



HYDRA

50LGS

PART

Sectional Control Valve

Simple, compact and heavy duty designed sectional valve from 1 - 12 sections for open and closed centred hydraulic systems.

Features

Simple, compact and heavy duty designed sectional valve from 1 to 12 sections for open and closed center hydraulic systems.

- ▶ Fitted with a main pressure relief valve and a load check valve on every working section
- ▶ Available with parallel, tandem or series circuit.
- ▶ Optional carryover port.
- ▶ A wide variety of auxiliary valves.
- ▶ Intermediate sections for several types of circuit.
- ▶ Available manual, pneumatic, hydraulic, electro-hydraulic, and remote with flexible cables spool control kits.
- ▶ Diameter 16 mm (*0.63 in*) interchangeable spools.

Additional information

This catalogue shows the product in the most standard configurations. Please contact Sales Dpt. for more information that is detailed or special request.

WARNING!

All specifications of this catalogue refer to the standard product at this date. Approved Hydraulics Limited, oriented to a continuous improvement, reserves the right to discontinue, modify or revise the specifications, without notice.

APPROVED HYDRAULICS LIMITED IS NOT RESPONSIBLE FOR ANY DAMAGE CAUSED BY AN INCORRECT USE OF THE PRODUCT.

1st edition January 2023:

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Valve general information

Working conditions

This catalogue shows technical specifications and diagrams measured with mineral oil of 46 mm²/s (46cSt) viscosity at 40°C (104°F) temperature.

Nominal flow rating		50 l/min.	13 US gpm
Max. flow		70 l	18 US gpm
Operating pressure (max.)	Series-parallel (tandem) circuit	315 bar	4600 psi
Back pressure (max.)	T outlet port	25 bar	360 psi
Internal leakage (standard) A(B) T	p=100 bar (1450 psi)	3cm ³ /min.	0.18 in ³ /min.
Hydraulic fluid		Mineral base oil	
Fluid temperature	with NBR seals	from - 20° to 80°C	from -4°F to 176°F
	with FPM (VITON) seals	from - 20° to 100°C	from -4°F 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
Max. contamination level		-/19/16 - ISO 4406	NAS 1638 - class 10
Ambient temperature for working conditions	with mechanical devices	from -40°C to 60°C	from -40°F to 140°F
	with pneumatic and hydraulic devices	from -30°C to 80°C	from -22°F to 140°F
	with electric devices	from -20°C to 50°C	from -4°F to 122°F
Tie rods tightening torque (wrench 13)		30 Nm	22 lbft

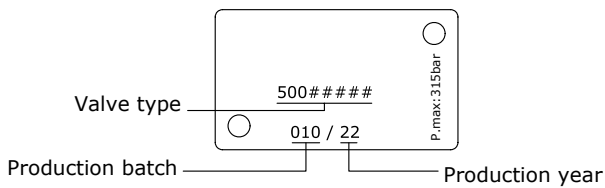
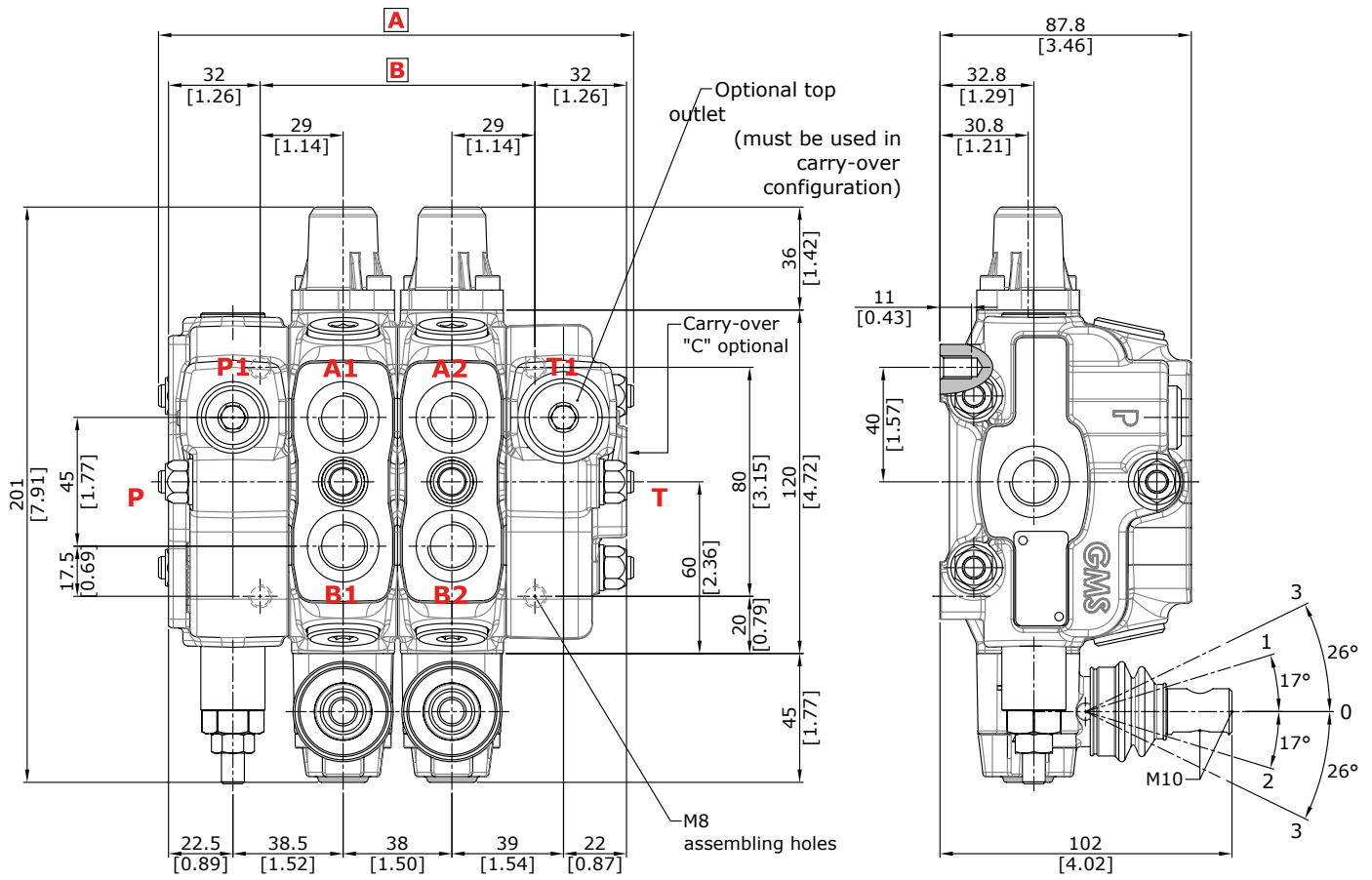
Standard threads

REFERENCE STANDARD					
		BSP	UN-UNF	METRIC	NPTF
THREAD ACCORDING TO		ISO 228/1	ISO 263	ISO 262	ANSI B1.20.3
		BS 2779	ANSI B1.1 unified		
CAVITY DIMENSION ACCORDING TO	ISO	1179-1	11926-1	9974-1	
	SAE		J1926-1	J2244	J476a
	DIN	3852-2 shape X or Y		3852-1 shape X or Y	

PORTS THREADING				
MAIN PORTS		BSP	UN-UNF	METRIC
P inlet		G 3/8	3/4-16 (SAE 8)	M18x1.5
A and B ports		G 3/8	9/16-18 (SAE 6)	M18x1.5
T outlet and C carry-over		G 1/2	3/4-16 (SAE 8)	M22x1.5
PILOT PORTS				
Hydraulic		G 1/4	-	-
Pneumatic		G 1/8	-	-

Valve general information

Dimensional data



TYPE	A		B		Weight	
	mm	in	mm	in	Kg	lb
50L GS08/1	128	5.04	58	2.28	5.5	12.13
50L GS08/2	166	6.54	96	3.78	8	17.64
50L GS08/3	204	8.03	134	5.28	10.5	23.15
50L GS08/4	242	9.53	172	6.77	13	28.66
50L GS08/5	280	11.02	210	8.27	15.5	34.17
50L GS08/6	318	12.52	248	9.76	18	39.68

TYPE	A		B		Weight	
	mm	in	mm	in	Kg	lb
50L GS08/7	356	14.02	286	11.26	20.5	45.20
50L GS08/8	394	15.51	324	12.76	23	50.70
50L GS08/9	432	17.01	362	14.25	25.5	56.20
50L GS08/10	470	18.50	400	15.75	28	61.73
50L GS08/11	508	20.00	438	17.24	30.5	67.24
50L GS08/12	546	21.50	476	18.74	33	72.75

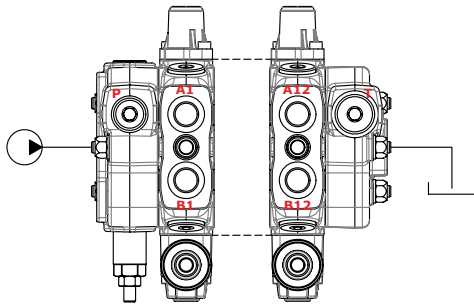
NOTE - Drawings and dimensions are referred to **BSP** thread configuration.

Valve general information

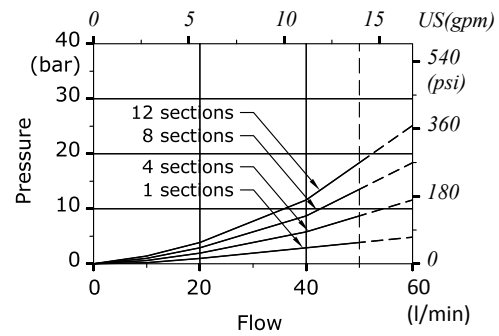
Performance data (pressure drop vs. flow)

Open centre

From side inlet to side outlet.

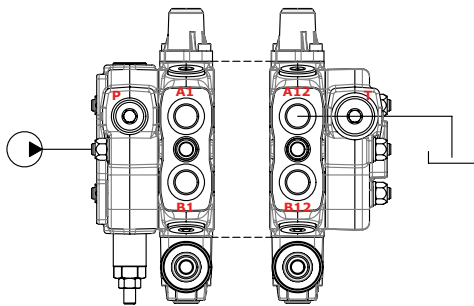


P ⇒ T pressure drop

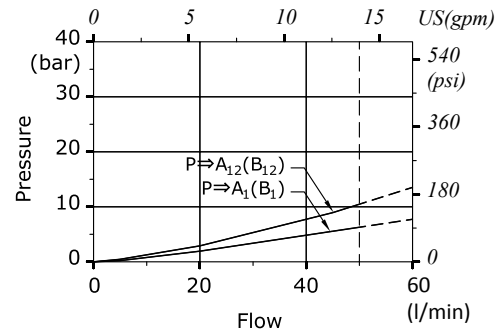


Inlet to work port

From side inlet to A port (spool in position 1) or B port (spool in position 2).

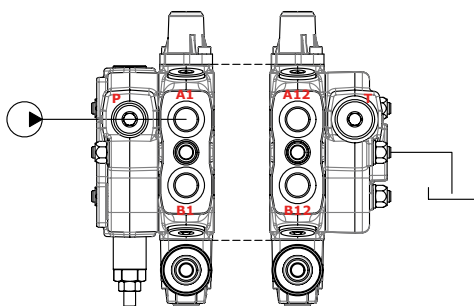


P ⇒ A(B) pressure drop

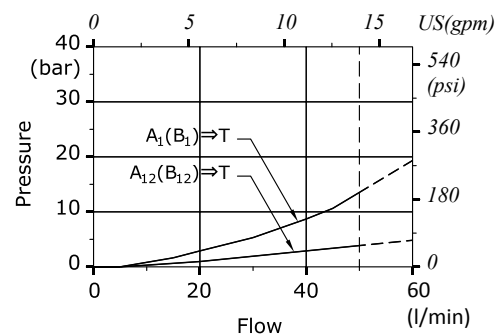


Work port to outlet

From A port (spool in position 2) or B port (spool in position 1) to side outlet.



A(B) ⇒ T pressure drop

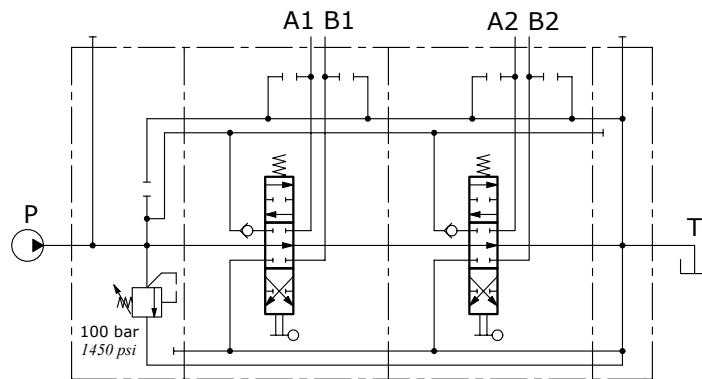


Valve general information

Hydraulic circuit

Parallel circuit

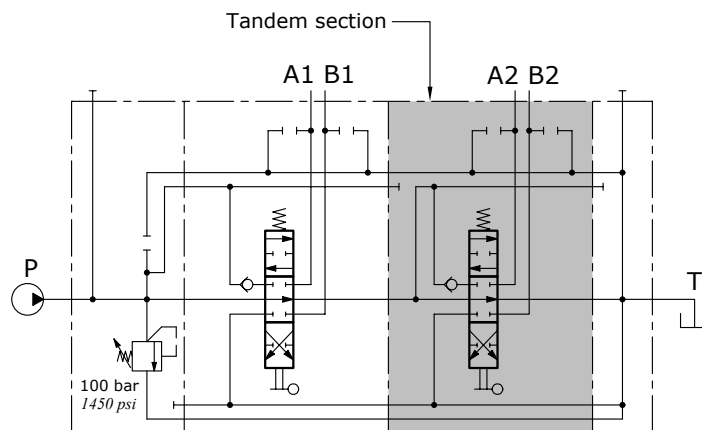
Standard configuration with open centre and side inlet and outlet.



Description example
50L GS08/2/AC(X-100)/18L/18L/RC

Series-parallel (tandem) circuit

It needs a special working section kit.
Tandem section is fed from the free flow pressure line; it's excluded when an up stream section is operated.

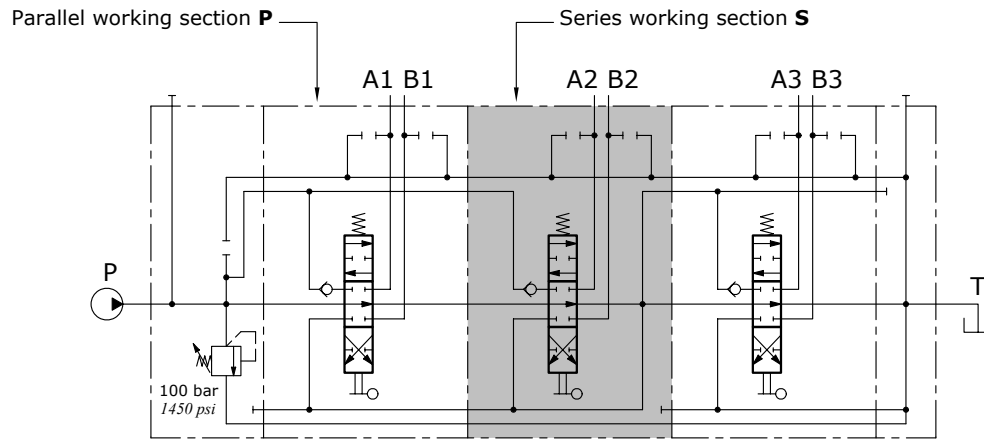


Description example
50L GS08/2/AC(X-100)/18L/SP-18L/RC

Valve general information

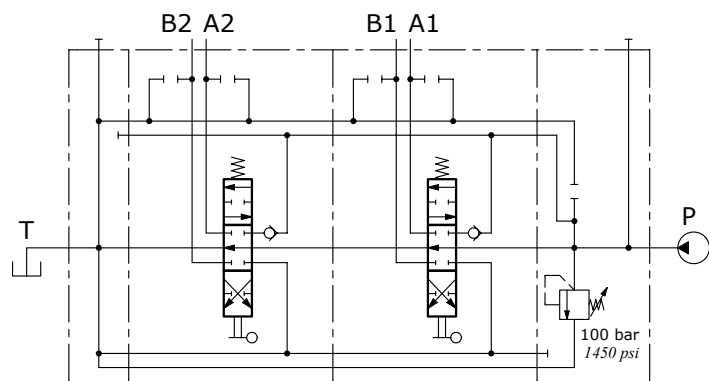
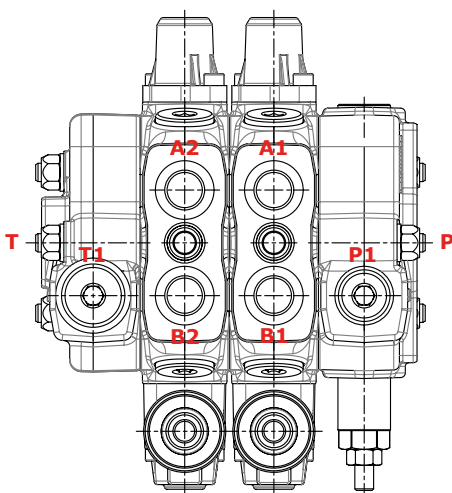
Hydraulic circuit

Series circuit



Description example
50L GS08/3/AC(X-100)/18L/S-18L/18L/RC

Right inlet directional valve



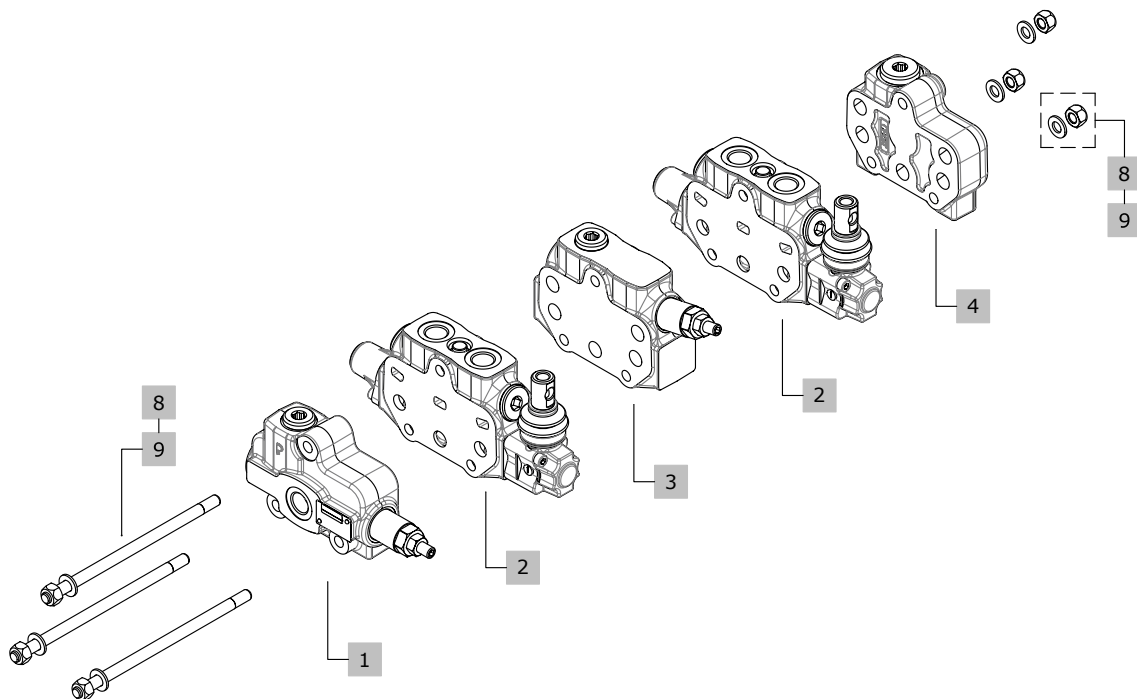
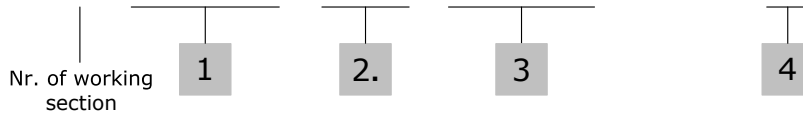
Description example
50L GS08/2/BC(X-100)/18L/18L/RC

Valve general information

Complete sections ordering codes

Standard configuration with side inlet and outlet

50L GS08 / 2 / AC(X-100) / P-18L / EI1(X-100) / P-18L / RC



1. Inlet section * page 10			3. Intermediate sections * page 43		
TYPE AC(X-100)	CODE 50IN010002		TYPE	CODE	DESCRIPTION
DESCRIPTION With direct pressure relief valve			EI1(X-100)	30 08 5730	With direct pressure relief valve
TYPE AC(V)	CODE 50IN010003		DFG	30 08 5773	Pressure compensated flow divider section
DESCRIPTION Without pressure relief valve					

2. Working section * page 16			4. Outlet section * page 45		
TYPE	CODE	DESCRIPTION	TYPE	CODE	DESCRIPTION
P-18L	50W010000	Parallel circuit, lever control to combine with series working section	RC	50OU010002	With side outlet
SP-18L	50W010003	For series-parallel (tandem) circuit, prearranged for port valves, double acting spool with spring return, lever control	RD	50OU010001	With upper outlet
			RE	50OU010003	With upper outlet and side carry-over sleeve
			RK	50OU010004	With upper outlet, closed center
			RV	50OU010005	With backpressure valve 10 bar (145 psi)

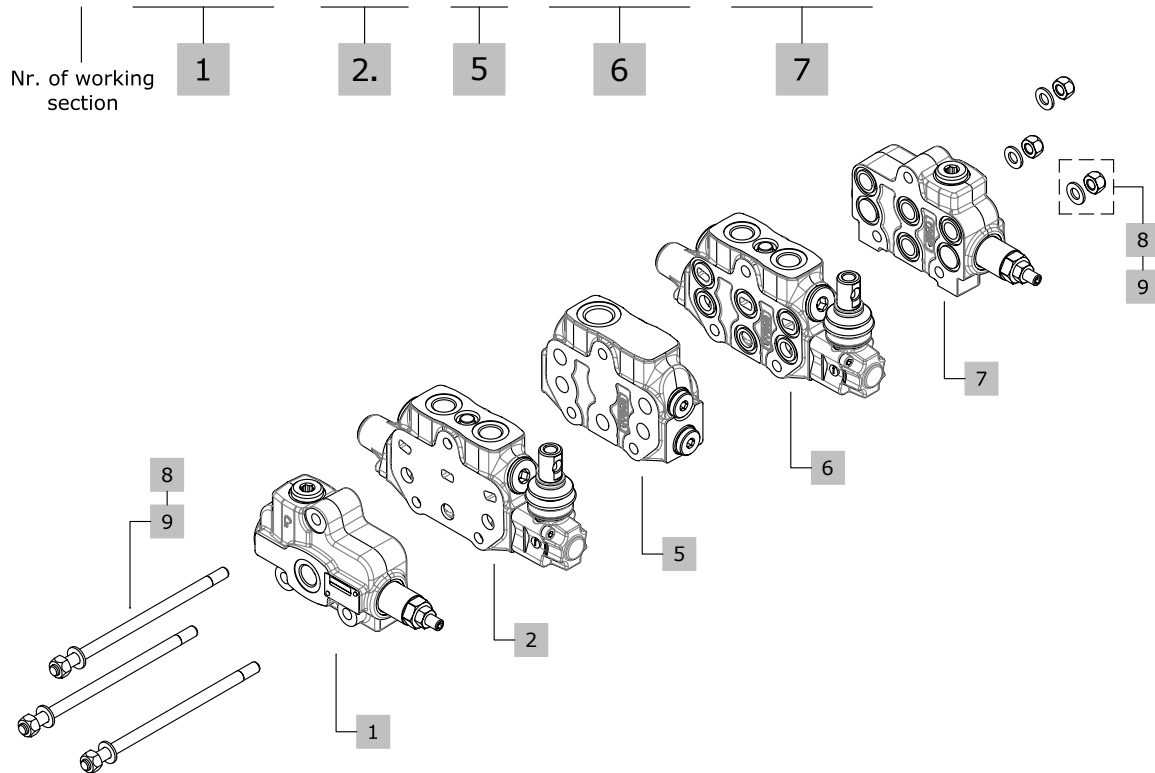
NOTE (*) – Codes are referred to **BSP** thread.

