

## 产品概述 PRODUCT DESCRIPTION

盖板式二通插装阀，一般由插件、盖板、先导元件及集成块组成。主阀组件设计成插件结构，安装在符合ISO7368(DIN24342,GB2877)标准插孔的集成块内，端面用盖板封闭，通过先导元件对盖板的功能改变，在不改变主集成块的情况下，可获得不同种类阀的使用功能，它实际是一种多功能的复合阀。

盖板式二通插装阀之名是为区别于螺纹插装阀和螺纹插装逻辑阀，但为简化称呼，符合习惯，在一般不太严格的场合，本公司把该阀主阀组件，也即插件泛称为逻辑阀。该阀作为单独元件，具二通开关逻辑功能，这也是逻辑阀名称的由来。

盖板式二通插装逻辑阀一般用于流量大于80L/min的中高压系统中，在一些要求反应特别快，流量特别大的系统中，更是最重要的选择之一。该阀广泛应用于铝材挤压机、油压机、塑料成型机、压铸机、金属剪切和打包机、轧钢机、金属成型机、船舶等设备的中大型液压系统中。

Two-way cartridge valve, generally assembly by insert, cover plate, pilot element and integrated block. The main valve assembly is designed as a insert structure and is installed in an integrated block conforming to ISO7368 (DIN24342, GB2877) standard holes, the end surface is closed with a cover plate. The function of valve may varied from the cover plate changed by the pilot element without changing the main integrated block, it is a multi-functional compound valve.

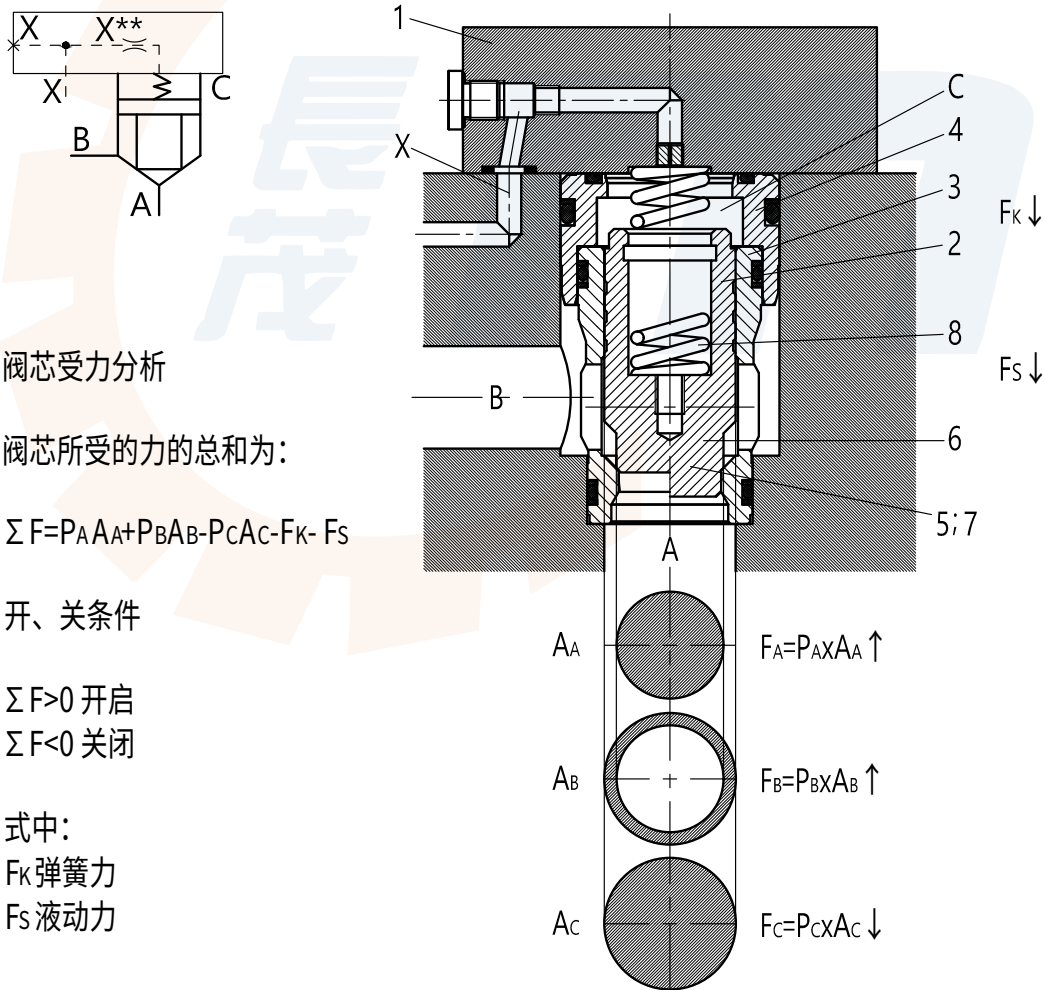
The name of the cover-plate two-way cartridge valve is to distinguish it from the threaded cartridge valve and the threaded cartridge logic valve. However, in order to simplify the name and conform to the habit, the main valve assembly of the valve is used in the general less stringent occasions. That is, the two-way cartridge valve is generally called a logic valve. As a separate component, the valve has a two-way switch logic function, which is also the origin of the name of the logic valve.

