

 *Shida* 世达液压

北京宏基世达液压有限公司

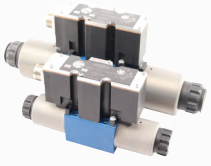
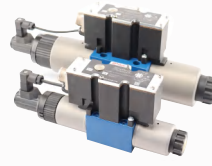


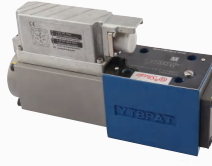

Beijing Hongji Shida Hydraumatic Co., Ltd









PRODUCT
MANUAL

客户服务优先持续改进为本

直动式比例换向阀 (Proportional Directional Valves, Direct Actuated)

						
型号 (Type)	4WRA 4WRAE		4WRE 4WREE		4WREE	
规格 (Size)	6	10	6	10	6	
组件系列 (Component series)	2X		2X		3X	
特征 (Features)	<ul style="list-style-type: none"> 直动式比例换向阀, 不带位置反馈 (Direct operated proportional directional valve without electrical position feedback) 控制流体的流量和方向 (Control the direction and magnitude of a flow) 底板安装 (For subplate mounting) 弹簧对中控制阀芯 (Spring centred control spool) 4WRAE集成电子元件 (4WRAE: integrated electronics) 4WRA 外部电子元件控制 (4WRA external electronic element control) 		<ul style="list-style-type: none"> 直动式比例换向阀, 带位置反馈 (Direct operated proportional directional valve with electrical position feedback) 控制流体的流量和方向 (Control the direction and magnitude of a flow) 底板安装 (For subplate mounting) 弹簧对中控制阀芯 (Spring centred control spool) 4WREE集成电子元件 (4WRAE: integrated electronics) 4WRE 外部电子元件控制 (4WRE external electronic element control) 		<ul style="list-style-type: none"> 直动式比例换向阀, 带位置反馈 (Direct operated proportional directional valve with electrical position feedback) 控制流体的流量和方向 (Control the direction and magnitude of a flow) 底板安装 (For subplate mounting) 弹簧对中控制阀芯 (Spring centred control spool) 集成电子元件 (integrated electronics) 	
	$\Delta p = 10 \text{ bar}$ 时公称流量 (Nominal flow $qV \text{ nom at } \Delta p = 10 \text{ bar}$)	L/min	7,15,26	30,60	8,16,32	25, 50, 75
最大工作压力 (Max. operating pressure)	bar	315		315		350
-90°相位差时的频响 (Frequency sound at -90° phase difference)	$\pm 10\%$ (50 $\pm 10\%$) HZ			42	50	42
	$\pm 100\%$ (50 $\pm 45\%$) HZ			25	20	25
阶跃响应 (Step response)	0-25% ms	38	100	12	15	12
	0-100% ms	40	140	20	30	20
						
型号 (Type)	4WRPH		4WRPEH		4WRPEH	
规格 (Size)	6	10	6	10	6	
组件系列 (Component series)	2X		2X		3X	
特征 (Features)	<ul style="list-style-type: none"> 直动式伺服电磁阀, 配有活塞和钢套, 伺服性能可靠 (Directly operated servo solenoid valve with control piston and sleeve in servo quality) 调节电磁阀内置有位置反馈器和位移传感器电子控制单元 (LvdT DC/DC) (Control solenoid with integral position feedback and electronics for position transducer (LvdT DC/DC)) 底板安装 (For subplate mounting) 单侧控制, 断电时处于故障安全位置 (Actuated on one side, 4/4 fail-safe position when switched off) 		<ul style="list-style-type: none"> 直动式伺服电磁阀, 配有活塞和钢套, 伺服性能可靠 (Directly operated servo solenoid valve with control piston and sleeve in servo quality) 调节电磁阀内置有位置反馈和集成式放大板 (OBE), 出厂以校准 (Electrical position feedback and on-board electronics(OBE), calibrated at the factory) 底板安装 (For subplate mounting) 单侧控制, 断电时处于故障安全位置 (Actuated on one side, 4/4 fail-safe position when switched off) 信号输入接口A1($\pm 10V$)或F1 (4-20mA, Rs200 Ω) (Signal input differential amplifier with interface A1 (+10V) or interface F1 (4...20 mA Rsh = 200Ω)) 		<ul style="list-style-type: none"> 直动式伺服电磁阀, 配有活塞和钢套, 伺服性能可靠 (Directly operated servo solenoid valve with control piston and sleeve in servo quality) 调节电磁阀内置有位置反馈和集成式放大板 (OBE), 出厂以校准 (Electrical position feedback and on-board electronics(OBE), calibrated at the factory) 底板安装 (For subplate mounting) 单侧控制, 断电时处于故障安全位置 (Actuated on one side, 4/4 fail-safe position when switched off) 响应速度高, 滞环小 (Precise - high response sensitivity and little hysteresis) IO-Link接口可选 (IO-Link interface, optional) 	
	$\Delta p = 35 \text{ bar}$ 时公称流量 (Nominal flow $qV \text{ nom at } \Delta p = 35 \text{ bar}$)	L/min	2,4,12,24,40	50,100	2,4,12,24,40	50,100
最大工作压力 (Max. operating pressure)	bar	315		315		350
-90°相位差时的频响 (Frequency sound at -90° phase difference)	$\pm 10\%$ (50 $\pm 10\%$) HZ	110	55	110	55	110
	$\pm 100\%$ (50 $\pm 45\%$) HZ	50	25	50	25	50
阶跃响应 (Step response)	0-25% ms	7	11	7	11	7
	0-100% ms	10	25	10	25	10

直动式比例换向阀 (Proportional Directional Valves, Direct Actuated)

																		
型号 (Type)		4WRZ 4WRZE					4WRKE					4WRTE						
规格 (Size)		10 16 25 32					10 16 25 32					10 16 25 32						
组件系列 (Component series)		7X					3X					4X						
特征 (Features)		<ul style="list-style-type: none"> • 两级先导式比例换向阀, 不带位置反馈 (Pilot operated, 2-stage proportional directional valve) • 控制流体的流量和方向 (Control the direction and magnitude of a flow) • 底板安装 (For subplate mounting) • 弹簧对中控制阀芯 (Spring centred control spool) • 4WRZE集成电子元件 (4WRZE: integrated electronics) • 4WRZ 外部电子元件控制 (4WRZ external electronic element control) 					<ul style="list-style-type: none"> • 先导式2级比例换向阀, 带主阀芯的电气位置反馈和集成电子元件 (OBE)(Pilot operated 2-stage proportional directional valve with electrical position feedback of the main control spool and integrated electronics (OBE)) • 控制流体的流量和方向 (Control the direction and magnitude of a flow) • 底板安装 (For subplate mounting) • 先导控制是单级比例方向阀 (Pilot control valve: Single-stage proportional directional valve) 					<ul style="list-style-type: none"> • 先导式2级比例换向阀, 带主阀芯的电气位置反馈和集成电子元件 (OBE)(Pilot operated 2-stage proportional directional valve with electrical position feedback of the main control spool and integrated electronics (OBE)) • 控制流体的流量和方向 (Control the direction and magnitude of a flow) • 底板安装 (For subplate mounting) • 先导控制是单级闭环控制, 带控制压力的压力反馈 (Pilot control valve: Direct actuated, closed loop position control with pressure feedback of the control pressures) • 主级自对中, 闭环位置控制 (Main stage: Self-centering, closed loop position controlled) 						
		$\Delta p = 10$ bar时公称流量 (Nominal flow q_V nom at $\Delta p = 10$ bar) L/min		25,50,85 100,150 220,350 360,520					25,50,85 125,200 220,350 400,600					25,50,85 125,200 220,350 400,600				
最大工作压力 (Max. operating pressure) bar		315					315					350						
-90°相位差时的频响 (Frequency sound at -90° phase difference)		±10%(50±10%) HZ												55 45 35 20				
		±100%(50±45%) HZ												30 30 30 20				
阶跃响应 (Step response)		0-25% ms		35 60 90 160					10 14 27 32					5 7 9 23				
		0-100% ms		40 70 90 160					16 25 45 70					11 17 22 42				
																		
