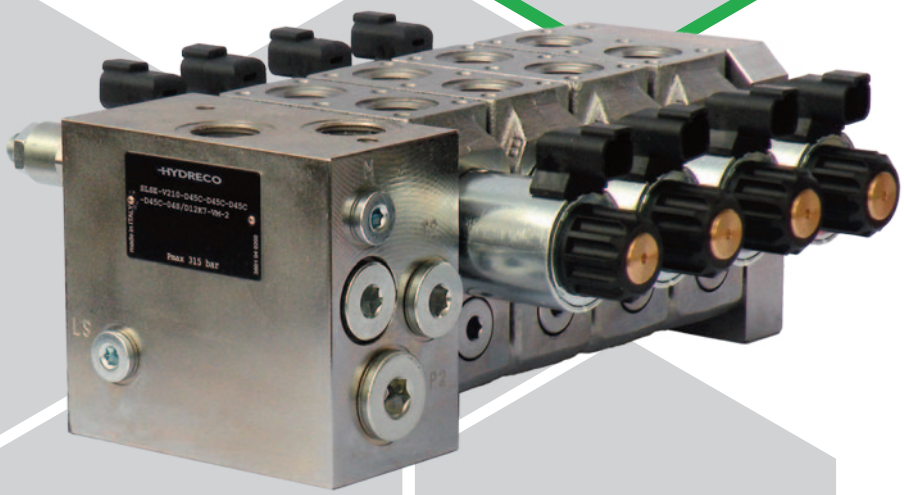
HYDRECO

SLSE

SECTIONAL PROPORTIONAL DIRECTIONAL VALVE FOR LOAD SENSING

315 bar 45 l/min



TECHNICAL CATALOGUE

SLSE_EN_2026_01

INTRODUCTION

The SLSE is a sectional directional control valve with load sensing feature. It can be assembled with up to 8 working sections (proportional and solenoid valves together).

Each module is equipped with a meter-in compensator that keeps the flow costant, independently from load changes.

Sections equipped with pressure compensators are not affected by other operating functions, provided that sufficient pump capacity is available. For correct operation, the total simultaneous flow demand must not exceed 90% of the inlet flow rate.

BSPP- or SAE-threaded ports are available. Additional connections are available on the inlet sections for convenient connection.

The manual lever override is available as option.

FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, or fluids HFDR type (phosphate esters). For the use of other kinds of fluid such as HFA, HFB, HFC, please consult our technical department.

Using fluids at temperatures higher than 80 °C (180 °F) causes the accelerated degradation of seals as well as the fluid physical and chemical properties.

OPERATING PARAMETERS

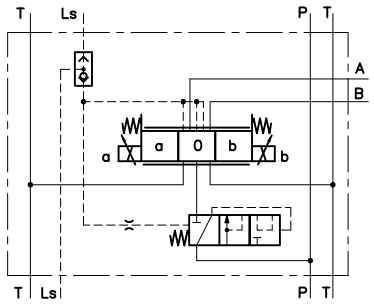
MAXIMUM OPERATING PRESSURE	P - A - B ports	315 bar	4570 psi
	T port	20 bar	290 psi
FLOW CAPACITY WITH Δp 10 BAR (145 PSI)	A - B ports	45 l/min	12 gpm
	P port	100 l/min	26 gpm
	T port	120 l/min	32 gpm

STEP RESPONSE	0 → 100%	50 ms	
	100 →0%	40 ms	
HYSTERESIS	% of Q max	< 6%	
REPEATABILITY	% of Q max	< ± 2%	
VOLTAGE		12V DC 24V DC	
COIL CONNECTION		DIN 43650	DT04-2P
WEIGHT	working section	4.5 kg	10 lbs

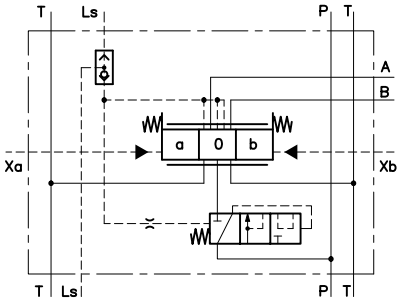
RANGE TEMPERATURES:	ambient	-20 to +60 °C	-4 to +140 °F
	fluid	-20 to +82 °C	-4 to +180 °F
FLUID VISCOSITY	range	10 - 400 cSt	60 - 1900 SUS
	recommended	25 cSt	120 SUS
FLUID CONTAMINATION		ISO 4406:1999 class 18/16/13	

HYDRAULIC SYMBOLS FOR WORKING SECTIONS

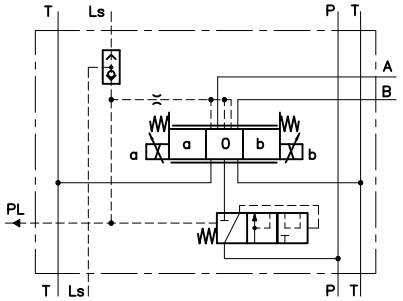
SLSE-*D



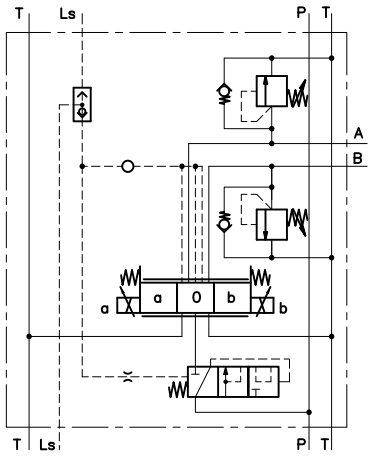
SLSE-*H



SLSE*-*-PL



SLSE*-*-A***B***

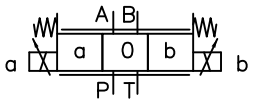
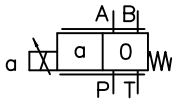
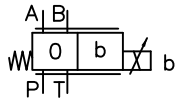


SLSE - □□□□ - □□□ - □□ - □□ - 2 — design mark

PORTS SIZE	
B2	1/2" BSPP
S2	3/4"-16 UNF

SEAL	
V	Viton

MANUAL OVERRIDE	
M	built-in with the tube, pin (**standard**) (*)
B	built-in with the tube, boot protected
K	knob, turning
L	hand lever

FUNCTION	
D	 double solenoid 3 positions - spring centred
A	 single solenoid at side A 2 positions - spring return
B	 single solenoid at side B 2 positions - spring return
H	remote hydraulic actuation **SEE NEXT PAGE**

ADDITIONAL FEATURES
omit if not required

VOLTAGE	
D12	12 V DC
D24	24 V DC

COILS	
K1	DIN 43650
K2	AMP Junior
K7	DT04-2P 'deutsch'
WK1	DIN 43650 zinc-nickel plated
WK7	DT04-2P 'deutsch' zinc-nickel plated

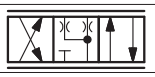
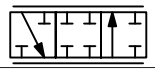
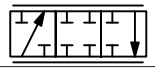
PRESSURE LIMITATION	
PL	pressure signal (AB) for remote valve

AUXILIARY VALVE side A	
A..	anti-cavitation + anti-shock

AUXILIARY VALVE side B	
B..	anti-cavitation + anti-shock

(*) This manual override is not available with 'WK*' coil types.

A.. and **B..** add the desired set pressure value to the letter:
available pressures: 100, 150, 190, 235, 280, 300, 350.

SPOOLS			
	SYMBOL	DESCRIPTION	APPLICATION
C		closed centre	proportional meter in / meter out
A		open centre	
PA		line A	proportional, single flow, function type D, Available nominal flows: 30 l/min and 45 l/min
PB		line B	

NOMINAL FLOW with Δp P-T 4 bar (58 psi)	
05	5 l/min (1.3 gpm)
15	15 l/min (4 gpm)
30	30 l/min (7.9 gpm)
15-10	15/10 l/min asymmetrical
30-20	30/20 l/min asymmetrical

with Δp P-T 8 bar (116 psi)	
09	9 l/min (2.4 gpm)
25	25 l/min (6.5 gpm)
45	45 l/min (12 gpm)
25-15	25/15 l/min asymmetrical
45-30	45/30 l/min asymmetrical

CODE EXAMPLES:

SLSE-A25C-D12K7-VM-2
SLSE-D25C-A235B235-D12K7-VM-2
SLSE-D25C-PL-D12WK7-VB-2

REMOTE HYDRAULIC ACTUATED WORKING SECTION

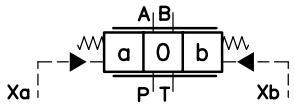
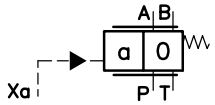
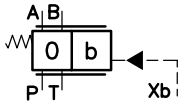
The section shall be operated by a remote regulated pressure line, via positioning device with pressure reducer, and directly connected to the working section.

