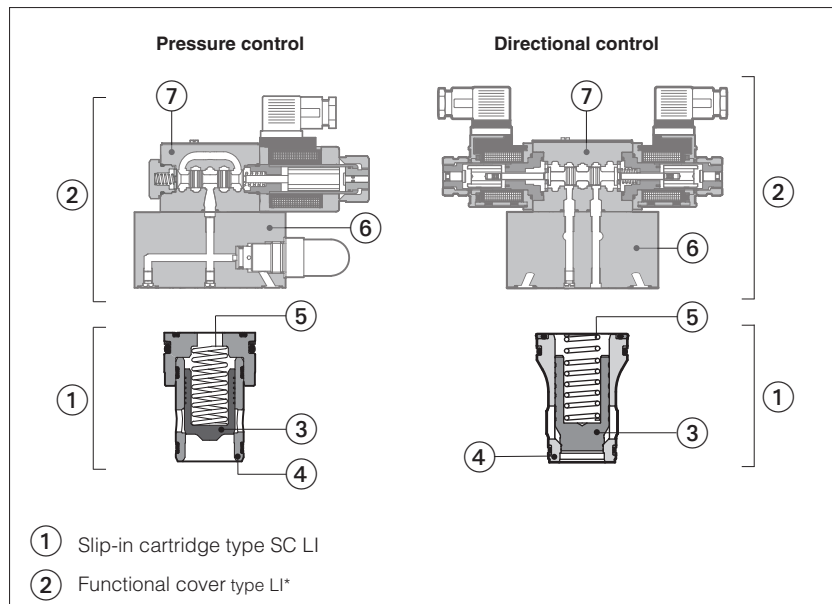


ISO cartridges type SC LI

2 way slip-in directional, pressure, flow, check controls



2way slip-in cartridges are designed in conformity with ISO 7368 standard cavities for installation in compact manifolds. They are available in several versions to perform directional, pressure, flow and check controls in combination with relevant functional covers.

They permit to control very high flow rates at low pressure drops, reducing the manifold dimensions respect to subplate valves.

The slip-in cartridge ① is made by a poppet ③ sliding into a sleeve ④ and kept in closed position by a spring ⑤ available with different cracking pressure valves.

The functional covers ② are made by a closing element with ISO mounting surface ⑥ provided with internal piloting lines for the cartridge operation. They can be equipped with pilot valves ⑦ and devices performing the specific control (pressure relief, flow metering, directional, check)

Sizes: **16 to 100** ISO 7368

Max flow up to **9000 l/min** at Δp 5 bar

Max pressure **420 bar**

1 MODEL CODE

SC LI	-	16	43	1	*	/	*
Cartridge according to ISO 7368							Seals material: - = NBR PE = FKM BT = HNBR
Size - see section 5 16 25 32 40 50 63 80 100							Series number
Type of poppet (1) - see section 5							Spring cracking pressure (1)

(1) See technical table:

H030 for directional controls

H010 for pressure controls

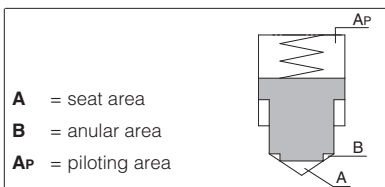
H020 for flow controls

H040 for check controls

2 MAIN CHARACTERISTICS

Assembly position / location	Any position
Cavity dimensions	ISO 7368, see technical table P006
Compliance	RoHS Directive 2011/65/EU as last update by 2015/65/EU REACH Regulation (EC) n°1907/2006
Ambient temperature	Standard execution = $-30^{\circ}\text{C} \div +70^{\circ}\text{C}$ /PE option = $-20^{\circ}\text{C} \div +70^{\circ}\text{C}$ /BT option = $-40^{\circ}\text{C} \div +70^{\circ}\text{C}$
Operating pressure	420 bar , see technical table of specific valve
Maximum flow	see section 5

3 SC LI CARTRIDGE AREAS



Pressure applied to areas A and B acts to open the poppet.

