

Hydreco Valve Catalog

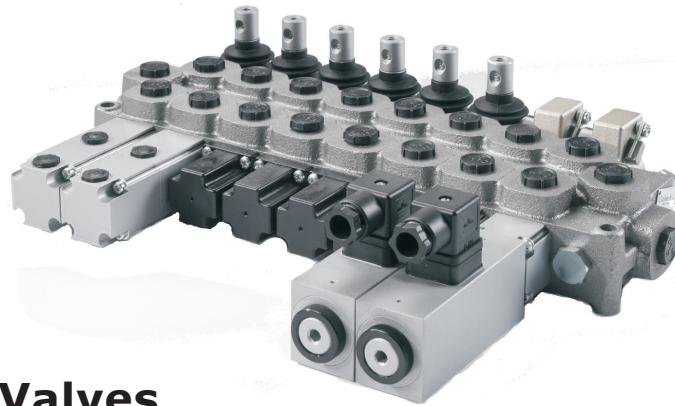
Q Series

Sectional & Monoblock Valves

Extract from full Q-series catalog:
Monoblock Valve Model: Q25



Engineered to Move...



Monoblock Valves

- **3900-5000 psi (270-350 bar) max working pressure**
- **10-25 gal (38-95 liter)**

Sectional Valves

- **4700-5400 psi (325-375 bar) max working pressure**
- **8-34 gal (30-130 liter)**

High Performance Valves with large application range
Cast iron bodies suitable for high pressure applications
On/Off & proportional directional control valves with
electronic controls

Hydreco Technical Catalog

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Monoblock Directional Control Valves

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Conversion Box

From →	Multiply →	To
BAR	14.5	PSI
Lt/min	.264	GPM
cm ³	.061	IN ³
mm	.039	IN

Monoblock Directional Control Valves

- High technical performances grant larger application range
- Special high-resistance cast-iron body suited for high working pressures
- Nickel-plated spools, allow high pressures and long life
- Design and careful manufacturing lead to low cross port leakage
- Spools are interchangeable between Monoblock and Sectional valves
- The control side of the valve can be moved to the other side, which permits unification, versatility and a low inventory requirement
- A unique "Y" shape permits high flow with a low pressure drop
- Standard parallel circuits allow for simultaneous operation with optimized metering that enhances performance

Notes for Directional Control Valves Assembly

- All valves must be mounted on a plane flat surface
- On the sectional valves DO NOT adjust the tension on the tie rod nuts because this would impair the operation of the valve
- DO NOT use taper threaded fittings or pipe, use SAE or BSP connectors only
- For cleaning purposes DO NOT use any products that would damage valve seals and o-rings

Technical Characteristics

	Q35	Q25	Q45	Q75	Q95
Working section max number	1	6		5	3
Oil range temperature	-30/80 °C		-22/176 °F		
Recommended oil temperature	30/60 °C		86/140 °F		
Recommended filtering	18 / 16 / 13				
Hydraulic fluid	Mineral Oil				
Viscosity	58.9/1867 sus @ 100 °F				

Mass

Kg / Lb

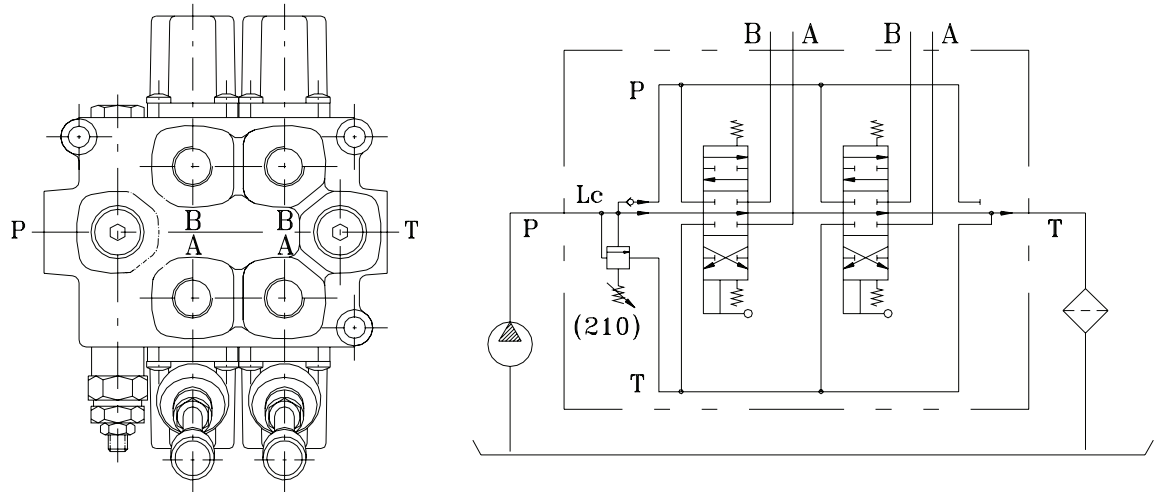
section	/	3.00 6.6	5.70 12.6	5.70 12.6
section	/	4.30 9.5	7.60 16.8	7.60 16.8
section	/	5.60 12.3	10.40 22.9	10.40 22.9
section	/	7.30 16.1	12.40 27.3	/
section	/	9.00 19.8	14.50 31.9	/
section	/	10.3 22.7	/	/

Max working pressure

BAR / PSI

from 1 up to 2 sections	300 4350	350 5076	350 5076	350 5076
3 sections	/	320 4640	300 4350	300 4350
from 4 up to 6 sections	/	300 4350	270 3916	/
max back pressure	25 362			
On request, 1 or 2 section monoblock valve only, max back pressure may be 180 bar (indicate the letter "S" at the end of coding)	*	*	*	

Example of Ordering Code

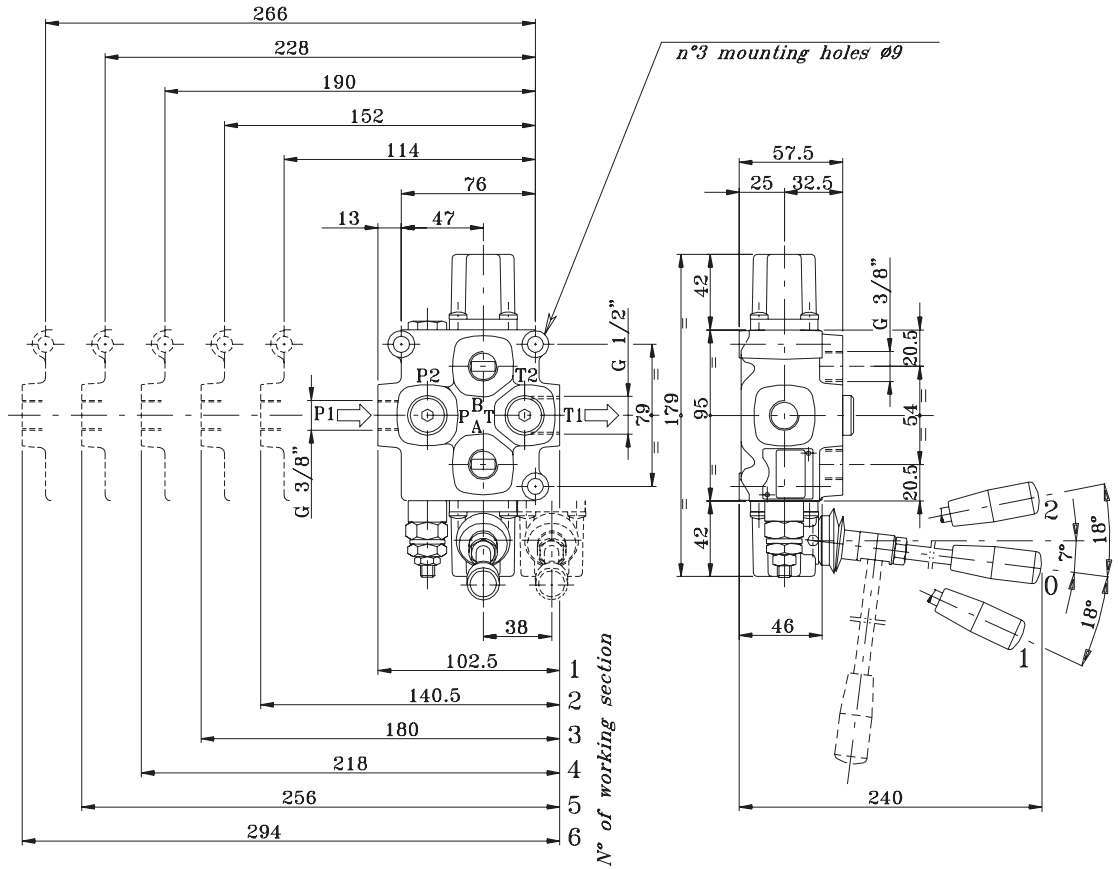


Q25 - 2E - F1SR (210) - 2x103 / A1 / M1 - F3D

Q25	Type of directional control valve
2E	Monoblock 2 sections
F1SR (210)	
F1S	Inlet section type
R	Spring type for VLP (black or red)
(210)	VLP setting
2x103 / A1 / M1	
2x	Nr 2 Consecutive working sections are same
103	Spool type
A1	Control on A part
M1	Positioning on B port
F3D	Outlet section

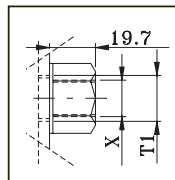
N.B. for the directional control valves type Q25 - Q35 - Q30 - Q45 and Q50 the
 - CONTROLS code A1, A2, A3, A4, A5, A6, A8, SL, N1-A1, N1-A2, N1-A3 and the
 - POSITIONING code M1, M2, M3, R1, R2, R3, R4, R5, R6, R8, R10, M1-B1, M3-B1,
 M1-N1, M2-N1, M3-N1, M1-U1, M2-U1, M4-U1, M2-U2, M3-U2
 are available with aluminum box -lever and cap, Mark "-S" at the end of the code.

Directional Control Valve Q25

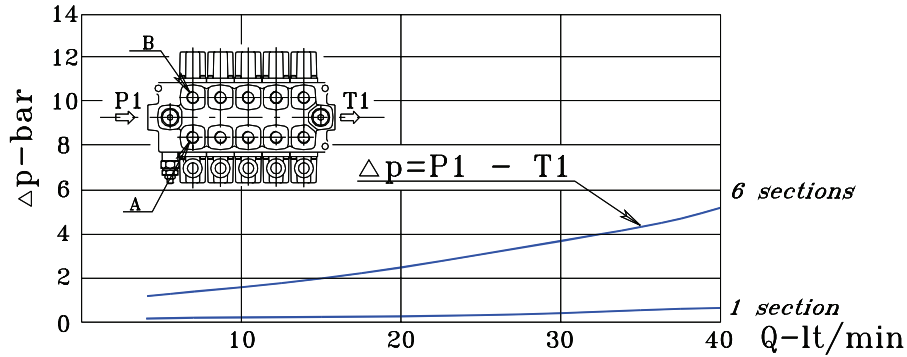


Available Threads

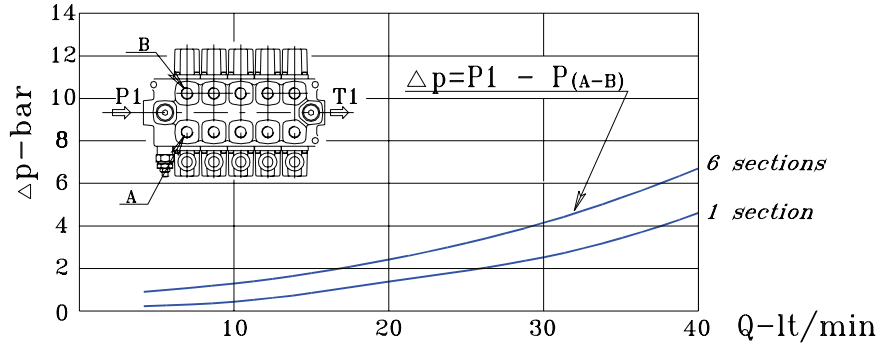
Ports	BSP (Standard)
P1	G 3/8"
P2	G 3/8"
A-B	G 3/8"
T1	G 1/2"
T2	G 3/8"

	T1	X
	G 1/2"	G 3/8" G 1/2"

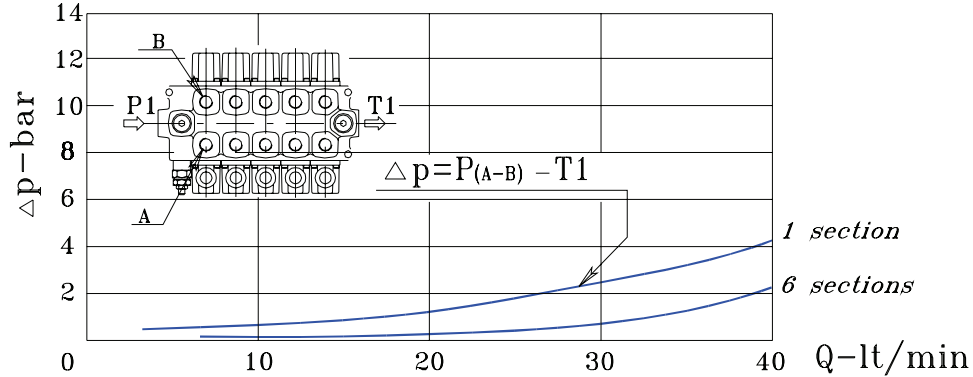
PRESSURE DROP WITH SPOOL IN NEUTRAL POSITION



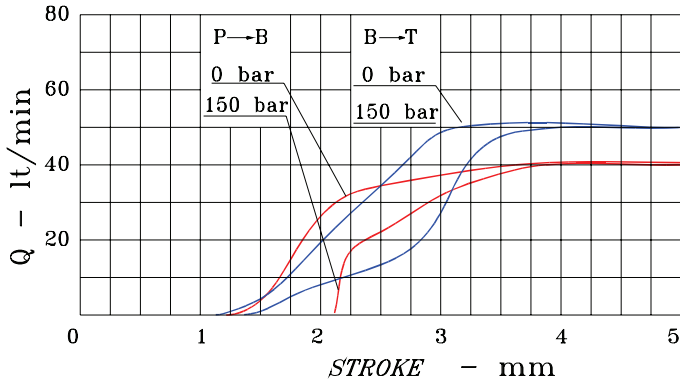
PRESSURE DROP WITH SPOOL IN WORKING POSITION



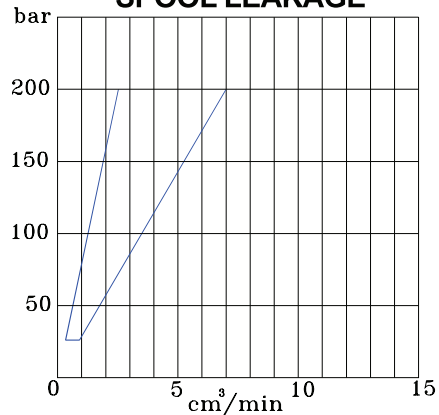
PRESSURE DROP WITH SPOOL IN WORKING POSITION



METERING SPOOL

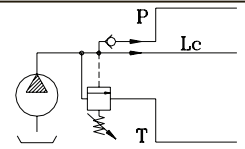
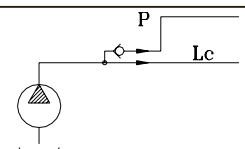
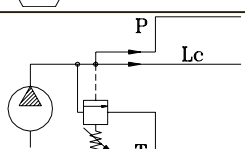
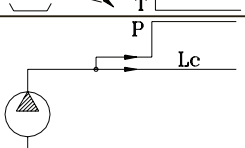


