HYDRA PART

240L GS

Sectional Control Valve

Simple compact and heavy duty designed sectional valve from 1 to 12 sections for open and closed centre hydraulic systems. Fitted with a main pressure relief valve is and a load check valve on every working section.

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 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. H Diameter 25 mm (0.98 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		240 l/min.	*63 US gpm*
Max. flow		260 l	*68 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)*	4cm^3/min.	*0.24 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 19)		50 Nm	*36 lbft*

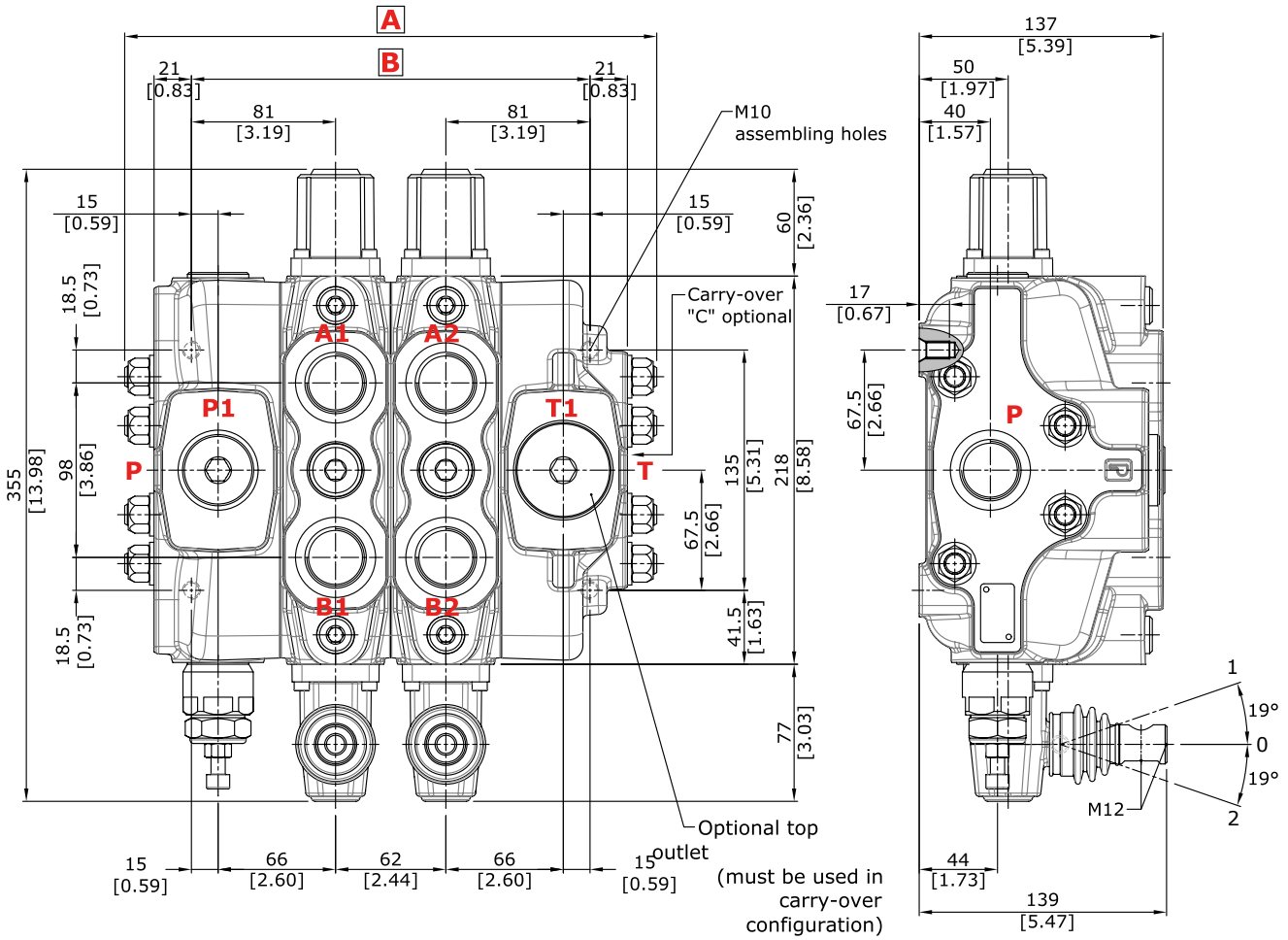
Standard threads

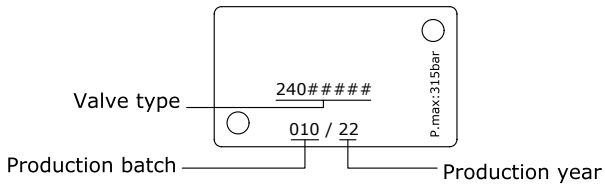
REFERENCE STANDARD				
		BSP	**UN-UNF**	**NPTF**
THREAD ACCORDING TO		ISO 228/1	ISO 263	ANSI B1.20.3
		BS 2779	ANSI B1.1 unified	
CAVITY DIMENSION ACCORDING TO	ISO	1179-1	11926-1	
	SAE		J1926-1	J476a
	DIN	3852-2 shape X or Y		

PORTS THREADING			
MAIN PORTS	**BSP**	**OPTIONAL**	**UN-UNF**
P inlet	G 1	G 1 1/4	1 5/8-12 (SAE 20)
A and **B** ports	G 1	G 1 1/4	1 5/16-12 (SAE 16)
T outlet and **C** carry-over	G 1 1/4	G 1 1/4	1 5/8-12 (SAE 20)
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*
240L GS20/1	237	***9.33***	162	***6.38***	26.57	***58.58***
240L GS20/2	299	***11.77***	224	***8.82***	36.22	***79.85***
240L GS20/3	361	***14.21***	286	***11.26***	45.87	***101.13***
240L GS20/4	423	***16.65***	348	***13.70***	55.52	***122.40***
240L GS20/5	485	***19.09***	410	***16.14***	65.17	***143.67***
240L GS20/6	547	***21.54***	472	***18.58***	74.82	***164.95***

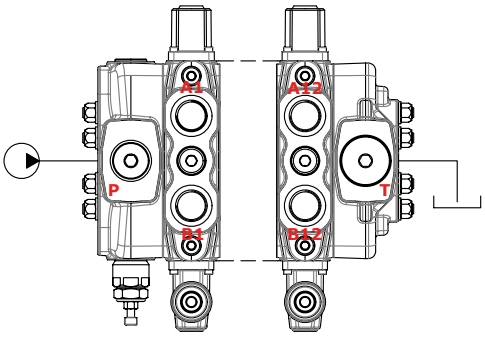
TYPE	A		B		Weight	
	mm	*in*	mm	*in*	Kg	*lb*
240L GS20/7	609	***23.98***	534	***21.02***	84.47	***186.22***
240L GS20/8	671	***26.42***	596	***23.46***	94.12	***207.50***
240L GS20/9	733	***28.86***	658	***25.91***	103.77	***228.77***
240L GS20/10	795	***31.30***	720	***28.35***	113.42	***250.05***
240L GS20/11	857	***33.74***	782	***30.79***	123.07	***271.32***
240L GS20/12	919	***36.18***	844	***33.23***	132.72	***292.60***

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

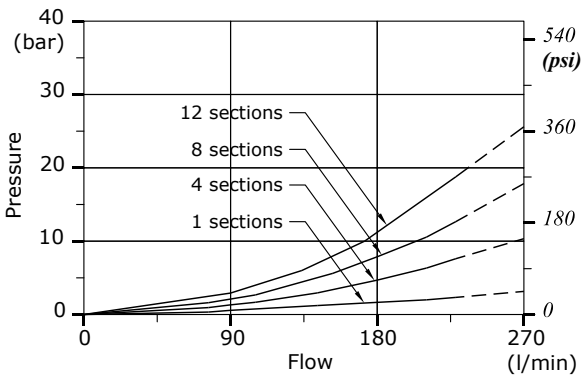
Performance data (pressure drop vs. flow)

Open centre

From side inlet to side outlet.

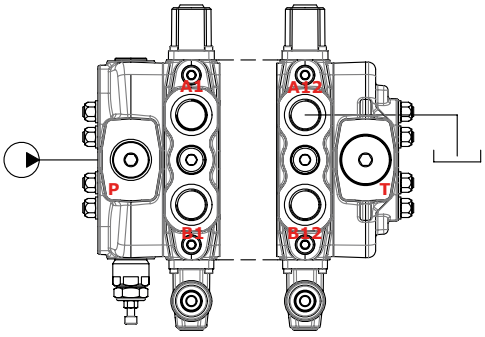


P ⇒ T pressure drop

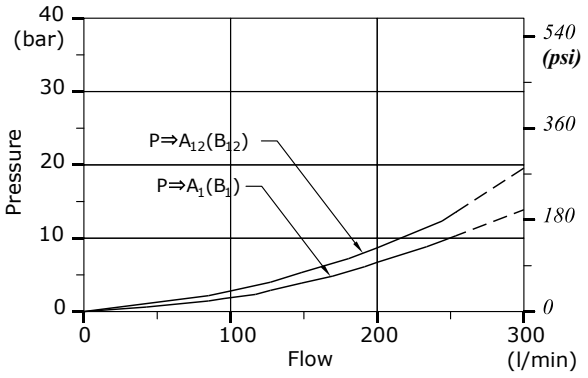


Inlet to work port

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

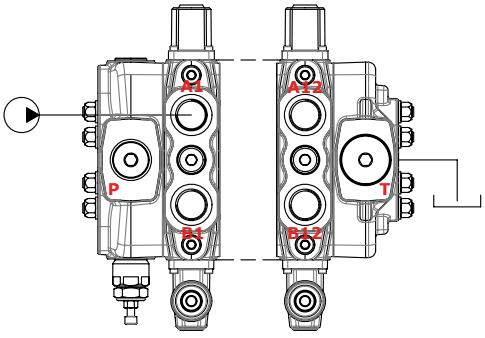


P ⇒ A(B) pressure drop

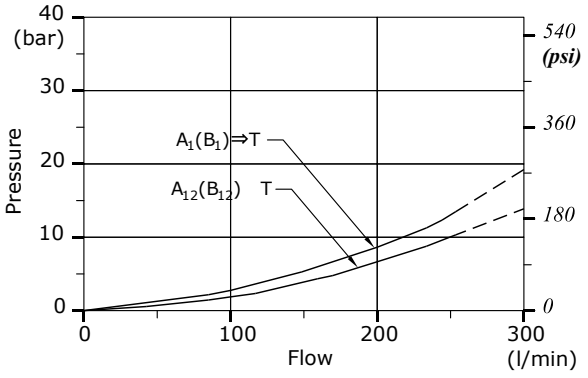


Work port to outlet

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



A(B) ⇒ T pressure drop

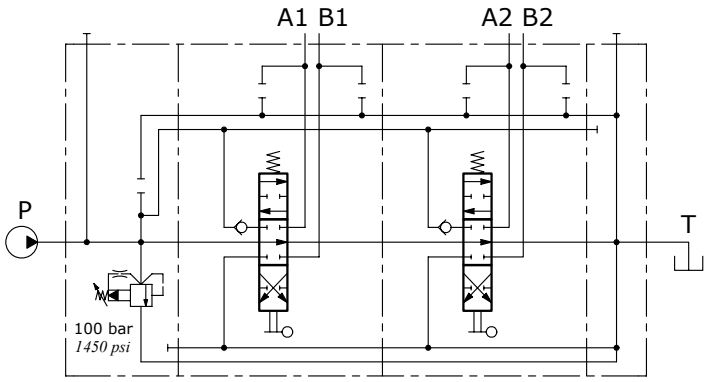


Valve general information

Hydraulic circuit

Parallel circuit

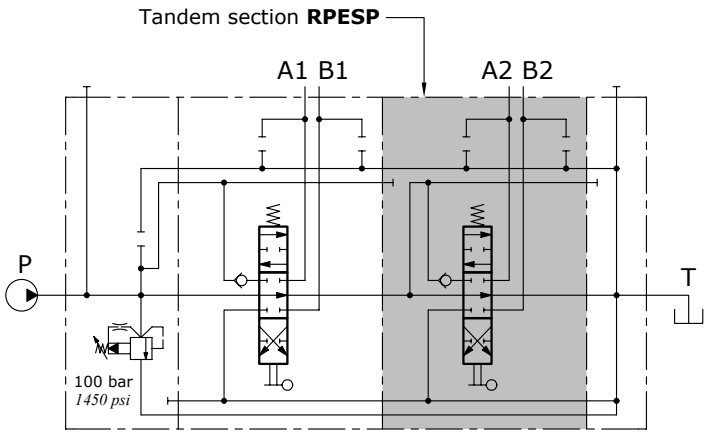
Standard configuration with open centre and side inlet and outlet.



Description example
240L GS20/2/AC(XGN-100)/**RPES**-18L/**RPES**-18L/RC

Series-parallel (tandem) circuit

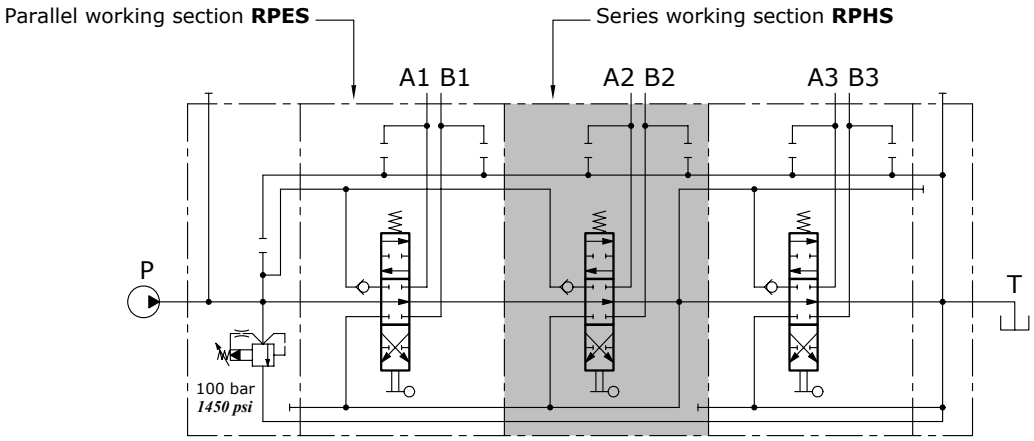
It needs a special working section kit.
Tandem section is fed from the free flow pressure line; it's excluded when an up strem section is operated.



