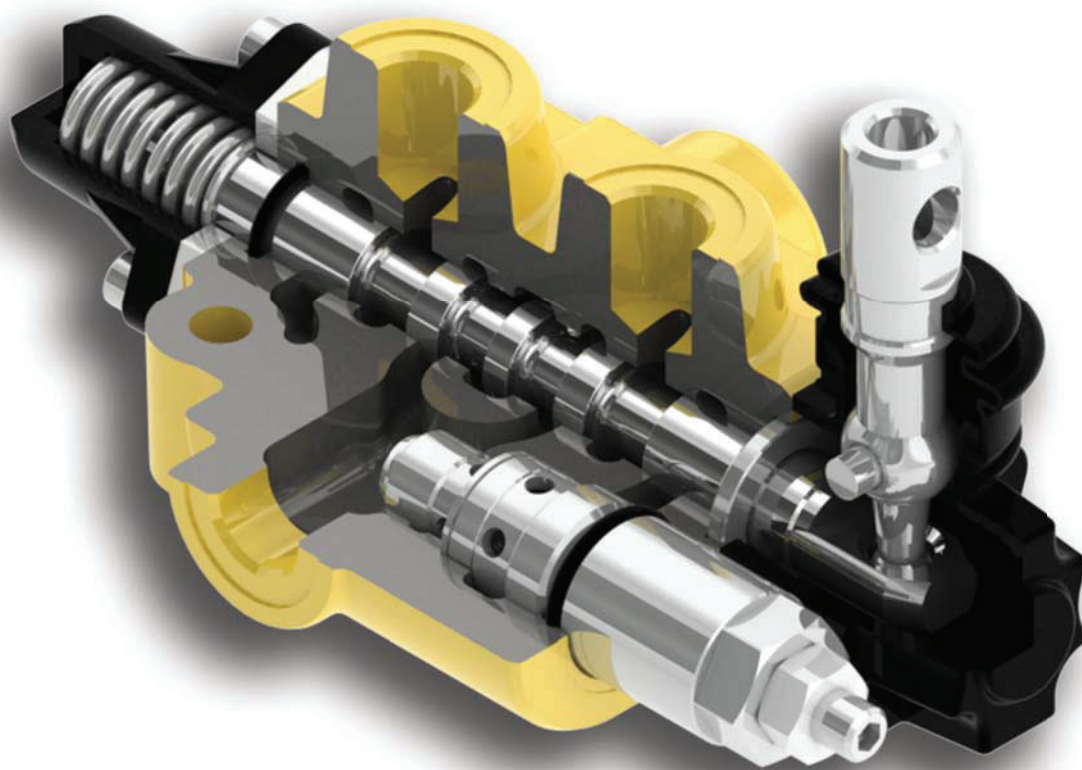




45L FW

GMS

HYDRAULIC

Specifications

Spool: 1 / Double - Single - Closed Center - Motor Spool

Liter: 45L Nominal - 55L Max

A-B Ports: 3/8 Standard-1/2-M18x1,5 Optional

Front Cap: Handle - Remote Cable Control - Lock Handle

End Cap: Spring-Oetent - Wood Splitter - Pneumatic -
Proportional Coil - Remote Cable Control

Open Center / Carry over is not available / Parallel Circuit

45L FW

Features

Simple, compact designed, this valve is only one section for open center and closed center hydraulic systems. It does not have carryover port.

- ▶ fitted with a main pressure relief valve.
- ▶ Spool diameter 16 mm-0.63 in interchangeable spools.

Additional information

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

WARNING!

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

GMS IS NOT RESPONSIBLE FOR ANY DAMAGE CAUSED BY AN INCORRECT USE OF THE PRODUCT.

1st edition January 2023:

Valve general informations

Working conditions.....	page 3
Standard threads.....	page 4
Dimensional data.....	page 4
Performance data.....	page 5
Hydraulic circuit.....	page 6
Ordering codes.....	page 7
Inlet relief options.....	page 9
Spool options.....	page 10
"A" side spool positioners.....	page 11
"B" side options.....	page 18
Special configurations.....	page 21
Complete controls.....	page 22
Sectional drawing.....	page 24
Installation and maintenance.....	page 25

Valve general information

Working conditions

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

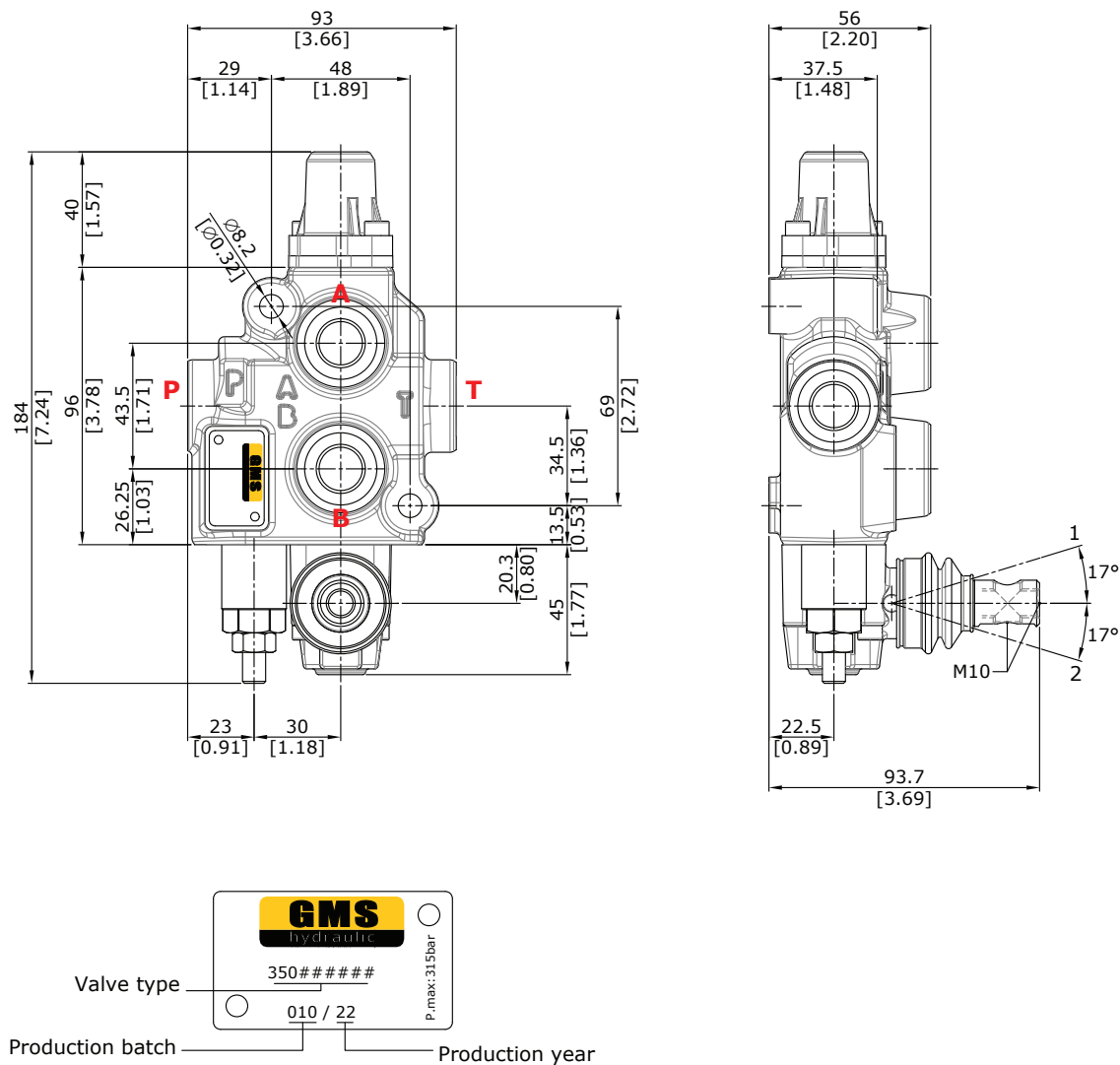
Nominal flow rating		45 l/min.	12 US gpm
Max. flow		55 l	14 US gpm
Operating pressure (max.)		250 bar	3600 psi
Back pressure (max.)	T outlet port	25 bar	360 psi
Internal leakage (standard) A(B)⇒T	Δp=100 bar (1450 psi)	3cm ³ /min.	0.18 in ³ /min.
Hydraulic fluid		Mineral base oil	
Fluid temperature	with 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

Standard threads

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

Valve general information

Dimensional data



Standard threads

PORT	BSP (ISO 228/1)	BSP OPTIONAL (ISO 228/1)	UN-UNF (ISO 11926-1)	METRIC (ISO 262)
P inlet			3/4-16 (SAE 8)	
A and B ports	G 3/8	G 1/2	9/16-18 (SAE 6)	M18x1.5
T outlet			3/4-16 (SAE 8)	