SPOOL LEAKAGE

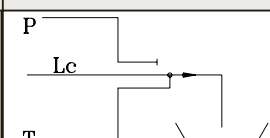
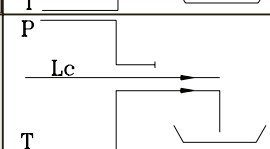
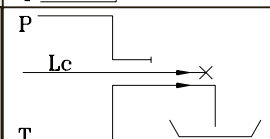



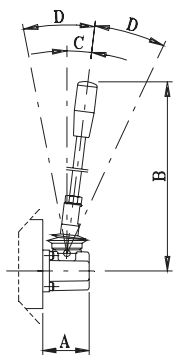

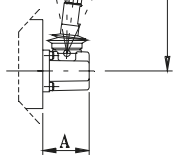
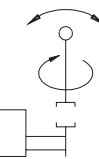
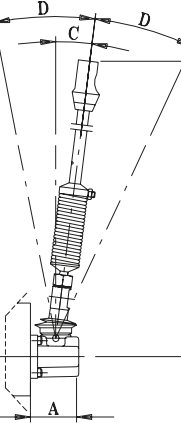

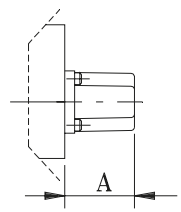

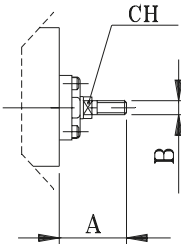
Spool Types				
code	hydraulic symbol	description	Q25 Q45	Q75 Q95
101		Single acting in A port	*	*
102		Single acting in B port	*	*
103		Double acting	*	*
106		Double acting, ports closed in 0 position	*	*
107		Double acting, A to T and B closed in 0 position	*	*
108		Double acting, B to T and A closed in 0 position	*	*
109		Single acting in A, A to T in 0 position	*	*
110		Single acting in B, B to T in 0 position	*	*
111		Double acting, A and B to T in 0 position	*	*
114		Double acting, A and B to T and through passage closed in 0 position	*	*
116		Double acting with 4th position floating	*	*
126		Double acting with 4th position floating	*	*

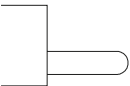
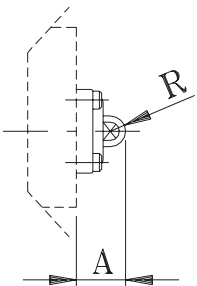
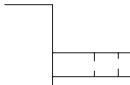
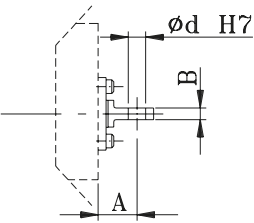
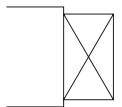
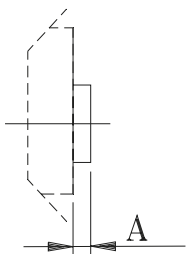
Spool Types / Sensitive			Q25 Q45	Q75 Q95
code	hydraulic symbol	code		
101.20		Single acting in A port	*	
102.20		Single acting in B port	*	
103.05		Double acting	*	
103.10		Double acting		*
103.20		Double acting	*	
103.25		Double acting	*	
103.30		Double acting		*
103.40		Double acting, ports closed in 0 position	*	
107.20		Double acting, A to T and B closed in 0 position	*	
108.20		Double acting, B to T and A closed in 0 position	*	
111.05		Double acting, A to B and T in 0 position	*	
111.10		Double acting, A to B and T in 0 position		*
111.20		Double acting, A to B and T in 0 position	*	
111.25		Double acting, A to B and T in 0 position	*	
111.30		Double acting, A to B and T in 0 position		*
111.40		Double acting, A to B and T in 0 position	*	

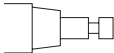
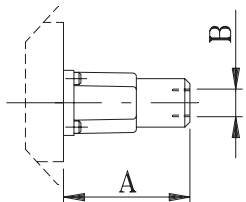
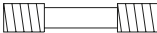
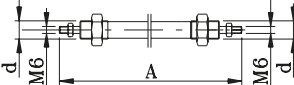
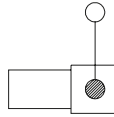
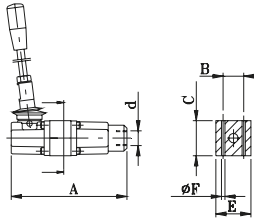
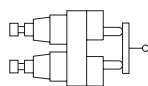
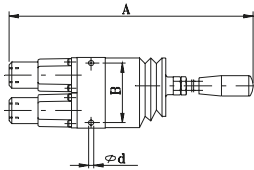
Inlet Sections			Q25 Q45	Q25 Q45
Code	Hydraulic Symbol	Code		
F1S		Inlet section with check and relief valve (*)	*	*
F2S		Inlet sections with check valve	*	*
F7S		Inlet section with relief valve (*)	*	*
F8S		Inlet sections without valve	*	*

(*) Calibration fields of the pressure limiting valve (VLP) have to be specified in the purchase order in bar. If these details are not mentioned in the order, calibration will be set at the standard level of 150 bar. "N" symbol means that a standard spring of black color with a calibration field ranging between 40 and 200 bar had been fitted. For higher calibrations, the spring is red and it is identified with "R". "R" sets the calibration field between 180 and 350 bar. For lower calibrations, the spring is white and it is identified with "B". "B" sets the calibration field between 10 and 100 bar.

Outlet Sections			Q25 Q45	Q25 Q45
Code	Hydraulic Symbol	Code		
F3D		Outlet section	*	*
F6D		Outlet section with high pressure carry-over	*	*
F16D		Outlet section for through passage closed	*	*

Controls				Q25	Q30	Q75	Q80
Code	Hydraulic Code	Description		Q45	Q50	Q95	Q130
A1		Hand control with standard lever		A	42	55	
				B	205	260	
A2		Hand control with standard lever mounted rotated 180°		C	7°	6°	
				D	18°	19°	
A12		Hand control with safety "dead man" type lever		A	42	55	
				B	273.5	288	
				C	7°	6°	
				D	18°	19°	
A3		Proof cap replacing hand control with lever		A	42	55	
A4		Direct control connection on spool for stiff remote control		A	39	53	
				B	M8	M10	
				CH	9	14	
				Stroke	5	7	

Controls					Q25	Q30	Q75	Q80
Code	Hydraulic Code	Description			Q45	Q50	Q95	Q130
A5		Direct control connection on spool with spherical end. (Control to be used for positioning M4 (2-1))		A	22	33		
				B	6.85	8.75		
				stroke	5	stroke		
A6		Direct control connection on spool eye end		A	20	27		
				B	6	7		
				C	9	11		
				stroke	5	7		
Z1		Auxiliary kit to be mounted on floating positioning R8		A	8.5	13.5		

		Controls			Q25 Q45	Q30 Q50	Q75	Q95	Q80 Q130
Code	Hydraulic Code	Description							
A8		Direct connection on spool for remote flexible control		A	73	77			
				B	M16x1.5				
C1		Flexible cable		A	Max. recommended length 4000 mm Minimum radius curve 200mm				
				B	M16x1.5				
SL		Remote control		A	135	172			
				B	26	33.5			
				C	40	45			
				d	M16x1.5				
				E	38	45			
				F	5.5	6.5			
SLA15		Remote cone lever control for simultaneous operation of two spools		A	358	/ 358			
				B	77	/ 77			
				C	6.5	/ 6.5			

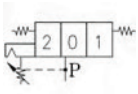
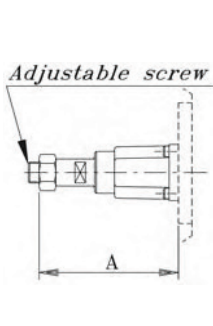
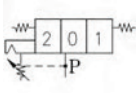
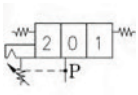
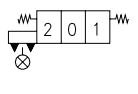
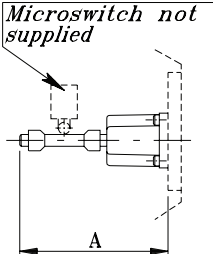
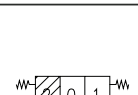
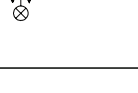

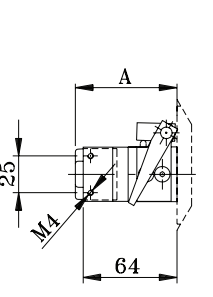

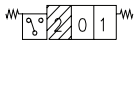
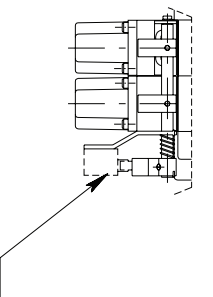
Q25 Q45	Q30 Q50	Q75	Q95	Q80 Q130
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Controls			Q25 Q45	Q30	Q50	Q75	Q80 Q130
Code	Hydraulic Code	Description					
A15		<p>A15S With fulcrum on the left</p> <p>Cone lever for simultaneous or single control of two spools, as from the scheme below.</p>	*	*	*	*	*
		<p>A15D With fulcrum on the right</p> <p>Cone lever for simultaneous or single control of two spools, as from the scheme below.</p>	*	*	*	*	*
A16		<p>Cone lever for simultaneous or single control of two spools, as from the scheme below.</p>	*	*			

Controls				Q25	Q30	Q75	Q80
Code	Hydraulic Code	Description		Q45	Q50		Q130
N1-A1		Hand control with ON-OFF centralized microswitch operation	<p><i>Microswitch not supplied by Galtech</i></p>	A	70		84
				B	64		
				C	25		
				d	M4		
N1-A2		180° rotated hand control with ON-OFF centralized microswitch operation	<p><i>Microswitch not supplied by Galtech</i></p>	A	70		84
				B	64		
				C	25		
				d	M4		
N1-A3		Centralized microswitch control	<p><i>Microswitch not supplied by Galtech</i></p>	A	70		84
				B	64		
				C	25		
				d	M4		

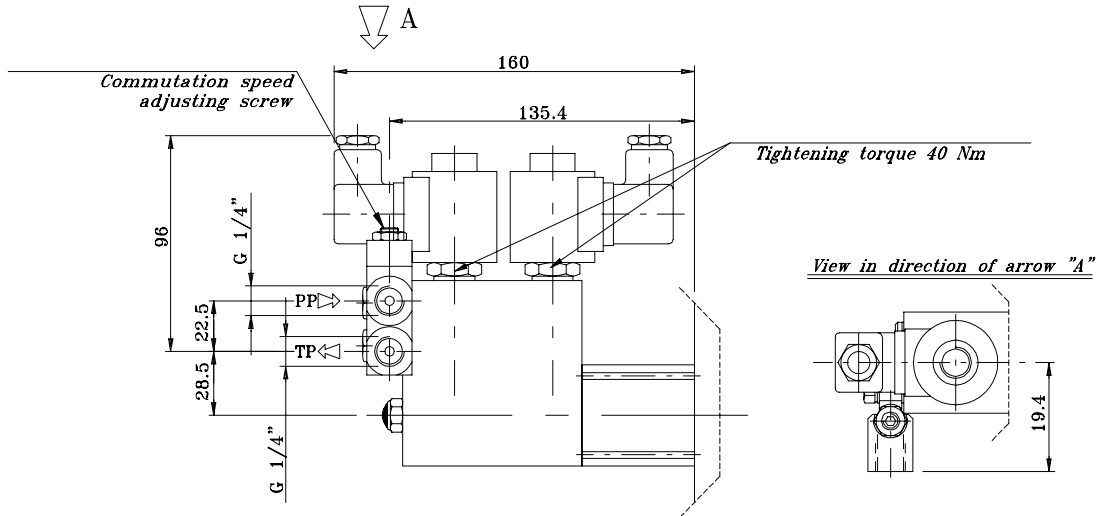
Controls			Q25	Q30	Q75	Q80
Code	Description		Q45	Q50		Q130
M8: 06.000.27011 M10:06.000.27013	Standard version		M	M8	M10	
			L	164	210	
			øD	18	22	
			A	50	61	
			B	20	28	
M8: 06.000.28922 M10:06.000.28148	Long version		M	M8	M10	
			L	208	360	
			øD	25	22	
			A	57	61	
			B	20	28	
M8: 06.000.27421 M10:06.000.27020	Extra-long version	M	M8	M10		
		L	328	507		
		øD	25	22		
		A	57	61		
		B	20	28		
M8: / M10:06.000.27344	Short version	M	/	M10		
		L	/	156		
		øD	/	22		
		A	/	61		
		B	/	28		
M8: 06.000.22876 M10:06.000.27635	Extra-short version	M	M8	M10		
		L	73	66		
		øD	18	22		
		A	50	61		
		B	20	22		
M8: 06.000.29451 M10:06.000.29866	version		M	M8	M10	
			L	164	219	
			øD	32		
			A	45		
			B	20	28	
M8: 06.000.29423 M10:06.000.30295	version		M	M8	M10	
			L	208	219	
			øD	32		
			A	45		
			B	20	28	

Positionings						Q25	Q30	Q75		
Code	Hydraulic Code	Description				Q45	Q50	Q95	Q80	Q130
M1		Three spring positions centered in 0		A		42			55	
M2		Two spring positions 0-1 centered in 0								
M3		Two spring positions 0-2 centered in 0								
M4 1-2		Two end positions spring back in 1								
M4 2-1		Two end positions spring back in 2								
R1		Three spring positions centered in 0, detent in 1		A		52			70	
R2		Three spring positions centered in 0, detent in 2								
R3		Three detent positions		A		42			55	
R4		Two detent positions 0-1								
R5		Two detent positions 0-2								
R6		Two detent positions 1-2								
R8		Two positions, 1 and 2, with spring return centered in 0; position 3, 4th position, floating with detent. (Mounting with Z1 side control)		A		56.5			75	80
R10/Z1		Two positions, 1 and 2, with spring return centered in 0; position 3, 4th position, floating with detent								

Positionings				Q25	Q30	Q75	Q80				
Code	Hydraulic Code	Description		Q45	Q50	Q95	Q130				
R1K		Three position control, dent in 1 pos. with automatic adjustable release. Available with spool code 103 and 111 only		A	91.5	106					
R2K		Three position control, dent in 2 pos. with automatic adjustable release. Available with spool code 103 and 111 only									
R3K		Three position control, dent in 1 and 2 pos. with automatic adjustable release. Available with spool code 103 and 111 only									
M1-B1		Three spring positions centered in 0 with back microswitch control		A	82	102					
M2-B1		Two positions, 0-1, spring centered in 0 with back microswitch control									
M3-B1		Two positions, 0-2, spring centered in 0 with back microswitch control									
M1-N1 M1-N1A M1-N1B		Three spring positions centered in 0, with ON-OFF centralized microswitch operation N1-A1: Double acting N1A-A1: Single acting in 1 position N1B-A1: Single acting in 2 position		A	70	84					
M2-N1		Two positions, 0-1, with spring centered in 0, with ON-OFF centralized microswitch operation									
M3-N1		Two positions, 0-2, with spring centered in 0, with ON-OFF centralized microswitch operation									
				B	59						
								E	49		
				d	M4						