Description example
240L GS20/2/AC(XGN-100)/RPES-18L/**RPESP**-18L/RC

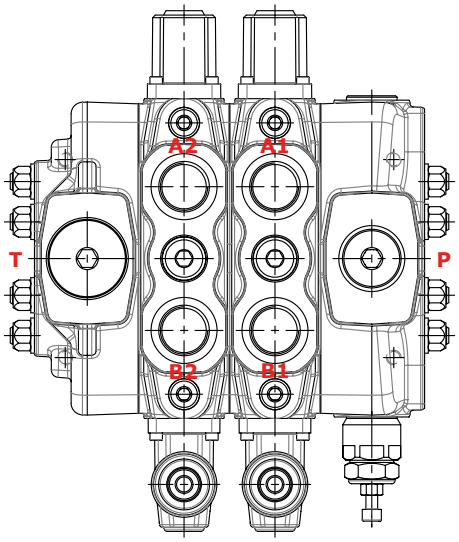
Hydraulic circuit

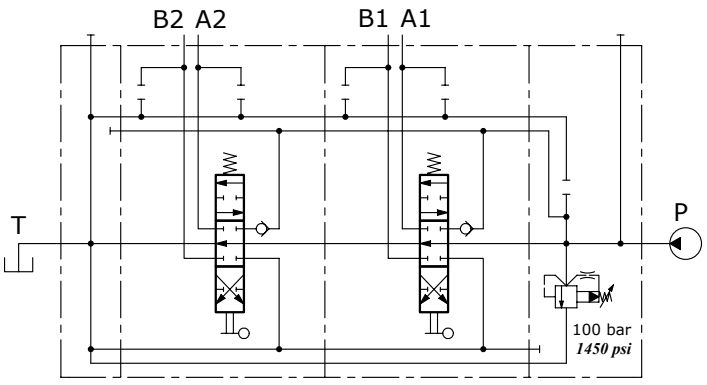
Series circuit



Description example
240L GS20/3/AC(XGN-100)/RPES-18L/**RPHS**-18L/RPES-18L/RC

Right inlet directional valve





Description example
240L GS20/2/**BC**(XGN-100)/RPES-18L/RPES-18L/RC

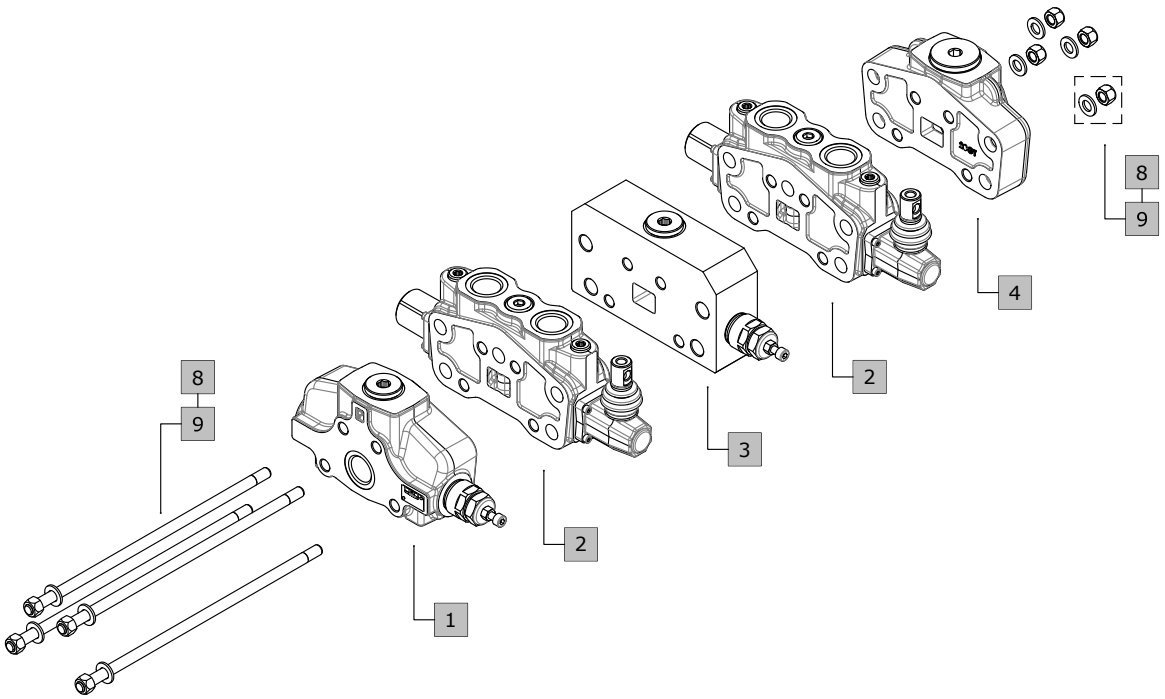
Valve general information

Complete sections ordering codes

Standard configuration with side inlet and outlet

240L GS20 / 2 / AC(XGN-100) / RPES - 18L / EI1(XGN-100) / RPES - 18L / RC

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



1. Inlet section * — page 10

TYPE	CODE	DESCRIPTION
AC(XGN-100)	24IN010001	With pilot pressure relief valve
AC(SV)	24IN010002	Without pressure relief valve

2. Working section * — page 15

TYPE	CODE	DESCRIPTION
RPES-18L	24W010007	For parallel circuit, for valve with series circuit and fixed setting port valves
RPHT-18L	24W010001	For parallel circuit with fixed setting port valves
RPESP-18L	24W010002	As RPES for series-parallel (tandem) circuit
RPHS-18L	24W010003	For series circuit

3. Intermediate sections * — page 34

TYPE	CODE	DESCRIPTION
EI1(XGN-100)	30 08 8877	With pilot pressure relief valve

4. Outlet section * — page 35

TYPE	CODE	DESCRIPTION
RC	24OU010001	With side outlet
RD	24OU010002	With upper outlet
RE	24OU010003	With upper outlet and side carry-over sleeve
RK	24OU010004	With upper outlet, closed center
RV	24OU010005	With backpressure valve 10 bar ***(145 psi)***

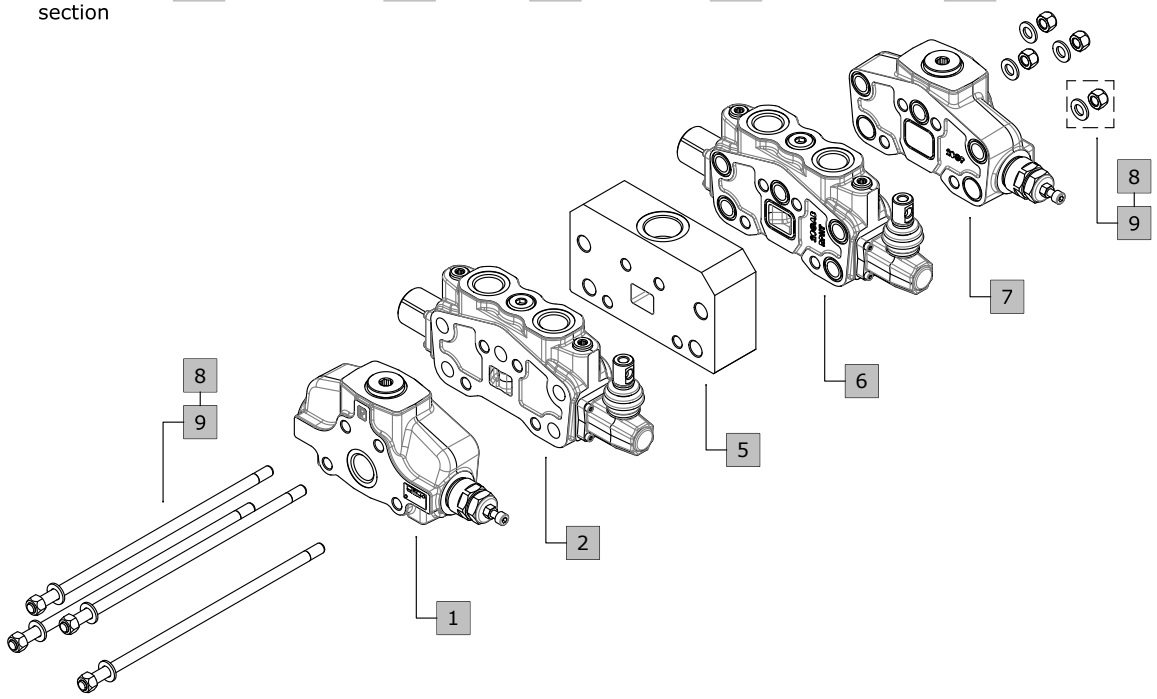
NOTE (*) – Codes are referred to **BSP** thread.

Complete sections ordering codes

Configuration with 2 side inlets and mid return manifold

240L GS20 / 2 / AC(XGN-100) / RPES - 18L / CS1 / RPES - ED - 18L / BC(XGN-100)

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



5. Return manifold * page 33

TYPE	CODE	DESCRIPTION
CS1	30 08 8851	Mid return manifold with G1 1/4" outlet port

6. Right inlet working section *

TYPE	CODE	DESCRIPTION
RPES-ED-18L	24W010004	Parallel circuit, prearranged for port valves, double acting spool with spring return, lever control
RPESP-ED-18L	24W010005	As RPES for series-parallel (tandem) circuit
RPHS-ED-18L	24W010006	For series circuit

7. Right inlet section *

TYPE	CODE	DESCRIPTION
BC(XGN-100)	24IN010005	Side inlet with pilot pressure relief valve
BC(SV)	24IN010006	Side inlet without pressure relief valve

8. Assemb. kit without intermediate section

CODE	DIRECTIONAL VALVE
30 05 6261	Tie rod kit for 1 working section directional valve
30 05 6262	Tie rod kit for 2 working section directional valve
30 05 6263	Tie rod kit for 3 working section directional valve
30 05 6264	Tie rod kit for 4 working section directional valve
30 05 6265	Tie rod kit for 5 working section directional valve
30 05 6266	Tie rod kit for 6 working section directional valve
30 05 6267	Tie rod kit for 7 working section directional valve
30 05 6268	Tie rod kit for 8 working section directional valve
30 05 6269	Tie rod kit for 9 working section directional valve
30 05 6270	Tie rod kit for 10 working section directional valve
30 05 6271	Tie rod kit for 11 working section directional valve
30 05 6272	Tie rod kit for 12 working section directional valve

9. Assemb. kit with intermediate section

CODE	DIRECTIONAL VALVE
30 05 6263	Tie rod kit for 2 working sections directional valve
30 05 6264	Tie rod kit for 3 working sections directional valve
30 05 6265	Tie rod kit for 4 working sections directional valve
30 05 6266	Tie rod kit for 5 working sections directional valve
30 05 6267	Tie rod kit for 6 working sections directional valve
30 05 6268	Tie rod kit for 7 working sections directional valve
30 05 6269	Tie rod kit for 8 working sections directional valve
30 05 6270	Tie rod kit for 9 working sections directional valve
30 05 6271	Tie rod kit for 10 working sections directional valve
30 05 6272	Tie rod kit for 11 working sections directional valve
-	Tie rod kit for 12 working sections directional valve

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

Inlet section

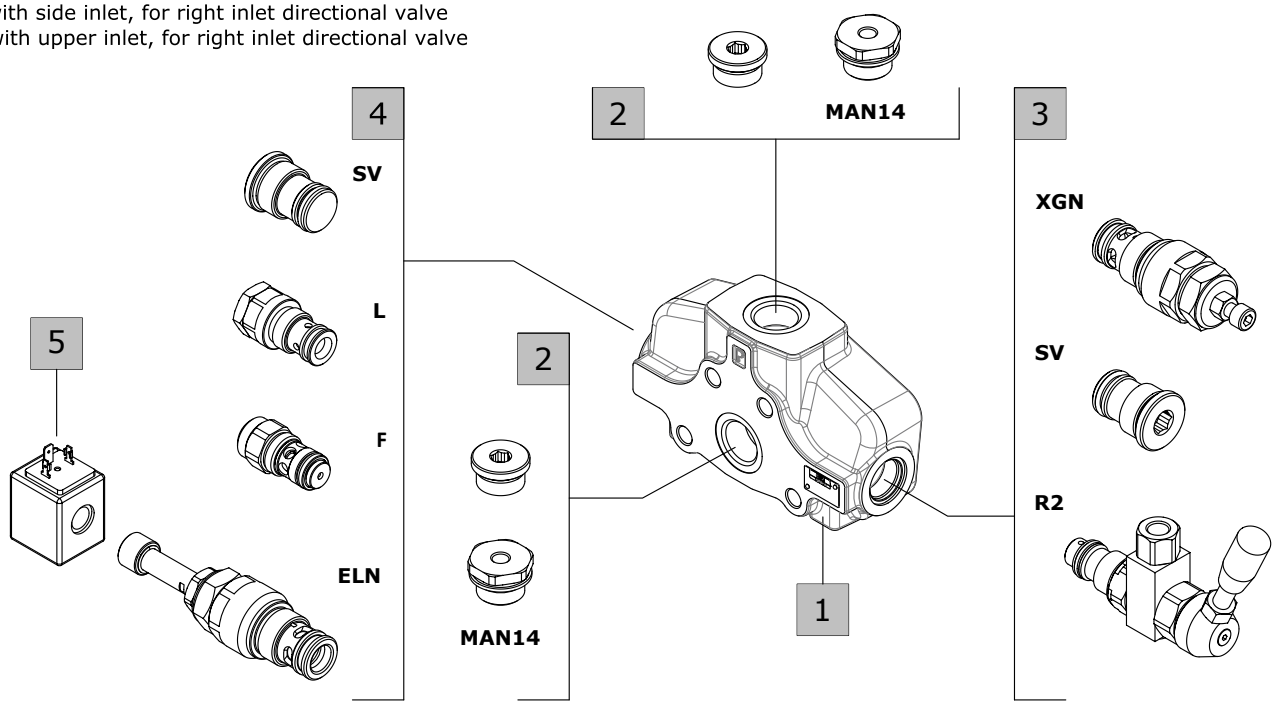
Parts ordering codes

240L GS20 / AC (XGN - 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 8856
DESCRIPTION : Standard body

2. Parts *

TYPE	CODE	DESCRIPTION
MAN18	30 05 6104	G1/8 Pressure gauge arrangement
MAN14	30 05 6103	G1/4 Pressure gauge arrangement

3. Inlet relief valve options page 12

TYPE	CODE	DESCRIPTION
Pilot operated pressure relief valve XGN type		
(XGN-100)	30 05 6235	Range 60-315 bar *(870-4570 psi)* standard setting 100 bar *(1450 psi)*

Standard setting is referred to 6 l/min flow.

(SV)	30 05 6236	Relief valve blanking plug

4. Inlet valve options page 13

TYPE	CODE	DESCRIPTION
SV	30 05 6236	Relief valve blanking plug (omit in description)
F	30 05 6237	Inlet anti-cavitation valve
L	-	Hydraulic pilot unloader valve
R2	-	Rotary commutator
Solenoid operated unloader valve		
ELN(NO)	30 05 6277	Without emergency
ELP(NO)	30 05 6278	Push-button emergency
ELT(NO)	30 05 6279	Push and twist type with detent emergency
ELN(NC)	30 05 6280	Without emergency
ELP(NC)	30 05 6281	Push-button emergency
ELT(NC)	30 05 6282	Push and twist type with detent emergency

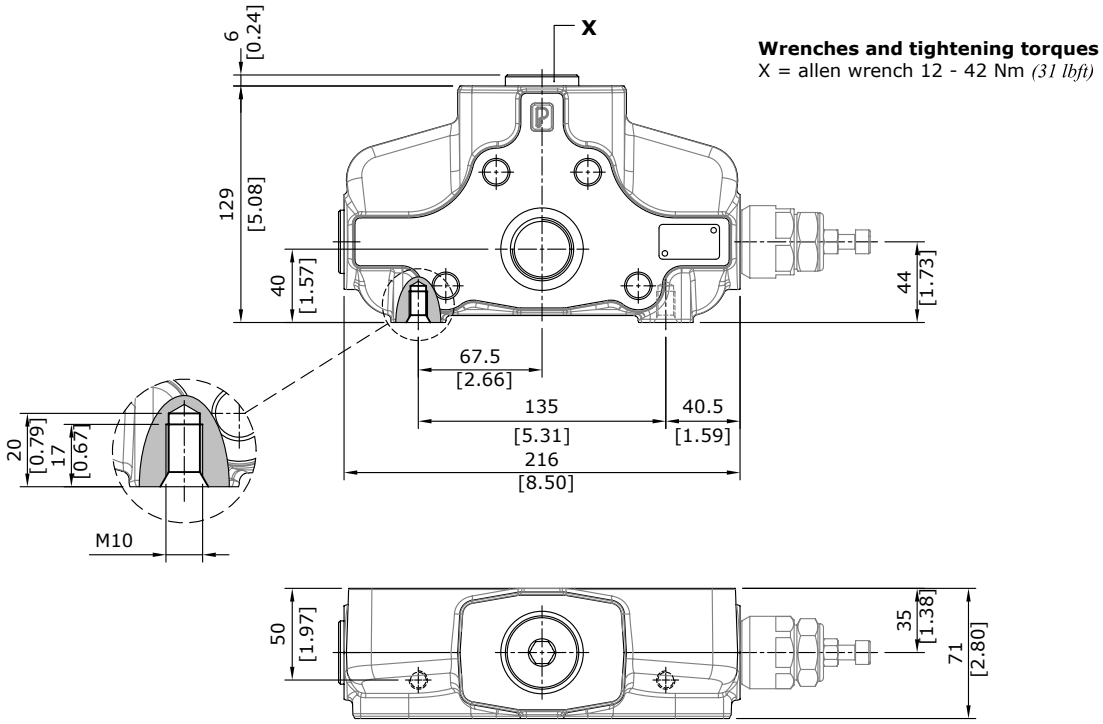
5. Coils

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.

