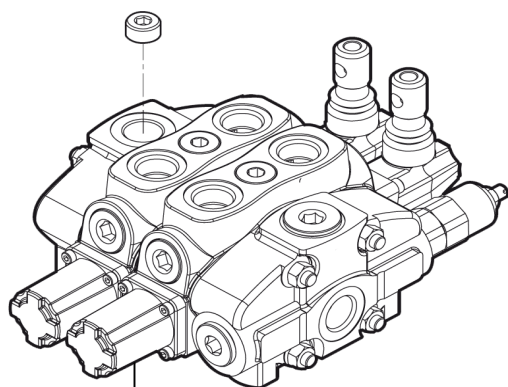
TYPE U



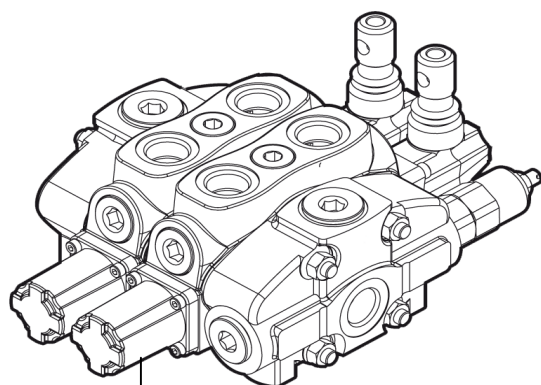
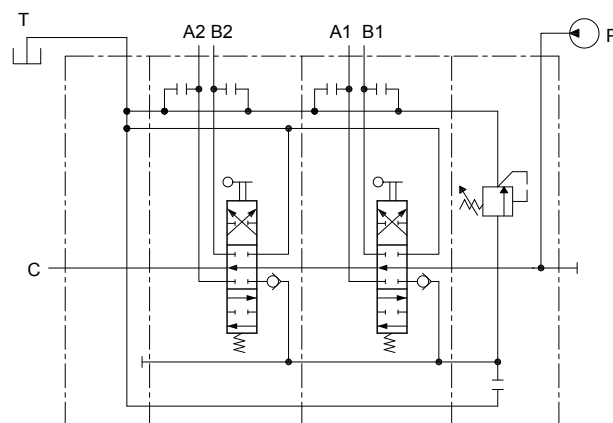
VS4 Outlet

Sectional Directional Control Valves

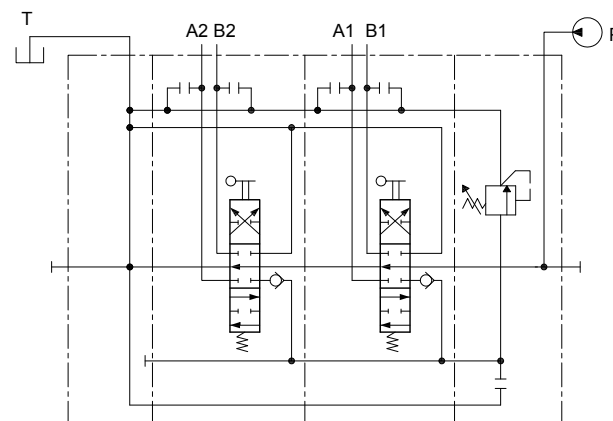
Power Beyond Conversion plug
(Closed center plug)



M8

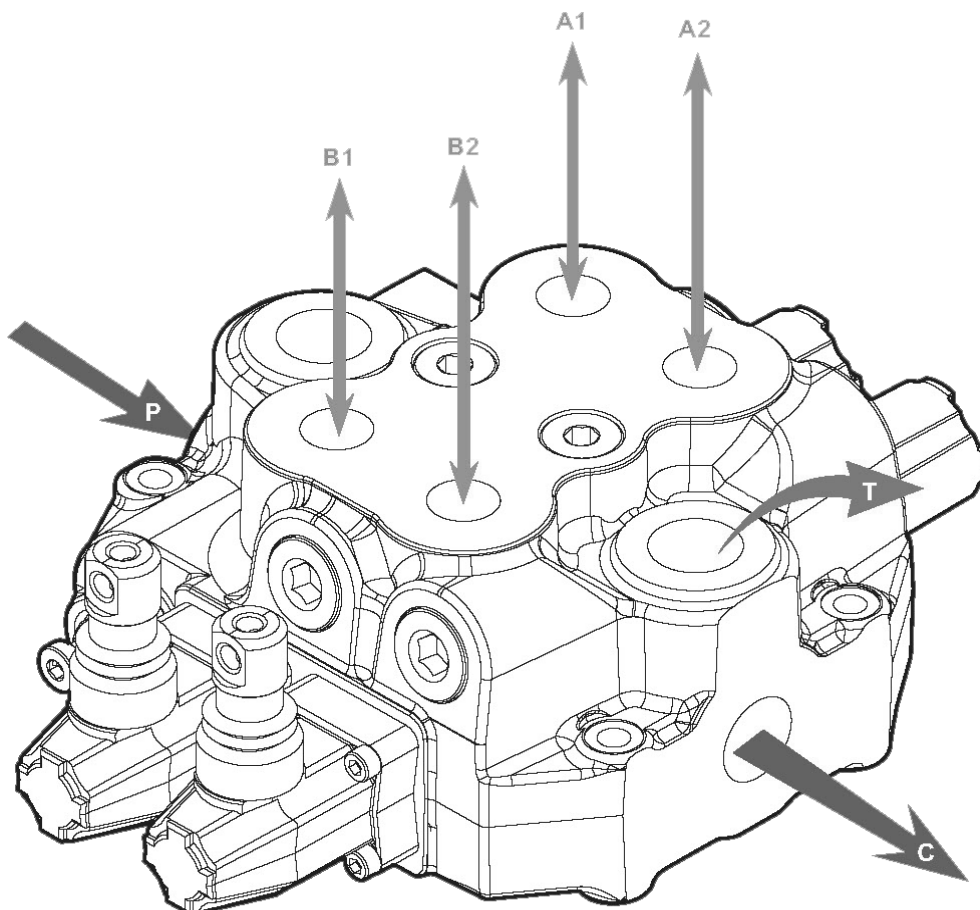


M3



VSB5

Monoblock Directional Control Valves



VSB5 Specifications

Nominal flow rate		80 l/min	21 US gpm
Operating pressure (maximum)		315 bar	4600 psi
Back pressure (maximum)	on outlet port T	25 bar	360 psi
Fluid temperature range	with NBR(BUNA-N) seals	from -20°C to 80°C	from -4° to 176° F
	with FPM(VITON) seal	from -20°C to 100°C	from -4° to 212° F
Viscosity	operating range	from 15 to 75 mm ² /s	from 15 to 75 cst
	min	12 mm ² /s	12 cst
	max.	400 mm ² /s	400 cst
Ambient temperature range		from -40°C to 60°C	from -40° to 140° F

• All specifications, dimensions and design characteristics shown in this catalogue are subject to change without notice

VSB5

Monoblock Directional Control Valves

VSB5 / **2S** - **3** / **1 8 L** / **P1 (G3-100)** / G 6-4-6 / M3

1
2
3
4
5
6

- 1 Body
- 2 Inlet relief
- 3 Spool options
- 4 "B" side spool positioners
- 5 "A" side controls
- 6 Port relief

1:	Body	WITHOUT SERVICE PORT VALVES PREARRANGEMENT (INCLUDE BODY, SEALS, RINGS AND LOAD CHECK VALVE.)	
	TYPE	DESCRIPTION	
	1 - S	1 section	
	2 - S	2 section	
	3 - S	3 section	
	4 - S	4 section	
	5 - S	5 section	
	6 - S	6 section	
2:	Inlet Relief		
	TYPE	CODE	DESCRIPTION
	XWG	VMSB52001	Pilot operatid pressure relief valve Range 25 to 315 bar / 360 to 4600 psi, standard setting 125 bar / 1800psi
	WG-2	VMSB52002	Direct pressure relief valve Range 80 to 160 bar / 1150 to 2300 psi, standard setting 125 bar / 1800 psi
	WG-3	VMSB52003	Direct pressure relief valve Range 125 to 250 bar / 1800 to 3600 psi, standard setting 175 bar / 2500 psi
	WG-4	VMSB52002	Direct pressure relief valve Range 200 to 315 bar / 2900 to 4600 psi, standard setting 220 bar / 3200 psi
	SV	VMSB52100	Relief valve blanking plug

3: Spool Options			
TYPE	CODE	DESCRIPTION	
1	VMSB53001	Double acting, 3 positions, with A, B closed in neutral position	
2	VMSB53002	Double acting, 3 positions, with A, B open to Tank in neutral position	
3	VMSB53003	Single acting on A closed in neutral position, 3 positions, B plugged	
4	VMSB53004	Single acting on B closed in neutral position, 3 positions, A plugged	
5	VMSB53005	Double acting, 3 positions, with B open to Tank in neutral position	
6	VMSB53006	Double acting, 3 positions, with A open to Tank in neutral position	
7	VMSB53007	Single acting on A open to Tank in neutral position, 3 positions, B plugged	
8	VMSB53008	Single acting on B open to Tank in neutral position, 3 positions, A plugged	
4: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	
6-1	VMSB43061	Detent in pos. 1-0-2, without spring centered	
6-2	VMSB43062	2 positions, detent in pos. 0-2, without spring centered	
6-3	VMSB43063	2 positions, detent in pos. 1-0, without spring centered	
8D2	VMSB43082	With spring return to neutral position and pin with M8 male thread for dual control	
8EP3	VMSB44300	ON/OFF Electro-Pneumatic actuator	
8P	VMSB43080	ON/OFF Pneumatic actuator	
8MG1 (NO)	VMSB43801	Microswitch kit operated in pos. 1 (Normally Open)	
8MG2 (NO)	VMSB43802	Microswitch kit operated in pos. 2 (Normally Open)	
8MG3 (NO)	VMSB43803	Microswitch kit operated in pos. 1&2 (Normally Open)	
MG (NO)	VMSB43804	Microswitch with NO terminal	
8MG1 (NC)	VMSB438011	Microswitch kit operated in pos. 1 (Normally Closed)	
8MG2 (NC)	VMSB438021	Microswitch kit operated in pos. 2 (Normally Closed)	
8MG3 (NC)	VMSB438031	Microswitch kit operated in pos. 1&2 (Normally Closed)	
MG (NC)	VMSB438041	Microswitch with NC terminal	
8	VMSB43008	With spring return to neutral position	
8-1	VMSB44801	2 positions, with spring centered from pos. 1	
8-2	VMSB44082	2 positions, with spring centered from pos. 2	
9-1	VMSB43091	Detent in pos. 1, 2 with spring centered	
9-2	VMSB43092	Detent in pos. 2 with spring centered	
9-3	VMSB43093	Detent in pos. 1 with spring centered	
8ED3+RV-KE1R3	VMSB54201	1S: ON/OFF Electro-hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE2R3	VMSB54202	2S: ON/OFF Electro-hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE3R3	VMSB54203	3S: ON/OFF Electro-hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE4R3	VMSB54204	4S: ON/OFF Electro-hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE5R3	VMSB54205	5S: ON/OFF Electro-hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE6R3	VMSB54206	6S: ON/OFF Electro-hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ER3+KE1SO	VMSB54401	1S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE2SO	VMSB54402	2S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE3SO	VMSB54403	3S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE4SO	VMSB54404	4S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE5SO	VMSB54405	5S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE6SO	VMSB54406	6S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	

VSB5

Monoblock Directional Control Valves

VSB5 / **2S** - **3** / **1 8 L** / **P1 (G3-100)** / G 6-4-6 / M3

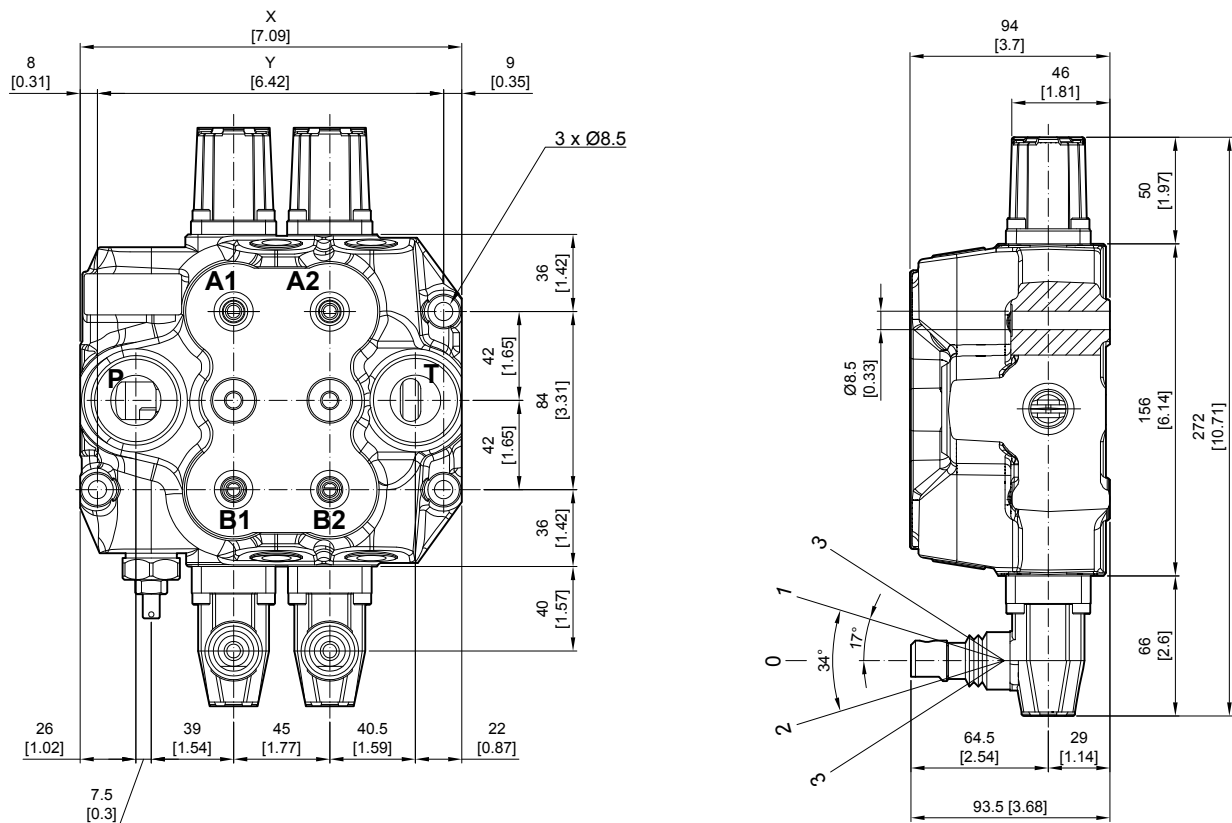
1
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5
6

- 1 Body
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- 6 Port relief

5: A Side controls			
TYPE	CODE	DESCRIPTION	
L	VMSB44000	Standard lever box	
SLP	VMSB44001	Without lever box, with dust-proof plate	
LCB	VMSB45002	Joystick lever for 2 section operation	
TQ	VMSB44003	Flexible cable connection	
6: Port Relief			
TYPE	CODE	DESCRIPTION	
P (G2-63)	VMSB45002	Anti-shock valve, range 63 to 125 bar / form 900 to 1800 psi standard setting 63 bar / 900 psi	
P (G3-100)	VMSB45003	Anti-shock valve, range 100 to 250 bar / form 1450 to 3600 psi standard setting 100 bar / 1450 psi	
P (G4-200)	VMSB45004	Anti-shock valve, range 200 to 315 bar / form 2900 to 4600 psi standard setting 200 bar / 2900 psi	
PM (G2-63)	VMSB45005	Anti-shock valve, range 63 to 125 bar / form 900 to 1800 psi standard setting 63 bar / 900 psi, for low setting	
U (G2-63)	VMSB45012	Anti-shock valve and Anti-cavitation valve, range 63 to 125 bar / form 900 to 1800 psi standard setting 63 bar / 900 psi	
U (G3-100)	VMSB45013	Anti-shock valve and Anti-cavitation valve, range 100 to 250 bar / form 1450 to 3600 psi standard setting 100 bar / 1450 psi	
U (G4-200)	VMSB45014	Anti-shock valve and Anti-cavitation valve, range 200 to 315 bar / form 2900 to 4600 psi standard setting 200 bar / 2900 psi	
C	VMSB45100	Anti - cavitation	

VSB5 Dimensions

Monoblock Directional Control Valves



Standard threads

Ports	Inlet P	A and B ports	Outlet T and power beyond C
BSP	G3/4	G1/2	G3/4
UN-UNF	1"1/16-12 UN (SAE 12)	7/8-14 UNF (SAE 10)	1"1/16-12 UN (SAE 12)
METRIC	M27x2	M22x1.5	M27x2