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

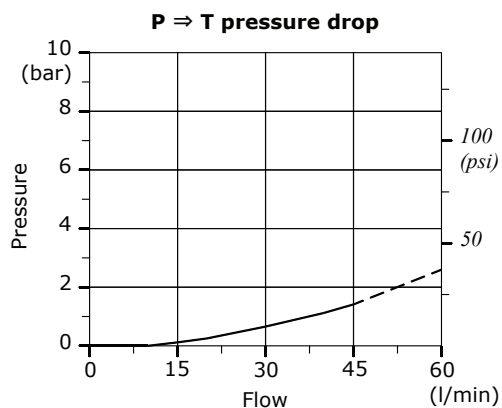
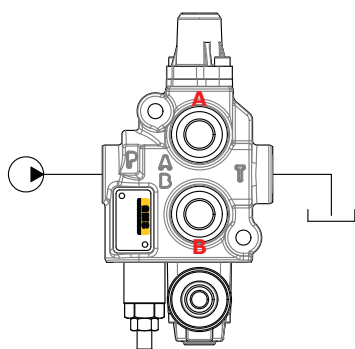
45L FW

Valve general information

Performance data (pressure drop vs. flow)

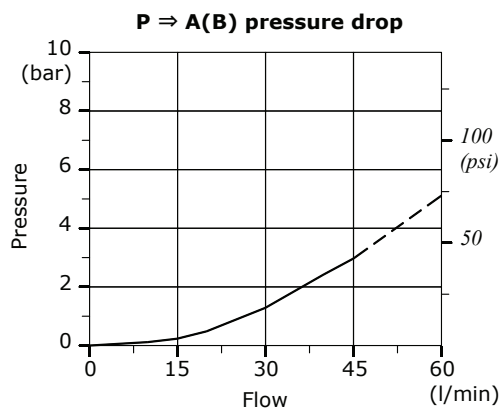
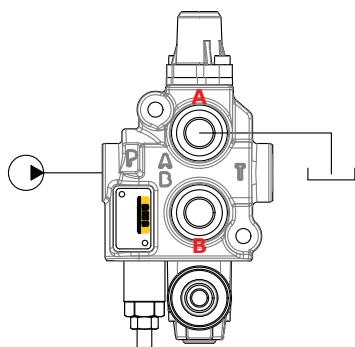
Open centre

From inlet to outlet.



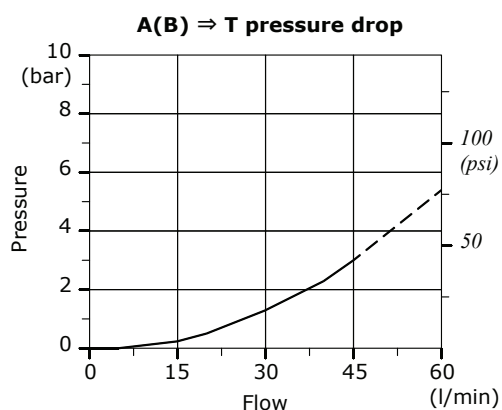
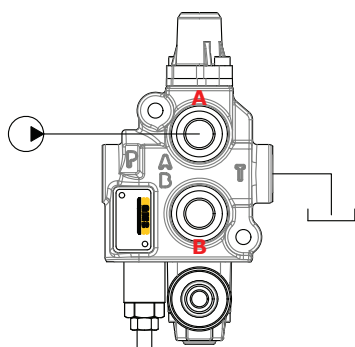
Inlet to work port

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



Work port to outlet

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

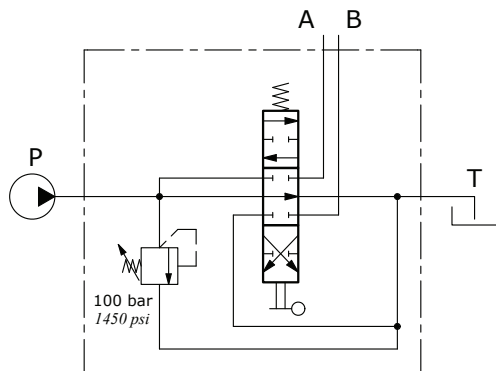


Valve general information

Hydraulic circuit

Standard configuration

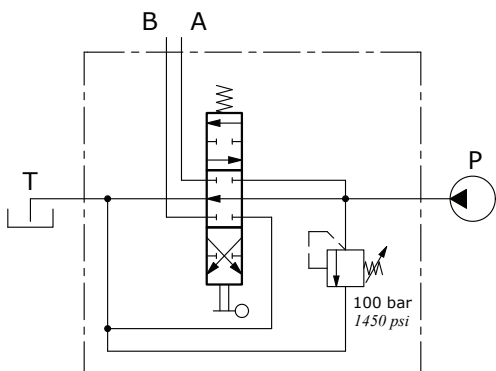
Standard valve is supplied with positive overlap spool (1CP).



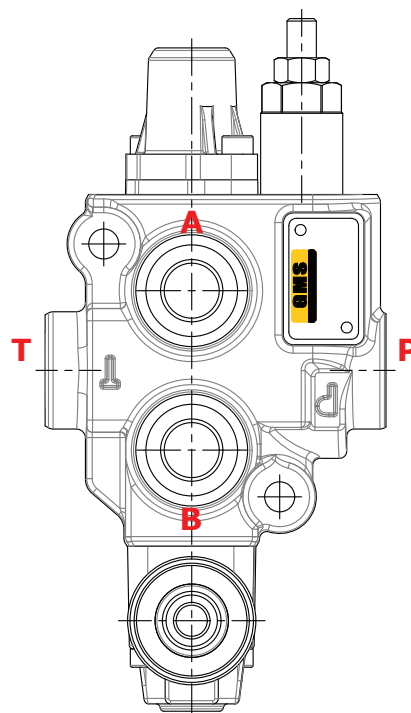
Description example
45L FW08/1(X-100)/1CP8L

Right inlet

A symmetrical body allows the reverse assembly of spool and relative control kit and lever (ED configuration).



Description example
45L FW08/1(X-100)/ED-1CP8L



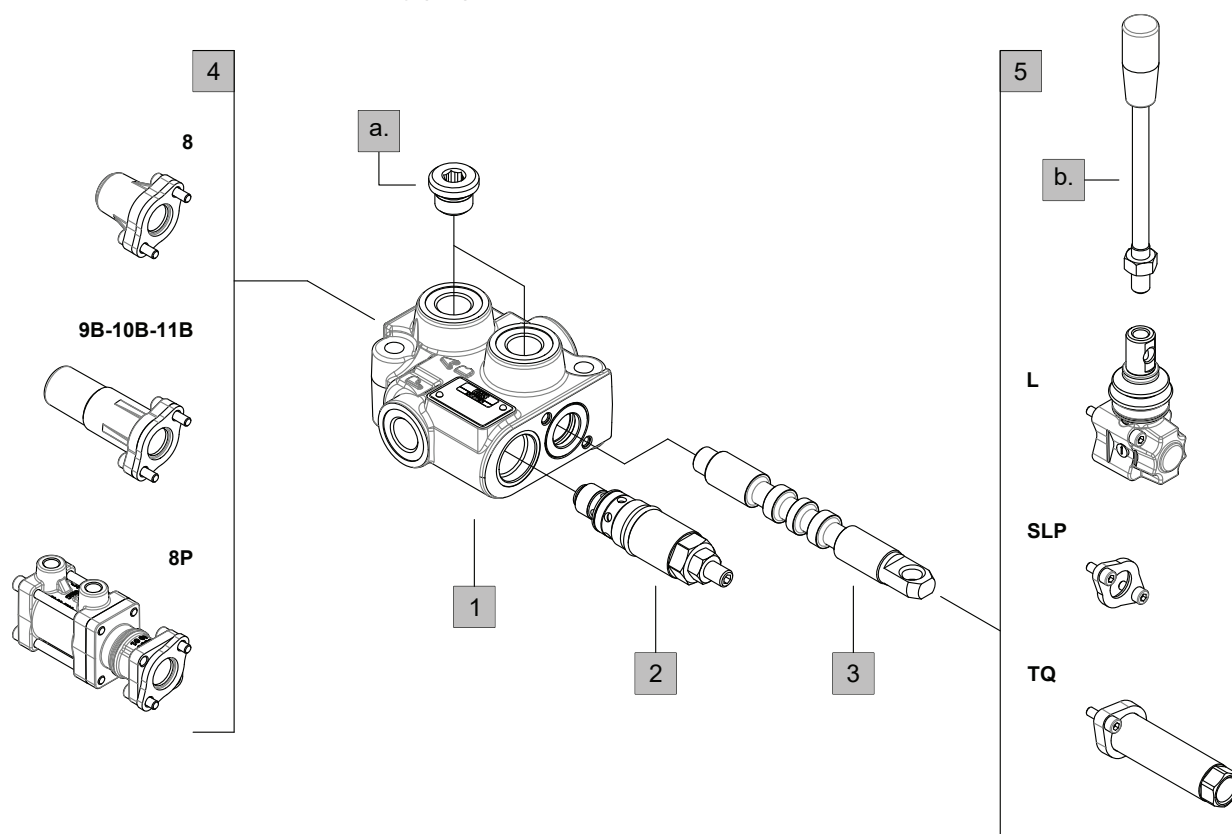
Ordering codes

Description example:

45L FW08 / 1 (X - 100) / 1CP 8 L

1 2 3 4 5

Valve setting (bar)



1. Body kits *

TYPE	CODE	DESCRIPTION
1	30 08 9108	1 section

Include body, seals, rings and load check valve.

