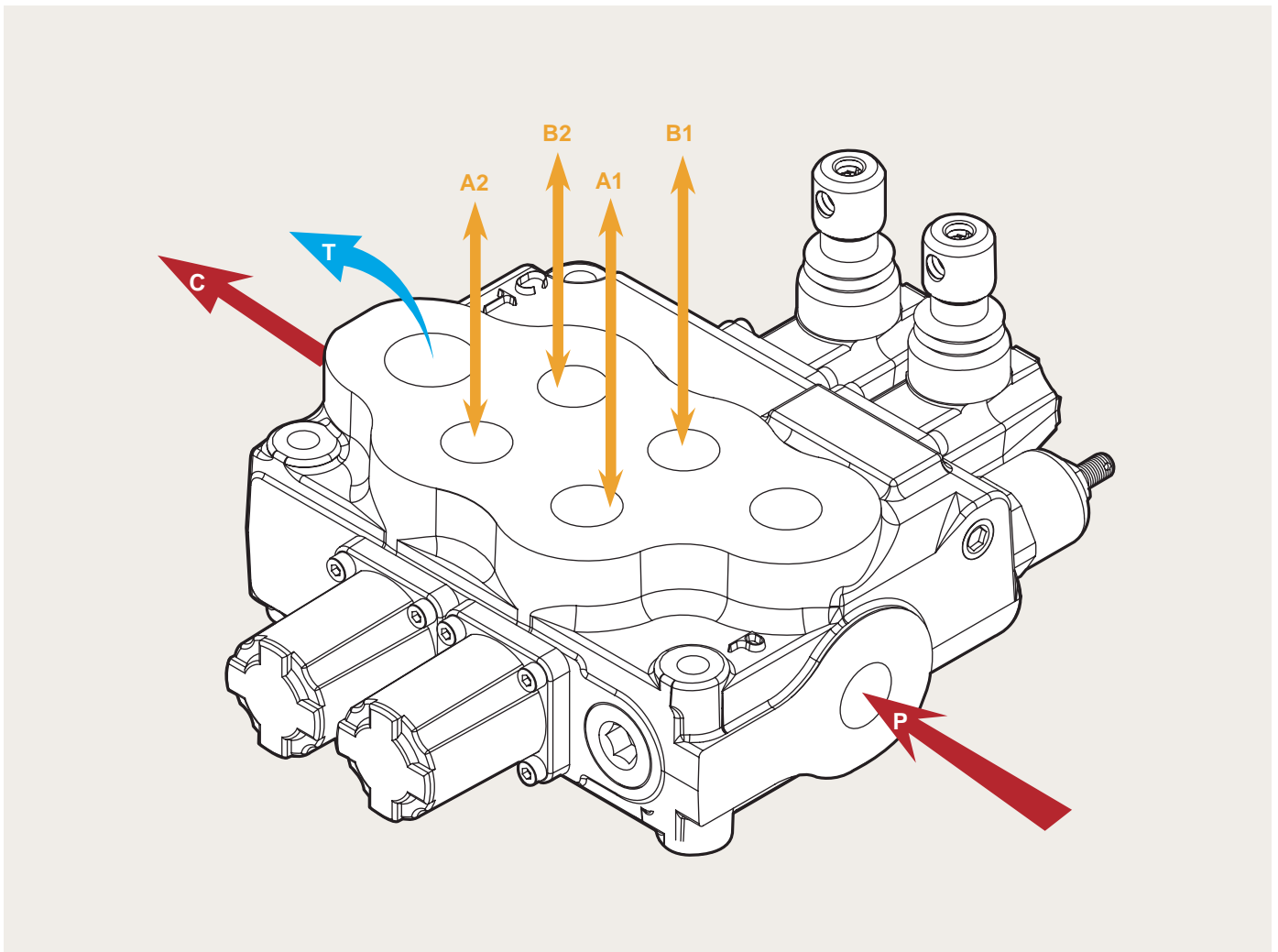

LB-5 Chapters

Monoblock Directional Control Valves

Working condition	P.5
Ordering code	P.6
Dimensions	P.9
Performance data	P.10
Inlet relief options	P.11
Spool options	P.12
A side options	P.18
B side spool positioners	P.21
Other options	P.27
Outlet options	P.31

LB-5

Monoblock Directional Control Valves



LB-5 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° to 80°C	from - 4° to 176° F
	with FPM (VITON) seal	from - 20° 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° to 60°C	from - 40° to 140° F

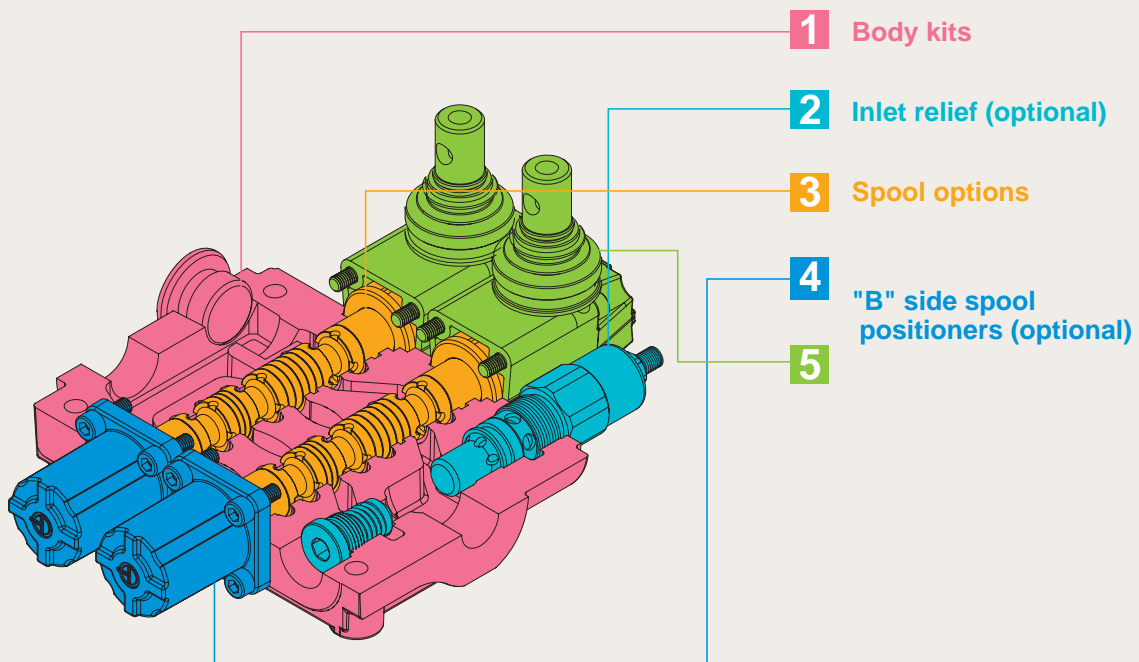
• All specifications, dimensions and design characteristics shown in this catalogue are subject to change without notice.

LB-5

Monoblock Directional Control Valves

LB-5 / **2S** - **3** / **18L** / G-4-6 / M3

1 2 3 4 5



1: Body kits		WITHOUT SERVICE PORT VALVES PREARRANGEMENT (INCLUDE BODY, SEALS, RINGS AND LOAD CHECK VALVE.)
TYPE	DESCRIPTION	
1 - S	1 section	
2 - S	2 sections	
3 - S	3 sections	
4 - S	4 sections	
5 - S	5 sections	
6 - S	6 sections	

2: Inlet Relief (optional)			
TYPE	CODE	DESCRIPTION	PAGE
XAG	YLX21000	Pilot operated pressure relief valve Range 25 to 315 bar/ 360 to 4600 psi, standard setting 125 bar/ 1800 psi	P. 11
AG-2	YLMB52002	Direct pressure relief valve Range 80 to 160 bar/ 1150 to 2300 psi, standard setting 125 bar/ 1800 psi	P. 11
AG-3	YLMB52003	Direct pressure relief valve Range 125 to 250 bar/ 1800 to 3600 psi, standard setting 175 bar/ 2500 psi	P. 11
AG-4	YLMB52004	Direct pressure relief valve Range 200 to 315 bar/ 2900 to 4600 psi, standard setting 220 bar/ 3200 psi	P. 11
SV	YLMB52100	Relief valve blanking plug	P. 11