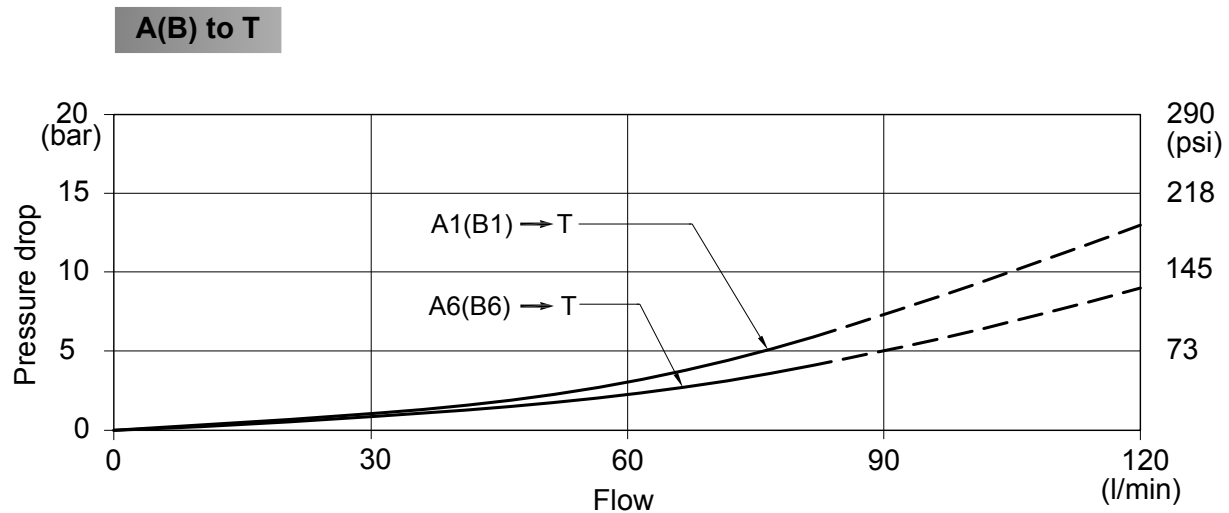
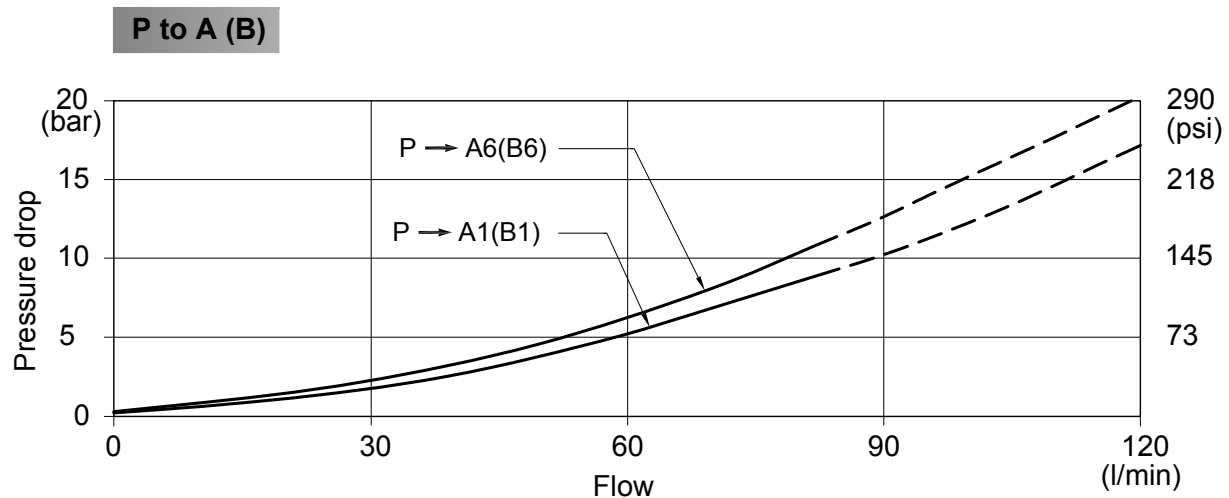
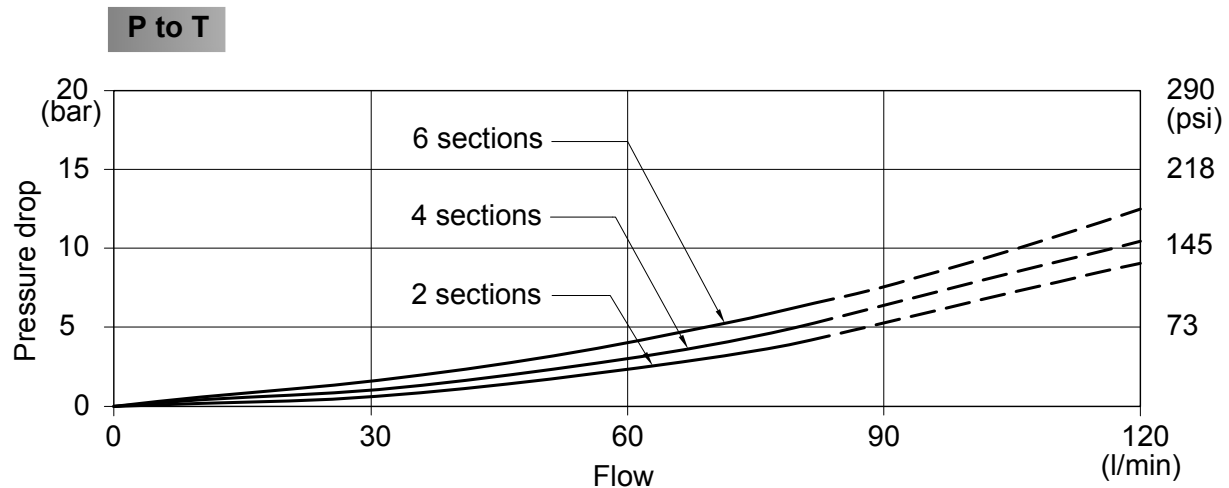
- G-1/2 : G4 G-3/8 : G3 G-3/4 : G6
- SAE 8 : E8 SAE 10 : E10 SAE 12 : E12 SAE 16 : E16

Standard dimensions

TYPE	X		Y	
	mm	in	mm	in
VSB5/1S	135	5.32	118	4.65
VSB5/2S	180	7.09	163	6.42
VSB5/3S	225	8.86	208	8.19
VSB5/4S	270	10.63	253	9.96
VSB5/5S	315	12.40	298	11.73
VSB5/6S	360	14.17	343	13.50

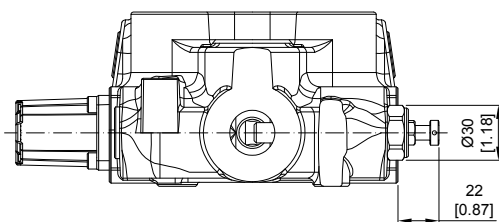
VSB5 Performance curve chart

Monoblock Directional Control Valves

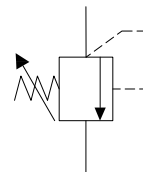


VSB5 Inlet Relief (Optional) Monoblock Directional Control Valves

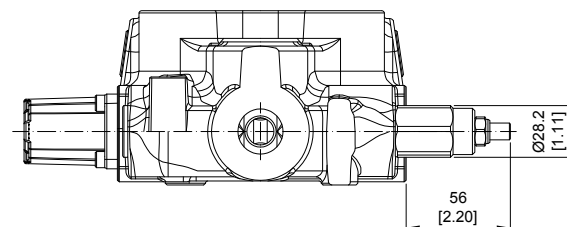
Type WG



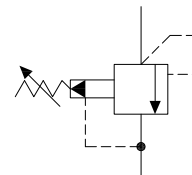
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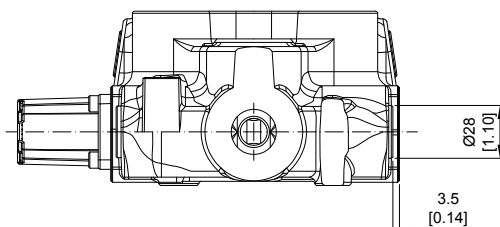
Type XWG



Pilot operated pressure relief valve:



Type SV



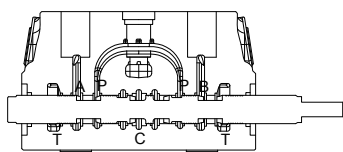
Relief valve blanking plug:



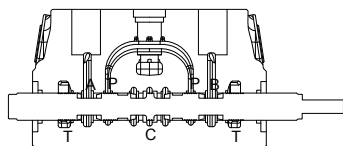
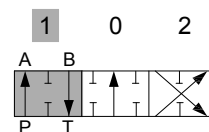
VSB5 Spool Options

Monoblock Directional Control Valves

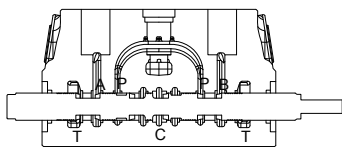
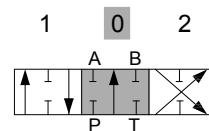
TYPE 1



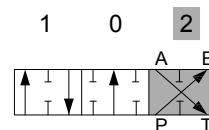
P → A
B → T
C closed



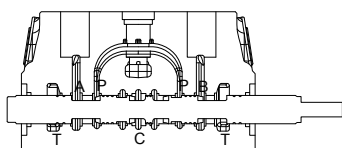
P & T & A & B closed
C open



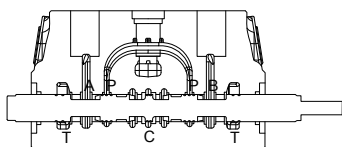
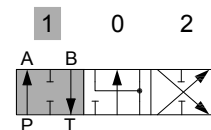
P → B
A → T
C closed



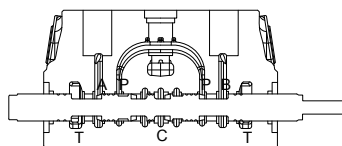
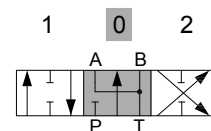
TYPE 2



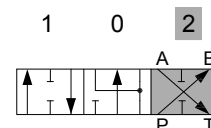
P → A
B → T
C closed



A & B → T
P closed
C open



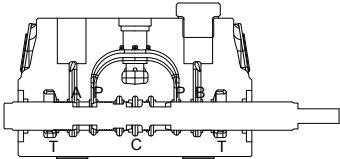
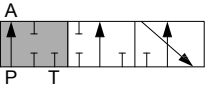
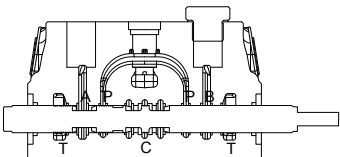
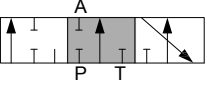
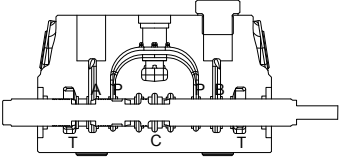
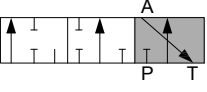
P → B
A → T
C closed



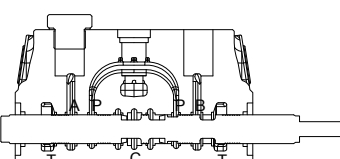
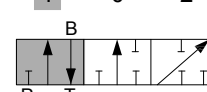
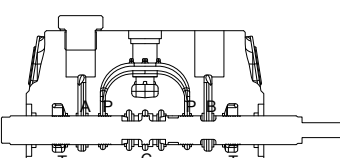
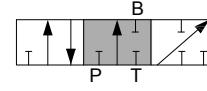
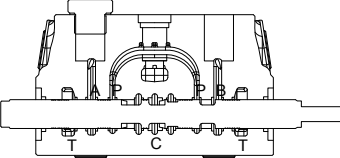
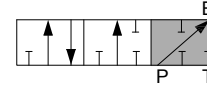
VSB5 Spool Options

Monoblock Directional Control Valves

TYPE 3

	<p>P → A C closed</p>	<p>1 0 2</p>  <p>"B" port plugged</p>
	<p>P & T & A closed C open</p>	<p>1 0 2</p>  <p>"B" port plugged</p>
	<p>A → T C open</p>	<p>1 0 2</p>  <p>"B" port plugged</p>

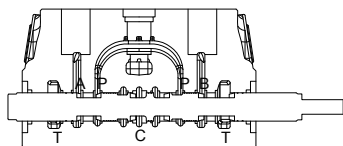
TYPE 4

	<p>B → T C closed</p>	<p>1 0 2</p>  <p>"A" port plugged</p>
	<p>P & T & B closed C open</p>	<p>1 0 2</p>  <p>"A" port plugged</p>
	<p>P → B C closed</p>	<p>1 0 2</p>  <p>"A" port plugged</p>

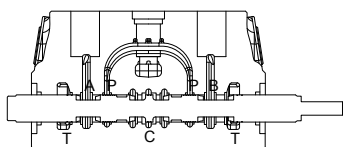
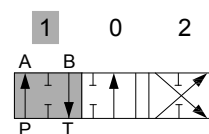
VSB5 Spool Options

Monoblock Directional Control Valves

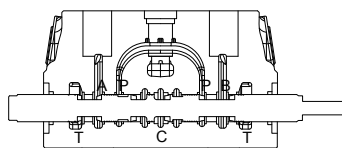
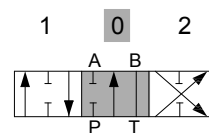
TYPE 5



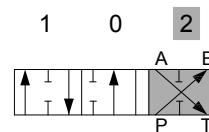
P → A
B → T
C closed



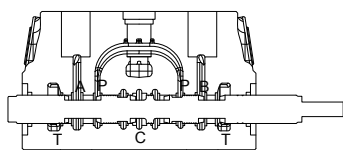
B → T
P & A closed
C open



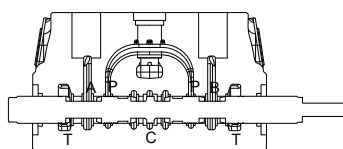
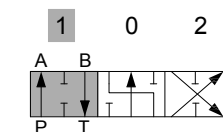
P → B
A → T
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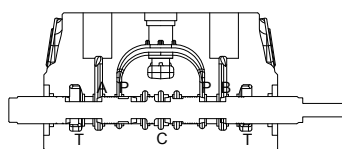
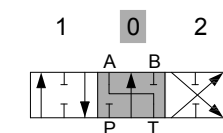
TYPE 6



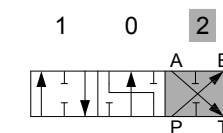
P → A
B → T
C closed



A → T
P & B closed
C open



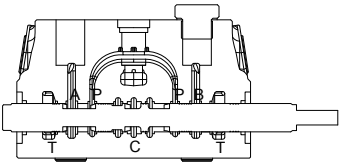
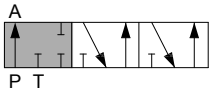
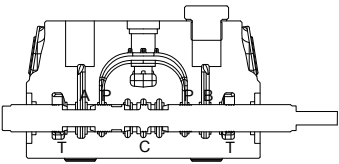
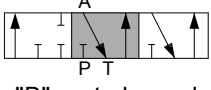
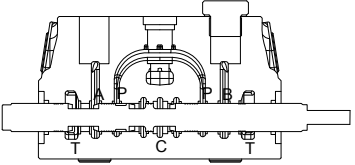
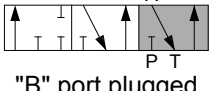
P → B
A → T
C closed



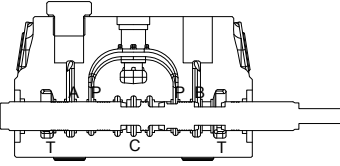
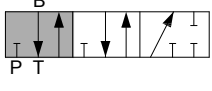
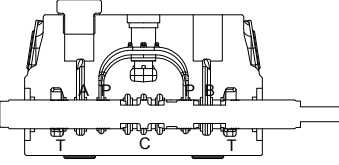
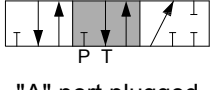
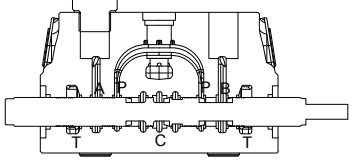
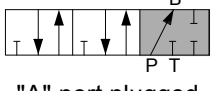
VSB5 Spool Options

Monoblock Directional Control Valves

TYPE 7

	<p>A → T P closed C open</p>	<p>1 0 2</p>  <p>"B" port plugged</p>
	<p>P → A P closed C open</p>	<p>1 0 2</p>  <p>"B" port plugged</p>
	<p>A → T P closed C open</p>	<p>1 0 2</p>  <p>"B" port plugged</p>

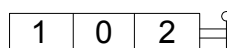
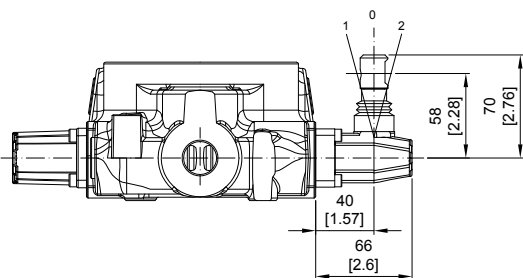
TYPE 8

	<p>B → T P closed C open</p>	<p>1 0 2</p>  <p>"A" port plugged</p>
	<p>B → T P closed C open</p>	<p>1 0 2</p>  <p>"A" port plugged</p>
	<p>P → B C & T closed</p>	<p>1 0 2</p>  <p>"A" port plugged</p>

VSB5 A Side

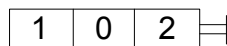
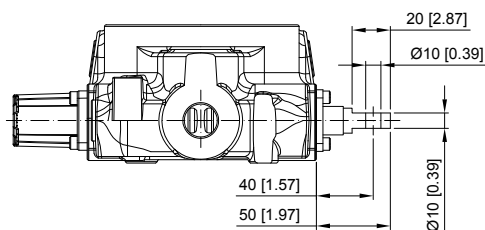
Monoblock Directional Control Valves