型号 (Type)		4WRL					4WRLE					4WRLE						
规格 (Size)		10 16 25 27 35					10 16 25 27 35					10 16 25 27 35						
组件系列 (Component series)		3X					3X					4X						
特征 (Features)		<ul style="list-style-type: none"> • 先导控制的伺服电液换向阀 (Pilot operated servo solenoid directional control) • 先导阀6通路, 带有控制活塞和阀套, 具有伺服性能, 单侧控制, 断电处于故障安全位置 (Pilot valve NG6, with control piston and sleeve in servoquality, actuated on one side, 4/4 fail-safe position when switched off) • 控制电磁铁带集成位置反馈和电子线路用于位置传感器 (LvdT DC/DC) (Control solenoid with electrical position feedback and electronics for position transducer (LvdT DC/DC)) • 底板安装 (For subplate mounting) • 具有伺服性能的主级带位置反馈 (Main stage in servo quality with position feedback) 					<ul style="list-style-type: none"> • 先导控制的伺服电液换向阀 (Pilot operated servo solenoid directional control) • 先导阀6通路, 带有控制活塞和阀套, 具有伺服性能, 单侧控制, 断电处于故障安全位置 (Pilot valve NG6, with control piston and sleeve in servoquality, actuated on one side, 4/4 fail-safe position when switched off) • 调节电磁铁内置有位置反馈和集成式放大板 (OBE), 出厂以校准 (Electrical position feedback and on-board electronics (OBE), calibrated at the factory) • 底板安装 (For subplate mounting) 具有伺服性能的主级带位置反馈 (Main stage in servo quality with position feedback) • 信号输入接口A1(±10V)或F1 (4-20mA, Rs200 Ω) (Signal input differential amplifier with interface A1 (+10V) or interface F1 (4...20 mA Rsh = 200Ω)) 					<ul style="list-style-type: none"> • 先导控制的伺服电液换向阀 (Pilot operated servo solenoid directional control) • 先导阀6通路, 带有控制活塞和阀套, 具有伺服性能, 单侧控制, 断电处于故障安全位置 (Pilot valve NG6, with control piston and sleeve in servoquality, actuated on one side, 4/4 fail-safe position when switched off) • 调节电磁铁内置有位置反馈和集成式放大板 (OBE), 出厂以校准 (Electrical position feedback and on-board electronics (OBE), calibrated at the factory) • 底板安装 (For subplate mounting) • 响应速度高, 滞环小 (Precise - high response sensitivity and little hysteresis) IO-Link接口可选 (IO-Link interface, optional) 						
		$\Delta p = 35$ bar时公称流量 (Nominal flow q_V nom at $\Delta p = 35$ bar) L/min		85 200 370 600 1000					85 200 370 600 1000					85 200 370 600 1000				
最大工作压力 (Max. operating pressure) bar		315					315					350						
-90°相位差时的频响 (Frequency sound at -90° phase difference)		±10%(50±10%) HZ		40 38 50 50 20					40 38 50 50 20					40 38 50 50 20				
		±100%(50±45%) HZ		18 18 18 18 13					18 18 18 18 13					18 18 18 18 13				
阶跃响应 (Step response)		0-25% ms		16 17 20 20 48					16 17 20 20 48					16 17 20 20 48				
		0-100% ms		25 16 32 32 90					25 16 32 32 90					25 16 32 32 90				

直动式比例溢流阀 (Proportional pressure relief valve, directly operated)

				
型号 (Type)	DBET DBETE	DBETX	DBETBEX	
规格 (Size)	6	6	6	
组件系列 (Component series)	6X	1X	1X	
特征 (Features)	<ul style="list-style-type: none"> 直动式溢流阀用来限制系统压力 (Directly operated valves for limiting a system pressure) 通过比例电磁铁驱动 (Operation by means of proportional solenoid) 底板安装 (For subplate mounting) DBETE型集成电子设备 (OBE): 指令值压力特性曲线的制造公差较小 (Integrated electronics (OBE) with type DBETE: Little manufacturing tolerance of the command value pressure characteristic curve) DBET型的外部控制电子产品 (External control electronics with type DBET) 	<ul style="list-style-type: none"> 直动式溢流阀用来限制系统压力 (Directly operated valves for limiting a system pressure) 通过比例电磁铁驱动 (Operation by means of proportional solenoid) 底板安装 (For subplate mounting) 两种电磁铁可选 $I_{max}=0.8A$或$I_{max}=2.5A$ (Solenoid variants $I_{max} = 0.8 A$ or $I_{max} = 2.5 A$) 即使电气故障, 压力可以限制在安全范围 (Maximum pressure limitation, even with defective electronics) 	<ul style="list-style-type: none"> 直动式比例溢流阀, 带位置反馈和内置放大板 (Directly operated valves with position feedback and on-board electronics for limiting system pressure) 通过电磁铁相对压缩弹簧位置调节压力 (Directly operated valves with position feedback and on-board electronics for limiting system pressure) 即使电气故障, 压力可以限制在安全范围 (Maximum pressure limitation, even with defective electronics) 快速响应, 小于0.2%的滞环位置控制 (Position-controlled, minimal hysteresis < 0.2 %, rapid response times) 	
最大流量 (Maximum flow)	L/min	2	1	1
最大设定压力 (Maximum set pressure)	bar	50, 100, 200, 315, 350, 400	80, 180, 250, 315	80, 180, 250, 315
滞环 (Hysteresis)	%	<4最大设定值 (<4 of the maximum set pressure)	<4最大设定值 (<4 of the maximum set pressure)	<0.2最大设定值 (<0.2 of the maximum set pressure)
反向间隔 (Range of inversion)	%	<0.5最大设定值 (<0.5 of the maximum set pressure)	<4最大设定值 (<4 of the maximum set pressure)	<0.1最大设定值 (<0.1 of the maximum set pressure)
制造公差 (Manufacturing tolerance)	%	±3最大设定值 (±3 of the maximum set pressure)	±10最大设定值 (±10 of the maximum set pressure)	±5最大设定值 (±5 of the maximum set pressure)
阶跃响应 (Step response)	ms	80	80	30

直动式比例溢流阀 (Proportional pressure relief valve, directly operated)

先导式比例溢流阀 (Proportional pressure relief valve, Pilot operated)

				
型号 (Type)	DBETR	DBE6X	DBEBE6X	
规格 (Size)	6	6	6	
组件系列 (Component series)	1X	1X	1X	
特征 (Features)	<ul style="list-style-type: none"> 比例控制的远程遥控溢流阀 (Valve for electrical remote control of pressure) 座阀式直动溢流阀 (Direct operated proportional pressure relief valve, of poppet design) 底板安装 (For subplate mounting) 由带感应式位移传感器的比例电磁铁驱动 (压力平衡式) (Proportional solenoid actuation with inductive position transducer (pressure balanced)) 电子控制式预紧弹簧位置控制, 因此滞环小 (Electrical closed loop position control of the spring pre tension, hence low hysteresis) 重复精度高 (Good repeatability) 	<ul style="list-style-type: none"> 用于限制系统压力的先导阀 (控制油仅在内部) (Pilot operated valves (pilot valves) for limiting system pressure (pilot oil internal only)) 通过比例电磁铁驱动 (Operation by means of proportional solenoid) 两种电磁铁可选 $I_{max}=0.8A$或$I_{max}=2.5A$ (Solenoid variants $I_{max} = 0.8 A$ or $I_{max} = 2.5 A$) 底板安装 (For subplate mounting) 即使电气故障, 压力可以限制在安全范围 (Maximum pressure limitation, even with defective electronics) 具有斜坡功能和阀调节功能的外部电子元件 (需单独购买) (External trigger electronics with ramps and valve calibration in the following versions/designs (order separately)) 	<ul style="list-style-type: none"> 先导式比例溢流阀, 带位置反馈和内置放大板 (Pilot operated valves with position feedback and on-board electronics for limiting system pressure) 通过电磁铁相对压缩弹簧位置调节压力 (Directly operated valves with position feedback and on-board electronics for limiting system pressure) 位置可调, 最小滞环量<1%, 执行时间短 (Position-controlled, minimal hysteresis <1%, rapid response times) 底板安装 (For subplate mounting) 控制信号A1(0-10V)或F1(4-20mA)可选 (Signal input differential amplifier with interface A1 (0-10V) or interface F1 (4...20 mA)) 阀门曲线出厂以校准 (Valve curve calibrated at the factory) 	
最大流量 (Maximum flow)	L/min	2	40	40
最大设定压力 (Maximum set pressure)	bar	80, 180, 230, 315	80, 180, 315	80, 180, 315
滞环 (Hysteresis)	%	<1最大设定值 (<1 of the maximum set pressure)	<4最大设定值 (<4 of the maximum set pressure)	<1最大设定值 (<1 of the maximum set pressure)
反向间隔 (Range of inversion)	%	<0.5最大设定值 (<0.5 of the maximum set pressure)	<3最大设定值 (<3 of the maximum set pressure)	
制造公差 (Manufacturing tolerance)	%	±3最大设定值 (±3 of the maximum set pressure)	±10最大设定值 (±10 of the maximum set pressure)	±5最大设定值 (±5 of the maximum set pressure)
阶跃响应 (Step response)	ms	150	250	70

