Q75 - Q95

Monoblock directional valves

- Simple, compact and heavy duty designed monoblock valve
- From 1 to 6 sections
- For open and closed center hydraulic systems, optional carry over port
- Mechanical, pneumatic, electropneumatic, hydraulic and direct solenoid controls

Working conditions

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

		Q75	Q95
Nominal flow rating		80 l/min - *(22 Us gpm)*	100 l/min - *(27 Us gpm)*
Max. pressure		280 bar *(4060 psi)*	
Max. back pressure on outlet **T** port		25 bar *(360 psi)*	
Number sections		from 1 to 6	
Internal leakage A(B)⇒T	Δp = 100 bar *(1450 psi)*	6 cm³/min *(0.36 in³/min)*	
Fluid		Mineral oil	
Fluid temperature	with NBR (BUNA-N) seals	from -30°C to 80°C - *from -22 °F to 176 °F*	
Viscosity	operating range	from 10 to 400 mm²/s - *from 10 to 400 cSt*	
Max. contamination level		16/14/12 - ISO 4406 - *NAS1638 class 6*	
Ambient temperature	without electric devices	from -40°C to 60°C - *from 40 °F to 140 °F*	
	with electric devices	from -20°C to 50°C - *from -4 °F to 122 °F*	

NOTES - For different conditions please contact our Sales Department.

REFERENCE STANDARD

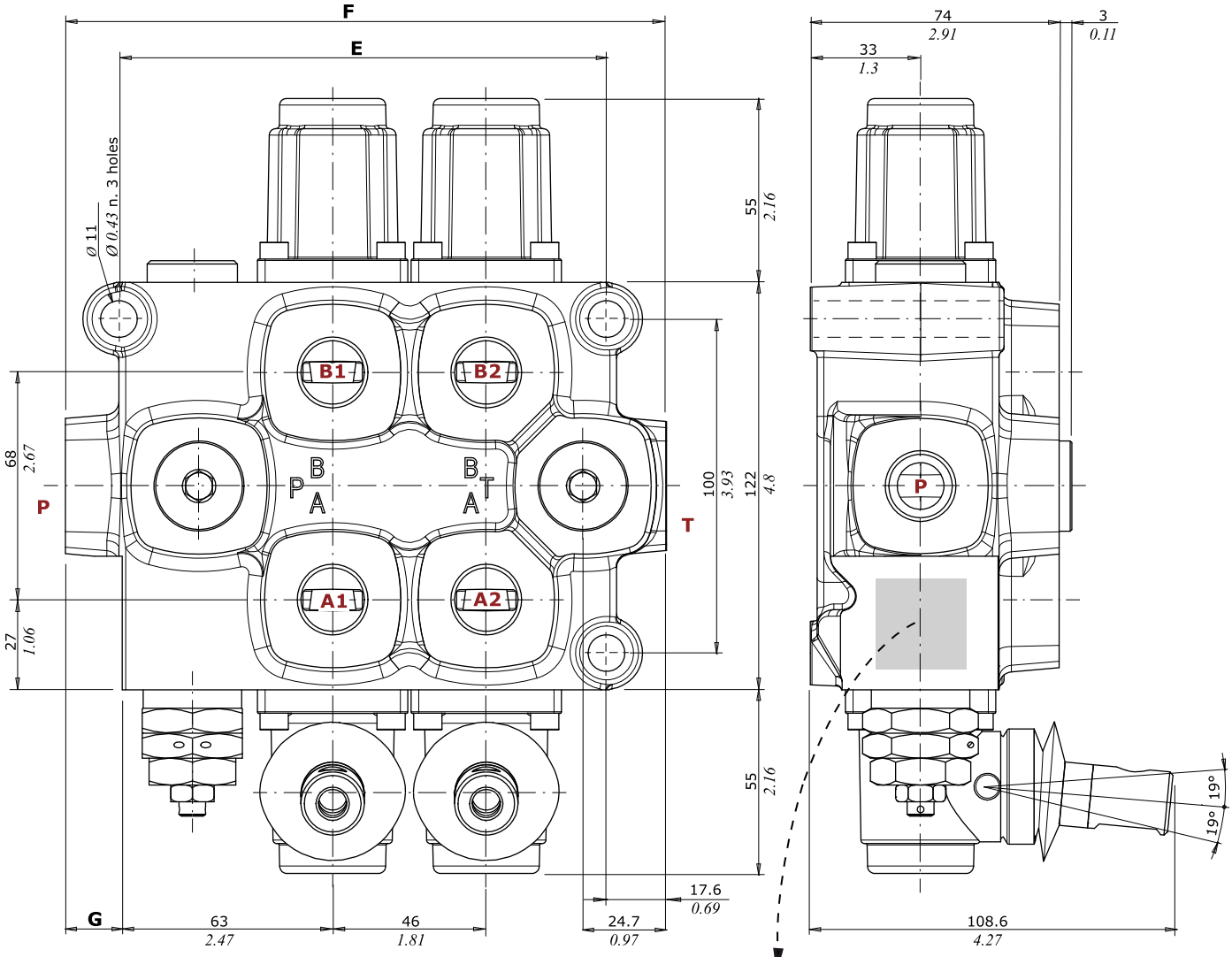
		BSP	UN-UNF
THREAD ACCORDING TO		ISO 228/1	ISO 263
		BS 2779	ANSI B1.1 unified
CAVITY DIMENSION ACCORDING TO	ISO	1179	11926
	SAE		J11926
	DIN	3852-2 shape X or Y	

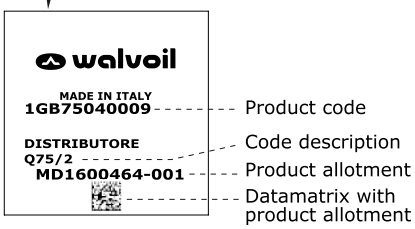
PORT THREADING

PORTS	Q75		Q95	
	BSP	UN-UNF	BSP	UN-UNF
P Inlet	G 1/2	7/8-14 (SAE 10)	G 3/4	1" 1/16-12 (SAE 12)
P1 Inlet	G 1/2	7/8-14 (SAE 10)	G 3/4	1" 1/16-12 (SAE 12)
A and **B** ports	G 1/2	7/8-14 (SAE 10)	G 3/4	1" 1/16-12 (SAE 12)
T Outlet	G 3/4	1" 1/16-12 (SAE 12)	G 3/4	1" 1/16-12 (SAE 12)
T1 Outlet	G 1/2	7/8-14 (SAE 10)	G 3/4	1" 1/16-12 (SAE 12)
Lc port (Carry-over plug - T port)	G 1/2	7/8-14 (SAE 10)	G 3/4	7/8-14 (SAE 10)
Hydraulic controls	G 1/4	9/16-18 (SAE 6)	G 1/4	9/16-18 (SAE 6)
Pneumatic controls	NPTF 1/8-27	NPTF 1/8-27	NPTF 1/8-27	NPTF 1/8-27

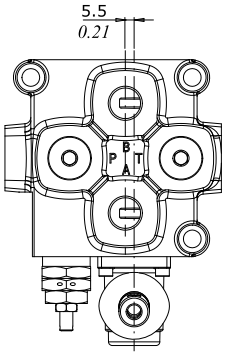
Dimensional data

The Q75 and Q95 monoblock valves, have same dimensions but different threads. See port threading on page 63.
Drawing are referred to a Q75 monoblock valve.





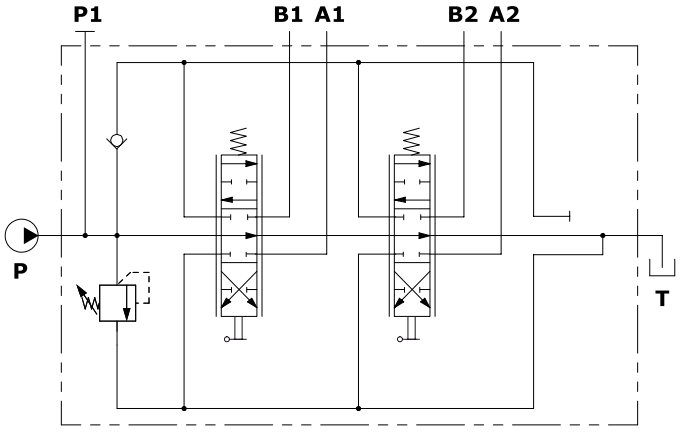
Directional valve with 1 section



Type	E		F		G	
	mm	*in*	mm	*in*	mm	*in*
Q75/1 - Q95/1	100	*3.93*	134	*5.27*	16.5	*0.65*
Q75/2 - Q95/2	146	*5.75*	180	*7.08*	16.5	*0.65*
Q75/3 - Q95/3	192	*7.56*	226	*8.89*	16.5	*0.65*
Q75/4 - Q95/4	238	*9.37*	269	*10.59*	13.5	*0.53*
Q75/5 - Q95/5	2.84	*11.18*	315	*12.4*	13.5	*0.53*
Q75/6 - Q95/6	330	*13*	365	*14.67*	16.5	*0.65*

NOTE: Drawings and dimensions are referred to a **BSP** threading configuration.

Hydraulic circuit

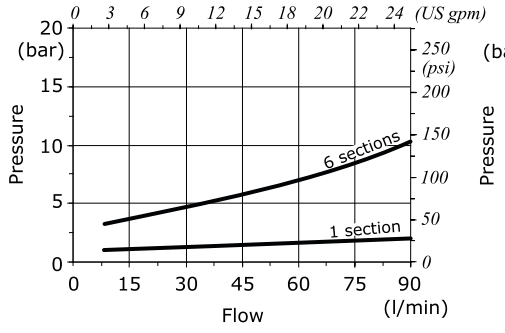


Description example (parallel circuit):
Q75/2/F1S(R250)/103-A1-M1/103-A1-M1/F3D
Q95/2/F1S(R250)/103-A1-M1/103-A1-M1/F3D

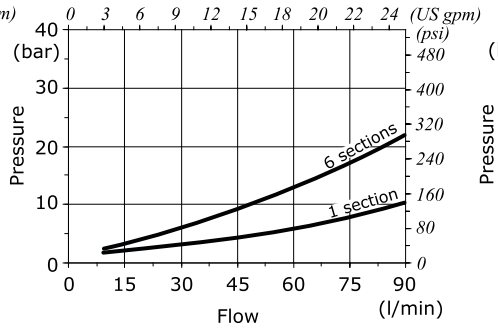
Performance data

Q75

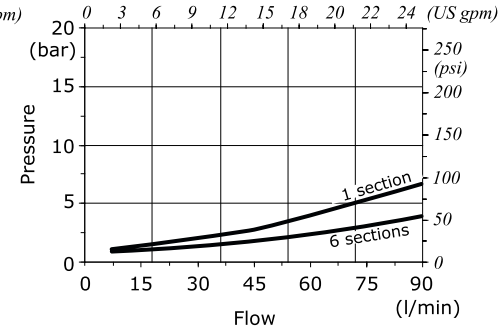
P⇒T pressure drops



P⇒A(B) pressure drops

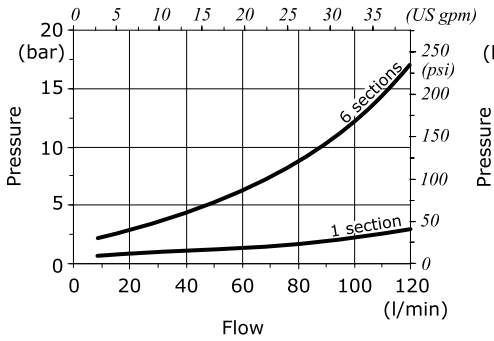


A(B)⇒T pressure drops

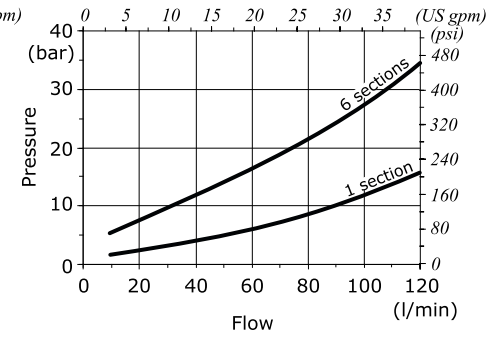


Q95

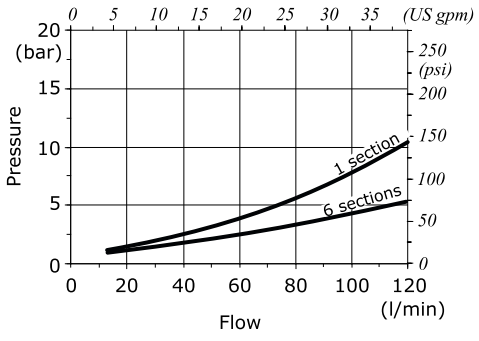
P⇒T pressure drops



P⇒A(B) pressure drops



A(B)⇒T pressure drops



Parts ordering codes

Mechanical control valve configuration example

valve setting (bar)