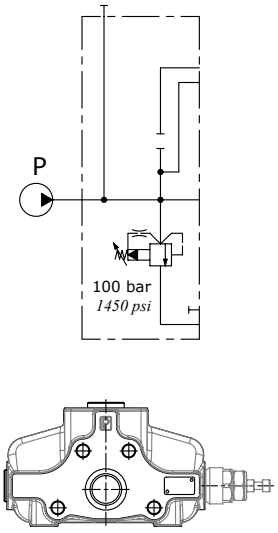
Inlet section

Dimensional data and hydraulic circuit



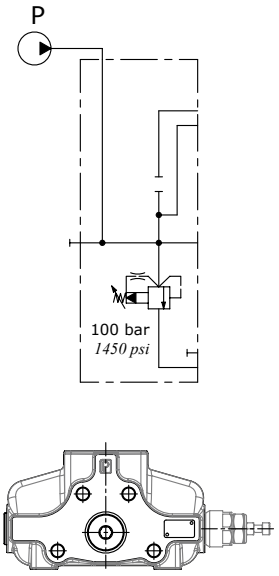
Wrenches and tightening torques
X = allen wrench 12 - 42 Nm *(31 lbft)*

For left inlet directional valve, side port



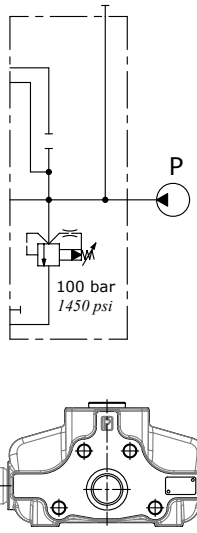
Description example:
AC(XGN–100)

For left inlet directional valve, upper port



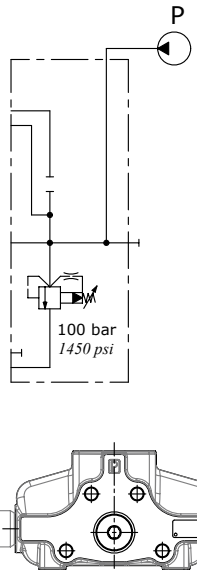
Description example:
AD(XGN–100)

For right inlet directional valve, side port



Description example:
BC(XGN–100)

For right inlet directional valve, upper port



Description example:
BD(XGN–100)

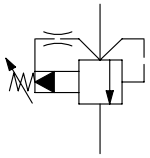
Inlet section

Inlet valve options

Pilot operated overpressure relief valve

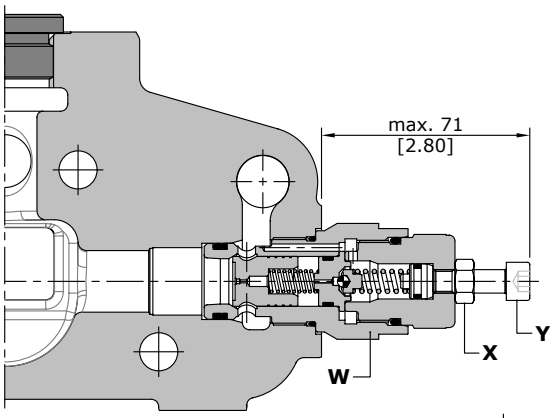
30 05 6235 **(X G N - 100)**

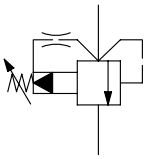
- Configuration
- Without filter
- Valve setting (bar)



Adjustment type

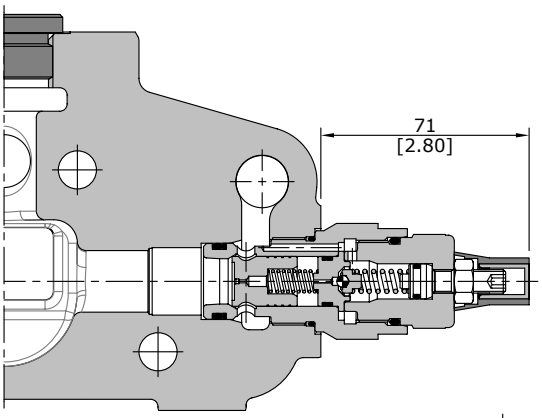
Configuration **G** type: adjustable with screw

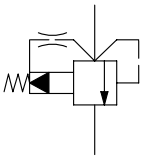




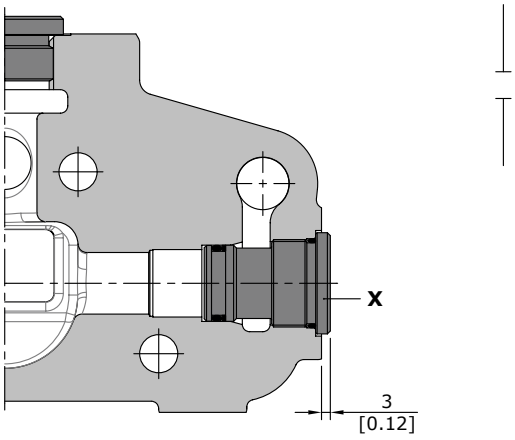
Wrenches and tightening torques
X = wrench 13 - 24 Nm *(17.7 lbft)*
Y = allen wrench 6
W = wrench 36 - 42 Nm *(31 lbft)*

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



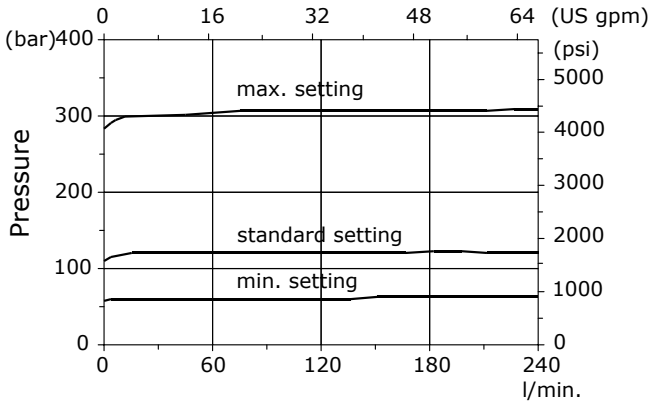


SV: relief valve blanking plug



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

Performance data



Inlet valve options

Unloader valves

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

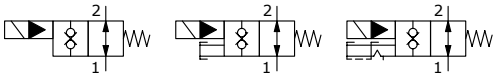
Hydraulic operated valve: **L**
Solenoid operated valve: **ELN** **ELP** **ELT**

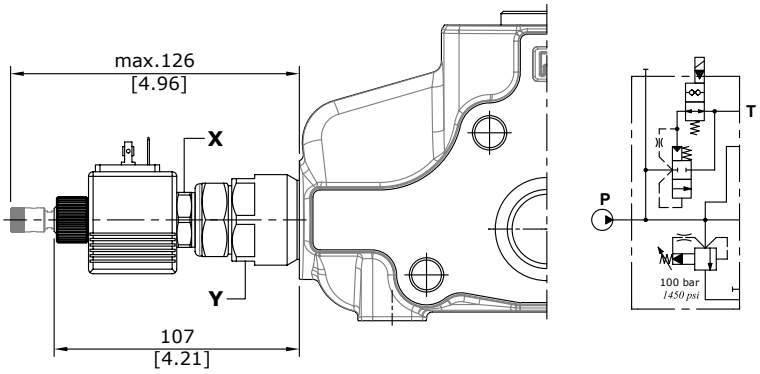
Feeding voltage: for solenoid operated

Solenoid operated

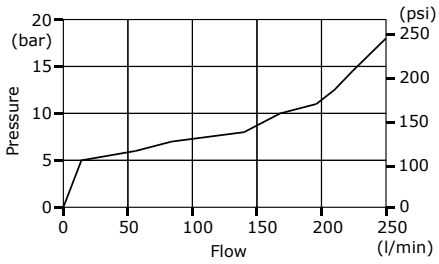
Emergency with push button and spring return; for detent position turn the button after press it.
WARNING: the manual override option is intended for emergency use, not for continuous duty operation.

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



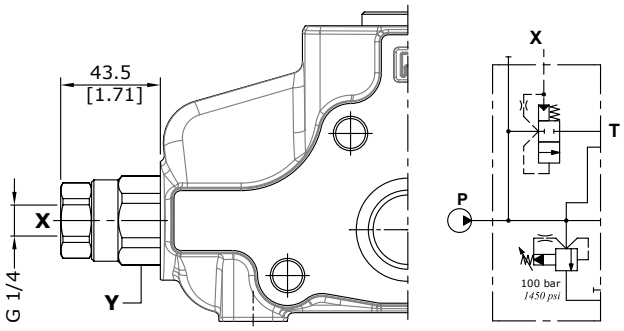


Pressure drop curve P → T



Wrenches and tightening torques
X = wrench 24 - 35 Nm *(26 lbft)*
Y = wrench 36 - 42 Nm *(31 lbft)*

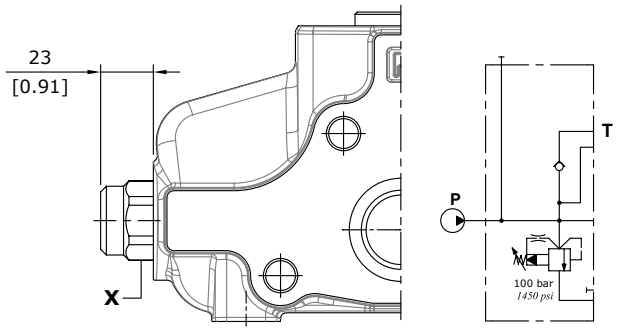
Hydraulic operated



Anti-cavitation valve

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

Wrenches and tightening torques
X = wrench 32 - 9.8 Nm *(7.23 lbft)*

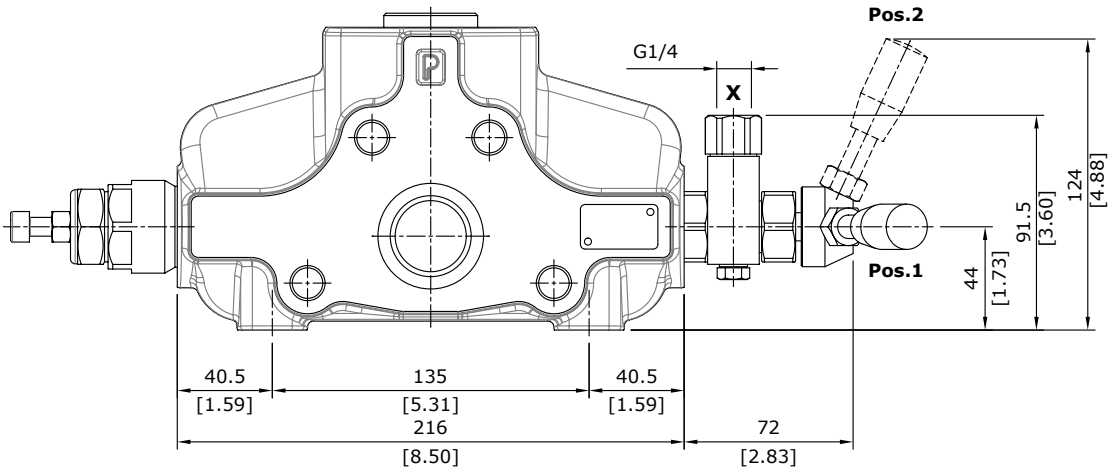


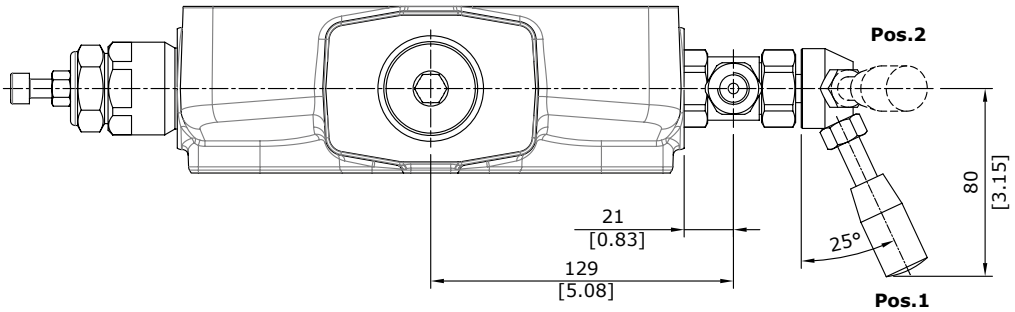
Inlet section for special applications

Configuration with rotary commutator

Dimensional data and hydraulic circuit

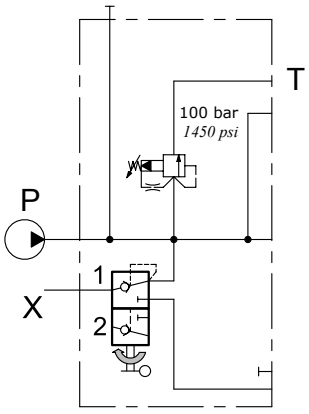
Drawing and circuit are referred to left inlet directional valve.





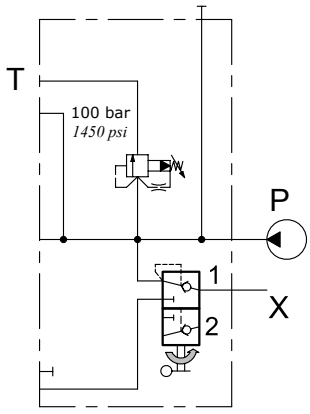
Hydraulic circuit and ordering codes

Left inlet



AC(XGN-100)**R2**

Right inlet



BC(XGN-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)

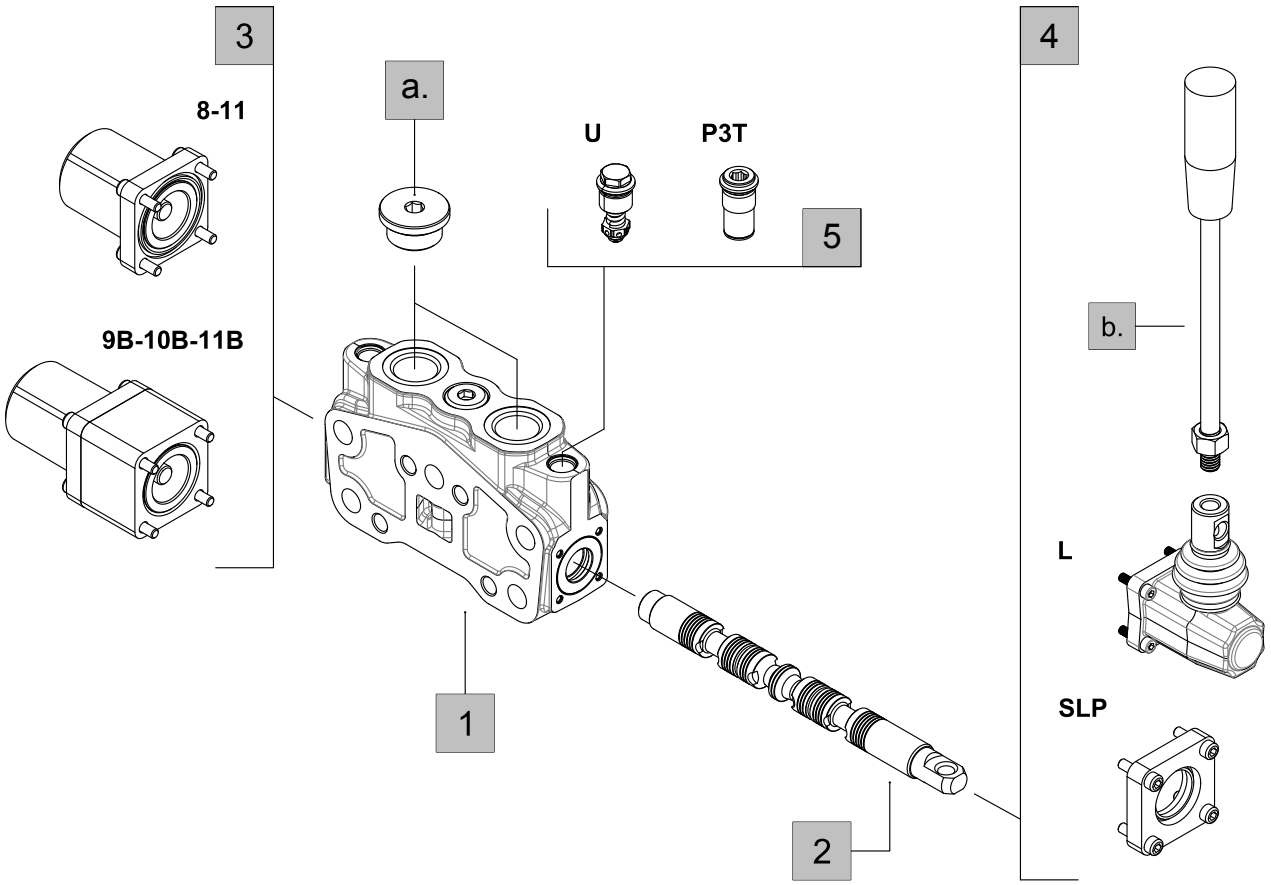
Description example:

240L GS20 / RPHT - 1 8 L . U1 (100) *

1 2 3 4 5

Pressure relief valve fixed setting (bar)

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



1. Working section kit *

TYPE	CODE	DESCRIPTION
RPHT	30 08 8800	For parallel circuit with upper arrangement for fixed setting port valves
RPHSP	30 08 8801	For tandem circuit
RPHS	30 08 8806	For series circuit

Include body, seals, rings and load check valve.