Valve general information

Complete sections ordering codes

Configuration with 2 side inlets and mid return manifold

50L GS08 / 2 / AC(X-100) / P-18L / CS1 / P-ED-18L / BC(X-100)



5. Return manifold *

page 42

TYPE	CODE	DESCRIPTION
CS1	30 08 5624	Mid return manifold

6. Right inlet working section *

TYPE	CODE	DESCRIPTION
P-ED-18L	50W010008	Parallel circuit, prearranged for port valves, double acting spool with spring return, lever control
SP-ED-18L	50W010007	As previous with series-parallel (tandem) circuit

7. Right inlet section *

TYPE	CODE	DESCRIPTION
BC(X-100)	50IN010005	Side inlet with direct pressure relief valve
BC(V)	50IN010006	Side inlet without pressure relief valve
BD(X-100)	50IN010007	Upper inlet with direct pressure relief valve
BD(V)	50IN010008	Upper inlet without pressure relief valve

8. Assemb. kit without intermediate section

CODE	DESCRIPTION
30 05 6064	Tie rod kit for 1 working section directional valve
30 05 6068	Tie rod kit for 2 working section directional valve
30 05 6069	Tie rod kit for 3 working section directional valve
30 05 6070	Tie rod kit for 4 working section directional valve
30 05 6071	Tie rod kit for 5 working section directional valve
30 05 6072	Tie rod kit for 6 working section directional valve
30 05 6073	Tie rod kit for 7 working section directional valve
30 05 6074	Tie rod kit for 8 working section directional valve
30 05 6075	Tie rod kit for 9 working section directional valve
30 05 6065	Tie rod kit for 10 working section directional valve
30 05 6066	Tie rod kit for 11 working section directional valve
30 05 6067	Tie rod kit for 12 working section directional valve

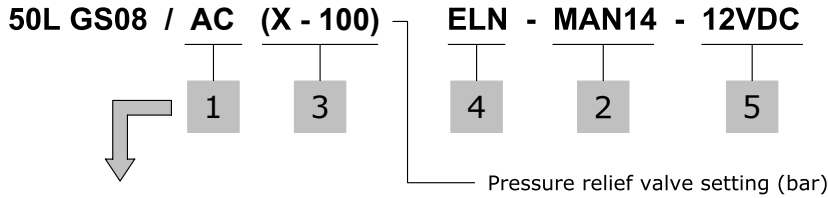
9. Assemb. kit with intermediate section

CODE	DESCRIPTION
30 05 6069	Tie rod kit for 2 working section directional valve
30 05 6070	Tie rod kit for 3 working section directional valve
30 05 6071	Tie rod kit for 4 working section directional valve
30 05 6072	Tie rod kit for 5 working section directional valve
30 05 6073	Tie rod kit for 6 working section directional valve
30 05 6074	Tie rod kit for 7 working section directional valve
30 05 6075	Tie rod kit for 8 working section directional valve
30 05 6065	Tie rod kit for 9 working section directional valve
30 05 6066	Tie rod kit for 10 working section directional valve
-	Tie rod kit for 11 working section directional valve
-	Tie rod kit for 12 working section directional valve

NOTE (*) - Codes are referred to **BSP** thread.

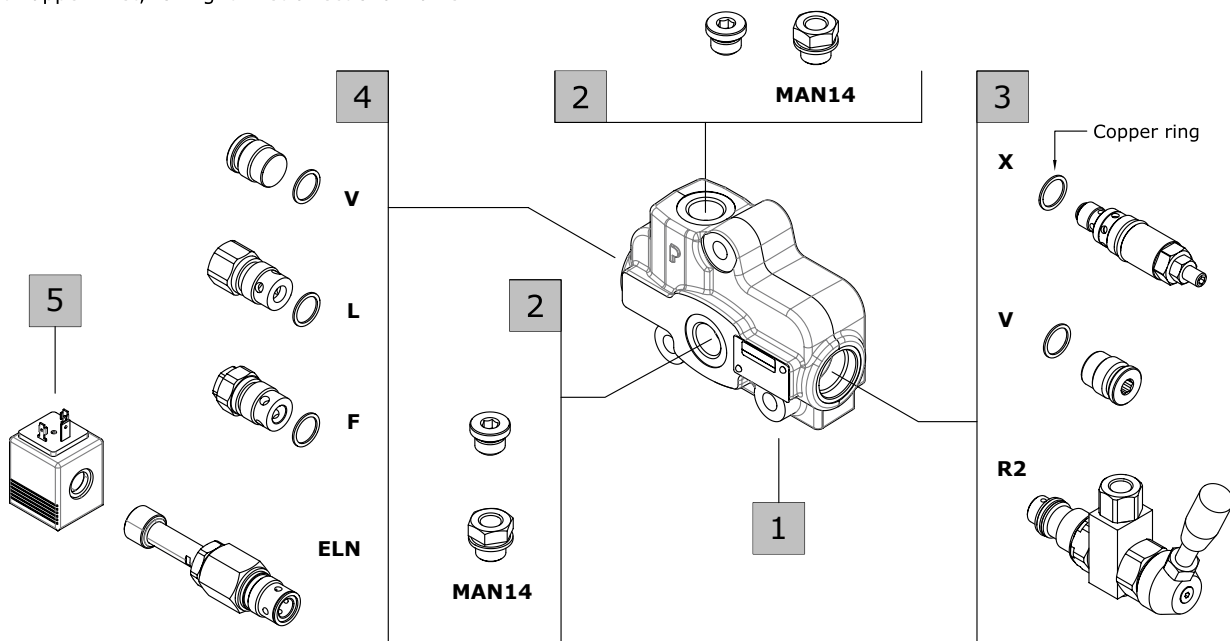
Inlet section

Parts ordering codes



Available configurations

- AC:** with side inlet, for left inlet (standard) directional valve
- AD:** with upper inlet, for left inlet (standard) directional valve
- BC:** with side inlet, for right inlet directional valve
- BD:** with upper inlet, for right inlet directional valve



1. Inlet cover body *		page 11
CODE	: 30 08 5625	
DESCRIPTION	: Standard body	

2. Parts *		
TYPE	CODE	DESCRIPTION
MAN18	30 05 6098	G1/8 Pressure gauge arrangement
MAN14	30 05 6097	G1/4 Pressure gauge arrangement

3. Inlet relief valve options		page 12
TYPE	CODE	DESCRIPTION
Direct pressure relief valve X type (standard) (X-100)		
	30 05 4917	Range 60-315 bar (870-4570 psi) standard setting 100 bar (1450 psi)
Standard setting is referred to 6 l/min flow.		
(V)	30 05 5004	Relief valve blanking plug

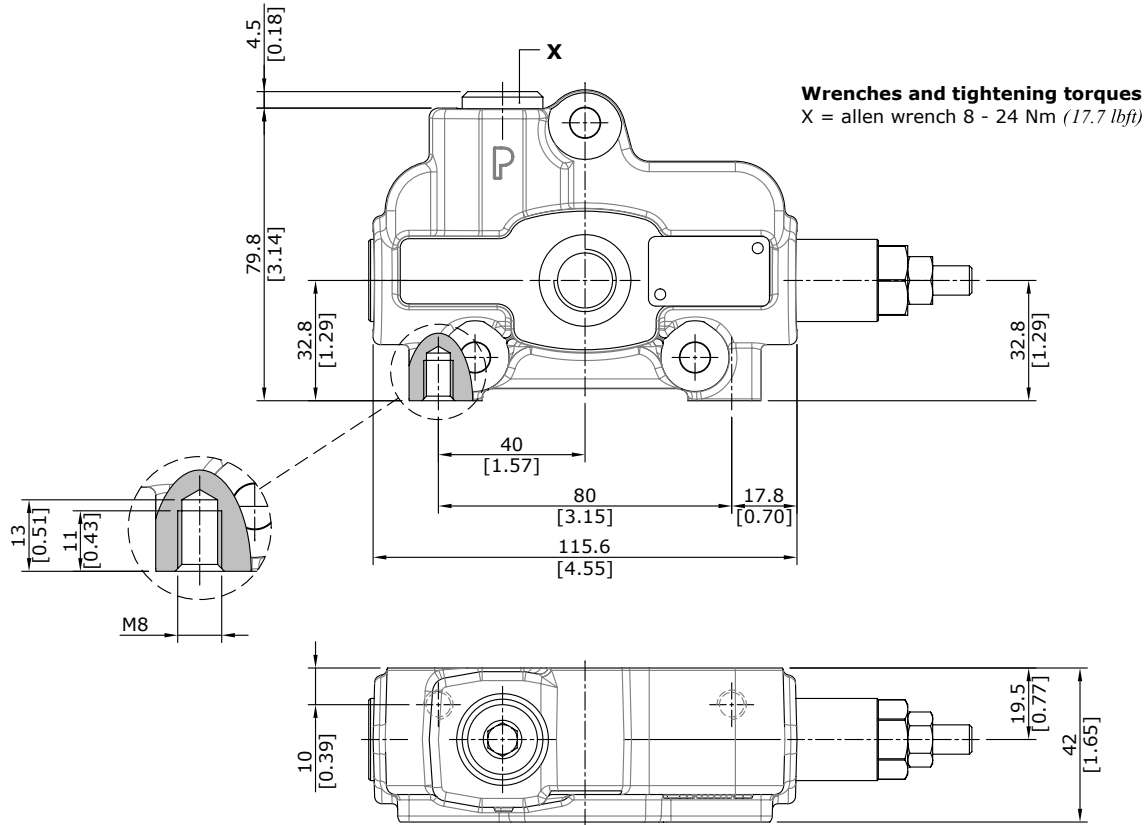
4. Inlet valve options			page 13
TYPE	CODE	DESCRIPTION	
V	30 05 5004	Relief valve blanking plug (omit in description)	
F	-	Inlet anti-cavitation valve	
L	-	Hydraulic pilot unloader valve	
R2	30 07 5430	Rotary commutator	
Solenoid operated unloader valve			
ELN(NO)	30 05 6105	Without emergency	
ELP(NO)	30 05 6106	Push-button emergency	
ELT(NO)	30 05 6107	Push and twist type with detent emergency	
ELN(NC)	30 05 5024	Without emergency	
ELP(NC)	30 05 5025	Push-button emergency	
ELT(NC)	30 05 5026	Push and twist type with detent emergency	

5. Coils		
TYPE	CODE	DESCRIPTION
12VDC	20 03 2268	Coil type BER , ISO4400 integrated type 12VDC
24VDC	20 03 2269	Coil type BER , ISO4400 integrated type 24VDC

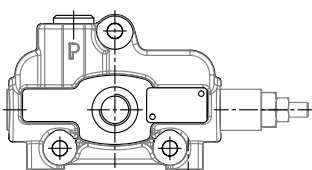
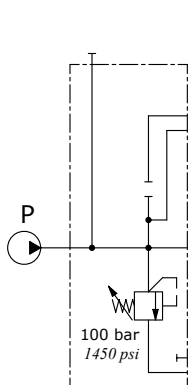
NOTE (*) – Codes are referred to **BSP** thread.

Inlet section

Dimensional data and hydraulic circuit

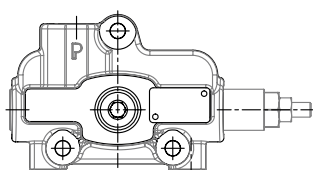
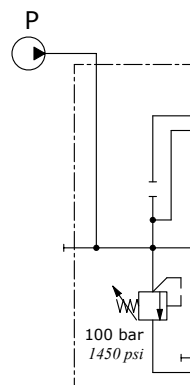


For left inlet directional valve, side port



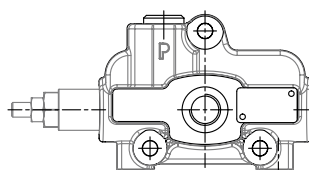
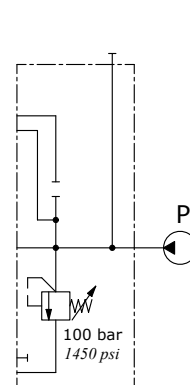
Description example:
AC(X-100)

For left inlet directional valve, upper port



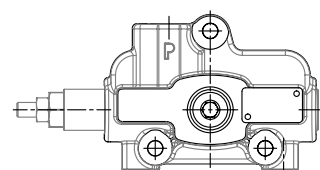
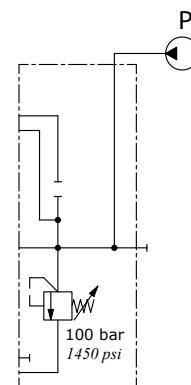
Description example:
AD(X-100)

For right inlet directional valve, side port



Description example:
BC(X-100)

For right inlet directional valve, upper port



Description example:
BD(X-100)

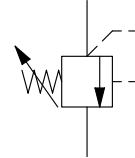
Inlet section

Inlet valve options

Direct overpressure relief valve

30 05 4917 (**X** - **100**)

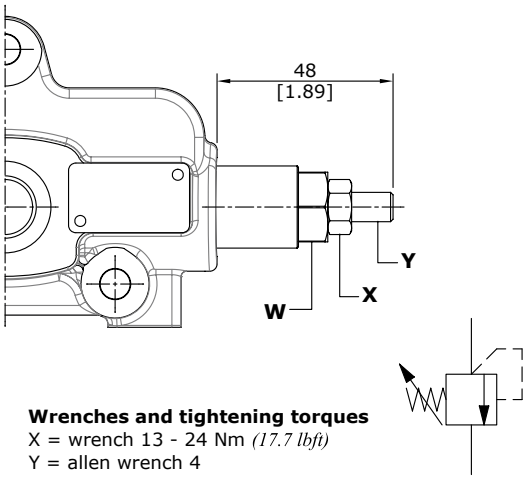
Configuration ——— Valve setting (bar)



Adjustment type

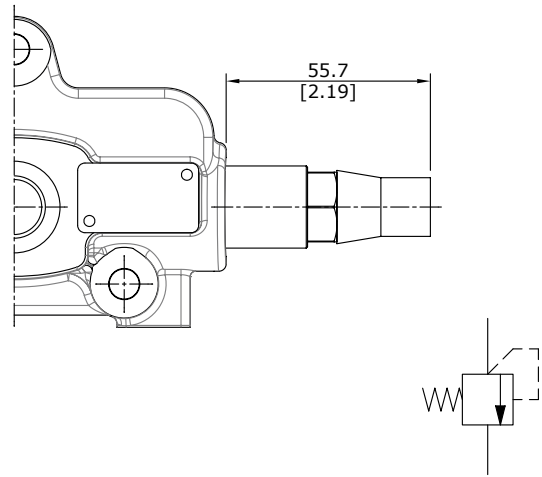
Configuration **X** type: adjustable with screw

Configuration **XH** type: valve set and locked



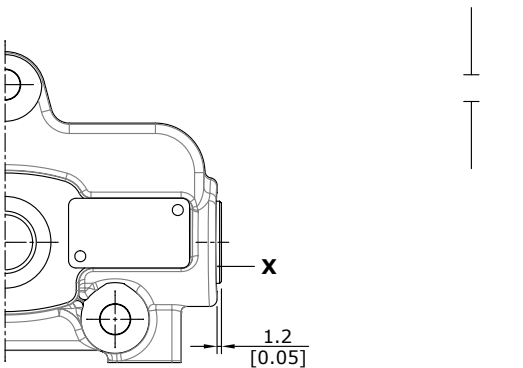
Wrenches and tightening torques

- X = wrench 13 - 24 Nm (17.7 lbf_t)
- Y = allen wrench 4
- W = wrench 19 - 42 Nm (31 lbf_t)



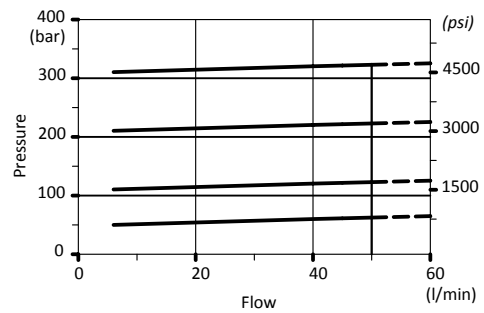
V: relief valve blanking plug

Performance data



Wrenches and tightening torques

- X = allen wrench 8 - 42 Nm (31 lbf_t)



Inlet section

Inlet valve options

Unloader valves

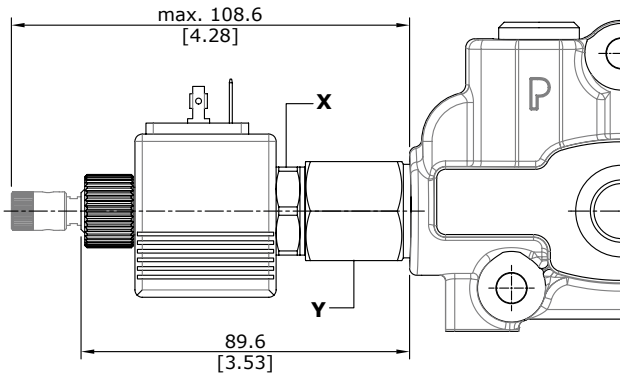
Description example: AC (X - 100) **ELN** - 12VDC

Hydraulic operated valve: **L**
 Solenoid operated valve: **ELN**
ELP
ELT

Feeding voltage:
 for solenoid operated

Solenoid operated

Emergency with push button and spring return; for detent position turn the button after press it.
WARNING: the manual override option is intended for emergency use, not for continuous duty operation.