Q75 / 2 / F1S (N150) / 102 - A1 - M1 / 102 - A1 - M1 / F3D

1 — N. of section
2 — 2a — 3 — 5 — 6 — 9

C2/C3 complete mechanical control valve configuration example

Q95 / 2 / F1S (N150) / 103 - C3 / 103 - C3 / F3D

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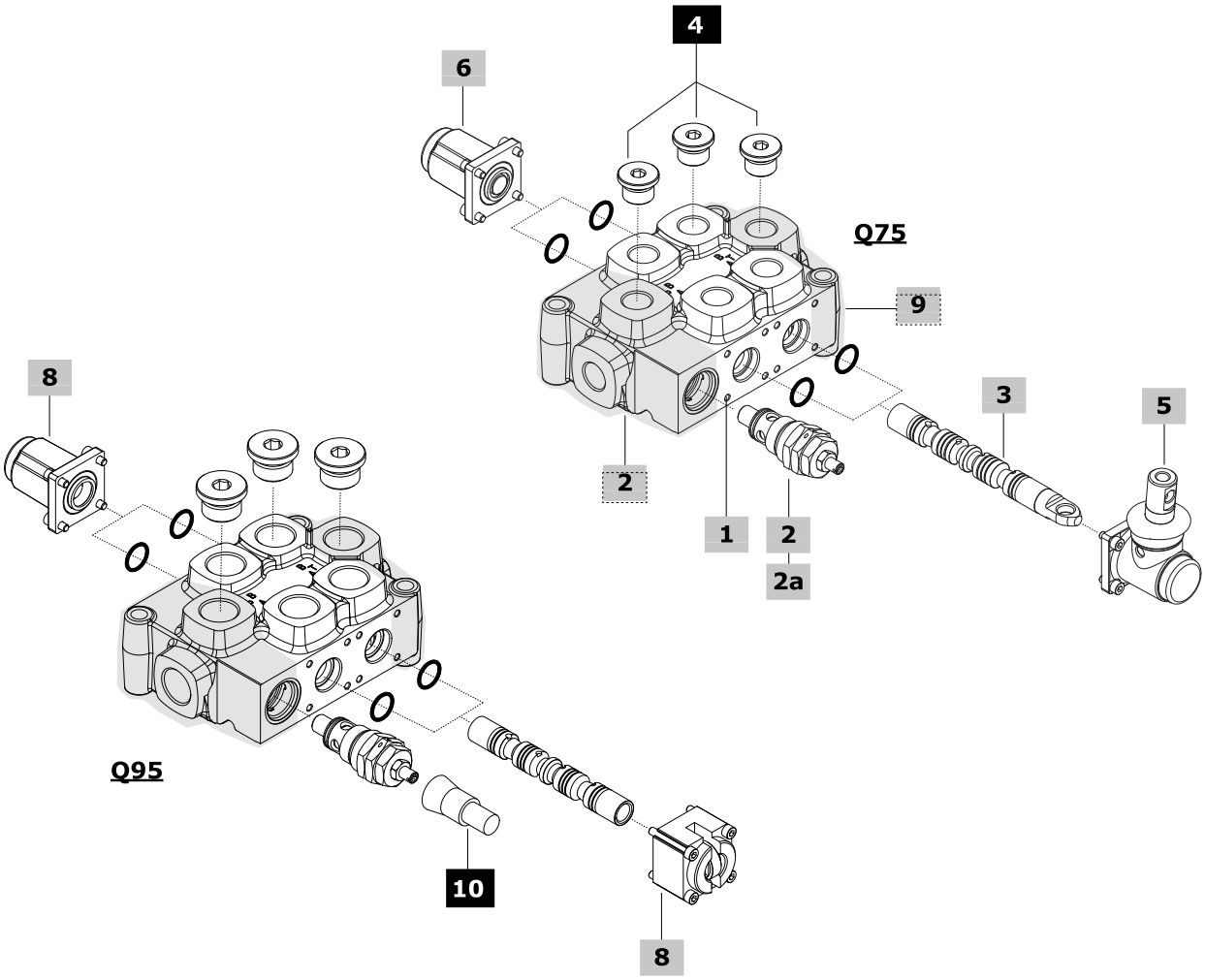


Parts ordering codes

1 Body kit*

The codes are referred to sections with O-ring seals

TYPE	CODE	DESCRIPTION
Q75/1	5KC0600129549	1 section
Q75/2	5KC0600127951	2 sections
Q75/3	5KC0600127952	3 sections
Q75/4	5KC0600127953	4 sections
Q75/5	5KC0600127513	5 sections
Q75/6	5KC0600131252	6 sections
Q95/1	5KC0600129646	1 section
Q95/2	5KC0600130377	2 sections
Q95/3	5KC0600130378	3 sections
Q95/4	5KC0600132067	4 sections
Q95/5	5KC0600131717	5 sections
Q95/6	5KC0600131453	6 sections

2 Inlet configuration* page 71

TYPE	DESCRIPTION
F1S	With load check and pressure relief valves
F2S	With load check valve
F7S	With pressure relief valve
F8S	Without valves (pressure relief valve plugged port)

Note: Inlet configurations require upper P port plugged: see #4

2a Main pressure relief valve page 72

TYPE: **B** CODE: 700065205000000
DESCRIPTION: VLP65S valve, setting range 10-100 bar *(145-1450 psi)*
TYPE: **N** CODE: 700065105000000
DESCRIPTION: VLP65S valve, setting range 101-200 bar *(1460-2900 psi)*
TYPE: **R** CODE: 700065305000000
DESCRIPTION: VLP65S valve, setting range 201-380 bar *(2910-5500 psi)*
TYPE: - CODE: 060002788999
DESCRIPTION: Relief valve blanking plug

3 Spool page 73

TYPE	CODE	DESCRIPTION
Standard spools		
103	060102894999	Double acting, A and B closed in neutral position
	3CUG3051600	As previous one, for **kick-out** control
106	KR80106	Double acting, for closed circuit
107	KR80107-108	Double acting, A to tank and B closed in neutral position
108	KR80107-108	Double acting, B to tank and A closed in neutral position
111	060102996799	Double acting, A and B to tank in neutral position
114	KR80114	Double acting, A and B to tank in neutral position, for closed circuit
101	3CUG2891900	Single acting on port A (3)
102	3CUG2891901	Single acting on port B (3)
116	3CUG2897800	Double acting, with floating in the 4th position (spool in): requires dedicated spool control
126	3CUG2897801	Double acting, with floating in the 4th position (spool out): requires dedicated spool control

Note (3): Q75 valve required G1/2 plug, see #4
Q95 valve required G3/4 plug, see #4

Special spools for cam, microswitch controls and other leverless controls		
103	060102879199	Double acting, A and B closed in neutral position
111	060102864199	Double acting, A and B to tank in neutral position

4 Plug for single acting spool or P-T ports*

TYPE	CODE	DESCRIPTION
-	060002792099	G1/2 plug for Q75 body kit
-	3XTAP732200	G3/4 plug for Q95 body kit

5 A side control page 74

TYPE	CODE	DESCRIPTION
For standard spools		
With lever control:		
A1	08600A1-A2	M10 thread aluminium lever box
A2	08600A1-A2	As A1 type, with lever box rotated 180°
A1/06	08606A1-A2/06	Aluminium lever box with stroke limiter
A2/06	08606A1-A2/06	As A1/06 type, with lever box rotated 180°
A1/Z1	08610A1-2/Z1	Aluminium lever box for **116** spool type
A2/Z1	08610A1-2/Z1	As A1/Z1 type, with lever box rotated 180°
With safety lever control:		
A1/S(1)	08624A1-A2/S	M10 thread aluminium lever box
A2/S(1)	08624A1-A2/S	As A1/S type, with lever box rotated 180°
Without lever control:		
A6	08620A6	With flange
A8	08622A8	Flexible cable control arrangement
A8/Z1	08622A8/Z1	As A8 type, for **116** spool type
Joystick controls for 2 section operation:		
A35/1	08637A35-12	Joystick 1 type
A35/2	08637A35-12	Joystick 2 type
A35/3	08637A35-34	Joystick 3 type
A35/4	08637A35-34	Joystick 4 type
For types 103 and 111 special spools		
With spool position microswitch:		
Note: To complete the control you must use the assembly kit at #7		
N1-A1	08641N1-A1/A2	Micro operation in pos. 1 and 2, with lever box
N1A-A1	08642N1A-A1/A2	Micro operation in pos. 1, with lever box
N1B-A1	08643N1B-A1/A2	Micro operation in pos. 2, with lever box
N1-A3	08648N1-A3L	Micro operation in pos. 1 and 2, without lever with cap
N1A-A3	08648N1A-A3	Micro operation in pos. 1, without lever with cap
N1B-A3	08648N1B-A3	Micro operation in pos. 2, without lever with cap
Without lever control:		
A3	08614A3	Without lever, with cap
A4	08617A4	M10 male thread external pin with flange
A5(2)	08619A5	Flange with spherical spool end

(*): Codes are referred to **BSP** thread
(1): Always complete with lever knob
(2): To be assembled only with M4 control

Parts ordering codes

6 B side control page 79

TYPE	CODE	DESCRIPTION
With spring return:		
M1	08730M1	3 pos., spring return in neutral position
M1-B1	08753M1-B1	As M1 type, with microswitch arrangement
M1/01	08730M1/01	As M1 type, for mechanical joystick
M1/02	08730M1/02	As M1 type, with stroke limiter
M1-U1	08701M1-U1	As M1 type, with M10 male thread external pin
M2	08732M2	2 pos. (0-1), spring return in neutral position
M2-U1	08702M2-U1	As M2 type, with M10 male thread external pin
M3	08733M3	2 pos. (0-2), spring return in neutral position
M3-U1	08703M3-U1	As M3 type, with M10 male thread external pin
M4	08734M41-2	2 pos. (1-2), spring return in position 1
	08735M42-1	2 pos. (2-1), spring return in position 2
M4-U1	08704M4-U11-2	As M4 type (1-2), with M10 male thread external pin
With flexible cable control arrangement:		
M1-U2	08715M1-U2	3 pos., spring return in neutral position
M2-U2	08716M2-U2	2 pos. (0-1), spring return in neutral position
M3-U2	08717M3-U2	2 pos. (0-2), spring return in neutral position
With detent:		
R1	08741R1	3 pos., detent in position 1
R2	08742R2	3 pos., detent in position 2
R3	08743R3	3 pos., detent in all position
R4	08744R4	2 pos., detent in position 0-1
R5	08745R5	2 pos., detent in position 0-2
R6	08746R6	2 pos., detent in position 1-2
R8	08748R8	4 pos., detent in 4th pos., for **116** type spool
R10/Z1	08750R10/Z1	4 pos., detent in 4th pos., for **126** type spool
With detent and kick out function:		
R1K	08741R1K	3 pos., detent in position 1
	08741R1K-TS	As previous one, water-proof configuration
R2K	08742R2K	3 pos., detent in position 2
	08742R2K-TS	As previous one, water-proof configuration
R3K	08743R3K	3 pos., detent in all position
	08743R3K-TS	As previous one, water-proof configuration
With spool position microswitch:		
Note: to complete the control you must use the assembly kit at #7		
M1-N1	08766M1-N1	3 pos., micro operation in pos. 1 and 2, spring return in neutral position
M1-N1A	08767M1-N1A	As M1-N1 type, micro operation in pos. 1
M1-N1B	08768M1-N1B	As M1-N1 type, micro operation in pos. 2
M2-N1	08769M2-N1	2 pos. (0-1), spring return in neutral pos.
M3-N1	08772M3-N1	2 pos. (0-2), spring return in neutral pos.
Pneumatic and electropneumatic controls:		
P1N	08561P1-N	ON/OFF pneumatic control
P1NP	08561P1-NP	Proportional pneumatic control
D3	08591D3-V-12DC	12 VDC, ON/OFF electropneumatic control
	08592D3-V-24DC	24 VDC, ON/OFF electropneumatic control

7 Microswitch assembling kit

CODE	DESCRIPTION
08650N1-01	Kit for 1 section
08650N1-02	Kit for 2 sections
08650N1-03	Kit for 3 sections
08650N1-04	Kit for 4 sections
08650N1-05	Kit for 5 sections
08650N1-06	Kit for 6 sections

8 Complete controls A+B sides page 84

TYPE	CODE	DESCRIPTION
For types 103 and 111 special spools		
C2	08792C2-C3	Cam control from pos. 1 to 2
C3	08792C2-C3	Cam control from pos. 2 to 1

9 Outlet configuration* page 87

TYPE	DESCRIPTION
F3D	Open center configuration: for Q75 n. 1 G1/2 plug code 060002792099, on T1 port; for Q95 n. 1 G3/4 plug code 3XTAP732200, on T1 port
F6D	Closed center configuration: for Q75 n. 1 G1/2 joint code 060002315899, on T port; for Q95 n. 1 G3/4 joint code 060002790899, on T port
F16D	Carry-over configuration: for Q75 n. 1 G1/2 plug code 060002792099, on T1 port; for Q75 n. 1 G1/2 joint code 060002530199, on T port; for Q95 n. 1 G3/4 plug code 3XTAP732200, on T1 port; for Q95 n. 1 G3/4 joint code 060003016499, on T port

