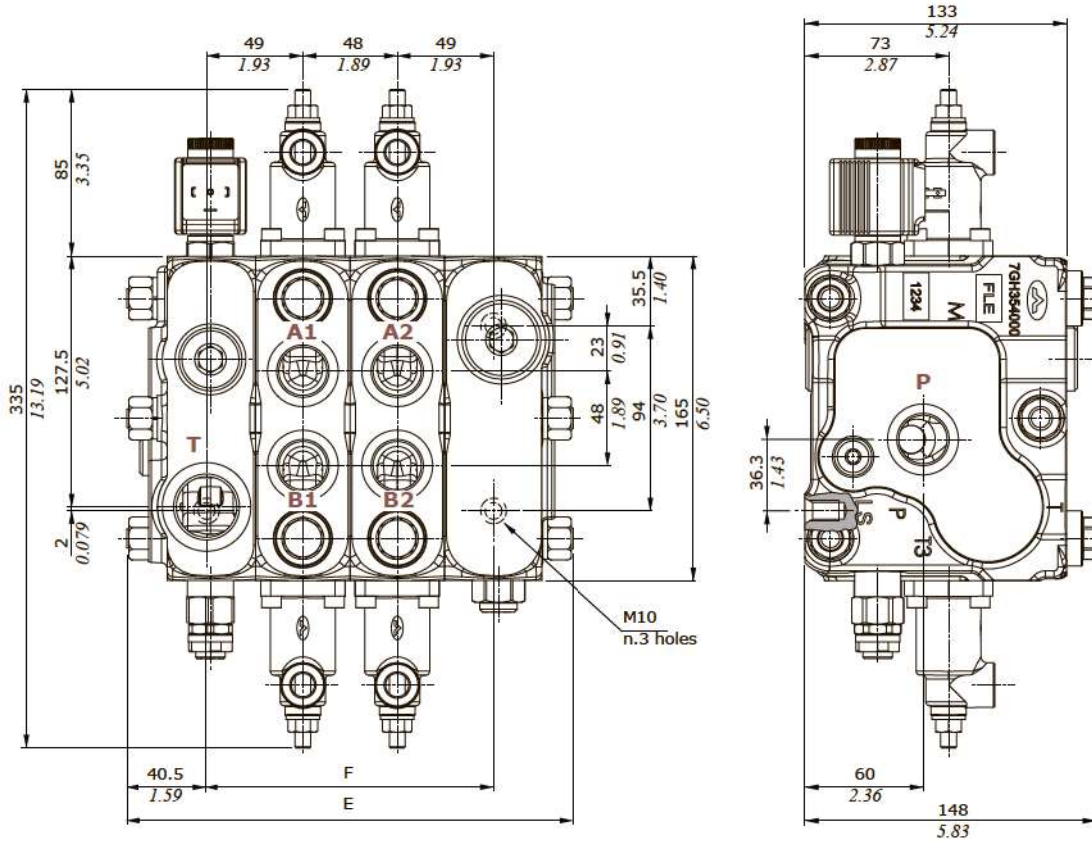
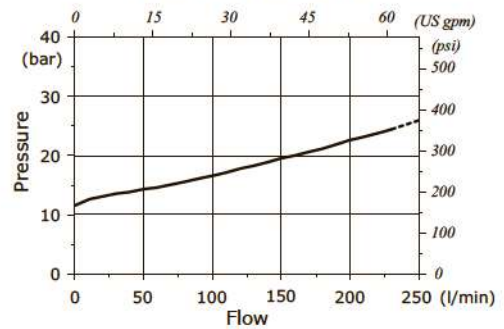


Dimensional data and performance

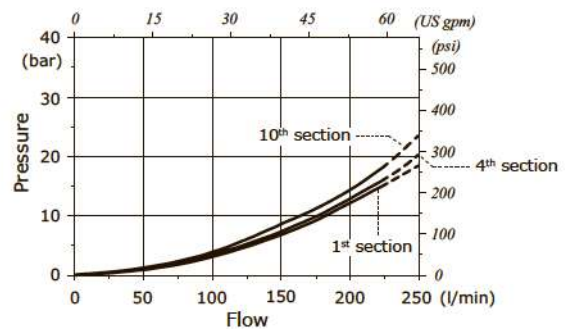


TYPE	E		F	
	mm	in	mm	in
DPX160/1	179	7.05	98	3.86
DPX160/2	227	8.94	146	5.75
DPX160/3	275	10.83	194	7.64
DPX160/4	323	12.72	242	9.53
DPX160/5	371	14.61	290	11.42
DPX160/6	419	16.50	338	13.31
DPX160/7	467	18.39	386	15.20
DPX160/8	515	20.28	434	17.09
DPX160/9	563	22.17	482	18.98
DPX160/10	611	24.06	530	20.87

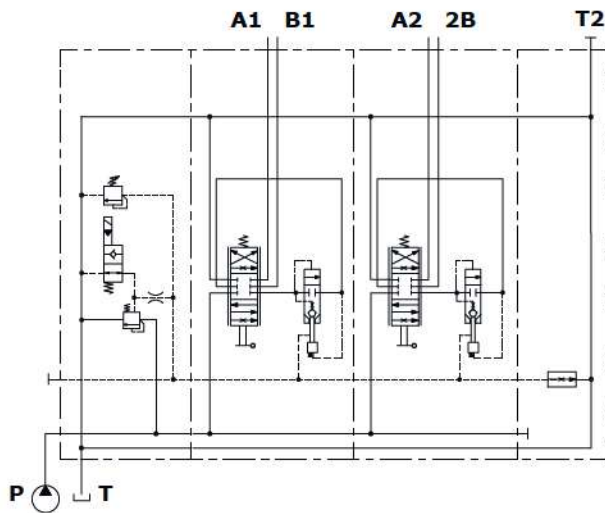
P⇒T Pressure drop inlet compensator (margin pressure)



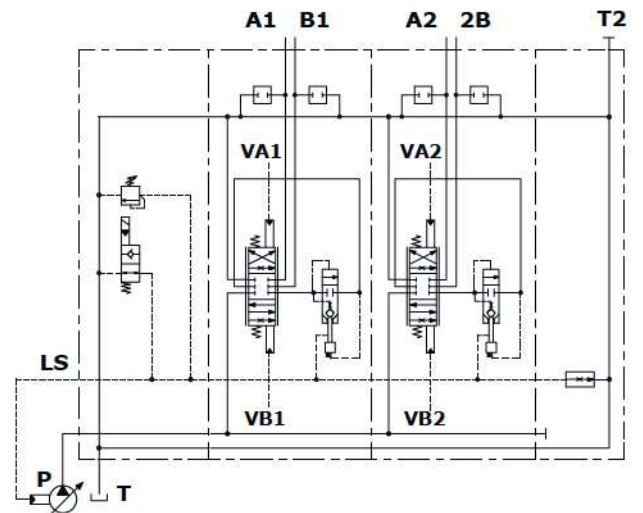
A(B)⇒T pressure drop (standard spool @ max.stroke)



Configuration example with mechanical and hydraulic controls

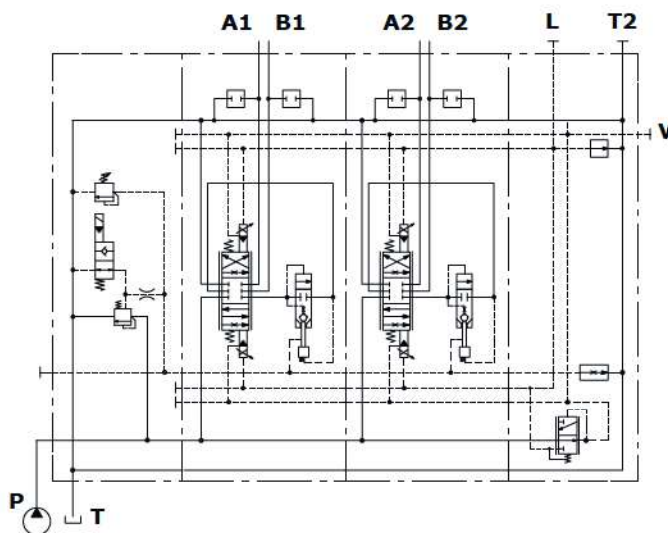


Open center circuit and lever control, with unloader valve, without port valve arrangement

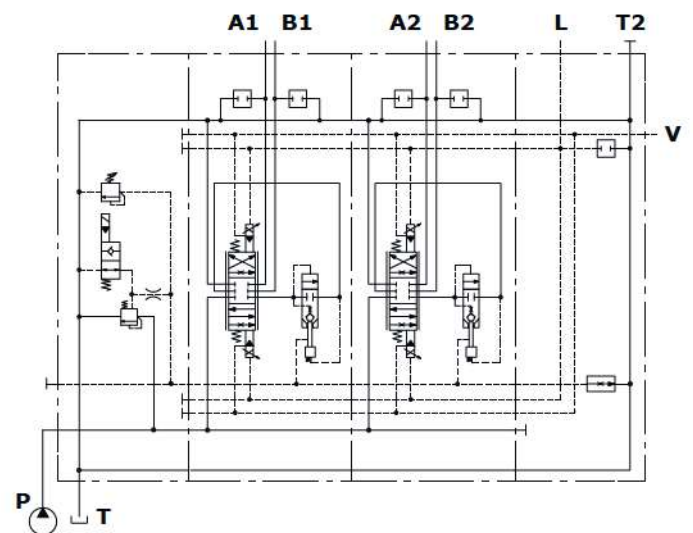


Closed center circuit and proportional hydraulic control, with unloader valve and port valve arrangement

Configuration example with electrohydraulic controls



Open center circuit and two-side proportional electrohydraulic control, with unloader valve, port valve arrangement and pressure reducing valve, internal pilot and drain

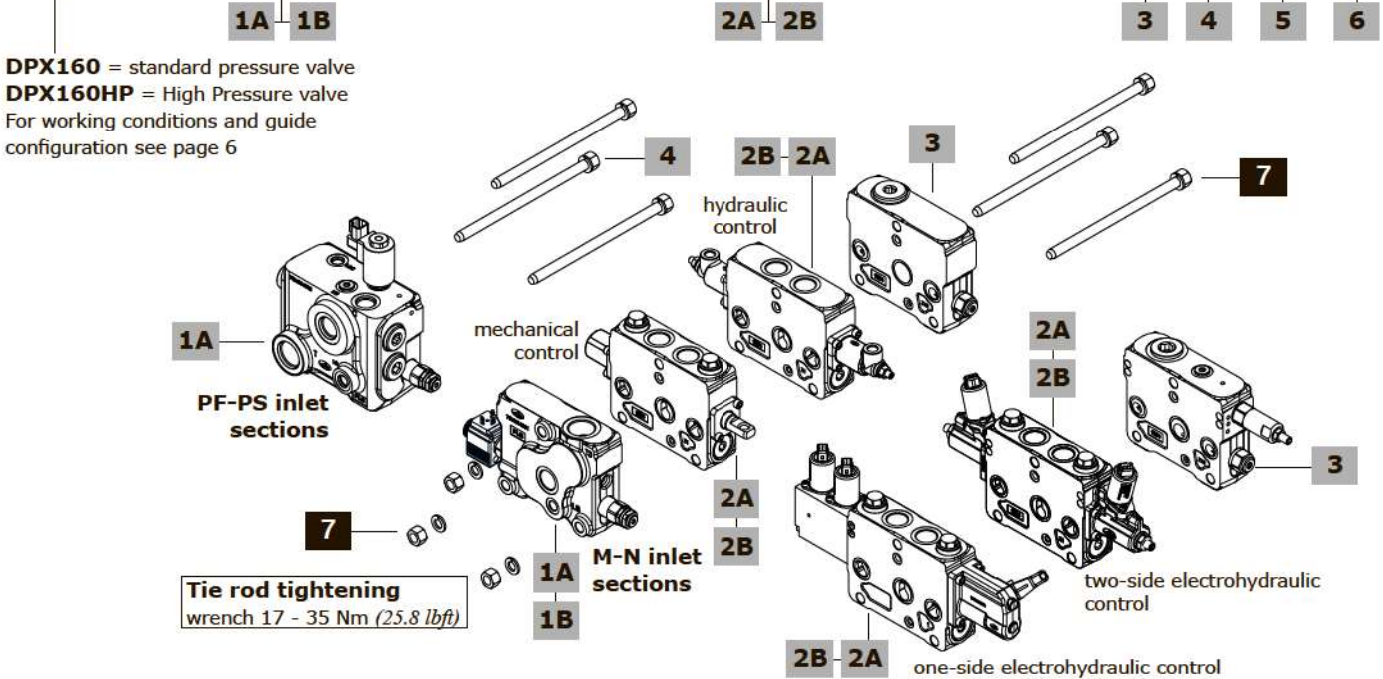


Open center circuit and two-side proportional electrohydraulic control, with unloader valve and port valve arrangement, without pressure reducing valve, external pilot and drain

Complete section ordering codes

Nr. of working sections

DPX160/2/AN1A(TGW3-175/ELN)/P-108(150/150)-8SLP.U3T/Q-E108(150/150)-8IMF3N/RC1A-.....-12VDC-FPM



DPX160 = standard pressure valve
 DPX160HP = High Pressure valve
 For working conditions and guide configuration see page 6

1A Std pressure inlet section *

The codes are referred to sections with FPM o-ring seals

Open Center circuit
 TYPE: DPX160/M3B(TGW3-175/ELN)-12VDC-FPM
 CODE: 650203023V
 DESCRIPTION: With compensator, press. relief valve and unloader valve, with P-T-LS-M ports (LS-M plugged)

TYPE: DPX160/M3B(SO/TGW3-175/ELN)-12VDC-FPM
 CODE: 650203025V
 DESCRIPTION: As previous one with non-return flow limiter from inlet section to working section and by-pass valve

TYPE: DPX160/M3B(SU/TGW3-175/ELN)-12VDC-FPM
 CODE: 650203024V
 DESCRIPTION: With non-return flow limiter from working section to inlet section and by-pass valve

TYPE: DPX160/M4B(TGW3-175/ELN)-12VDC-FPM
 CODE: 650203026V
 DESCRIPTION: As type M3, with T3 side outlet port (plugged)

TYPE: DPX160/PF1A(TGW3-175\VP-D(1)-SB10-Q40\CF(1)-SB14-FPM
 CODE: 650203301V
 DESCRIPTION: Designed for steering, with compensator, priority valve, shut-off valve and pressure relief valve, with P-T-LS-M3-C-LSC ports (M3-LS plugged). Special tie rods are required

Closed Center circuit
 TYPE: DPX160/N1A(TGW3-175/ELN)-12VDC-FPM
 CODE: 650203019V
 DESCRIPTION: Without compensator, with pressure relief valve and unloader valve, with P-T-LS ports

TYPE: DPX160/N1A(SO/TGW3-175/ELN)-12VDC-FPM
 CODE: 650203021V
 DESCRIPTION: As previous one with non-return flow limiter from inlet section to working section and by-pass valve

.....to be continued

1A Std pressure inlet section *

.....continuation

TYPE: DPX160/N1A(SU/TGW3-175/ELN)-SAE-12VDC-FPM
 CODE: 650203020V
 DESCRIPTION: With non-return flow limiter from working section to inlet section and by-pass valve

TYPE: DPX160/N2A(TGW3-175/ELN)-SAE-12VDC-FPM
 CODE: 650203022V
 DESCRIPTION: As N1 type, with T3 side outlet port (plugged)

TYPE: DPX160/PS1A(TGW3-175\VP-D(1)-SB10-Q40\ESO32N-12VDC-FPM
 CODE: 650203300V
 DESCRIPTION: Designed for steering, without compensator, with priority valve and pressure relief valve, with P-T-LS-M3-C-LSC port (M3-LS plugged). Special tie rods are required

1B High pressure inlet section *

The codes are referred to sections with FPM o-ring seals

Open Center circuit
 TYPE: DPX160HP/M3B(TGW5-350/ELN)-12VDC-FPM
 CODE: 650203031V
 DESCRIPTION: With compensator, press. relief valve and unloader valve, with P-T-LS-M ports (LS-M plugged)

TYPE: DPX160HP/M3B(SO/TGW5-350/ELN)-12VDC-FPM
 CODE: 650203033V
 DESCRIPTION: As previous one with non-return flow limiter from inlet section to working section and by-pass valve

TYPE: DPX160HP/M3B(SU/TGW5-350/ELN)-12VDC-FPM
 CODE: 650203032V
 DESCRIPTION: With non-return flow limiter from working section to inlet section and by-pass valve

Closed Center circuit
 Refer to "Std pressure" inlet sections (except PS section)

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

Complete section ordering codes

2A Std pressure working section *

The codes are referred to sections with FPM o-ring seals

Mechanical control

TYPE: **DPX160/Q-108(150/150)-8SLP-FPM**

CODE: 650113002V

DESCRIPTION: With dust-proof plate, without port valve arrangement

TYPE: **DPX160/P-108(150/150)-8SLP.UL3T-FPM**

CODE: 650103002V

DESCRIPTION: As previous one with port pressure relief valve arrangement

TYPE: **DPX160/P-108(150/150)-8SLP.US3T-FPM**

CODE: 650103003V

DESCRIPTION: With port antishock valve arrangement

Proportional hydraulic control

TYPE: **DPX160/Q-E108(150/150)-8IMF3N-FPM**

CODE: 650113001V

DESCRIPTION: With spool stroke limiter, without port valve arrang.

TYPE: **DPX160/P-E108(150/150)-8IMF3N.UL3T-FPM**

CODE: 650103017V

DESCRIPTION: As previous one with port pressure relief valves arrang.

TYPE: **DPX160/P-E108(150/150)-8IMF3N.US3T-FPM**

CODE: 650103018V

DESCRIPTION: With port antishock valve arrangement

Two-side proportional electrohydraulic control

TYPE: **DPX160/QE-E108(150/150)-8EB3F3-12VDC-FPM**

CODE: 650113004V

DESCRIPTION: With spool stroke limiter, without port valve arrang.

TYPE: **DPX160/PE-E108(150/150)-8EB3F3.UL3T-12VDC-FPM**

CODE: 650103025V

DESCRIPTION: As previous one with port pressure relief valves arrang.

TYPE: **DPX160/PE-E108(150/150)-8EB3F3.US3T-12VDC-FPM**

CODE: 650103026V

DESCRIPTION: With port antishock valve arrangement

One-side proportional electrohydraulic control

TYPE: **DPX160/QZ-E108(150/150)-8EZ3LQF3-12VDC-FPM**

CODE: 650103031V

DESCRIPTION: With spool stroke limiter, without port valves arrang.

TYPE: **DPX160/PZ-E108(150/150)-8EZ3LQF3.UL3T-12VDC-FPM**

CODE: 650103032V

DESCRIPTION: As previous one with port pressure relief valves arrang.