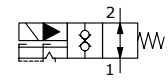
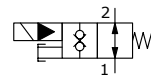
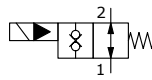
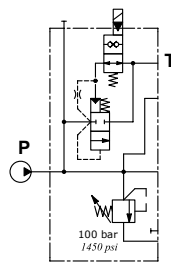
Wrenches and tightening torques

X = wrench 24 - 35 Nm (26 lbft)
 Y = wrench 27 - 42 Nm (31 lbft)

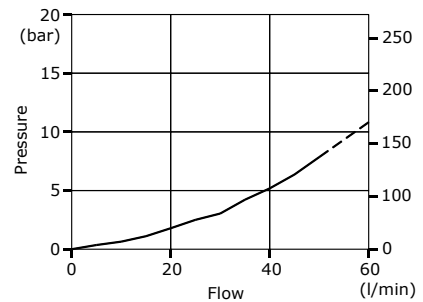
ELN: without emergency

ELP: push button type

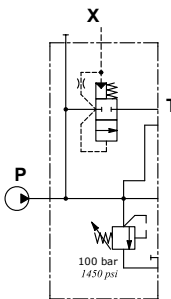
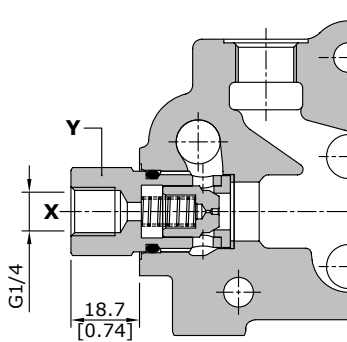
ELT: "push & twist" type



Pressure drop curve P → T



Hydraulic operated

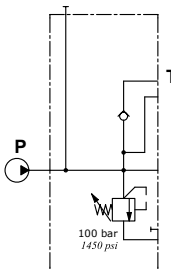
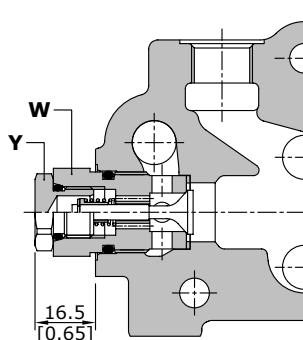


Wrenches and tightening torques

Y = wrench 24 - 42 Nm (31 lbft)

Anti-cavitation valve

Description example: AC (X - 100) **F**



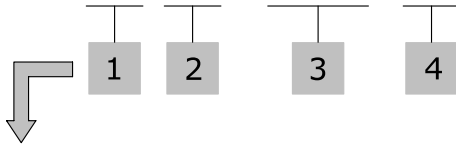
Wrenches and tightening torques

Y = wrench 19 - 24 Nm (17.7 lbft)
 W = wrench 24 - 42 Nm (31 lbft)

Inlet section for special applications

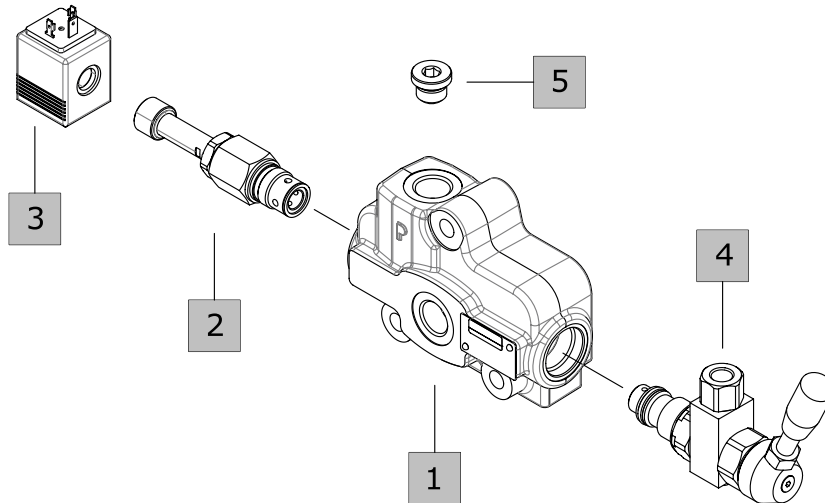
Configuration with rotary commutator

50L GS08 / AC ELN - 12VDC - R2



Available configurations

- AC:** with side inlet, for left inlet (standard) directional valve
- AD:** with upper inlet, for left inlet (standard) directional valve
- BC:** with side inlet, for right inlet directional valve
- BD:** with upper inlet, for right inlet directional valve



1. Inlet cover body * page 15		3. Coils		
CODE	: 30 08 5927	TYPE	CODE	DESCRIPTION
DESCRIPTION	: Predisposition for rotary commutator	12VDC	20 03 2268	Coil type BER , ISO4400 integrated type 12VDC
		24VDC	20 03 2269	Coil type BER , ISO4400 integrated type 24VDC
2. Inlet valve options page 12		4. Commutator *		
Standard setting is referred to 6 l/min flow.				
INLET RELIEF OPTIONS				
TYPE	CODE	DESCRIPTION		
V	30 05 5004	Relief valve blanking plug		
Direct pressure relief valve X type (standard)				
(X-100)	30 05 4917	Range 60-315 bar (870-4570 psi) standard setting 100 bar (1450 psi)		
INLET VALVE OPTIONS				
TYPE	CODE	DESCRIPTION		
F	-	Inlet anti-cavitation valve		
L	-	Hydraulic pilot unloader valve		
Solenoid operated unloader valve				
ELN(NO)	30 05 6105	Without emergency		
ELP(NO)	30 05 6106	Push-button emergency		
ELT(NO)	30 05 6107	Push and twist type with detent emergency		
ELN(NC)	30 05 5024	Without emergency		
ELP(NC)	30 05 5025	Push-button emergency		
ELT(NC)	30 05 5026	Push and twist type with detent emergency		
		5. Parts *		
TYPE	CODE	DESCRIPTION		
-	30 05 4918	G3/8 Plug		

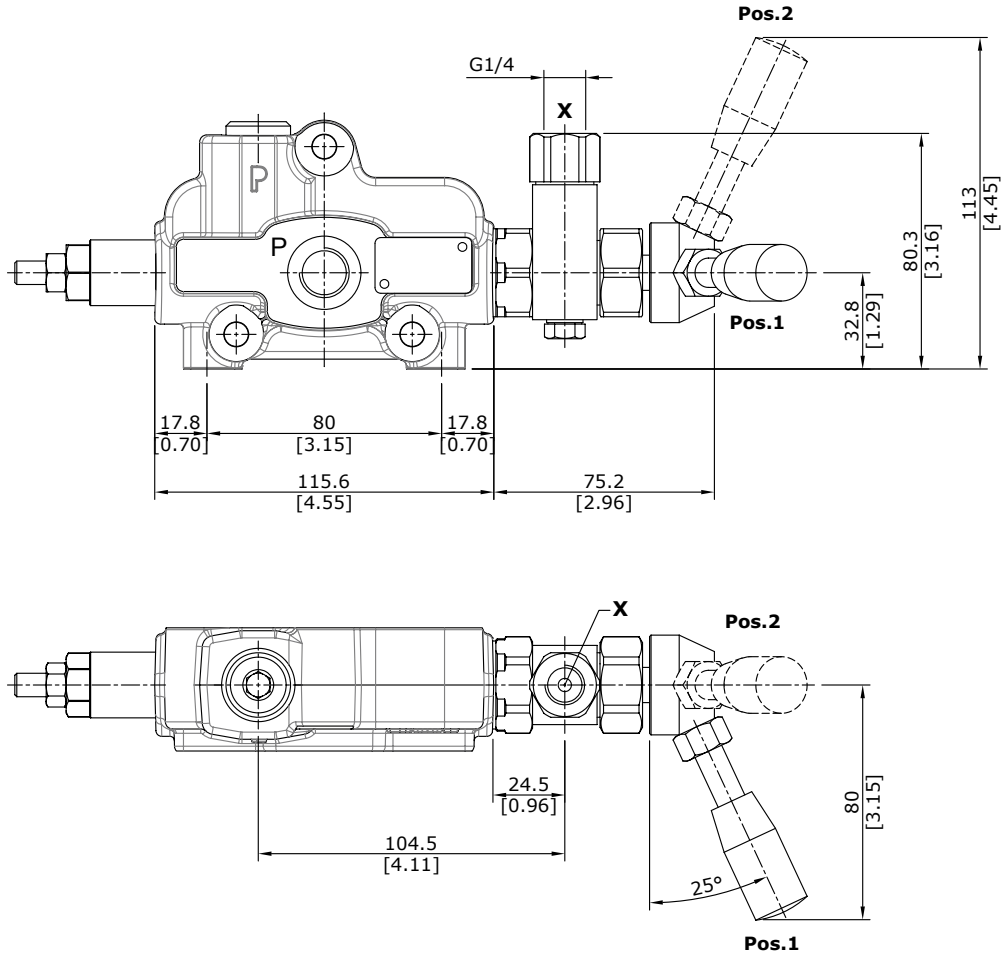
NOTE (*) – Codes are referred to **BSP** thread.

Inlet section for special applications

Configuration with rotary commutator

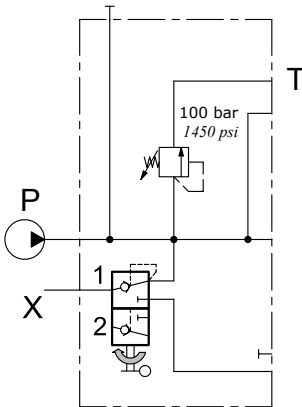
Dimensional data and hydraulic circuit

Drawing and circuit are referred to left inlet directional valve.



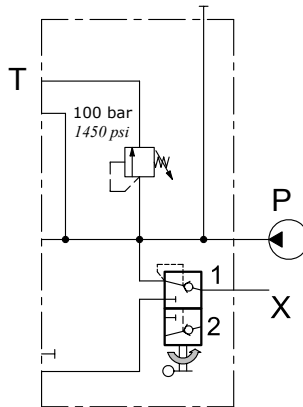
Hydraulic circuit and ordering codes

Left inlet



AC(X-100)R2

Right inlet



BC(X-100)R2

Rotary commutator features

Max. pressure: 210 bar (3050 psi)

Internal leakage: 3 cm³/min @ 100 bar
(0.18 in³/min @ 1450 psi)

Working section

Parts ordering codes (mechanical control)

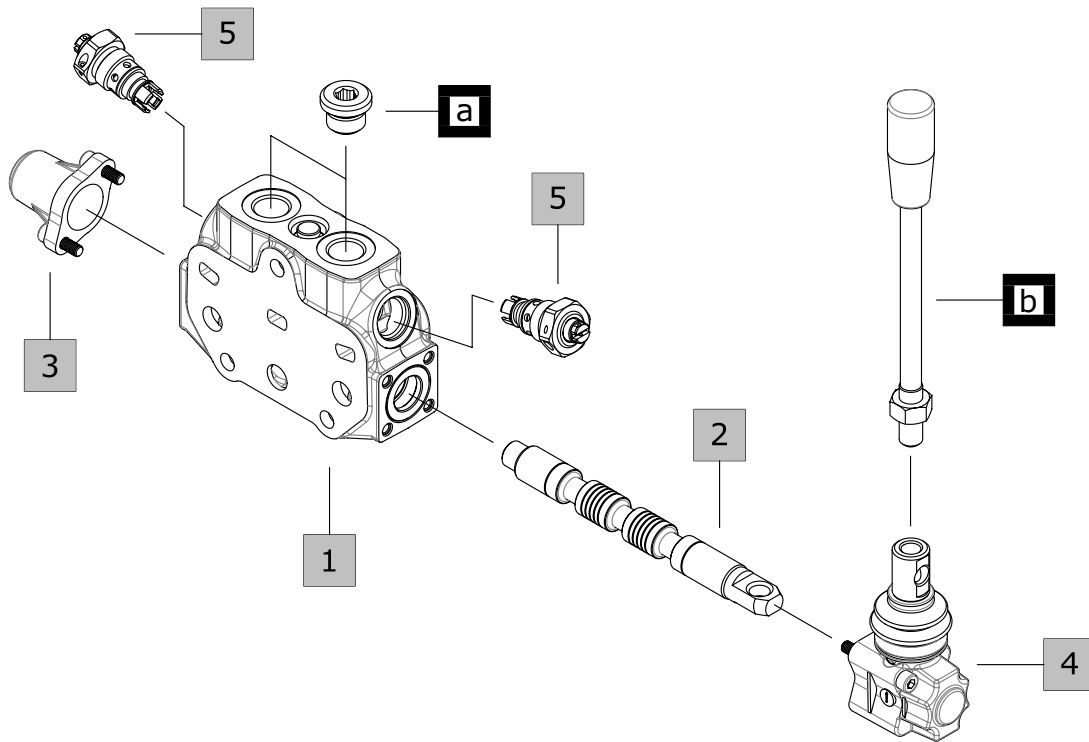
Description example:

50L GS08 / P - 1 8 L . U① (100)



- 1 mounted on A port.
- 2 mounted on B port.
- 3 mounted on A and B port.

① Pressure relief valve setting (bar)



1. Working section kit *

TYPE	CODE	DESCRIPTION
P	30 08 5694	For parallel circuit, for valve with series circuit
SP	30 08 5877	For tandem circuit
P5BY	30 08 8922	For parallel circuit and floating circuit
P5DY	30 08 8765	For parallel circuit and floating circuit

Include body, seals, rings and load check valve.

2. Spools page 18

TYPE	CODE	DESCRIPTION
1	30 01 3548	Double acting, 3 positions, with A and B closed in neutral position
1CS	30 01 3650	As type 1, sensitive type
1A	30 01 3550	Double acting, 3 positions, with A open to tank in neutral position
1B	30 01 3551	Double acting, 3 positions, with B open to tank in neutral position
1AH	30 01 3651	Double acting, 3 positions, with A partially open to tank in neutral position
1BH	30 01 3545	Double acting, 3 positions, with B partially open to tank in neutral position

2. Spools (continued) page 18

TYPE	CODE	DESCRIPTION
2	30 01 3549	Double acting, 3 positions, with A and B open to tank in neutral position
2H	30 01 3649	Double acting, 3 positions, with A and B partially open to tank in neutral position
3	30 01 3547	Single acting on A, 3 positions, B plugged; requires G3/8 plug
4	30 01 3546	Single acting on B, 3 positions, A plugged; requires G3/8 plug
8	30 01 3554	Double acting, 4 positions, regenerative in position 3, 13FZ type positioner kit is required
5BY	30 01 3552	Double acting, 4 positions, float in position 3 with spool out, 13QN type positioner kit is required
5DY	30 01 3553	Double acting, 4 positions, float in position 3 with spool in, 13NZ type positioner kit is required

Parts ordering codes (mechanical control)

3. "A" side spool positioners page 19

TYPE	CODE	DESCRIPTION
8	30 07 5300	With spring return in neutral position
8D	30 07 5307	As type 8, M6 female threaded pin extension for dual control
8D2	30 07 5308	As type 8, M8 male threaded pin extension for dual control
8T	30 07 7680	With spring return in neutral position, for single acting spool type 3 and 4
8TL	30 07 5327	As type 8, for flexible cable control
8F2	30 07 5302	As type 8 with adjustable stroke limiter
19	30 07 5410	With spring return in position 0 from 1
20	30 07 5411	With spring return in position 0 from 2
11	30 07 5303	Detent in positions neutral, 1 and 2
12	30 07 5334	Detent in positions 1 and 2
15	30 07 5304	2 positions, detent in positions 1 and neutral
16	30 07 5408	2 positions, detent in positions 2 and neutral
17	30 07 5412	With spring return position 1
18	30 07 5305	With spring return position 2
17D	30 07 5413	With spring return position 1 and pin with M6 female thread for dual control
18D	30 07 5306	With spring return position 2 and pin with M6 female thread for dual control
9B	30 07 5309	With detent in position 1 and spring return in neutral position
10B	30 07 5310	With detent in position 2 and spring return in neutral position
11B	30 07 5311	Detent in positions 1 and 2 and spring return inneutral position
8MG1(NO)	30 07 5320	As type 8, operation with microswitch (NO) in position 1
8MG1(NC)	30 07 5323	As previous, (NC)
8MG2(NO)	30 07 5321	As type 8, operation with microswitch (NO) in position 2
8MG2(NC)	30 07 5324	As previous, (NC)
8MG3(NO)	30 07 5319	As type 8, operation with microswitch (NO) in positions 1 and 2
8MG3(NC)	30 07 5322	As previous, (NC)
8P	30 07 5329	ON/OFF pneumatic kit
8EP3	30 07 5420	12 VDC ON/OFF electro-pneumatic kit
	30 07 5330	24 VDC ON/OFF electro-pneumatic kit
8EP4	30 07 5343	12 VDC ON/OFF electro-pneumatic kit with manifold
	30 07 5344	24 VDC ON/OFF electro-pneumatic kit with manifold
8IZ	30 07 5432	Unilateral hydraulic proportional spool control kit
8EI3	30 07 5331	12 VDC ON/OFF electro-hydraulic kit
	30 07 5332	24 VDC ON/OFF electro-hydraulic kit
8EI3F	30 07 7605	12 VDC Proportional electro-hydraulic kit
	30 07 7606	24 VDC Proportional electro-hydraulic kit
13NZ	30 07 7579	4 positions with spring return in neutral position and detent in pos.3: for 5DY spool
13QN	30 07 7608	4 positions with spring return in neutral position and detent in pos.3: for 5BY spool
11NZ	30 07 7609	Detent in positions neutral, 1,2 and detent in pos.3: for 5DY spool
13FZ	30 07 7625	4 positions with spring return in neutral and reduced spool stroke: for 8 spool

4. "B" side options page 30

TYPE	CODE	DESCRIPTION
L	30 07 5335	Standard lever box
LF1	30 07 5337	Lever box with spool stroke limiter in position 1
LCB	30 07 7626	Joystick lever for 2 sections operation
SL	-	Without lever box
SLP	30 07 5338	Without lever box, with dust-proof plate
TQ	30 07 5328	Flexible cable connection; for CT cables
LEB	30 07 5340	Safety lever box, vertical configuration
LUP	30 07 5341	Safety lever box, horizontal configuration
SLCZ	30 07 7621	Without lever box, with endcap.

5. Adjustable port valves page 39

Valves standard setting is referred to 6 l/min

TYPE	CODE	DESCRIPTION
P3T	30 05 4939	Valve blanking plug
C	-	Anticavitation valve
Anti-shock valve		
P	30 05 6194	From 0 to 315 bar / 0 to 4600 psi standard setting 100 bar / 1450 psi
Anti-shock and anti-cavitation valve		
U	30 05 4909	From 0 to 315 bar / 0 to 4600 psi standard setting 100 bar / 1450 psi

6. Complete controls * page 36

TYPE	CODE	DESCRIPTION
ON/OFF Hydraulic control		
8IM	30 07 5348	ON/OFF Hydraulic control
Proportional hydraulic kit		
8IMSPSD	30 07 7558	With spool position sensor execution. (ON/OFF)
8IMSPSL	30 07 7561	With spool position sensor execution.
Rotative control type		
R	30 07 5333	Rotative control type

a. Port plugs *

TYPE	CODE	DESCRIPTION
G3/8	30 05 4918	G3/8 Plug

b. Optional handlevers

TYPE	CODE	DESCRIPTION
M10x180	20 03 2380	Lenght L = 180mm / 7.09in

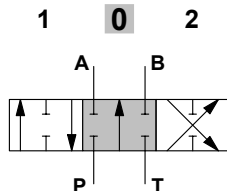
NOTE (*) – Codes are referred to **BSP** thread.

Working section

Spools options

1 (30 01 3548), 1CS (30 01 3650) spool type

Double acting, 3 positions, with A and B closed in neutral position

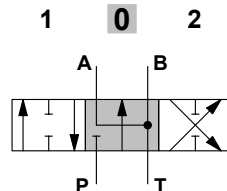


Spool stroke

position 1: + 6 mm (+ 0.24 in)
position 2: - 6 mm (- 0.24 in)

2 (30 01 3549) spool type

Double acting, 3 positions, with A and B open to tank in neutral position

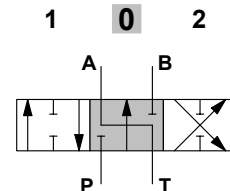


Spool stroke

position 1: + 6 mm (+ 0.24 in)
position 2: - 6 mm (- 0.24 in)

1A (30 01 3550) spool type

Double acting, 3 positions, with A open to tank in neutral position

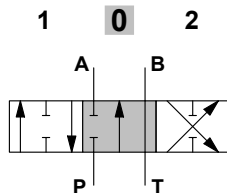


Spool stroke

position 1: + 6 mm (+ 0.24 in)
position 2: - 6 mm (- 0.24 in)

1B (30 01 3551) spool type

Double acting, 3 positions, with B open to tank in neutral position

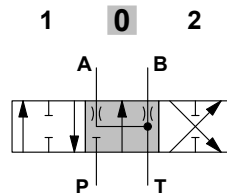


Spool stroke

position 1: + 6 mm (+ 0.24 in)
position 2: - 6 mm (- 0.24 in)

2H (30 01 3649) spool type

Double acting, 3 positions, with A and B partially open to tank in neutral position

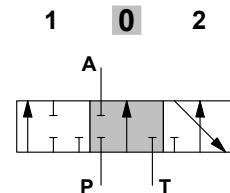


Spool stroke

position 1: + 6 mm (+ 0.24 in)
position 2: - 6 mm (- 0.24 in)

3 (30 01 3547) spool type

Single acting on A, 3 positions, B plugged; requires G3/8 plug

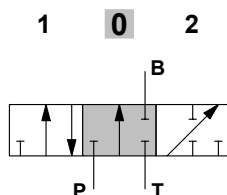


Spool stroke

position 1: + 5 mm (+ 0.20 in)
position 2: - 5 mm (- 0.20 in)

4 (30 01 3546) spool type

Single acting on B, 3 positions, A plugged; requires G3/8 plug

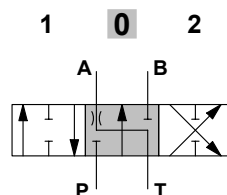


Spool stroke

position 1: + 5 mm (+ 0.20 in)
position 2: - 5 mm (- 0.20 in)

1AH (30 01 3651) spool type

Double acting, 3 positions, with A partially open to tank in neutral position

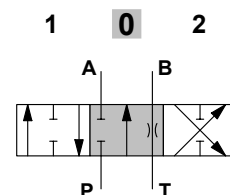


Spool stroke

position 1: + 6 mm (+ 0.24 in)
position 2: - 6 mm (- 0.24 in)

1BH (30 01 3545) spool type

Double acting, 3 positions, with B partially open to tank in neutral position

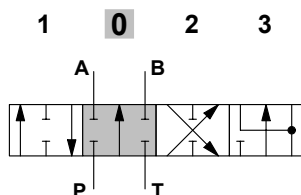


Spool stroke

position 1: + 6 mm (+ 0.24 in)
position 2: - 6 mm (- 0.24 in)

5DY (30 01 3553) spool type

Double acting, with A and B closed in neutral position, 4 positions, floating in position 3, with spool in

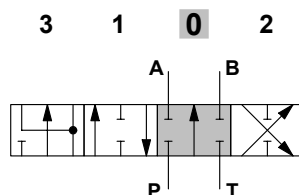


Spool stroke

position 1: + 4.5 mm (+ 0.18 in)
position 2: - 4.5 mm (- 0.18 in)
position 3: - 9 mm (- 0.35 in)

5BY (30 01 3552) spool type

Double acting, with A and B closed in neutral position, 4 positions, floating in position 3, with spool out

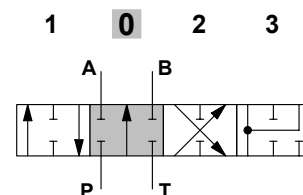


Spool stroke

position 3: + 9 mm (+ 0.35 in)
position 1: + 4.5 mm (+ 0.18 in)
position 2: - 4.5 mm (- 0.18 in)

8 (30 01 3554) spool type

Double acting, 4 positions, regenerative in position 3



Spool stroke

position 1: + 5 mm (+ 0.20 in)
position 2: - 5 mm (- 0.20 in)
position 3: - 8.5 mm (- 0.33 in)

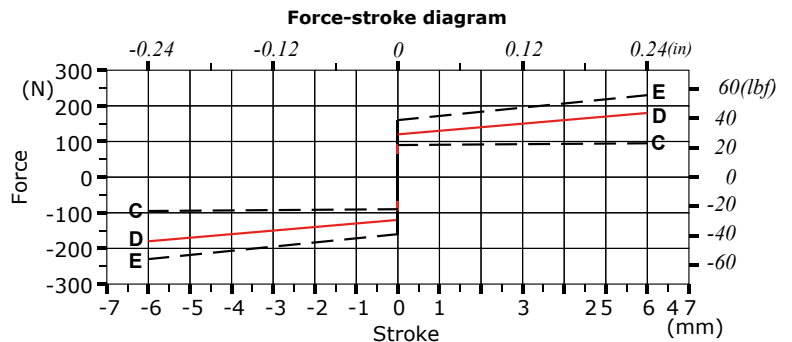
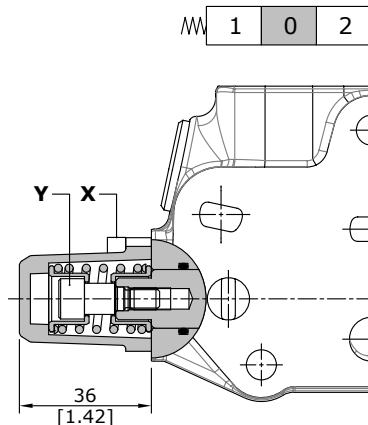
Working section

"A" side spool positioners

With spring return in neutral position

8 type (30 07 5300)

It's supplied with standard spring type D (see force-stroke diagram) and available with lighter spring type C (**8MC**) or heavier type E (**8ME**).