10 Accessory

TYPE	CODE	DESCRIPTION
-	4COP120420	Antitamper cap for pressure relief valve

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

Parts ordering codes

Proportional hydraulic controls valve configuration example

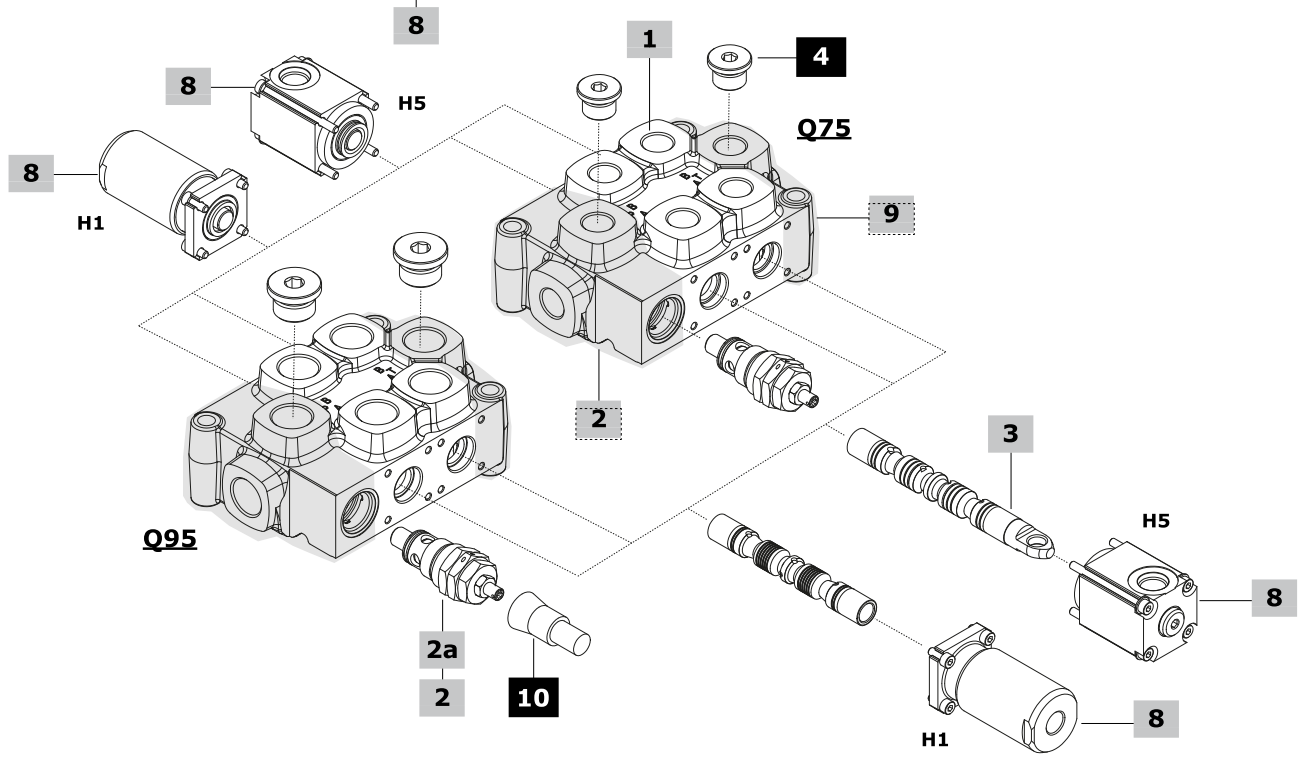
N. of section — valve setting (bar)

Q75 / 2 / F1S (N150) / 103 - H5 / 103 - H5 / F3D

1 — 2 — 2a — 3 — 8 — 9

Q95 / 2 / F1S (N150) / 103 - H1 / 103 - H1 / F3D

8



1 Body kit*

The body kits listed below are for **H5** hydraulic control.
H1 hydraulic control requires standard body: see #1, page 67

TYPE	CODE	DESCRIPTION
Q75/1	5KC0600129549A	1 section
Q75/2	5KC0600127951A	2 sections
Q75/3	5KC0600127952A	3 sections
Q75/4	5KC0600127953A	4 sections
Q75/5	5KC0600127513A	5 sections
Q75/6	5KC0600131252A	6 sections
Q95/1	5KC0600129646A	1 section
Q95/2	5KC0600130377A	2 sections
Q95/3	5KC0600130378A	3 sections
Q95/4	5KC0600132067A	4 sections
Q95/5	5KC0600131717A	5 sections
Q95/6	5KC0600131453A	6 sections

2 Inlet configuration* page 71

See #2, page 67

2a Main pressure relief valve page 72

See #2a, page 67

3 Spool page 73

TYPE	CODE	DESCRIPTION
For H5 hydraulic control		
103	060102894999	Double acting, A and B closed in neutral position
For H1 hydraulic control		
103	060102879099	Double acting, A and B closed in neutral position
111	060102864199	Double acting, A and B to tank in neutral position

4 Plug for P-T ports*

See #4, page 67

8 Hydraulic controls A+B sides* page 85

TYPE	CODE	DESCRIPTION
H5	08785H5	Low pressure proportional type, upper ports
H1	08779H1	High pressure proportional type, side ports

9 Outlet configuration* page 87

See #9, page 68

10 Accessory

See #10, page 68

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

Parts ordering codes

One side - ON/OFF direct solenoid control valve configuration example

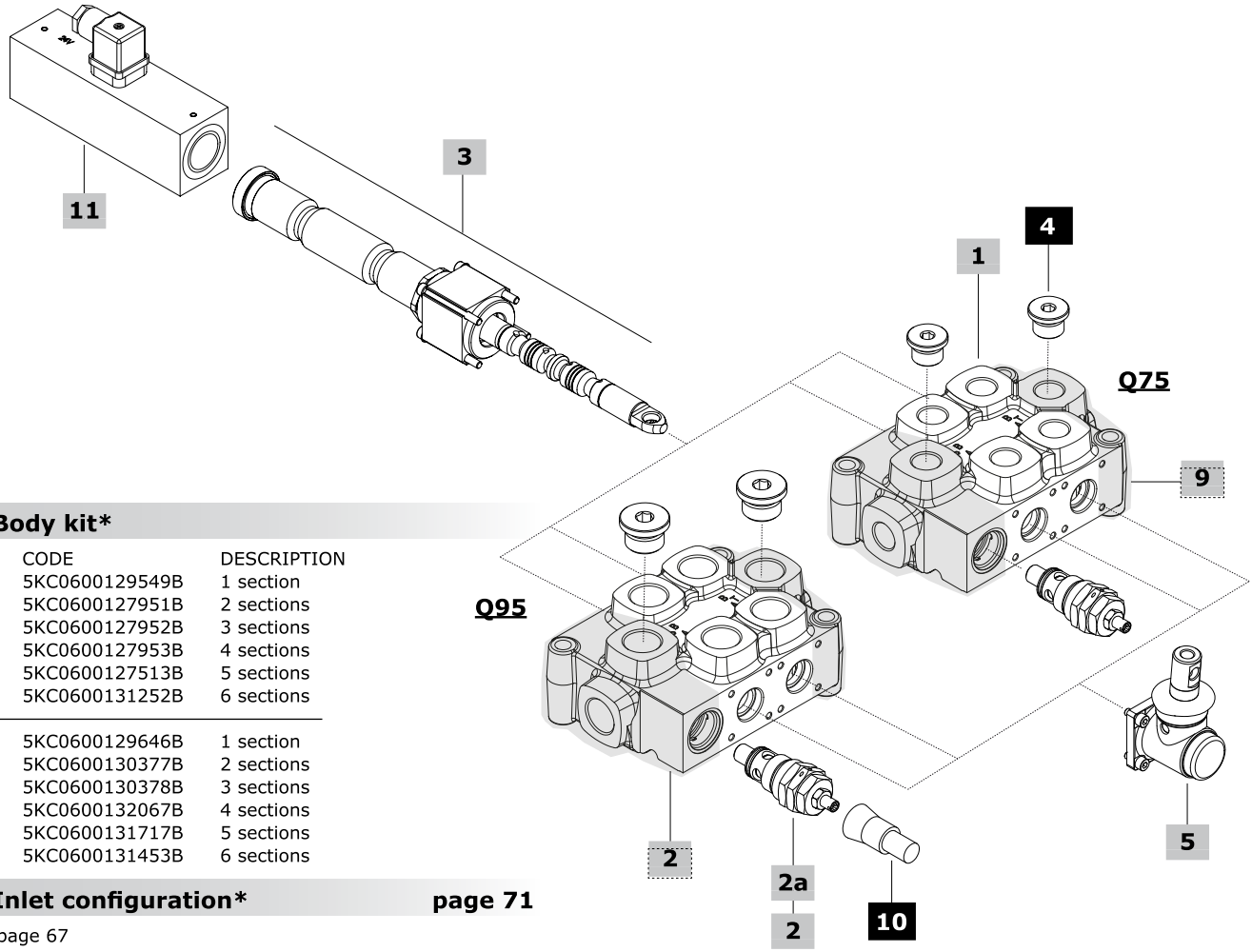
valve setting (bar)

Q75 / 2 / F1S (N150) / 102 - A1 - D41 / 103 - A1 - D41 / F3D - 12VDC

1 2 2a 3 5 3 9 11

11

N. of section



1 Body kit*

TYPE	CODE	DESCRIPTION
Q75/1	5KC0600129549B	1 section
Q75/2	5KC0600127951B	2 sections
Q75/3	5KC0600127952B	3 sections
Q75/4	5KC0600127953B	4 sections
Q75/5	5KC0600127513B	5 sections
Q75/6	5KC0600131252B	6 sections
Q95/1	5KC0600129646B	1 section
Q95/2	5KC0600130377B	2 sections
Q95/3	5KC0600130378B	3 sections
Q95/4	5KC0600132067B	4 sections
Q95/5	5KC0600131717B	5 sections
Q95/6	5KC0600131453B	6 sections

2 Inlet configuration* page 71

See #2, page 67

2a Main pressure relief valve page 72

See #2a, page 67

3 Solenoid control page 86

TYPE	CODE	DESCRIPTION
103	X0601030059	Tube assembly with double acting spool, A and B closed in neutral position
111	X0601030043	Tube assembly with double acting spool, A and B to tank in neutral position
101	X0601030060A	Tube assembly with single acting spool on port A (1)
102	X0601030060B	Tube assembly with single acting spool on port B (1)

Note (1): Q75 valve required G1/2 plug, see #4
Q95 valve required G3/4 plug, see #4

4 Plug for single acting spool or P-T ports*

See #4, page 67

5 A side control page 86

TYPE	CODE	DESCRIPTION
A1	08600A1-A2	M10 thread cast iron lever box
A2	08600A1-A2	As A1 type, with lever box rotated 180°

9 Outlet configuration* page 87

See #9, page 68

10 Accessory

See #10, page 68

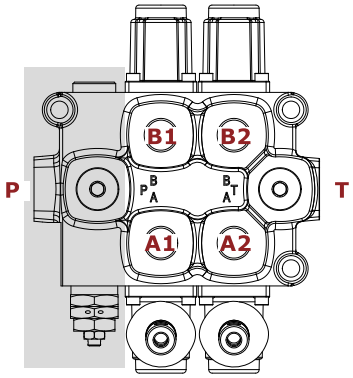
11 Coil page 86

TYPE	CODE	DESCRIPTION
-	ZEB112	12 VDC ISO4400 coil
-	ZEB124	24 VDC ISO4400 coil

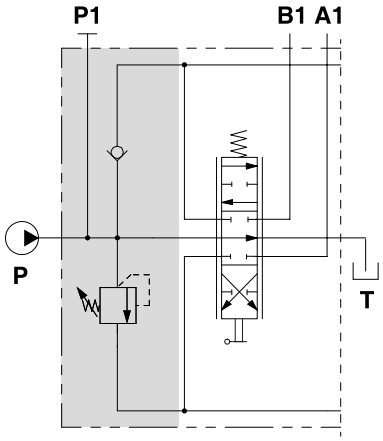
Note: The connector is included

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

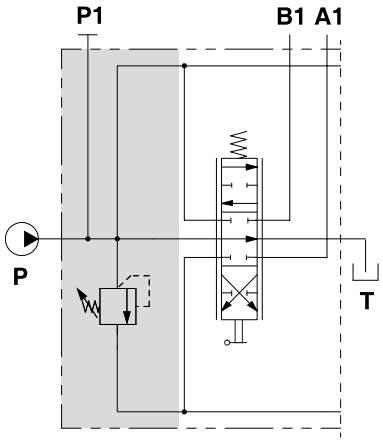
Inlet configuration

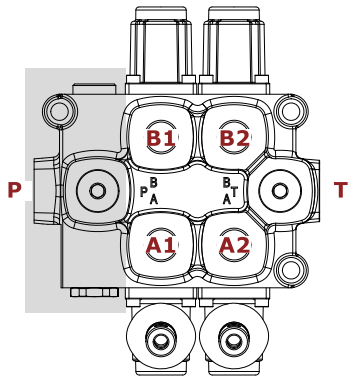


F1S configuration
With load check and pressure relief valve

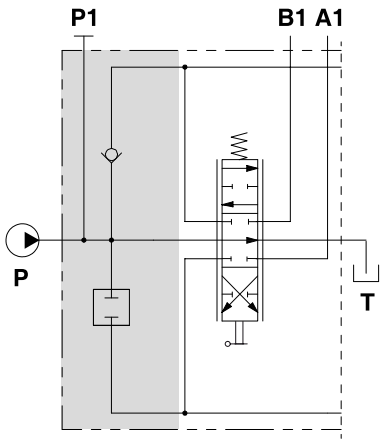


F7S configuration
With pressure relief valve

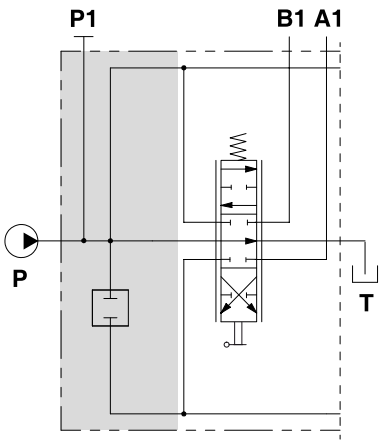




F2S configuration
With load check valve

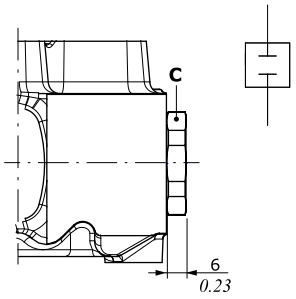


F8S configuration
Without valves
(pressure relief valve plugged port)