Controls with Positioning				Q25	Q30	Q75	Q80
Code	Hydraulic Symbol	Description		Q45	Q50	Q95	Q130
M1.U1		Three spring positions centered in 0, with direct control connection on spool, cap side, for stiff remote control		A	73	96	
M2.U1		Two positions, 0-1, spring centered in 0, with direct control connection on spool, cap side, for stiff remote control		B	4	5	
M3.U1		Two positions, 0-2, spring centered in 0, with direct control connection on spool, cap side, for stiff remote control		d	M8	M10	
M4.U1		Two end positionings, without 0, spring back, direct control connection on spool, cap side, for stiff remote control		stroke	± 5	7	
M1.U2		Three spring positions centered in 0, direct control connection on spool, cap side, for flexible remote control		A	73	77	
M2.U2		Two positions, 0-1, centered in 0, direct control connection on spool, cap side, for flexible remote control					
M3.U2		Two positions, 0-2, centered in 0, direct control connection on spool, cap side, for flexible remote control		B	M16x1.5		

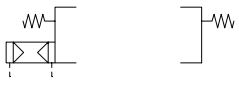
Controls with Positioning			Q25	Q30	Q75	Q80
Code	Hydraulic Code	Description	Q45	Q50	Q95	Q130
D2		Double electro-hydraulic control, spring centered in 0			*	*

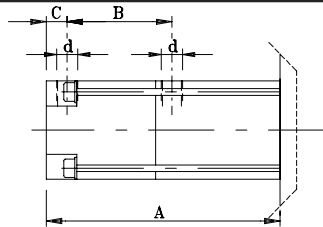


Pilot pressure in PP		Max. back pressure on TP	Min. flow for each section	Piloting vol. for each section
Max.	Min.	4 bar	0.5 lt/min	5.5cm ³
35 bar	20 bar			

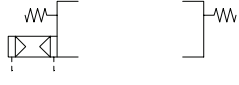
Electromagnetic Characteristics Type "H"

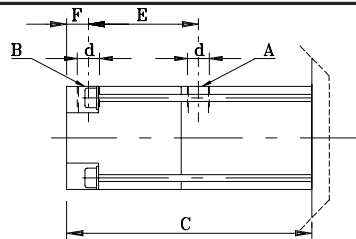
Magnet connection	Type DIN 43650 (A version)
Protection type	IP 65
Coil insulation class	H 180 VDE 0580
Supply voltage	D.C.: 12, 24V A.C. 60 Hz: 110, 220 V
Maximum voltage tolerance	±10%
Absorbed power supply	18 W
Maximum utilization ratio	100%
Maximum temperature	100°C

Controls with Positioning			Q25	Q30	Q75	Q80
Code	Hydraulic Code	Description	Q45	Q50	Q95	Q130
P1-N		Three pneumatic control positions, spring centered in 0	A	90.5	107	
			B	43	48	
			C	10	10.5	
			d	g 1/8"		

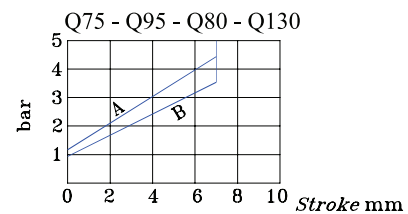
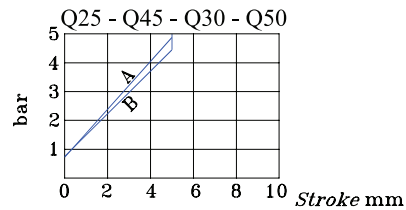


Piloting pressure	Min.	5 bar
	Max.	30 bar
Piloting volume	Q25 - Q45 - 30 - Q50	4 cm ³
	Q75 - Q95 - Q80 - Q130	9 cm ³

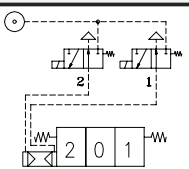
Controls with positioning			Q25	Q30	Q75	Q80
Code	Hydraulic Code	Description	Q45	Q50	Q95	Q130
P1-NP		Three positions progressive pneumatic control, spring centered in 0 for remote control	C	90.5	107	
			E	43	48	
			F	10	10.5	
			d	G 1/8"		

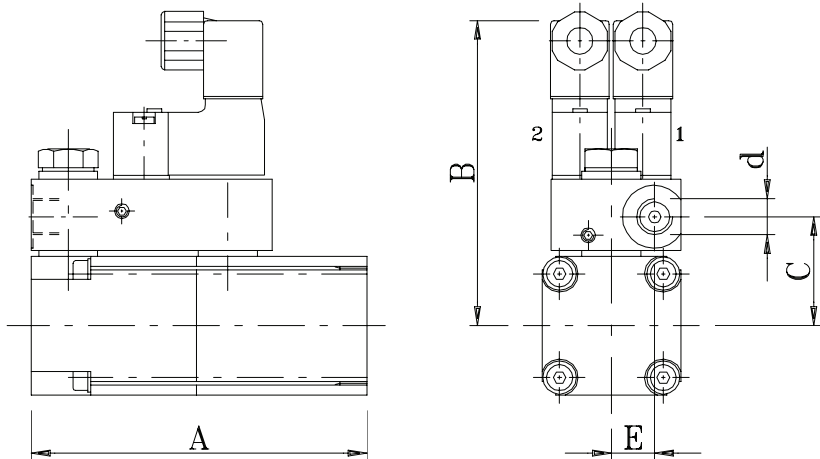


Piloting Pressure Diagram / Spool Stroke



Piloting pressure	Max.	30 bar
Piloting volume	Q25 - Q45 - 30 - Q50	4 cm ³
	Q75 - Q95 - Q80 - Q130	9 cm ³

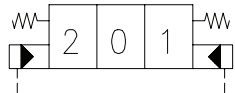
Controls with Positioning			Q25	Q30	Q75	Q80	
Code	Hydraulic Code	Description	Q45	Q50	Q95	Q130	
D3		Three electro-pneumatic control positions, spring centered in 0	A	90.5	107		
			B	82.4	86.1		
			C	29.4	33.1		
			d	G 1/8"			
			E	11.7	12		

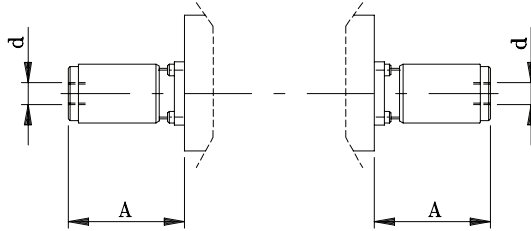


Piloting pressure	Min.	5 bar
	Max.	10 bar
Piloting volume	Q25 - Q45 - 30 - Q50	4 cm ³
	Q75 - Q95 - Q80 - Q130	9 cm ³

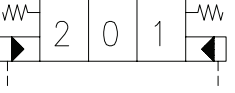
Electromagnetic Characteristics

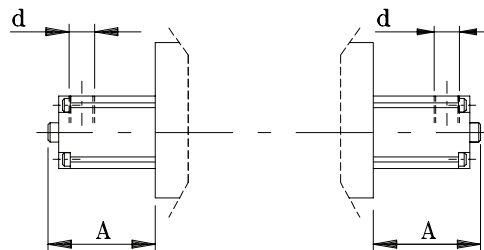
Magnet connection	Type DIN 43650 (C version) - PG7
Protection type	IP 65
Coil insulation class	F 155°C
Supply voltage	D.C.: 12, 24V A.C. 60 Hz: 110, 230 V
Maximum voltage tolerance	-15% / +10%
Absorbed power supply	A.C. : 2.5 VA D.C. : 2.5 W
Maximum utilization ratio	100%
Maximum temperature	-10° / 50°C

Complete Controls			Q25	Q30	Q75	Q80
Code	Hydraulic Code	Description	Q45	Q50	Q95	Q130
H1		Three positions with high-pressure hydraulic control, spring centered in 0 position	A	70		85
			d	G 1/4"		

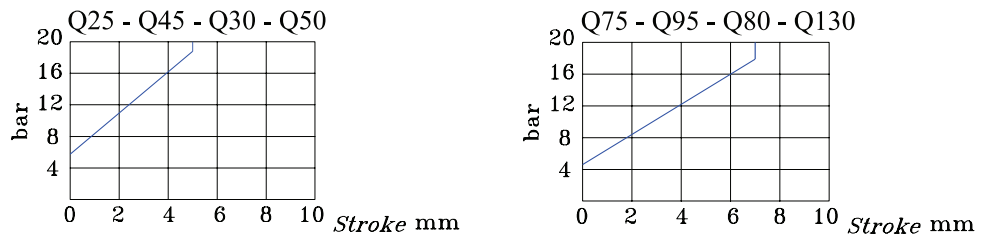


Piloting pressure	Min.	16 bar
	Max.	350 bar
Piloting volume	Q25 - Q45 - 30 - Q50	2 cm ³
	Q75 - Q95 - Q80 - Q130	3 cm ³

Complete Controls			Q25	Q30	Q75	Q80
Code	Hydraulic Code	Description	Q45	Q50	Q95	Q130
H5		Three positions with low-pressure control for hydraulic remote control, spring centered in 0 position	A	50		71.5
			d	G 1/4"		



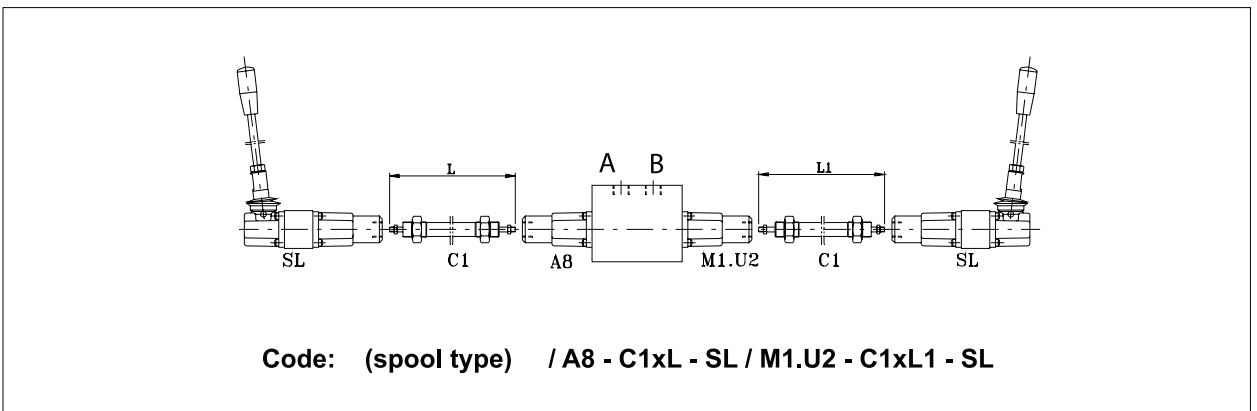
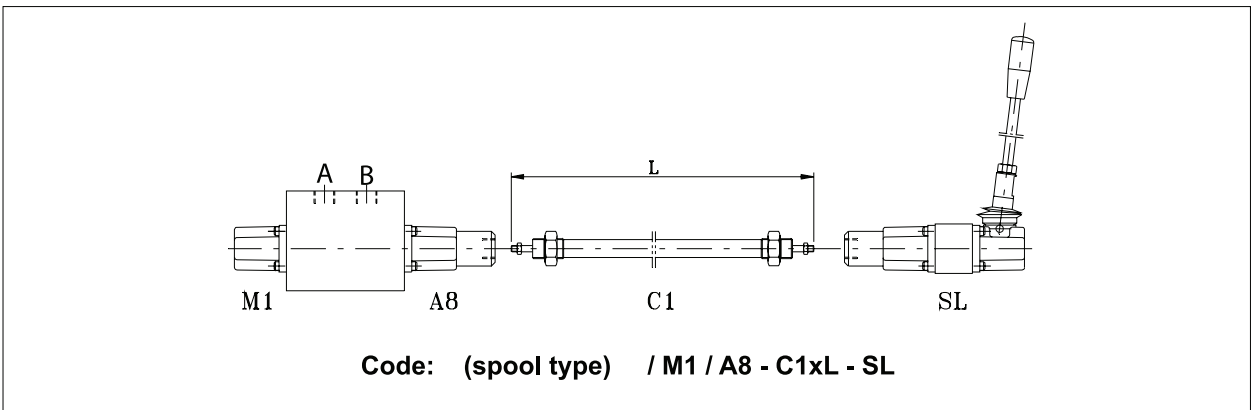
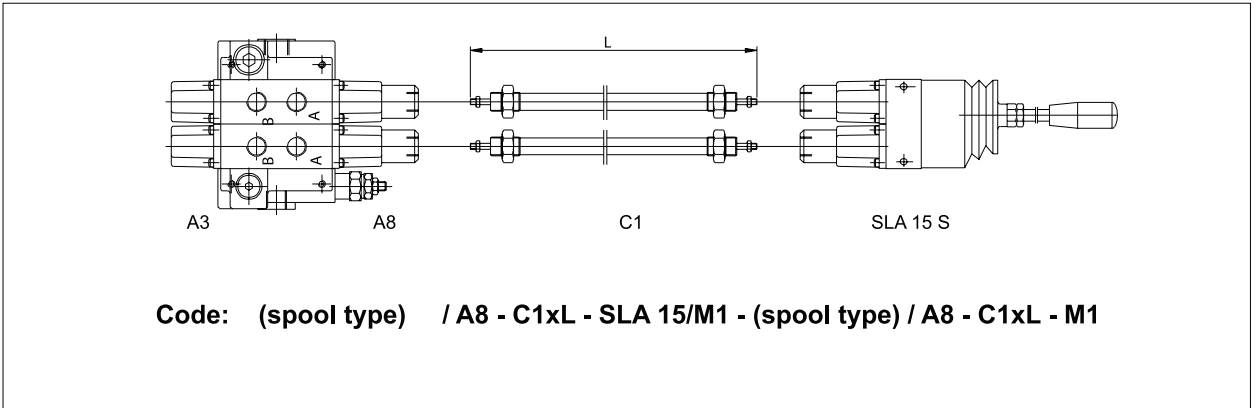
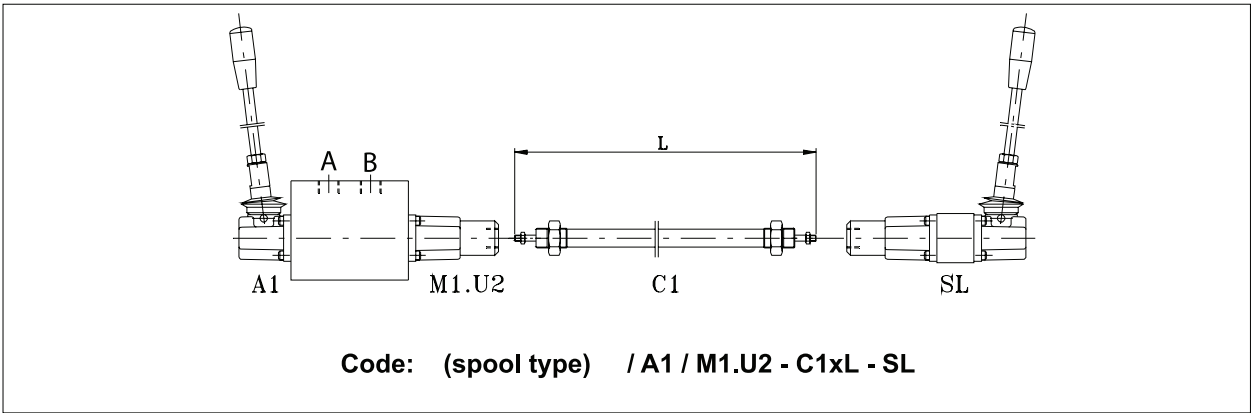
Piloting pressure diagram / Spool Stroke