Type L



Type L:
STANDART LEVER KIT

Type SLP

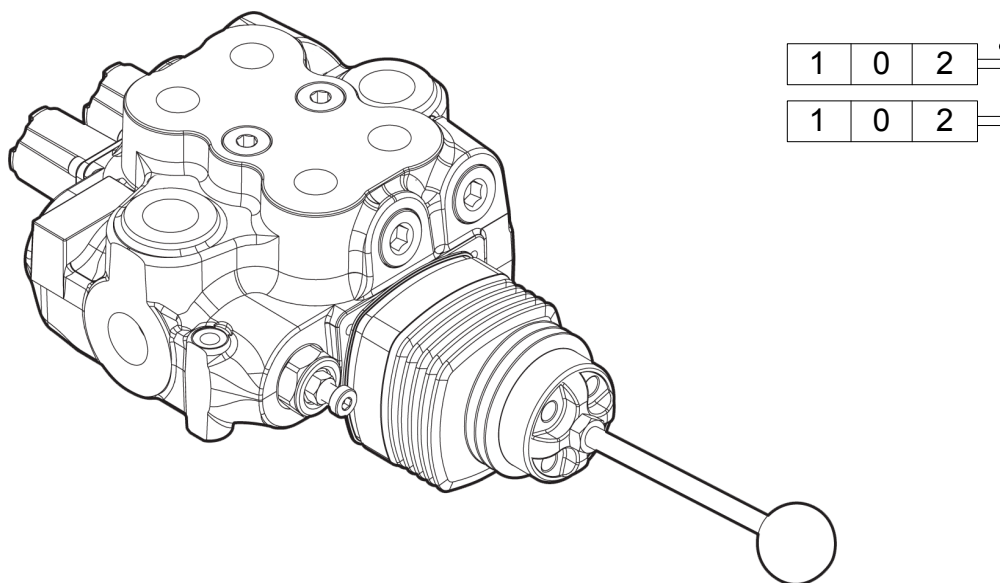


Type SLP:
WITH DUST-PROOF PLATE

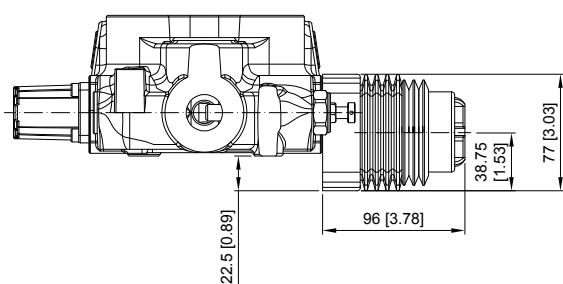
VSB5 A Side

Monoblock Directional Control Valves

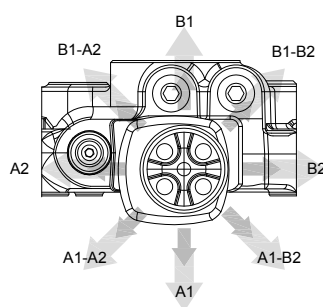
LCB: Joystick control



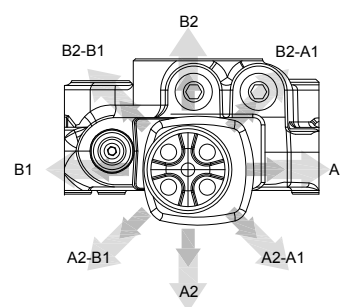
Type LCB



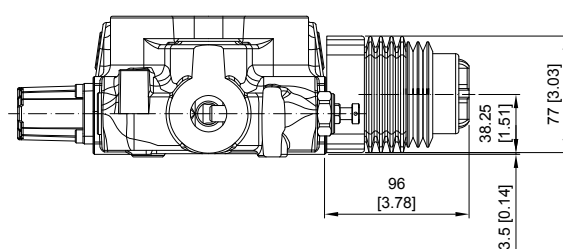
LCB 1



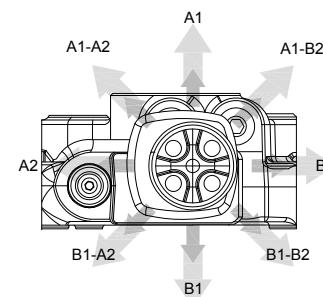
LCB 2



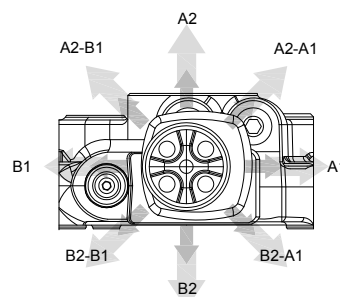
Type LCB



LCB 3



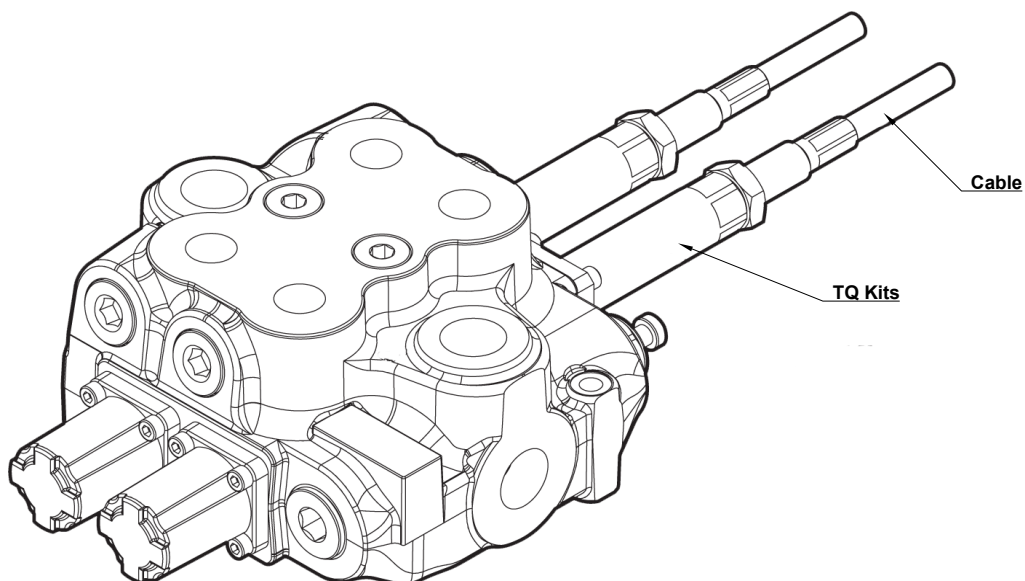
LCB 4



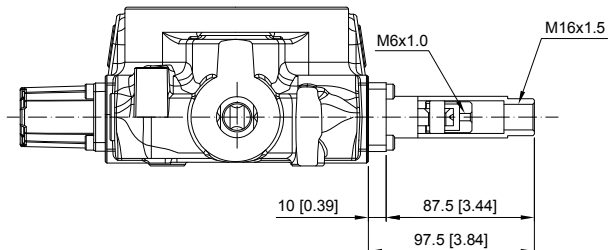
VSB5 A Side

Monoblock Directional Control Valves

Note : CONNECTION KIT NOT INCLUDE CABLE



Type TQ



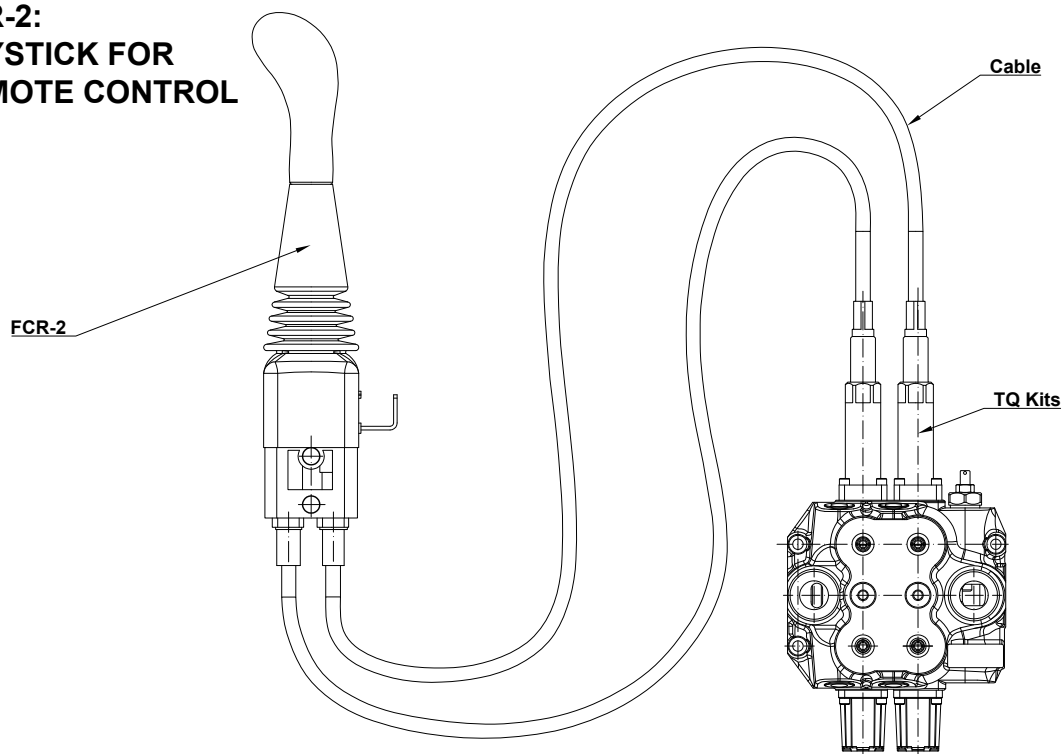
TQ Kit:

1	0	2
---	---	---

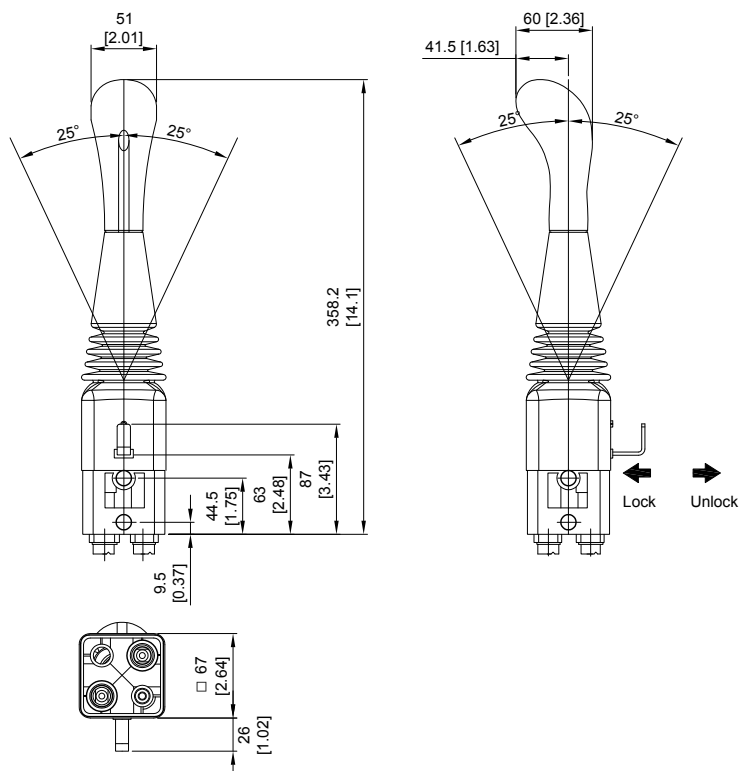
VSB5 A Side

Monoblock Directional Control Valves

**FCR-2:
JOYSTICK FOR
REMOTE CONTROL**



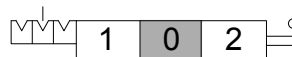
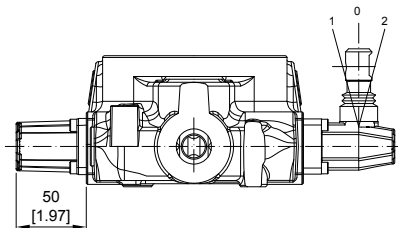
Type FCR-2



VSB5 B Side

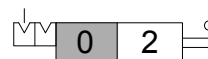
Monoblock Directional Control Valves

Type 6



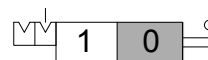
6-1 Kit:

DETENT IN POS. 1-0-2, WITHOUT SPRING CENTERED



6-2 Kit:

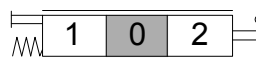
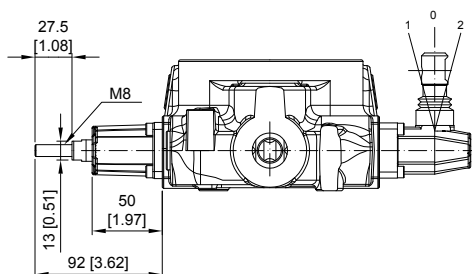
2 POSITIONS, DETENT IN POS. 0-2, WITHOUT SPRING CENTERED



6-3 Kit:

2 POSITIONS, DETENT IN POS. 1-0, WITHOUT SPRING CENTERED

Type 8D2



8D2 Kit:

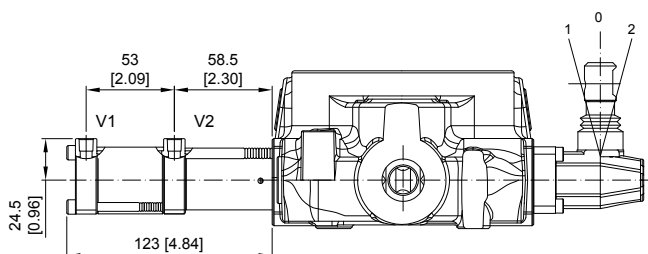
WITH SPRING RETURN TO NEUTRAL POSITION AND PIN WITH M8 MALE THREAD FOR DUAL CONTROL

VSB5 B Side

Monoblock Directional Control Valves

Type 8P

V1 & V2: NPT 1/8 - 27

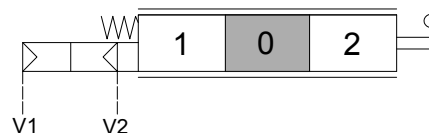


Operating feature:

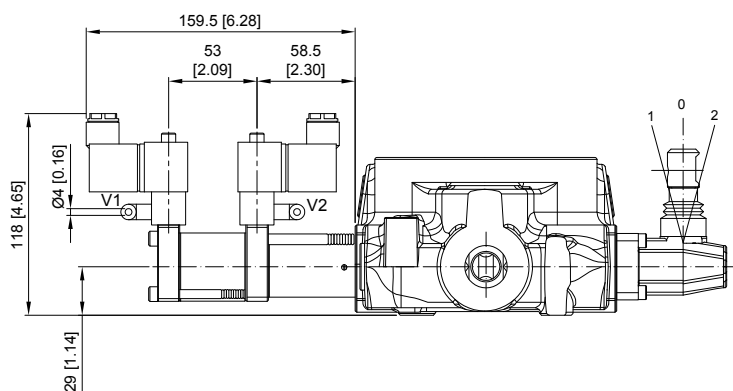
PILOT PRESSURE (MIN.): 6 BAR / 87 PSI

PILOT PRESSURE (MAX.): 12 BAR / 174 PSI

ON/OFF PNEUMATIC KIT



Type 8EP3

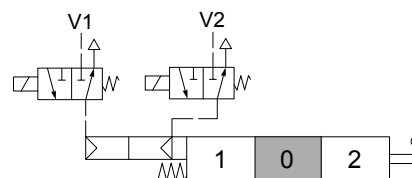


Solenoid operating features:

NOMINAL VOLTAGE: 24VDC

NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$

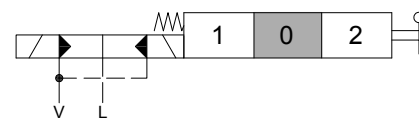
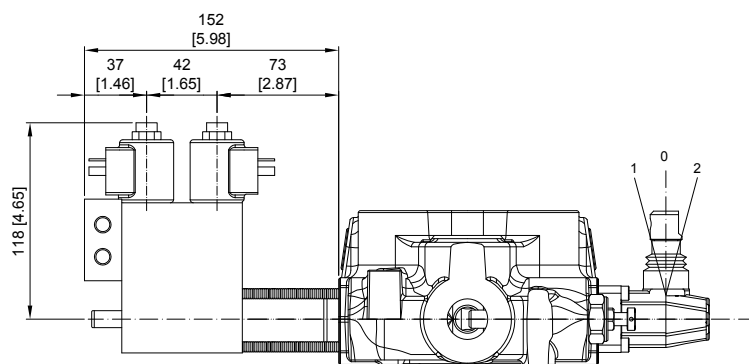
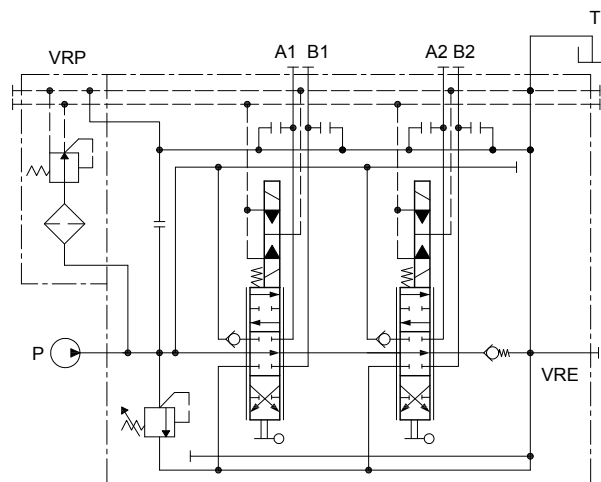
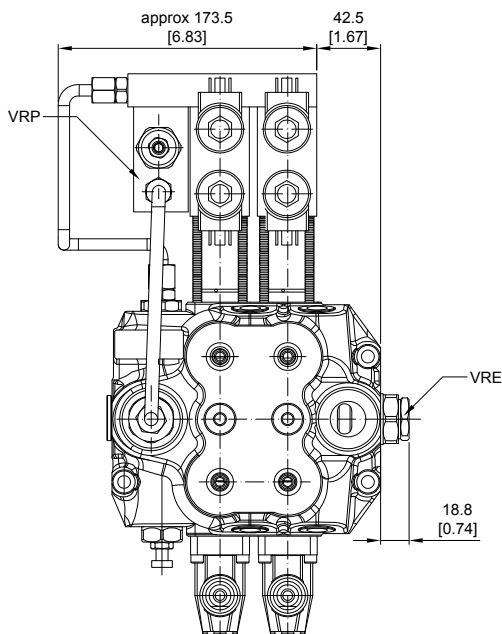
POWER RATING: 5W



VSB5 B Side

Monoblock Directional Control Valves

Type 8ED3



Operating features:

PILOT PRESSURE:

- MIN. 10 BAR / 145 PSI
- MAX. 50 BAR / 725 PSI

MAX. BACKPRESSURE ON DRAIN L:

25 BAR / 360 PSI

Coil features:

NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$

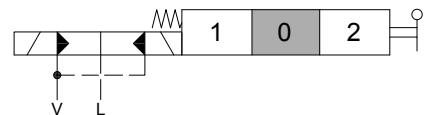
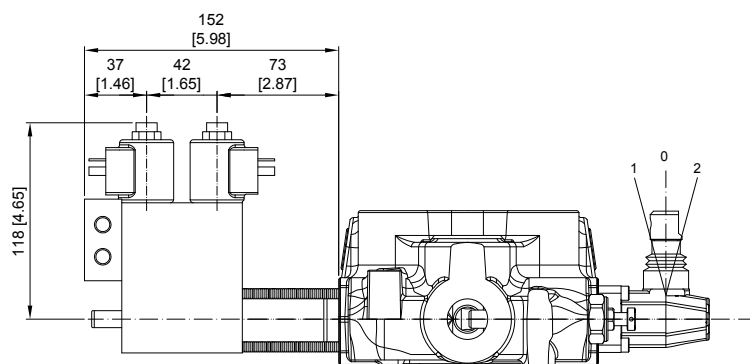
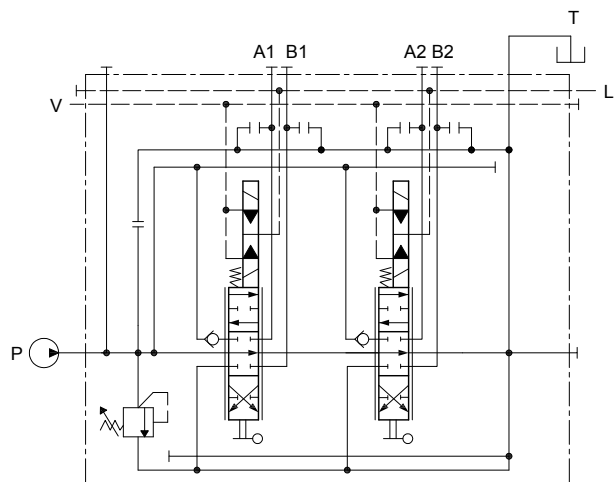
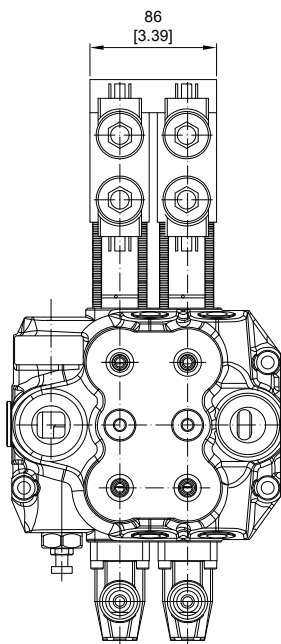
ELECTRIC POWER: 21 W