2. Spools page 17

TYPE	CODE	DESCRIPTION
1	30 01 3624	Double acting, 3 positions, with A and B closed in neutral position
1CS	30 01 3668	As type 1, sensitive type
2	30 01 3625	Double acting, 3 positions, with A and B open to tank in neutral position
1A	30 01 3626	Double acting, 3 positions, with A open to tank in neutral position
1B	30 01 3627	Double acting, 3 positions, with B open to tank in neutral position
2H	30 01 3777	Double acting 3 positions, with A and B partially open to tank in neutral position

2. Spools page 17

TYPE	CODE	DESCRIPTION
3	30 01 3628	Single acting on A, 3 positions, B plugged; requires G1 plug (see part a)
4	30 01 3629	Single acting on B, 3 positions, A plugged; requires G1 plug (see part a)
8F	30 01 3631	Double acting 3 positions, regenerative circuit in 3rd position with spool out: **need dedicated positioner kit**
Spools for 8IM hydraulic control		
1IM	30 01 3632	As type 1
2IM	30 01 3763	As type 2
2HIM	30 01 3778	As type 2H
3IM/4IM	30 01 3639	As type 3, 4
Spools for 8IMCR hydraulic control		
8FIM	30 01 3630	As type 8FIM
Special spools: need special body kit		
5DY	30 01 3662	Double acting, 4 positions, float in position 3 with spool in, **13NZ type positioner kit is required**

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

Working section

Parts ordering codes (mechanical control)

3. "A" side spool positioners — page 18

TYPE	CODE	DESCRIPTION
8	30 07 5424	With spring return in neutral position
8D	30 07 7545	As type 8, M8 female threaded pin extension for dual control
19	30 07 5591	With spring return in position 0 from 1
20	30 07 5592	With spring return in position 0 from 2
11	30 07 5425	With detent in positions 1, 0 and 2
12	30 07 5594	Detent in positions 1 and 2
15	30 07 5588	With detent in positions 1 and 0
16	30 07 5589	With detent in positions 2 and 0
17	30 07 7628	With spring return position 1
18	30 07 7629	With spring return position 2
17D	30 07 7630	With spring return position 1 and pin with M8 female thread for dual control
18D	30 07 5590	With spring return position 2 and pin with M8 female thread for dual control
9B	30 07 5593	With detent in position 1 and spring return in neutral position
10B	30 07 5586	With detent in position 2 and spring return in neutral position
11B	30 07 5587	Detent in positions 1 and 2 and spring return in neutral position
18D	30 07 5590	With spring return position 2 and pin
8MG3(NO)	30 07 7570	With spring return in neutral position and operation with microswitch in pos. 1 and 2
8MG3(NC)	30 07 7571	With spring return in neutral position and operation with microswitch in pos. 1 and 2
8MG1\MG2 (NO\NO)	30 07 7510	As type 8, operation with 2 microswitch (NO) in positions 1 and 2
8MG1\MG2 (NC\NC)	30 07 7511	As type 8, operation with 2 microswitch (NC) in positions 1 and 2
8P	30 07 7602	ON/OFF pneumatic kit
8PF	-	Proportional pneumatic kit
8EP3	30 07 7603	12 VDC ON/OFF electro-pneumatic kit
	30 07 7604	24 VDC ON/OFF electro-pneumatic kit
8EP4	30 07 7631	12 VDC ON/OFF electro-pneumatic kit with manifold
	30 07 7632	24 VDC ON/OFF electro-pneumatic kit with manifold

Particular positioner kits for special spools..... *page 24*

13	30 07 5583	4 positions with spring return in neutral position and detent in pos.3: **for 5DY spool**

Positioner kit for **8F** regenerative spools:

8CR	30 07 5582	With spring return in neutral position

4. "B" side options — page 25

TYPE	CODE	DESCRIPTION
L	30 07 5423	Standard lever box
SLP	30 07 5358	Without lever box, with dust-proof plate
LB	30 07 5357	Steel lever

5. Fixed setting port valves — page 30

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))

5. Fixed setting port valves — page 30

TYPE	CODE	DESCRIPTION
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)*
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 27

TYPE	CODE	DESCRIPTION
ON/OFF Hydraulic control		
8IM	30 07 5422	-
Proportional hydraulic kit		
8IMSPSD	30 07 7560	With spool position sensor esecution. (ON/OFF)
8IMSPSL	30 07 7563	With spool position sensor esecution.
Positioner kit for 8F regenerative spools:		
8IMCR	30 07 7564	ON/OFF hydraulic control kit
Rotative control type		
R	30 07 5362	-

a. "A" and "B" ports plugs

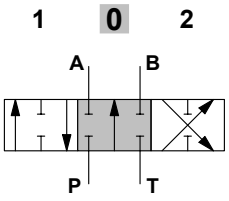
TYPE	CODE	DESCRIPTION
G1	30 05 4993	For single acting spools type 3 and 4

b. Optional handlevers

TYPE	CODE	DESCRIPTION
M12x265	30 05 6012	Lenght L = 265mm / *10.43in*

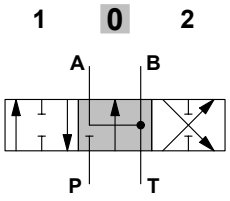
Spools options

1 (30 01 3624), 1CS (30 01 3668), 1IM (30 01 3632) spool type
Double acting, 3 positions, with A and B closed in neutral position



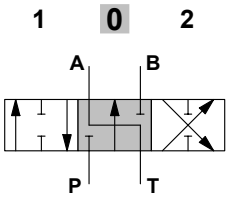
Spool stroke
position 1: + 10 mm *(+ 0.39 in)*
position 2: - 10 mm *(- 0.39 in)*

2 (30 01 3625), 2IM (30 01 3763) spool type
Double acting, 3 positions, with A and B open to tank in neutral position



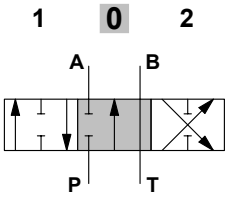
Spool stroke
position 1: + 10 mm *(+ 0.39 in)*
position 2: - 10 mm *(- 0.39 in)*

1A (30 01 3626) spool type
Double acting, 3 positions, with A open to tank in neutral position



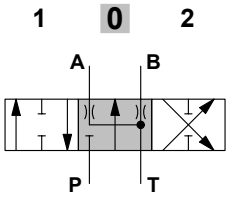
Spool stroke
position 1: + 10 mm *(+ 0.39 in)*
position 2: - 10 mm *(- 0.39 in)*

1B (30 01 3627) spool type
Double acting, 3 positions, with B open to tank in neutral position



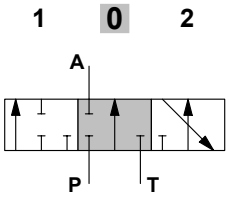
Spool stroke
position 1: + 10 mm *(+ 0.39 in)*
position 2: - 10 mm *(- 0.39 in)*

2H (30 01 3777), 2HIM (30 01 3778) spool type
Double acting, 3 positions, with A and B partially open to tank in neutral position



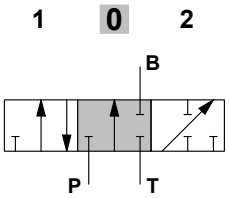
Spool stroke
position 1: + 10 mm *(+ 0.39 in)*
position 2: - 10 mm *(- 0.39 in)*

3 (30 01 3628), 3IM (30 01 3639) spool type
Single acting on A, 3 positions, B plugged; requires G1 plug



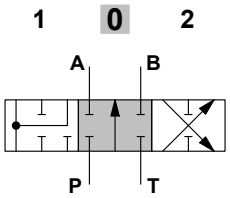
Spool stroke
position 1: + 10 mm *(+ 0.39 in)*
position 2: - 10 mm *(- 0.39 in)*

4 (30 01 3629), 4IM (30 01 3639) spool type
Single acting on B, 3 positions, A plugged; requires G1 plug



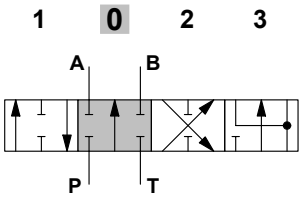
Spool stroke
position 1: + 10 mm *(+ 0.39 in)*
position 2: - 10 mm *(- 0.39 in)*

8F (30 01 3631), 8FIM (30 01 3630) spool type
Double acting, 3 positions, regenerative circuit in 2nd position (pos.1) with spool out



Spool stroke
position 1: + 8 mm *(+ 0.31 in)*
position 2: - 8 mm *(- 0.31 in)*

5DY (30 01 3662) 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: - 7 mm *(- 0.28 in)*
position 3: - 14 mm *(- 0.55 in)*

Working section

"A" side spool positioners

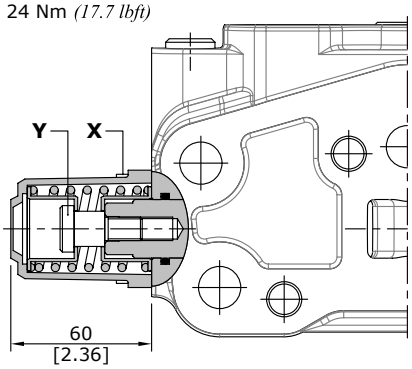
With spring return in neutral position

8 type (30 07 5424)

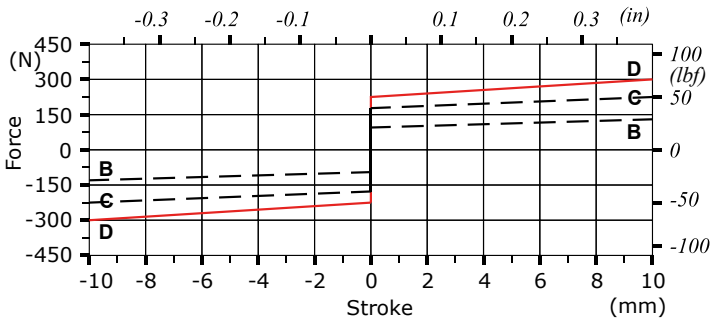
Supplied with standard spring type D (see force-stroke diagram); available with lighter spring type B (**8MB**) or type C (**8MC**).

1	0	2

Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 8 - 24 Nm *(17.7 lbft)*

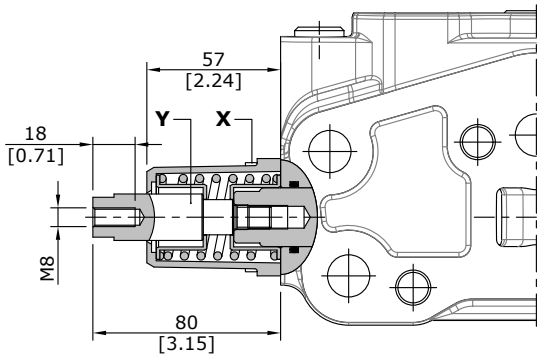


Force-stroke diagram

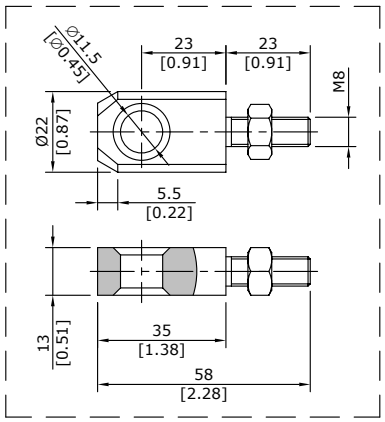


8D type (30 07 7545)

With M8 female threaded pin extension for dual control.



Spool end joint dimensions (optional)



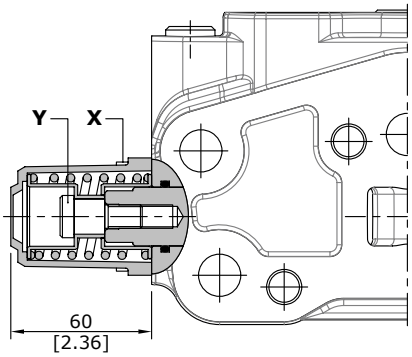
1	0	2

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

19 type (30 07 5591)

Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 8 - 24 Nm *(17.7 lbft)*

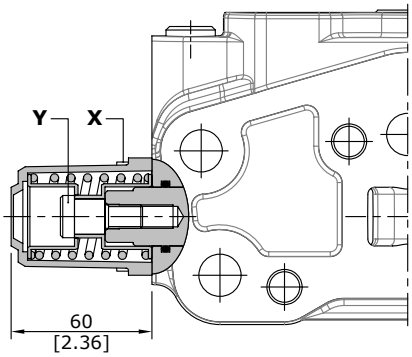
1	0



20 type (30 07 5592)

Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 8 - 24 Nm *(17.7 lbft)*

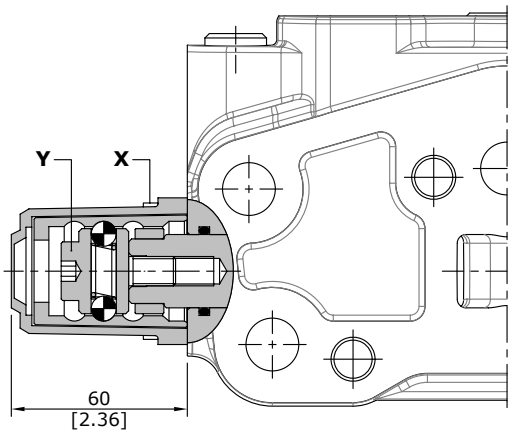
0	2



"A" side spool positioners

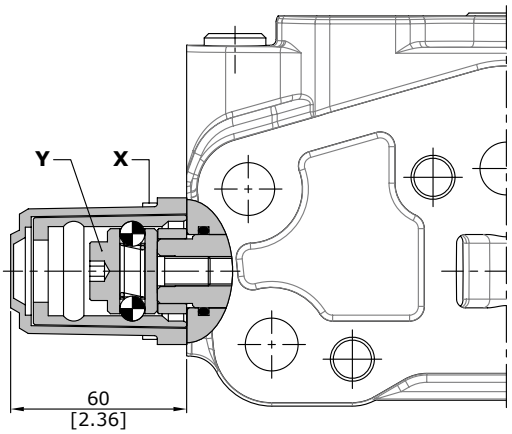
With detent

11 type (30 07 5425)



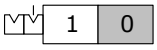
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*

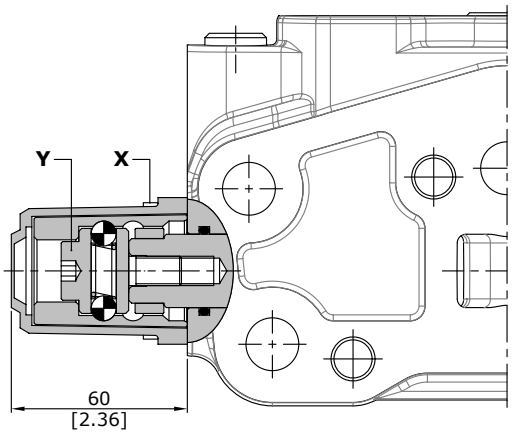
12 type (30 07 5594)



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

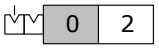
15 type (30 07 5588)

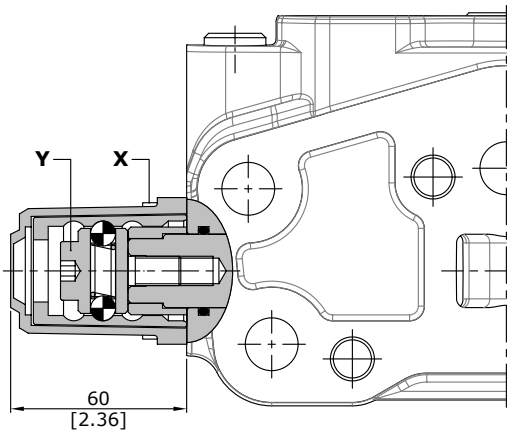




Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*

16 type (30 07 5589)





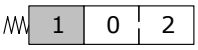
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 6 - 24 Nm *(17.7 lbft)*

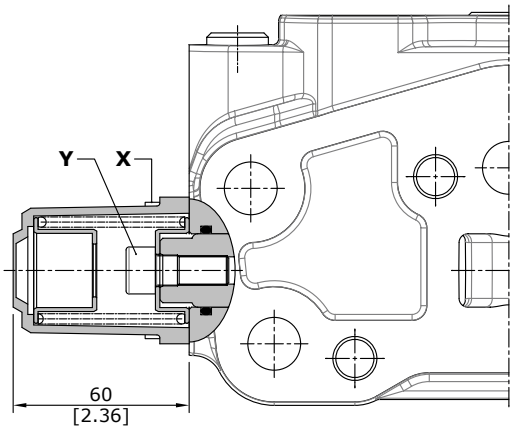
Working section

"A" side spool positioners

With spring return

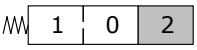
17 type (30 07 7628)

