

TX7 series of Thermo™-Expansion Valves are designed predominantly for AC, heat pumps, close control and industrial process cooling applications. The TX7 is ideal for those applications requiring hermetic / compact size combined with stable and accurate control over wide load and evaporating temperature ranges.

Features

- Monoblock, hermetic valve with brazing connections
- 7 sizes up to 180 kW (R410A)
- Maximum working pressure: 46 bar
- Factory test pressure: 50.6 bar
- Bi-Flow application
 - Balanced port in normal and reverse flow directions eliminates disturbance forces resulting from condensing pressure
 - Optimum static superheat in normal and reverse flow
 - Capacities performance in normal and reverse flow correlates to capacity of heat pumps in cooling and heating mode
- Power Element with 65 mm diameter enables low partial load (20-25%) performance at stable superheat
- Applicable in systems with digital scroll, step less screw compressors and variable speed compressors
- Floating superheat in reverse flow (heating mode) supports evaporator efficiency during low ambient operating conditions in air cooled reversible chillers
- Laser welded stainless steel power element with a special diaphragm profile provides life expectancy against high pressure during reversed flow via external equalizer.
- Single diaphragm with negligible hysteresis withstands against higher pressure
- Fine tuning by external superheat adjusting mechanism
- Special factory setting upon request. Minimum order quantity 60 pieces



TX7-Z13

R410a / R32 Selection table

| Capacity, R410A [kW] | | Capacity, R32 [kW] | | Type | Part No. | Connection | |
|----------------------|--------------|--------------------|--------------|-----------|----------|----------------|-----------|
| Normal flow | Reverse flow | Normal flow | Reverse flow | | | Inlet x Outlet | Equalizer |
| 32.1 | 31.7 | 47.7 | 46.9 | TX7-Z13 m | 806811 | 12 mm x 16 mm | 6 mm |
| 32.1 | 31.7 | 47.7 | 46.9 | TX7-Z13 | 806810 | 1/2" x 5/8" | 1/4" |
| 39.9 | 39.1 | 59.3 | 57.8 | TX7-Z14 m | 806813 | 16 mm x 22 mm | 6 mm |
| 39.9 | 39.1 | 59.3 | 57.8 | TX7-Z14 | 806812 | 5/8" x 7/8" | 1/4" |
| 48.9 | 47.4 | 72.7 | 70.1 | TX7-Z15 m | 806815 | 16 mm x 22 mm | 6 mm |
| 48.9 | 47.4 | 72.7 | 70.1 | TX7-Z15 | 806814 | 5/8" x 7/8" | 1/4" |
| 80.7 | 67.7 | 120 | 100.2 | TX7-Z16 m | 806817 | 22 mm x 28 mm | 6 mm |
| 80.7 | 67.7 | 120 | 100.2 | TX7-Z16 | 806816 | 7/8" x 1-1/8" | 1/4" |
| 99.4 | 81.5 | 147.9 | 120.5 | TX7-Z17 m | 806819 | 22 mm x 28 mm | 6 mm |
| 99.4 | 81.5 | 147.9 | 120.5 | TX7-Z17 | 806818 | 7/8" x 1-1/8" | 1/4" |
| 130.9 | 113.9 | 194.7 | 168.4 | TX7-Z18 m | 806821 | 22 mm x 28 mm | 6 mm |
| 130.9 | 113.9 | 194.7 | 168.4 | TX7-Z18 | 806820 | 7/8" x 1-1/8" | 1/4" |
| 183.4 | 165.1 | 272.9 | 244.1 | TX7-Z19 m | 806823 | 22 mm x 28 mm | 6 mm |
| 183.4 | 165.1 | 272.9 | 244.1 | TX7-Z19 | 806822 | 7/8" x 1-1/8" | 1/4" |

Note: The nominal capacities are based +4°C evaporating temperature, +38°C condensing temperature and 1K subcooling. For other operating conditions use the quick selection in this document or the "Controls Navigator" selection tool (download from www.emersonclimate.eu).

R134a Selection table

| Capacity, R134a [kW] | | With MOP | | Without MOP | | Connection | |
|----------------------|--------------|-----------|----------|-------------|----------|----------------|-----------|
| Normal flow | Reverse flow | Type | Part No. | Type | Part No. | Inlet x Outlet | Equalizer |
| 18.1 | 17.9 | TX7-M13 m | 806839 | TX7-M03 m | 806825 | 12 mm x 16 mm | 6 mm |
| 18.1 | 17.9 | TX7-M13 | 806840 | TX7-M03 | 806824 | 1/2" x 5/8" | 1/4" |
| 22.5 | 22 | TX7-M14 m | 806841 | TX7-M04 m | 806827 | 16 mm x 22 mm | 6 mm |
| 22.5 | 22 | TX7-M14 | 806842 | TX7-M04 | 806826 | 5/8" x 7/8" | 1/4" |
| 27.5 | 26.7 | TX7-M15 m | 806843 | TX7-M05 m | 806829 | 16 mm x 22 mm | 6 mm |
| 27.5 | 26.7 | TX7-M15 | 806844 | TX7-M05 | 806828 | 5/8" x 7/8" | 1/4" |
| 45.4 | 38.2 | TX7-M16 m | 806845 | TX7-M06 m | 806831 | 22 mm x 28 mm | 6 mm |
| 45.4 | 38.2 | TX7-M16 | 806846 | TX7-M06 | 806830 | 7/8" x 1-1/8" | 1/4" |
| 56.0 | 45.9 | TX7-M17 m | 806847 | TX7-M07 m | 806833 | 22 mm x 28 mm | 6 mm |
| 56.0 | 45.9 | TX7-M17 | 806848 | TX7-M07 | 806832 | 7/8" x 1-1/8" | 1/4" |
| 73.7 | 64.1 | TX7-M18 m | 806849 | TX7-M08 m | 806835 | 22 mm x 28 mm | 6 mm |
| 73.7 | 64.1 | TX7-M18 | 806850 | TX7-M08 | 806834 | 7/8" x 1-1/8" | 1/4" |
| 103.3 | 93 | TX7-M19 m | 806851 | TX7-M09 m | 806837 | 22 mm x 28 mm | 6 mm |
| 103.3 | 93 | TX7-M19 | 806852 | TX7-M09 | 806836 | 7/8" x 1-1/8" | 1/4" |

Note: The nominal capacities are based +4°C evaporating temperature, +38°C condensing temperature and 1K subcooling. For other operating conditions use the quick selection in this document or the "Controls Navigator" selection tool (download from www.emersonclimate.eu).

