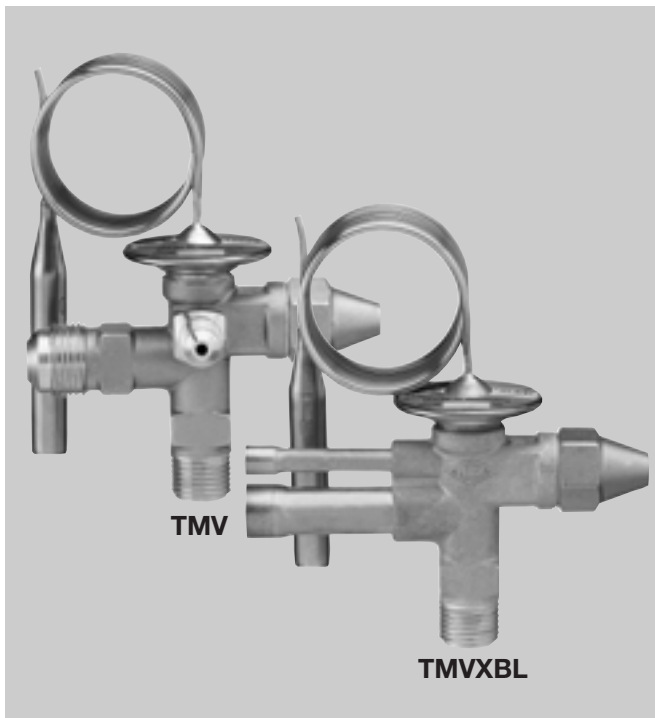


## Series TMV

Thermostatic expansion valves with interchangeable cartridges and adjustable superheat setting

### Specification-Data



#### Application

General refrigeration and original equipment. Plants with one or more circuits, refrigerated cabinets even with cramped mounting conditions, deep-freezing plants, ice and cream machines, milk cooling units, water chillers, vehicle air conditioning systems, cold stores, air conditioning systems.

TMV/TMVBL: **internally equalized:**

for single injection in plants with single and multiple evaporators.

TMVX/

TMVXBL:

**externally equalized:**

for optimum evaporator utilization in any application.

Imperative for multiple injection by liquid distributors.

#### Specification/Technical Data

TMV: internally equalized, flare x flare connection  
 TMVX: externally equalized, flare x flare connection  
 TMVBL: internally equalized, flare x solder connection  
 TMVXBL: externally equalized, flare x solder connection

- 1 capacity adaptable from 0.3 to 21.5 kW by interchangeable cartridges with integrated strainer
- 1 thermal charge of high sensitivity for reduced superheating, unaffected by ambient temperature
- 1 special adsorber charge with damping characteristic for stable superheat control
- 1 suitable for systems with hot gas defrosting
- 1 only **one** valve necessary for the whole evaporating temperature range
- 1 evaporating temperature range: see table on page 2
- 1 extreme durability thanks to welded stainless steel head and stainless steel diaphragm

- 1 The advantage with the combi adsorber charge is that for each of the following refrigerant groups only one valve is required:

- R 134 a, R 401 A (MP 39), R 12
- R 22, R 407 C, R 407 A
- R 404 A, R 507 (AZ 50), R 402 A (HP 80), R 407B, R 502

other refrigerants on request

- 1 max. test pressure: 32 bar (applied to all connections simultaneously)
- 1 max. suction pressure: 22 bar
- 1 max. ambient temperature: 100 °C
- 1 max. bulb temperature: 140 °C
- 1 static superheat: 3 K
- 1 capillary length: 1.5 m
- 1 materials:
  - body/power head: brass/stainless steel
  - connection tubes: copper

## Thermal charge and temperature range

### 1. Adsorber charge

Designation on type label: A

Evaporating temperature range	Refrigerant
+15 °C to -30 °C	R134a, R401A (MP 39), R12
+15 °C to -45 °C	R22, R407 C, R407 A
± 0 °C to -50 °C	R404A, R507 (AZ 50), R402 A (HP 80), R407 B (KLEA 61), R502

### 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 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	R134a, R401A, (MP 39), R12
A±0 °C*	-10 °C to -30 °C	
A+15 °C*	+5 °C to -45 °C	R22, R407 C, R407 A
A±0 °C*	-10 °C to -45 °C	
A-18 °C*	-27 °C to -50 °C	
A±0 °C*	-10 °C to -50 °C	R404A, R507 (AZ 50) R402 A (HP 80), R407 B (KLEA 61), R502
A-10 °C*	-20 °C to -50 °C	
A-18 °C*	-27 °C to -50 °C	