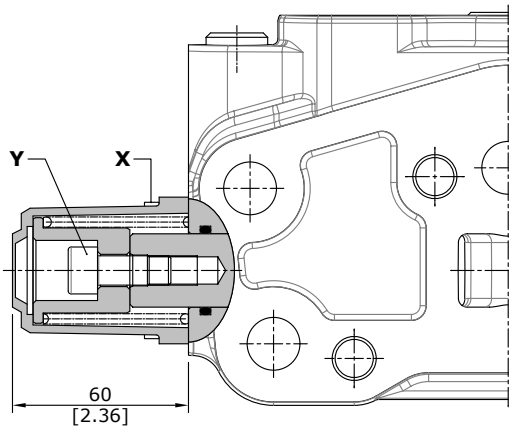




Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 8 - 24 Nm *(17.7 lbft)*

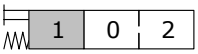
18 type (30 07 7629)

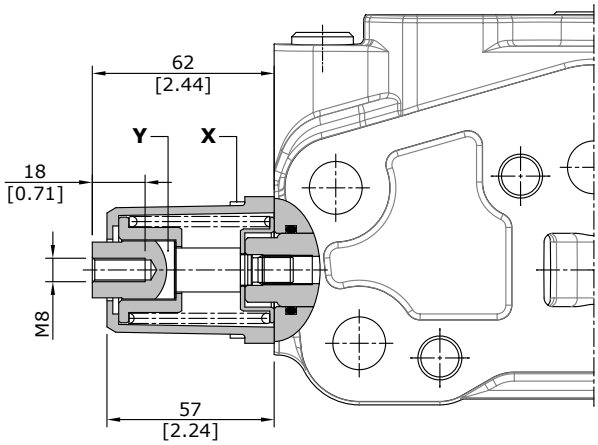




Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 8 - 24 Nm *(17.7 lbft)*

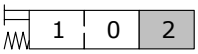
17D type (30 07 7630)

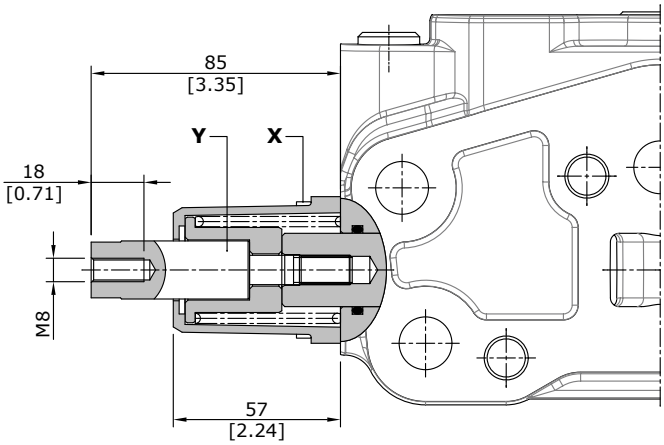




Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 17 - 24 Nm *(17.7 lbft)*

18D type (30 07 5590)



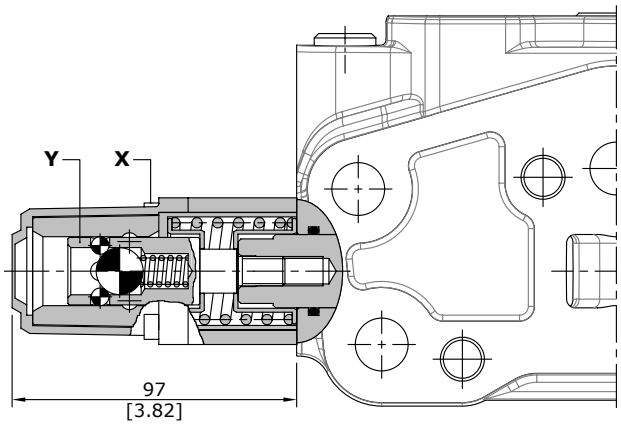


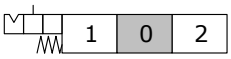
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 17 - 24 Nm *(17.7 lbft)*

"A" side spool positioners

With detent and spring return to neutral position from either directions

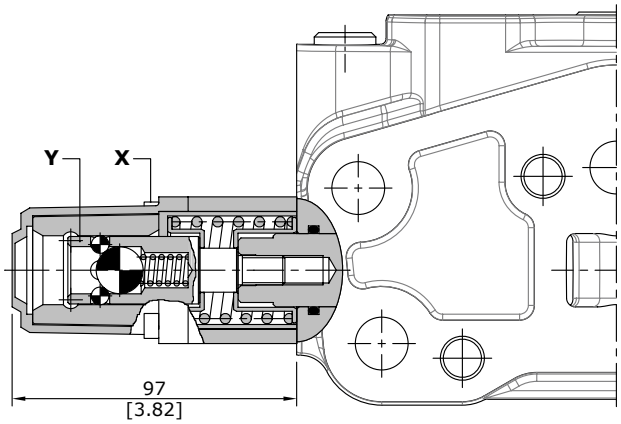
9B type (30 07 5593)

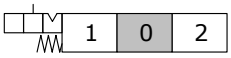




Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 19 - 24 Nm *(17.7 lbft)*

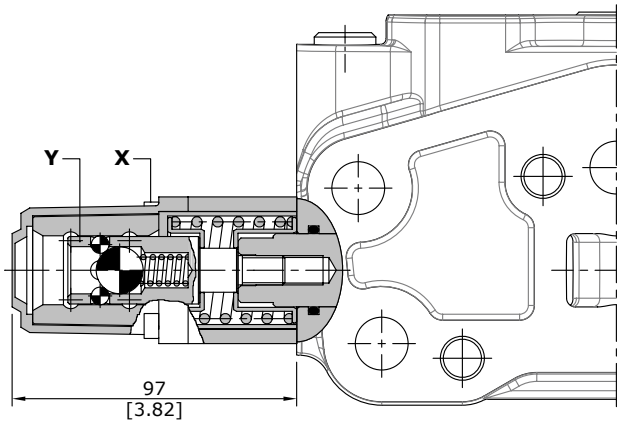
10B type (30 07 5586)

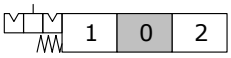




Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 19 - 24 Nm *(17.7 lbft)*

11B type (30 07 5587)





Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 19 - 24 Nm *(17.7 lbft)*

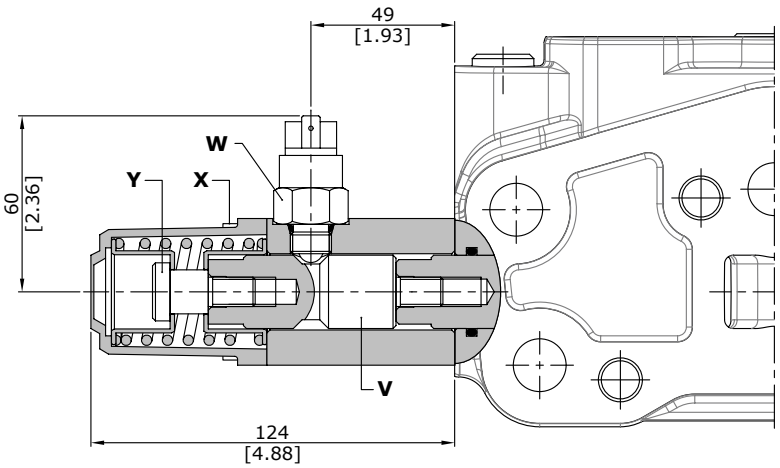
Working section

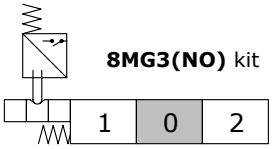
"A" side spool positioners

With microswitch

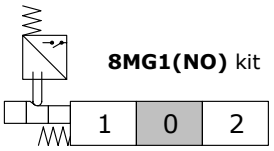
8MG3(NO) type (30 07 7570)

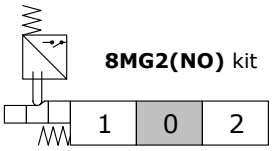
With spring return in neutral position and microswitch operated in both directions.
Also available **8MG1(NO)** (microswitch operated in position 1) and **8MG2(NO)** (microswitch operated in position 2) configurations; dimension are the same of **8MG3(NO)** configuration.
Same configurations are available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





Other configurations



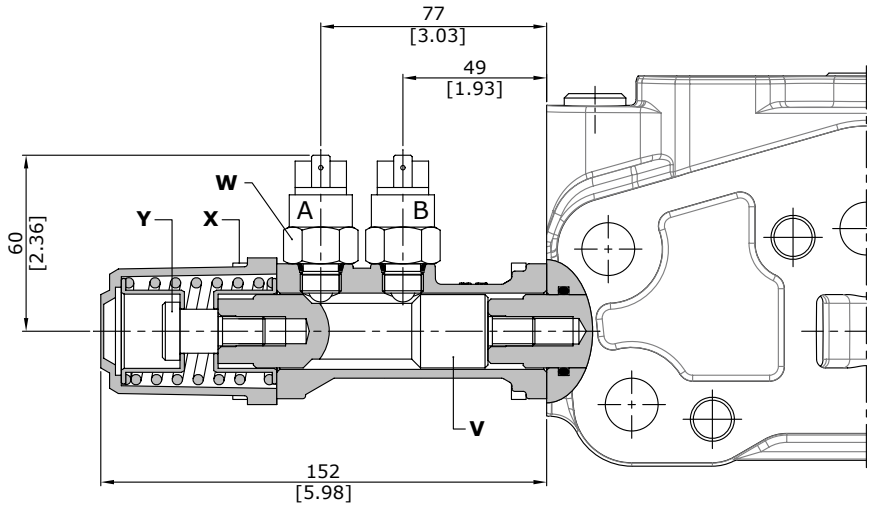


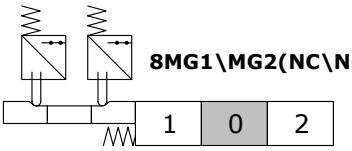
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 8 - 24 Nm *(17.7 lbft)*
W= wrench 22 - 42 Nm *(31 lbft)*
V = wrench 19 - 9.8 Nm *(7.2 lbft)*

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 7511)

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 8 - 24 Nm *(17.7 lbft)*
W= wrench 22 - 42 Nm *(31 lbft)*
V = wrench 19 - 9.8 Nm *(7.2 lbft)*

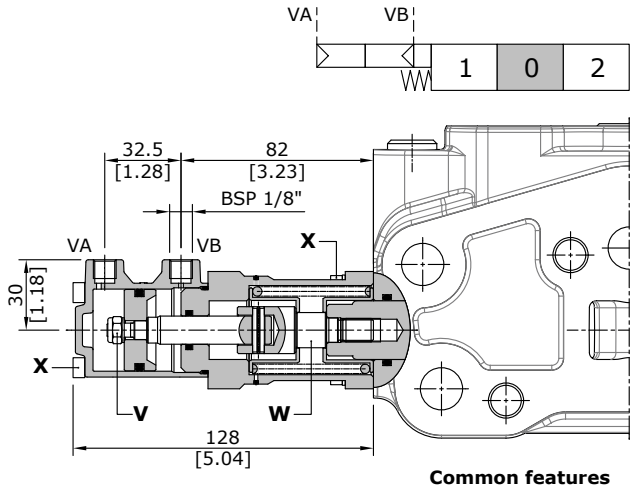
Operating features
MICROSWITCH
Mechanical life : $5x10^5$ operations
Electrical life (resistive load) : $5x10^4$ operations 10A / 12VDC
: $5x10^4$ operations 3A / 24VDC

"A" side spool positioners

ON/OFF pneumatic kit and proportional pneumatic kit

ON/OFF pneumatic: 8P type (30 07 7602)

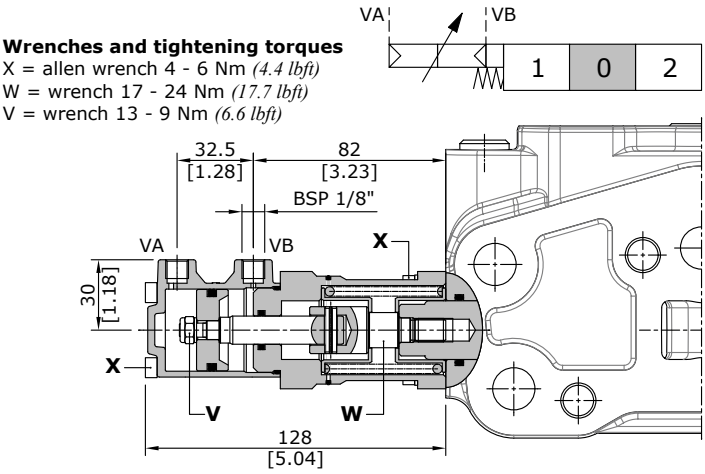
With spring return to neutral position.



Proportional pneumatic: 8PF 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)*

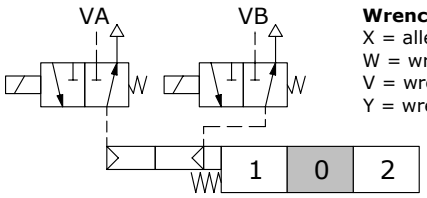


Common features
Pilot pressure.....: min. 5.5 bar *(min. 80 psi)*
: max. 10 bar *(min. 145 psi)*

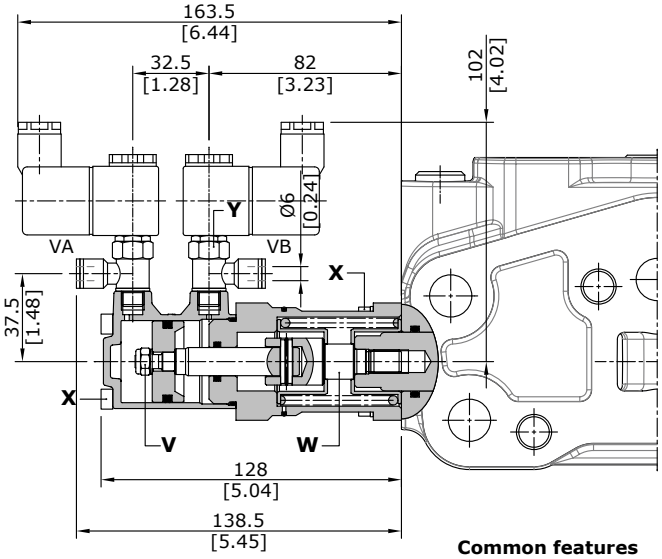
ON/OFF electro-pneumatic kit

Electro-pneumatic: 8EP3 type

With spring return to neutral position.

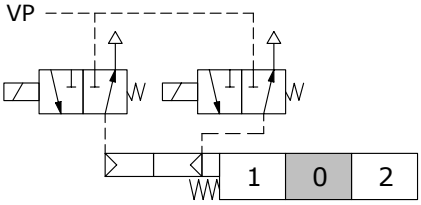


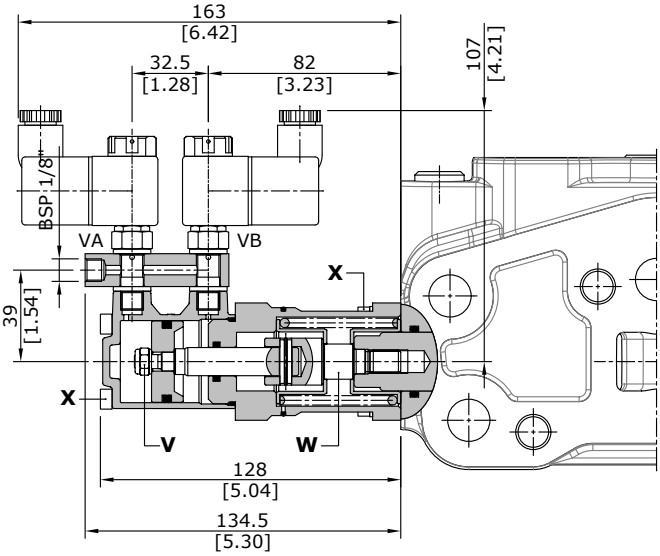
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
W = wrench 17 - 24 Nm *(17.7 lbft)*
V = wrench 13 - 9 Nm *(6.6 lbft)*
Y = wrench 15 - 6 Nm *(4.4 lbft)*



Electro-pneumatic: 8EP4 type

With spring return to neutral position.