Two-way cartridge logic valve is generally used in medium and high pressure systems with a flow rate greater than 80L/min. It is one of the most important choices in some systems that require a particularly fast response and a particularly large flow rate. Our valves are widely used in medium and large hydraulic systems of aluminum extrusion presses, hydraulic presses, plastic molding machines, die casting machines, metal shears and balers, steel rolling mills, metal molding machines, ships and other equipment.

# 工作原理 WORKING PRINCIPLE

逻辑阀基本元件包括阀套、阀芯、弹簧和密封圈，如图(1)。该阀有三个面积，标为  $A_C$ ， $A_A$ ， $A_B$ 。  $A_C$  是阀芯大直径确定的圆面积，也是控制腔面积， $A_A$  是由阀芯小直径确定的圆面积， $A_B$  是阀芯大直径与小直径之间的环形面积。  $A_C$  面积上的压力加上弹簧力保持阀芯压紧阀套，使阀处于关闭状态， $A_A$  和  $A_B$  面积上的压力倾向于使阀芯抬离阀套，使阀打开。通常通过先导控制阀控制 C 腔的压力  $P_C$ ，使它与油路中最高压力相通，此时  $F < 0$ ，阀芯关闭，或者使它与油箱（低压腔）相通，此时  $F > 0$ ，阀芯开启，或者使 C 腔保持设定压力，让阀芯动态开启或关闭，以作调压阀用。

本公司把比值  $E_V = A_C / A_A$ ，称为逻辑阀的面积比，这是一个与逻辑阀结构和几何形状有关的参数，它对逻辑阀的控制和特性有较大影响。（注意：面积比  $E_V$ ，各公司有不同的规定）



# 型号订货说明 MODEL ORDERING

## 盖板式二通插装逻辑阀订货型号说明

### 2-WAY CARTRIDGE VALVES MODEL ORDERING

L C D 16 A 20 E 2 S - 2X V - 2 \*  
1 2 3 4 5 6 7 8 9 10 11 12 其他要求文字说明

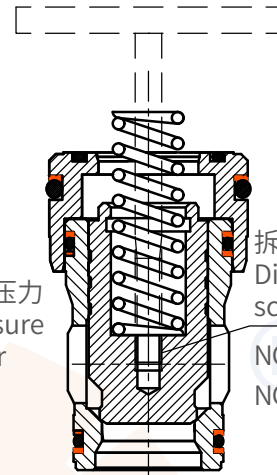
- >> 1. 代号 Codename
  - L — 盖板式二通插装阀插件 (泛称逻辑阀)
  - L — 2-way cartridge valve insert
- >> 2. 结构类别 Structure category
  - C — 端面浮动密封 (常备供货)
  - V — 端面外侧密封
  - T — 端面不带密封 (盖板凸台密封)
  - C — End floating seal (Normal Supply)
  - V — End outside seal
  - T — End without seal (Cover Stage Seal)
- >> 3. 功能代号 Function code
  - D — 流量方向型 Flow direction
  - P — 溢流型 Prefill
  - K — 液控型 Pilot-operated
  - R — 减压型 Pressure reducing
  - O — 常开型 Normally open
- >> 4. 公称直径 Nominal Diameter  
按 ISO 7368(DIN 24342)
  - 16 — NG16      63 — NG63
  - 25 — NG25      80 — NG80
  - 32 — NG32      100 — NG100
  - 40 — NG40      125 — NG125
  - 50 — NG50      160 — NG160
- >> 5. 面积比 Area Ratio  $E_v=A_c:A_a$ 
  - A=1.5:1    AA=2:1    B=1.07:1
  - AB=1.2:1    M=1.1:1    N=1:1
- >> 6. 开启压力 Open Pressure (bar)
  - 00 — 无弹簧      30 — 3.0
  - 05 — 0.5          40 — 4.0
  - 20 — 2.0          50 — 5.0
- >> 7. 阀芯型式 Valve spool
  - E — 普通型 可省略标记 Normal
  - D — 带缓冲头型 With cushion head (对于 P 功能型阀, 此处 D 表示座式滑阀型) (For P function type, D means spool poppet valve)
  - F — 带节流窗口 With throttle window
  - X — 带侧孔 With side hole
- >> 8. 阀芯辅助代号 Valve spool code
  - 0 — 不带阻尼孔 Without orifice
  - D.O.K.R 功能型阀, 可省略标记
  - 1 — 带固定阻尼孔 With fix orifice
  - P 功能溢流型阀, 可省略标记 (固定阻尼孔 16-32 为 1.2; 40-50 为 1.5)
  - 2 — 带可换阻尼螺塞 With replaceable damping plug
- >> 9. 阀芯密封形式 Valve spool sealing
  - 无标记 - 不带密封 None- no sealing
  - S — O 型圈密封 O ring sealing
  - F — 聚四氟乙烯方形圈密封 PTFE Square ring sealing
- >> 10. 设计系列 Design series
  - 2X — 20-29 系列号
- >> 11. 密封件材料 Seal material
  - 无标记 — 丁腈橡胶 None- Nitrile rubber
  - V — 氟橡胶 Fluorine rubber
  - Si — 硅胶 Silicon
- >> 12. 材料 Material
  - 无标记 — GCr15 None- GCr15
  - 1 — 4Cr13、3Cr13
  - 2 — 0Cr17Ni7A1、9Cr18

