

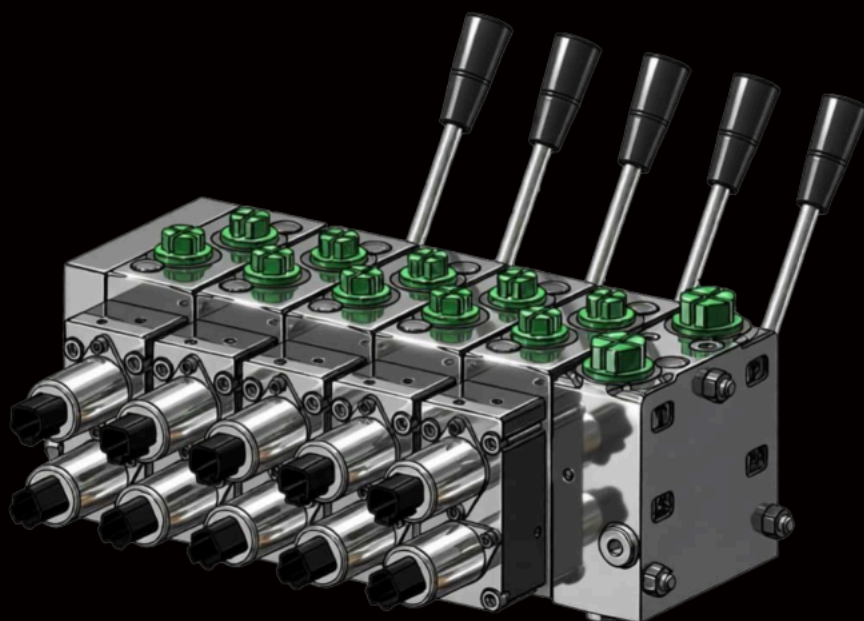


HYDROLIC CONTROL

选型样本

PV32 负载敏感比例阀

Load-Sensing Proportional Valve



HYDROLIC CONTROL

阅读与选型说明

How to use this manual

本手册按选型流程重新组织，以中文说明和对应英文帮助工程、采购及海外客户使用。型号、零件代码、压力、流量和接口规格以对应表格及图纸为准。

This bilingual edition follows the valve-selection workflow. Chinese explanations and matching English text support engineering, purchasing and international communication. Use the relevant tables and drawings for model codes, part numbers, pressure, flow and port specifications.

本版统一使用 PV32 系列名称。订货时应由厂家确认具体型号及完整阀组代码。

This edition uses the PV32 series designation throughout. Confirm the specific model and complete valve-group code with the manufacturer when ordering.

工作口流量与泵口总流量必须分开理解。常规推荐选型按带压力补偿器时 A/B 口最大 100 L/min 控制；140/230 L/min 等泵口流量并不代表单个工作口的可用流量。

Distinguish total pump-port flow from individual work-port flow. The standard selection basis is a maximum of 100 L/min at A/B with pressure compensation. Pump-port values such as 140/230 L/min do not represent the flow available at an individual work port.

复杂选型矩阵、液压符号、性能曲线和尺寸图保留原始图形，以避免改变技术关系；本版补充双语标题和字段释义。原稿中的冲突及资料缺项集中列在最后的“工程确认清单”。

Complex selection matrices, hydraulic symbols, performance curves and dimensional drawings retain the source graphics to avoid changing technical relationships. Bilingual headings and field keys are provided. Conflicting values and missing information are collected in the final Engineering Confirmation Checklist.

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页码为本版 PDF 页码；各页页脚标注原稿 PDF 页码，便于追溯。 / Page numbers refer to this edition. Source PDF page numbers are shown in the footer for traceability.

六步完成阀组选型

Six steps to configure the valve group

步骤 Step	确定内容 Decision	核对重点 Check
01	泵与中位系统 Pump and neutral circuit	定量泵/开芯或变量泵/闭芯；选择对应进油联。 Fixed pump/open center or variable pump/closed center; select the inlet section.
02	系统边界 System limits	最高压力、泵口总流量、回油背压及 LS 压差。 Maximum pressure, total pump flow, return backpressure and LS differential.
03	工作片功能 Work-section functions	A/B 方向、中位机能、补偿方式及工作口保护。 A/B directions, neutral function, compensation and work-port protection.
04	主阀芯 Main spool	FC 流量控制或 PC 压力控制；流量等级及浮动位。 FC flow or PC pressure control; flow rating and float function.
05	驱动与操作 Actuation and operation	手动、液控或电控；手动应急方式和装配侧。 Manual, hydraulic or electric actuation; manual override and mounting side.
06	完整性检查 Final verification	端盖、螺栓、总长、失效状态、同时动作与热平衡。 End plate, tie rods, overall length, failure state, simultaneous functions and thermal balance.

提交选型前，至少准备泵型与排量/转速、系统最高压力、各联目标流量、同时动作组合、执行机构参数、电压/信号以及环境和认证要求。

Before requesting a configuration, provide pump type and displacement/speed, maximum system pressure, target flow per section, simultaneous functions, actuator data, voltage/signals, and environmental and certification requirements.

产品定位与应用

Product overview and applications

PV32 是面向移动机械的模块化负载敏感比例阀。通过组合进油联、工作片、主阀芯及驱动模块，可覆盖从手动换向到电液比例控制的不同配置；每组最多可装配 12 个工作模块。

PV32 is a modular load-sensing proportional valve for mobile machinery. Inlet sections, work sections, main spools and actuators can be combined for configurations ranging from manual directional control to electrohydraulic proportional control. A valve group accommodates up to 12 work modules.



典型多联阀组 / Typical multi-section valve group

压力补偿用于降低负载变化对供油流量的影响。低开度段针对 0 ~ 10% 阀芯开度进行微动匹配，适合吊装、钻机及高空作业等低速精细动作。实际效果仍需结合泵流量、负载及系统设置确认。

Pressure compensation reduces the influence of load changes on supplied flow. Fine metering in the 0-10% spool-opening range supports precise low-speed movements in lifting, drilling and aerial work. Actual performance must be verified with the available pump flow, loads and system settings.

典型应用：折臂随车吊、高空作业平台、钻机与矿山设备、环卫及特种车辆、港口转运设备。

Typical applications include knuckle-boom truck cranes, aerial work platforms, drilling and mining equipment, municipal and special-purpose vehicles, and port handling equipment.

模块组成与职责

Module architecture and functions

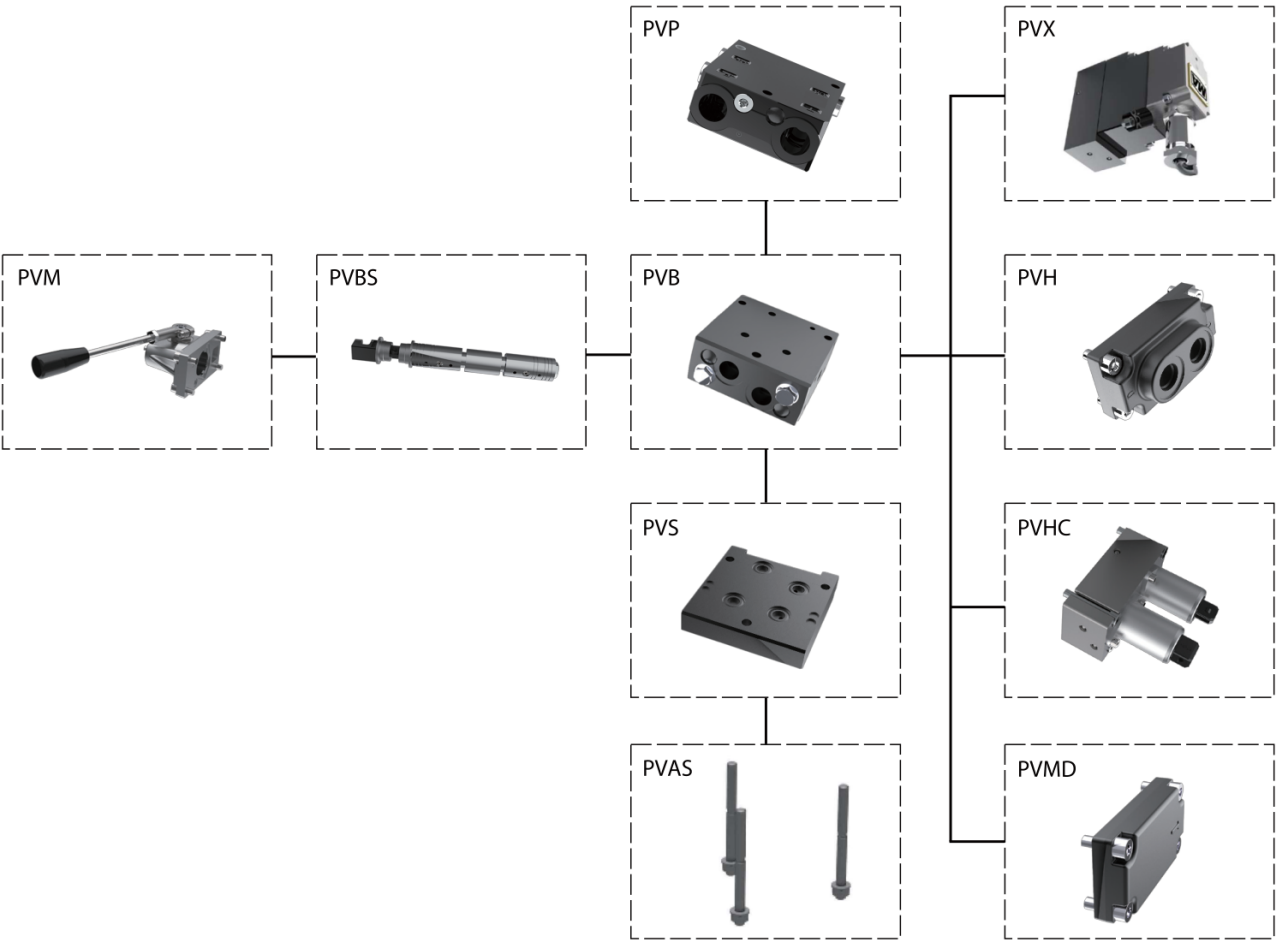
模块 Module	作用 Function	选型关注点 Selection focus
PVP / PVPV / PVPVM	连接液压泵与阀组 Connects pump and valve group	泵型、中位油路、先导油源及总流量 Pump type, neutral circuit, pilot supply and total flow
PVB	连接油缸或马达 Connects a cylinder or motor	压力补偿、LS 限压、缓冲/补油功能 Compensation, LS pressure limits, shock/anti-cavitation functions
PVBS	控制工作口流量或压力 Controls work-port flow or pressure	FC/PC、流量等级、阀芯机能 FC/PC, flow rating and spool function
PVM / PVMD/F/R / PVH / PVHC	操作与驱动 Operation and actuation	机械、液压、电流控制及定位方式 Mechanical, hydraulic or current control and detent
PVS / PVSI / PVST	封闭阀组末端 Closes the end of the valve group	附加油口、LS 回路及压力等级 Additional ports, LS circuit and pressure rating
PVAS	阀组紧固组件 Valve group fastening kit	按阀组总长选螺杆组件 Select tie-rod kit by total group length

PVX 防爆电控模块在原稿模块清单中出现，但未提供完整的型号、技术数据及防爆认证信息。本版保留其名称，不据此承诺防爆等级或适用危险区域。

The source lists a PVX explosion-proof electric actuator but does not provide complete model data, technical specifications or certification information. Its name is retained without implying an explosion-protection rating or hazardous-area suitability.

模块关系图

Module map



模块位置示意；具体装配以订货配置为准 / Module positions; final assembly follows the confirmed order

主要技术参数

Primary technical specifications

项目 Item	工况/位置 Condition / location	数值 Value
最大压力 Maximum pressure	P、A/B 口连续 P and A/B, continuous	350 bar [5075 psi]
	P 口间歇, 配 PVS1 端盖 P, intermittent, with PVS1	400 bar [5800 psi]
	A/B 口间歇 A/B, intermittent	420 bar [6090 psi]
	T 口静态/动态 T, static/dynamic	25/40 bar [365/580 psi]
额定流量 Rated flow	P 口, 按模块配置 P port, configuration dependent	140/230 L/min [37/61 US gal/min]
	A/B, 带压力补偿器 A/B, pressure compensated	100 L/min [26.4 US gal/min]
	A/B, 不带压力补偿器 A/B, not pressure compensated	125 L/min [33 US gal/min]
阀芯行程 Spool stroke	标准 Standard	±7 mm [±0.28 in]
	浮动阀芯比例段 Float spool, proportional range	±4.8 mm [±0.19 in]
	浮动位置 Float position	±8 mm [±0.31 in]
流量阀芯死区 Flow-spool deadband	标准/线性特性 Standard/linear characteristic	±1.5 / ±0.8 mm
内泄漏 Internal leakage	A/B→T, 不带/带缓冲阀 A/B to T, without/with shock valves	20 / 25 cm ³ /min

内泄漏数据对应 100 bar 和 21 mm²/s。开式系统在 P 口使用短软管或硬管且流量超过 100 L/min 时, 应核查压力峰值。需要 130 L/min 的 PVB 配置时, 应先取得厂家应用确认。

Leakage values apply at 100 bar and 21 mm²/s. In open-center systems with short hoses or pipes at P and flow above 100 L/min, check pressure peaks. Obtain manufacturer application approval before selecting a PVB configuration for 130 L/min.

油液、环境与数据适用条件

Fluid, environment and test conditions

项目 Item	推荐/工作范围 Recommended / operating range	限值 Limits
入口油温 Inlet oil temperature	30 ~ 60 °C [86 ~ 140 °F]	最低 -30 °C; 最高 +90 °C Minimum -30 °C; maximum +90 °C
环境温度 Ambient temperature	-30 ~ 60 °C [-22 ~ 140 °F]	
油液运动黏度 Kinematic viscosity	12 ~ 75 mm²/s [65 ~ 347 SUS]	最低 4; 最高 460 mm²/s Minimum 4; maximum 460 mm²/s
过滤/污染度 Filtration / contamination	ISO 4406: 23/19/16	
先导减压阀耗油量 Pilot reducing-valve oil consumption	0.5 L/min [0.13 US gal/min]	

除另有说明，原稿参数基于矿物液压油、运动黏度 21 mm²/s、温度 50 °C 的指定测量条件。曲线和参数不得脱离其测试条件用于保证实际系统性能。

Unless otherwise specified, source data use mineral hydraulic oil at a kinematic viscosity of 21 mm²/s and a temperature of 50 °C. Curves and values must be interpreted with their stated test conditions; they are not unconditional guarantees of installed-system performance.

PVHC 等具体模块具有单独列出的温度或先导压力范围。总成选型应同时核对通用条件和各模块条件，不应将某一模块的较宽范围直接用作整组阀的允许范围。

Some modules, including PVHC, have separately stated temperature or pilot-pressure ranges. Verify both general and module-specific conditions. A wider range stated for one component must not be treated as the allowable range of the complete assembly.

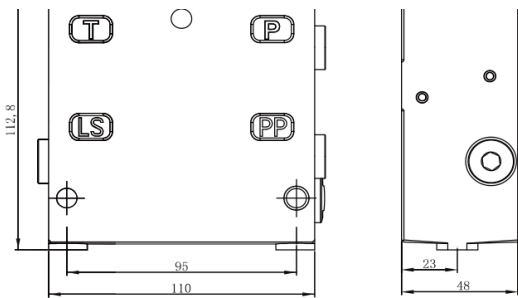
进油联选型原则

Selecting the inlet section

进油联连接液压泵、阀组与油箱。首先按泵型选择开芯或闭芯油路，再确认先导供油方式、PVPX 卸荷接口和所需总流量。不同进油联不能只按外形或接口尺寸替代。

The inlet section connects the pump, valve group and tank. Select an open-center or closed-center circuit to match the pump, then confirm pilot supply, PVPX unloading provision and required total flow. Inlet sections must not be interchanged solely on the basis of appearance or port size.

系统 System	对应进油联 Inlet circuit	主要区别 Key distinction
定量泵系统 Fixed-displacement pump	开芯 Open center	中位允许泵流量回油；应核对中位压降。 Neutral pump flow returns to tank; check neutral pressure drop.
变量泵系统 Variable-displacement pump	闭芯 Closed center	通过 LS 信号配合泵调节；应核对泵待机压差。 The LS signal coordinates pump regulation; verify pump standby margin.

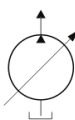


重量: 3.1 kg

定量泵符号



变量泵符号



PVP 外形、尺寸与泵型符号 / PVP appearance, dimensions and pump symbols

PVP 示例重量为 3.1 kg。标准接口见各型号表：P/T 通常为 G3/4，LS/M 为 G1/4；孔深须按对应图纸核对。

The illustrated PVP weighs 3.1 kg. Refer to each model table for ports: P/T are typically G3/4 and LS/M G1/4. Verify thread depths against the applicable drawing.

PVP 基本型号

PVP basic inlet variants

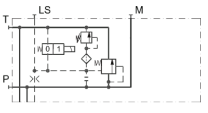
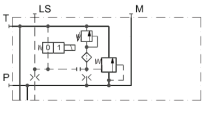
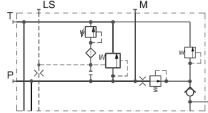
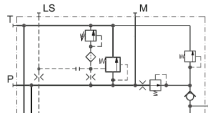
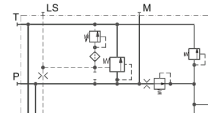
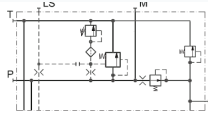
液压符号 Hydraulic symbol	型号与功能 Model and function	接口 Ports
	PVP5100 开芯; 仅手动驱动 PVP5100 Open center; manual actuation only	P/T: G3/4
	PVP5101 闭芯; 原稿驱动方式文字不完整, 须确认 PVP5101 Closed center; actuation wording is incomplete in source - confirm	P/T: G3/4
	PVP5110 开芯; 提供电控先导油源 PVP5110 Open center; pilot supply for electric actuators	P/T: G3/4
	PVP5111 闭芯; 提供电控先导油源 PVP5111 Closed center; pilot supply for electric actuators	P/T: G3/4
	PVP5112 开芯; 电控先导油源; 可接 PVPX PVP5112 Open center; electric pilot supply; PVPX provision	P/T: G3/4
	PVP5113 闭芯; 电控先导油源; 可接 PVPX PVP5113 Closed center; electric pilot supply; PVPX provision	P/T: G3/4

PVPX 为选配件, 上述 “可接 PVPX” 不表示已包含卸荷阀。P/T 孔深 16 mm; LS/M 为 G1/4, 孔深 12 mm。

PVPX is optional: provision for PVPX does not mean that the unloading valve is included. P/T thread depth is 16 mm. LS/M are G1/4 with a 12 mm thread depth.

PVP 扩展型号

PVP additional inlet variants

液压符号 Hydraulic symbol	型号与功能 Model and function	接口 Ports
	PVP5102 开芯；机械驱动；可接 PVPX PVP5102 Open center; mechanical actuation; PVPX provision	P/T: G3/4
	PVP5103 闭芯；机械驱动；可接 PVPX PVP5103 Closed center; mechanical actuation; PVPX provision	P/T: G3/4
	PVP5180 开芯；电控先导供油及输出口；带单向阀 PVP5180 Open center; electric pilot supply/outlet; with check valve	P/T: G3/4
	PVP5181 闭芯；电控先导供油及输出口；带单向阀 PVP5181 Closed center; electric pilot supply/outlet; with check valve	P/T: G3/4
	PVP5190 开芯；液控先导供油及输出口 PVP5190 Open center; hydraulic pilot supply and outlet	P/T: G3/4
	PVP5191 闭芯；液控先导供油及输出口 PVP5191 Closed center; hydraulic pilot supply and outlet	P/T: G3/4

PVP5102/5103 的 PVPX 不随进油联提供。P/T 孔深 16 mm；LS/M 为 G1/4，孔深 12 mm。

PVPX is not included with PVP5102/5103. P/T thread depth is 16 mm. LS/M are G1/4 with a 12 mm thread depth.