先导式比例溢流阀 (Proportional pressure relief valve, Pilot operated)

				
型号 (Type)		(Z)DBE6 (Z)DBEE6	DBEM DBEME	
规格 (Size)		6	10 20 30	
组件系列 (Component series)		2X	7X	
特征 (Features)		<ul style="list-style-type: none"> • 先导式比例溢流阀, 用于控制系统压力 (Pilot operated valve for limiting a system pressure) • 通过比例电磁铁驱动 (Operation by means of proportional solenoid) • 底板或叠加式安装可选 (For subplate mounting or sandwich plate design) • (Z)DBEE 型集成电子设备 (OBE): 指令值压力特性曲线的制造公差较小 (Types DBEE and ZDBEE with integrated electronics (OBE): Low manufacturing tolerance of the command value pressure characteristic curve) • (Z)DBE型的外部控制电子产品 (External control electronics for types DBE and ZDBE) 	<ul style="list-style-type: none"> • 先导式比例溢流阀, 用于控制系统压力 (Pilot operated valve for limiting a system pressure) • 通过比例电磁铁驱动 (Operation by means of proportional solenoid) • 底板安装或螺纹连接 (For subplate mounting and threaded connection) • 最大压力限制 (Maximum pressure limitation) • DBEME型集成电子设备 (OBE): 指令值压力特性曲线的制造公差较小 (Integrated electronics (OBE) with type DBEME: Little manufacturing tolerance of the command value pressure characteristic curve) 	
最大流量 (Maximum flow)	L/min	30	275 550 750	
最大设定压力 (Maximum set pressure)	bar	50, 100, 200, 315, 350	50, 100, 200, 315, 350	
滞环 (Hysteresis)	%	<3最大设定值 (<3 of the maximum set pressure)	<5最大设定值 (<5 of the maximum set pressure)	
反向间隔 (Range of inversion)	%	<2最大设定值 (<2 of the maximum set pressure)	<3.5最大设定值 (<3.5 of the maximum set pressure)	
制造公差 (Manufacturing tolerance)	%	±3.5最大设定值 (±3.5 of the maximum set pressure)	±5最大设定值 (±5 of the maximum set pressure)	
阶跃响应 (Step response)	ms	130	200	

比例减压阀 (Proportional pressure reducing valve)



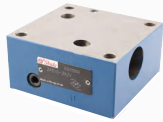
				
型号 (Type)		(Z)DRE6 (Z)DREE6	DRE6X	DREBE6X
规格 (Size)		6	6	6
组件系列 (Component series)		1X	1X	1X
特征 (Features)		<ul style="list-style-type: none"> • 先导式对A口或P1口减压, 带压力保护功能 (For pressure reduction in ports A and P1 with pressure limitation) • 通过比例电磁铁驱动 (Operation by means of proportional solenoid) • 底板或叠加式安装可选 (For subplate mounting or sandwich plate design) • 由于外部控制电子设备操作的电气调整, 指令值压力特性曲线的制造公差较低 (Low manufacturing tolerance of the command value pressure characteristic curve due to electrical adjustment for the operation with external control electronics) • 带有集成电子设备 (OBE), 可选 (With integrated electronics (OBE), optional) 	<ul style="list-style-type: none"> • 先导阀, 用来降低负载上的系统压力 (先导油仅内部控制) (Pilot operated valves for reducing system pressure at the consumer (pilot oil internal only)) • 三通形式 (P-A/A-T)(3-way version (P-A/A-T)) • 电磁铁类型 Imax=0.8A (Solenoid type Imax = 0.8 A) • 底板安装 (For subplate mounting) • 即使电气故障, 压力可以限制在安全范围 (Maximum pressure limitation, even with defective electronics) • 具有斜坡功能和调节阀功能的外部电子元件 (需单独购买) (External trigger electronics with ramps and valve calibration in the following versions/designs (order separately)) • 可通过线圈电流进行调节, 参见特性曲线, 技术参数和选定的电子控制单元 (Adjustable by means of the solenoid current, see Characteristic Curve, Technical Data and selected valve electronics) 	<ul style="list-style-type: none"> • 先导式比例溢流阀, 带位置反馈和内置放大板 (Pilot operated valves with position feedback and on-board electronics for limiting system pressure in the consumer (pilot oil internal only)) • 通过电磁铁相对压缩弹簧位置调节压力 (Directly operated valves with position feedback and on-board electronics for limiting system pressure) • 位置可调, 最小滞后量<1%, 执行时间短 (Position-controlled, minimal hysteresis <1%, rapid response times) • 底板安装 (For subplate mounting) • 控制信号A1(0-10V)或F1(4-20mA)可选 (Signal input differential amplifier with interface A1 (0-10V) or interface F1 (4...20 mA)) • 阀门曲线出厂以校准 (Valve curve calibrated at the factory)
最大流量 (Maximum flow)	L/min	30	40	40
最大设定压力 (Maximum set pressure)	bar	50, 100, 210, 315	75, 175, 310	75, 175, 310
滞环 (Hysteresis)	%	<2.5最大设定值 (<2.5 of the maximum set pressure)	<4最大设定值 (<4 of the maximum set pressure)	<5最大设定值 (<5 of the maximum set pressure)
反向间隔 (Range of inversion)	%	<2最大设定值 (<2 of the maximum set pressure)	<3最大设定值 (<3 of the maximum set pressure)	
制造公差 (Manufacturing tolerance)	%	±3.5最大设定值 (±3.5 of the maximum set pressure)	±10最大设定值 (±10 of the maximum set pressure)	±5最大设定值 (±5 of the maximum set pressure)
阶跃响应 (Step response)	ms	150	250	50

比例减压阀 (Proportional pressure reducing valve)