# 结构类别图示 STRUCTURAL TYPE

**LC 型**  
LC Type



最大使用压力  
Max pressure  
420bar



拆卸螺纹孔  
Disassembly  
screw hole

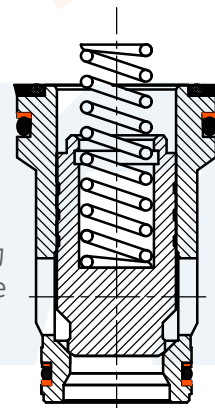
NG16-NG40 为 M6  
NG50 以上为 M10

端面浮动密封 (常备供货)  
End floating seal (Normal Supply)

**LV 型**  
LV Type



最大使用压力  
Max pressure  
315bar

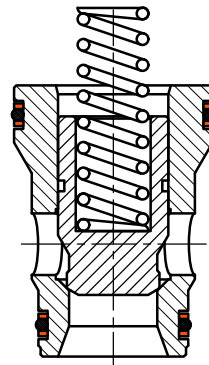


端面外侧密封  
End outside seal

**LT 型**  
LT Type

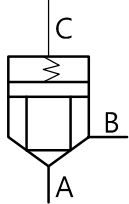
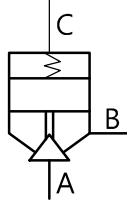
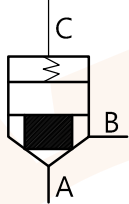
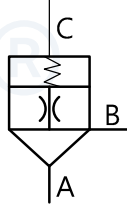
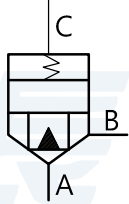
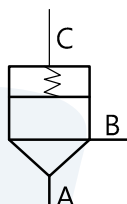
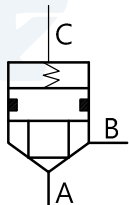
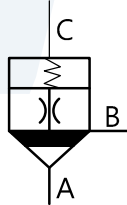
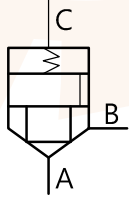
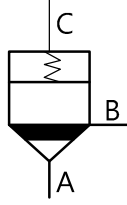
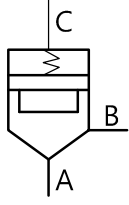
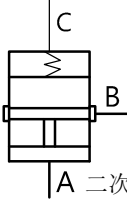


最大使用压力  
Max pressure  
420bar



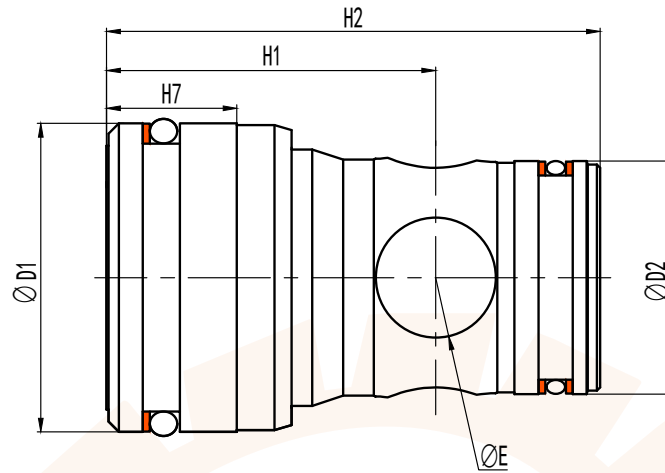
端面不带密封 (盖板凸台密封)  
End without seal (Cover Stage Seal)

# 功能符号 FUNCTIONAL SYMBOL

<p>» 流量方向通用型 Flow direction</p>		<p>» 液控单向阀型 Pilot-operated check valve</p>	
<p>» 流量方向缓冲型 Flow direction buffer</p>		<p>» 压力普通型阀 阀芯带阻尼孔 Pressure relief poppet valve with orifice</p>	
<p>» 流量方向节流窗口型 Flow direction throttling window</p>		<p>» 压力普通型阀 阀芯不带阻尼孔 Pressure relief poppet valve without orifice</p>	
<p>» 阀芯带密封圈型 Valve spool with seal ring</p>		<p>» 压力座式滑阀 阀芯带阻尼孔 Pressure relief spool poppet valve with orifice</p>	
<p>» 流量单向阀型 Flow check valve</p>		<p>» 压力座式滑阀 阀芯不带阻尼孔 Pressure relief spool poppet valve without orifice</p>	
<p>» 流量方向常开型 Flow direction normally open</p>		<p>» 压力减压型 Pressure Reducing Valve</p>	