Piloting pressure	Max.	100 bar
Piloting volume	Q25 - Q45 - 30 - Q50	2 cm ³
	Q75 - Q95 - Q80 - Q130	3 cm ³

Complete Controls			Q25 Q45	Q30 Q50	Q95 Q75	Q80
Code	Hydraulic Code	Description				
RTL-s		Three positions with clutched rotary control, lever in 2	C	15	20	
			D	61	72.5	
		E	10 (5 + 5)	14 (7 + 7)		
RTL-d		Three positions with clutched rotary control, lever	C	15	20	
			D	61	72.5	
		E	10 (5 + 5)	14 (7 + 7)		
C2		Cam control, 2 end positions 1-2, spring centered in 1	C	42	55	
			D	43	51	
		E	10	14		
C3		Cam control, 2 end positions 2-1, spring centered in 2	C	42	55	
			D	43	51	
		E	10	14		

Possible combinations with flexible remote controls



On-Off Proportional Directional Control Valves With Electronic Controls

Overview	Page 62
Electrical Control Q 25	Page 69
Electrical Control Q 45	Page 72
Electrical Control Q 75	Page 75
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Electrical Control Q 30	Page 80
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Proportional Control Valves Q 30	Page 93
Proportional Control Valves Q 50	Page 95
Electronic Controls ELP 30 / EJS 30	Page 97

Control EJS 30 Electronics

- The EJS 30 electronics control is provided with a control box equipped with a potentiometer joystick for corresponding working sections, a safety pushbutton, an electronic card and a dead man safety joystick
- Each system also has a junction box with a place for 12 or 24 VDC connection (All cables and connections are included). The valves are connected to the box with waterproof multiple jacks.
- The flow on each port can be independently controlled.
- The electronic card makes for easy setting of oil flow.
- The settings remain stored during a power outage.

Notes for Directional Control Valves Assembly

- All valves must be mounted on a plane flat surface
- On the sectional valves DO NOT adjust the tension on the tie rod nuts because this would impair the operation of the valve
- DO NOT use taper threaded fittings or pipe, use SAE or BSP connectors only
- For cleaning purposes DO NOT use any products that would damage valve seals and o-rings

Electromagnetic Characteristics	Q25	Q30	Q45	Q50	Q75	Q80	Q95
Magnet connection	Type DIN 43650 (A version)						
Protection type	IP 65			IP 55			
Coil insulation class	H						
Supply voltage	12 V D.C. 24 V D.C.						
Maximum voltage tolerance	± 10%						
Absorbed power supply	58 W			70 W			
Maximum utilization ratio	100%						

Directional control valve characteristics				
Max. flow	50	60	90	120
Max. working pressure	275 bar / 3988 PSI		210 bar / 3045 PSI	
Max. back outlet pressure	25 bar / 362 PSI			
Oil range temperature	-30°C / 80°C		-22 / 176 °F	
Recommended oil temperature	30°C / 60°C		86 / 140 °F	
Recommended filtering	18 / 16 / 13			
Recommended fluid	mineral oil			
Viscosity	58.9/1867 sus @ 100 °F			
Emergency operation or in case of power break	D4	by hand lever		
	D9	push type		
Max. spool leakage of A and B ports to T port at 100 bar with viscosity 35 mm ² s	.305 in ³ /min		.427 in ³ /min	

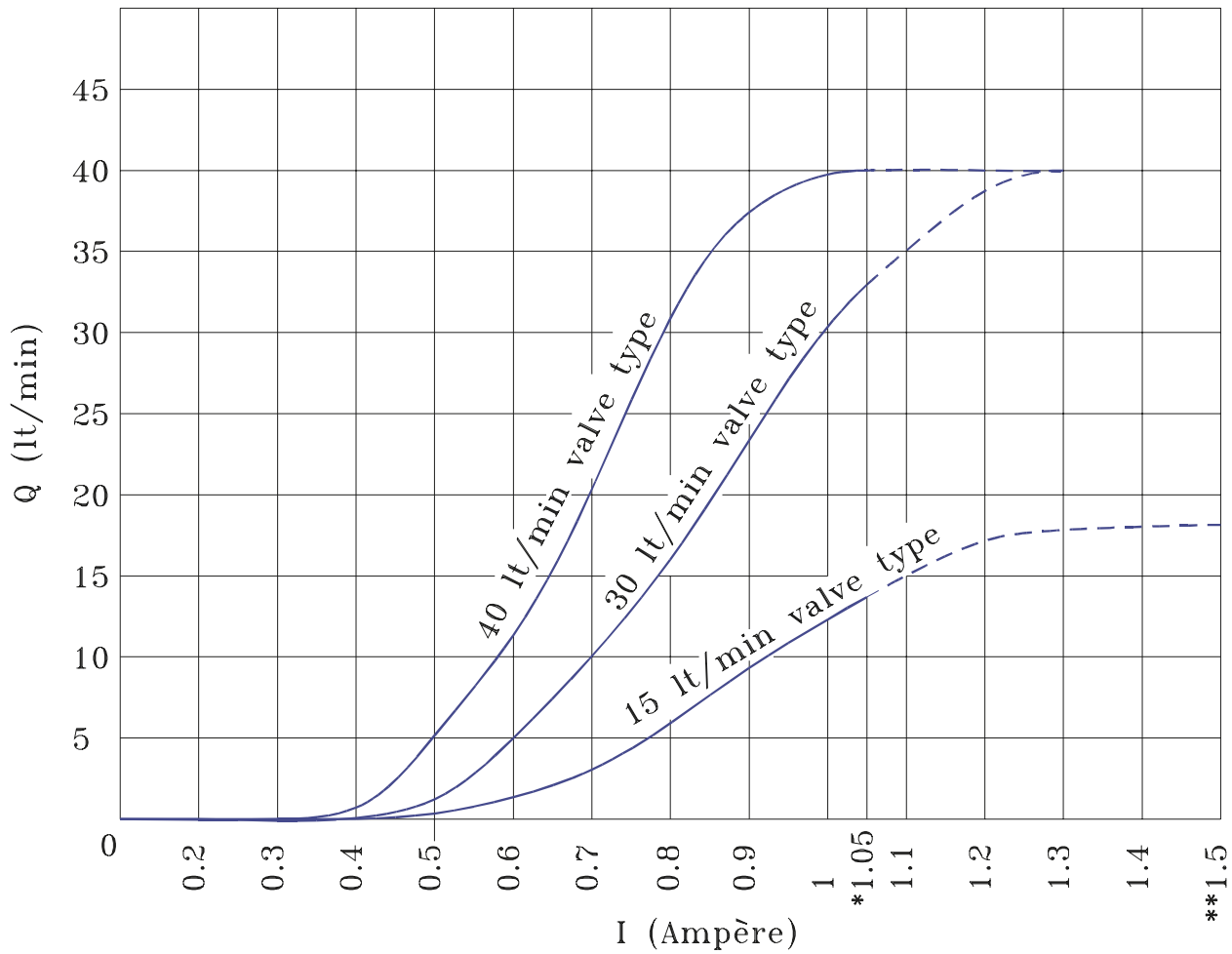
Characteristics proportional solenoid valve

Magnet connection	Type DIN 43650 (A version)
Protection class	IP 65
Coil insulation class	F
Supply voltage	12 V D.C. 24 V D.C.
Maximum voltage tolerance	± 10%
Hysteresis	± 5%
Response time proportional valve	10% / 90% = 40 ms
Response time proportional valve	90% / 10% = 50 ms
Current proportional valve 12V D.C. supply	0 / 1 A
Current proportional valve 24V D.C. supply	0 / 1.4 A

Directional control valve characteristics

Max. flow	3.69 / 7.92 / 10.56 GPM	
Max. working pressure	250 bar	3625 PSI
Max. back outlet pressure	25 bar	362.5 PSI
Oil range temperature	-30 °C / 80 °C	-22/176°F
Recommended oil temperature	30 °C / 60 °C	86/140°F
Recommended filtering	18 / 16 / 13	
Recommended fluid	mineral oil	
Viscosity	58.9/1867 sus @ 100°F	
Emergency operation or in case power break	by hand lever and manual or electrical safety valve	
Max. spool leakage of A and B ports to T port at 100 bar with viscosity 35 mm ² /s	.305 in ³ /min	

Flow - current chart $Q=f(I)$



* The maximum current for continuous operation with 12 V DC is 1.05A

** The maximum current for continuous operation with 24 V DC is 1.5 A.

All tests were performed with mineral oil, viscosity $35\text{mm}^2/\text{s}$, at a temperature of $80\text{ }^\circ\text{C}$. Flow tolerance $\pm 5\%$.

Control electronics ELP 30

- ELP 30 control electronic is provided with a control box equipped with potentiometer joystick for corresponding working sections, a safety push-button to cut power to all functions, an electronic card and a "dead man" safety joystick
- Each electronic package is also equipped with junction box dually allowing for power supply inlet hole (12 or 24 V D.C.). Connection of the valve to the main socket is performed by means of waterproof multiple jack.
- A branching box is also provided with all cables and connections (power supply 12-24 V D.C. cable included)
- All oil flow values can be programmed on desired value on each single port with already installed equipment. In this way, it is possible to check directly on working machine single drivings speeds and making further settlements up to final choice of optimum values. For example, if a working section makes "up-down" operations, oil flow on "up" port can be fixed to a different value of oil flow on "down" port.
- Oil flow value programming is made by means of simple operations through the electronic card
- All chosen and fixed values remain stored even with lack of electrical supply and up to a future programming



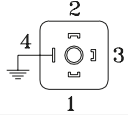
Notes for Directional Control Valves Assembly

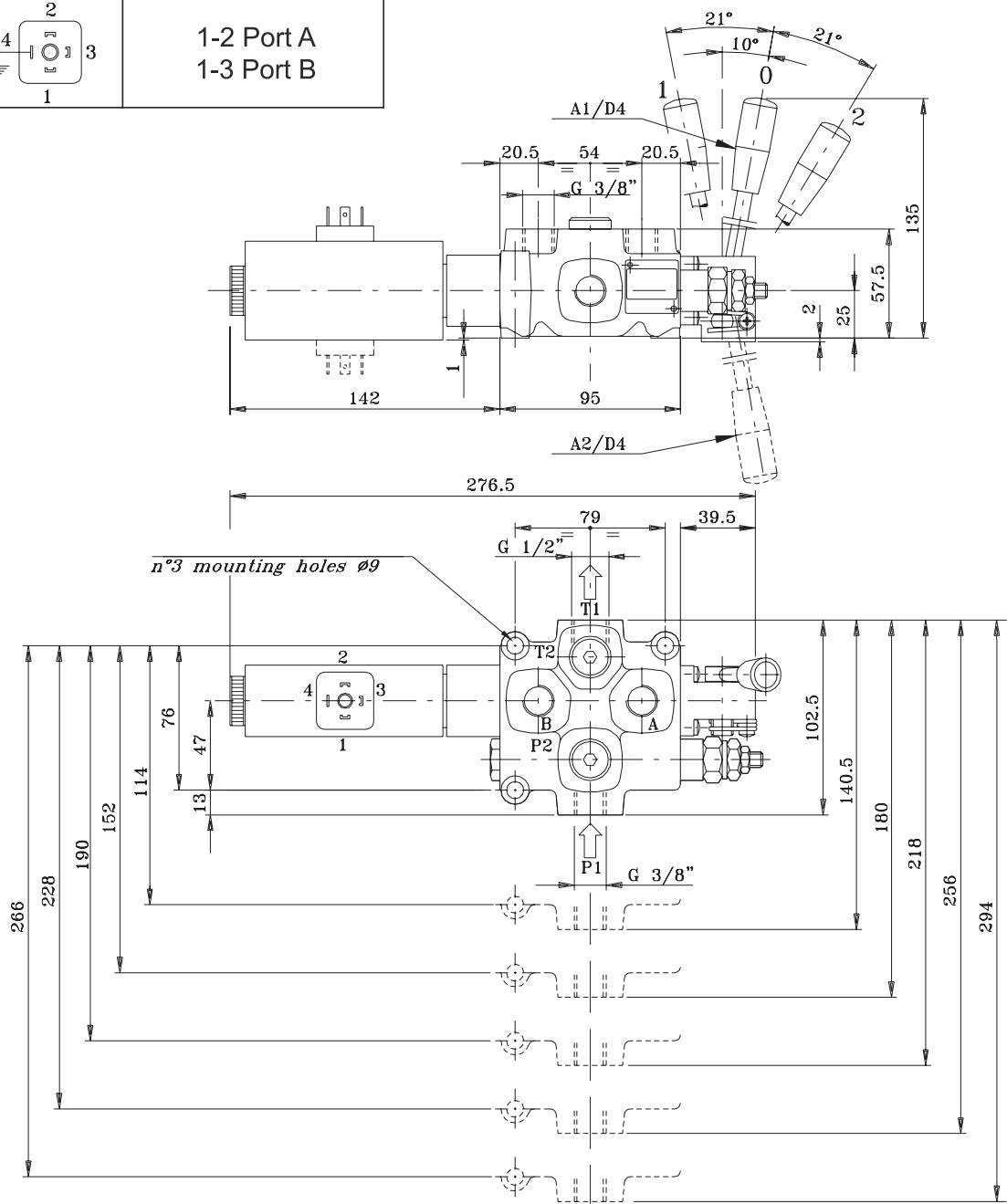
- All valves must be mounted on a plane flat surface
- On the sectional valves DO NOT adjust the tension on the tie rod nuts because this would impair the operation of the valve
- DO NOT use taper threaded fittings or pipe, use SAE or BSP connectors only
- For cleaning purposes DO NOT use any products that would damage valve seals and o-rings

