Honeywell

Series TLEX

Thermostatic expansion valves with balance port. Fixed orifice, solder connections and adjustable superheat setting

Specification Data

Application

Plants with one or more circuits, used for chillers, heat pumps, transport cooling.

Specification / Technical Data

- Liquid charge or gas charge with MOP setting.
- Adjustable superheat setting.
- Warm control diaphragm provides best reliability.
- Extreme durability thanks to welded stainless steel head and stainless steel diaphragm.
- Balanced port.
- Fixed orifice.
- Refrigerants: R 134a, R 22, R 407C, R 404A, R 507, others on request.
- Capacity range: 15 to 52 kW (fine grading for optimum and stable control performance).
- Max. test pressure: 32 bar. (applied to all connections simultaneously).
- Max. suction pressure: 22 bar.
- Max. ambient temperature: 100 °C / 212 °C.
- Max. bulb temperature: liquid charge: + 70 °C / 158 °F. gas charge: + 140 °C / 284 °F.
- Static superheat: 3.5 K.
- Capillary length: 2.0 m.
- Materials:
  – Body / power heat: brass / stainless steel.
  – Connection tubes: copper.

Cooling Solutions

Thermal charges and temperature ranges

1. Liquid charge

Designation on type label: F
Bulb diameter: 16 mm

Evaporation temperature range	Refrigerant
+30 °C to –50 °C	R 22
+30°C to –30 °C	R 407C
+20 °C to –40 °C	R 134a
+10 °C to –50 °C	R 404A
+10 °C to –50 °C	R 507

2. Gas charges with pressure limitation MOP

Designation on type label: G.
Bulb diameter: 16 mm

Attention:
With gas charged valves supplied with **MOP** the bulb must always be colder than the capillary and the thermal head of the valve. In the Honeywell TLEX series the valve head is heated by the condensed refrigerant.
If, due to the construction of the system, the thermal head or capillary becomes colder than the bulb (subcooling) we recommend the installation of valves without MOP which are supplied with a charge insensible to temperature differences between valve head and bulb.

MOP	Evaporating temperature range	Refrigerant
+15 °C	+15 °C to –40 °C	R 134a
+10 °C	+10 °C to –40 °C	
± 0 °C	± 0 °C to –40 °C	
+15 °C	+15 °C to –50 °C	R 22
+10 °C	+10 °C to –50 °C	
± 0 °C	± 0 °C to –50 °C	
–18 °C	–18 °C to –50 °C	
± 0 °C	± 0 °C to –50 °C	R 407C
+15 °C	+15 °C to –50 °C	
+10 °C	+10 °C to –50 °C	R 404A
± 0 °C	± 0 °C to –50 °C	
–10 °C	–10 °C to –50 °C	
–18 °C	–18 °C to –50 °C	
+10 °C	+10 °C to –50 °C	R 507
± 0 °C	± 0 °C to –50 °C	
–10 °C	–10 °C to –50 °C	
–18 °C	–18 °C to –50 °C	

Capacities

Type	Orifice size	Nominal capacity in kW*					Connections (Solder ODF)						Weight
							Inlet (A)		Outlet (B)		Pressure equalizer (C)		
		R 134a	R 22	R 407C	R 404A	R 507	mm	inch	mm	inch	mm	inch	(kg)
TLEX	4.75	15.0	21.5	21.5	16.2	16.2	12	1/2”	16	5/8”	6	1/4”	0.85
	5.0	18.8	27.9	27.9	21.0	21.0							
	6.0	26.0	40.7	40.7	30.6	30.6	16	5/8”	22	7/8”			
	7.0	33.3	52.3	52.3	39.3	39.3							

*Capacities are based on t_0 = –10 °C (14 °F), t_C = +25 °C (77 °F) and 1 K subcooled liquid refrigerant entering the valve.
For other operating conditions see capacity charts in Honeywell catalogue, section 8 or consult the Honeywell software.