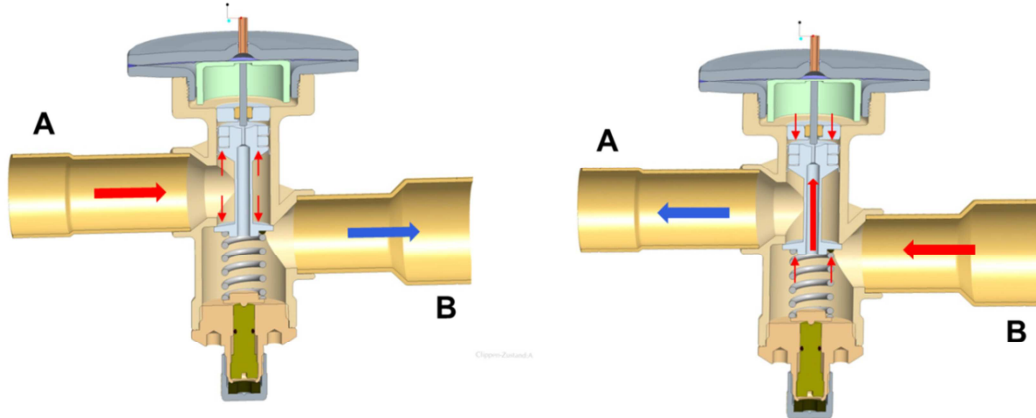
R407C Selection table

| Capacity, R407C, [kW] | | With MOP | | Without MOP | | Connection | |
|-----------------------|--------------|-----------|----------|-------------|----------|----------------|-----------|
| Normal flow | Reverse flow | Type | Part No. | Type | Part No. | Inlet x Outlet | Equalizer |
| 28.9 | 28.6 | TX7-N13 m | 806868 | TX7-N03 m | 806853 | 12 mm x 16 mm | 6 mm |
| 28.9 | 28.6 | TX7-N13 | 806867 | TX7-N03 | 806852 | 1/2" x 5/8" | 1/4" |
| 36.0 | 35.2 | TX7-N14 m | 806870 | TX7-N04 m | 806855 | 16 mm x 22 mm | 6 mm |
| 36.0 | 35.2 | TX7-N14 | 806869 | TX7-N04 | 806854 | 5/8" x 7/8" | 1/4" |
| 44.1 | 42.7 | TX7-N15 m | 806872 | TX7-N05 m | 806857 | 16 mm x 22 mm | 6 mm |
| 44.1 | 42.7 | TX7-N15 | 806871 | TX7-N05 | 806856 | 5/8" x 7/8" | 1/4" |
| 72.7 | 61.1 | TX7-N16 m | 806874 | TX7-N06 m | 806859 | 22 mm x 28 mm | 6 mm |
| 72.7 | 61.1 | TX7-N16 | 806873 | TX7-N06 | 806858 | 7/8" x 1-1/8" | 1/4" |
| 89.7 | 73.5 | TX7-N17 m | 806876 | TX7-N07 m | 806861 | 22 mm x 28 mm | 6 mm |
| 89.7 | 73.5 | TX7-N17 | 806875 | TX7-N07 | 806860 | 7/8" x 1-1/8" | 1/4" |
| 118.1 | 102.7 | TX7-N18 m | 806878 | TX7-N08 m | 806863 | 22 mm x 28 mm | 6 mm |
| 118.1 | 102.7 | TX7-N18 | 806877 | TX7-N08 | 806862 | 7/8" x 1-1/8" | 1/4" |
| 165.4 | 148.9 | TX7-N19 m | 806880 | TX7-N09 m | 806865 | 22 mm x 28 mm | 6 mm |
| 165.4 | 148.9 | TX7-N19 | 806879 | TX7-N09 | 806864 | 7/8" x 1-1/8" | 1/4" |

Note: The nominal capacities are based +4°C dew point evaporating temperature, +38°C bubble point (+43°C dew point) condensing temperature and 1K subcooling. For other operating conditions use the quick selection in this document or the "Controls Navigator" selection tool (download from www.emersonclimate.eu).

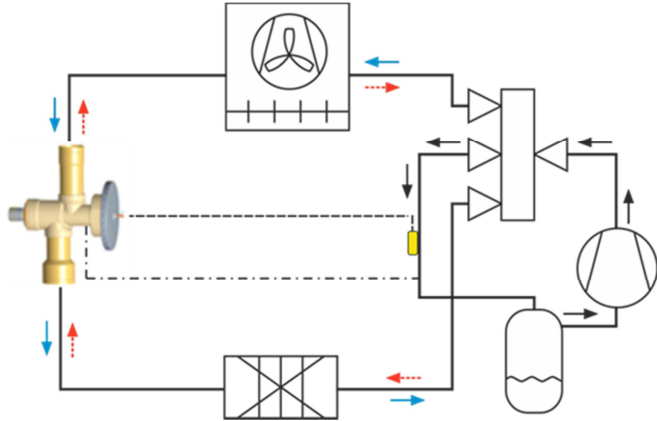
True Bi-flow Design

The valve pin is balanced against inlet pressure changes in both flow directions. The inlet pressure impact negatively performance of Thermo™- Expansion valves.



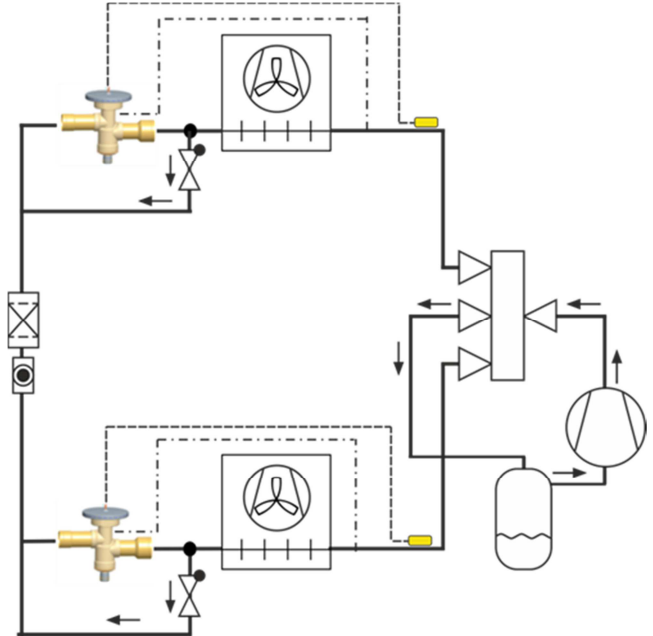
Typical applications in Reversible chillers and heat pumps

Single Bi-Flow (package unit)

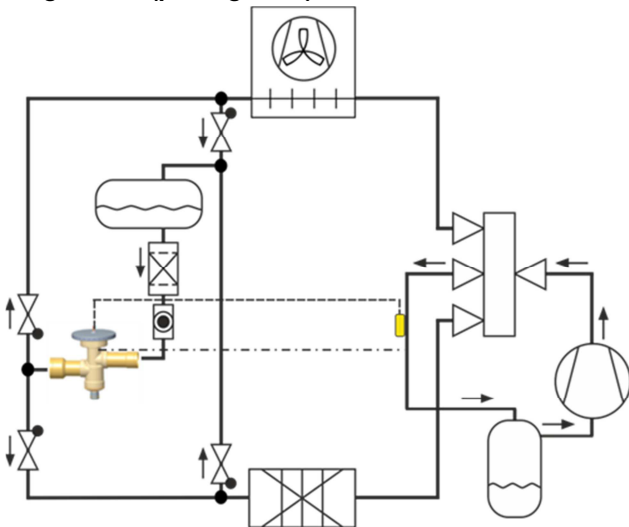


Note:
→ : Flow direction in cooling mode
→ : Flow direction in heating mode
→ : Flow direction independent from heating and cooling mode