LB-5

Monoblock Directional Control Valves

3: Spool Options			
TYPE	CODE	DESCRIPTION	PAGE
1	YLMB53001	Double acting, 3 positions, with A, B closed in neutral position	P. 12
2	YLMB53002	Double acting, 3 positions, with A, B open to Tank in neutral position	P. 12
3	YLMB53003	Single acting on A closed in neutral position, 3 positions, B plugged	P. 13
4	YLMB53004	Single acting on B closed in neutral position, 3 positions, A plugged	P. 13
5	YLMB53005	Double acting, 3 positions, with B open to Tank in neutral position	P. 14
6	YLMB53006	Double acting, 3 positions, with A open to Tank in neutral position	P. 14
9	YLMB53009	Double acting, 3 positions, with P, T, A, B closed in neutral position (Closed center)	P. 15
10	YLMB53010	Double acting, 3 positions, with A, B open to Tank and P, T closed in neutral position (Closed center)	P. 15
5DY	YLMB53052	Double acting, 4 positions, floating circuit in 4th position with A,B open to Tank by pulling the lever	P. 16
5PY	YLMB53051	Double acting, 4 positions, floating circuit in 4th position with A, B open to Tank by pushing the lever	P. 17

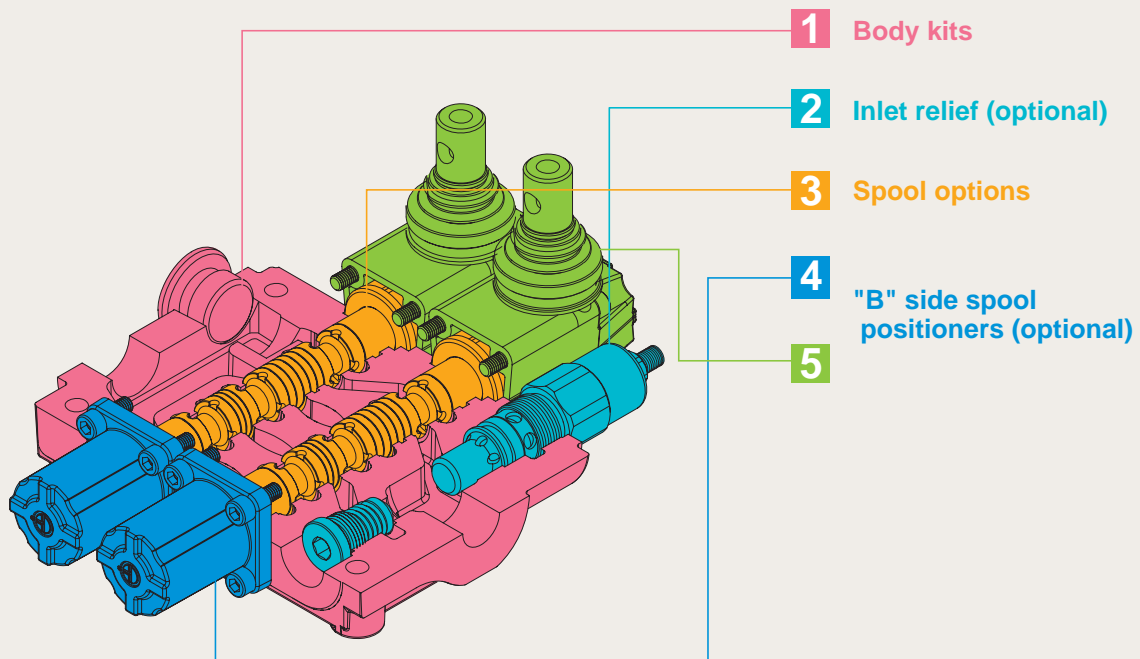
4: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	PAGE
6-1	YLMB54061	Detent in pos. 1-0-2, without spring centered	P. 21
6-2	YLMB54062	2 positions, detent in pos. 0-2, without spring centered	P. 21
6-3	YLMB54063	2 positions, detent in pos. 1-0, without spring centered	P. 21
8D2	YLMB54082	With spring return to neutral position and pin with M8 male thread for dual control	P. 21
8EP3	YLMB54300	ON/OFF Electro-Pneumatic actuator	P. 22
8P	YLMB54080	ON/OFF Pneumatic actuator	P. 22
8MG1 (NO)	YLMB54801	Microswitch kit operated in pos. 1 (Normally Open)	P. 25
8MG2 (NO)	YLMB54802	Microswitch kit operated in pos. 2 (Normally Open)	P. 25
8MG3 (NO)	YLMB54803	Microswitch kit operated in pos. 1&2 (Normally Open)	P. 25
MG (NO)	YLMB54804	Microswitch with NO terminal	P. 25
8MG1 (NC)	YLMB548011	Microswitch kit operated in pos. 1 (Normally Closed)	P. 25
8MG2 (NC)	YLMB548021	Microswitch kit operated in pos. 2 (Normally Closed)	P. 25
8MG3 (NC)	YLMB548031	Microswitch kit operated in pos. 1&2 (Normally Closed)	P. 25
MG (NC)	YLMB548041	Microswitch with NC terminal	P. 25
8	YLMB54008	With spring return to neutral position	P. 26
8-1	YLMB54810	2 positions, with spring centered from pos. 1	P. 26
8-2	YLMB54820	2 positions, with spring centered from pos. 2	P. 26
9-1	YLMB54091	Detent in pos. 1, 2 with spring centered	P. 26
9-2	YLMB54092	Detent in pos. 2 with spring centered	P. 26
9-3	YLMB54093	Detent in pos. 1 with spring centered	P. 26
8ED3+RV-KE1R3	YLMB54201	1S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 23
8ED3+RV-KE2R3	YLMB54202	2S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 23
8ED3+RV-KE3R3	YLMB54203	3S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 23
8ED3+RV-KE4R3	YLMB54204	4S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 23
8ED3+RV-KE5R3	YLMB54205	5S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 23
8ED3+RV-KE6R3	YLMB54206	6S: ON/OFF Electro-Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 23