# 外形尺寸 DIMENSIONS

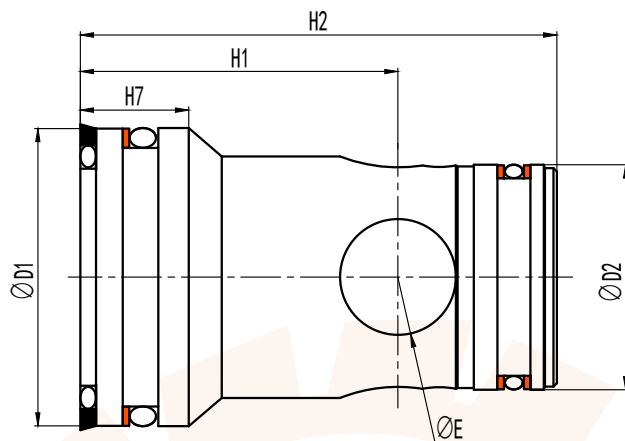
➤ LC-16~160- \*



代码 CODE 规格 SIZE	Ø D1	Ø D2	H1	H2	H7	Ø E	重量 WEIGHT (kg)
16	32	25	36	56	14	4-12	0.25
25	45	34	48	72	14.5	4-16	0.5
32	60	45	58	85	18	4-20	1.1
40	75	55	69	105	19.5	6-20	1.9
50	90	68	80	122	20	6-25	3.9
63	120	90	103	155	24	6-32	7.2
80	145	110	135	205	28	6-40	13
100	180	135	163	245	31	6-50	27
125	225	200	178	300	35	6-60	44
160	300	270	205	425	40	6-75	75

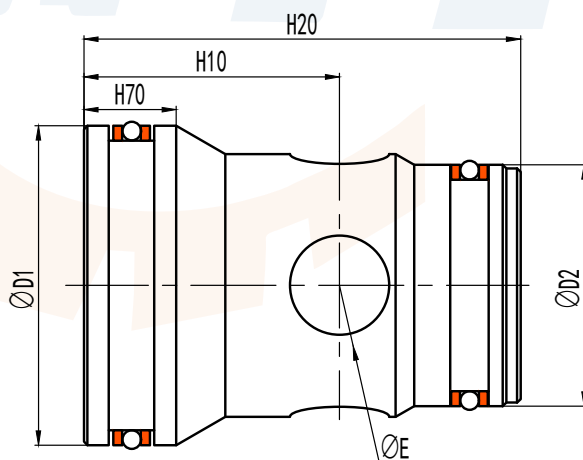
# 外形尺寸 DIMENSIONS

>> LV-16~63- \*



代码 CODE 规格 SIZE	Ø D1	Ø D2	H1	H2	H7	Ø E	重量 WEIGHT (kg)
16	32	25	36.5	56	16	4-12	0.25
25	45	34	48	72	16	4-16	0.5
32	60	45	58	85	21	4-20	1.1
40	75	55	69	105	24	6-20	1.9
50	90	68	80	122	25	6-25	3.9
63	120	90	103	155	27	6-32	7.2

>> LT-16~63- \*



代码 CODE 规格 SIZE	Ø D1	Ø D2	H10	H20	H70	Ø E	重量 WEIGHT (kg)
16	32	25	26	46	10	4-12	0.21
25	45	34	36	61.5	12	4-16	0.43
32	60	45	46	73	15	4-20	0.93
40	75	55	58	90	15	4-20	1.58
50	90	68	66	107	15	6-25	3.18
63	120	90	87	137	18	6-32	6.21