Two valves (package or split unit)



Single valve (package unit)



R450A / R513A Selection table

| Capacity, R450A [kW] | Capacity, R513A [kW] | With MOP | | Without MOP | | Connection | |
|----------------------|----------------------|-----------|----------|-------------|----------|----------------|-----------|
| | | Type | Part No. | Type | Part No. | Inlet x Outlet | Equalizer |
| 15.9 | 16.3 | TX7-M13 m | 806839 | TX7-M03 m | 806825 | 12 mm x 16 mm | 6 mm |
| 15.9 | 16.3 | TX7-M13 | 806840 | TX7-M03 | 806824 | 1/2" x 5/8" | 1/4" |
| 19.8 | 20.3 | TX7-M14 m | 806841 | TX7-M04 m | 806827 | 16 mm x 22 mm | 6 mm |
| 19.8 | 20.3 | TX7-M14 | 806842 | TX7-M04 | 806826 | 5/8" x 7/8" | 1/4" |
| 24.3 | 24.8 | TX7-M15 m | 806843 | TX7-M05 m | 806829 | 16 mm x 22 mm | 6 mm |
| 24.3 | 24.8 | TX7-M15 | 806844 | TX7-M05 | 806828 | 5/8" x 7/8" | 1/4" |
| 40.1 | 41.0 | TX7-M16 m | 806845 | TX7-M06 m | 806831 | 22 mm x 28 mm | 6 mm |
| 40.1 | 41.0 | TX7-M16 | 806846 | TX7-M06 | 806830 | 7/8" x 1-1/8" | 1/4" |
| 49.4 | 50.6 | TX7-M17 m | 806847 | TX7-M07 m | 806833 | 22 mm x 28 mm | 6 mm |
| 49.4 | 50.6 | TX7-M17 | 806848 | TX7-M07 | 806832 | 7/8" x 1-1/8" | 1/4" |
| 65.0 | 66.6 | TX7-M18 m | 806849 | TX7-M08 m | 806835 | 22 mm x 28 mm | 6 mm |
| 65.0 | 66.6 | TX7-M18 | 806850 | TX7-M08 | 806834 | 7/8" x 1-1/8" | 1/4" |
| 91.1 | 93.3 | TX7-M19 m | 806851 | TX7-M09 m | 806837 | 22 mm x 28 mm | 6 mm |
| 91.1 | 93.3 | TX7-M19 | 806852 | TX7-M09 | 806836 | 7/8" x 1-1/8" | 1/4" |

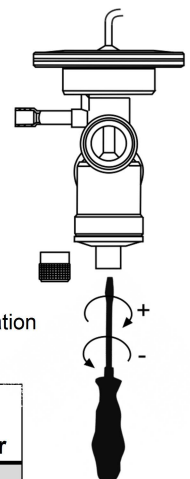
Note: The nominal capacities are based +4°C dew point evaporating temperature, +38°C condensing temperature and 1K subcooling. For other operating conditions use the quick selection in this document or the "Controls Navigator" selection tool (download from www.emersonclimate.eu).

The TX7-xxx with standard charges can be used with systems having R450A, R513a, R32 and R22 considering the readjustment of factory setting. The readjusting depends to designed evaporating temperature. The graph below can be used as guideline:

| Refrigerant/ Type | Charge code | Evaporating temperature [°C] | | | |
|-------------------|-------------|------------------------------|------|-----|------|
| | | 5 | 0 | -10 | -20 |
| | | Number of turn | | | |
| R450A | M0/M1 | +4.5 | +4 | +3 | +2.5 |
| R513A | M0/M1 | -3 ① | -3 ② | -3 | -2 |
| R32 | Z1 | -4 | -4 | -3 | -3.5 |
| R22 | N0/N1 | -4 | -4 | -3 | -3.5 |

Note: ①: This setting results to 4.4 K static superheat due to the limit of adjusting mechanism.
 ②: This setting results to 4.8K static superheat due to the limit of adjusting mechanism.

Note: + means clockwise rotation / - means counterclockwise rotation



R22 Selection table

| Capacity, [kW] | | With MOP | | Without MOP | | Connection | |
|----------------|--------------|-----------|----------|-------------|----------|----------------|-----------|
| Normal flow | Reverse flow | Type | Part No. | Type | Part No. | Inlet x Outlet | Equalizer |
| 27.5 | 27.2 | TX7-N13 m | 806868 | TX7-N03 m | 806853 | 12 mm x 16 mm | 6 mm |
| 27.5 | 27.2 | TX7-N13 | 806867 | TX7-N03 | 806852 | 1/2" x 5/8" | 1/4" |
| 34.2 | 33.5 | TX7-N14 m | 806870 | TX7-N04 m | 806855 | 16 mm x 22 mm | 6 mm |
| 34.2 | 33.5 | TX7-N14 | 806869 | TX7-N04 | 806854 | 5/8" x 7/8" | 1/4" |
| 41.9 | 40.6 | TX7-N15 m | 806872 | TX7-N05 m | 806857 | 16 mm x 22 mm | 6 mm |
| 41.9 | 40.6 | TX7-N15 | 806871 | TX7-N05 | 806856 | 5/8" x 7/8" | 1/4" |
| 69.1 | 58.1 | TX7-N16 m | 806874 | TX7-N06 m | 806859 | 22 mm x 28 mm | 6 mm |
| 69.1 | 58.1 | TX7-N16 | 806873 | TX7-N06 | 806858 | 7/8" x 1-1/8" | 1/4" |
| 85.2 | 69.9 | TX7-N17 m | 806876 | TX7-N07 m | 806861 | 22 mm x 28 mm | 6 mm |
| 85.2 | 69.9 | TX7-N17 | 806875 | TX7-N07 | 806860 | 7/8" x 1-1/8" | 1/4" |
| 112.2 | 97.6 | TX7-N18 m | 806878 | TX7-N08 m | 806863 | 22 mm x 28 mm | 6 mm |
| 112.2 | 97.6 | TX7-N18 | 806877 | TX7-N08 | 806862 | 7/8" x 1-1/8" | 1/4" |
| 157.2 | 141.5 | TX7-N19 m | 806880 | TX7-N09 m | 806865 | 22 mm x 28 mm | 6 mm |
| 157.2 | 141.5 | TX7-N19 | 806879 | TX7-N09 | 806864 | 7/8" x 1-1/8" | 1/4" |

| Refrigerant/ Type | Charge code | Evaporating temperature [°C] | | | |
|-------------------|-------------|------------------------------|----|-----|-----|
| | | 5 | 0 | -10 | -20 |
| | | Number of turn | | | |
| R22 | N0/N1 | -4 | -4 | -3 | -3 |