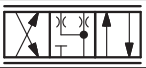
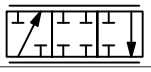
The spool movement depends on the difference between control pressure and return pressure and is therefore sensitive to return line conditions.

SLSE -B2 [ ] [ ] [ ] - V - 2 — design mark

PORTS SIZE	
B2	1/2" BSPP

SEAL	
V	Viton

FUNCTION	
H	 double actuation 3 positions - spring centred
HA	 actuation at side A 2 positions - spring return
HB	 actuation at side B 2 positions - spring return

SPOOLS			
	SYMBOL	DESCRIPTION	APPLICATION
C		closed centre	proportional meter in / meter out
A		open centre	
PA		line A	proportional single flow function type D, flows 35 and 40 only
PB		line B	

NOMINAL FLOW with Δp P-T 4 bar (58 psi)	
05	5 l/min (1.3 gpm)
15	15 l/min (4 gpm)
30	30 l/min (7.9 gpm)
15-10	15/10 l/min asymmetrical
30-20	30/20 l/min asymmetrical

with Δp P-T 8 bar (116 psi)	
09	9 l/min (2.4 gpm)
25	25 l/min (6.5 gpm)
45	45 l/min (12 gpm)
25-15	25/15 l/min asymmetrical
45-30	45/30 l/min asymmetrical

CODE EXAMPLES:

SLSE-B2H30C-V-2
SLSE-B2AH30A-V-2

BASIC INLET SECTIONS

SLSX - [ ] S - V - 1 ← design mark

PORTS SIZE	
B3	3/4" BSPP

MATERIAL	
S	steel

SEAL	
V	Viton

INLET SECTIONS WITH COMPENSATOR

SLSX- [ ] [ ] - [ ] S - V - 4 ← design mark

FUNCTION	
F	for fixed pump
V	for variable pump

RELIEF VALVE	
000	no relief valve
210	up to 210 bar
315	up to 315 bar

PORTS SIZE	
B3	3/4" BSPP
S25	7/8" -14 UNF

MATERIAL	
S	steel

SEAL	
V	Viton

OUTLET SECTION

SLSX - [ ] 04S - V - 1 ← design mark

PORTS SIZE	
B1	1/4" BSPP

BLANKING SECTION	
04	Blanking section with load sensing port

MATERIAL	
S	steel

SEAL	
V	Viton

FLANGEABLE TOP MODULE

SLSZ - PCD - A - V - 1 ← design mark

FUNCTION	
PC	pilot check valve

EFFECT	
D	double

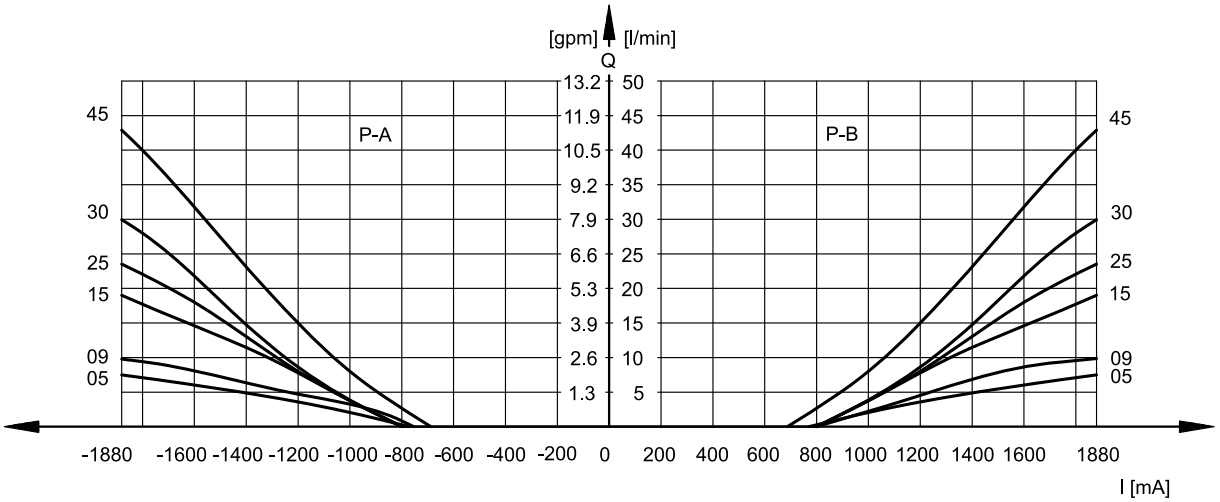
MATERIAL	
A	aluminium

SEAL	
V	Viton

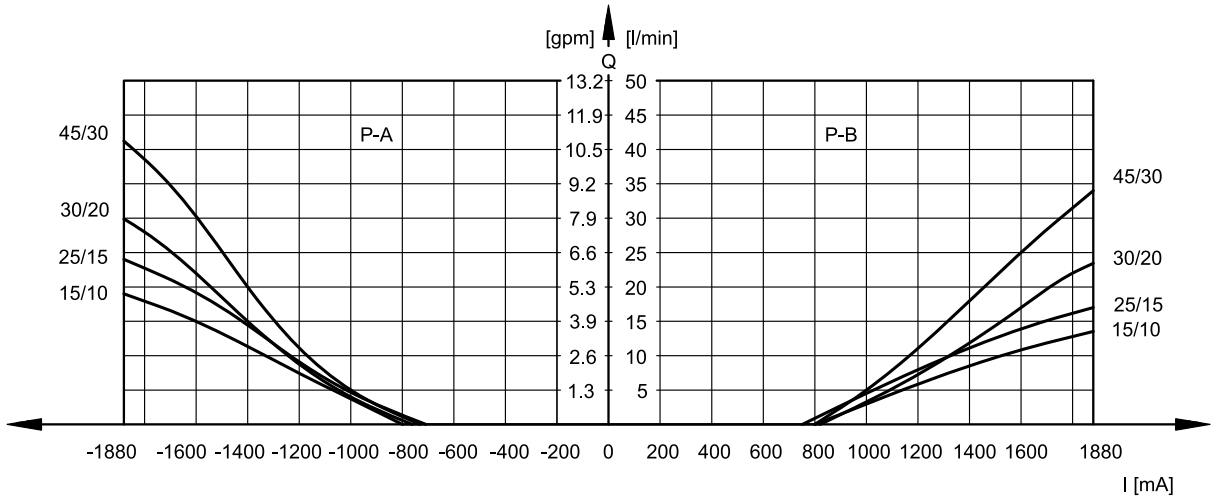
Aluminium
p max = 230 bar
Q max = 30 l/min

Typical constant flowrate obtained through the embedded compensator, and current with 12V solenoid type (for D24 version the maximum current is 860 mA).

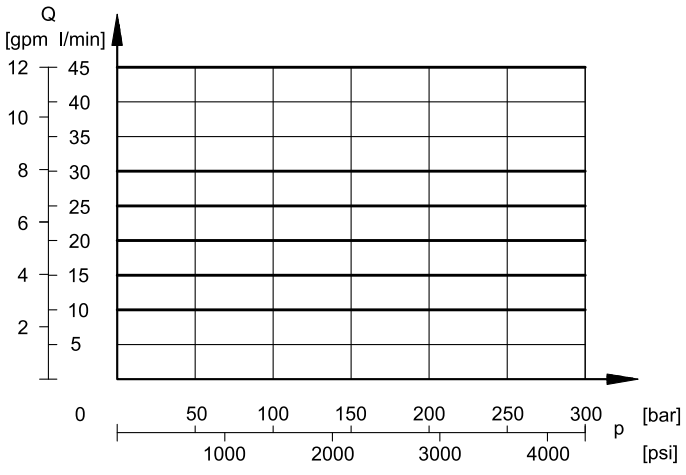
PRESSURE DROPS Δp-Q - SYMMETRICAL SPOOLS TYPE C, A



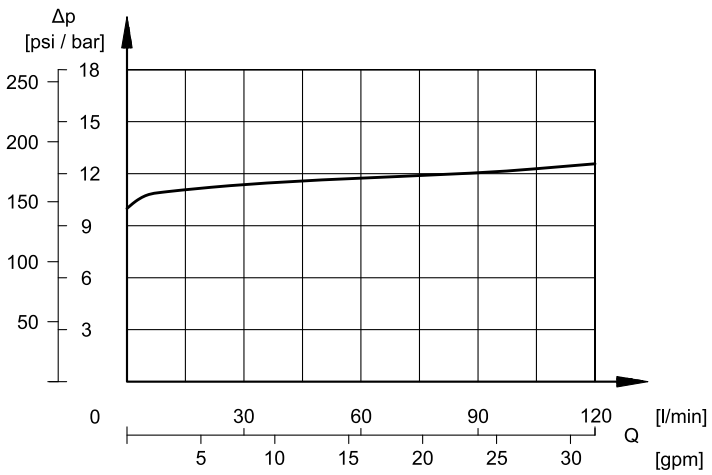
PRESSURE DROPS Δp-Q - ASYMMETRICAL SPOOLS TYPE C, A



FLOWRATE BY PRESSURE



PRESSURE DROPS Δp-Q OF INLET SECTIONS TYPE F, V



The proportional solenoid consists of tube and coil.
The coil is fit on the tube and fastened to it by a ring retainer.

