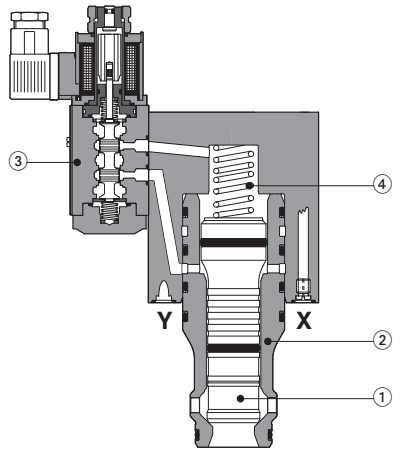
On-off active safety cartridges type LIDAS, 2-way

ISO 7368 sizes from 16 to 50



① = main poppet
② = cartridge sleeve
③ = solenoid pilot valve (LIDASH-*)
④ = spring

LIDASH-3231*/I

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 Δp = 5 bar
  max pressure: 350 bar

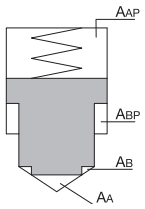
1 MODEL CODE

LIDAS H - 40 43 3 - I X 24DC ** /*

- On-off active cartridges, according to ISO 7368
- Pilot control
  - = 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 LIDASH - Pilot solenoid valve:**
  I = DHI for AC and DC supply, with **cURus** certified solenoids
  E = DHE for AC and DC supply, high performances
- **Only for LIDASH**
  X = without connector, see sec. 4
- **Only for LIDASH**
  Voltage code, see section 5
- Series number
- Seals material:
  omit for NBR (mineral oil & water glycol)
  PE = FPM

Note: for safety version, with inductive position switch (option /FV) see table E110

Cartridge areas

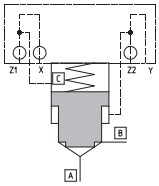


AA = main flow (side A)
AB = main flow (side B)
AAP = piloting area (close)
ABP = piloting area (open)

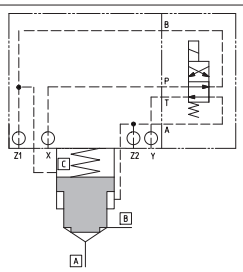
Thanks to the areas ratio AAP/(AA+AB), see section 2, the valve closing is always ensured with a piloting pressure (X port) equal to the line pressure (A or B line).

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

Hydraulic symbols



LIDAS



LIDASH

Size		**16**		**25**		**32**		**40**		**50**	
Max regulated flow at Δp = 5 bar	[l/min]	220		400		600		1300		2000	
Maximum flow		550		1000		1400		2700		4000	
Max pressure (ports A, B, X, Y)	[bar]	350 (port Y = 2 bar for LIDASH)									
Poppet type		**31**	**33, 43**	**31**	**33, 43**	**31**	**33, 43**	**31**	**33, 43**	**31**	**33, 43**
AA	[cm²]	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 MAIN CHARACTERISTICS OF CARTRIDGES VALVES TYPE LIDAS

Assembly position / location		Any position
Subplate surface finishing		Roughness index Ra 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 1
Recommended viscosity		15 ÷ 100 mm^2/s at 40°C (ISO VG 15 ÷ 100)
Fluid contamination class		ISO 4406 class 21/19/16 NAS 1638 class 10, in line filters of 25 μm ($\beta_{25} \geq 75$ recommended)
Fluid temperature		-20°C +60°C (standard seals and water glycol) -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 occuring 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
666	Connector IP-65, suitable for direct connection to electric supply source
667	As SP-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 - Imax 1A).

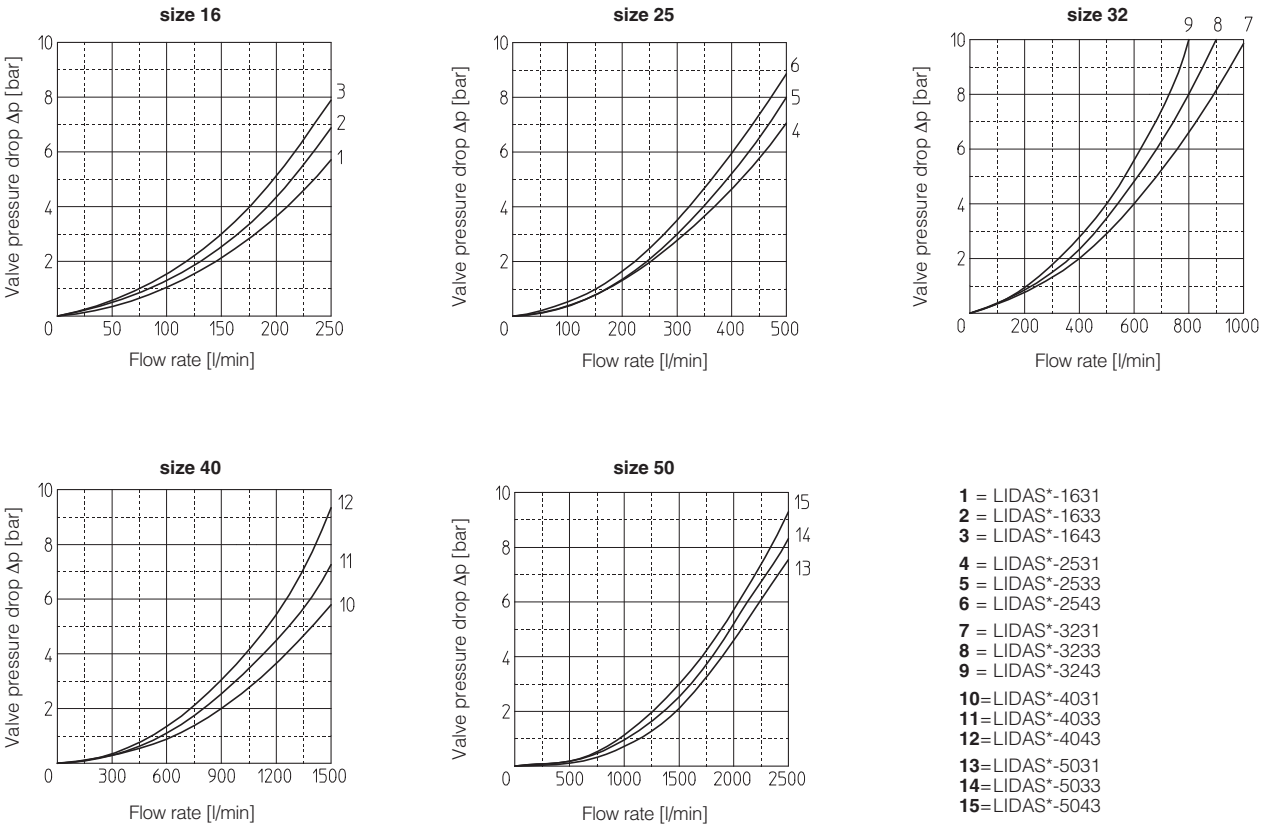
For other available connectors, see tab. E010 and K500