LB-5

Monoblock Directional Control Valves

LB-5 / **2S** - **3** / **1 8 L** / G-4-6 / M3

1 **2** **3** **4** **5**

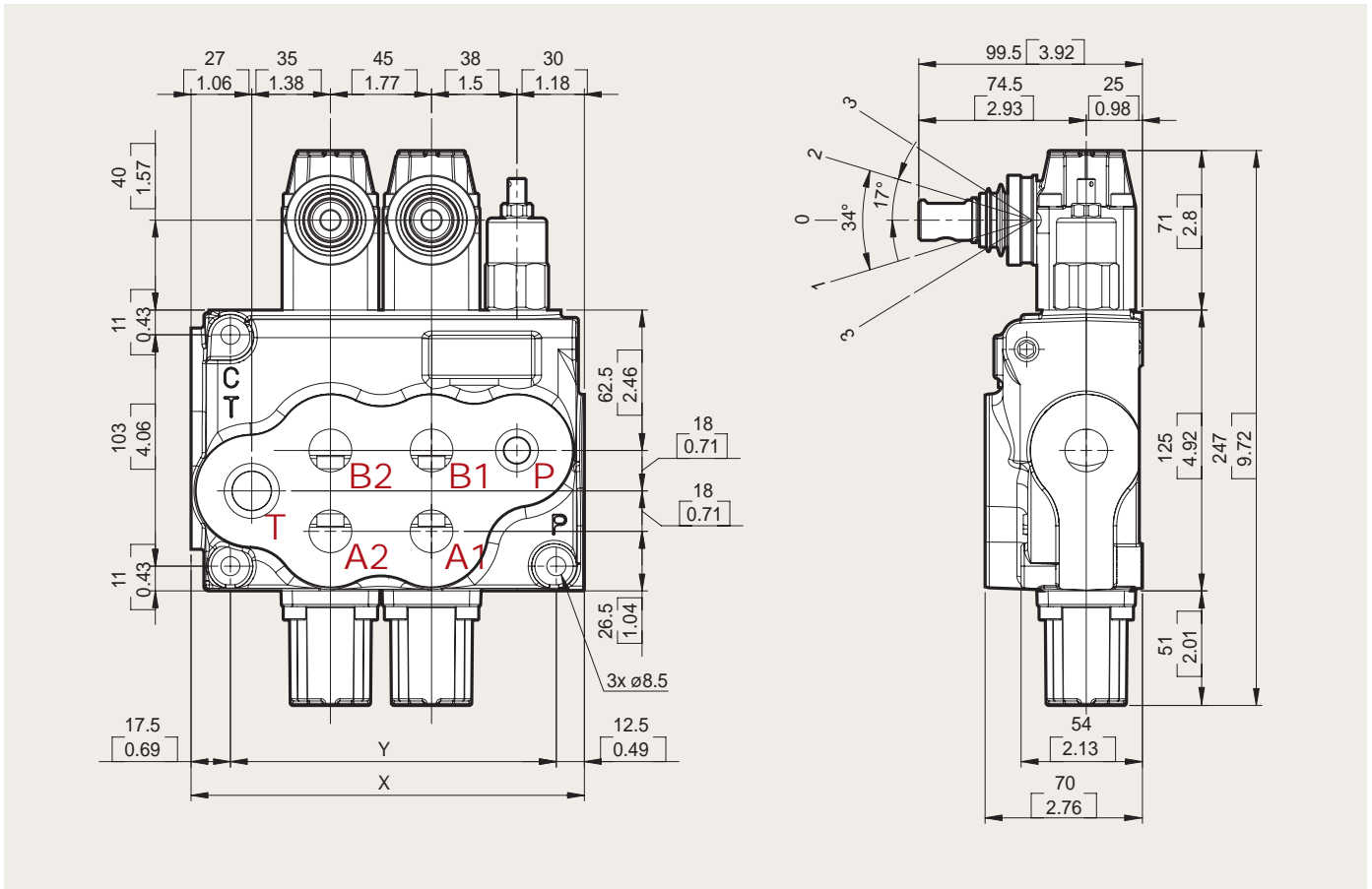


4: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	PAGE
8ER3+KE1S0	YLMB54401	1S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	P. 24
8ER3+KE2S0	YLMB54402	2S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	P. 24
8ER3+KE3S0	YLMB54403	3S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	P. 24
8ER3+KE4S0	YLMB54404	4S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	P. 24
8ER3+KE5S0	YLMB54405	5S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	P. 24
8ER3+KE6S0	YLMB54406	6S: ON/OFF Electro-hydraulic control kit with collector kit for external pilot and drain	P. 24

5: A Side (optional)			
TYPE	CODE	DESCRIPTION	PAGE
L	YLMB55000	Standard lever box	P. 18
SLP	YLMB55001	Without lever box, with dust-proof plate	P. 18
LCB	YLMB55002	Joystick lever for 2 section operation	P. 19
TQ	YLMB55003	Flexible cable connection	P. 20

LB-5 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

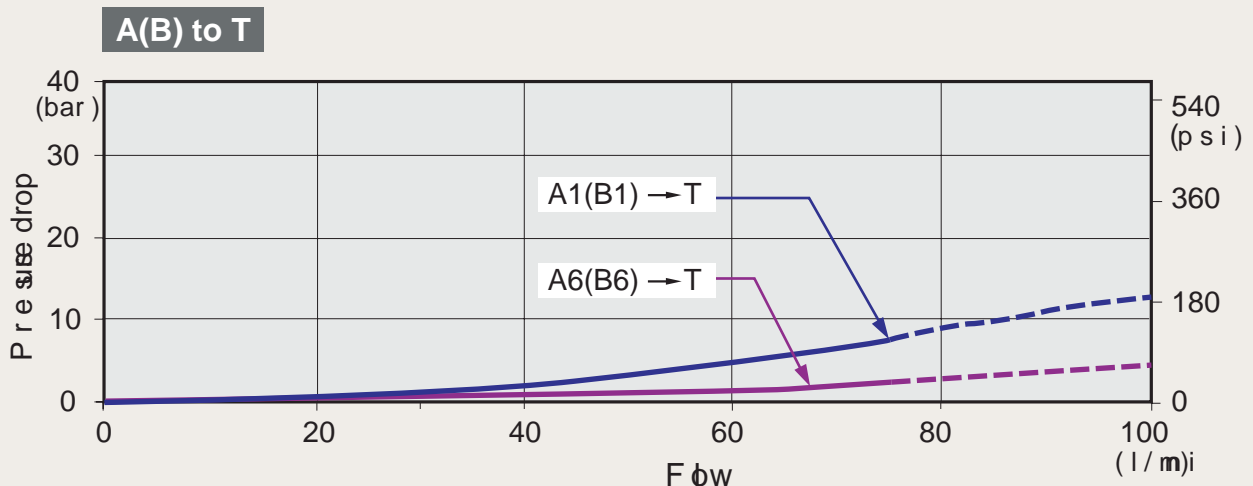
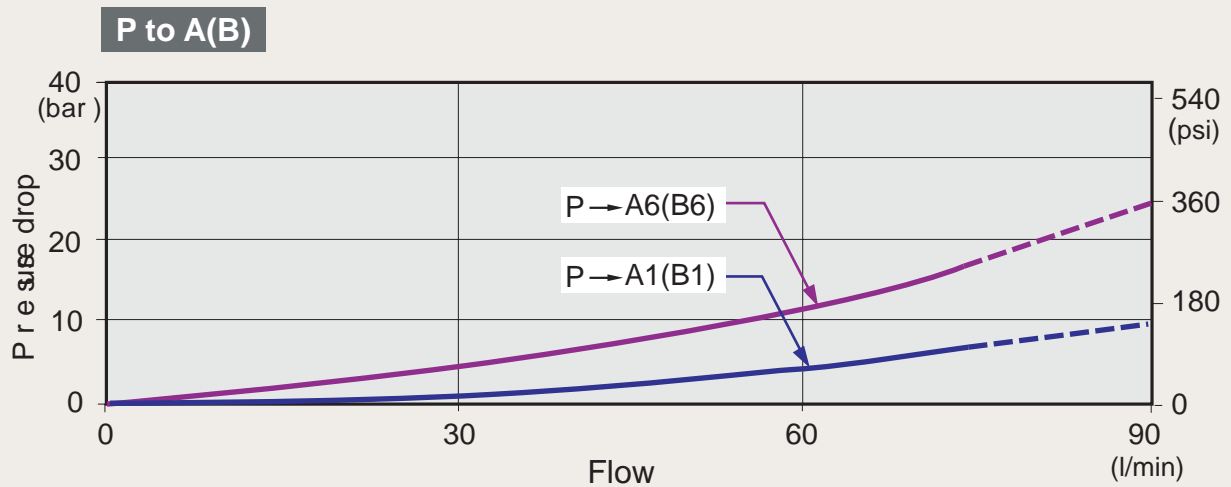
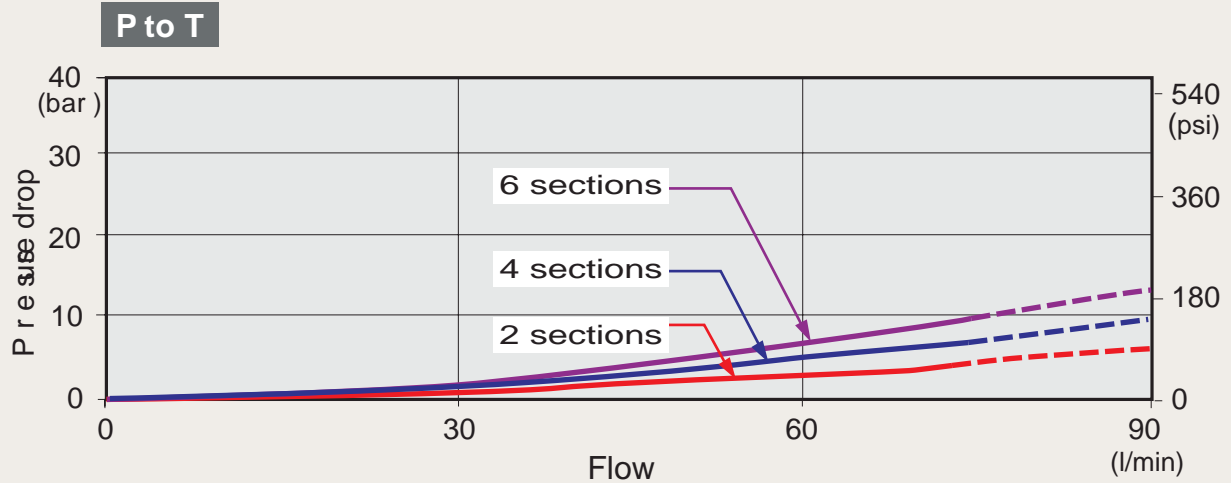
• G-1/2 : G4 G-3/8 : G3 G-3/4 : G6
 • SAE 8: E8 SAE 10: E10 SAE 12: E12 SAE 16: E16

Standard dimensions

TYPE	X		Y	
	mm	in	mm	in
MB5 /1S	130	5.12	100	3.94
MB5 /2S	174.5	6.87	145	5.71
MB5 /3S	219.5	8.64	190	7.48
MB5 /4S	264.5	10.41	235	9.25
MB5 /5S	309.5	12.19	280	11.02
MB5 /6S	354.5	13.96	325	12.80