# 安装孔尺寸 MOUNTING HOLE SIZE

►符合 ISO7368,DIN24342,GB2877, 直径 125,160 除外

Comply with ISO7368, DIN24342, GB2877, except for diameter 125 and 160

NG	16	25	32	40	50	63	80	100	125	160	
∅ D	16	25	32	40	50	63	80	100	150	200	
∅ D1H8	32 <sup>+0.039</sup> <sub>0</sub>	45 <sup>+0.039</sup> <sub>0</sub>	60 <sup>+0.046</sup> <sub>0</sub>	75 <sup>+0.046</sup> <sub>0</sub>	90 <sup>+0.054</sup> <sub>0</sub>	120 <sup>+0.054</sup> <sub>0</sub>	145 <sup>+0.063</sup> <sub>0</sub>	180 <sup>+0.063</sup> <sub>0</sub>	225 <sup>+0.072</sup> <sub>0</sub>	300 <sup>+0.081</sup> <sub>0</sub>	
∅ D2H8	25 <sup>+0.033</sup> <sub>0</sub>	34 <sup>+0.039</sup> <sub>0</sub>	45 <sup>+0.039</sup> <sub>0</sub>	55 <sup>+0.046</sup> <sub>0</sub>	68 <sup>+0.046</sup> <sub>0</sub>	90 <sup>+0.054</sup> <sub>0</sub>	110 <sup>+0.054</sup> <sub>0</sub>	135 <sup>+0.063</sup> <sub>0</sub>	200 <sup>+0.072</sup> <sub>0</sub>	270 <sup>+0.081</sup> <sub>0</sub>	
∅ D3	Max	25	32	40	50	63	80	100	125	160	250
	Min	16	25	32	40	50	63	80	100	125	160
∅ D4	M8	M12	M16	M20	M20	M30	M24	M30	-	-	
∅ D5	4	6	8	10	10	12	16	20	-	-	
∅ D6	4	6	6	6	8	8	10	10	-	-	
H1	Max	34	44	52	64	72	95	130	155	192	268
	Min	29.5	40.5	48	59	65.5	86.5	120	142	175	243
H2	56	72	85	105	122	155	205	245	300	425	
H3	43±0.2	58±0.2	70±0.2	87±0.3	100±0.3	130±0.3	175±0.4	210±0.4	257±0.5	370±0.5	
H4	20	25	35	45	45	65	50	65	-	-	
H5	11	12	13	15	17	20	25	29	31	45	
H6	2	2.5	2.5	3	3	4	5	5	7±0.5	8±0.5	
H7	25	35	35	35	40	45	45	55	55	55	
H8	2	2.5	2.5	3	4	4	5	5	5.5±0.2	5.5±0.2	
H9	0.5	1	1.5	2.5	2.5	3	4.5	4.5	5	5	
L1	65/75	85	102	125	140	180	250	300	-	-	
L2	46	58	70	85	100	125	200	245	-	-	
L3	23	29	35	42.5	50	62.5	-	-	-	-	
L4	25	33	41	50	58	75	-	-	-	-	
L5	10.5	16	17	23	30	38	-	-	-	-	
W	0.05	0.058	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	

