HYDRA

100L GS 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 20 mm (*0.79 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.

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 mm^2/s *(46cSt)* viscosity at 40°C *(104°F)* temperature.

Nominal flow rating		100 l/min.	*26 US gpm*
Max. flow		120 l	*31 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 17)		50 Nm	*36 lbft*

Standard threads

REFERENCE STANDARD

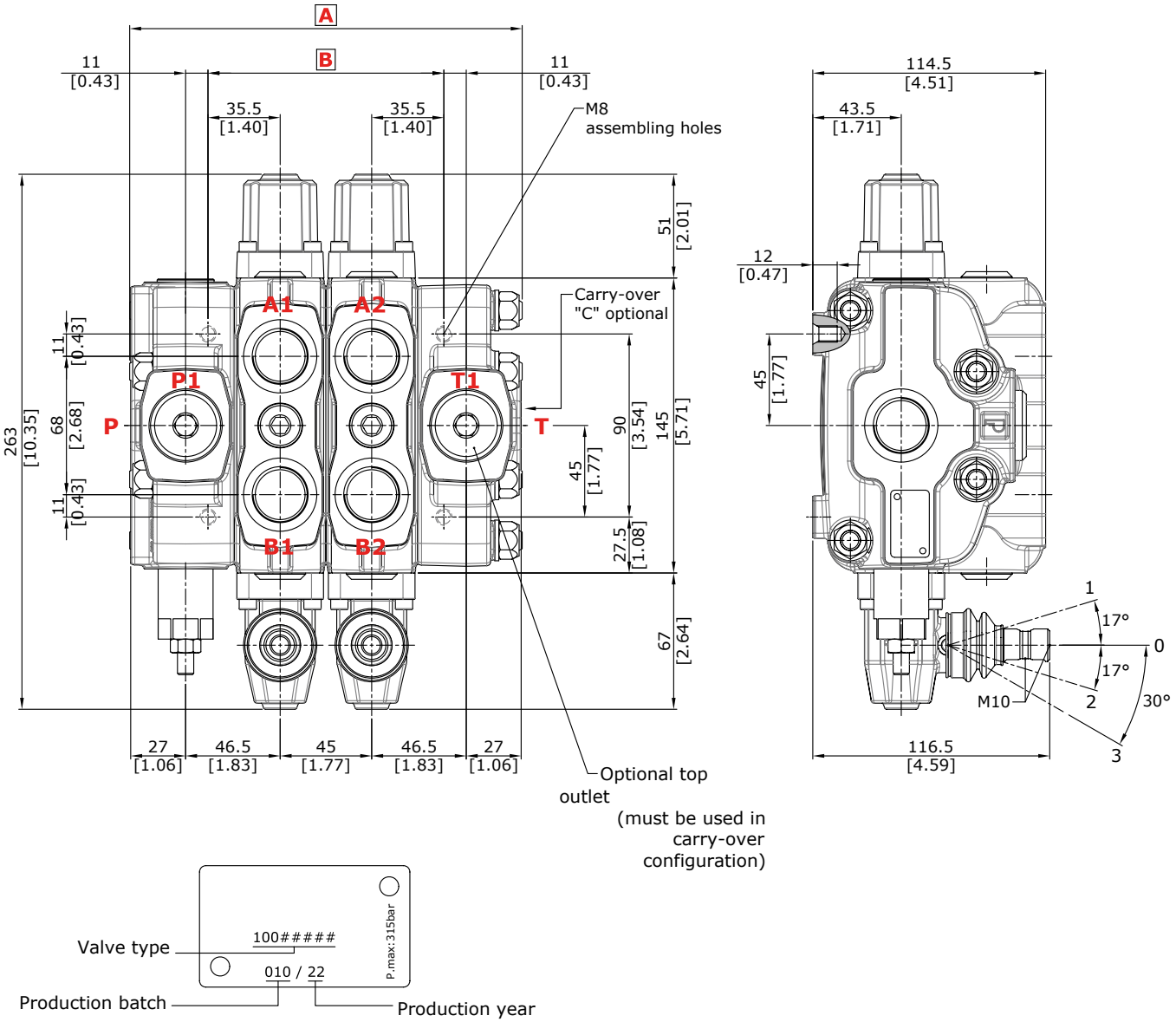
		BSP	UN-UNF	NPTF
THREAD ACCORDING TO		ISO 228/1	ISO 263	ANSI B1.20.3
		BS 2779	ANSI B1.1 unified	
CAVITY DIMENSION ACCORDING TO	ISO	1179-1	11926-1	
	SAE		J1926-1	J476a
	DIN	3852-2 shape X or Y		

PORTS THREADING

MAIN PORTS	BSP	OPTIONAL (BSP)	UN-UNF	OPTIONAL (BSP)
P inlet	G 3/4	G 3/4	1 1/16-12 (SAE 12)	1 1/16-12 (SAE 12)
A and **B** ports	G 3/4	G 1/2	1 1/16-12 (SAE 12)	7/8-14 (SAE10)
T outlet and **C** carry-over	G 3/4	G 3/4	1 1/16-12 (SAE 12)	1 1/16-12 (SAE 12)
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*
100L GS16/1	148	*5.83*	71	*2.80*	9.5	*20.94*
100L GS16/2	193	*7.60*	116	*4.57*	13.7	*30.20*
100L GS16/3	238	*9.37*	161	*6.34*	17.9	*39.46*
100L GS16/4	283	*11.14*	206	*8.11*	22.1	*48.72*
100L GS16/5	328	*12.91*	251	*9.88*	26.3	*57.98*
100L GS16/6	373	*14.69*	296	*11.65*	30.5	*67.24*

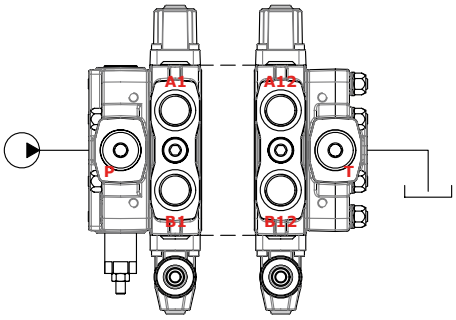
TYPE	A		B		Weight	
	mm	*in*	mm	*in*	Kg	*lb*
100L GS16/7	417	*16.42*	341	*13.43*	34.7	*76.50*
100L GS16/8	463	*18.23*	386	*15.20*	38.9	*85.76*
100L GS16/9	508	*20.00*	431	*16.97*	43.1	*95.02*
100L GS16/10	553	*21.77*	476	*18.74*	47.3	*104.28*
100L GS16/11	598	*23.54*	521	*20.51*	51.5	*113.54*
100L GS16/12	643	*25.31*	566	*22.28*	55.7	*122.80*

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

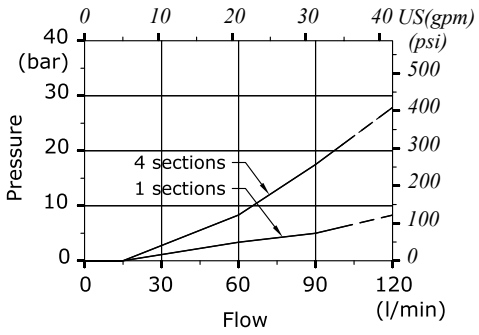
Performance data (pressure drop vs. flow)

Open centre

From side inlet to side outlet.

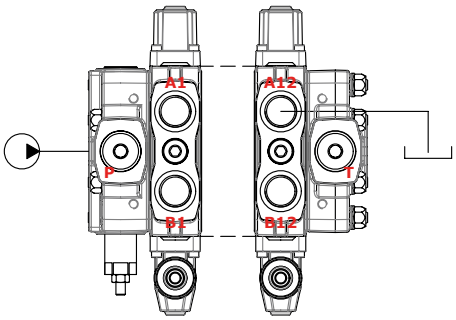


P ⇒ T pressure drop

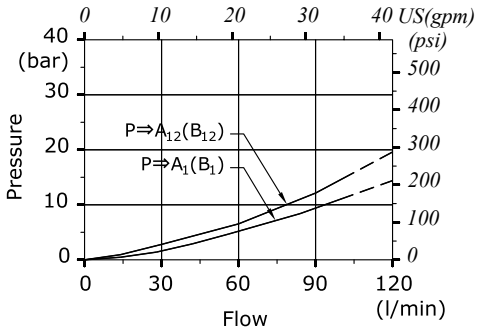


Inlet to work port

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

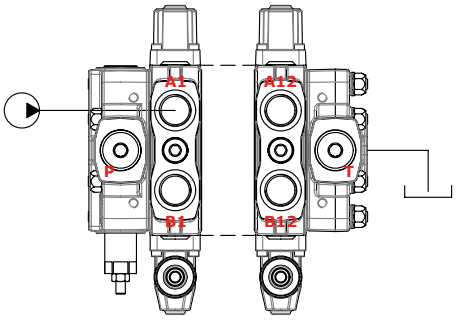


P ⇒ A(B) pressure drop

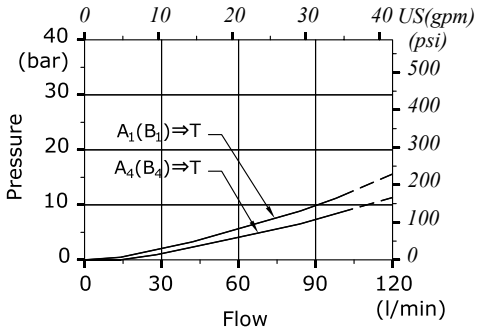


Work port to outlet

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



A(B) ⇒ T pressure drop

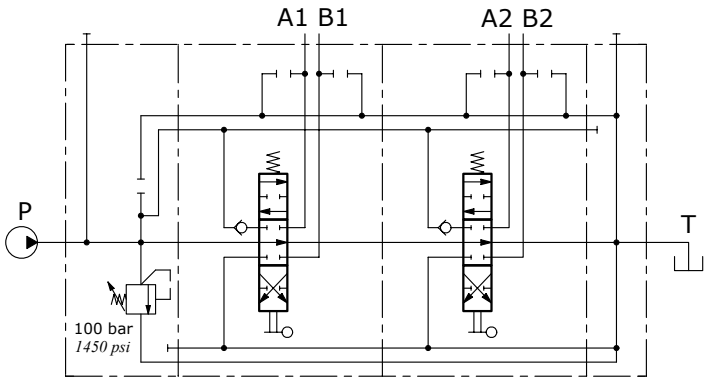


Valve general information

Hydraulic circuit

Parallel circuit

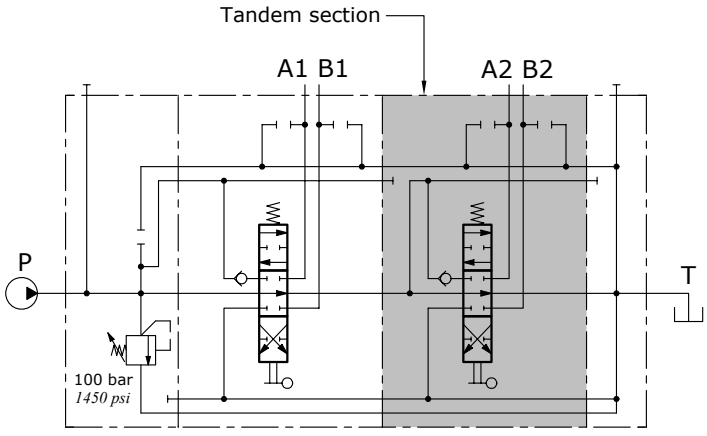
Standard configuration with open centre and side inlet and outlet.



Description example
100L GS16/2/AC(X-100)/18L/18L/RC

Series-parallel (tandem) circuit

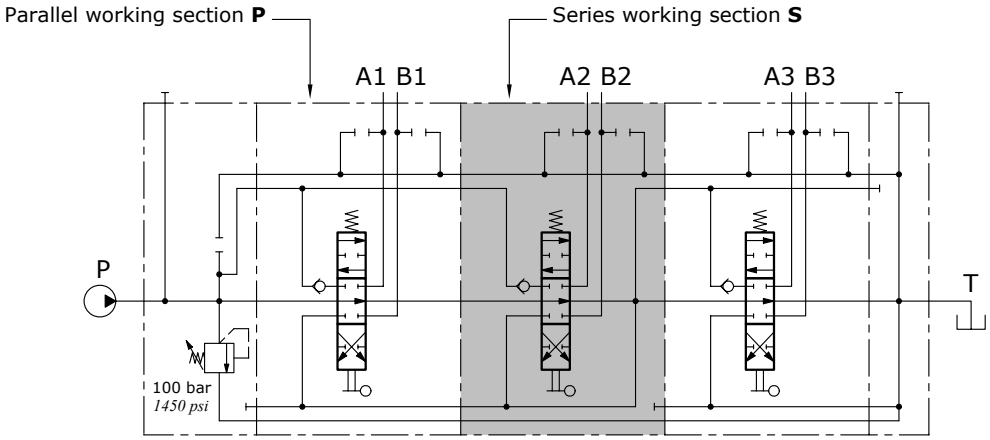
It needs a special working section kit.
Tandem section is fed from the free flow pressure line; it's excluded when an up strem section is operated.



Description example
100L GS16/2/AC(X-100)/18L/**SP**-18L/RC

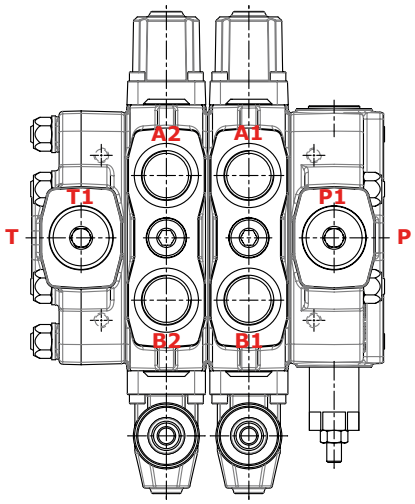
Hydraulic circuit

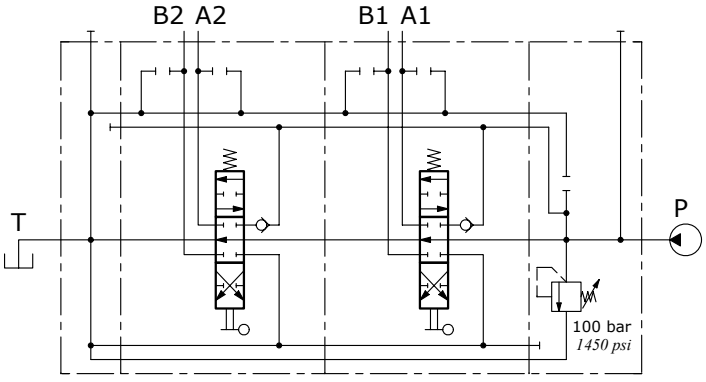
Series circuit



Description example
100L GS16/3/AC(X-100)/18L/**S**-18L/18L/RC

Right inlet directional valve





Description example
100L GS16/2/**BC**(X-100)/18L/18L/RC

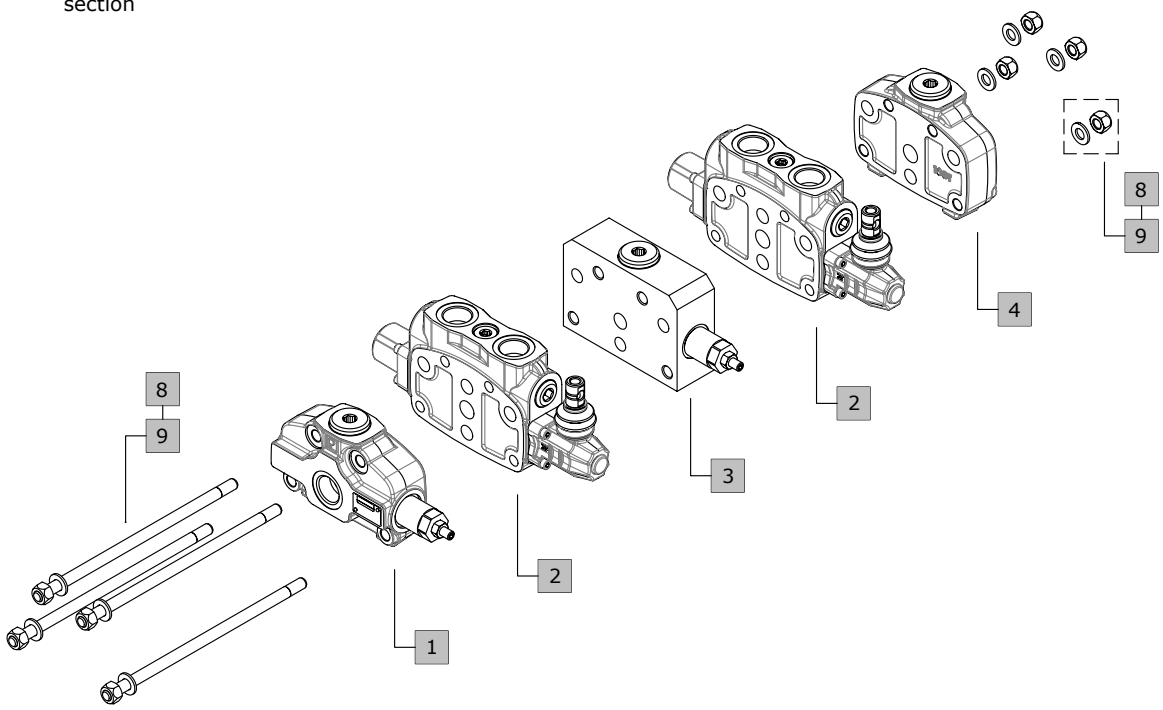
Valve general information

Complete sections ordering codes

Standard configuration with side inlet and outlet

100L GS16 / 2 / AC(X-100) / P-18L / EI1(X-100) / P-18L / RC

Nr. of working section: 1 — 2. — 3 — 4



1. Inlet section * — page 10

TYPE **AC(X-100)**..... CODE 10IN010001
DESCRIPTION With direct pressure relief valve
TYPE **AC(Z-100)**..... CODE 10IN010002
DESCRIPTION With pilot pressure relief valve
TYPE **AC(V)**..... CODE 10IN010003
DESCRIPTION Without pressure relief valve

2. Working section * — page 17

TYPE	CODE	DESCRIPTION
P-18L	10W010000	Parallel circuit, lever control to combine with series working section
SP-18L	10W010003	For series-parallel (tandem) circuit, prearranged for port valves, double acting spool with spring return, lever control
S-18L	10W010002	Series circuit, double acting spool with spring return, lever control
RPES-18L	10W010023	Parallel circuit, prearranged for valves with fixed setting
RPHT-18L	10W010016	Parallel circuit, prearranged for valves with fixed setting
RPHT-18IM	10W010017	Parallel circuit, prearranged for valves with fixed setting with proportional hydraulic control
RPHSP-18L	10W010018	As RPHT for series-parallel (tandem) circuit

3. Intermediate sections * — page 48

TYPE	CODE	DESCRIPTION
EI1(X-100)	30 08 5734	With direct pressure relief valve
EI1(Z-100)	30 08 5907	With pilot pressure relief valve
DFG	30 08 5775	Pressure compensated flow divider section

4. Outlet section * — page 50

TYPE	CODE	DESCRIPTION
RC	10OU010001	With side outlet
RD	10OU010002	With upper outlet
RE	10OU010003	With upper outlet and side carry-over sleeve
RK	10OU010004	With upper outlet, closed center
RV	10OU010005	With backpressure valve 10 bar *(145 psi)*
VRC	10OU010006	Backpressure valve for VRC configuration

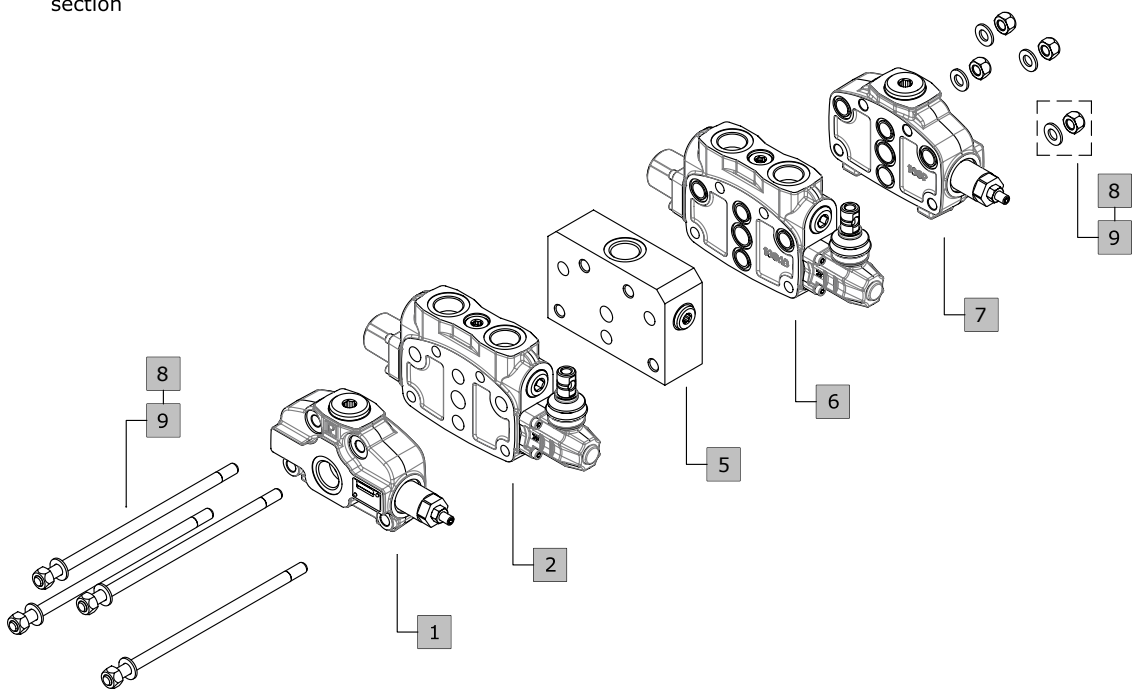
NOTE (*) – Codes are referred to **BSP** thread.