\*to be specified in order

Type	Orifice size	Nominal capacities in kW and kcal/h*					Connections						Weight excl. flare nuts  kg	
							Inlet		Outlet					
							Flare 5/8" UNF		Flare 3/4" UNF		Solder			
							R 12		R 134a		R 22			R 502
		mm		Inch		mm		Inch		mm		Inch		
TMV/TMVX - TMVBL/TMVXBL	0.3	0.26 224	0.34 292	0.50 430	0.35 301	0.37 318								
	0.5	0.50 430	0.65 560	0.95 820	0.65 560	0.70 600								
	0.7	0.70 600	0.90 770	1.30 1120	0.90 770	1.00 860								
	1.0	0.95 820	1.30 1120	1.90 1630	1.40 1200	1.45 1250								
	1.5	1.70 1460	2.10 1800	3.10 2670	2.20 1890	2.30 1980								
	2.0	2.10 1800	2.70 2320	3.90 3350	2.80 2400	2.90 2490	6	1/4"	10	3/8"	12	1/2"		0,27
	2.5	2.90 2500	3.80 3270	5.60 4810	4.00 3440	4.20 3610	8	5/16"						
	3.0	5.30 4560	6.20 5330	8.90 7650	6.40 5500	6.70 5760	10	3/8"	12	1/2"				
	3.5	6.10 5240	8.20 7050	11.70 10050	8.60 7400	8.80 7570								
	4.5	9.30 8000	11.10 9550	16.30 14000	11.40 9800	12.30 10580								
4.75	11.90 10234	15.00 12900	21.50 18490	14.60 12556	16.20 13932									

Connection for external equalizer line 7/16" UNF for tube diameter 6 mm or 1/4" (TMVX), 6 mm or 1/4" ODF (TMVXBL)

\*Capacities are based on to = -10 °C, to = + 25 °C and 1 K subcooled liquid refrigerant entering the valve. For other operating conditions see capacity tables in catalogue "Selection of Expansion Valves" or consult the Honeywell software.

**Valve nomenclature / Order instructions**

**1. Complete valve or valve body**

**TMV - X - BL - 0,5 - R 22 - A-18 °C - 3/8" x 1/2"**

valve series \_\_\_\_\_

X = externally equalized

() = internally equalized

BL = flare x solder connection

() = flare connection

size/orifice: \_\_\_\_\_

0.3 to 4.75

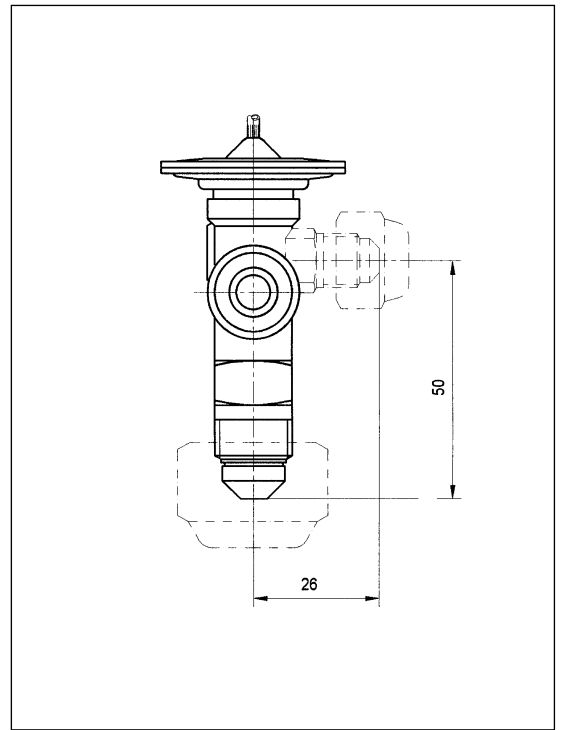
() = valve body without cartridge

refrigerant \_\_\_\_\_

adsorber charge with pressure limiting characteristic (**MOP**)

