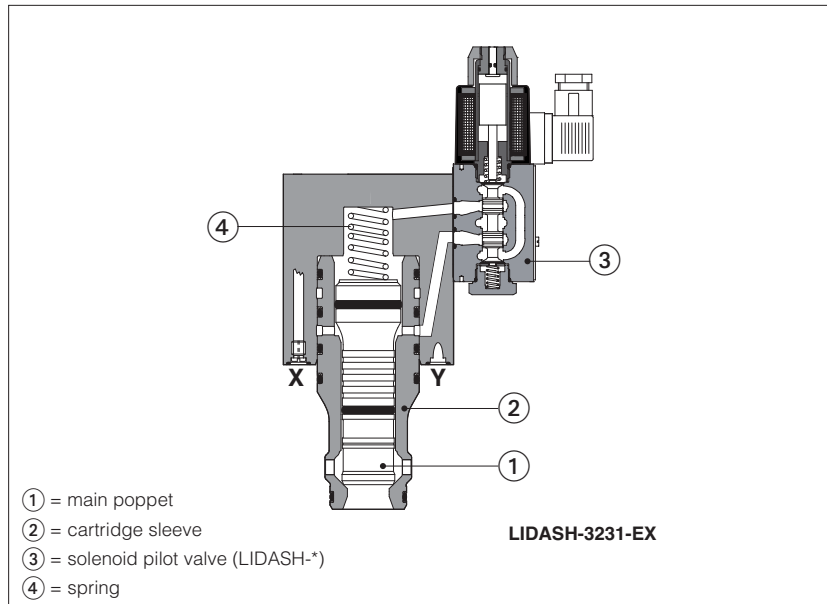


On-off active safety cartridges type LIDAS, 2-way

ISO 7368 sizes from 16 to 50



LIDAS are 2-way active cartridge valves designed for mounting in manifold blocks and providing the leak-free shut-off function of the hydraulic line.

Configuration and construction:

The poppet ① is hydraulically active operated in both directions, ensuring in this way higher reliability and faster response time respect to the conventional spring cartridge valves. The spring ④ ensures the valve closing in absence of pressure in the system. They are available in different executions:

- without pilot solenoid valve
- with on-off pilot solenoid valve assembled on the cartridge

Features:

- ISO 7368 sizes from **16 to 50**
- typical applications: presses, injection moulding machines
- max flow up to **2000 l/min** with $\Delta p = 5$ bar
max pressure: **420 bar**

1 MODEL CODE

LIDAS	H	- 40	43	3	- E	X	24DC	**	*
On-off active cartridges, according to ISO 7368								Series number	Seals material: - = NBR PE = FKM BT = HNBR
Pilot solenoid valve - = without pilot solenoid valve H = with pilot solenoid valve									
Size: 16 25 32 40 50									
Poppet type: see section 2 31, 33, 43 (with dumping nose)									
3 = spring cracking pressure 3 bar									
								Only for LIDAS Voltage code, see section 6	
									Only for LIDAS X = without connector See section 4 for available connectors, to be ordered separately 00 = solenoid valve without coils (for DHI) 00-AC = AC solenoid valve without coils (for DHEP) 00-DC = DC solenoid valve without coils (for DHEP)
									Only for LIDAS - Pilot solenoid valve: I = DHI for AC and DC supply, Pmax 350 bar E = DHEP for AC and DC supply, high performances, Pmax 420 bar

Note: for safety version, with inductive position switch (option /FV) see table EY120

2 HYDRAULIC CHARACTERISTICS (based on mineral oil ISO VG 46 at 50 °C)

Hydraulic symbols	Cartridge areas
<p>LIDAS</p> <p>LIDASH</p>	<p>AA = main flow (side A) AB = main flow (side B) AAP = piloting area (close) ABP = piloting area (open)</p> <p>Thanks to the areas ratio $AAP/(AA+AB)$, the valve closing is always ensured with a piloting pressure (X port) equal to the line pressure (A or B line).</p>