STANDARD VOLTAGE: 12 VDC / 24 VDC

VSB5 B Side

Monoblock Directional Control Valves

Type 8ER3



Operating features:

PILOT PRESSURE: · MIN. 10 BAR / 145 PSI
· MAX. 50 BAR / 725 PSI
MAX. BACKPRESSURE ON DRAIN L:
25 BAR / 360 PSI

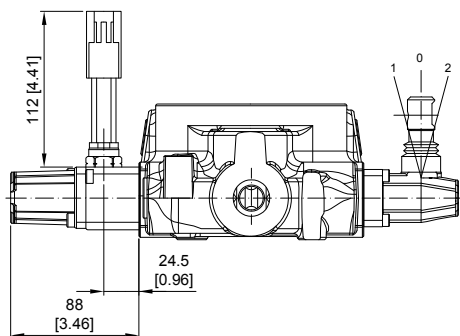
Coil features:

NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$
ELECTRIC POWER: 21 W
STANDARD VOLTAGE: 12 VDC / 24 VDC

VSB5 B Side

Monoblock Directional Control Valves

Type 8MG



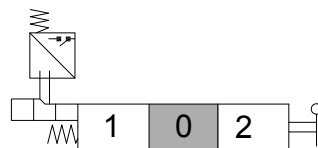
MICROSWITCH

Operating features:

MECHANICAL LITE: • 5X10⁵ OPERATIONS

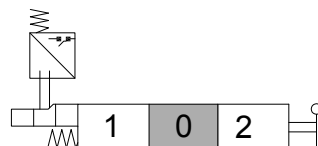
ELECTRICAL LITE (RESISTIVE LOAD):

- 10⁵ OPERATIONS - 7A / 13.5 VDC
- 5X10⁴ OPERATIONS - 10A / 12 VDC
- 5X10⁴ OPERATIONS - 3A / 28 VDC



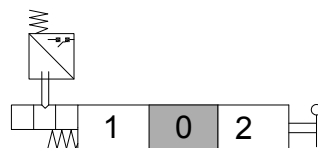
8MG1 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1



8MG2 Kit:

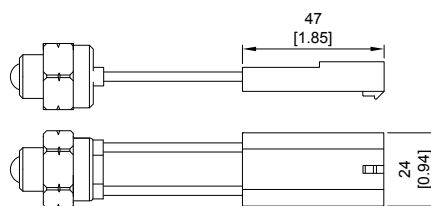
MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 2



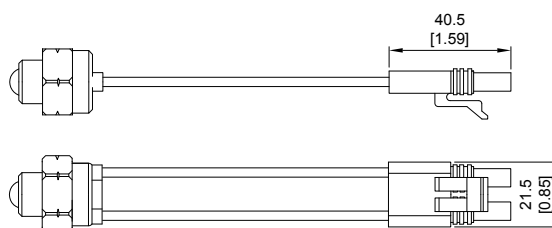
8MG3 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1 AND POS. 2

With NO contact (female connector with male end)



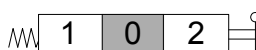
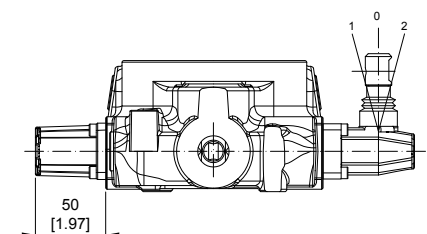
With NC contact (male connector with female end)



VSB5 B Side

Monoblock Directional Control Valves

Type 8



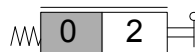
8 Kit:

SPRING RETURN TO NEUTRAL POSITION.



8-1 Kit:

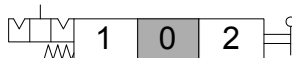
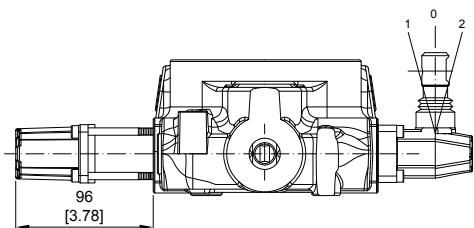
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)



8-2 Kit:

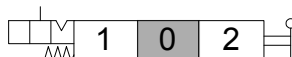
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)

Type 9



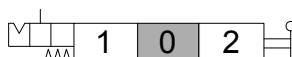
9-1 Kit:

DETENT IN POS. 1, 2 WITH SPRING CENTERED



9-2 Kit:

DETENT IN POS. 2 WITH SPRING CENTERED



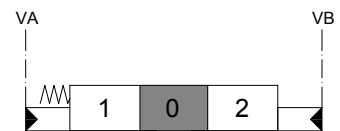
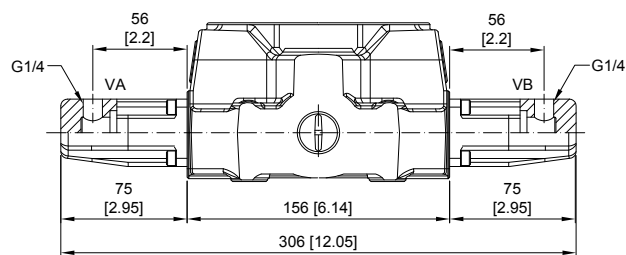
9-3 Kit:

DETENT IN POS. 1 WITH SPRING CENTERED

VSB5 B Side

Monoblock Directional Control Valves

Type 8IM



Operating features:

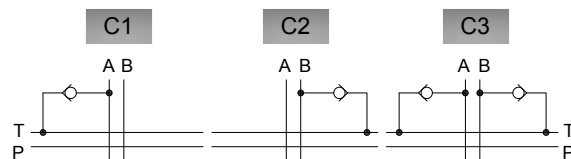
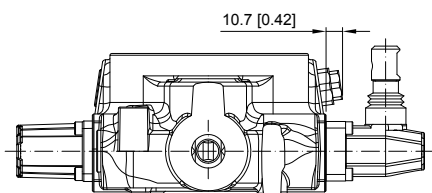
PILOT PRESSURE: MAX. 50 BAR

INTERNAL LEAKAGE A(B) - > T: MAX. 6CM³/MIN
(100 BAR / 40°C)

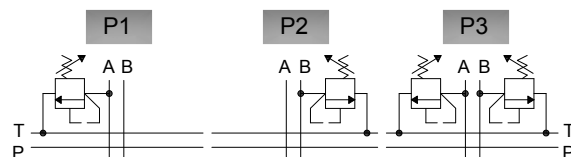
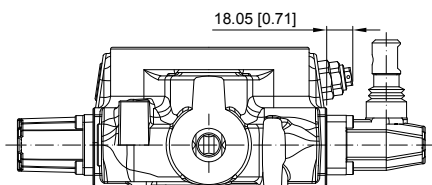
VSB5 Port Relief

Monoblock Directional Control Valves

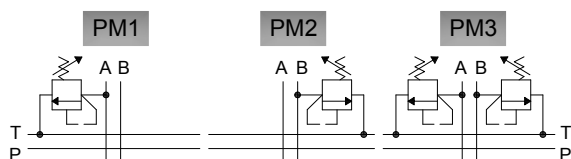
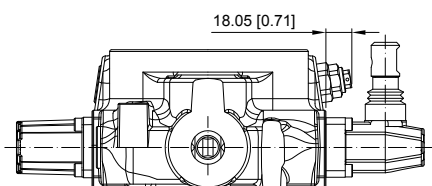
TYPE C



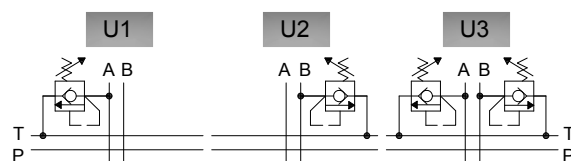
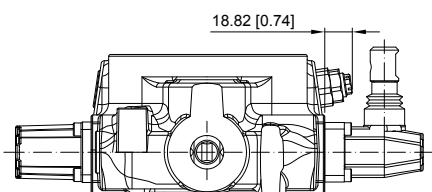
TYPE P



TYPE PM



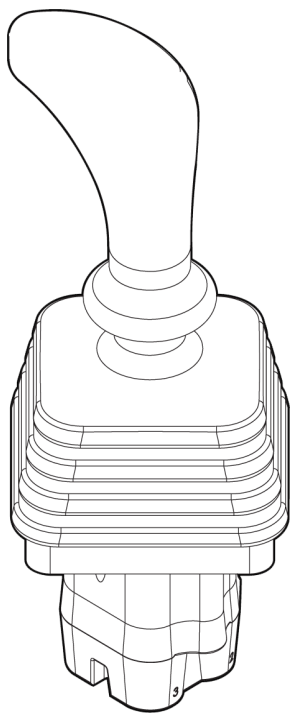
TYPE U



VSB5 Accessories

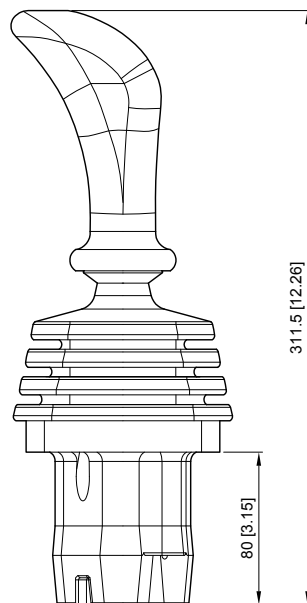
Monoblock Directional Control Valves

Type JHP-2

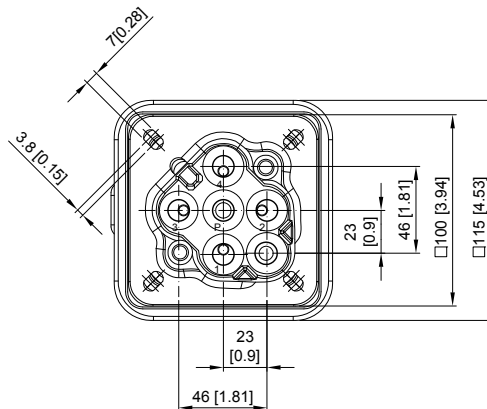
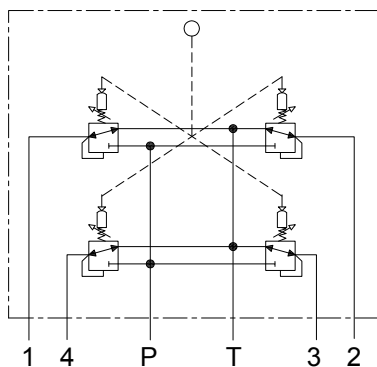


Specifications:

- This data sheet shows technical spec. with mineral oil of 46 mm²/s (cSt) viscosity at 40°C (104°F)
- Flow: 5~20 LPM
- Feeding pressure: 30~100 bar
- Max. backpressure: 3 bar
- Internal leakage at 30 bar: 10~18 cm³/min
- Fluid: mineral oil
- Fluid temperature: -10~80°C
- Ambient temperature: -40~60°C



HYDRAULIC SCHEME:



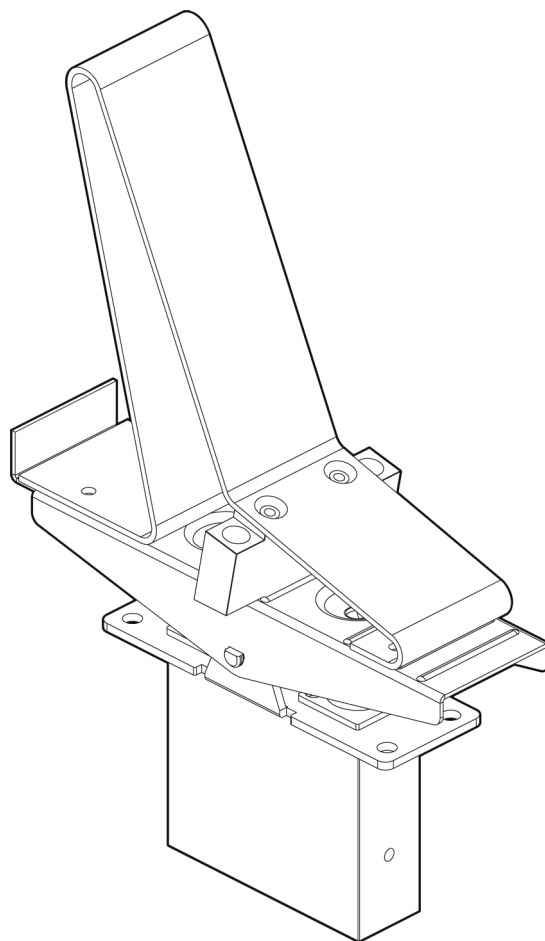
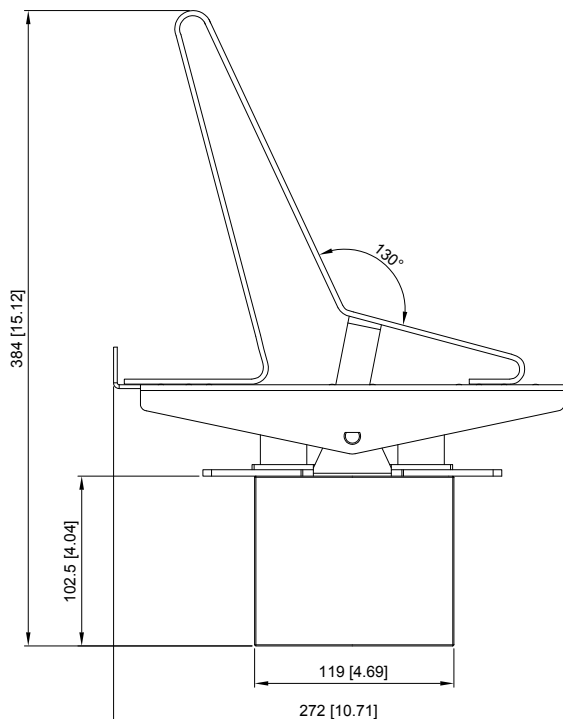
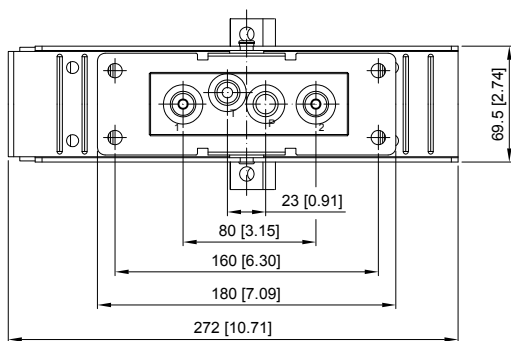
VSB5 Accessories

Monoblock Directional Control Valves

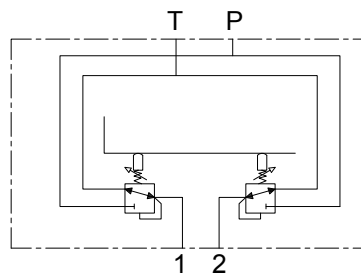
Type PHP-1

Specifications:

- This data sheet shows technical spec. with mineral oil of 46 mm²/s (cSt) viscosity at 40°C (104°F)
- Flow: 5~20 LPM
- Feeding pressure: 30~100 bar
- Max. backpressure: 3 bar
- Internal leakage at 30 bar: 10~18 cm³/min
- Fluid: mineral oil
- Fluid temperature: -10~80°C
- Ambient temperature: -40~60°C



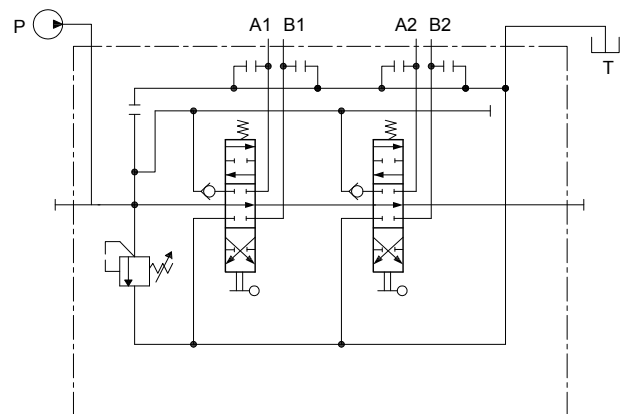
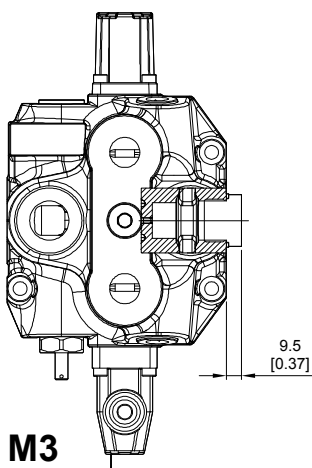
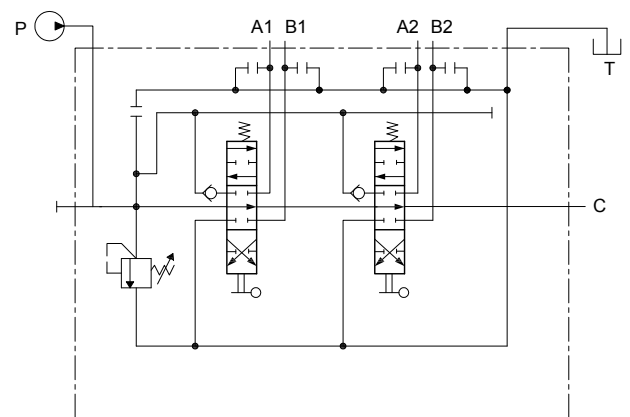
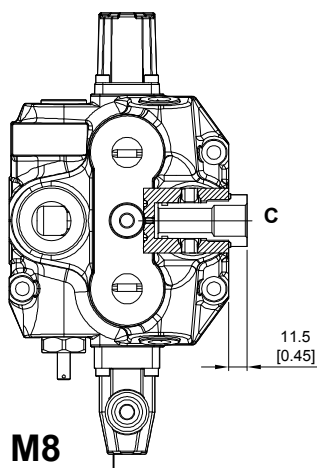
HYDRAULIC SCHEME:



VSB5 Outlet

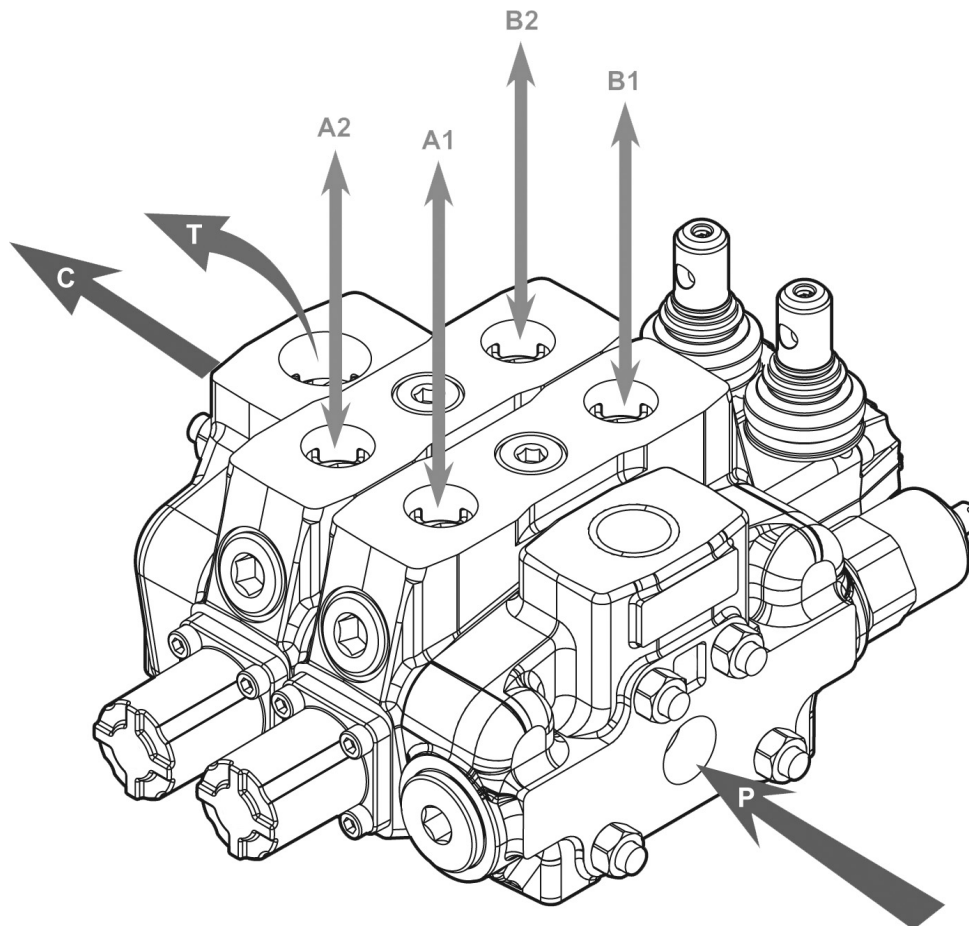
Monoblock Directional Control Valves

Power Beyond Conversion plug
(Closed center plug)



VS6

Sectional Directional Control Valves



VS6 Specifications

Nominal flow rate		140 l/min	37 US gpm
Operating pressure (maximum)	parallel or tandem circuit	315 bar	4600 psi
	series circuit	210 bar	3050 psi
Back pressure (maximum)	on outlet port T	25 bar	360 psi
Fluid temperature range	with NBR(BUNA-N) seals	from -20°C to 80°C	from -4° to 176° F
	with FPM(VITON) seal	from -20°C to 100°C	from -4° to 212° F
Viscosity	operating range	from 15 to 75 mm ² /s	from 15 to 75 cst
	min	12 mm ² /s	12 cst
	max.	400 mm ² /s	400 cst
Ambient temperature range		from -40°C to 60°C	from -40° to 140° F

• All specifications, dimensions and design characteristics shown in this catalogue are subject to change without notice

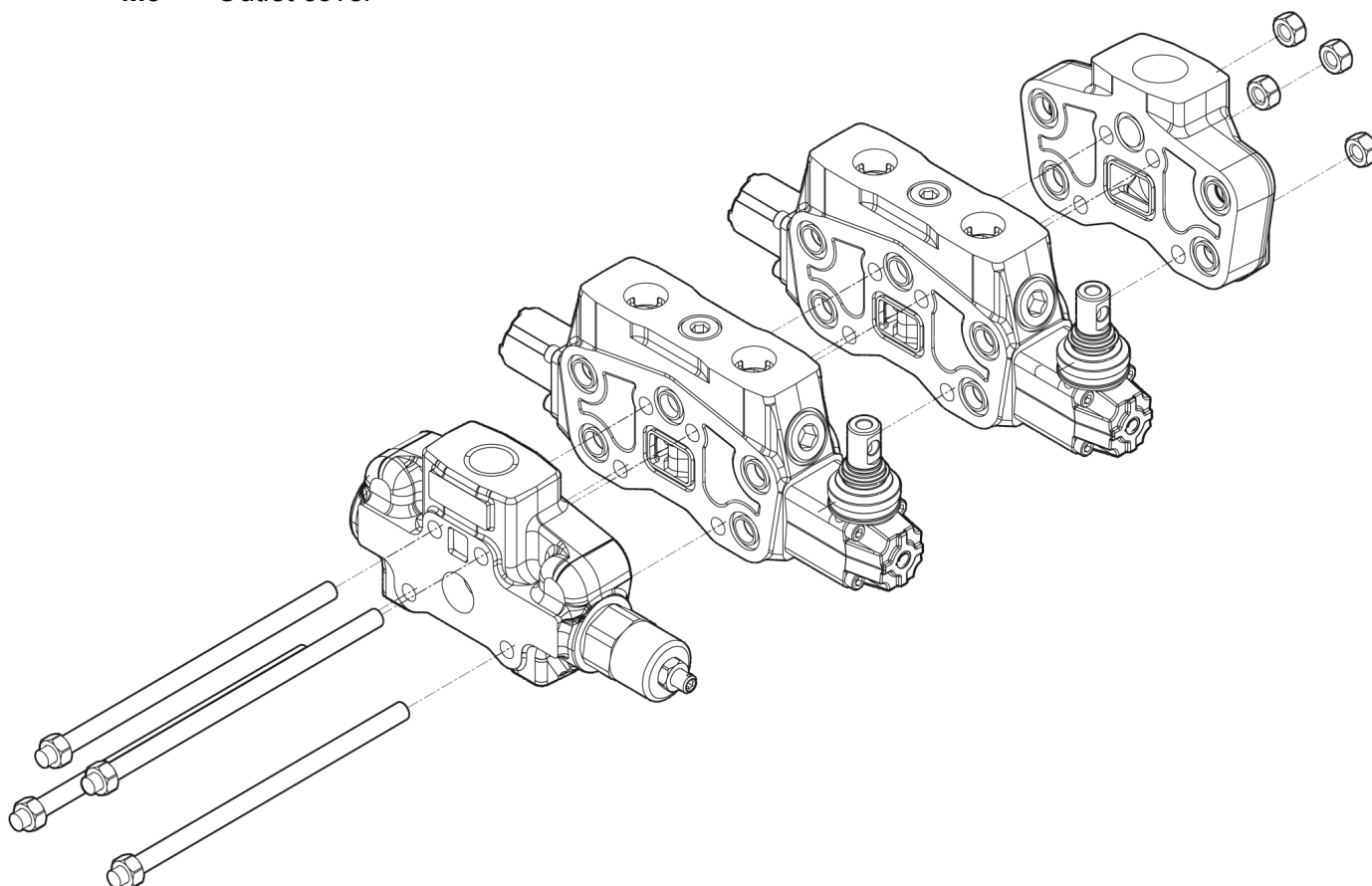
VS6 Complete

Sectional Directional Control Valves

HOW TO ORDER FOR A COMPLETE ASSEMBLED VALVE

VS6 / **2S** - **3** / **18L** / **28L** / **G-6-1** / **M3**

- 2S** No. of working section
- 3** Inlet cover with a main pressure relief valve
- 18L** 1st section (complete working section)
- 28L** Following section (complete working section)
- G-6-1** BSP ports
- M3** Outlet cover



VS6 Inlet Section

Sectional Directional Control Valves

FP VS6 / FG-3 / G-6

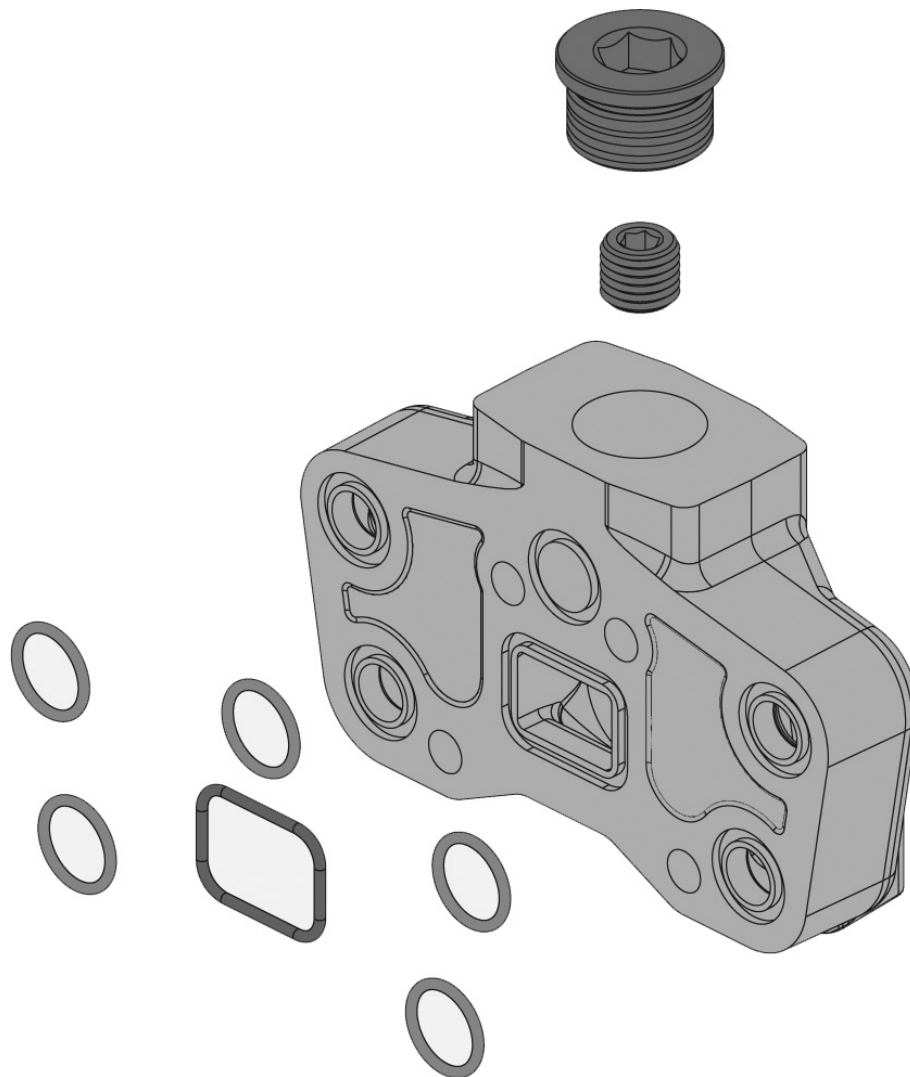
Inlet relief

Inlet Relief			
TYPE	CODE	DESCRIPTION	
FG-2	VS63002	Range 80 to 160 bar / 1150 to 2300 psi, standard setting 125 bar / 1800 psi	
FG-3	VS63003	Range 125 to 250 bar / 1800 to 3600 psi, standard setting 175 bar / 2500 psi	
SV	VS64000	Relief valve blanking plug	
XFG	VS63000	Pilot operated pressure relief valve Range 25 to 315 bar/360 to 4600 psi, standard setting 125 bar/1800 psi	

VS6 Outlet Section

Sectional Directional Control Valves

FT VS6 / G-1 / M3



VS6 Working Section

Sectional Directional Control Valves

EW VS6 / 1S / **1 8 L** / **P1 (G3-100)** / G-6

1
2
3
4

- 1 Spool options
- 2 "B" side Spool positioners
- 3 "A" side controls
- 4 Port relief

1: Spool Symbol			
TYPE	CODE	DESCRIPTION	
1	VS62001	Double acting, 3 positions, with A and B closed in neutral position	
2	VS62002	Double acting, 3 positions, with A and B open to tank in neutral position	
3	VS62003	Single acting on A closed in neutral position, 3 positions, B plugged	
4	VS62004	Single acting on B closed in neutral position, 3 positions, A plugged	
5	VS62005	Double acting, 3 positions, with B open to Tank in neutral position	
6	VS62006	Double acting, 3 positions, with A open to Tank in neutral position	
5PY	VS62051	Double acting, 4 positions, floating circuit in 4th position with A, B open to Tank by pushing the lever	

VS6 Working Section

Sectional Directional Control Valves

EW VS6 / 1S / **1 8 L** / **P1 (G3-100)** / G-6

1
2
3
4

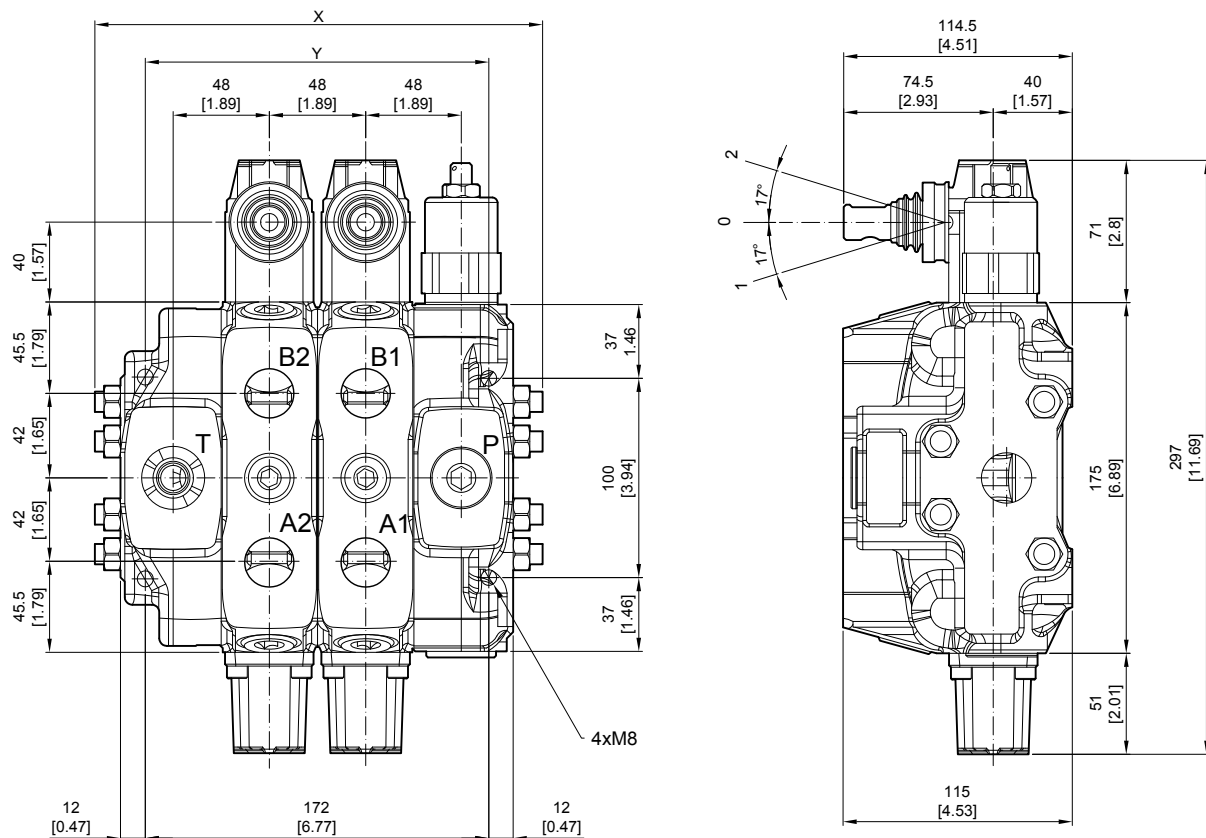
- 1** Spool symbol
- 2** "B" side Spool positioners
- 3** "A" side controls
- 4** Port relief

2: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	
6-1	VS63061	Detent in pos. 1-0-2, without spring centered	
6-2	VS63062	2 positions, detent in pos. 0-2, without spring centered	
6-3	VS63063	2 positions, detent in pos. 1-0, without spring centered	
8D2	VS63082	With spring return to neutral position and pin with M8 male thread for dual control	
8P	VS63080	ON/OFF Pneumatic actuator	
8EP3	VS64300	ON/OFF Electro-Pneumatic actuator	
8MG1 (NO)	VS63801	Microswitch kit operated in pos. 1 (Normally Open)	
8MG2 (NO)	VS63802	Microswitch kit operated in pos. 2 (Normally Open)	
8MG3 (NO)	VS63803	Microswitch kit operated in pos. 1&2 (Normally Open)	
MG(NO)	VS63804	Microswitch with NO terminal	
8MG1 (NC)	VS638011	Microswitch kit operated in pos. 1 (Normally Closed)	
8MG2 (NC)	VS638021	Microswitch kit operated in pos. 2 (Normally Closed)	
8MG3 (NC)	VS638031	Microswitch kit operated in pos. 1&2 (Normally Closed)	
MG(NC)	VS638041	Microswitch with NC terminal	
8	VS63008	With spring return to neutral position	
8-1	VS64081	2 positions, with spring centered from pos. 1	
8-2	VS64082	2 positions, with spring centered from pos. 2	
9-1	VS63091	Detent in pos. 1, 2 with spring centered	
9-2	VS63092	Detent in pos. 2 with spring centered	
9-3	VS63093	Detent in pos. 1 with spring centered	