Control electronics EJS 30


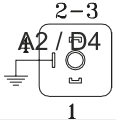
- EJS 30 control electronic is provided with a control box equipped with potentiometer joystick for corresponding working sections, a safety push-button to cut power to all functions, an electronic card and a "dead man" safety joystick
- Each electronic package is also equipped with junction box dually allowing for power supply inlet hole (12 or 24 V D.C.). Connection of the valve to the main socket is performed by means of waterproof multiple jack.
- A branching box is also provided with all cables and connections (power supply 12-24 V D.C. cable included)
- All oil flow values can be programmed on desired value on each single port with already installed equipment. In this way, it is possible to check directly on working machine single drivings speeds and making further settlements up to final choice of optimum values. For example, if a working section makes "up-down" operations, oil flow on "up" port can be fixed to a different value of oil flow on "down" port.
- Oil flow value programming is made by means of simple operations through the electronic card
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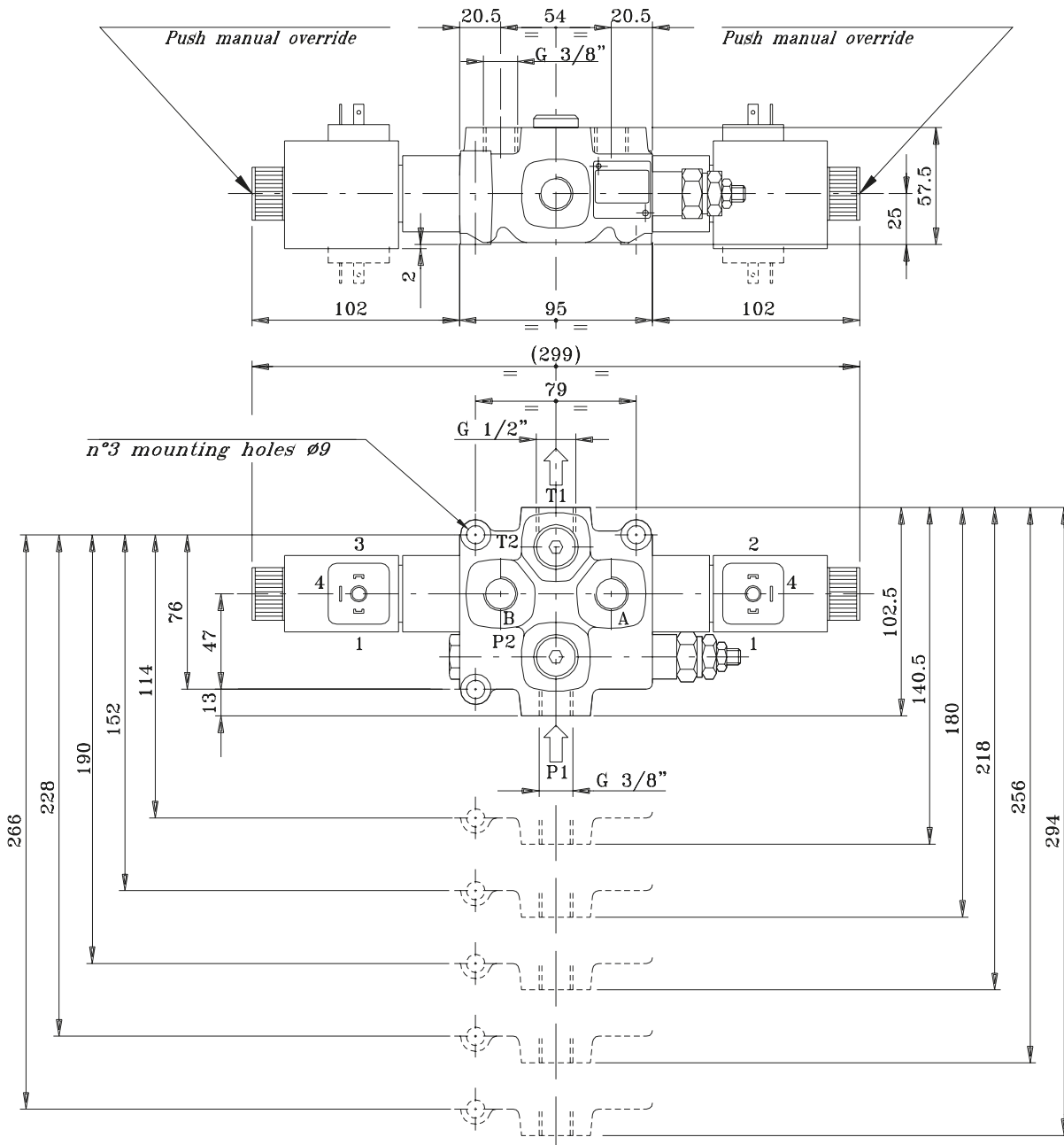
Direct electrical control **Q25**

code	hydraulic symbol	description
A1 / D4		Double direct electrical control with spring centered in 0
A2 / D4		180° rotated double direct electrical control with spring centered in 0
		1-2 Port A 1-3 Port B

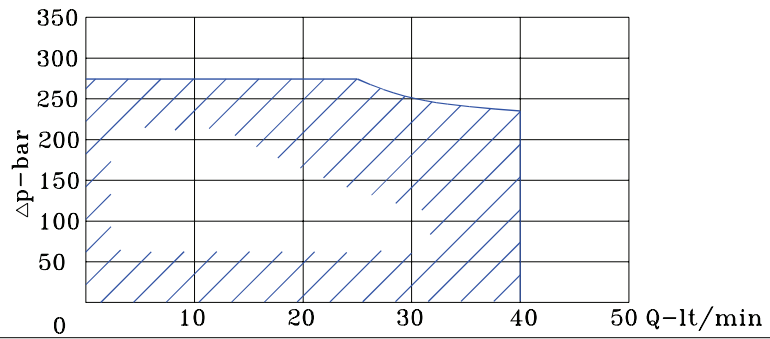


Direct electrical control **Q25**

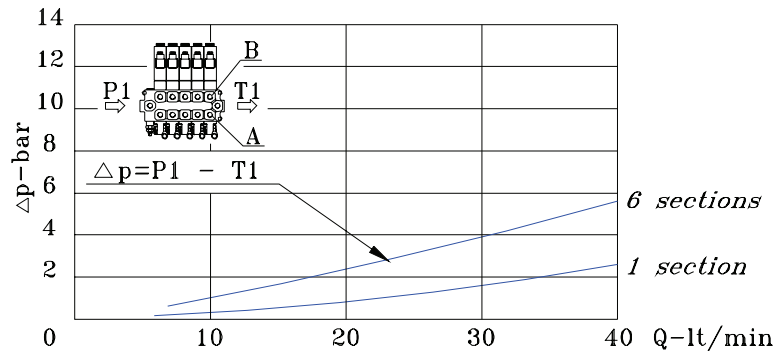
code	hydraulic symbol	description
D9		Double direct electrical control with spring centered in 0
	1-2 Port A 1-3 Port B	



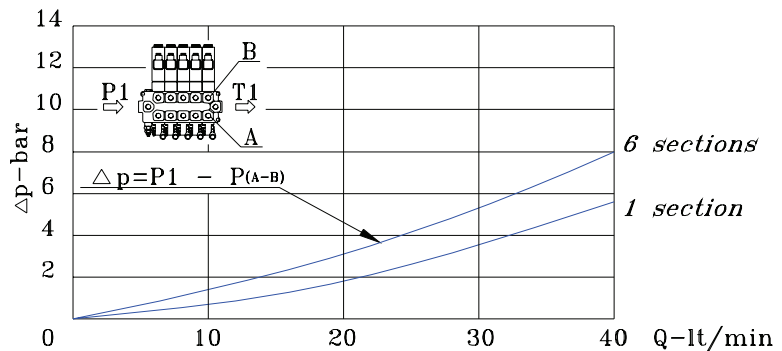
Q25 - Use limits



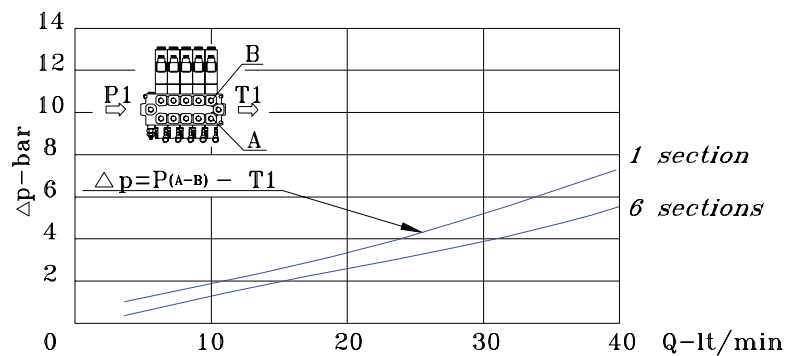
Q25 - Pressure drop with spool in neutral position

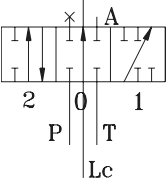
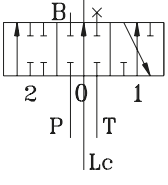
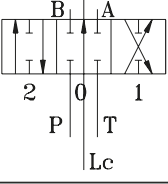
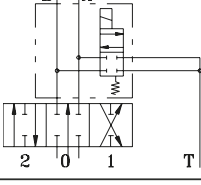
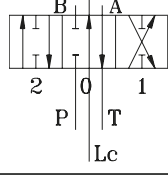
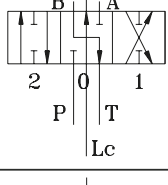
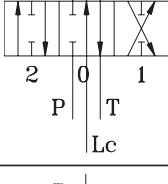
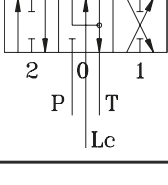


Q25 - Pressure drop with spool in working position

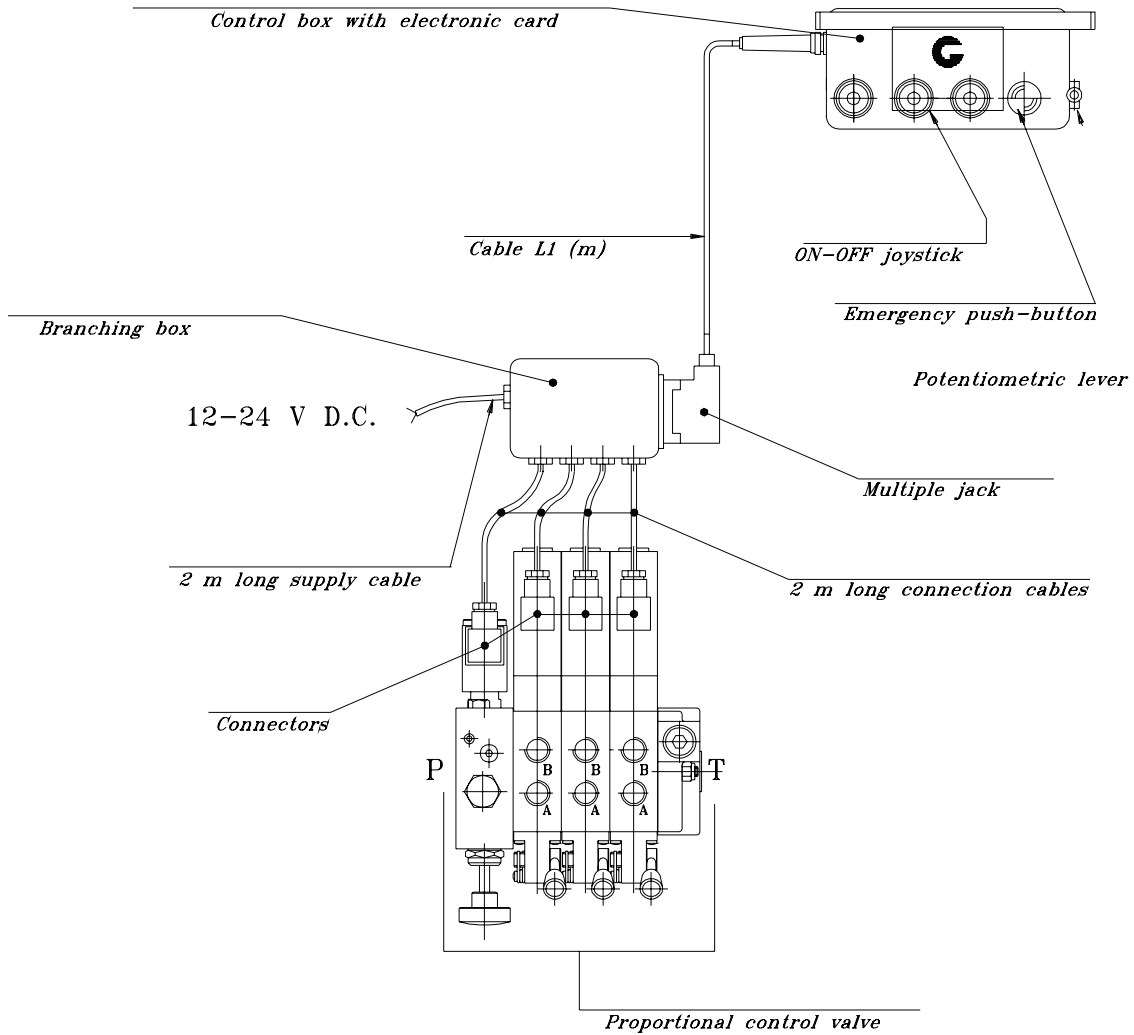


Q25 - Pressure drop with spool in working position

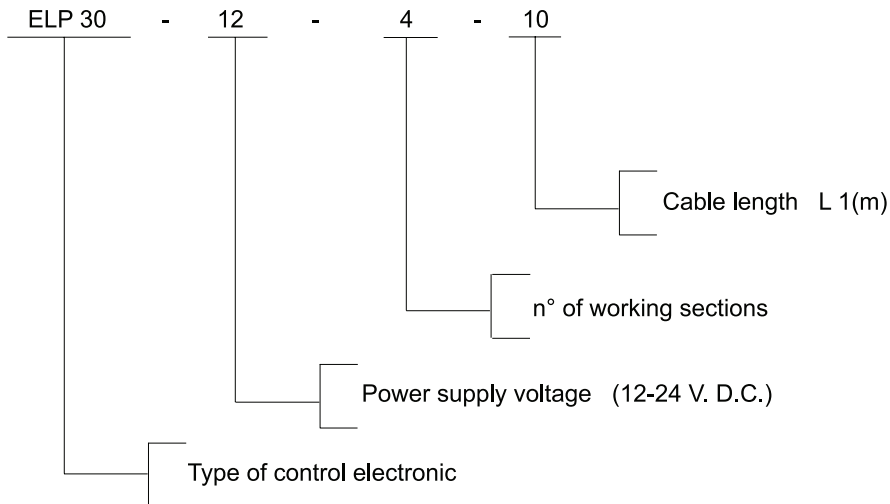


Parallel Spools			Q25 Q45	Q30 Q50	Q75 Q95	Q80
Code	Hydraulic Symbol	Description				
101		Single acting in A port	*	*	*	*
102		Single acting in B port	*	*	*	*
103		Double acting	*	*	*	*
103 VFE		Double acting with electrical floating valve (to obtain electrically the 4 th floating position). Specify the voltage: 12 V.D.C. -24 V.D.C.		*		
107		Double acting, A to T and B closed in 0 position	*	*	*	*
108		Double acting, B to T and A closed in 0 position	*	*	*	*
109		Single acting in A, A to T in 0 position	*	*	*	*
111		Double acting, A and B to T in 0 position	*	*	*	*