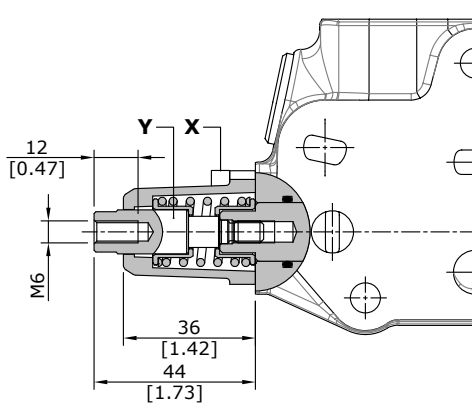


Wrenches and tightening torques

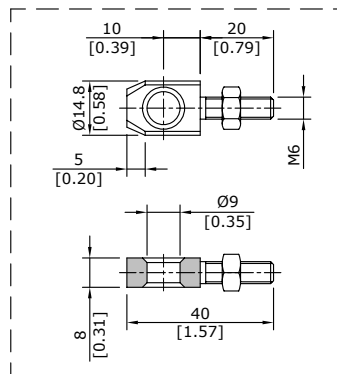
X = allen wrench 4 - 6 Nm (4.4 lbft)
Y = allen wrench 6 - 9 Nm (6.6 lbft)

8D type (30 07 5307)

With M6 female threaded pin extension for dual control.



Spool end joint dimensions (optional)



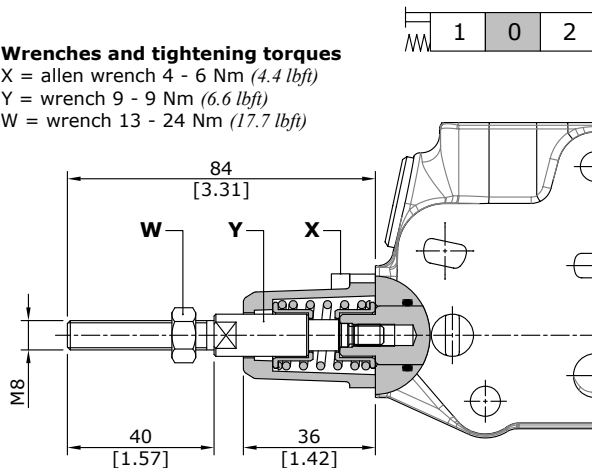
Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbft)
Y = wrench 10 - 9 Nm (6.6 lbft)

8D2 type (30 07 5308)

Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbft)
Y = wrench 9 - 9 Nm (6.6 lbft)
W = wrench 13 - 24 Nm (17.7 lbft)

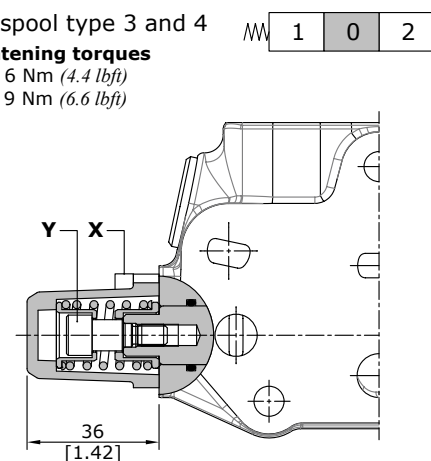


8T type (30 07 7680)

For single acting spool type 3 and 4

Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbft)
Y = allen wrench 6 - 9 Nm (6.6 lbft)

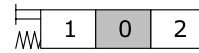
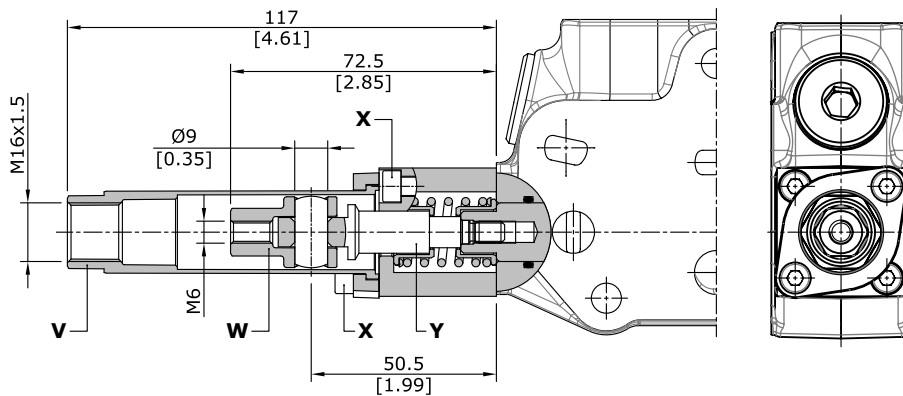


Working section

"A" side spool positioners

With spring return in neutral position

8TL type (30 07 5327)

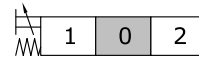
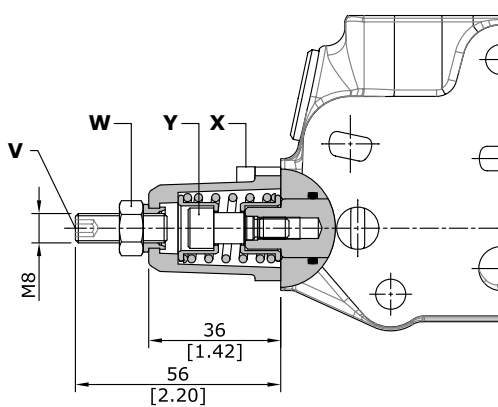


Wrenches and tightening torques

- X = allen wrench 4 - 6 Nm (4.4 lbf_t)
- Y = wrench 8 - 9 Nm (6.6 lbf_t)
- W = wrench 13
- V = wrench 20

8F2 type (30 07 5302)

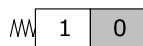
With spool stroke adjustment in position 2 (P→B)



Wrenches and tightening torques

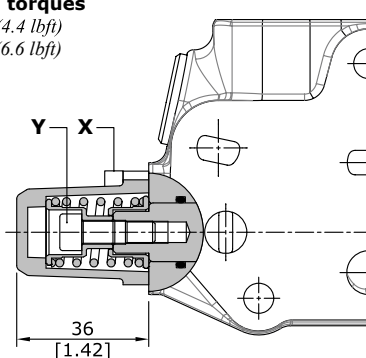
- X = allen wrench 4 - 6 Nm (4.4 lbf_t)
- Y = allen wrench 6 - 9 Nm (6.6 lbf_t)
- W = wrench 13 - 24 Nm (17.7 lbf_t)
- V = allen wrench 4

19 type (30 07 5410)



Wrenches and tightening torques

- X = allen wrench 4 - 6 Nm (4.4 lbf_t)
- Y = allen wrench 5 - 9 Nm (6.6 lbf_t)

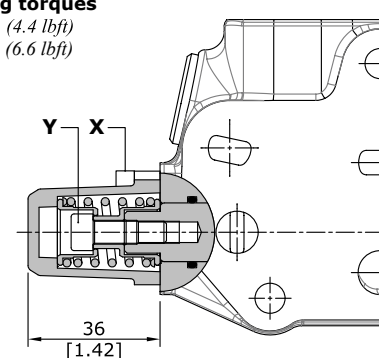


20 type (30 07 5411)



Wrenches and tightening torques

- X = allen wrench 4 - 6 Nm (4.4 lbf_t)
- Y = allen wrench 5 - 9 Nm (6.6 lbf_t)

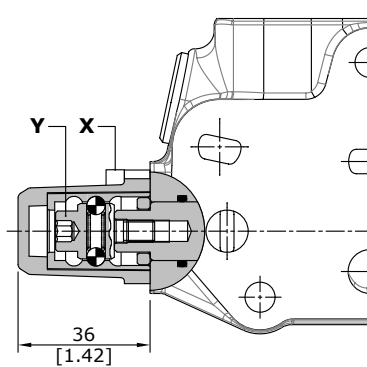
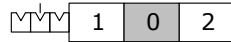


Working section

"A" side spool positioners

With detent

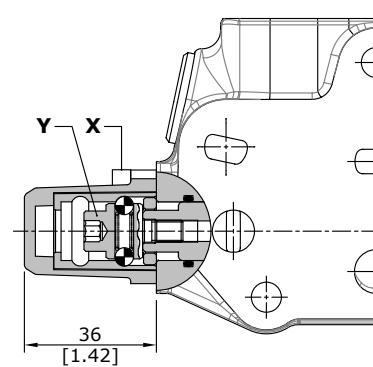
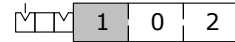
11 type (30 07 5303)



Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbf_t)
 Y = allen wrench 6 - 9 Nm (6.6 lbf_t)

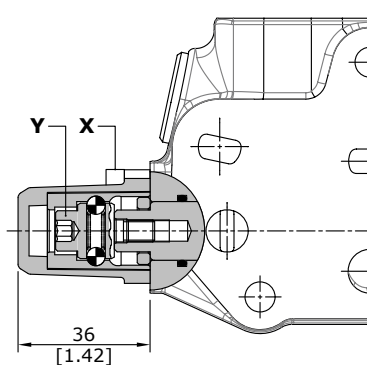
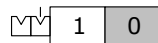
12 type (30 07 5334)



Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbf_t)
 Y = allen wrench 6 - 9 Nm (6.6 lbf_t)

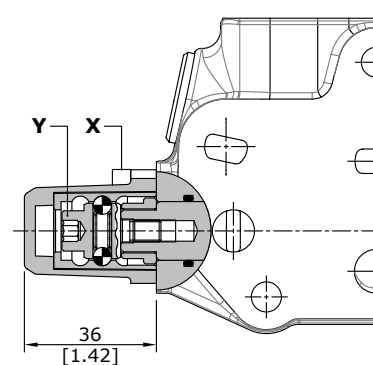
15 type (30 07 5304)



Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbf_t)
 Y = allen wrench 6 - 9 Nm (6.6 lbf_t)

16 type (30 07 5408)



Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbf_t)
 Y = allen wrench 6 - 9 Nm (6.6 lbf_t)

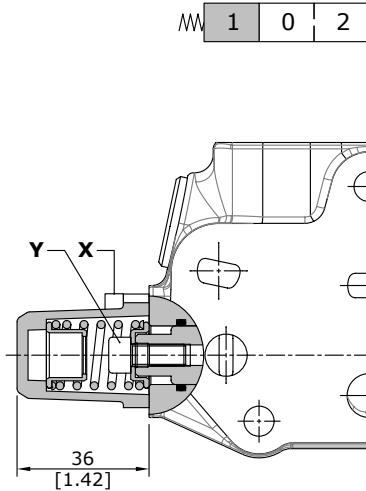
Working section

"A" side spool positioners

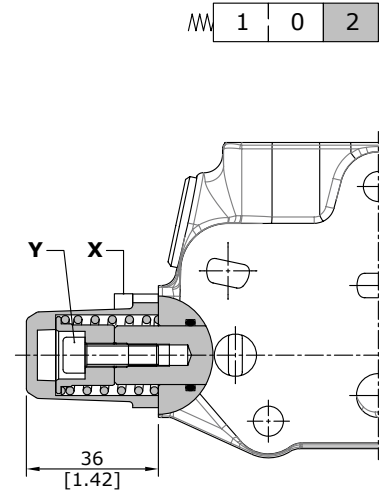
With spring return

17 type (30 07 5412)

18 type (30 07 5305)



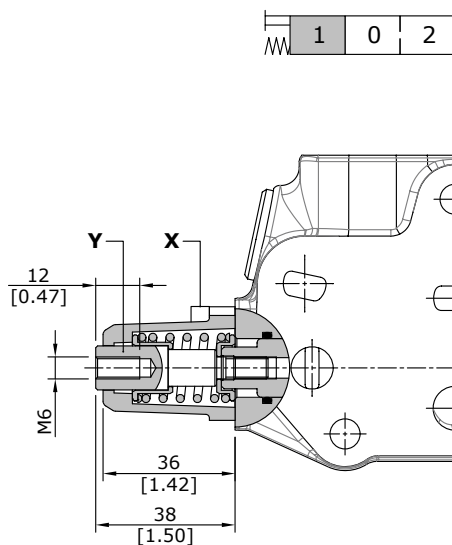
Wrenches and tightening torques
 X = allen wrench 4 - 6 Nm (4.4 lbft)
 Y = allen wrench 5 - 9 Nm (6.6 lbft)



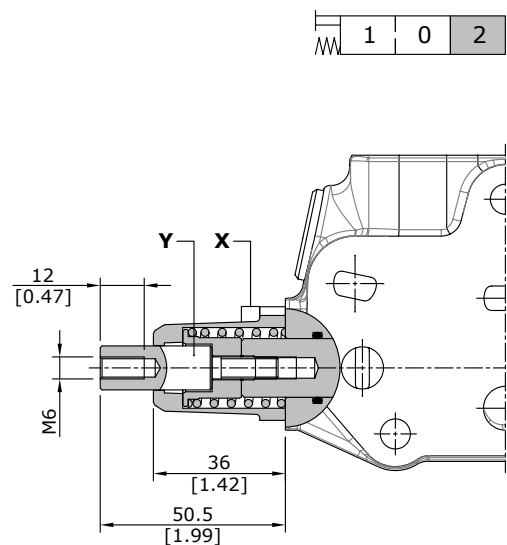
Wrenches and tightening torques
 X = allen wrench 4 - 6 Nm (4.4 lbft)
 Y = allen wrench 5 - 9 Nm (6.6 lbft)

17D type (30 07 5413)

18D type (30 07 5306)



Wrenches and tightening torques
 X = allen wrench 4 - 6 Nm (4.4 lbft)
 Y = wrench 11 - 9 Nm (6.6 lbft)



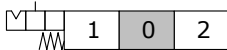
Wrenches and tightening torques
 X = allen wrench 4 - 6 Nm (4.4 lbft)
 Y = wrench 11 - 9 Nm (6.6 lbft)

Working section

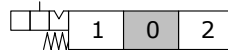
"A" side spool positioners

With detent and spring return to neutral position from either directions

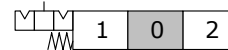
9B type (30 07 5309)
detent in position 1
(curve A)



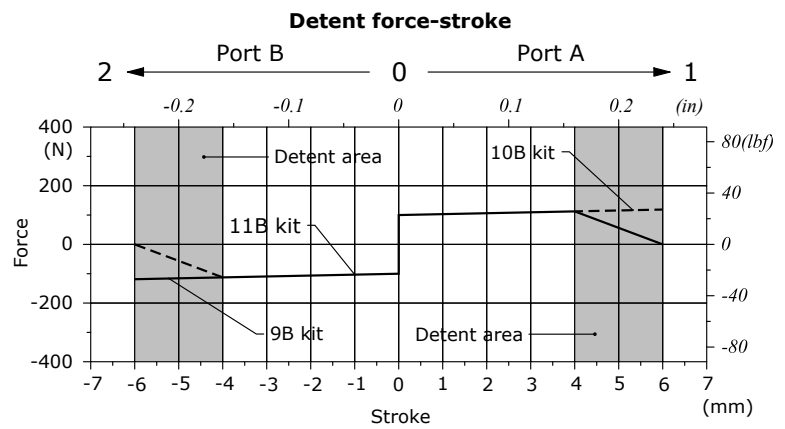
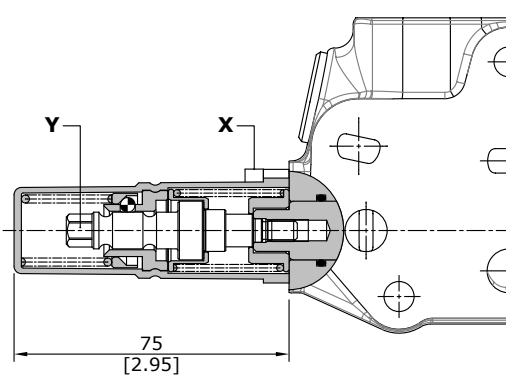
10B type (30 07 5310)
detent in position 2
(curve B)



11B type (30 07 5311)
detent in position 1 and 2
(curves A and B)



11B type



Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbf_t)
Y = wrench 8 - 9 Nm (6.6 lbf_t)

Position 1 - Detent force: 120 N (27 lbf) ± 10% / Release force: 230 N (51.7 lbf) ± 10%

Position 2 - Detent force: 120 N (27 lbf) ± 10% / Release force: 230 N (51.7 lbf) ± 10%

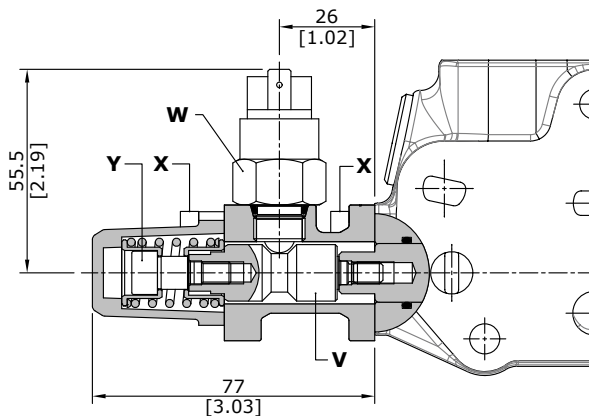
Working section

"A" side spool positioners

With microswitch

8MG3(NO) type (30 07 5319)

With spring return in neutral position and microswitch operated in both directions.
 Also available **8MG1(NO)** (microswitch operated in position 1) and **8MG2(NO)** (microswitch operated in position 2) configurations; dimension are the same of **8MG3(NO)** configuration.
 Same configurations are available with normally closed (NC) contact.
 For more information contact Sales Department.

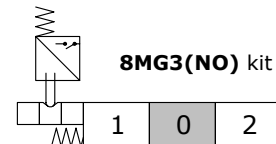


Wrenches and tightening torques

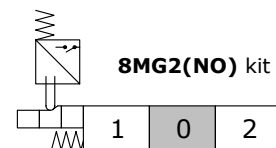
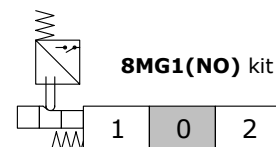
- X = allen wrench 4 - 6 Nm (4.4 lbf_t)
- Y = allen wrench 6 - 9 Nm (6.6 lbf_t)
- W = wrench 22 - 42 Nm (31 lbf_t)
- V = wrench 10 - 9.8 Nm (7.2 lbf_t)

Operating features

- MICROSWITCH**
- Mechanical life : 5x10⁵ operations
 - Electrical life (resistive load) : 5x10⁴ operations 10A / 12VDC
 - : 5x10⁴ operations 3A / 24VDC

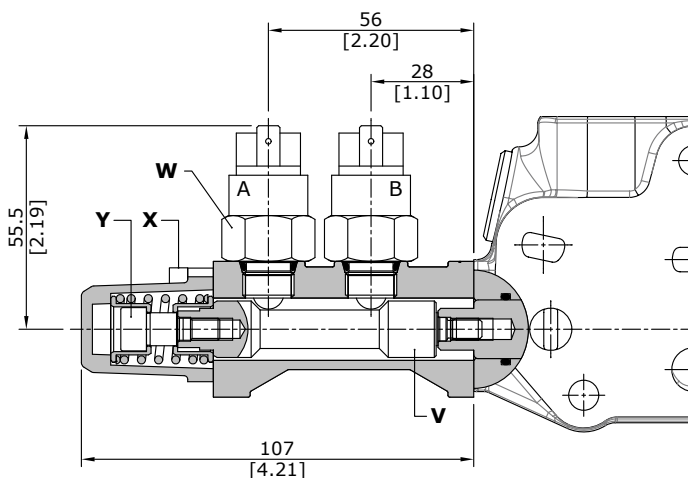


Other configurations



8MG1\MG2(NC\NC) type (30 07 5326)

With double microswitch in position 1 and 2.

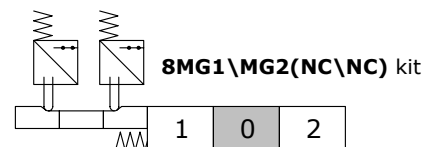


Wrenches and tightening torques

- X = allen wrench 4 - 6 Nm (4.4 lbf_t)
- Y = allen wrench 6 - 9 Nm (6.6 lbf_t)
- W = wrench 22 - 42 Nm (31 lbf_t)
- V = wrench 10 - 9.8 Nm (7.2 lbf_t)

Operating features

- MICROSWITCH**
- Mechanical life : 5x10⁵ operations
 - Electrical life (resistive load) : 5x10⁴ operations 10A / 12VDC
 - : 5x10⁴ operations 3A / 24VDC



Positions	A	B
1		
0		
2		

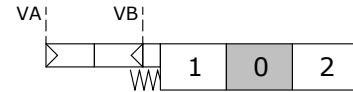
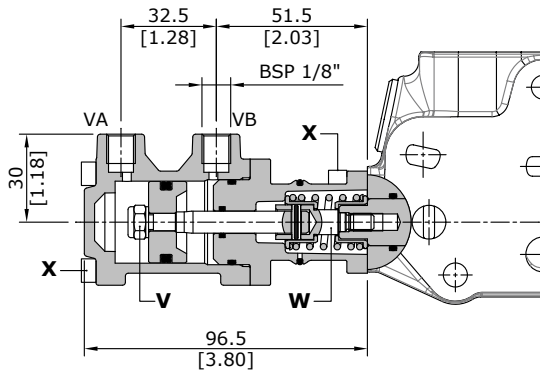
Working section

"A" side spool positioners

ON/OFF pneumatic kit

ON/OFF pneumatic: 8P type (30 07 5329)

With spring return to neutral position.



