

3 MAIN CHARACTERISTICS OF CARTRIDGES VALVES TYPE LIDAS

Assembly position / location	Any position		
Subplate surface finishing	Roughness index $\sqrt{0.4}$ flatness ratio 0,01/100 (ISO 1101)		
Ambient temperature	from -20°C to +70°C		
Fluid	Hydraulic oil as per DIN 51524 535; for other fluids see section 11		
Recommended viscosity	15 ÷ 100 mm ² /s at 40°C (ISO VG 15 ÷ 100)		
Fluid contamination class	ISO 19/16, achieved with in line filters at 25 µm value and $\beta_{25} \geq 75$ (recommended)		
Fluid temperature	-20°C +60°C (standard and /WG seals) -20°C +80°C (/PE seals)		
Flow direction	B → A (preferred) or A → B		
Piloting	LIDAS	Pressure to X = close	Pressure to Y = open
	LIDASH	De-energized = close	Energized = open

3.1 Coils characteristics (only for LIDASH)

Insulation class	H (180°C) Due to the occurring surface temperatures of the solenoid coils, the European standards EN563 and EN982 must be taken into account
Connector protection degree	IP 65
Relative duty factor	100%
Supply voltage and frequency	See electric feature 5
Supply voltage tolerance	± 10%

4 ELECTRIC CONNECTORS ACCORDING TO DIN 43650 - the connectors must be ordered separately

Code of connector	Function
SP-666	Connector IP-65, suitable for direct connection to electric supply source
SP-667	As SP-666 connector IP-65 but with built-in signal led, suitable for direct connection to electric supply source.
SP-669	With built-in rectifier bridge for supplying DC coils by alternating current (AC 110V and 230V - I _{max} 1A).

For other available connectors, see tab. E010 and K500

5 ELECTRIC FEATURES

Solenoid valve type	External supply nominal voltage ± 10% (1)	Voltage code	Type of connector	Power consumption (3)	Code of spare coil DHI	Colour of coil label DHI	Code of spare coil DHE	Code of spare coil DHER
DHI DHE DHER	DC	12 DC 24 DC 110 DC 220 DC	12 DC 24 DC 110 DC 220 DC	SP-666 or SP-667	33 W (DHI) 30 W (DHE, DHER)	SP-COU-12DC /80 SP-COU-24DC /80 SP-COU-110DC /80 SP-COU-220DC /80	green red black black	SP-COE-12DC/10 SP-COE-24DC/10 SP-COE-110DC/10 SP-COE-220DC/10
	AC	110/50 AC (2) 115/60 AC 120/60 AC 230/50 AC (2) 230/60 AC	110/50/60 AC 115/60 AC (5) 120/60 AC (6) 230/50/60 AC 230/60 AC	SP-666 or SP-667	60 VA (DHI) 58 VA (DHE, DHER) (4)	SP-COI-110/50/60AC /80 - SP-COI-120/60AC /80 SP-COI-230/50/60AC /80 SP-COI-230/60AC /80	yellow - white light blue silver	SP-COE-110/50/60AC/10 SP-COE-115/60AC/10 - SP-COE-230/50/60AC/10 SP-COE-230/60AC/10

(1) For other supply voltages available on request see technical tables E010, E015.

(2) Coil can be supplied also with 60 Hz of voltage frequency: in this case the performances are reduced by 10 ÷ 15% and the power consumption is 55 VA (DHI) and 58 VA (DHER)

(3) Average values based on tests performed at nominal hydraulic condition and ambient/coil temperature of 20°C.

(4) When solenoid is energized, the inrush current is approx 3 times the holding current. Inrush current values correspond to a power consumption of about 150 VA.

(5) Only for DHE and DHER

(6) Only for DHI

6 TECHNICAL CHARACTERISTICS OF INDUCTIVE PROXIMITY SENSORS AND MECHANICAL MICROSWITCHES

INDUCTIVE PROXIMITY SENSORS /FI	
Supply voltage [V]	10÷30
Ripple max [%]	≤ 10
Max current [mA]	100
Power consumption [mW]	10
Voltage drop [V]	≤ 3
Max switching frequency [Hz]	1000
Max peak pressure [bar]	350
Mechanical life	virtually infinite