# 技术参数 TECHNICAL PARAMETERS

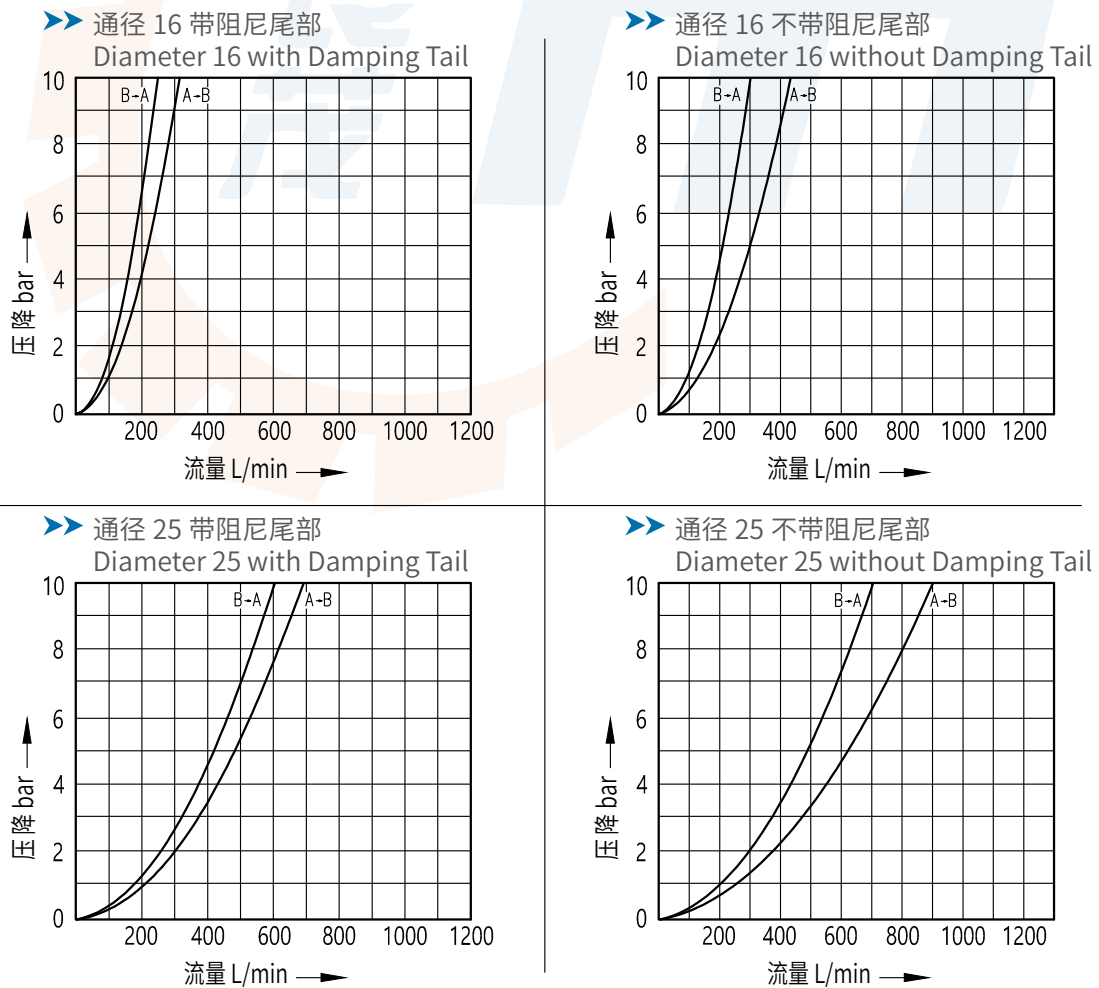
## 基本技术参数 SPECIFICATIONS >>>

介质 Lubricant medium	矿物油（液压油）。其他介质应用请咨询本公司 Hydraulic fluid. Or send us inquiry about lubricant medium		
温度范围°C Temperature	-20~80		
粘度范围 mm <sup>2</sup> /s Viscous	2.8~500		
清洁度 Cleanliness	至少 (at least) 达到 20/18/15 级 (ISO4406)		
推荐过滤器 Filter	β10 ≥ 75		
最大工作压力 Max. Working Pressure	LC: 420bar	LV: 315bar	LT: 420bar

## 通径和流量范围（参见压差流量特性） DIAMETER FLOW RANGE >>>

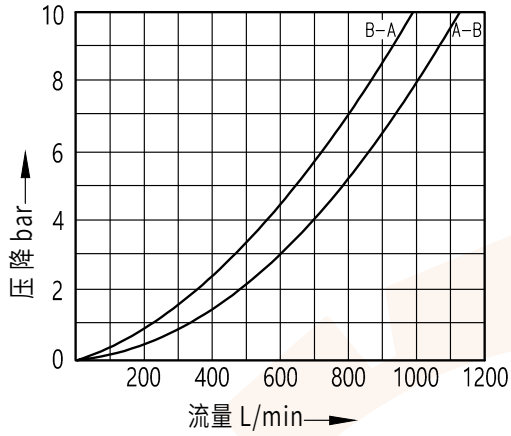
公称通径	mm	16	25	32	40	50	63	80	100	125	160
流量范围 L/min	ΔP 5bar	250	490	840	1400	1900	3300	4200	6800	10800	19000
	ΔP 2bar	160	350	550	850	1200	2000	2500	4000	6700	13000

## 压差流量特性 DIFFERENTIAL PRESSURE FLOW CHARACTERISTICS >>>

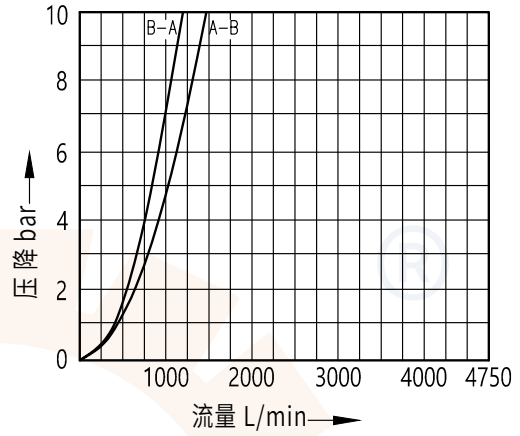


# 技术参数 TECHNICAL PARAMETERS

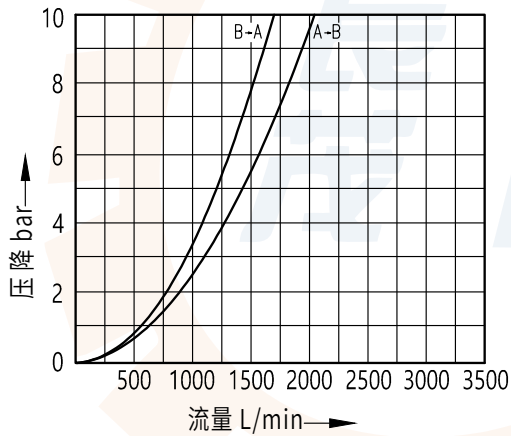
➤ 通径 32 带阻尼尾部  
Diameter 32 with Damping Tail



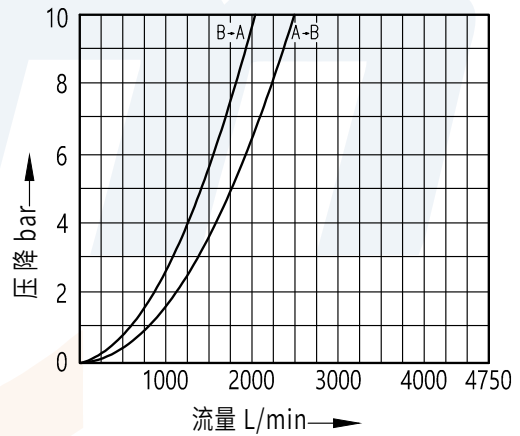
➤ 通径 32 不带阻尼尾部  
Diameter 32 without Damping Tail



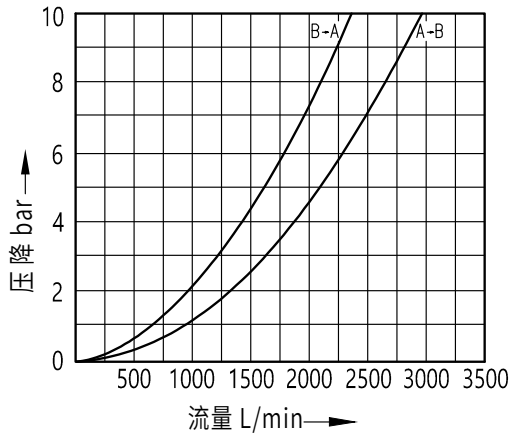
➤ 通径 40 带阻尼尾部  
Diameter 40 with Damping Tail



