

## Hot Gas Bypass Regulators Series CPHE

### Features

- High quality materials and processes for high reliability and long lifetime
- Superior partial load performance due to double seat orifice design (CPHE-3 to CPHE-6)
- Modular design for economical logistics and easy assembly and servicing
- External equalization

Specific connection sizes and flanges available on request. Selection see page 86.



CPHE

### Technical Data

Adjustment Range:	-0,4 ... 5 bar
Factory Setting:	1,4 bar
Max. operating Pressure PS:	28 bar
Operating Temperature Range TS:	-40°C ... 120°C
Ambient Temperature Range:	-40 ... 50°C
Transport Temperature Range:	-40 ... 70°C

### Capacity Data CPHE

Type	Nominal Bypass Capacity $Q_n$ kW				Orifice	Standard Flange Solder/ODF		Power Assembly
	R 134a	R 22	R 407C	R 404A/507		mm	inch	
CPHE - 1	3.3	4.6	5.4	4.3	<b>X 22440-B5B</b>	<b>C 501 - 7 mm</b> 12 x 16	<b>C 501 - 7</b> $\frac{1}{2} \times \frac{5}{8}$	<b>X7118 - 4</b>
CPHE - 2	7.1	10.0	11.6	9.2	<b>X 22440-B8B</b>	<b>A 576 mm</b> 16 x 22 (22 x 28 ODM)	<b>A 576</b> $\frac{5}{8} \times \frac{7}{8}$ ( $\frac{7}{8} \times 1\text{-}\frac{1}{8}$ ODM)	
CPHE - 3	10.8	15.5	17.9	13.8	<b>X 11873-B5B</b>	<b>10331</b> 22 x 22	<b>10331</b> $\frac{7}{8} \times \frac{7}{8}$ ( $1\text{-}\frac{1}{8} \times 1\text{-}\frac{1}{8}$ ODM)	

Nominal capacities at +38°C condensing temperature, +4°C evaporating temperature (saturated temperatures / dew point) and 1 K liquid subcooling at the inlet of the expansion valve.

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### Correction Tables for Series ACP and CPHE

For other evaporating temperatures the bypass capacity  $Q_{Byp}$  shall be multiplied with the correction factor  $K_{Byp}$ .

$$Q_{Byp} \times K_{Byp} = Q_n$$

- $Q_{Byp}$ : Required bypass capacity
- $K_{Byp}$ : Correction factor for evaporating temperature
- $Q_n$ : Nominal valve capacity

Refrigerant	Condensing Temperature °C	Correction Factor $K_{Byp}$					
		Evaporating Temperature °C					
		+10	0	-10	-20	-30	-40
R 134a	50	0.78	0.77	0.78	0.80		
	40	0.99	0.94	0.93	0.94		
	30	1.35	1.21	1.15	1.14		
R 22	50	0.80	0.77	0.77	0.77	0.79	0.82
	40	1.00	0.93	0.91	0.91	0.92	0.95
	30	1.34	1.19	1.12	1.10	1.09	1.12
R 407C	50	0.83	0.82	0.83	0.86		
	40	0.99	0.95	0.95	0.97		
	30	1.26	1.17	1.13	1.13		
R 404A / R 507	50	0.86	0.85	0.87	0.91	0.97	1.06
	40	0.99	0.95	0.94	0.96	1.00	1.05
	30	1.26	1.13	1.09	1.08	1.10	1.14