The coils can be indexed to any position allowing for convenient location of the connector.

Contact us to order coils as spare parts.

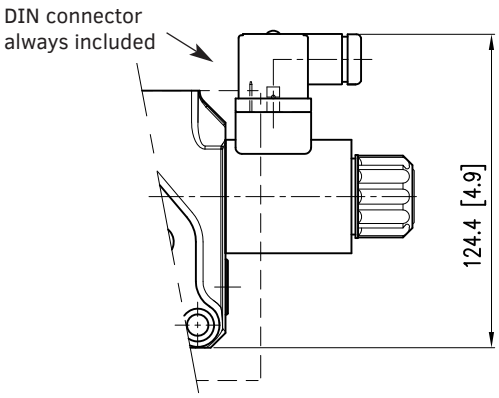
DUTY CYCLE		100%
ELECTROMAGNETIC COMPATIBILITY (EMC)		according to European directive 2014/30/EU
PROTECTION CLASS FOR INSULATION	copper wire	class H (180 °C)
	coil	class F (155 °C)

	Nominal voltage [V]	Resistance at 20 °C [Ω]	Current at 20 °C. [A]
D12	12	4.4	1.88
D24	24	18.6	0.86

The declared IP ratings are intended according to EMC 2014/30/EU, only for both valve and connectors of equivalent IP degree, installed properly.

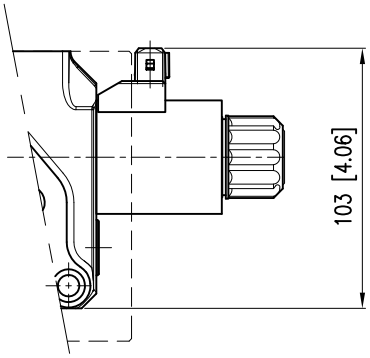
WK1 and WK7 coils reach a better IP rating than standard coils thanks to the zinc-nickel plating and a number of design precautions. The valves with these coils have a salt spray resistance up to 600 hours (test performed according to UNI EN ISO 9227 and assessment test performed according to UNI EN ISO 10289).

K1



DIN 43650 (EN 175301-803)
IP degree of electrical connection: IP65
IP degree of whole valve: IP 65

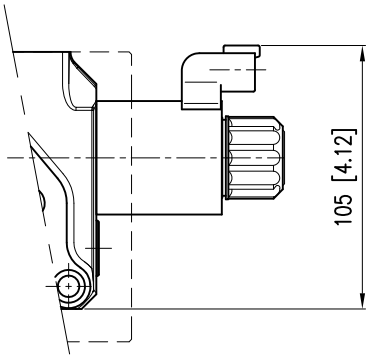
K2



AMP Junior

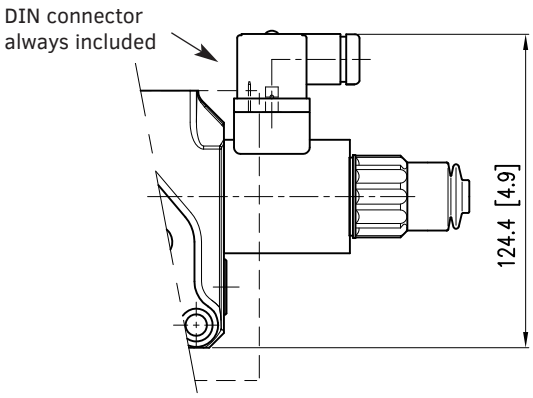
IP degree of electrical connection: IP65/IP67
IP degree of whole valve: IP 65

K7



DEUTSCH DT04 MALE
IP degree of electrical connection: IP65/IP67
IP degree of whole valve: IP 65

WK1

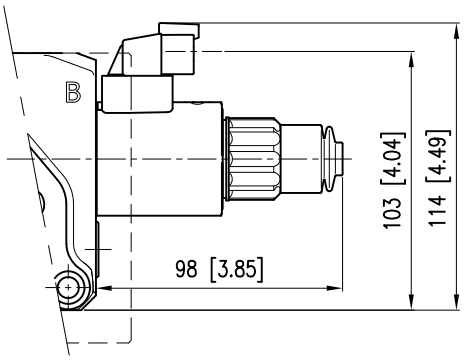


DIN 43650 (EN 175301-803)
Zinc-nickel plated coil.

IP degree of electrical connection: IP66
IP degree of whole valve: IP66

The pin for manual override is boot-protected (code B).

WK7



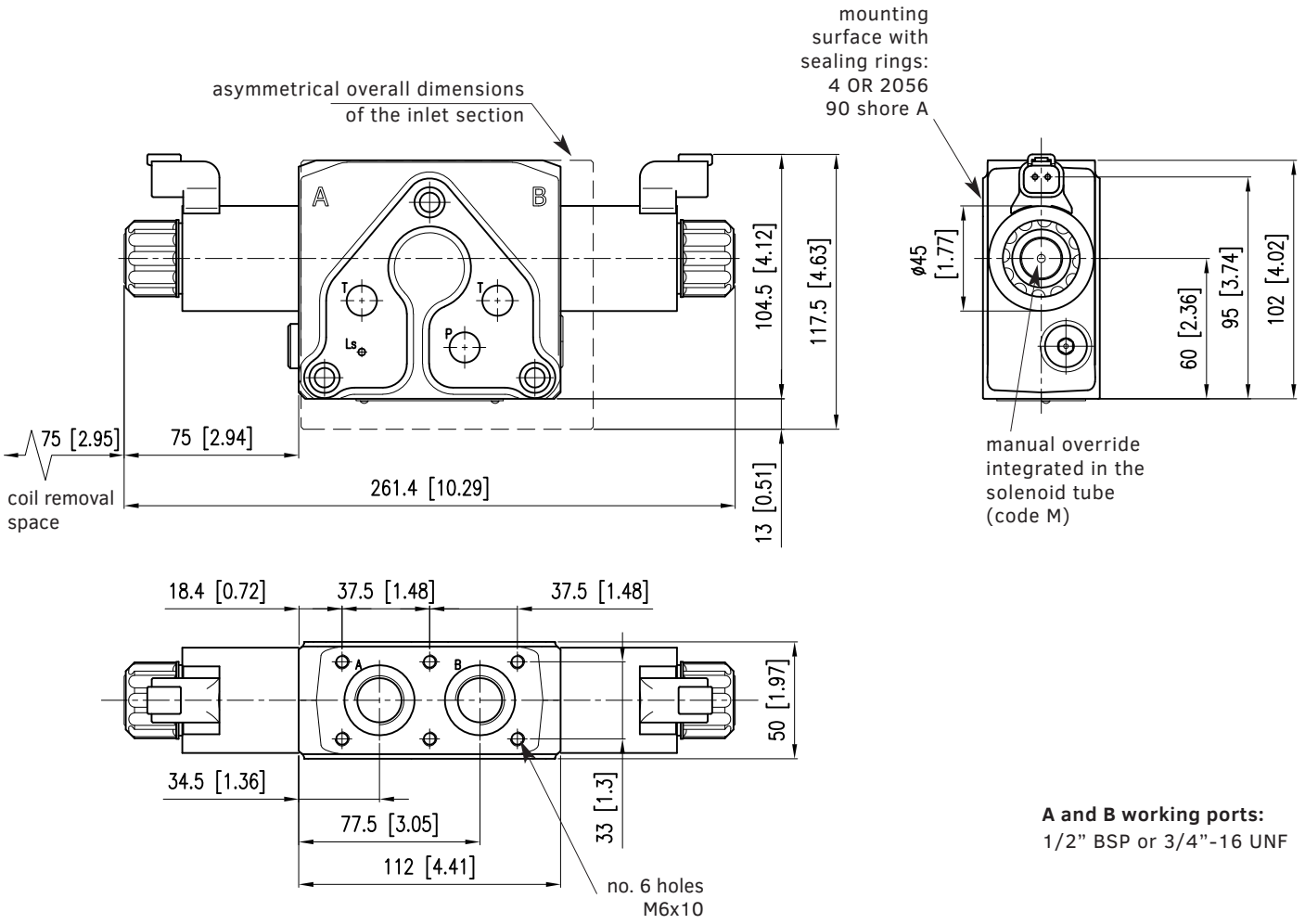
DEUTSCH DT04 MALE
Zinc-nickel plated coil.