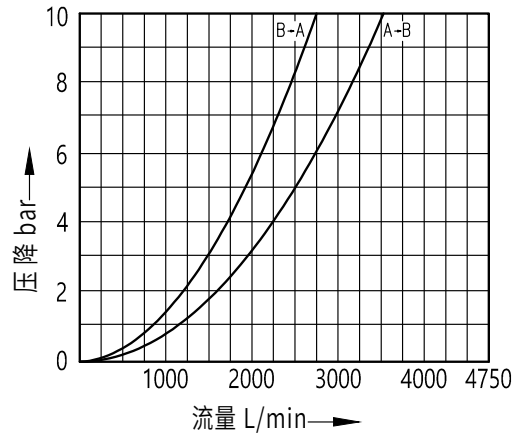
➤ 通径 40 不带阻尼尾部  
Diameter 40 without Damping Tail



➤ 通径 50 带阻尼尾部  
Diameter 50 with Damping Tail

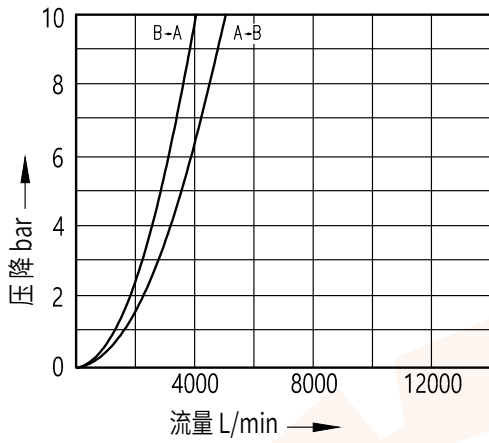


➤ 通径 50 不带阻尼尾部  
Diameter 50 without Damping Tail

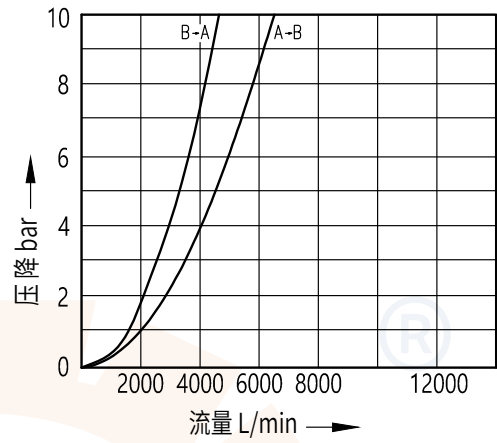


# 技术参数 TECHNICAL PARAMETERS

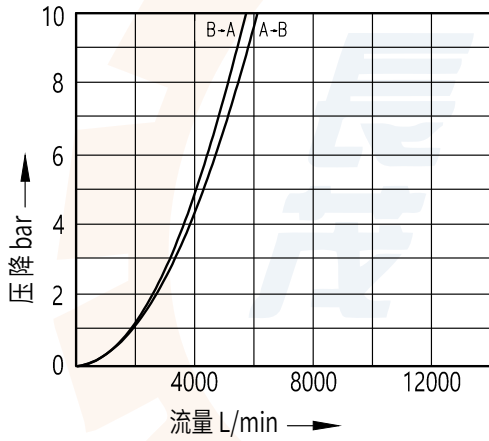
▶▶ 口径 63 带阻尼尾部  
Diameter 63 with Damping Tail



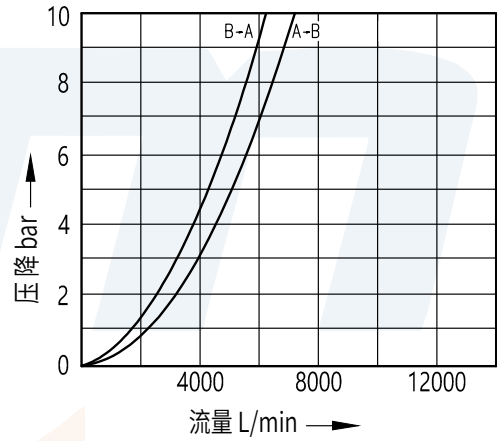
▶▶ 口径 63 不带阻尼尾部  
Diameter 63 without Damping Tail



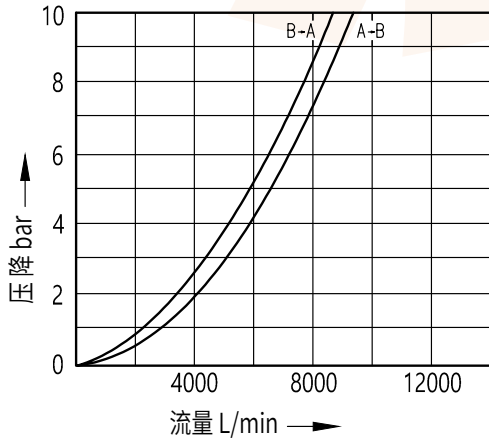
▶▶ 口径 80 带阻尼尾部  
Diameter 80 with Damping Tail