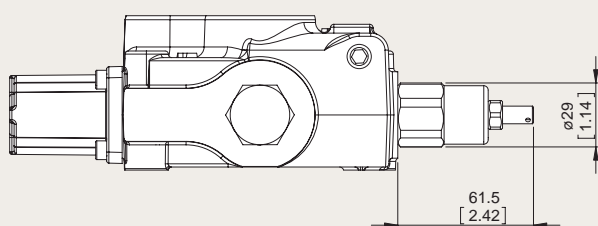
LB-5 Performance curve chart

Monoblock Directional Control Valves

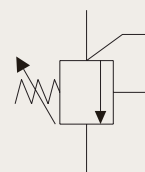


LB-5 Inlet Relief (Optional) Monoblock Directional Control Valves

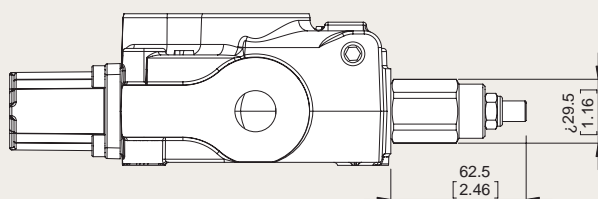
Type AG



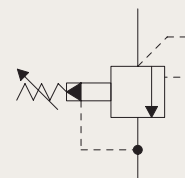
Direct pressure relief valve:



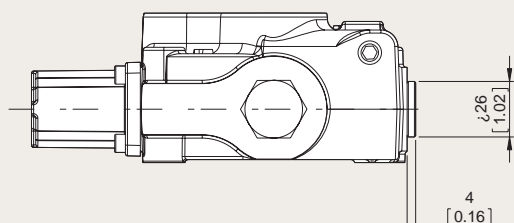
Type XAG



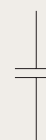
Pilot operated pressure relief valve:



Type SV



Relief valve blanking plug:



LB-5 Spool Options

Monoblock Directional Control Valves

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

TYPE 2		
	<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>	
	<p>P → B</p> <p>A → T</p> <p>C closed</p>	

LB-5 Spool Options

Monoblock Directional Control Valves

TYPE 3

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

TYPE 4

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

LB-5 Spool Options

Monoblock Directional Control Valves

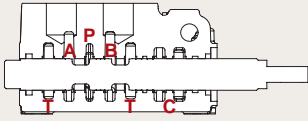
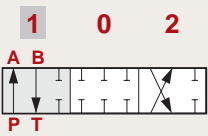
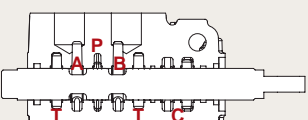
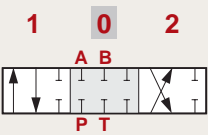
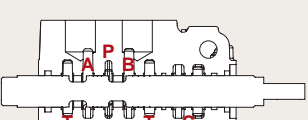
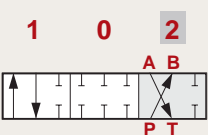
TYPE 5		
	<p>P → A B → T C closed</p>	
	<p>B → T P & A closed C open</p>	
	<p>P → B A → T C closed</p>	

TYPE 6		
	<p>P → A B → T C closed</p>	
	<p>A → T P & B closed C open</p>	
	<p>P → B A → T C closed</p>	

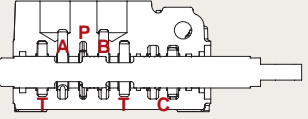
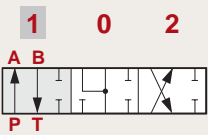
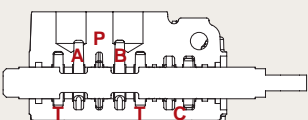
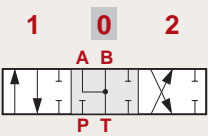
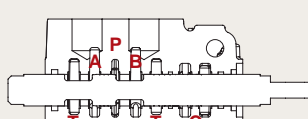
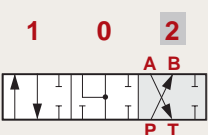
LB-5 Spool Options

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>	

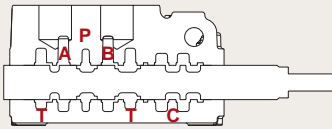
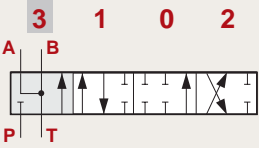
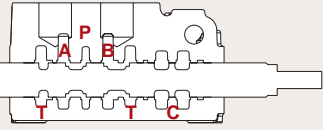
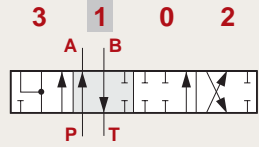
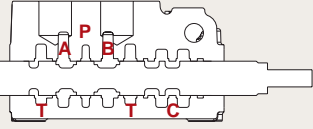
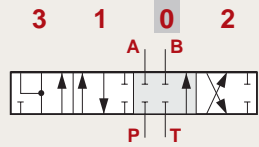
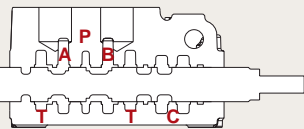
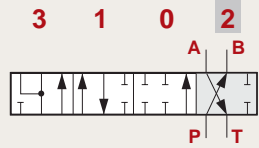
LB-5 Spool Options

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>1 0 2 3</p>	
	<p>P & T & A & B closed</p> <p>C open</p>	<p>1 0 2 3</p>	
	<p>P → B</p> <p>A → T</p> <p>C closed</p>	<p>1 0 2 3</p>	
	<p>A & B → T</p> <p>P closed</p> <p>C open</p>	<p>1 0 2 3</p>	

LB-5 Spool Options

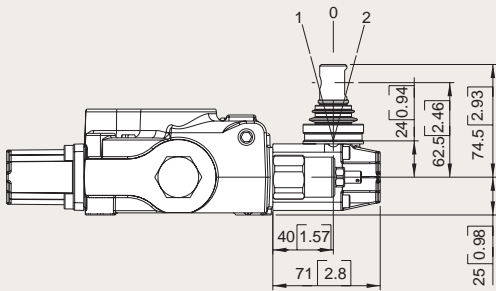
Monoblock Directional Control Valves

TYPE 5PY	NOTE: WITH SPECIAL BODY AND SPECIAL POSITIONNER	
	<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>	

LB-5 A Side

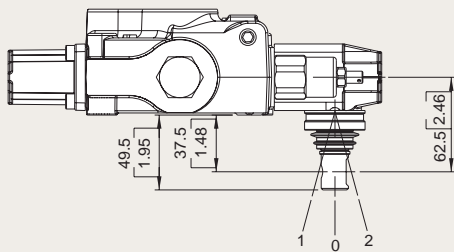
Monoblock Directional Control Valves

Type L



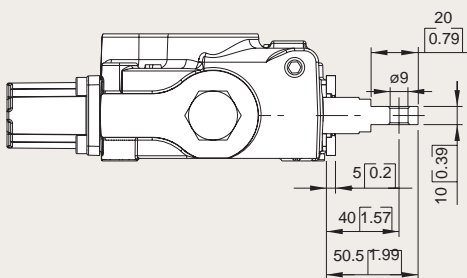
Type L :
STANDART LEVER KIT

Type R



Type R :
STANDART LEVER KIT
(ROTATED 180 DEGREE)