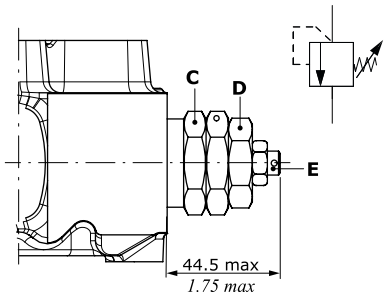


Main pressure relief valve

Relief valve blanking plug

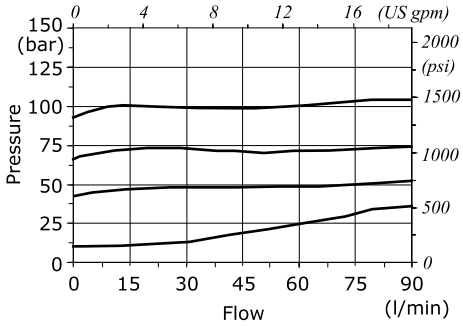


Main pressure relief valve

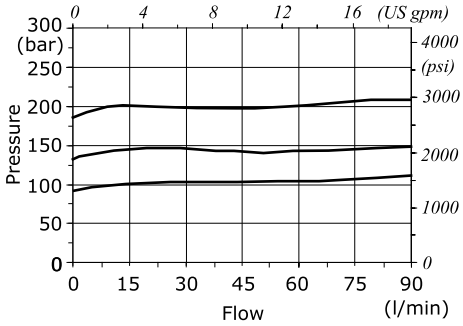


Spring type	Setting ranges (bar - *psi*)
B (white)	From 10 to 100 - *from 145 to 1450*
N (black)	From 101 to 200 - *from 1460 to 2900*
R (red)	From 201 to 380 - *from 2910 to 5500*

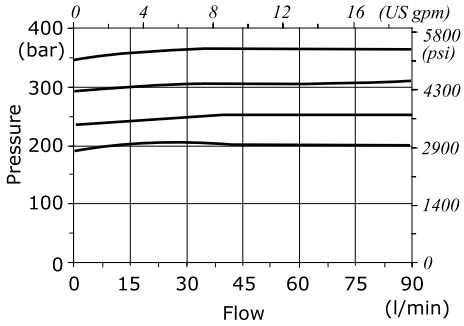
Setting example (B type spring)



Setting example (N type spring)



Setting example (R type spring)

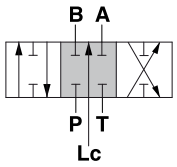


Wrenches and tightening torques
C = wrench 30 - 80 Nm *(59 lbft)*
D = wrench 26 - 42 Nm *(35.2 lbft)*
E = allen wrench 4

Spool

103 type
A and B closed
in neutral position

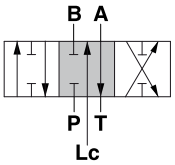
2 0 1



Stroke
Position 1: + 7 mm *(+ 0.27 in)*
Position 2: - 7 mm *(- 0.27 in)*

107 type
A to tank, B closed
in neutral position

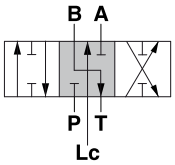
2 0 1



Stroke
Position 1: + 7 mm *(+ 0.27 in)*
Position 2: - 7 mm *(- 0.27 in)*

108 type
B to tank, A closed
in neutral position

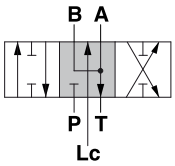
2 0 1



Stroke
Position 1: + 7 mm *(+ 0.27 in)*
Position 2: - 7 mm *(- 0.27 in)*

111 type
A and B to tank
in neutral position

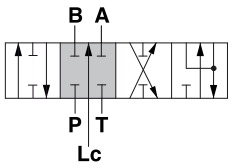
2 0 1



Stroke
Position 1: + 7 mm *(+ 0.27 in)*
Position 2: - 7 mm *(- 0.27 in)*

116 type
With floating in the 4th position
(spool in)

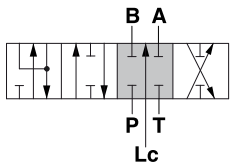
2 0 1 3



Stroke
Position 1: - 7 mm *(+ 0.27 in)*
Position 2: + 7 mm *(+ 0.27 in)*
Position 3: - 10.25 mm *(- 0.40 in)*

126 type
With floating in the 4th position
(spool out)

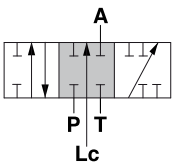
3 2 0 1



Stroke
Position 1: + 7 mm *(+ 0.27 in)*
Position 2: - 7 mm *(+ 0.27 in)*
Position 3: + 10.25 mm *(- 0.40 in)*

101 type
Single acting on A,
B plugged

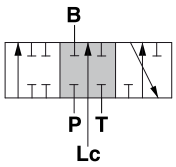
2 0 1



Stroke
Position 1: + 7 mm *(+ 0.27 in)*
Position 2: - 7 mm *(- 0.27 in)*

102 type
Single acting on B,
A plugged

2 0 1



Stroke
Position 1: + 7 mm *(+ 0.27 in)*
Position 2: - 7 mm *(- 0.27 in)*

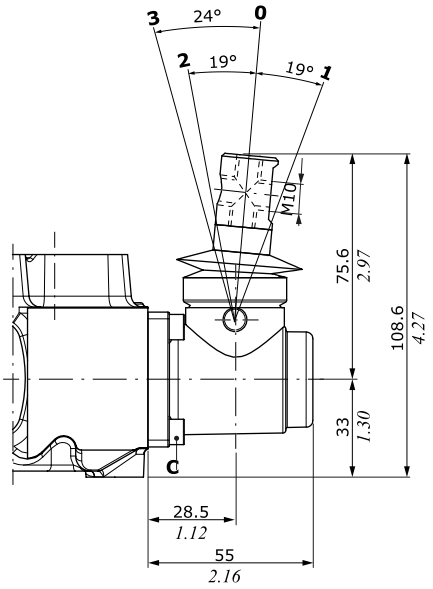
A side controls

Mechanical controls

With lever control

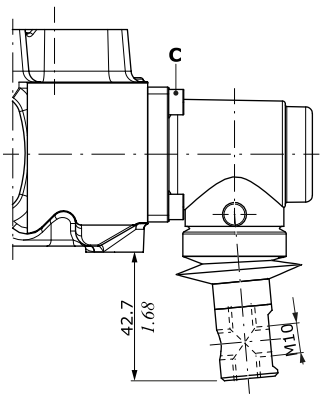
A1 type
M10 thread aluminium lever box

3	2	0	1



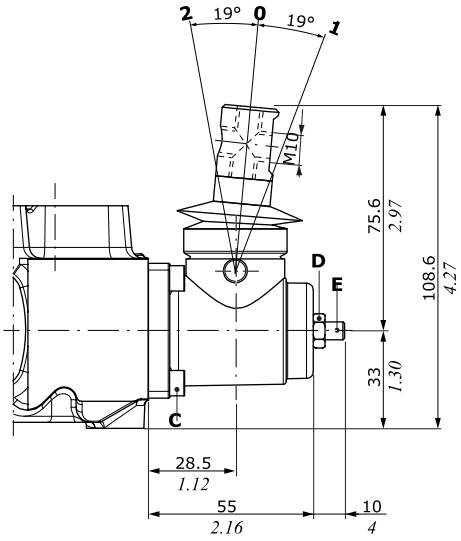
A2 type
As A1 type, rotated 180°

3	2	0	1



A1/06 type
M10 thread,
with stroke limiter

2	0	1



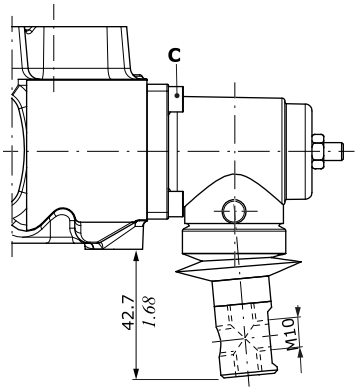
Wrenches and tightening torques
C = allen wrench 4 - 6.6 Nm *(4.8 lbft)*
D = wrench 10 - 9.8 Nm *(7.2 lbft)*
E = allen wrench 4 - 9.8 Nm *(7.2 lbft)*

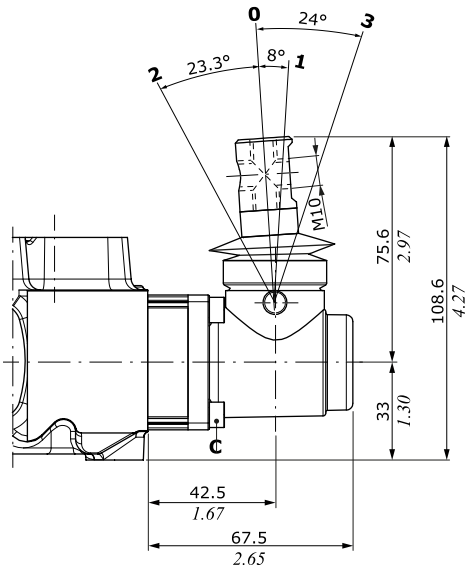
A1/Z1 type
M10 thread,
for 116 floating spool type

2	0	1	3

A2/06 type
As A1/06 type, rotated 180°

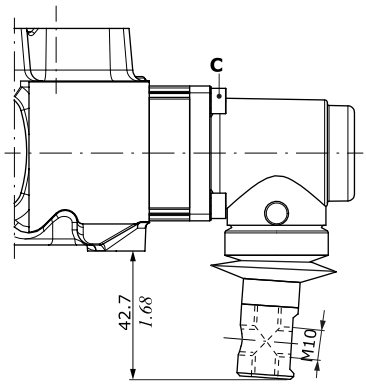
2	0	1





A2/Z1 type
As A1/Z1 type, rotated 180°

2	0	1	3

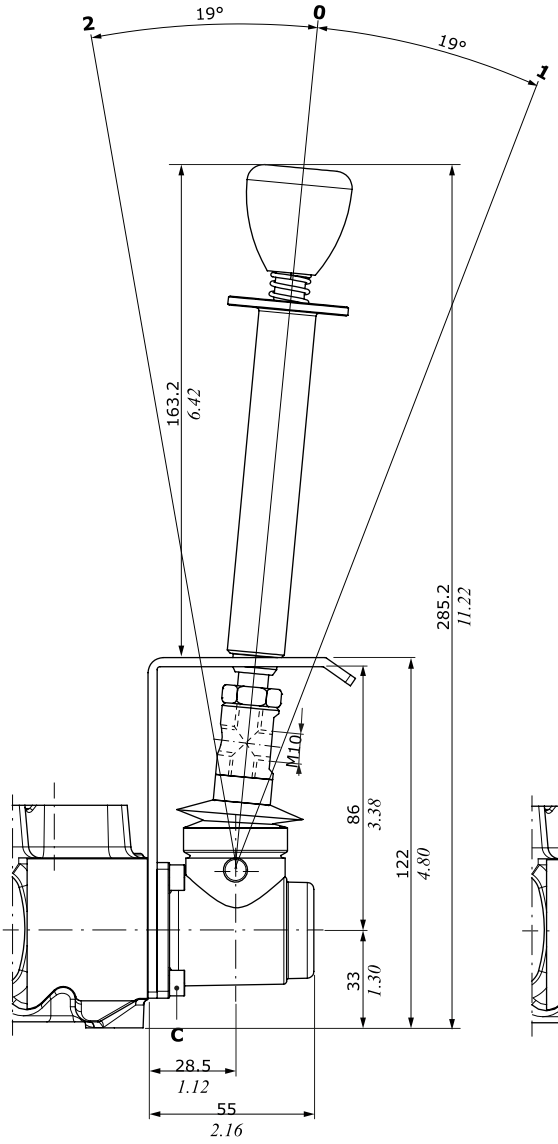


Mechanical controls

With safety lever control

A1/S type
M10 thread, aluminium lever box

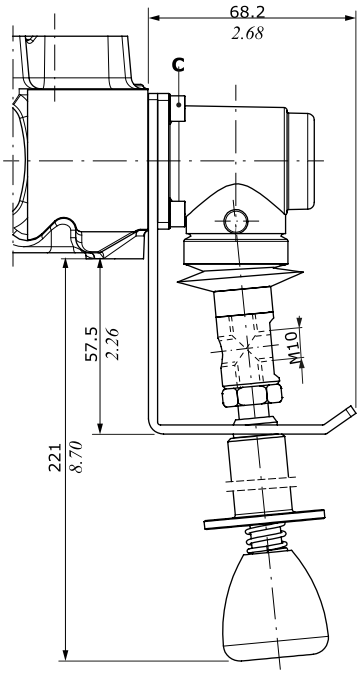
2	0	1



Wrenches and tightening torques
C = allen wrench 4 - 6.6 Nm *(4.8 lbft)*

A2/S type
As A1/S type, rotated 180°

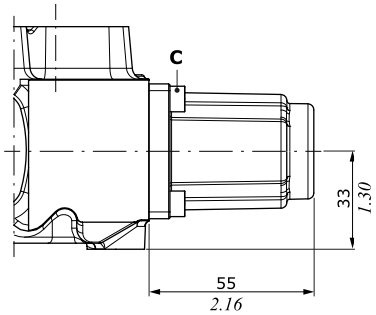
2	0	1



Without lever control

A3 type
With cap

2	0	1

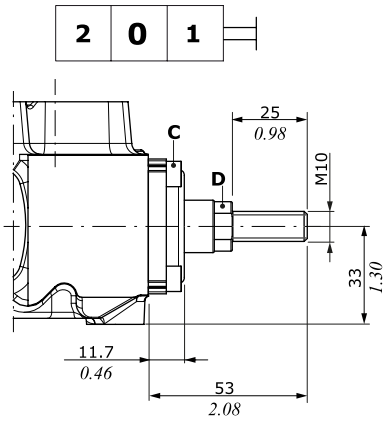


A side controls

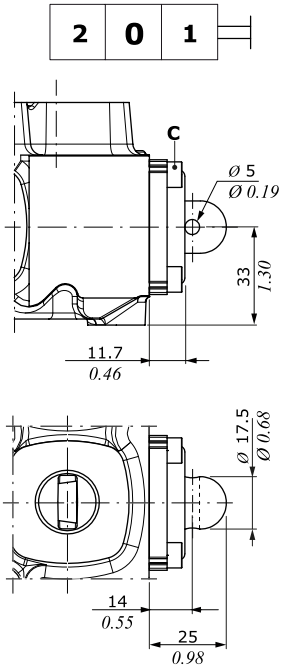
Mechanical controls

Without lever control

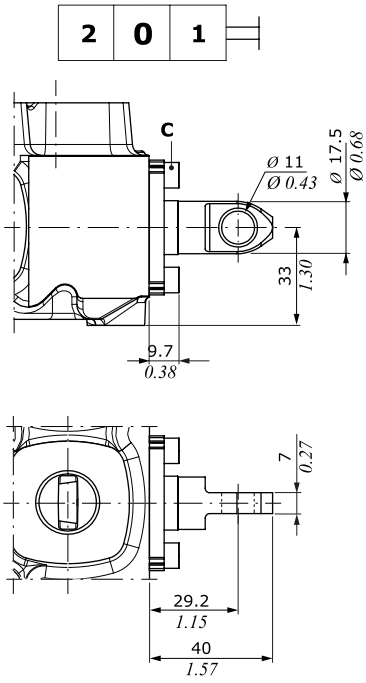
A4 type
M10 male thread
external pin with flange