Pressure applied to area Ap plus the spring force act to close the poppet

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

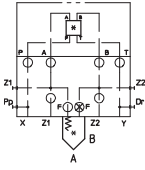
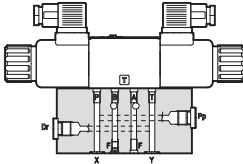

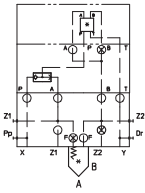
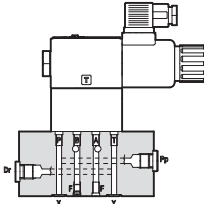

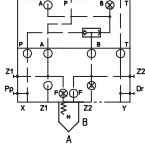

Seals, recommended fluid temperature	NBR seals (standard) = $-20^{\circ}\text{C} \div +80^{\circ}\text{C}$, with HFC hydraulic fluids = $-20^{\circ}\text{C} \div +50^{\circ}\text{C}$ FKM seals (/PE option) = $-20^{\circ}\text{C} \div +80^{\circ}\text{C}$ HNBR seals (/BT option) = $-40^{\circ}\text{C} \div +60^{\circ}\text{C}$, with HFC hydraulic fluids = $-40^{\circ}\text{C} \div +50^{\circ}\text{C}$		
Recommended viscosity	20÷100 mm ² /s - max allowed range 15 ÷ 380 mm ² /s		
Max fluid contamination level	ISO4406 class 20/18/15 NAS1638 class 9, see also filter section at www.atos.com or KTF catalog		
Hydraulic fluid	Suitable seals type	Classification	Ref. Standard
Mineral oils	NBR, FKM, HNBR	HL, HLP, HLPD, HVL, HVLDP	DIN 51524
Flame resistant without water	FKM	HFDU, HFDR	ISO 12922
Flame resistant with water	NBR, HNBR	HFC	

5 TYPE OF POPPET FOR SC LI SLIP-IN CARTRIDGES

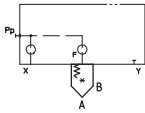
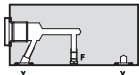
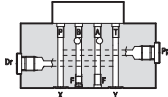
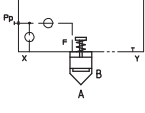
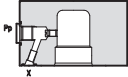
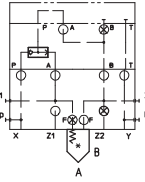
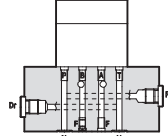
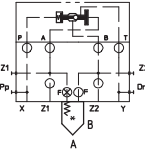
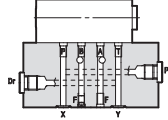
Size Type	SC LI-16	SC LI-25	SC LI-32	SC LI-40	SC LI-50	SC LI-63	SC LI-80	SC LI-100	Functional sketch (hydraulic symbol)	Typical section	Area ratio	Related functional cover
	●	●	●	●	●	●	●	—				
31	●	●	●	●	●	●	●	—			1 : 1	Poppet type LIMM, LIMHA, LIMHC, LIC, LICM
Q _{max} [l/min] Δp = 5 bar	180	380	650	1100	2000	3200	5000					
32	●	●	●	●	●	●	●	●			1 : 1,1	Poppet type LIDA, LIDD, LIDB, LIDBH, LIDEW
Q _{max} [l/min] Δp = 5 bar	270	550	1000	1700	2500	4000	5500	9000				
33	●	●	●	●	●	●	●	●			1 : 1,5	Poppet type LIDA, LIDD, LIDB, LIDBH, LIDEW
Q _{max} [l/min] Δp = 5 bar	270	550	1000	1700	2500	4000	5500	9000				
34	●	○	○	—	—	—	—	—			1 : 1	Poppet type LIMM, LIMHA, LIMHC
Q _{max} [l/min] Δp = 5 bar	200											
35	●	●	●	●	●	—	—	—			1 : 1,1	Poppet type LIMM, LIMHA, LIMHC
Q _{max} [l/min] Δp = 5 bar	200	400	670	1200	2200							
36	●	●	●	●	●	●	●	—			1 : 1	Spool type LIC, LICM
Q _{max} [l/min] Δp = 5 bar	180	380	650	1100	2000	3200	5000					
37	●	●	●	●	—	—	—	—			1 : 1	Spool type LIRA
Q _{max} [l/min] Δp = 5 bar	160	270	540	840								
42	●	●	●	●	●	●	●	—			1 : 1,1	Poppet type with dumping nose LIDA, LIDD, LIDB, LIDBH, LIDEW
Q _{max} [l/min] Δp = 5 bar	240	500	800	1400	2200	3300	4000					
43	●	●	●	●	●	●	●	●			1 : 1,5	Poppet type with dumping nose LIDA, LIDD, LIDB, LIDBH, LIDEW
Q _{max} [l/min] Δp = 5 bar	240	500	800	1400	2200	3300	4000	6300				
52	●	●	●	●	●	—	—	—			1 : 1,1	Poppet type LIDA
Q _{max} [l/min] Δp = 5 bar	170	300	450	900	1800							
62	●	●	●	○	●	—	—	—			1 : 1,1	Poppet type LIDO
Q _{max} [l/min] Δp = 5 bar	170	300	450	900	1800							
63	●	●	●	○	●	—	—	—			1 : 1,1	Poppet type with dumping nose LIDO
Q _{max} [l/min] Δp = 5 bar	170	300	450	900	1800							
69	—	●	●	●	●	—	—	—			1 : 1,6	
Q _{max} [l/min] Δp = 5 bar												
Mass [kg]	0,2	0,5	0,9	1,7	3,0	7,0	13	22				