Complete sections ordering codes

Configuration with 2 side inlets and mid return manifold

100L GS16 / 2 / AC(X-100) / P-18L / CS1 / P-ED-18L / BC(X-100)

Nr. of working section: 1 | 2. | 5 | 6 | 7



5. Return manifold * page 47

TYPE	CODE	DESCRIPTION
CS1	30 08 5780	Mid return manifold

6. Right inlet working section *

TYPE	CODE	DESCRIPTION
P-ED-18L	10W010006	Parallel circuit, prearranged for port valves, double acting spool with spring return, lever control
SP-ED-18L	10W010005	As previous with series-parallel (tandem) circuit
S-ED-18L	10W010004	As previous with series circuit

7. Right inlet section *

TYPE	CODE	DESCRIPTION
BC(X-100)	10IN010008	Side inlet with direct pressure relief valve
BC(Z-100)	10IN010007	Side inlet with pilot pressure relief valve
BC(V)	10IN010009	Side inlet without pressure relief valve
BD(X-100)	10IN010011	Upper inlet with direct pressure relief valve
BD(Z-100)	10IN010010	Upper inlet with pilot pressure relief valve
BD(V)	10IN010012	Upper inlet without pressure relief valve

8. Assemb. kit without intermediate section

CODE	DESCRIPTION
30 05 6033	Tie rod kit for 1 working section directional valve
30 05 6037	Tie rod kit for 2 working section directional valve
30 05 6038	Tie rod kit for 3 working section directional valve
30 05 6039	Tie rod kit for 4 working section directional valve
30 05 6040	Tie rod kit for 5 working section directional valve
30 05 6041	Tie rod kit for 6 working section directional valve
30 05 6042	Tie rod kit for 7 working section directional valve
30 05 6043	Tie rod kit for 8 working section directional valve
30 05 6044	Tie rod kit for 9 working section directional valve
30 05 6034	Tie rod kit for 10 working section directional valve
30 05 6035	Tie rod kit for 11 working section directional valve
30 05 6036	Tie rod kit for 12 working section directional valve

9. Assemb. kit with intermediate section

CODE	DESCRIPTION
30 05 6038	Tie rod kit for 2 working section directional valve
30 05 6039	Tie rod kit for 3 working section directional valve
30 05 6040	Tie rod kit for 4 working section directional valve
30 05 6041	Tie rod kit for 5 working section directional valve
30 05 6042	Tie rod kit for 6 working section directional valve
30 05 6043	Tie rod kit for 7 working section directional valve
30 05 6044	Tie rod kit for 8 working section directional valve
30 05 6034	Tie rod kit for 9 working section directional valve
30 05 6035	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

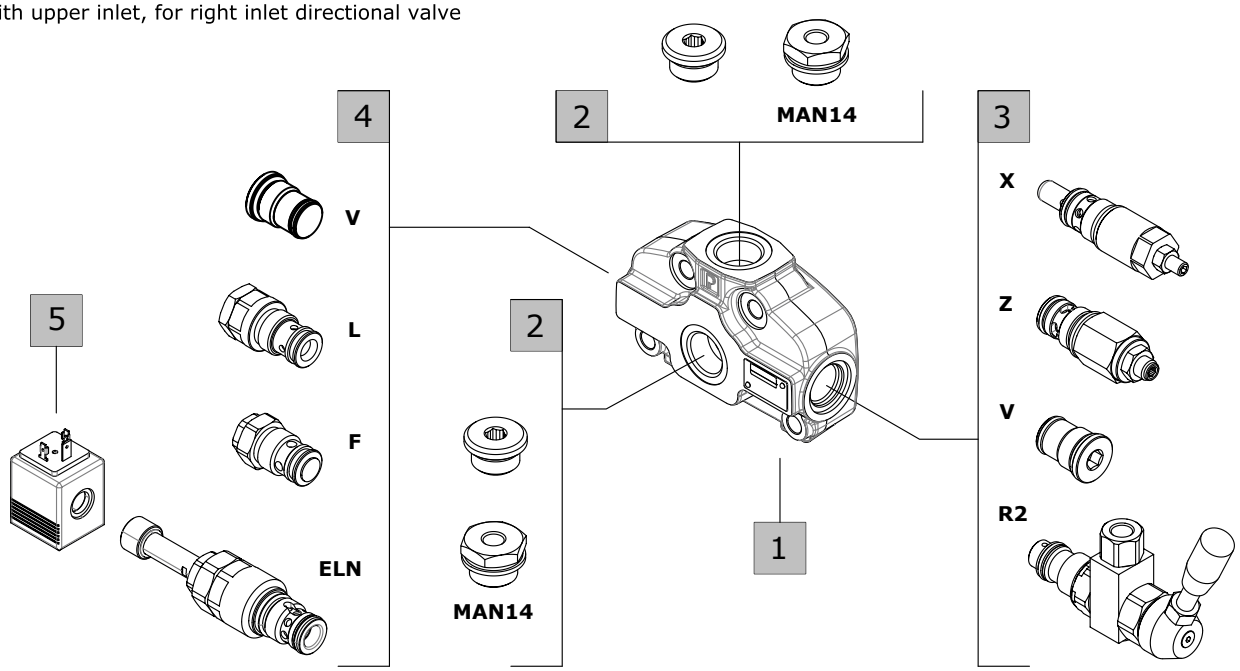
Parts ordering codes

100L GS16 / AC (X - 100) ELN - MAN14 - 12VDC

1 3 4 2 5

Pressure relief valve setting (bar)

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 5601
DESCRIPTION : Standard body

2. Parts *

TYPE	CODE	DESCRIPTION
MAN18	30 05 6102	G1/8 Pressure gauge arrangement
MAN14	30 05 6101	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 4912	Range 60-315 bar *(870-4570 psi)* standard setting 100 bar *(1450 psi)*
Pilot operated pressure relief valve Z type		
(Z-100)	30 05 4915	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 4914	Relief valve blanking plug

4. Inlet valve options page 14

TYPE	CODE	DESCRIPTION
V	30 05 4914	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 6108	Without emergency
ELP(NO)	30 05 6109	Push-button emergency
ELT(NO)	30 05 6110	Push and twist type with detent emergency
ELN(NC)	30 05 5032	Without emergency
ELP(NC)	30 05 5033	Push-button emergency
ELT(NC)	30 05 5034	Push and twist type with detent emergency

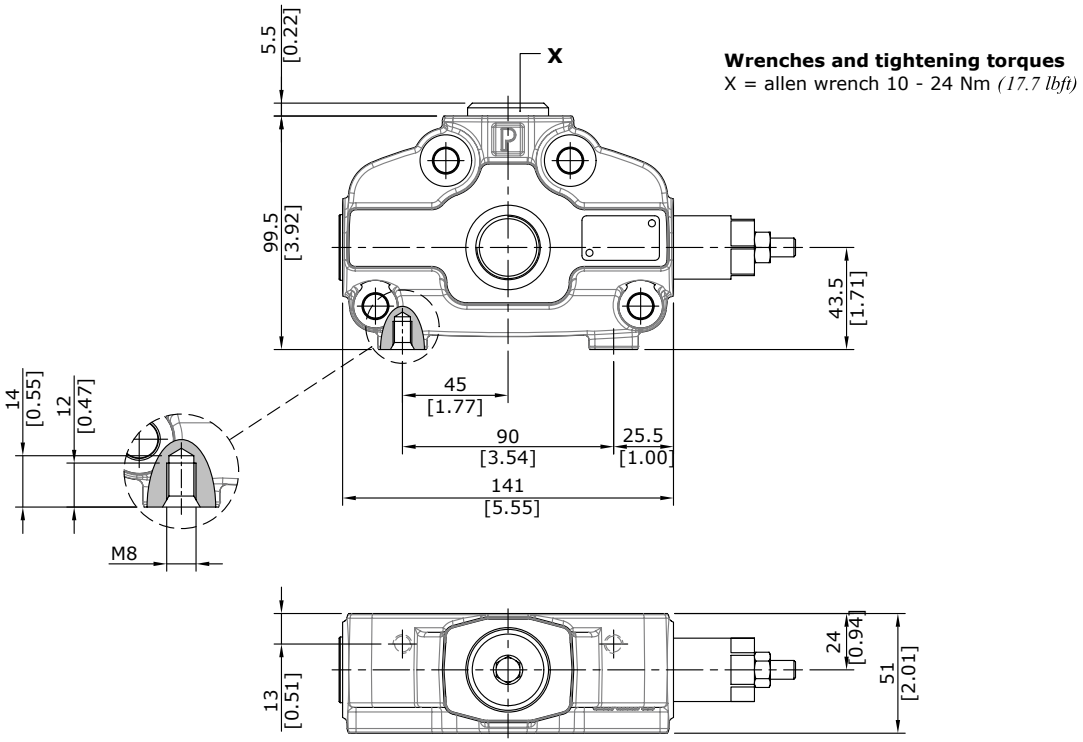
5. Coils

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.

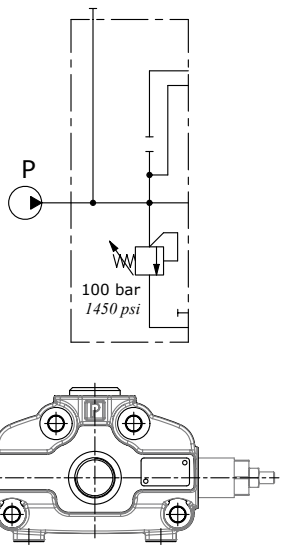
Inlet section

Dimensional data and hydraulic circuit



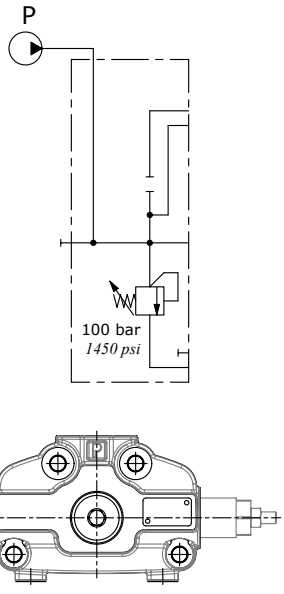
Wrenches and tightening torques
X = allen wrench 10 - 24 Nm *(17.7 lbft)*

For left inlet directional valve, side port



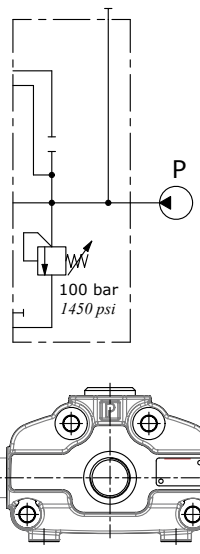
Description example:
AC(X–100)

For left inlet directional valve, upper port



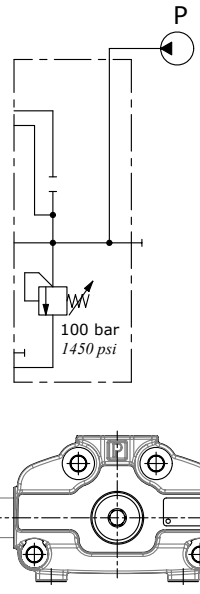
Description example:
AD(X–100)

For right inlet directional valve, side port



Description example:
BC(X–100)

For right inlet directional valve, upper port



Description example:
BD(X–100)

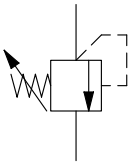
Inlet section

Inlet valve options

Direct overpressure relief valve

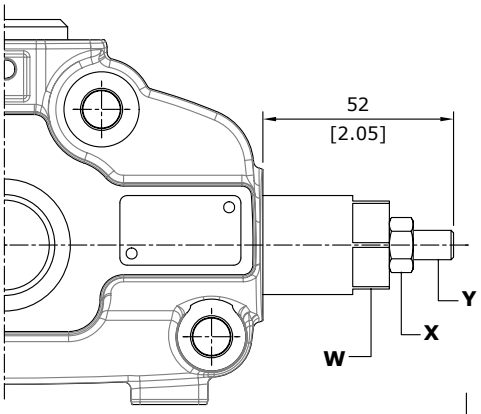
30 05 4912 **(X - 100)**

Configuration — Valve setting (bar)

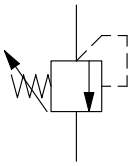


Adjustment type

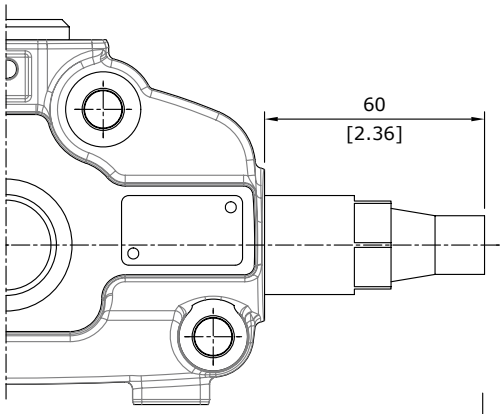
Configuration **X** type: adjustable with screw

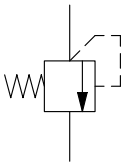


Wrenches and tightening torques
X = wrench 13 - 24 Nm *(17.7 lbft)*
Y = allen wrench 4
W = wrench 24 - 42 Nm *(31 lbft)*

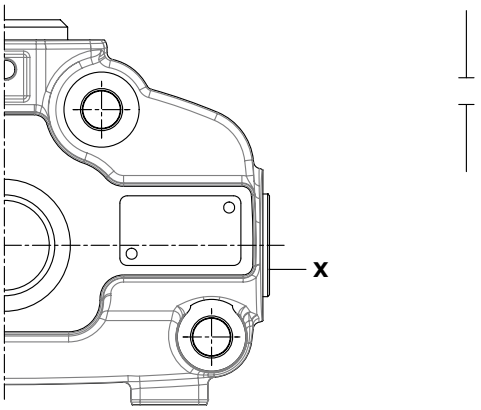


Configuration **XH** type: valve set and locked



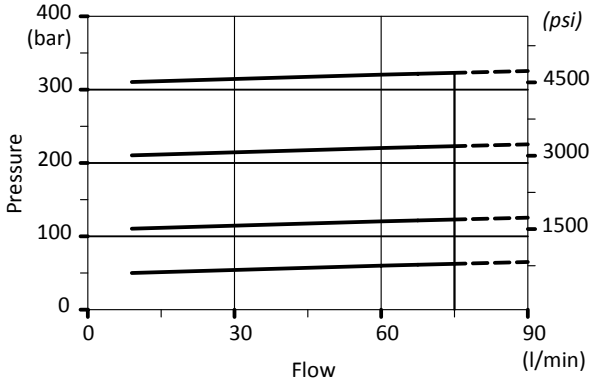


V: relief valve blanking plug



Wrenches and tightening torques
X = allen wrench 10 - 42 Nm *(31 lbft)*

Performance data

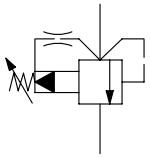


Inlet valve options

Pilot operated overpressure relief valve

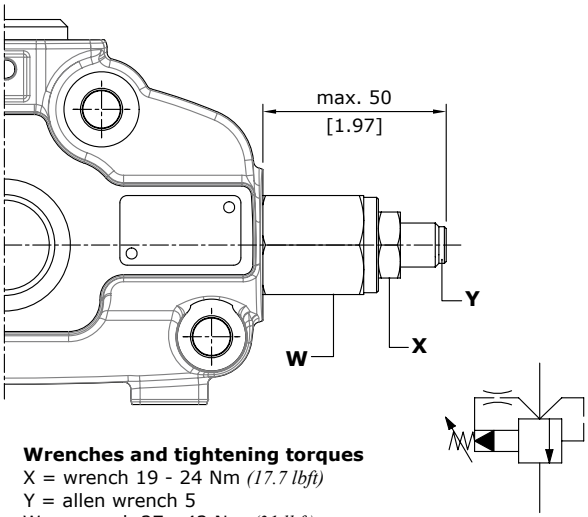
30 05 4915 **(Z - 100)**

Configuration — Valve setting (bar)



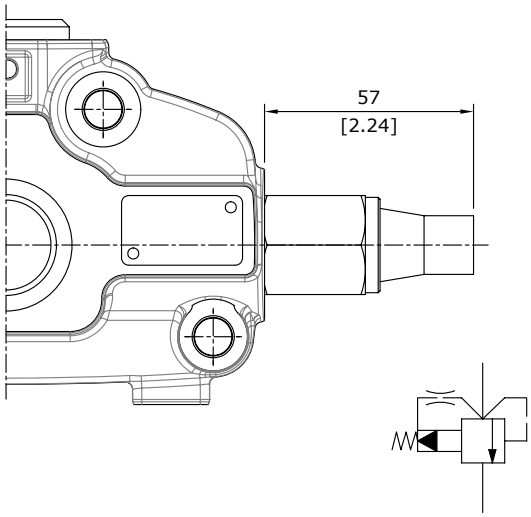
Adjustment type

Configuration **Z** type: adjustable with screw

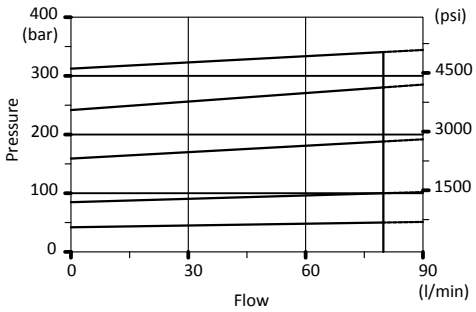


Wrenches and tightening torques
X = wrench 19 - 24 Nm *(17.7 lbft)*
Y = allen wrench 5
W = wrench 27 - 42 Nm *(31 lbft)*

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



Performance data



Inlet section

Inlet valve options

Unloader valves

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

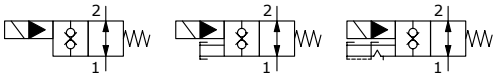
Hydraulic operated valve: **L**
Solenoid operated valve: **ELN** **ELP** **ELT**

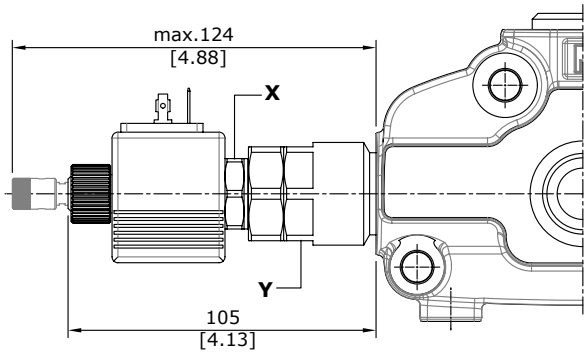
Feeding voltage: for solenoid operated

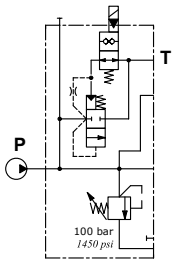
Solenoid operated

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.

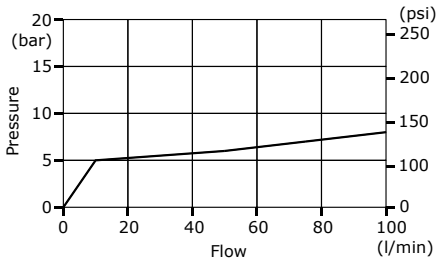
ELN: without emergency | **ELP:** push button type | **ELT:** "push & twist" type





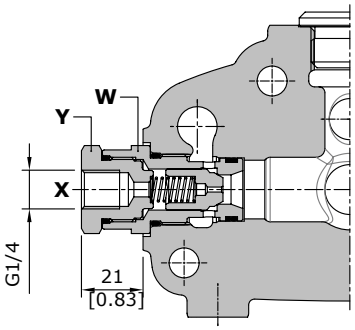


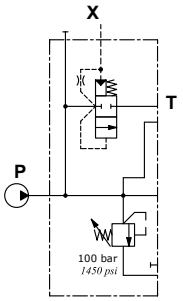
Pressure drop curve P → T



Wrenches and tightening torques
X = wrench 24 - 35 Nm *(26 lbft)*
Y = wrench 32 - 42 Nm *(31 lbft)*

Hydraulic operated

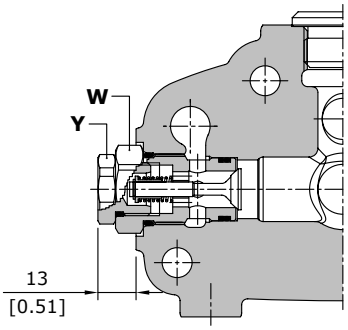


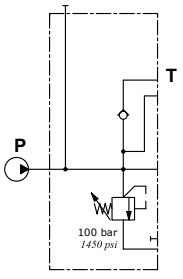


Wrenches and tightening torques
Y = wrench 27 - 42 Nm *(31 lbft)*
W = wrench 27 - 42 Nm *(31 lbft)*

Anti-cavitation valve

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





Wrenches and tightening torques
Y = wrench 22 - 24 Nm *(17.7 lbft)*
W = wrench 27 - 42 Nm *(31 lbft)*

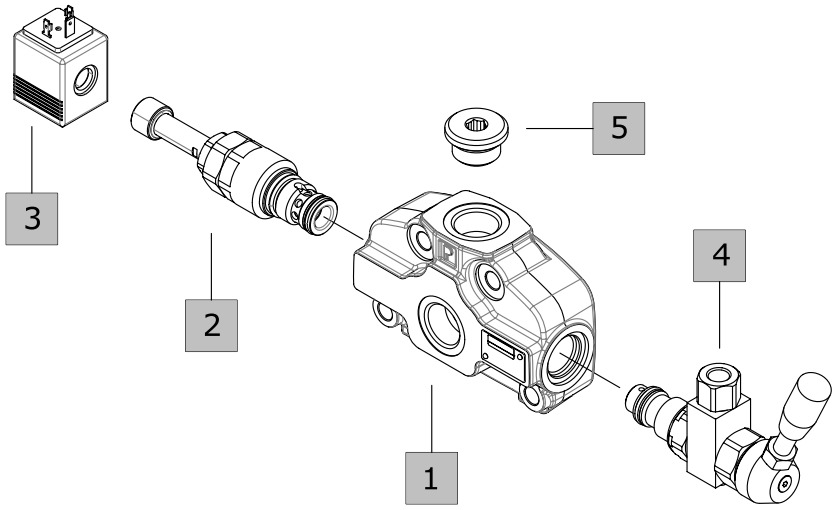
Inlet section for special applications

Configuration with rotary commutator

100L GS16 / AC ELN - 12VDC - R2

1 2 3 4

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 16

CODE : 30 08 5601
DESCRIPTION : Predisposition for rotary commutator

2. Inlet valve options page 12

Standard setting is referred to 6 l/min flow.

INLET RELIEF OPTIONS

TYPE	CODE	DESCRIPTION
V	30 05 4914	Relief valve blanking plug
Direct pressure relief valve X type (standard)		
(X-100)	30 05 4912	Range 60-315 bar *(870-4570 psi)* standard setting 100 bar *(1450 psi)*
Pilot operated pressure relief valve Z type		
(Z-100)	30 05 4915	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 6108	Without emergency
ELP(NO)	30 05 6109	Push-button emergency
ELT(NO)	30 05 6110	Push and twist type with detent emergency
ELN(NC)	30 05 5032	Without emergency
ELP(NC)	30 05 5033	Push-button emergency
ELT(NC)	30 05 5034	Push and twist type with detent emergency

3. 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

4. Commutator *

TYPE	CODE	DESCRIPTION
R2	30 07 5430	Rotary commutator

5. Parts *

TYPE	CODE	DESCRIPTION
-	30 05 4920	G3/4 Plug

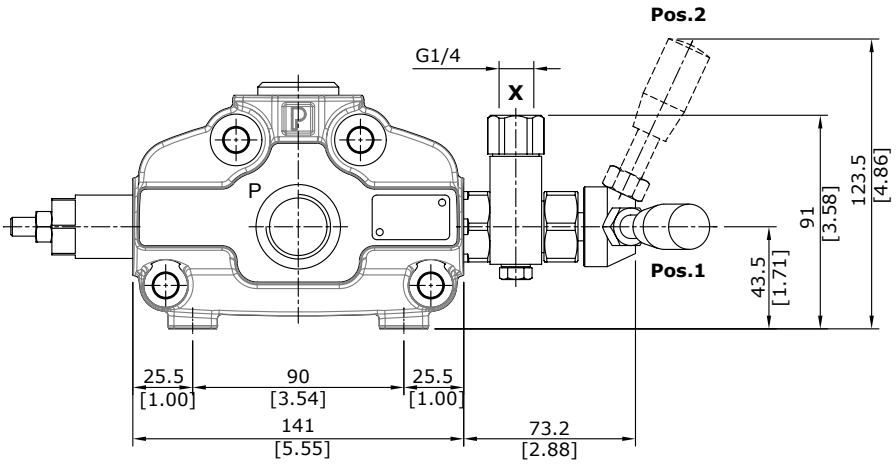
NOTE (*) – Codes are referred to **BSP** thread.