5 ELECTRIC FEATURES

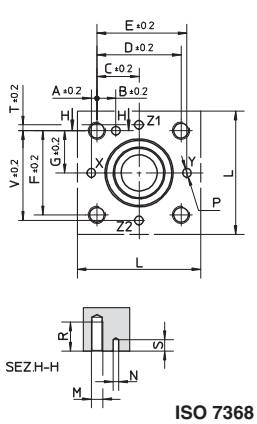
Solenoid valve type	External supply nominal voltage ± 10% (1)		**Voltage code**	Type of connector	Power consumption (3)	Code of spare coil DHI	Colour of coil label DHI	Code of spare coil DHE
DHI DHE	DC	12 DC 24 DC 110 DC 220 DC	**12 DC** **24 DC** **110 DC** **220 DC**	666 or 667	33 W (DHI) 30 W (DHE)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

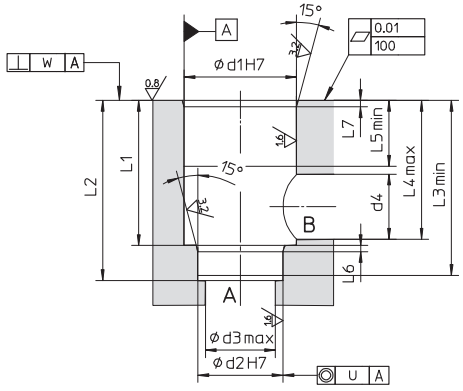
6 Q/Δp DIAGRAMS (based on mineral oil ISO VG 46 at 50 °C)



7 COVER INTERFACE AND RECESS DIMENSIONS [mm]



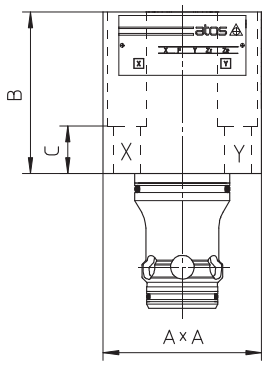
ISO 7368



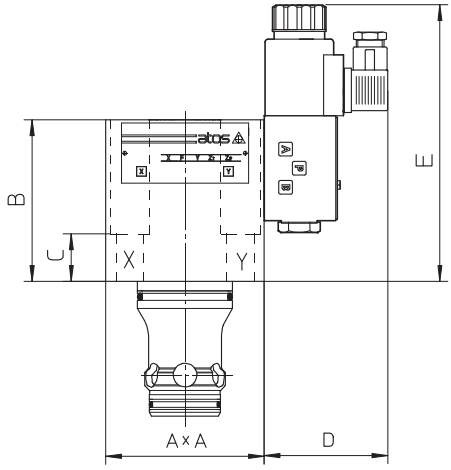
ISO 7368

COVER INTERFACE														RECESS											
Size	A	B	C	D	E	F	G	L	M	Ø N	P_{max}	R	S min	ød1	ød2	ød3	ød4	L1	L2	L3	L4	L5	L6	L7	U	W
16	2	12,5	23	46	48	46	23	65	M8	4	4	20	6	32	25	16	16	$43^{+0,1}_{0}$	$56^{+0,1}_{0}$	54	42,5	20	2	2	0,03	0,05
25	4	13	29	58	62	58	29	85	M12	6	6	30	8	45	34	25	25	$58^{+0,1}_{0}$	$72^{+0,1}_{0}$	70	57	30	2,5	2,5	0,03	0,05
32	6	18	35	70	76	70	35	102	M16	6	8	38	8	60	45	32	32	$70^{+0,1}_{0}$	$85^{+0,1}_{0}$	83	68,5	30	2,5	2,5	0,03	0,1
40	7,5	19.5	42.5	85	92.5	85	42,5	125	M20	6	10	46	8	75	55	40	40	$87^{+0,1}_{0}$	$105^{+0,1}_{0}$	102	84,5	30	3	3	0,05	0,1
50	8	20	50	100	108	100	50	140	M20	8	10	46	8	90	68	50	50	$100^{+0,1}_{0}$	$122^{+0,1}_{0}$	117	97,5	35	3	4	0,05	0,1

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