Wrenches and tightening torques

- X = allen wrench 4 - 6 Nm (4.4 lbft)
- W = wrench 10 - 9 Nm (6.6 lbft)
- V = wrench 10 - 9 Nm (6.6 lbft)

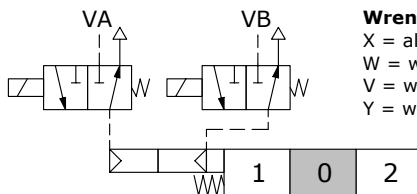
Common features

Pilot pressure.....: min. 5.5 bar (min. 80 psi)
: max. 10 bar (min. 145 psi)

ON/OFF electro-pneumatic kit

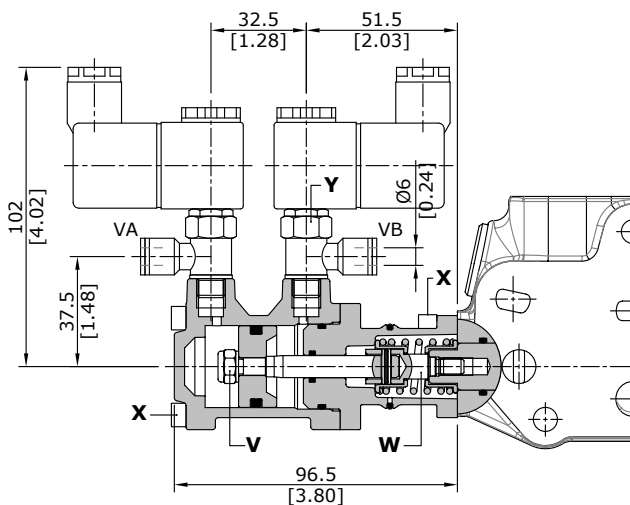
Electro-pneumatic: 8EP3 type

With spring return to neutral position.



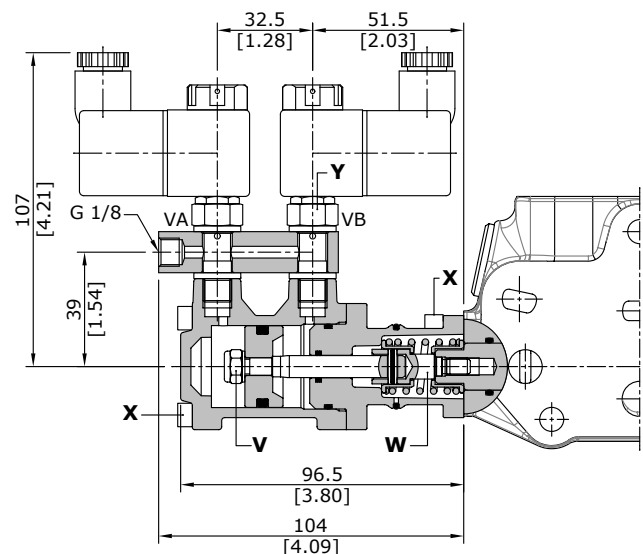
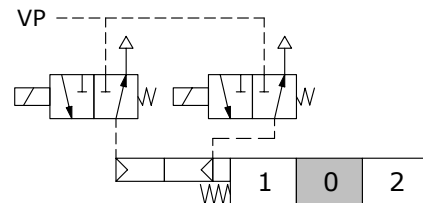
Wrenches and tightening torques

- X = allen wrench 4 - 6 Nm (4.4 lbft)
- W = wrench 10 - 9 Nm (6.6 lbft)
- V = wrench 10 - 9 Nm (6.6 lbft)
- Y = wrench 15 - 6 Nm (4.4 lbft)



Electro-pneumatic: 8EP4 type

With spring return to neutral position.



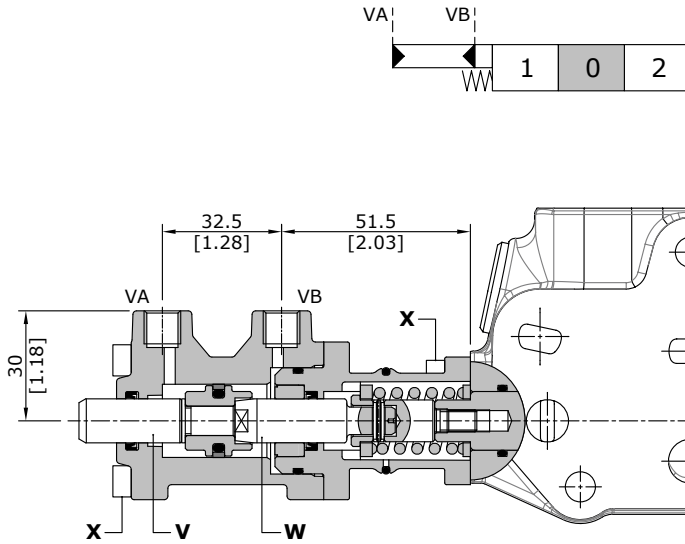
Common features

Pilot pressure.....: min. 5.5 bar (min. 80 psi)
: max. 10 bar (min. 145 psi)

Working section

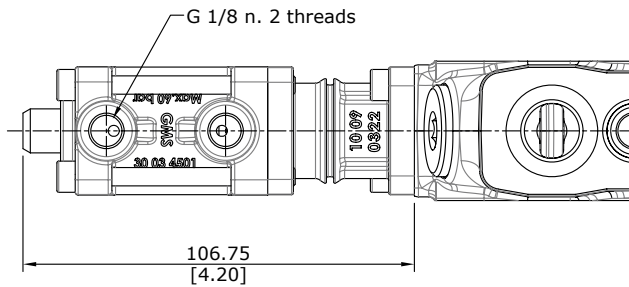
"A" side spool positioners

Unilateral hydraulic proportional spool control kit 8IZ (30 07 5432)



Wrenches and tightening torques

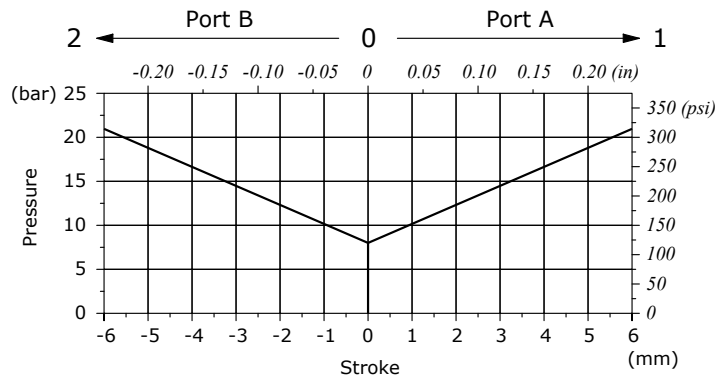
- X = allen wrench 4 - 6 Nm (4.4 lbf_t)
- W = wrench 9 - 9 Nm (6.6 lbf_t)
- V = allen wrench 6 - 9 Nm (6.6 lbf_t)



Features

adjustment range: from 8 to 22 bar
(from 110 to 310 psi)

Pressure - stroke diagram



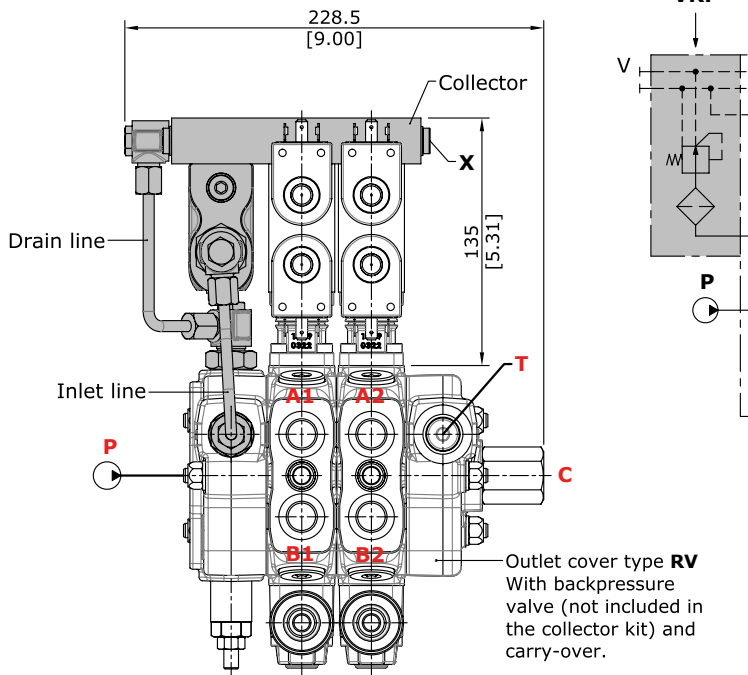
Working section

"A" side spool positioners

ON/OFF electro-hydraulic kit 8E13 type

Collector kit for internal pilot and drain

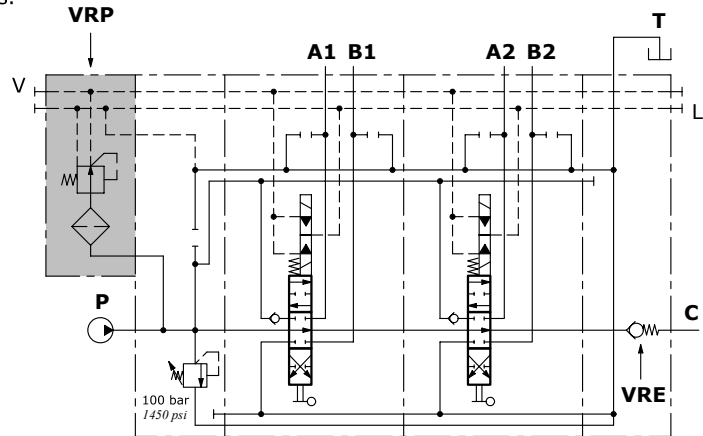
The kit include collector, VRP pressure reducing valve and pipes.



Wrenches and tightening torques
X = allen wrench 5 - 24 Nm (17.7 lbf_t)

Description example:
50L GS08/2/AC(X-100)/
18E13L/18E13L/
RV-KE2R3-24VDC

Features
VRP VALVE
Output pressure.....: 25 bar / 363 psi
Max. flow.....: 8 l/min
Filtering.....: 80 μ



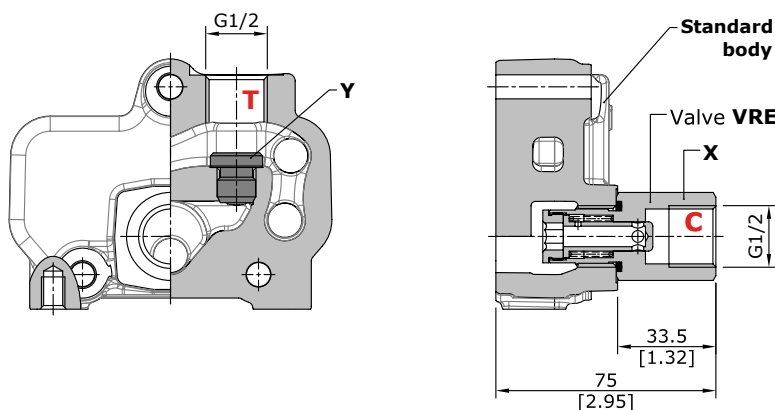
COLLECTOR KIT CODES

Type	Code *	Description
KE1R3	30 07 5482	Kit for one section
KE2R3	30 07 5483	Kit for 2 sections
KE3R3	30 07 5484	Kit for 3 sections
KE4R3	30 07 5485	Kit for 4 sections
KE5R3	30 07 5486	Kit for 5 sections
KE6R3	30 07 5487	Kit for 6 sections
KE7R3	-	Kit for 7 sections

(*) codes are referred to BSP thread

VRE backpressure valve

Valve assembled on flow through passage to provide pilot pressure to the actuator.
RV complete (with backpressure valve and tapered plug)



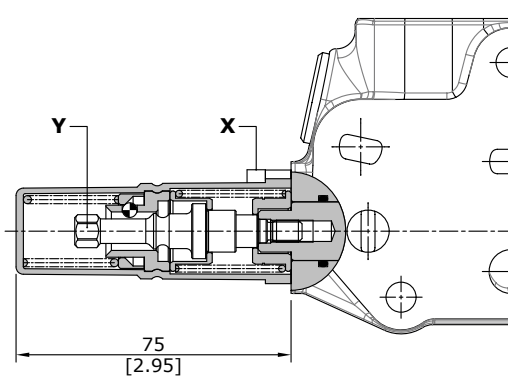
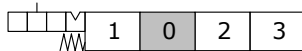
Wrenches and tightening torques
X = wrench 27 - 42 Nm (31 lbf_t)
Y = Allen wrench 6 - 24 Nm (17.7 lbf_t)

"A" side spool positioners

Particular positioner kits for special spools

13NZ type (30 07 7579)

4 positions with spring return in neutral and detent in position 3: **for 5DY spool.**

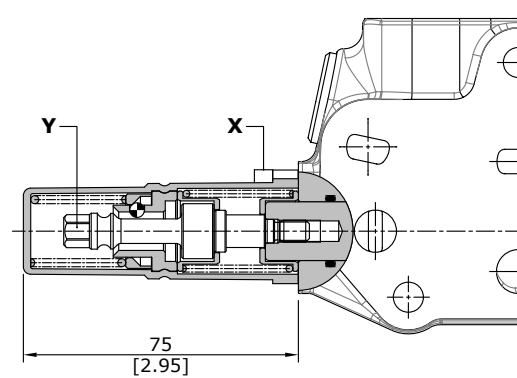
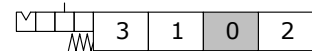


Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbft)
Y = wrench 8 - 9 Nm (6.6 lbft)

13QN type (30 07 7608)

4 positions with spring return in neutral and detent in position 3: **for 5BY spool.**

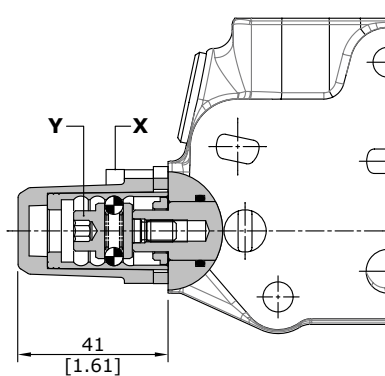
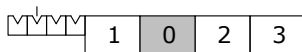


Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbft)
Y = wrench 8 - 9 Nm (6.6 lbft)

11NZ type (30 07 7609)

4 positions, detent in all positions

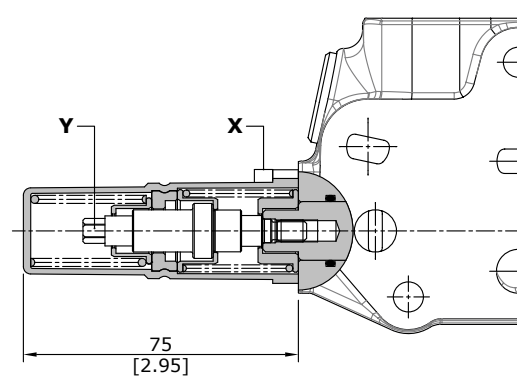
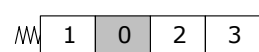


Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbft)
Y = allen wrench 6 - 9 Nm (6.6 lbft)

13FZ type (30 07 7625)

4 positions with spring return in neutral and reduced spool stroke: **for 8 spool**



Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbft)
Y = wrench 6 - 9 Nm (6.6 lbft)

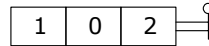
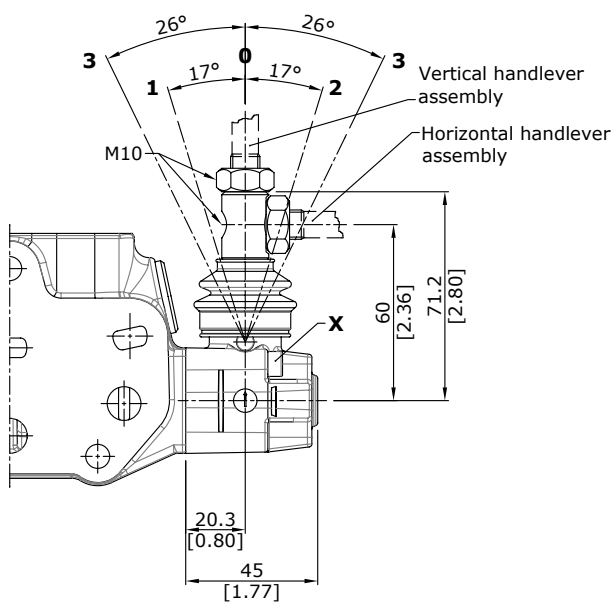
Working section

"B" side options

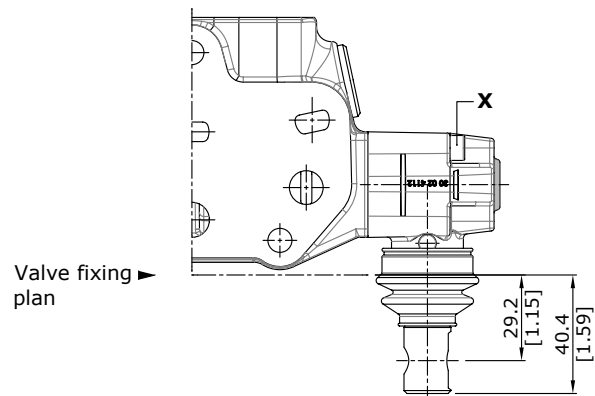
Lever control

L type (30 07 5335)

Alluminium lever pivot box with protective rubber bellow; it can be roated 180° (configuration **L180**).



configuration L180

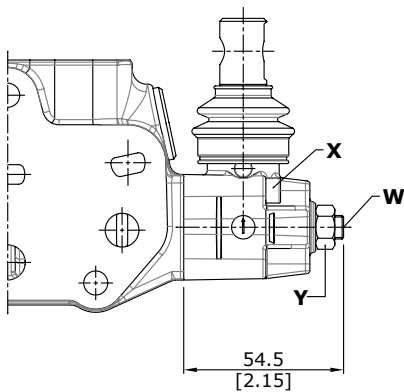
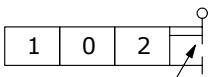


Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbf_t)

LF1 type (30 07 5337)

With spool stroke adjustment in position 12 (P A). It can be roated 180° (configuration **LF1180**).



Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbf_t)

Y = wrench 13 - 24 Nm (17.7 lbf_t)

W = allen wrench 4

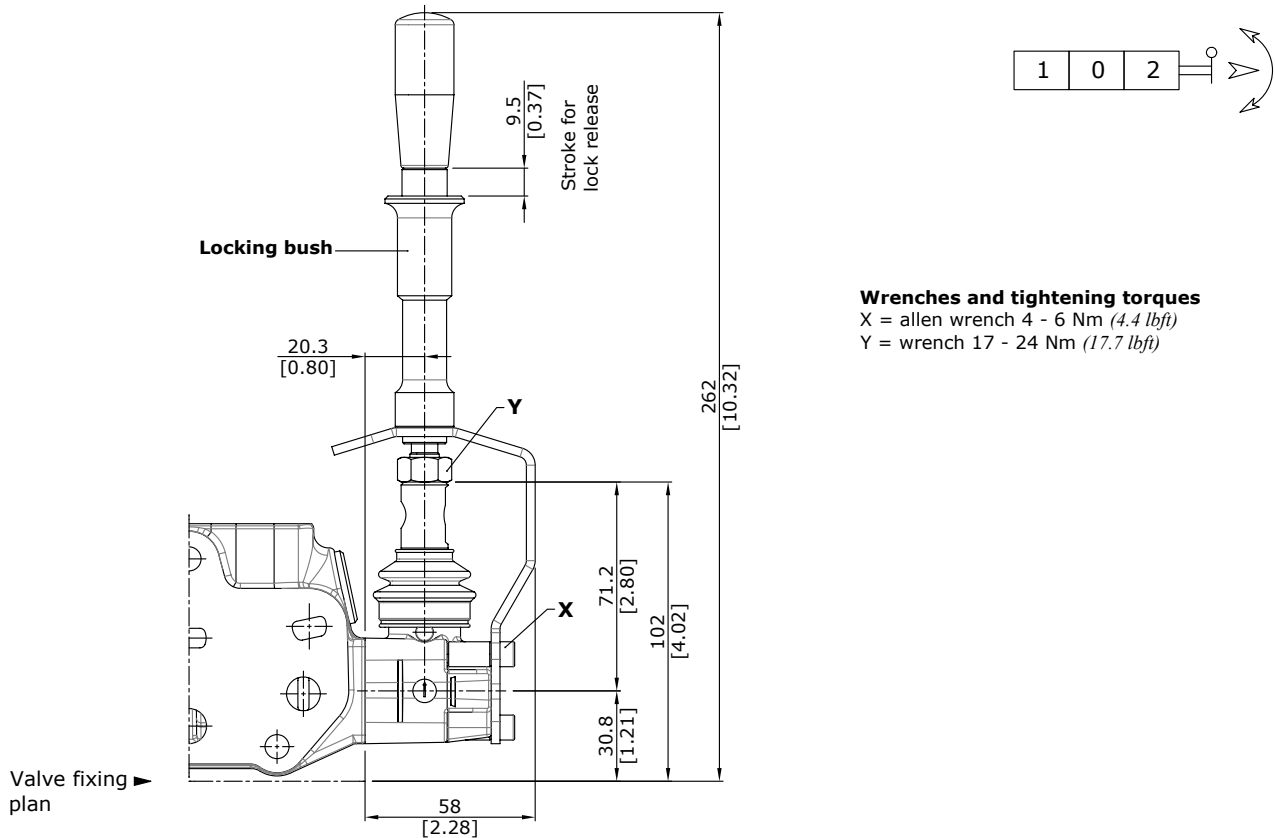
Working section

"B" side options

Lever control

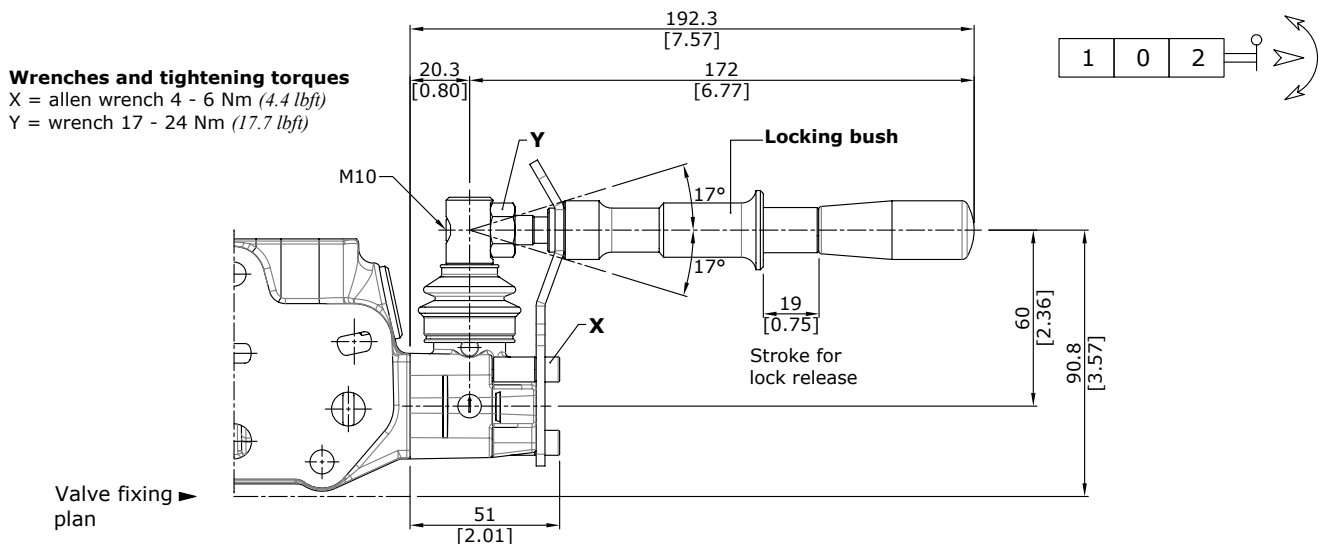
Safety lever LEB type (30 07 5340)

Safety levers with lock in neutral complete with handlever; lift handlever knob to operate.