3 MAIN CHARACTERISTICS, SEALS AND HYDRAULIC FLUIDS

Assembly position / location	Any position										
Subplate surface finishing	Roughness index Ra 0,4 - flatness ratio 0,01/100 (ISO 1101)										
Ambient temperature	Standard execution = -30°C ÷ +70°C; /PE option = -20°C ÷ +70°C; /BT option = -40°C ÷ +70°C										
Flow direction	B → A (preferred) or A → B										
Piloting	LIDAS	Pressure to X = close					Pressure to Y = open				
	LIDASH	De-energized = close					Energized = open				
Size		16		25		32		40		50	
Maximum flow at Δp = 5 bar [l/min]	Poppet 31	240		450		700		1400		2100	
	Poppet 33	220		400		600		1300		2000	
	Poppet 43	200		360		550		1100		1800	
Poppet characteristics	Poppet type	31	33, 43	31	33, 43	31	33, 43	31	33, 43	31	33, 43
AA [cm ²]		2,27	1,43	4,91	3,46	8,04	5,30	12,56	8,04	19,63	13,85
AB (% of AA)		0	58,6	0	41,7	0	51,5	0	56,3	0	41,7
ABP (% of AA)		67,5	107,0	63,8	90,5	56,3	85,2	56,3	87,9	69	97,8
AAP (% of AA)		167,5	265,6	163,8	232,2	156,3	236,7	156,3	244,1	169	239,2
AA / (AA + AB) poppet ratio		1 for poppet 31					0,6 for poppet 33, 43				
AAP / (AA + AB) piloting ratio		1,6 for poppet 31					1,6 for poppet 33, 43				

3.1 Coils characteristics (only for LIDASH)

Insulation class	Pilot valve -E: H (180°C) for DC coils F (155°C) for AC coils Pilot valve -I: H (180°C) for DC or AC coils Due to the occurring surface temperatures of the solenoid coils, the European standards EN ISO 13732-1 and EN ISO 4413 must be taken into account
Protection degree to DIN EN 60529	IP 65 (with connectors 666, 667, 669 correctly assembled)
Relative duty factor	100%
Supply voltage and frequency	See electric feature 6
Supply voltage tolerance	± 10%
Certification	cURus North American Standard

4 SEALS AND HYDRAULIC FLUID - for other fluids not included in below table, consult our technical office

Seals, recommended fluid temperature	NBR seals (standard) = -20°C ÷ +60°C, with HFC hydraulic fluids = -20°C ÷ +50°C FKM seals (/PE option) = -20°C ÷ +80°C		
Recommended viscosity	15 ÷ 100 mm ² /s - max allowed range 2,8 ÷ 500 mm ² /s		
Fluid contamination class	ISO 4406 class 21/19/16 NAS 1638 class 10, in line filters of 25 μm (β ₂₅ ≥ 75 recommended)		
Hydraulic fluid	Suitable seals type	Classification	Ref. Standard
Mineral oils	NBR, FKM, HNBR	HL, HLP, HLPD, HVLP, HVLDP	DIN 51524
Flame resistant without water	FKM	HFDU, HFDR	ISO 12922
Flame resistant with water	NBR, HNBR	HFC	

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

Code of connector	Function
666	Connector IP-65, suitable for direct connection to electric supply source
667	As 666 connector IP-65 but with built-in signal led, suitable for direct connection to electric supply source.
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. K500

6 ELECTRIC FEATURES - coils for pilot solenoid valves

Valve	External supply nominal voltage $\pm 10\%$	Voltage code	Type of connector	Power consumption (3)		Code of spare coil									
				DHI	DHEP	DHI	Colour of coil label	DHEP							
DHI DHEP	6 DC	6 DC (4)	666 or 667	33 W	30 W	COU-6DC	brown	-							
	12 DC	12 DC				COU-12DC	green	COE-12DC							
	14 DC	14 DC				COU-14DC	brown	COE-14DC							
	24 DC	24 DC				COU-24DC	red	COE-24DC							
	28 DC	28 DC				COU-28DC	silver	COE-28DC							
	48 DC	48 DC				COU-48DC	silver	COE-48DC							
	110 DC	110 DC				COU-110DC	gold	COE-110DC							
	125 DC	125 DC				COU-125DC	blue	COE-125DC							
	220 DC	220 DC				COU-220DC	black	COE-220DC							
	24/50 AC	24/50/60 AC (4)				COI-24/50/60AC (1)	pink	-							
	24/60 AC					COI-48/50/60AC (1)	white	-							
	48/50 AC	48/50/60 AC (4)				60 VA	-	58 VA	COI-110/50/60AC (1)	yellow	COE-110/50/60AC				
	48/60 AC		80 VA	-	COE-115/60AC										
	110/50 AC	110/50/60 AC	60 VA	-	58 VA	COI-120/60AC	white	-							
	115/60 AC (5)	115/60 AC				COI-230/50/60AC (1)	light blue	COE-230/50/60AC							
	120/60 AC (4)	120/60 AC	60 VA	-	80 VA	COI-230/60AC	silver	COE-230/60AC							
	230/50 AC	230/50/60 AC				COU-110RC	gold	COE-110RC							
	230/60 AC	230/60 AC	669	33 W	30 W	COU-230RC	blue	COE-230RC							
	110/50 AC	110RC				33 W	30 W	COU-110RC	gold	COE-110RC					
	120/60 AC										230RC	33 W	30 W	COU-230RC	blue
230/50 AC															
230/60 AC															