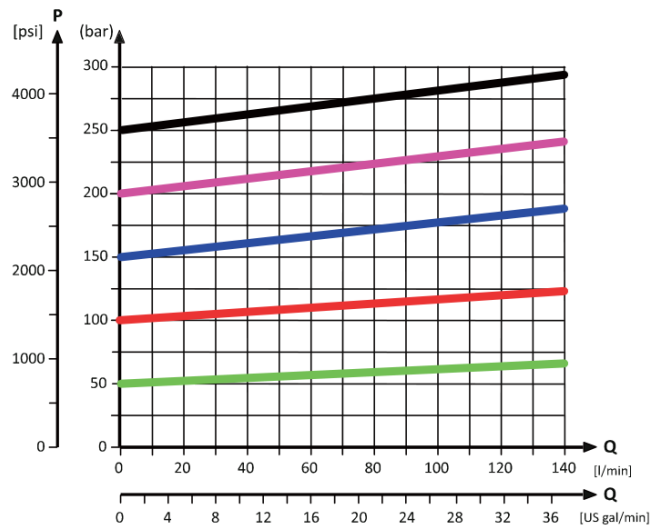
进油联压力特性

Inlet pressure characteristics

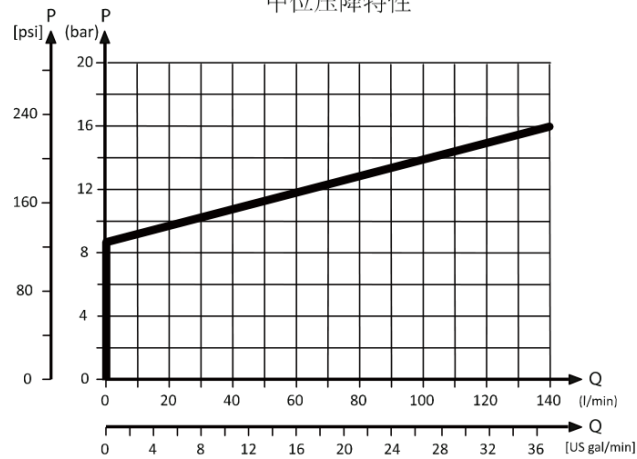
根据所选泵型及流量读取对应曲线。中位压降并不等于执行机构工作时的负载压力。

Read the curves for the selected pump arrangement and flow. Neutral pressure drop is not the actuator load pressure during operation.

理论性能图示



中位压降特性



上: 集成 LS 限压阀; 下: 中位压降 / Top: integrated LS pressure limiter; bottom: neutral pressure drop

P: 压力 / Pressure; Q: 流量 / Flow. 曲线按原稿保留 / Curves retained from source.

PVPX：电控 LS 卸荷

PVPX: electrically controlled LS unloading

PVPX 安装在具备相应接口的 PVP 进油联上，通过接通 LS 信号与回油通道实现卸荷。其组件包括电磁阀和线圈，可选手动应急操作。

PVPX mounts on a PVP inlet prepared for this function. It unloads the LS signal by connecting it to the return gallery. The assembly consists of a solenoid valve and coil, with optional manual override.

形式 Version	卸荷条件 Unloading condition	12 V / 24 V 代码 12 V / 24 V codes
常开 NO Normally open, NO	断电时卸荷 Unloads when de-energized	PVPX4236 / PVPX4238
常闭 NC Normally closed, NC	通电时卸荷 Unloads when energized	PVPX4246 / PVPX4248
常开，带手动应急 NO with manual override	断电时卸荷；可手动操作 Unloads when de-energized; manual operation available	PVPX4256 / PVPX4258
堵头 Plug		PVPX5601

带手动应急的常开形式（NOMO）有“推入”及“推入并旋转”两种方式。后者可保持应急状态，直至再次解锁；选型时应确认实际操作形式。

Normally open with manual override (NOMO) is available as push or push-and-turn. Push-and-turn can hold the override until it is released. Confirm the required operating form when selecting the part.

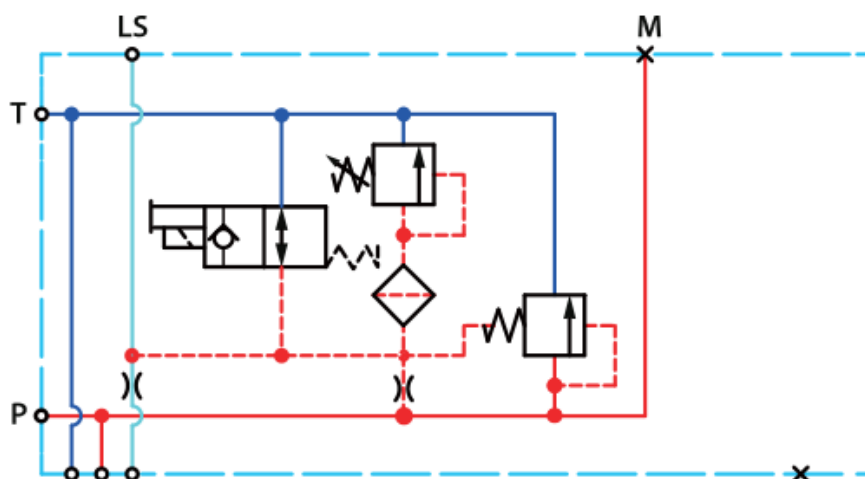
开芯进油联将 LS 接回油后，系统压力降至回油背压与相应卸荷流动压差之和；闭芯进油联则降至回油背压与泵待机压力之和。

When LS is connected to return, an open-center inlet reduces system pressure to return backpressure plus the pressure drop associated with unloading flow. For a closed-center inlet, pressure falls to return backpressure plus pump standby pressure.

PVPX 参数与原理

PVPX data and schematic

项目 Item	数据 Data
供电电压 Supply voltage	12 / 24 V DC ±10%
12 V 线圈电阻 12 V coil resistance	7.2 Ω ±7%
24 V 线圈电阻 24 V coil resistance	28.2 Ω ±7%
功率 Power	20 W
LS 最大响应时间 Maximum LS response time	300 ms
0.1 L/min 时最大压降 Maximum pressure drop at 0.1 L/min	2 bar



带手动应急的 PVPX 原理图 / PVPX schematic with manual override

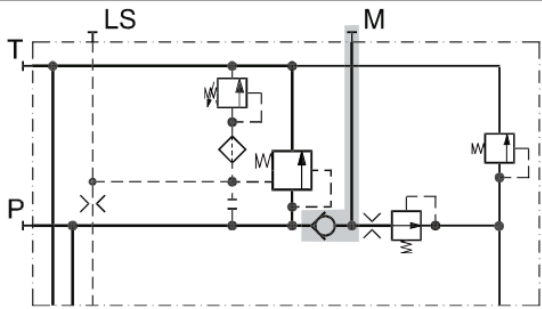
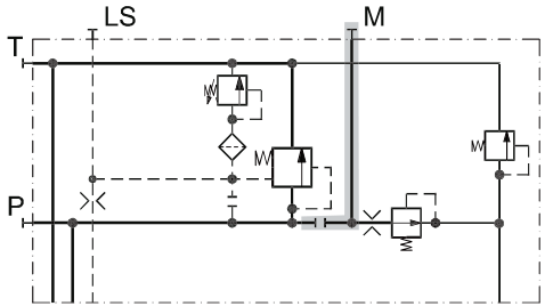
PVPC：外部先导供油

PVPC: external pilot supply

PVPC 用于引入外部先导油源。是否需要单向阀，应由停泵操作、应急供油方式以及开芯/闭芯回路共同决定，不能仅依据接口尺寸选择。

PVPC introduces an external pilot supply. The need for a check valve depends on pump-off operation, emergency supply arrangements and whether the circuit is open or closed center; port size alone is not a selection criterion.

配置 Configuration	用途 Application	原稿代码/接口 Source code / port
不带单向阀 Without check valve	原稿选型表列用于开芯或闭芯；应按具体应急油路确认。 Source selection table lists open or closed center; confirm for the actual emergency circuit.	PVPC5400 G1/2, 12 mm
带单向阀 With check valve	用于开芯 PVP；防止外部供油经调节油路回流。 For open-center PVP; prevents external supply flowing back through the regulating circuit.	PVPC5600 G1/2, 12 mm



PVPC 原理符号：上为无单向阀，下为带单向阀 / PVPC symbols: without check valve above, with check valve below

停泵遥控：带单向阀 PVPC

Pump-off remote control: PVPC with check valve

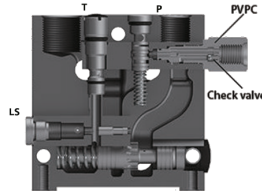
该方案用于需要在无泵流量时通过电气遥控操作 PV32 的开芯系统。打开外部电磁阀后，负载油缸压力侧的油液经 PVPC 和减压阀，为电控驱动器提供先导油，从而允许停泵下降。

This arrangement enables electrical remote operation of PV32 in an open-center system without pump flow. Opening the external solenoid routes oil from the loaded side of the cylinder through PVPC and the reducing valve to supply the electric actuator, allowing lowering with the pump stopped.

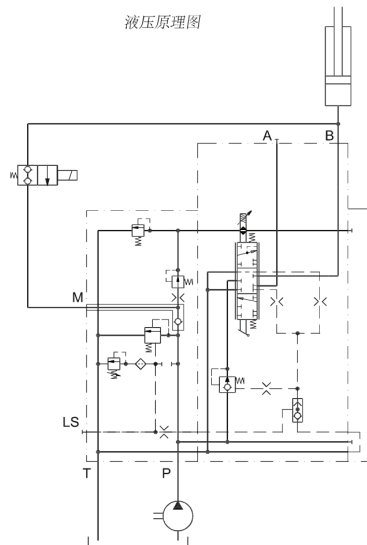
内置单向阀阻止油液经压力调节通道回流油箱。泵正常工作时应关闭外部电磁阀，避免负载因先导耗油而下降；原稿对此应用给出约 1 L/min 的先导流量。闭芯 PVP 可将外部先导油源直接接至测压口，无需 PVPC。

The integral check valve blocks return flow through the pressure-regulating passage. Close the external solenoid during normal pump operation to avoid lowering caused by pilot consumption; the source states approximately 1 L/min for this application. On closed-center PVP, external pilot pressure may connect directly to the gauge port without PVPC.

PVPC 带用于开芯 PVP 的单向阀



液压原理图



剖面与应急下降油路 / Section view and emergency-lowering circuit

应急手泵：不带单向阀 PVPC

Emergency hand pump: PVPC without check valve

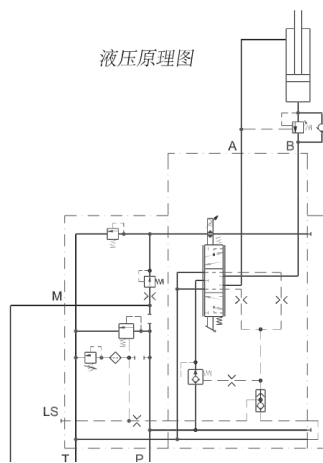
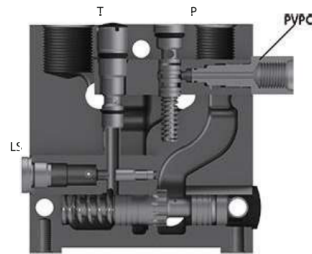
该方案用于以手动应急转向泵向 PV32 供油的系统。主泵正常工作时，油液经 PVPC 及减压阀进入电控驱动器。

This arrangement is used where a manual emergency steering pump supplies PV32. During normal operation, main-pump oil passes through PVPC and the reducing valve to the electric actuator.

主泵故障时，外部梭阀把应急手泵供油引入先导回路，用于开启平衡阀并使负载下降。此时，油缸下降须通过 PV32 机械手柄操作，不应理解为仍可依靠电气遥控完成。

If the main pump fails, an external shuttle valve directs emergency hand-pump oil into the pilot circuit to open the counterbalance valve and lower the load. Cylinder lowering then requires operation of the PV32 mechanical lever; electrical remote lowering must not be assumed.

PVPC 不带单向阀，用于开芯 PVP



剖面与应急手泵油路 / Section view and emergency hand-pump circuit

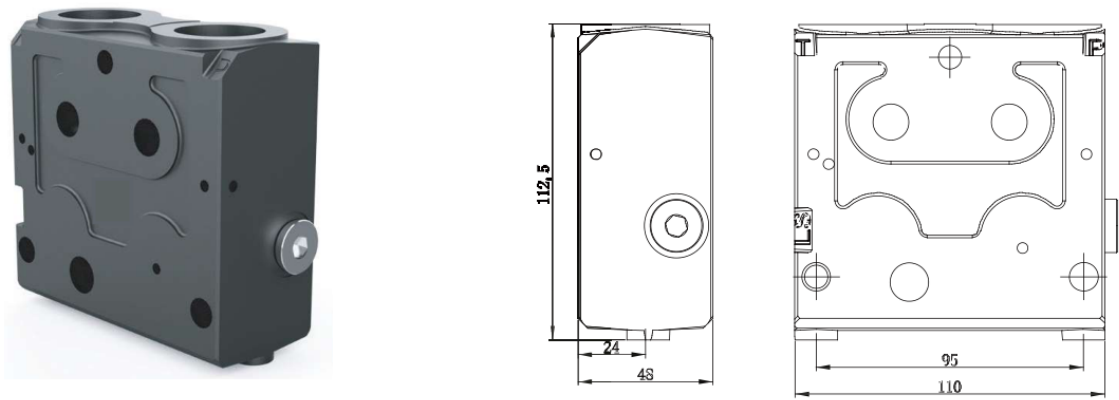
PVPV / PVPVM 进油模块

PVPV / PVPVM inlet modules

PVPV 与 PVPVM 是适用于变量泵系统的闭芯进油模块，提供电控模块所需的先导油源。两者的泵口流量上限不同，应按系统总流量及布置选择。

PVPV and PVPVM are closed-center inlet modules for variable-displacement pump systems and provide pilot oil for electric actuators. Their maximum pump flows differ; select them according to total system flow and the required arrangement.

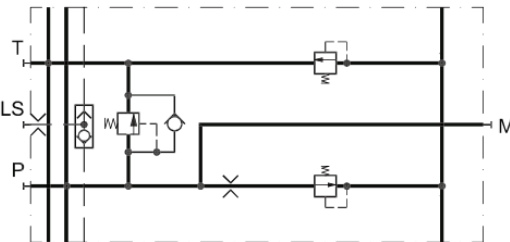
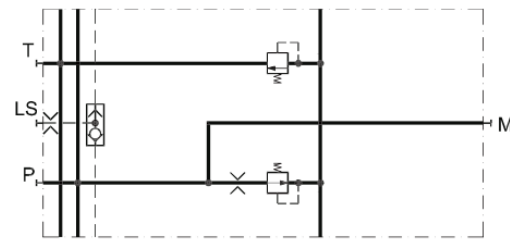
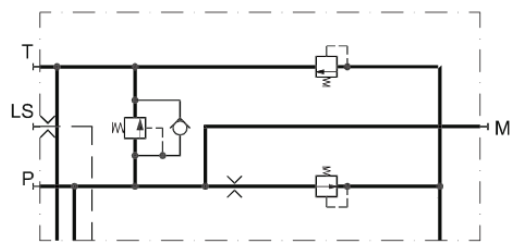
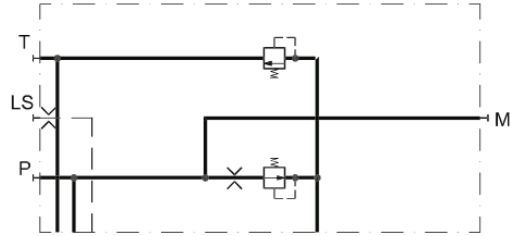
代码 Code	额定边界 Rated limits	附加功能 Additional function
PVPV5938	350 bar; 150 L/min	基本配置 Basic configuration
PVPV5941	350 bar; 150 L/min	带 PVLP 抗冲击阀 With PVLP shock valve
PVPVM5937	350 bar; 230 L/min	基本配置 Basic configuration
PVPVM5940	350 bar; 230 L/min	带 PVLP63 抗冲击阀 With PVLP63 shock valve



模块外形与尺寸示意；P/T 为 G1 / Module appearance and dimensional view; P/T ports are G1

PVPV / PVPVM 原理符号

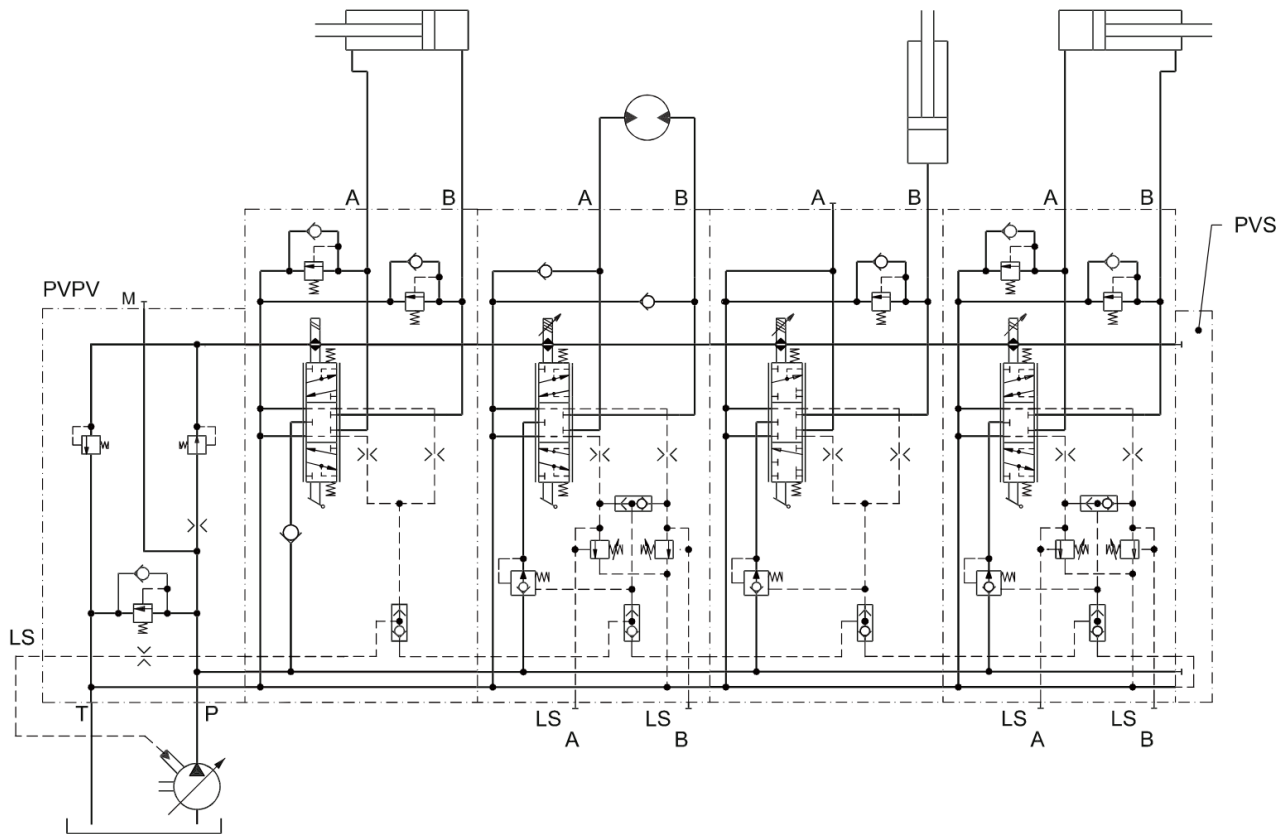
PVPV / PVPVM hydraulic symbols



自上而下: PVPV5938、PVPV5941、PVPVM5937、PVPVM5940 / Top to bottom: PVPV5938, PVPV5941, PVPVM5937, PVPVM5940