TYPE: **DPX160/PZ-E108(150/150)-8EZ3LQF3.US3T-12VDC-FPM**

CODE: 650103033V

DESCRIPTION: With port antishock valve arrangement

2B High pressure working section *

The codes are referred to sections with FPM o-ring seals

Mechanical control

TYPE: **DPX160HP/Q-108(150/150)-8SLP-FPM**

CODE: 650113010V

DESCRIPTION: With dust-proof plate, without port valve arrangement

TYPE: **DPX160HP/P-108(150/150)-8SLP.US3T-FPM**

CODE: 650103027V

DESCRIPTION: As previous one with port antishock valve arrangement

Proportional hydraulic control

TYPE: **DPX160HP/Q-E108(150/150)-8IMF3N-FPM**

CODE: 650113011V

DESCRIPTION: With spool stroke limiter, without port valve arrang.

TYPE: **DPX160HP/P-E108(150/150)-8IMF3N.US3T-FPM**

CODE: 650103028V

DESCRIPTION: As previous one with port antishock valve arrangement

Two-side proportional electrohydraulic control

TYPE: **DPX160HP/QE-E108(150/150)-8EB3F3-12VDC-FPM**

Code: 650113012V

DESCRIPTION: With spool stroke limiter, without port valve arrang.

TYPE: **DPX160HP/PE-E108(150/150)-8EB3F3.US3T-12VDC-FPM**

Code: 650103029V

DESCRIPTION: As previous one with port antishock valve arrangement
 to be continued.

2B High pressure working section *

.....continuation

One-side proportional electrohydraulic control

TYPE: **DPX160HP/QZ-E108(150/150)-8EZ3LQF3-12VDC-FPM**

CODE: 650103034V

DESCRIPTION: With spool stroke limiter, without port valve arrang.

TYPE: **DPX160HP/PZ-E108(150/150)-8EZ3LQF3.UL3T-12VDC-FPM**

CODE: 650103035V

DESCRIPTION: As previous one with port pressure relief valve arrang.

TYPE: **DPX160HP/PZ-E108(150/150)-8EZ3LQF3.US3T-12VDC-FPM**

CODE: 650103036V

DESCRIPTION: With port antishock valve arrangement

3 Outlet section *

The codes are referred to sections with FPM o-ring seals

Outlet section is the same type for standard and High Pressure valve

For mechanical or hydraulic configuration

TYPE: **DPX160/RC1A-FPM** CODE: 650303002V

DESCRIPTION: With bleed valve and T2 upper port (plugged)

TYPE: **DPX160/RC3A-FPM** CODE: 650303004V

DESCRIPTION: With bleed valve and T2, P1-T1-LS1 side ports (plugged)

TYPE: **DPX160/RC3A-CL-12VDC-FPM** CODE: 650303020V

DESCRIPTION: As previous one , with clamp release function

For electrohydraulic or mixed configuration

TYPE: **DPX160/RCN1A-FPM** CODE: 650303014V

DESCRIPTION: Without pressure reducing valve, external pilot and drain (V-L ports), with Bleed valve and T2 upper port (plugged)

TYPE: **DPX160/RCN3A-FPM** CODE: 650303016V

DESCRIPTION: As previous one, with P1-T1-LS1 side ports (plugged)

TYPE: **DPX160/RCN3A-CL-12VDC-FPM** CODE: 650303021V

DESCRIPTION: As previous, with clamp release function

TYPE: **DPX160/RCR1A-TAP(VL)-FPM** CODE: 650303005V

DESCRIPTION: With pressure reducing valve and Bleed valve, internal pilot and drain (V-L ports plugged), with T2 upper port (plugged)

TYPE: **DPX160/RCR3A-TAP(VL)-FPM** CODE: 650303017V

DESCRIPTION: As previous one, with P1-T1-LS1 side ports (plugged)

TYPE: **DPX160/RCN3A-CL-TAP(VL)-12VDC-FPM**

CODE: 650303022V

DESCRIPTION: As previous one, with clamp release function

Note: for outlet sections with different port arrangement please contact Sales Dpt.

4 Valve threading

Only specify if it is different from BSP standard (see page 6).

5 Voltage

Specify the voltage of electric devices.

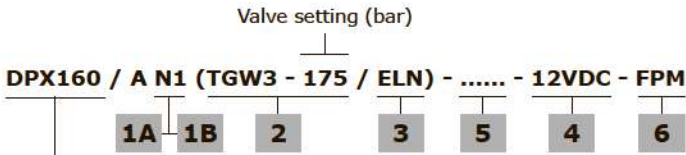
6 Seals

TYPE	DESCRIPTION
FPM	FPM o-ring seals; standard
NBR	NBR o-ring seals

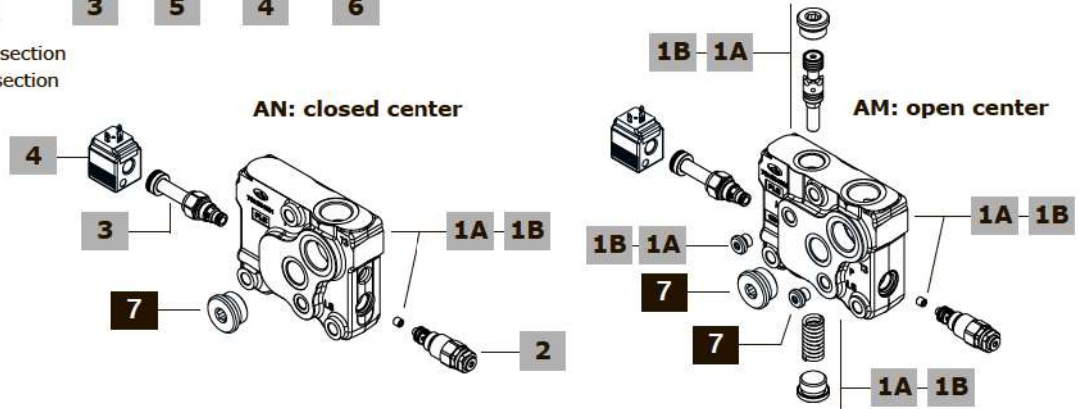
7 Assembling kit

CODE	DESCRIPTION	CODE	DESCRIPTION
Standard tie rods: for M and N inlet sections			
5TIR112179	for 1 work.section	5TIR112419	for 6 work.sections
5TIR112227	for 2 work.sections	5TIR112467	for 7 work.sections
5TIR112275	for 3 work.sections	5TIR112515	for 8 work.sections
5TIR112323	for 4 work.sections	5TIR112563	for 9 work.sections
5TIR112371	for 5 work.sections	5TIR112611	for 10 work.sections
Special tie rods: for PF and PS inlet sections			
5TIR112141	for 1 work.section	5TIR112381	for 6 work.sections
5TIR112189	for 2 work.sections	5TIR112429	for 7 work.sections
5TIR112237	for 3 work.sections	5TIR112477	for 8 work.sections
5TIR112285	for 4 work.sections	5TIR112525	for 9 work.sections
5TIR112333	for 5 work.sections	5TIR112573	for 10 work.sections

Inlet section part ordering codes



DPX160 = standard pressure section
 DPX160HP = High Pressure section



1A Std pressure inlet section kit* page 92

The codes are referred to sections with FPM o-ring seals

Open Center circuit

TYPE: **DPX160/M3-EL-FPM** CODE: YFIA105309V
 DESCRIPTION: With compensator, P-T-LS-M ports (M plugged), arranged for unloader valve

TYPE: **DPX160/M3(SU)-EL-FPM** CODE: YFIA105310V
 DESCRIPTION: As previous one with non return flow limiter from working section to inlet section and by-pass valve

TYPE: **DPX160/M3(SO)-EL-FPM** CODE: YFIA105311V
 DESCRIPTION: With non return flow limiter from inlet section to working section and by-pass valve

TYPE: **DPX160/M4-EL-FPM** CODE: YFIA105308V
 DESCRIPTION: As type M3, with T3 side outlet port

Closed Center circuit

TYPE: **DPX160/N1-EL-FPM** CODE: YFIA105320V
 DESCRIPTION: Without compensator, with P-T-LS ports, arranged for unloader valve

TYPE: **DPX160/N1(SU)-EL-FPM** CODE: YFIA105327V
 DESCRIPTION: As previous one with non return flow limiter from working section to inlet section and by-pass valve

TYPE: **DPX160/N1(SO)-EL-FPM** CODE: YFIA105328V
 DESCRIPTION: With non return flow limiter from inlet section to working section and by-pass valve

TYPE: **DPX160/N2-EL-FPM** CODE: YFIA105326V
 DESCRIPTION: As N1 type, with T3 side outlet port

1B High pressure inlet section kit* page 92

The codes are referred to sections with FPM o-ring seals

Open Center circuit

TYPE: **DPX160HP/M3-EL-FPM** CODE: YFIA105329V
 DESCRIPTION: With compensator, P-T-LS-M ports (M plugged), arranged for unloader valve

TYPE: **DPX160HP/M3(SU)-EL-FPM** CODE: YFIA105330V
 DESCRIPTION: As previous one with non return flow limiter from working section to inlet section and by-pass valve

TYPE: **DPX160HP/M3(SO)-EL-FPM** CODE: YFIA105331V
 DESCRIPTION: With non return flow limiter from inlet section to working section and by-pass valve

Closed Center circuit

Refer to "Std pressure" inlet sections

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

2 Main pressure relief valve page 96

The codes are referred to parts with FPM o-ring seals
 Valve standard setting is referred to 5 l/min (1.3 US gpm) flow.

TYPE	CODE	DESCRIPTION
(TGW2-80)	OMC09002009	Range 10-120 bar (145-1750 psi) std setting 80 bar (1160 psi)
(TGW3-175)	OMC09002007	Range 40-220 bar (580-3200 psi) std setting 175 bar (2550 psi)
(TGW4-250)	OMC09002005	Range 200-350 bar (2900-5100 psi) std setting 250 bar (3600 psi)
(TGW5-300)	OMC09002008	Range 290-385 bar (4200-5600 psi) std setting 300 bar (4350 psi)
SV	XTAP524340V	Relief valve blanking plug

3 Solenoid operated unloading valve page 96

The codes are referred to parts with FPM o-ring seals

TYPE	CODE	DESCRIPTION
ELN	0EF08002015	Without emergency override
ELV	0EF08002017	With screw type emergency override
ELP	0EF08002010	With push-button emergency override
ELT	0EF08002016	With "twist & push" emergency override
LT	XTAP510320V	Unloading valve blanking plug

4 Coil

TYPE	CODE	DESCRIPTION
12VDC	4SLE001200A	BER type coil, ISO4400 conn., 12VDC

For complete available coil list see page 125.

5 Section threading

Only specify if it is different from BSP standard (see page 6).

6 Seals

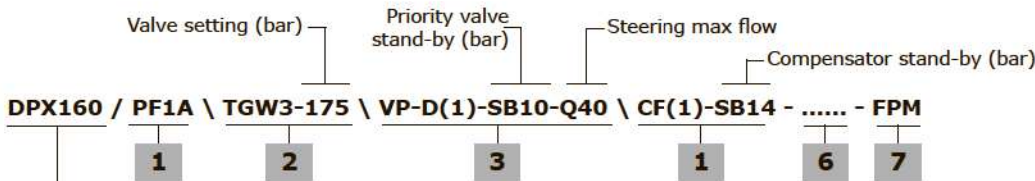
TYPE	DESCRIPTION
FPM	FPM o-ring seals; standard
NBR	NBR o-ring seals

7 Plugs*

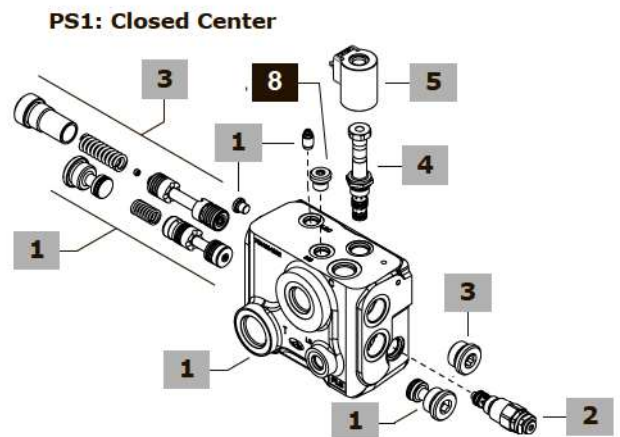
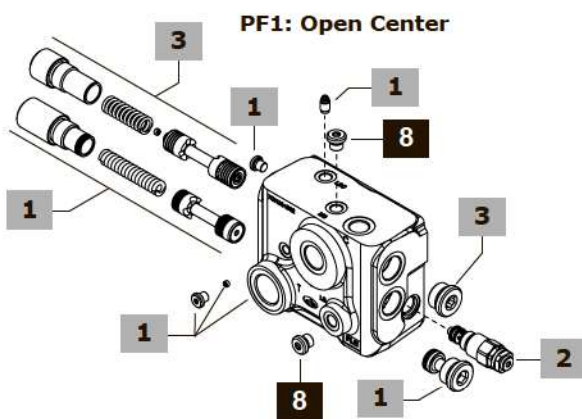
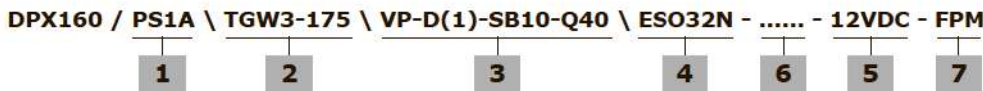
The codes are referred to parts with FPM o-ring seals

CODE	DESCRIPTION
XTAP740220	G1 plug, nr.1 for M4 and N2 section
XTAP719160	G1/4 plug, nr.1 for Open Center sections

Inlet section part ordering codes



DPX160 = standard pressure valve



1 Inlet section kit* page 94

The codes are referred to sections with FPM o-ring seals
Following sections are suitable only for standard pressure valve

Open Center circuit

TYPE: **DPX160/PF1-FPM** CODE: YFIA105350V
DESCRIPTION: With compensator, P-T-LS-M3-C-LSC ports

Closed Center circuit

TYPE: **DPX160/PS1-FPM** CODE: YFIA105351V
DESCRIPTION: With shut-off spool, P-T-LS-M3-C-LSC ports
TYPE: **DPX160/PST1-FPM** CODE: YFIA105352V
DESCRIPTION: With shut-off blanking kit, P-T-LS-M3-C-LSC ports

2 Main pressure relief valve page 96

See previous page

3 Priority valve kit page 97

The codes are referred to parts with FPM o-ring seals

TYPE	CODE	DESCRIPTION
Regulated flow = 40 l/min (10.5 US gpm)		
D(1)-SB10-Q40	5CAS322100AV	Stand-by (margin pressure) 10 bar (145 psi)
D(1)-SB07-Q40	5CAS322100BV	Stand-by (margin pressure) 7 bar (100 psi)
D(1)-SB04-Q40	5CAS322100CV	Stand-by (margin pressure) 4 bar (58 psi)
Regulated flow = 20 l/min (5.3 US gpm)		
D(1)-SB10-Q20	5CAS323099AV	Stand-by (margin pressure) 10 bar (145 psi)
D(1)-SB07-Q20	5CAS323099BV	Stand-by (margin pressure) 7 bar (100 psi)
D(1)-SB04-Q20	5CAS323099CV	Stand-by (margin pressure) 4 bar (58 psi)

4 Solenoid operated shut-off valve page 97

The codes are referred to parts with FPM o-ring seals

TYPE	CODE	DESCRIPTION
ESO32A	0EJ08002058	Without emergency override
ESO32V	0EJ08002060	With screw type emergency override
EST	3XTP3534800V	Valve blanking plug, only for PST inlet section

5 Coil

TYPE	CODE	DESCRIPTION
12VDC	4SL3000120	BT type coil, ISO4400 connector, 12VDC

For complete available coil list see page 125.

6 Section threading

Only specify if it is different from BSP standard (see page 6).

7 Seals

TYPE	DESCRIPTION
FPM	FPM o-ring seals; standard
NBR	NBR o-ring seals

8 Plugs*

CODE	DESCRIPTION
XTAP719160	G1/4 plug, nr.1 for PS section, nr.2 for PF section, FPM o-ring seal

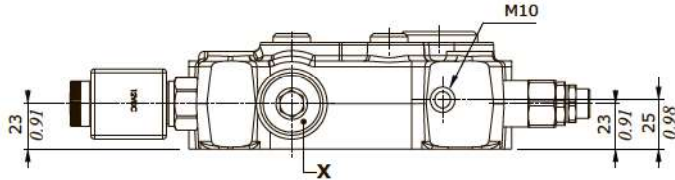
NOTE (*): Codes are referred to **BSP** thread.