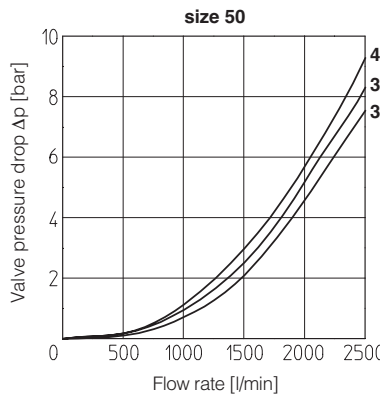
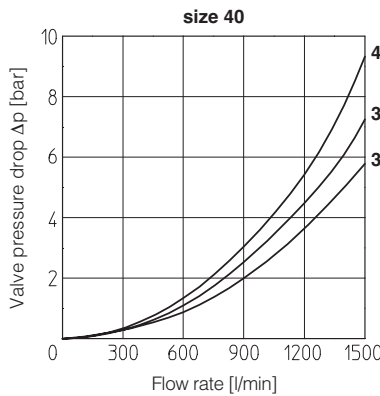
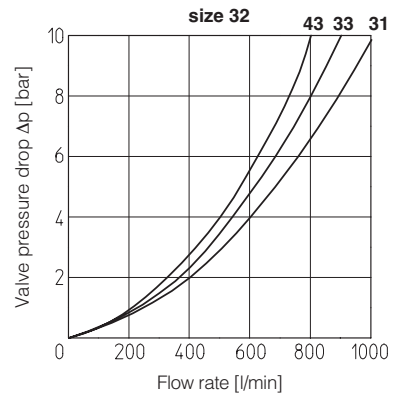
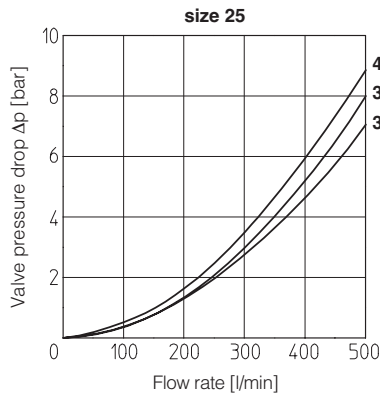
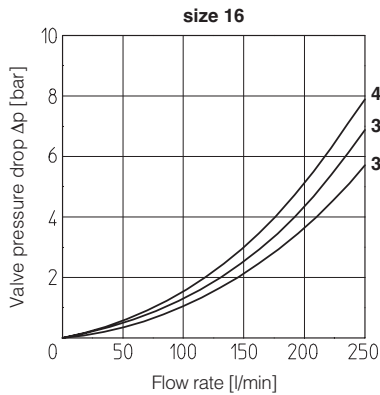
(1) Coil can be supplied also with 60 Hz of voltage frequency: in this case the performances are reduced by 10÷15% and the power consumption is 55 VA (-I) and 58 VA (-E)

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

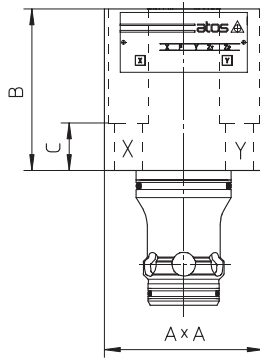
(3) When solenoid is energized, the inrush current is approx 3 times the holding current. Inrush current values correspond to a power consumption of about 150 VA.

(4) Only for pilot valve DHI
(5) Only for pilot valve DHEP

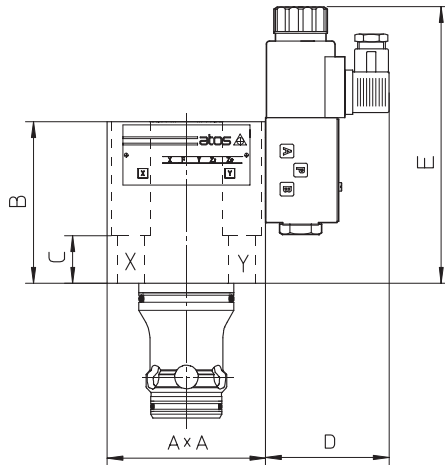
7 Q/Δp DIAGRAMS (based on mineral oil ISO VG 46 at 50 °C)



8 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	152	N°4 M8x80 35 Nm	4,15
	DHEP				86	167		4,25
25	DHI	85	105	77	79,5	165	N°4 M12x95 125 Nm	6,7
	DHEP				86	181		6,8
32	DHI	100	115	85	79,5	176	N°4 M16x105 300 Nm	8,8
	DHEP				86	192		8,9
40	DHI	125	120	39	79,5	180	N°4 M20x70 600 Nm	15,0
	DHEP				86	196		15,1
50	DHI	140	132	49	79,5	186	N°4 M20x80 600 Nm	20,3
	DHEP				86	202		20,4

Note: for mounting interface and cavity dimensions, see tech. table P006