Safety lever LUP type (30 07 5341)

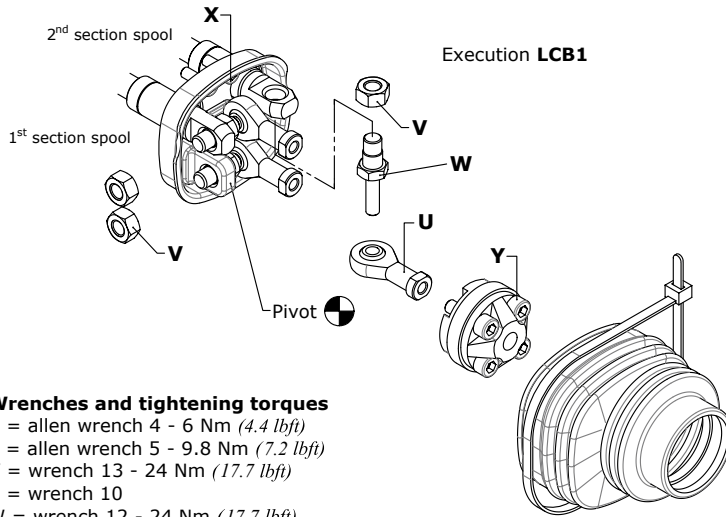
Available as **LUP** configuration



Working section

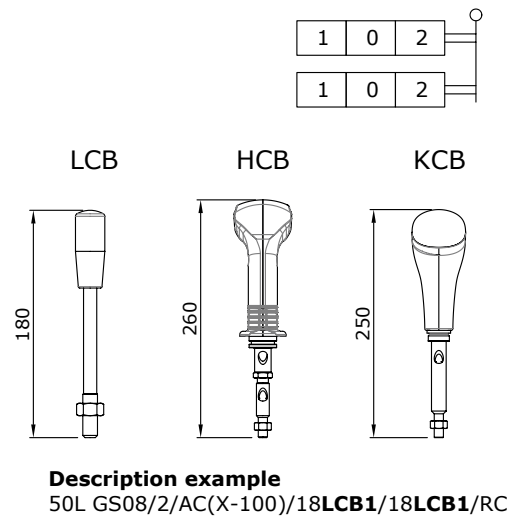
"B" side options

LCB mechanical joystick for two sections control (30 07 7626)

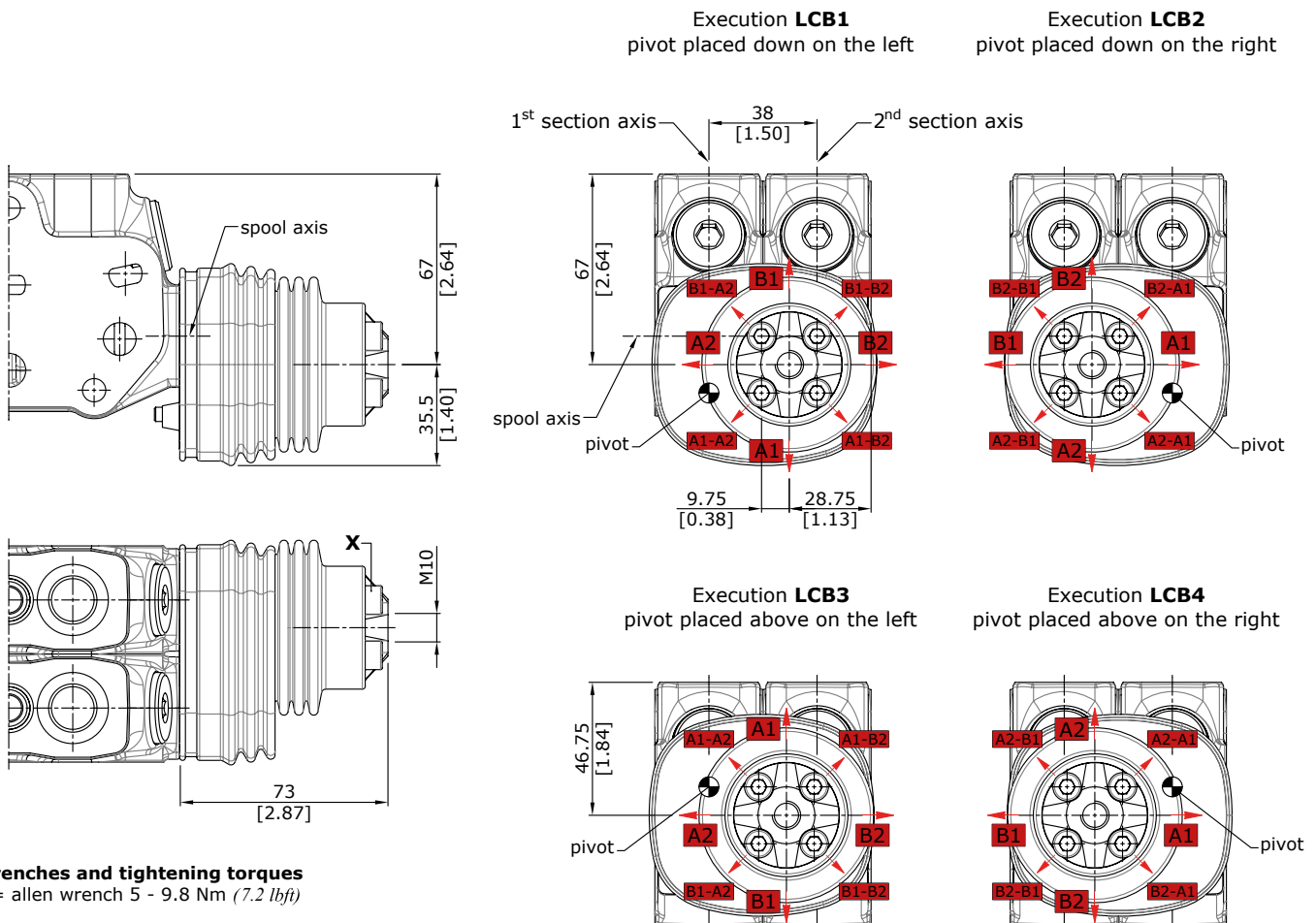


Wrenches and tightening torques

- X = allen wrench 4 - 6 Nm (4.4 lbft)
- Y = allen wrench 5 - 9.8 Nm (7.2 lbft)
- V = wrench 13 - 24 Nm (17.7 lbft)
- U = wrench 10
- W = wrench 12 - 24 Nm (17.7 lbft)



Dimensions and movement scheme for left inlet directional valve



Wrenches and tightening torques

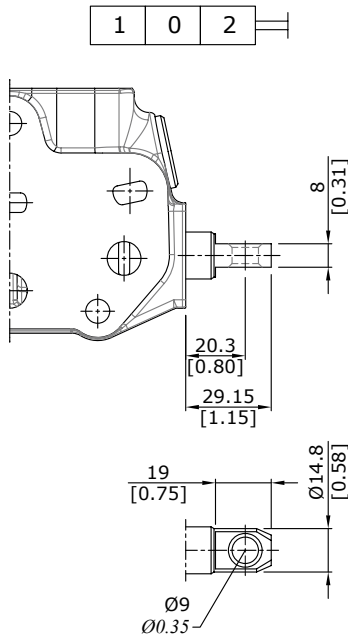
- X = allen wrench 5 - 9.8 Nm (7.2 lbft)

NOTE : Due to limited space in case of LCB3 or LCB4 configuration the assembly of port valves is not possible.

Working section

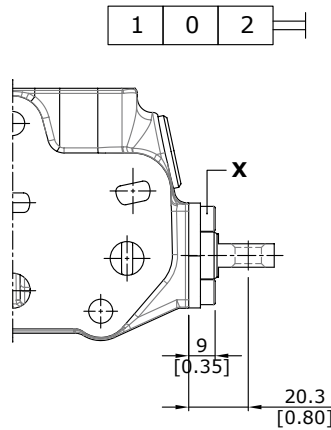
"B" side options

SL type



SLP type (30 07 5338)

Mechanical control with dust-proof plate kit.

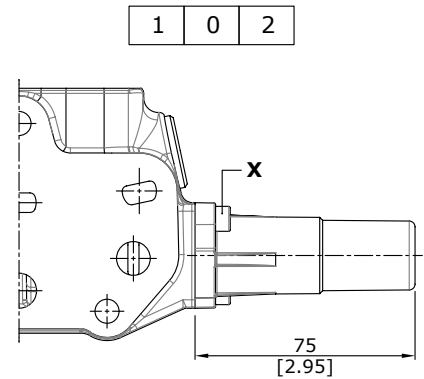


Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbft)

SLCZ type (30 07 7621)

Protection cap usable with pneumatic, electropneumatic, and electrohydraulic spool positioners.

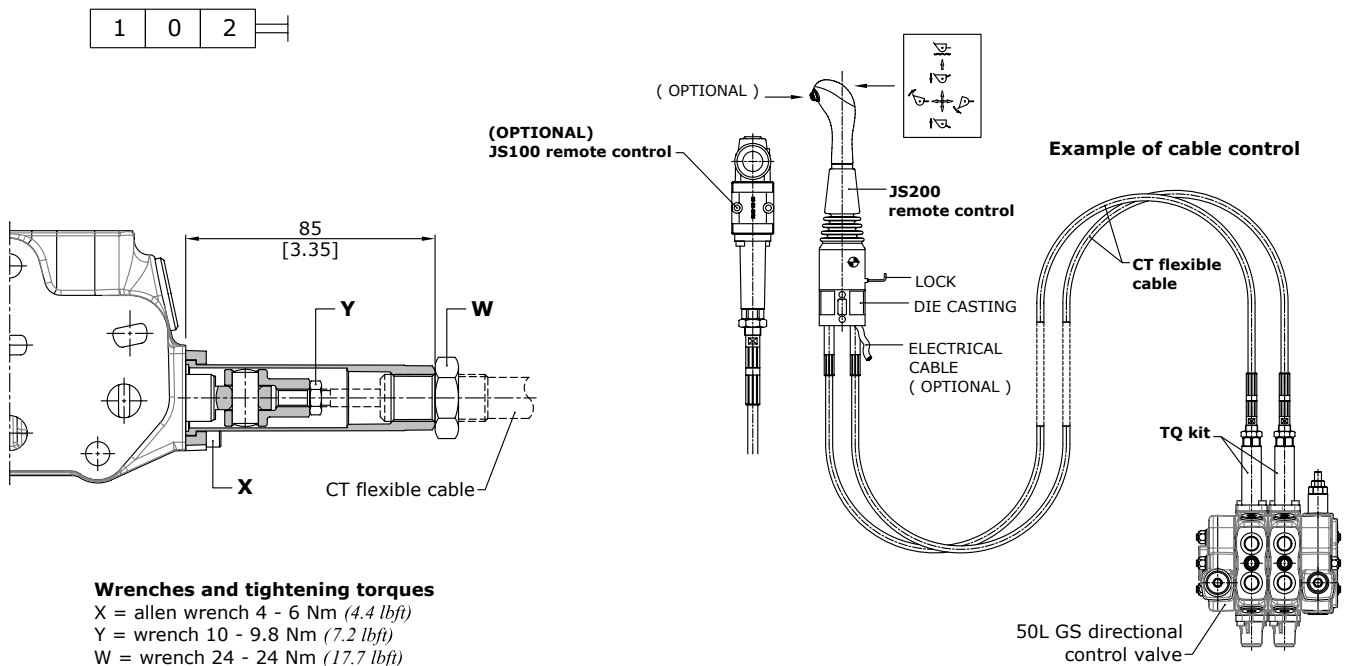


Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbft)

TQ cable remote control kit (30 07 5328)

Prearranged for remote control with flexible cable.



Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbft)

Y = wrench 10 - 9.8 Nm (7.2 lbft)

W = wrench 24 - 24 Nm (17.7 lbft)

NOTE : For further information about remote cable control, require related documentation.

Working section

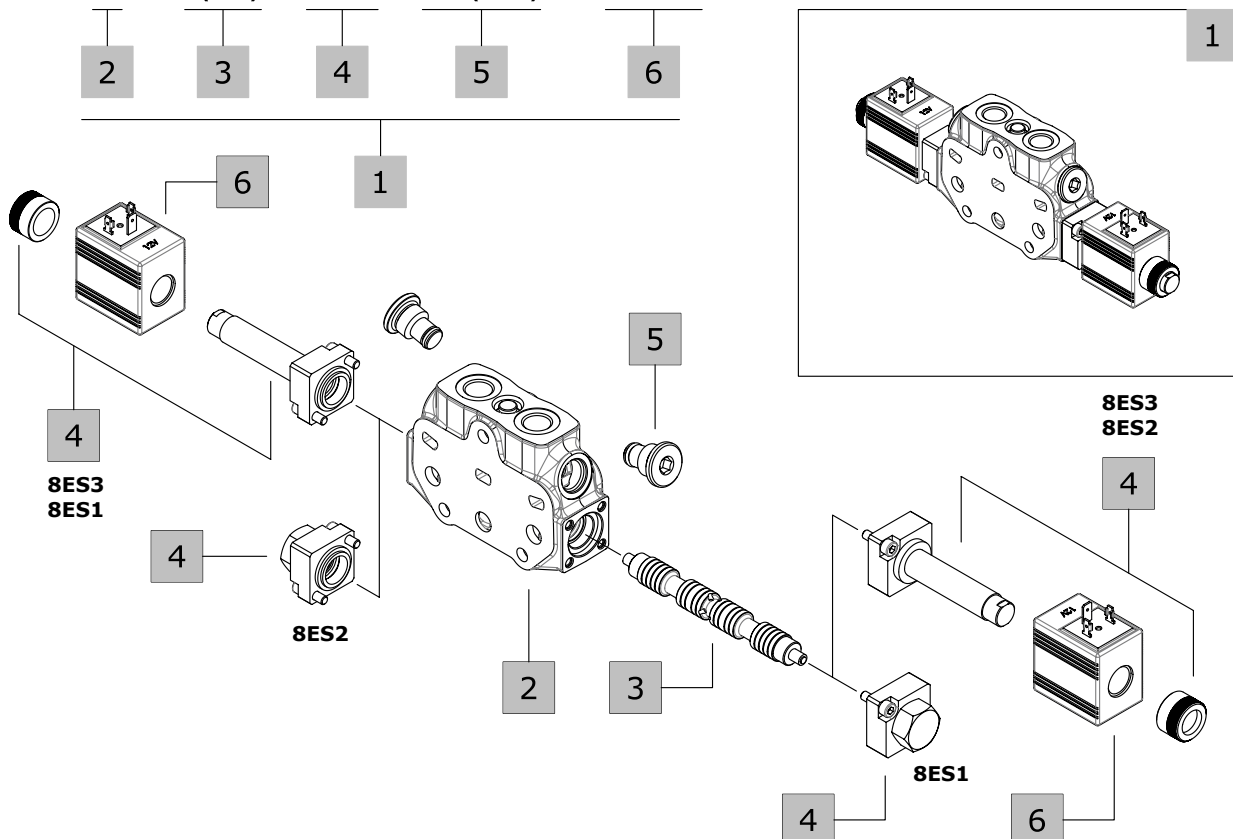
Complete controls

8ES solenoid control

Solenoid direct control with spring return to neutral position; it needs special spools and standard working section body (body kit without seals on spool).

Description example:

50L GS08 / P - 1(ES) 8ES3 . U1 (100) - 12VDC



1. Complete working section *		
TYPE	CODE	DESCRIPTION
P-1(ES)8ES3-12VDC	50W010004	Parallel circuit, double acting spool, double acting ON/OFF solenoid control
P-1(ES)8ES3-24VDC	50W010005	Parallel circuit, double acting spool, double acting ON/OFF solenoid control

2. Working section kits *		
TYPE	CODE	DESCRIPTION
P/IM-ES	-	Parallel circuit

3. Spools		
TYPE	CODE	DESCRIPTION
1(ES)	30 01 3752	Double acting, 3 positions, with A and B closed in neutral position
2(ES)	30 01 3753	Double acting, 3 positions, with A and B open to tank in neutral position

4. Control kit		
TYPE	CODE	DESCRIPTION
8ES1	30 07 5474	P→A, with spring return to neutral position
8ES2	30 07 5474	P→B, with spring return to neutral position
8ES3	30 07 5475	Double acting with spring return to neutral position

5. Port relief valves		
For codes please refer to page 39.		

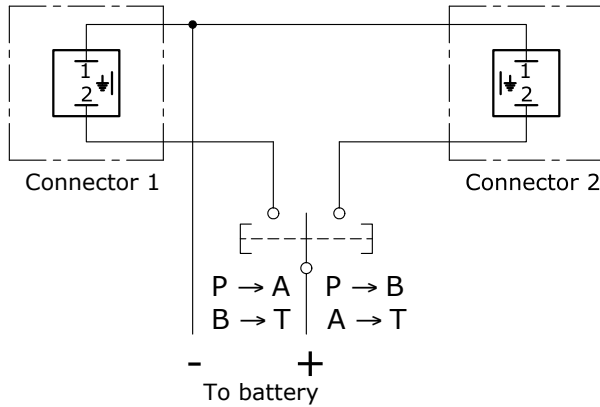
6. Coils		
TYPE	CODE	DESCRIPTION
12VDC	20 03 2295	Nominal voltage 12VDC
24VDC	20 03 2296	Nominal voltage 24VDC

NOTE (*) – Codes are referred to **BSP** thread.

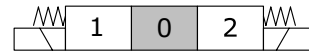
Complete controls

8ES solenoid control

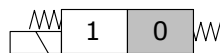
Electric wiring example



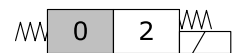
8ES3 kit
double acting



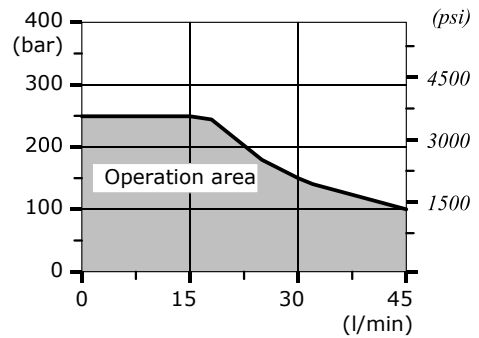
8ES1 kit
single acting on A



8ES2 kit
single acting on B



Operating condition diagram



Operating features

CONTROL

Internal leakage A(B) → T

($\Delta p = 100 \text{ bar} - 1450 \text{ psi} / T = 40^\circ\text{C}$) : max. $15 \text{ cm}^3/\text{min} - 0.91 \text{ in}^3/\text{min}$

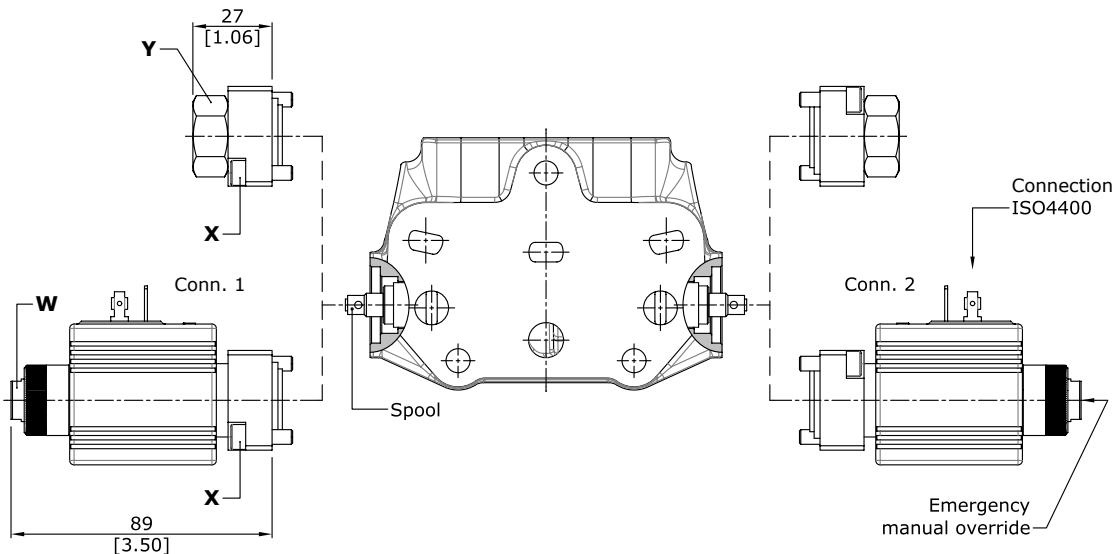
COIL

Nominal voltage tolerance..... : $\pm 10\%$

Power rating..... : 36 W

Coil insulation..... : class H

Duty cycle..... : 100%



Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbft)

Y = Wrench 24 - 24 Nm (17.7 lbft)

W = Wrench 13 - 24 Nm (17.7 lbft)

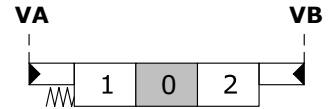
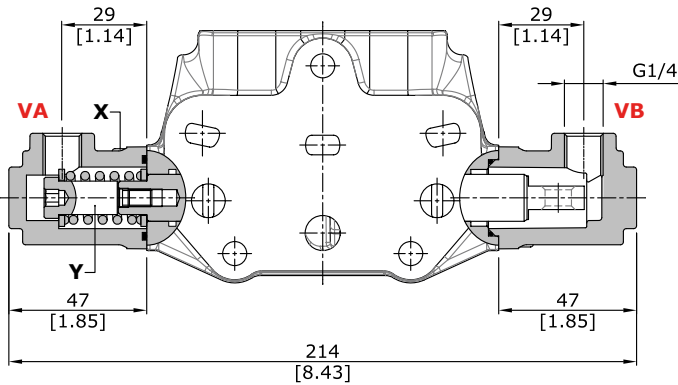
Working section