Inlet section

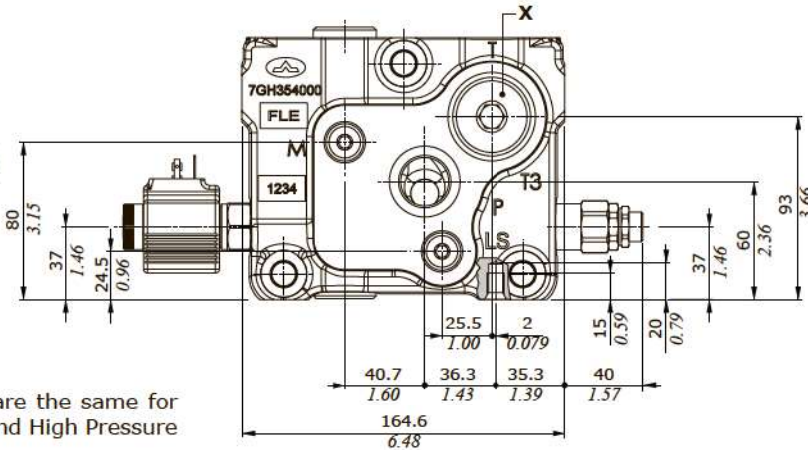
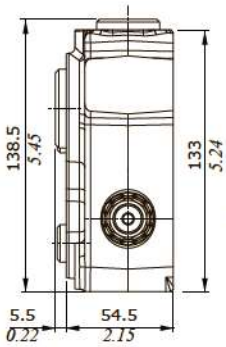
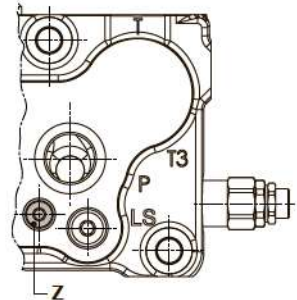
Dimensions and hydraulic circuit

Example of M Open Center section

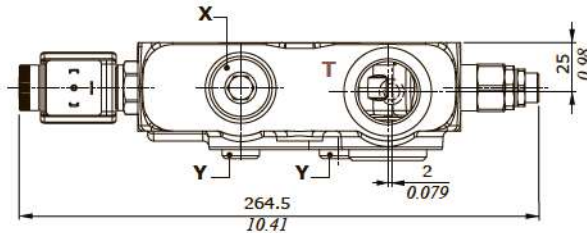
M4 type



M3(SO) or M3(SU) type



NOTE: Dimensions are the same for standard pressure and High Pressure inlet sections



Wrenches and tightening torques

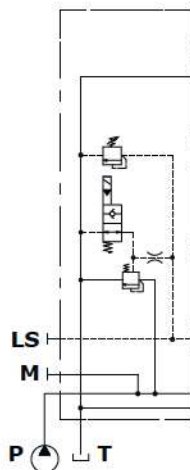
X = allen wrench 12 - 42 Nm (31 lbft)

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

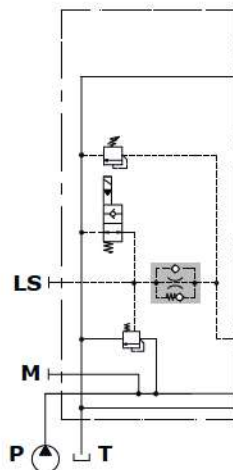
Z = allen wrench 4 - 9.8 Nm (7.2 lbft)

NOTE: for valves wrench and torque see related pages

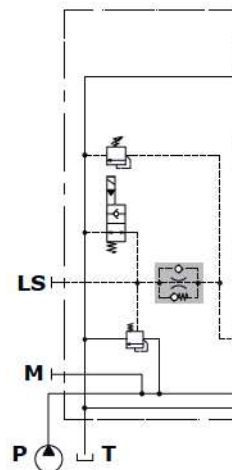
M3 type



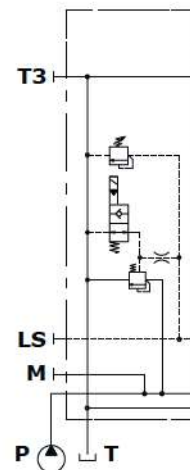
M3(SU) type



M3(SO) type



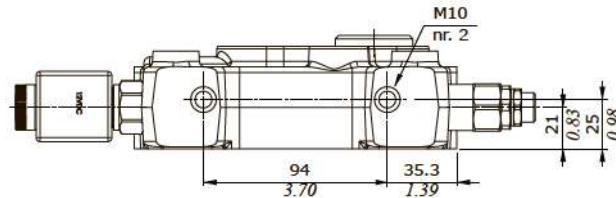
M4 type



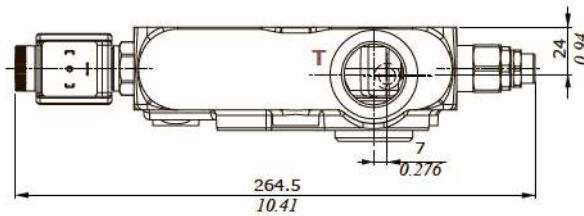
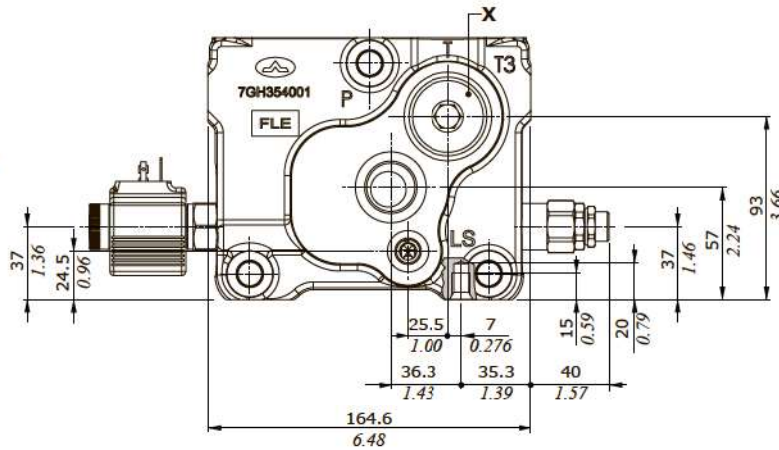
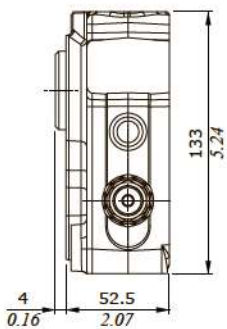
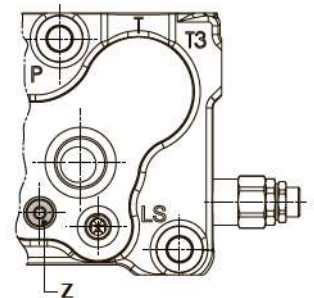
Dimensions and hydraulic circuit

Example of N Closed Center section

N2 type



N1(SO) or N1(SU) type



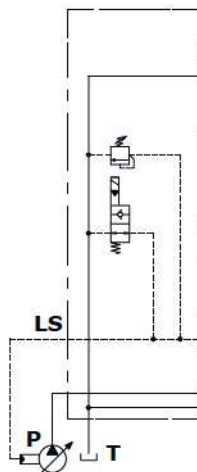
Wrenches and tightening torques

X = allen wrench 12 - 42 Nm (31 lbf)

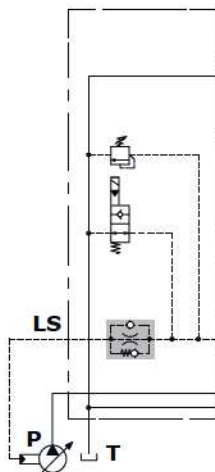
Z = allen wrench 4 - 9.8 Nm (7.2 lbf)

NOTE: for valves wrench and torque see related pages

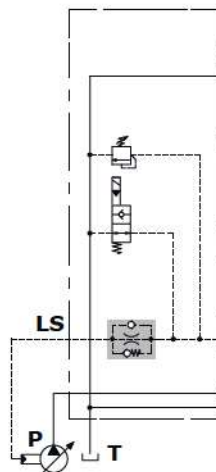
N1 type



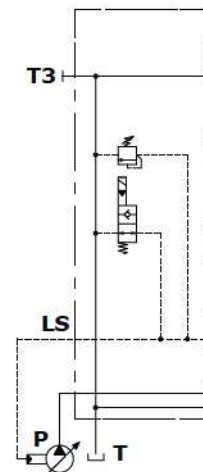
N1(SU) type



N1(SO) type



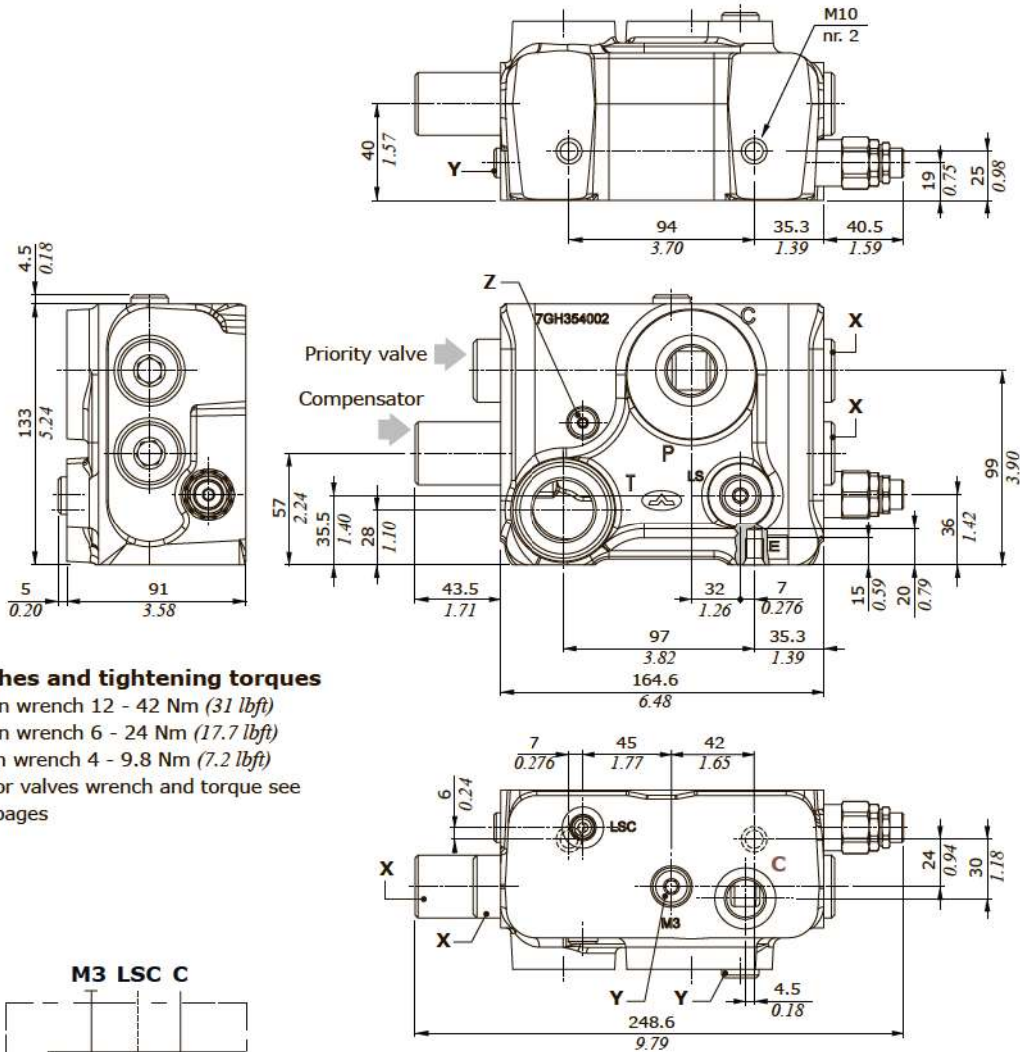
N2 type



Inlet section

Dimensions and hydraulic circuit

PF1 Open Center section with priority valve



Wrenches and tightening torques

X = allen wrench 12 - 42 Nm (31 lbft)

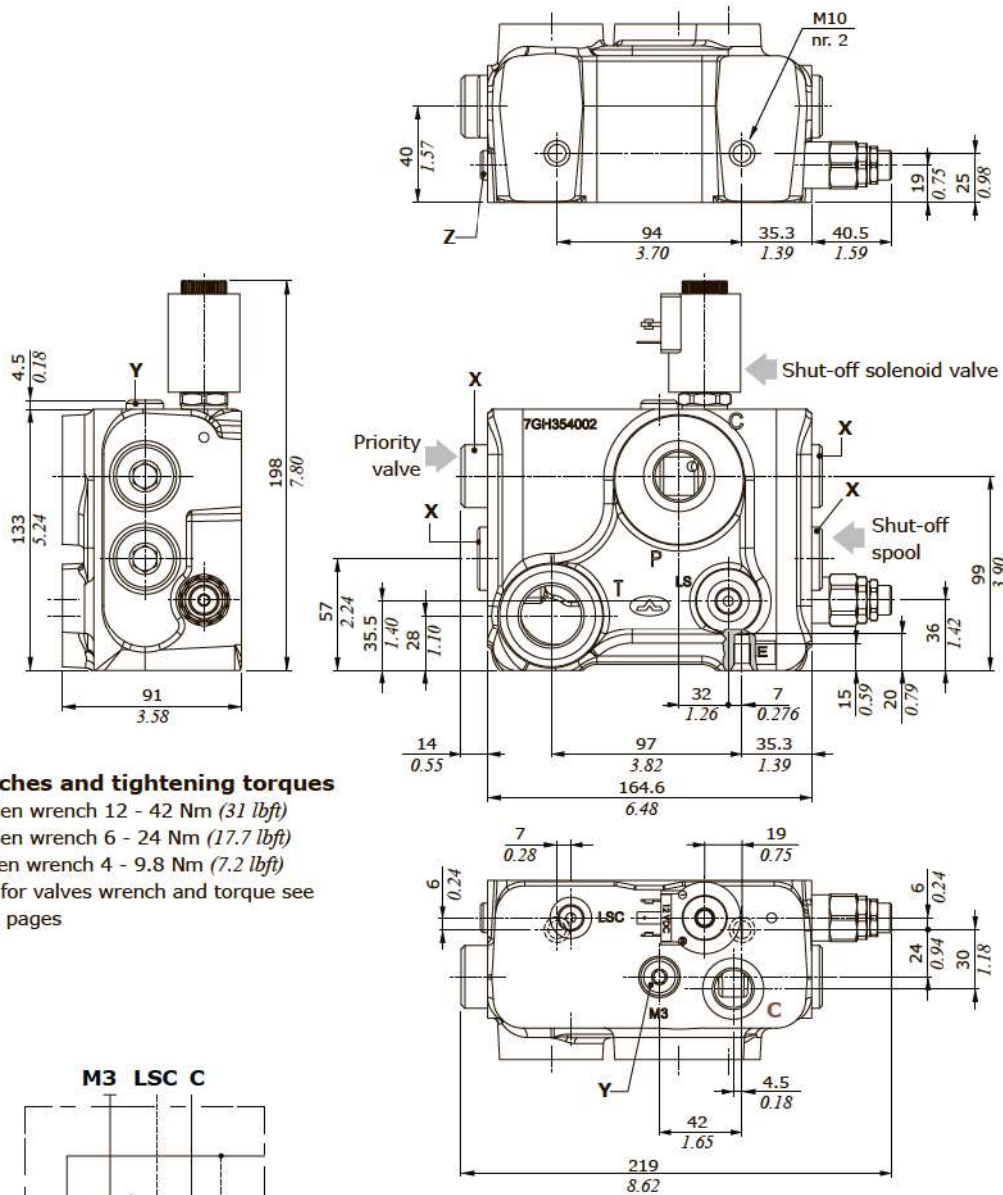
Y = allen wrench 6 - 24 Nm (17.7 lbft)

Z = allen wrench 4 - 9.8 Nm (7.2 lbft)

NOTE: for valves wrench and torque see related pages

Dimensions and hydraulic circuit

PS1 Closed Center section with priority valve and shut-off



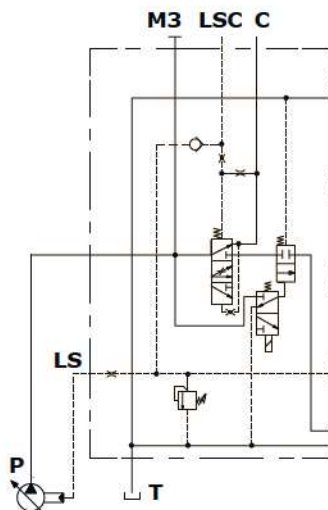
Wrenches and tightening torques

X = allen wrench 12 - 42 Nm (31 lbft)

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

Z = allen wrench 4 - 9.8 Nm (7.2 lbft)

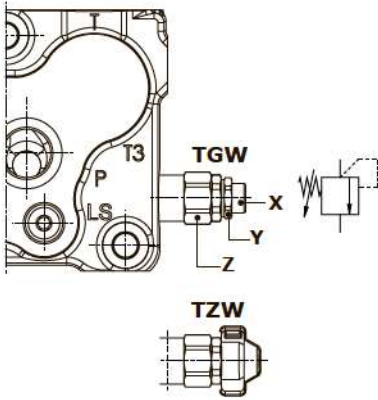
NOTE: for valves wrench and torque see related pages



Inlet section

Main pressure relief valve

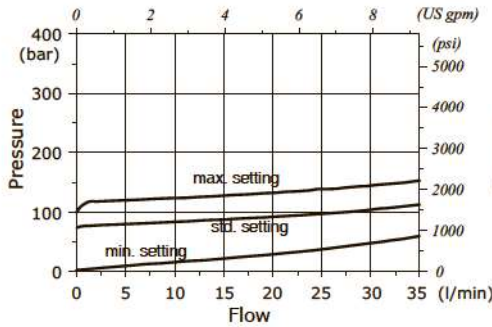
Setting types



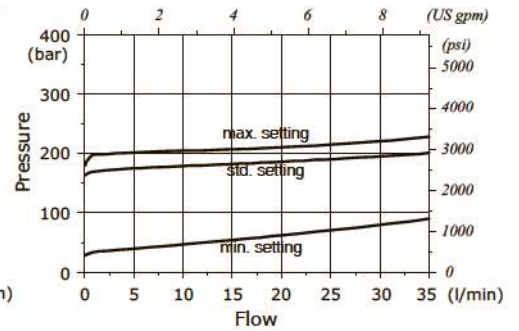
Legenda

- TGW: free setting
- TZW: set and locked valve
(cap code 4COP126301, n.2 pcs)
RAL3003 pigmented
- Wrenches and tightening torques**
- X = allen wrench 5
- Y = wrench 19 - 20 Nm (14.7 lbf)
- Z = wrench 24 - 42 Nm (31 lbf)

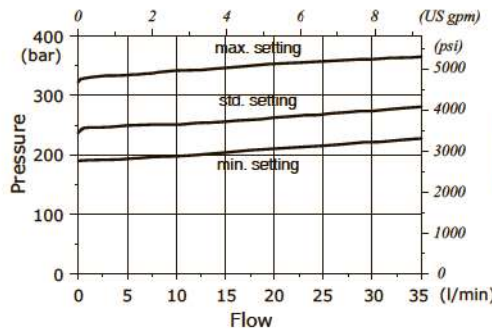
Setting range: TGW2 type



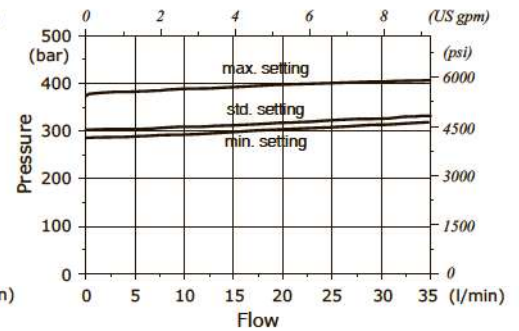
Setting range: TGW3 type



Setting range: TGW4 type

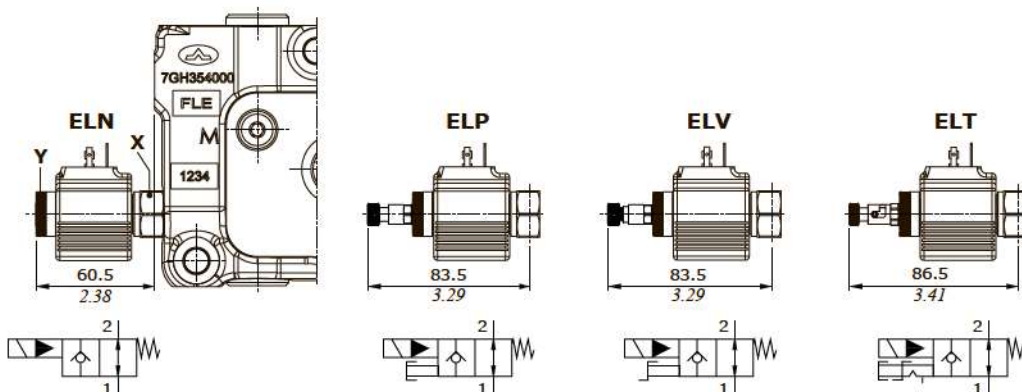


Setting range: TGW5 type



Solenoid operated unloading valve

Manual emergency types



Legenda

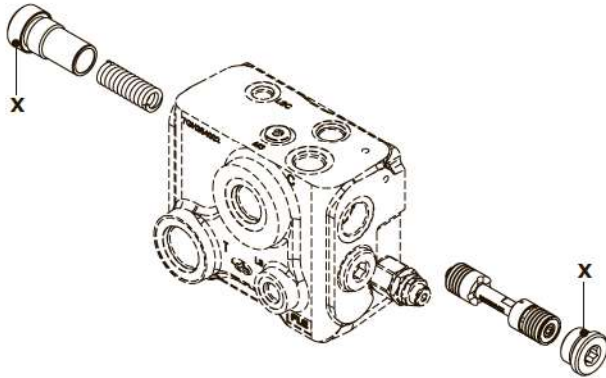
- ELN: without emergency
- ELP: push button emergency override
- ELV: screw emergency override
- ELT: "push&twist" emergency override
- Wrenches and tightening torques**
- X = wrench 24 - 30 Nm (22 lbf)
- Y = manual tightening

Features

- Max. flow 40 l/min (10.6 US gpm)
- Max. pressure 380 bar (5500 psi)
- Internal leakage 0.25 cm³/min @ 210 bar
(0.015 in³/min @ 3050 psi)

For coil features and options see BER type coil at page 125.