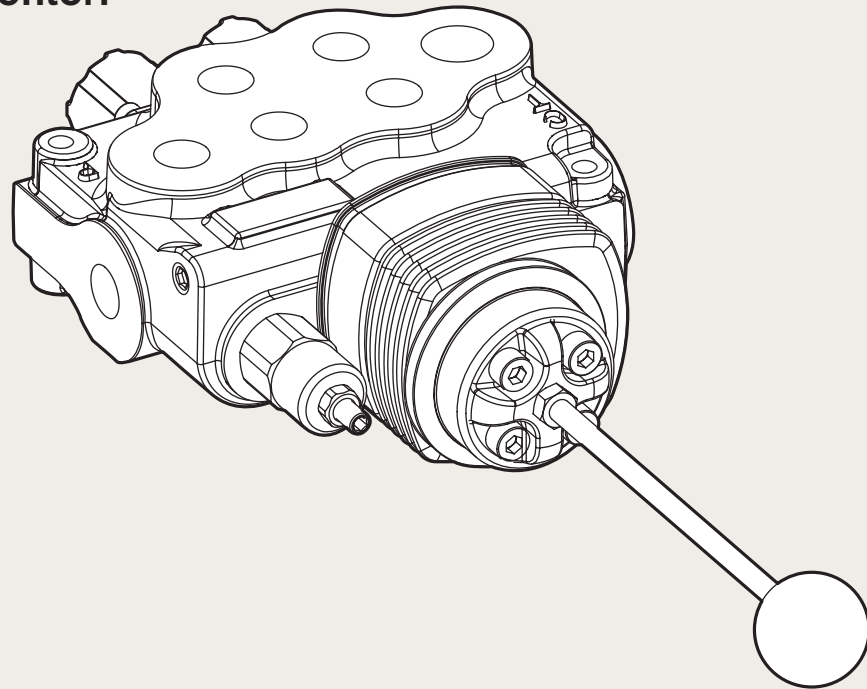
Type SLP



Type SLP :
WITH DUST-PROOF PLATE

LB-5 A Side Monoblock Directional Control Valves

LCB: Joystick control

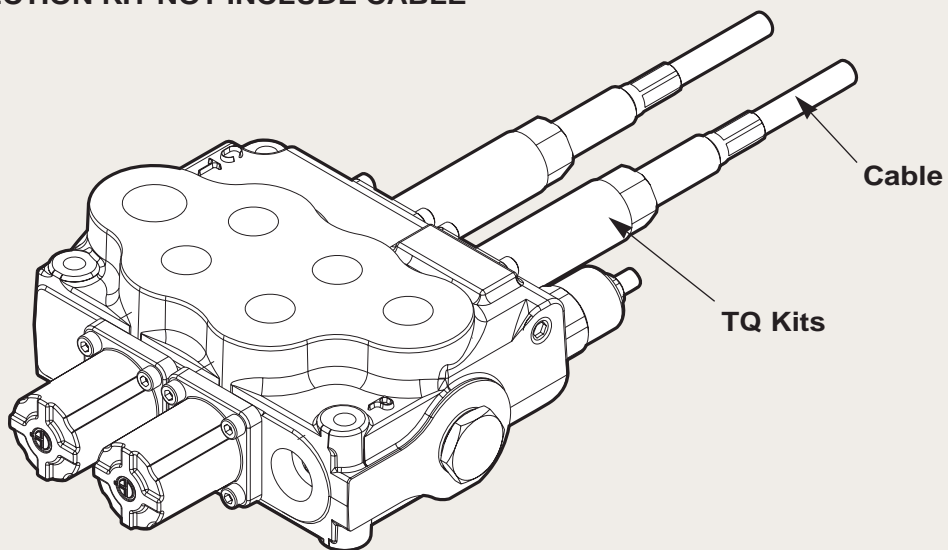


Type LCB	LCB1	LCB2
Type LCB	LCB3	LCB4

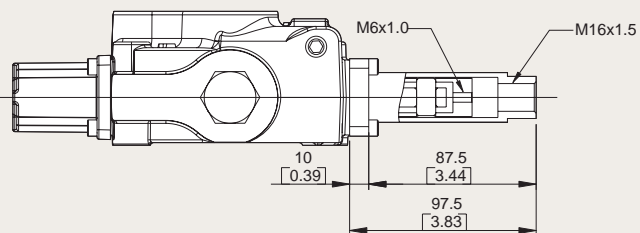
LB-5 A Side

Monoblock Directional Control Valves

Note : CONNECTION KIT NOT INCLUDE CABLE



Type TQ



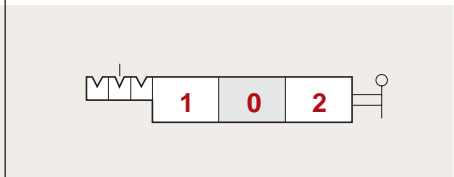
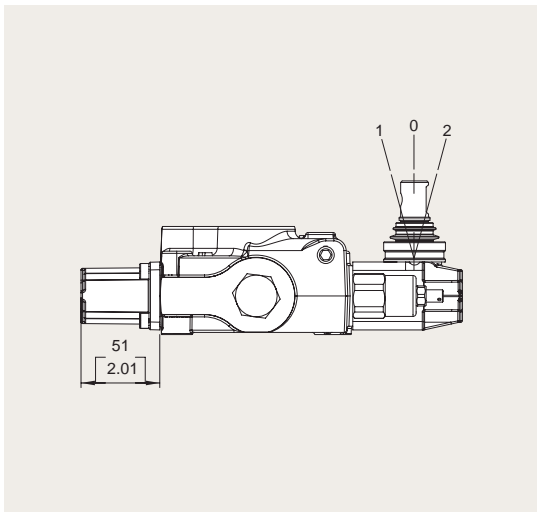
TQ Kit:



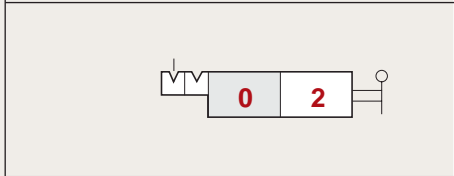
LB-5 B Side

Monoblock Directional Control Valves

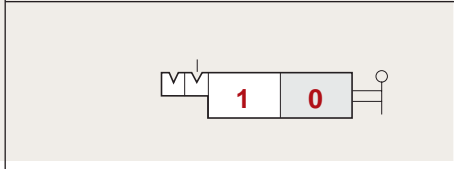
Type 6



6-1 Kit:
DETENT IN POS. 1-0-2, WITHOUT SPRING CENTERED

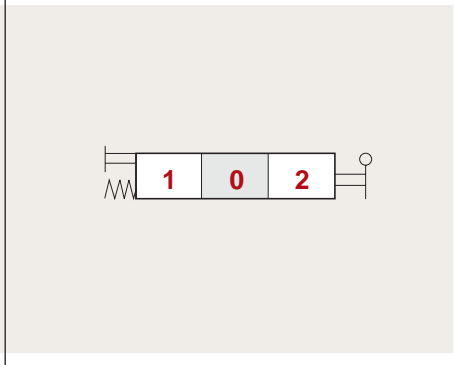
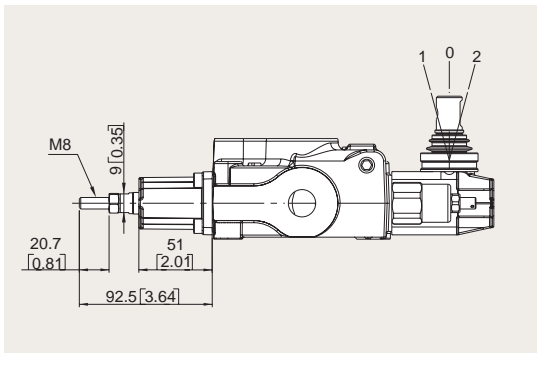


6-2 Kit:
2 POSITIONS, DETENT IN POS. 0-2, WITHOUT SPRING CENTERED



6-3 Kit:
2 POSITIONS, DETENT IN POS. 1-0, WITHOUT SPRING CENTERED

Type 8D2

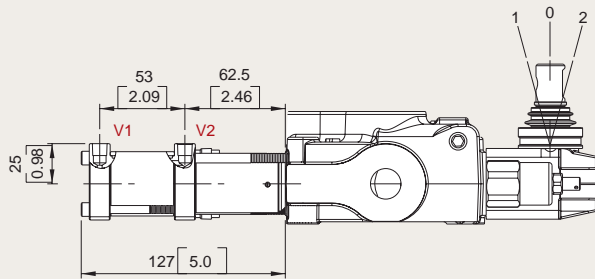


8D2 Kit:
WITH SPRING RETURN TO NEUTRAL POSITION AND PIN WITH M8 MALE THREAD FOR DUAL CONTROL

LB-5 B Side Monoblock Directional Control Valves

Type 8P

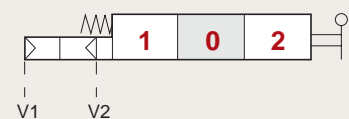
V1 & V2: NPT 1/8 - 27



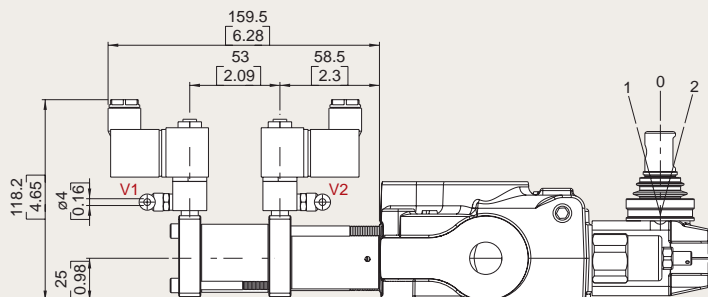
Operating feature :