Thermo™-Expansion Valves Series TX7

Quick Selection (included 1.5 bar pressure drop for liquid line components and distributor)

Quick selection capacity table is for operation in normal flow direction. For reverse flow direction use the following factors:

| Valve size | TX7-..3 | TX7-..4 | TX7-..5 | TX7-..6 | TX7-..7 | TX7-..8 | TX7-..9 |
|--|---------|---------|---------|---------|---------|---------|---------|
| Reverse flow versus normal flow capacity | -1% | -2% | -3% | -16% | -18% | -13% | -10% |

| Condensing temperature [°C] | R410A Capacity in normal flow direction [kW] | | | | | | | | Valve type |
|-----------------------------|--|-------|-------|-------|-------|-------|-------|-------|------------|
| | Evaporating temperature [°C] | | | | | | | | |
| | 10 | 5 | 0 | -5 | -10 | -15 | -20 | -25 | |
| 65 | 26.5 | 26.9 | 27.1 | 27.1 | 27.0 | 23.7 | 20.5 | 17.3 | TX7-Z13 |
| | 33.0 | 33.4 | 33.6 | 33.7 | 33.6 | 29.5 | 25.5 | 21.5 | TX7-Z14 |
| | 40.4 | 40.9 | 41.2 | 41.3 | 41.2 | 36.2 | 31.2 | 26.3 | TX7-Z15 |
| | 66.8 | 67.6 | 68.0 | 68.2 | 68.0 | 59.7 | 51.6 | 43.5 | TX7-Z16 |
| | 82.3 | 83.3 | 83.9 | 84.0 | 83.8 | 73.6 | 63.6 | 53.6 | TX7-Z17 |
| | 108.4 | 109.7 | 110.4 | 110.6 | 110.3 | 96.9 | 83.7 | 70.6 | TX7-Z18 |
| | 151.9 | 153.7 | 154.8 | 155.0 | 154.6 | 135.8 | 117.3 | 98.9 | TX7-Z19 |
| 60 | 28.9 | 29.5 | 29.8 | 30.0 | 30.0 | 26.5 | 23.0 | 19.5 | TX7-Z13 |
| | 36.0 | 36.6 | 37.1 | 37.3 | 37.3 | 32.9 | 28.6 | 24.2 | TX7-Z14 |
| | 44.1 | 44.9 | 45.4 | 45.7 | 45.8 | 40.4 | 35.0 | 29.7 | TX7-Z15 |
| | 72.8 | 74.1 | 75.0 | 75.4 | 75.6 | 66.6 | 57.8 | 48.9 | TX7-Z16 |
| | 89.8 | 91.3 | 92.4 | 93.0 | 93.1 | 82.2 | 71.3 | 60.3 | TX7-Z17 |
| | 118.2 | 120.3 | 121.7 | 122.4 | 122.6 | 108.2 | 93.8 | 79.4 | TX7-Z18 |
| | 165.6 | 168.5 | 170.5 | 171.6 | 171.8 | 151.6 | 131.5 | 111.3 | TX7-Z19 |
| 55 | 30.1 | 30.9 | 31.4 | 31.7 | 31.9 | 28.2 | 24.6 | 20.9 | TX7-Z13 |
| | 37.5 | 38.4 | 39.0 | 39.4 | 39.6 | 35.1 | 30.6 | 26.0 | TX7-Z14 |
| | 45.9 | 47.0 | 47.8 | 48.3 | 48.6 | 43.0 | 37.4 | 31.8 | TX7-Z15 |
| | 75.8 | 77.6 | 78.9 | 79.8 | 80.2 | 71.0 | 61.8 | 52.5 | TX7-Z16 |
| | 93.4 | 95.7 | 97.3 | 98.3 | 98.9 | 87.6 | 76.2 | 64.8 | TX7-Z17 |
| | 123.0 | 126.0 | 128.1 | 129.5 | 130.2 | 115.3 | 100.3 | 85.3 | TX7-Z18 |
| | 172.4 | 176.5 | 179.5 | 181.4 | 182.4 | 161.5 | 140.6 | 119.5 | TX7-Z19 |
| 50 | 30.5 | 31.4 | 32.1 | 32.6 | 33.0 | 29.3 | 25.6 | 21.8 | TX7-Z13 |
| | 37.9 | 39.0 | 39.9 | 40.6 | 41.0 | 36.4 | 31.8 | 27.1 | TX7-Z14 |
| | 46.4 | 47.8 | 48.9 | 49.7 | 50.2 | 44.6 | 39.0 | 33.2 | TX7-Z15 |
| | 76.6 | 79.0 | 80.8 | 82.1 | 82.9 | 73.7 | 64.4 | 54.9 | TX7-Z16 |
| | 94.4 | 97.4 | 99.6 | 101.2 | 102.2 | 90.8 | 79.3 | 67.6 | TX7-Z17 |
| | 124.3 | 128.2 | 131.1 | 133.2 | 134.5 | 119.6 | 104.5 | 89.0 | TX7-Z18 |
| | 174.2 | 179.7 | 183.7 | 186.7 | 188.5 | 167.6 | 146.4 | 124.8 | TX7-Z19 |
| 45 | 30.0 | 31.3 | 32.2 | 32.9 | 33.4 | 29.8 | 26.1 | 22.4 | TX7-Z13 |
| | 37.4 | 38.9 | 40.0 | 40.9 | 41.5 | 37.1 | 32.5 | 27.8 | TX7-Z14 |
| | 45.8 | 47.6 | 49.1 | 50.1 | 50.9 | 45.4 | 39.8 | 34.1 | TX7-Z15 |
| | 75.6 | 78.6 | 81.0 | 82.8 | 84.0 | 75.0 | 65.7 | 56.2 | TX7-Z16 |
| | 93.1 | 96.9 | 99.8 | 102.0 | 103.6 | 92.4 | 81.0 | 69.3 | TX7-Z17 |
| | 122.7 | 127.6 | 131.5 | 134.3 | 136.4 | 121.7 | 106.7 | 91.2 | TX7-Z18 |
| | 171.9 | 178.8 | 184.2 | 188.2 | 191.1 | 170.5 | 149.5 | 127.9 | TX7-Z19 |
| 40 | 28.9 | 30.5 | 31.7 | 32.6 | 33.3 | 29.9 | 26.3 | 22.6 | TX7-Z13 |
| | 36.0 | 37.9 | 39.4 | 40.6 | 41.4 | 37.1 | 32.7 | 28.1 | TX7-Z14 |
| | 44.1 | 46.5 | 48.3 | 49.7 | 50.7 | 45.5 | 40.1 | 34.4 | TX7-Z15 |
| | 72.8 | 76.7 | 79.7 | 82.0 | 83.8 | 75.1 | 66.1 | 56.8 | TX7-Z16 |
| | 89.7 | 94.5 | 98.3 | 101.1 | 103.3 | 92.6 | 81.5 | 70.0 | TX7-Z17 |
| | 118.2 | 124.5 | 129.4 | 133.2 | 136.0 | 121.9 | 107.3 | 92.1 | TX7-Z18 |
| | 165.6 | 174.4 | 181.3 | 186.6 | 190.5 | 170.9 | 150.4 | 129.1 | TX7-Z19 |
| 35 | 27.1 | 29.1 | 30.6 | 31.8 | 32.7 | 29.5 | 26.1 | 22.5 | TX7-Z13 |
| | 33.7 | 36.2 | 38.1 | 39.5 | 40.7 | 36.7 | 32.4 | 28.0 | TX7-Z14 |
| | 41.3 | 44.3 | 46.7 | 48.5 | 49.8 | 45.0 | 39.8 | 34.3 | TX7-Z15 |
| | 68.2 | 73.2 | 77.0 | 80.0 | 82.3 | 74.2 | 65.6 | 56.6 | TX7-Z16 |
| | 84.1 | 90.2 | 94.9 | 98.6 | 101.4 | 91.5 | 80.9 | 69.7 | TX7-Z17 |
| | 110.8 | 118.8 | 125.0 | 129.9 | 133.5 | 120.5 | 106.5 | 91.8 | TX7-Z18 |
| | 155.2 | 166.4 | 175.2 | 182.0 | 187.1 | 168.8 | 149.3 | 128.6 | TX7-Z19 |