PVPV 阀组原理图

PVPV valve-group schematic

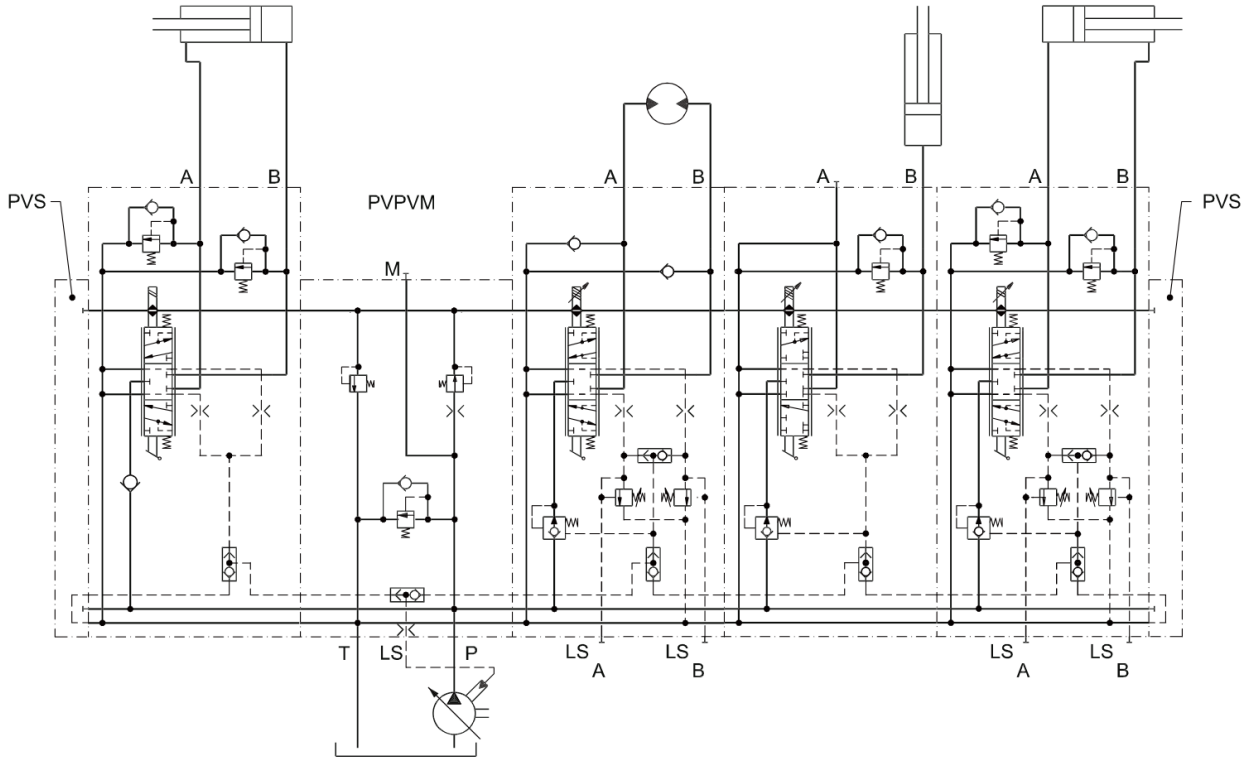


PVPV 进油联与多工作片连接 / PVPV inlet connected to multiple work sections

P: 进油 / Pump; T: 回油 / Tank; A/B: 工作口 / Work ports; LS: 负载敏感信号 / Load-sensing signal.

PVPVM 阀组原理图

PVPVM valve-group schematic



中间进油的多工作片连接示意 / Multi-section arrangement with intermediate inlet

P: 进油 / Pump; T: 回油 / Tank; A/B: 工作口 / Work ports; LS: 负载敏感信号 / Load-sensing signal.

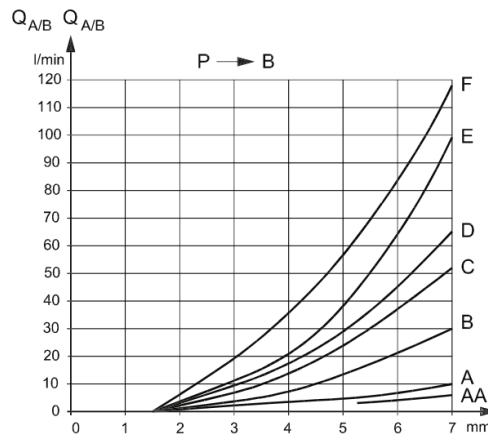
泵压差与阀芯流量

Pump margin and spool flow

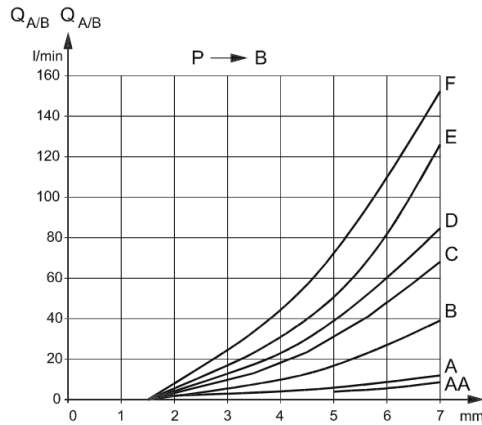
流量取决于泵出口压力与 LS 信号压力之间的压差。该压差通常由 LS 泵的设置决定，不能将不同压差条件下的曲线直接混用。

Flow depends on the difference between pump outlet pressure and the LS signal. This margin is normally set at the LS pump. Do not interchange curves measured at different margins.

设定泵压力与LS信号之间压差= 10 bar



设定泵压力与LS信号之间压差= 15 bar



上：泵压 - LS = 10 bar；下：泵压 - LS = 15 bar / Top: pump pressure minus LS = 10 bar; bottom: 15 bar

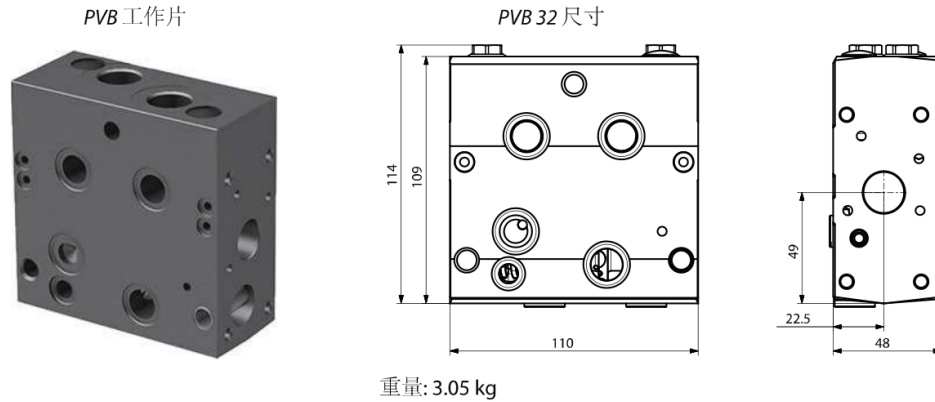
横轴：阀芯位移 / Horizontal: spool displacement。纵轴：流量 / Vertical: flow。

PVB：工作片选型

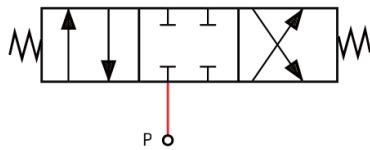
PVB: work-section selection

PVB 工作片将阀组连接至油缸或马达。选型时应分别确认：是否需要压力补偿、补偿器是否带阻尼、是否需要独立的 LS A/B 限压，以及 A/B 口的缓冲和补油功能。

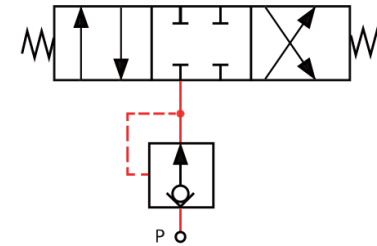
The PVB work section connects the valve group to a cylinder or motor. Select pressure compensation, damped or undamped compensation, individual LS A/B pressure limits, and shock/anti-cavitation functions for ports A and B as separate requirements.



不带补偿器的PVB原理符号



带补偿器的PVB原理符号



PVB 外形、尺寸与补偿器符号；示例重量 3.05 kg / PVB appearance, dimensions and compensator symbols; illustrated weight 3.05 kg

主阀芯可按配置互换，工作片支持机械、液压或电气驱动。浮动位、LS 梭阀和可调限压的适用组合必须按型号表核对，不应仅凭阀芯可互换推断所有组合均可用。

Main spools are interchangeable within the applicable configuration, and work sections support mechanical, hydraulic or electric actuation. Verify permitted combinations of float function, LS shuttle valve and adjustable pressure limits in the model tables; spool interchangeability does not imply that every combination is valid.

PVB: 无可调 LS 限压

PVB without adjustable LS pressure limits

符号 Symbol	功能 Function	无/有 A/B 缓冲阀 Without / with A/B shock valves
	不带负载单向阀或压力补偿器 No load-drop check valve or pressure compensator	PVB6000 PVB6030
	带负载单向阀 With load-drop check valve	PVB6100 PVB6130
	带负载单向阀及 LS A/B 梭阀; 配合浮动阀芯 Load-drop check and LS A/B shuttle valve; for float spools	— PVB6136
	带无阻尼压力补偿器 With undamped pressure compensator	PVB6200 PVB6230
	不带补偿器; 带 LS A/B 梭阀 No compensator; with LS A/B shuttle valve	— 11071832

A/B 工作口按原稿为 G1/2，孔深 14 mm。表内上下两行代码依次对应“不带缓冲阀”和“带缓冲阀”；破折号表示原稿未给出对应代码，不代表可自行替换。

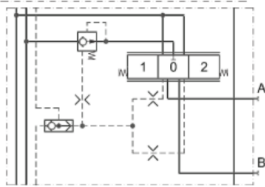
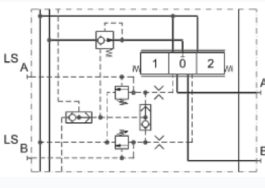
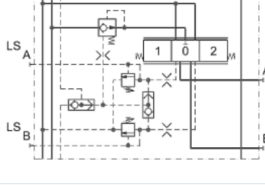
The source specifies G1/2 A/B ports with a 14 mm thread depth. The two code lines indicate without and with shock valves, respectively. A dash means no corresponding code is given in the source; it is not permission to substitute another part.

原稿对首行型号同时出现“无负载单向阀”与“负载保持”描述，含义不一致。涉及防止负载下滑的应用，应取得厂家对该型号液压机能的确认。

The source describes the first variant both as having no load-drop check valve and as providing load holding. These statements conflict. Obtain manufacturer confirmation of the hydraulic function before using that variant where prevention of load drop is required.

PVB：补偿与可调限压

PVB compensation and adjustable pressure limits

符号 Symbol	功能 Function	无/有缓冲阀代码 Codes without / with shock valves
	带阻尼补偿器；无可调 LS 限压 Damped compensator; no adjustable LS pressure limit	PVB6206 PVB6236
	无阻尼补偿器；可调 LS A/B；外部 LS A/B 接口；可用于浮动阀芯 Undamped compensator; adjustable LS A/B; external LS A/B ports; suitable for float spools	PVB6203 PVB6233
	带阻尼补偿器；可调 LS A/B；外部 LS A/B 接口 Damped compensator; adjustable LS A/B; external LS A/B ports	PVB6208 PVB6238

A/B 工作口为 G1/2，孔深 14 mm。LS A/B 限压与 PVLP 缓冲阀压力需要协调，不能作为互相独立的设定值使用；具体限制见订货章节的压力设置表。

A/B ports are G1/2 with a 14 mm thread depth. LS A/B pressure limits and PVLP shock-valve settings must be coordinated, not treated as independent settings. See the pressure-setting table in the ordering chapter.

工作口保护：PVLP 与 PVLA

Work-port protection: PVLP and PVLA

PVLP 同时提供缓冲限压与补油功能：释放工作通道的压力峰值，并在需要时从油箱向工作口补油，降低吸空风险。其压力由所选零件代码决定，原稿列出的范围为 32 ~ 400 bar。

PVLP combines shock-pressure relief and anti-cavitation functions. It relieves pressure peaks in a work gallery and admits oil from tank when required to reduce cavitation risk. Pressure is determined by the selected part code; the source lists a range of 32-400 bar.

PVLA 用于补油，不应当作缓冲限压阀使用。采用单作用阀芯时，未使用工作口与油箱的连接方式也应按对应接头代码选择。

PVLA provides anti-cavitation make-up flow and must not be treated as a shock-pressure relief valve. For a single-acting spool, also select the specified adapter for connecting the unused work port to tank.

部件 Component	功能 Function	选型要点 Selection focus
PVLP	缓冲限压 + 补油 Shock relief + anti-cavitation	压力代码、LS A/B 配合及压力峰值 Pressure code, coordination with LS A/B and pressure peaks
PVLA	补油 Anti-cavitation	补油流量及对应工作口配置 Make-up flow and work-port arrangement
接头/堵头 Adapter / plug	按原稿规定封堵或连接油箱 Blanking or tank connection as specified	不得仅凭名称推断油路功能 Do not infer hydraulic function from the part name alone

原稿在一处要求 PVLP 高于 LS A/B 20 bar，另有按 PVLP 压力分段计算的最大 LS 设置表。两处要求不能简单互换；应按订货压力表核对并由厂家确认。

One source passage requires PVLP to be 20 bar above LS A/B, while a separate table gives a piecewise maximum LS setting based on PVLP pressure. These requirements are not interchangeable. Check the ordering pressure table and obtain manufacturer confirmation.

补油阀与接头代码核对

Anti-cavitation valve and adapter code check

此表保留原稿代码字样；原稿其他位置采用 PVLA2001/PVLA2002。前缀存在疑点，采购前应核对，不自动改写为同一代码。

The codes in this table are reproduced as printed. Elsewhere the source uses PVLA2001/PVLA2002. The prefix discrepancy must be checked before purchasing; this edition does not silently normalize the codes.

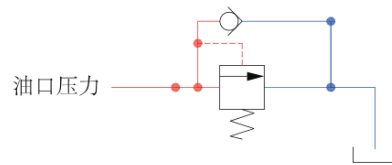
符号	描述	代码
	A/B 口的补油阀。	PVPL2001
	当使用单作用阀芯时，用于连接无用油口到油箱的接头。	PVPL2002

原稿列出的补油阀及接头选型 / Source anti-cavitation valve and adapter selection

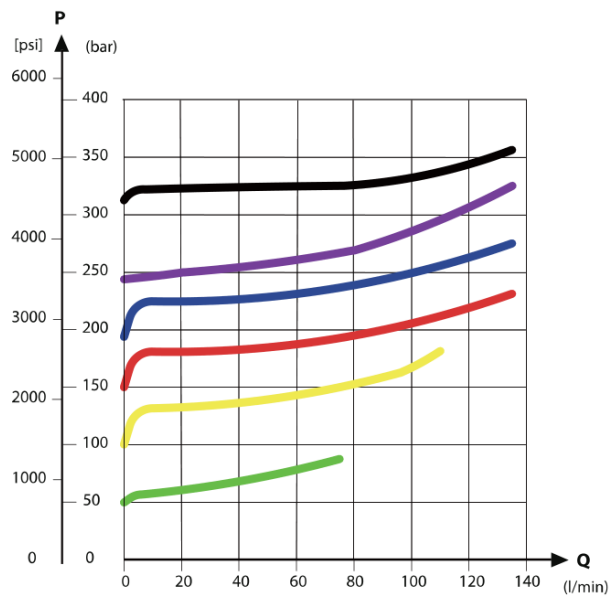
字段释义 / Field key: 符号 = Symbol; 描述 = Description; 代码 = Code。上行: A/B 口补油阀 / Upper row: anti-cavitation valve at A/B。
下行: 单作用阀芯的未使用口接油箱 / Lower row: unused-port-to-tank adapter for a single-acting spool。

PVLP 缓冲特性

PVLP shock-relief characteristics



PVLP 缓冲阀特性



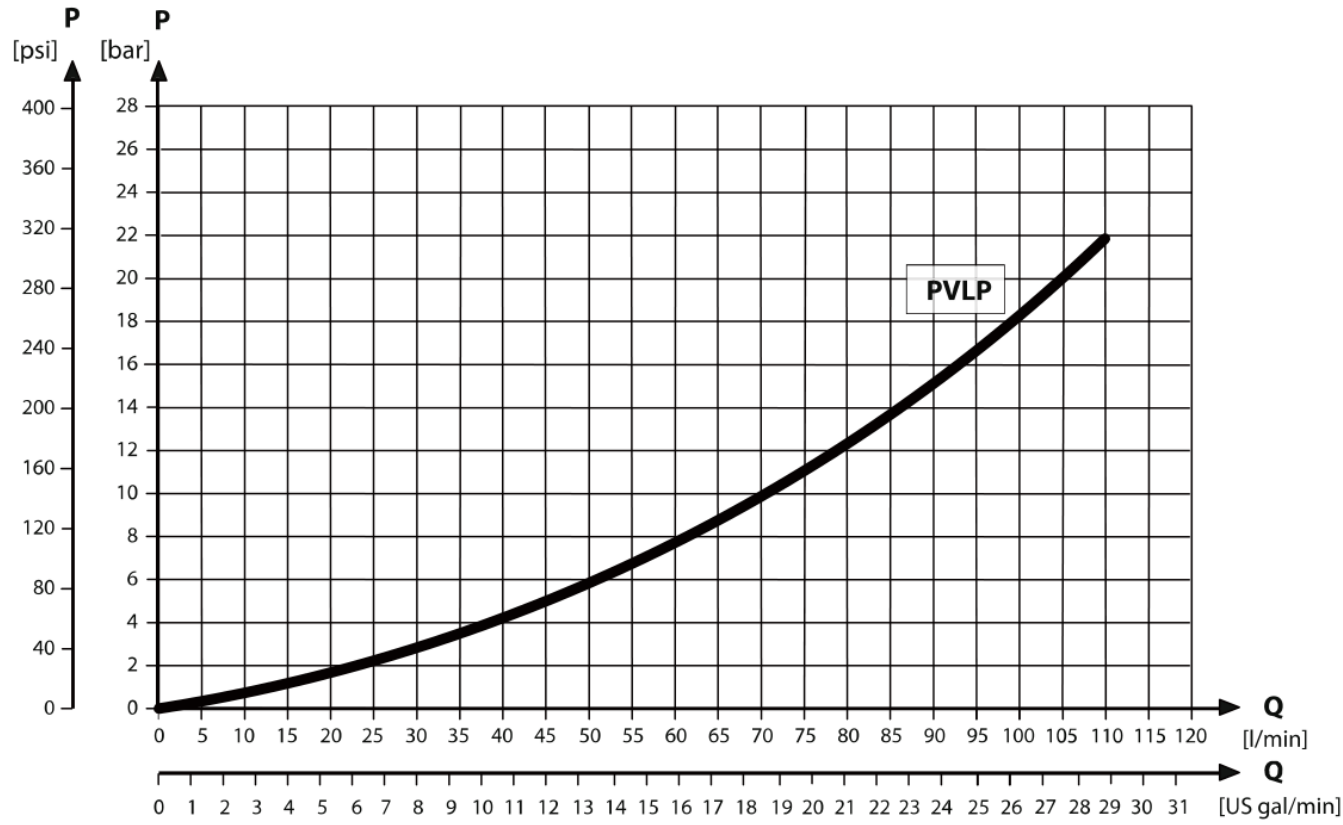
PVLP 原理与缓冲压力 - 流量曲线 / PVLP schematic and shock-relief pressure-flow curves

油口压力 = Port pressure; P = 压力 / Pressure; Q = 流量 / Flow。曲线压力档位及单位保留原稿 / Pressure classes and units are retained from the source.