2. Inlet relief options

page 9

TYPE	CODE	DESCRIPTION
Direct pressure relief valve X type (standard)		
(X-100)	30 05 4917	Range 20-315 bar (290-4600 psi) standard setting 100 bar (1450 psi)
Standard setting is referred to 6 l/min flow.		
V	30 05 5004	Relief valve blanking plug

3. Spools

page 10

TYPE	CODE	DESCRIPTION
1CP	30 01 3534	Double acting, 3 positions, with A and B closed in neutral position
2	30 01 3536	Double acting, 3 positions, with A and B to tank in neutral position
3	30 01 3543	Single acting on A, 3 positions, B plugged; requires G3/8 plug (see part a)
4	30 01 3544	Single acting on B, 3 positions, A plugged; requires G3/8 plug (see part a)
6	30 01 3535	Double acting, 3 positions, closed center
7	30 01 3542	Double acting, 3 positions, closed center with A and B to tank in neutral position
D4	30 01 3537	Double acting, 2 positions, without neutral position

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

Valve general information

Ordering codes

4. "A" side spool positioners page 11

TYPE	CODE	DESCRIPTION
8	30 07 5427	With spring return in neutral position
8D	30 07 5449	As type 8, M6 female threaded pin extension for dual control
8D2	30 07 5450	As type 8, M8 male threaded pin extension for dual control
8T	30 07 7513	With spring return in neutral position, for single acting spool type 3 and 4
8TL	-	As type 8, for flexible cable control
8F2	30 07 5444	As type 8 with adjustable stroke limiter
19	30 07 5471	With spring return in position 0 from 1
20	30 07 5472	With spring return in position 0 from 2
11	30 07 5445	Detent in positions neutral, 1 and 2
12	30 07 5446	Detent in positions 1 and 2
15	30 07 5447	2 positions, detent in positions 1 and neutral
16	30 07 5448	2 positions, detent in positions 2 and neutral
17	30 07 5467	With spring return position 1
18	30 07 5468	With spring return position 2
17D	30 07 5469	With spring return position 1 and pin with M6 female thread for dual control
18D	30 07 5470	With spring return position 2 and pin with M6 female thread for dual control
9B	30 07 5451	With detent in position 1 and spring return in neutral position
10B	30 07 5452	With detent in position 2 and spring return in neutral position
11B	30 07 5453	Detent in positions 1 and 2 and spring return in neutral position
8MG3(NO)	30 07 5455	As type 8, operation with microswitch (NO) in positions 1 and 2
8P	30 07 5463	ON/OFF pneumatic kit
8EP3	30 07 5473	12 VDC ON/OFF electro-pneumatic kit
	30 07 5464	24 VDC ON/OFF electro-pneumatic kit
8EP4	-	12 VDC ON/OFF electro-pneumatic kit with manifold
	-	24 VDC ON/OFF electro-pneumatic kit with manifold

5. "B" side options page 18

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

6. Complete controls page 21

TYPE	CODE	DESCRIPTION
Rotative control type R and ON/OFF solenoid controls type 8ES		

a. "A" and "B" ports plugs

TYPE	CODE	DESCRIPTION
G3/8	30 05 4918	For single acting spools type 3 and 4

b. Optional handlevers

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

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

45L FW

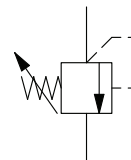
Inlet relief options

Direct pressure relief valve

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

Configuration

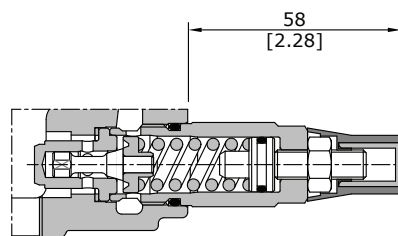
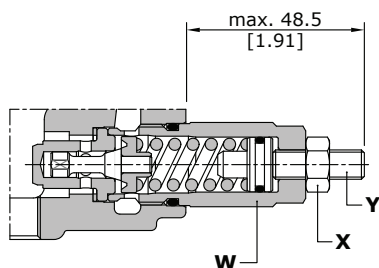
Valve setting (bar)



Adjustment type

Configuration **X** type: adjustable with screw

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

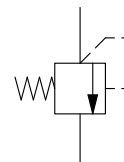
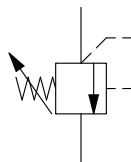


Wrenches and tightening torques

X = wrench 13 - 24 Nm (17.7 lbf ft)

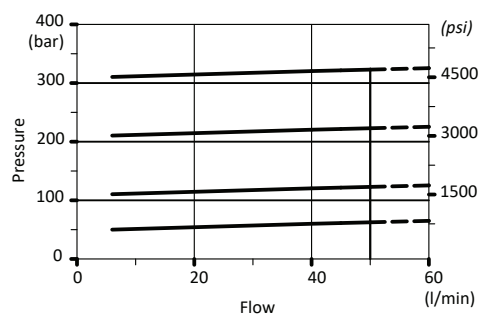
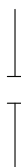
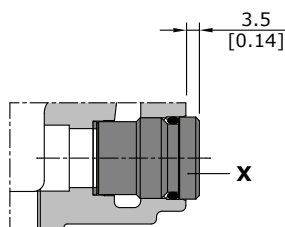
Y = allen wrench 4

W = wrench 19 - 42 Nm (31 lbf ft)



V: relief valve blanking plug

Performance data



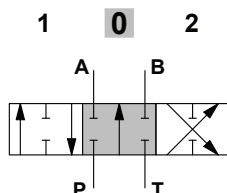
Wrenches and tightening torques

X = allen wrench 8 - 42 Nm (31 lbf ft)

Spools options

1CP, ED-1CP (30 01 3534) spool type

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

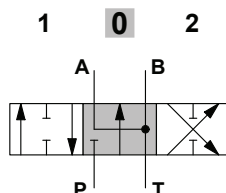


Spool stroke

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

2, ED-2 (30 01 3536) spool type

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

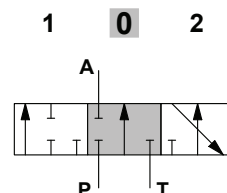


Spool stroke

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

3, ED-3 (30 01 3543) spool type

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

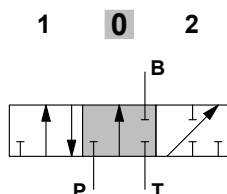


Spool stroke

position 1: + 4.2 mm (+ 0.17 in)
position 2: - 4.2 mm (- 0.17 in)

4, ED-4 (30 01 3544) spool type

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

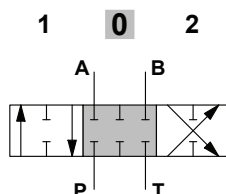


Spool stroke

position 1: + 4.2 mm (+ 0.17 in)
position 2: - 4.2 mm (- 0.17 in)

6, ED-6 (30 01 3535) spool type

Double acting, 3 positions, closed center

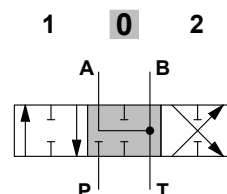


Spool stroke

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

7, ED-7 (30 01 3542) spool type

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

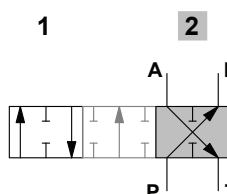


Spool stroke

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

D4 (30 01 3537) spool type

Double acting, 2 positions, without neutral position



Spool stroke

position 1: + 12 mm (+ 0.48 in)