A5 type
Flange with spherical spool end



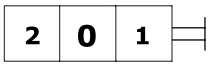
A6 type
With flange

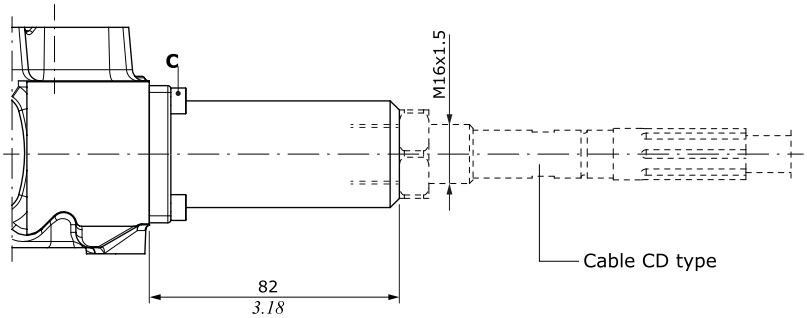


With flexible cable control arrangement

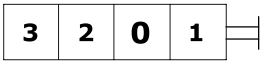
Wrenches and tightening torques
C = allen wrench 4 - 6.6 Nm *(4.8 lbft)*
D = wrench 13 - 9.8 Nm *(7.2 lbft)*

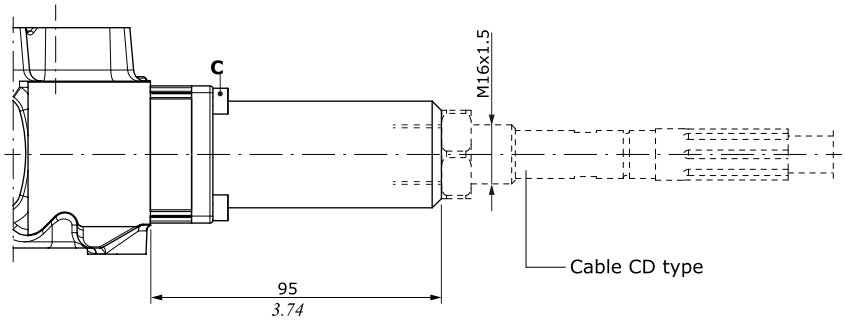
A8 type
Flexible cable control arrangement





A8/Z1 type
As A8 type,
for 116 floating spool type





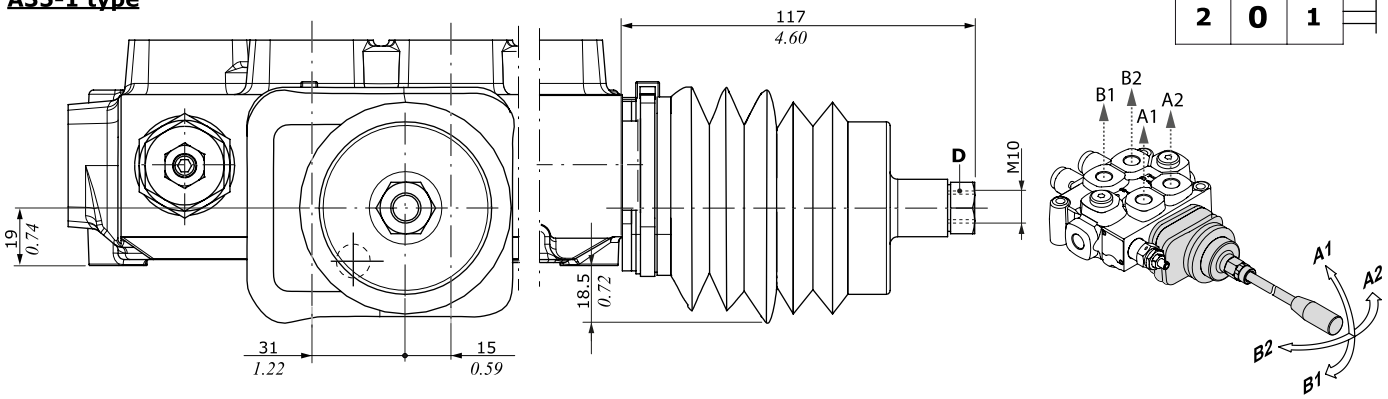
A side controls

Joystick controls

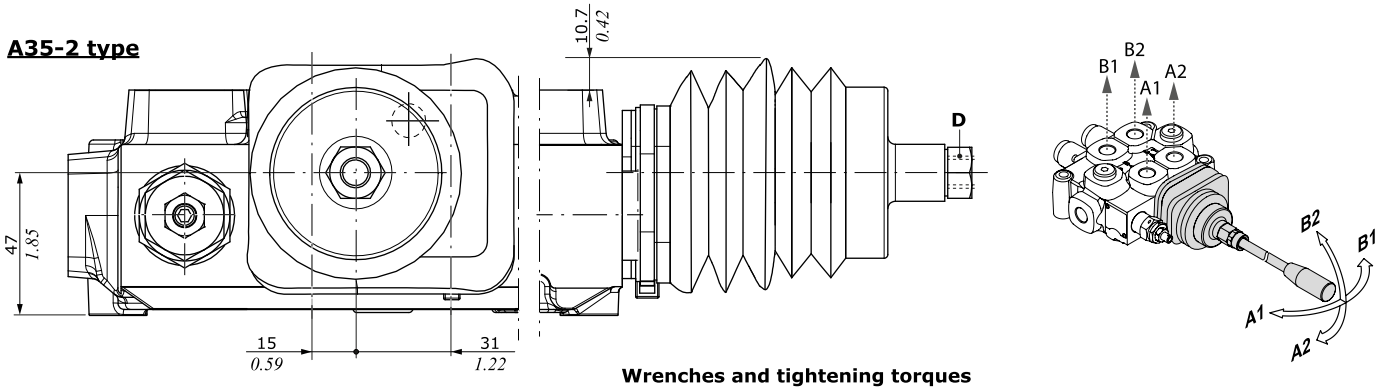
For operating the joystick control in the floating position, contact Sales Department.

2	0	1
2	0	1

A35-1 type

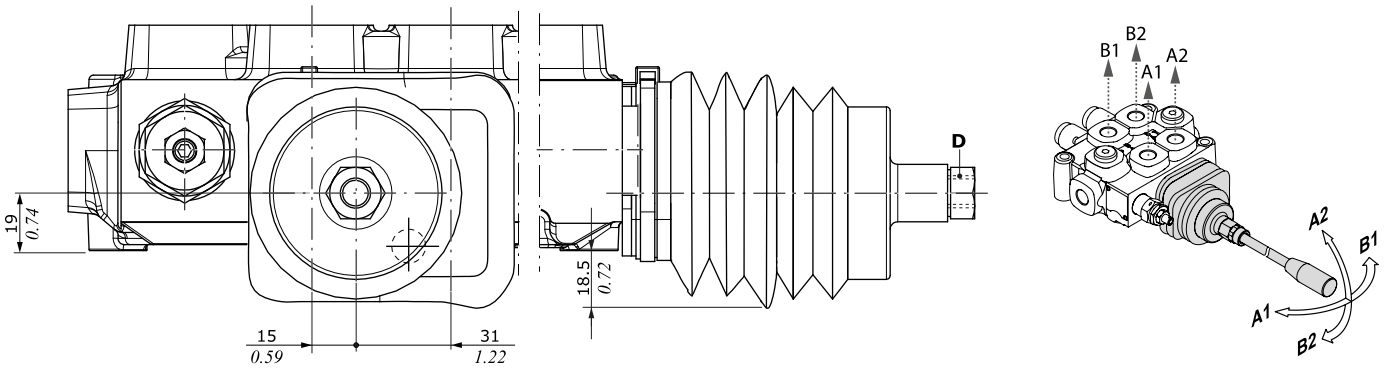


A35-2 type

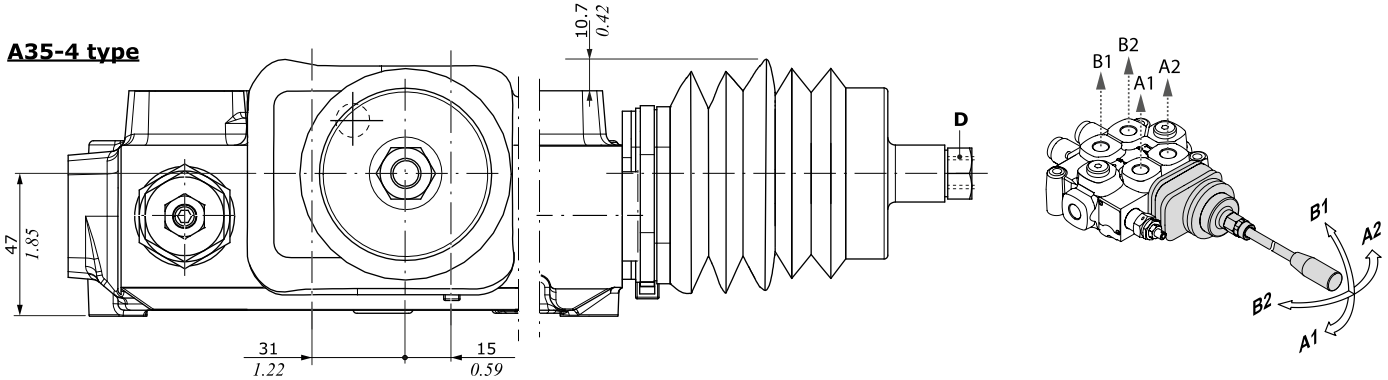


Wrenches and tightening torques
D = wrench 17 - 24 Nm *(17.7 lbft)*

A35-3 type



A35-4 type

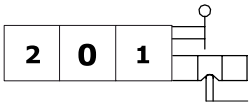


A side controls

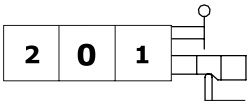
Spool position microswitch

With lever control

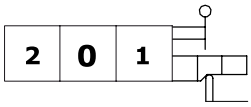
N1-A1 type
Micro operation
in position 1 and 2

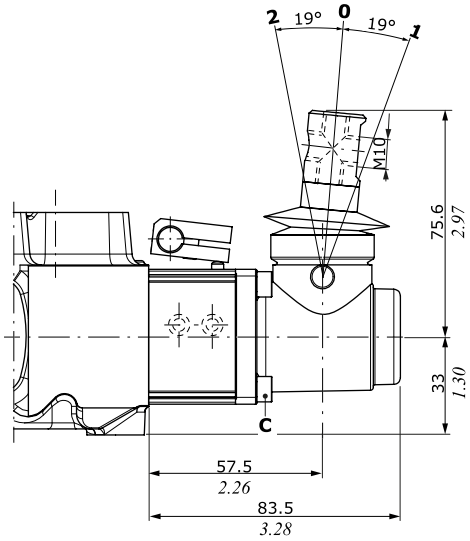


N1A-A1 type
Micro operation in
position 1



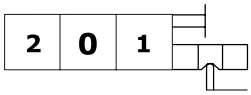
N1B-A1 type
Micro operation in
position 2



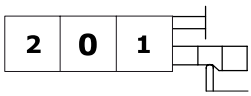


Without lever control, with cap

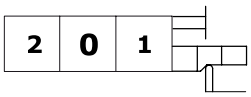
N1-A3 type
Micro operation
in position 1 and 2