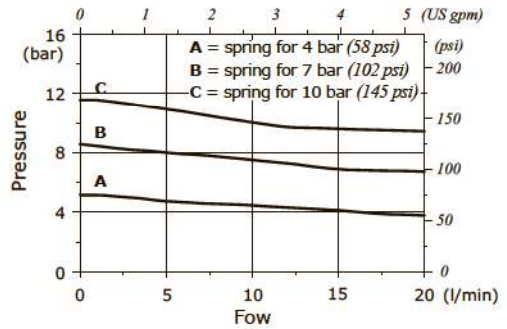
Priority valve kit



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

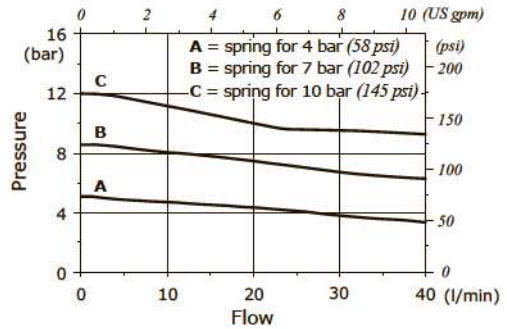
Stand-by (margin pressure) vs. regulated flow

Regulated flow = 20 l/min (5.3 US gpm)



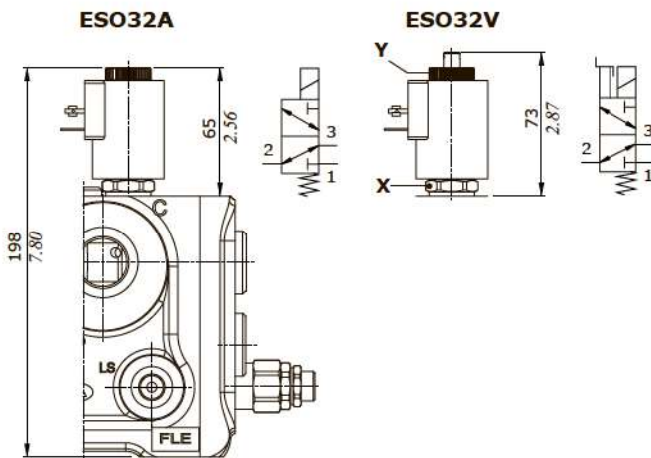
Stand-by (margin pressure) vs. regulated flow

Regulated flow = 40 l/min (10.6 US gpm)



Shut-off solenoid valve

Manual emergency types



Legenda

ESO32A: without emergency

ESO32V: screw emergency override

Wrenches and tightening torques

X = wrench 24 - 30 Nm (22 lbf)

Y = manual tightening

Features

Max. flow: 3 l/min (0.796 US gpm)

Max. pressure.: 350 bar (5100 psi)

Internal leakage: 10 cm³/min @ 210 bar
 (0.61 in³/min @ 3050 psi)

For coil features and options see **BT** type coil at page 125.

Working section parts ordering codes (mechanical, hydraulic)

3 Spool page 103

Flow is referred to 14 bar (200 psi) stand-by (margin pressure)
 TYPE CODE DESCRIPTION

For mechanical control

Double acting with A and B closed in neutral position

108(150)	3CU8110108	150 l/min (39.5 US gpm) flow
107(130)	3CU8110107	130 l/min (34.3 US gpm) flow
106(110)	3CU8110106	110 l/min (29 US gpm) flow
105(90)	3CU8110105	90 l/min (23.8 US gpm) flow
104(70)	3CU8110104	70 l/min (18.5 US gpm) flow
103(50)	3CU8110103	50 l/min (13.2 US gpm) flow
102(30)	3CU8110102	30 l/min (7.9 US gpm) flow
109(20)	3CU8110109	20 l/min (5.3 US gpm) flow
101(10)	3CU8110101	10 l/min (2.6 US gpm) flow

Double acting with A and B partially to tank in neutral position

2H08(150)	3CU8110209	150 l/min (39.5 US gpm) flow
2H07(130)	3CU8110223	130 l/min (34.3 US gpm) flow
2H06(110)	3CU8110222	110 l/min (29 US gpm) flow
2H05(90)	3CU8110224	90 l/min (23.8 US gpm) flow
2H04(70)	3CU8110221	70 l/min (18.5 US gpm) flow
2H03(50)	3CU8110220	50 l/min (13.2 US gpm) flow
2H02(30)	3CU8110219	30 l/min (7.9 US gpm) flow
2H09(20)	3CU8110218	20 l/min (5.3 US gpm) flow
2H01(10)	3CU8110217	10 l/min (2.6 US gpm) flow

Single acting on A, B plugged: G3/4 plug is required

308(150)	3CU8110308	150 l/min (39.5 US gpm) flow
306(110)	3CU8110306	110 l/min (29 US gpm) flow
303(50)	3CU8110303	50 l/min (13.2 US gpm) flow
309(20)	3CU8110309	20 l/min (5.3 US gpm) flow

Single acting on B, A plugged: G3/4 plug is required

408(150)	3CU8110408	150 l/min (39.5 US gpm) flow
406(110)	3CU8110406	110 l/min (29 US gpm) flow
403(50)	3CU8110403	50 l/min (13.2 US gpm) flow
409(20)	3CU8110409	20 l/min (5.3 US gpm) flow

Double acting with A and B closed in neutral pos., 4 positions, floating in 4th position with spool in: 13 type positioner is required

508(150)	3CU8110508	150 l/min (39.5 US gpm) flow
504(70)	3CU8110504	70 l/min (18.5 US gpm) flow

For hydraulic control

Double acting with A and B closed in neutral position

E108(150)	3CU871E108	150 l/min (39.5 US gpm) flow
E107(130)	3CU871E107	130 l/min (34.3 US gpm) flow
E106(110)	3CU871E106	110 l/min (29 US gpm) flow
E105(90)	3CU871E105	90 l/min (23.8 US gpm) flow
E104(70)	3CU871E104	70 l/min (18.5 US gpm) flow
E103(50)	3CU871E103	50 l/min (13.2 US gpm) flow
E102(30)	3CU871E102	30 l/min (7.9 US gpm) flow
E113(20)	3CU871E113	20 l/min (5.3 US gpm) flow
E101(10)	3CU871E101	10 l/min (2.6 US gpm) flow

Double acting with A and B partially to tank in neutral position

E2H08(150)	3CU871E209	150 l/min (39.5 US gpm) flow
E2H07(130)	3CU871E223	130 l/min (34.3 US gpm) flow
E2H06(110)	3CU871E222	110 l/min (29 US gpm) flow
E2H05(90)	3CU871E215	90 l/min (23.8 US gpm) flow
E2H04(70)	3CU871E221	70 l/min (18.5 US gpm) flow
E2H03(50)	3CU871E220	50 l/min (13.2 US gpm) flow
E2H02(30)	3CU871E219	30 l/min (7.9 US gpm) flow
E2H13(20)	3CU871E218	20 l/min (5.3 US gpm) flow
E2H01(10)	3CU871E217	10 l/min (2.6 US gpm) flow

Single acting on A or B, other port plugged: G3/4 plug is required

E308-E408(150)	3CU871E308	150 l/min (39.5 US gpm) flow
E306-E406(110)	3CU871E306	110 l/min (29 US gpm) flow
E303-E403(50)	3CU871E303	50 l/min (13.2 US gpm) flow
E313-E413(20)	3CU871E313	20 l/min (5.3 US gpm) flow

Double acting with A and B closed in neutral pos., 4 positions, floating in 4th pos. with spool in: 13IM type control is required

I508(150)	YCU871E508	150 l/min (39.5 US gpm) flow
I507(130)	YCU871E507	130 l/min (34.3 US gpm) flow
I504(70)	YCU871E504	70 l/min (18.5 US gpm) flow

4 "A" side spool positioners page 105

TYPE	CODE	DESCRIPTION
7FTNA	5V07210101	With friction and neutral pos. notch
8MD	5V08109000	3 positions with spring return to neutral position
<u>For floating circuit (spool 5)</u>		
13	5V13109000	4 positions, detent in 4 th position with spring return to neutral position

5 "B" side spool control kit page 106

TYPE	CODE	DESCRIPTION
L	5LEV110000	Standard lever box
LFG	5LEV110700	Lever box with spool stroke limiter on both ports
SLP	5COP110000	Without lever with dust-proof plate
TQ	5TEL110110	Flexible cable connection
LCB	5CLO216100	Joystick for 2 section operation

6 Proportional hydraulic control* page 108

The codes are referred to parts with FPM o-ring seals

TYPE	CODE	DESCRIPTION
81MNOH	5IDR209304V-H	Range 8-28 bar (116-406 psi)
81MOHF3N	5IDR209305V-H	As previous with spool stroke limiter
<u>For floating circuit (spool 15)</u>		
131MOH	5IDR209303V-H	Range 3.1-25.6 / 0-30 bar (45-371 / 0-435 psi)
13IMP	5IDR209014V	Range 2-17 / 2-30 bar (29-247 / 29-435 psi)

7 Port valves page 118

TYPE	CODE	DESCRIPTION
<u>Pressure relief valves</u>		
UL(50)	5KIT340050LV	Setting: 50 bar (725 psi)
<u>Antishock valves</u>		
US(25)	5KIT326025V	Setting: 25 bar (360 psi)

For complete list see following page.

8 Section threading

Only specify if it is different from BSP standard (see page 6).

9 Seals

TYPE	DESCRIPTION
FPM	FPM o-ring seals; standard
NBR	NBR o-ring seals

10 Plug for single acting spool*

CODE	DESCRIPTION
XTAP732220	G3/4 plug, FPM o-ring seal

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

Working section part ordering codes (electrohydraulic)

3 Spool page 103

.....continuation

TYPE	CODE	DESCRIPTION
<u>Single acting on A or B, other port plugged: needs G3/4 plug</u>		
E308-E408(150)	3CU871E308	150 l/min (39.5 US gpm) flow
E306-E406(110)	3CU871E306	110 l/min (29 US gpm) flow
E303-E403(50)	3CU871E303	50 l/min (13.2 US gpm) flow
E313-E413(20)	3CU871E313	20 l/min (5.3 US gpm) flow
<u>Double acting with A and B closed in neutral pos., 4 positions, floating in 4th pos. with spool in: needs control kit type 13EB3.../13EZ3...</u>		
E508(150)	3CU871E508	150 l/min (39.5 US gpm) flow
E507(130)	3CU871E507	130 l/min (34.3 US gpm) flow
E504(70)	3CU871E504	70 l/min (18.5 US gpm) flow

4 Two-side electrohydr. control page 113

The codes are referred to parts with FPM o-ring seals

TYPE	CODE	DESCRIPTION
<u>Without lever control</u>		
8EB3-12VDC	5IDR909312V	With AMP connector
8EB3-24VDC	5IDR909324V	With AMP connector
8EB34-12VDC	5IDR909329V	With Deutsch connector
8EB34-24VDC	5IDR909330V	With Deutsch connector
8EB3F3-12VDC	5IDR909313V	With AMP connector with spool stroke limiter
8EB3F3-24VDC	5IDR909317V	As previous one
8EB34F3-12VDC	5IDR909314V	With Deutsch connector with spool stroke limiter
8EB34F3-24VDC	5IDR909331V	As previous one
<u>Without lever control: for floating circuit (E5 spool)</u>		
13EB3-12VDC	5IDR919312V	With AMP connector
13EB3-24VDC	5IDR919324V	With AMP connector
13EB34-12VDC	5IDR919317V	With Deutsch connector
13EB34-24VDC	5IDR919318V	With Deutsch connector
<u>With lever control</u>		
8EB3LH-12VDC	5IDR909315V	With AMP connector
8EB3LH-24VDC	5IDR909326V	With AMP connector
8EB34LH-12VDC	5IDR909332V	With Deutsch connector
8EB34LH-24VDC	5IDR909333V	With Deutsch connector
8EB3LHF3-12VDC	5IDR909316V	With AMP connector with spool stroke limiter
8EB3LHF3-24VDC	5IDR909327V	As previous one
8EB34LHF3-12VDC	5IDR909334V	With Deutsch connector with spool stroke limiter
8EB34LHF3-24VDC	5IDR909335V	As previous one
<u>With lever control and spool position sensor</u>		
8EB3LHSPSD-12VDC	5IDR909341V	AMP conn., and digital sensor
8EB3LHSPSD-24VDC	5IDR909338V	As previous one
8EB3LHF3SPSD-12VDC	5IDR909339V	AMP conn., digital sensor and spool stroke limiter
8EB3LHF3SPSD-24VDC	5IDR909336V	As previous one
<u>With lever control: for floating circuit (E5 spool)</u>		
13EB3LH-12VDC	5IDR919313V	With AMP connector
13EB3LH-24VDC	5IDR919325V	With AMP connector
13EB34LH-12VDC	5IDR919319V	With Deutsch connector
13EB34LH-24VDC	5IDR919320V	With Deutsch connector
13EB3LHF3-12VDC	5IDR919314V	With AMP connector with spool stroke limiter
13EB3LHF3-24VDC	5IDR919326V	As previous one
13EB34LHF3-12VDC	5IDR919321V	With Deutsch connector with spool stroke limiter
13EB34LHF3-24VDC	5IDR919322V	As previous one

9 Plug for single acting spool*

CODE	DESCRIPTION
XTAP732220	G3/4 plug, FPM o-ring seal

5 One-side electrohydr. control page 116

The codes are referred to parts with FPM o-ring seals

Combine to "B" side options

TYPE	CODE	DESCRIPTION
8EZ3-12VDC	5IDR609315V	With AMP connector
8EZ3-24VDC	5IDR609316V	As previous one
8EZ34-12VDC	5IDR609317V	With Deutsch connector
8EZ34-24VDC	5IDR609318V	As previous one
<u>With spool position sensor</u>		
8EZ34SPSL-0.5(A)-4.5(B)-12VDC	5IDR609313V	Deutsch conn. and analog sensor
<u>With lever control: for floating circuit (spool E5)</u>		
13EZ3-12VDC	5IDR619300V	With AMP connector
13EZ3-24VDC	5IDR619302V	As previous one
13EZ34-12VDC	5IDR619301V	With Deutsch connector
13EZ34-24VDC	5IDR619303V	As previous one

6 "B" side options page 117

The codes are referred to parts with FPM o-ring seals

TYPE	CODE	DESCRIPTION
------	------	-------------

For one-side electrohydraulic control

LQ	5LEV160700V	Lever box
LQF3	5LEV160701V	Lever box with spool stroke limiter
SLCQ	5COP260000V	Endcap

7 Port valves page 118

The codes are referred to parts with FPM o-ring seals

TYPE	CODE	DESCRIPTION
------	------	-------------

"UL" size valves

ULT	XTAP528520V	Valve blanking plug
CL	5KIT409000V	Anticavitation valve (for UL cavity)

Fixed setting pressure relief valves: setting is referred to 10 l/min (2.6 US gpm)

TYPE: UL (100)	CODE: 5KIT340	100 LV
	└ setting (bar)	└ setting (bar)

SETTING:

50 bar (725 psi)	70 bar (1010 psi)	80 bar (1150 psi)
100 bar (1450 psi)	120 bar (1750 psi)	130 bar (1900 psi)
140 bar (2050 psi)	150 bar (2150 psi)	160 bar (2300 psi)
170 bar (2450 psi)	180 bar (2600 psi)	190 bar (2750 psi)
200 bar (2900 psi)	210 bar (3050 psi)	220 bar (3200 psi)
250 bar (3600 psi)	270 bar (3900 psi)	300 bar (4350 psi)
320 bar (4650 psi)	350 bar (5050 psi)	370 bar (5350 psi)
380 bar (5500 psi)		

"US" size valves

UST	XTAP221340V	Valve blanking plug
CS	5KIT426270V	Anticavitation valve (for US cavity)

Fixed setting antishock and anticavitation valves with pressure relief function: setting is referred to 5 l/min (1.3 US gpm)

TYPE: US (100)	CODE: 5KIT326	100 V
	└ setting (bar)	└ setting (bar)

SETTING:

25 bar (360 psi)	40 bar (725 psi)	50 bar (725 psi)
60 bar (870 psi)	70 bar (1010 psi)	80 bar (1150 psi)
90 bar (1300 psi)	100 bar (1450 psi)	125 bar (1800 psi)
140 bar (2050 psi)	160 bar (2300 psi)	175 bar (2550 psi)
190 bar (2750 psi)	210 bar (3050 psi)	230 bar (3350 psi)
240 bar (3500 psi)	250 bar (3600 psi)	260 bar (3750 psi)
280 bar (4050 psi)	300 bar (4350 psi)	320 bar (4650 psi)
340 bar (4950 psi)	360 bar (5200 psi)	380 bar (5500 psi)
400 bar (5800 psi)	420 bar (6100 psi)	

8 Section threading

Only specify if it is different from BSP standard (see page 6).