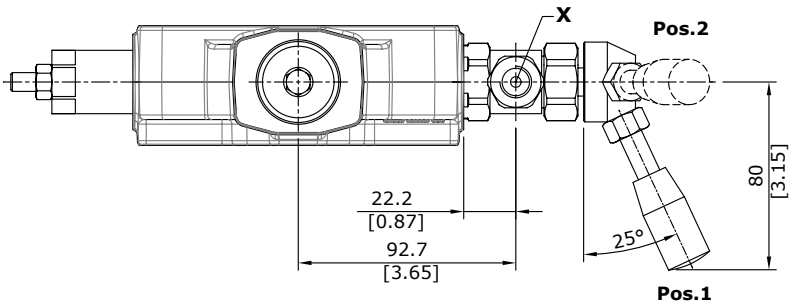
Inlet section for special applications

Configuration with rotary commutator

Dimensional data and hydraulic circuit

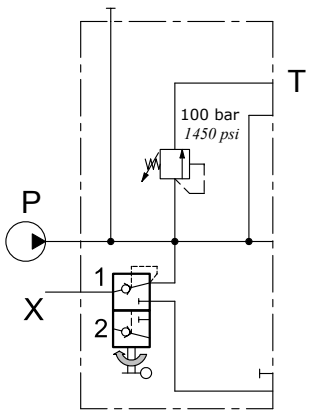
Drawing and circuit are referred to left inlet directional valve.





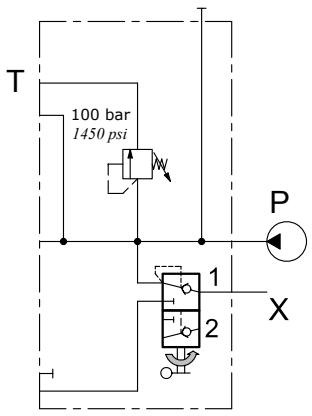
Hydraulic circuit and ordering codes

Left inlet



AC(X-100)**R2**

Right inlet



BC(X-100)**R2**

Rotary commutator features
Max. pressure .....: 210 bar *(3050 psi)*
Internal leakage .....: 3 cm^3/min @ 100 bar
(0.18 in^3/min @ 1450 psi)

Parts ordering codes (mechanical control)

Description example:

100L GS16 / P - 1 8 L . U 1 (100)

1 2 3 4 5a

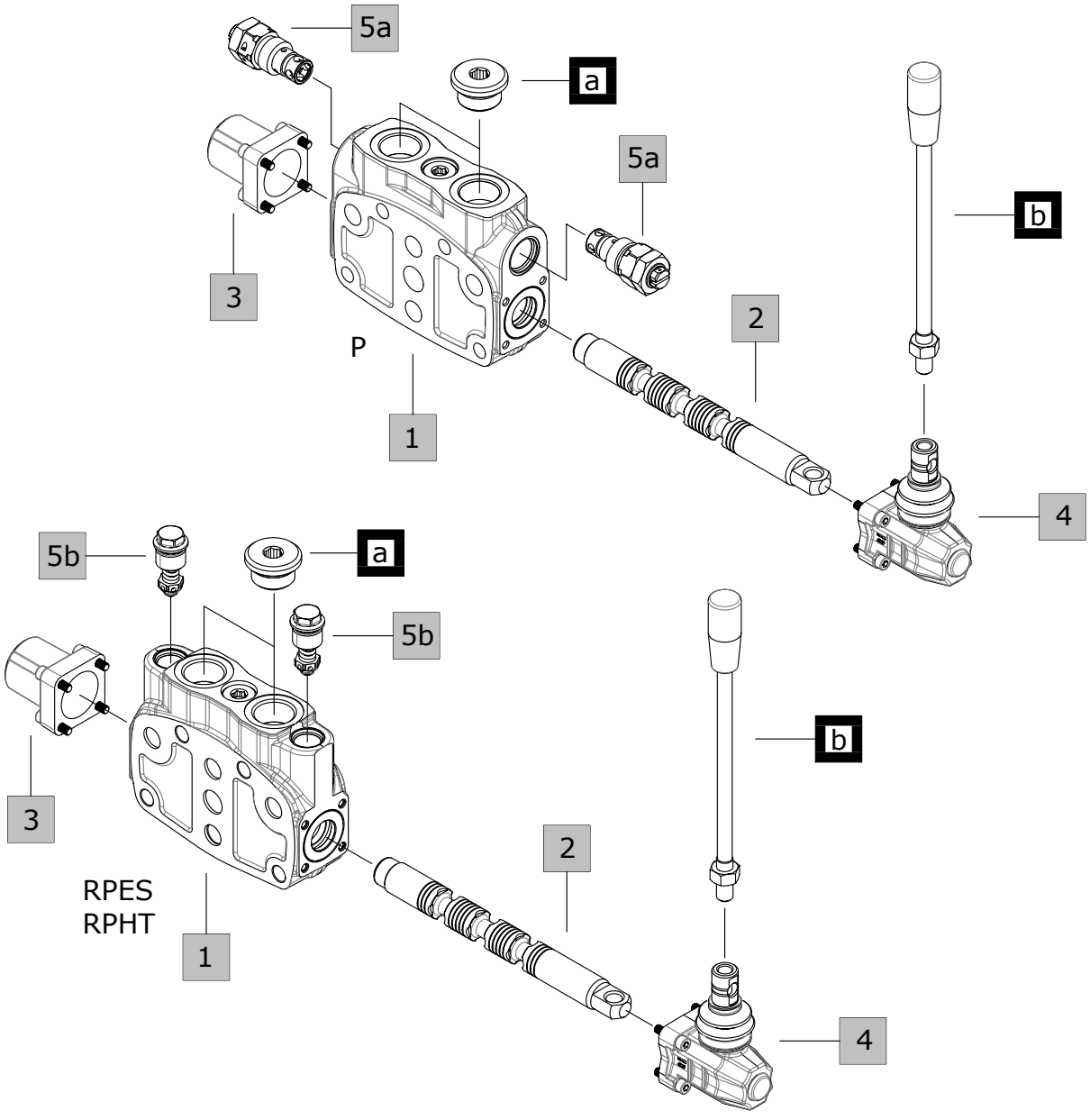
Pressure relief valve setting (bar)

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

100L GS16 / RPHT - 1 8 L . U 1 (100)

1 2 3 4 5b

Pressure relief valve fixed setting (bar)



Working section

Parts ordering codes (mechanical control)

1. Working section kit * — page 20

TYPE	CODE	DESCRIPTION
P	30 08 5693	For parallel circuit, for valve with series circuit
SP	30 08 5942	For tandem circuit
S	30 08 5879	For series circuit
P5DY	30 08 5856	For parallel circuit and floating circuit
RPES	30 08 8741	For parallel circuit with upper arrangement for fixed setting port valves
RPHT	30 08 8560	For parallel circuit with upper arrangement for fixed setting port valves
RPHSP	30 08 8561	For tandem circuit with upper arrangement for fixed setting port valves
RPH5DY	30 08 8562	For parallel circuit with floating circuit with upper arrangement for fixed setting port valves
S5DY	30 08 8624	For series circuit with floating circuit with upper arrangement for fixed setting port valves

Include body, seals, rings and load check valve.

2. Spools — page 21

TYPE	CODE	DESCRIPTION
1	30 01 3581	Double acting, 3 positions, with A and B closed in neutral position
1CS	30 01 3679	As type 1, sensitive type
1A	30 01 3585	Double acting, 3 positions, with A open to tank in neutral position
1B	30 01 3586	Double acting, 3 positions, with B open to tank in neutral position
1AH	30 01 3652	Double acting, 3 positions, with A partially open to tank in neutral position
1BH	30 01 3653	Double acting, 3 positions, with B partially open to tank in neutral position
2	30 01 3582	Double acting, 3 positions, with A and B open to tank in neutral position
2H	30 01 3770	Double acting, 3 positions, with A and B partially open to tank in neutral position
3	30 01 3587	Single acting on A, 3 positions, B plugged; requires G3/4 plug
4	30 01 3588	Single acting on B, 3 positions, A plugged; requires G3/4 plug
5DY	30 01 3584	Double acting spool with A and B closed in neutral position, 4 positions, with spool in, floating 4th position: **need dedicated positioner kit 13NZ type and working section kit P5DY and RPH5DY type**

3. "A" side spool positioners — page 22

TYPE	CODE	DESCRIPTION
8	30 07 5375	With spring return in neutral position
8D	30 07 5383	As type 8, M8 female threaded pin extension for dual control
8D1	30 07 5402	As type 8, pin with Ø 8 mm *(0.31 in)* radial hole
8D2	30 07 5384	As type 8, M8 male threaded pin extension for dual control
8TL	30 07 5397	As type 8, for flexible cable control
8F2	30 07 5377	As type 8 with adjustable stroke limiter
19	30 07 5436	With spring return in position 0 from 1
20	30 07 5437	With spring return in position 0 from 2
11	30 07 5378	Detent in positions neutral, 1 and 2
12	30 07 5438	Detent in positions 1 and 2
15	30 07 5439	2 positions, detent in positions 1 and neutral
16	30 07 5440	2 positions, detent in positions 2 and neutral
17	30 07 5441	With spring return position 1
18	30 07 5381	With spring return position 2
17D	30 07 5442	With spring return position 1 and pin with M8 female thread for dual control
18D	30 07 5382	With spring return position 2 and pin with M8 female thread for dual control
9B	30 07 5386	With detent in position 1 and spring return in neutral position
10B	30 07 5387	With detent in position 2 and spring return in neutral position
11B	30 07 5388	Detent in positions 1 and 2 and spring return inneutral position
8K	30 07 7553	As type 8 and 12 VDC solenoid lock device
	30 07 7554	As previous, 24 VDC
8MG1(NO)	30 07 7538	As type 8, operation with microswitch (NO) in position 1
8MG1(NC)	30 07 7539	As previous, (NC)
8MG2(NO)	30 07 7536	As type 8, operation with microswitch (NO) in position 2
8MG2(NC)	30 07 7537	As previous, (NC)
8MG3(NO)	30 07 5562	As type 8, operation with microswitch (NO) in positions 1 and 2
8MG3(NC)	30 07 5563	As previous, (NC)
8P	30 07 5399	ON/OFF pneumatic kit
8PF	30 07 5596	Proportional pneumatic kit
8EP3	30 07 5443	12 VDC ON/OFF electro-pneumatic kit
	30 07 5400	24 VDC ON/OFF electro-pneumatic kit
8EP4	30 07 5345	12 VDC ON/OFF electro-pneumatic kit with manifold
	30 07 5346	24 VDC ON/OFF electro-pneumatic kit with manifold
8IZ	30 07 7542	Unilateral hydraulic proportional spool control kit
8EI3	30 07 5401	12 VDC ON/OFF electro-hydraulic kit
	30 07 5361	24 VDC ON/OFF electro-hydraulic kit
8EI3F	30 07 7565	12 VDC Proportional electro-hydraulic kit
	30 07 7566	24 VDC Proportional electro-hydraulic kit
13NZ	30 07 5415	4 positions, detent in 4th position with spring return in neutral position with detent pull type. **Needs spool 5DY**

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

Parts ordering codes (mechanical control)

4. "B" side options — page 33

TYPE	CODE	DESCRIPTION
L	30 07 5403	Standard lever box
LF1	30 07 5405	Lever box with spool stroke limiter in position 1
LB	30 07 5407	Steel lever kit (LB1-LB3)
	30 07 5571	Steel lever kit (LB2-LB4)
	30 07 7556	Steel lever kit (LB5-LB7)
LCB	30 07 5433	Joystick lever for 2 sections operation
SL	-	Without lever box
SLP	30 07 5406	Without lever box, with dust-proof plate
TQ	30 07 5398	Flexible cable connection; for CT cables
LEB	30 07 5409	Safety lever box, vertical configuration
SLCZ	30 07 5347	Without lever box, with endcap.

5a Adjustable port valves — page 41

Valves standard setting is referred to 6 l/min

TYPE	CODE	DESCRIPTION
P3T	30 05 4940	Valve blanking plug
C	-	Anticavitation valve
Anti-shock valve		
P	30 05 6195	From 0 to 315 bar / *0 to 4600 psi* standard setting 100 bar / *1450 psi*
Anti-shock and anti-cavitation valve		
U	30 05 4908	From 0 to 315 bar / *0 to 4600 psi* standard setting 100 bar / *1450 psi*

5b Fixed setting port valves — page 44

TYPE	CODE	DESCRIPTION
For RPE..., RPH... working section kit		
P3T	30 05 6234	Valve blanking plug
C	30 05 6307	Anticavitation valve

Fixed setting antishock and anticavitation valves:

setting is referred to 6 l/min

TYPE : **U 100** (100 = setting (bar))

CODE : 30 05 02 **100** (100 = setting (bar))

U020	30 05 02020	Setting 20 bar *(290 psi)*
U030	30 05 02030	Setting 30 bar *(435 psi)*
U040	30 05 02040	Setting 40 bar *(580 psi)*
U050	30 05 02050	Setting 50 bar *(725 psi)*
U060	30 05 02060	Setting 60 bar *(870 psi)*
U080	30 05 02080	Setting 80 bar *(1160 psi)*
U100	30 05 02100	Setting 100 bar *(1450 psi)*
U110	30 05 02110	Setting 110 bar *(1595 psi)*
U125	30 05 02125	Setting 125 bar *(1800 psi)*
U140	30 05 02140	Setting 140 bar *(2030 psi)*
U150	30 05 02150	Setting 150 bar *(2175 psi)*
U160	30 05 02160	Setting 160 bar *(2320 psi)*
U175	30 05 02175	Setting 175 bar *(2550 psi)*
U190	30 05 02190	Setting 190 bar *(2750 psi)*
U200	30 05 02200	Setting 200 bar *(2900 psi)*
U210	30 05 02210	Setting 210 bar *(3050 psi)*
U220	30 05 02220	Setting 220 bar *(3190 psi)*
U230	30 05 02230	Setting 230 bar *(3350 psi)*
U240	30 05 02240	Setting 240 bar *(3500 psi)*
U250	30 05 02250	Setting 250 bar *(3600 psi)*
U260	30 05 02260	Setting 260 bar *(3750 psi)*
U270	30 05 02270	Setting 270 bar *(3900 psi)*
U280	30 05 02280	Setting 280 bar *(4050 psi)*
U290	30 05 02290	Setting 290 bar *(4200 psi)*
U300	30 05 02300	Setting 300 bar *(4350 psi)*

5b Fixed setting port valves (continued)

TYPE	CODE	DESCRIPTION
U310	30 05 02310	Setting 310 bar *(4500 psi)*
U320	30 05 02320	Setting 320 bar *(4650 psi)*
U330	30 05 02330	Setting 330 bar *(4800 psi)*
U340	30 05 02340	Setting 340 bar *(4930 psi)*
U350	30 05 02350	Setting 350 bar *(5075 psi)*
U360	30 05 02360	Setting 360 bar *(5220 psi)*
U370	30 05 02370	Setting 370 bar *(5365 psi)*
U380	30 05 02380	Setting 380 bar *(5510 psi)*
U390	30 05 02390	Setting 390 bar *(5650 psi)*
U400	30 05 02400	Setting 400 bar *(5800 psi)*
U410	30 05 02410	Setting 410 bar *(5950 psi)*
U420	30 05 02420	Setting 420 bar *(6090 psi)*

6. Complete controls * — page 37

TYPE	CODE	DESCRIPTION
ON/OFF Hydraulic control		
8IM	30 07 5414	ON/OFF Hydraulic control
8IMF3	30 07 7569	With screws spool stroke adjusting.
13IM	30 07 7549	For floating circuit. **need P5DY working section and 5DY spool type**
Proportional hydraulic kit		
8IMSPSD	30 07 7559	With spool position sensor esecution. (ON/OFF)
8IMSPSL	30 07 7562	With spool position sensor esecution.
Rotative control type		
R	30 07 5379	Rotative control type

a. Port plugs *

TYPE	CODE	DESCRIPTION
G3/4	30 05 4920	G3/4 Plug

b. Optional handlevers

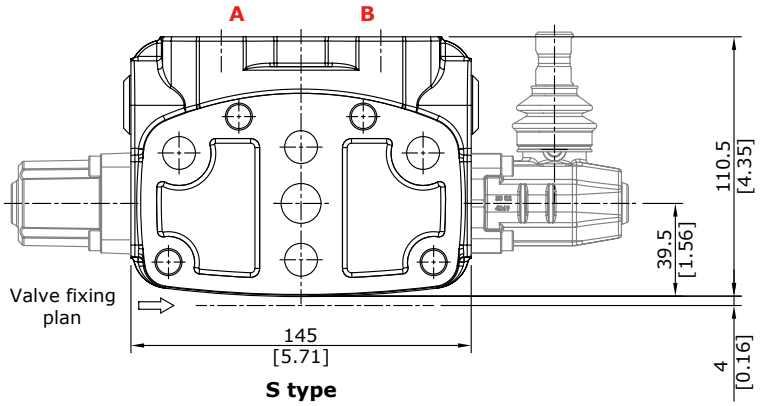
TYPE	CODE	DESCRIPTION
M10x225	20 03 2381	Lenght L = 225mm / *8.86in*

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

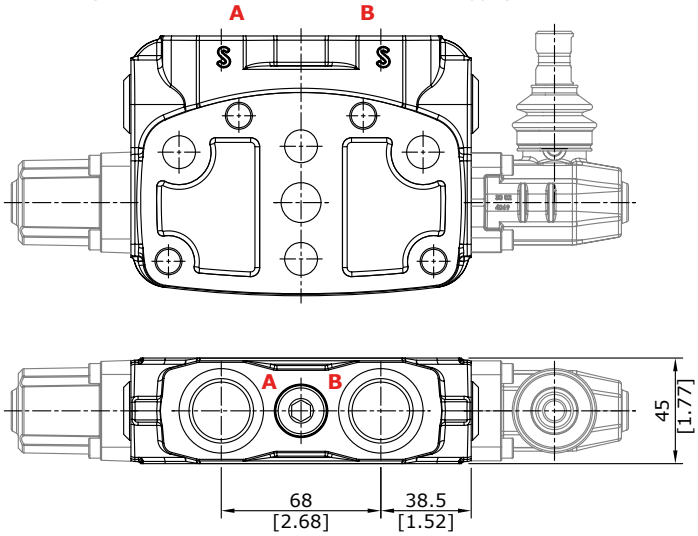
Working section

Dimensional data and hydraulic circuit

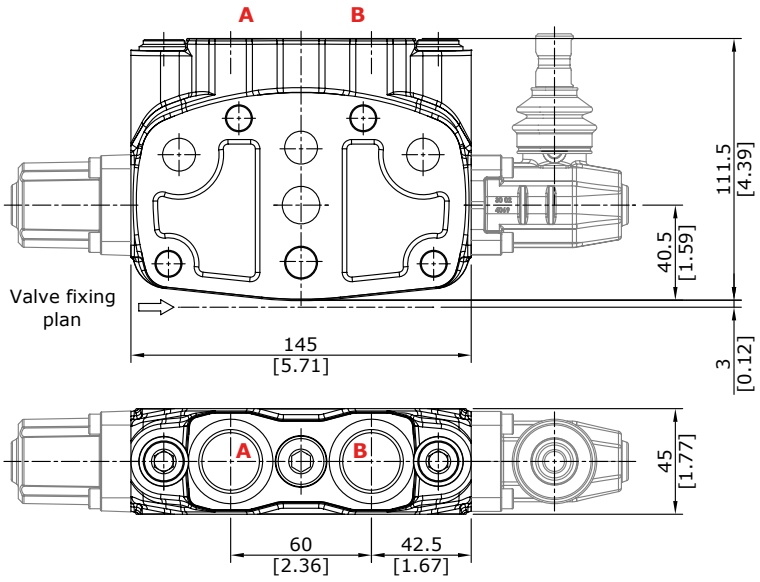
P type
(Dimensions are the same for SP/P5DY type)



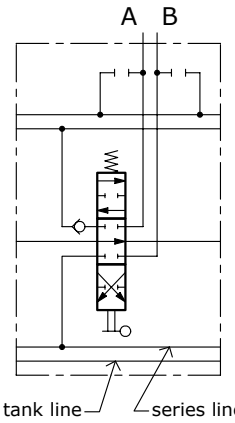
S type
(Dimensions are the same for S5DY type)



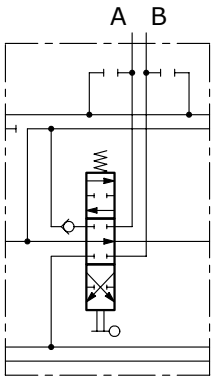
RPES type
(Dimensions are the same for
RPESP/RPE5DY/RPHT/RPHSP/RPH5DY type)



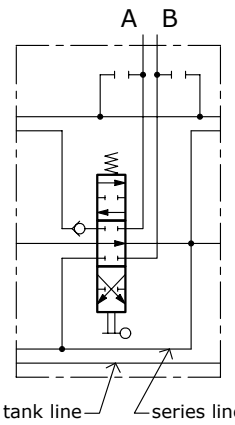
P type



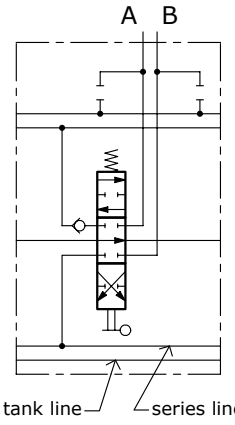
SP type



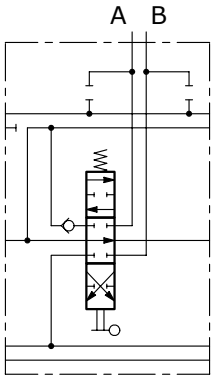
S type



RPES type

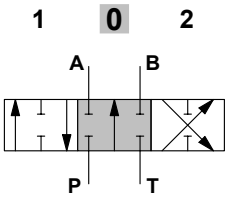


RPESP type



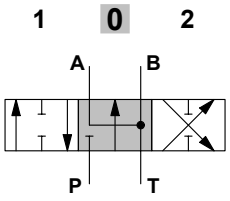
Spools options

1 (30 01 3581), 1CS (30 01 3679) spool type
Double acting, 3 positions, with A and B closed in neutral position



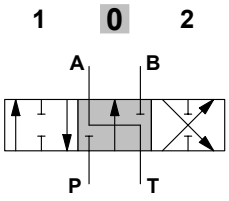
Spool stroke
position 1: + 7 mm *(+ 0.28 in)*
position 2: - 7 mm *(- 0.28 in)*

2 (30 01 3582) spool type
Double acting, 3 positions, with A and B open to tank in neutral position



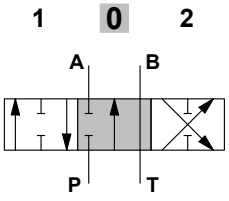
Spool stroke
position 1: + 7 mm *(+ 0.28 in)*
position 2: - 7 mm *(- 0.28 in)*

1A (30 01 3585) spool type
Double acting, 3 positions, with A open to tank in neutral position



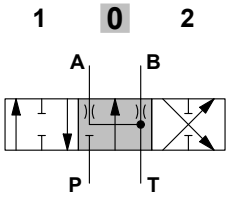
Spool stroke
position 1: + 7 mm *(+ 0.28 in)*
position 2: - 7 mm *(- 0.28 in)*

1B (30 01 3586) spool type
Double acting, 3 positions, with B open to tank in neutral position