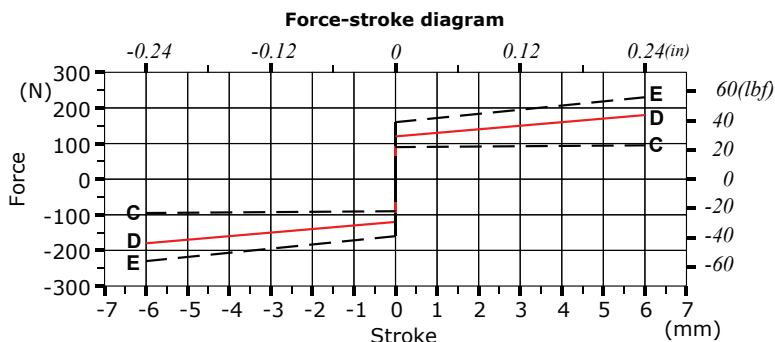
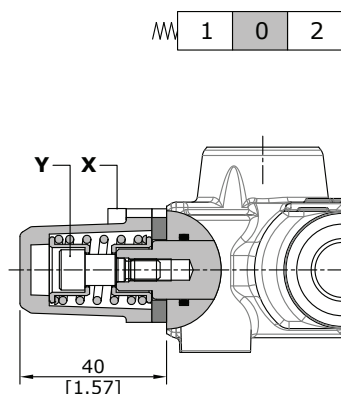
45L FW

"A" side spool positioners

With spring return in neutral position

8 type (30 07 5427)

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

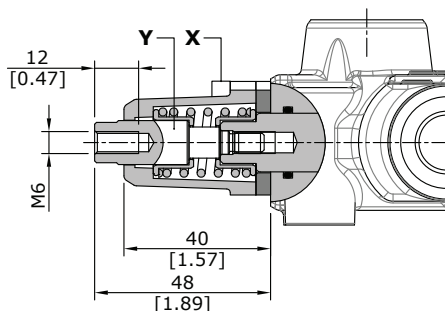


Wrenches and tightening torques

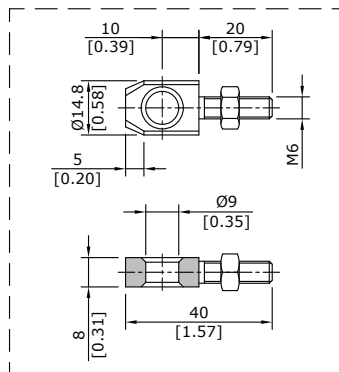
X = allen wrench 4 - 6 Nm (4.4 lbft)
Y = allen wrench 6 - 9 Nm (6.6 lbft)

8D type (30 07 5449)

With M6 female threaded pin extension for dual control.



Spool end joint dimensions (optional)



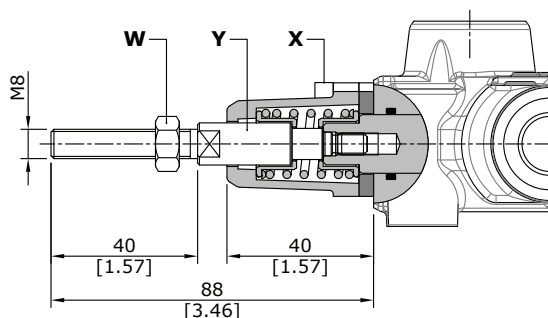
Wrenches and tightening torques

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

8D2 type (30 07 5450)

Wrenches and tightening torques

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

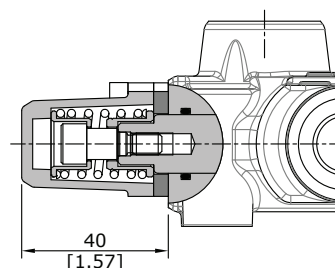


8T type (30 07 7513)

For single acting spool type 3 and 4

Wrenches and tightening torques

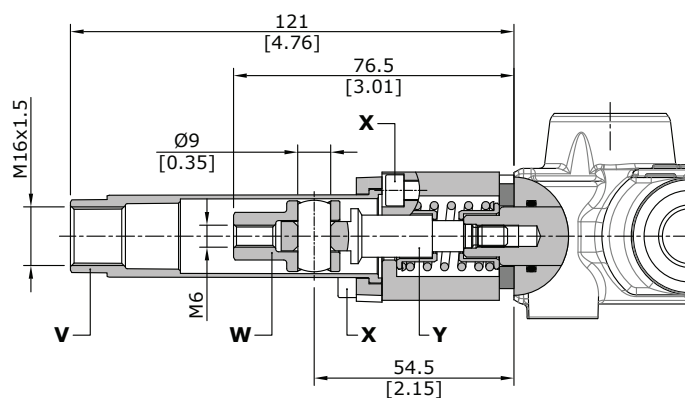
X = allen wrench 4 - 6 Nm (4.4 lbft)
Y = allen wrench 6 - 9 Nm (6.6 lbft)



"A" side spool positioners

With spring return in neutral position

8TL type



Wrenches and tightening torques

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

Y = wrench 8 - 9 Nm (6.6 lbft)

W = wrench 13

V = wrench 20

8F2 type (30 07 5444)

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

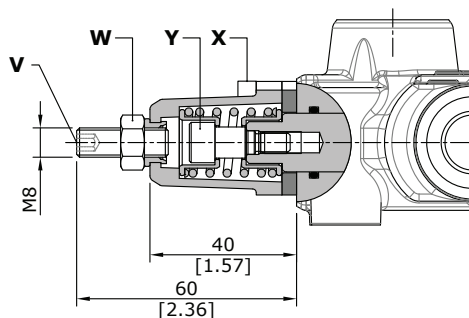
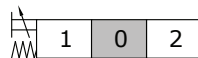
Wrenches and tightening torques

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

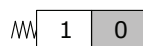
Y = allen wrench 6 - 9 Nm (6.6 lbft)

W = wrench 13 - 24 Nm (17.7 lbft)

V = allen wrench 4



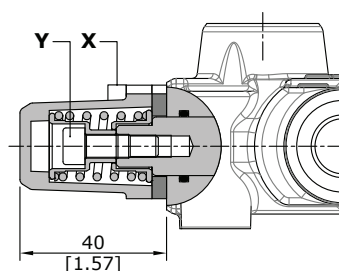
19 type (30 07 5471)



Wrenches and tightening torques

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

Y = allen wrench 5 - 9 Nm (6.6 lbft)



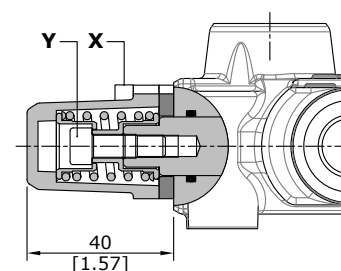
20 type (30 07 5472)



Wrenches and tightening torques

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

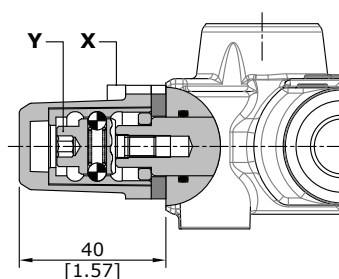
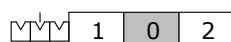
Y = allen wrench 5 - 9 Nm (6.6 lbft)



"A" side spool positioners

With detent

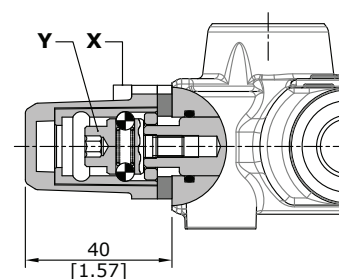
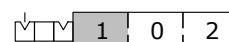
11 type (30 07 5445)



Wrenches and tightening torques

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

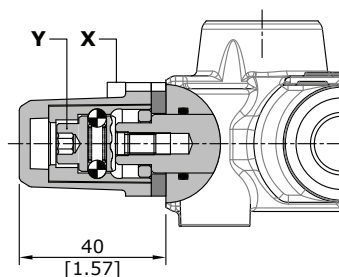
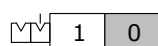
12 type (30 07 5446)



Wrenches and tightening torques

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

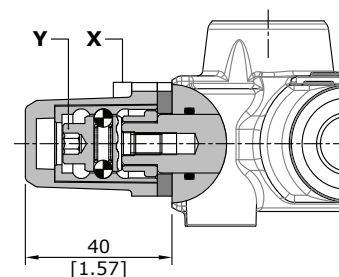
15 type (30 07 5447)



Wrenches and tightening torques

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

16 type (30 07 5448)



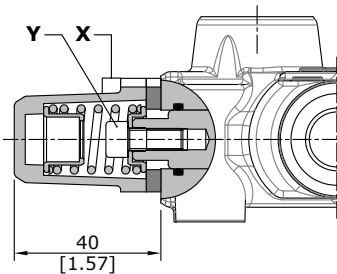
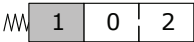
Wrenches and tightening torques