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

ON/OFF PNEUMATIC KIT

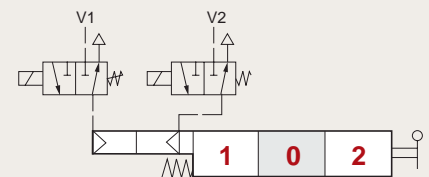


Type 8EP3



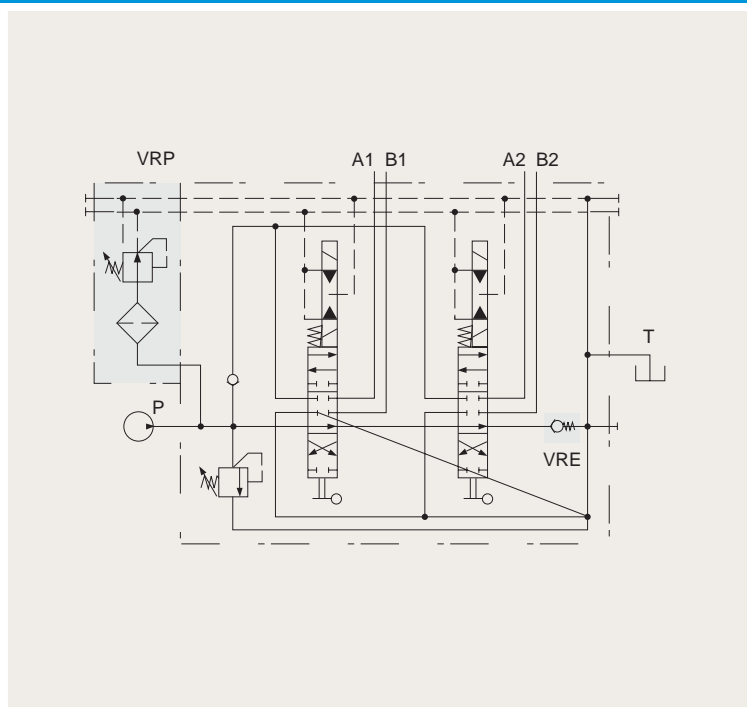
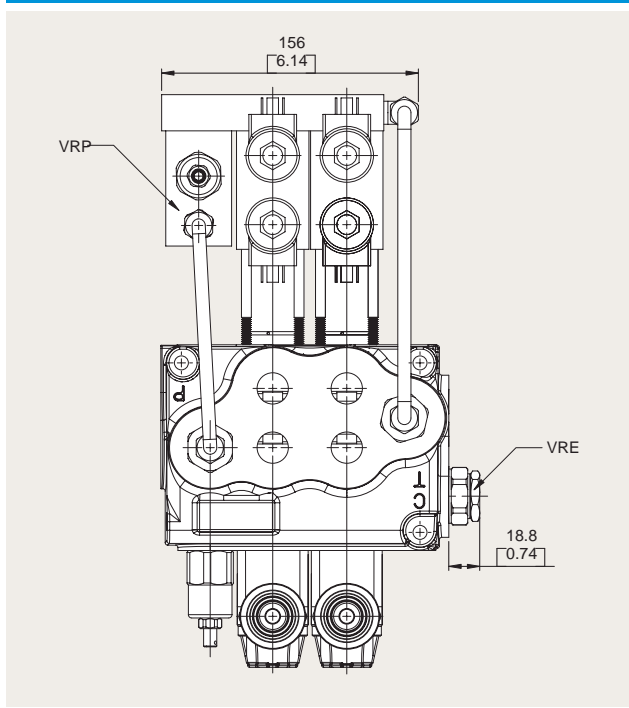
Solenoid operating features :

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



LB-5 B Side Monoblock Directional Control Valves

Type 8ED3

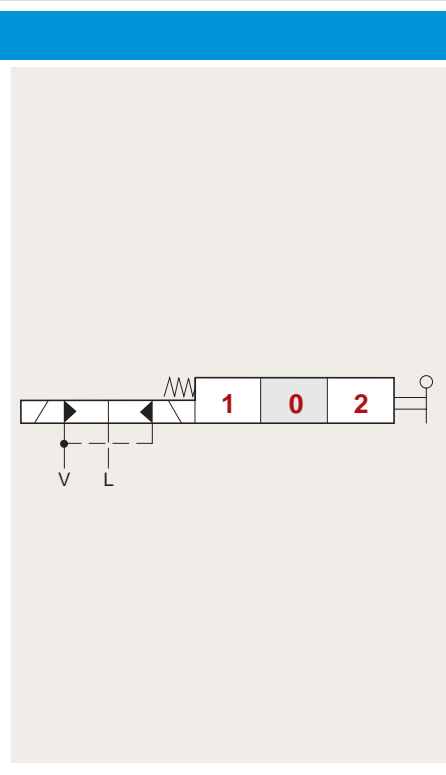


Operating features :

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

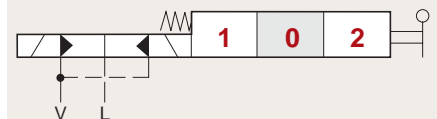
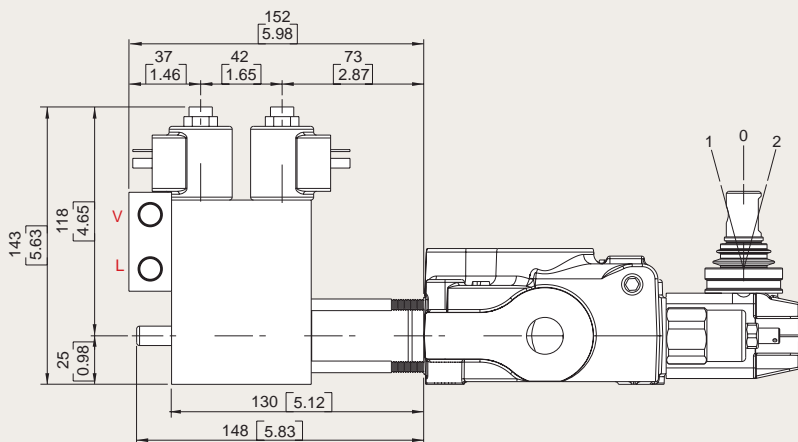
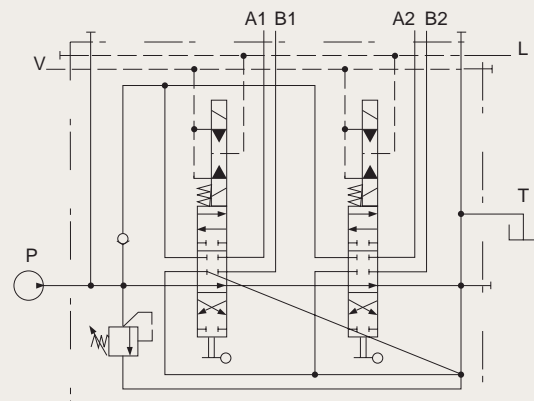
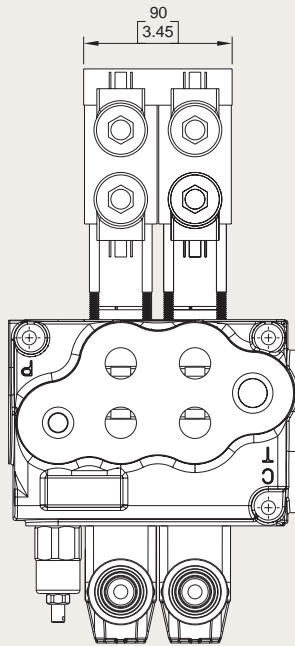
Coil features :

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



LB-5 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 / 360PSI

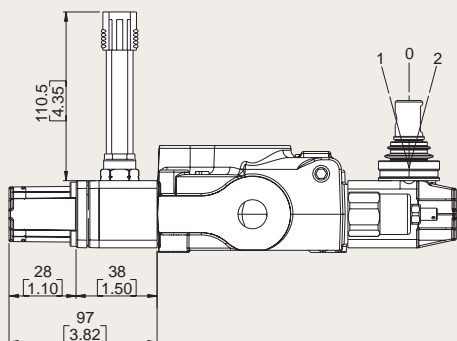
Coil features :

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

LB-5 B Side

Monoblock Directional Control Valves

Type 8MG



MICROSWITCH

Operating features :

MECHANICAL LITE: 5X10 OPERATIONS

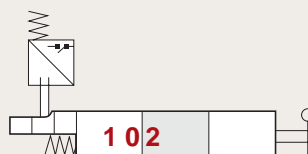
ELECTRICAL LITE (RESISTIVE LOAD):

- 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:

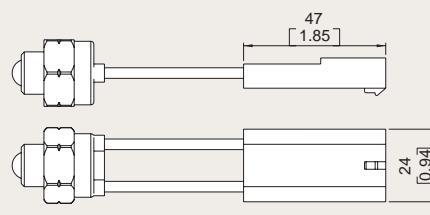
MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 2



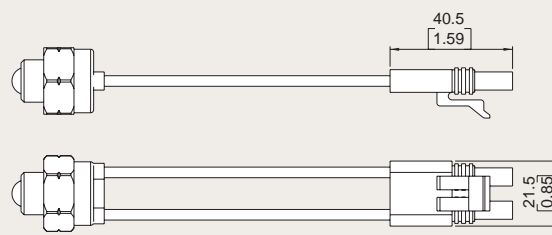
8MG3 Kit:

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)