			
型号 (Type)	ZDRE10VP ZDREE10VP	DRE(M) DRE(M)E	3DREP6 3DREPE6
规格 (Size)	10	10 20	6
组件系列 (Component series)	2X	6X	2X
特征 (Features)	<ul style="list-style-type: none"> 先导式比例减压阀, 用于降低系统压力 (Pilot operated valve for reducing a system pressure) 通过比例电磁铁驱动, 线圈可以旋转 (Actuation by proportional solenoid, which can be rotated Sandwich plate design) 叠加式安装 (Sandwich plate design) ZDRE 型阀外部控制电子元件 (External control electronics for type ZDRE) ZDREE 型阀集成电子元件 (OBE), 指令值/压力特性曲线制造公差低 (Integrated electronics (OBE) with type ZDREE, with low manufacturing tolerance of the command value/pressure characteristic curve) 	<ul style="list-style-type: none"> 先导式比例减压阀, 用于降低系统压力 (Pilot operated valve for reducing a system pressure) 通过比例电磁铁驱动, 线圈可以旋转 (Actuation by proportional solenoid, which can be rotated Sandwich plate design) 底板安装或螺纹连接 (For subplate mounting and threaded connection) 最大压力限制可选 (Maximum pressure limitation optional) DREME 型集成电子元件 (OBE): 指令值压力特性曲线的制造公差较小 (Integrated electronics (OBE) with type DREME: Little manufacturing tolerance of the command value pressure characteristic curve) 良好的瞬态响应 (Good transient response) A口与B口之间止回阀可选 (Optional check valve between A and B) 	<ul style="list-style-type: none"> 直动式比例阀, 用于控制压力和反向 (Direct operated proportional valves for controlling a pressure and the direction of a flow) 通过带对中螺纹和可拆卸线圈的比例电磁铁进行操作 (Operation by means of proportional solenoids with central thread and detachable coil) 底板安装 (Subplate mounting) 手动操作可选 (Manual override, optional) 弹簧对中控制阀芯 (Spring-centered controls pool) 类型 3DREPE 带集成控制电子元件 (Type 3DREPE with integrated control electronics) 类型 3DREP 外部控制电子元件 (External control electronics for type 3DREP)
最大流量 (Maximum flow)	L/min 30	200 300	15
最大设定压力 (Maximum set pressure)	bar 50, 100, 200, 315	50, 100, 200, 315, 350	16, 25, 45
滞环 (Hysteresis)	% <3最大设定值 (<3 of the maximum set pressure)	<1.5最大设定值 (<1.5 of the maximum set pressure)	<5最大设定值 (<5 of the maximum set pressure)
反向间隔 (Range of inversion)	% <2最大设定值 (<2 of the maximum set pressure)	<2最大设定值 (<2 of the maximum set pressure)	<1最大设定值 (<1 of the maximum set pressure)
制造公差 (Manufacturing tolerance)	% ±3最大设定值 (±3 of the maximum set pressure)	±3.5最大设定值 (±3.5 of the maximum set pressure)	
阶跃响应 (Step response)	ms 160	160	

比例减压阀 (Proportional pressure reducing valve)

比例流量阀 (Proportional flow control valve)

			
型号 (Type)	3DRE(M)E	2FRE	Z4S
规格 (Size)	10 16	6 10 16	6 10 16
组件系列 (Component series)	7X	2X(6); 4X(10,16)	1X 2X 2X
特征 (Features)	<ul style="list-style-type: none"> 三通设计 (3-way version) 通过带有可旋转比例线圈的电磁铁驱动 (Operation by means of proportional solenoid with rotatable coil) 底板安装 (For subplate mounting) 最大压力限制可选 (Maximum pressure limitation, optional) 集成电子元件 (OBE) (类型3DRE(M)E): 指令值压力特性曲线的制造公差较小 (Integrated electronics (OBE) (type 3DRE(M)E): Little manufacturing tolerance of the command value pressure characteristic curve) 控制值压力特性曲线呈线性 (Linear command value pressure characteristic curve) 类型3DRE(M)外部电子控制元件 (External control electronics type 3DRE(M)) 	<ul style="list-style-type: none"> 带有压力补偿的阀, 用于流量压力的补偿控制 (Valve with pressure compensator for pressure compensated flow control) 通过比例电磁铁驱动 (Operation by means of proportional solenoid) 底板安装 (For subplate mounting) 节流孔的电气闭环控制 (With electrical position control for the metering orifice) 位置传感器线圈可轴向移动, 这可简化节流孔的零电位平衡 (电气-液压), 无需调节控制电子元件 (Axially movable position transducer coil, therefore an easy zero point calibration of the metering orifice is possible without having to interfere with the control electronics (electrical-hydraulic)) 	<ul style="list-style-type: none"> 配备整流叠加板, 两个方向均可进行流量控制 (Flow control in both directions by means of rectifier sandwich plate) 类型 Z4S6-1X 的整流叠加板不能与类型 2FRE6A-2X 的比例流量控制阀 (带压力补偿器外部关闭的) 结合使用。 (Rectifier sandwich plate impossible with proportional flow control valve, version "A" with external closing of the pressure compensator) 叠加式安装 (Sandwich plate design)
最大流量 (Maximum flow)	L/min 125 300	25 60 160	最大工作压力 (Maximum operating pressure) bar
最大设定压力 (流量) (Maximum set pressure (flow))	bar (L/min) 50, 100, 210, 315	3, 6, 10 5, 10, 16 80, 100, 125 16, 25 25, 50, 60 160	210 315 315
滞环 (Hysteresis)	% <3最大设定值 (<3 of the maximum set pressure)	<1最大设定值 (<1 of the maximum set pressure)	开启压力 (Cracking pressure) bar
反向间隔 (Range of inversion)	% <2最大设定值 (<2 of the maximum set pressure)	<1最大设定值 (<1 of the maximum set pressure)	0.7 1.5 1.5
制造公差 (Manufacturing tolerance)	% ±3.5最大设定值 (±3.5 of the maximum set pressure)	±2最大设定值 (±2 of the maximum set pressure)	公称流量 (Rated flow) L/min
阶跃响应 (Step response)	ms 150	250	25 60 160

直动式方向滑阀 (Directional spool valves, direct operated)

			
型号 (Type)	WE	WE	WE..73..A12
规格 (Size)	6	6	6 10
组件系列 (Component series)	7X	6X	6X 3X, 5X
特征 (Features)	<ul style="list-style-type: none"> 三位四通, 二位四通和二位三通型号 (4/3-, 4/2- or 3/2-way version) 标准型号 (Standard version) 油口安装面符合 DIN 24340 形式 A (Porting pattern according to DIN 24340 form A) 带湿式插脚的直流线圈 (Wet-pin DC solenoids) 旋转式电磁线圈 (Rotatable solenoid coil) 更换线圈时, 不必打开耐压密闭腔体 (The coil can be changed without having to open the pressure-tight chamber) 电气连接作为单个连接 (Electrical connection as individual connection) 隐式手动应急操作 (Concealed manual override) 	<ul style="list-style-type: none"> 三位四通, 二位四通和二位三通型号 (4/3-, 4/2- or 3/2-way version) 高功率线圈, 可旋转90° (High-power solenoid, optionally rotatable by 90°) 电气连接作为单个或集中连接 (Electrical connection as individual or central connection) 手动应急操作可选 (Manual override, optional) 阀芯位置监控可选 (Spool position monitoring, optional) 油口安装面符合 ISO 4401-03-02-0-05 (带或不带定位孔) 和 NFPA T3.5.1 R2-2002 D03 (Porting pattern according to ISO 4401-03-02-0-05 (with or without locating hole) and NFPA T3.5.1 R2-2002 D03) 	<ul style="list-style-type: none"> 三位四通, 二位四通和二位三通型号 (4/3-, 4/2- or 3/2-way version) 高功率线圈, 可旋转90° (High-power solenoid, optionally rotatable by 90°) 电气连接作为单个或集中连接 (Electrical connection as individual or central connection) 手动应急操作可选 (Manual override, optional) 阀芯位置监控可选 (Spool position monitoring, optional) 油口安装面符合 ISO 4401-03-02-0-05 (带或不带定位孔) 和 NFPA T3.5.1 R2-2002 D03 (Porting pattern according to ISO 4401-03-02-0-05 (with or without locating hole) and NFPA T3.5.1 R2-2002 D03) 切换时间增加 (仅使用直流电压, 仅适用于型号 "N9" 和阀芯机能 "73") (With switching time increase (only with direct voltage and only with version "N9" and symbol "73"))
最大流量 (Maximum flow)	L/min	80 - DC ; 60 - AC	80 - DC ; 60 - AC
最大工作压力 (Maximum operating pressure)	bar	P, A, B- 350 ; T- 210	P, A, B- 350 ; T- 210
特殊特征 (Special features)		大规格型号标准型 (Large specification model marked type)	增强防腐蚀型号 (Enhanced corrosion protection model)
			