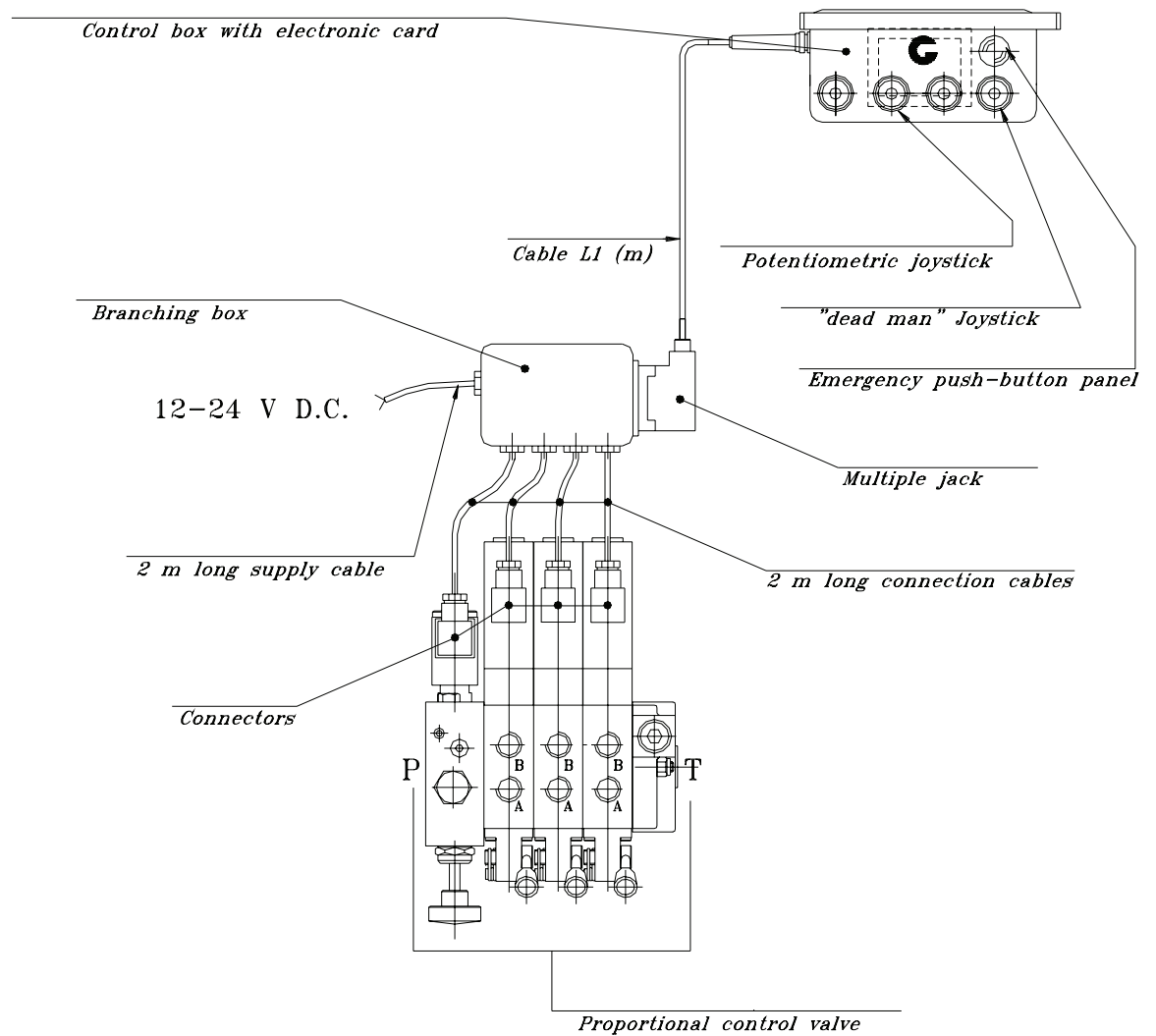
Control electronic - ELP 30



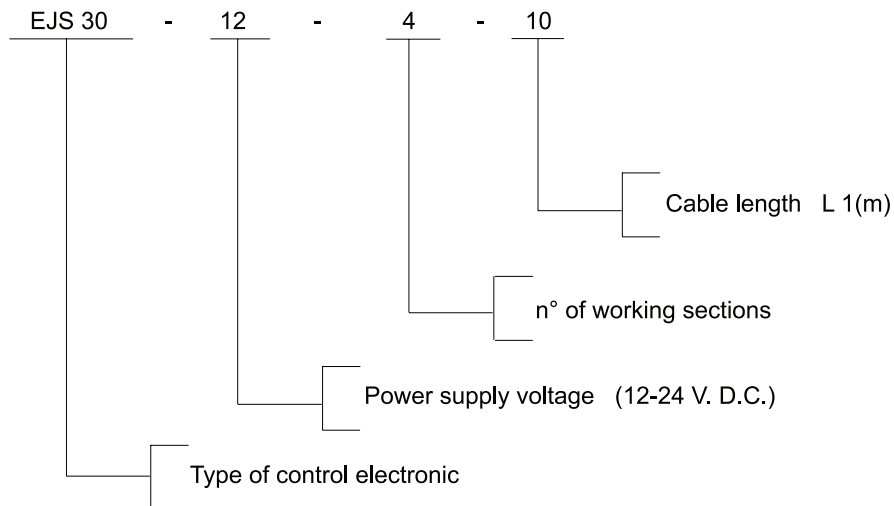
Example of ordering code



Control electronic - EJS 30

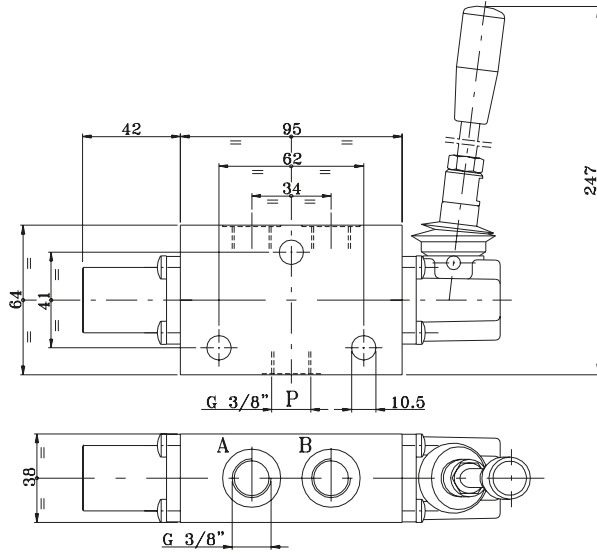


Example of ordering code



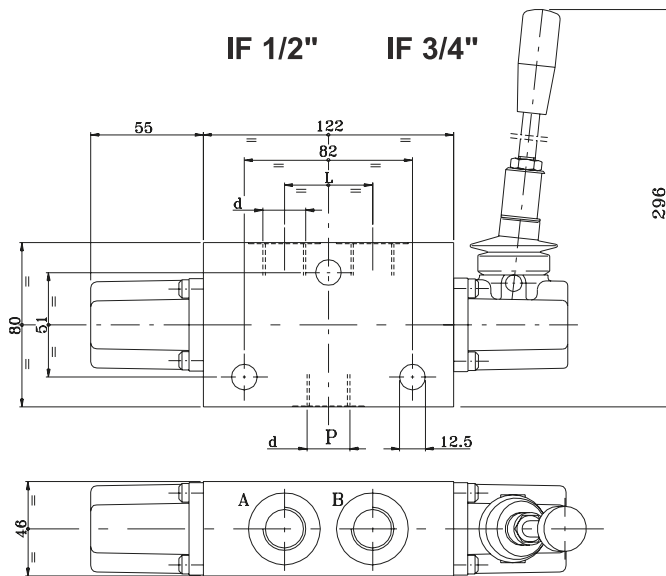
Flow dividers

IF 3/8"

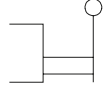
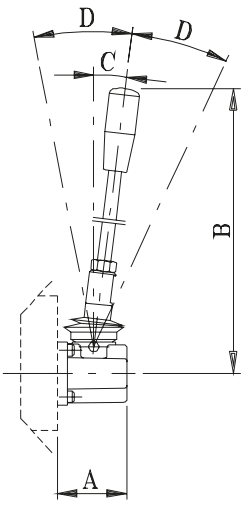
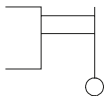
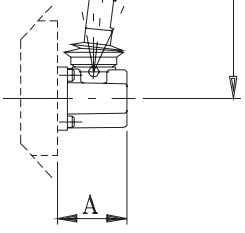
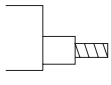
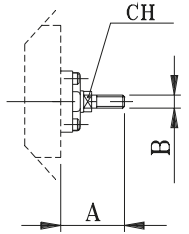
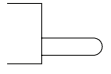
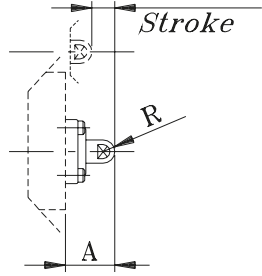
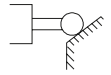
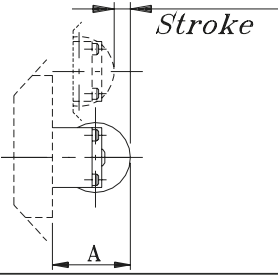


Type	Max flow rate lt/min	Max pressure bar
IF 3/8"	35	300

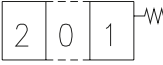
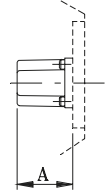
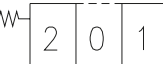
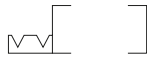
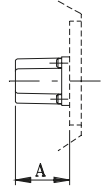
IF 1/2" IF 3/4"

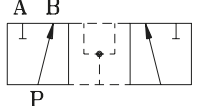
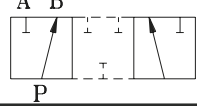


Type	Max low rate lt/min	Max pressure bar	L	d
IF 1/2"	70	300	43	G 1/2"
IF 3/4"	120	300	54	G 3/4"

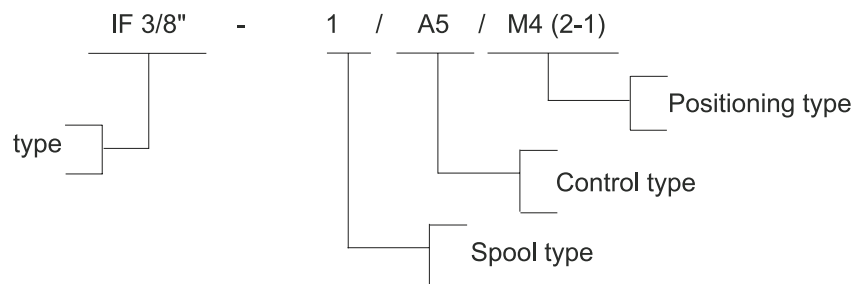
Controls				IF 3/8"	IF 1/2"	IF 3/4"
Code	Hydraulic Symbol	Description				
A1		Hand control with standard lever		A	42	55
				B	205	260
A2		Hand control with standard lever mounted rotated°		C	7°	6°
				D	18°	19°
A4		Direct control connection on spool for stiff remote control		A	39	53
				B	M8	M10
				CH	9	14
				STROKE	±5	7
A5		Direct control connection on spool with spherical end (*)		A	27	40
				B	6.85	8.75
				C	10	14
C3		Cam control with bearing (*)		A	43	51
				C	10	14

(*) Controls to be used for positioning M4 (2-1) only

Positionings				IF 3/8"	IF 1/2"	IF 3/4"
Code	Hydraulic Symbol	Description				
M4 1-2		Two end positions spring back in 1		A	42	55
m4 2-1		Two end positions spring back in 2				
R6		Two detent positions 1-2				

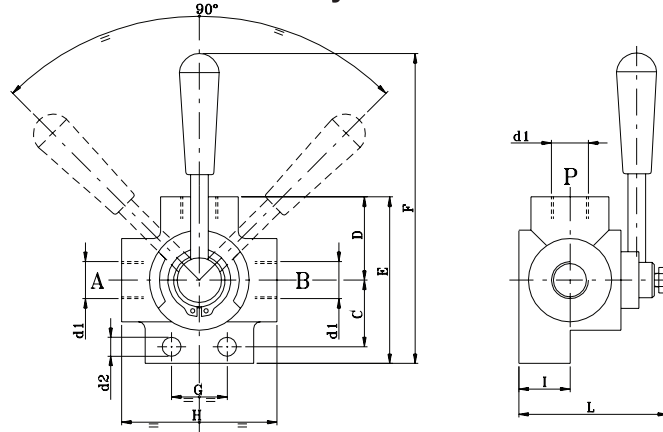
Spool types	
Spool type 1	
Spool type 2	

Example of ordering code



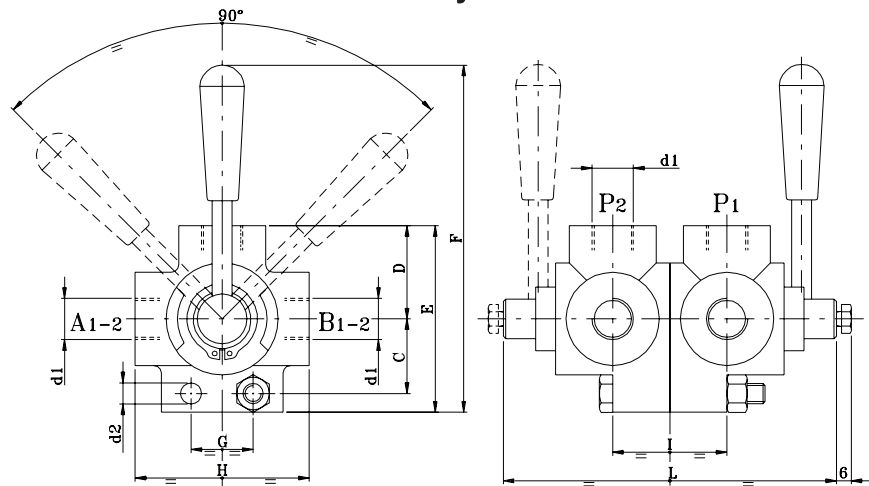
Flow diverters

3 way valves



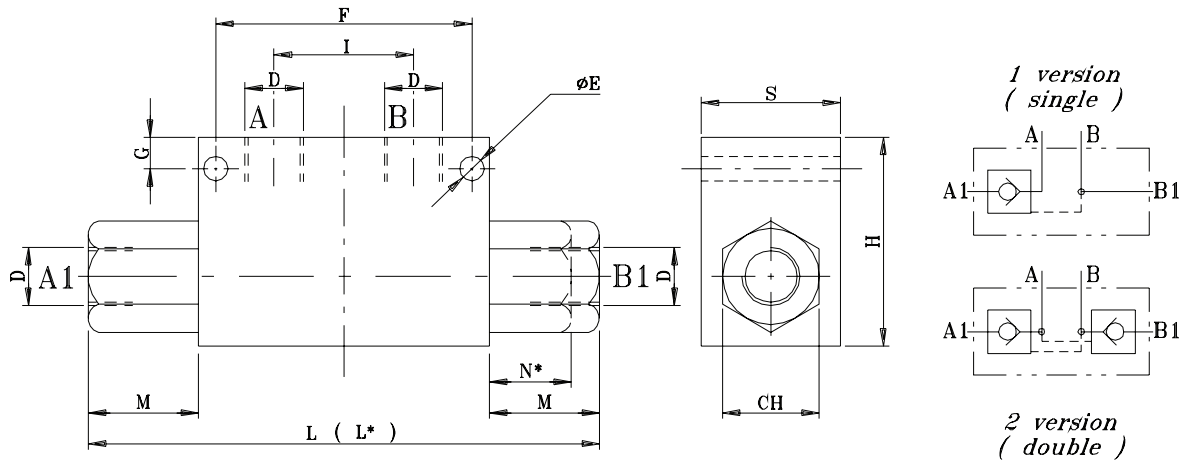
Type	Max Flow lt/min	Max Pressure bar	Dimensions										Hydraulic symbol
			d1	d2	C	D	E	F	G	H	I	L	
D3V 3/8"	25	350	G 3/8"	8.5	32	36	78.5	157	25	71	25	71	
D3V 1/2"	50		G 1/2"		37	44	96	170		86	26	74	
D3V 3/4"	100		G 3/4"	10.5	42	50	105	170	32	94.5	31	84	
D3V 1"	190		G 1"		50	52	120	188		103.5	32.5	91	

