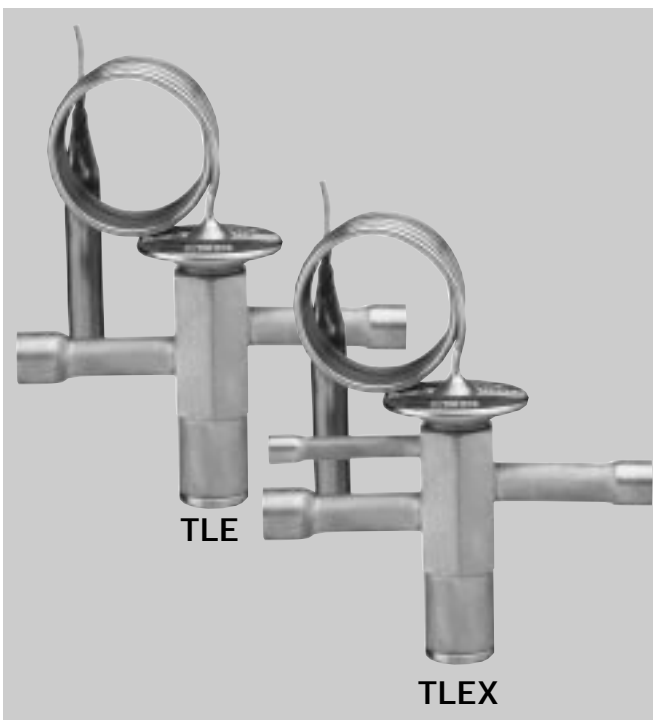


Series TLE

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

Specification Data



Application

Plants with one or more circuits, particularly for series systems such as refrigerated cabinets, deep freeze chests, freezers, fermentation interrupters, ice and cream machines, compact systems in refrigeration and air conditioning.

TLE: internally equalized;
for single injections in plants with one or more circuits.

TLEX: externally equalized;
for optimum evaporator utilization in any application. Imperative for multiple injection by liquid distributors.

Specification/ Technical Data

- standard thermal charge is the combi adsorber charge. This makes the same valve applicable for several refrigerants (see table on page 2).
 - with high sensitivity for reduced superheating, unaffected by ambient temperature
 - with damping characteristic for stable superheat control
- adjustable superheat setting.
- warm control diaphragm provides best reliability.
- extreme durability thanks to welded stainless steel head and stainless steel diaphragm.
- fixed orifice.
- refrigerants:
R134a, R401A, R12, R22, R407C, R407A, R404A, R507, R402A, R407B, R502, other on request.
- capacity range: 0.5 to 16 kW.
(fine grading for optimum and stable control performance)
- evaporating temperature range: see table on page 2.
- max. test pressure: 32 bar
(applied to all connections simultaneously).

- max. suction pressure: 22 bar.
- max. ambient temperature: 100 °C.
- max. bulb temperature: 140 °C.
- static superheat: 3 K.
- capillary length: 1.5 m.
- materials:
 - body / power head: brass / stainless steel.
 - connection tubes: copper.

Thermal charges and temperature ranges

1. Adsorber charge

Designation on type label: A

Evaporation temperature range	Refrigerant
+ 15 °C to – 30 °C	R 134a, R 401A, R 12
+ 15 °C to – 45 °C	R 22, R 407C, R 407A
± 0 °C to – 50 °C	R 404A, R 507, R 402A, R 407B, R 502

2. Adsorber charges with pressure limiting characteristic (MOP)

The adsorber charge is absolutely insensitive to the temperature conditions at the capillary and the power head of the valve. It reacts according to the temperature at the bulb only. Therefore Honeywell combi valves with adsorber charge are absolutely reliable, even if they are covered by ice or used in hot gas defrosted systems.

MOP	Evaporating temperature range	Refrigerant
A + 15 °C*	+ 5 °C to – 30 °C	R 134a R 401A
A ± 0 °C*	– 10 °C to – 30 °C	R 12
A + 15 °C*	+ 5 °C to – 45 °C	R 22
A ± 0 °C*	– 10 °C to – 45 °C	R 407C, R 407A
A – 18 °C*	– 27 °C to – 45 °C	
A ± 0 °C*	– 10 °C to – 50 °C	R 404A, R 507, R 402A,
A – 10 °C*	– 20 °C to – 50 °C	R 407B, R 502
A – 18 °C	– 27 °C to – 50 °C	

*to be specified in order

3. Gas charge

Designation on type label: G

Available only on request for special MOP-values.