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

"A" side spool positioners

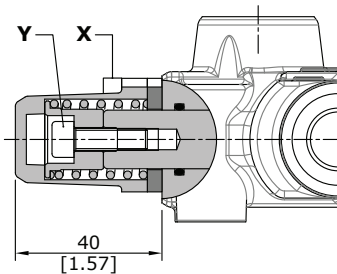
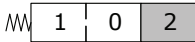
With spring return

17 type (30 07 5467)



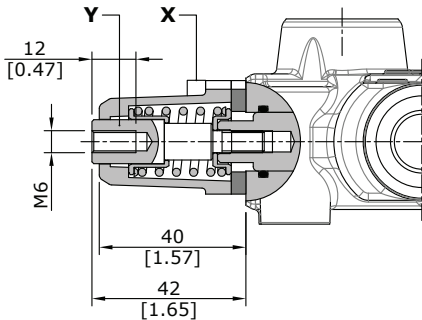
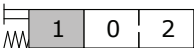
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm (4.4 lbft)
Y = allen wrench 5 - 9 Nm (6.6 lbft)

18 type (30 07 5468)



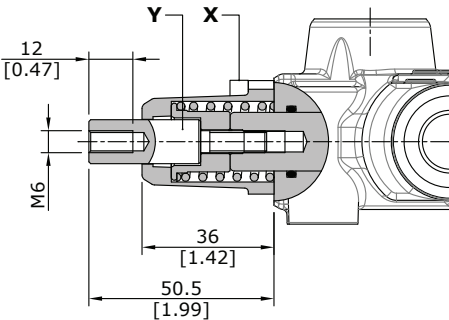
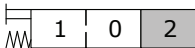
Wrenches and tightening torques
X = allen wrench 4 - 6 Nm (4.4 lbft)
Y = allen wrench 5 - 9 Nm (6.6 lbft)

17D type (30 07 5469)



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

18D type (30 07 5470)

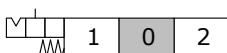


Wrenches and tightening torques
X = allen wrench 4 - 6 Nm (4.4 lbft)
Y = wrench 11 - 9 Nm (6.6 lbft)

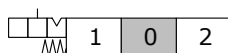
"A" side spool positioners

With detent and spring return to neutral position from either directions

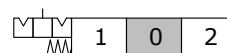
9B type (30 07 5451)
detent in position 1
(curve A)



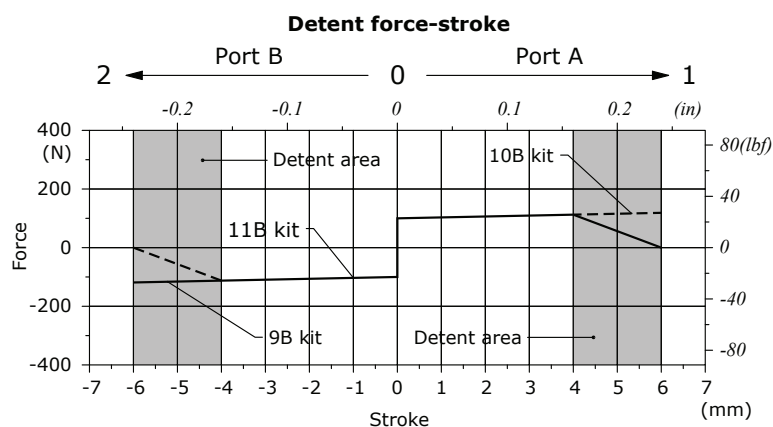
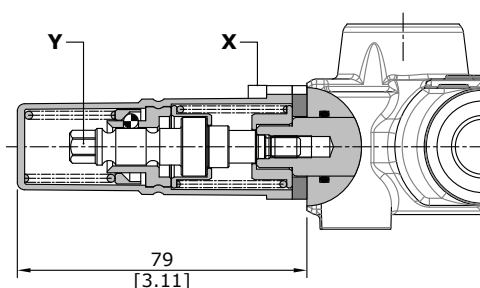
10B type (30 07 5452)
detent in position 2
(curve B)



11B type (30 07 5453)
detent in position 1 and 2
(curves A and B)



11B type



Wrenches and tightening torques

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

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

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

"A" side spool positioners

With microswitch

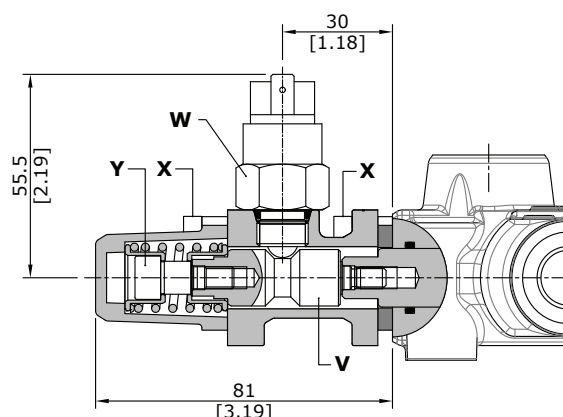
8MG3(NO) type (30 07 5455)

With spring return in neutral position and microswitch operated in both directions.

Also available **8MG1(NO)** (microswitch operated in position 1) and **8MG2(NO)** (microswitch operated in position 2) configurations; dimension are the same of **8MG3(NO)** configuration.

Same configurations are available with normally closed (NC) contact.

For more information contact Sales Department.



Wrenches and tightening torques

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

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

W = wrench 22 - 42 Nm (31 lbf_t)

V = wrench 10 - 9.8 Nm (7.2 lbf_t)

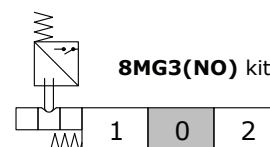
Operating features

MICROSWITCH

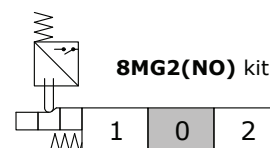
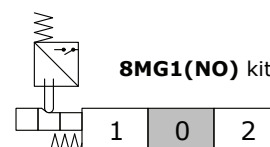
Mechanical life : 5x10⁵ operations

Electrical life (resistive load) : 5x10⁴ operations 10A / 12VDC

: 5x10⁴ operations 3A / 24VDC

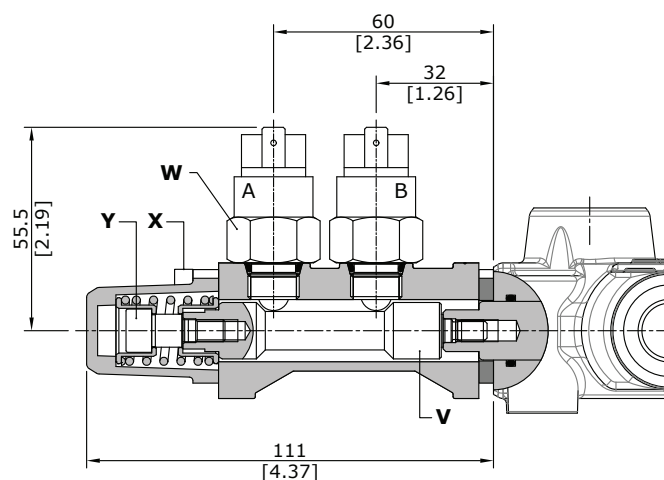


Other configurations



8MG1\MG2(NC\NC) type (30 07 5462)

With double microswitch in position 1 and 2.



Wrenches and tightening torques

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

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

W = wrench 22 - 42 Nm (31 lbf_t)

V = wrench 10 - 9.8 Nm (7.2 lbf_t)

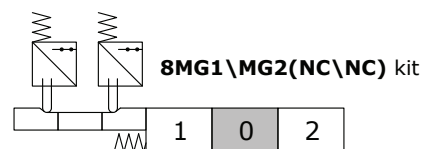
Operating features

MICROSWITCH

Mechanical life : 5x10⁵ operations

Electrical life (resistive load) : 5x10⁴ operations 10A / 12VDC

: 5x10⁴ operations 3A / 24VDC



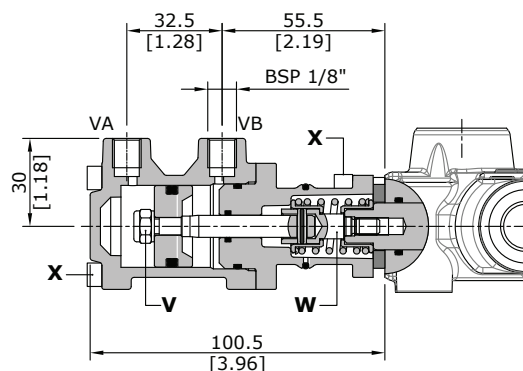
Positions	A	B
1		
0		
2		

"A" side spool positioners

ON/OFF pneumatic kit

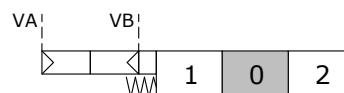
ON/OFF pneumatic: 8P type (30 07 5463)

With spring return to neutral position.