6 way valves



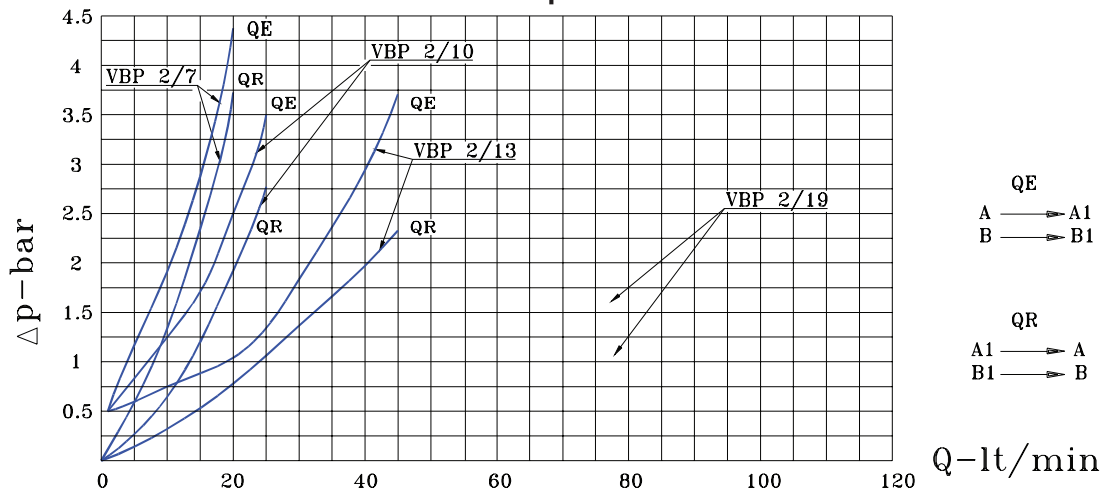
Type	Max Flow lt/min	Max Pressure bar	Dimensions										Hydraulic symbol
			d1	d2	C	D	E	F	G	H	I	L	
D6V 3/8"	25	350	G 3/8"	8.5	32	36	78.5	157	25	71	50	135	
D6V 1/2"	50		G 1/2"		37	44	96	170	32	86	52	139	

Double pilot-operated check valves



*(For 1 version, only)

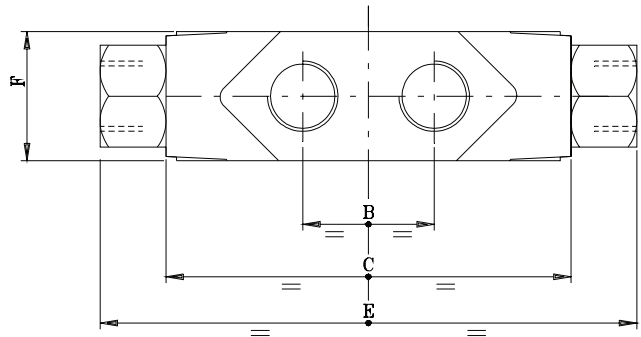
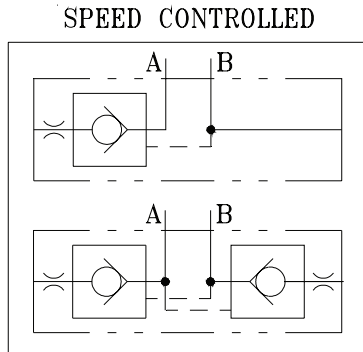
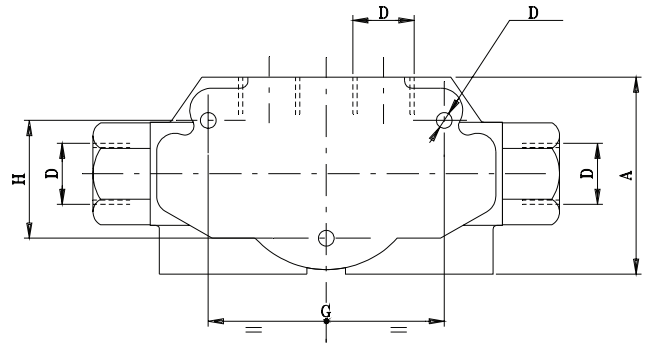
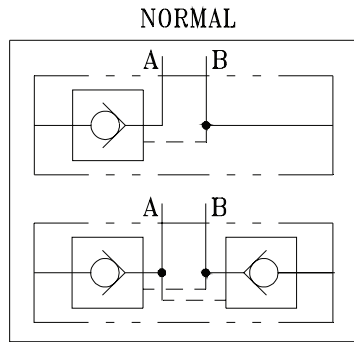
Pressure drops



Type		Max Flow lt/min	Max Pressure bar	Operating Pressure bar	Piloting ratio	Mass Kg
IS VBP 1/7	IS VBP 2/7	20	350	0.5 (standard)	1:4	0.775
IS VBP 1/10	IS VBP 2/10	25	350			0.775
IS VBP 1/13	IS VBP 2/13	45	350			1.750
IS VBP 1/19	IS VBP 2/19	85	85	85	85	85

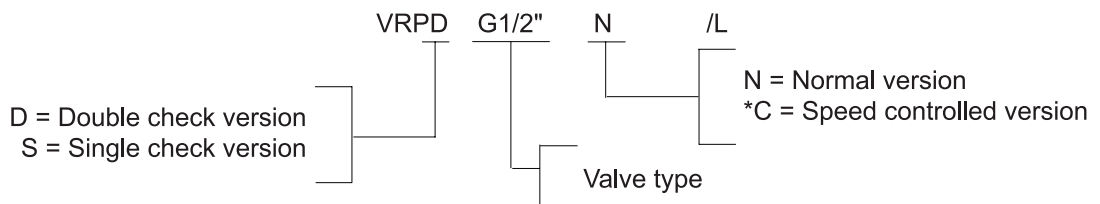
Type	D	E	F	G	H	I	L	L*	M	N*	CH
IS VBP .../7	G 1/4"	6.5	60	9	6.5	30	124	117	27	20	22?
IS VBP .../10	G 3/8"	6.5	60	9	6.5	30	124	117	27	20	32?
IS VBP .../13	G 1/2"	8	75	17	8	40	174	170	42	35	32?
IS VBP .../19	G 3/4"	9	104	16	9	60	212	212	46	46	46?

Pilot-operated check valves with pre-valve



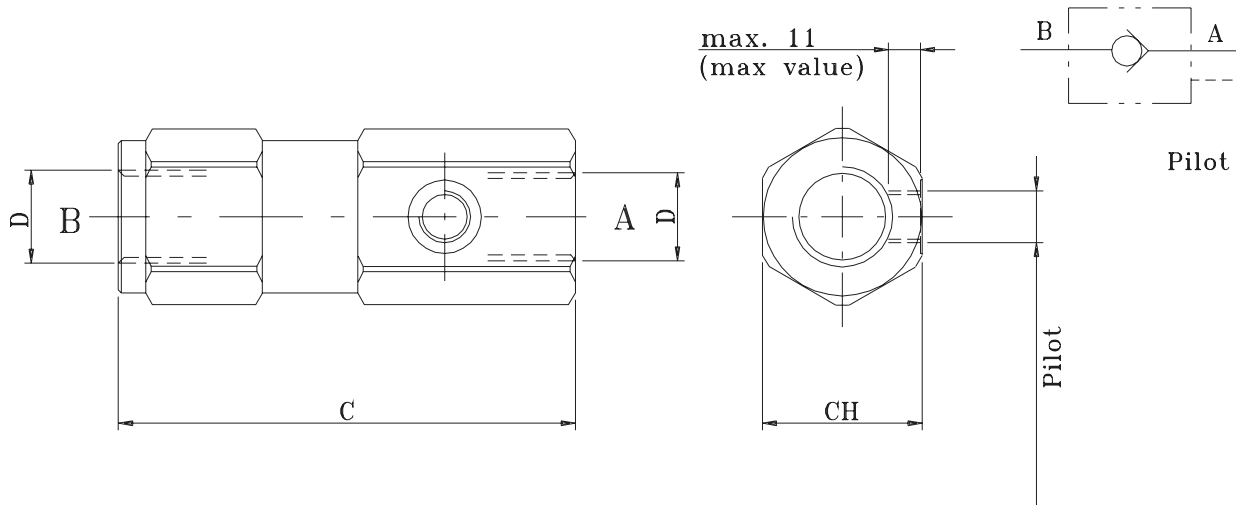
Type	A	B	C	D	E	F	G	H	I	Max flow	Max pressure bar	Piloting ratio
VRP... G 3/8"	74	43	132	G 3/8"	177	49	83	45	6,5	40	350	1:16
VRP... G 1/2"	74	43	132	G 1/2"	177	49	83	45	6,5	70		1:16
VRP... G 3/4"	74	51	154	G 3/4"	214	56	108	48	8,5	100		1:12

Example of ordering code



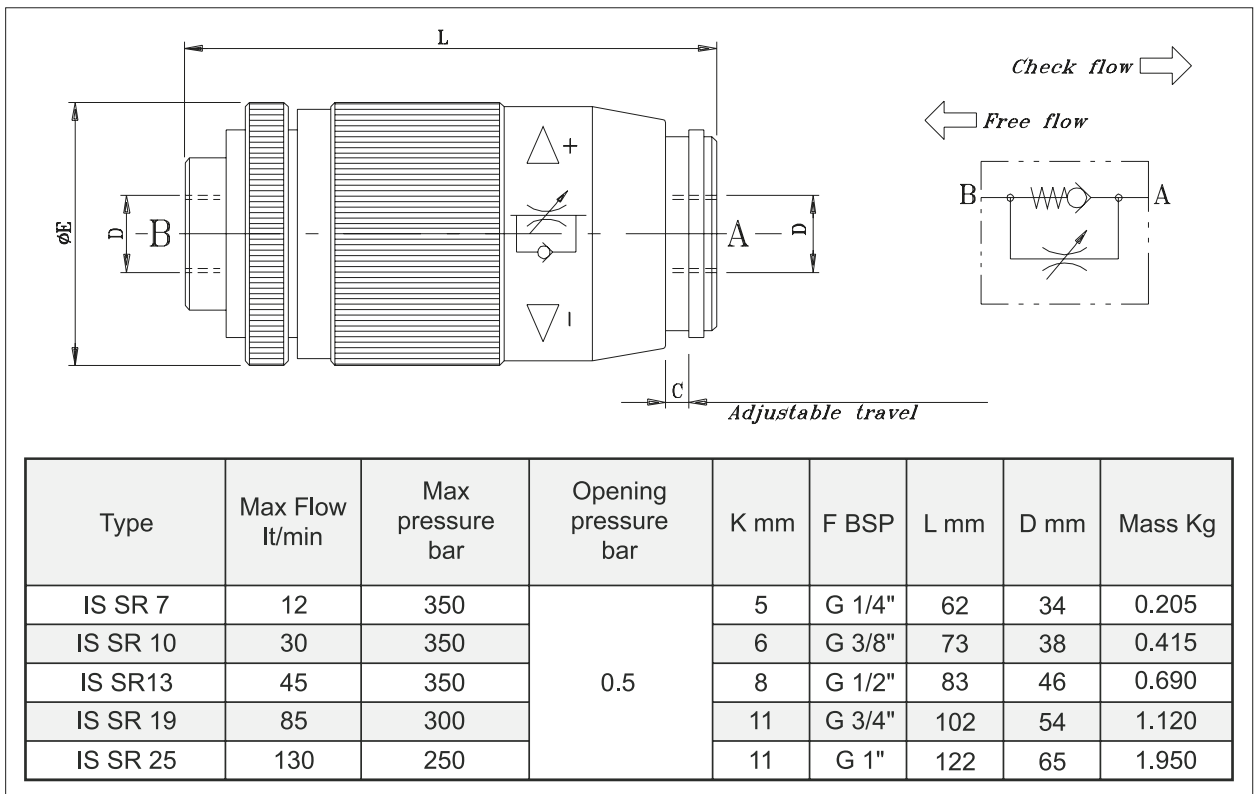
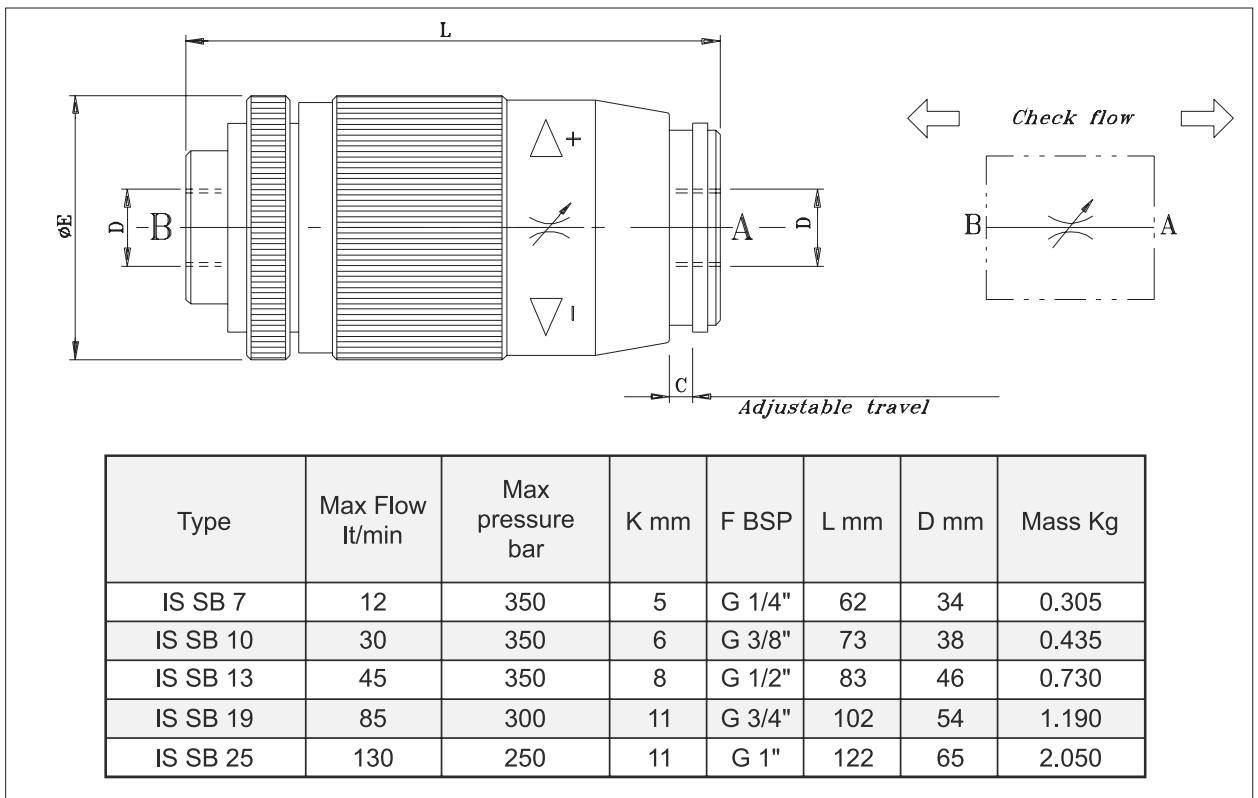
* Available only G 1/2" version