PVLP 补油特性

PVLP anti-cavitation characteristics

PVLP 补油阀特性



补油压差随流量变化 / Make-up pressure differential versus flow

P: 压差 / Pressure differential; Q: 流量 / Flow。应用条件见“油液与环境”及具体模块参数 / Refer to general fluid conditions and module-specific limits.

PVLP 压力档位与代码

PVLP pressure settings and codes

代码 Code	设定压力 Setting	代码 Code	设定压力 Setting
PVLP2032	32 bar [460 psi]	PVLP2210	210 bar [3045 psi]
PVLP2050	50 bar [725 psi]	PVLP2230	230 bar [3335 psi]
PVLP2063	63 bar [914 psi]	PVLP2240	240 bar [3480 psi]
PVLP2080	80 bar [1160 psi]	PVLP2250	250 bar [3625 psi]
PVLP2100	100 bar [1450 psi]	PVLP2265	265 bar [3845 psi]
PVLP2125	125 bar [1813 psi]	PVLP2280	280 bar [4061 psi]
PVLP2140	140 bar [2031 psi]	PVLP2300	300 bar [4351 psi]
PVLP2150	150 bar [2175 psi]	PVLP2320	320 bar [4641 psi]
PVLP2160	160 bar [2320 psi]	PVLP2350	350 bar [5075 psi]
PVLP2175	175 bar [2538 psi]	PVLP2380	380 bar [5511 psi]
PVLP2190	190 bar [2755 psi]	PVLP2400	400 bar [5801 psi]

上述代码与压力以原稿 PDF 第 27 页选型表为准，该表说明 A/B 口缓冲/补油阀不可调。第 29 页零件表的部分 psi 值有末位舍入差异，并未再次列出 400 bar 档；采购时以确认后的代码和 bar 设定值为准。

Codes and settings above follow the selection table on source PDF page 27, which describes the A/B shock/anti-cavitation valve as non-adjustable. The part list on source page 29 contains minor rounding differences in some psi values and does not repeat the 400 bar version. Confirm the part code and bar setting for purchasing.

条件 Condition	范围 Range
油温 / 环境温度 Oil / ambient temperature	-30 ~ 90 °C / -30 ~ 60 °C
推荐油温 / 运动黏度 Recommended oil temperature / viscosity	30 ~ 60 °C / 12 ~ 75 mm²/s
黏度极限 / 清洁度 Viscosity limits / cleanliness	4 ~ 460 mm²/s / ISO 4406: 23/19/16

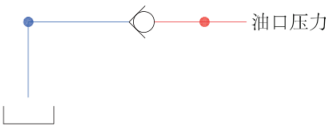
PVLA 补油阀

PVLA anti-cavitation valve

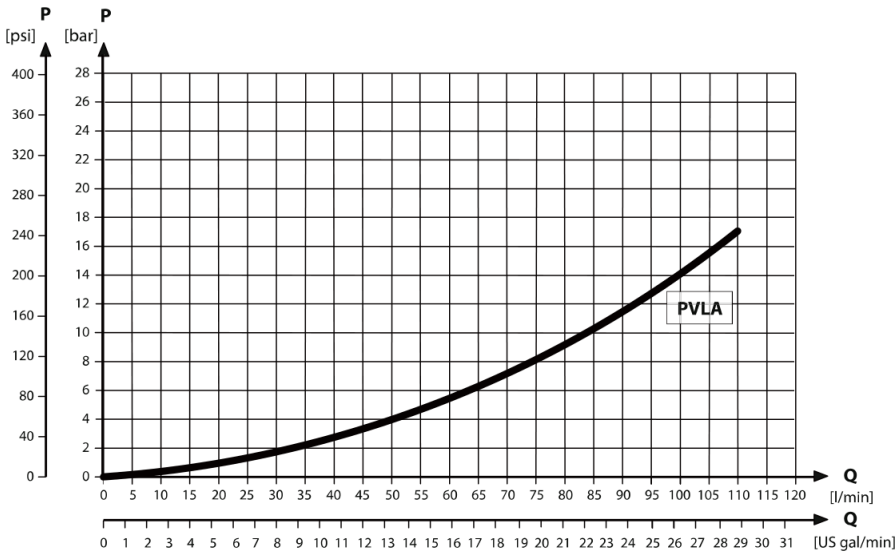
PVLA 是 PVB 工作片的补油附件，用于使油箱油液进入工作口。选型应结合补油流量及工作口压力条件，并与 PVLP 的缓冲限压功能区分。

PVLA is a make-up accessory for the PVB work section, admitting oil from tank into a work port. Select it for the required make-up flow and work-port pressure conditions, and distinguish its function from PVLP shock-pressure relief.

PVLA 原理图



PVLA 补油特性



PVLA 原理与补油特性 / PVLA schematic and anti-cavitation characteristic

原稿名称 Source designation	代码 Code
PVLA 补油阀 PVLA anti-cavitation valve	PVLA2001
堵头 Plug	PVLA2002

油温 -30~90 °C (推荐 30~60 °C) ; 黏度 4~460 mm²/s (推荐 12~75 mm²/s) ; 环境 -30~60 °C; ISO 4406: 23/19/16。
Oil -30 to 90 °C (recommended 30 to 60 °C); viscosity 4-460 mm²/s (recommended 12-75); ambient -30 to 60 °C; ISO 4406: 23/19/16.

PVBS：主阀芯选型

PVBS: main-spool selection

PVBS 决定工作口的流量特性或压力控制特性。选型顺序为：先确定 FC 或 PC 控制方式，再核对中位机能、A/B 通路、浮动位、流量等级及驱动方式，最后读取对应代码。

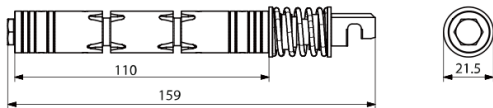
PVBS determines the work-port flow characteristic or pressure-control characteristic. Select FC or PC control first, then check the neutral function, A/B paths, float function, flow rating and actuation method before reading the corresponding code.

类型 Type	含义 Meaning	注意事项 Selection note
FC	流量控制阀芯 Flow-control spool	按手动、摩擦定位、浮动定位、液控或电控表分别选型。 Use the table for manual, friction-detent, float-detent, hydraulic or electric actuation.
PC	压力控制阀芯 Pressure-control spool	按 A、B 或 A+B 受控方向核对机能符号。 Check whether pressure control applies to A, B or both ports.

PVBS 主阀芯



PVBS 主阀芯尺寸



重量: 0.25 kg

PVBS 外形与尺寸; 重量 0.25 kg / PVBS appearance and dimensions; weight 0.25 kg

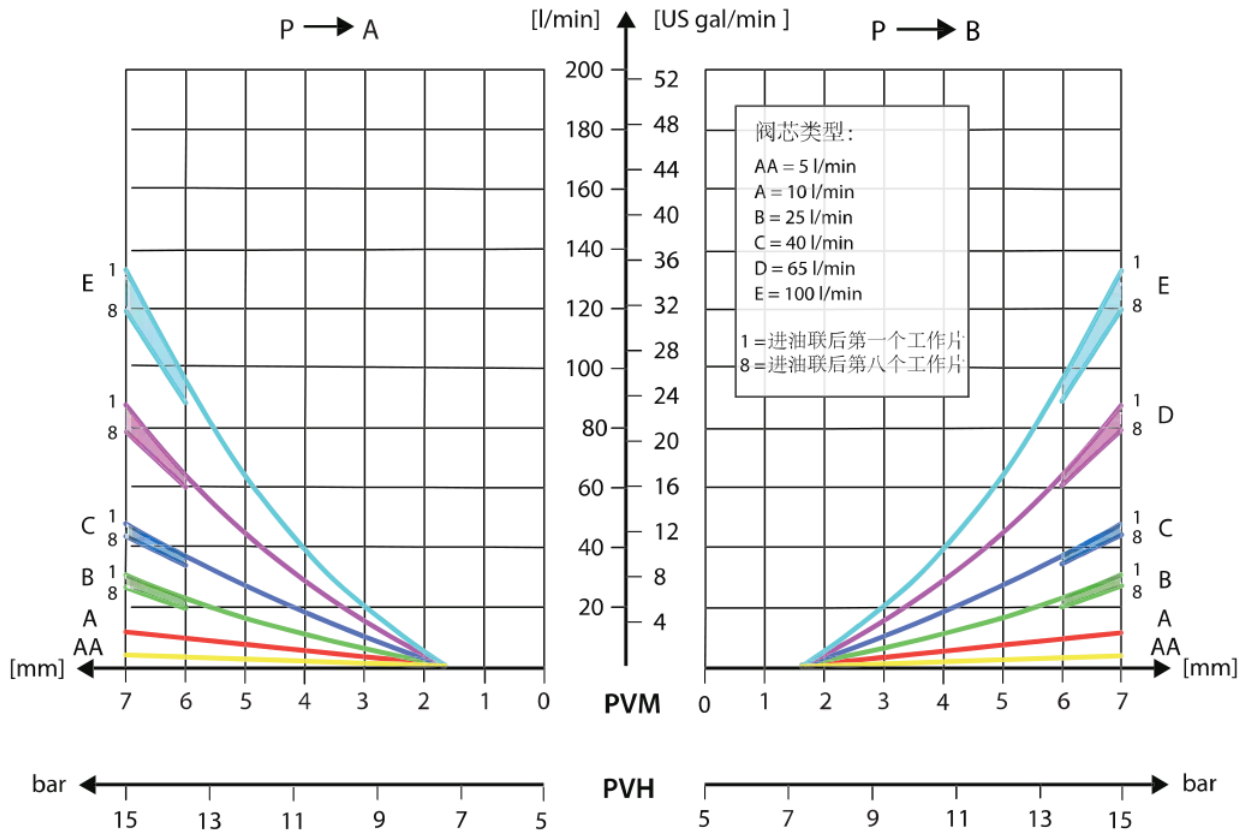
手动操作采用 PVM，液控采用 PVH，电流控制采用 PVHC。阀芯弹簧、行程和驱动模块须匹配。原稿列出的部分阀芯流量超过 100 L/min，并不取消本手册的常规工作口选型边界。

PVM provides manual operation, PVH hydraulic operation and PVHC current control. Match the spool spring, travel and actuator. Some source spool ratings exceed 100 L/min; their appearance in a table does not remove this manual's standard work-port selection limit.

无补偿器：10 bar 压差

Uncompensated PVB: 10 bar differential

阀芯流量-位移曲线 $\Delta P=10\text{bar}$ PVB(无补偿器)



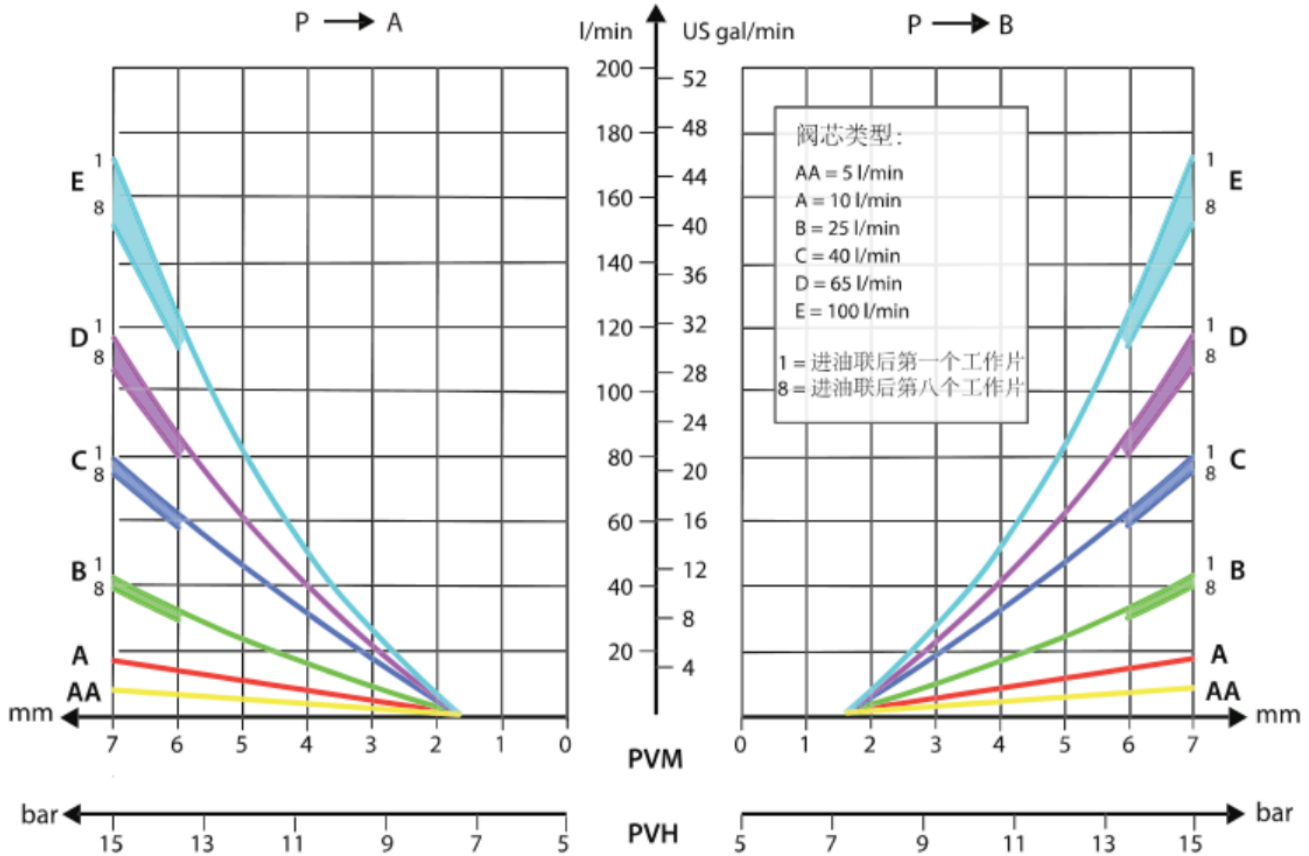
原稿阀芯流量 - 位移曲线 / $\Delta P = 10\text{ bar}$; source flow-displacement curves

图例 / Legend: 阀芯类型 = Spool type; 1 = 进油联后第 1 个工作片 / first work section after inlet; 8 = 第 8 个工作片 / eighth work section. PVM: 机械位移 (mm) / mechanical displacement; PVH: 液控压力 (bar) / hydraulic control pressure. 字母曲线、流量值及坐标单位保留原图。 / Lettered curves, flow ratings and axis units are retained.

无补偿器：20 bar 压差

Uncompensated PVB: 20 bar differential

阀芯流量-位移曲线 $\Delta P=20\text{bar}$ PVB(无补偿器)



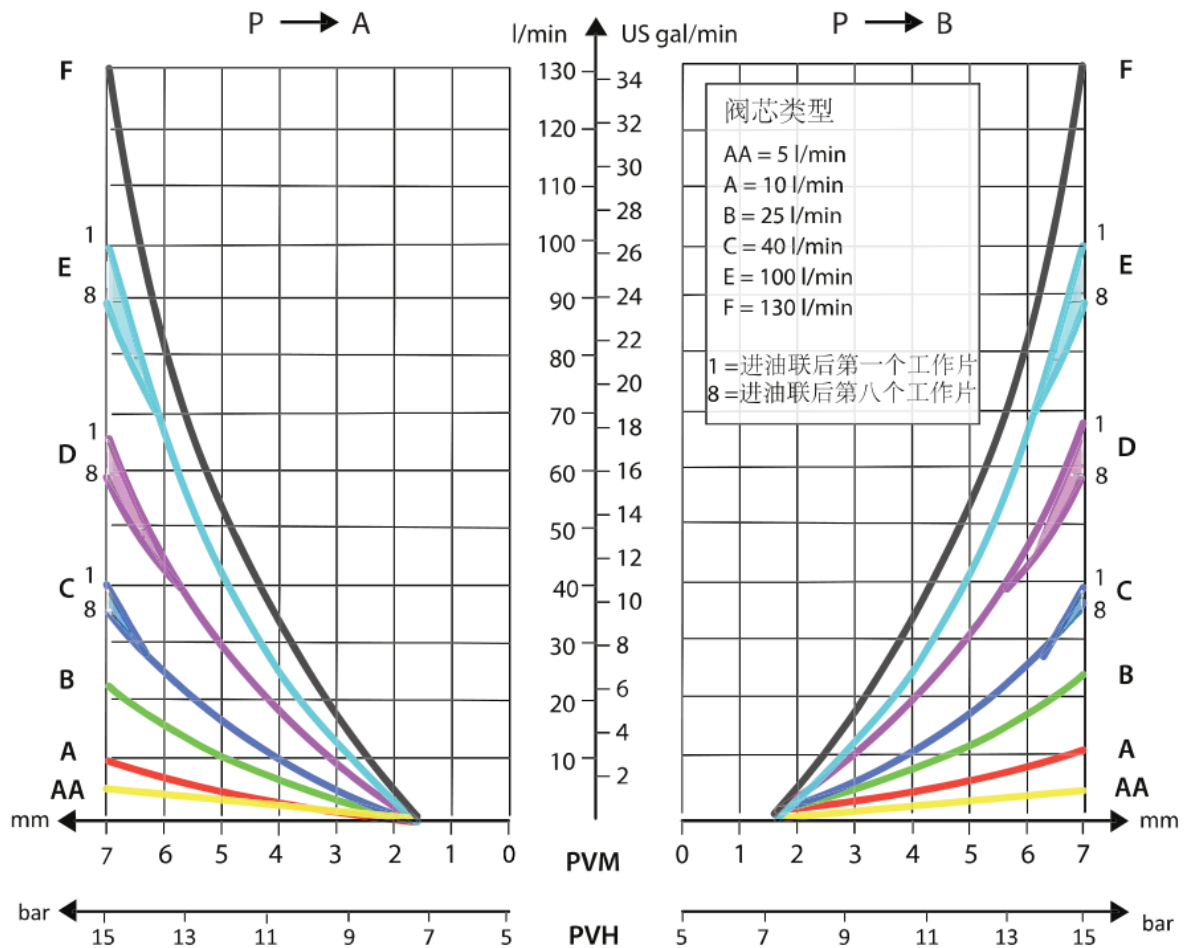
原稿阀芯流量 - 位移曲线 / $\Delta P = 20\text{ bar}$; source flow-displacement curves

图例 / Legend: 阀芯类型 = Spool type; 1 = 进油联后第 1 个工作片 / first work section after inlet; 8 = 第 8 个工作片 / eighth work section. PVM: 机械位移 (mm) / mechanical displacement; PVH: 液控压力 (bar) / hydraulic control pressure. 字母曲线、流量值及坐标单位保留原图。 / Lettered curves, flow ratings and axis units are retained.