IP degree of electrical connection: IP66/IP68/IP69
IP degree of whole valve: IP66/IP68/IP69
IP degree according to ISO 20653: IP69K

The pin for manual override is boot-protected (code B).

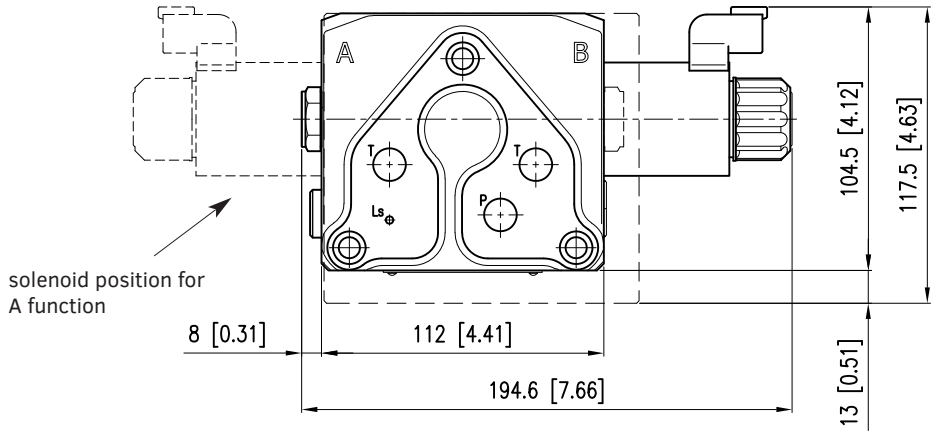
SLSE WORKING SECTION - DOUBLE SOLENOID (K7 COIL)

dimensions in mm [in]



A and B working ports:
1/2" BSP or 3/4"-16 UNF

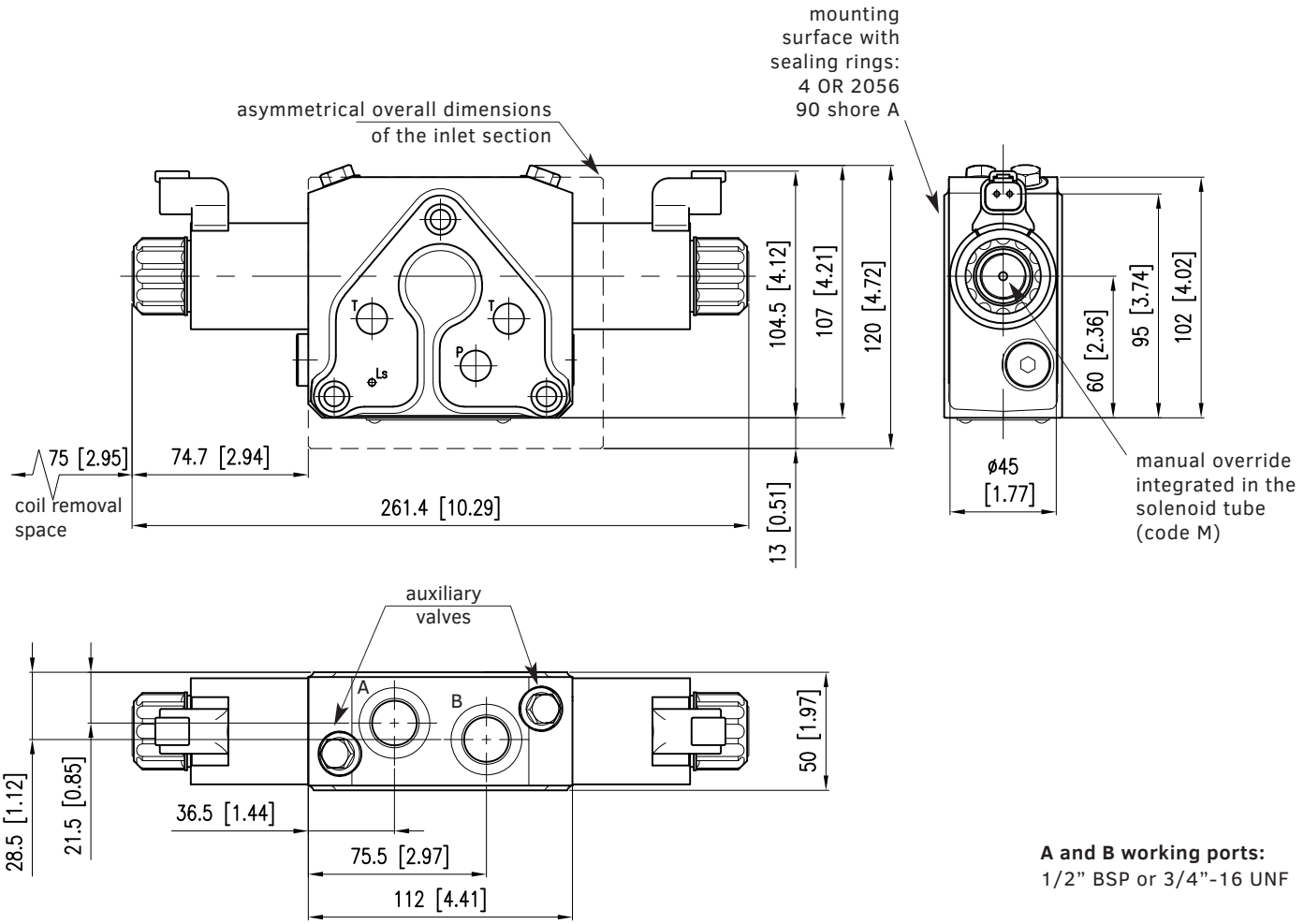
SLSE WORKING SECTION - SINGLE SOLENOID SIDE B (K7 COIL)



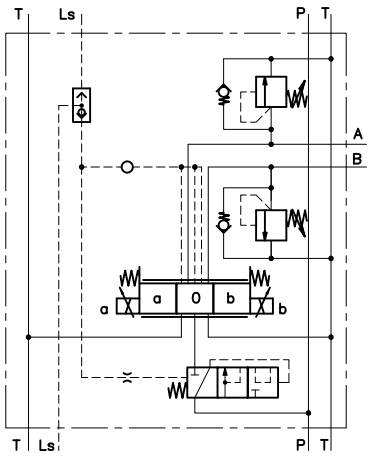
A and B working ports:
1/2" BSP or 3/4"-16 UNF

SLSE*-*-A***B*** WORKING SECTION - WITH AUXILIARY VALVES (K7 COIL)

dimensions in mm [in]

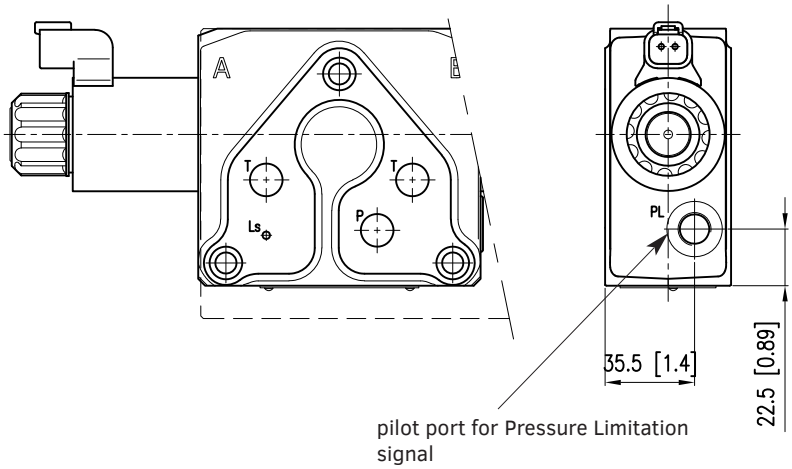


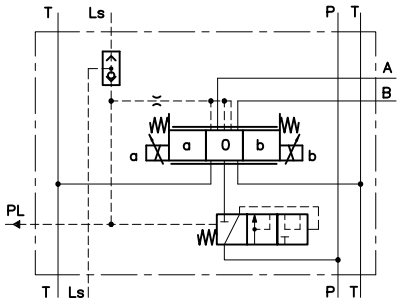
A and B working ports:
1/2" BSP or 3/4"-16 UNF



SLSE*-*-PL WORKING SECTION - WITH PILOT PORT FOR REMOTE PRESSURE LIMITATION (K7 COIL)

This special configuration has to be intended for use with a remote pressure control valve. The pilot signal coming from this port is from both the working ports, A and B.