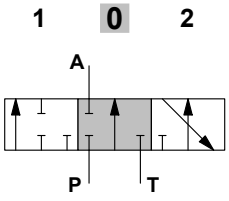
Spool stroke
position 1: + 7 mm *(+ 0.28 in)*
position 2: - 7 mm *(- 0.28 in)*

2H (30 01 3770) spool type
Double acting, 3 positions, with A and B partially open to tank in neutral position



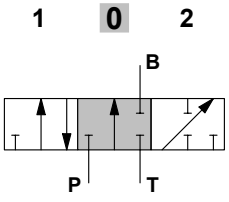
Spool stroke
position 1: + 7 mm *(+ 0.28 in)*
position 2: - 7 mm *(- 0.28 in)*

3 (30 01 3587) spool type
Single acting on A, 3 positions, B plugged; requires G3/4 plug



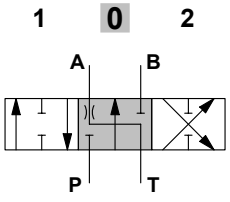
Spool stroke
position 1: + 7 mm *(+ 0.28 in)*
position 2: - 7 mm *(- 0.28 in)*

4 (30 01 3588) spool type
Single acting on B, 3 positions, A plugged; requires G3/4 plug



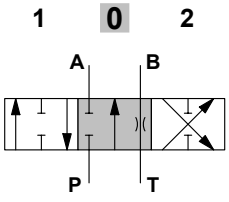
Spool stroke
position 1: + 7 mm *(+ 0.28 in)*
position 2: - 7 mm *(- 0.28 in)*

1AH (30 01 3652) spool type
Double acting, 3 positions, with A partially open to tank in neutral position



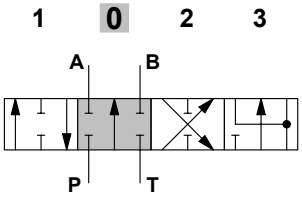
Spool stroke
position 1: + 7 mm *(+ 0.28 in)*
position 2: - 7 mm *(- 0.28 in)*

1BH (30 01 3653) spool type
Double acting, 3 positions, with B partially open to tank in neutral position



Spool stroke
position 1: + 7 mm *(+ 0.28 in)*
position 2: - 7 mm *(- 0.28 in)*

5DY (30 01 3584) 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: + 7 mm *(+ 0.28 in)*
position 2: - 6.5 mm *(- 0.26 in)*
position 3: - 12 mm *(- 0.47 in)*

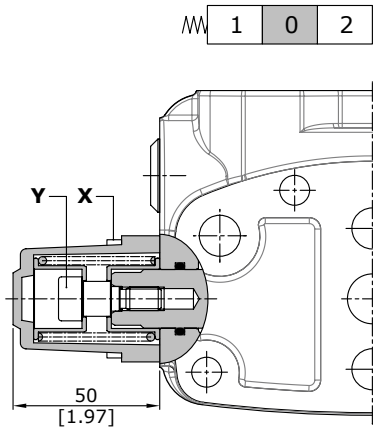
Working section

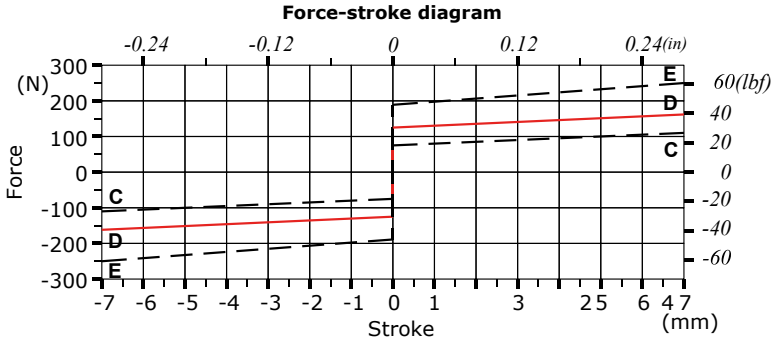
"A" side spool positioners

With spring return in neutral position

8 type (30 07 5375)

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)**.

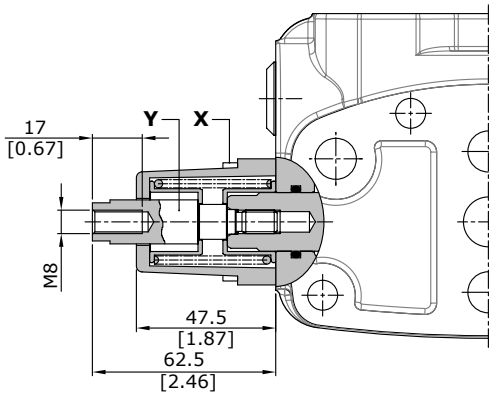




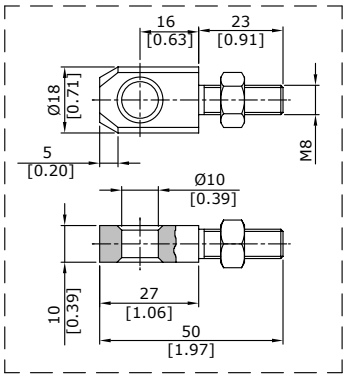
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*

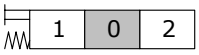
8D type (30 07 5383)

With M8 female threaded pin extension for dual control.



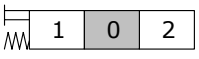
Spool end joint dimensions (optional)



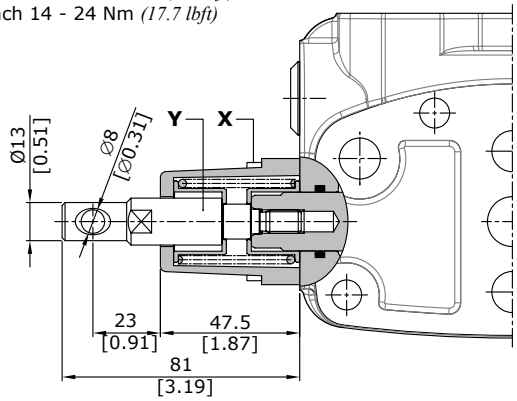


Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 13 - 24 Nm *(17.7 lbft)*

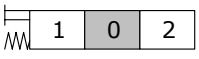
8D1 type (30 07 5402)



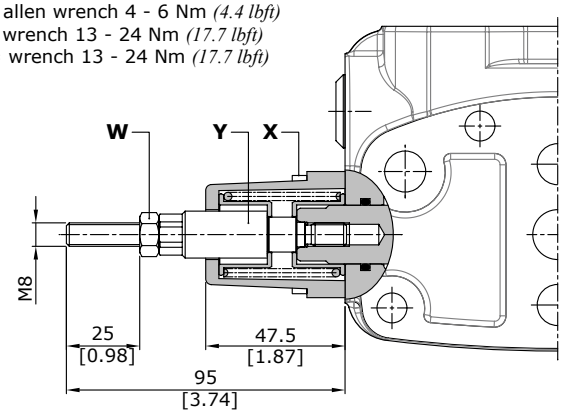
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 14 - 24 Nm *(17.7 lbft)*



8D2 type (30 07 5384)



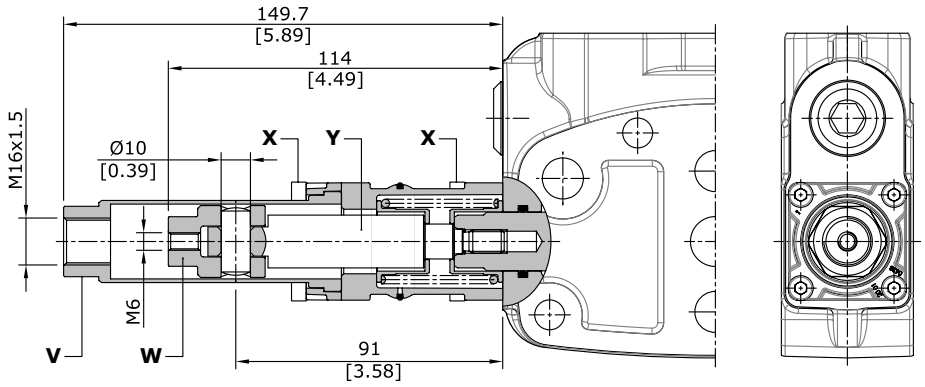
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 13 - 24 Nm *(17.7 lbft)*
W = wrench 13 - 24 Nm *(17.7 lbft)*

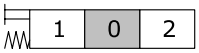


"A" side spool positioners

With spring return in neutral position

8TL type (30 07 5397)

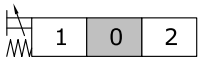


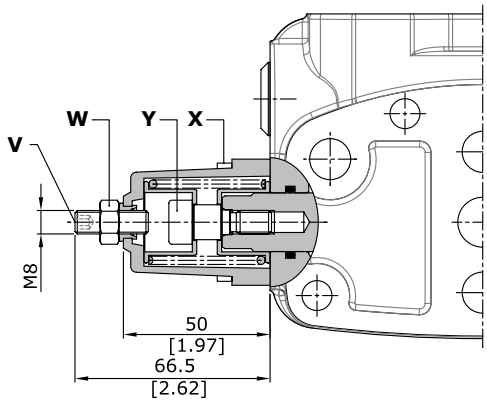


Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 10 - 24 Nm *(17.7 lbft)*
W = wrench 17
V = wrench 24

8F2 type (30 07 5377)

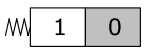
With spool stroke adjustment in position 2 (P→B)



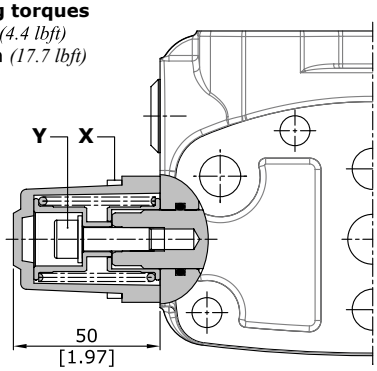


Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*
W = wrench 13 - 24 Nm *(17.7 lbft)*
V = allen wrench 4

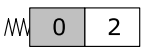
19 type (30 07 5436)



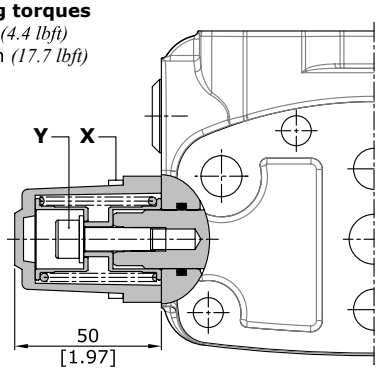
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*



20 type (30 07 5437)



Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*

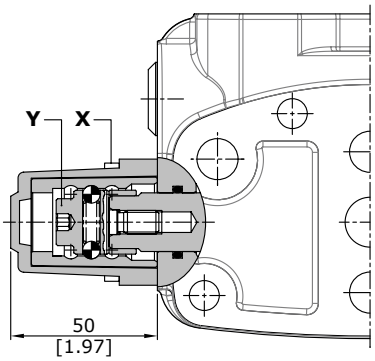


Working section

"A" side spool positioners

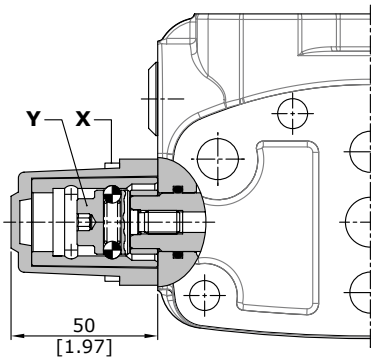
With detent

11 type (30 07 5378)



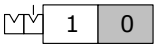
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*

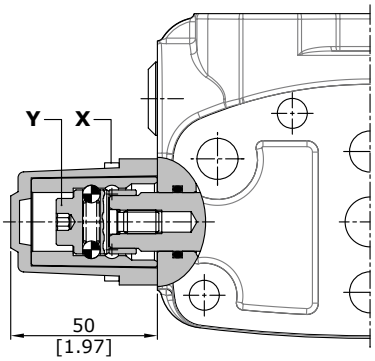
12 type (30 07 5438)



Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*

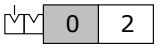
15 type (30 07 5439)

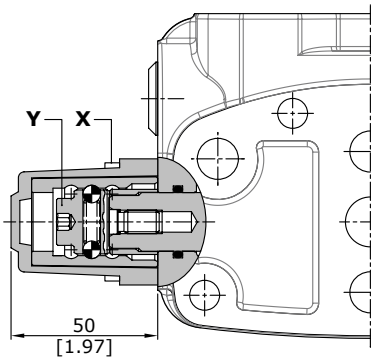




Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*

16 type (30 07 5440)



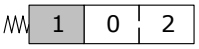


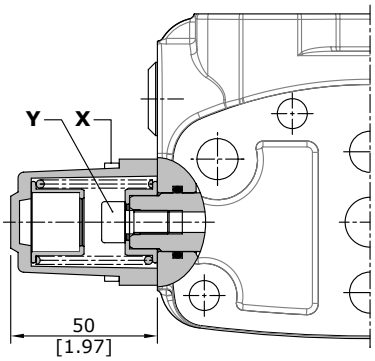
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*

"A" side spool positioners

With spring return

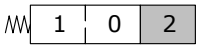
17 type (30 07 5441)

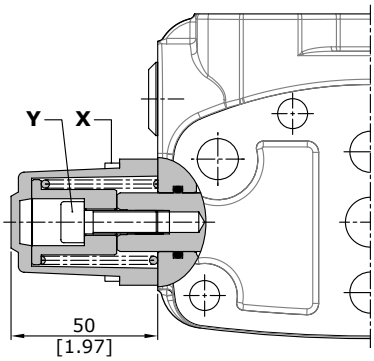




Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*

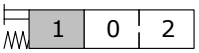
18 type (30 07 5381)

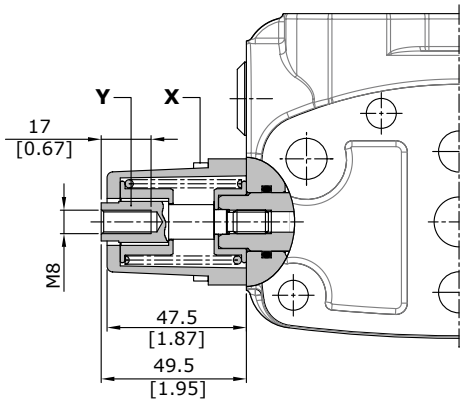




Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*

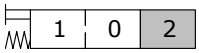
17D type (30 07 5442)

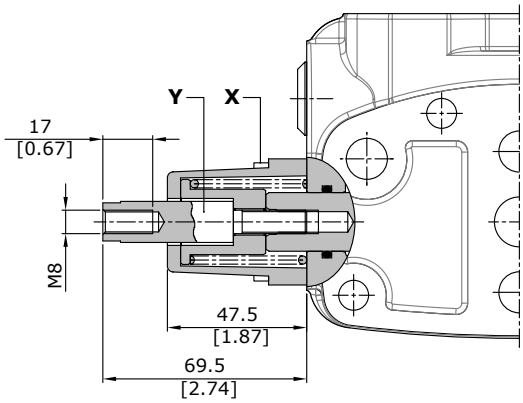




Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 13 - 24 Nm *(17.7 lbft)*

18D type (30 07 5382)





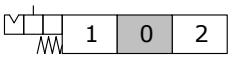
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 13 - 24 Nm *(17.7 lbft)*

Working section

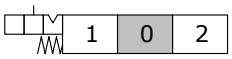
"A" side spool positioners

With detent and spring return to neutral position from either directions

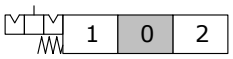
9B type (30 07 5386)
detent in position 1
(curve A)



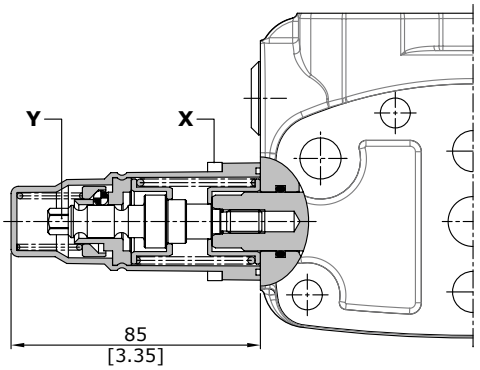
10B type (30 07 5387)
detent in position 2
(curve B)



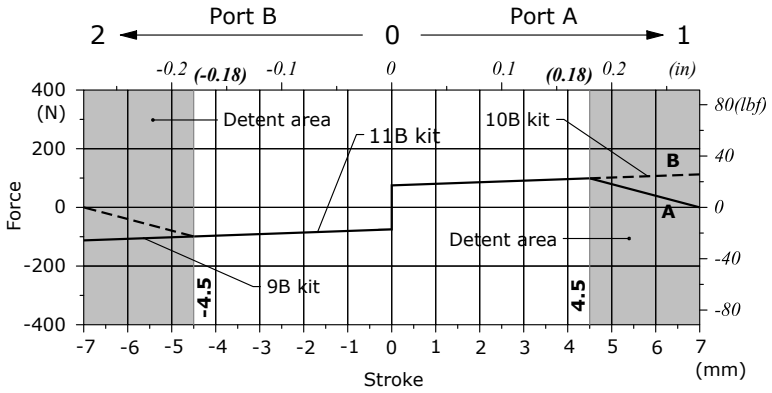
11B type (30 07 5388)
detent in position 1 and 2
(curves A and B)



11B type



Detent force-stroke

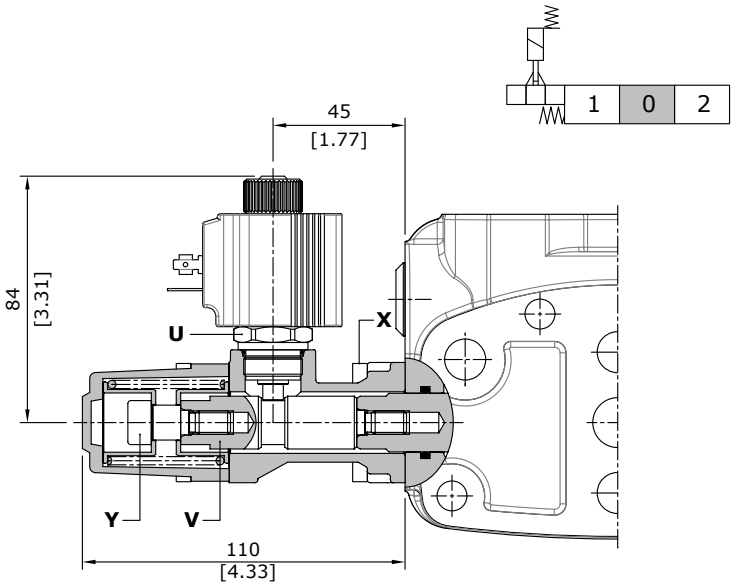


Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 8 - 9 Nm *(6.6 lbft)*

Position 1 - Detent force: 130 N *(29.2 lbf)* ± 10% / Release force: 215 N *(48.3 lbf)* ± 10%
Position 2 - Detent force: 145 N *(32.6 lbf)* ± 10% / Release force: 300 N *(67.4 lbf)* ± 10%

Solenoid lock device 8K type (30 07 7553)

With spring return and spool electromechanical lock in neutral position; when coil is feeded the spool can be moved.
it's possible to obtain further configurations with several "A" side spool positioners: contact Sales Dept.



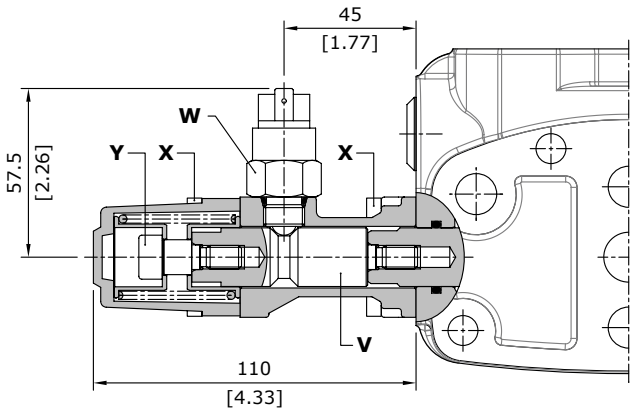
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*
V = wrench 15 - 24 Nm *(17.7 lbft)*
U = wrench 24 - 24 Nm *(17.7 lbft)*

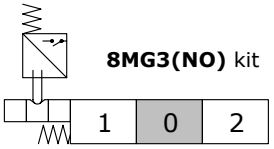
"A" side spool positioners

With microswitch

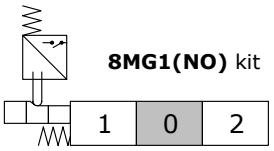
8MG3(NO) type (30 07 5562)

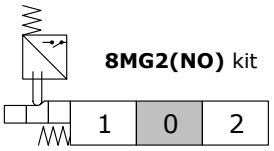
With spring return in neutral position and microswitch operated in both directions.
Also available **8MG1(NO)** (microswitch operated in position 1) and **8MG2(NO)** (microswitch operated in position 2) configurations; dimension are the same of **8MG3(NO)** configuration.
Same configurations are available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





Other configurations



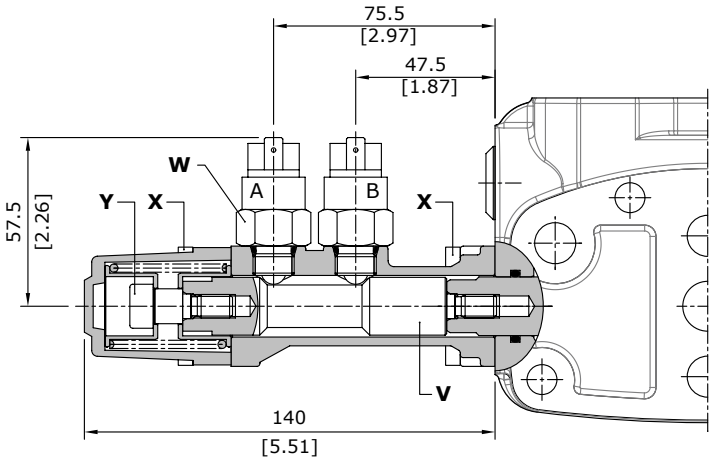


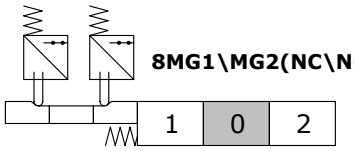
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*
W= wrench 22 - 42 Nm *(31 lbft)*
V = wrench 17 - 9.8 Nm *(7.2 lbft)*

Operating features
MICROSWITCH
Mechanical life : $5x10^5$ operations
Electrical life (resistive load) : $5x10^4$ operations 10A / 12VDC
: $5x10^4$ operations 3A / 24VDC

8MG1\MG2(NC\NC) type (30 07 5360)

With double microswitch in position 1 and 2.





Positions	A	B
1	⟋	—
0	—	—
2	—	⟋

Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*
W= wrench 22 - 42 Nm *(31 lbft)*
V = wrench 17 - 9.8 Nm *(7.2 lbft)*

Operating features
MICROSWITCH
Mechanical life : $5x10^5$ operations
Electrical life (resistive load) : $5x10^4$ operations 10A / 12VDC
: $5x10^4$ operations 3A / 24VDC

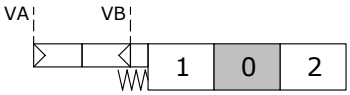
Working section

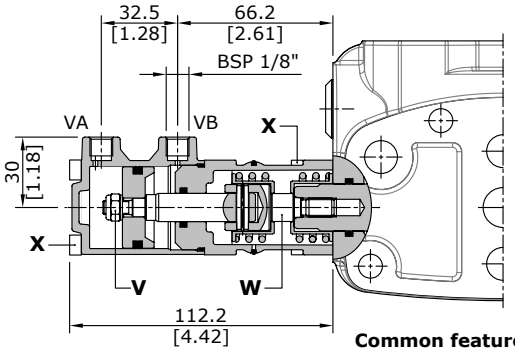
"A" side spool positioners

ON/OFF pneumatic kit and proportional pneumatic kit

ON/OFF pneumatic: 8P type (30 07 5399)

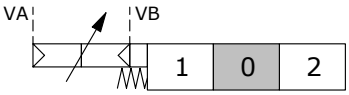
With spring return to neutral position.

