

Characterised control valves

Characterised control valves with small actuators

				Emergency control function				
				KR	TR / TRF / TRC			
				80°C	120°C ⁵⁾			
3-point	AC/DC 24 V	Running times		(Control) Operating range	Emergency control function			
		Ⓜ : 90 s / Ⓢ : <25 s	3-point			Ⓢ	TRF24-2(-O)	
		75 s	3-point		KR24			
		100 s	3-point		TR24			
	AC 230 V	75 s	3-point		KR230			
		105 s	3-point		TR230-3 ⁴⁾			
Modulating	AC/DC 24 V	15 s	DC (0) 2...10 V		TRC24A-SR			
		75 s	DC (0) 2...10 V		KR24-SR			
		90 s	DC (0) 2...10 V		TR24-SR			
		Ⓜ : 90 s / Ⓢ : 25 s	DC (0) 2...10 V	Ⓢ	TRF24-SR(-O)			
Internal thread Rp (ISO 7/1) 2-way 3-way			p_s = 1600 kPa T_{max} = 120°C		Range of use⁶⁾ Closed / open circuits (pH > 7)			
R2015-P25-S1...R2015-6P3-S1 R3015-P25-S1...R3015-4-S1			DN [mm]	k_{vs}¹⁾ [m ³ /h]	Δp_s [kPa]	Δp_{max} [kPa]		
			15	0.25 / 0.4 / 0.63 / 1 / 1.6 / 2.5 / 4 / 6.3 ³⁾	1400	350 ²⁾	1400	350 ²⁾

- 1) $k_{vs} = A - AB$, $k_{vs} (B - AB) = 70\% \times k_{vs}$
- 2) Low-noise operation $\Delta p_{max} = 200 \text{ kPa}$
- 3) 2-way valves only
- 4) Parallel control not possible
- 5) If medium temperature $\geq 100^\circ\text{C}$, then pipe and valve must be insulated
- 6) R3..., R7...: not suitable for open circuits

Characterised control valves

Characterised control valves with standard actuators

		Running times	(Control) Operating range	Emergency control function	LR / LRC / LRQ / LRF / NRFD	NR / NRQ / NRF	SR / SRF
3-point	AC/DC 24 V	90 s	3-point				
	AC 230 V	90 s	3-point				
	Ⓜ : 35 s / Ⓢ : <20 s	3-point	Ⓢ				
	Ⓜ : 90 s / Ⓢ : <20 s	3-point	Ⓢ				
Modulating AC/DC 24 V	9 s	DC (0) 2...10 V					
	35 s	DC (0) 2...10 V					
	90 s	DC (0) 2...10 V					
			Ⓜ : 90 s / Ⓢ : <20 s	DC (0) 0.5...10 V	Ⓢ		
Ⓜ : 150 s / Ⓢ : <20 s	DC (0) 2...10 V	Ⓢ					

Internal thread Rp (ISO 7/1) 2-way	$p_s = 1600 \text{ kPa}$ $T_{\text{max}} = 120^\circ\text{C}$		Range of use Closed / open circuits (pH > 7)					
	DN [mm]	k_{vs}^1 [m ³ /h]	Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]
R2020-4-S2...R2020-8P6-S2	20	4/6.3/8.6	1400	350 ²⁾	1400	350 ²⁾	1400	350 ²⁾
R2025-6P3-S2...R2025-16-S2	25	6.3/10/16	1400	350 ²⁾				
R2032-16-S3	32	16						
R2040-16-S3...R2040-25-S3	40	16 / 25			1400	350 ²⁾		
R2050-25-S4...R2050-40-S4	50	25 / 40					1400	350 ²⁾

Internal thread Rp (ISO 7/1) 3-way	$p_s = 1600 \text{ kPa}$ $T_{\text{max}} = 120^\circ\text{C}$		Range of use ⁴⁾ closed circuits (pH > 7)					
	DN [mm]	k_{vs}^1 [m ³ /h]	Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]	Δp_s [kPa]	Δp_{max} [kPa]
R3020-4-S2...R3020-6P3-S2	20	4/6.3	1400	350 ²⁾	1400	350 ²⁾	1400	350 ²⁾
R3025-6P3-S2...R3025-10-S2	25	6.3/10	1400	350 ²⁾				
R3032-16-S3	32	16						
R3040-16-S3	40	16			1400	350 ²⁾		
R3040-25-S4	40	25						
R3050-25-S4...R3050-58-S4	50	25 / 40 / 58					1400	350 ²⁾

1) $k_{vs} = A - AB$, $k_{vs} (B - AB) = 70\% \times k_{vs}$

2) Low-noise operation $\Delta p_{\text{max}} = 200 \text{ kPa}$

3) If medium temperature $\geq 100^\circ\text{C}$, then pipe and valve must be insulated

4) R3., R7.: not suitable for open circuits