Complete controls

Proportional hydraulic controls

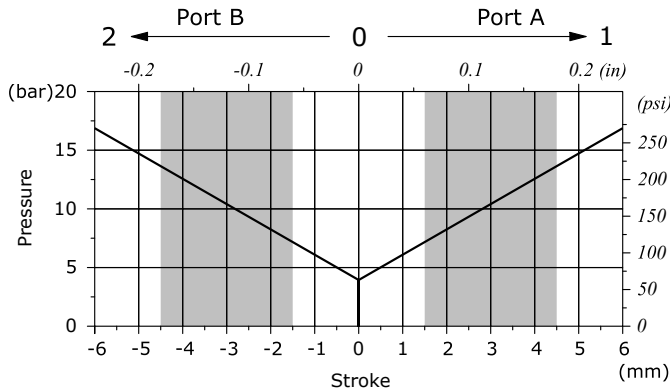
8IM type (30 07 5348)

It can be used with standard spools and body



Diagrams and features of proportional hydraulic controls

Pressure - stroke diagram
(for controls represented)



Wrenches and tightening torques

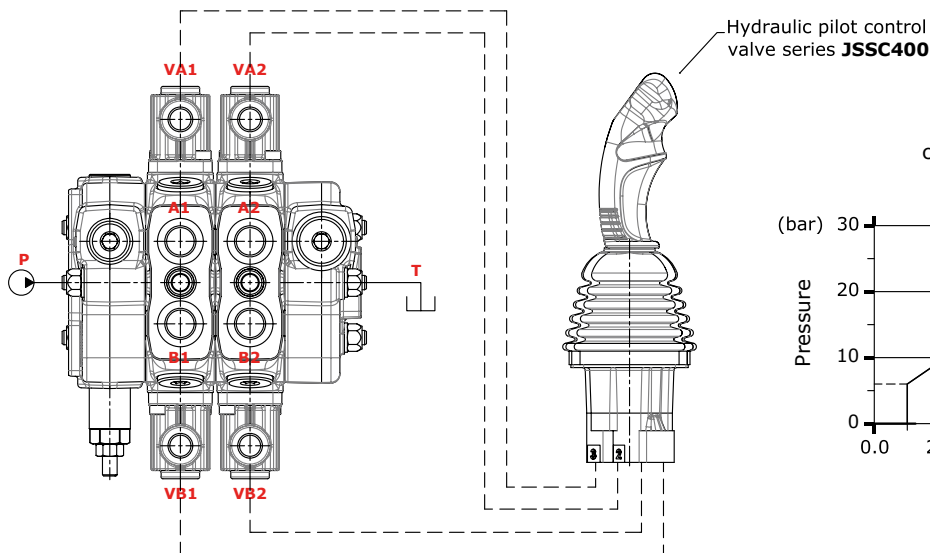
X = allen wrench 4 - 6 Nm (4.4 lbf_t)
Y = allen wrench 6 - 9 Nm (6.6 lbf_t)

Operating features

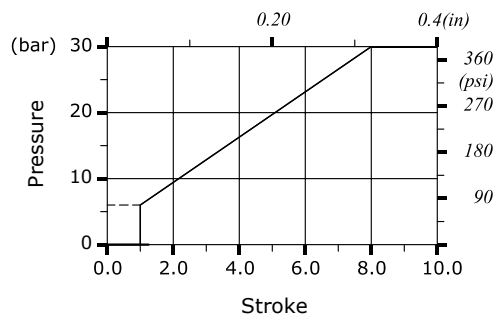
Pilot pressure : max. 50 bar (725 psi)
Internal leakage A(B) → T (Δ = 100 bar - (1450 psi) / T = 40°C)
..... : max. 6cm³/min - 0.37 in³/min

□ Spool overlap area
■ Metering area

Connection example



8IM control kit
curve 001 without step



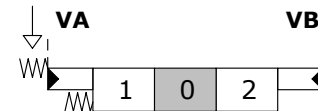
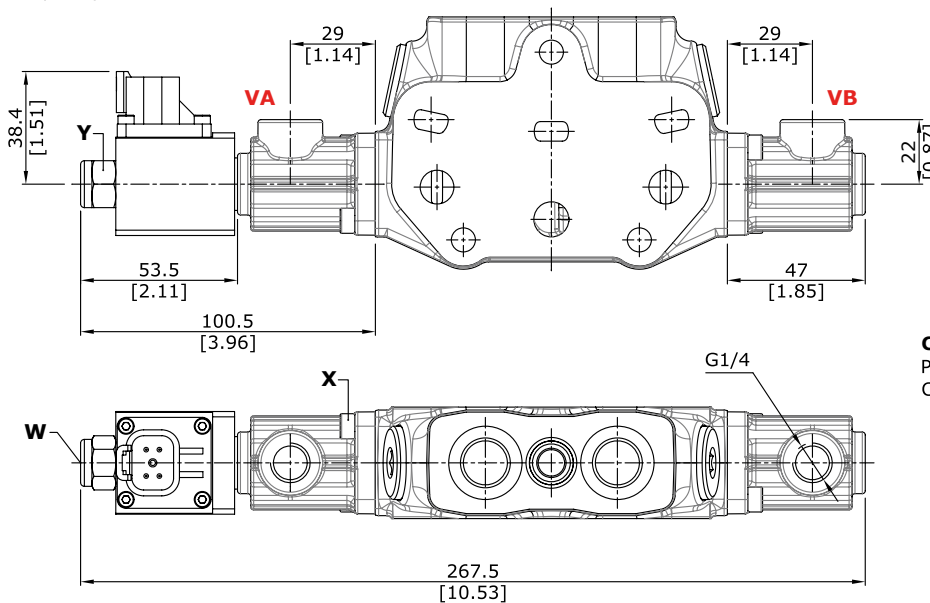
Working section

Complete controls

Proportional hydraulic control type

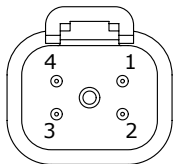
8IMSPSD (30 07 7558), 8IMSPSL (30 07 7561)

With spool position sensor.



Wrenches and tightening torques
 X = allen wrench 4 - 6 Nm (4.4 lbf^t)
 Y = wrench 17 - 9.8 Nm (7.23 lbf^t)
 W = allen wrench 4 - 9.8 Nm (7.23 lbf^t)

Control features
 Pilot pressure..... : max. 100 bar (1450 psi)
 Connector : Deutsch DT04-4P

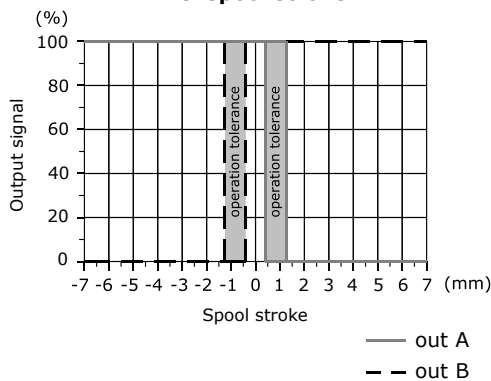


Connector PIN-OUT		
Functions		
Pin	for 5V supply	for 8-32V supply
1	+5V	signal OUT
2	N.C.	GND
3	GND	Vb+
4	signal Out	not connected

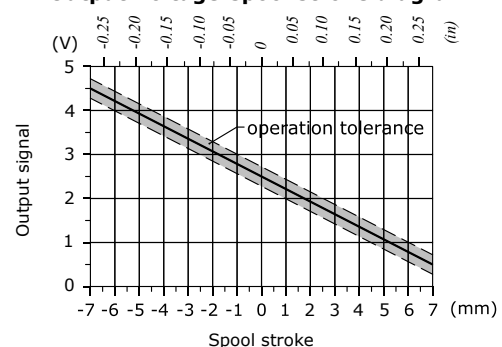
Spool position sensor features

Voltage supply range..... : from 9 to 32 VDC or 5 VDC
 Current absorption..... : <10 mA
 Mechanical life..... : 3x10⁶
 Connector type..... : Deutsch DT04-4P
 Weather protection..... : IP 67 - IP 69K
 Working temperature..... : -40/+105 °C
 Minimum load resistance..... : 10 KΩ
 Working pressure max..... : 350 bar • 5100 psi
 Max. mechanical stroke..... : ± 10mm
 Max. electrical stroke..... : ± 10mm

Output signal (SPSD example) vs. spool stroke



Output Voltage-spool stroke diagram



Output signal
 Range..... : from 0.5 to 4.5 V
 Linearity..... : ± 5%
 Spool in neutral..... : 2.5 ± 0.2 V
 Max current..... : 1 mA
 Mechanical vibrations,
 shock, bumps..... : IEC 68-2-6,27,29
 EMC compatibility..... : ISO 13766 - ISO 15982

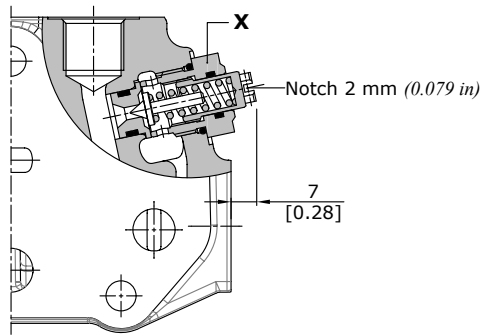
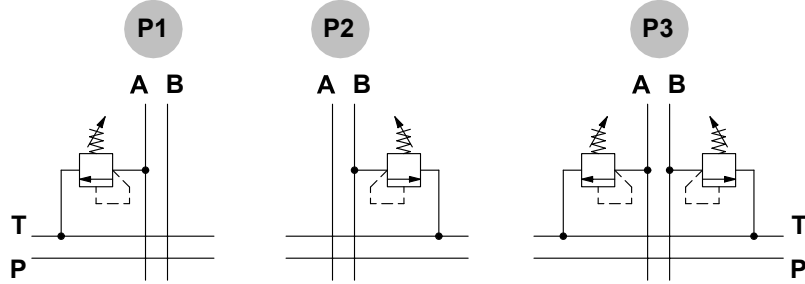
Port valves

Antishock valves

P1 (100)

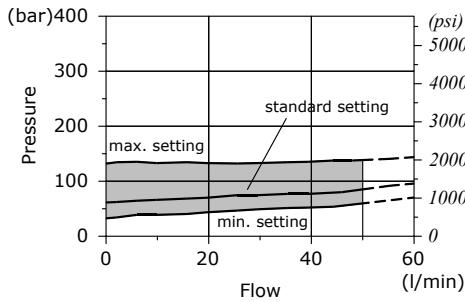
Valve setting (bar)

- 1 mounted on A port
- 2 mounted on B port
- 3 mounted on A and B ports

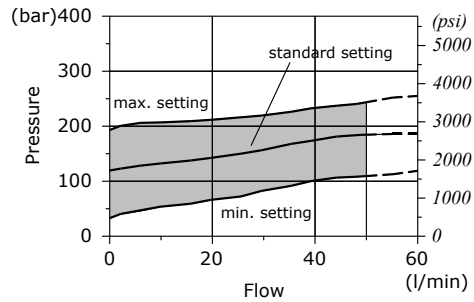


Wrenches and tightening torques
 X = wrench 22 - 42 Nm (31 lbf_t)

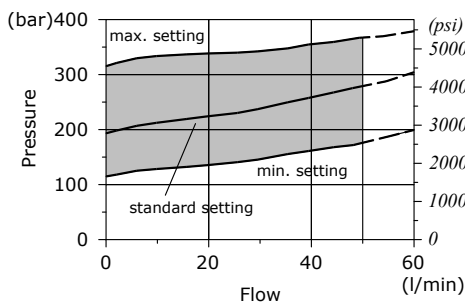
From 50 to 125 bar (from 725 to 1800 psi)



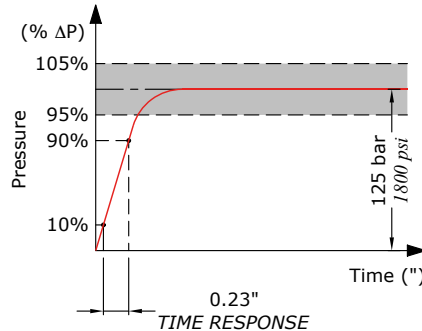
From 100 to 200 bar (from 1450 to 2900 psi)



From 160 to 315 bar (from 2320 to 4560 psi)



Time response



Working section

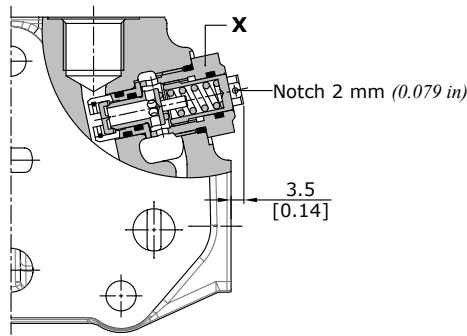
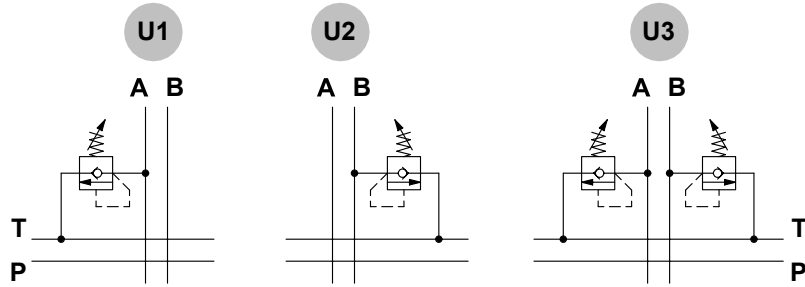
Port valves

Antishock and anticavitation valves

U1 (100)

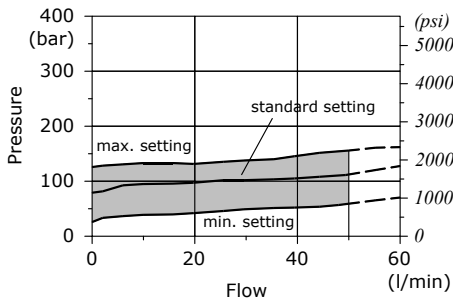
Valve setting (bar)

- 1 mounted on A port
- 2 mounted on B port
- 3 mounted on A and B ports

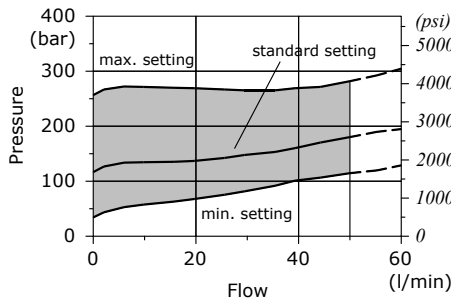


Wrenches and tightening torques
 X = wrench 22 - 42 Nm (31 lbf_t)

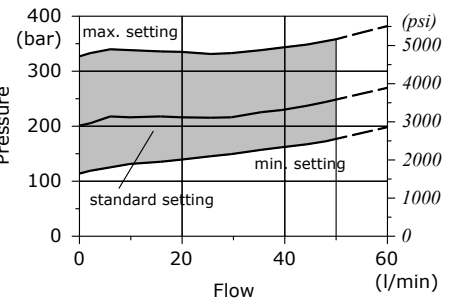
From 50 to 125 bar (from 725 to 1800 psi)



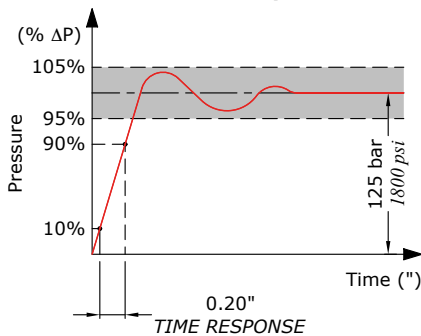
From 100 to 250 bar (from 1450 to 3625 psi)



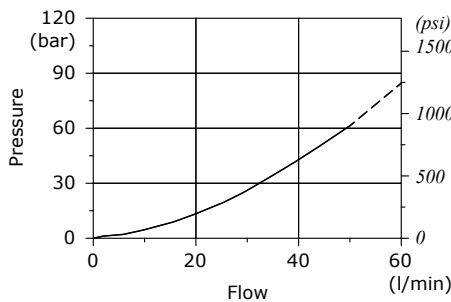
From 160 to 315 bar (from 2320 to 4560 psi)



Time response



Pressure drop P T

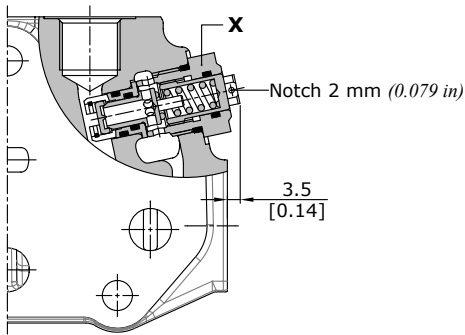
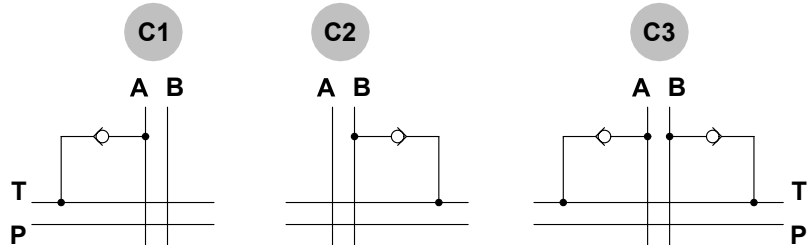


Port valves

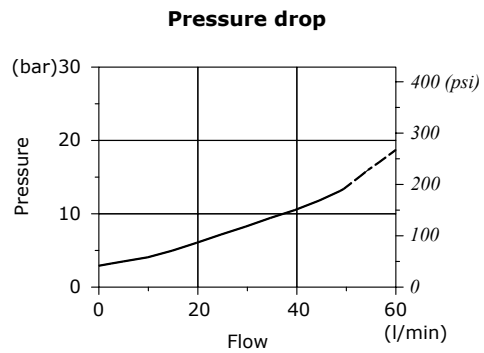
Anticavitation valve

C1

- 1 mounted on A port
- 2 mounted on B port
- 3 mounted on A and B ports



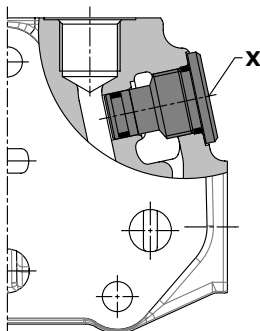
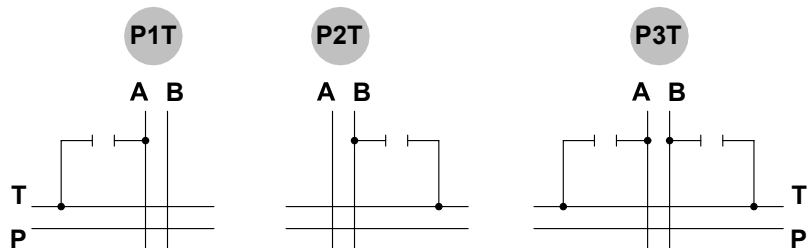
Wrenches and tightening torques
X = wrench 22 - 42 Nm (31 lbf_t)



Valve blanking plug

P 3 T

- 1 mounted on A port
- 2 mounted on B port
- 3 mounted on A and B ports

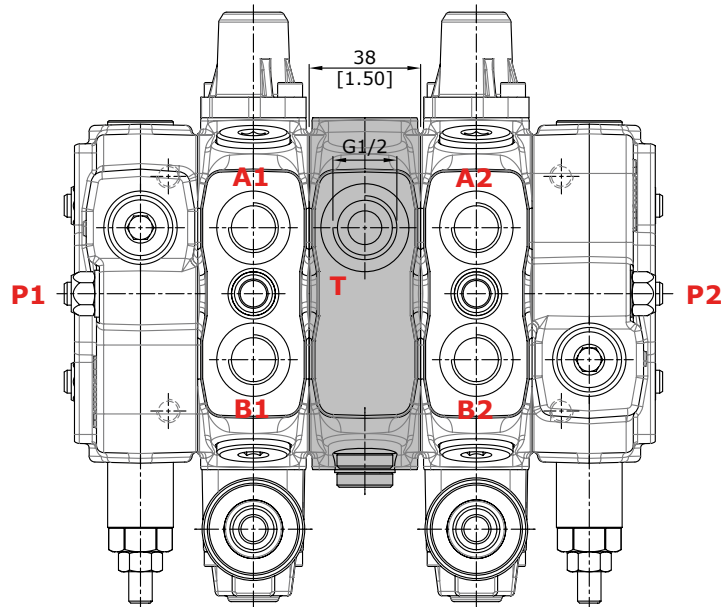


Wrenches and tightening torques
X = Allen wrench 8 - 42 Nm (31 lbf_t)

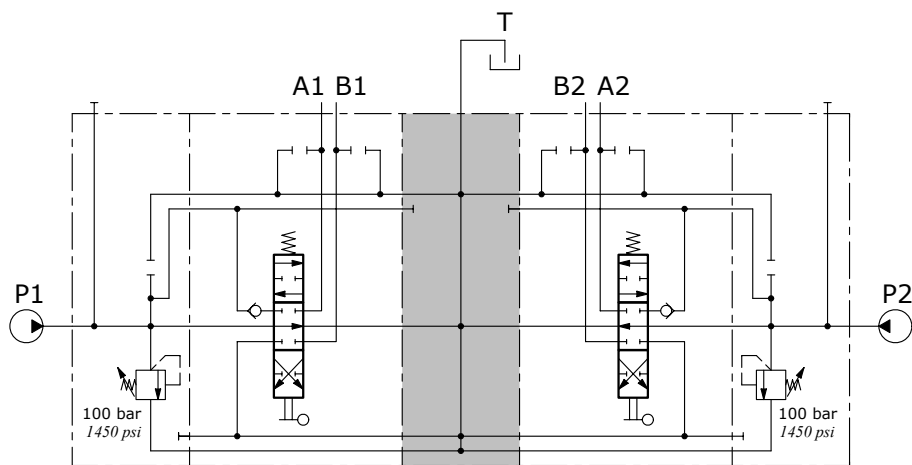
Intermediate section

CS1 mid return manifold

Mid return manifolds for directional valve with left and right inlet both; they allow 2 independent circuits with common outlet.