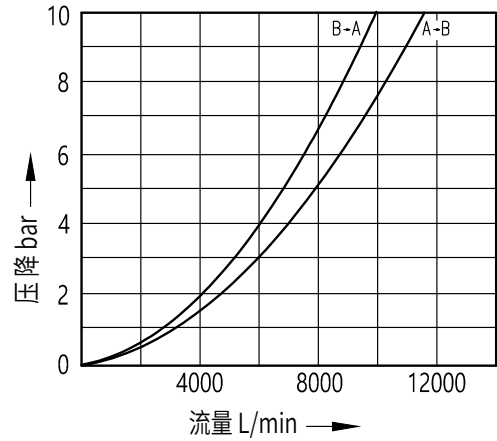
▶▶ 口径 80 不带阻尼尾部  
Diameter 80 without Damping Tail



▶▶ 口径 100 带阻尼尾部  
Diameter 100 with Damping Tail

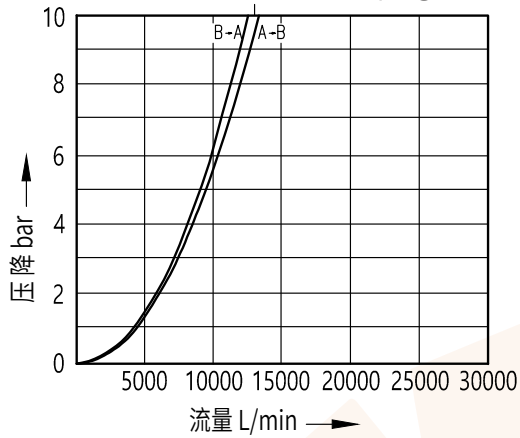


▶▶ 口径 100 不带阻尼尾部  
Diameter 100 without Damping Tail

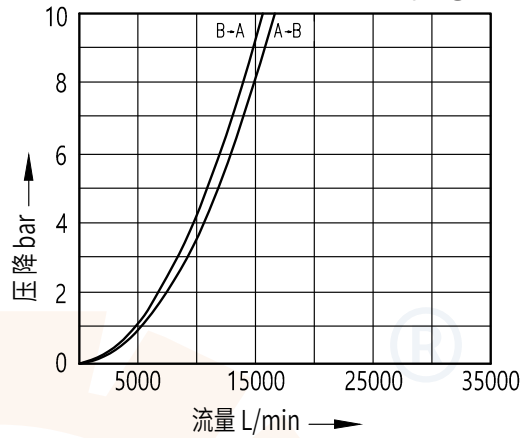


# 技术参数 TECHNICAL PARAMETERS

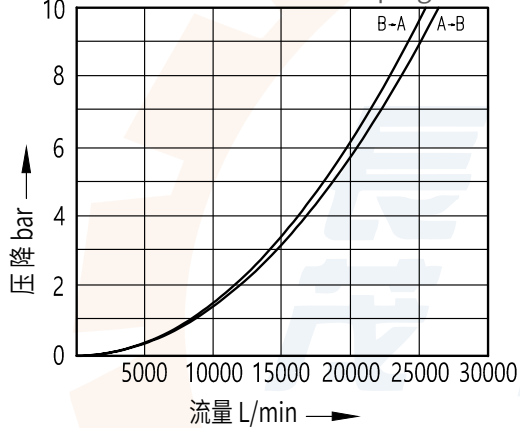
➤ 通径 125 带阻尼尾部  
Diameter 125 with Damping Tail



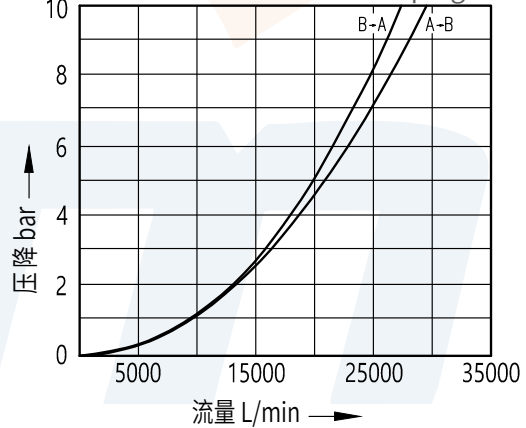
➤ 通径 125 不带阻尼尾部  
Diameter 125 without Damping Tail



➤ 通径 160 带阻尼尾部  
Diameter 160 with Damping Tail



➤ 通径 160 不带阻尼尾部  
Diameter 160 without Damping Tail



阻尼孔孔径及压差——流量曲线（供参考）

Damping hole diameter and pressure difference-Flow curve (for reference) ➤➤

公称通径 mm	16	25	32	40	50	63	80	100
通用阻尼孔孔径	0.8	1.0	1.2	1.5	1.8	2.0	2.0	2.5