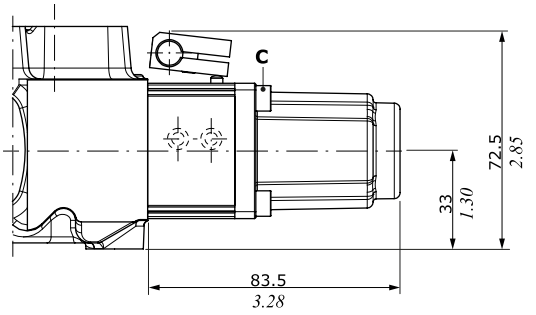


N1A-A3 type
Micro operation in
position 1

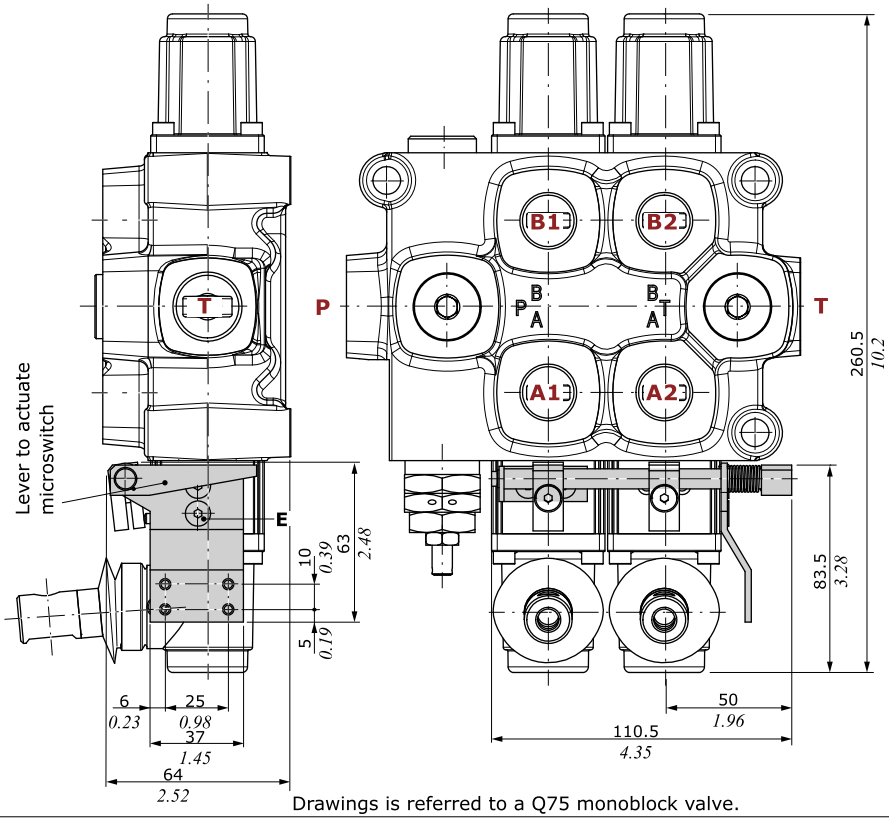


N1B-A3 type
Micro operation in
position 2

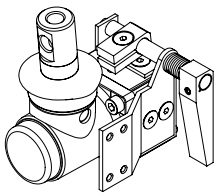




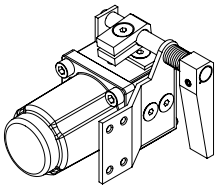
Microswitch assembly kit for 2 working section (N1-A1 type)



with lever box



with cap



Wrenches and tightening torques
C = allen wrench 4 - 6.6 Nm *(4.8 lbft)*
E = allen wrench 3 - 6.6 Nm *(4.8 lbft)*

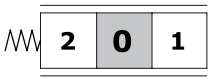
Drawings is referred to a Q75 monoblock valve.

Mechanical controls

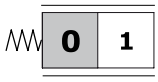
With spring return control

M1 type
3 position, spring return in neutral position

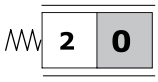
M1/01 type
3 position, for joystick control



M2 type
2 position (0-1), spring return in neutral position

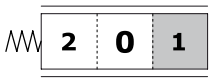


M3 type
2 position (0-2), spring return in neutral position

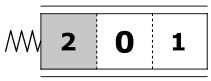


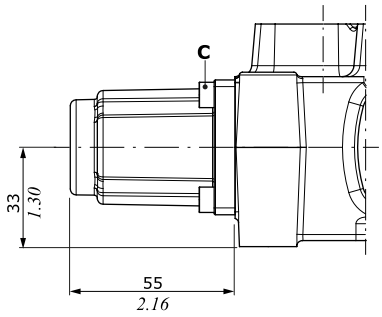
M4 types

2 position (1-2), spring return in position 1

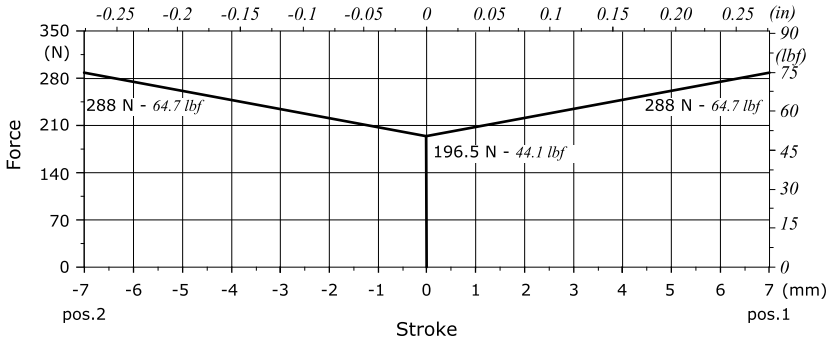


2 position (2-1), spring return in position 2

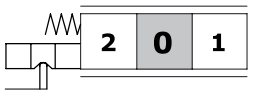


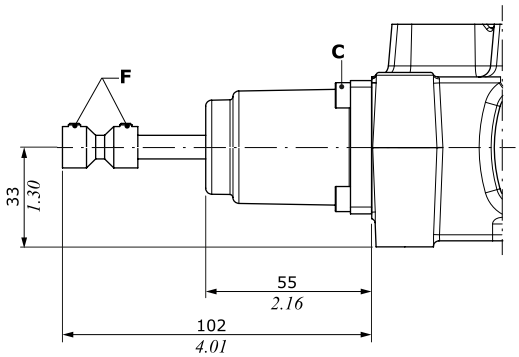


M1 control type - Force vs Stroke diagram

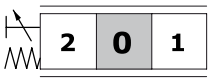


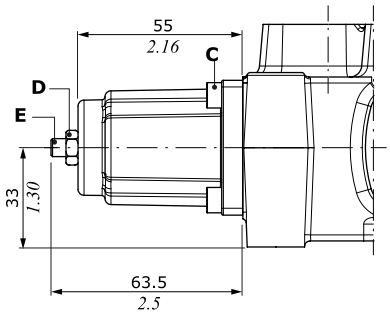
M1-B1 type
3 position, microswitch arrangement





M1/02 type
As M1 type, with stroke limiter





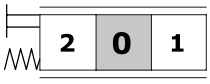
Wrenches and tightening torques
C = allen wrench 4 - 6.6 Nm *(4.8 lbft)*
D = wrench 10 - 9.8 Nm *(7.2 lbft)*
E = allen wrench 4 - 9.8 Nm *(7.2 lbft)*
F = allen wrench 3 - 5 Nm *(3.68 lbft)*

B side controls

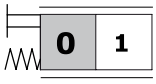
Mechanical controls

With spring return control

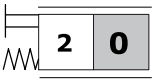
M1-U1 type
3 position, with M10 male thread external pin



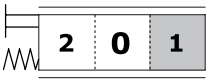
M2-U1 type
2 position (0-1), with M10 male thread male external pin

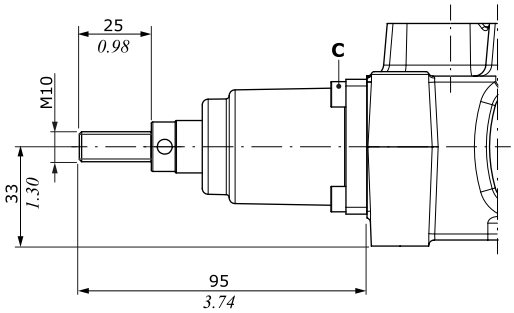


M3-U1 type
2 position (0-2), with M10 male thread male external pin



M4-U1 type
2 position (1-2), with M10 male thread external pin

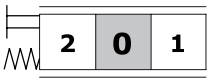




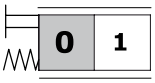
Wrenches and tightening torques
C = allen wrench 4 - 6.6 Nm *(4.8 lbft)*

With flexible cable control arrangement

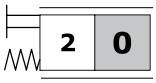
M1-U2 type
3 position, spring return in neutral position

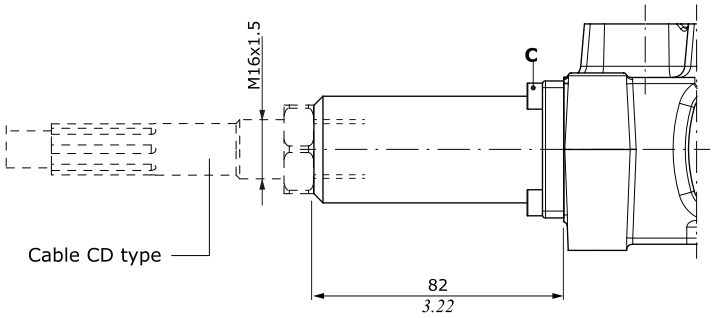


M2-U2 type
2 position (0-1), spring return in neutral position



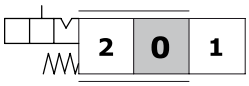
M3-U2 type
2 position (0-2), spring return in neutral position



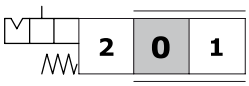


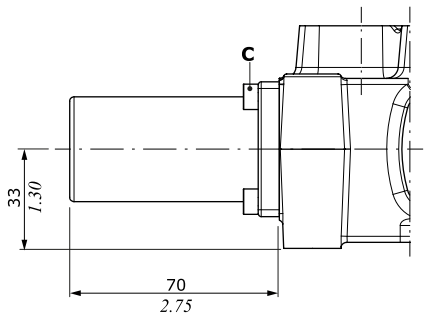
With detent control

R1 type
3 position, detent in position 1



R2 type
3 position, detent in position 2



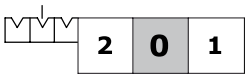


B side controls

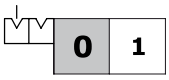
Mechanical controls

With detent control

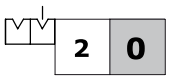
R3 type
3 position,
detent in all position



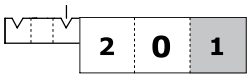
R4 type
2 position,
detent in position 0-1

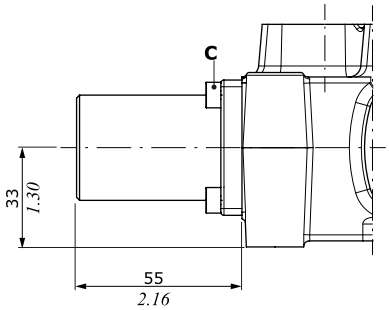


R5 type
2 position,
detent in position 0-2



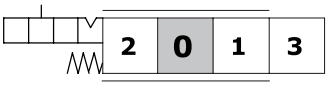
R6 type
2 position,
detent in position 1-2

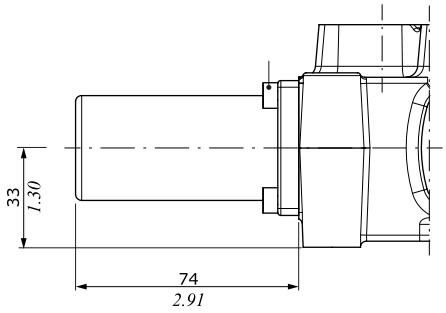




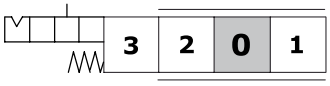
Wrenches and tightening torques
C = allen wrench 4 - 6.6 Nm *(4.8 lbft)*
D = wrench 30 - 42 Nm *(30.9 lbft)*
E = wrench 22
F = allen wrench 10 - 42 Nm *(30.9 lbft)*

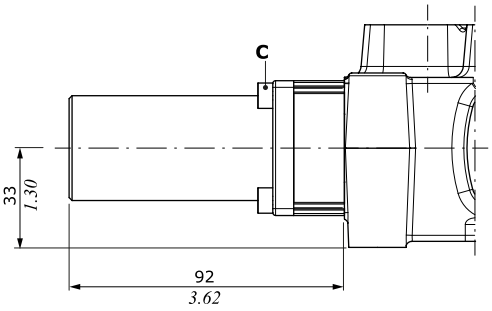
R8 type
4 position, detent in 4th position,
for 116 floating spool type





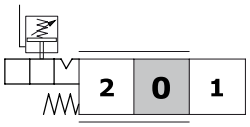
R10/Z1 type
4 position, detent in 4th position,
for 126 floating spool type



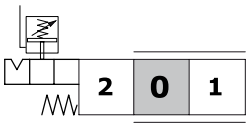


With detent control and kick out function

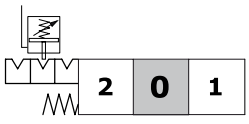
R1K type
3 position, detent in position 1.
Available with waterproof configuration

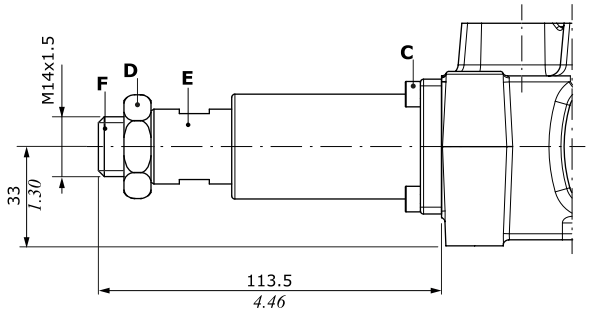


R2K type
3 position, detent in position 2.
Available with waterproof configuration

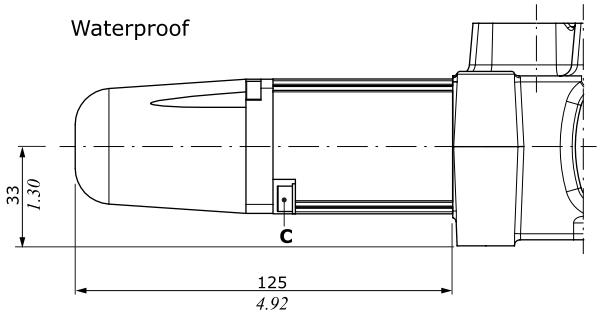


R3K type
3 position, detent in all position.
Available with waterproof configuration





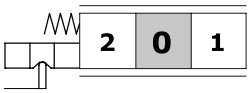
Waterproof



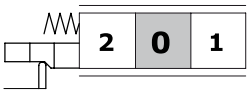
B side controls

Spool position microswitch

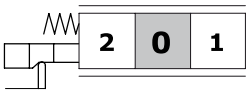
M1-N1 type
3 position, micro operation in position 1 and 2, spring return in neutral position