Quick selection (included 1.5 bar pressure drop for liquid line components and distributor)

Quick selection capacity table is for operation in normal flow direction. For reverse flow direction use the following factors:

| Valve size | TX7-..3 | TX7-..4 | TX7-..5 | TX7-..6 | TX7-..7 | TX7-..8 | TX7-..9 |
|--|---------|---------|---------|---------|---------|---------|---------|
| Reverse flow versus normal flow capacity | -1% | -2% | -3% | -16% | -18% | -13% | -10% |

| Condensing temperature [°C] | R134a Capacity in normal flow direction [kW] | | | | | | | | | | | Valve type |
|-----------------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------------|
| | Evaporating temperature [°C] | | | | | | | | | | | |
| | 30 | 25 | 20 | 15 | 10 | 5 | 0 | -5 | -10 | -15 | -20 | |
| 65 | 17.1 | 17.6 | 18.0 | 18.1 | 18.2 | 18.1 | 18.0 | 17.7 | 17.4 | 15.5 | 12.8 | TX7-M..3 |
| | 21.3 | 21.9 | 22.3 | 22.5 | 22.6 | 22.5 | 22.3 | 22.0 | 21.7 | 19.2 | 15.9 | TX7-M..4 |
| | 26.1 | 26.8 | 27.4 | 27.6 | 27.7 | 27.6 | 27.4 | 27.0 | 26.6 | 23.6 | 19.5 | TX7-M..5 |
| | 43.0 | 44.3 | 45.2 | 45.6 | 45.7 | 45.6 | 45.2 | 44.6 | 43.8 | 38.9 | 32.2 | TX7-M..6 |
| | 53.1 | 54.6 | 55.7 | 56.2 | 56.4 | 56.2 | 55.7 | 55.0 | 54.0 | 48.0 | 39.7 | TX7-M..7 |
| | 69.9 | 71.9 | 73.3 | 74.0 | 74.2 | 74.0 | 73.3 | 72.4 | 71.2 | 63.2 | 52.3 | TX7-M..8 |
| | 97.9 | 100.8 | 102.7 | 103.7 | 104.0 | 103.7 | 102.8 | 101.4 | 99.7 | 88.6 | 73.3 | TX7-M..9 |
| 60 | 16.4 | 17.2 | 17.7 | 18.0 | 18.2 | 18.3 | 18.2 | 18.1 | 17.8 | 15.9 | 13.2 | TX7-M..3 |
| | 20.4 | 21.4 | 22.0 | 22.4 | 22.6 | 22.7 | 22.6 | 22.5 | 22.2 | 19.8 | 16.4 | TX7-M..4 |
| | 25.0 | 26.2 | 27.0 | 27.5 | 27.7 | 27.8 | 27.7 | 27.5 | 27.2 | 24.2 | 20.2 | TX7-M..5 |
| | 41.3 | 43.2 | 44.5 | 45.3 | 45.8 | 45.9 | 45.8 | 45.4 | 44.9 | 40.0 | 33.3 | TX7-M..6 |
| | 51.0 | 53.3 | 54.9 | 55.9 | 56.5 | 56.6 | 56.5 | 56.0 | 55.3 | 49.3 | 41.0 | TX7-M..7 |
| | 67.1 | 70.1 | 72.2 | 73.6 | 74.3 | 74.6 | 74.3 | 73.7 | 72.8 | 65.0 | 54.0 | TX7-M..8 |
| | 94.0 | 98.3 | 101.2 | 103.1 | 104.2 | 104.5 | 104.2 | 103.3 | 102.1 | 91.1 | 75.7 | TX7-M..9 |
| 55 | 15.3 | 16.3 | 17.1 | 17.6 | 18.0 | 18.1 | 18.2 | 18.1 | 18.0 | 16.1 | 13.5 | TX7-M..3 |
| | 19.0 | 20.3 | 21.3 | 21.9 | 22.3 | 22.5 | 22.6 | 22.6 | 22.4 | 20.1 | 16.7 | TX7-M..4 |
| | 23.3 | 24.9 | 26.0 | 26.8 | 27.3 | 27.6 | 27.7 | 27.6 | 27.4 | 24.6 | 20.5 | TX7-M..5 |
| | 38.5 | 41.1 | 43.0 | 44.3 | 45.1 | 45.6 | 45.8 | 45.6 | 45.3 | 40.6 | 33.9 | TX7-M..6 |
| | 47.5 | 50.7 | 53.0 | 54.6 | 55.7 | 56.2 | 56.4 | 56.3 | 55.8 | 50.0 | 41.8 | TX7-M..7 |
| | 62.5 | 66.7 | 69.8 | 71.9 | 73.3 | 74.0 | 74.3 | 74.1 | 73.5 | 65.9 | 55.0 | TX7-M..8 |