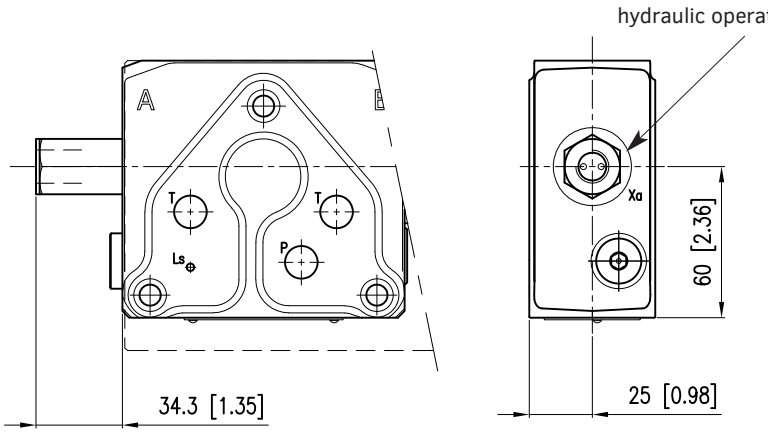


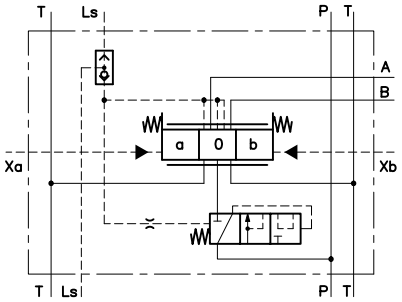
A and B working ports:
1/2" BSP or 3/4"-16 UNF

PL port:
1/4" BSP or
9/16-18 UNF -UN-2B

SLSE-B2H* WORKING SECTION - HYDRAULIC ACTUATED

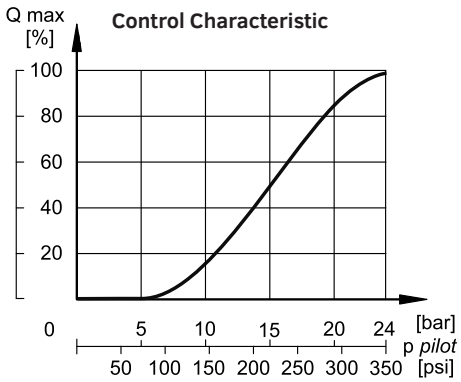
The control device may be on side A, side B, or on both sides, depending on the selected configuration.





A and B working ports:
1/2" BSP

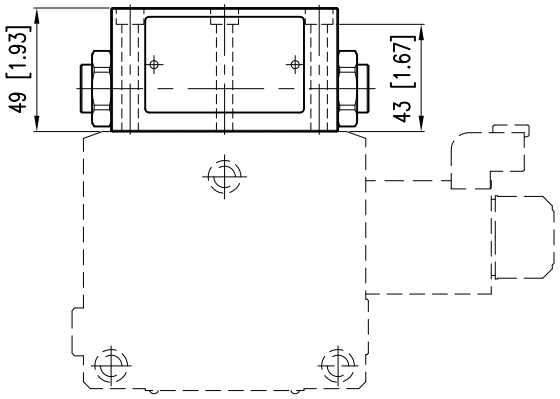
Xa and Xb pilot ports:
1/4" BSP

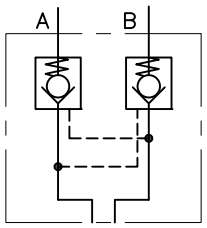


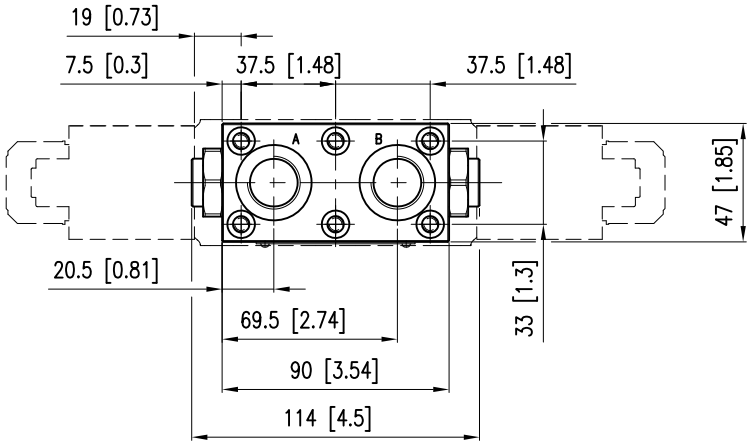
Δp = 5 bar per metering edge;

NOTE: curve valid without back pressure in the T line

SLSZ-PCD-A-V-1 FLANGEABLE TOP ELEMENT







A and B working ports:
1/2" BSP

cracking pressure: 3 bar
fixing screws: M6x50

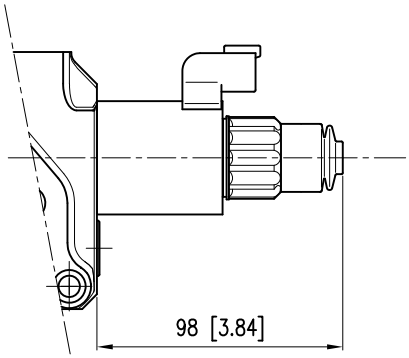
Aluminium
p max = 230 bar
Q max = 30 l/min

The standard valve has override pins integrated in the tube (code M). The operation of this control must be executed with a suitable tool, carefully so as not to damage the sliding surface.

Further manual overrides are available, entering the proper code in the model number.