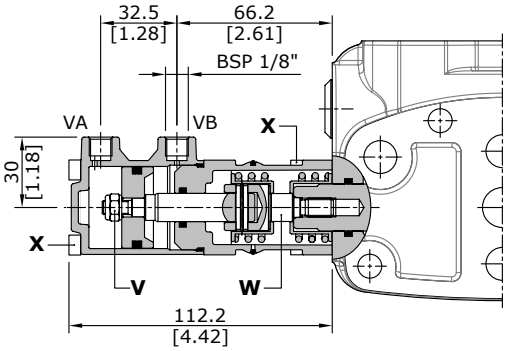




Proportional pneumatic: 8PF type (30 07 5596)

With spring return to neutral position.





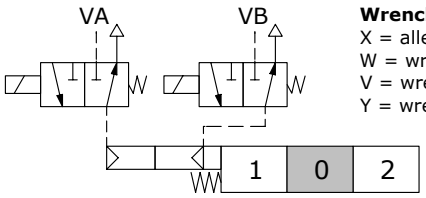
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
W = wrench 17 - 24 Nm *(17.7 lbft)*
V = wrench 13 - 9 Nm *(6.6 lbft)*

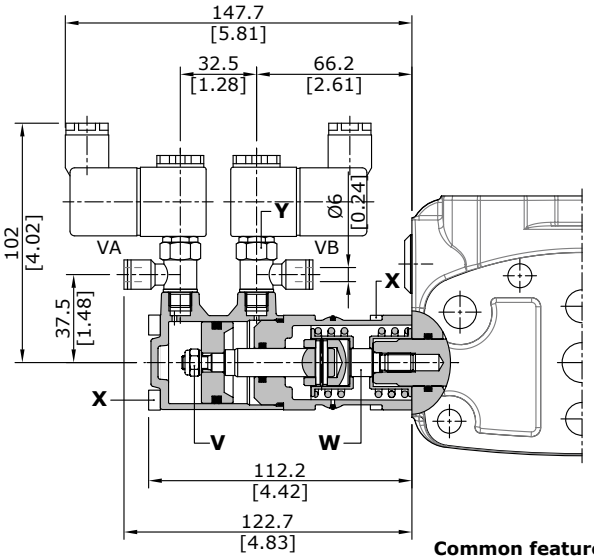
Common features
Pilot pressure.....: min. 5.5 bar *(min. 80 psi)*
: max. 10 bar *(min. 145 psi)*

ON/OFF electro-pneumatic kit

Electro-pneumatic: 8EP3 type

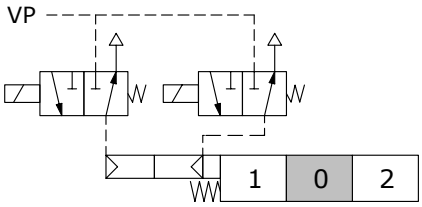
With spring return to neutral position.

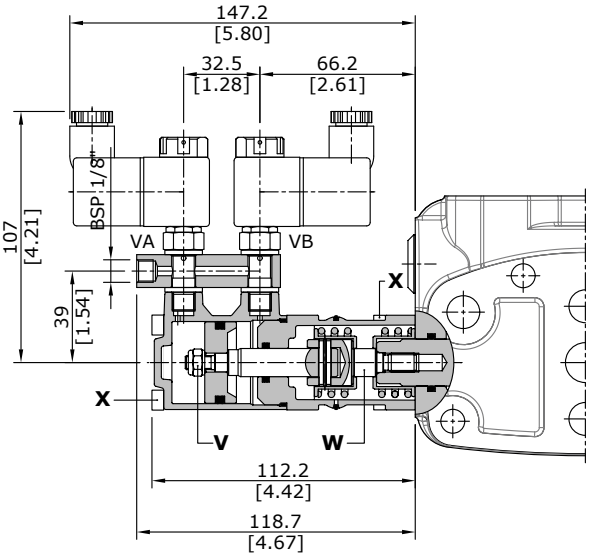




Electro-pneumatic: 8EP4 type

With spring return to neutral position.



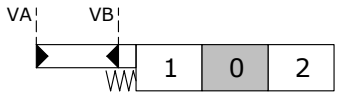


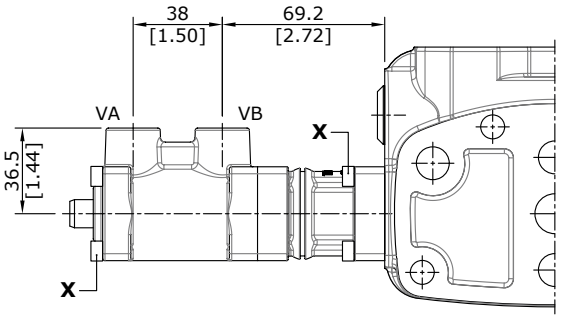
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
W = wrench 17 - 24 Nm *(17.7 lbft)*
V = wrench 13 - 9 Nm *(6.6 lbft)*
Y = wrench 15 - 6 Nm *(4.4 lbft)*

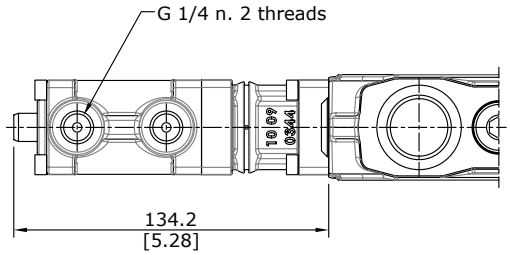
Common features
Pilot pressure.....: min. 5.5 bar *(min. 80 psi)*
: max. 10 bar *(min. 145 psi)*

"A" side spool positioners

Unilateral hydraulic proportional spool control kit 8IZ (30 07 7542)



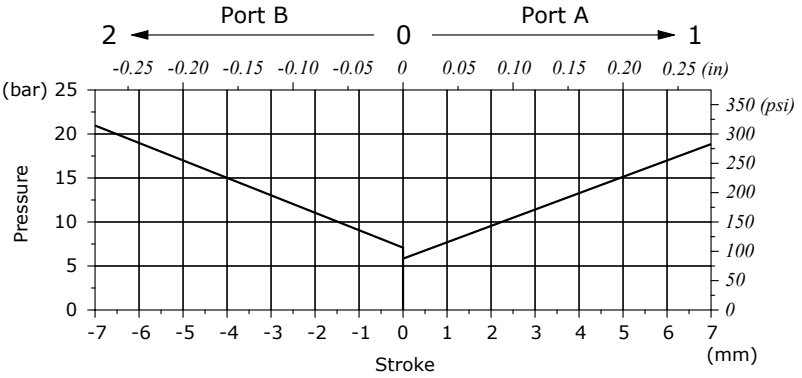




Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*

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

Pressure - stroke diagram

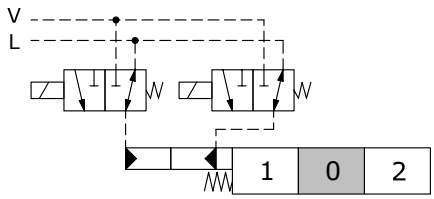


Working section

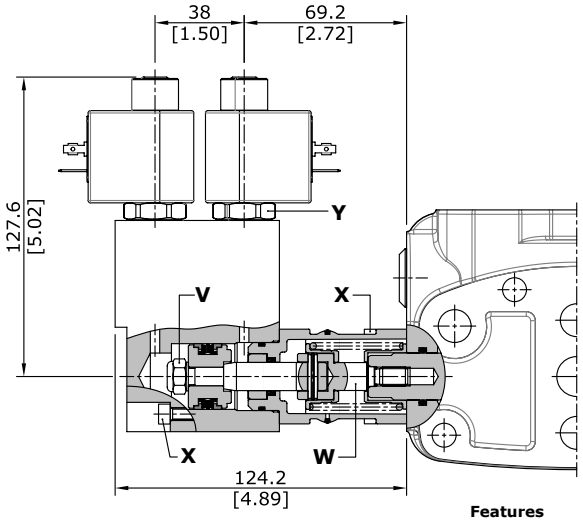
"A" side spool positioners

ON/OFF electro-hydraulic kit and proportional electro-hydraulic kit

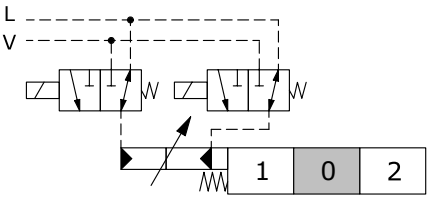
ON/OFF electro-hydraulic: 8EI3 type

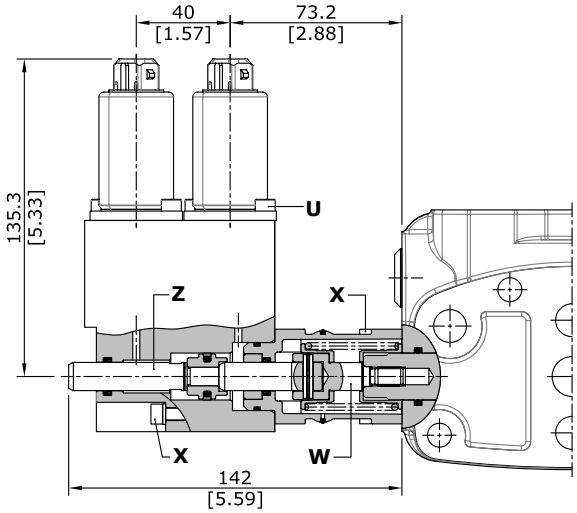


Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
W = wrench 17 - 24 Nm *(17.7 lbft)*
V = wrench 13 - 9 Nm *(6.6 lbft)*
Y = wrench 24 - 9.8 Nm *(7.2 lbft)*
Z = wrench 11 - 9 Nm *(6.6 lbft)*
U = allen wrench 4



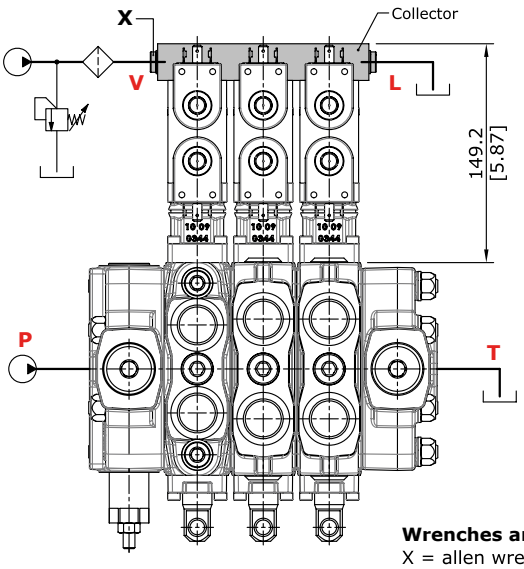
Proportional electro-hydraulic: 8EI3F type



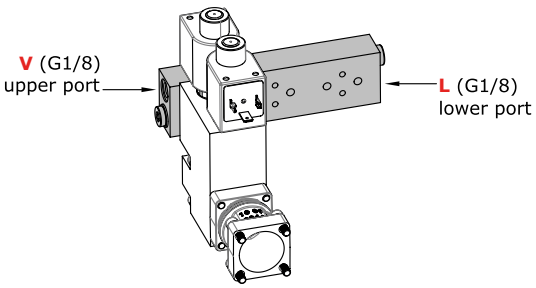


Features
Pilot pressure.....: min. 10 bar / *145 psi*
: max. 50 bar / *725 psi*
Max backpressure on drain L.....: 25 bar / *360 psi*

Collector kit for external pilot and drain



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



COLLECTOR KIT CODES		
Type	**Code ***	**Description**
KE1S0	30 07 5537	Kit for one section
KE2S0	30 07 5527	Kit for 2 sections
KE3S0	30 07 5528	Kit for 3 sections
KE4S0	30 07 5529	Kit for 4 sections
KE5S0	30 07 5530	Kit for 5 sections
KE6S0	30 07 5531	Kit for 6 sections
KE7S0	-	Kit for 7 sections

(*) codes are referred to BSP thread

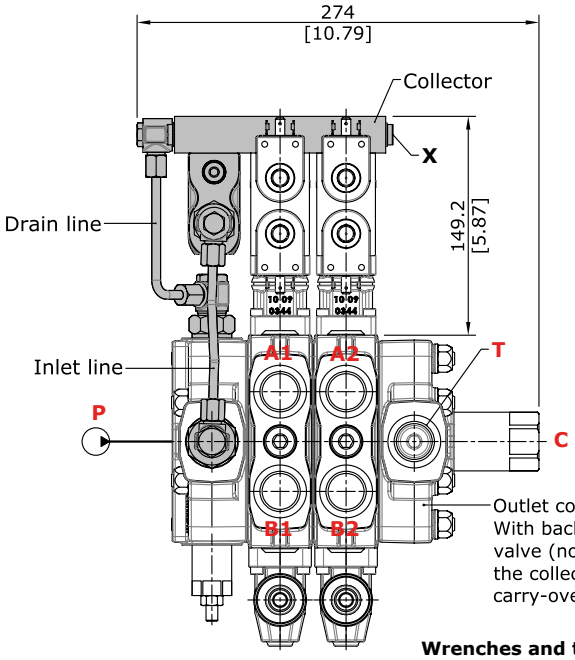
Description example:
100L GS16/3/AC(X-100)/RPES-1**8EI3**SLP/1**8EI3**SLP/
1**8EI3**SLP/RC-**KE3S0**-**12VDC**

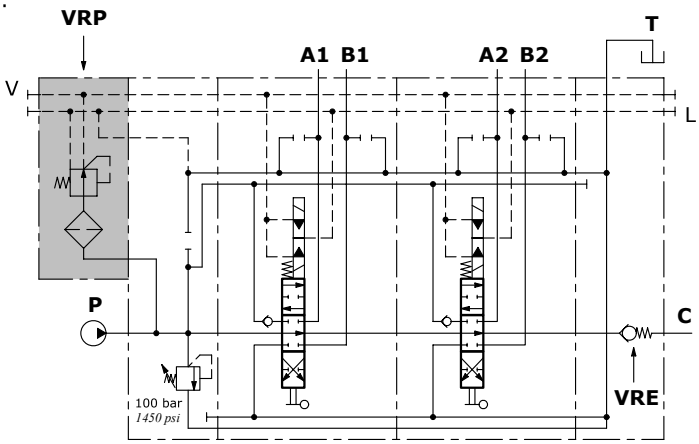
"A" side spool positioners

ON/OFF electro-hydraulic kit 8EI3 type

Collector kit for internal pilot and drain

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





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

Description example:
100L GS16/2/AC(X-100)/
18EI3L/**1**8EI3L/
RV–KE2R3–24VDC

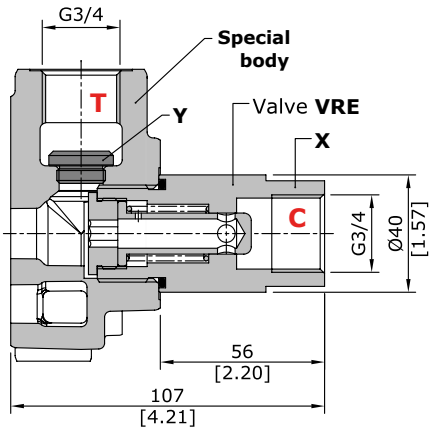
Features
VRP VALVE
Output pressure.....: 25 bar / *363 psi*
Max. flow..... : 8 l/min
Filtering..... : 80 µ

COLLECTOR KIT CODES		
Type	**Code ***	**Description**
KE1R3	30 07 5550	Kit for one section
KE2R3	30 07 5501	Kit for 2 sections
KE3R3	30 07 5502	Kit for 3 sections
KE4R3	30 07 5503	Kit for 4 sections
KE5R3	30 07 5504	Kit for 5 sections
KE6R3	30 07 5505	Kit for 6 sections
KE7R3	-	Kit for 7 sections

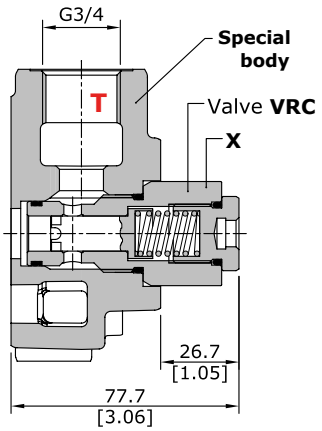
(*) codes are referred to BSP thread

VRE - VRC backpressure valve

Valve assembled on flow through passage to provide pilot pressure to the actuator.



Wrenches and tightening torques
X = wrench 36 - 42 Nm *(31 lbft)*
Y = Allen wrench 8 - 42 Nm *(31 lbft)*



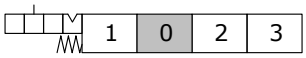
Wrenches and tightening torques
X = wrench 32 - 42 Nm *(31 lbft)*

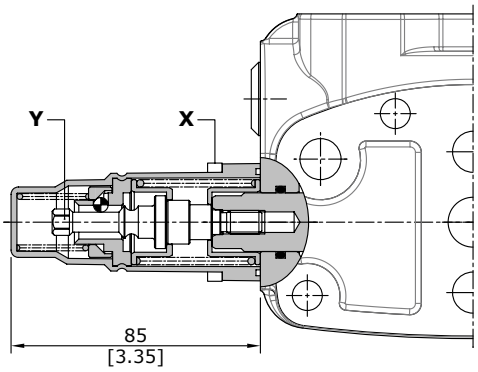
Working section

Particular positioner kits for special spools

13NZ type (30 07 5415)

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





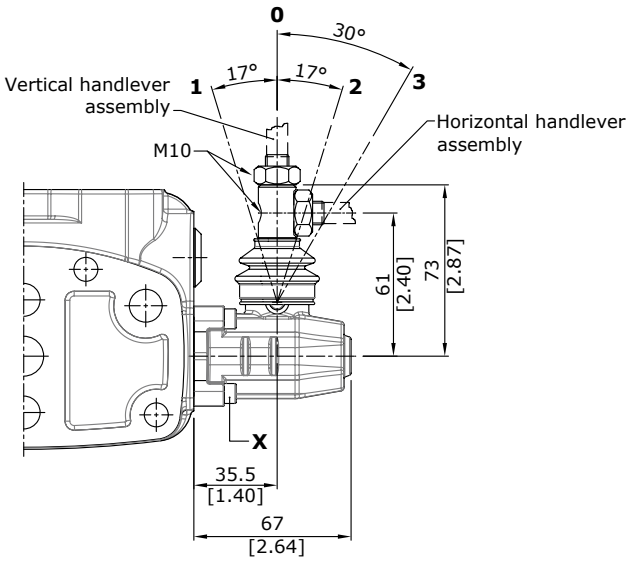
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 8 - 9 Nm *(6.6 lbft)*

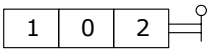
"B" side options

Lever control

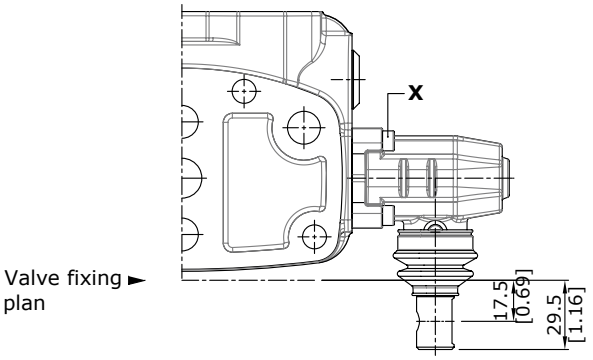
L type (30 07 5403)

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





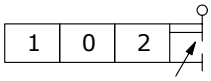
configuration L180

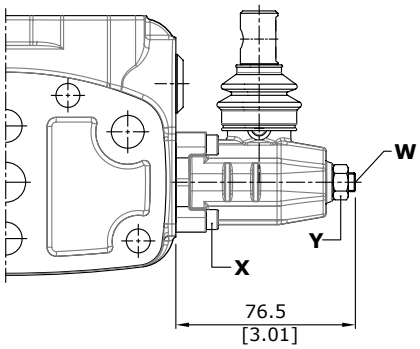


Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*

LF1 type (30 07 5405)

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

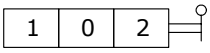




Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 13 - 24 Nm *(17.7 lbft)*
W = allen wrench 4

LB type (30 07 5407)

Steel construction, LB1 with pivot placed down and LB3 with pivot placed over.



Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*

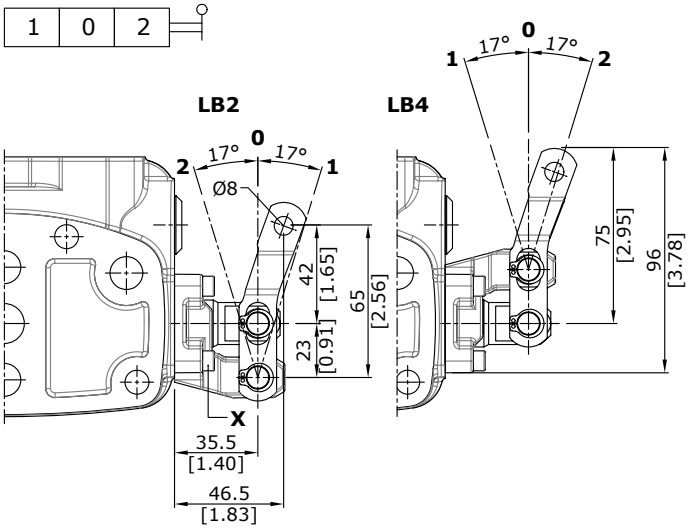
Working section

"B" side options

Lever control

LB type (30 07 5571)

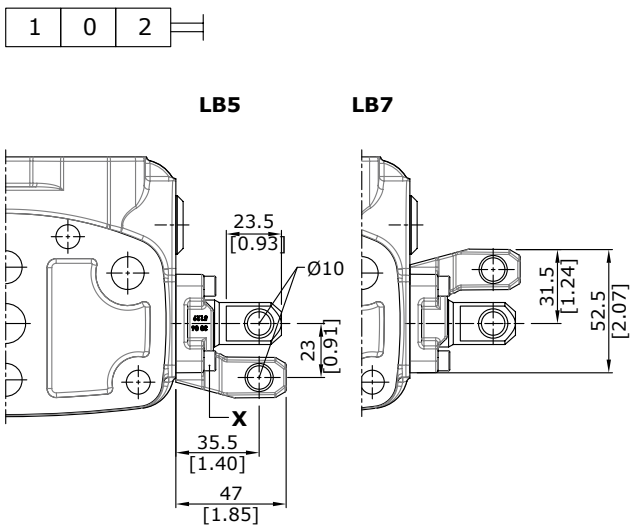
Steel construction, LB2 with pivot placed down and LB4 with pivot placed over.



Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*

LB type (30 07 7556)

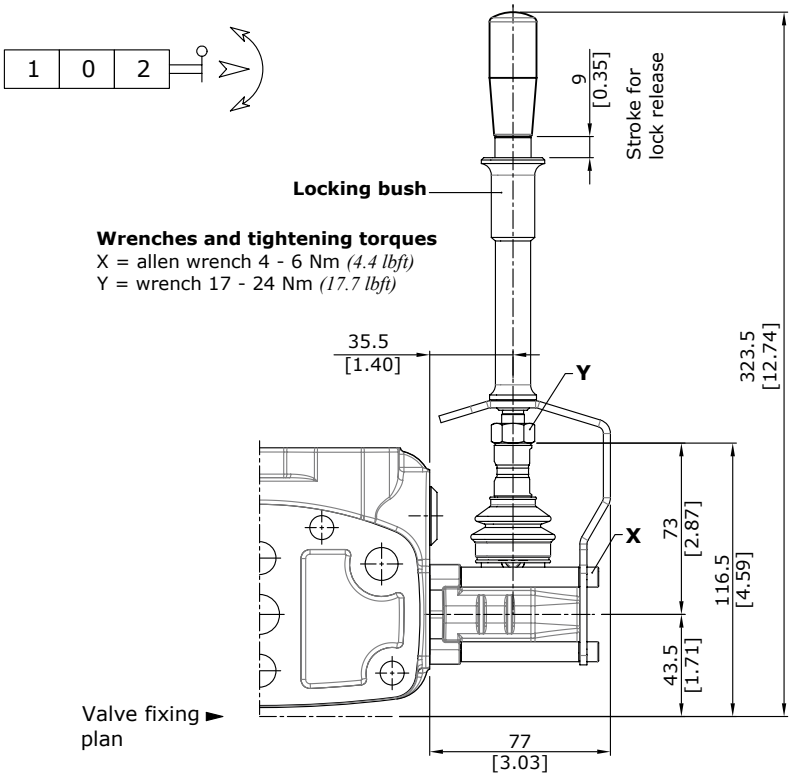
Steel construction, LB5 with pivot placed down and LB7 with pivot placed over.



Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*

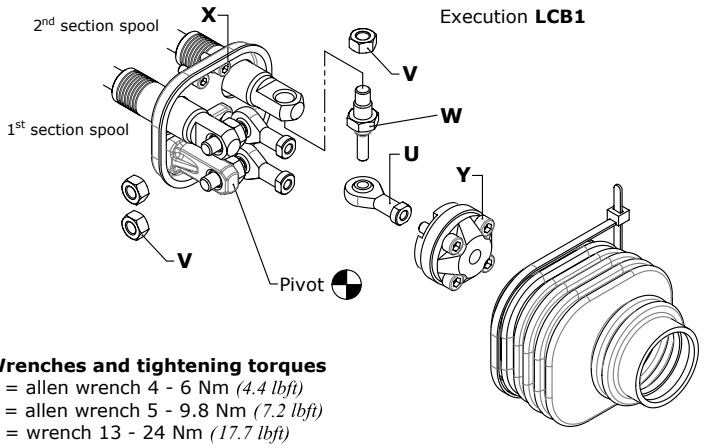
Safety lever LEB type (30 07 5409)

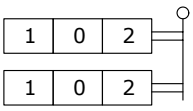
Safety levers with lock in neutral complete with handlever; lift handlever knob to operate.

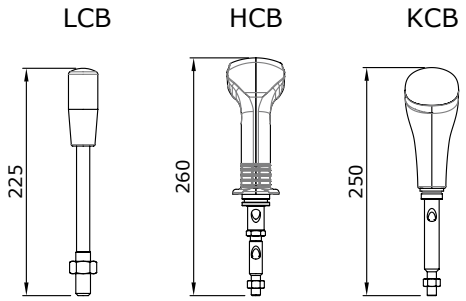


"B" side options

LCB mechanical joystick for two sections control (30 07 5433)



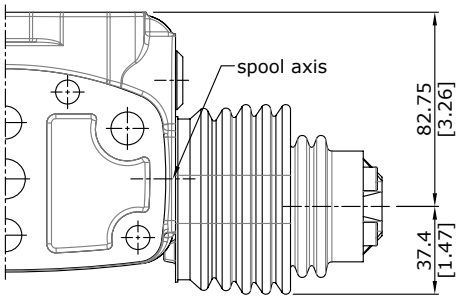


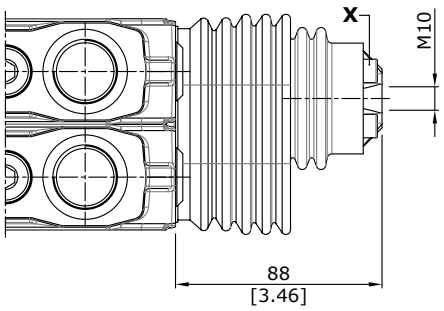


Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 5 - 9.8 Nm *(7.2 lbft)*
V = wrench 13 - 24 Nm *(17.7 lbft)*
U = wrench 10
W = wrench 15 - 24 Nm *(17.7 lbft)*

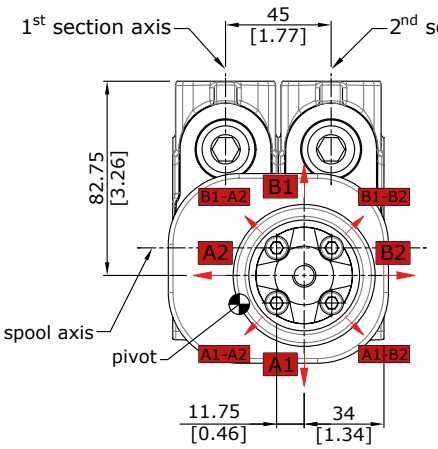
Description example
100L GS16/2/AC(X-100)/18**LCB1**/18**LCB1**/RC

Dimensions and movement scheme for left inlet directional valve

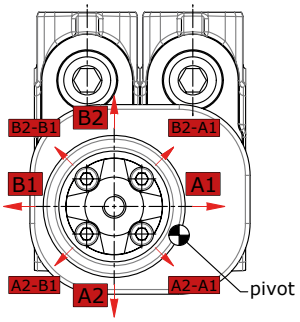




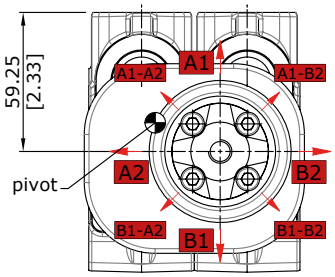
Execution **LCB1**
pivot placed down on the left



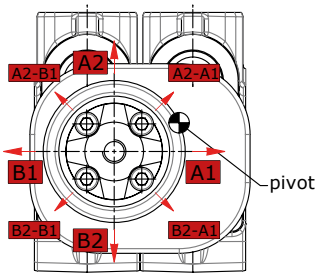
Execution **LCB2**
pivot placed down on the right



Execution **LCB3**
pivot placed above on the left



Execution **LCB4**
pivot placed above on the right



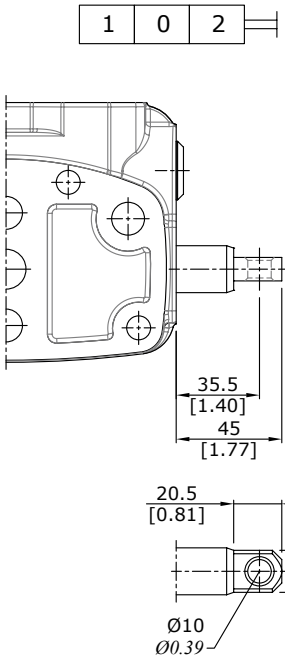
Wrenches and tightening torques
X = allen wrench 5 - 9.8 Nm *(7.2 lbft)*

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

Working section

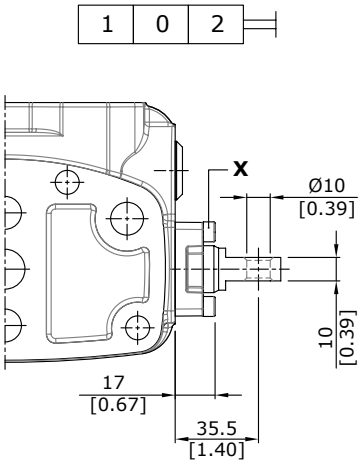
"B" side options

SL type



SLP type (30 07 5406)

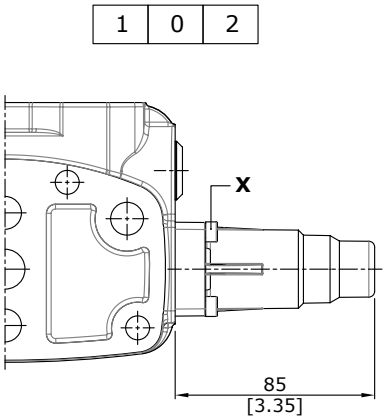
Mechanical control with dust-proof plate kit.



Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*

SLCZ type (30 07 5347)

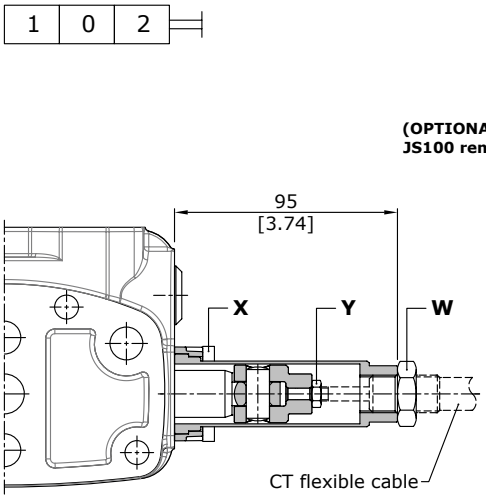
Protection cap usable with pneumatic, electropneumatic, and electrohydraulic spool positioners.

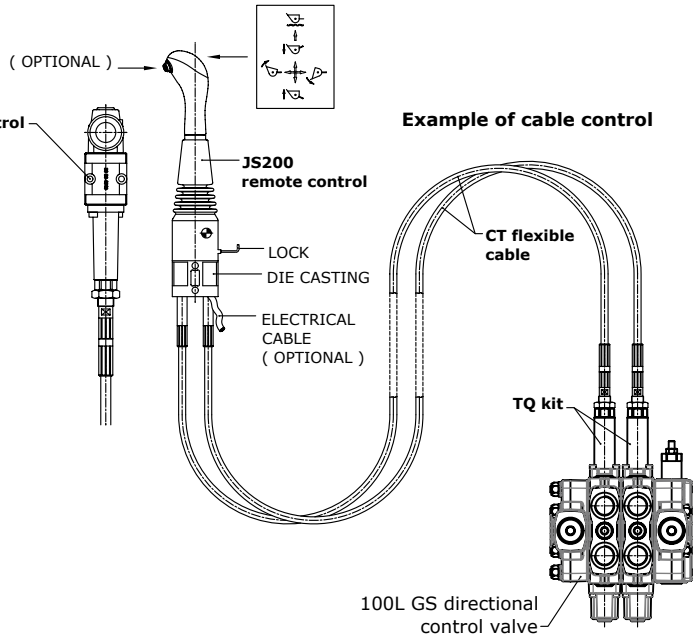


Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*

TQ cable remote control kit (30 07 5398)

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)*

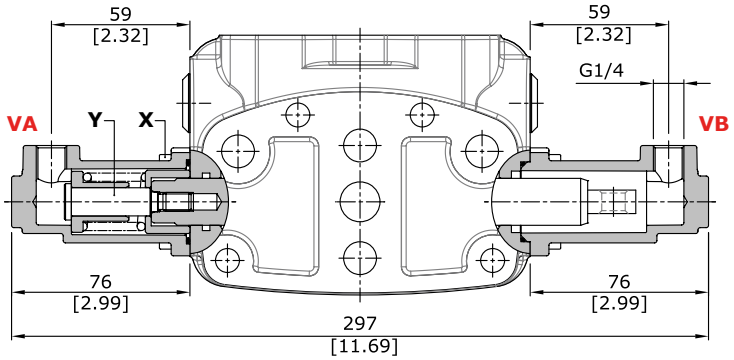
NOTE : For further information about remote cable control, require related documentation.

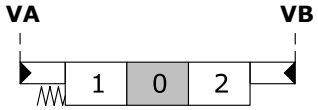
Complete controls

Proportional hydraulic controls

8IM type (30 07 5414)

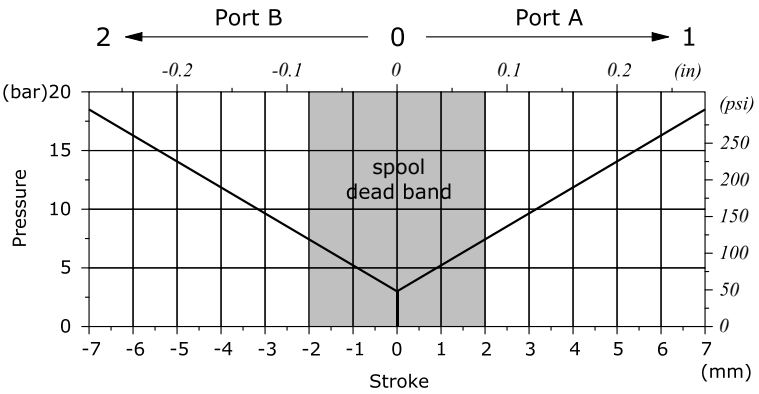
It can be used with standard spools and body





Diagrams and features of proportional hydraulic controls

Pressure - stroke diagram
(for controls represented)

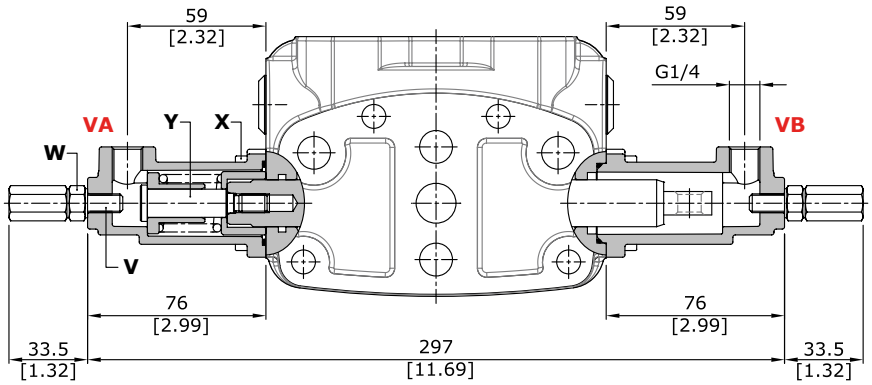


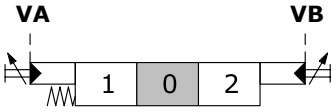
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 9 Nm *(6.6 lbft)*

Operating features
Pilot pressure : max. 50 bar *(725 psi)*
Internal leakage A(B)→ T (Δ = 100 bar - *(1450 psi)*
/ T = 40°C)
..... : max. 6cm^3/min - *0.37 in^3/min*

8IMF3 type (30 07 7569)

Configuration with screws for spool stroke adjustment.





Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 9 Nm *(6.6 lbft)*
V = allen wrench 4
W = wrench 13 - 24 Nm *(17.7 lbft)*

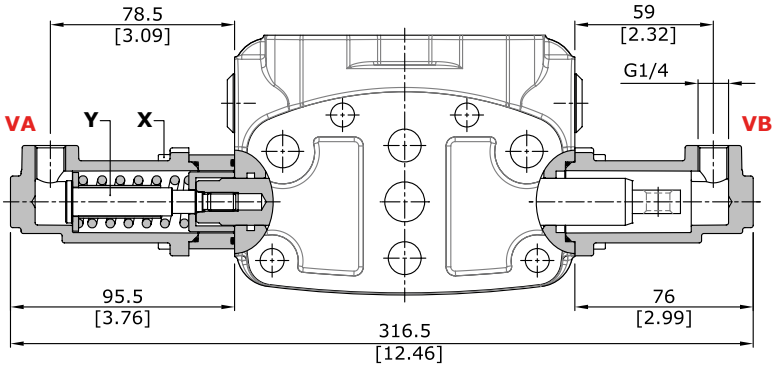
Working section

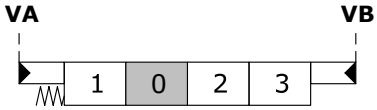
Complete controls

Proportional hydraulic control

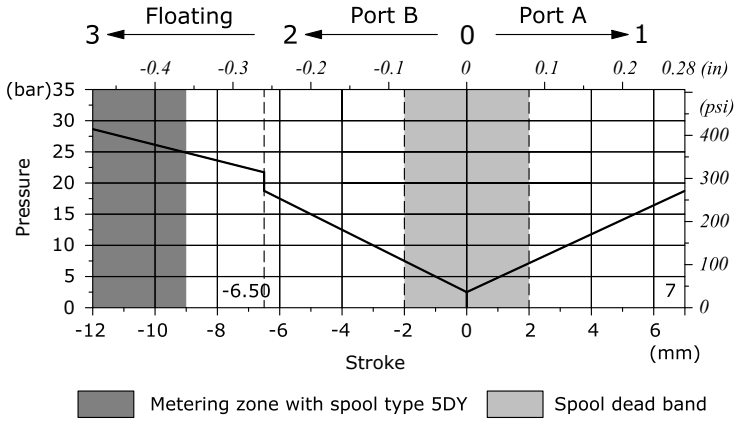
13IM type (30 07 7549)

For floating circuit.





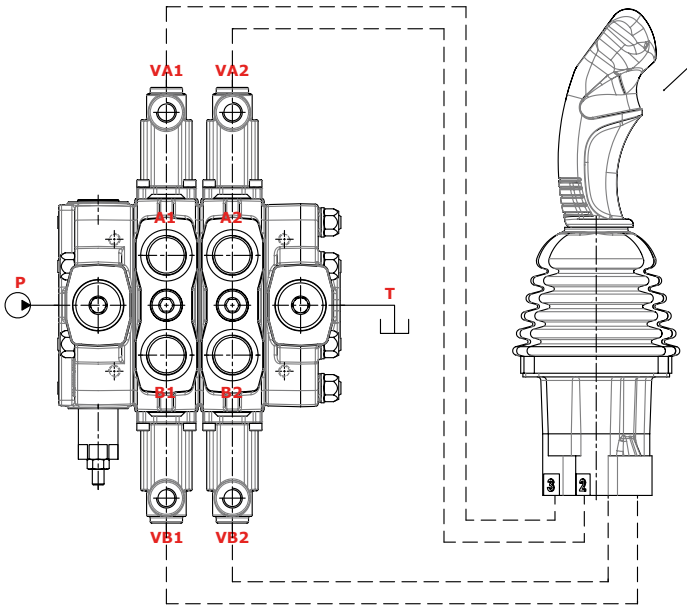
Pressure - stroke diagram



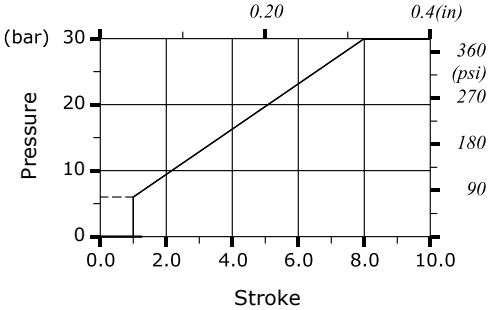
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 9 Nm *(6.6 lbft)*

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*

Connection example



8IM control kit
curve 001 without step

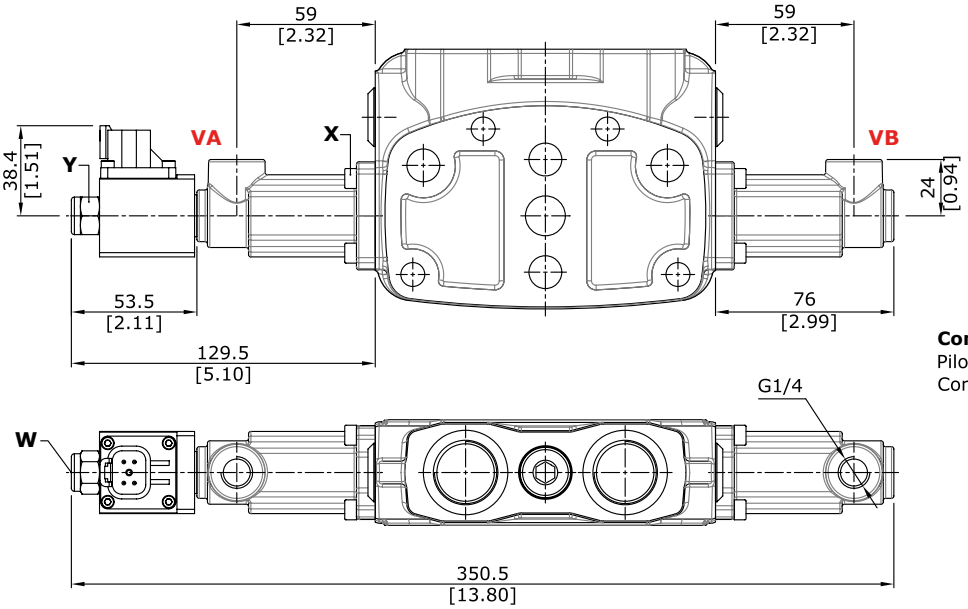


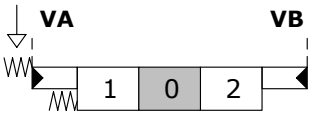
Complete controls

Proportional hydraulic control type

8IMSPSD (30 07 7559), 8IMSPSL (30 07 7562)

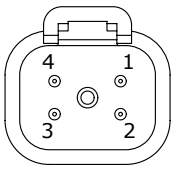
With spool position sensor.