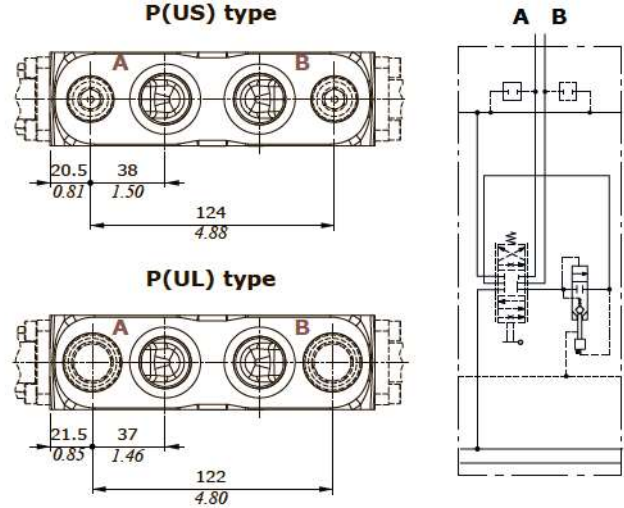
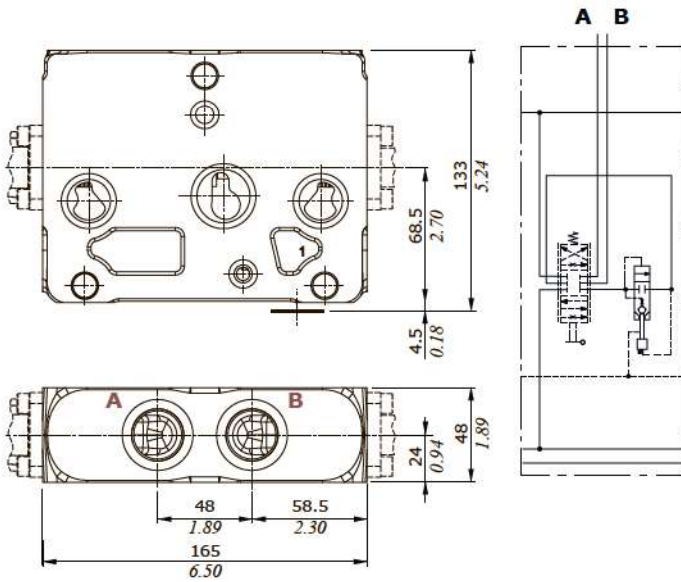
9 Seals

TYPE	DESCRIPTION
FPM	FPM o-ring seals; standard
NBR	NBR o-ring seals

Working section

Dimensions and hydraulic circuit

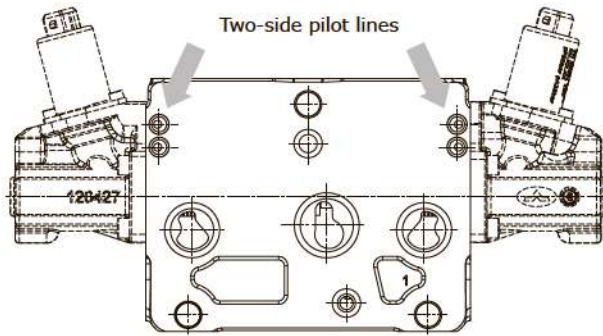
For mechanical and hydraulic controls



NOTE: US and UL auxiliary valves are not interchangeable: they need dedicated working sections

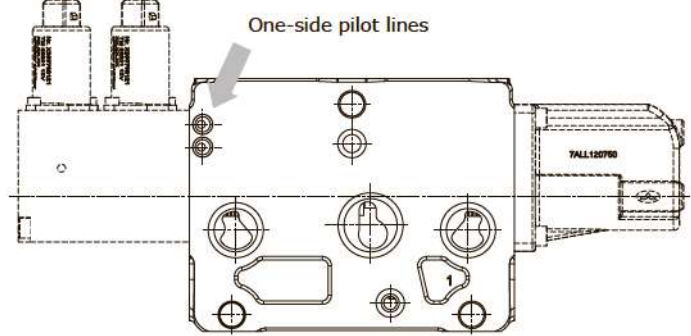
For two-side electrohydraulic control

QE, PE(US) or PE(UL) types



For one-side electrohydraulic control

QZ, PZ(US) or PZ(UL) types



QE type

PE type

QZ type

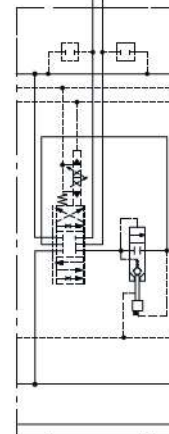
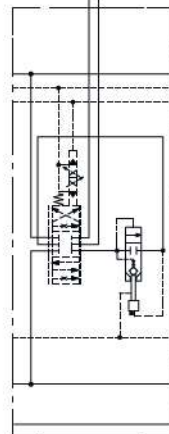
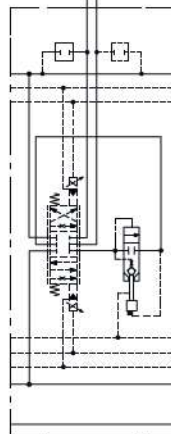
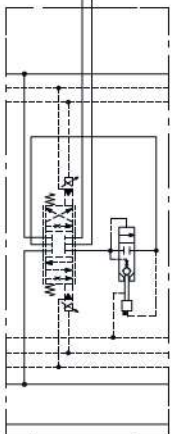
PZ type

A B

A B

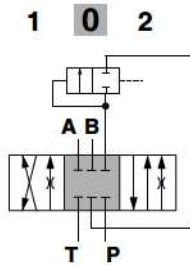
A B

A B



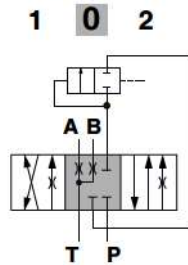
Spools

Type 1 (1../E1..) spool
A, B closed in neutral position



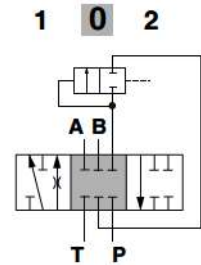
Spool stroke
position 1: + 8 mm (- 0.31 in)
position 2: - 8 mm (+ 0.31 in)

Type 2H(2H../E2H..) spool
A, B partially to tank in neutral pos.



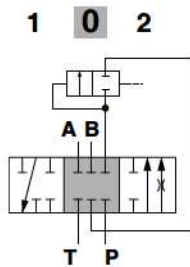
Spool stroke
position 1: + 8 mm (- 0.31 in)
position 2: - 8 mm (+ 0.31 in)

Type 3 (3../E3..) spool
single acting on A



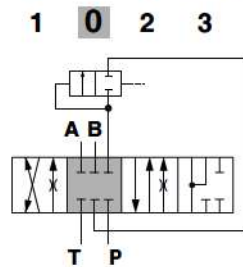
Spool stroke
position 1: + 8 mm (- 0.31 in)
position 2: - 8 mm (+ 0.31 in)

Type 4 (4../E4..) spool
single acting on B



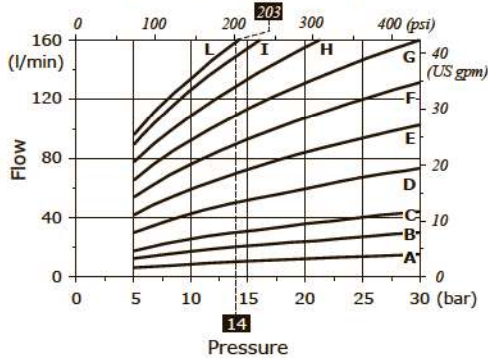
Spool stroke
position 1: + 8 mm (- 0.31 in)
position 2: - 8 mm (+ 0.31 in)

Type 5 (5../E5../I5..) spool
floating in 4th position (pos.3)



Spool stroke
position 1: + 8 mm (- 0.31 in)
position 2: - 8 mm (- 0.31 in)
position 3: - 13 mm (- 0.51 in)

Spool flow vs. Stand-by pressure (margin pressure)



Curves with spool nominal flow @ 14 bar (200 psi) stand-by (margin pressure)

- A = 10 l/min (2.6 US gpm)
- B = 20 l/min (5.3 US gpm)
- C = 30 l/min (7.9 US gpm)
- D = 50 l/min (13.2 US gpm)
- E = 70 l/min (18.5 US gpm)
- F = 90 l/min (23.8 US gpm)
- G = 110 l/min (29.0 US gpm)
- H = 130 l/min (34.3 US gpm)
- I = 150 l/min (39.5 US gpm)
- L = 160 l/min (42.3 US gpm)

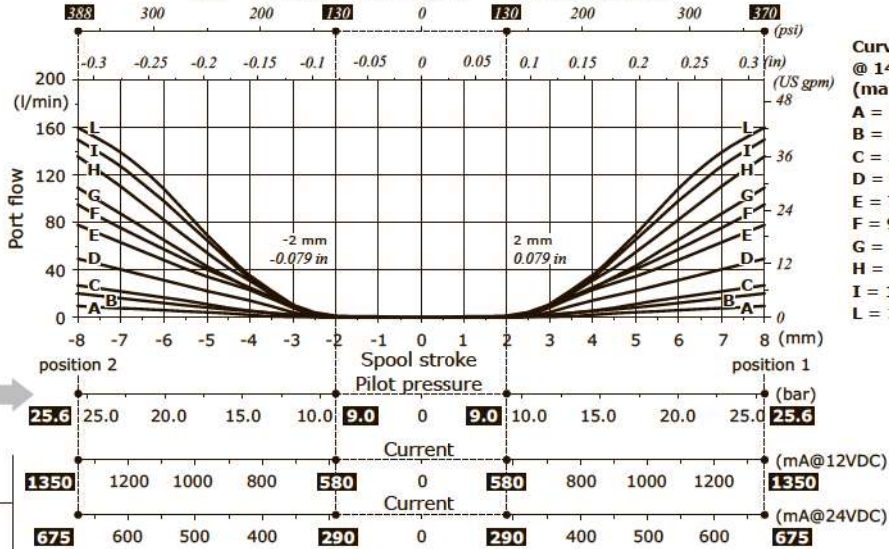
Working section

Spools

Following curves are detected with standard spools, connecting P⇒A⇒B⇒T and P⇒B⇒A⇒T ports without flow multiplication. Customized spools with backpressure or flow multiplication may require different force, pressure and pilot current for operation.

3 position spool metering curve

Q_{in} = 160 l/min (42.3 US gpm) - Open center circuit

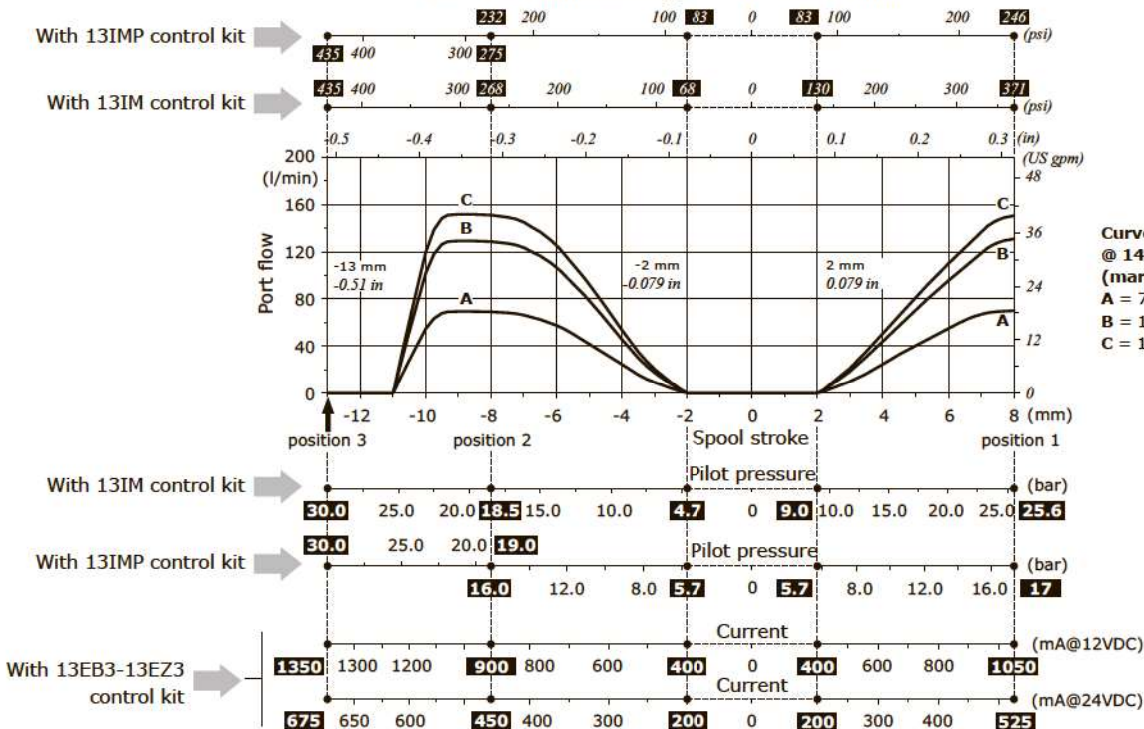


Curves with spool nom. flow @ 14 bar (200 psi) stand-by (margin pressure)

- A = 10 l/min (2.6 US gpm)
- B = 20 l/min (5.3 US gpm)
- C = 30 l/min (7.9 US gpm)
- D = 50 l/min (13.2 US gpm)
- E = 70 l/min (18.5 US gpm)
- F = 90 l/min (23.8 US gpm)
- G = 110 l/min (29.0 US gpm)
- H = 130 l/min (34.3 US gpm)
- I = 150 l/min (39.5 US gpm)
- L = 160 l/min (42.3 US gpm)

Floating spool metering curve

Q_{in} = 160 l/min (42.3 US gpm) - Open center circuit

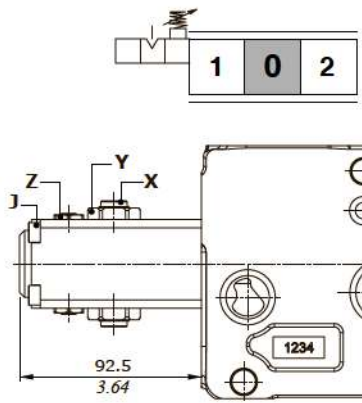


Curves with spool nom. flow @ 14 bar (200 psi) stand-by (margin pressure)

- A = 70 l/min (18.5 US gpm)
- B = 130 l/min (34.3 US gpm)
- C = 150 l/min (39.5 US gpm)

"A" side spool positioners

With friction, 7FTNA type

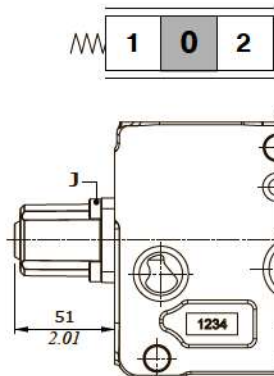


Wrenches and tightening torques

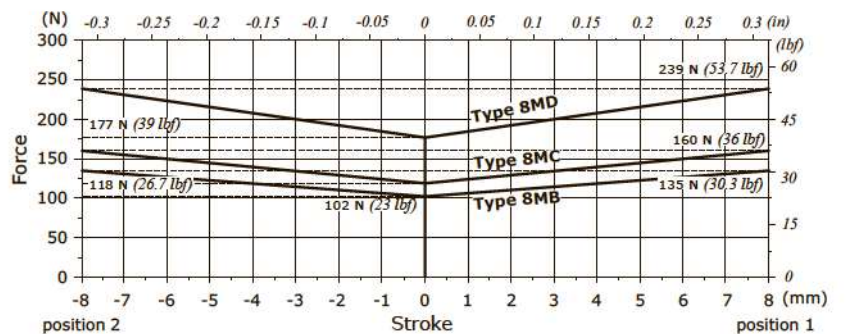
- J = allen wrench 5 - 9.8 Nm (7.2 lbf)
- X = allen wrench 4
- Y = wrench 24 - manual tightening
- Z = wrench 15 - 42 Nm (31 lbf)

With spring return to neutral position, 8MD type

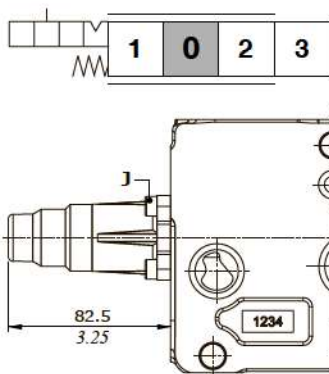
It's configured with spring type D, as standard (see diagram); it's also available with lighter C type springs (8MC code: 5V08109002) or B type (8MB code 5V08109003).



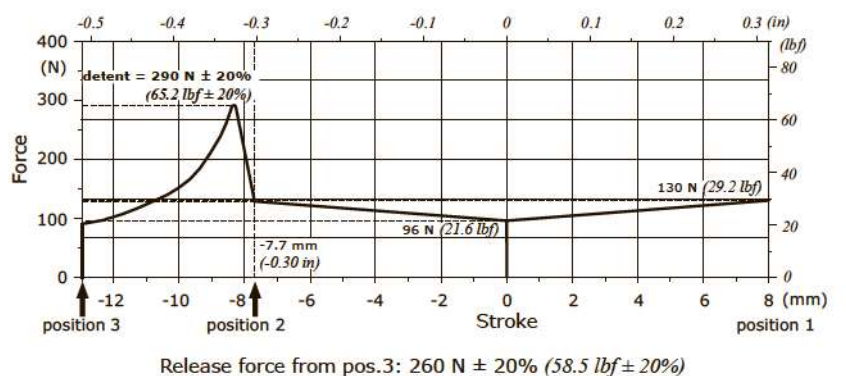
Force vs. Stroke diagram



For floating circuit, 13 type



Force vs. Stroke diagram

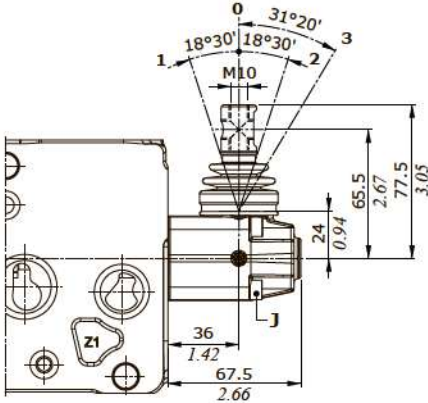


Working section

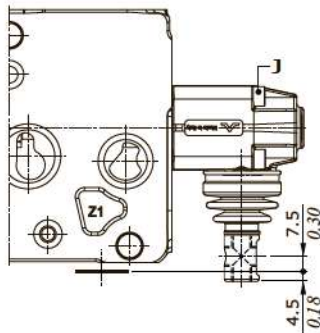
"B" side spool control kit

Lever boxes

L type

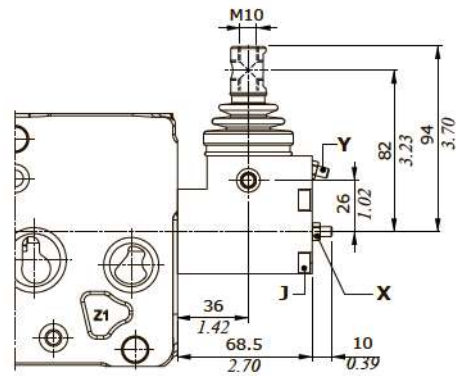
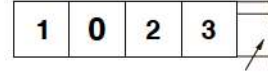


L180 type



LFG type

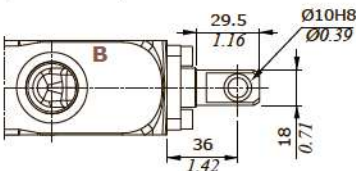
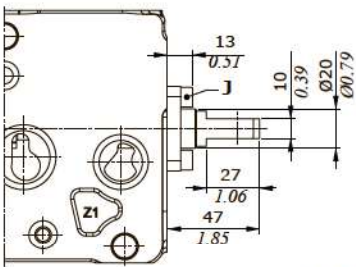
Spool stroke limiter on both ports