抛物线型流量特性

Parabolic flow characteristic

抛物线型流量取决于阀芯类型



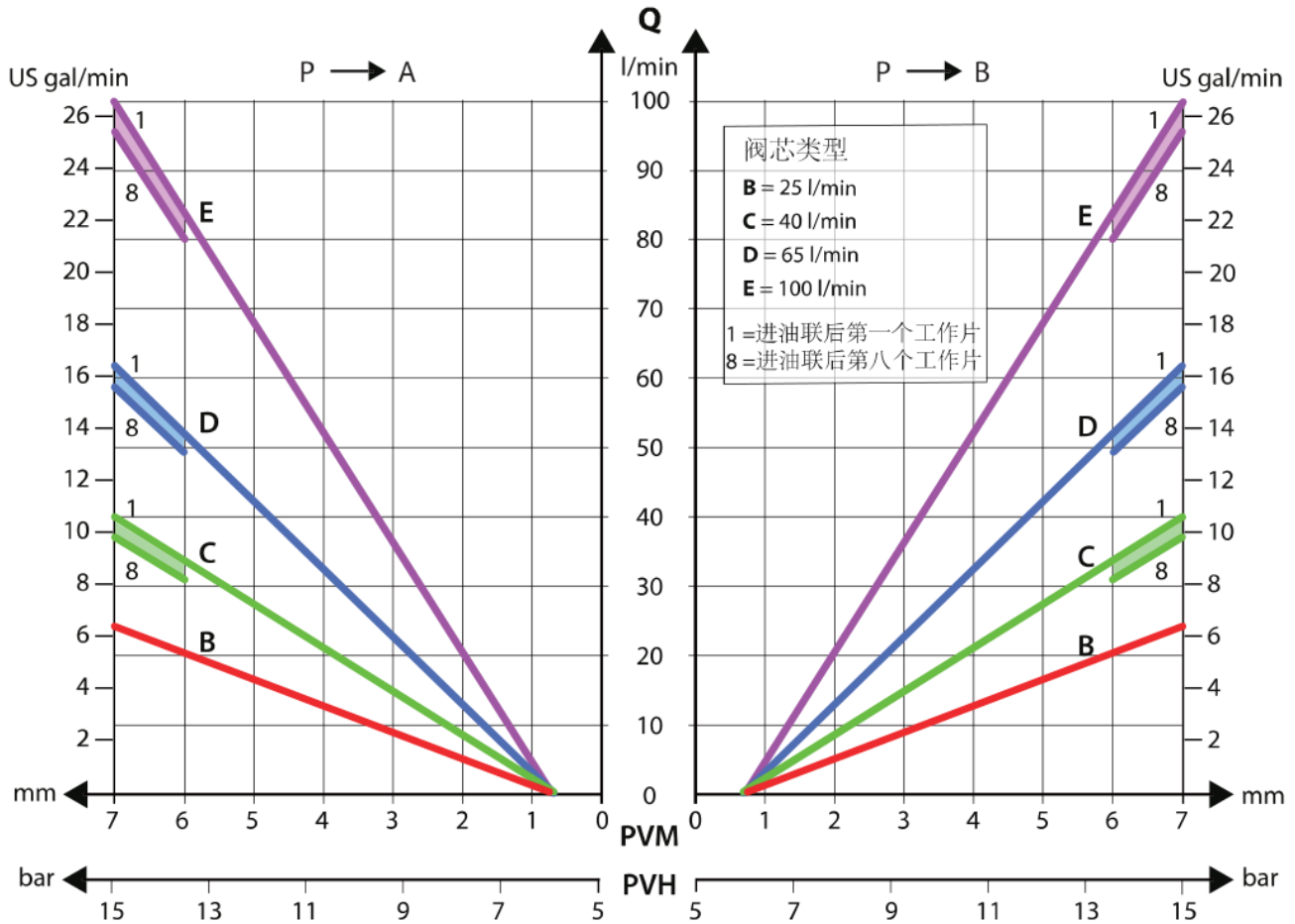
原稿阀芯流量 - 位移曲线 / Parabolic characteristic; source flow-displacement curves

图例 / Legend: 阀芯类型 = Spool type; 1 = 进油联后第 1 个工作片 / first work section after inlet; 8 = 第 8 个工作片 / eighth work section. PVM: 机械位移 (mm) / mechanical displacement; PVH: 液控压力 (bar) / hydraulic control pressure. 字母曲线、流量值及坐标单位保留原图。 / Lettered curves, flow ratings and axis units are retained.

线性流量特性

Linear flow characteristic

线性流量取决于阀芯类型



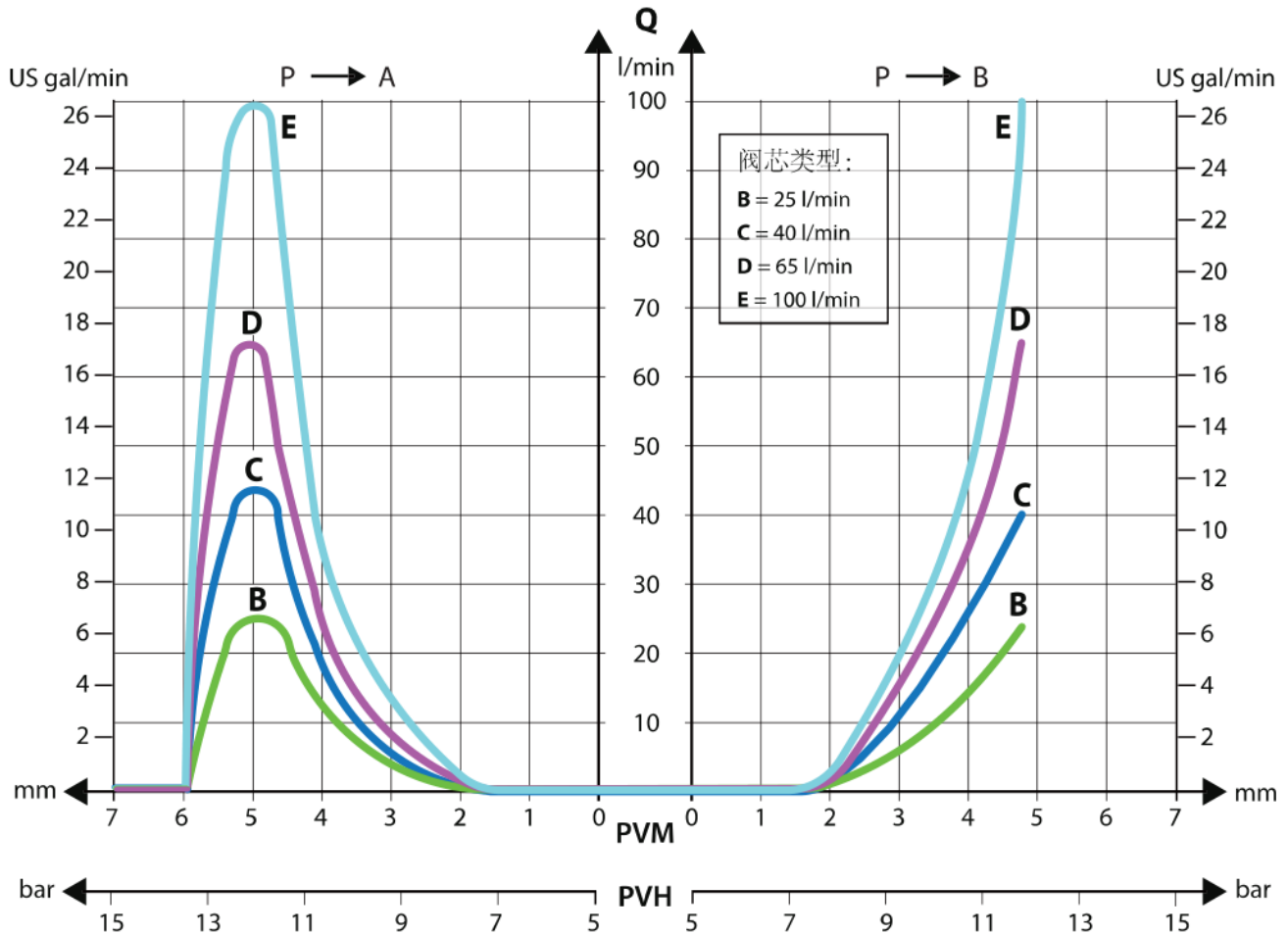
原稿阀芯流量 - 位移曲线 / Linear characteristic; source flow-displacement curves

图例 / Legend: 阀芯类型 = Spool type; 1 = 进油联后第 1 个工作片 / first work section after inlet; 8 = 第 8 个工作片 / eighth work section. PVM: 机械位移 (mm) / mechanical displacement; PVH: 液控压力 (bar) / hydraulic control pressure. 字母曲线、流量值及坐标单位保留原图。 / Lettered curves, flow ratings and axis units are retained.

A 端浮动位特性

A-side float characteristic

A 端浮动位：阀芯流量位移曲线



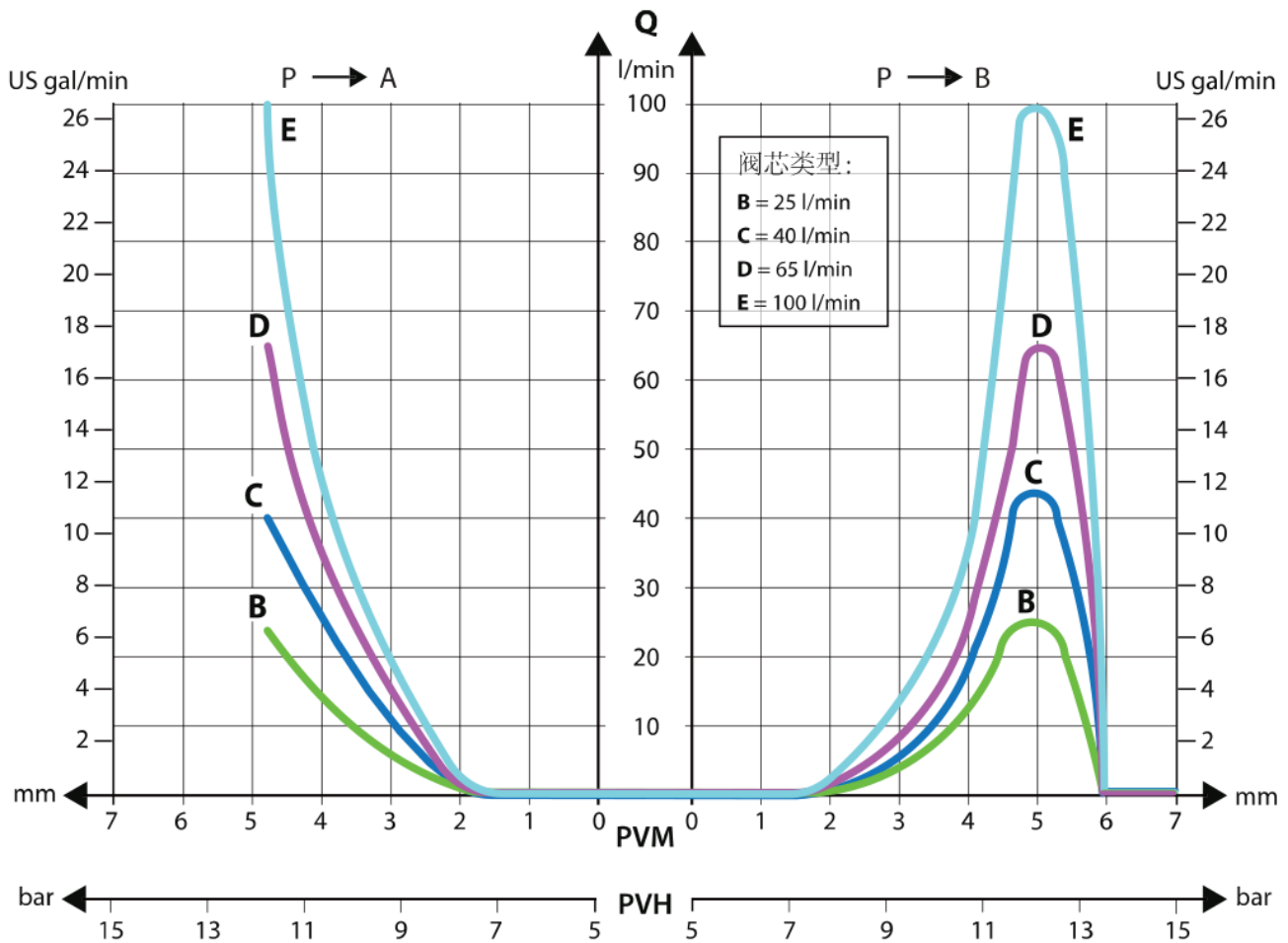
原稿阀芯流量 - 位移曲线 / A-side float; source flow-displacement curves

图例 / Legend: 阀芯类型 = Spool type; 1 = 进油联后第 1 个工作片 / first work section after inlet; 8 = 第 8 个工作片 / eighth work section. PVM: 机械位移 (mm) / mechanical displacement; PVH: 液控压力 (bar) / hydraulic control pressure. 字母曲线、流量值及坐标单位保留原图。 / Lettered curves, flow ratings and axis units are retained.

B 端浮动位特性

B-side float characteristic

B 端浮动位：阀芯流量位移曲线

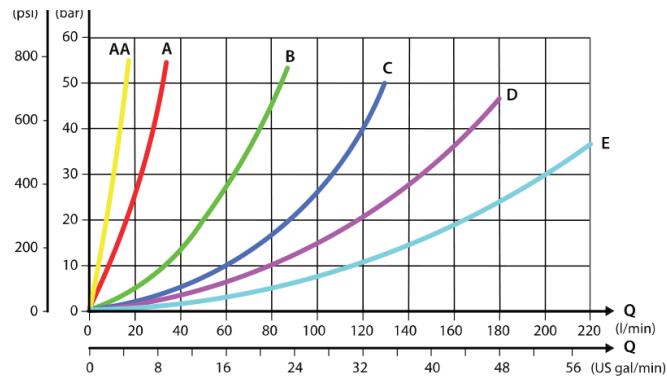


原稿阀芯流量 - 位移曲线 / B-side float; source flow-displacement curves

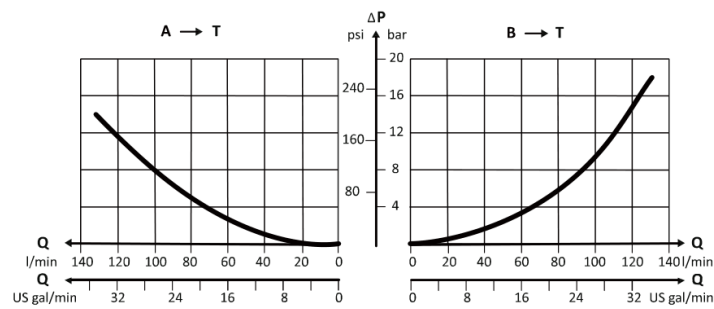
图例 / Legend: 阀芯类型 = Spool type; 1 = 进油联后第 1 个工作片 / first work section after inlet; 8 = 第 8 个工作片 / eighth work section. PVM: 机械位移 (mm) / mechanical displacement; PVH: 液控压力 (bar) / hydraulic control pressure. 字母曲线、流量值及坐标单位保留原图。 / Lettered curves, flow ratings and axis units are retained.

阀芯压降特性

Spool pressure-drop characteristics



浮动位压降



上：最大行程位置；下：浮动位置 / Top: maximum stroke; bottom: float position

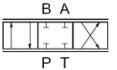
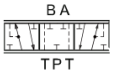
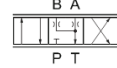
P：压差 / Pressure differential; Q：流量 / Flow; A/B→T：工作口回油通路 / Work-port-to-tank path。

FC 阀芯：手动驱动

FC spools: manual actuation

先选择左侧或右侧梭阀配置，再按流量档位和机能行读取代码。不得跨列组合或推断空白处的代码。

First select the with/without-shuttle configuration, then read the code at the required flow column and function row. Do not combine columns or infer codes for blank entries.

PVB 带 LS _{A/B} 梭阀							代码 PVBS....		PVB 不带 LS _{A/B} 梭阀						
压力补偿流量: l/min							ISO 符号	符号	压力补偿流量 l/min						
F 130	E 100	D 65	C 40	B 25	A 10	AA 5			AA 5	A 10	B 25	C 40	D 65	E 100	F 130
7026	7024	7023	7022	7021	7020	7025			7005	7000	7001	7002	7003	7004	7006
							三位四通	闭式中位							
7126	7124	7123	7122	7121	7120	7125			7105	7100	7101	7102	7103	7104	7106
							三位四通 节流，开式中位								

选型矩阵：代码、流量档位及 ISO 符号按原稿保留 / Selection matrix: source codes, flow classes and ISO symbols retained

字段释义 / Field key: PVB 带/不带 LS A/B 梭阀 = PVB with/without LS A/B shuttle valve; 压力补偿流量 = Pressure-compensated flow (L/min); 代码 = Code; 符号 = Symbol。
三位四通闭式中位; 三位四通节流开式中位。
4-way, 3-position closed center; 4-way, 3-position throttled open center.

FC 阀芯：摩擦定位

FC spools: friction detent

先选择左侧或右侧梭阀配置，再按流量档位和机能行读取代码。不得跨列组合或推断空白处的代码。

First select the with/without-shuttle configuration, then read the code at the required flow column and function row. Do not combine columns or infer codes for blank entries.

标准FC阀芯 用于摩擦定位

PVB 带 LS _{A/B} 梭阀						代码 PVBS....		PVB 不带 LS _{A/B} 梭阀					
压力补偿流量: l/min						ISO 符号	符号	压力补偿流量: l/min					
E 100	D 65	C 40	B 25	A 10	AA 5			AA 5	A 10	B 25	C 40	D 65	E 100
9724	9723	9722	9721	9720	-	B A  P T B A  T P T 三位三通，闭式中位	-	9700	9701	9702	9703	9704	
9734	9733	9732	9731	9730	-	B A  P T B A  T P T 三位四通 节流，开式中位	-	9710	9711	9712	9713	9714	

选型矩阵：代码、流量档位及 ISO 符号按原稿保留 / Selection matrix: source codes, flow classes and ISO symbols retained

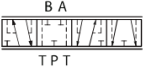
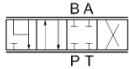
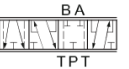
字段释义 / Field key: PVB 带/不带 LS A/B 梭阀 = PVB with/without LS A/B shuttle valve; 压力补偿流量 = Pressure-compensated flow (L/min); 代码 = Code; 符号 = Symbol。
三位三通闭式中位；三位四通节流开式中位。
3-way, 3-position closed center; 4-way, 3-position throttled open center.

FC 阀芯：PVMF 浮动定位

FC spools: PVMF float detent

先选择左侧或右侧梭阀配置，再按流量档位和机能行读取代码。不得跨列组合或推断空白处的代码。

First select the with/without-shuttle configuration, then read the code at the required flow column and function row. Do not combine columns or infer codes for blank entries.

PVB 带 LS _{A/B} 梭阀							代码 PVBS....		PVB 不带 LS _{A/B} 梭阀						
压力补偿流量: l/min							ISO 符号	符号	压力补偿流量 l/min						
F	E	D	C	B	A	AA			AA	A	B	C	D	E	F
130	100	65	40	25	10	5			5	10	25	40	65	100	130
-	9824	9823	9822	9821	9820	9825			-	-	-	-	-	-	-
							四位四通 闭式中位 P → A → F								
-	9624	623	9622	9621	-	-			-	-	-	-	-	-	-
							四位四通 闭式中位 浮动 P → B → F								

选型矩阵：代码、流量档位及 ISO 符号按原稿保留 / Selection matrix: source codes, flow classes and ISO symbols retained

字段释义 / Field key: PVB 带/不带 LS A/B 梭阀 = PVB with/without LS A/B shuttle valve; 压力补偿流量 = Pressure-compensated flow (L/min); 代码 = Code; 符号 = Symbol。

四位四通闭式中位: P→A→F 或 P→B→F。

4-way, 4-position closed center: P to A to float, or P to B to float.

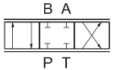
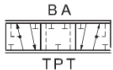
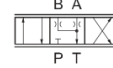
FC 阀芯：液压驱动

FC spools: hydraulic actuation

先选择左侧或右侧梭阀配置，再按流量档位和机能行读取代码。不得跨列组合或推断空白处的代码。

First select the with/without-shuttle configuration, then read the code at the required flow column and function row. Do not combine columns or infer codes for blank entries.