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

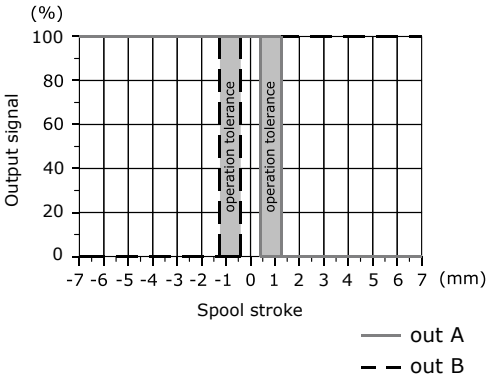
Control features
Pilot pressure..... : max. 100 bar *(1450 psi)*
Connector ..... : Deutsch DT04-4P



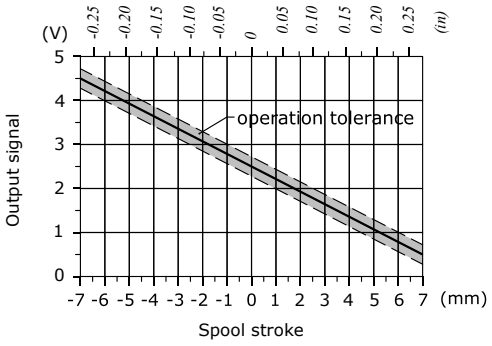
Connector PIN-OUT		
	Functions	
Pin	for 5V supply	for 8-32V supply
1	+5V	signal OUT
2	N.C.	GND
3	GND	Vb+
4	signal Out	not connected

Spool position sensor features
Voltage supply range..... : from 9 to 32 VDC or 5 VDC
Current absorption..... : <10 mA
Mechanical life..... : $3x10^6$
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



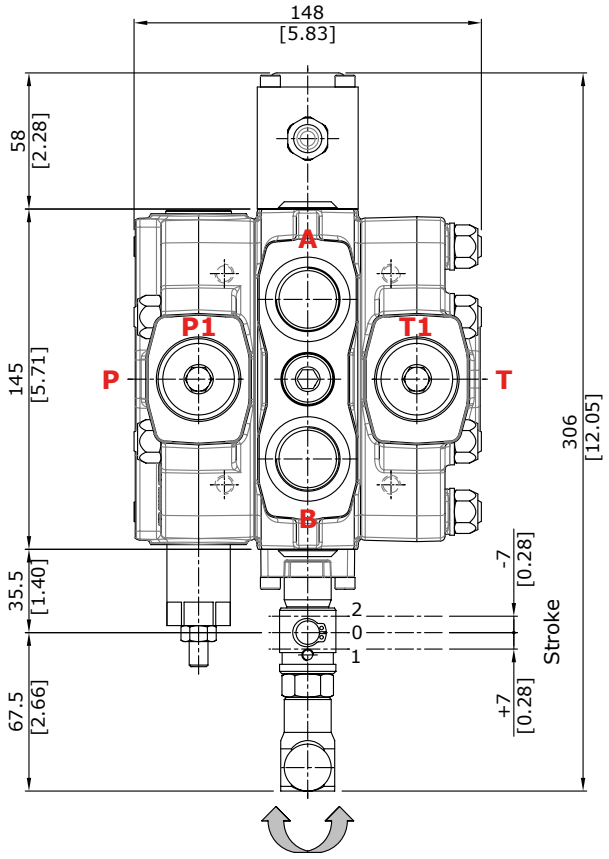
Output signal
Range..... : from 0.5 to 4.5 V
Linearity..... : ± 5%
Spool in neutral..... : 2.5 ± 0.2 V
Max current..... : 1 mA
Mechanical vibrations,
shock, bumps..... : IEC 68-2-6,27,29
EMC compatibility..... : ISO 13766 - ISO 15982

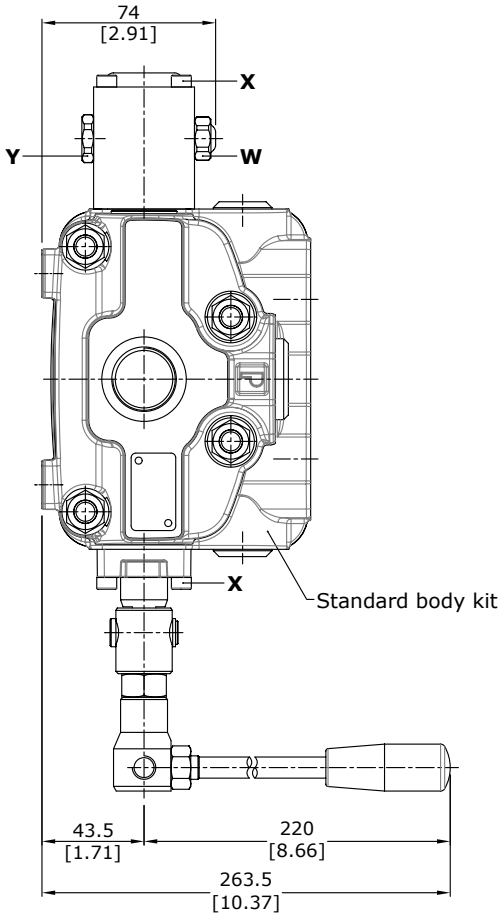
Working section

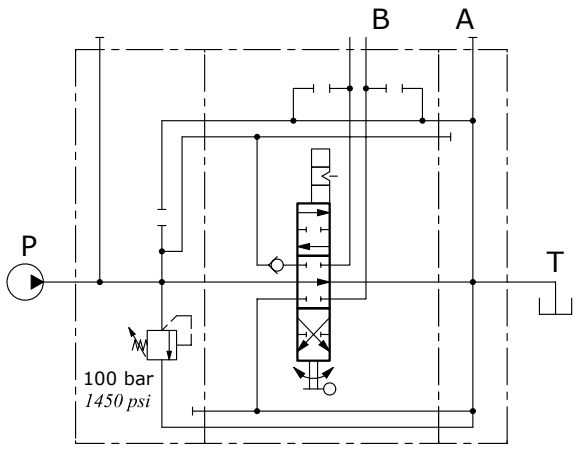
Special configurations

Directional valve with rotary control kit

R type (30 07 5379)







Description example
100L GS16/1/AC(X-100)/1 **R SLP**/RC

Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 19 - 9.8 Nm *(7.23 lbft)*
W = wrench 17 - 9.8 Nm *(7.23 lbft)*

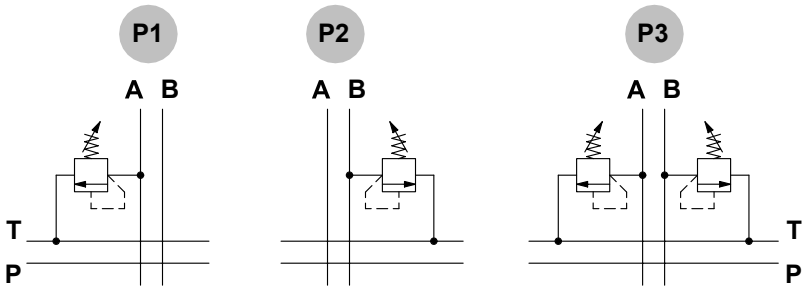
Port valves

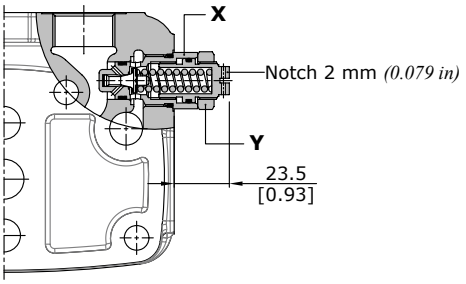
Antishock valves

P1 (100)

Valve setting (bar)

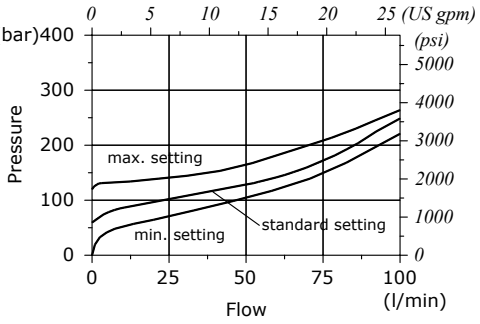
1 mounted on A port
2 mounted on B port
3 mounted on A and B ports



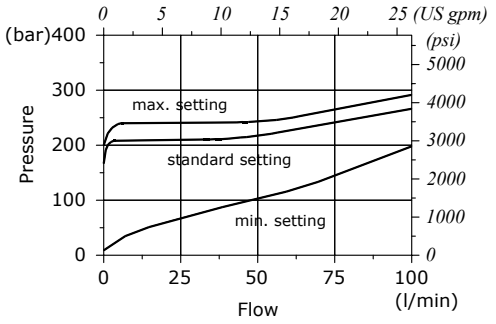


Wrenches and tightening torques
X = wrench 24 - 42 Nm *(31 lbft)*
Y = wrench 24 - 24 Nm *(17.7 lbft)*

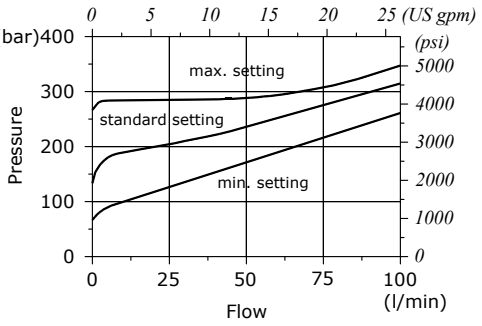
From 55 to 140 bar *(from 800 to 2000 psi)*



From 50 to 220 bar *(from 725 to 3200 psi)*



From 180 to 350 bar *(from 2600 to 5100 psi)*



Working section

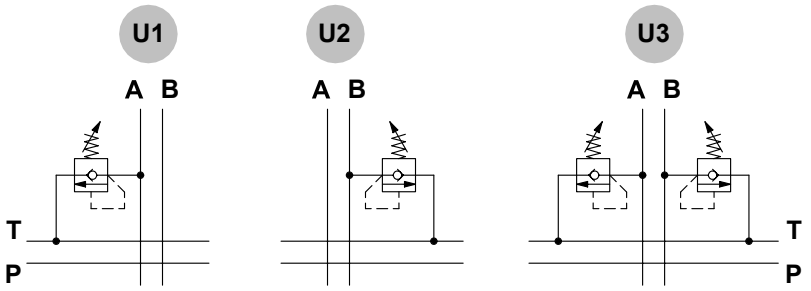
Port valves

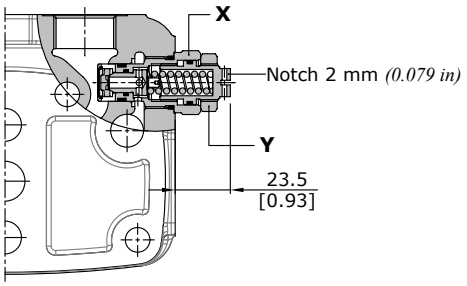
Antishock and anticavitation valves

U1 (100)

Valve setting (bar)

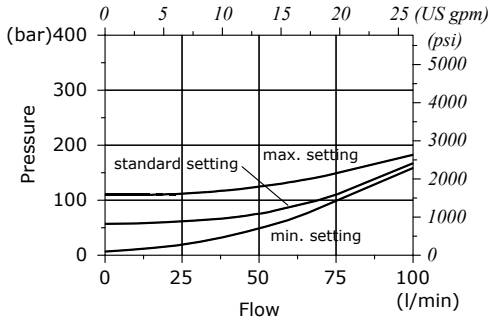
1 mounted on A port
2 mounted on B port
3 mounted on A and B ports



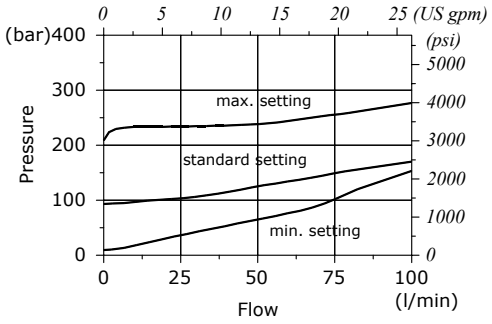


Wrenches and tightening torques
X = wrench 24 - 42 Nm *(31 lbft)*
Y = wrench 24 - 24 Nm *(17.7 lbft)*

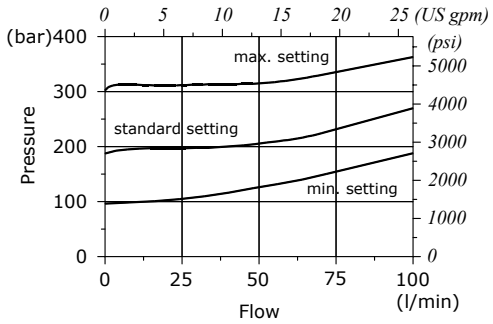
From 35 to 90 bar *(from 510 to 1300 psi)*



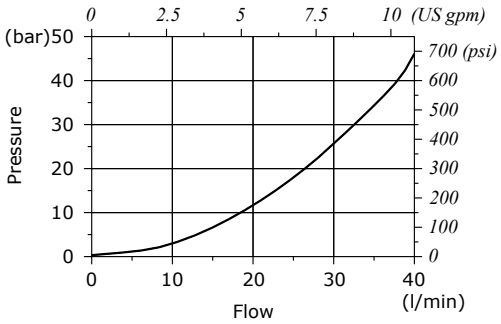
From 100 to 250 bar *(from 1450 to 3600 psi)*



From 180 to 350 bar *(from 2600 to 5100 psi)*



Pressure drop P T

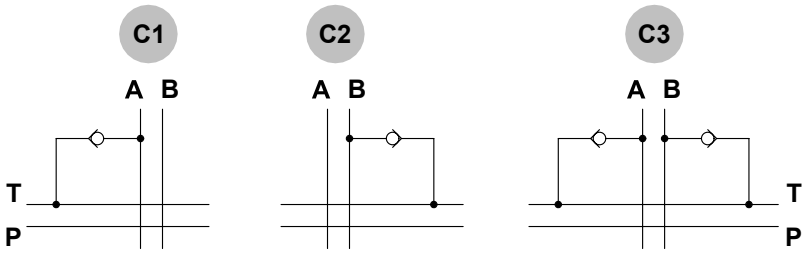


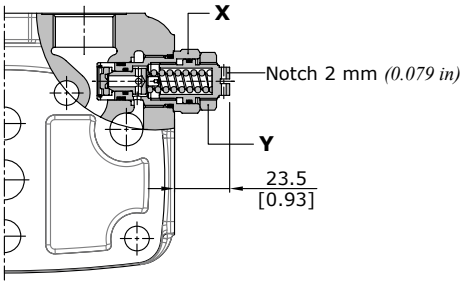
Port valves

Anticavitation valve

C1

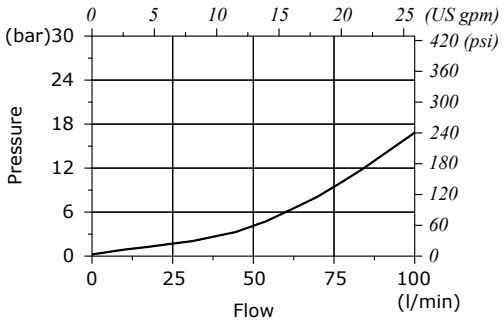
1 mounted on A port
2 mounted on B port
3 mounted on A and B ports





Wrenches and tightening torques
X = wrench 24 - 42 Nm *(31 lbft)*
Y = wrench 24 - 24 Nm *(17.7 lbft)*

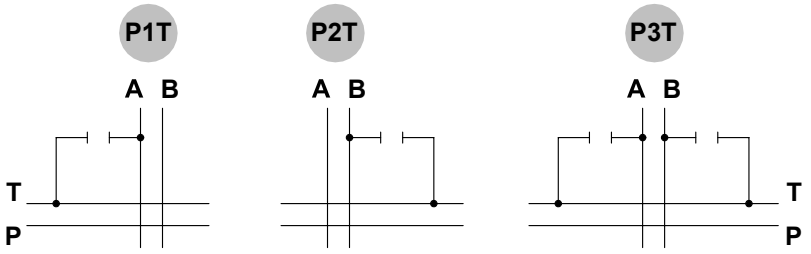
Pressure drop

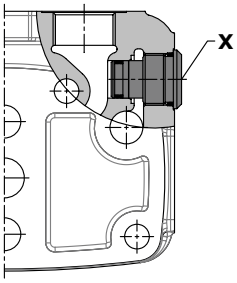


Valve blanking plug

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 lbft)*

Working section

Port valves

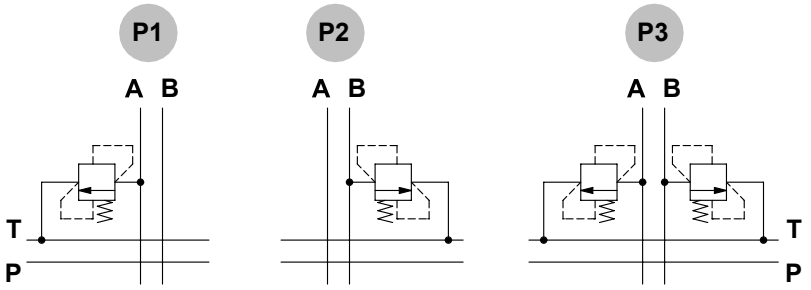
Fixed setting antishock valves

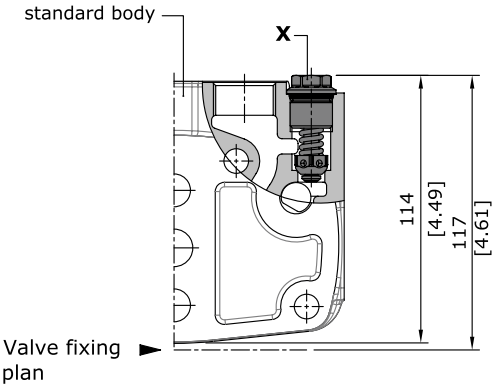
For RPES, RPESP, RPE5DY working port.

P1 (100)

Valve setting (bar)

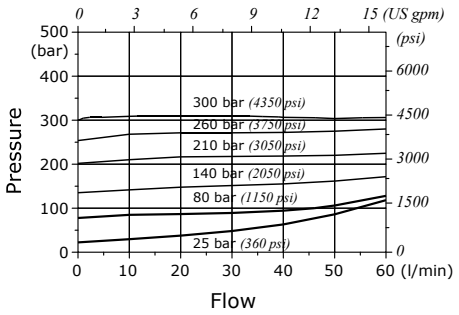
1 mounted on A port
2 mounted on B port
3 mounted on A and B ports



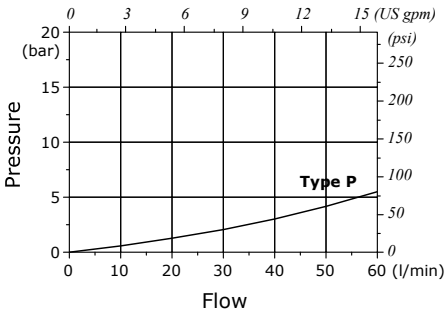


Wrenches and tightening torques
X = wrench 15 - 24 Nm *(17.7 lbft)*

Setting example
(10 l/min - *2.6 Us gpm*)



Pressure drop
(in anticavitation)



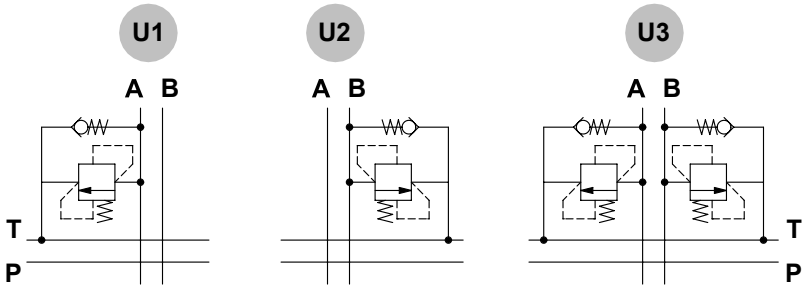
Port valves

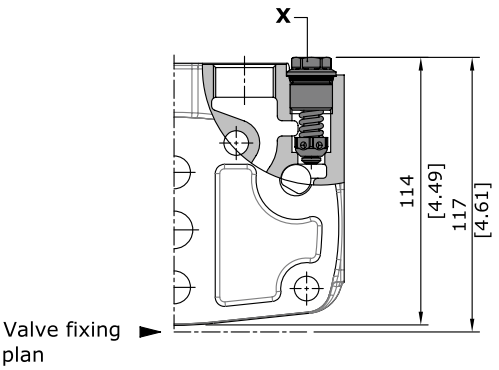
Fixed setting antishock and anticavitation valves

It needs special body with extra machining type RPHT, RPHSP, RPH5DY.

U1 (100)

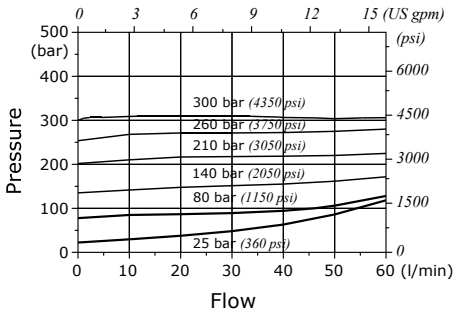
- Valve setting (bar)
- **1** mounted on A port
- **2** mounted on B port
- **3** mounted on A and B ports



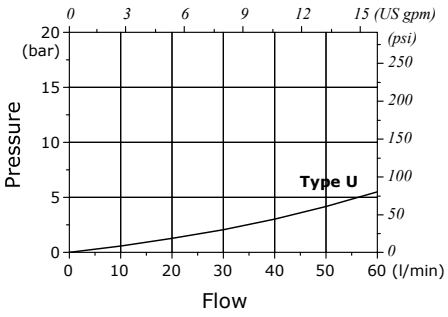


Wrenches and tightening torques
X = wrench 15 - 24 Nm *(17.7 lbft)*

Setting example
(10 l/min - *2.6 Us gpm*)



Pressure drop
(in anticavitation)



Working section

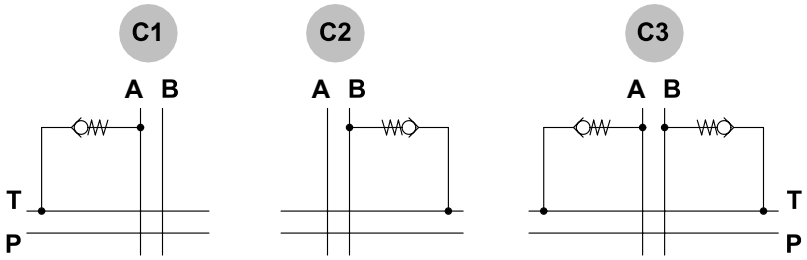
Port valves

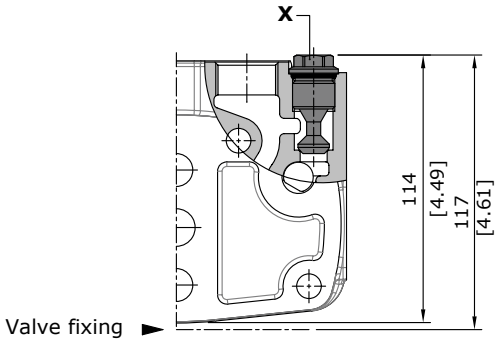
Anticavitation valve

It needs special body with extra machining type RPHT, RPHSP, RPH5DY.

C1

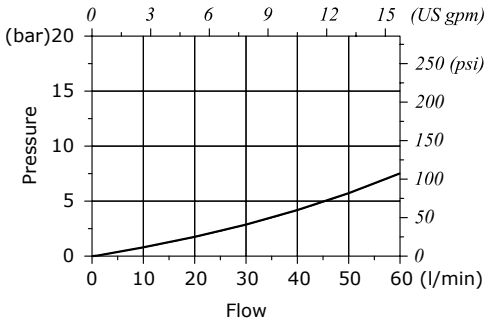
1 mounted on A port
2 mounted on B port
3 mounted on A and B ports





Wrenches and tightening torques
X = wrench 15 - 24 Nm *(17.7 lbft)*

Pressure drop
(in anticavitation)

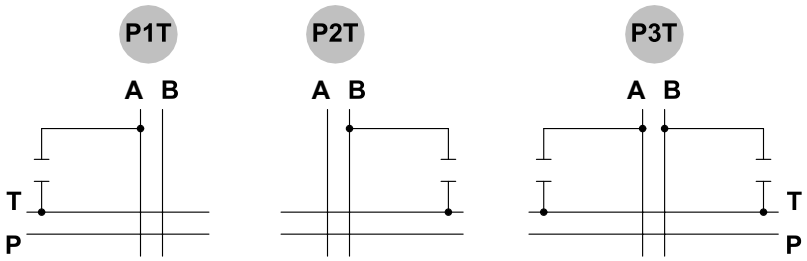


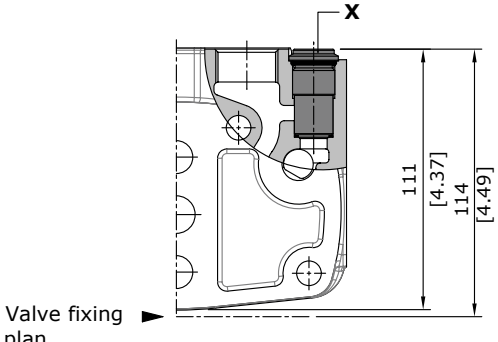
Valve blanking plug

For RPES, RPESP, RPE5DY, RPHT, RPHSP, RPH5DY working port.