| | 87.6 | 93.5 | 97.8 | 100.8 | 102.7 | 103.7 | 104.1 | 103.8 | 103.0 | 92.3 | 77.0 | TX7-M..9 |
| 50 | 13.7 | 15.1 | 16.1 | 16.9 | 17.4 | 17.7 | 17.9 | 18.0 | 17.9 | 16.2 | 13.5 | TX7-M..3 |
| | 17.0 | 18.8 | 20.1 | 21.0 | 21.6 | 22.1 | 22.3 | 22.4 | 22.3 | 20.1 | 16.8 | TX7-M..4 |
| | 20.8 | 23.0 | 24.6 | 25.7 | 26.5 | 27.0 | 27.3 | 27.4 | 27.3 | 24.6 | 20.6 | TX7-M..5 |
| | 34.4 | 38.0 | 40.6 | 42.5 | 43.8 | 44.6 | 45.1 | 45.2 | 45.1 | 40.6 | 34.1 | TX7-M..6 |
| | 42.4 | 46.8 | 50.0 | 52.3 | 53.9 | 55.0 | 55.6 | 55.8 | 55.6 | 50.1 | 42.0 | TX7-M..7 |
| | 55.8 | 61.6 | 65.9 | 68.9 | 71.0 | 72.4 | 73.2 | 73.4 | 73.2 | 65.9 | 55.3 | TX7-M..8 |
| | 78.2 | 86.4 | 92.3 | 96.6 | 99.5 | 101.5 | 102.5 | 102.9 | 102.6 | 92.4 | 77.4 | TX7-M..9 |
| 45 | 11.3 | 13.3 | 14.8 | 15.8 | 16.5 | 17.1 | 17.4 | 17.6 | 17.6 | 16.0 | 13.4 | TX7-M..3 |
| | 14.1 | 16.6 | 18.3 | 19.6 | 20.6 | 21.2 | 21.6 | 21.9 | 21.9 | 19.9 | 16.7 | TX7-M..4 |
| | 17.2 | 20.3 | 22.5 | 24.1 | 25.2 | 26.0 | 26.5 | 26.8 | 26.9 | 24.3 | 20.5 | TX7-M..5 |
| | 28.4 | 33.5 | 37.1 | 39.7 | 41.6 | 42.9 | 43.8 | 44.2 | 44.4 | 40.2 | 33.8 | TX7-M..6 |
| | 35.1 | 41.3 | 45.8 | 49.0 | 51.3 | 52.9 | 53.9 | 54.5 | 54.7 | 49.5 | 41.7 | TX7-M..7 |
| | 46.2 | 54.4 | 60.2 | 64.5 | 67.5 | 69.6 | 71.0 | 71.8 | 72.0 | 65.2 | 54.9 | TX7-M..8 |
| | 64.7 | 76.2 | 84.4 | 90.4 | 94.6 | 97.6 | 99.5 | 100.6 | 100.9 | 91.4 | 76.9 | TX7-M..9 |
| 40 | 7.6 | 10.8 | 12.9 | 14.3 | 15.3 | 16.1 | 16.6 | 16.9 | 17.1 | 15.6 | 13.2 | TX7-M..3 |
| | 9.4 | 13.4 | 16.0 | 17.8 | 19.1 | 20.0 | 20.6 | 21.1 | 21.3 | 19.4 | 16.4 | TX7-M..4 |
| | 11.6 | 16.5 | 19.6 | 21.8 | 23.4 | 24.5 | 25.3 | 25.8 | 26.1 | 23.7 | 20.1 | TX7-M..5 |
| | 19.1 | 27.2 | 32.3 | 36.0 | 38.6 | 40.5 | 41.8 | 42.6 | 43.1 | 39.2 | 33.2 | TX7-M..6 |
| | 23.6 | 33.5 | 39.9 | 44.3 | 47.6 | 49.9 | 51.5 | 52.5 | 53.1 | 48.3 | 40.9 | TX7-M..7 |
| | 31.0 | 44.1 | 52.5 | 58.4 | 62.6 | 65.7 | 67.8 | 69.1 | 69.9 | 63.6 | 53.9 | TX7-M..8 |
| | 43.5 | 61.8 | 73.6 | 81.8 | 87.8 | 92.0 | 95.0 | 96.9 | 97.9 | 89.2 | 75.5 | TX7-M..9 |
| 35 | 6.8 | 10.2 | 12.3 | 13.7 | 14.8 | 15.5 | 16.0 | 16.4 | 16.4 | 15.0 | 12.8 | TX7-M..3 |
| | 8.5 | 12.7 | 15.3 | 17.1 | 18.4 | 19.3 | 19.9 | 20.3 | 20.3 | 18.7 | 15.9 | TX7-M..4 |
| | 10.4 | 15.5 | 18.7 | 20.9 | 22.5 | 23.6 | 24.4 | 24.9 | 24.9 | 22.9 | 19.5 | TX7-M..5 |
| | 17.1 | 25.6 | 30.9 | 34.6 | 37.2 | 39.0 | 40.3 | 41.2 | 41.2 | 37.7 | 32.1 | TX7-M..6 |
| | 21.1 | 31.6 | 38.1 | 42.6 | 45.8 | 48.1 | 49.7 | 50.7 | 50.7 | 46.5 | 39.6 | TX7-M..7 |
| | 27.8 | 41.6 | 50.1 | 56.1 | 60.3 | 63.4 | 65.4 | 66.8 | 66.8 | 61.3 | 52.2 | TX7-M..8 |
| | 39.0 | 58.3 | 70.3 | 78.6 | 84.5 | 88.8 | 91.7 | 93.6 | 93.6 | 85.9 | 73.1 | TX7-M..9 |