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

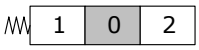
Working section

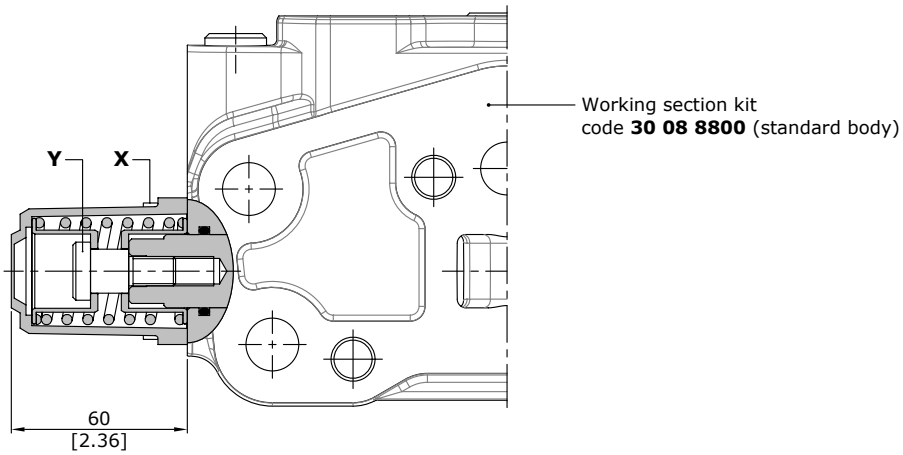
"A" side spool positioners

Particular positioner kits for special spools

8CR type (30 07 5582)

3 positions with spring return in neutral and reduced spool stroke: **for 8F spool.**

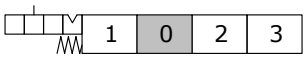


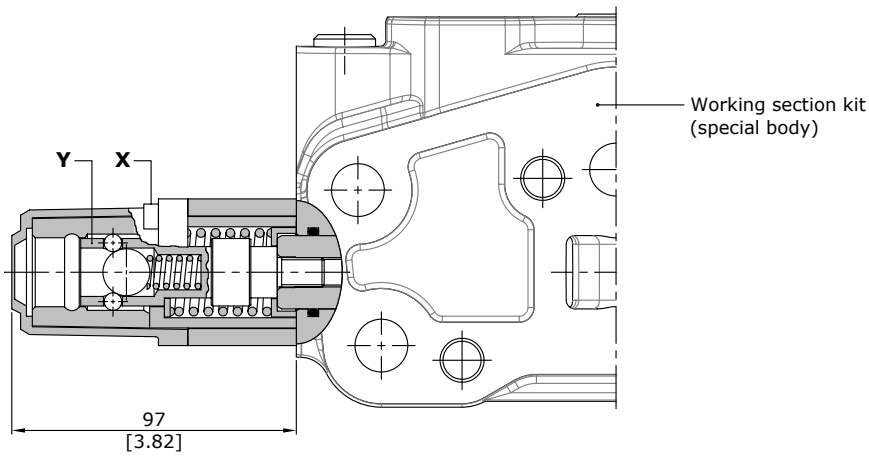


Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = allen wrench 8 - 24 Nm *(17.7 lbft)*

13 type (30 07 5583)

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





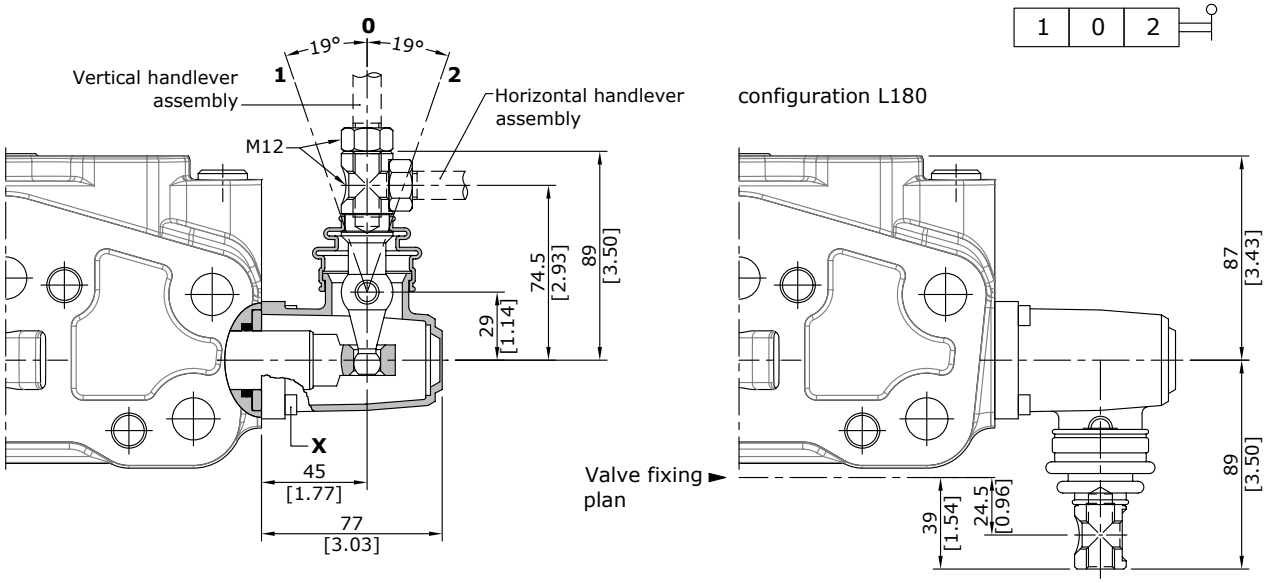
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 19 - 24 Nm *(17.7 lbft)*

"B" side options

Lever control

L type (30 07 5423)

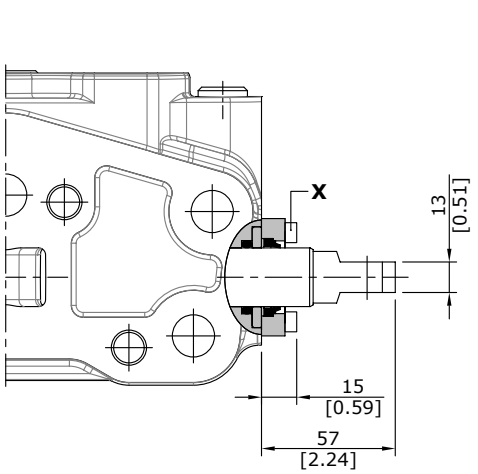
Alluminium lever pivot box with protective rubber bellow; it can be roated 180° (configuration **L180**).



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

SLP type (30 07 5358)

Mechanical control with dust-proof plate kit.



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

Working section

"B" side options

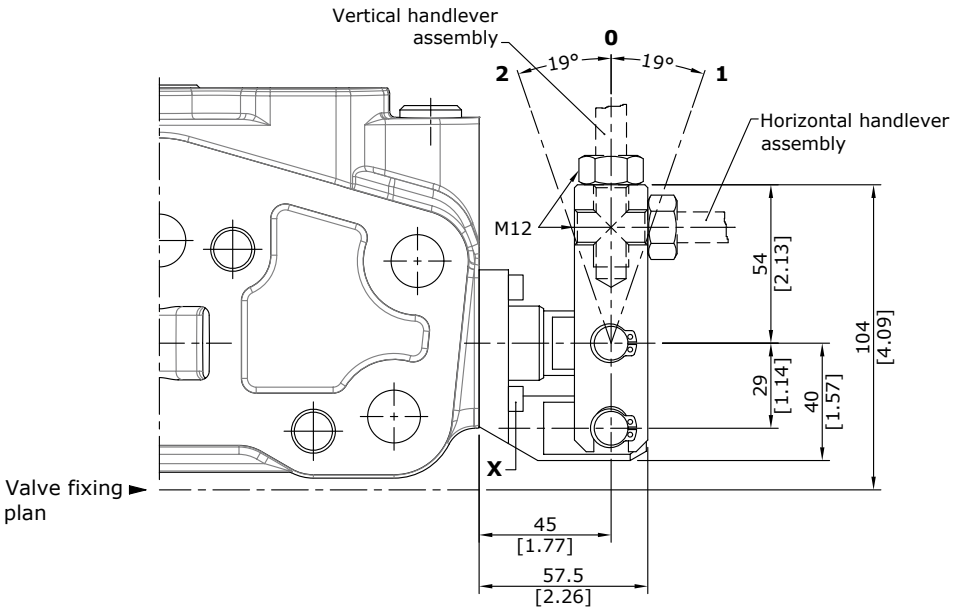
Lever control

LB type (30 07 5357)

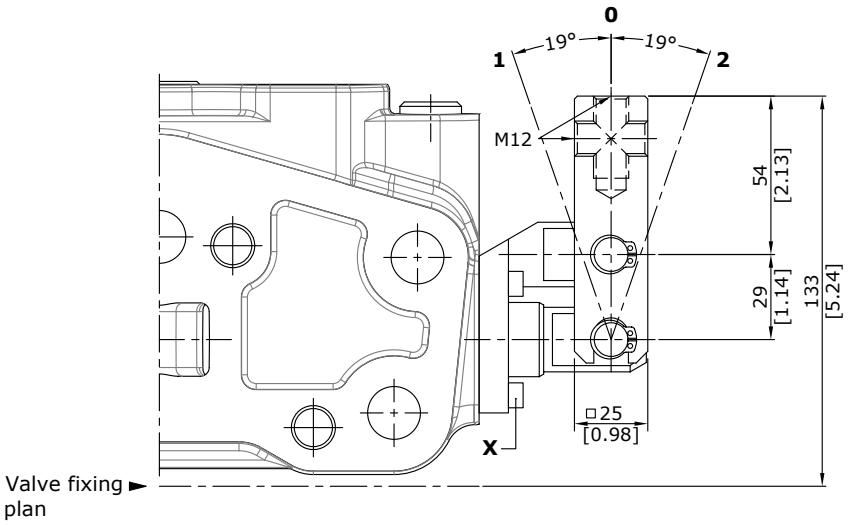
Steel construction, **LB1** with pivot placed down and **LB3** with pivot placed over.

1	0	2

Configuration LB1



Configuration LB3

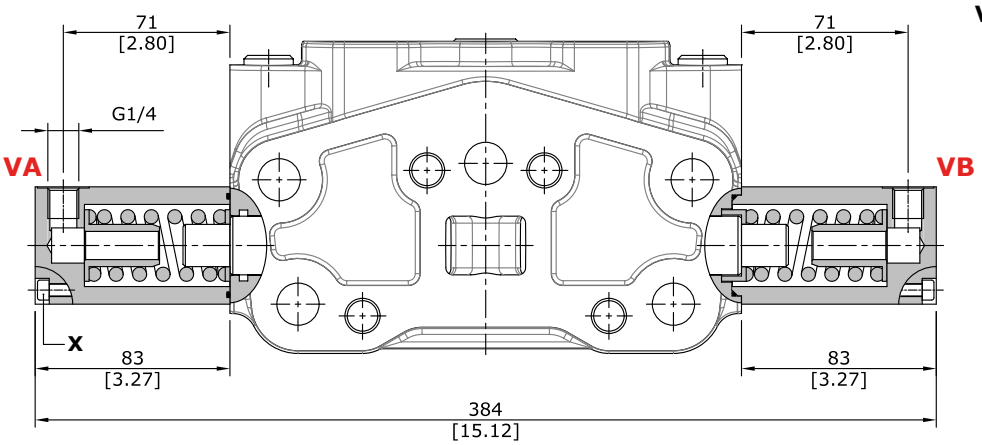


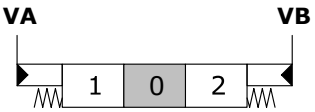
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*

Complete controls

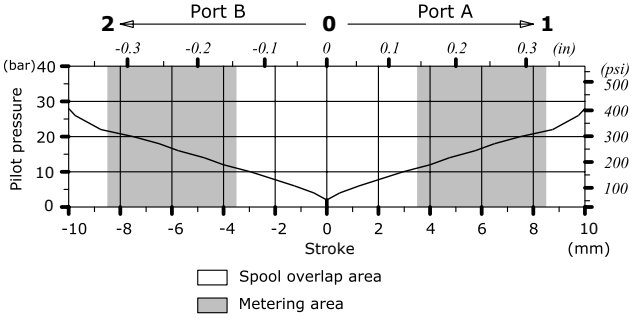
Proportional hydraulic control

8IM type (30 07 5422)





Pilot pressure - stroke diagram



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

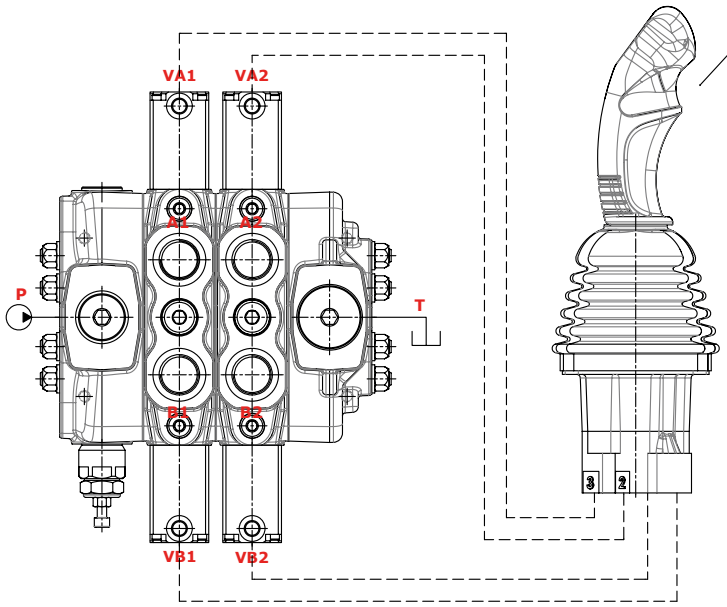
Operating features
Pilot pressure : max. 50 bar *(725 psi)*
Internal leakage A(B)→ T (Δp = 100 bar - *1450 psi* / T = 40°C)
..... : max. 6cm³/min - *0.37 in³/min*

Ex.: 240L GS20/RPES-**1IM** **8IM**

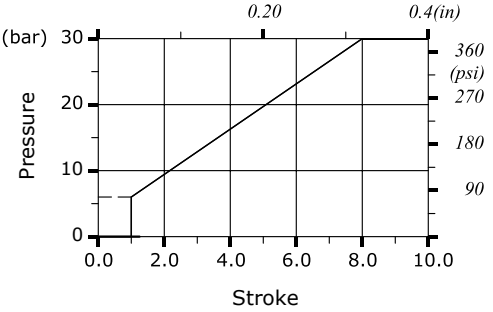
Spool code **30 01 3632**

Spool control kit code **30 07 5422**

Connection example



8IM control kit
curve 001 without step



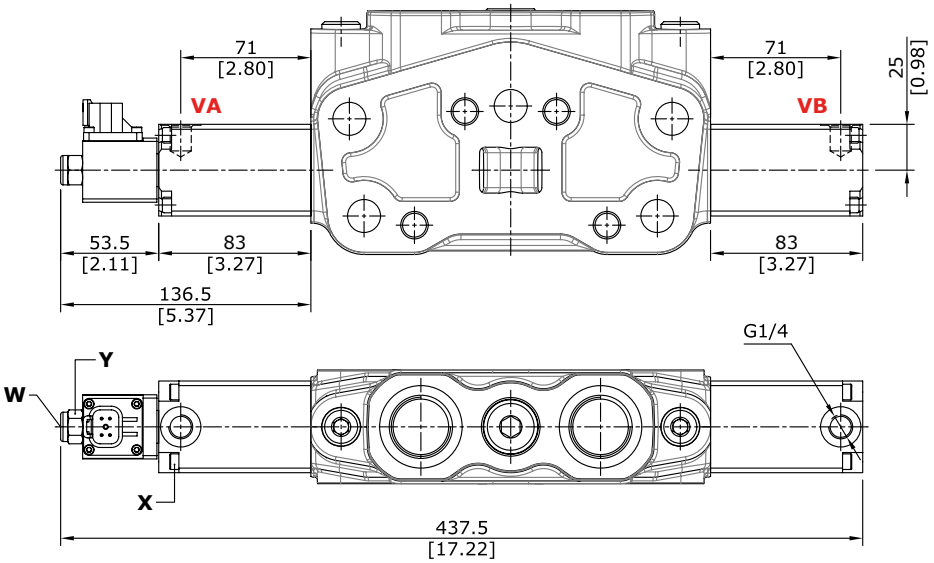
Working section

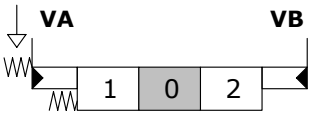
Complete controls

Proportional hydraulic control type

8IMSPSD (30 07 7560), 8IMSPSL (30 07 7563)

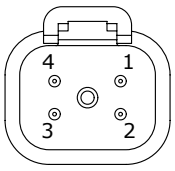
With spool position sensor.