型号 (Type)	WE10	WMM	WMR,WMU,WH,WP
规格 (Size)	10	6	6
组件系列 (Component series)	3X 5X	5X 6X	5X(WMR,WMU,WH),6X(WP)
特征 (Features)	<ul style="list-style-type: none"> 三位四通, 二位四通和二位三通型号 (4/3-, 4/2- or 3/2-way version) 高功率线圈, 可旋转90° (High-power solenoid, optionally rotatable by 90°) 油口安装面符合 ISO 4401-05-04-0-05 (Porting pattern according to ISO 4401-05-04-0-05) 更换线圈时, 不必打开耐压密闭腔体 (The coil can be changed without having to open the pressure-tight chamber) 电气连接作为单个或集中连接 (Electrical connection as individual or central connection) 手动应急操作可选 (Manual override, optional) 阀芯位置监控可选 (Spool position monitoring, optional) 	<ul style="list-style-type: none"> 三位四通, 二位四通和二位三通型号 (4/3-, 4/2- or 3/2-way version) 启动元件: 手柄操作式控制杆 (Types of actuation: Hand lever) 油口安装面符合 DIN 24340 形式 A (Porting pattern according to DIN 24340 form A) 位置感应开关和接近传感器 (无接触点) (Inductive position switches and proximity sensors(contactless)) 	<ul style="list-style-type: none"> 三位四通, 二位四通和二位三通型号 (4/3-, 4/2- or 3/2-way version) 启动元件: 滚轮柱塞, 液压(WH), 气动(WP) (Types of actuation: Roller plunger, Hydraulic(WH), Pneumatic(WP)) 油口安装面符合 DIN 24340 形式 A (Porting pattern according to DIN 24340 form A) 位置感应开关和接近传感器 (无接触点) (Inductive position switches and proximity sensors (contactless))
最大流量 (Maximum flow)	L/min	100 160 - DC ;120 - AC	60
最大工作压力 (Maximum operating pressure)	bar	P, A, B- 350 ; T- 210	P, A, B- 315 ; T- 60(WMR,WMU) 160(WH,WP)
特殊特征 (Special features)		增强防腐蚀型号 (Enhanced corrosion protection model)	

直动式方向滑阀 (Directional spool valves, direct operated)

				
型号 (Type)	WMM,WH,WP	WMR,WMU	WMM	
规格 (Size)	10	10	16 22 25 32	
组件系列 (Component series)	5X	3X	7X 7X 5X 5X	
特征 (Features)	<ul style="list-style-type: none"> 三位四通, 二位四通和二位三通型号 (4/3-, 4/2- or 3/2-way version) 油口安装面符合 ISO 4401-05-04-0-05 (Porting pattern according to ISO 4401-05-04-0-05) 启动元件: 手柄操作式控制杆, 液压(WH), 气动(WP) (Types of actuation: Hand lever, Hydraulic(WH), Pneumatic(WP)) 位置感应开关和接近传感器 (无触点) (Inductive position switches and proximity sensors (contactless)) 	<ul style="list-style-type: none"> 三位四通, 二位四通和二位三通型号 (4/3-, 4/2- or 3/2-way version) 油口安装面符合 ISO 4401-05-04-0-05 (Porting pattern according to ISO 4401-05-04-0-05) 启动元件: 滚轮柱塞 (Types of actuation: Roller plunger) 	<ul style="list-style-type: none"> 带手柄启动的直动式方向滑阀 (Direct operated directional spool valve with hand lever actuation) 符合 DIN 24340 形式 A 和 ISO 4401 的油口安装面 (Porting pattern to DIN 24340 Form A and ISO 4401) 带弹簧复位或制动器 (可选) (With spring return or detent, optionally) 启动机制受到防止污染和湿气进入的保护 (Actuating mechanism is protected against contamination and ingress of humidity) 驱动手柄头部可在不拆卸阀门的情况下进行更换 (Head piece with actuating mechanism can be replaced with out having to disassemble the valve) 位置感应开关和接近传感器 (无触点) (Inductive position switches and proximity sensors (contactless)) 	
最大流量 (Maximum flow)	L/min	160	120	300 450 650 1100
最大工作压力 (Maximum operating pressure)	bar	P, A, B- 350 ; T- 210	P, A, B- 350; T- 160	P, A, B- 350 ; T- 250
特殊特征 (Special features)	增强防腐蚀型号 (Enhanced corrosion protection model)	增强防腐蚀型号 (Enhanced corrosion protection model)		

先导式方向滑阀 (Directional spool valves, pilot-operated)

			
型号 (Type)	WEH,WH	W..H,WM..H	
规格 (Size)	10 16 22 25 32	10 16 22 25 32	
组件系列 (Component series)	4X 7X 7X 7X 6X	4X 7X 7X 7X 6X	
特征 (Features)	<ul style="list-style-type: none"> 三位四通, 二位四通和二位三通型号 (4/3-, 4/2- or 3/2-way version) 驱动类型 (内部或外部先导控制): 电动液压 (WEH 型); 液压 (WH 型) (Types of actuation (internal or external pilot control): Electro-hydraulic (type WEH) Hydraulic (type WH)) 用于底板安装 (For subplate mounting) 油口安装面符合 ISO 4401 (Porting pattern according to ISO 4401) 弹簧或液压对中, 弹簧或液压偏置 (Spring or pressure centering, spring end position or hydraulic endposition) 湿式插脚直流或交流电压线圈可选 (Wet-pin DC or AC solenoids, optional) 阀芯位置监控可选 (Spool position monitoring, optional) 电气连接作为单个或集中连接 (Electrical connection as individual or central connection) 	<ul style="list-style-type: none"> 三位四通, 二位四通和二位三通型号 (4/3-, 4/2- or 3/2-way version) 用于底板安装 (For subplate mounting) 油口安装面符合 ISO 4401 (Porting pattern according to ISO 4401) 弹簧或液压对中, 弹簧或液压偏置 (Spring or pressure centering, spring end position or hydraulic endposition) 阀芯位置监控可选 (Spool position monitoring, optional) 5种启动类型 (5 types of actuation): <ul style="list-style-type: none"> 气动液压 (Pneumatic-hydraulic): WPH 液压-液压 (Hydraulic-hydraulic): WHH 手柄 (Hand lever): WMMH 滚轮柱塞 (Roller plunger): WMRH 滚轮柱塞, 旋转 90° (Roller plunger, rotated 90°): WMUH 	
最大流量 (Maximum flow)	L/min	160 300 450 600 1080	160 300 450 600 1080
最大工作压力 (Maximum operating pressure)	bar	P, A, B- 350 ; T- 210	P, A, B- 350; T- 210
特殊特征 (Special features)			

直动式方向座阀 (Directional seat valves, direct operated)

				
型号 (Type)		M-SEW		M-SED
规格 (Size)		6	10	6 10
组件系列 (Component series)		3X	3X	1X 1X
特征 (Features)		<ul style="list-style-type: none"> 二位二通, 二位三通或二位四通的方向设计 (2/2, 3/2 or 4/2 directional design) 油口安装面符合 DIN 24340 形式 A (Porting pattern according to DIN 24340 form A) 可靠的油路密封 (Blocked connection tight) 位置感应开关和接近传感器 (无触点) (Inductive position switches and proximity sensors (contactless)) 电磁线圈可旋转 90° (Solenoid coil can be rotated by 90°) 更换线圈时, 不必打开耐压密闭腔体 (The coil can be changed without having to open the pressure-tight chamber) 电气连接作为单个连接 (Electrical connection as individual connection) 手动应急操作, 可选 (Manual override, optional) 		<ul style="list-style-type: none"> 二位二通, 二位三通或二位四通的方向设计 (2/2, 3/2 or 4/2 directional design) 油口安装面符合 DIN 24340 形式 A (Porting pattern according to DIN 24340 form A) 可靠的油路密封 (Blocked connection tight) 位置感应开关和接近传感器 (无触点) (Inductive position switches and proximity sensors (contactless)) 电磁线圈可旋转 90° (Solenoid coil can be rotated by 90°) 更换线圈时, 不必打开耐压密闭腔体 (The coil can be changed without having to open the pressure-tight chamber) 电气连接作为单个连接 (Electrical connection as individual connection) 手动应急操作, 可选 (Manual override, optional)
最大流量 (Maximum flow)	L/min	25	40	25 40
最大工作压力 (Maximum operating pressure)	bar	420/630	420/630	350 350
特殊特征 (Special features)		能够在长时间待机的情况下加压安全切换 (It can switch safely under long standby time)		能够在长时间待机的情况下加压安全切换 (It can switch safely under long standby time)

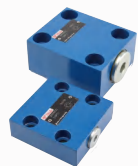

止回阀 (Check valve)