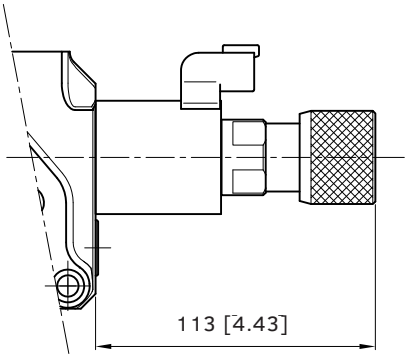
OVERRIDE PIN INTEGRATED IN THE TUBE, BOOT PROTECTED

Code B



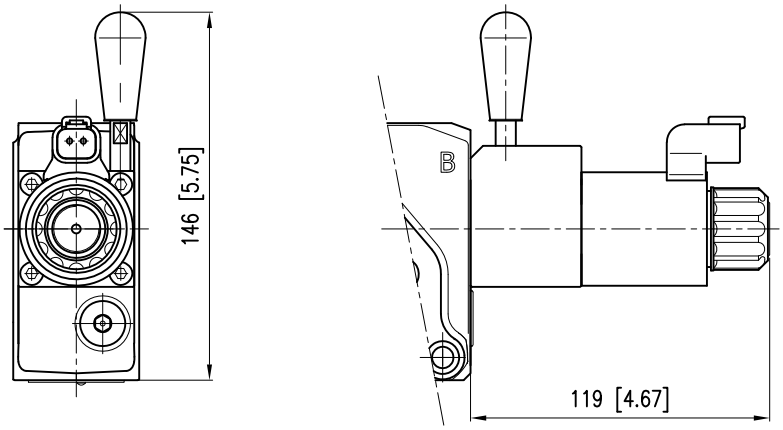
KNOB, TURNING

Code K



HAND LEVER

Code L

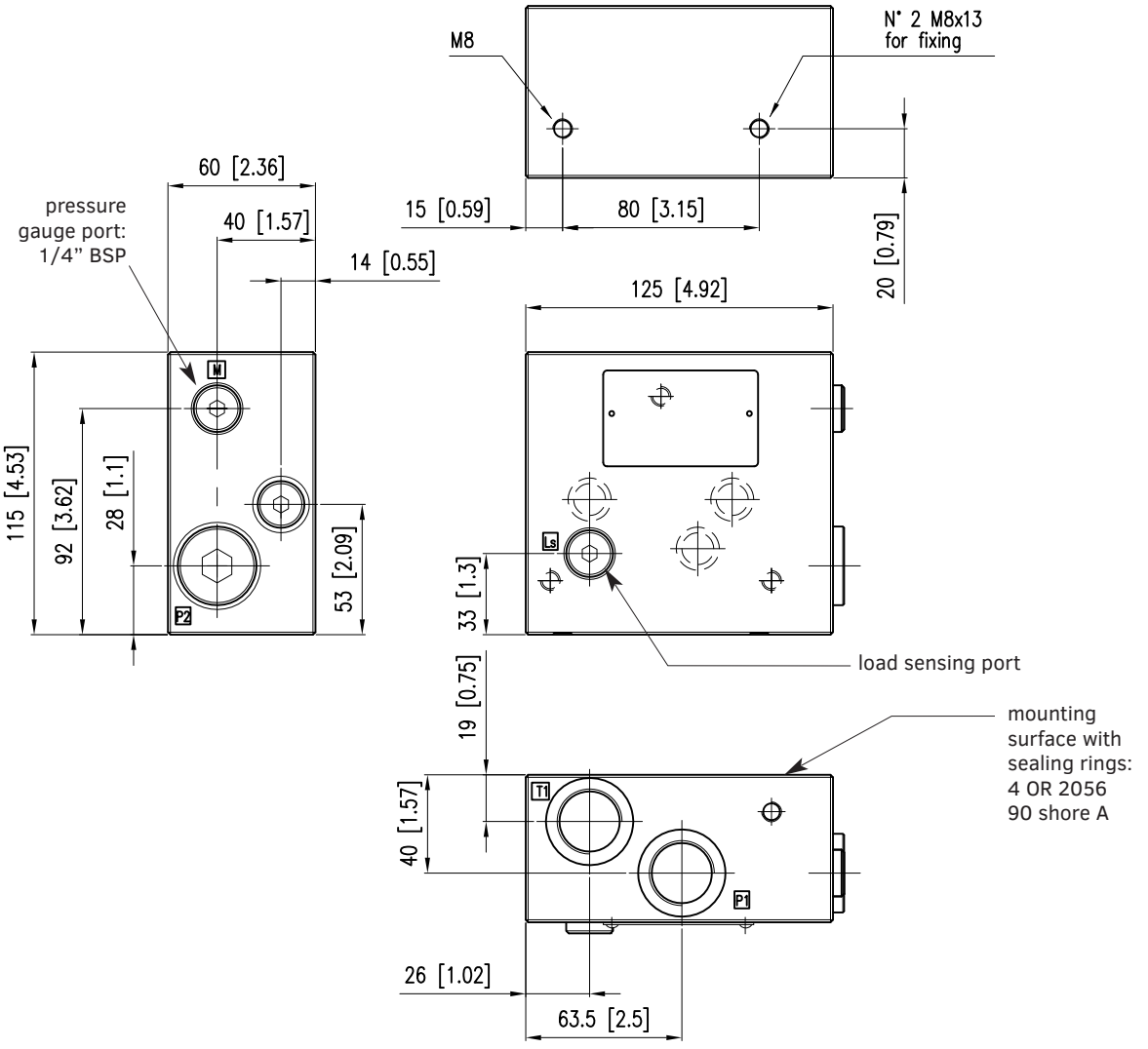


Valves with 'WK' coils are equipped with the boot for solenoid tube protection.

The lever device is placed on the B side.

SLSX-B3S-V-1 BASIC INLET SECTION

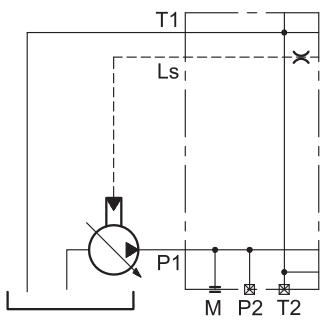
dimensions in mm [in]



P1, P2, T1 ports:
3/4" BSP

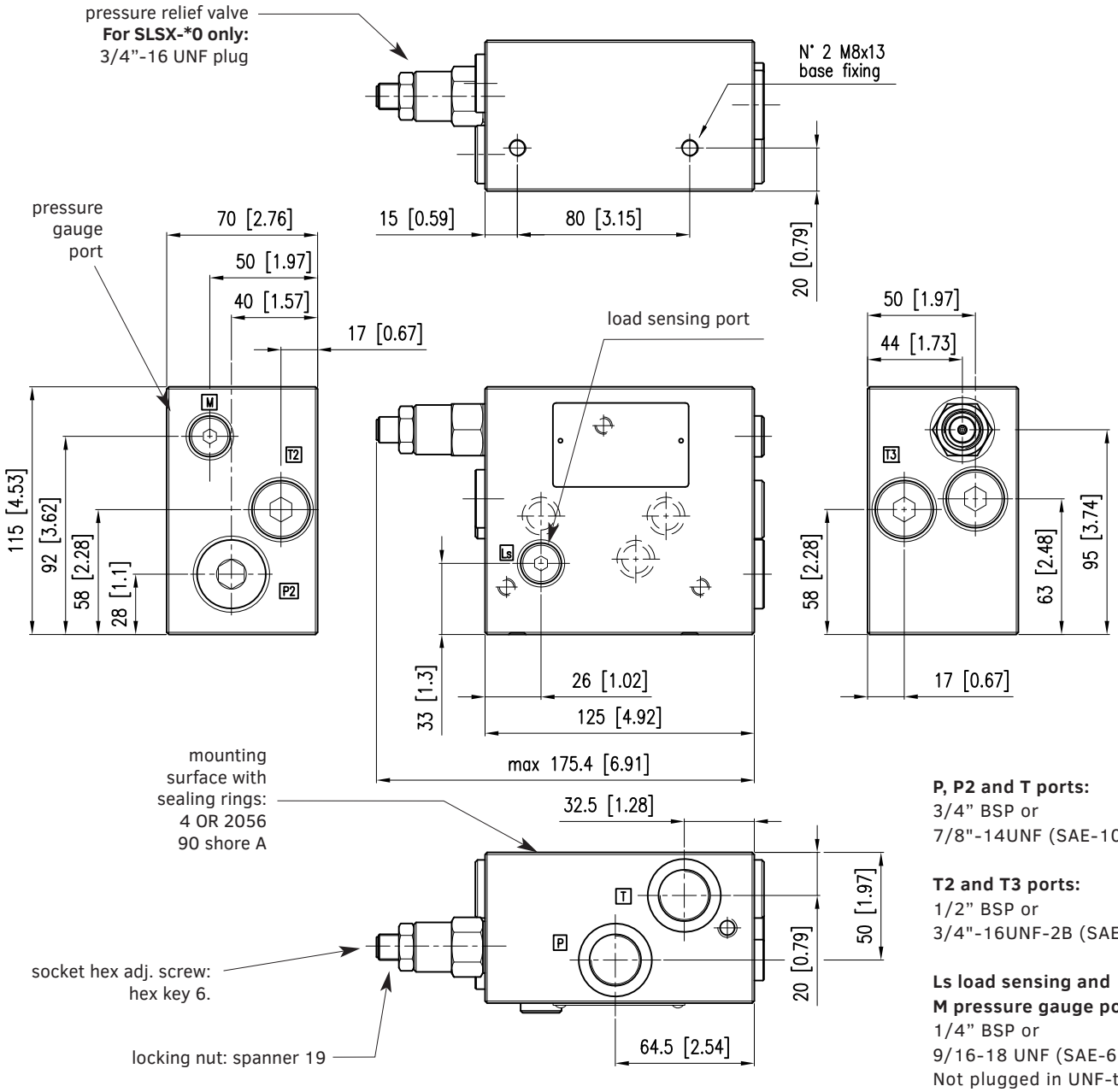
Ls load sensing port:
1/4" BSP

SLSX-B3S-V-1



INLET SECTIONS WITH COMPENSATOR (BSPP VERSION SHOWN)

dimensions in mm [in]