2: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	
8ED3+RV-KE1R3	VS63201	1S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE2R3	VS63202	2S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE3R3	VS63203	3S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE4R3	VS63204	4S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE5R3	VS63205	5S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE6R3	VS63206	6S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE7R3	VS63207	7S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE8R3	VS63208	8S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE9R3	VS63209	9S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE10R3	VS63210	10S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE11R3	VS63211	11S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ED3+RV-KE12R3	VS63212	12S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	
8ER3+KE1SO	VS63401	1S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE2SO	VS63402	2S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE3SO	VS63403	3S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE4SO	VS63404	4S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE5SO	VS63405	5S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE6SO	VS63406	6S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE7SO	VS63407	7S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE8SO	VS63408	8S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE9SO	VS63409	9S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE10SO	VS63410	10S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE11SO	VS63411	11S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
8ER3+KE12SO	VS63412	12S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	
3: A Side controls			
TYPE	CODE	DESCRIPTION	
L	VS64000	Standard lever	
SLP	VS64001	Without lever, with dust proof plate	
LCB	VS64002	Joystick lever for 2 section operation	
TQ	VS64003	Flexible cable connection	
4: Port Relief			
TYPE	CODE	DESCRIPTION	
P (G2-63)	VS65002	Anti-shock valve, range 63 to 125 bar / from 900 to 1800 psi standard setting 63 bar / 900 psi	
P (G3-100)	VS65003	Anti-shock valve, range 100 to 250 bar / from 1450 to 3600 psi standard setting 100 bar / 1450 psi	
P (G4-200)	VS65004	Anti-shock valve, range 200 to 315 bar / from 2900 to 4600 psi standard setting 200 bar / 2900 psi	
U (G2-63)	VS65012	Anti-shock valve and Anti-cavitation valve, range 63 to 125 bar / from 900 to 1800 psi standard setting 63 bar / 900 psi	
U (G3-100)	VS65013	Anti-shock valve and Anti-cavitation valve, range 100 to 250 bar / from 1450 to 3600 psi standard setting 100 bar / 1450 psi	
U (G4-200)	VS65014	Anti-shock valve and Anti-cavitation valve, range 200 to 315 bar / from 2900 to 4600 psi standard setting 200 bar / 2900 psi	
C	VS65100	Anti-cavitation	

VS6 Dimensions

Sectional Directional Control Valves



Standard threads

Ports	Inlet P and carry-over C	A and B	Outlet T
BSP	G3/4	G3/4	G1
UN-UNF	1 5/16-12 UN-2B (SAE 16)	1 1/16-12 UN-2B (SAE 12)	1 5/16-12 UN-2B (SAE 16)

Pilot ports	Hydraulic	Pneumatic
BSP	G1/4	NPTF 1/8-27
UN-UNF	9/16-18 UNF-2B (SAE 6)	NPTF 1/8-27

• G-1/2 : G4 G-3/8 : G3 G-3/4 : G6 G-1 : G1

• SAE 8 : E8 SAE 10 : E10 SAE 12 : E12 SAE 16 : E16

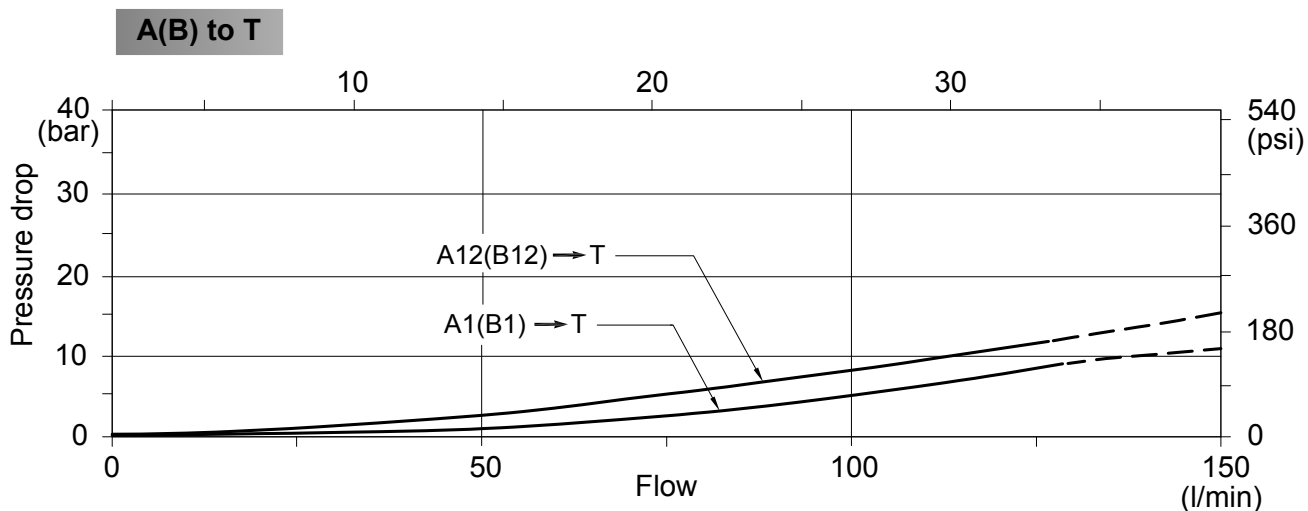
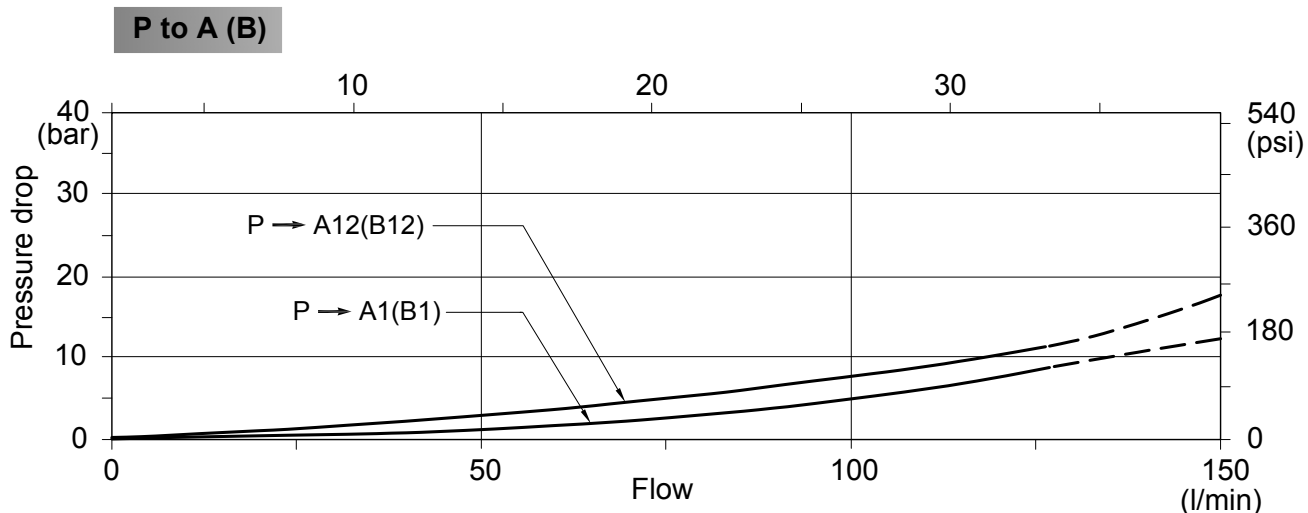
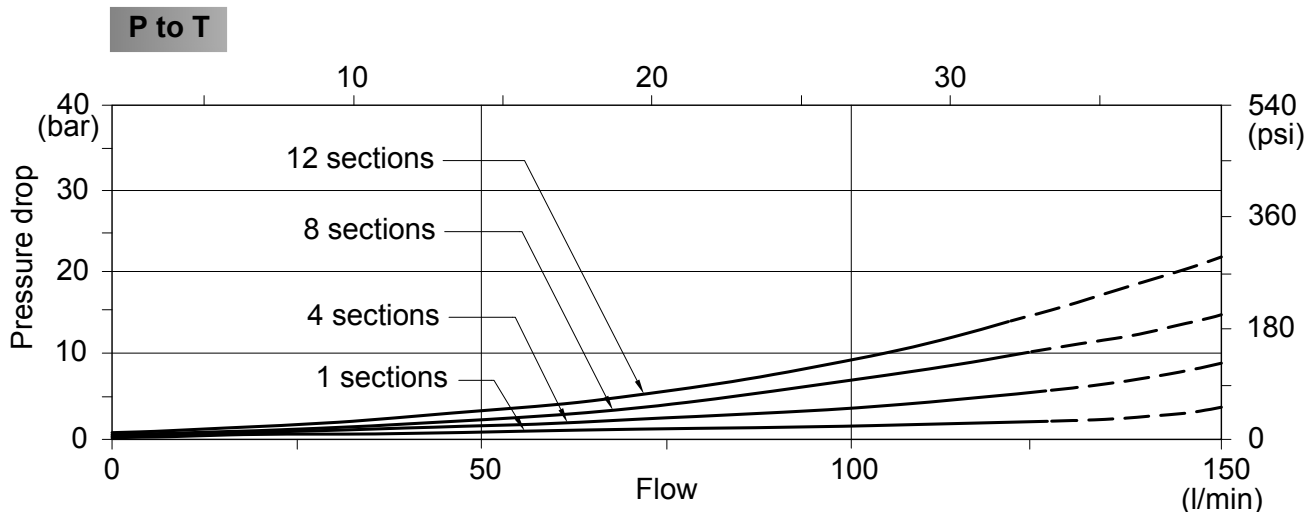
Standard dimensions

TYPE	X		Y	
	mm	in	mm	in
VS6/1S	176	6.63	124	4.88
VS6/2S	224	8.82	172	6.77
VS6/3S	272	10.71	220	8.66
VS6/4S	320	12.60	268	10.55
VS6/5S	368	14.49	316	12.44
VS6/6S	416	16.38	364	14.33

TYPE	X		Y	
	mm	in	mm	in
VS6/7S	464	18.27	412	16.12
VS6/8S	512	20.16	460	18.11
VS6/9S	560	22.05	508	20
VS6/10S	608	23.94	556	21.89
VS6/11S	656	25.83	604	23.78
VS6/12S	704	27.72	652	25.67

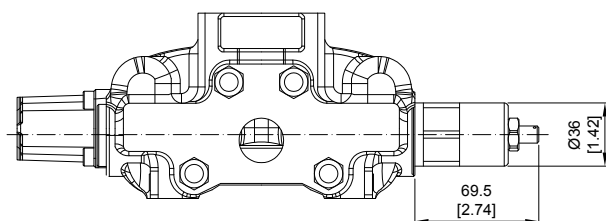
VS6 Performance Curve Chart

Sectional Directional Control Valves

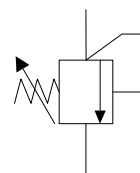


VS6 Inlet Relief (Optional) Sectional Directional Control Valves

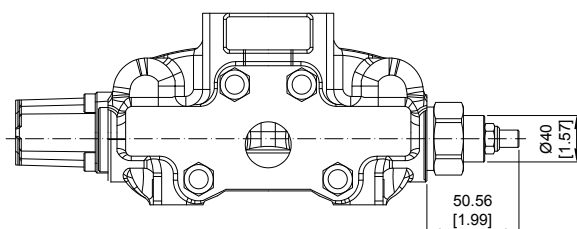
Type FG



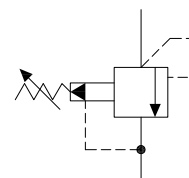
Direct pressure relief valve:



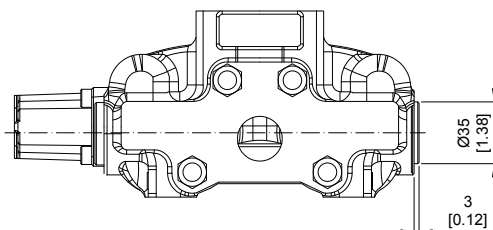
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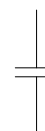
Pilot operated pressure relief valve:



Type SV



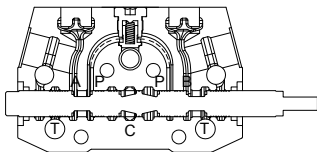
Relief valve blanking plug:



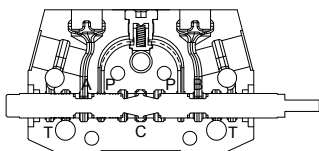
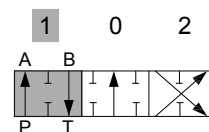
VS6 Spool Options

Sectional Directional Control Valves

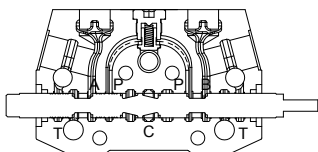
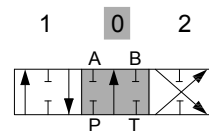
TYPE 1



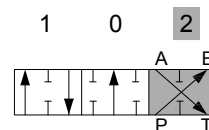
P → A
B → T
C closed



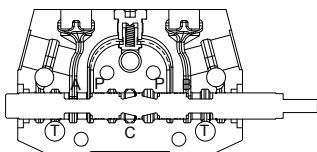
P & A & B & T closed
C open



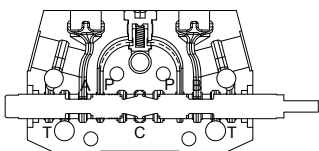
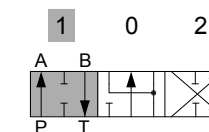
P → B
A → T
C closed



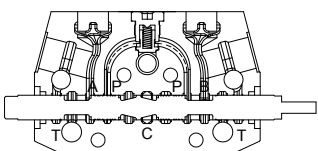
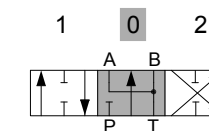
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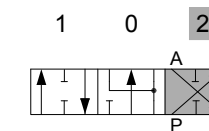
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C closed



A & B → T
P closed
C open



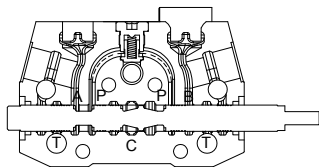
P → B
A → T
C closed



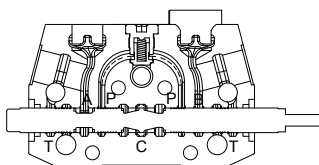
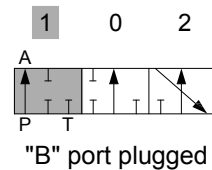
VS6 Spool Options

Sectional Directional Control Valves

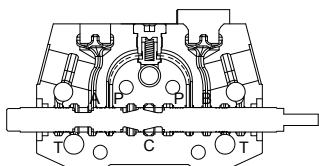
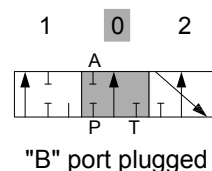
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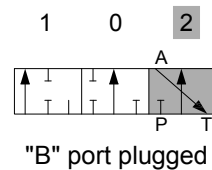
$P \rightarrow A$
T & C closed



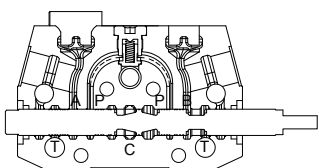
P & A & T closed
C open



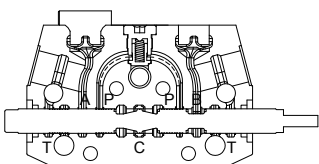
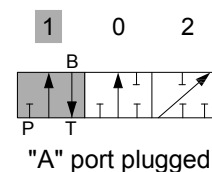
$A \rightarrow T$
P closed
C open



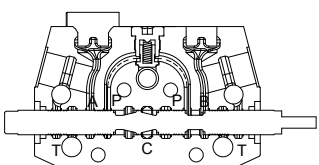
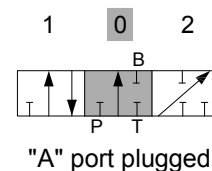
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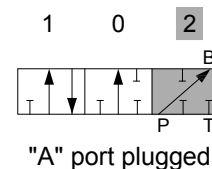
$B \rightarrow T$
P closed
C open



P & B & T closed
C open



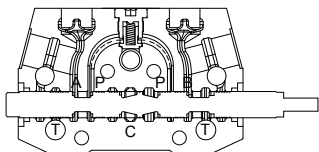
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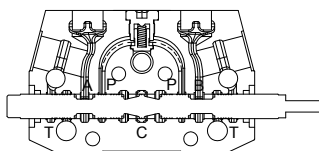
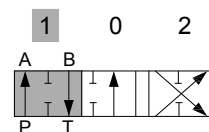
VS6 Spool Options

Sectional Directional Control Valves

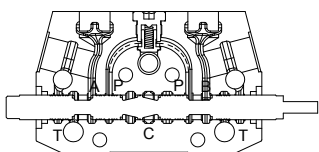
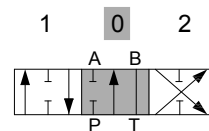
TYPE 5



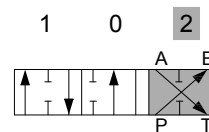
P → A
B → T
C closed



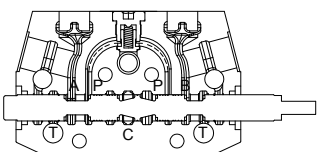
B → T
P & A closed
C open



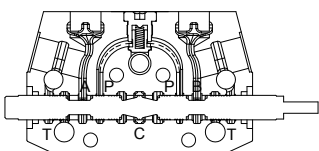
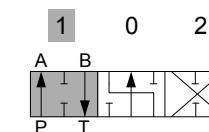
P → B
A → T
C closed



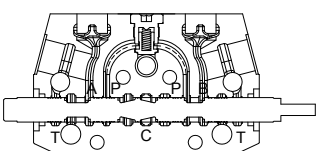
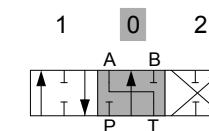
TYPE 6



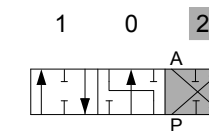
P → A
B → T
C closed



A → T
P & B closed
C open



P → B
A → T
C closed

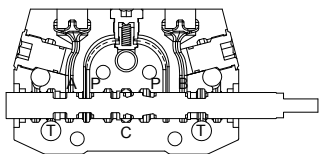


VS6 Spool Options

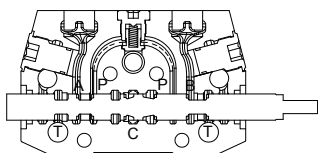
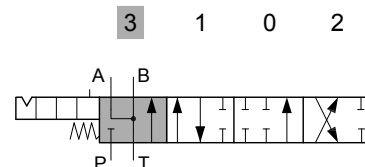
Sectional Directional Control Valves

