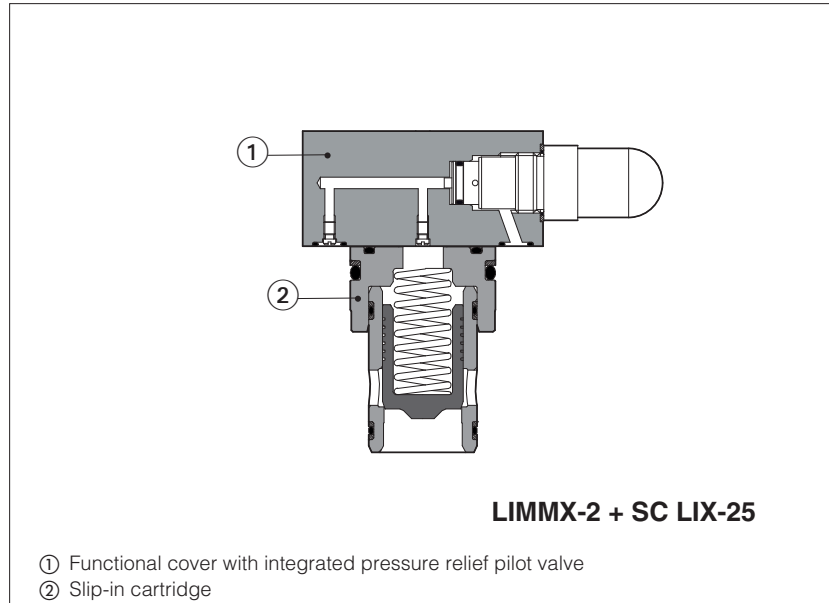


# Stainless steel pressure relief valves

ISO functional cover and 2-way slip-in cartridge



## LIMMX, LIMMXS, SC LIX

Pressure relief valves, in cartridge design conforming to ISO7368 standard for installation in compact manifolds.

They are made by a functional cover **LIMMX(S)** and a 2-way slip-in cartridge **SC LIX**:

Functional covers are available in two different stainless steel executions for corrosive environments and fluids:

- **X** full stainless steel for external and internal parts, to withstand extreme and corrosive environmental conditions, and to ensure full compatibility also with water base and special fluids.
- **XS** stainless steel only for external parts to withstand extreme and corrosive environmental conditions.

LIMMXS cover can be used also with standard SC LI-25\*, see tech. table H030

## LIMMX + SC LIX

### LIMMXS + SC LI :

Size: **25** - ISO 7368

Max flow: **370 l/min** at  $\Delta p$  5 bar

Max pressure: **350 bar**

## 1 MODEL CODE OF FUNCTIONAL COVER and SLIP-IN CARTRIDGE VALVES

### 1.1 Model code of functional cover

<b>LIMM</b>	<b>X</b>	-	<b>2</b>	/	<b>350</b>	<b>**</b>	/	<b>*</b>	/	<b>*</b>
Cover according to ISO 7368										
Stainless steel execution: <b>(1)</b> <b>X</b> = Full stainless steel <b>XS</b> = Stainless steel only external parts <b>(2)</b>						Series number				Test fluid, only for X execution: <b>(3)</b> <b>H</b> = mineral oil <b>W</b> = pure water
Size: <b>2</b> = 25					Pressure range <b>50</b> = 6 ÷ 50 bar <b>100</b> = 8 ÷ 100 bar					Seals material, see section <b>[5]</b> : - = NBR low temp. -40°C <b>PE</b> = FKM <b>BBT</b> = FVMQ fluorosilicon -60°C <b>(4)</b>
					<b>210</b> = 10 ÷ 210 bar <b>350</b> = 15 ÷ 350 bar					

### 1.2 Model code of slip-in cartridge

<b>SC LI</b>	<b>X</b>	-	<b>25</b>		<b>31</b>	/	<b>2</b>	<b>**</b>	/	<b>*</b>	/	<b>*</b>
Cartridge according to ISO 7368												
Stainless steel execution: <b>X</b> = Full stainless steel								Series number				Test fluid: <b>(3)</b> <b>H</b> = mineral oil <b>W</b> = pure water
Size 25												Seals material, see section <b>[5]</b> : - = NBR low temp. -40°C <b>PE</b> = FKM <b>BBT</b> = FVMQ fluorosilicon -60°C
Poppet type: <b>31</b> = Area ratio 1 ÷ 1							Spring cracking pressure <b>1</b> = 0,3 bar <b>2</b> = 1,2 bar					<b>3</b> = 3 bar <b>6</b> = 6 bar