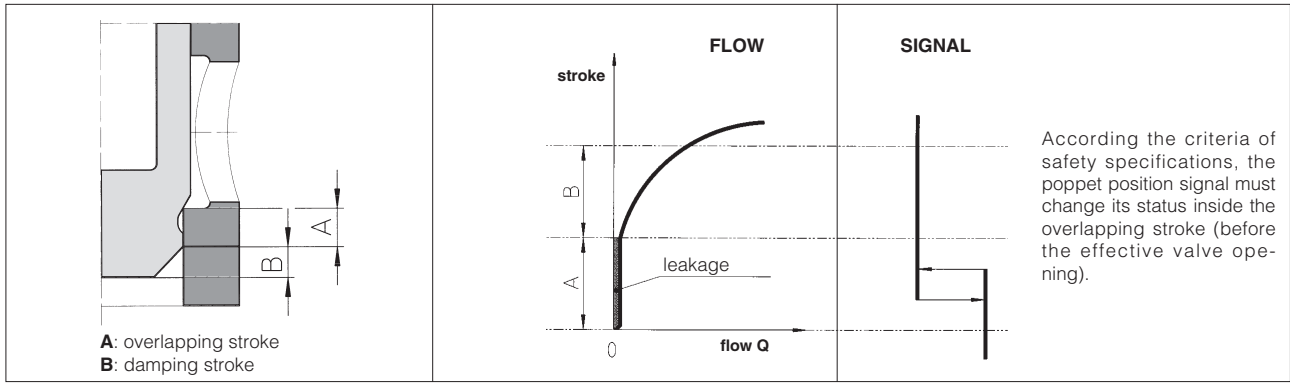
MECHANICAL MICROSWITCHES /FC			
Max switching power	AC	125 V	With resistive load
		250 V	With inductive load
		30 V	5 A
	DC	50 V	5 A
		125 V	3 A
		250V	0,5 A
Mechanical life	Min 10 ⁷ cycles		

7 CONNECTING SCHEMES OF INDUCTIVE PROXIMITY SENSORS AND MECHANICAL MICROSWITCHES

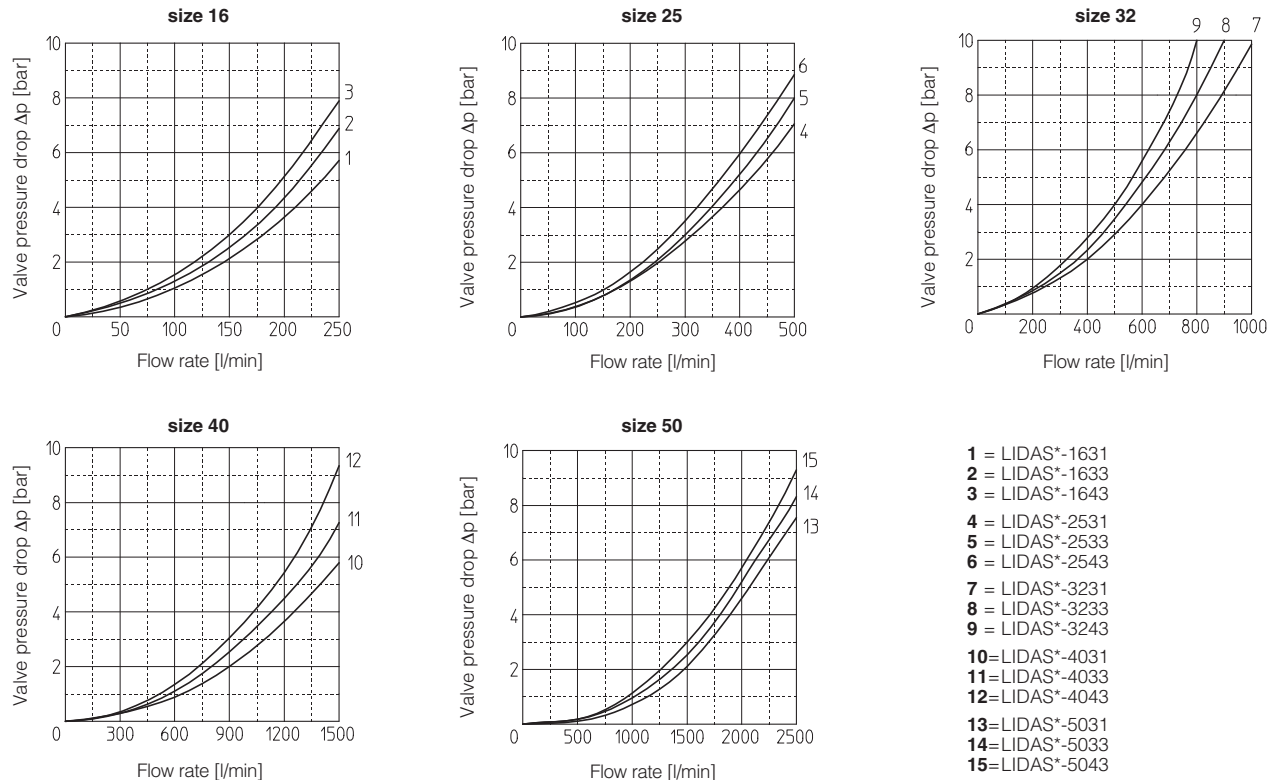
VERSION /FI	VERSION /FC	VERSION /FI	VERSION /FC	Connector type SP-666/M12
Connector type SP-666 1 = output signal S 2 = supply +24 Vdc ⊕ = GND		Connector type SP-666/M12 1 = supply +24 Vdc 2 = output signal SA 3 = GND 4 = not connected		Connector type SP-666/M12