					
型号 (Type)		S		M-SR	Z1S
规格 (Size)		6	8 10 15 20 25 30	6 8 10 15 20 25 30	6 10
组件系列 (Component series)		1X		1X	3X
特征 (Features)		<ul style="list-style-type: none"> 螺纹连接 (For threaded connection (screw-in thread)) 单方向无泄漏关闭 (Leak-free blocking in one direction) 各种开启压力可选 (Various cracking pressures, optional) 		<ul style="list-style-type: none"> 单方向无泄漏关闭 (Leak-free blocking in one direction) 各种开启压力可选 (Various cracking pressures, optional) 	<ul style="list-style-type: none"> 用于垂直叠加装配中的叠加阀 (Sandwich plate valve for use in vertical stackings) 一个或两个通道中的多无泄漏关闭功能 (Various one- and two-channel blocking functions) 可按要求提供耐腐蚀表面 (Corrosion-resistant surface upon request) 通过更改外部密封圈可适应特殊液压油 (Easily adjustable to special hydraulic fluids by exchanging the external seal rings)
开启压力 (cracking pressure)	bar	0, 0.2, 0.5, 1.5, 3.0, 5.0, 8.0 (25,30)		0, 0.5, 1.5, 3.0	0, 1.5, 3.0, 5.0 0, 0.5, 3.0, 5.0
最大流量 (Maximum flow)	L/min	18 36 60 150 250 350 450		35 50 120 200 300 400	40 100
最大工作压力 (Maximum operating pressure)	bar	450 (6-20) 420 (25, 30)		315	350 315
特殊特征 (Special features)					



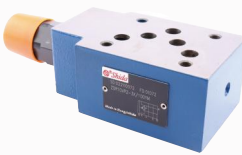



止回阀 (Check valve)

			
型号 (Type)	Z2S	SV(SL)	SV(SL)
规格 (Size)	6 10 16 22	6	P: 10 20 30 G: 10 (16) 20 (25) 30
组件系列 (Component series)	6X 3X 5X 5X	6X	4X
特征 (Features)	<ul style="list-style-type: none"> • 用于垂直叠加装配中的叠加阀 (Sandwich plate valve for use in vertical stackings) • 用于一个或两个工作油口无泄漏截止, 可选 (For the leakage-free blocking of one or two actuator ports, optional) • 多种开启压力可选 (Various cracking pressures, optional) • 防腐型设计可选 (Corrosion-protected design optional) 	<ul style="list-style-type: none"> • 用于底板安装 (For subplate mounting) • 用于一个工作油口的无泄漏关闭 (For the leak-free blocking of one actuator port) • 带内部或外部先导油回油, 可选 (With internal or external pilot oil return, optional) • 具有多种开启压力, 可选 (Various cracking pressures, optional) • 带或不带预开口, 可选 (With or without pre-opening, optional) • 单向阀安装单独提供 (Check valve installation separately available) • 耐腐蚀设计, 可选 (Corrosion-resistant design, optional) 	<ul style="list-style-type: none"> • 用于底板安装 (For subplate mounting) (P) • 用于螺纹连接 (For Threaded connection) (G) • 带内部或外部先导油回油, 可选 (With internal or external pilot oil return, optional) • 具有多种开启压力, 可选 (Various cracking pressures, optional) • 带或不带预开口, 可选 (With or without pre-opening, optional) • 耐腐蚀设计, 可选 (Corrosion-resistant design, optional) • 用于一个工作油口的无泄漏关闭 (For the leak-free blocking of one actuator port)
开启压力 (cracking pressure) bar	1.5, 3 6	1.5, 3 6, 10	3, 5 7.5, 10
最大流量 (Maximum flow) L/min	60	120	300 450
最大工作压力 (Maximum operating pressure) bar	315	315	315

止回阀 (Check valve)

			
型号 (Type)	S...P	RVP	
规格 (Size)	10 20 30	6 8 10 12 16 20 25 30 40	
组件系列 (Component series)	1X	1X	
特征 (Features)	<ul style="list-style-type: none"> • 用于底板安装 (For subplate mounting) • 单向无泄漏关闭 (Leak-free blocking in one direction) • 各种开启压力可选 (Various cracking pressures, optional) 	<ul style="list-style-type: none"> • 单向无泄漏关闭 (Leak-free blocking in one direction) • 各种开启压力可选 (Various cracking pressures, optional) • 用于底板安装 (For subplate mounting) 	
开启压力 (cracking pressure) bar	0.2, 0.5, 1.5, 3, 5	0.5	
最大流量 (Maximum flow) L/min	50 200 400	20 40 70 160 200 350 550 600 600	
最大工作压力 (Maximum operating pressure) bar	315	315	

溢流阀 (Pressure relief valve)

			
型号 (Type)	DBD	DBT DBWT	ZDB
规格 (Size)	K,P: 6 10 20 30 G: 6 (8)10 (15)20 (25)30		6 10
组件系列 (Component series)	1X	3X	4X
特征 (Features)	<ul style="list-style-type: none"> • K: 用于螺纹插装式阀 (As screw-in cartridge valve (cartridge)) G: 用于螺纹连接 (For threaded connection) P: 用于板式连接 (For subplate mounting) • 用于调节压力的调节类型可选: (Adjustment types for pressure adjustment, optionally) <ul style="list-style-type: none"> — 六角套筒和保护罩 (Bushing with hexagon and protective cap) — 旋钮/手轮 (Rotary knob/Hand wheel) — 可锁定旋钮 (Lockable rotary knob) 	<ul style="list-style-type: none"> • 用于底板安装 (For subplate mounting) • 远程遥控溢流阀 (Valve for remote control of pressure) 	<ul style="list-style-type: none"> • 叠加式安装 (Sandwich plate valve) • 4个压力等级可选 (4 pressure ratings) • 带1个或2个压力阀阀芯 (1 or 2 pressure valve cartridges) • 6:5个油路可选 (5 directions of action, optional) • 10:6个油路可选 (6 directions of action, optional) • 耐腐蚀设计, 可选 (Corrosion-resistant design, optional) 4种调节压力元件, 可选 (4 adjustment types for pressure adjustment, optionally) <ul style="list-style-type: none"> — 旋钮 (Rotary knob) — 六角套筒和保护帽 (Sleeve with hexagon and protective cap) — 带刻度可锁定旋钮 (Lockable rotary knob with scale) — 带刻度旋钮 (Rotary knob with scale)
压力等级 (Pressure rating) bar	25, 50, 100, 200, 315, 400	100, 315	50, 100, 200, 315
最大流量 (Maximum flow) L/min	50 120 250 350	3	60 100
最大工作压力 (Maximum operating pressure) bar	400 400 400 315	315	315
			
型号 (Type)	DB...K	DB DBW	DB2U DB3U
规格 (Size)	6 10 20	P: 10 20 30 G: 10 (15)20 (25)30	P: 10 20 30 G: 10 (15)20 (25)30
组件系列 (Component series)	4X 4X 4X	5X	5X
特征 (Features)	<ul style="list-style-type: none"> • 用于螺纹插装式阀 (As screw-in cartridge valve (cartridge)) • 4个压力等级可选 (4 pressure ratings) • 耐腐蚀设计, 可选 (Corrosion-resistant design, optional) • 4种调节压力元件, 可选 (4 adjustment types for pressure adjustment, optionally) <ul style="list-style-type: none"> — 旋钮 (Rotary knob) — 六角套筒和保护帽 (Sleeve with hexagon and protective cap) — 带刻度可锁定旋钮 (Lockable rotary knob with scale) — 带刻度旋钮 (Rotary knob with scale) 	<ul style="list-style-type: none"> • G: 用于螺纹连接 (For threaded connection) P: 用于板式连接 (For subplate mounting) • 5个压力等级可选 (5 pressure ratings) • 耐腐蚀设计, 可选 (Corrosion-resistant design, optional) • 4种调节压力元件, 可选 (4 adjustment types for pressure adjustment, optionally) • 通过附带方向滑阀或方向座阀的电磁线圈操作卸载 (Uninstall via the accompanying directional spool or the solenoid of the directional seat valve) • 防爆线圈, 可选 (Explosion-proof coil, optional) • DBW——换向冲击衰减, 可选 (Changing-direction impact attenuation, optional) 	<ul style="list-style-type: none"> • P: 用于板式连接 (For subplate mounting) • 5个压力等级可选 (5 pressure ratings) • 耐腐蚀设计, 可选 (Corrosion-resistant design, optional) • 4种调节压力元件, 可选 (4 adjustment types for pressure adjustment, optionally) • 通过附带方向滑阀或方向座阀的电磁线圈操作卸载 (Uninstall via the accompanying directional spool or the solenoid of the directional seat valve) • 防爆线圈, 可选 (Explosion-proof coil, optional) • DBW——换向冲击衰减, 可选 (Changing-direction impact attenuation, optional)
压力等级 (Pressure rating) bar	50, 100, 200, 315	50, 100, 200, 315, 350	50, 100, 200, 315, 350
最大流量 (Maximum flow) L/min	50 200 400	250 500 650	250 500 650
最大工作压力 (Maximum operating pressure) bar	315	350	350