Single pilot-operated check valves

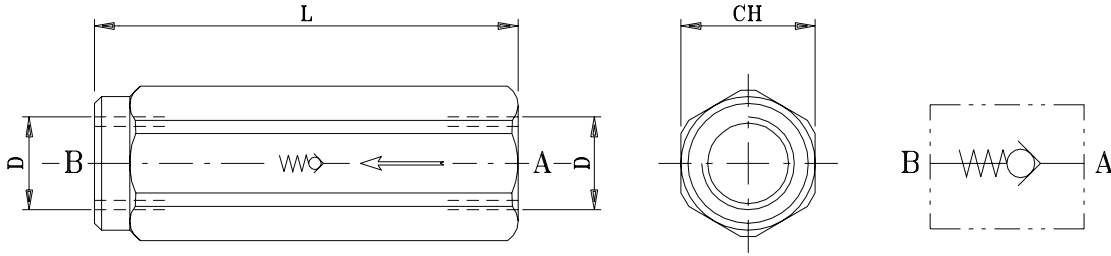


Type	Max flow lt/min	Max pressure bar	Piloting ratio	C mm	D BSP	CH mm	Mass Kg
IS VBPS 7	12	350	1:5	101	G 1/4"	36	0.700
IS VBPS 10	30	350	1:4.4	106	G 3/8"	41	0.820
IS VBPS 13	45	350	1:4.2	124	G 1/2"	41	0.950
IS VBPS 19	85	300	1:3	131	G 3/4"	55	2.050

Flow control valves



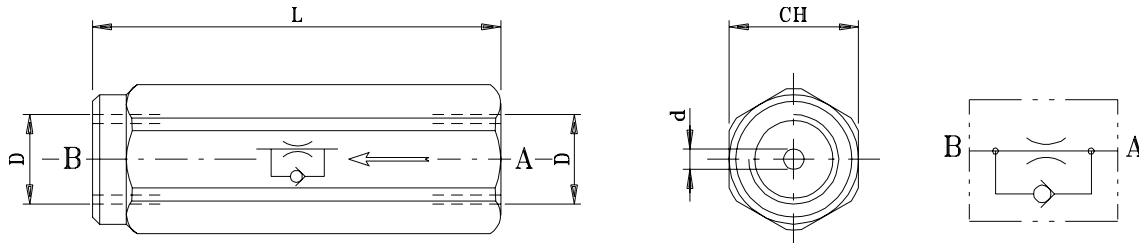
Unidirectional check valves



Unidirectional	Max flow lt/min	Max pressure bar	Operating pressure bar	D	L mm	CH mm	Mass Kg
IS RU 7	12	12	0.5 (standard) 5*	G 1/4"	59	19	0.100
IS RU 10	30	30		G 3/8"	66	24	0.170
IS RU 13	45	45		G 1/2"	78	27	0.230
IS RU 19	85	85		G 3/4"	90	36	0.480
IS RU 25	140	140		G 1"	112	46	1.020
IS RU 32	230	230		G 1 1/4"	125	55	1.500
IS RU 38	330	330		G 1 1/2"	140	65	2.400

* For different valves specify them. Contact our office for the available calibrations (not standard).

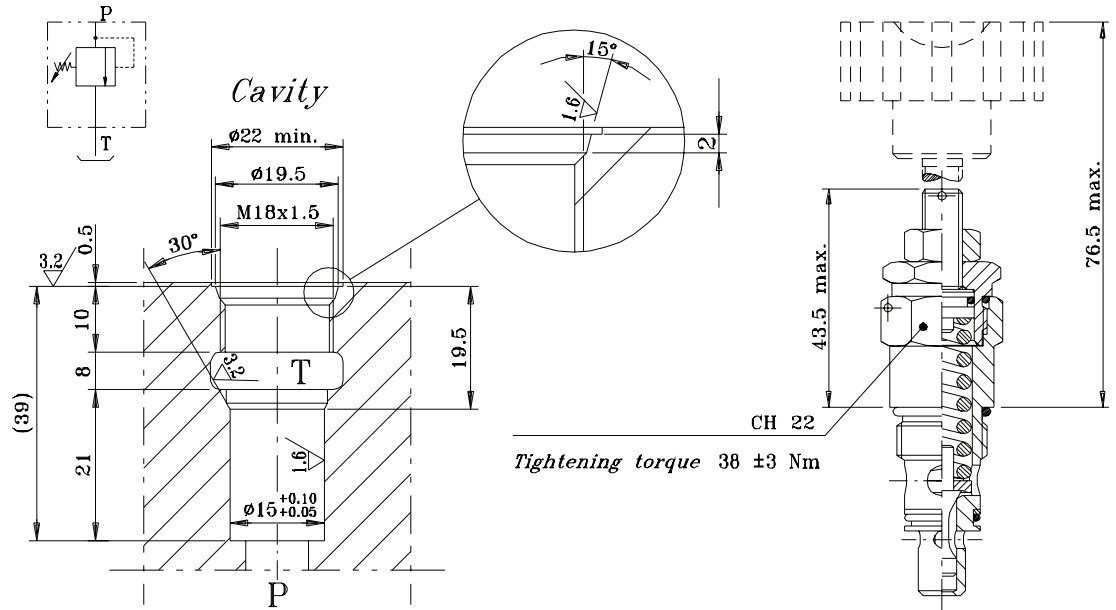
Flow control valves with fixed throttle



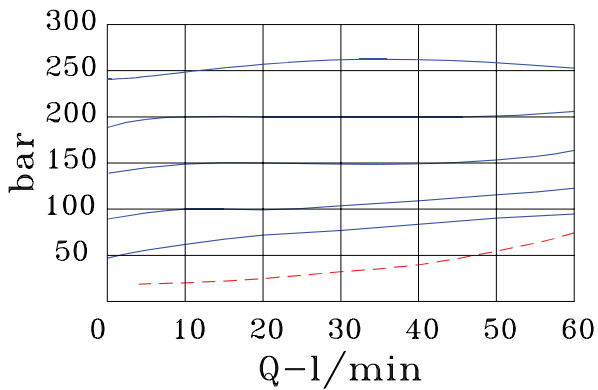
Unidirectional	Max flow lt/min	Max pressure bar	D	L mm	CH mm	Mass Kg
IS RU 7/d	12	350	G 1/4"	59	19	0.100
IS RU 10/d	30	350	G 3/8"	66	24	0.170
IS RU 13/d	45	350	G 1/2"	78	27	0.230
IS RU 19/d	85	300	G 3/4"	90	36	0.480
IS RU 25/d	140	250	G 1"	112	46	1.020
IS RU 32/d	230	250	G 1 1/4"	125	55	1.500
IS RU 38/d	330	250	G 1 1/2"	140	65	2.400

The "d" shown in the code means "diameter of throttle hole" which goes from a minimum of 0.5 to a maximum of 4mm, and increases of 0.5 on

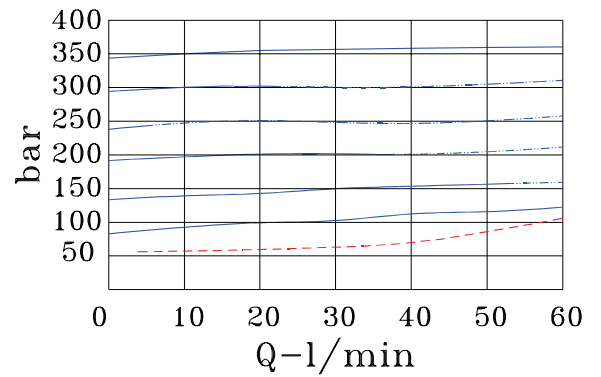
**Pressure relief valve
VLP 35S (Q25 - Q30 - Q35 - Q45 - Q50)**



**Performance curves VLP 35S
(black spring)**



**Performance curves VLP 35S
(red spring)**



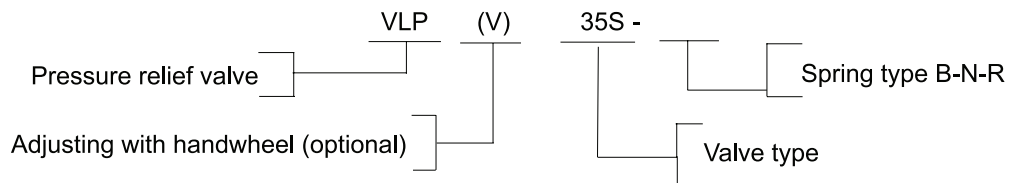
--- Minimum setting value

(B) Setting range on demand 15 / 100 bar white spring

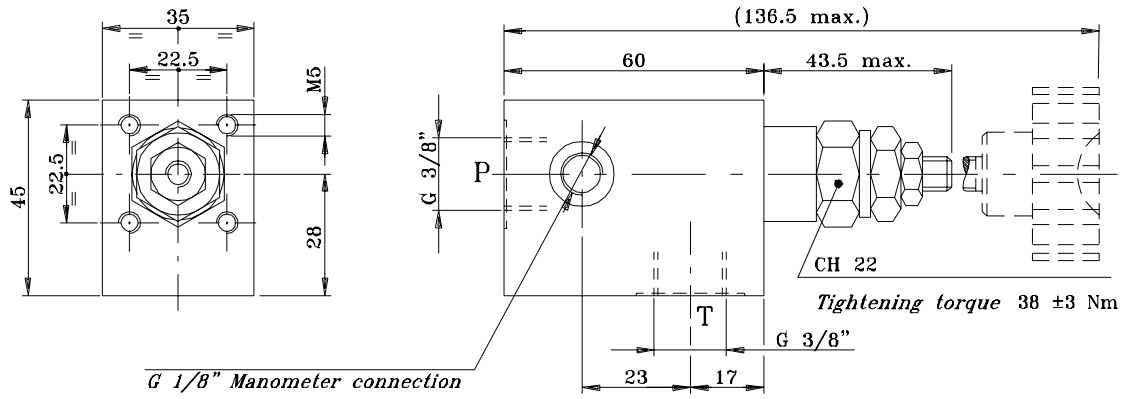
(N) Standard setting 30 / 280 bar black spring

(R) Optional setting 80 / 380 bar red spring

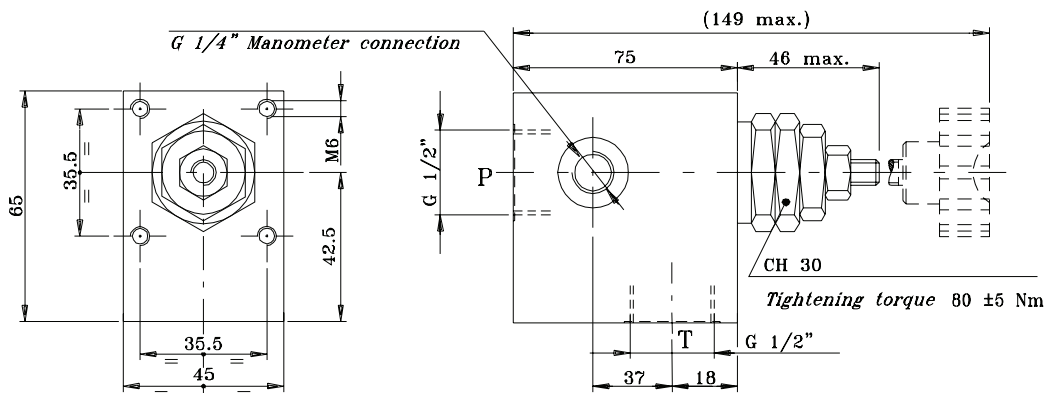
Example of ordering code



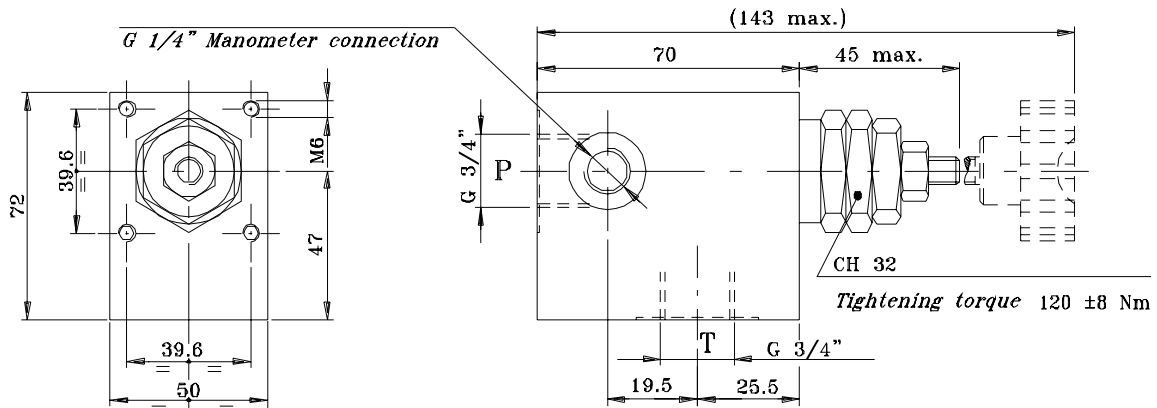
Billet pressure relief valve B-VLP 35S



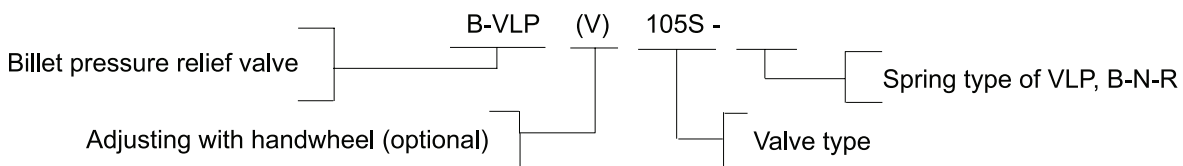
Billet pressure relief valve B-VLP 65S



Billet pressure relief valve B-VLP 105S



Example of ordering code





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