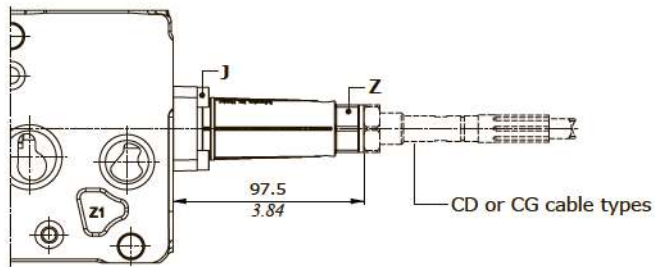
Wrenches and tightening torques

- J = allen wrench 5 - 9.8 Nm (7.2 lbft)
- X = allen wrench 2.5
- Y = wrench 8 - 6.6 Nm (4.9 lbft)
- Z = wrench 24

Dust-proof plate, SLP type

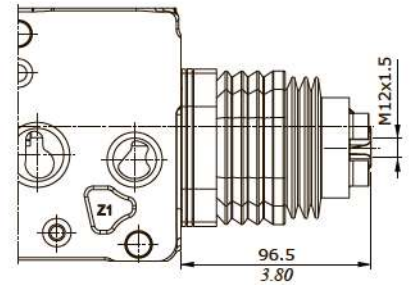
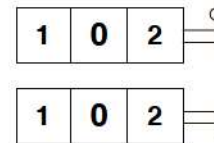
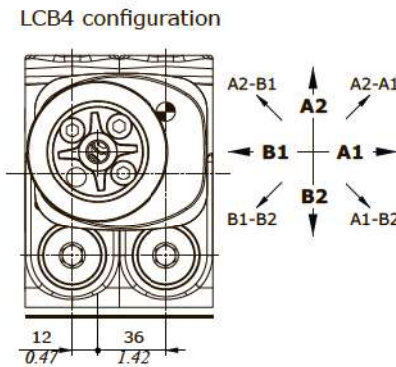
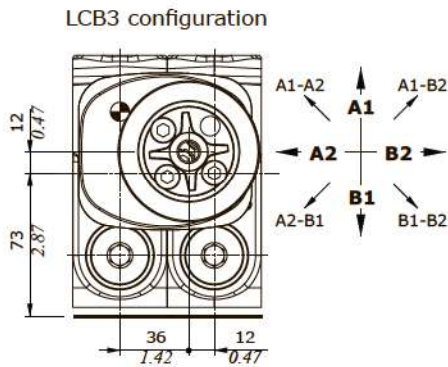
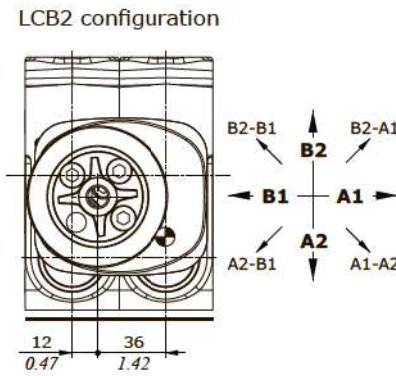
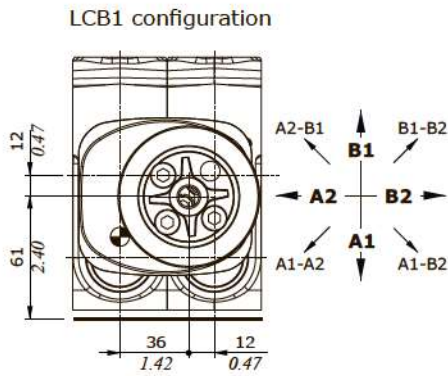


Flexible cable connection, TQ type

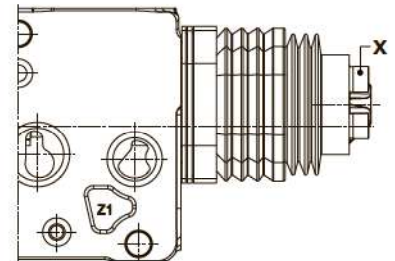


"B" side spool control kit

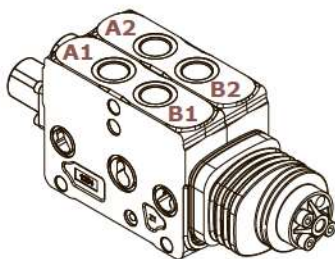
Joysticks for two section operation



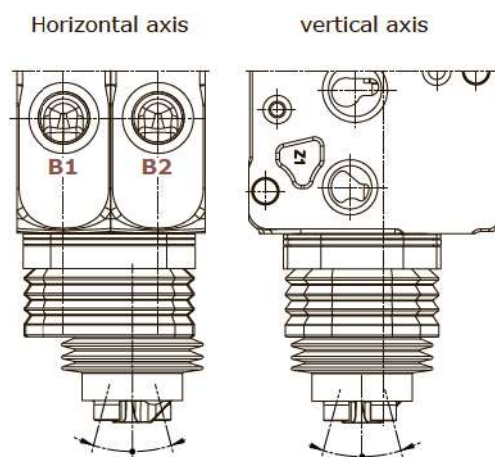
Wrenches and tightening torques
X = allen wrench 6 - 24 Nm (17.7 lbf)



LCB1 configuration example



Working angles

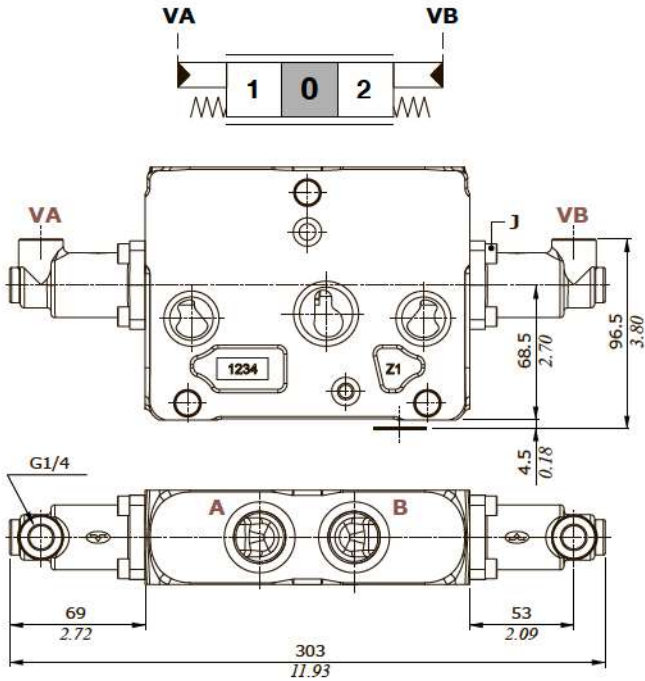


Max. working angles	Horizontal axis	Vertical axis
Single action operation	19°42'	19°41'
Single action operation with floating	operation not available	operation not available
Two section operation	21°22'	19°41'
Two section operation with floating	operation not available	operation not available

Working section

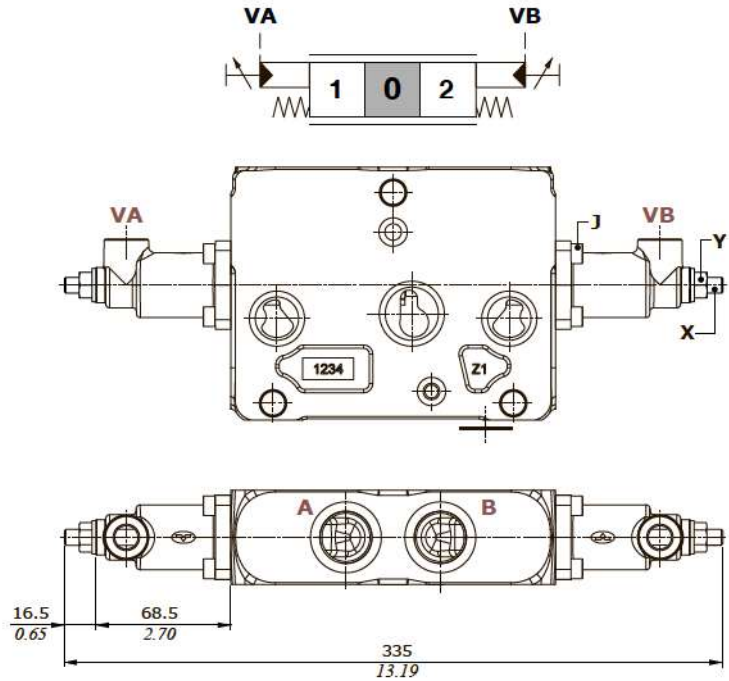
Proportional hydraulic control

SIMNOH type



SIMOHF3N type

With spool stroke limiter on ports A and B



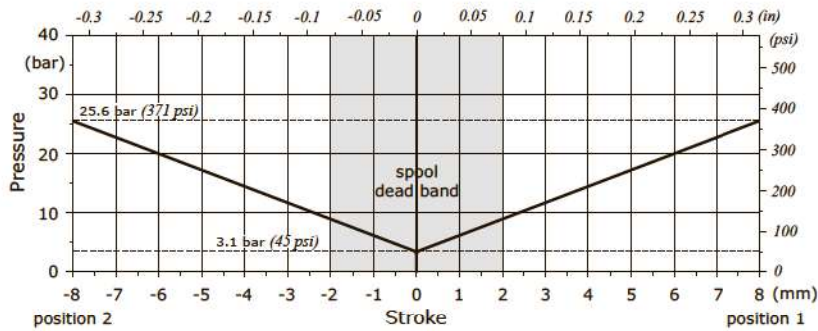
Features (all types)

Max. pressure. : 50 bar (725 psi)

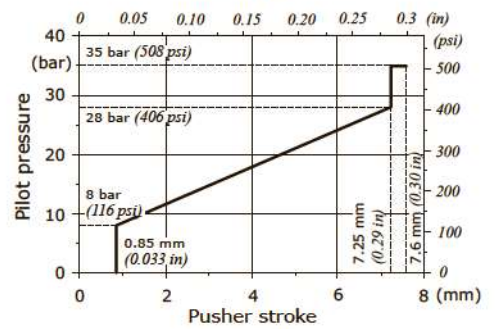
Wrenches and tightening torques

- J = allen wrench 5 - 9.8 Nm (7.2 lbft)
- X = allen wrench 4
- Y = wrench 13 - 24 Nm (17.7 lbft)

Stroke vs. Pressure diagram

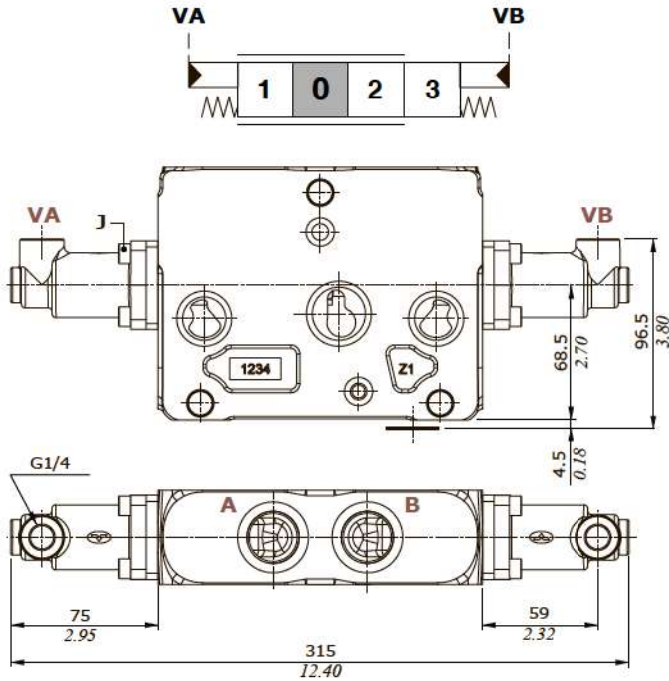


Suggested pressure control curve: 089 type



Proportional hydraulic control

For floating circuit, 13IMOH - 13IMP types



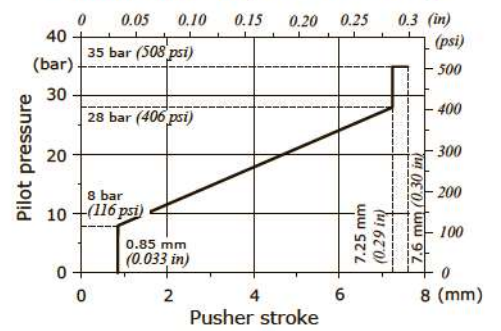
Features

Max. pressure. : 50 bar (725 psi)

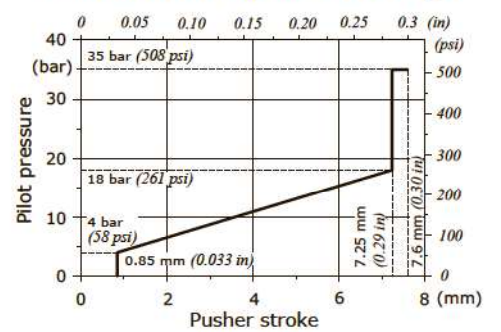
Wrenches and tightening torques

J = allen wrench 5 - 9.8 Nm (7.2 lbf)

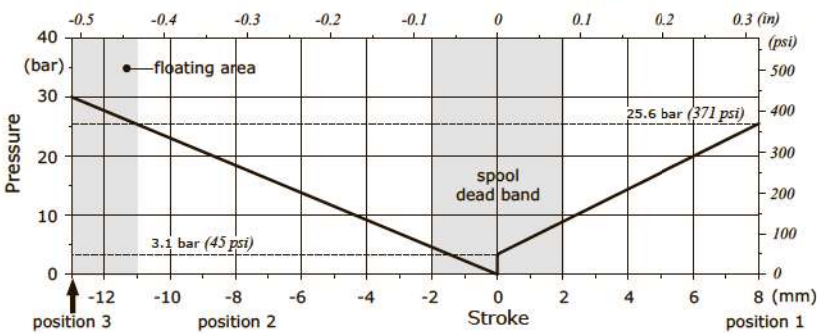
13IMOH type: suggested pressure control curve on port VA: 089 type



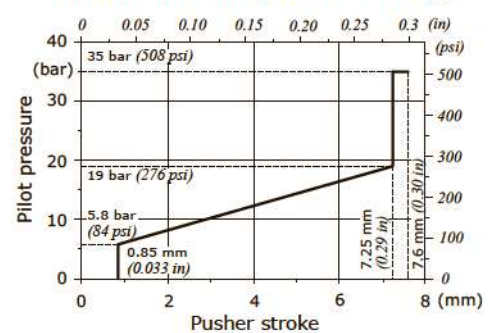
13IMP type: suggested pressure control curve on port VA: 073 type



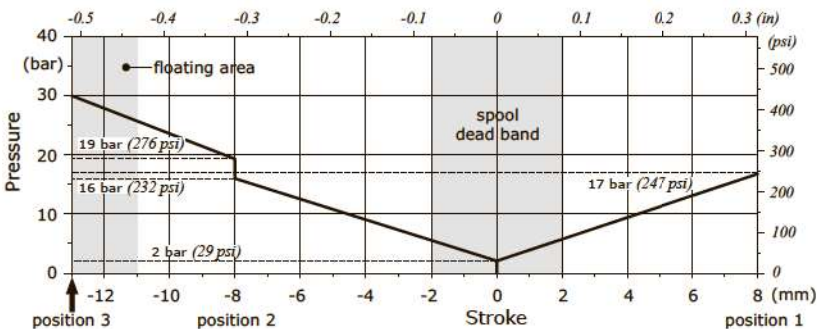
13IMOH type: Stroke vs. Pressure diagram



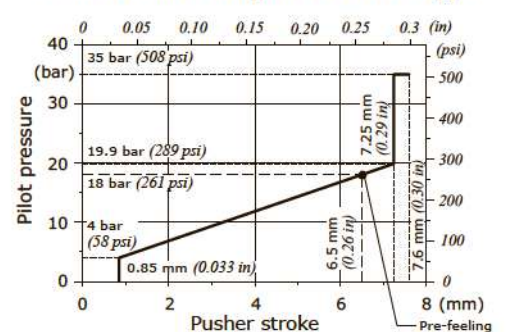
13IMOH type: suggested pressure control curve on port VB: 033 type



13IMP type: Stroke vs. Pressure diagram



13IMP type: suggested pressure control curve on port VB: E073 type



Working section

Electrohydraulic control performance data

Following specifications are measured with:

- mineral oil of 46 mm²/s - 46 cSt viscosity at 40°C - 104°F temperature,
- standard spools, connecting P⇒A⇒B⇒T ports without flow multiplication,
- 12 VDC and 24 VDC nominal voltage with ± 10% tolerance.

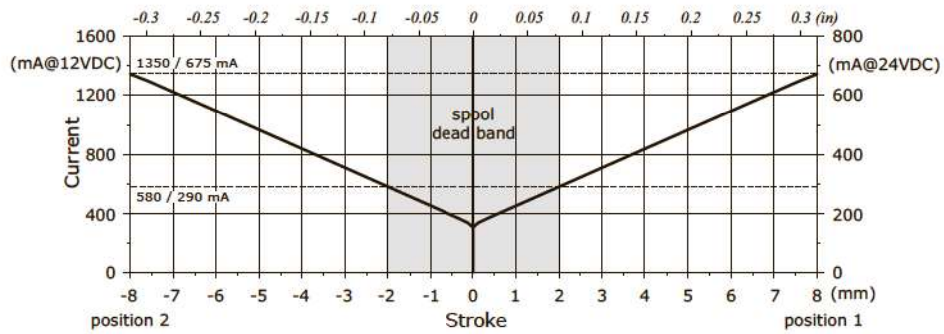
Following electrohydraulic controls need CED100X or CED400X electronic unit; for information please contact Sales Department.