Common features

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



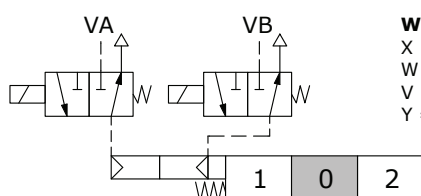
Wrenches and tightening torques

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

ON/OFF electro-pneumatic kit

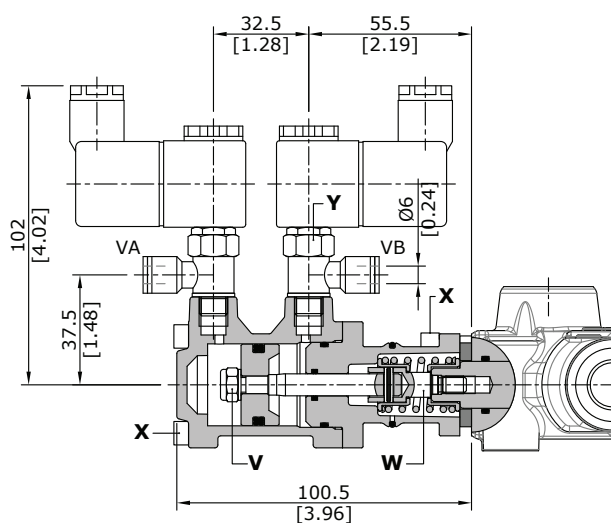
Electro-pneumatic: 8EP3 type

With spring return to neutral position.



Wrenches and tightening torques

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

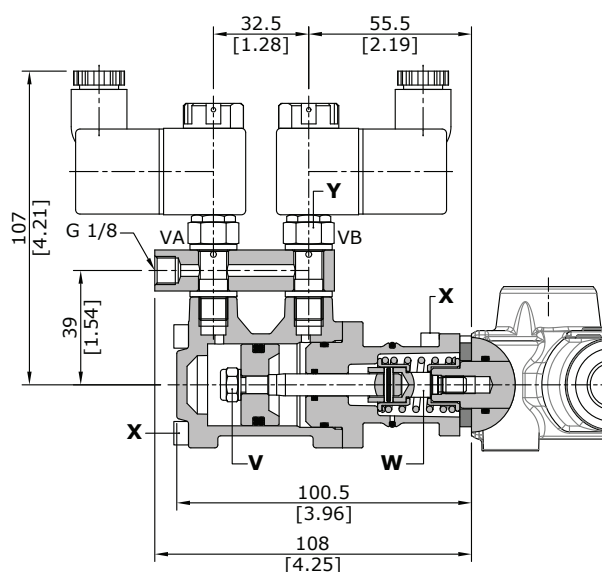
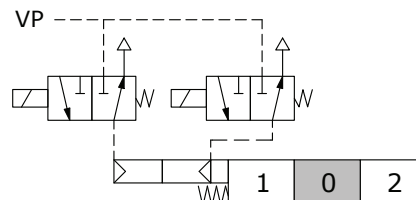


Common features

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

Electro-pneumatic: 8EP4 type

With spring return to neutral position.

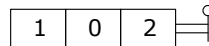
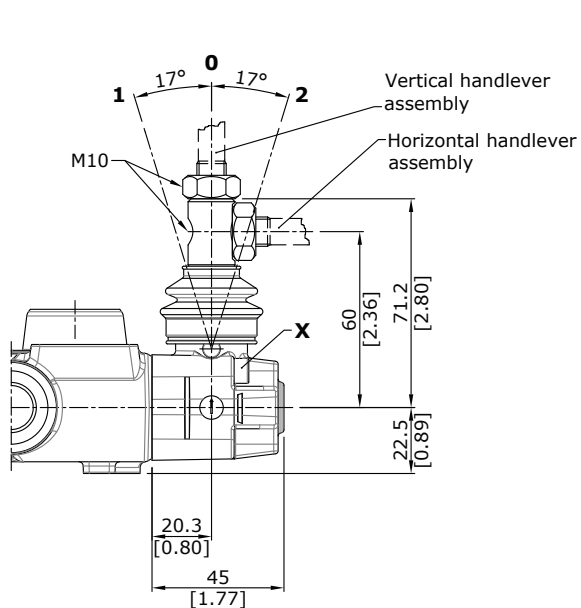


"B" side options

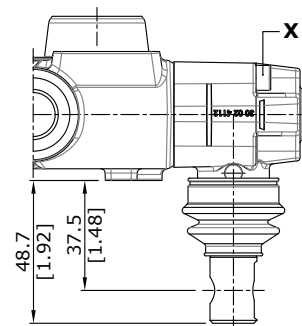
Lever control

L type (30 07 5335)

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



configuration L180

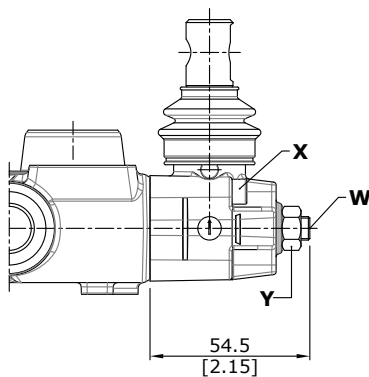
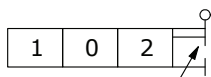


Wrenches and tightening torques

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

LF1 type (30 07 5337)

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



Wrenches and tightening torques

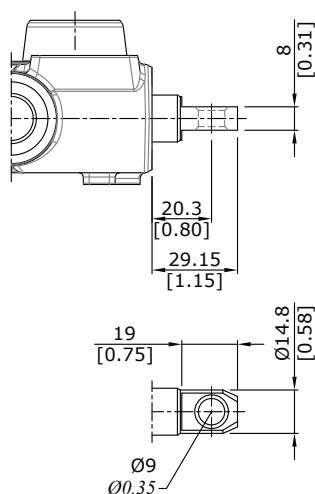
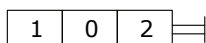
X = allen wrench 4 - 6 Nm (4.4 lbft)

Y = wrench 13 - 24 Nm (17.7 lbft)

W = allen wrench 4

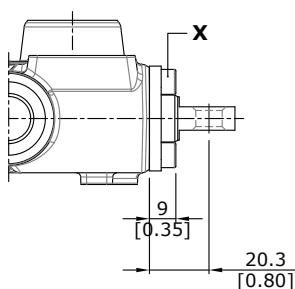
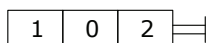
"B" side options

SL type



SLP type (30 07 5338)

Mechanical control with dust-proof plate kit.

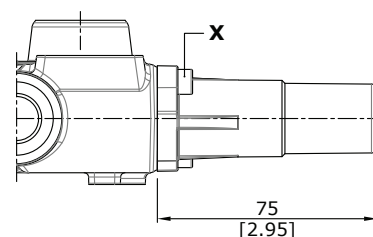
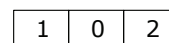


Wrenches and tightening torques

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

SLCZ type (30 07 7621)

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

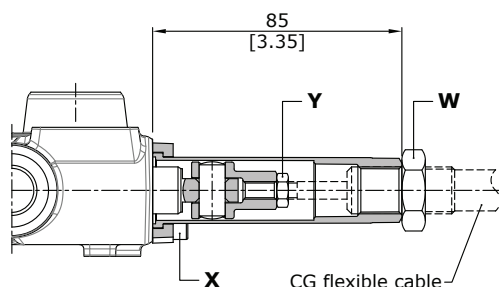
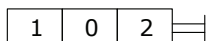


Wrenches and tightening torques

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

TQ cable remote control kit (30 07 5328)

Prearranged for remote control with flexible cable.