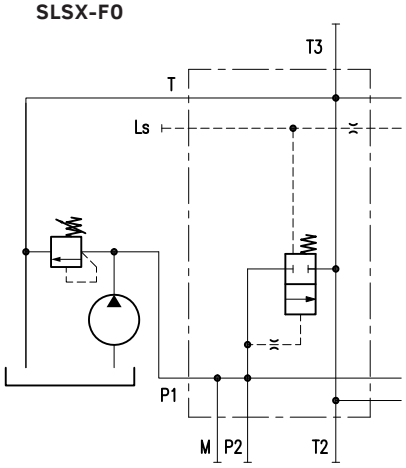


P, P2 and T ports:
3/4" BSP or
7/8"-14UNF (SAE-10)

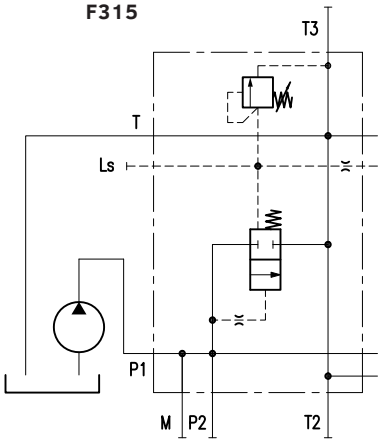
T2 and T3 ports:
1/2" BSP or
3/4"-16UNF-2B (SAE-8)

Ls load sensing and
M pressure gauge ports:
1/4" BSP or
9/16-18 UNF (SAE-6).
Not plugged in UNF-threaded versions

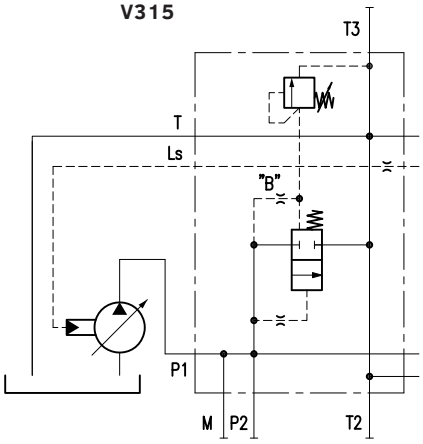
SLSX-F0



SLSX-F210
F315

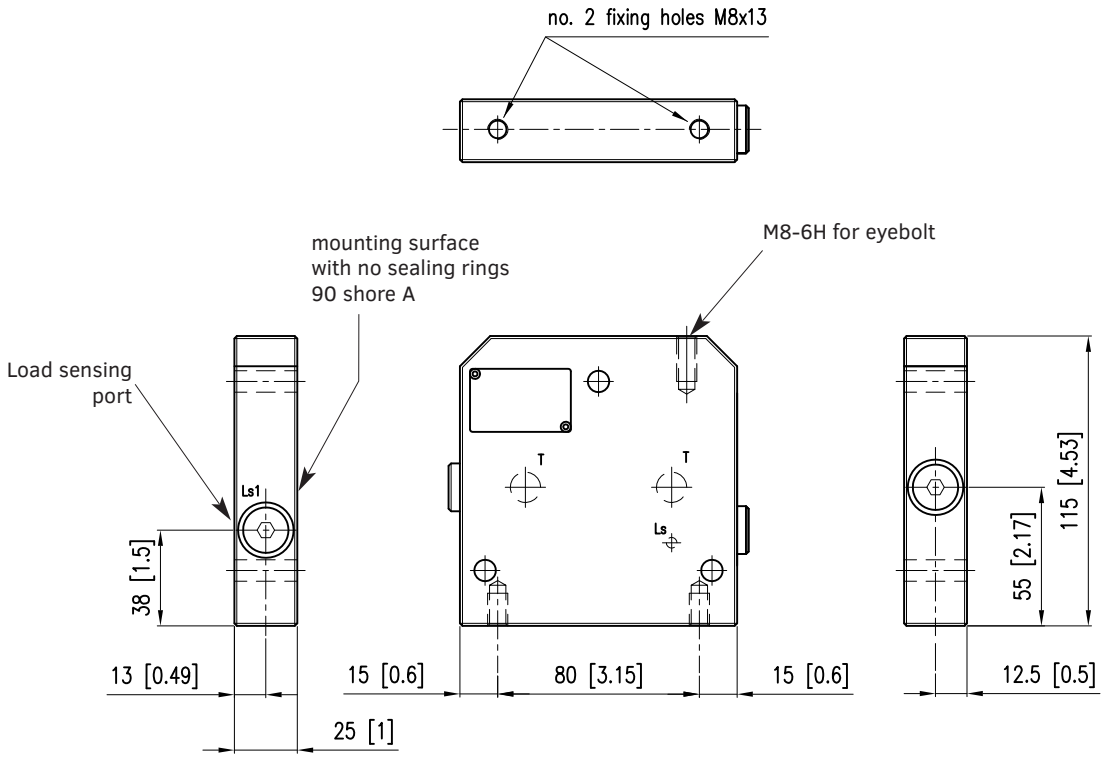


SLSX-V210
V315



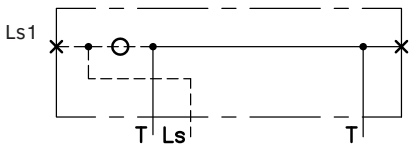
SLSX-B1-04S-V-1 OUTLET SECTION

dimensions in mm [in]

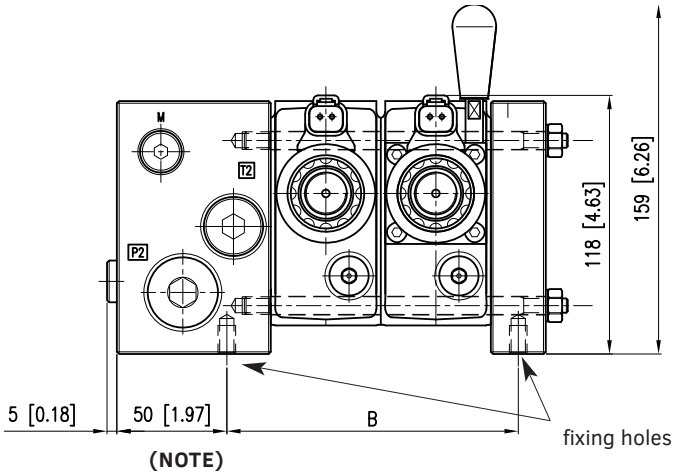


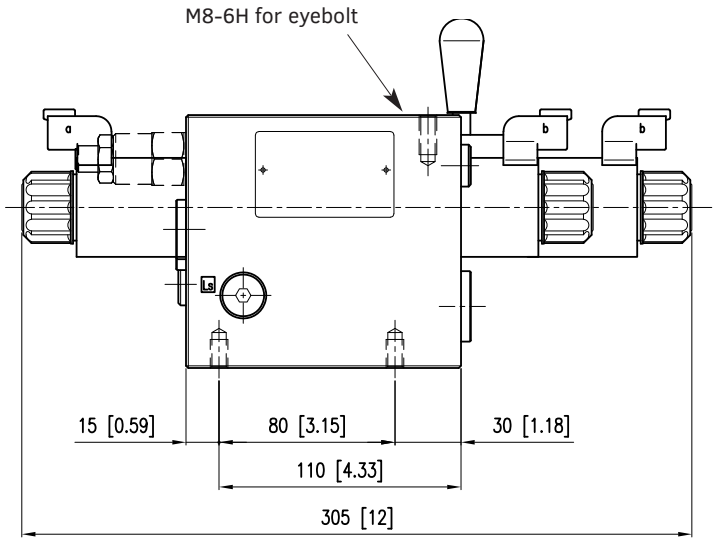
Ls load sensing port:
1/4" BSP

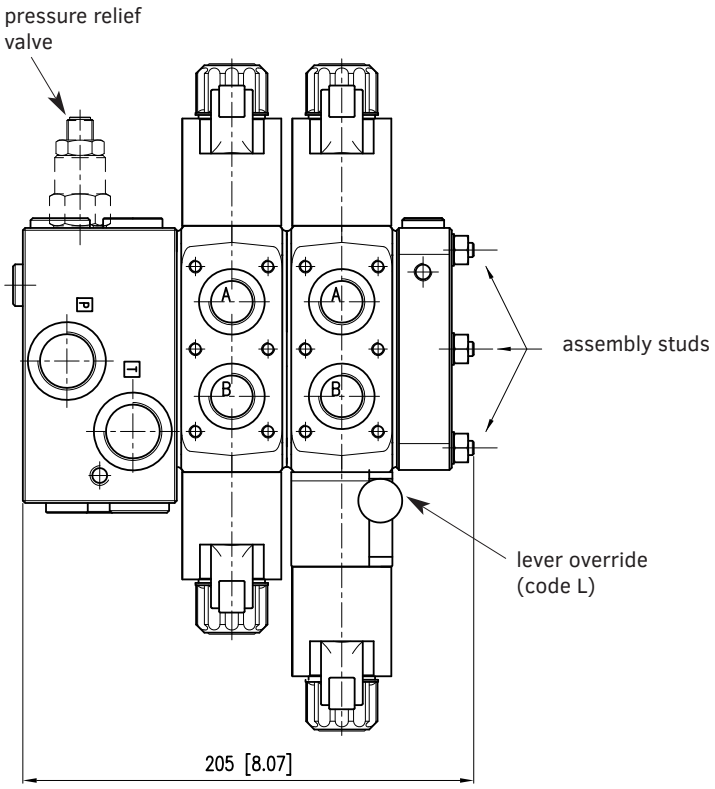
SLSX-B1-04S



dimensions in mm [in]







Sectional valves	A (**NOTE**)	B
2	212	132,5
3	262	182,5
4	312	232,5
5	362	282,5
6	412	332,5
7	462	382,5
8	512	432,5

NOTE: for the SLSX-B3S-V-1, this dimension is 10 mm shorter.