Specifications		Spool control type			
		8EB3	13EB3	8EZ3	13EZ3
Electric specifications					
Coil impedance	12 VDC	4,72 Ω	4,72 Ω	4,72 Ω	4,72 Ω
	24 VDC	20,8 Ω	20,8 Ω	20,8 Ω	20,8 Ω
Max. operating current	12 VDC	1,5 A	1,5 A	1,5 A	1,5 A
	24 VDC	0,75 A	0,75 A	0,75 A	0,75 A
No load current consumption		0	0	0	0
<i>With lever box configured controls</i>					
Hysteresis max. ⁽¹⁾	external drain	3% 4% with lever	6% 8% with lever	4%	8%
	internal drain	4% 5% with lever	7% 10% with lever	5%	10%
Time response	from 0 ⇒ 100% of stroke	< 80 ms	< 100 ms	< 80 ms	< 100 ms
	from 100% ⇒ 0 of stroke	< 60 ms	< 80 ms	< 60 ms	< 80 ms
Min. flow control signal	12 VDC	580 mA	400 mA	580 mA	400 mA
	24 VDC	290 mA	200 mA	290 mA	200 mA
Max. flow control signal	12 VDC	1350 mA	P⇒A: 1050 mA P⇒B: 900 mA	1350 mA	P⇒A: 1050 mA P⇒B: 900 mA
	24 VDC	675 mA	P⇒A: 525 mA P⇒B: 450 mA	675 mA	P⇒A: 525 mA P⇒B: 450 mA
Float flow control signal	12 VDC		1350 mA		1350 mA
	24 VDC		675 mA		675 mA
Dither frequency	low frequency	150 Hz		150 Hz	
	high frequency	180 Hz - 350 mA		180 Hz - 350 mA	
Insertion		100%		100%	
Coil insulation		Class H (180°C - 356°F)		Class H (180°C - 356°F)	
Connector type		AMP JPT - Deutsch DT		AMP JPT - Deutsch DT	
Weather protection (connector)		IP65 (JPT type) - IP69K (DT type)		IP65 (JPT type) - IP69K (DT type)	
Hydraulic specifications					
Max. pressure		40 bar (580 psi)		50 bar (725 psi)	
Max. back pressure		20 bar (290 psi)		20 bar (290 psi)	

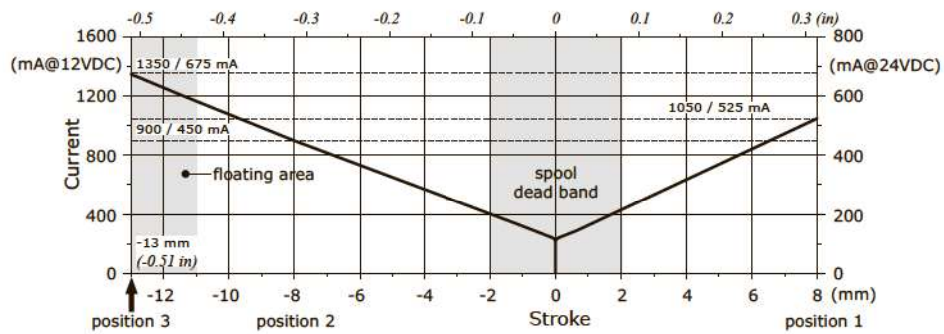
Note (1) hysteresis is indicated at nominal supply voltage and f = 0.008 Hz for one cycle (one cycle = neutral ⇒ full A ⇒ neutral ⇒ full B ⇒ neutral). For the calculation rules see "Appendix A" on page 134.

Electrohydraulic control performance data

8EB3-8EZ3 types: Stroke vs. Current diagram



13EB3-13EZ3 types: Stroke vs. Current diagram



Working section

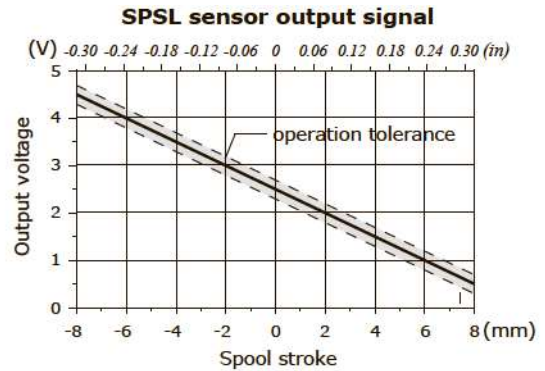
Electrohydraulic controls: spool position sensor

The sensor can be ordered exclusively through the EB and EZ type electrohydraulic controls; see pages 53 and 57 for available control list.

SPSL sensor

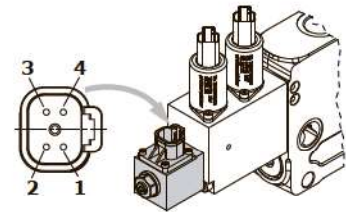
The SPSL position sensor converts the spool movements into a voltage linear signal.

Working conditions	
Voltage supply	5 VDC
Current absorption	< 10 mA (no load)
Mechanical life	3x10 ⁶
Connector type	DT04-4P Deutsch
Weather protection	IP67 / IP69K
Working temperature	from -40°C to 105°C (from -40°F to 221°F)
Working pressure	350 bar (5100 psi)
Max. electrical stroke	±10 mm (±0.39 in)
Max. mechanical stroke	±10 mm (±0.39 in)
Output signal	range from 0.5 to 4.5 V
	linearity ± 5%
	spool in neutral 2.5 ± 0.2 V
	max. current 1 mA
EMC compatibility	ISO 13766 / ISO 14982
Mechanical vibrations, shock, bumps	IEC 68-2-6,-27,-29



Deutsch DT04-4P connector

Pin	Function
1	+ 5V
2	not connected
3	GND
4	signal OUT

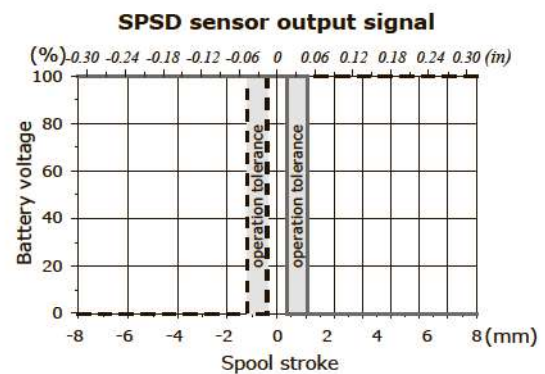


Deutsch DT06-4S mating connector, code 5CON140072

SPSD sensor

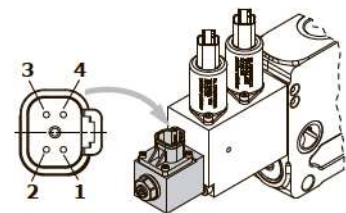
The SPSD position sensor converts the spool movements into an electric digital signal.

Working conditions	
Voltage supply	from 9 to 32 VDC
Current absorption	< 10 mA (no load)
Mechanical life	3x10 ⁶
Connector type	DT04-4P Deutsch
Weather protection	IP67 / IP69K
Working temperature	from -40°C to 105°C (from -40°F to 221°F)
Working pressure	350 bar (5100 psi)
Max. electrical stroke	±10 mm (±0.39 in)
Max. mechanical stroke	±10 mm (±0.39 in)
Output signal	type PNP
	max. current 6 mA
EMC compatibility	ISO 13766 / ISO 14982
Mechanical vibrations, shock, bumps	IEC 68-2-6,-27,-29



Deutsch DT04-4P connector

Pin	Function
1	Out A
2	GND
3	VB +
4	Out B



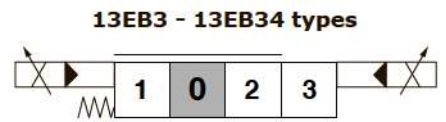
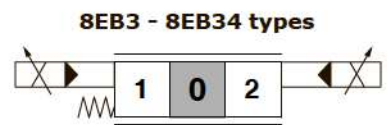
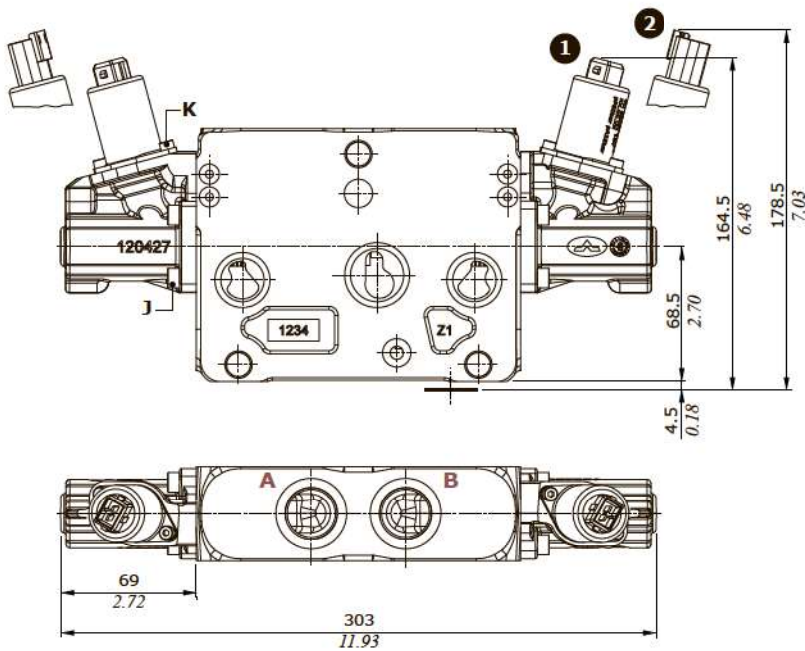
Deutsch DT06-4S mating connector, code 5CON140072

Two-side electrohydraulic control

Without lever control

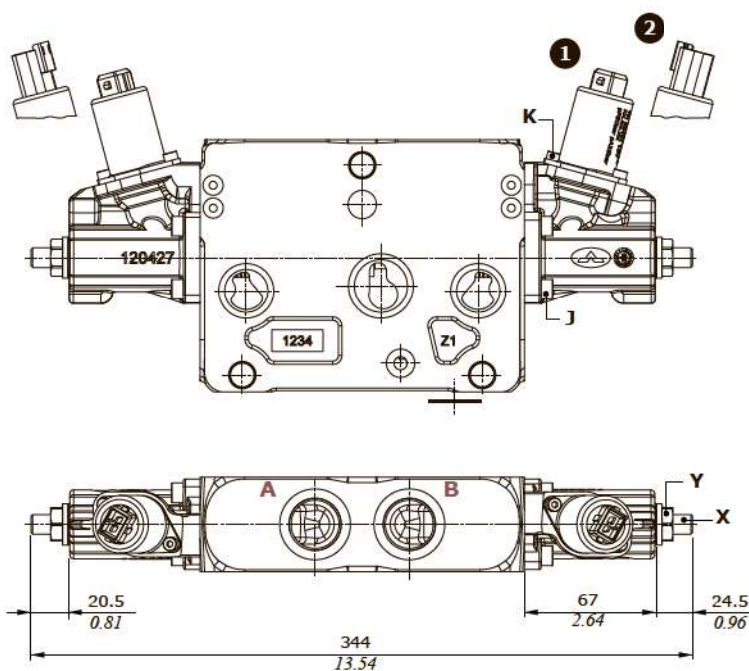
Control Types

- 1 : With AMP JPT connector - AMP JPT, mating connector code: 5CON003
- 2 : With Deutsch DT04 connector - Deutsch DT06-2S mating connector code: 5CON140031



Wrenches and tightening torques

- J = allen wrench 5 - 9.8 Nm (7.2 lbft)
- K = allen wrench 3 - 5 Nm (3.7 lbft)
- X = allen wrench 5
- Y = wrench 17 - 24 Nm (17.7 lbft)



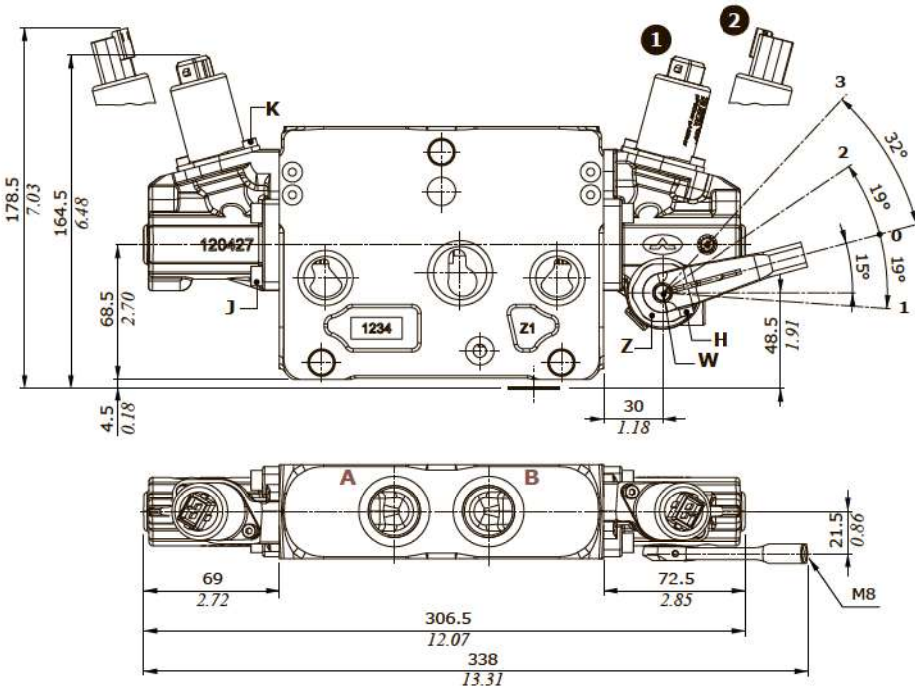
Working section

Two-side electrohydraulic control

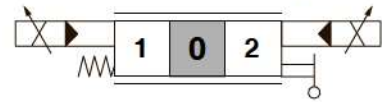
With lever control

Control Types

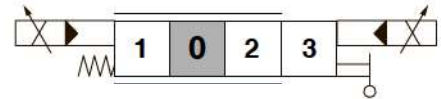
- 1 : With AMP JPT connector - AMP JPT, mating connector code: 5CON003
- 2 : With Deutsch DT04 connector - Deutsch DT06-2S mating connector code: 5CON140031



8EB3LH - 8EB34LH types

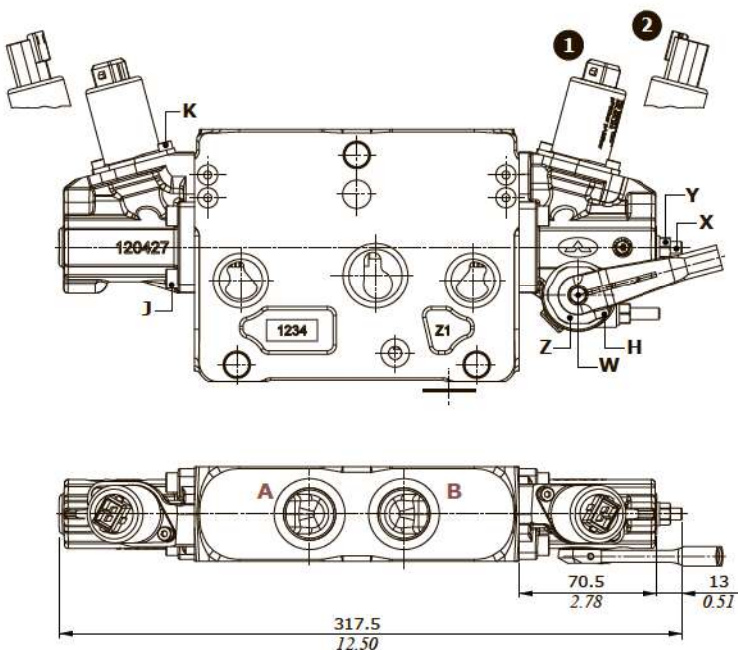


13EB3LH - 13EB34LH types

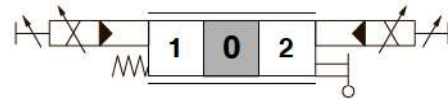


Wrenches and tightening torques

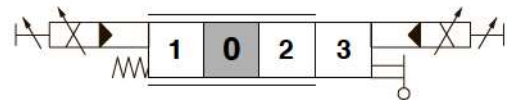
- H = allen wrench 3 - 6.6 Nm (4.9 lbft)
- J = allen wrench 5 - 9.8 Nm (7.2 lbft)
- K = allen wrench 3 - 5 Nm (3.7 lbft)
- X = allen wrench 3
- Y = wrench 10 - 9.8 Nm (7.2 lbft)
- Z = wrench 29 - 24 Nm (17.7 lbft)
- W = wrench 8



8EB3LHF3 - 8EB34LHF3 types



13EB3LHF3 - 13EB34LHF3 types

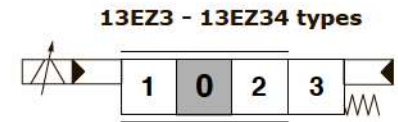
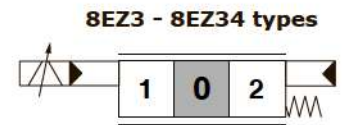
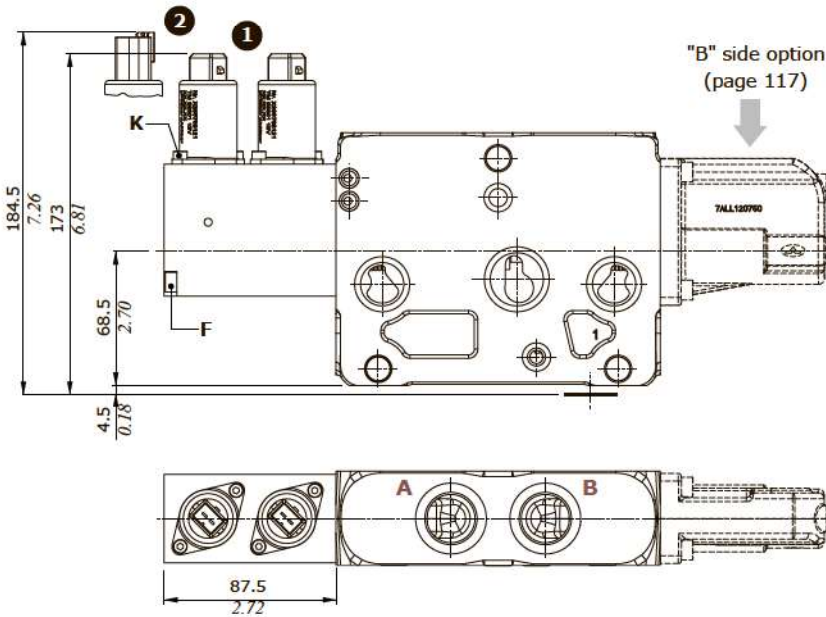


Working section

Two-side electrohydraulic control

Control Types

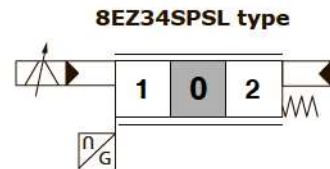
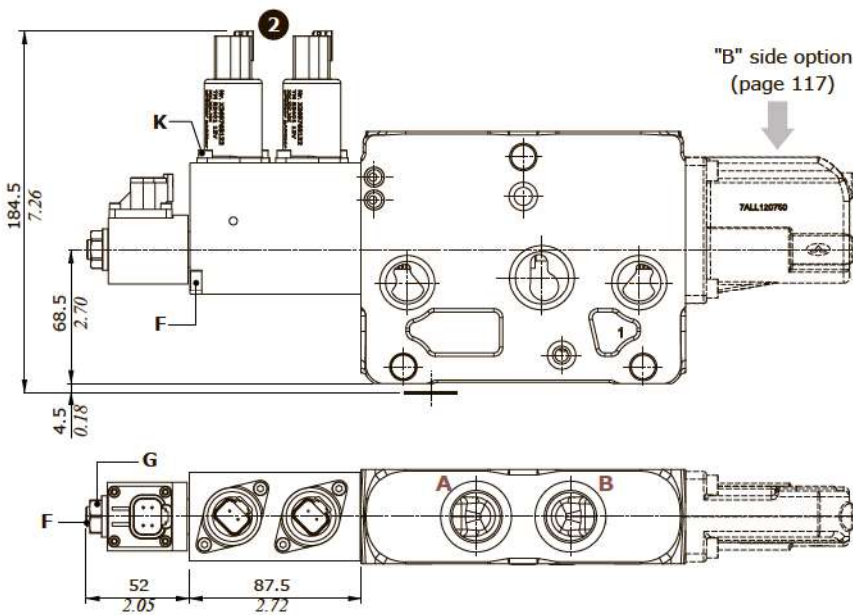
- 1 : With AMP JPT connector - AMP JPT, mating connector code: 5CON003
- 2 : With Deutsch DT04 connector - Deutsch DT06-2S mating connector code: 5CON140031



Wrenches and tightening torques

- F = allen wrench 4 - 9.8 Nm (7.2 lbf^t)
- G = wrench 17 - 9.8 Nm (7.2 lbf^t)
- J = allen wrench 5 - 9.8 Nm (7.2 lbf^t)
- K = allen wrench 3 - 5 Nm (3.7 lbf^t)

With spool position sensor

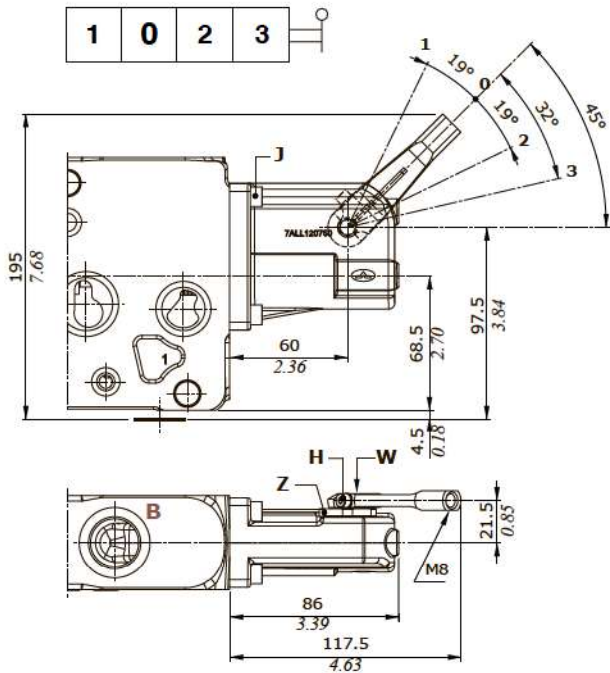


"B" side options

These options are available for one-side electrohydraulic controls only.