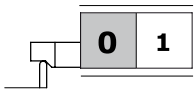
M1-N1A type
3 position, micro operation in position 1



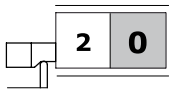
M1-N1B type
3 position, micro operation in pos. 2

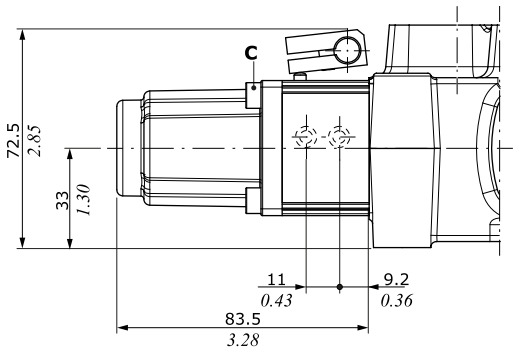


M2-N1 type
2 position (0-1) spring return in neutral position

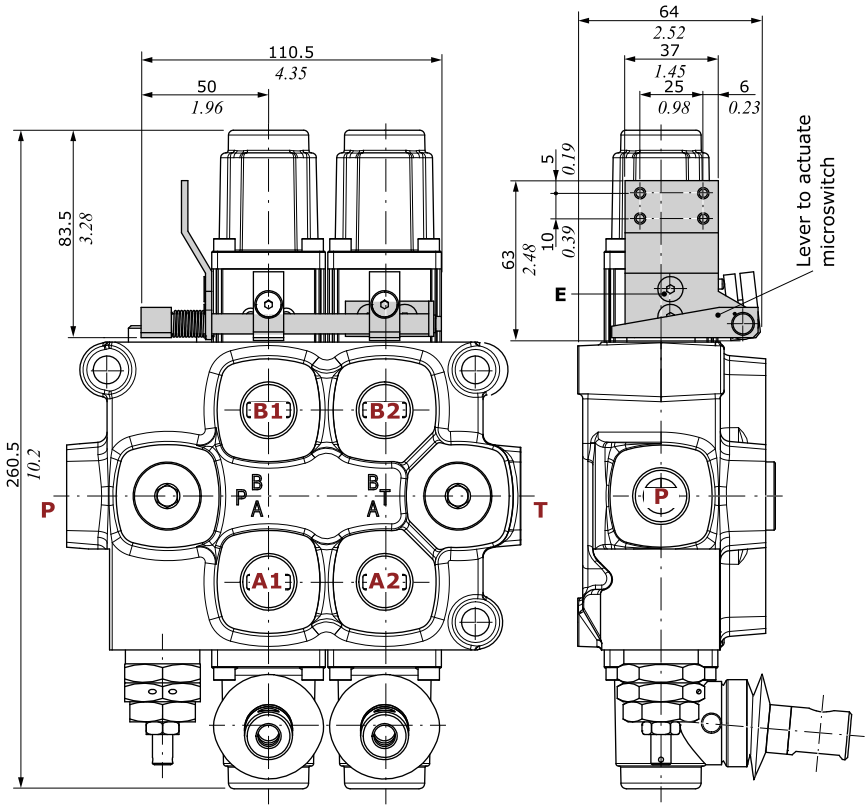


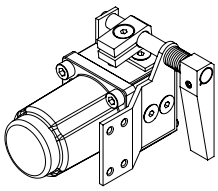
M3-N1 type
2 position (0-2) spring return in neutral position





Microswitch assembly kit for 2 working section (M1-N1 type)





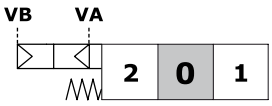
Wrenches and tightening torques
C = allen wrench 4 - 6.6 Nm *(4.8 lbft)*
E = allen wrench 3 - 6.6 Nm *(4.8 lbft)*

Drawing is referred to a Q75 monoblock valve.

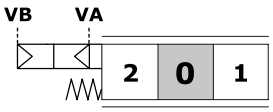
B side controls

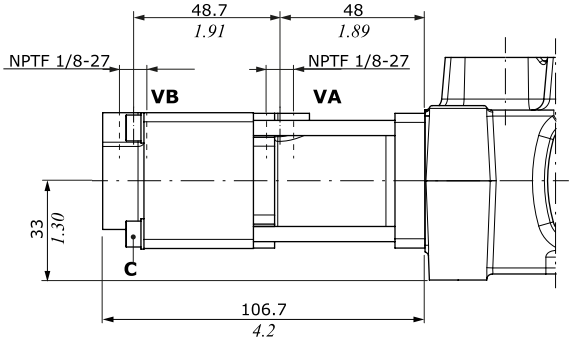
Pneumatic control

P1N type
ON/OFF control

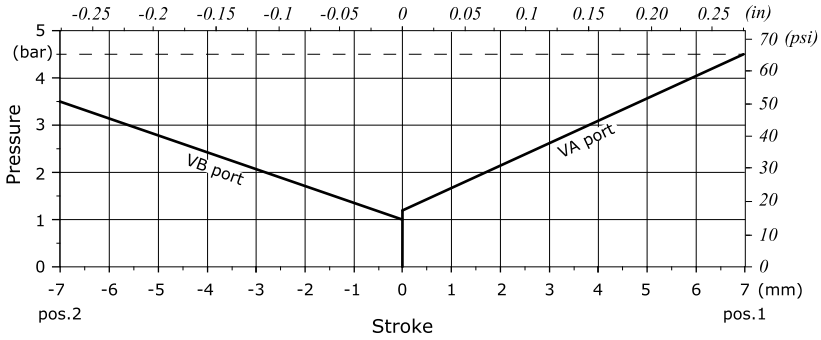


P1NP type
Proportional control





Proportional pilot pressure curves



Operating features

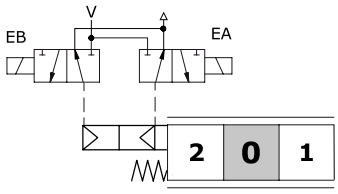
Pilot pressure.....: min. 5 bar *(72.5 psi)* - max. 30 bar *(435 psi)*
Pilot volume.....: 9 cm³/min *(0.54 in³/min)*

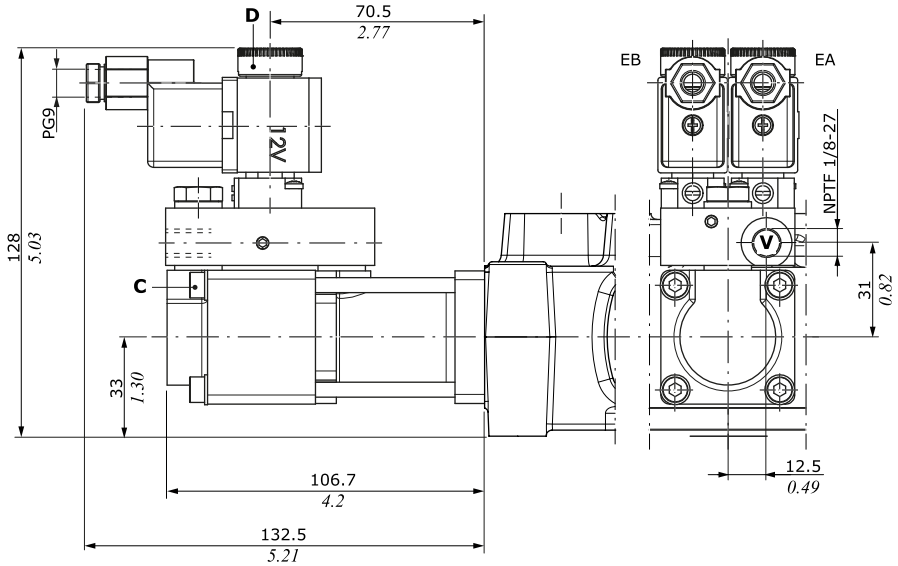
Wrenches and tightening torques

C = wrench 4 - 6.6 Nm *(4.8 lbft)*

ON/OFF electropneumatic control

D3 type
ON/OFF control





Operating features

Pilot pressure.....: min. 1 bar *(14.5 psi)*
max. 10 bar *(145 psi)*

COILS

Nominal voltage tollerance....: -5% +10%
Power rating.....: 2.3 W
Nominal current.....: 12 VDC – 24VDC
Coil insulation.....: Class F
Weather protection.....: IP65
Duty cicle.....: 100%

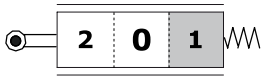
Wrenches and tightening torques

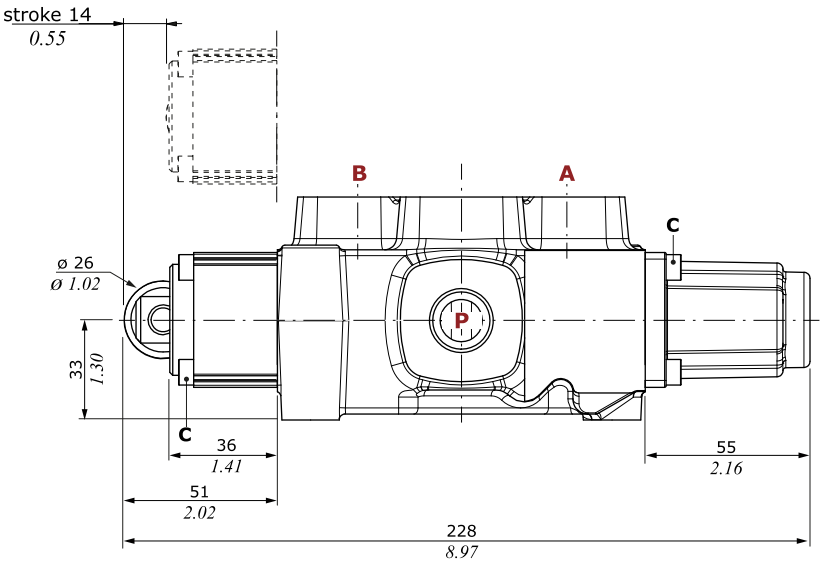
C = wrench 4 - 6.6 Nm *(4.8 lbft)*
D = manual tightening - 6.6 Nm *(4.8 lbft)*

A+B side controls

Cam control

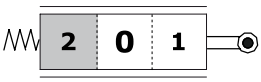
C2 type
From position 1 to position 2,
spring return in position 1

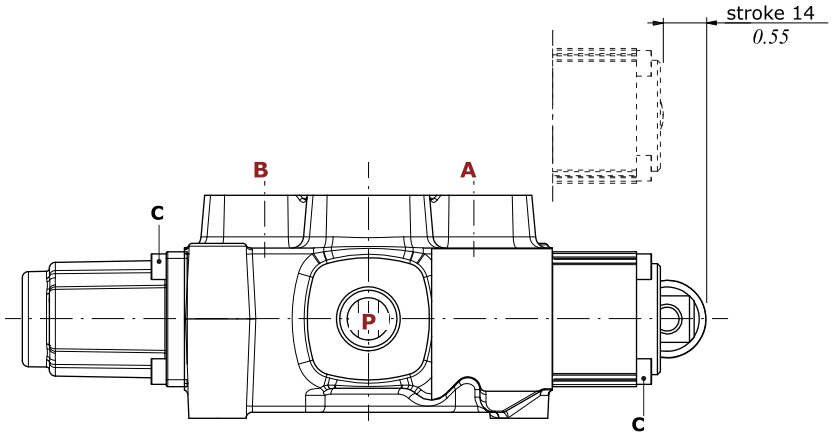




Wrenches and tightening torques
C = allen wrench 4 - 6.6 Nm *(4.8 lbft)*

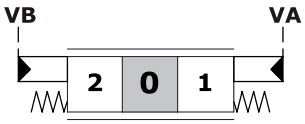
C3 type
From position 2 to position 1,
spring return in position 2.
Dimensions are the same of C2 type

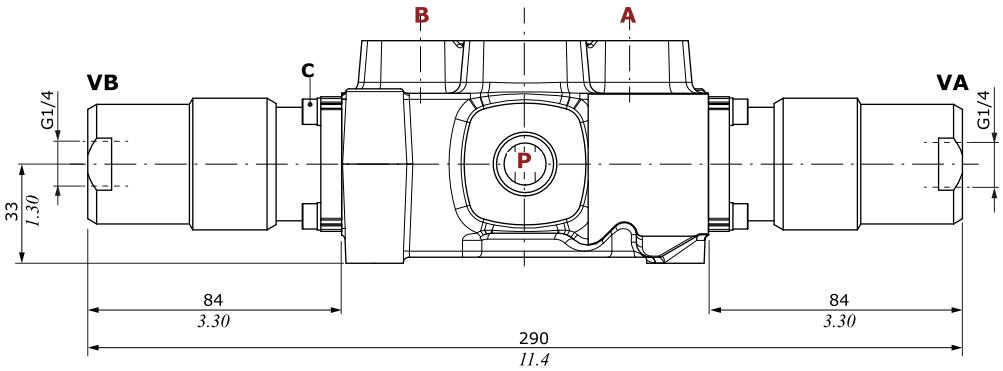




Proportional hydraulic controls

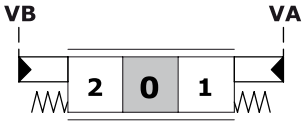
H1 type
High pressure control
with side ports