- normally available from stock
- on request
- not available

6 FUNCTIONALS COVERS - DIRECTIONAL CONTROL, see table H030

Function and type of control	Size	Hydraulic symbol	Functional cover size 16 ÷ 100	SC LI cartridges
Direct operated directional control valve with solenoid valve for pilot selection LIDEW*	16			SC LI-**32* SC LI-**33* size 16 ... 100
	25			
	32			
	40			
	50			
	63			
80				
100				
Direct operated directional control valve with solenoid valve and shuttle valve for pilot selection LIDBH1A = open when solenoid is de-energized LIDBH1C = closed when solenoid is de-energized	16	1A  1C 		SC LI-**32* SC LI-**33* size 16 ... 100
	25			
	32			
	40			
	50			
	63			
80				
100				
Direct operated directional control valve with solenoid and shuttle valve for pilot selection LIDBH2A = when solenoid is de-energized only connections X→F LIDBH2C = when solenoid is de-energized only connections Z1→F	16	2A  2C 		SC LI-**32* SC LI-**33* size 16 ... 100
	25			
	32			
	40			
	50			
	63			
80				
100				

7 FUNCTIONALS COVERS - CHECK FUNCTION, see table H040

Function and type of control	Size	Hydraulic symbol	Functional cover size 16 ÷ 25	Functional cover size 32 ÷ 80	SC LI cartridges
Direct operated check valve normally closed LIDA	16				SC LI-**32* SC LI-**33* size 16 ... 80
	25				
	32				
	40				
	50				
63					
80					
Direct operated check valve normally open LIDO	16				SC LI-**62* SC LI-**63* size 16, 25, 32, 50
	25				
	32				
	40				
	50				
Direct operated check valve with shuttle valve for pilot selection LIDB	16				SC LI-**32* SC LI-**33* size 16 ... 63
	25				
	32				
	40				
	50				
63					
Direct operated check valve with hydraulically operated pilot check valve LIDR	16		01/20 		SC LI-**32* SC LI-**33* size 16 ... 63
	25				
	32				
	40				
	50				
63					

8 TYPICAL FUNCTIONS OF COVERS - PRESSURE CONTROL, see table H010

Function and type of control	Size	Hydraulic symbol	Functional cover size 6 ÷ 32	Functional cover size 40 ÷ 80	SC LI cartridges
Pressure relief control with manual setting LIMM	16				SC LI-**31* size 16... 80
	25				SC LI-**34* size 16
	32				
	40				
	50				
Pressure relief control with solenoid valve for venting LIMHA = unloading when solenoid is de-energized LIMHC = unloading when solenoid is energized LIMH+	16				SC LI-**31* size 16...80
	25				SC LI-**34* size 16
	32				
	40				
	50				
Pressure reducing control with manual setting. Open in resting position LIRA	16				SC LI-**37* size 16...40
	25				
	32				
	40				
Pressure compensator to be coupled with flow control valves LIC	16				SC LI-**31* size 16...80
	25				
	32				
	40				
	50				
Pressure compensator with mechanical max pressure regulation to be coupled with flow control valves. LICM	16				SC LI-**31* size 16...80
	25				
	32				
	40				
	50				
	80				

9 FUNCTIONAL COVERS - FLOW CONTROL, see table H020

Function and type of control	Size	Hydraulic symbol	Functional cover size 16 ÷ 63	SC LI cartridges
Flow control with stroke limiter LIDD	16			SC LI-**32* SC LI-**33* size 16...63
	25			SC LI-**42* SC LI-**43* size 16...63
	32			
	40			
	63			