标准FC阀芯 用于液压驱动

PVB 带 LS _{A/B} 梭阀							代码 PVBS....		PVB 不带 LS _{A/B} 梭阀						
压力补偿流量: l/min							ISO 符号	符号	压力补偿流量 l/min						
F 130	E 100	D 65	C 40	B 25	A 10	AA 5			AA 5	A 10	B 25	C 40	D 65	E 100	F 130
9026	9024	9023	9022	9021	9020	9025			9005	9000	9001	9002	9003	9004	9006
							三位四通	闭式中位							
9126	9124	9123	9122	9121	9120	9125			9105	9100	9101	9102	9103	9104	9106
							三位四通 节流，开式中位								

选型矩阵：代码、流量档位及 ISO 符号按原稿保留 / Selection matrix: source codes, flow classes and ISO symbols retained

字段释义 / Field key: PVB 带/不带 LS A/B 梭阀 = PVB with/without LS A/B shuttle valve; 压力补偿流量 = Pressure-compensated flow (L/min); 代码 = Code; 符号 = Symbol。

三位四通闭式中位; 三位四通节流开式中位。

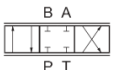
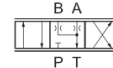
4-way, 3-position closed center; 4-way, 3-position throttled open center.

FC 阀芯：电流驱动

FC spools: current actuation

先选择左侧或右侧梭阀配置，再按流量档位和机能行读取代码。不得跨列组合或推断空白处的代码。

First select the with/without-shuttle configuration, then read the code at the required flow column and function row. Do not combine columns or infer codes for blank entries.

PVB 带 LS _{A/B} 梭阀							代码 PVBS....		PVB 不带 LS _{A/B} 梭阀						
压力补偿流量: l/min							ISO 符号	符号	压力补偿流量 l/min						
F	E	D	C	B	A	AA			AA	A	B	C	D	E	F
130	100	65	40	25	10	5			5	10	25	40	65	100	130
6026	6024	6023	6022	6021	6020	6025			6005	6000	6001	6002	6003	6004	6006
							三位四通	闭式中位							
6126	6124	6123	6122	6121	6120	6125			6105	6100	6101	6102	6103	6104	6106
							三位四通 节流，开式中位								

选型矩阵：代码、流量档位及 ISO 符号按原稿保留 / Selection matrix: source codes, flow classes and ISO symbols retained

字段释义 / Field key: PVB 带/不带 LS A/B 梭阀 = PVB with/without LS A/B shuttle valve; 压力补偿流量 = Pressure-compensated flow (L/min); 代码 = Code; 符号 = Symbol。
三位四通闭式中位; 三位四通节流开式中位。
4-way, 3-position closed center; 4-way, 3-position throttled open center.

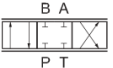
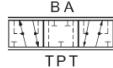
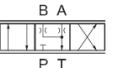
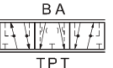
线性流量阀芯代码

Linear-flow spool codes

先选择左侧或右侧梭阀配置，再按流量档位和机能行读取代码。不得跨列组合或推断空白处的代码。

First select the with/without-shuttle configuration, then read the code at the required flow column and function row. Do not combine columns or infer codes for blank entries.

线性流量特性阀芯

PVB 带 LS _{A/B} 梭阀						代码 PVBS....		PVB 不带 LS _{A/B} 梭阀					
压力补偿流量: l/min						ISO 符号	符号	压力补偿流量: l/min					
E 100	D 65	C 40	B 25	A 10	AA 5			AA 5	A 10	B 25	C 40	D 65	E 100
9774	9773	9772	9771	-	-	 P T	 TPT	-	9750	9751	9752	9753	9754
						三位三通, 闭式中位							
9784	9783	9782	9781	-	-	 P T	 TPT	-	9760	9761	9762	9763	9764
						三位四通 节流, 开式中位							

选型矩阵: 代码、流量档位及 ISO 符号按原稿保留 / Selection matrix: source codes, flow classes and ISO symbols retained

字段释义 / Field key: PVB 带/不带 LS A/B 梭阀 = PVB with/without LS A/B shuttle valve; 压力补偿流量 = Pressure-compensated flow (L/min); 代码 = Code; 符号 = Symbol.

三位三通闭式中位; 三位四通节流开式中位。

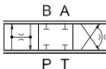
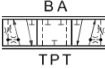
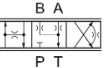
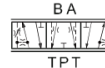
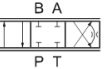
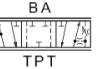
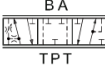
3-way, 3-position closed center; 4-way, 3-position throttled open center.

PC 阀芯：A/B 压力控制

PC spools: A/B pressure control

先选择左侧或右侧梭阀配置，再按流量档位和机能行读取代码。不得跨列组合或推断空白处的代码。

First select the with/without-shuttle configuration, then read the code at the required flow column and function row. Do not combine columns or infer codes for blank entries.

PVB 带 LS _{A/B} 梭阀						代码 PVBS....		PVB 不带 LS _{A/B} 梭阀					
压力补偿流量: l/min						ISO 符号	符号	压力补偿流量: l/min					
E 100	D 65	C 40	B 25	A 10	AA 5			AA 5	A 10	B 25	C 40	D 65	E 100
-	7033	7032	7031	7030	7035	 三位四通 闭式中位, PC → A 和 B		7015	7010	7011	7012	7013	-
7134	7133	7132	7131	7130	7135	 三位四通, 节流, 开式中位, PC → A 和 B		7115	7110	7111	7112	7113	-
7064	7063	7062	7061	-	-	 三位四通 闭式中位, PC → A		-	7040	7041	7042	7043	7044
7074	7073	7072	7071	-	-	 三位四通 闭式中位, PC → B		-	7050	7051	7052	7053	7054

选型矩阵：代码、流量档位及 ISO 符号按原稿保留 / Selection matrix: source codes, flow classes and ISO symbols retained

字段释义 / Field key: PVB 带/不带 LS A/B 梭阀 = PVB with/without LS A/B shuttle valve; 压力补偿流量 = Pressure-compensated flow (L/min); 代码 = Code; 符号 = Symbol。

自上而下: PC→A+B (闭式) ; PC→A+B (节流开式) ; PC→A (闭式) ; PC→B (闭式) 。

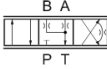
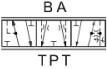
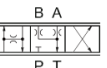
Top to bottom: PC to A+B (closed); PC to A+B (throttled open); PC to A (closed); PC to B (closed).

PC 阀芯：开式及单侧回油

PC spools: open center and one-port return

先选择左侧或右侧梭阀配置，再按流量档位和机能行读取代码。不得跨列组合或推断空白处的代码。

First select the with/without-shuttle configuration, then read the code at the required flow column and function row. Do not combine columns or infer codes for blank entries.

7164	7163	7162	7161	-	-	  三位四通 节流，开式中位，PC → A	-	7150	7151	7152	7153	7154
7174	7173	7172	7171	-	-	  三位四通 节流，开式中位，PC → B	-	7150	7151	7152	7153	7154
-	7473	7472	7471	7470	-	  三位四通 节流，A → T 中位，PC → B	-	-	-	7452	7453	-
-	7563	7562	-	-	-	  三位四通 节流，B → T 中位，PC → A	-	-	7541	7542	7543	-

选型矩阵：代码、流量档位及 ISO 符号按原稿保留 / Selection matrix: source codes, flow classes and ISO symbols retained

字段释义 / Field key: PVB 带/不带 LS A/B 梭阀 = PVB with/without LS A/B shuttle valve; 压力补偿流量 = Pressure-compensated flow (L/min); 代码 = Code; 符号 = Symbol.

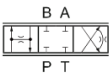
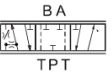
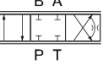
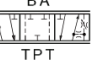
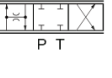
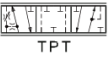
自上而下: PC→A (节流开式) ; PC→B (节流开式) ; A→T 中位、PC→B; B→T 中位、PC→A。列序沿用上一页。
Top to bottom: PC to A (throttled open); PC to B (throttled open); A-to-T neutral with PC to B; B-to-T neutral with PC to A. Column order follows the previous page.

PC 阀芯：补充代码

PC spools: additional codes

先选择左侧或右侧梭阀配置，再按流量档位和机能行读取代码。不得跨列组合或推断空白处的代码。

First select the with/without-shuttle configuration, then read the code at the required flow column and function row. Do not combine columns or infer codes for blank entries.

PVB 带 LS _{A/B} 梭阀						代码 PVBs....		PVB 不带 LS _{A/B} 梭阀					
压力补偿流量: l/min						ISO 符号	符号	压力补偿流量: l/min					
E 100	D 65	C 40	B 25	A 10	AA 5			AA 5	A 10	B 25	C 40	D 65	E 100
-	-	-	-	-	-	 三位四通 闭式中位, PC → A 和 B		9015	9010	9011	9012	-	-
-	-	-	-	-	-	 三位四通 闭式中位, PC → A		-	-	-	9042	9043	9044
-	-	-	-	-	-	 三位四通 闭式中位, PC → B		-	-	-	9052	9053	9054

选型矩阵：代码、流量档位及 ISO 符号按原稿保留 / Selection matrix: source codes, flow classes and ISO symbols retained

字段释义 / Field key: PVB 带/不带 LS A/B 梭阀 = PVB with/without LS A/B shuttle valve; 压力补偿流量 = Pressure-compensated flow (L/min); 代码 = Code; 符号 = Symbol。

三位四通闭式中位，分别对应 PC→A+B、PC→A、PC→B。

4-way, 3-position closed center for PC to A+B, PC to A, or PC to B.

驱动方式与匹配关系

Actuation methods and matching

模块 Module	用途 Purpose	配合要求 Matching requirement
PVM	机械手动驱动 Mechanical manual actuation	通过手柄移动阀芯；限位螺栓限制最大行程。 Lever moves the spool; stop screws limit maximum travel.
PVMD	机械操作盖板 Cover for mechanical operation	用于完全机械驱动的工作片。 Used on fully mechanically actuated sections.
PVMF	机械浮动定位 Mechanical float detent	确认浮动阀芯、推/拉方向及装配侧。 Confirm float spool, push/pull direction and mounting side.
PVMR	摩擦定位 Friction detent	可保持阀芯位置；负载和振动会影响保持效果。 Holds spool position; load forces and vibration can affect retention.
PVH	液压远程驱动 Hydraulic remote actuation	阀芯弹簧应匹配先导控制压力。 Match the spool spring to pilot control pressure.
PVHC	电流/PWM 驱动 Current/PWM actuation	确认电压、电流、频率及先导压力。 Confirm voltage, current, frequency and pilot pressure.
PVX	原稿列示的防爆模块 Explosion-proof module listed in source	完整选型参数和防爆认证资料待厂家补充。 Complete selection data and certification must be supplied by the manufacturer.

选择驱动模块后，须再次核对阀芯机能、弹簧组件、装配方向及失效状态。电控、液控与纯手动配置的先导供油需求不同。

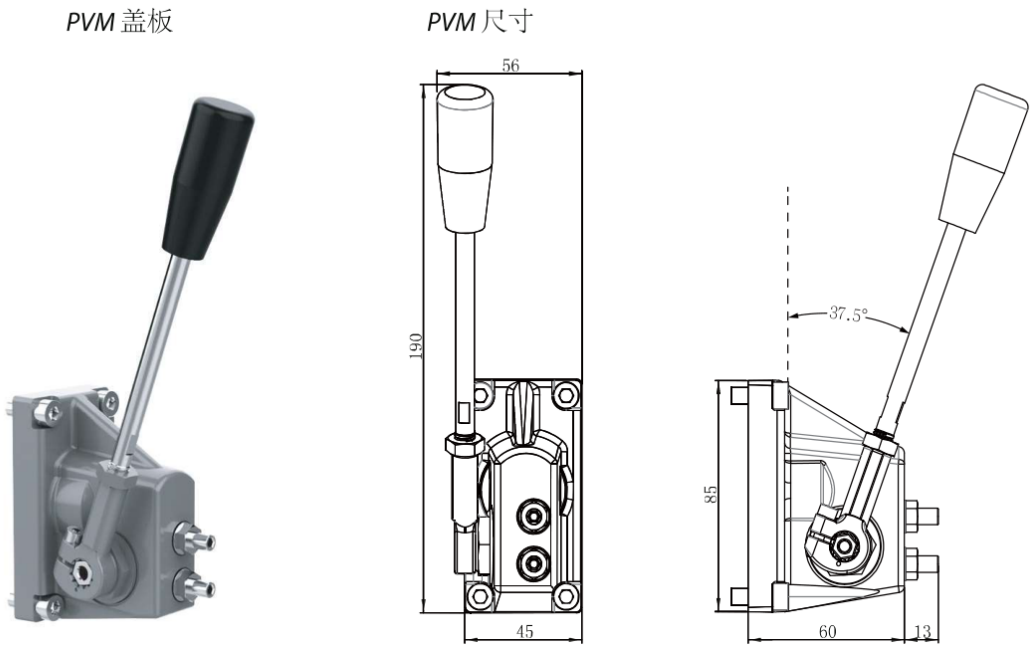
After choosing an actuator, recheck spool function, spring assembly, mounting orientation and failure state. Electric, hydraulic and manual-only configurations have different pilot-supply requirements.

PVM 手动驱动

PVM manual actuation

PVM 通过机械手柄直接控制阀芯。流量调节限位螺栓用于限制阀芯行程，进而限制最大流量；它不能替代系统限压或工作口保护装置。

PVM controls the spool directly through a mechanical lever. Adjustable stop screws limit spool travel and therefore maximum flow; they do not replace system pressure limiting or work-port protection.



PVM 外形与尺寸 / PVM appearance and dimensions

无手柄位置 (原稿) Without-lever position (source)	标准范围 Standard range	操作范围 Operating range	含浮动位 Including float
2 × 6	±13.4°	±19.5°	22.3°

代码 Code	材料 Material	调节螺栓 Stop screws	手柄底座与手柄 Lever base + lever	重量 Weight
PVM3161	铸铁 Cast iron	有 Yes	有 Yes	0.7 kg
PVM3171	铝 Aluminum	有 Yes	有 Yes	0.4 kg

“无手柄位置 2×6” 的单位和定义在原稿中不清晰，保留原值并列入工程确认清单。 / The unit and definition of “without-lever position 2×6” are unclear in the source and require confirmation.

PVM 操作力矩

PVM operating torque

阀芯操作状态 Spool operation	PVM + PVMD	PVM + PVH	PVM + PVMR	PVM + PVMF
从中位开始 From neutral	2.2 ±0.2	2.5 ±0.2	17	22
最大阀芯位移 Maximum spool travel	2.8 ±0.2	6.9 ±0.2	—	—
进入浮动位 Into float	—	—	—	60
退出浮动位 Out of float	—	—	—	28
其他任意位置移动 Movement at other positions	—	—	8.5	—

单位：N·m。破折号沿用原稿，表示该组合未列出数值。 / Unit: N·m. A dash reproduces an unspecified value in the source.

PVMF 可采用标准或可选装配。PVMR 可使阀芯停留在设定位置，减少持续握持手柄的需要，但较大的液动力以及流量变化引起的振动可能改变摩擦定位位置。

PVMF supports standard or optional mounting. PVMR can hold the spool at a selected position without continuous lever holding. However, high flow forces and vibration caused by flow changes can shift the friction-detented position.

P → A → F (推入式)

P → A → F (拉出式)

摩擦定位



从左至右：PVMF 标准、PVMF 可选装配、PVMR / Left to right: standard PVMF, optional PVMF, PVMR

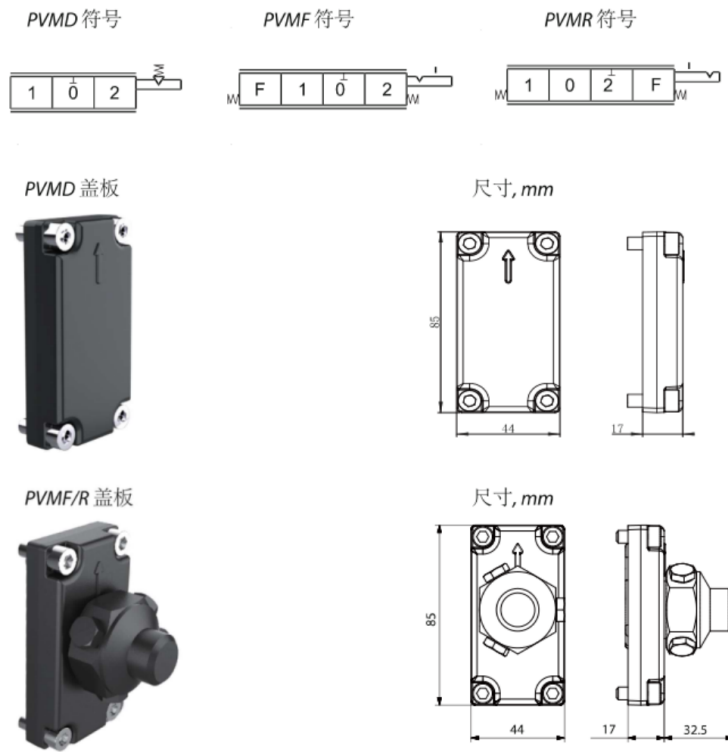
PVMF: P → A → F, 标准装配为推入，可选装配为拉出。 / PVMF: P to A to float; push-in with standard assembly, pull-out with optional assembly.

PVMD / PVMF / PVMR 盖板

PVMD / PVMF / PVMR covers

完全机械驱动的工作片可选普通盖板、机械浮动定位盖板或摩擦定位盖板。盖板形式必须与阀芯功能及装配方向相匹配。

Fully mechanically actuated sections can use a standard cover, mechanical float-detent cover or friction-detent cover. Match the cover to spool function and mounting orientation.



盖板符号、外形和尺寸 / Cover symbols, appearance and dimensions

代码 Code	类型 Type	材料 Material	重量 Weight
PVMD0021	PVMD	铸铁 Cast iron	0.38 kg
PVMD0001	PVMD	铝 Aluminum	0.15 kg
PVMF0005	PVMF	铸铁 Cast iron	0.34 kg
PVMR0024	PVMR	铸铁 Cast iron	0.57 kg

PVH 液控驱动

PVH hydraulic actuation

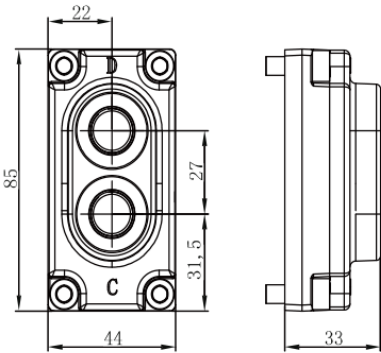
PVH 允许通过液压遥控手柄控制主阀芯。阀芯弹簧组件必须与液控方式匹配；遥控手柄回油应直接接油箱，避免回油压力干扰控制。

PVH allows a hydraulic remote-control lever to operate the main spool. Match the spool spring assembly to hydraulic actuation. Route the remote lever's return directly to tank to avoid control disturbance from return pressure.

PVH 盖板



PVH 32 盖板尺寸



PVH 外形与尺寸 / PVH appearance and dimensions

项目 Item		参数 Data	
主阀芯弹簧控制压力 Main-spool spring control pressure		5 ~ 15 bar	
中位操作力矩 Operating torque at neutral		2.5 ±0.2 N·m	
最大阀芯位置操作力矩 Torque at maximum spool position		6.9 ±0.2 N·m	
T 口最大压力 Maximum T-port pressure		30 bar	

代码 Code	材料 Material	接口 Port	原稿重量范围 Source weight range
PVH0016	铸铁 Cast iron	G1/4	0.2 ~ 0.75 kg
PVH0008	铝 Aluminum	G1/4	0.2 ~ 0.75 kg

PVHC 电控驱动

PVHC electric actuation

PVHC 采用双路大电流 PWM 信号驱动主阀芯，原稿规定 PWM 频率为 100 ~ 400 Hz。进油联应提供所需液压先导压力，并与所选线圈电压和电流范围匹配。

PVHC controls the main spool using two high-current PWM signals. The source specifies a PWM frequency of 100-400 Hz. The inlet must provide the required hydraulic pilot pressure, and the system must match the selected coil voltage and current range.