Hydraulic circuit



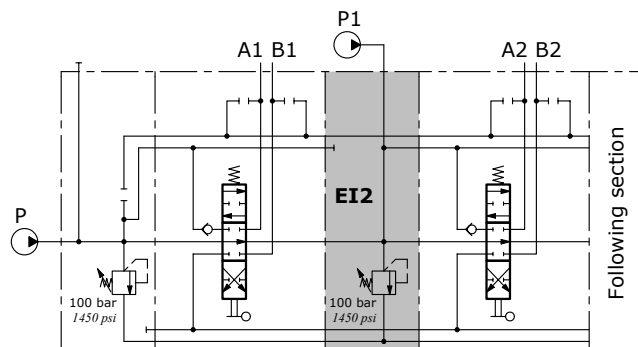
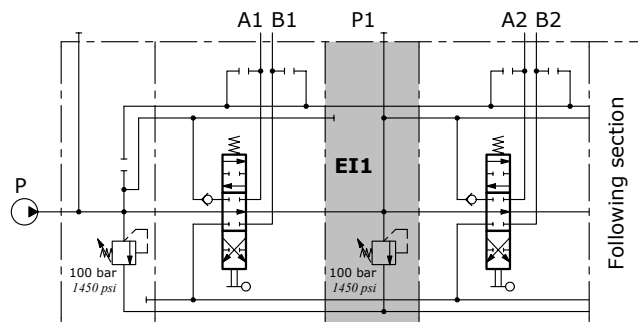
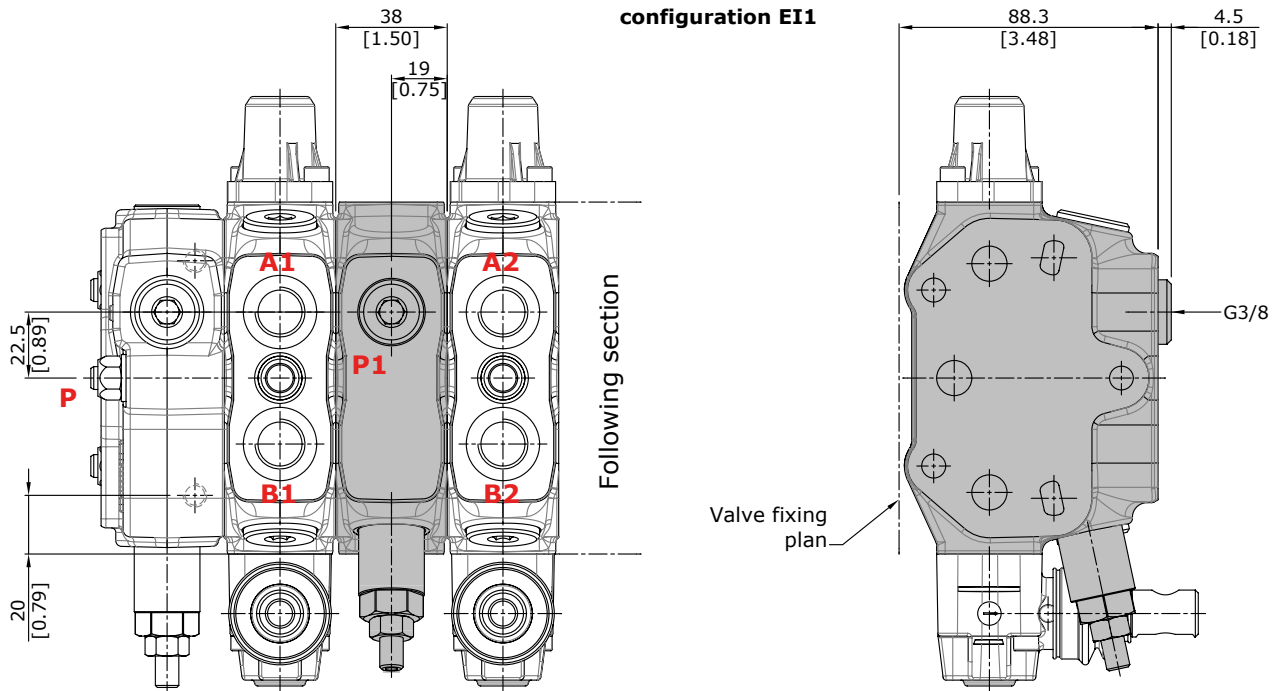
Description example:
50L GS08/2/AC(X-100)/18L/CS1/18L/BC(X-100)

Intermediate section

Service relief valve section

EI configuration

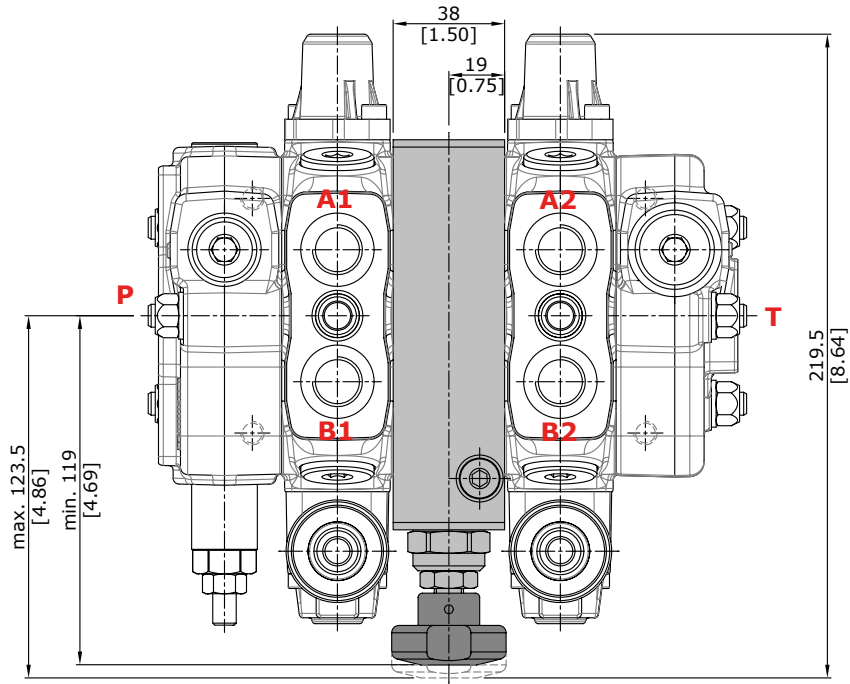
The operation of up stream section exclude the EI downstream section.
 The pressure of the downstream sections should be adjusted at least 20 bar below the relief valve setting.
 Execution EI2, without plug, is prearranged for a second inlet.



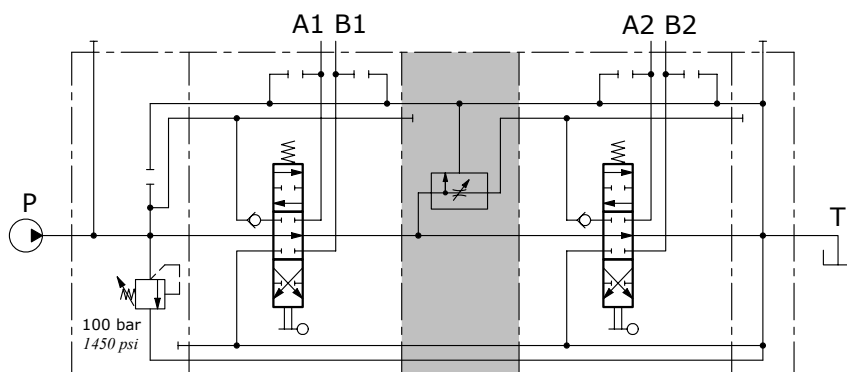
Intermediate section

DFG pressure compensated flow divider section

The flow on the downstream sections can be adjusted from 0 to 50 l/min. by means of graduated handwheel; exceeding setting flow goes to tank.



Hydraulic circuit



Description example:
50L GS08/2/AC(X-100)/18L/DFG/18L/RC

Parts ordering codes

Ordering example:

50L GS08 / RC



Available configurations

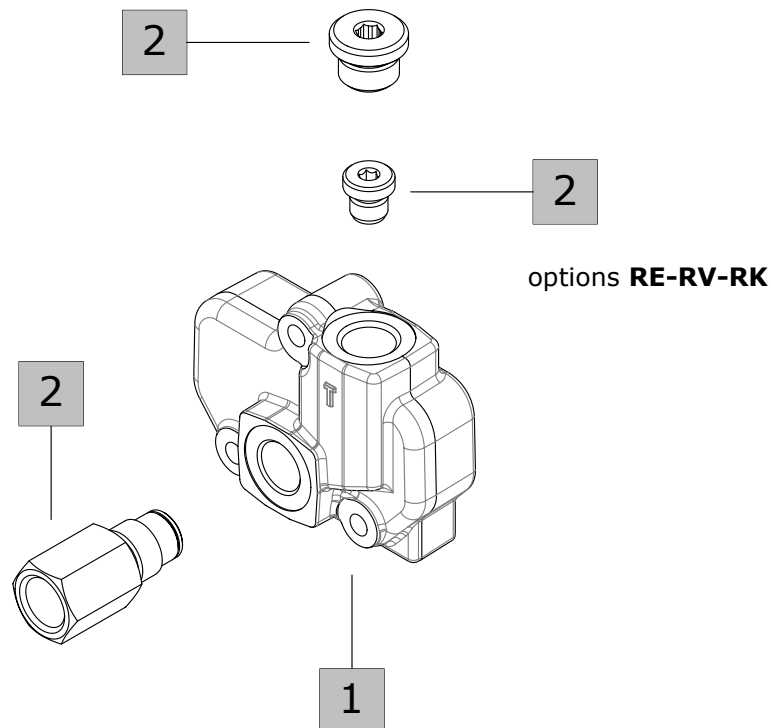
RC: side outlet

RD: upper outlet

RE: upper outlet with side carry-over

RK: upper outlet and closed centre

RV: With backpressure valve: **to be used together with the electro-hydraulic control**



1. Complete outlet cover *

TYPE	CODE	DESCRIPTION
RC	50OU010002	With side outlet
RD	50OU010001	With upper outlet
RE	50OU010003	With upper outlet and side carry-over sleeve
RK	50OU010004	With upper outlet and closed center
RV	50OU010005	With backpressure valve

2. Circuit options *

TYPE	CODE	DESCRIPTION
-	30 05 6569	G1/4 tapered plug for carry-over (RE), carry-over with backpressure valve (RV) and closed centre (RK) options
VRE	30 05 4991	Backpressure valve 10 bar (145 psi) for RV configuration (see page 28)
-	30 05 4919	G1/2 plug

NOTE (*) - Codes are referred to **BSP** thread.

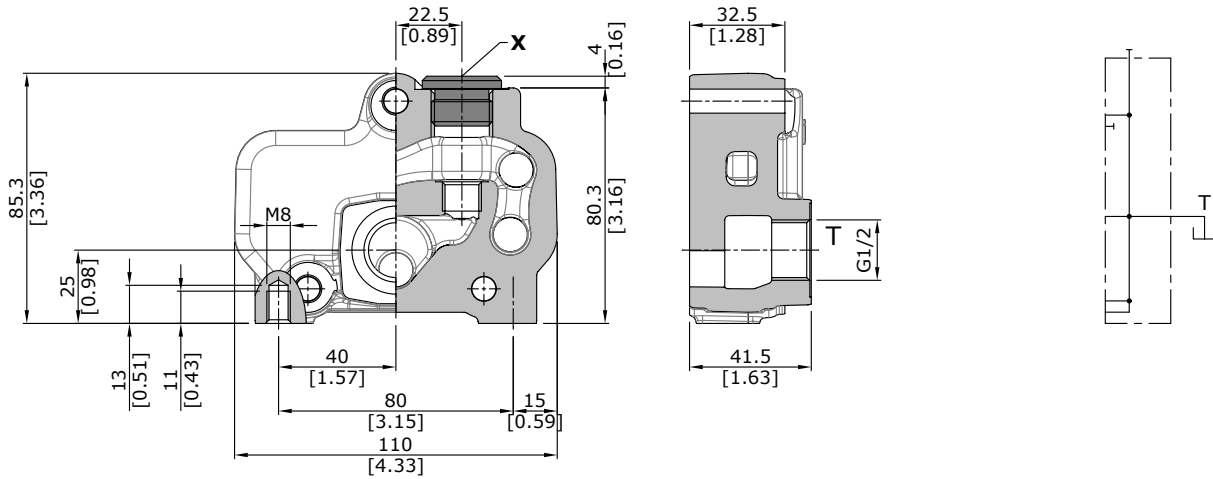
Outlet section

Dimensional data and hydraulic circuit

Type RC

Wrenches and tightening torques

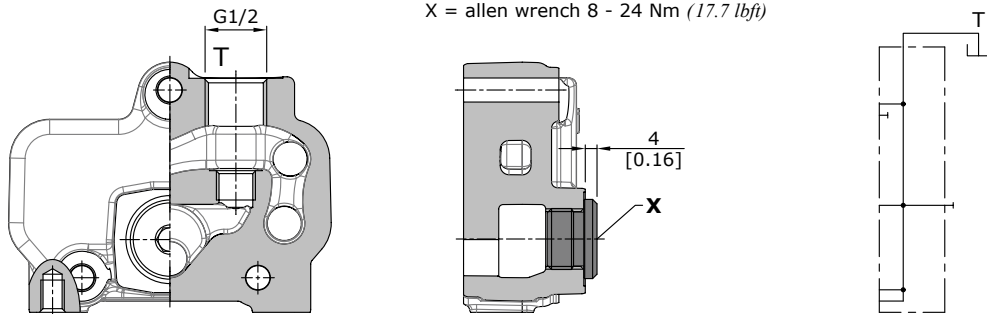
X = allen wrench 8 - 24 Nm (17.7 lbft)



Type RD

Wrenches and tightening torques

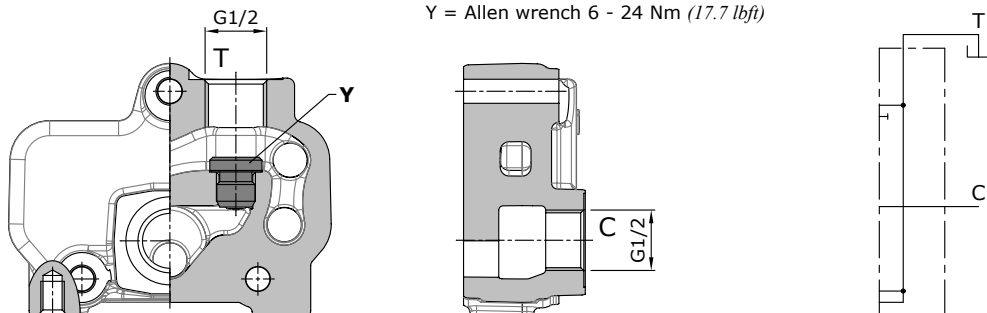
X = allen wrench 8 - 24 Nm (17.7 lbft)



Type RE

Wrenches and tightening torques

Y = Allen wrench 6 - 24 Nm (17.7 lbft)

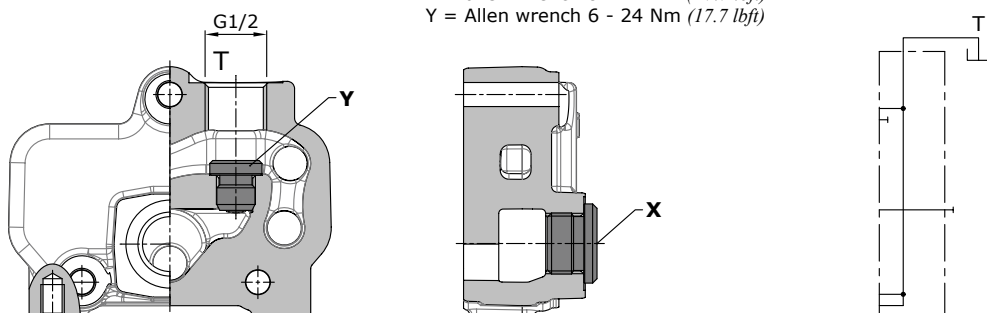


Type RK

Wrenches and tightening torques

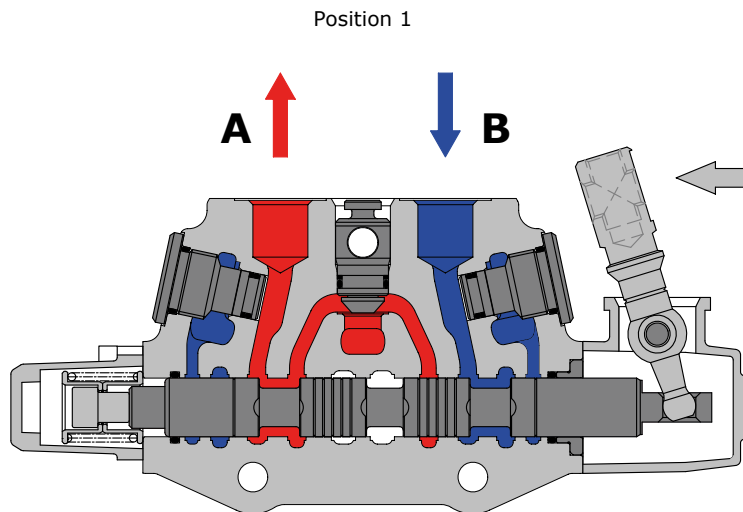
X = allen wrench 8 - 24 Nm (17.7 lbft)

Y = Allen wrench 6 - 24 Nm (17.7 lbft)

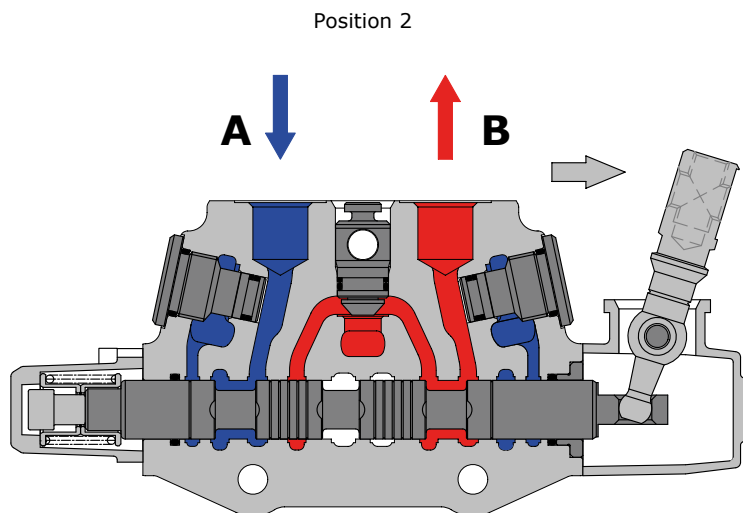


Sectional drawing

When hand lever pushed (spool out position) P to A port. B to T port.



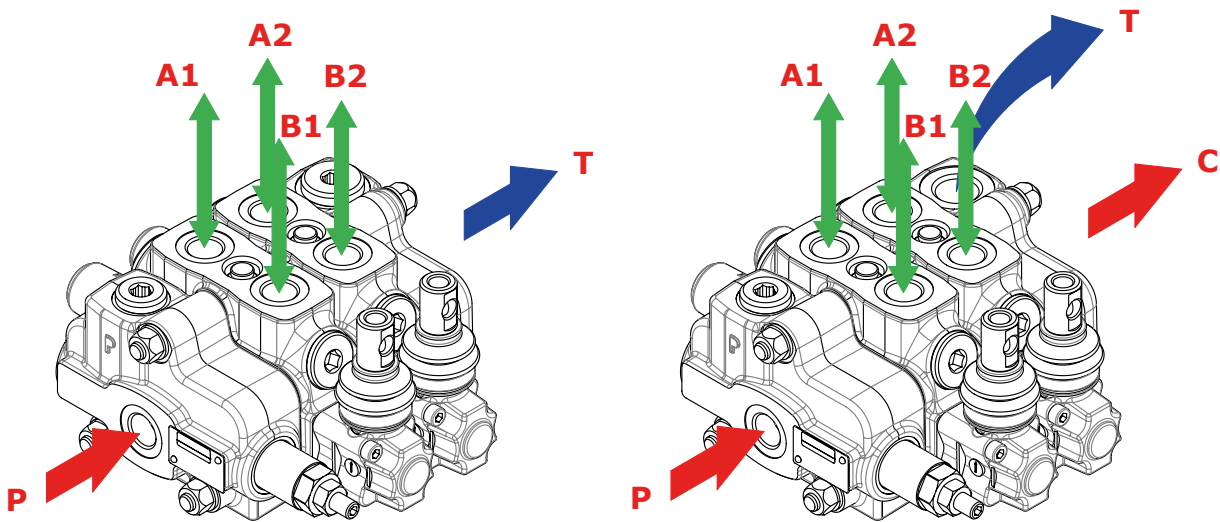
When hand lever pulled (spool in position) P to B port. A to T port.



Installation and maintenance

The 50L GS valves are assembled and tested as per the technical specification of this catalogue. Before the final installation on your equipment, follow the below recommendations:

- the valve can be assembled in any position; order to prevent working section deformation and spool sticking mount the product on a flat surface;
- In order to prevent the possibility of water entering the lever box and spool control kit, do not use high pressure wash down directly on the valve;
- prior to painting, ensure plastic port plugs are tightly in place.



Carry-over configuration

Fitting tightening torque - Nm (lbft)				
THREAD TYPE	P port	A,B ports	T and C ports	Hydraulic pilot
BSP (ISO 228/1)	G 3/8	G 3/8	G 1/2	G 1/4
With O-Ring seal	35 (25.8)	35 (25.8)	50 (36.9)	20 (14.7)
With copper washer	40 (29.5)	40 (29.5)	60 (44.3)	25 (18.4)
With steel and rubber washer	30 (22.1)	30 (22.1)	60 (44.3)	16 (11.8)
UN-UNF (ISO 11926-1)	3/4-16 (SAE 8)	9/16-18 (SAE 6)	3/4-16 (SAE 8)	9/16-18 (SAE 6)
With O-Ring seal	50 (36.9)	30 (22.1)	50 (36.9)	30 (22.1)

NOTE – These torque are recommended. Assembly tightening torque depends on many factors, including lubrication, coating and surface finish. The manufacturer shall be consulted.