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)*

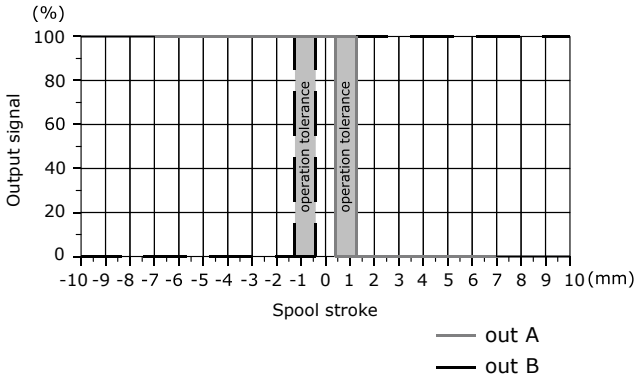
Control features
Pilot pressure..... : max. 100 bar *(1450 psi)*
Connector ..... : Deutsch DT04-4P



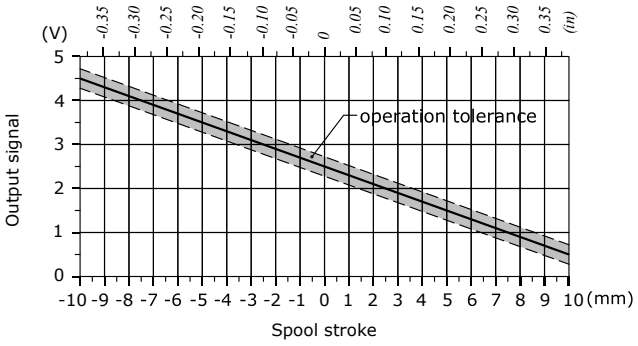
Connector PIN-OUT		
	Functions	
Pin	for 5V supply	for 8-32V supply
1	+5V	signal OUT
2	N.C.	GND
3	GND	Vb+
4	signal Out	not connected

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

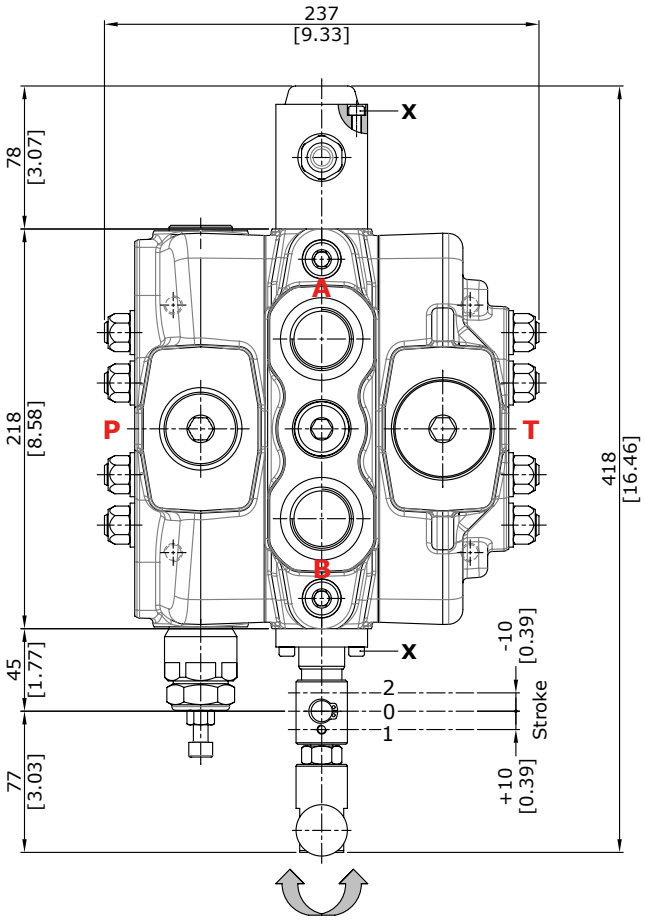


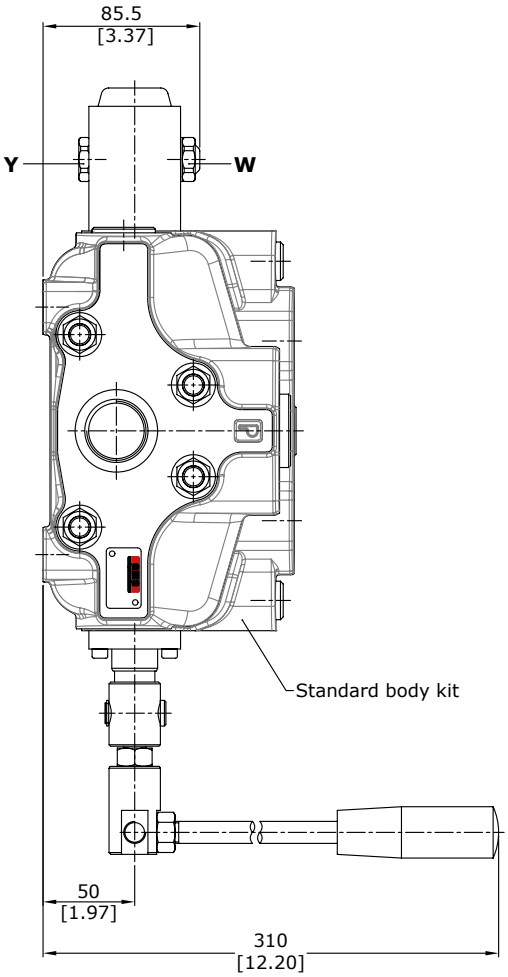
Output signal
Range..... : from 0.5 to 4.5 V
Linearity..... : ± 5%
Spool in neutral..... : 2.5 ± 0.2 V
Max current..... : 1 mA
Mechanical vibrations,
shock, bumps..... : IEC 68-2-6,27,29
EMC compatibility..... : ISO 13766 - ISO 15982

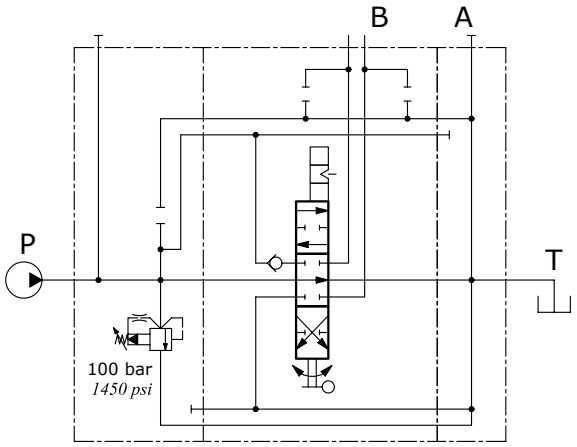
Special configurations

Directional valve with rotary control kit

R type (30 07 5362)







Description example
240L GS20/1/AC(XGN-100)/RPES-1 **R SLP**/RC

Wrenches and tightening torques
X = allen wrench 4 - 6 Nm *(4.4 lbft)*
Y = wrench 22 - 9.8 Nm *(7.23 lbft)*
W = wrench 22 - 9.8 Nm *(7.23 lbft)*

Working section

Port valves

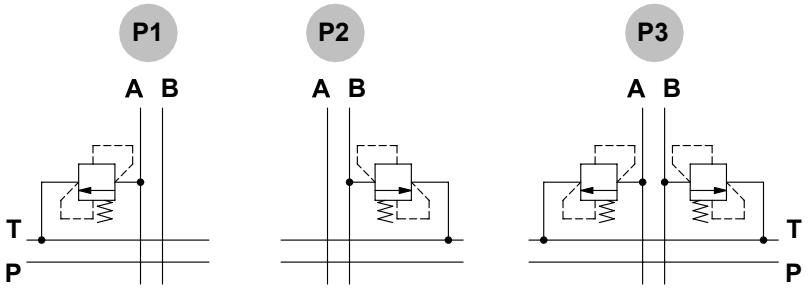
Fixed setting antishock valves

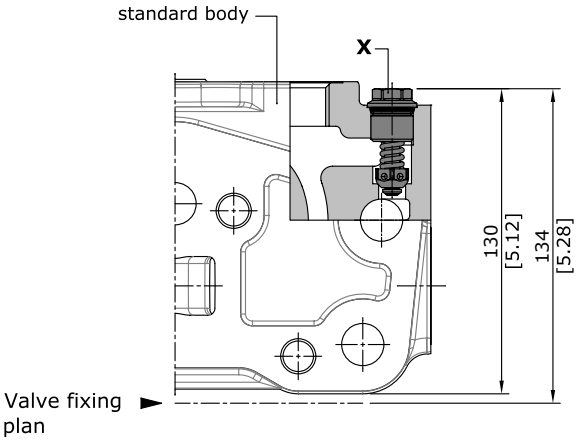
For RPES, RPESP, RPE5DY working port.

P1 (100)

Valve setting (bar)

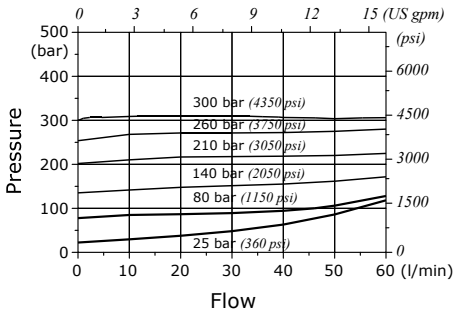
1 mounted on A port
2 mounted on B port
3 mounted on A and B ports



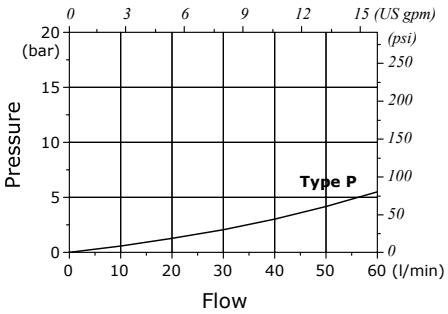


Wrenches and tightening torques
X = wrench 15 - 24 Nm *(17.7 lbft)*

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



Pressure drop
(in anticavitation)



Port valves

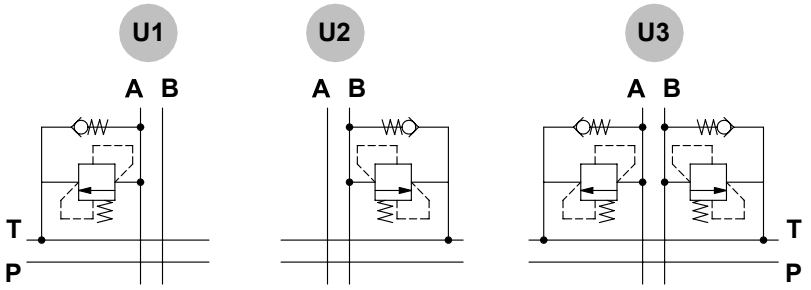
Fixed setting antishock and anticavitation valves

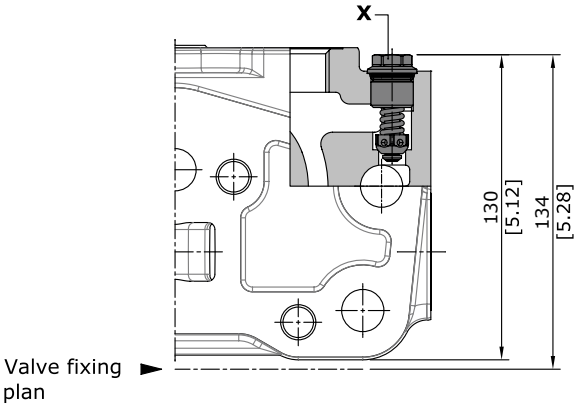
It needs special body with extra machining type RPHT, RPHSP, RPH5DY.

U1 (100)

Valve setting (bar)

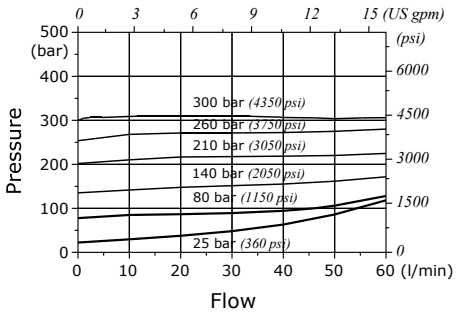
1 mounted on A port
2 mounted on B port
3 mounted on A and B ports



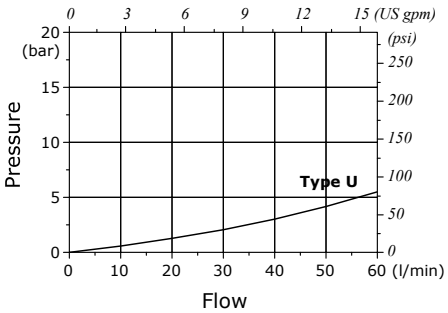


Wrenches and tightening torques
X = wrench 15 - 24 Nm *(17.7 lbft)*

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



Pressure drop
(in anticavitation)



Working section

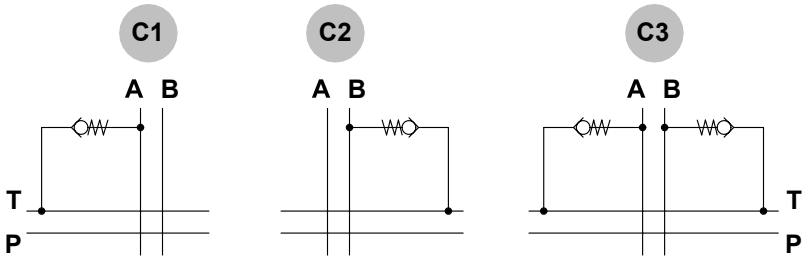
Port valves

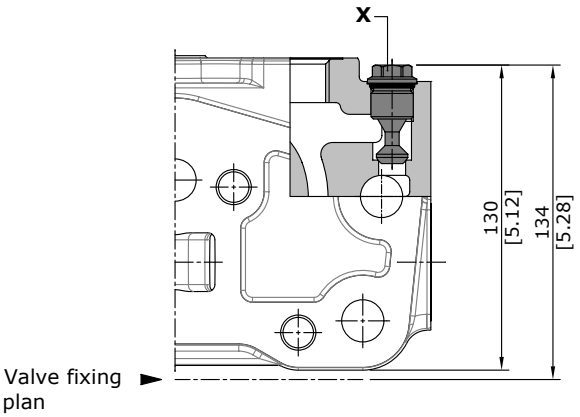
Anticavitation valve

It needs special body with extra machining type RPHT, RPHSP

C1

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





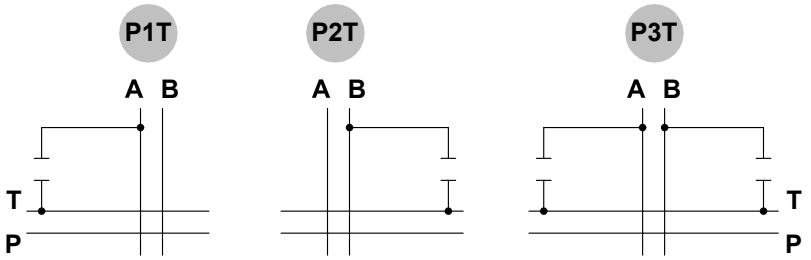
Wrenches and tightening torques
X = wrench 15 - 24 Nm *(17.7 lbft)*

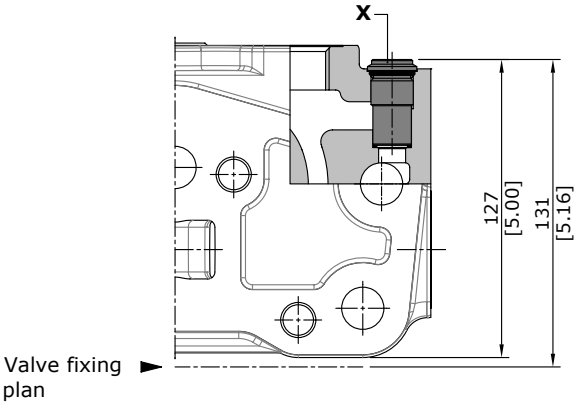
Valve blanking plug

For RPES, RPESP, RPHT, RPHSP working port.