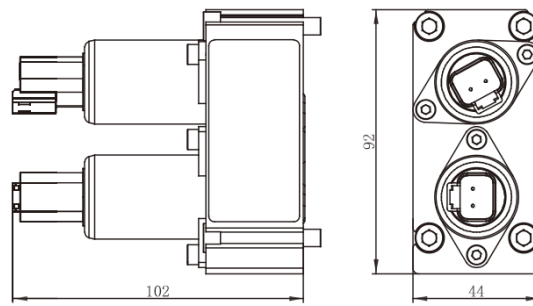
温度等工况变化会引起阀芯位置偏移；迟滞受油液黏度、摩擦力、液动力、颤振及调制频率影响。应结合实际负载进行控制参数调试，不把理想曲线当作无条件响应。

Changes in operating conditions, including temperature, can shift spool position. Hysteresis depends on viscosity, friction, flow forces, dither and modulation frequency. Tune control settings under the actual load; do not treat the ideal curve as an unconditional response.

PVHC 电控模块

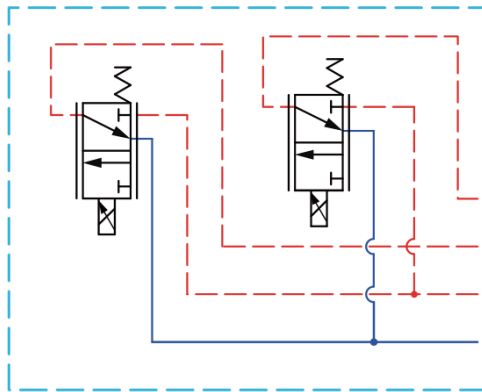


PVHC 尺寸



重量: 0,9 kg

PVHC 原理图



PVHC 外形、尺寸与液压原理；示例重量 0.9 kg / PVHC appearance, dimensions and hydraulic schematic; illustrated weight 0.9 kg

PVHC 技术参数与代码

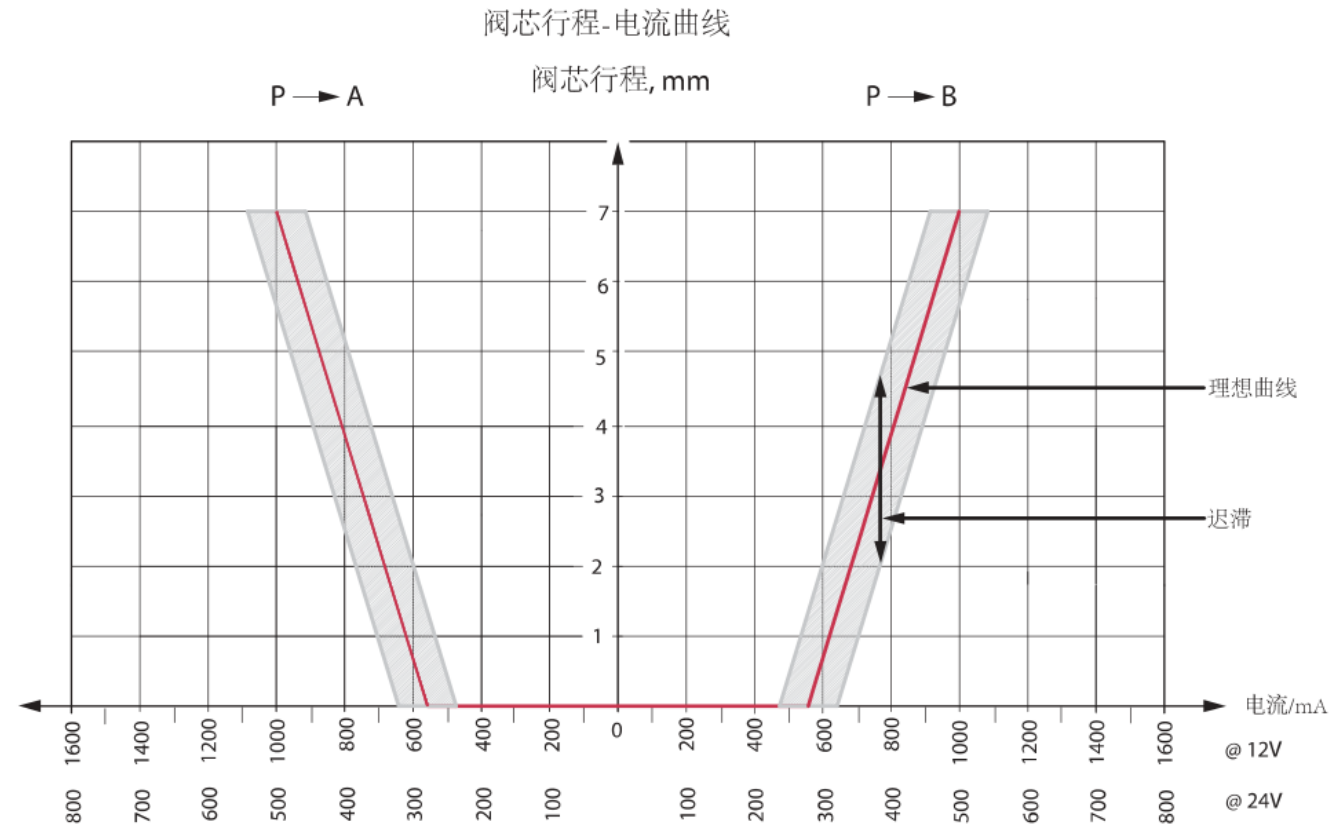
PVHC technical data and codes

参数 Parameter	12 V DC 12 V DC	24 V DC 24 V DC
电流输入 Current input	0 ~ 1500 mA	0 ~ 750 mA
电阻 Resistance	5.3 Ω $\pm$ 5%	20.8 Ω $\pm$ 5%
响应时间 Response time	150 ~ 200 ms	150 ~ 200 ms
PWM 频率 PWM frequency	100 ~ 400 Hz	100 ~ 400 Hz
先导压力 Pilot pressure	20 ~ 25 bar	20 ~ 25 bar
环境温度 Ambient temperature	-30 ~ 80 °C	-30 ~ 80 °C
温度范围（原稿未定义对象） Temperature range (object not defined in source)	-20 ~ 80 °C	-20 ~ 80 °C
油液清洁度 Oil cleanliness	ISO 4406: 23/19/16	ISO 4406: 23/19/16

零件代码 Part code	电压 Voltage	接插件 Connector	防护等级 IP rating
PVHC2037	12 V	AMP	IP66
PVHC2036	24 V	AMP	IP66
PVHC2038	12 V	DEUTSCH	IP67
PVHC2039	24 V	DEUTSCH	IP67

PVHC 电流 - 行程曲线

PVHC current-stroke characteristic



实际迟滞与理想响应示意 / Illustration of hysteresis and ideal response

阀芯行程 = Spool stroke (mm); 理想曲线 = Ideal curve; 迟滞 = Hysteresis; 横轴为电流 (mA) / Horizontal axis: current (mA)。12 V 与 24 V 曲线应按对应标识读取。 / Read the curve for the applicable 12 V or 24 V version.

PVS 系列端盖选型

Selecting PVS-series end plates

端盖用于封闭阀组末端，并按选定结构构成 LS 回路及附加油口。端盖不能仅按安装外形替换，应核对承压能力、LS/LX 功能、P/T 接口及安装螺纹。

An end plate closes the valve group and, according to the selected design, provides the LS circuit and additional ports. Do not select a substitute solely by its mounting envelope. Check pressure capability, LS/LX function, P/T ports and mounting threads.

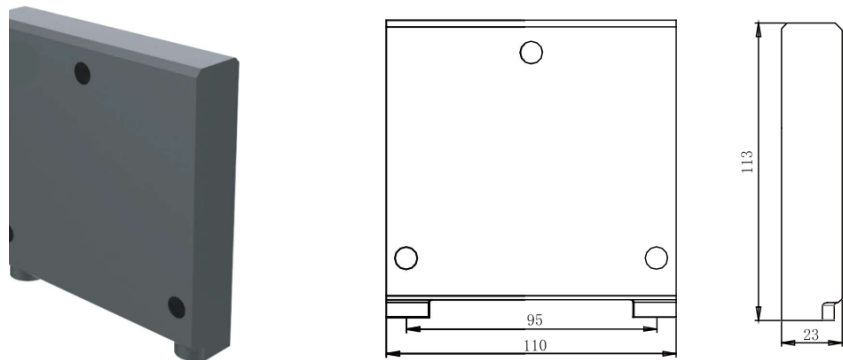
型号系列 Series	主要配置 Main configuration	功能重点 Function
PVSI	铸铁端盖 Cast-iron end plate	基础末端封闭 Basic end closure
PVSI + LX	带 LX 接口 With LX port	可接入其他阀组的负载敏感信号 Allows an LS signal from another valve group
PVSI + P/T/LX/M	附加进油、回油及信号/测压口 Additional pump, tank, signal and gauge ports	按系统方案分配进回油与 LS 信号 Distributes pump/return flow and LS signals as designed
PVST + T	带 T 回油接口 With T return connection	按原稿配置 LS 回油及可选热阻尼孔 Source configuration includes LS-to-tank function and optional thermal bleed

原稿有“中位 LS 回油”和“集成 LS 限压阀至油箱”等不同表述。最终功能须结合选定端盖的液压符号确认，不应将不同描述混为同一种结构。

The source uses both “LS drain to tank in neutral” and “integrated LS pressure limiting to tank.” Confirm the actual function from the hydraulic symbol of the selected end plate; these descriptions must not be assumed to identify the same construction.

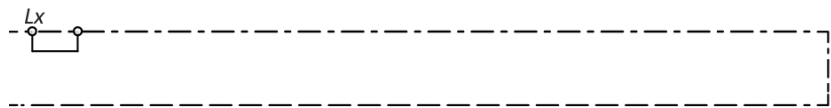
PVSI 标准端盖

PVSI standard end plate



重量: 0.47 kg

PVSI 原理图



外形、尺寸及液压原理 / Appearance, dimensions and hydraulic schematic

P 连续 P continuous		P 间歇 P intermittent	T 静态/动态 T static/dynamic	
300/350 bar		400 bar	25/40 bar	

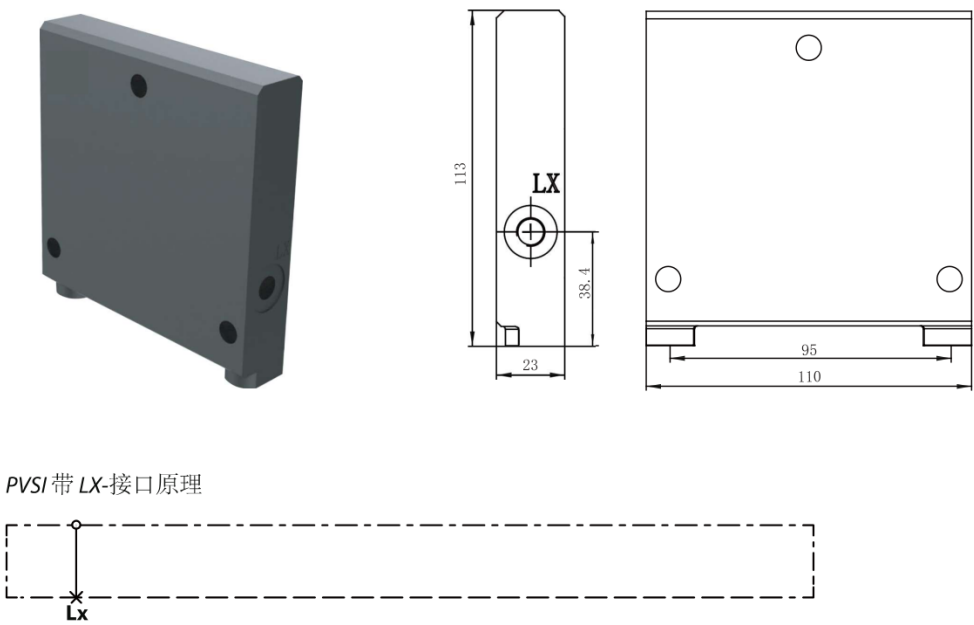
代码 Code	材料 Material	压力标注 Pressure stated	安装 Mounting	重量 Weight
PVSI2014	铸铁 Cast iron	350 bar	M8	1.745 kg

图注另标 0.47 kg，与零件表 1.745 kg 不一致；重量待确认。 / The figure states 0.47 kg, conflicting with 1.745 kg in the part table; confirm weight.

通用条件 (原稿) : 油温 -30~90 °C, 推荐 30~60 °C; 黏度 4~460 mm²/s, 推荐 12~75 mm²/s; 环境 -30~60 °C; ISO 4406: 23/19/16.
Source conditions: oil -30 to 90 °C, recommended 30 to 60 °C; viscosity 4-460 mm²/s, recommended 12-75; ambient -30 to 60 °C; ISO 4406: 23/19/16.

PVSI: 带 LX 接口

PVSI with LX port



外形、尺寸及液压原理 / Appearance, dimensions and hydraulic schematic

P 连续 P continuous		P 间歇 P intermittent	T 静态/动态 T static/dynamic	
300/350 bar		400 bar	25/40 bar	
代码 Code	材料 Material	压力标注 Pressure stated	安装 Mounting	重量 Weight
PVSI2015	铸铁 Cast iron	350 bar	M8	1.695 kg

原稿列有 LX 油口。 / An LX port is specified in the source.

通用条件 (原稿) : 油温 -30 ~ 90 °C, 推荐 30 ~ 60 °C; 黏度 4 ~ 460 mm²/s, 推荐 12 ~ 75 mm²/s; 环境 -30 ~ 60 °C; ISO 4406: 23/19/16.

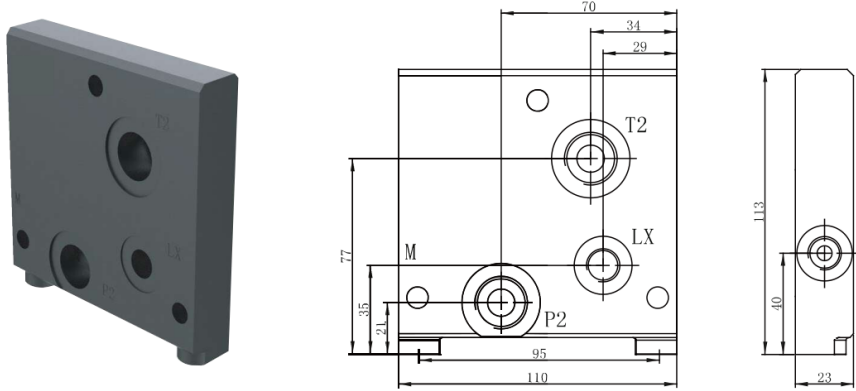
Source conditions: oil -30 to 90 °C, recommended 30 to 60 °C; viscosity 4-460 mm²/s, recommended 12-75; ambient -30 to 60 °C; ISO 4406: 23/19/16.

PVSI: P / T / LX / M 接口

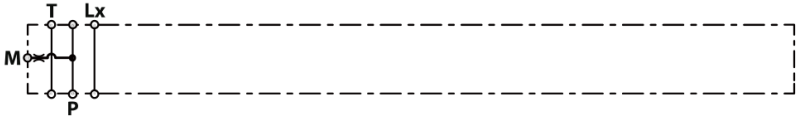
PVSI with P / T / LX / M ports

PVSI 带 P, T, LX 和 M 油口

带 P, T, LX 和 M 油口的 PVSI 尺寸



带 P-, T-, LX- 和 M-接口的 PVSI 原理图



外形、尺寸及液压原理 / Appearance, dimensions and hydraulic schematic

P 连续 P continuous		P 间歇 P intermittent	T 静态/动态 T static/dynamic	
300/350 bar		400 bar	25/40 bar	

代码 Code	材料 Material	压力标注 Pressure stated	安装 Mounting	重量 Weight
PVSI2920	铸铁 Cast iron	见压力表 / See table	M8	2.5 kg

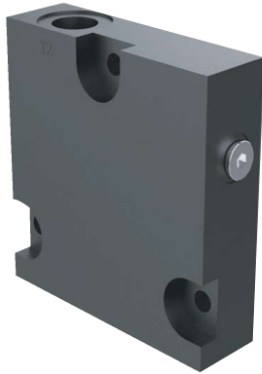
P/T = G1/2; LX/M = G1/4。原稿图注有 LXG 写法，接口名称以确认图纸为准。 / P/T = G1/2; LX/M = G1/4. One source caption uses LXG; confirm the port designation on the approved drawing.

通用条件 (原稿) : 油温 -30~90 °C, 推荐 30~60 °C; 黏度 4~460 mm²/s, 推荐 12~75 mm²/s; 环境 -30~60 °C; ISO 4406: 23/19/16.
Source conditions: oil -30 to 90 °C, recommended 30 to 60 °C; viscosity 4-460 mm²/s, recommended 12-75; ambient -30 to 60 °C; ISO 4406: 23/19/16.

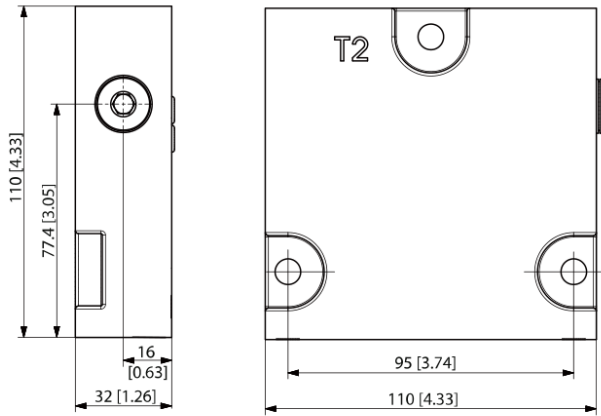
PVST: 带 T 接口

PVST with T port

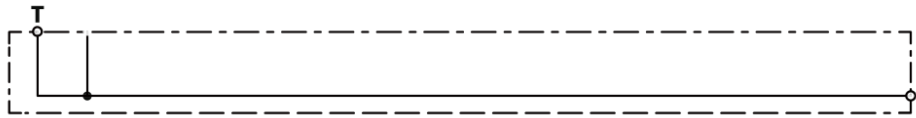
PVST, 带 T-接口



PVST 带 T-接口尺寸



PVST 带 T-接口原理



外形、尺寸及液压原理 / Appearance, dimensions and hydraulic schematic

P 连续 P continuous		P 间歇 P intermittent	T 静态/动态 T static/dynamic	
300/350 bar		400 bar	25/40 bar	
代码 Code	材料 Material	压力标注 Pressure stated	安装 Mounting	重量 Weight
PVST2500	铁 Iron	见压力表 / See table	M8	2.47 kg

T = G1/2; 原稿列有可选集成热阻尼孔。 / T = G1/2; the source lists an optional integrated thermal bleed orifice.

通用条件 (原稿) : 油温 -30 ~ 90 °C, 推荐 30 ~ 60 °C; 黏度 4 ~ 460 mm²/s, 推荐 12 ~ 75 mm²/s; 环境 -30 ~ 60 °C; ISO 4406: 23/19/16.

Source conditions: oil -30 to 90 °C, recommended 30 to 60 °C; viscosity 4-460 mm²/s, recommended 12-75; ambient -30 to 60 °C; ISO 4406: 23/19/16.

PVAS 紧固组件

PVAS tie-rod kits

PVAS 组件包括 3 根螺杆、6 个垫片和 6 个螺母。按确认后的阀组总长选择适用组件，并同时核对进油联、端盖及工作片数量。

A PVAS kit contains three tie rods, six washers and six nuts. Select the applicable kit using the confirmed valve-group length, and check the inlet, end plate and number of work sections.