Thermo™-Expansion Valves Series TX7

Quick selection (included 1.5 bar pressure drop for liquid line components and distributor)

Quick selection capacity table is for operation in normal flow direction. For reverse flow direction use the following factors:

| Valve size | TX7-..3 | TX7-..4 | TX7-..5 | TX7-..6 | TX7-..7 | TX7-..8 | TX7-..9 |
|--|---------|---------|---------|---------|---------|---------|---------|
| Reverse flow versus normal flow capacity | -1% | -2% | -3% | -16% | -18% | -13% | -10% |

| Condensing temperature [°C] | R407C Capacity in normal flow direction [kW] | | | | | | | | | Valve type |
|--|--|-------|-------|-------|-------|-------|-------|-------|-------|------------|
| | Evaporating temperature [°C] | | | | | | | | | |
| | 15 | 10 | 5 | 0 | -5 | -10 | -15 | -20 | -25 | |
| 55°C bubble point/ 59.2°C dew point | 27.0 | 27.5 | 27.7 | 27.7 | 27.6 | 27.5 | 23.9 | 19.9 | 16.5 | TX7-N..3 |
| | 33.6 | 34.2 | 34.4 | 34.4 | 34.4 | 34.2 | 29.8 | 24.8 | 20.5 | TX7-N..4 |
| | 41.2 | 41.9 | 42.2 | 42.2 | 42.1 | 41.9 | 36.5 | 30.4 | 25.1 | TX7-N..5 |
| | 68.0 | 69.2 | 69.6 | 69.7 | 69.5 | 69.1 | 60.2 | 50.2 | 41.4 | TX7-N..6 |
| | 83.8 | 85.4 | 85.8 | 85.9 | 85.7 | 85.2 | 74.2 | 61.8 | 51.1 | TX7-N..7 |
| | 110.4 | 112.4 | 113.0 | 113.1 | 112.8 | 112.2 | 97.7 | 81.4 | 67.3 | TX7-N..8 |
| | 154.6 | 157.5 | 158.3 | 158.4 | 158.1 | 157.3 | 137.0 | 114.1 | 94.2 | TX7-N..9 |
| 50°C bubble point/ 54.4°C dew point | 27.0 | 27.6 | 28.1 | 28.2 | 28.4 | 28.2 | 24.6 | 20.6 | 17.1 | TX7-N..3 |
| | 33.6 | 34.4 | 34.9 | 35.0 | 35.3 | 35.1 | 30.6 | 25.6 | 21.3 | TX7-N..4 |
| | 41.1 | 42.1 | 42.8 | 42.9 | 43.2 | 43.0 | 37.5 | 31.4 | 26.1 | TX7-N..5 |
| | 67.9 | 69.5 | 70.7 | 70.9 | 71.4 | 71.0 | 61.9 | 51.9 | 43.1 | TX7-N..6 |
| | 83.7 | 85.7 | 87.1 | 87.4 | 88.0 | 87.5 | 76.3 | 64.0 | 53.1 | TX7-N..7 |
| | 110.2 | 112.9 | 114.7 | 115.0 | 115.8 | 115.3 | 100.5 | 84.2 | 69.9 | TX7-N..8 |
| | 154.5 | 158.1 | 160.8 | 161.2 | 162.3 | 161.5 | 140.8 | 118.0 | 98.0 | TX7-N..9 |
| 45°C bubble point/ 49.6°C dew point | 26.4 | 27.3 | 27.9 | 28.3 | 28.5 | 28.4 | 25.1 | 21.0 | 17.4 | TX7-N..3 |
| | 32.9 | 33.9 | 34.6 | 35.1 | 35.5 | 35.3 | 31.2 | 26.1 | 21.7 | TX7-N..4 |
| | 40.3 | 41.5 | 42.4 | 43.1 | 43.5 | 43.3 | 38.2 | 32.0 | 26.5 | TX7-N..5 |
| | 66.5 | 68.5 | 70.1 | 71.1 | 71.8 | 71.5 | 63.1 | 52.8 | 43.8 | TX7-N..6 |
| | 81.9 | 84.5 | 86.3 | 87.6 | 88.5 | 88.1 | 77.8 | 65.0 | 54.0 | TX7-N..7 |
| | 107.9 | 111.3 | 113.7 | 115.4 | 116.5 | 116.0 | 102.5 | 85.6 | 71.1 | TX7-N..8 |
| | 151.2 | 155.9 | 159.3 | 161.7 | 163.2 | 162.6 | 143.6 | 120.0 | 99.7 | TX7-N..9 |
| 40°C bubble point/ 44.9°C dew point | 25.2 | 26.2 | 27.3 | 27.8 | 28.2 | 28.4 | 25.1 | 21.0 | 17.6 | TX7-N..3 |
| | 31.3 | 32.6 | 33.9 | 34.6 | 35.1 | 35.3 | 31.2 | 26.1 | 21.9 | TX7-N..4 |
| | 38.3 | 40.0 | 41.6 | 42.4 | 43.0 | 43.3 | 38.2 | 32.0 | 26.8 | TX7-N..5 |
| | 63.3 | 66.0 | 68.6 | 70.0 | 70.9 | 71.5 | 63.1 | 52.8 | 44.3 | TX7-N..6 |
| | 78.0 | 81.3 | 84.6 | 86.3 | 87.4 | 88.1 | 77.8 | 65.1 | 54.6 | TX7-N..7 |
| | 102.7 | 107.1 | 111.3 | 113.6 | 115.1 | 116.0 | 102.4 | 85.7 | 71.9 | TX7-N..8 |
| | 143.9 | 150.0 | 156.0 | 159.2 | 161.3 | 162.5 | 143.5 | 120.1 | 100.7 | TX7-N..9 |
| 35°C bubble point/ 40.1°C dew point | 23.3 | 25.0 | 26.0 | 26.7 | 27.5 | 27.8 | 24.7 | 20.9 | 17.5 | TX7-N..3 |
| | 29.0 | 31.1 | 32.3 | 33.3 | 34.2 | 34.6 | 30.7 | 26.0 | 21.8 | TX7-N..4 |
| | 35.5 | 38.1 | 39.6 | 40.8 | 41.9 | 42.4 | 37.6 | 31.8 | 26.7 | TX7-N..5 |
| | 58.6 | 62.8 | 65.4 | 67.3 | 69.2 | 70.0 | 62.0 | 52.6 | 44.1 | TX7-N..6 |
| | 72.3 | 77.5 | 80.7 | 82.9 | 85.4 | 86.3 | 76.5 | 64.8 | 54.4 | TX7-N..7 |
| | 95.1 | 102.0 | 106.2 | 109.2 | 112.4 | 113.7 | 100.7 | 85.3 | 71.6 | TX7-N..8 |
| | 133.3 | 142.9 | 148.8 | 153.0 | 157.5 | 159.3 | 141.1 | 119.6 | 100.3 | TX7-N..9 |
| 30°C bubble point/ 35.2°C dew point | 20.7 | 22.9 | 24.5 | 25.5 | 26.5 | 26.9 | 24.0 | 20.5 | 17.3 | TX7-N..3 |
| | 25.8 | 28.4 | 30.5 | 31.7 | 32.9 | 33.5 | 29.8 | 25.5 | 21.5 | TX7-N..4 |
| | 31.6 | 34.9 | 37.3 | 38.8 | 40.3 | 41.0 | 36.5 | 31.2 | 26.3 | TX7-N..5 |
| | 52.2 | 57.5 | 61.7 | 64.1 | 66.6 | 67.7 | 60.3 | 51.6 | 43.4 | TX7-N..6 |
| | 64.3 | 70.9 | 76.0 | 79.1 | 82.1 | 83.5 | 74.4 | 63.5 | 53.5 | TX7-N..7 |
| | 84.6 | 93.4 | 100.1 | 104.1 | 108.1 | 109.9 | 97.9 | 83.7 | 70.5 | TX7-N..8 |
| | 118.6 | 130.9 | 140.2 | 145.9 | 151.4 | 154.0 | 137.2 | 117.2 | 98.7 | TX7-N..9 |
| 25°C bubble point/ 30.4°C dew point | 17.4 | 20.3 | 22.4 | 23.7 | 24.9 | 25.6 | 23.2 | 19.7 | 16.7 | TX7-N..3 |
| | 21.6 | 25.2 | 27.8 | 29.5 | 31.0 | 31.8 | 28.9 | 24.5 | 20.8 | TX7-N..4 |
| | 26.5 | 30.9 | 34.1 | 36.1 | 38.0 | 39.0 | 35.4 | 30.0 | 25.5 | TX7-N..5 |
| | 43.8 | 51.0 | 56.3 | 59.7 | 62.7 | 64.3 | 58.4 | 49.6 | 42.1 | TX7-N..6 |
| | 54.0 | 62.9 | 69.4 | 73.6 | 77.3 | 79.3 | 72.0 | 61.1 | 51.9 | TX7-N..7 |
| | 71.1 | 82.8 | 91.4 | 96.9 | 101.8 | 104.4 | 94.8 | 80.5 | 68.3 | TX7-N..8 |
| | 99.6 | 116.0 | 128.1 | 135.7 | 142.7 | 146.3 | 132.8 | 112.8 | 95.7 | TX7-N..9 |