TYPE 5PY

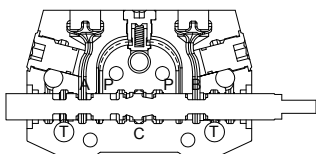
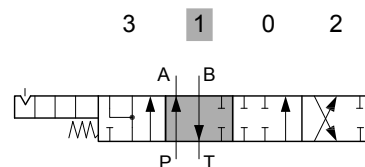
NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONER



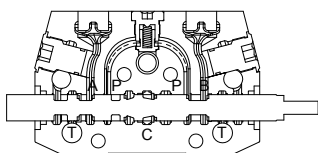
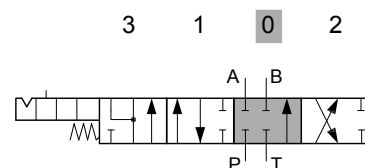
A & B → T
P closed
C open



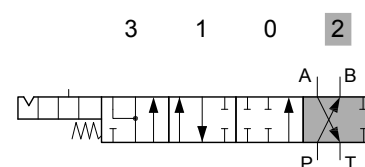
P → A
B → T
C closed



P & T & A & B closed
C open



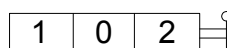
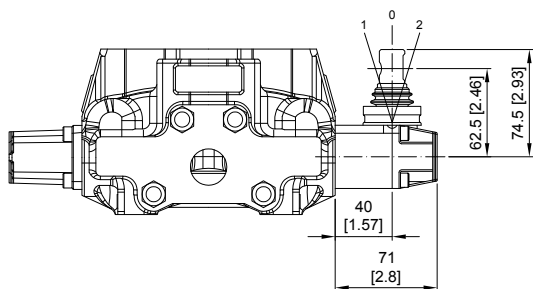
P → B
A → T
C closed



VS6 A Side

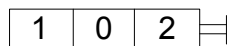
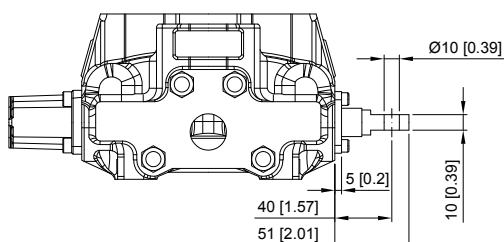
Sectional Directional Control Valves

Type L



Type L:
STANDART LEVER KIT

Type SLP

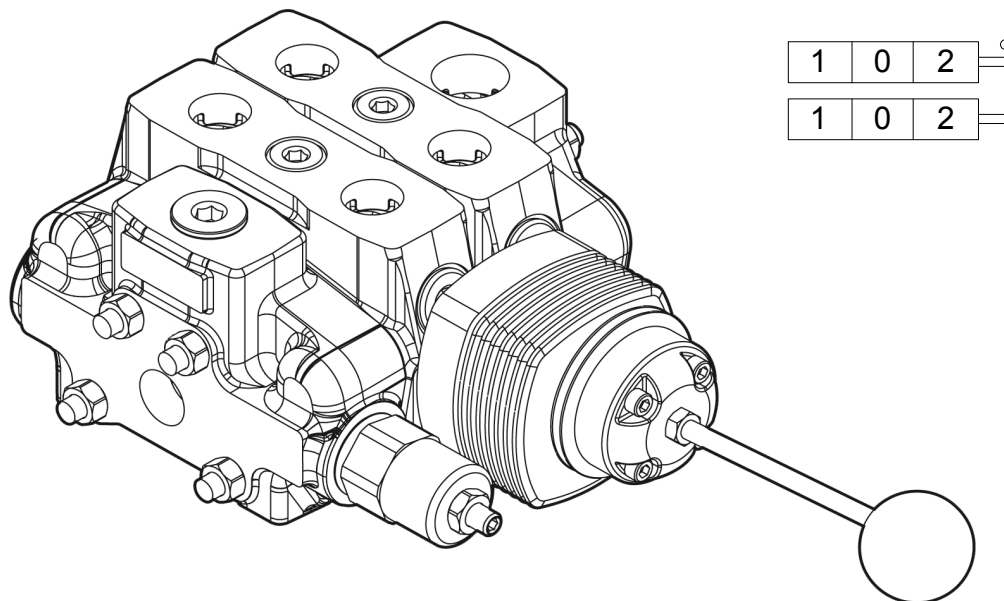


Type SLP:
WITH DUST-PROOF PLATE

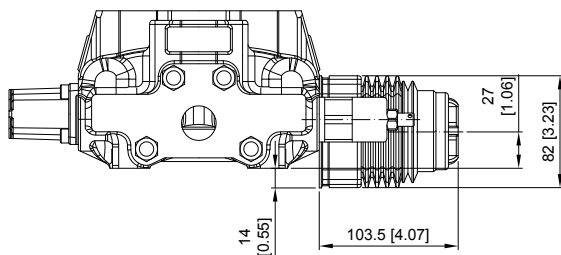
VS6 A Side

Sectional Directional Control Valves

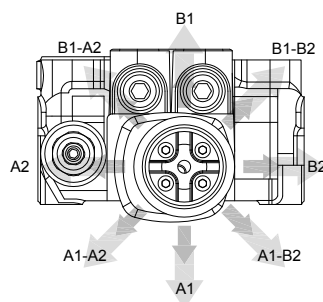
LCB: Joystick control



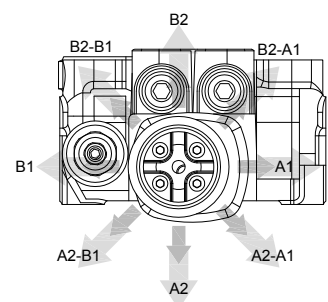
Type LCB



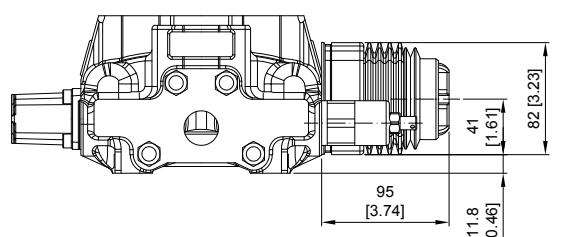
LCB 1



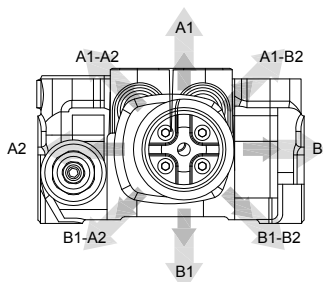
LCB 2



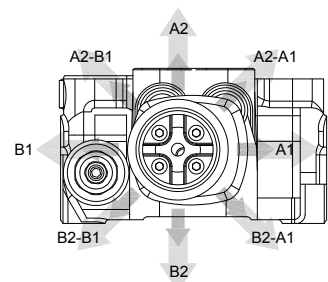
Type LCB



LCB 3



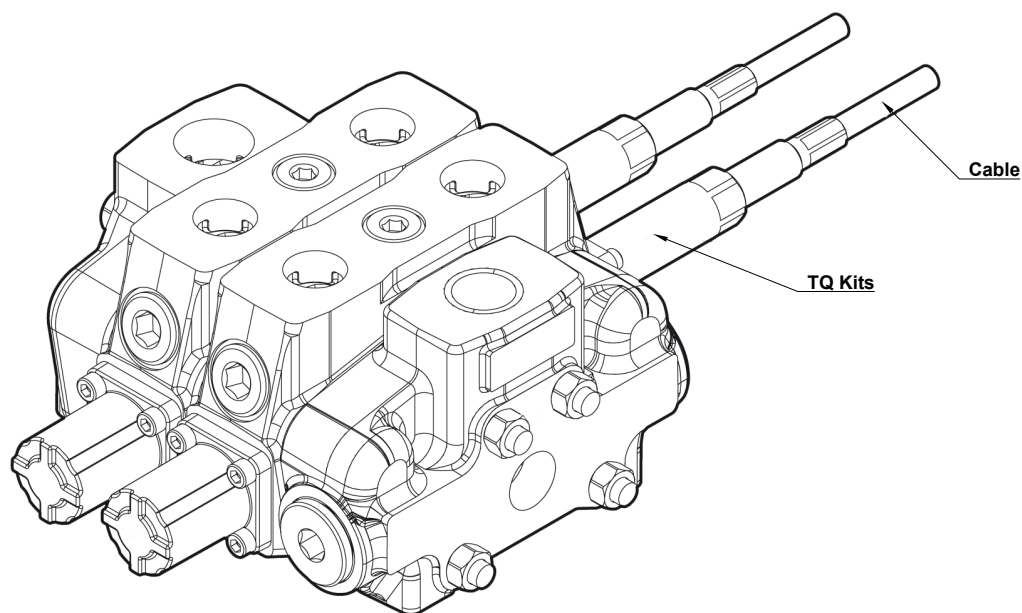
LCB 4



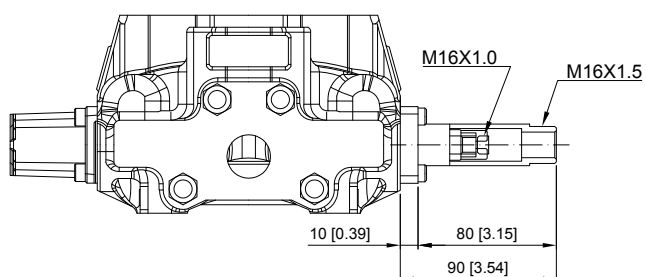
VS6 A Side

Sectional Directional Control Valves

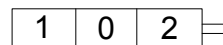
Note : CONNECTION KIT NOT INCLUDE CABLE



Type TQ



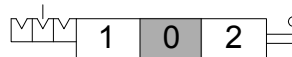
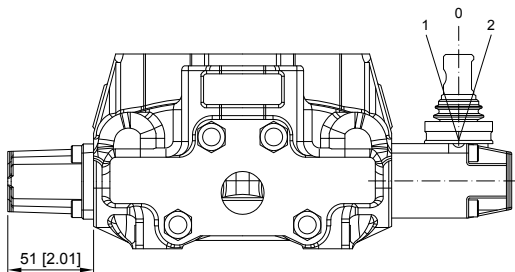
TQ Kit:



VS6 B Side

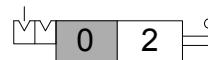
Sectional Directional Control Valves

Type 6



6-1 Kit:

DETENT IN POS. 1-0-2, WITHOUT SPRING CENTERED



6-2 Kit:

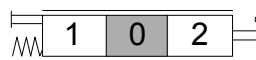
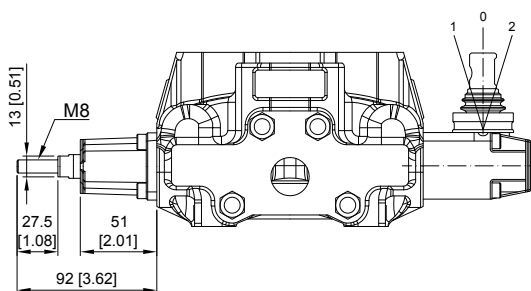
2 POSITIONS, DETENT IN POS. 0-2, WITHOUT SPRING CENTERED



6-3 Kit:

2 POSITIONS, DETENT IN POS. 1-0, WITHOUT SPRING CENTERED

Type 8D2



8D2 Kit:

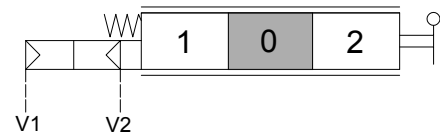
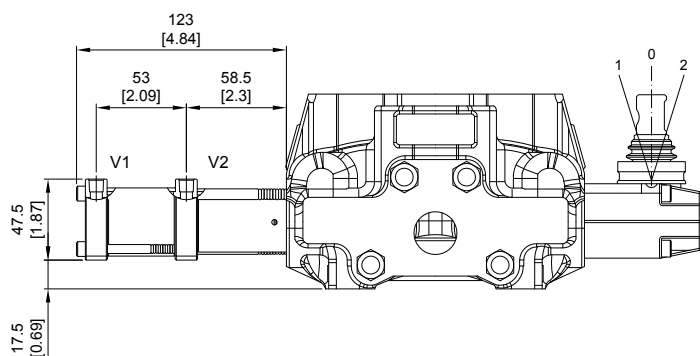
WITH SPRING RETURN TO NEUTRAL POSITION AND PIN WITH M8 MALE THREAD FOR DUAL CONTROL

VS6 B Side

Sectional Directional Control Valves

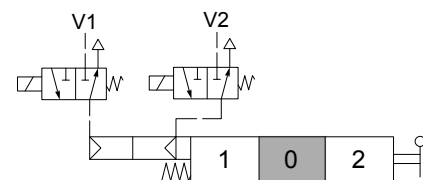
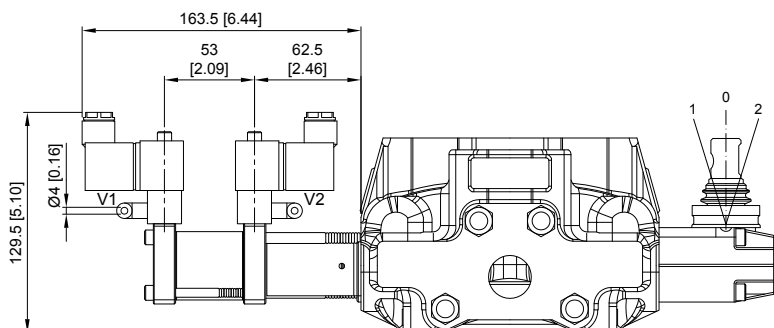
Type 8P

V1 & V2: NPT 1/8 - 27



Pilot pressure: FROM 7 TO 10 BAR / 101 TO 145 PSI

Type 8EP3



Solenoid operating features:

NOMINAL VOLTAGE: 24VDC

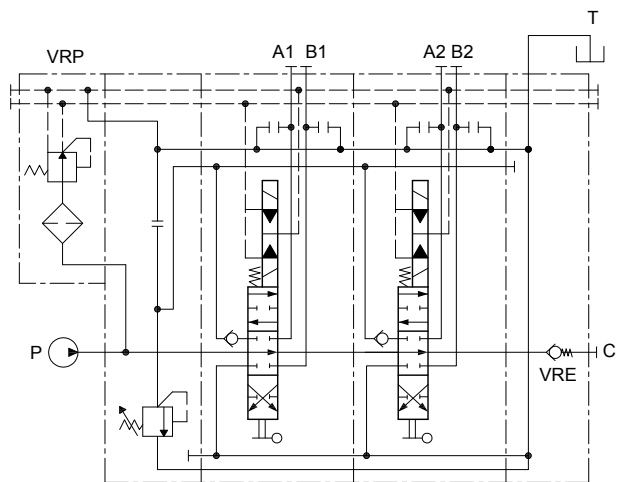
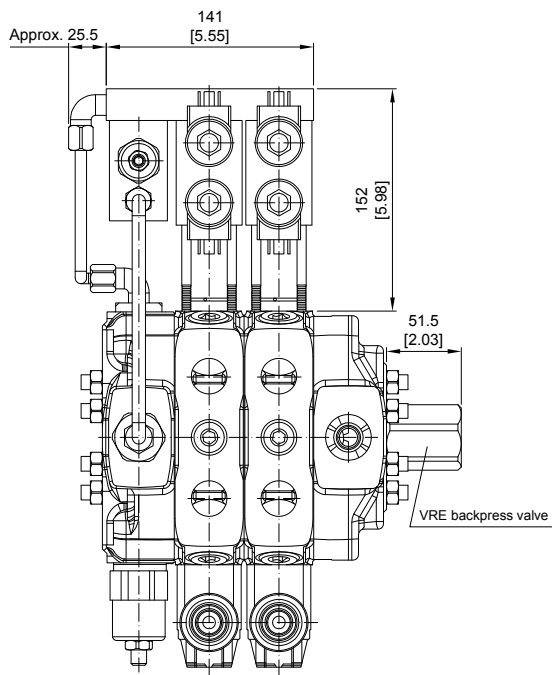
NOMINAL VOLTAGE TOLERANCE: $\pm 10\%$

POWER RATING: 5W

VS6 B Side

Sectional Directional Control Valves

Type 8ED3

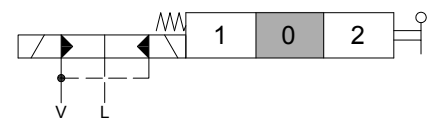
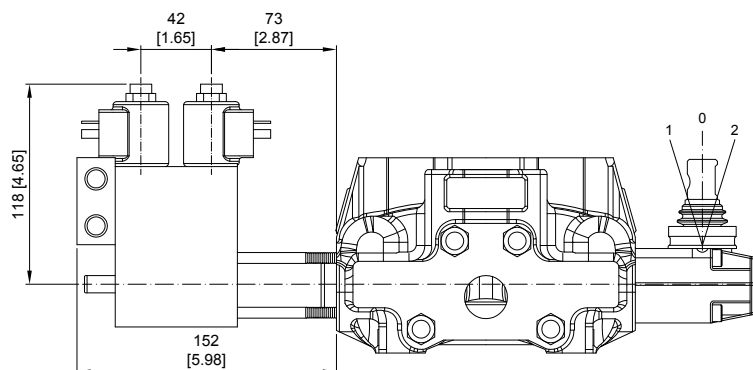


VRP valve operating features:

OUTLET PRESSURE: 25 BAR / 363 PSI

MAX. FLOW: 8 L/MIN / 2.1 US GPM

FLTERING: 80 μ



Operating features:

PILOT PRESSURE: • MIN. 10 BAR / 145 PSI
• MAX. 50 BAR / 725 PSI

MAX. BACKPRESSURE ON DRAIN L:
25 BAR / 360 PSI

Solenoid operating features:

NOMINAL VOLTAGE: 12 VDC / 24 VDC

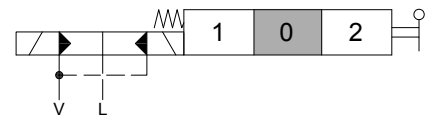
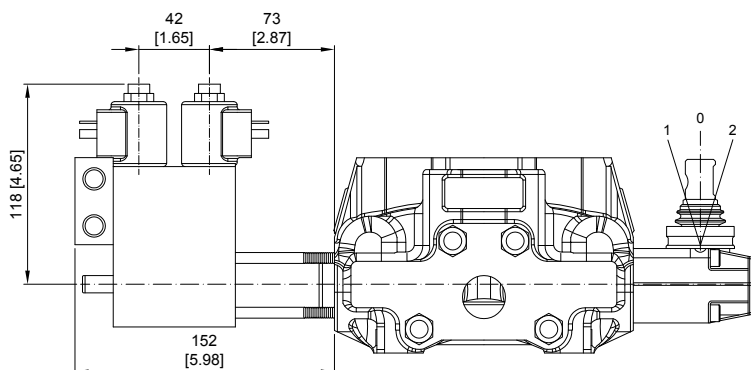
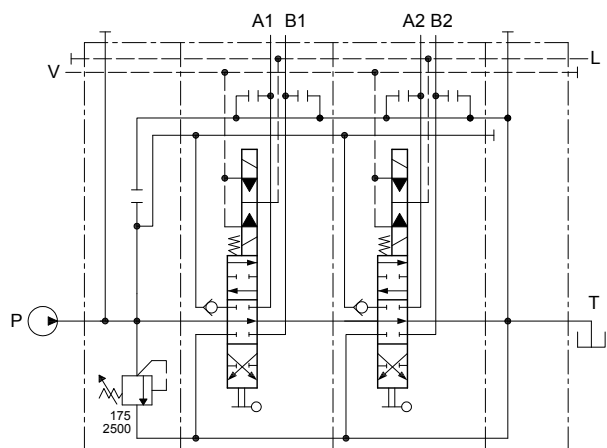
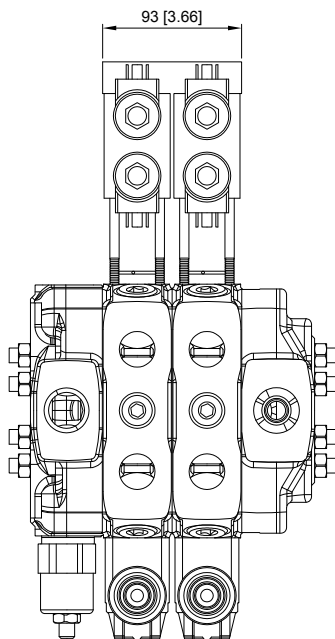
POWER RATING: 21 W

DUTY CYCLE: 100%

VS6 B Side

Sectional Directional Control Valves

Type 8ER3



Operating features:

PILOT PRESSURE: • MIN. 10 BAR / 145 PSI
• MAX. 50 BAR / 725 PSI

MAX. BACKPRESSURE ON DRAIN L:
25 BAR / 360 PSI

Solenoid operating features:

NOMINAL VOLTAGE: 12 VDC / 24 VDC

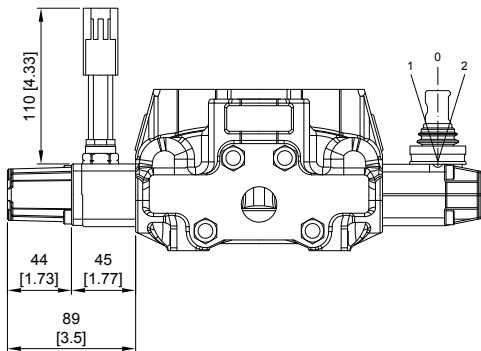
POWER RATING: 21 W

DUTY CYCLE: 100%

VS6 B Side

Sectional Directional Control Valves

Type 8MG



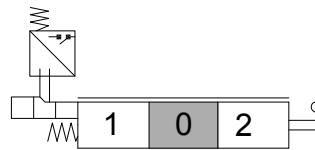
MICROSWITCH

Operating features:

MECHANICAL LITE: • 5X10⁵ OPERATIONS

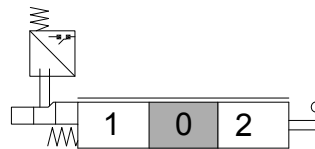
ELECTRICAL LITE (RESISTIVE LOAD):

- 10⁵ OPERATIONS - 7A / 13.5 VDC
- 5X10⁴ OPERATIONS - 10A / 12 VDC
- 5X10⁴ OPERATIONS - 3A / 28 VDC



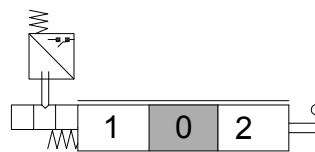
8MG1 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1



8MG2 Kit:

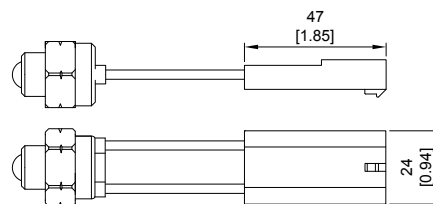
MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 2



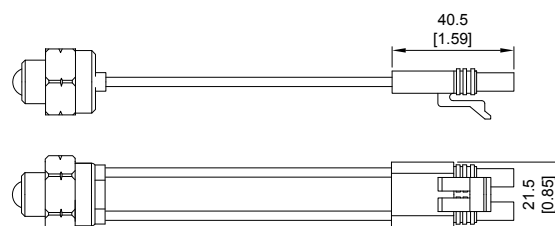
8MG3 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1 AND POS. 2

With NO contact (female connector with male end)



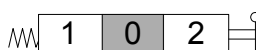
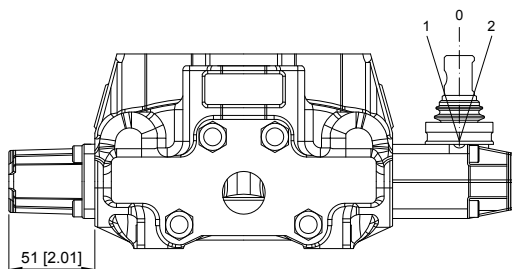
With NC contact (male connector with female end)



VS- 6 B Side

Sectional Directional Control Valves

Type 8



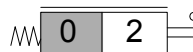
8 Kit:

SPRING RETURN TO NEUTRAL POSITION.



8-1 Kit:

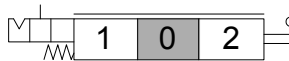
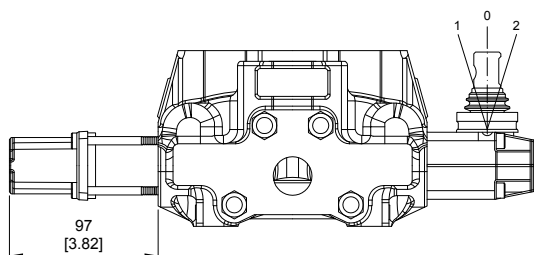
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)



8-2 Kit:

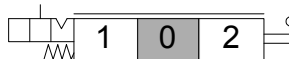
SPRING RETURN TO NEUTRAL POSITION.
(2 POSITIONS)

Type 9



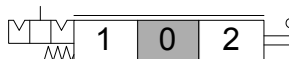
9-1 Kit:

DETENT IN POS. 1, 2 WITH SPRING CENTERED



9-2 Kit:

DETENT IN POS. 2 WITH SPRING CENTERED



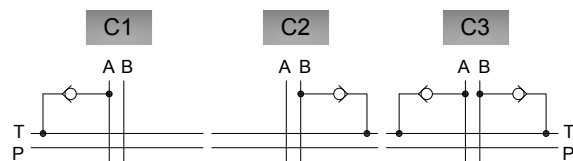
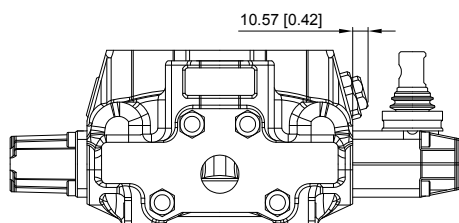
9-3 Kit:

DETENT IN POS. 1 WITH SPRING CENTERED

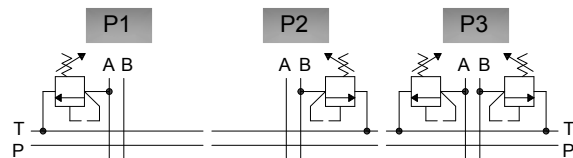
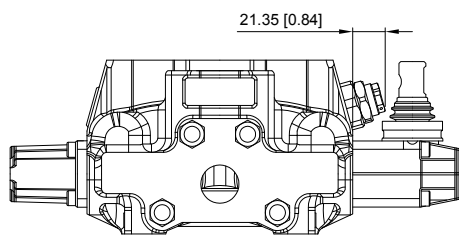
VS6 Port Relief

Sectional Directional Control Valves

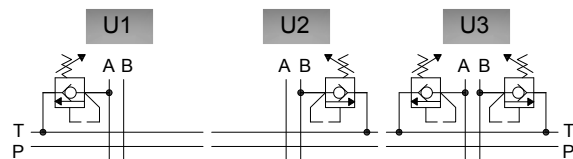
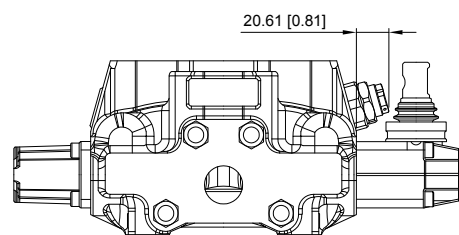
TYPE C



TYPE P



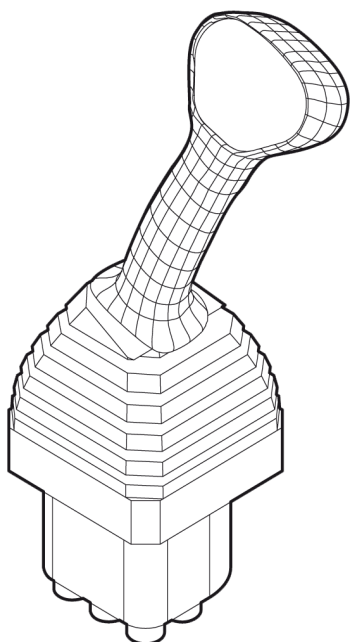
TYPE U



VS6 Accessories

Sectional Directional Control Valves

Type JS

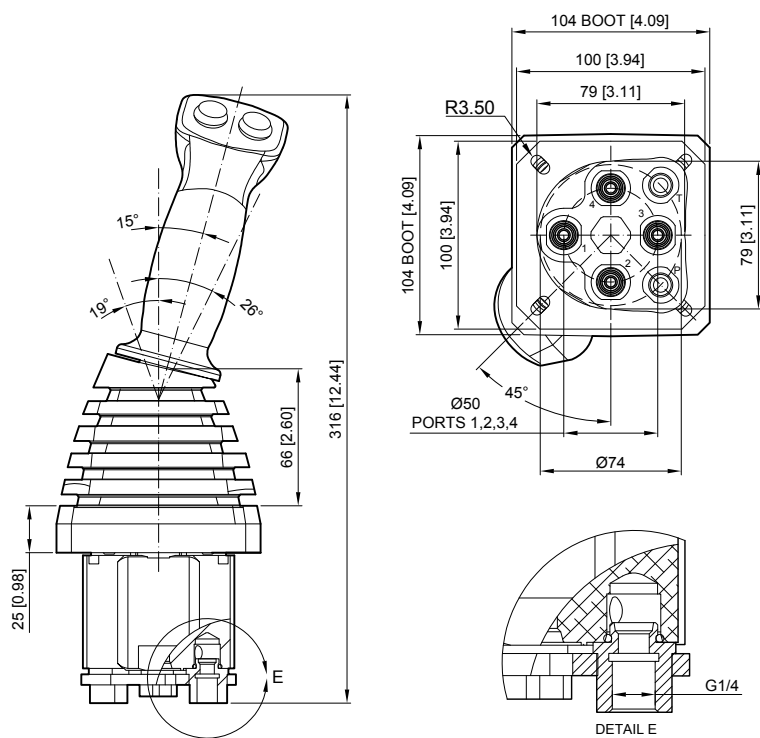


CODE: VSJS446

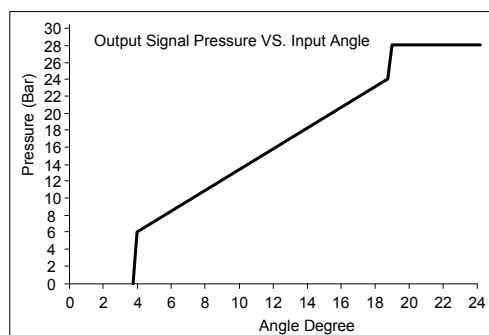
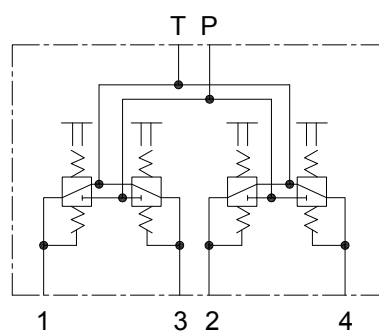
Hydraulic Pilot Valve - handle type

Specifications:

- This data sheet shows technical spec. with mineral oil of 46 mm²/s (cSt) viscosity at 40°C (104°F)
- Flow: 5~20 LPM
- Feeding pressure: 30~100 bar
- Max. backpressure: 3 bar
- Output pressure: see diagram
- Internal leakage at 30 bar: 18~24 cm³/min
- Fluid: mineral oil
- Fluid temperature: -10~80°C
- Ambient temperature: -40~60°C



HYDRAULIC SCHEME:



VS6 Accessories

Sectional Directional Control Valves

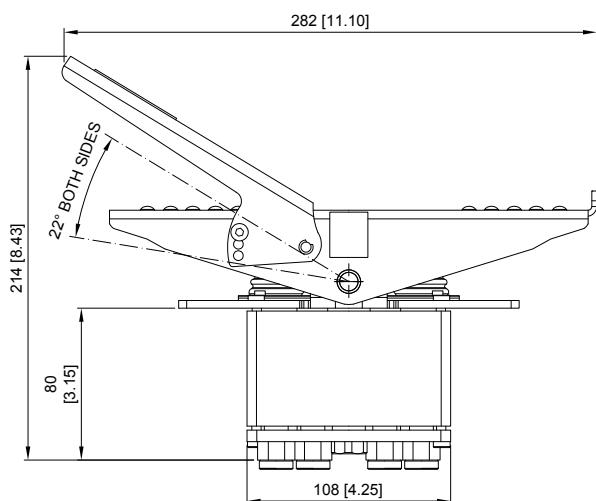
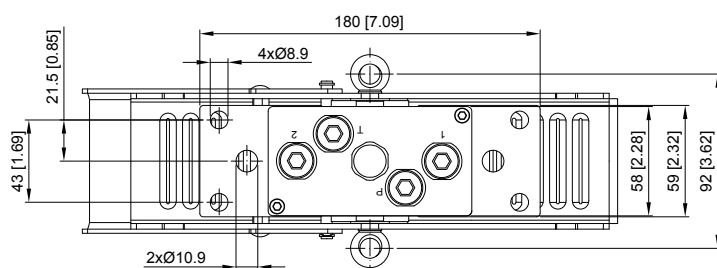
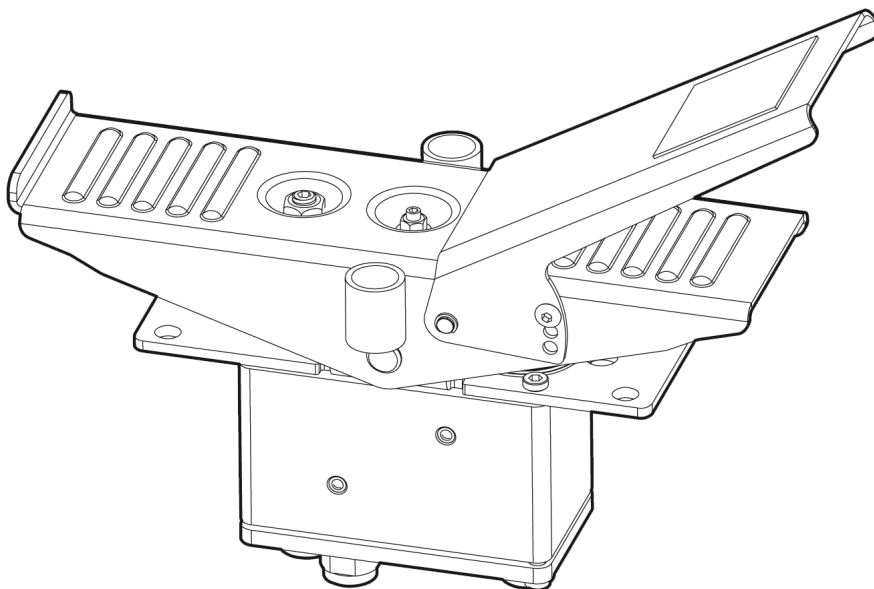
Type FP

CODE: VSFP246

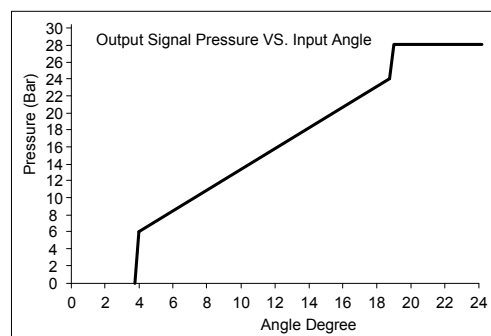
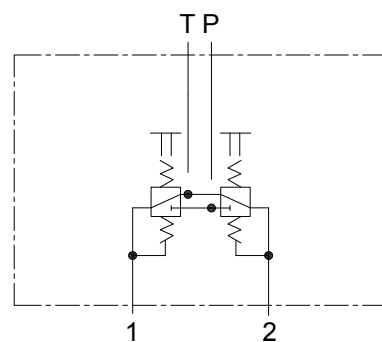
Hydraulic Pilot Valve - pedal type

Specifications:

- This data sheet shows technical spec. with mineral oil of 46 mm²/s (cSt) viscosity at 40°C (104°F)
- Flow: 5~20 LPM
- Feeding pressure: 30~100 bar
- Max. backpressure: 3 bar
- Output pressure: see diagram
- Internal leakage at 30 bar: 18~24 cm³/min
- Fluid: mineral oil
- Fluid temperature: -10~80°C
- Ambient temperature: -40~60°C



HYDRAULIC SCHEME:



VS6 Outlet

Sectional Directional Control Valves

**Power Beyond Conversion plug
(Closed center plug)**