总长范围 mm Length range mm	代码 Code	总长范围 mm Length range mm	代码 Code
109 ~ 120	PVAS8001	397 ~ 408	PVAS8007
133 ~ 144	PVAS8021	421 ~ 432	PVAS8027
157 ~ 168	PVAS8002	445 ~ 456	PVAS8008
181 ~ 192	PVAS8022	469 ~ 480	PVAS8028
205 ~ 216	PVAS8003	493 ~ 504	PVAS8009
229 ~ 240	PVAS8023	517 ~ 528	PVAS8029
253 ~ 264	PVAS8004	541 ~ 552	PVAS8010
277 ~ 288	PVAS8024	565 ~ 576	PVAS8030
301 ~ 312	PVAS8005	589 ~ 600	PVAS8061
325 ~ 336	PVAS8025	613 ~ 624	PVAS8081
349 ~ 360	PVAS8006	637 ~ 648	PVAS8062
373 ~ 384	PVAS8026	661 ~ 672	PVAS8082

原稿未给出拧紧力矩、装配顺序和密封件更换要求，本版不补填。最终装配应使用厂家认可的安装文件。

The source does not specify tightening torque, assembly sequence or seal-replacement requirements. No values are invented here; use manufacturer-approved installation instructions for final assembly.

阀组总长与工作片数量

Valve-group length versus section count

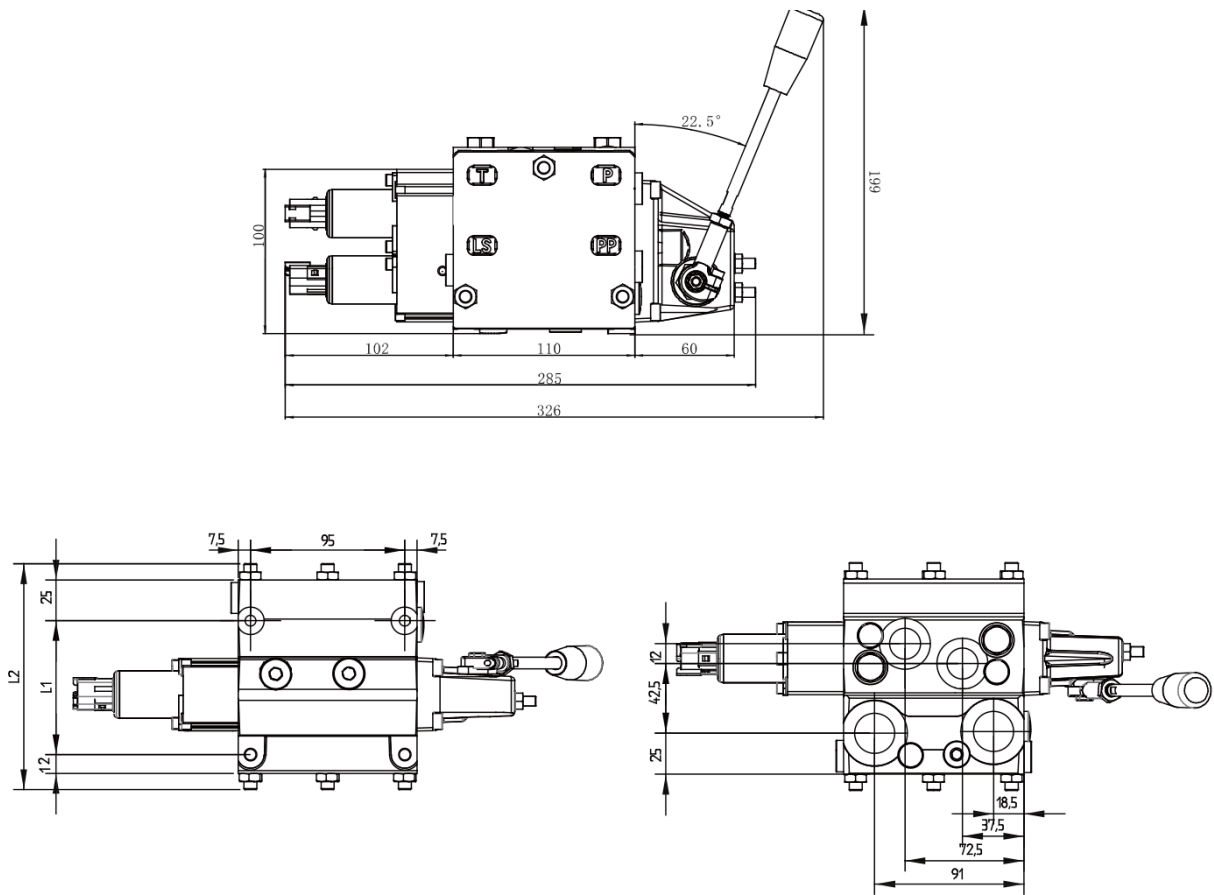
PVB 数量 PVB sections	侧边进油总长 mm Side-inlet total length mm	中间进油总长 mm Intermediate-inlet total length mm
1	119	142
2	167	190
3	215	238
4	263	286
5	311	334
6	359	382
7	407	430
8	455	478
9	503	526
10	551	574
11	599	622
12	647	670

本表保留原稿“模块总长度”的定义。后续尺寸图中的 L1、L2、L3 是图示尺寸，不应与本表总长混用；采用不同端盖、驱动或进油结构时，应使用对应总成图。

This table retains the source definition of total module length. L1, L2 and L3 in the following drawings are drawing-specific dimensions and must not be confused with the totals here. Use the relevant assembly drawing for the selected end plate, actuator and inlet arrangement.

侧边进油：总成尺寸

Side-inlet assembly dimensions



配 PVHC 的侧边进油阀组 / Side-inlet valve group with PVHC

尺寸单位按原图 / Dimensions use the units shown in the drawing. L1/L2 与下一页数据对应 / L1/L2 correspond to the following data page.

侧边进油：尺寸数据

Side-inlet dimensional data

PVB32 数量 PVB32 sections	L1 mm	L2 mm	重量 kg Weight kg
1	82	141	8.5
2	130	190	11.8
3	178	238	14.7
4	226	287	17.9
5	274	335	20.9
6	322	384	24.2
7	370	432	27.2
8	418	481	31.2
9	466	529	33.2
10	514	578	36.6
11	562	626	39.8
12	610	675	42.6

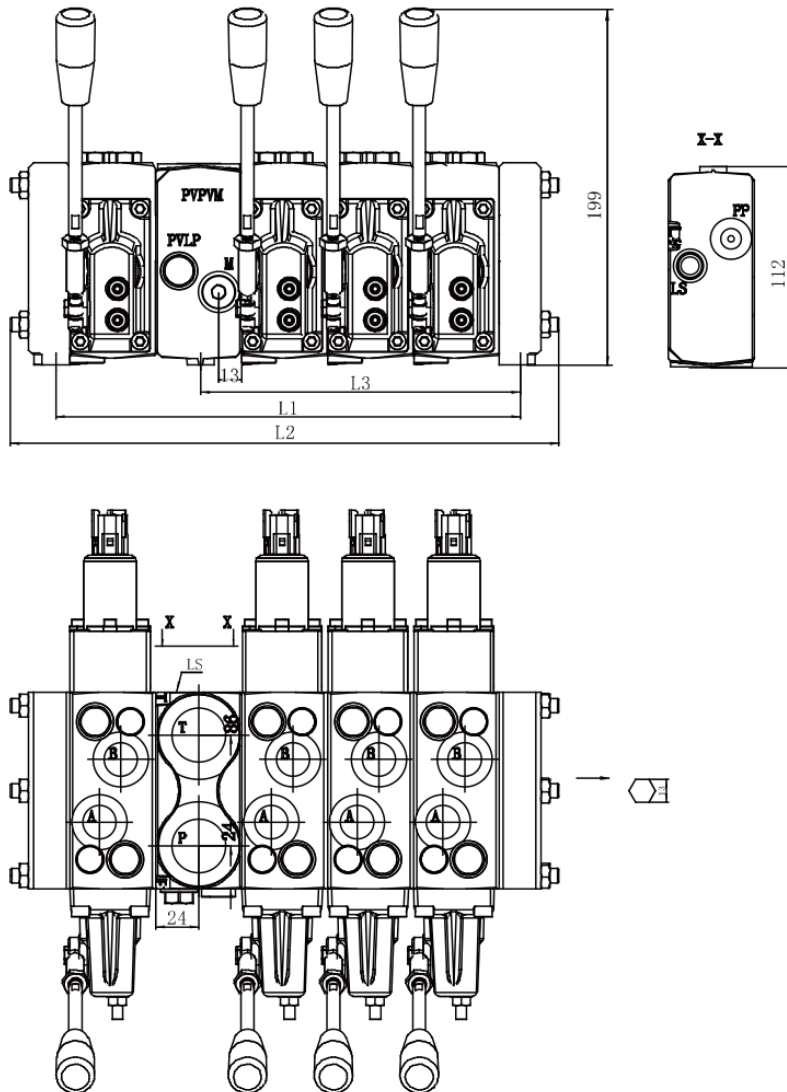
L1、L2 按上一页尺寸图的测量基准读取。重量对应原稿图示配置，不能作为任意端盖和驱动组合的通用重量。

Read L1 and L2 using the measurement references in the preceding drawing. Weights apply to the source configuration and must not be treated as universal values for any end-plate and actuator combination.

字段 Field	说明 Meaning
PVB32	工作片数量 Number of work sections
L1 / L2	参见上一页尺寸图的测量基准 Measurement references shown on the preceding drawing
重量 Weight	图示配置的重量，不等于单个模块重量 Weight of the illustrated configuration, not an individual module

PVPVM 总成尺寸

PVPVM assembly dimensions



原稿标注的 L1、L2、L3 与总成结构 / Source L1, L2, L3 dimensions and assembly arrangement

本页标题、图中系列名与后页文字存在 PVPV/PVPVM 混用，订货前确认。 / PVPV/PVPVM designations differ between the title, drawing and following text; confirm before ordering.

PVPVM: PVAS 配套数据

PVPVM: associated PVAS data

序号 No.	L1 mm	L2 mm	L3 mm	重量 kg Weight kg	代码 Code
1	116	165	83	0.25	PVAS8021
2	166	213	131	0.30	PVAS8022
3	214	262	179	0.35	PVAS8023
4	262	311	227	0.45	PVAS8024
5	310	360	275	0.50	PVAS8025
6	358	409	323	0.55	PVAS8026
7	406	458	371	0.65	PVAS8027
8	454	507	419	0.70	PVAS8028
9	502	551	467	0.75	PVAS8029
10	550	600	515	0.85	PVAS8030

原稿正文写有“PVPV 进油联使用 PVASB8001→8010”，而本表代码为 PVAS8021 ~ PVAS8030。上述型号及前缀存在冲突，本版保留表内数值，不将其自动改为同一系列。

The source text states “PVPV inlet uses PVASB8001 to 8010,” whereas the table lists PVAS8021-PVAS8030. These model and prefix references conflict. Table values are preserved without silently converting them to another series.

订货配置与代码位置

Order configuration and code positions

订货时应同时提供完整模块代码、主溢流阀压力 P、各工作片 LS A/B 限压设定及装配方向。仅提供某一零件代码，不能代替完整阀组配置确认。

Provide complete module codes, main relief pressure P, LS A/B limits for each section and mounting orientation. A single component code does not replace confirmation of the complete valve-group configuration.

订货区段 Order section	填写内容 Entry
0	PVP 进油联及 PVPC/PVPX 等附件 PVP inlet and accessories such as PVPC/PVPX
1 ~ 12	PVB 工作片；按实际联数填写 PVB work sections; enter the installed section count
13	PVBS 主阀芯 PVBS main spool
a	标准装配下的 PVM 手动驱动 PVM manual actuator in standard assembly
b	PVLP 缓冲/补油阀或 PVLA 补油阀 PVLP shock/anti-cavitation or PVLA anti-cavitation valves
c	标准装配下的 PVMD/F/R、PVH、PVHC；PVX 须另确认 PVMD/F/R, PVH or PVHC in standard assembly; PVX requires separate confirmation
14	PVS 端盖 PVS end plate
15	PVAS 螺杆组件 PVAS tie-rod kit

原稿指定由供应方填写完整阀组的 PV 订货号。复购时提供首次确认的完整代码，并确认原配置、压力设定和修订版本未发生变化。

The source assigns entry of the complete PV order number to the supplier. For repeat orders, quote the originally confirmed complete code and verify that configuration, pressure settings and revision remain unchanged.

装配方向与提交清单

Mounting orientation and submission checklist

装配方式 Assembly	区段 a Section a	区段 c Section c
标准 Standard	PVM	PVMD/F/R / PVH / PVHC
可选：手动驱动在另一侧 Optional: manual actuator on opposite side	PVMD/F/R / PVH / PVHC	PVM

a/c 区段交换会改变手动驱动安装侧。提交配置时应同时说明操作者位置、手柄推拉方向和 A/B 动作关系，避免装配正确但操作方向不符合预期。

Swapping sections a and c changes the manual-actuator mounting side. State the operator position, push/pull direction and corresponding A/B motion when submitting the configuration, so the installed operating direction matches the intended function.

确认项目 Check	填写/确认内容 Information to confirm
泵与系统 Pump and system	泵型、总流量、最高压力、LS 压差、回油背压 Pump type, total flow, maximum pressure, LS margin and return backpressure
工作片 Work sections	联数、各联执行机构、目标流量及同时动作 Section count, actuators, target flows and simultaneous functions
阀芯与驱动 Spools and actuation	FC/PC、机能、浮动位、弹簧、电压/信号 FC/PC, function, float, spring, voltage/signals
保护设置 Protection settings	P、LS A/B、PVLP 压力及停泵/应急操作 P, LS A/B and PVLP pressures; pump-off/emergency operation
安装与采购 Installation and purchasing	端盖、螺杆、总长、油口、确认图纸及版本 End plate, tie rods, overall length, ports, approved drawing and revision

LS 与 PVLP 的设定关系

Coordinating LS and PVLP settings

原稿订货章节给出以下约束，P(PVLP) 为所选缓冲阀设定压力，P(LS A/B) 为对应工作片的 LS 限压值。

The source ordering chapter states the constraints below. P(PVLP) is the selected shock-valve setting, and P(LS A/B) is the corresponding work-section LS pressure limit.

PVLP 压力范围 PVLP pressure range	原稿约束 Source constraint
$P(\text{PVLP}) \leq 150 \text{ bar}$	$P(\text{LS A/B}) \leq 0.8 \times P(\text{PVLP})$
$P(\text{PVLP}) > 150 \text{ bar}$	$P(\text{PVLP}) - P(\text{LS A/B}) \geq 30 \text{ bar}$

原稿同时给出 LS A/B 最小设定压力 30 bar。因此，PVLP 为 32 bar 时按 0.8 倍计算的上限低于该最小值，原表也未给出可用最大 LS 值；不能将这一档直接视为可配可调 LS 限压的有效组合。

The source also specifies a minimum LS A/B setting of 30 bar. At a PVLP setting of 32 bar, the 0.8 multiplier produces a maximum below that minimum, and the source table does not give a usable LS maximum. Do not assume that this setting is a valid combination with adjustable LS pressure limiting.

PVLP 产品说明中的“高于 LS A/B 20 bar”与本分段限制不一致。选型应提交具体压力组合，由厂家确认；本版不将两种说法合并成新的未经验证规则。

The PVLP description stating “20 bar above LS A/B” conflicts with these piecewise constraints. Submit the actual pressure combination for manufacturer confirmation. This edition does not combine the two statements into a new, unverified rule.

最大 LS A/B 设定压力

Maximum LS A/B pressure settings

PVLP bar PVLP bar	LS 最大 bar LS max. bar	LS 最大 psi LS max. psi	PVLP bar PVLP bar	LS 最大 bar LS max. bar	LS 最大 psi LS max. psi
32	—	—	210	180	2610
50	40	580	230	200	2900
63	50	720	240	210	3045
80	64	930	250	220	3190
100	80	1160	265	235	3408
125	100	1450	280	250	3625
140	112	1625	300	270	3915
150	120	1740	320	290	4205
160	130	1885	350	320	4641
175	145	2100	380	350	5075
190	160	2320	400	370	5366

LS A/B 最小值: 30 bar [435 psi]。数值按原稿压力表保留，psi 为原稿近似值，不以重新换算结果覆盖。32 bar 档的空白须由厂家确认。

Minimum LS A/B setting: 30 bar [435 psi]. Values follow the source pressure table; psi values are the source approximations and are not overwritten with recalculated conversions. Manufacturer confirmation is required for the blank at the 32 bar setting.

阀组配置记录表

Valve-group configuration record

客户 / 项目 Customer / project	填写 Entry
客户名称 Customer name	_____
项目/设备型号 Project / machine model	_____
完整阀组订货号 Complete valve-group order no.	_____
订单日期 / 交货日期 Order date / delivery date	_____
进油联 / P 压力 Inlet section / P pressure	_____
端盖 / 螺杆组件 End plate / tie-rod kit	_____

联号 Section	PVB / PVBS PVB / PVBS	A / B 功能 A / B function	LS A / B LS A / B	a / b / c a / b / c
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

备注 / Remarks: _____
确认人 / Approved by: _____ 日期 / Date: _____



工程确认清单

Engineering confirmation checklist

待确认事项 Item requiring confirmation	原稿位置与处理 Source and treatment
PVLP 与 LS 压差规则 PVLP-to-LS setting rule	PDF 9 与 28: 分段 0.8 倍/30 bar 规则与 20 bar 文字冲突。 PDF 9 and 28: piecewise 0.8/30 bar rules conflict with the 20 bar statement.
PVB6000/6030 负载保持描述 PVB6000/6030 load-holding description	PDF 25: “无负载单向阀”与“负载保持”并列, 需确认机能。 PDF 25: no load-drop check valve and load-holding descriptions conflict.
补油阀代码前缀 Anti-cavitation code prefix	PDF 27 与 30 的代码字样不一致; 保留出处, 不自动替换。 PDF 27 and 30 show differing prefixes; source wording is retained.
PVSI2014 重量 PVSI2014 weight	PDF 49: 图注 0.47 kg, 零件表 1.745 kg。 PDF 49: figure 0.47 kg; part table 1.745 kg.
PVPV/PVPVM 与 PVAS 代码 PVPV/PVPVM and PVAS references	PDF 55: 标题/文字系列名及 PVASB8001 ~ 8010 与表内 8021 ~ 8030 不一致。 PDF 55: series labels and PVASB8001-8010 differ from table codes 8021-8030.
端盖 P 口 300/350 bar End-plate P rating 300/350 bar	PDF 49 ~ 52 未说明两档分别适用的配置。 PDF 49-52 do not identify the configurations for each rating.

中英术语表

Chinese-English terminology

中文 Chinese	英文 English	中文 Chinese	英文 English
进油联	Inlet section	先导油源	Pilot oil supply
工作片	Work section	卸荷	Unloading
主阀芯	Main spool	梭阀	Shuttle valve
开芯 / 闭芯	Open center / closed center	浮动位	Float position
负载敏感	Load sensing (LS)	摩擦定位	Friction detent
压力补偿器	Pressure compensator	手动应急 / 越权	Manual override
负载单向阀	Load-drop check valve	端盖	End plate
LS 限压阀	LS pressure limiting valve	螺杆组件	Tie-rod kit
缓冲阀	Shock relief valve	迟滞	Hysteresis
补油阀	Anti-cavitation valve	颤振	Dither
先导减压阀	Pilot pressure reducing valve	流量控制 / 压力控制	Flow control (FC) / pressure control (PC)

本表用于统一本手册的技术表述。型号与端口缩写不翻译；如与项目批准图纸术语不同，应在项目文件中建立对应关系。

This glossary standardizes terminology within the manual. Model and port abbreviations remain unchanged. Where terminology differs from approved project drawings, document the correspondence in the project records.



PV32

产品选型手册

精确控制 · 模块配置 · 面向工况