

**Brief**

2-way cartridge valves are elements that have been designed for a compact block design. In most cases, the cover is simultaneously the connection from the control side of the power section to the pilot control valves.

By control with respective pilot control valves, the power section can be applied for pressure, directional and throttle functions or a combination of these functions.

Particularly efficient solutions are realized by adjustment of the size to various flows of the individual ways of an actuator.

The power section with connections A and B is installed into the control block in a receiving hole standardized according to ISO 7368 and closed with a cover.

The application of power sections of elements for multiple functions is very cost-effective a hydraulically controlled directional seat valve or a shuttle valve according to the required overall function.

2-way cartridge valves generally consist of control cover and installation kit.

The control cover contains the control bores and optionally a stroke limitation function.

Additionally, electrically operated directional spool or seat valves can be installed at a control cover.

The installation kit consists of a bushing , ring (only up to NG32), valve poppet, optionally with damping nose or without damping nose as well as closing spring .

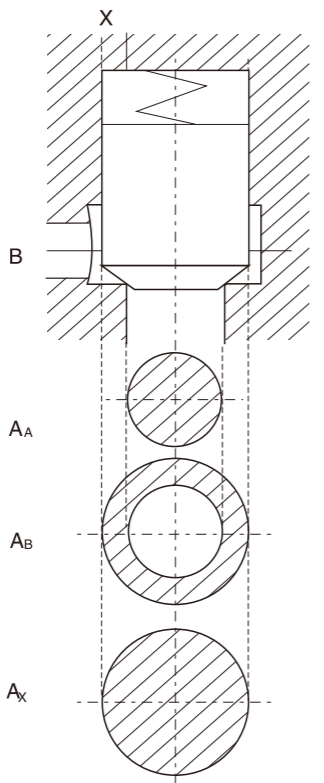
The function of 2-way cartridge valves is pressure-dependent. This way, three crucial pressurized areas A<sub>A</sub>, A<sub>B</sub>, A<sub>X</sub> are realized for the function.

The area at the valve seat A<sub>A</sub> is considered as 100%. Depending on the version, the annulus area A<sub>B</sub> realized by grading is 7% or 50% of area A<sub>A</sub>.

The area ratio A<sub>A</sub> : A<sub>B</sub> is respectively either 14.3 : 1 or 2 : 1. The area A<sub>X</sub> is identical to the sum of areas A<sub>A</sub> + A<sub>B</sub>.

Due to the different area ratios A<sub>A</sub> : A<sub>B</sub> and the resulting different annulus areas (A<sub>B</sub>),

The area A<sub>X</sub> is one time 107% and another time 150% of the area A<sub>A</sub> at the seat, which is observed as 100%



**2-way Cartridge Valve (Direction Function)**

**Technical data**



Sise	16	25	32	40	50	63
Max working pressure (Mpa)	31.5					
Max flow rate (L/min)	160	460	800	1200	1800	2700
Working fluid	Mineral hydraulic oil; phosphate ester hydraulic oil					
Fluid temp (°C)	-20~70					
Fluid viscosity (mm <sup>2</sup> /s)	-2.8~500					
Cleanliness	NAS1638 Class 9, recommended filtration precision Min β ≥75.					

HLYC is a high-flow rate and high-pressure logic valve mainly to control the oil on/off, shall work together with the coverplate.

**Model description**

H Y L C - \* - \* - \* - \* - \* / \* \*

2-way cartridge valve (direction function)

Specification  
 16 DN16  
 25 DN25  
 32 DN32  
 40 DN40  
 50 DN50  
 63 DN63

50 series  
 A area ratio 2:1 (annular area=50%)  
 B area ratio 14.3:1 (annular area=7%)  
 90series  
 area ratio 3:1 (annular area=33%)

Remark

Serial number  
5 0  
51

Seal material  
omit NBR  
V FPM

E Valve poppet without damping nose  
D Valve poppet with damping nose

00 Cracking pressure 0 bar (without spring)  
 05 Cracking pressure approx. 0.05Mpa  
 10 Cracking pressure approx. 0.1Mpa  
 20 Cracking pressure approx. 0.2Mpa  
 40 Cracking pressure approx. 0.4Mpa