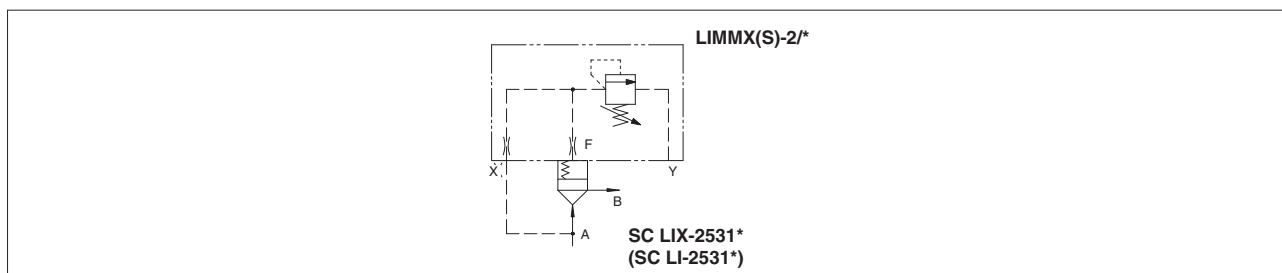
**(1)** See section **[5]** for material specifications

**(2)** LIMMXS cover can be used with standard SCLI-25\* cartridge

**(3)** LIMMX and SC LIX in full stainless steel execution are factory tested with mineral oil or pure water in order to avoid the contamination of the end user system. At the end of each valve model code must be specified the type of fluid to be used in the valve's testing: "**H**" for hydraulic oil or "**W**" for pure water.

**(4)** Only for full stainless steel "**X**" execution

## 2 HYDRAULIC SYMBOL



## 3 GENERAL CHARACTERISTICS

Assembly position / location	Any position
Mounting surface and cavity dimensions	ISO 7368, see section 9
MTTFd values according to EN ISO 13849	75 years, for further details see technical table P007
Ambient temperature	<b>Standard</b> = -40°C ÷ +70°C <b>/PE</b> option = -20°C ÷ +70°C <b>/BBT</b> option = -60°C ÷ +70°C
Storage temperature range	<b>Standard</b> = -40°C ÷ +80°C <b>/PE</b> option = -20°C ÷ +80°C <b>/BBT</b> option = -60°C ÷ +80°C
Compliance	RoHs Directive 2011/65/EU as last update by 2015/863/EU REACH Regulation (EC) n°1907/2006

## 4 HYDRAULICS CHARACTERISTICS

### 4.1 Hydraulic characteristics of LIMMX(S) functional cover

Functionl cover	<b>LIMMX, LIMMXS</b>
Operting pressure [bar]	Port X = 350; Port Y = 50

### 4.2 Hydraulic characteristics of SC LIX slip-in cartridge

Slip-in cartridge	<b>SC LIX</b>
Operting pressure [bar]	350
Nominal Flow at $\Delta p$ 5 bar [l/min]	370
Type of poppet	<b>31</b>
Functional sketch (Hydraulic symbol)	
Typical section	
Area ratio A: Ap	1:1

## 5 MATERIALS SPECIFICATION

Valve code	Valve type	External parts	Internal parts	Spring	std	Seals /PE	/BBT
<b>LIMMX</b>	Functional cover	AISI 316L	AISI 420B, 440C	AISI 302	NBR 70 Sh low temp	FKM (viton)	FMVQ (fluorosilicon)
<b>LIMMXS</b>	Functional cover	AISI 316L	Carbon steel	AISI 302	NBR 70 Sh low temp	FKM (viton)	-
<b>SC LIX</b>	Cartridge	AISI 420B (Sleeve) AISI 630 (Cap)	AISI 440CV (Poppet)	AISI 302	NBR 70 Sh low temp	FKM (viton)	FMVQ (fluorosilicon)

## 6 SEALS AND HYDRAULIC FLUIDS - for other fluids not included in below table, consult our technical office

Seals, recommended fluid temperature <b>(1)</b>	NBR low temp. seals (standard) = -40°C ÷ +60°C FKM seals (/PE option) = -20°C ÷ +80°C FVMQ seals (/BBT option) = -60°C ÷ +60°C		
Recommended viscosity	15 ÷ 100 mm²/s - max allowed range 2.8 ÷ 500 mm²/s min = 0,9 mm²/s for X full stainless steel execution with pure water		
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 low temp., FKM, FVMQ	HL, HLP, HLPD, HVLP, HVLDP	DIN 51524
Flame resistant without water	FKM, FVMQ	HFDU, HFDR	ISO 12922
Flame resistant with water	NBR low temp.	HFA-E, HFA-S, HFB, HFC	

**(1)** The operating temperature of the fluid must be compatible with the maximum viscosity range allowed for the valve

**7 FLOW/ $\Delta p$  DIAGRAM** (based on mineral oil ISO VG 46 at 50°C)