LB-5 B Side Monoblock Directional Control Valves

Type 8		
		<p>8 Kit: SPRING RETURN TO NEUTRAL POSITION.</p>
		<p>8-1 Kit: SPRING RETURN TO NEUTRAL POSITION. (2 POSITIONS)</p>
		<p>8-2 Kit: SPRING RETURN TO NEUTRAL POSITION. (2 POSITIONS)</p>

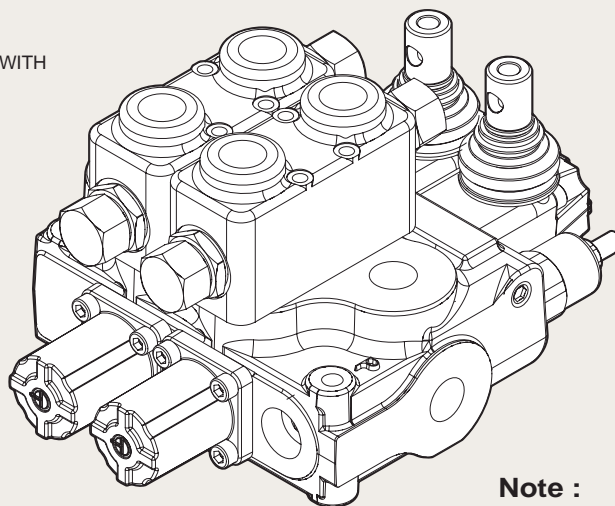
Type 9		
		<p>9-1 Kit: DETENT IN POS. 1, 2 WITH SPRING CENTERED</p>
		<p>9-2 Kit: DETENT IN POS. 2 WITH SPRING CENTERED</p>
		<p>9-3 Kit: DETENT IN POS. 1 WITH SPRING CENTERED</p>

LB-5 Service and auxiliary valves

Monoblock Directional Control Valves

Anti-shock valves

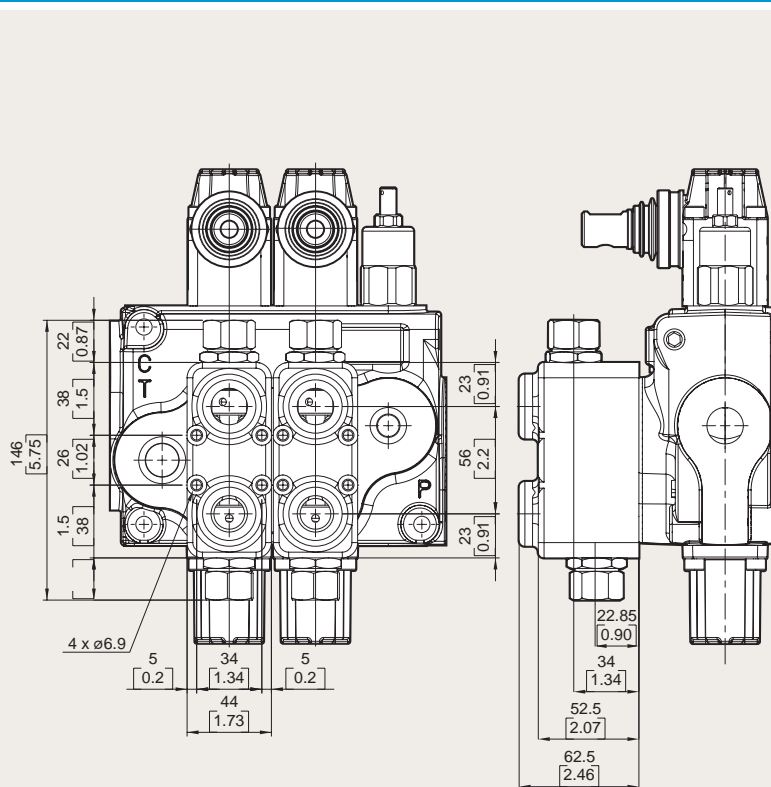
(CROSS RETURN TYPE, SUPPLIED WITH MOUNTING BLOCK)



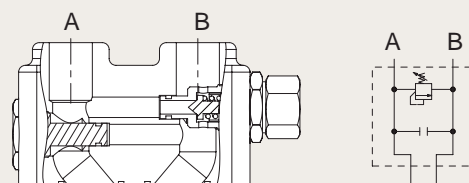
Note :

All service and auxiliary valves need special body

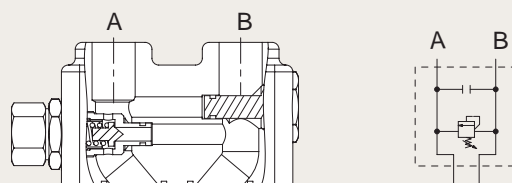
Type P



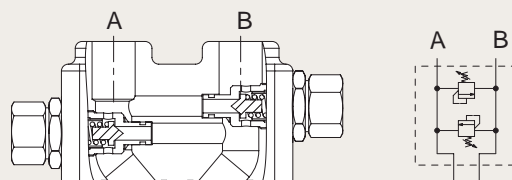
P1 Kit: YLMB56001, Block with valve on port A



P2 Kit: YLMB56002, Block with valve on port B



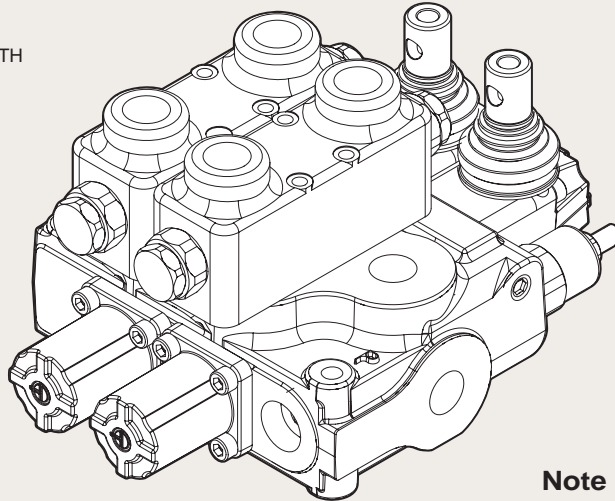
P3 Kit: YLMB56003, Block with valve on port A and B



LB-5 Service and auxiliary valves Monoblock Directional Control Valves

Pilot check valves

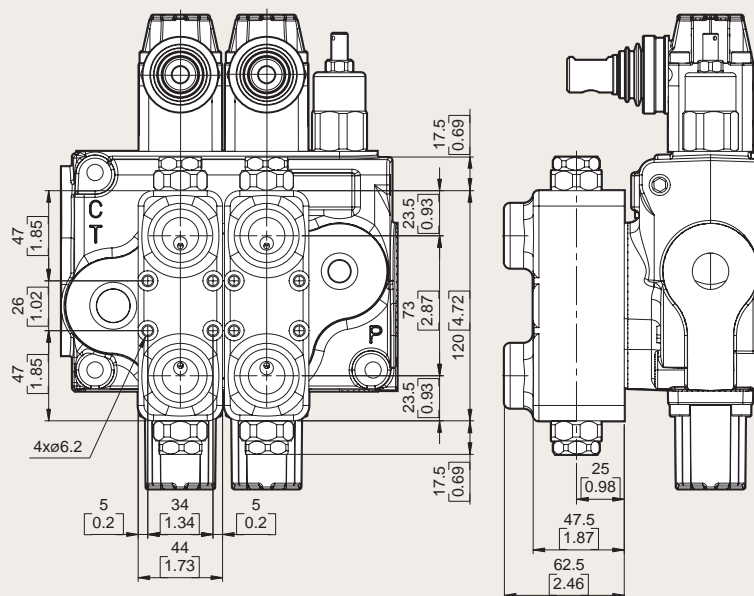
(WITH PRE-OPENING, SUPPLIED WITH MOUNTING BLOCK)



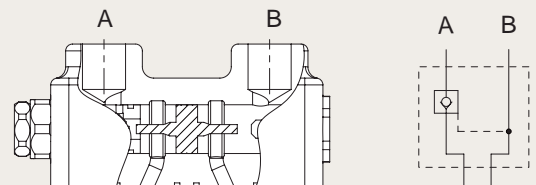
Note :

All service and auxiliary valves need special body

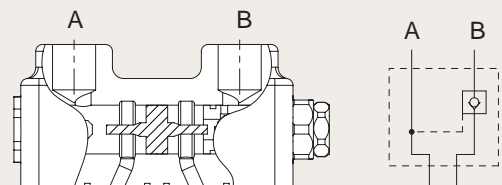
Type BPS Pilot check valves (With Pre-opening, supplied with mounting block)



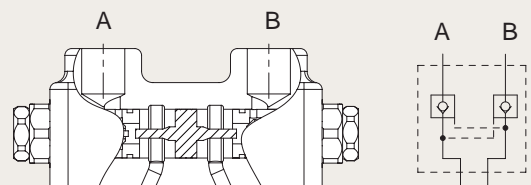
BPS1 Kit: YLMB57001, Block with valve on port A