() = without **MOP**

connection (tube size) \_\_\_\_\_



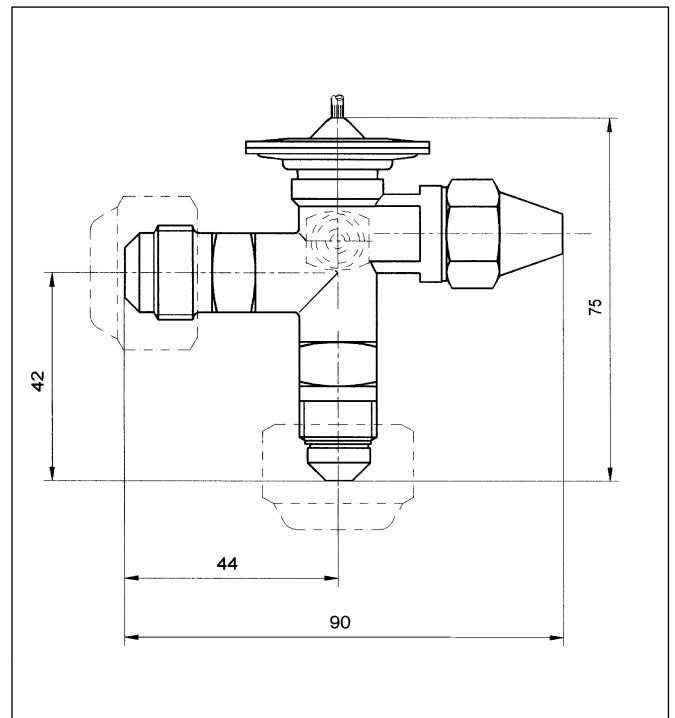
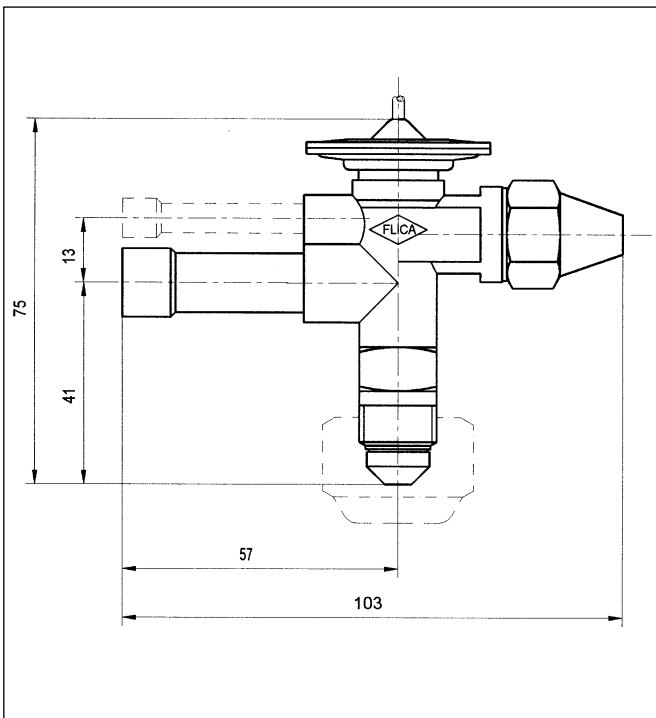
**2. Cartridge (separately)**

**VD - 0.5**

for valve series TMV and TMVL \_\_\_\_\_

size/orifice \_\_\_\_\_

0.3 to 4.75



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### **Interchangeable cartridges with integrated strainer**

Should the capacity of the valve be incorrect, interchangeable cartridges allow the valve's capacity to be adapted very quickly on site without removing the valve itself from the circuits. The integrated strainer can be easily cleaned or replaced if necessary.

### **Installation**

- 1 The valves may be installed in any position.
- 1 The external pressure equalizer line should be 6 mm 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.
- 1 The bulb should preferably be positioned on the upper half of a horizontal suction line but never after a liquid trap. As a general rule, bulbs of expansion valves should be insulated to prevent them being affected by the ambient temperature.
- 1 When soldering the valve, use a damp cloth to protect the valve body against temperatures exceeding 100 °C.

Special accessory:

Adapter for solder connection at the inlet for 6, 10, 12 mm, 1/4", 3/8", 1/2" (on request).

### **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 adjusting spindle as follows:

Turning clockwise

= reduced refrigerant flow, increase of superheat

Turning counterclockwise

= increased refrigerant flow, decrease of superheat

1 turn of adjusting spindle alters superheat setting by approx. 0.55 bar.

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

Tighten seal cap to a torque of: 11 Nm.

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

Honeywell cannot be held responsible for incorrect information contained therein.

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