ASSEMBLY KIT
The assembly kit includes

no. 3 studs,
no. 3 self locking nuts
no. 3 washers

All parts zinc-coated.

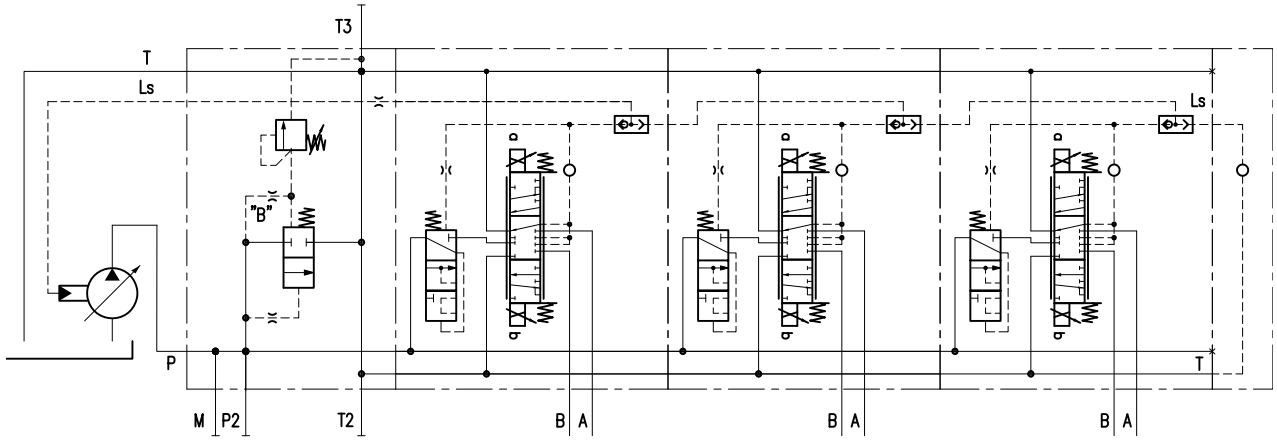
Please use these codes to order the kit:

Sectional valves	Code
2	3404150010
3	3404150011
4	3404150012
5	3404150013
6	3404150014
7	3404150015
8	3404150016

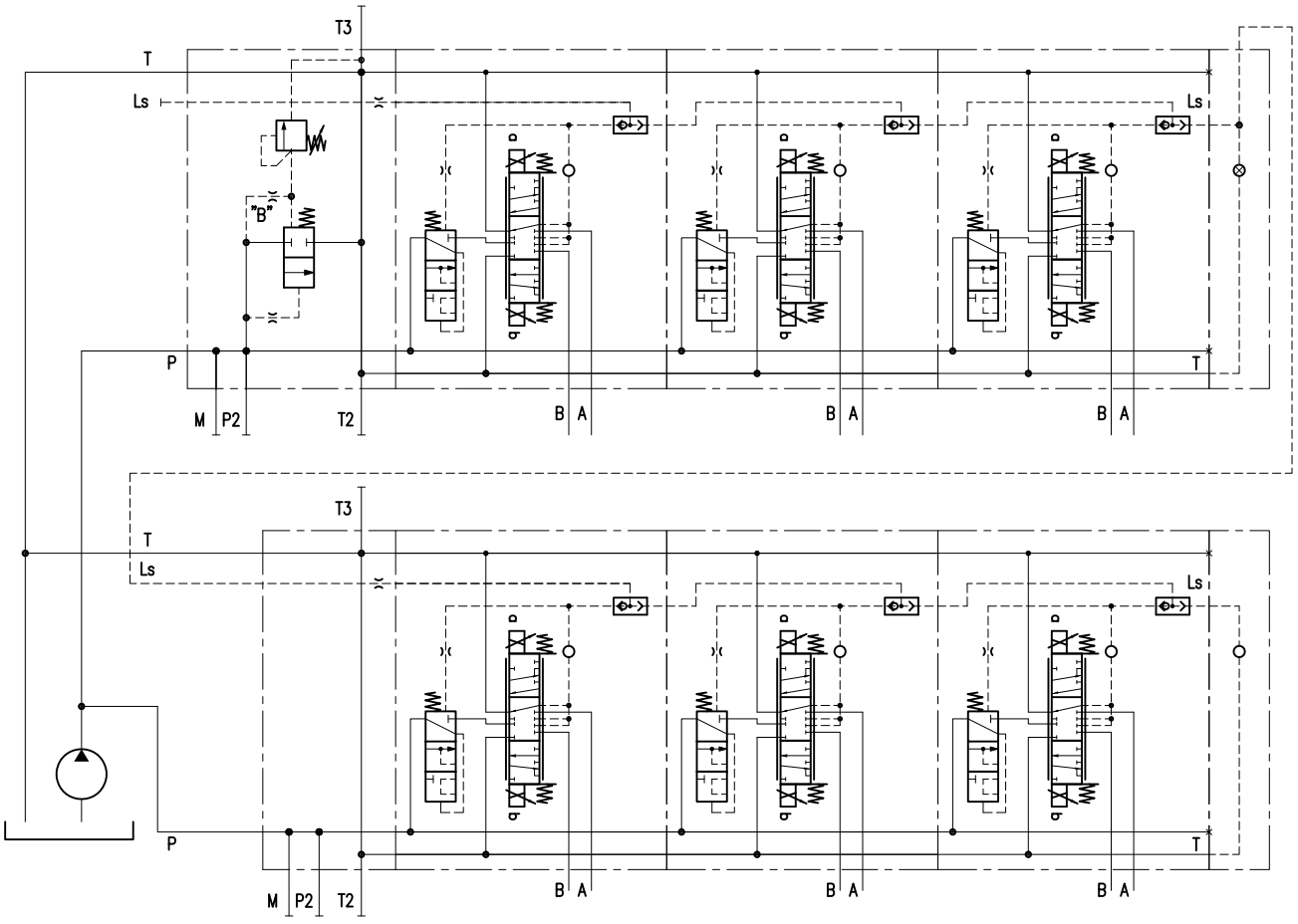
Tightening torque: 25 Nm

CIRCUIT EXAMPLES

SLSE sectional assembly with pressure relief valve for variable displacement pumps.



Two SLSE sectional valve assemblies connected in parallel for the pump line and in series for the LS (Load Sensing) line.



IP RATING TIPS

The technical reference standard for IP rating is IEC 60529, which classifies and defines the degree of protection provided by equipment and electrical enclosures against intrusion.

The first digit (6) concerns the protection against solid particles (body parts to dust).

The second digit refers to protection against water ingress. It indicates three different types of atmospheric agents from which protection is provided:

Values from 1 to 6 → protection against splashing water and water jets.
Values 7 and 8 → protection against immersion.
Value 9 → protection against high-pressure and high-temperature water jets.

Important: protection levels against water are based on different test conditions and are not always cumulative.

This means IP66 covers all lower levels within the same test category. IP68 includes IP67 but not IP66 or lower. IP69 does not include any of the previous levels. If a device meets multiple protection levels, both must be listed, separated by a slash (e.g. equipment rated for both temporary immersion and water jets: IP66/IP68).

INSTALLATION

These valves can be installed in any position without impairing correct operation.

Ensure that there is no air in the hydraulic circuit.

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QUALITY SYSTEM CERTIFICATION DNV ISO 9001

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