BPS2 Kit: YLMB57002, Block with valve on port B



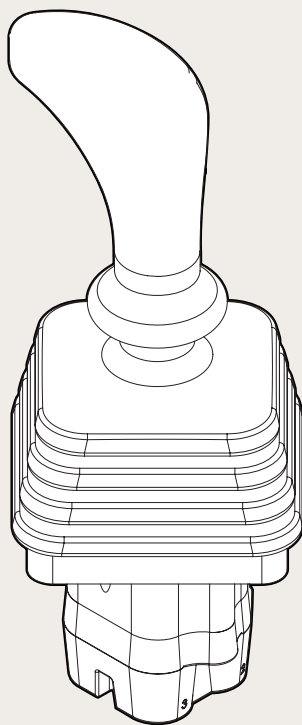
BPS3 Kit: YLMB57003, Block with valve on port A and B



LB-5 Accessories

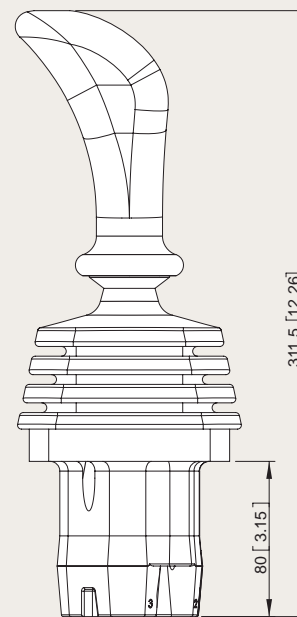
Monoblock Directional Control Valves

Type JHP-2

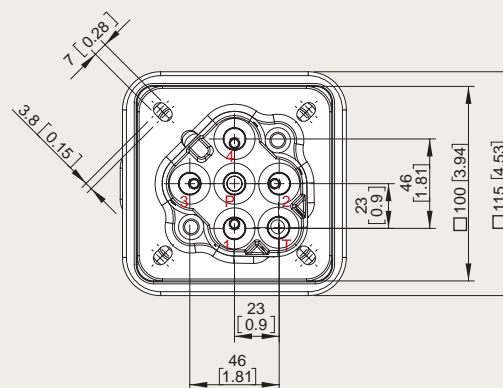
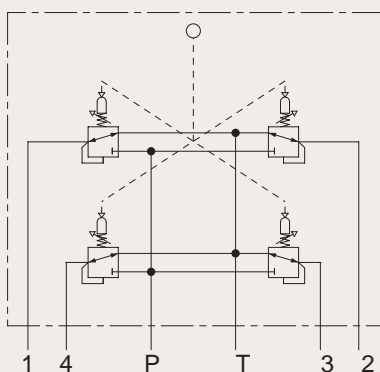


Specifications:

- 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:



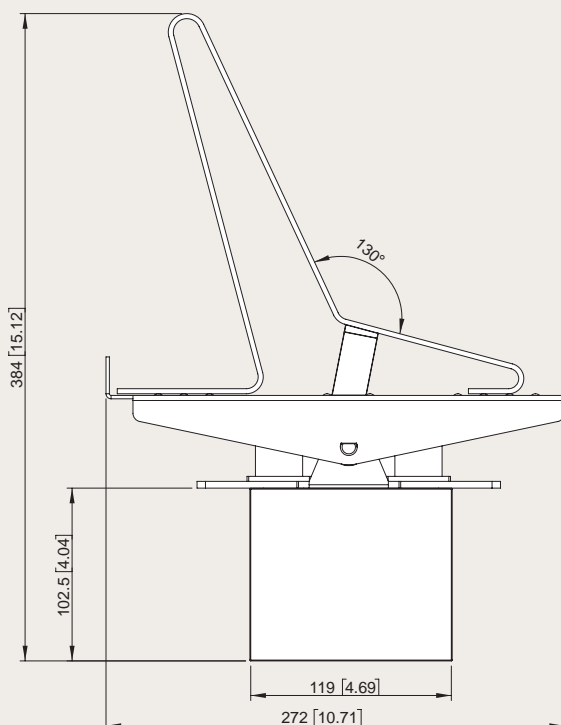
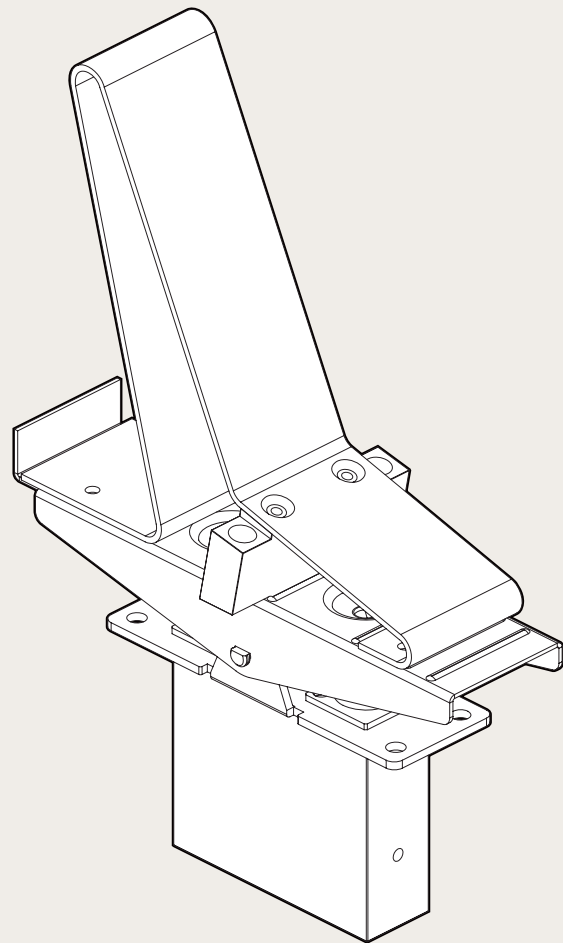
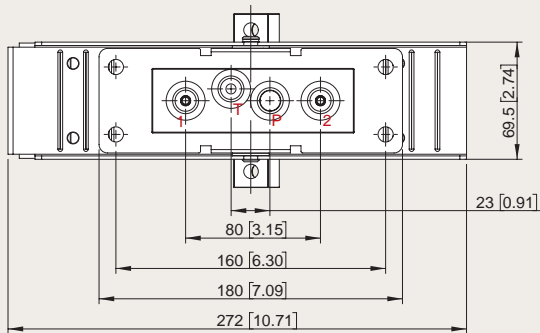
LB-5 Accessories

Monoblock Directional Control Valves

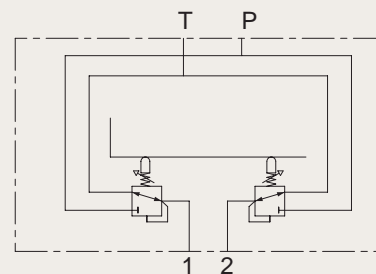
Type PHP-1

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:

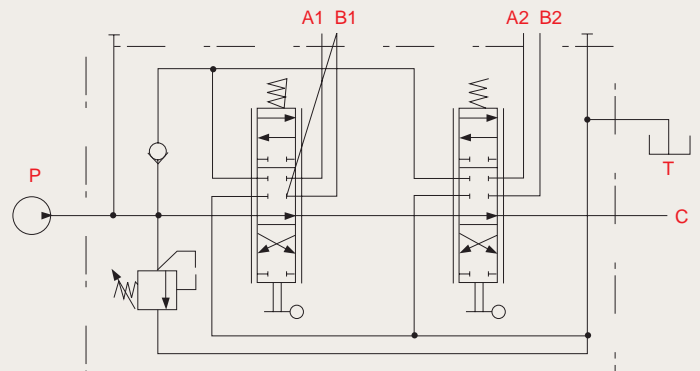
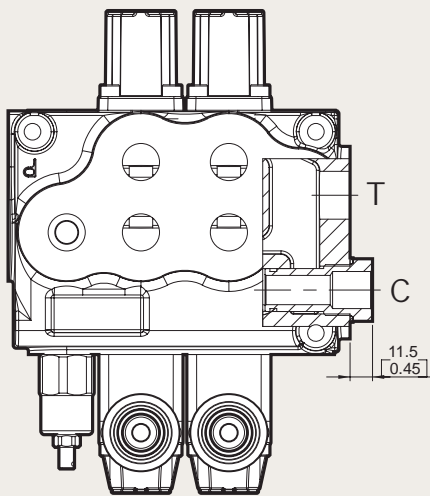


LB-5 Outlet

Monoblock Directional Control Valves

M8

Power Beyond Conversion plug
(Closed center plug)



M3