P 3 T

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



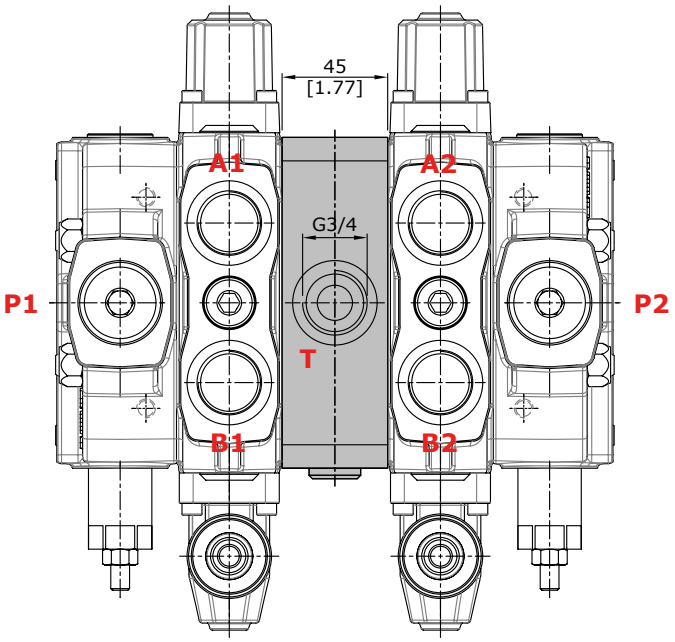


Wrenches and tightening torques
X = allen wrench 8 - 24 Nm *(17.7 lbft)*

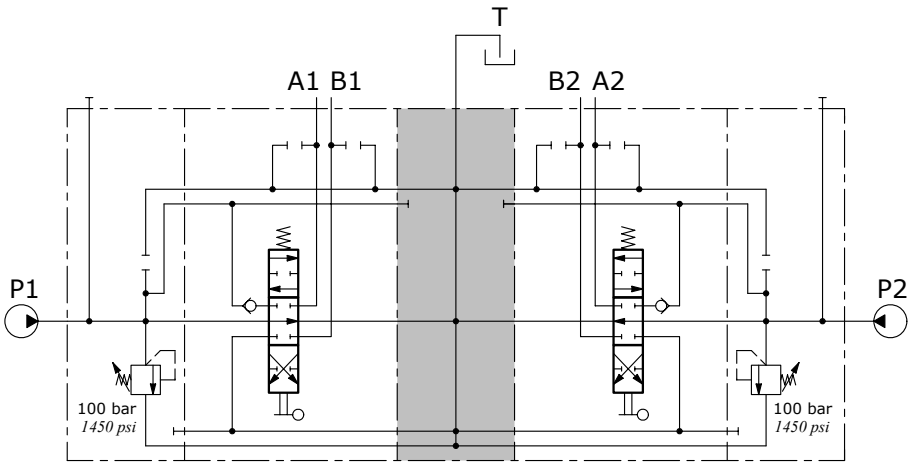
Intermediate section

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



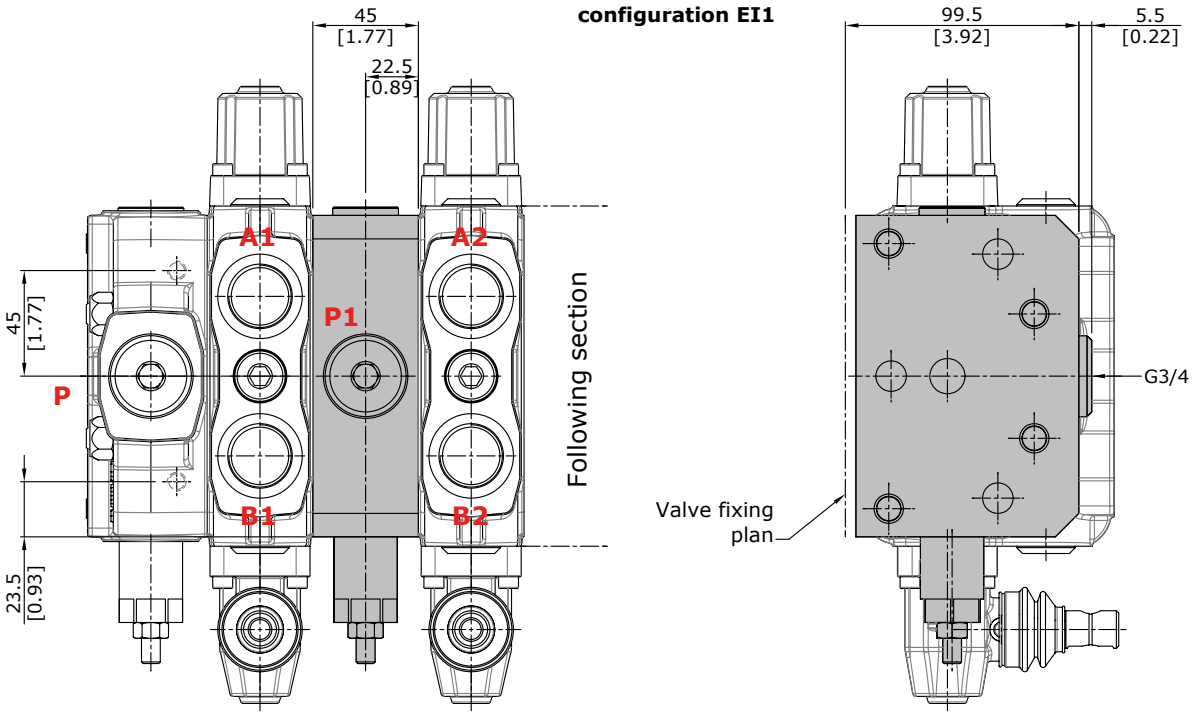
Description example:
100L GS16/2/AC(X-100)/18L/**CS1**/18L/BC(X-100)

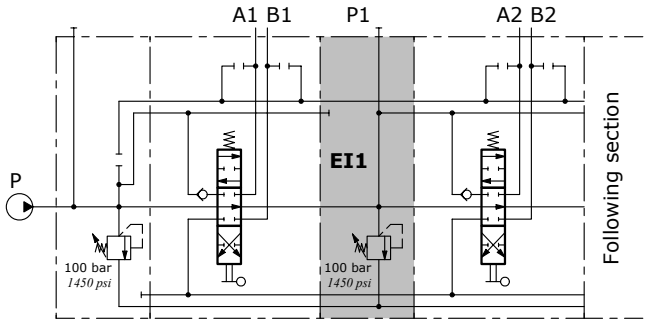
Intermediate section

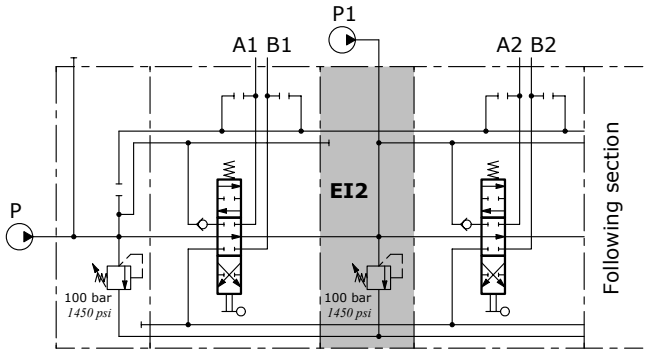
Service relief valve section

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.



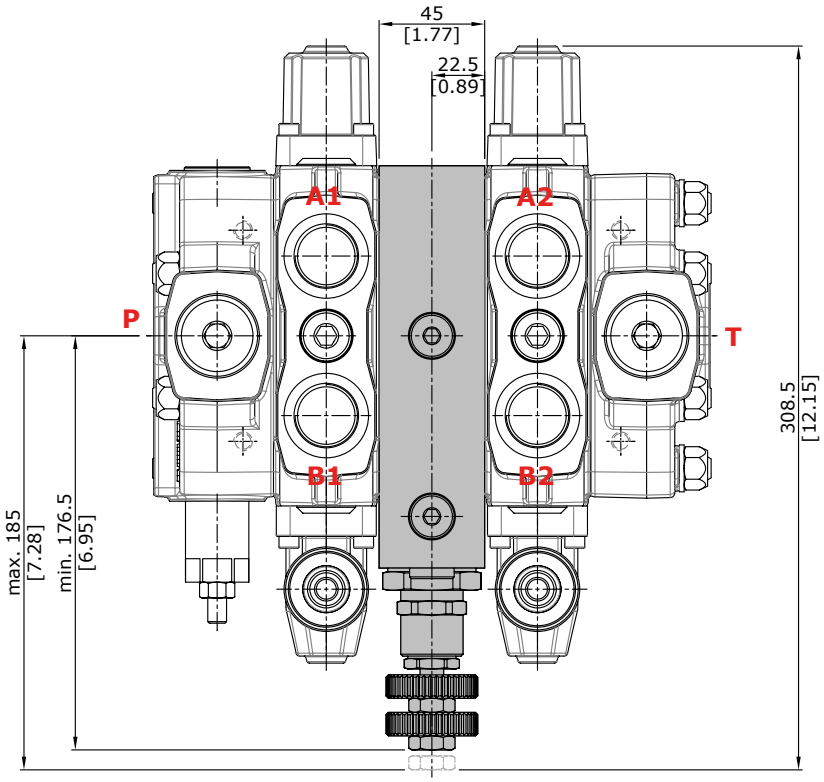




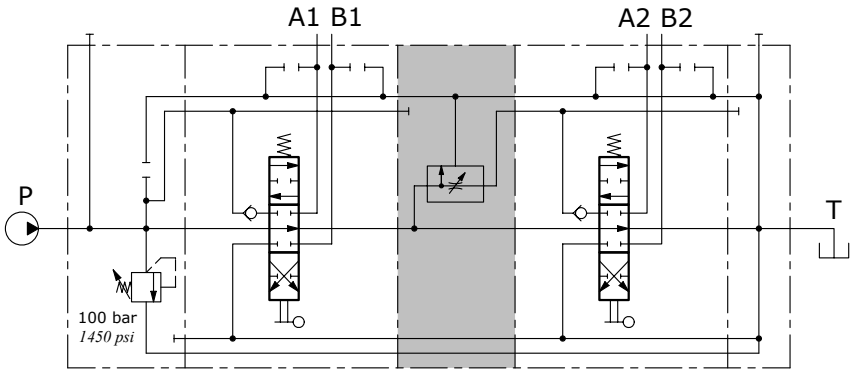
Intermediate section

DFG pressure compensated flow divider section

The flow on the downstream sections can be adjusted from 0 to 100 l/min. by means of graduated handwheel; exceeding setting flow goes to tank.



Hydraulic circuit



Description example:
100L GS16/2/AC(X-100)/18L/**DFG**/18L/RC

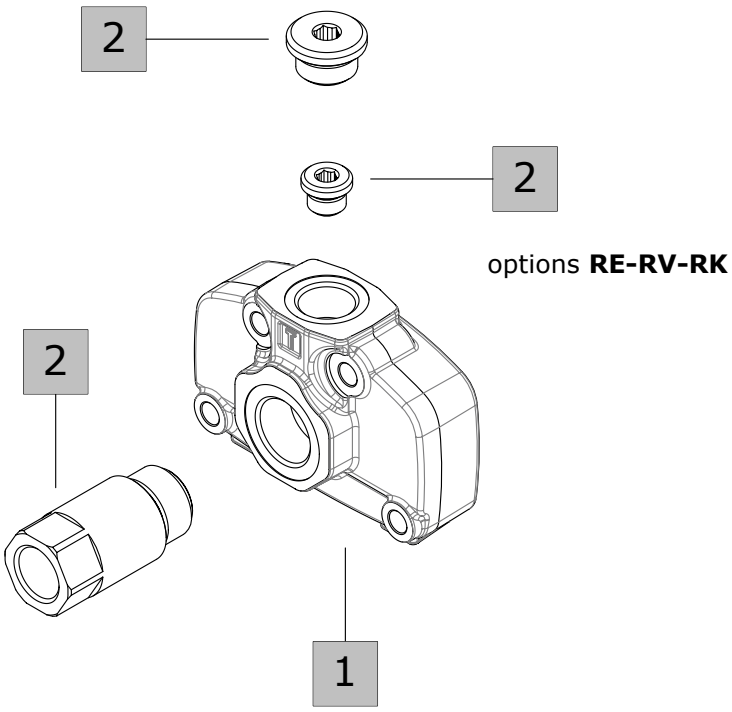
Outlet section

Parts ordering codes

Ordering example:

100L GS16 / 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	10OU010001	With side outlet
RD	10OU010002	With upper outlet
RE	10OU010003	With upper outlet and side carry-over sleeve
RK	10OU010004	With upper outlet and closed center
RV	10OU010005	With backpressure valve
VRC	10OU010006	With backpressure valve

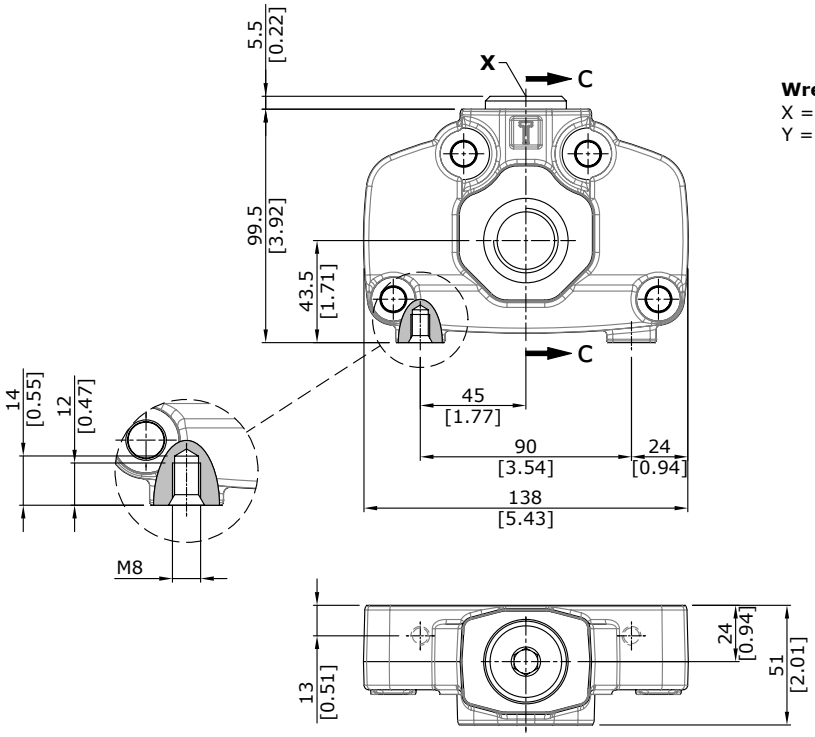
2. Circuit options *

TYPE	CODE	DESCRIPTION
-	30 05 6457	G3/8 tapered plug for carry-over (RE), carry-over with backpressure valve (RV) and closed centre (RK) options
VRE	30 05 4905	Backpressure valve 10 bar *(145 psi)* for RV configuration (see page 31)
VRC	30 05 4904	Backpressure VRC configuration (see page 31)
-	30 05 4920	G3/4 plug

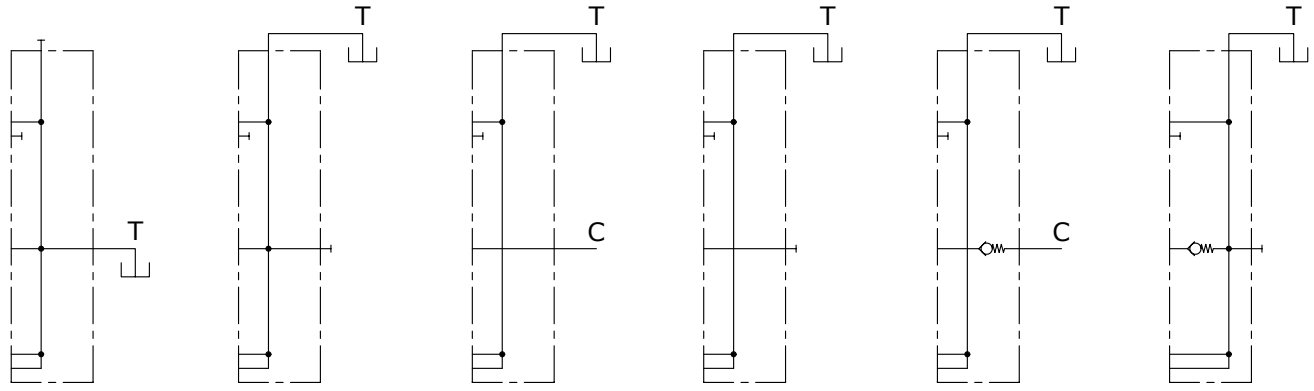
NOTE (*) – Codes are referred to **BSP** thread.

Outlet section

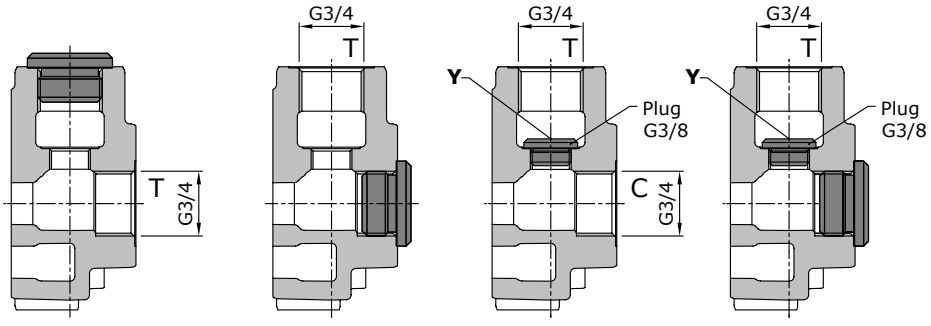
Dimensional data and hydraulic circuit



Wrenches and tightening torques
X = allen wrench 10 - 24 Nm *(17.7 lbft)*
Y = allen wrench 8 - 42 Nm *(31 lbft)*



Type RC | Type RD | Type RE | Type RK | Type RV | Type VRC



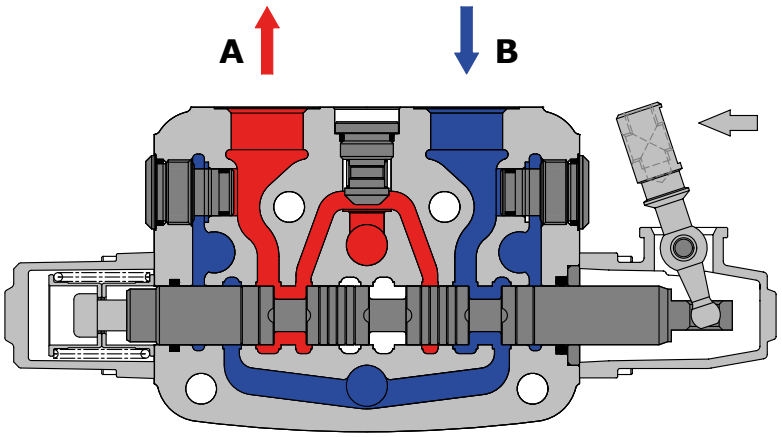
Section C-C | Section C-C | Section C-C | Section C-C

Technical Information

Sectional drawing

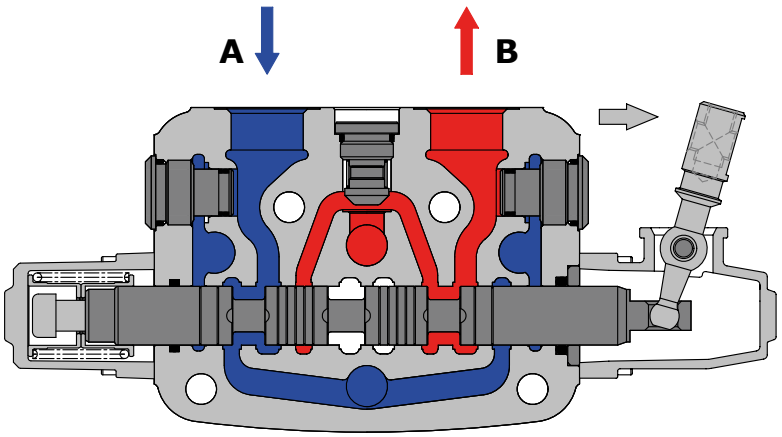
When hand lever pushed (spool out position) P to A port. B to T port.

Position 1



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

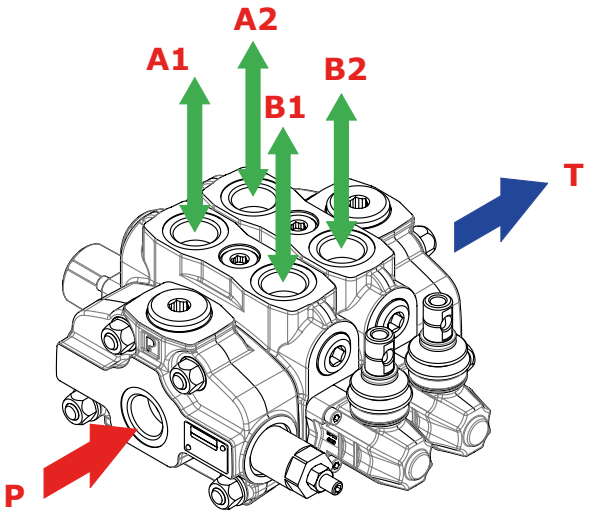
Position 2

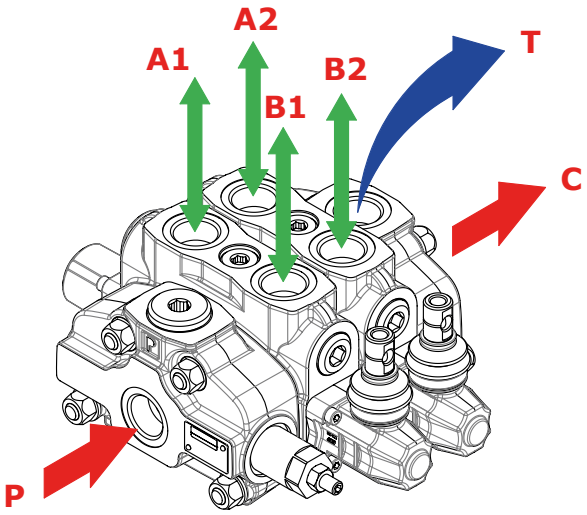


Installation and maintenance

The 100L 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 3/4	G 3/4	G 3/4	G 1/4
With O-Ring seal	70 *(51.6)*	70 *(51.6)*	70 *(51.6)*	25 *(18.4)*
With copper washer	70 *(51.6)*	70 *(51.6)*	70 *(51.6)*	30 *(22.1)*
With steel and rubber washer	70 *(51.6)*	70 *(51.6)*	70 *(51.6)*	16 *(11.8)*
UN-UNF (ISO 11926-1)	1 1/16-12 (SAE 12)	1 1/16-12 (SAE 12)	1 1/16-12 (SAE 12)	9/16-18 (SAE 6)
With O-Ring seal	95 / 70	95 / 70	95 / 70	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.