泵安全块 (Pump safety block)

减压阀 (Pressure reducing valve)

			
型号 (Type)	DBA DBAW	DR...DP	ZDR...D...
规格 (Size)	15 25 30	6 10	6 10
组件系列 (Component series)	2X	5X 4X	4X 5X
特征 (Features)	<ul style="list-style-type: none"> 泵的零压启动和循环 (Depressurized start-up and circulation of the pump) 可用于直接安装到泵的SAE压力端口上 (Intended for direct mounting onto the SAE pressure port of the pump) 距离短循环压力低 (Low circulation pressure due to short distance) 压缩量小, 因此可平滑切换到无压力油路 (Low compression volume for soft switching to depressurized circulation) 压力看快速建立 (Quick pressure build-up) 法兰直接安装到泵上所以噪音小 (Low noise level due to direct flange mounting onto the pump) 5个压力等级可选 (5 pressure ratings) 	<ul style="list-style-type: none"> 用于底板安装 (For subplate mounting) 6: 5压力等级 (5 pressure ratings) 10: 4压力等级 (4 pressure ratings) 4种调节类型可选 (4 adjustment types, optionally) 单向阀, 可选 (Check valve, optional) 防腐设计, 可选 (Corrosion-protected design, optional) 带压力表接口 (With pressure gauge connection) 直动式减压阀 (Pressure reducing valve, direct operated) 	<ul style="list-style-type: none"> 叠加式安装 (Sandwich plate valve) 6: 4压力等级 (4 pressure ratings) 4种调节类型可选 (4 adjustment types, optionally) 耐腐蚀设计, 可选 (Corrosion-resistant design, optional) 带压力表接口 (With pressure gauge connection) 直动式减压阀 (Pressure reducing valve, direct operated) 单向阀, 可选 (仅A型) (Check valve, optional) A、B或P通道的压力降低 (Pressure reduction in channel A, B or channel P)
压力等级 (Pressure rating) bar	50, 100, 200, 315, 350	25, 75, 150 210, 315	25, 75, 150 210, 315
最大流量 (Maximum flow) L/min	300 400 400	60 80	50 80
最大工作压力 (Maximum operating pressure) bar	P: 350 T: 250(DBA);210(DBAW —), 160(DBAW)	P: 315 T: 160 A: 315	B: 315 Y: 160 A: 210

减压阀 (Pressure reducing valve)

			
型号 (Type)	ZDR10V...	DR10K...	DR
规格 (Size)	10	10	P: 10 20 30 G: 10 (15)20 (25)30
组件系列 (Component series)	3X	3X	5X
特征 (Features)	<ul style="list-style-type: none"> 先导式减压阀 (Pressure reducing valve, pilot operated) 叠加式安装 (Sandwich plate valve) 4个压力等级可选 (4 pressure ratings) 耐腐蚀设计, 可选 (Corrosion-resistant design, optional) 单向阀, 可选 (仅A, B型) (Check valve, optional) 带压力表接口 (With pressure gauge connection) 	<ul style="list-style-type: none"> 用于螺纹插装式阀 (As screw-in cartridge valve (cartridge)) 先导式减压阀 (Pressure reducing valve, pilot operated) 4个压力等级可选 (4 pressure ratings) 4种调节压力元件, 可选 (4 adjustment types for pressure adjustment, optionally) 	<ul style="list-style-type: none"> G:用于螺纹连接 (For threaded connection) P:用于板式连接 (For subplate mounting) 先导式减压阀 (Pressure reducing valve, pilot operated) 5个压力等级可选 (5 pressure ratings) 耐腐蚀设计, 可选 (Corrosion-resistant design, optional) 4种调节压力元件, 可选 (4 adjustment types for pressure adjustment, optionally) 单向阀可选 (仅限板式连接)(Check valve, optional (only subplate mounting))
压力等级 (Pressure rating) bar	50, 100, 200, 315	50, 100, 200, 315	25, 50, 100, 200, 315
最大流量 (Maximum flow) L/min	100	100	150 300 400
最大工作压力 (Maximum operating pressure) bar	315	315	315
特殊特征 (Special features)			

减压阀 (Pressure reducing valve)

			
型号 (Type)	DR3U...	3DR..	3DR3U...
规格 (Size)	P: 10 20 30 G: 10 (15)20 (25)30	10 16	10 16
组件系列 (Component series)	5X	6X 5X	6X 5X
特征 (Features)	<ul style="list-style-type: none"> • G:用于螺纹连接 (For threaded connection)P:用于板式连接 (For subplate mounting) • 先导式减压阀 (Pressure reducing valve, pilot operated) • 通过附带方向滑阀电磁线圈操作卸载 (Uninstall via the accompanying directional spool or seat valve) 5个压力等级可选 (5 pressure ratings) • 4种调节压力元件, 可选 (4 adjustment types for pressure adjustment, optionally) • 单向阀可选 (仅限板式连接)(Check valve, optional(only subplate mounting)) • 两级或三级压力调定 (Two-level or three-level pressure adjustment) • 防爆线圈, 可选 (Explosion-proof coil, optional) 	<ul style="list-style-type: none"> • 用于底板安装 (For subplate mounting) • 用于降低 P-A 和限制 A-T 的系统压力的阀 (Valve for reducing (P to A) and limiting (A to T) a system pressure) • 先导式减压阀 (Pressure reducing valve, pilot operated) • 4种调节类型可选 (4 adjustment types, optionally) • 带压力表接口 (With pressure gauge connection) 	<ul style="list-style-type: none"> • 用于底板安装 (For subplate mounting) • 用于降低 P-A 和限制 A-T 的系统压力的阀 (Valve for reducing (P to A) and limiting (A to T) a system pressure) • 先导式减压阀 (Pressure reducing valve, pilot operated) • 4种调节类型可选 (4 adjustment types, optionally) • 带压力表接口 (With pressure gauge connection) • 两级或三级压力调定 (Two-level or three-level pressure adjustment) • 防爆线圈, 可选 (Explosion-proof coil, optional)
压力等级 (Pressure rating)	bar 25, 50, 100, 200, 315	50, 100, 200, 315 50, 100, 200, 250	50, 100, 200, 315 50, 100, 200, 250
最大流量 (Maximum flow)	L/min 150 300 400	120 220	120 220
最大工作压力 (Maximum operating pressure)	bar 350	315 250	315 250

顺序阀 (Pressure sequence valve)

			
型号 (Type)	DZ..DP	ZDZ	DZ
规格 (Size)	6 10	6 10	6 10 30
组件系列 (Component series)	5X 4X	4X 5X	5X
特征 (Features)	<ul style="list-style-type: none"> • 直动式顺序阀 (Pressure sequence valve, direct operated) • 用于底板安装 (For subplate mounting) • 6: 5压力等级 (5 pressure ratings) • 10: 4压力等级 (4 pressure ratings) • 耐腐蚀设计, 可选 (Corrosion-resistant design, optional) • 单向阀, 可选 (Check valve, optional) • 带压力表接口 (With pressure gauge connection) 	<ul style="list-style-type: none"> • 直动式顺序阀 (Pressure sequence valve, direct operated) • 叠加式安装 (Sandwich plate valve) • 4个压力等级可选 (4 pressure ratings) • 4种调节压力元件, 可选 (4 adjustment types for pressure adjustment, optionally) • 带压力表接口 (With pressure gauge connection) 6: 单向阀, 可选 (仅限 "A") (Check valve, optional (version "A" only)) 	<ul style="list-style-type: none"> • 用于板式连接 (For subplate mounting) • 适于用作预压阀, 顺序阀或旁通阀 (Suitable for use as preload valve, sequence valve or switch-over valve) • 4个压力等级可选 (4 pressure ratings) • 耐腐蚀设计, 可选 (Corrosion-resistant design, optional) • 4种调节压力元件, 可选 (4 adjustment types for pressure adjustment, optionally) • 单向阀可选 (仅限板式连接)(Check valve, optional (only subplate mounting))
压力等级 (Pressure rating)	bar 25, 75, 150 25, 75, 150 210, 315 210	50, 100, 200, 315	50, 100, 200, 315
最大流量 (Maximum flow)	L/min 60 80	100	200 400 600
最大工作压力 (Maximum operating pressure)	bar P,A,B(X):315 A,X :315 T(Y) :160 Y :160	315	315