For the signal status see section 8

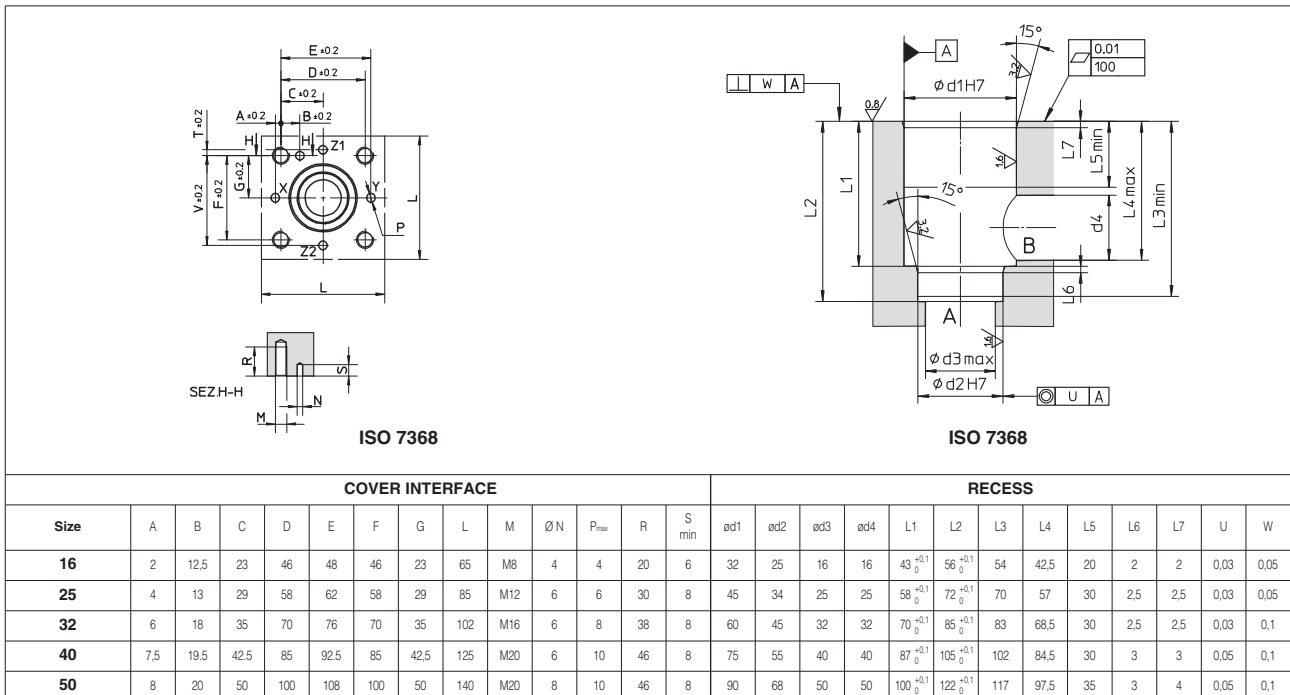
8 SIGNAL STATUS - LIDAS*/FI and LIDAS*/FC



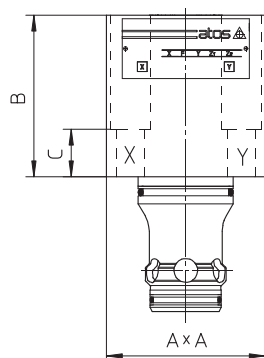
9 Q/Δp DIAGRAMS (based on mineral oil ISO VG 46 at 50 °C)



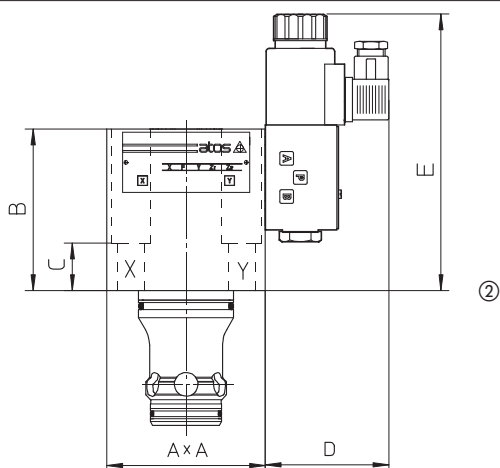
10 COVER INTERFACE AND RECESS DIMENSIONS [mm]