P3T

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



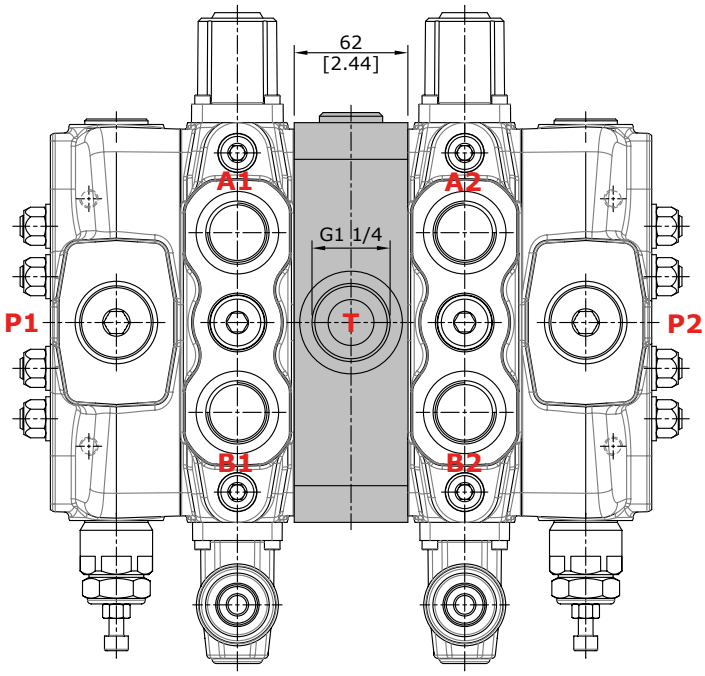


Wrenches and tightening torques
X = allen wrench 8 - 24 Nm *(17.7 lbft)*

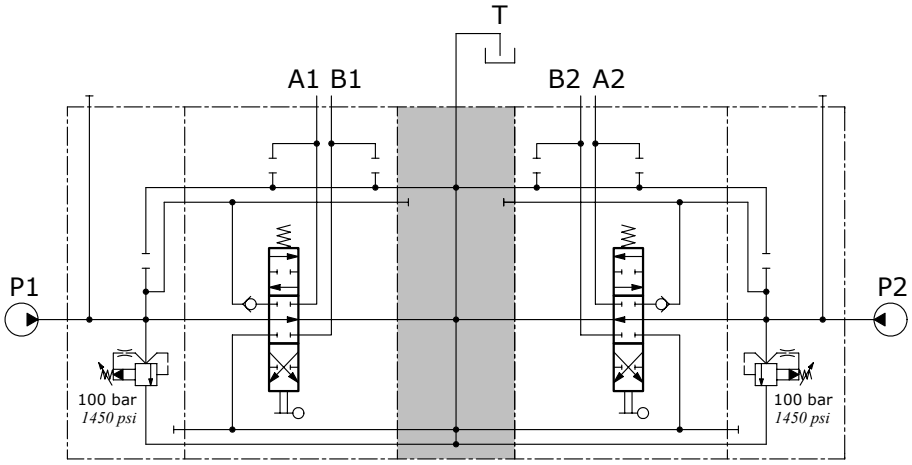
Intermediate section

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:
240L GS20/2/AC(XGN-100)/RPES-18L/**CS1**/RPES-18L/BC(XGN-100)

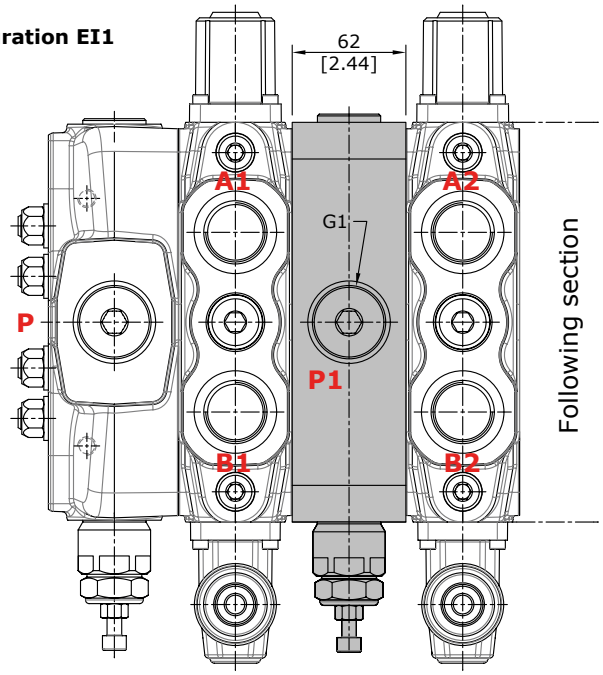
Intermediate section

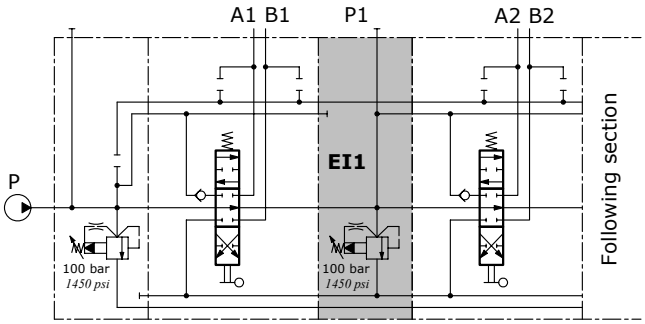
Service relief valve section

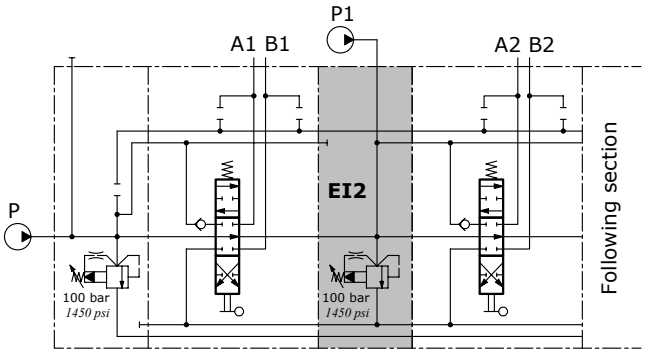
EI configuration

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.

configuration EI1





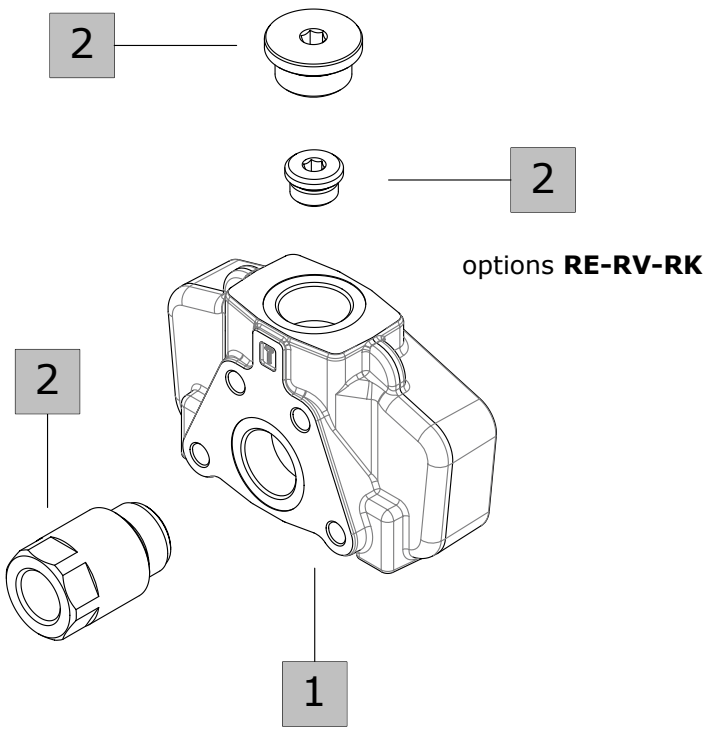


Parts ordering codes

Ordering example:

240L GS20 / RC

Available configurations
RC: side outlet
RD: upper outlet
RE: upper outlet with side carry-over
RK: upper outlet and closed centre



1. Complete outlet cover *

TYPE	CODE	DESCRIPTION
RC	24OU010001	Side outlet
RD	24OU010002	Upper outlet
RE	24OU010003	Upper outlet with side carry-over sleeve
RK	24OU010004	Upper outlet with closed centre
RV	24OU010005	With backpressure valve 10 bar *(145 psi)*

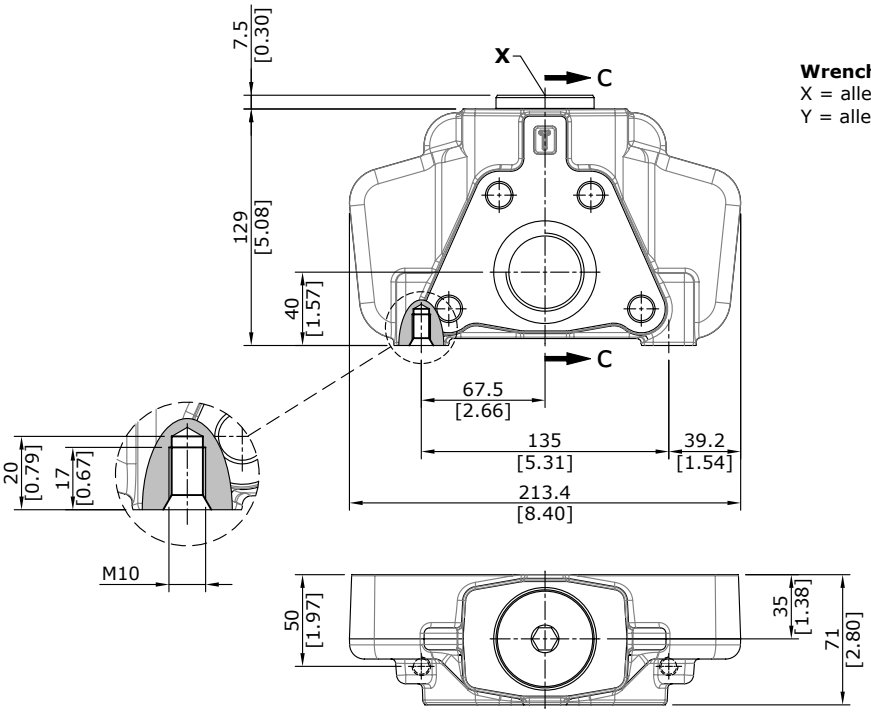
2. Circuit options *

TYPE	CODE	DESCRIPTION
-	30 05 4920	G3/4 tapered plug for carry-over (RE), carry-over with backpressure valve (RV) and closed centre (RK) options
VRE	30 05 6342	Backpressure valve 10 bar *(145 psi)*
-	30 05 5073	Plug G1 1/4

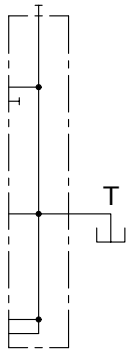
NOTE (*) – Codes are referred to **BSP** thread.

Outlet section

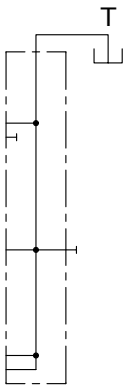
Dimensional data and hydraulic circuit



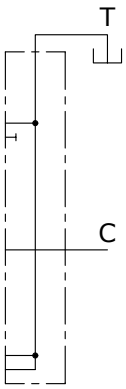
Wrenches and tightening torques
X = allen wrench 12 - 42 Nm *(31 lbft)*
Y = allen wrench 10 - 42 Nm *(31 lbft)*



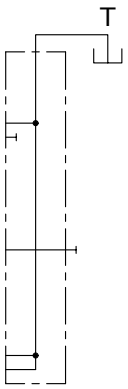
Type RC



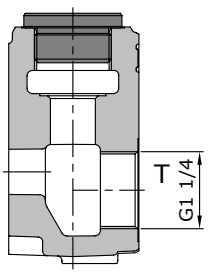
Type RD



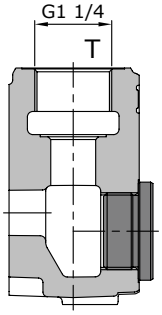
Type RE



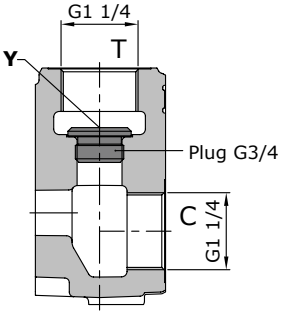
Type RK



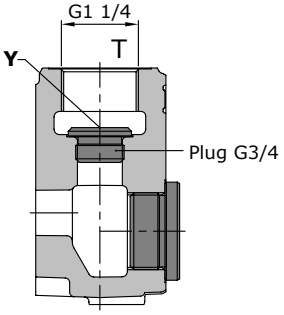
Section C-C



Section C-C



Section C-C

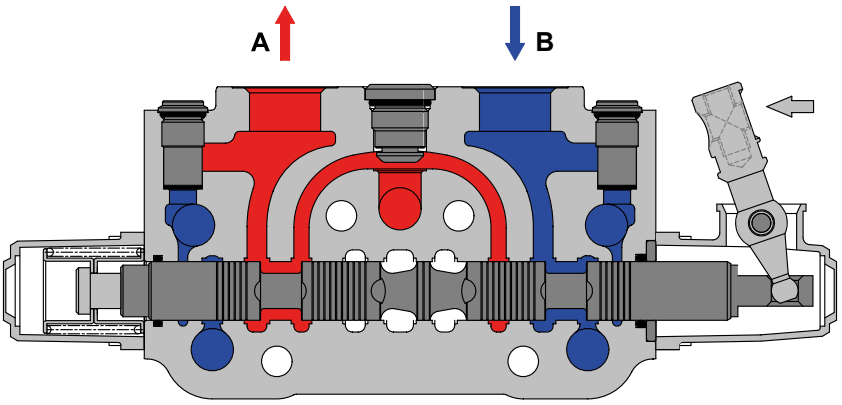


Section C-C

Sectional drawing

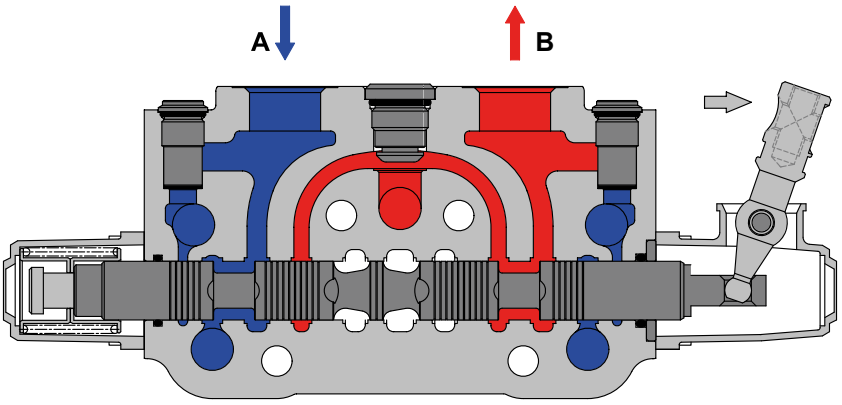
When hand lever pushed (spool out position) P to A port. B to T port.

Position 1



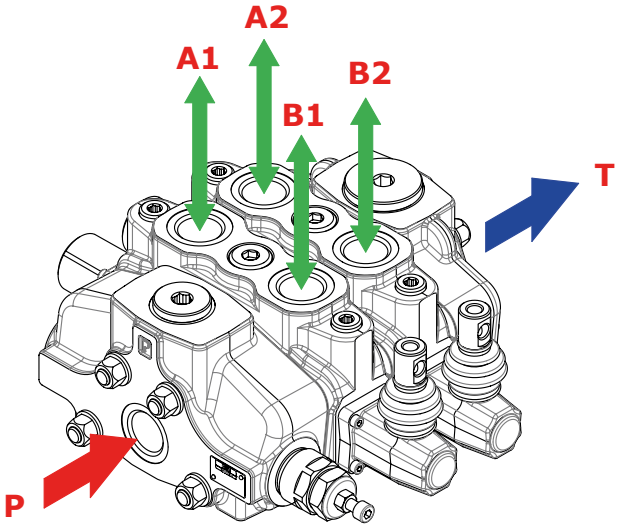
When hand lever pulled (spool in position) P to B port. A to T port.

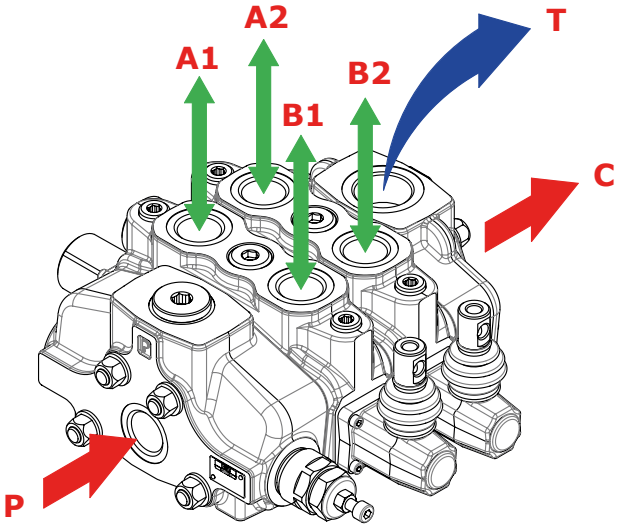
Position 2



Installation and maintenance

The 240L 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 1	G 1	G 1-1/4	G 1/4
With O-Ring seal	100 *(73.7)*	100 *(73.7)*	190 *(140.2)*	25 *(18.4)*
With copper washer	90 *(66.3)*	90 *(66.3)*	150 *(110.6)*	30 *(22.1)*
With steel and rubber washer	100 *(73.7)*	100 *(73.7)*	190 *(140.2)*	16 *(11.8)*
UN-UNF (ISO 11926-1)	1 5/8-12 (SAE 20)	1 5/16-12 (SAE 16)	1 5/8-12 (SAE 20)	9/16-18 (SAE 6)
With O-Ring seal	200 *(147.5)*	150 *(110.6)*	200 *(147.5)*	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.