压力截止阀 (Pressure cut-off valve, pilot operated)

			
型号 (Type)	DA6V...	DA, DAW	
规格 (Size)	6	10 20 30	
组件系列 (Component series)	5X	5X	
特征 (Features)	<ul style="list-style-type: none"> • 用于板式连接 (For subplate mounting) • 先导式压力截止阀 (Pressure cut-off valve, pilot operated) • 调整类型: 带六角形和保护盖的套筒 (Adjustment type: Sleeve with hexagon and protective cap) • 4个压力等级可选 (4 pressure ratings) • 开关压差可调 (标称值的10%至50%) (Switching pressure differential adjustable (10% to 50% of the nominal value)) 	<ul style="list-style-type: none"> • 用于底板安装 (For subplate mounting) • 先导式压力截止阀 (Pressure cut-off valve, pilot operated) • 4种调节类型可选 (4 adjustment types, optionally) • 4个压力等级可选 (4 pressure ratings) • 通过内置方向滑阀的电磁线圈操作卸载 (Solenoid operated unloading via a built-on directional spool valve) 	
压力等级 (Pressure rating)	bar 50, 100, 200, 350	50, 100, 200, 350	
最大流量 (Maximum flow)	L/min 40	-10: 40 -10: 80 -10: 120 -17: 60 -17: 120 -17: 240	
最大工作压力 (Maximum operating pressure)	bar 350	315	

流量控制阀 (Flow control valve)

			
型号 (Type)	MK, MG	Z2FS	Z2FS
规格 (Size)	6 8 10 15 20 25 30	6 8 10 16 20 25 30 40	6 10 16 22
组件系列 (Component series)	1X	1X	4X 3X 3X 3X
特征 (Features)	<ul style="list-style-type: none"> • 节流阀和单向节流阀 (Throttle and throttle check valve) • 用直接管道螺纹连接 (For pipeline installation)与压力和黏度相关 (Depending on viscosity and pressure) • MG型: 在两个流动方向上的节流 (Type MG: throttling in both directions of flow) • MK型: 单方向节流, 相反方向自由流动 (Type MK: throttling in one direction of flow, free flow in opposite direction) • 防腐设计 (Corrosion-protected design) 	<ul style="list-style-type: none"> • 节流截止阀和单向节流截止阀 (Throttle throttle and unidirectional throttle valve) • DV,DRV:用直接管道螺纹连接 (For pipeline installation) • DVP,DRVP:用于板式连接 (For subplate mounting) • 节流阀芯处于关闭位置时, A至B口无泄漏 (There is no leakage from ports A to B when the throttle core is in the closed position) 	<ul style="list-style-type: none"> • 双向节流阀 (Throttle check valve) • 用于垂直叠加装配中的叠加阀 (Sandwich plate valve for use in vertical stackings) • 6, 10: 用于2个执行器端口的主流量或先导流量限制 (For the main or pilot flow limitation of 2 actuator ports) • 16, 22:用于2个执行器端口的流量限制 (For flow limitation of 2 actuator ports) • 用于供油或排油节流 (For supply or discharge throttling) • 防腐型设计类型可选 (Corrosion-protected design optional)
单向阀开启压力 (Check-valve opening pressure)	bar MK: 0.5	0.5	25, 50, 100, 200, 315
最大流量 (Maximum flow)	L/min 15 30 50 125 200 300 400	14 60 75 140 175 350 350 350	80 160 250 360
最大工作压力 (Maximum operating pressure)	bar 315	350	350 315 350 350

流量控制阀 (Flow control valve)

						
型号 (Type)		2FRM			2FRM6	Z2FRM
规格 (Size)		5	10	16	6	6
组件系列 (Component series)		3X	3X	3X	3X	2X
特征 (Features)		<ul style="list-style-type: none"> • 用于板式连接 (For subplate mounting) • 压力补偿器行程限位器, 可选 (Pressure compensator stroke limitation, optional) • 启动跃变降低 (Start-up jump reduction) • 使用整流板可在两个方向上进行流量控制 (Flow control in both directions by means of rectifier sandwich plate) 			<ul style="list-style-type: none"> • 用于板式连接 (For subplate mounting) • 压力补偿器的外部关闭, 可选 (External closing of the pressure compensator, optional) • 单向阀, 可选 (Check valve, optional) • 使用整流板可在两个方向上进行流量控制 (Flow control in both directions by means of rectifier sandwich plate) • 2种调整类型, 可选 (2 adjustment types, optionally): <ul style="list-style-type: none"> — 带刻度的旋转旋钮 (Rotary knob with scale) — 带刻度的可锁定的旋转旋钮 (Lockable rotary knob with scale) 	<ul style="list-style-type: none"> • 用于垂直叠加装配中的叠加阀 (Sandwich plate valve for use in vertical stackings) • 带一个或两个流量控制插件 (With 1 or 2 flow control cartridges) • 内六角调整类型 (Adjustment type with internal hexagon)
流量等级 (Flow rating)	L/min	0.2, 0.6, 1.2, 3, 6	5, 10, 16, 25, 35, 50	40, 60, 80, 100, 125, 160	0.2, 0.6, 1.5, 3, 6, 10, 16, 25, 32	6, 32
最大流量 (Maximum flow)	L/min	6	50	160	32	32
最大工作压力 (Maximum operating pressure)	bar	210	315	315	315	315

附件及其它产品 (Accessories and other products)

				
型号 (Type)		HED	FD	ZDC
规格 (Size)		8	12 16 25 32	6 10 16 25 32
组件系列 (Component series)		1X	2X	1X 2X 2X 2X 2X
特征 (Features)		<ul style="list-style-type: none"> • OP:用于板式连接(For subplate mounting) • OA:用于管道安装(For pipeline installation) • OH:用于法兰连接(For flange connection according) • 5个压力等级(5 pressure ratings) • 4种调整类型(4 adjustment types) • 带常闭/常开触点功能的微动开关(Micro switch with NC/NO contact function) • 电流零电位转换 (1 mA 至 2 A) (Potential-free switching of currents from 1 mA to 2 A) 	<ul style="list-style-type: none"> • 旁通阀, 在相反的方向上自由流动 (By-passvalve, free-flow in opposite direction) • 可选内置二次泄压阀 (仅适用于带法兰连接的阀门) (Optional built-on secondary pressure relief valve (only for valve with flange connections))KA:用于油路块安装(插件型) (For installation in manifolds (cartridge valve)) • PA:用于底板安装 (For sub plate mounting) • FA:用于 SAE 法兰油口 (With SAE flanged ports) 	<ul style="list-style-type: none"> • 用于垂直叠加装配中的叠加阀 (Sandwich plate valve for use in vertical stackings) • 在通道 P-A 或 P-B 中通过集成的梭阀进行负载补偿 • 三通设计 "P" (2-way version "P") • 通过与比例换向阀的交互作用进行流量控制 (Flow control in case of interaction with proportional directional valve)
压力等级 (Pressure rating)	bar	50, 100, 200, 350	200, 300, 400 (仅适用于带法兰连接的阀门) (only for valve with flangeconnections)	
最大流量 (Maximum flow)	L/min		80 200 320 560	35 85 150 325 500
最大工作压力 (Maximum operating pressure)	bar	350	350	350

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