11 INSTALLATION DIMENSIONS [mm]



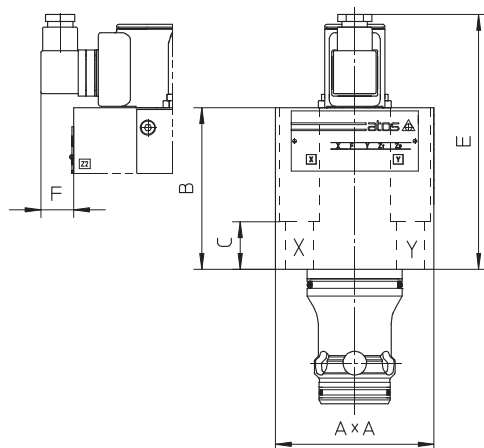
LIDAS					
Size	A	B	C	Fastening bolts class 12.9	Weight (Kg)
16	65	77	64	N°4 M8x80 35 Nm	2,65
25	85	95	75	N°4 M12x95 125 Nm	5,20
32	100	105	85	N°4 M16x105 300 Nm	7,30
40	125	102	70	N°4 M20x70 600 Nm	13,50
50	140	122	49	N°4 M20x80 600 Nm	18,80



LIDASH								
Size	Pilot valve	A	B	C	D max ①	E max ②	Fastening bolts class 12.9	Weight (Kg)
16	DHI	72x65	92	64	79,5	155	N°4 M8x80 35 Nm	4,15
	DHE(R)				86	177		4,25
25	DHI	85	105	77	79,5	170	N°4 M12x95 125 Nm	6,7
	DHE(R)				86	192		6,8
32	DHI	100	115	85	79,5	180	N°4 M16x105 300 Nm	8,8
	DHE(R)				86	202		8,9
40	DHI	125	120	39	79,5	185	N°4 M20x70 600 Nm	15,0
	DHE(R)				86	207		15,1
50	DHI	140	132	49	79,5	190	N°4 M20x80 600 Nm	20,3
	DHE(R)				86	212		20,4

① = -E pilot valve version is 2 mm shorter

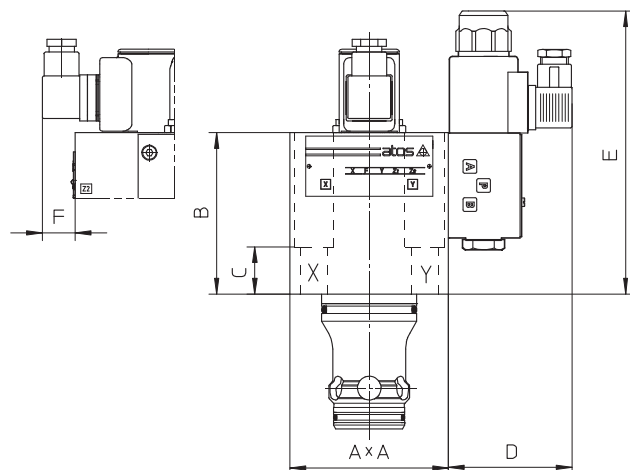
② = -E pilot valve version is 3 mm shorter



LIDAS-FI/FC								
Size	A	B	C	D	E	F	Fastening bolts class 12.9	Weight (Kg)
16	65	85	64	-	145	50,5	N°4 M8x80 35 Nm	2,75
25	85	98	75	-	158	40,5	N°4 M12x95 125 Nm	5,30
32	100	107	85	-	168	33	N°4 M16x105 300 Nm	7,40
40	125	110	39	-	170	20,5	N°4 M20x70 600 Nm	13,60
50	140	130	49	-	190	13	N°4 M20x80 600 Nm	19,80

Notes:

- the valves are supplied with connector SP-666 for /FI and /FC sensors
- optional connector SP-666/M12 available for /FI and /FC sensors - see section 7



LIDASH- [®] /FI/FC									
Size	Pilot valve	A	B	C	D max ①	E max ②	F	Fastening bolts class 12.9	Weight (Kg)
16	DHI	72x65	90	64	79,5	159	50,5	N°4 M8x80 35 Nm	4,25
	DHE(R)				86	183			4,35
25	DHI	85	108	77	79,5	173	40,5	N°4 M12x95 125 Nm	6,8
	DHE(R)				86	198			6,9
32	DHI	100	112	85	79,5	183	33	N°4 M16x105 300 Nm	8,9
	DHE(R)				86	208			9,0
40	DHI	125	125	39	79,5	188	20,5	N°4 M20x70 600 Nm	15,1
	DHE(R)				86	213			15,2
50	DHI	140	135	49	79,5	193	13	N°4 M20x80 600 Nm	20,3
	DHE(R)				86	218			20,4

① = -E pilot valve version is 2 mm shorter

② = -E pilot valve version is 3 mm shorter