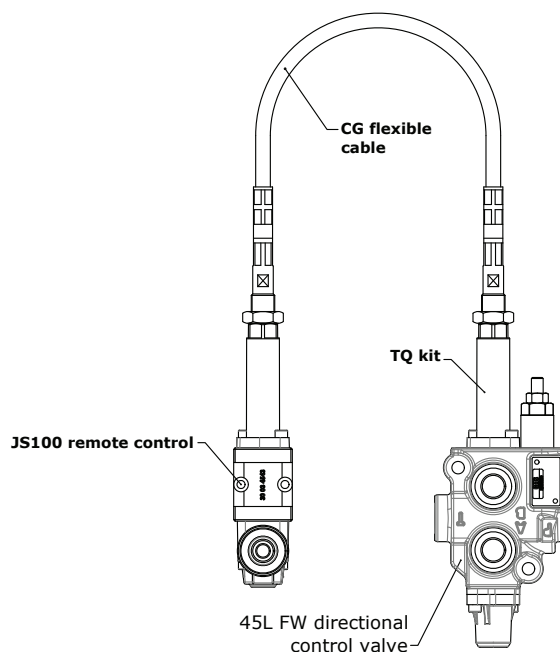
Wrenches and tightening torques

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

Y = wrench 10 - 9.8 Nm (7.2 lbft)

W = wrench 24 - 24 Nm (17.7 lbft)

Example of cable control



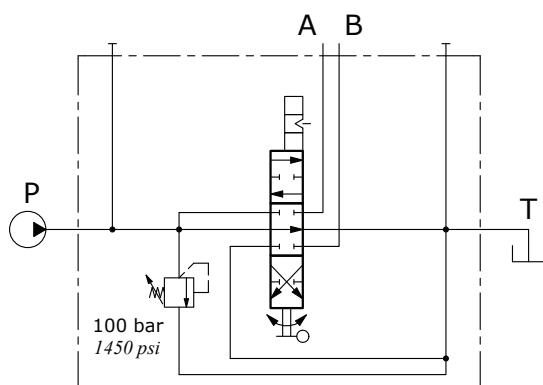
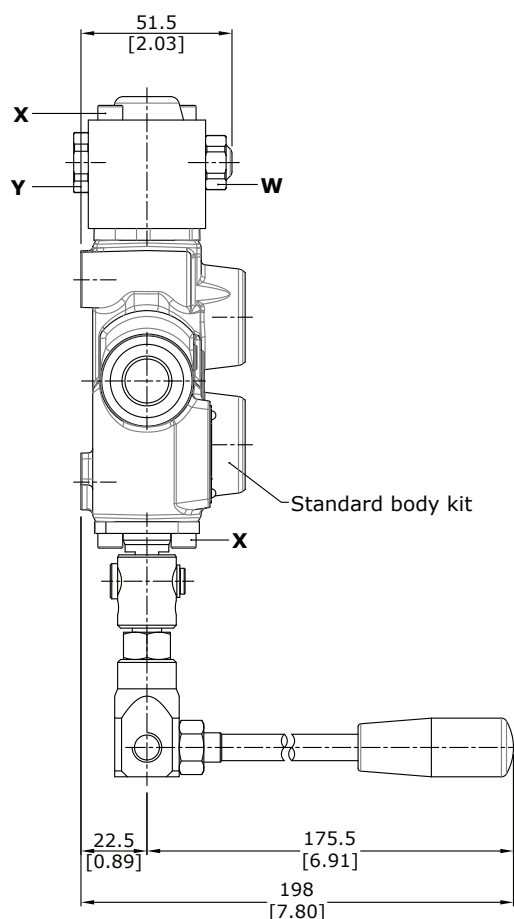
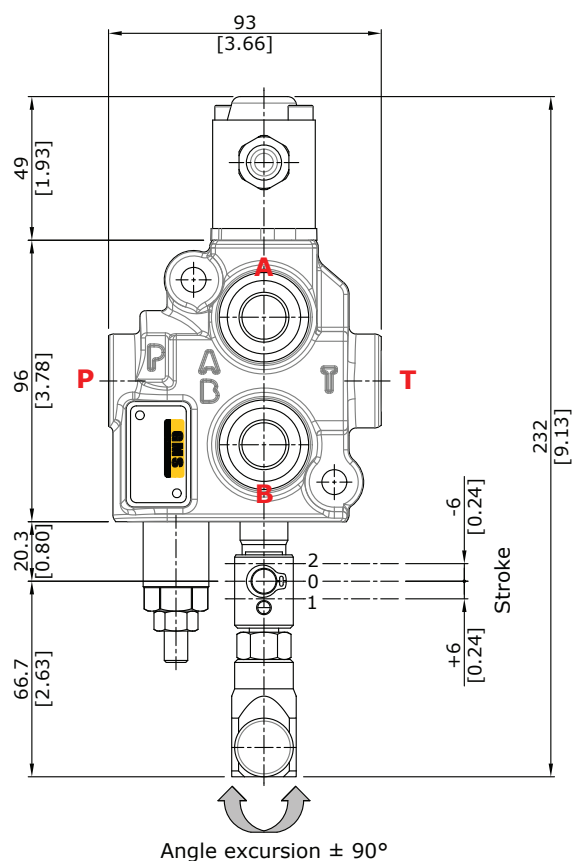
NOTE : For further information about remote cable control, require related documentation.

45L FW

Special configurations

Directional valve with rotary control kit

R type (30 07 5595)



Description example
45L FW08/1(X-100)/1CP R SLP

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)

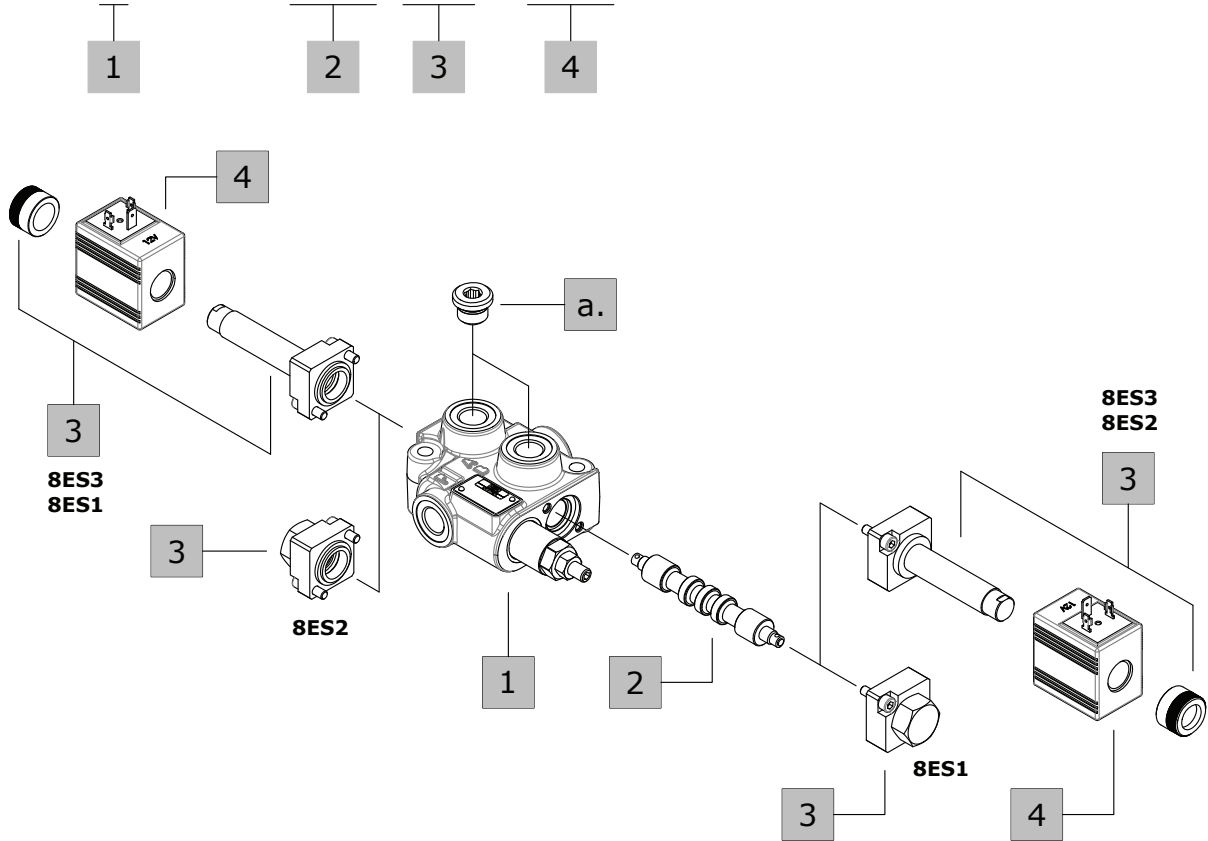
Complete controls

8ES solenoid control

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

Description example:

45L FW08 / 1 (X-100) / 1N(ES) 8ES3 - 12VDC



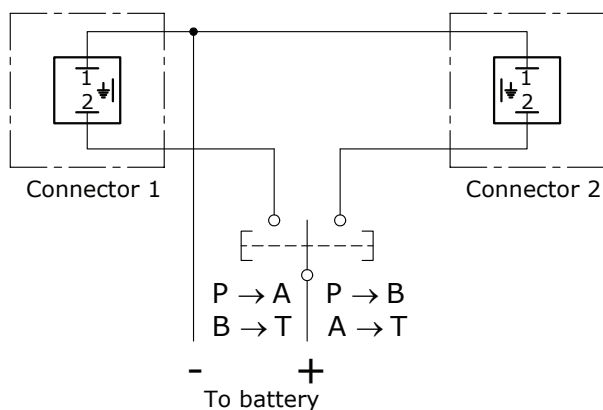
1. Body kit *			3. Control kit		
TYPE	CODE	DESCRIPTION	TYPE	CODE	DESCRIPTION
1	30 08 9109	1 section	8ES1	30 07 5474	P→A, with spring return to neutral position
			8ES2	30 07 5474	P→B, with spring return to neutral position
			8ES3	30 07 5475	Double acting with spring return to neutral position
Include body, seals and rings.					
2. Spools			4. Coils		
TYPE	CODE	DESCRIPTION	TYPE	CODE	DESCRIPTION
1N(ES)	30 01 3664	Double acting, 3 positions, with A and B closed in neutral position	12VDC	20 03 2295	Nominal voltage 12VDC
2(ES)	30 01 3665	Double acting, 3 positions, with A and B open to tank in neutral position	24VDC	20 03 2296	Nominal voltage 24VDC
a. "A" and "B" ports plugs					
TYPE	CODE	DESCRIPTION			
G3/8	30 05 4918	For single acting controls type 8ES1 and 8ES2			

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

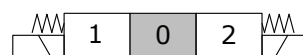
Complete controls

8ES solenoid control

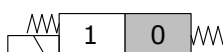
Electric wiring example



8ES3 kit
double acting



8ES1 kit
single acting on A



8ES2 kit
single acting on B



Operating features

CONTROL

Internal leakage A(B) → T

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

COIL

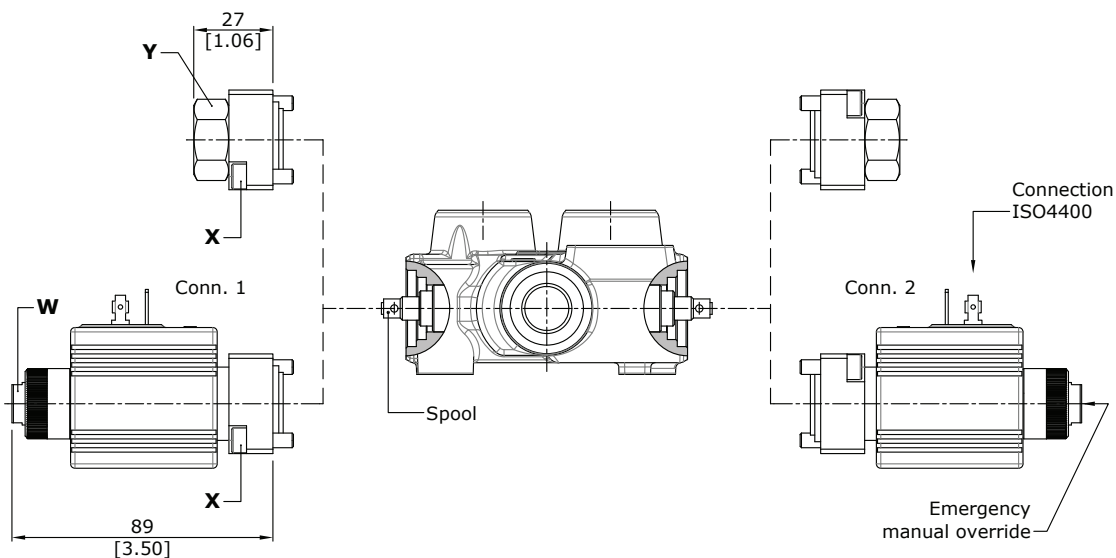
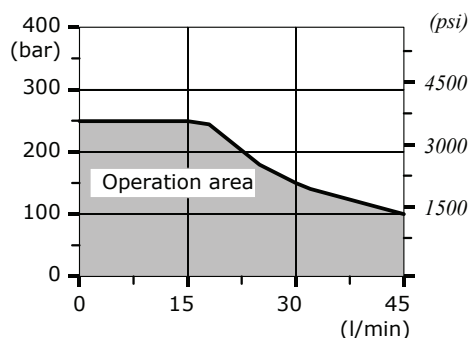
Nominal voltage tolerance..... : $\pm 10\%$

Power rating..... : 36 W

Coil insulation..... : class H

Duty cycle..... : 100%

Operating condition diagram



Wrenches and tightening torques

X = allen wrench 4 - 6 Nm (4.4 lbf ft)

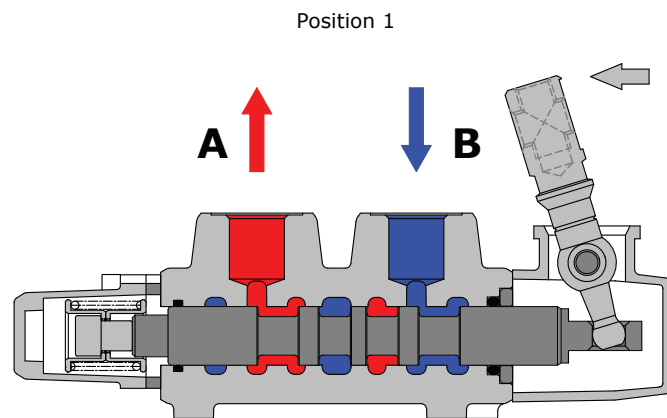
Y = Wrench 24 - 24 Nm (17.7 lbf ft)

W = Wrench 13 - 24 Nm (17.7 lbf ft)

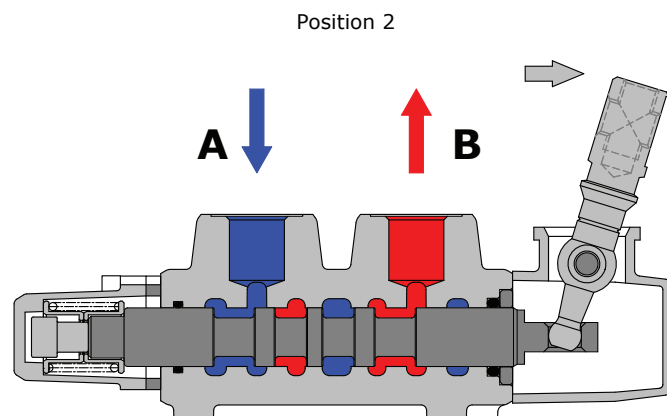
Technical Information

Sectional drawing

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



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



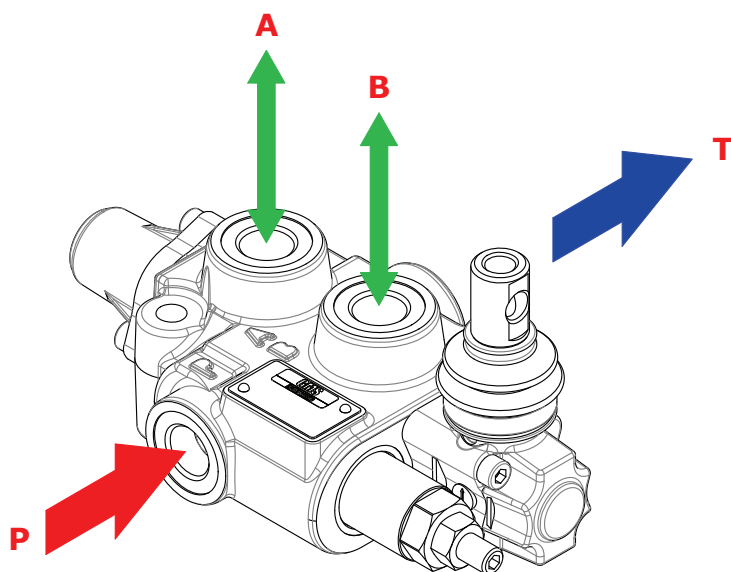
45L FW

Installation and maintenance

The 45L FW valve is 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; in order to prevent body 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.



Fitting tightening torque - Nm (lbft)			
THREAD TYPE	P port	A,B ports	T port
BSP (ISO 228/1)	G 3/8	G 3/8	G 3/8
With O-Ring seal	35 (25.8)	35 (25.8)	35 (25.8)
With copper washer	40 (29.5)	40 (29.5)	40 (29.5)
With steel and rubber washer	30 (22.1)	30 (22.1)	30 (22.1)
UN-UNF (ISO 11926-1)	3/4-16 (SAE 8)	9/16-18 (SAE 6)	3/4-16 (SAE 8)
With O-Ring seal	50 (36.9)	30 (22.1)	50 (36.9)
METRIC (ISO 262)	M18x1.5	M18x1.5	M18x1.5
With O-Ring seal	35 (25.8)	35 (25.8)	35 (25.8)
With copper washer	40 (29.5)	40 (29.5)	40 (29.5)
With steel and rubber washer	40 (29.5)	40 (29.5)	40 (29.5)

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