Valve nomenclature / Order instructions

TLEX – 5.0 – R 22 – –18 °C – 16 mm x 22 mm

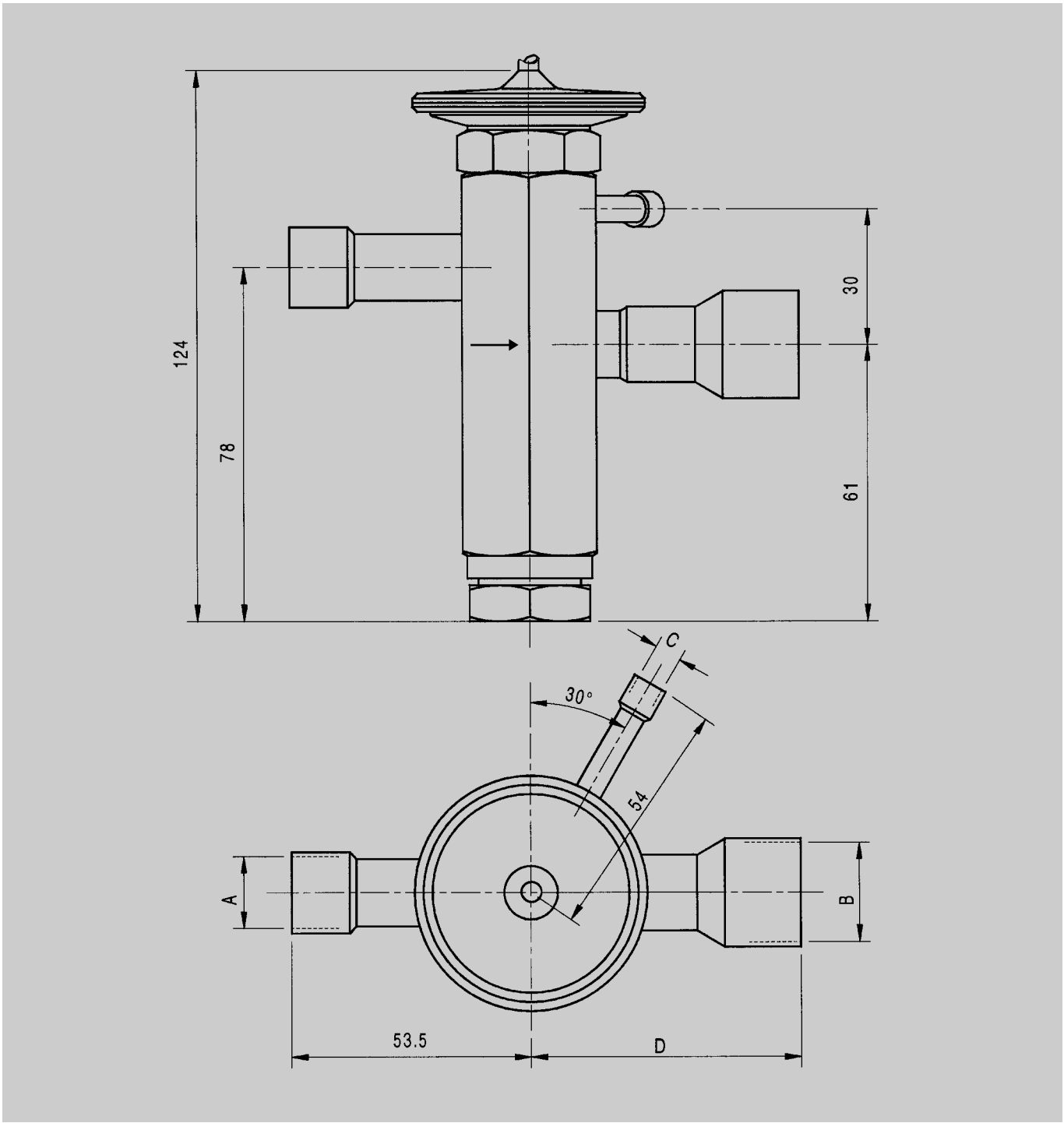
Valve Series

Size / orifice

Refrigerant

Gas charge with MOP ( ) = liquid charge without MOP

Tube connection ODF (outside femde diameter)



Installation

- The valves may be installed in any position in the liquid line.
- The external pressure equalizer line should be 6 or $^1/_4$" in diameter and is to be connected downstream of the remote bulb.
- An overbow is recommended in order to prevent the ingress of oil into the equalizer line.
- The bulb should preferably be positioned on the upper half of a horizontal line but never behind a liquid trap. As a general rule, bulbs of expansion valves should be insulated to prevent them from being affected by the ambient temperature.
- When soldering the valve, use a damp cloth to protect the valve body against temperatures exceeding 100 °C (212 °F).

Note for OEMs:
The valve series TLEX may be adapted perfectly to the requirements of systems of series production.

Superheat adjustment

In general the valves should be installed with the factory setting unaltered. The factory setting is calibrated for lowest superheating and optimum evaporator utilization. However, should it be necessary to adjust the superheat, turn the adjustment spindle as follows:

Turning clockwise:
= reduced refrigerant flow, increase of superheat

Turning counterclockwise:
= increased refrigerant flow, decrease of superheat

One turn of the adjusting spindle alters superheat setting by approx. 0.3 bar. Any increase of superheat setting results in a lower MOP value and vice versa.
Tighten seal cap to a torque of 25 Nm.

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