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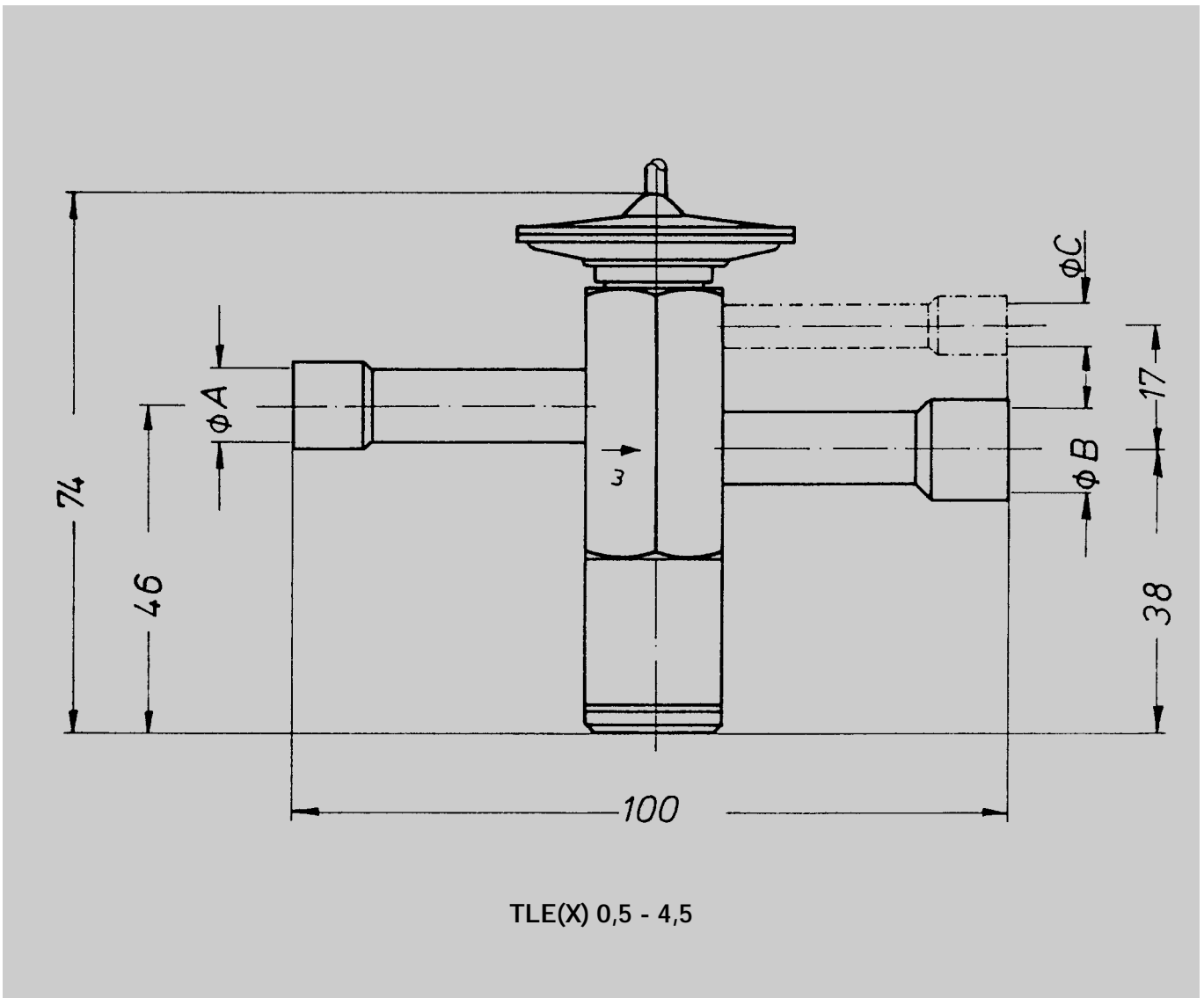
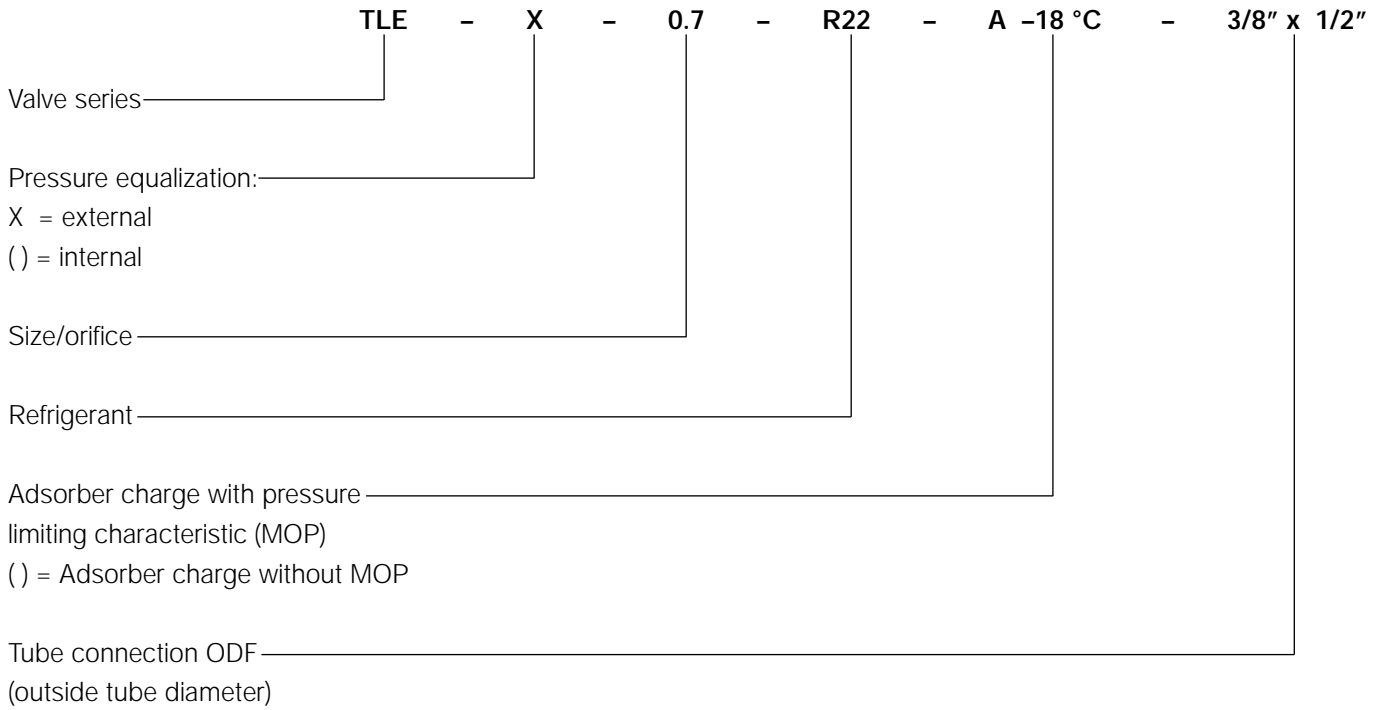
With gas charged valves supplied with MOP the bulb must always be colder than the capillary and the thermal head of the valve. In the Honeywell TLE-series the valve head is heated by the condensed refrigerant. If due to the construction of the system the thermal head or capillary become colder than the bulb (subcooling) we recommend the installation of valves which are supplied with a charge insensible to ambient temperature.