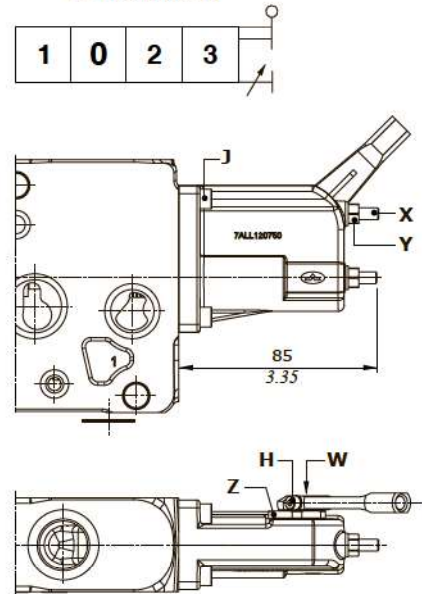
Lever boxes

LQ type



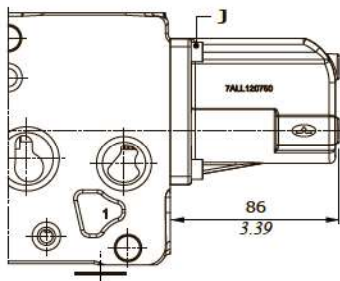
LQF3 type

Spool stroke limiter on A and B ports



Endcap

SLCQ type



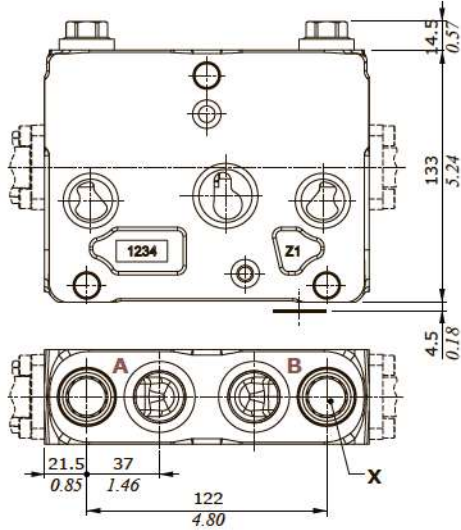
Wrenches and tightening torques

- H = allen wrench 3 - 6.6 Nm (4.9 lbf)
- J = allen wrench 5 - 9.8 Nm (7.2 lbf)
- X = allen wrench 3
- Y = wrench 10 - 9.8 Nm (7.2 lbf)
- Z = wrench 29 - 24 Nm (17.7 lbf)
- W = wrench 8

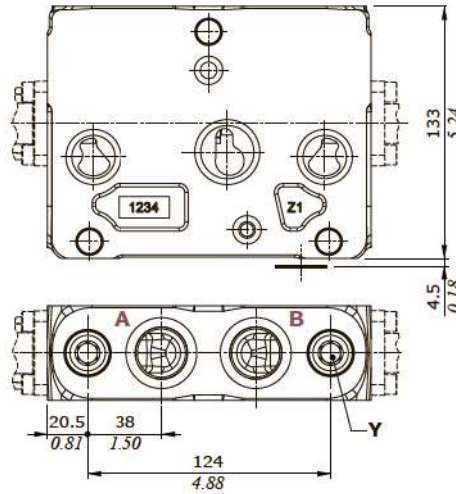
Working section

Port valves

Pressure relief valves, UL type
Anticavitation valve, CL type



Antishock valves, US type
Anticavitation valve, CS type



UL-US types



CL-CS types



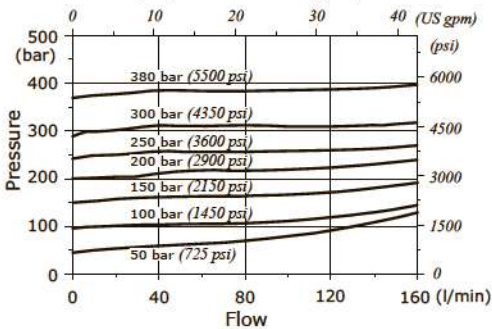
Wrenches and tightening torques

X = wrench 19 - 42 Nm (31 lbft) - (plug and valves)

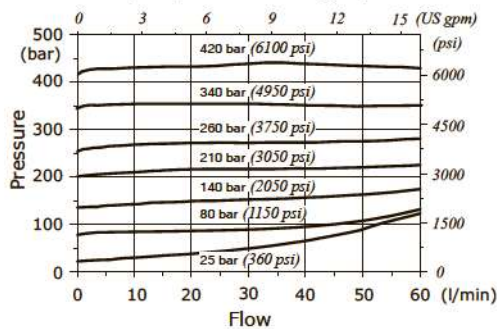
Y = allen wrench 6 - 24 Nm (17.7 lbft) - (tappo)

wrench 10 - 24 Nm (17.7 lbft) (valves)

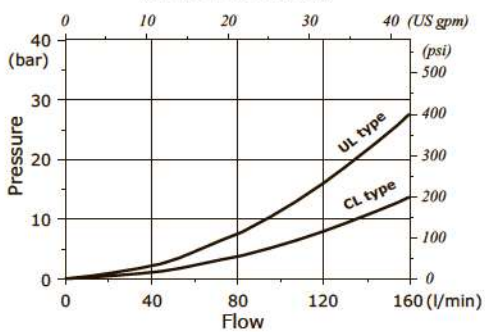
UL type, setting example
(5 l/min - 1.3 Us gpm)



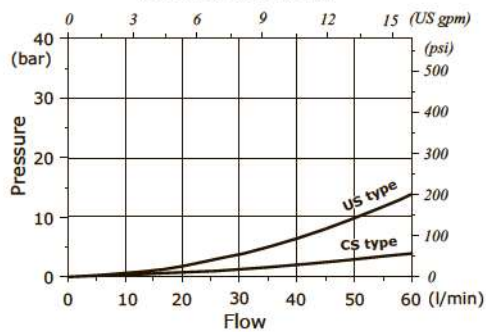
US type, setting example
(10 l/min - 2.6 Us gpm)



UL-CL types, pressure drop
(in anticavitation)



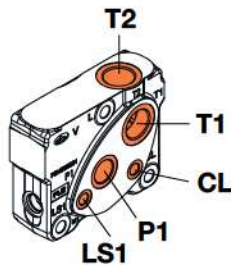
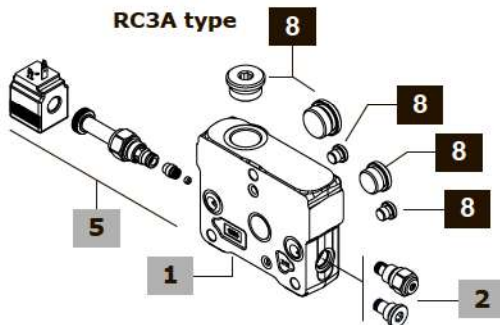
US-CS types, pressure drop
(in anticavitation)



Outlet section part ordering codes

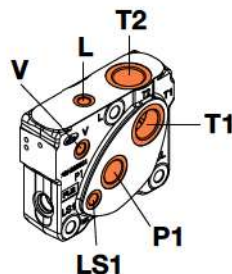
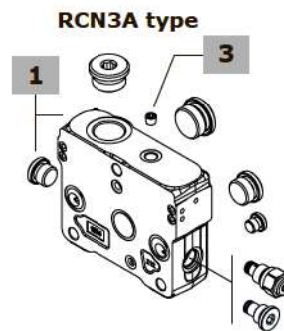
DPX160/RC3A-CL - ... -12VDC-FPM

1 5 6 5 7



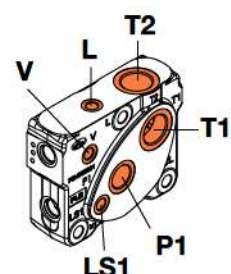
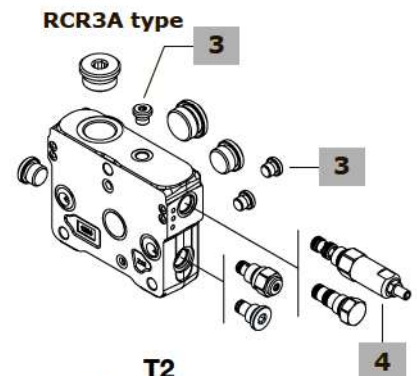
DPX160/RCN3A(VBT)- ... -FPM

1 2



DPX160/RCR3A(RT)(VLT)(VBT)-... -FPM

1 4 3 2



1 Outlet section kit* page 120

The codes are referred to sections with FPM o-ring seals
 Outlet section is the same type for standard and High Pressure valve
For mechanical and hydraulic controls

TYPE: DPX160/RC1-FPM CODE: YFIA205300V
 DESCRIPTION: With T2 upper port

TYPE: DPX160/RC3-FPM CODE: YFIA205302V
 DESCRIPTION: With T2 upper port and P1, T1, LS1 side ports

TYPE: DPX160/RC3-CL-FPM CODE: YFIA205314V
 DESCRIPTION: As previous one with clamps release arrang. and CL port

For electrohydraulic controls
 TYPE: DPX160/RCN1-FPM CODE: YFIA205306V
 DESCRIPTION: Without pressure reducing valve arrangement, L upper and V side ports, T2 upper port

TYPE: DPX160/RCN3-FPM CODE: YFIA205313V
 DESCRIPTION: As previous one with P1, T1, LS1 side ports

TYPE: DPX160/RCN3-CL-FPM CODE: YFIA205315V
 DESCRIPTION: As previous one with clamps release arrang. and CL port

TYPE: DPX160/RCR1-FPM CODE: YFIA205303V
 DESCRIPTION: With pressure reducing valve arrangement, L upper and V side ports, T2 upper port

TYPE: DPX160/RCR3-FPM CODE: YFIA205307V
 DESCRIPTION: As previous one with P1, T1, LS1 side ports

TYPE: DPX160/RCR3-CL-FPM CODE: YFIA205316V
 DESCRIPTION: As previous one with clamps release arrang. and CL port

Note: for outlet sections with different port arrangement please contact Sales Dpt.

2 Bleed valve page 120

The codes are referred to parts with FPM o-ring seals

TYPE	CODE	DESCRIPTION
(-)	X138810000V	Bleed valve
(VBT)	XTAP525320V	Valve blanking plug

NOTE (*): Codes are referred to **BSP** thread.
 NOTE (-): "TYPE" omitted in outlet section description

3 Pilot and drain* page 121

TYPE	CODE	DESCRIPTION
(-)	4TAP306006	M6-DIN906 plug, for external drain
(VLT)	XTAP719160	G1/4 plug, nr.2 for int. pilot and drain, FPM o-ring seal

4 Pressure reducing valve page 121

TYPE	CODE	DESCRIPTION
(-)	4AC9539900	Press. reducing valve, 32 bar (464 psi)
(RT)	3XTP3535100V	Valve blanking plug (SAE 08/3)

5 Clamp release kit page 121

TYPE	CODE	DESCRIPTION
CL	5KIT409010V	Clamp release kit, 12VDC, FPM o-ring seals

6 Section threading

Only specify if it is different from BSP standard (see page 6).

7 Seals

TYPE	DESCRIPTION
FPM	FPM o-ring seals; standard
NBR	NBR o-ring seals

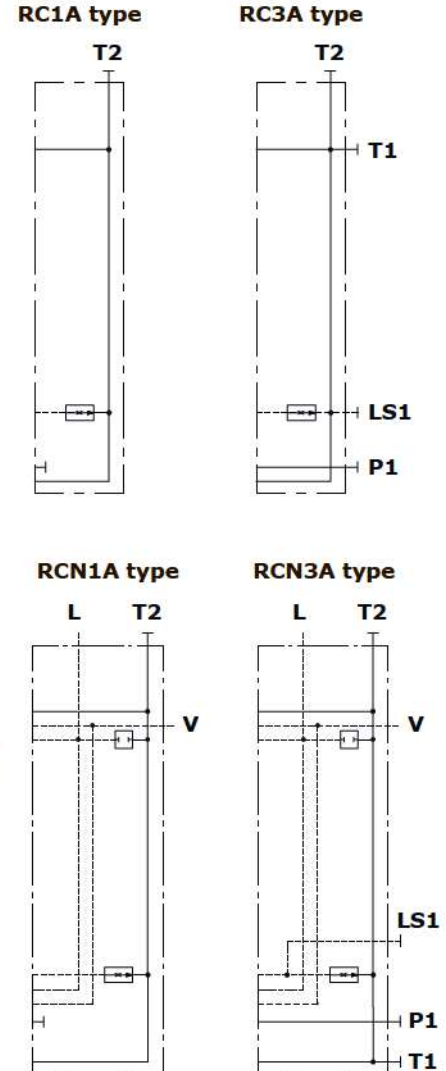
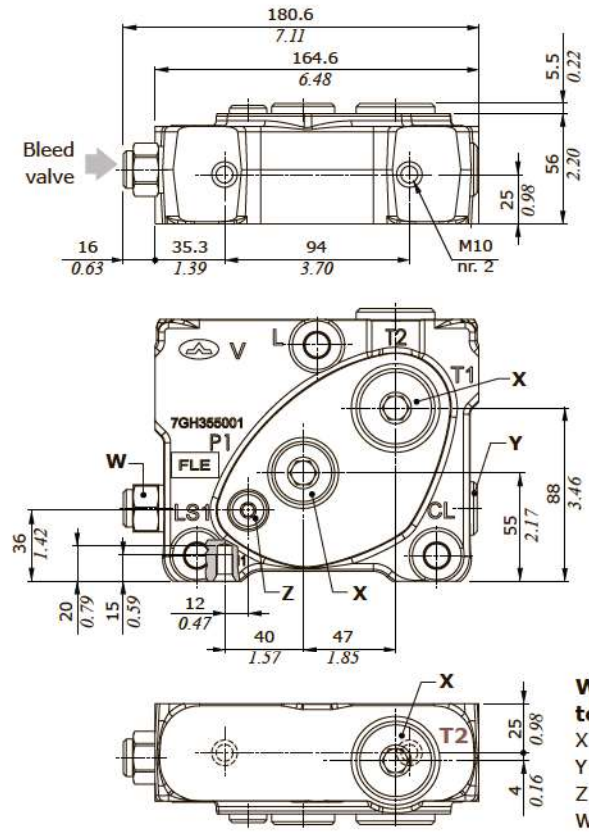
8 Parts*

CODE	DESCRIPTION
XTAP740220	G1 plug: for RC1/RCN1/RCR1 = nr. 1 for RC3/RCN3/RCR3 = 2
XTAP732220	G3/4 plug, for RC1/RCN1/RCR1 = nr. 0 for RC3/RCN3/RCR3 = 1
XTAP719160	G1/4 plug, for RC1/RCN1/RCR1 = nr. 0 for RC3/RCN3/RCR3 = 1 for RC3-CL/RCN3-CL/RCR3-CL = 2

Outlet section

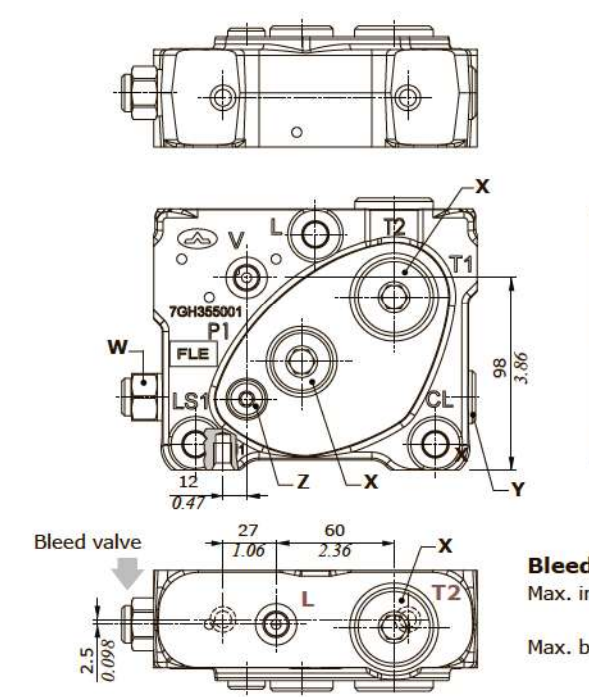
Dimensions and hydraulic circuit

Example of RC3A outlet section



Wrenches and tightening torques
 X = allen wrench 12 - 42 Nm (31 lbft)
 Y = allen wrench 8 - 24 Nm (17.7 lbft)
 Z = allen wrench 6 - 24 Nm (17.7 lbft)
 W = wrench 24 - 42 Nm (31 lbft)

Example of RCN3A outlet section



Bleed valve features
 Max. inlet pressure . . . : 380 bar (5550 psi)
 Max. back pressure . . . : 25 bar (363 psi)