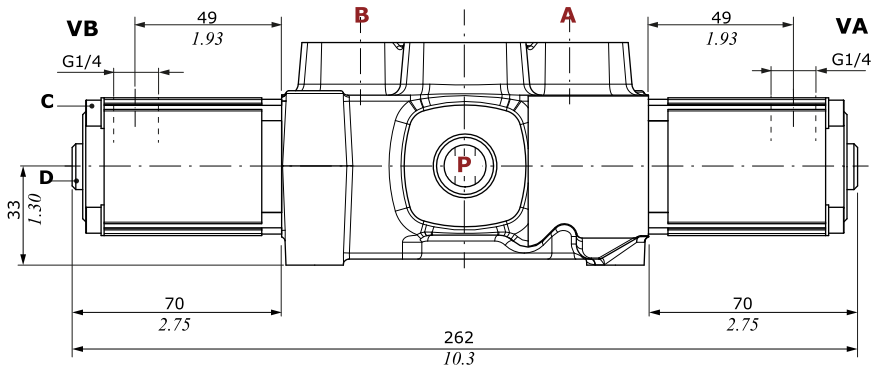




Operating features
Pilot pressure..... : min. 16 bar *(232 psi)* - max. 350 bar *(5070 psi)*

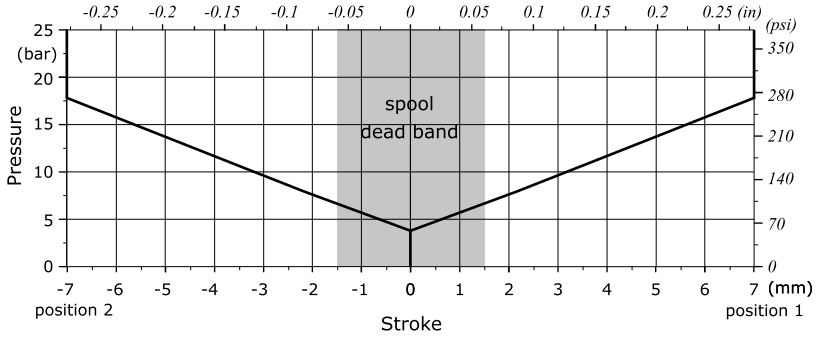
H5 type
Low pressure control
with upper ports





Operating features
Pilot pressure..... : max. 100 bar *(1450 psi)*

Stroke vs. Pressure diagram for H5 type control

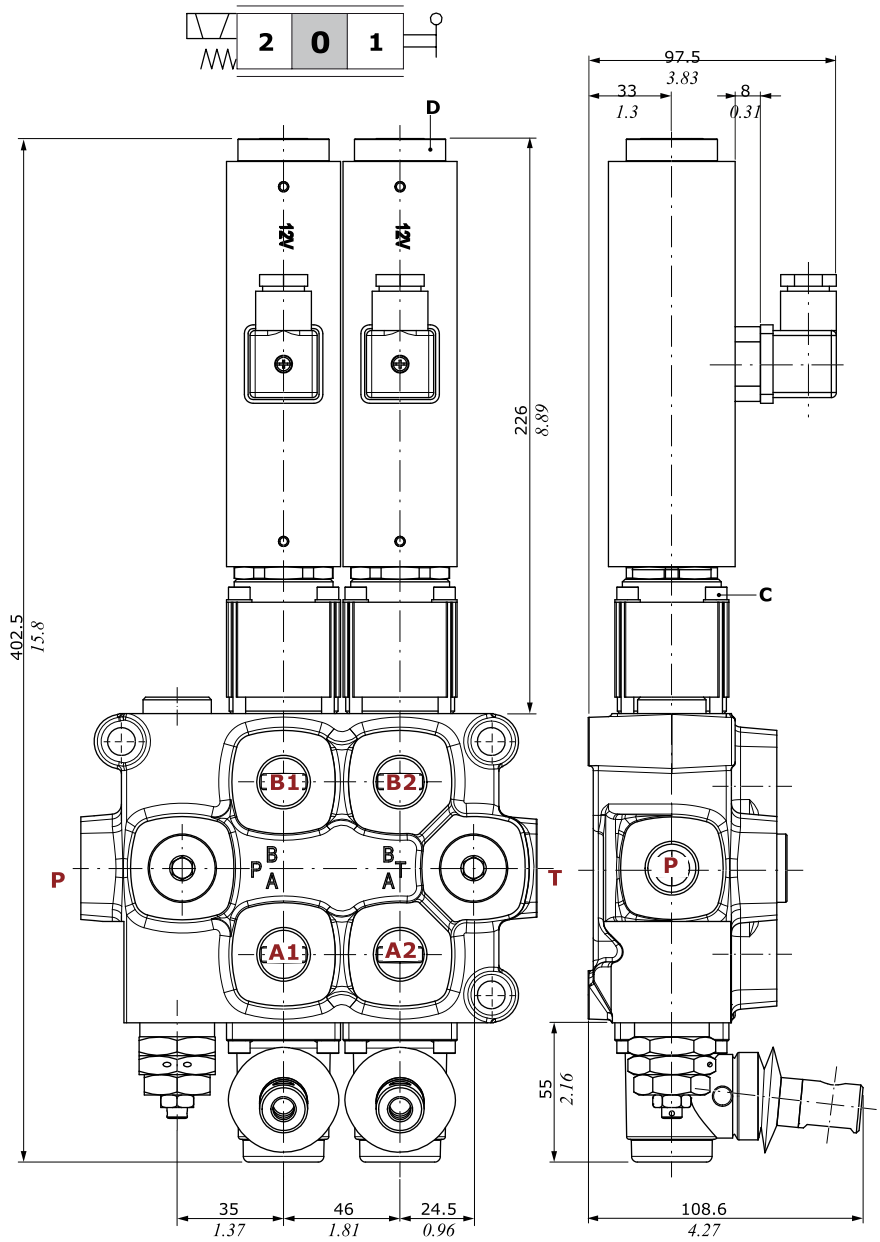


Wrenches and tightening torques
C = allen wrench 4 - 6.6 Nm *(4.8 lbft)*
D = allen wrench 4 - 9.8 Nm *(7.2 lbft)*

Direct solenoid control

D41 type: ON/OFF one side

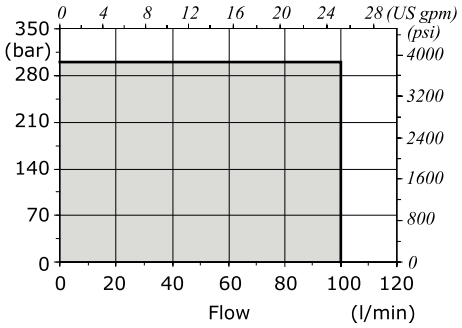
Drawing is referred to a Q75 monoblock valve.



D41 coil	
Nominal voltage	12 VDC 24 VDC
Nominal voltage tolerance	±10%
Power rating	80 W
Insulance	Class H
Weather protection	IP65

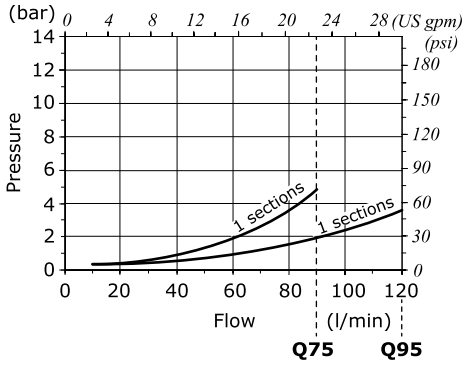
Connector type: ISO4400 3P+T-PG11

Dynamic conditions

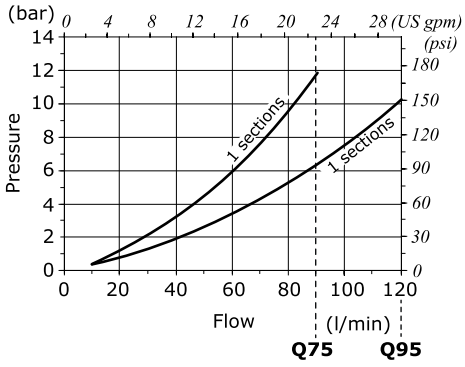


Wrenches and tightening torques
C = allen wrench 4 - 6.6 Nm *(4.8 lbft)*
D = manual tightening - 6.6 Nm *(4.8 lbft)*

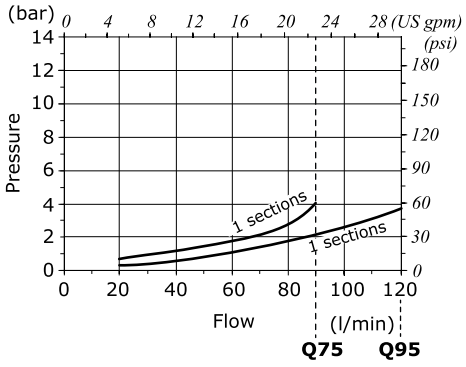
P⇒T pressure drops



P⇒A(B) pressure drops

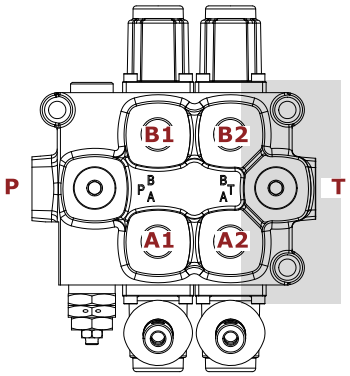


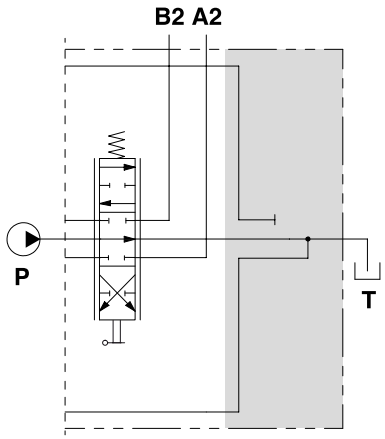
A(B)⇒T pressure drops

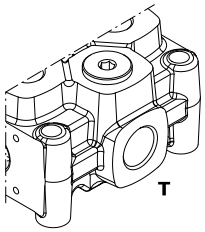


Outlet configuration

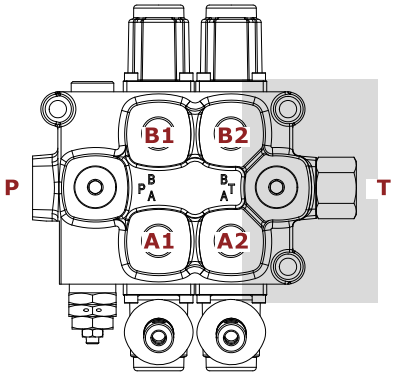
F3D configuration
Open center configuration

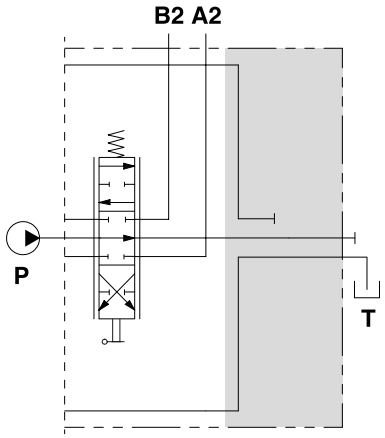


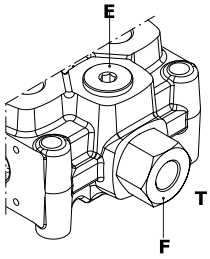




F16D configuration
Closed center configuration

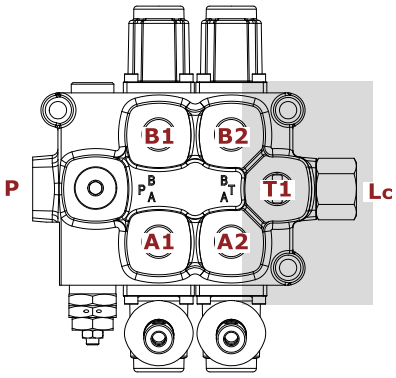


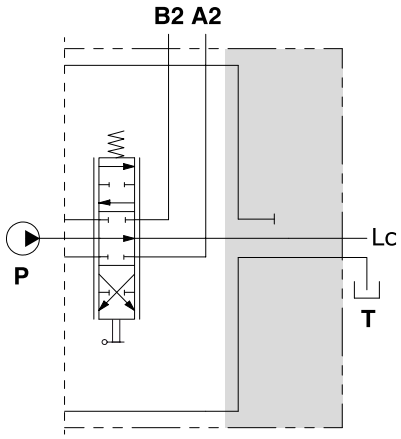


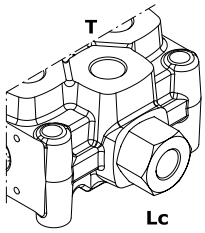


Wrenches and tightening torques
E (Q75) = allen wrench 6 - 24 Nm *(17.7 lbft)*
(Q95) = allen wrench 8 - 42 Nm *(22 lbft)*
F = wrench 36 - 80 Nm *(59 lbft)*

F6D configuration
Carry-over configuration



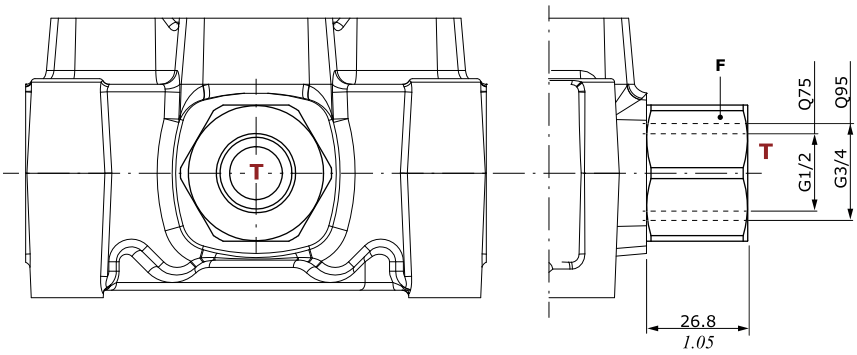




Outlet configuration

F6D - F16D joint dimension

Drawing is referred to a Q75 monoblock valve.



Wrenches and tightening torques
F = wrench 36 - 80 Nm *(59 lbft)*