Capacities

Type	Size	Nominal capacity in kW*			Connection				Pressure equalizer (C) (TLEX)		Weight (kg)
		R 134 a	R 22 R 407C	R 404 A R 507	Inlet (A)		Outlet (B)		mm	inch	
				mm	inch	mm	inch				
TLE and TLEX	0.5	0.65	0.95	0.7	6	1/4"	12	1/2"	6	1/4"	0.46
	0.7	0.9	1.3	1.0							
	1.0	1.3	1.9	1.45							
	1.5	2.1	3.1	2.3	10	3/8"					
	2.0	2.7	3.9	2.9							
	2.5	3.8	5.6	4.2							
	3.0	6.2	8.9	6.7							
	3.5	8.2	11.7	8.8	10 12	3/8" 1/2"					
4.5	11.1	16.3	12.3								

* Capacities are based on $t_0 = -10\text{ °C}$, $t_c = +25\text{ °C}$ and 1 K subcooled liquid refrigerant entering the valve.
For other operating conditions see capacity charts in Honeywell catalogue or consult the Honeywell software.

Valve nomenclature/Order instructions



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 overbowl 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 suction 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.

Note for OEMs:

The valve series TLE 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. 0.25 bar.

Any increase of superheat setting results in a lower MOP value and vice versa.

Tighten seal cap to a torque of 10 Nm.

All data provided in this literature is subject to change without notice.

Honeywell cannot be held responsible for incorrect information contained therein.

Honeywell

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