Quick selection (included 1.5 bar pressure drop for liquid line components and distributor)

Quick selection capacity table is for operation in normal flow direction. For reverse flow direction use the following factors:

| Valve size | TX7-..3 | TX7-..4 | TX7-..5 | TX7-..6 | TX7-..7 | TX7-..8 | TX7-..9 |
|--|---------|---------|---------|---------|---------|---------|---------|
| Reverse flow versus normal flow capacity | -1% | -2% | -3% | -16% | -18% | -13% | -10% |

| Condensing temperature [°C] | R32 Capacity in normal flow direction [kW] | | | | | | | | Valve type |
|-----------------------------|--|-------|-------|-------|-------|-------|-------|-------|------------|
| | Evaporating temperature °C | | | | | | | | |
| | 10 | 5 | 0 | -5 | -10 | -15 | -20 | -25 | |
| 65 | 46.1 | 47.1 | 47.9 | 48.5 | 48.9 | 43.4 | 38.0 | 32.5 | TX7-Z13 |
| | 57.3 | 58.5 | 59.5 | 60.2 | 60.8 | 54.0 | 47.2 | 40.3 | TX7-Z14 |
| | 70.2 | 71.7 | 72.9 | 73.8 | 74.5 | 66.2 | 57.9 | 49.4 | TX7-Z15 |
| | 115.9 | 118.4 | 120.4 | 121.9 | 122.9 | 109.2 | 95.5 | 81.6 | TX7-Z16 |
| | 142.9 | 146.0 | 148.4 | 150.2 | 151.5 | 134.7 | 117.8 | 100.6 | TX7-Z17 |
| | 188.1 | 192.2 | 195.4 | 197.8 | 199.5 | 177.3 | 155.1 | 132.5 | TX7-Z18 |
| | 263.6 | 269.3 | 273.8 | 277.2 | 279.5 | 248.5 | 217.3 | 185.7 | TX7-Z19 |
| 60 | 47.4 | 48.7 | 49.7 | 50.4 | 51.0 | 45.4 | 39.8 | 34.1 | TX7-Z13 |
| | 59.0 | 60.5 | 61.7 | 62.7 | 63.4 | 56.5 | 49.5 | 42.4 | TX7-Z14 |
| | 72.3 | 74.2 | 75.7 | 76.8 | 77.7 | 69.2 | 60.6 | 51.9 | TX7-Z15 |
| | 119.3 | 122.4 | 124.9 | 126.8 | 128.2 | 114.2 | 100.1 | 85.7 | TX7-Z16 |
| | 147.1 | 150.9 | 153.9 | 156.3 | 158.1 | 140.8 | 123.4 | 105.7 | TX7-Z17 |
| | 193.7 | 198.7 | 202.7 | 205.8 | 208.1 | 185.4 | 162.5 | 139.1 | TX7-Z18 |
| | 271.4 | 278.4 | 284.0 | 288.4 | 291.6 | 259.8 | 227.7 | 195.0 | TX7-Z19 |
| 55 | 47.6 | 49.1 | 50.3 | 51.3 | 52.0 | 46.4 | 40.8 | 35.0 | TX7-Z13 |
| | 59.2 | 61.1 | 62.6 | 63.7 | 64.6 | 57.7 | 50.7 | 43.5 | TX7-Z14 |
| | 72.6 | 74.8 | 76.7 | 78.1 | 79.2 | 70.8 | 62.2 | 53.3 | TX7-Z15 |
| | 119.8 | 123.5 | 126.6 | 128.9 | 130.8 | 116.8 | 102.6 | 88.0 | TX7-Z16 |
| | 147.7 | 152.3 | 156.0 | 158.9 | 161.2 | 144.0 | 126.5 | 108.5 | TX7-Z17 |
| | 194.4 | 200.5 | 205.4 | 209.3 | 212.3 | 189.6 | 166.5 | 142.9 | TX7-Z18 |
| | 272.4 | 281.0 | 287.8 | 293.3 | 297.4 | 265.7 | 233.4 | 200.2 | TX7-Z19 |
| 50 | 46.9 | 48.7 | 50.1 | 51.3 | 52.2 | 46.7 | 41.2 | 35.4 | TX7-Z13 |
| | 58.3 | 60.5 | 62.3 | 63.7 | 64.9 | 58.1 | 51.2 | 44.0 | TX7-Z14 |
| | 71.4 | 74.1 | 76.3 | 78.1 | 79.5 | 71.2 | 62.7 | 53.9 | TX7-Z15 |
| | 117.9 | 122.4 | 126.0 | 128.9 | 131.2 | 117.6 | 103.5 | 89.0 | TX7-Z16 |
| | 145.3 | 150.8 | 155.3 | 158.9 | 161.8 | 144.9 | 127.6 | 109.7 | TX7-Z17 |
| | 191.3 | 198.6 | 204.5 | 209.3 | 213.0 | 190.8 | 168.0 | 144.5 | TX7-Z18 |
| | 268.1 | 278.3 | 286.6 | 293.3 | 298.4 | 267.4 | 235.4 | 202.4 | TX7-Z19 |
| 45 | 45.3 | 47.4 | 49.1 | 50.5 | 51.7 | 46.4 | 41.0 | 35.3 | TX7-Z13 |
| | 56.3 | 58.9 | 61.1 | 62.8 | 64.2 | 57.7 | 51.0 | 43.9 | TX7-Z14 |
| | 69.0 | 72.2 | 74.9 | 77.0 | 78.7 | 70.7 | 62.5 | 53.8 | TX7-Z15 |
| | 113.9 | 119.2 | 123.6 | 127.1 | 129.9 | 116.8 | 103.1 | 88.9 | TX7-Z16 |
| | 140.4 | 147.0 | 152.3 | 156.7 | 160.1 | 144.0 | 127.1 | 109.6 | TX7-Z17 |
| | 184.8 | 193.5 | 200.6 | 206.3 | 210.9 | 189.6 | 167.4 | 144.3 | TX7-Z18 |
| | 259.0 | 271.1 | 281.1 | 289.1 | 295.5 | 265.6 | 234.6 | 202.2 | TX7-Z19 |
| 40 | 42.9 | 45.4 | 47.5 | 49.2 | 50.5 | 45.6 | 40.4 | 34.9 | TX7-Z13 |
| | 53.3 | 56.4 | 59.0 | 61.1 | 62.8 | 56.7 | 50.2 | 43.4 | TX7-Z14 |
| | 65.3 | 69.2 | 72.3 | 74.9 | 76.9 | 69.5 | 61.6 | 53.2 | TX7-Z15 |
| | 107.8 | 114.2 | 119.4 | 123.6 | 127.0 | 114.7 | 101.6 | 87.8 | TX7-Z16 |
| | 132.9 | 140.8 | 147.2 | 152.4 | 156.6 | 141.4 | 125.3 | 108.3 | TX7-Z17 |
| | 174.9 | 185.3 | 193.8 | 200.7 | 206.2 | 186.1 | 165.0 | 142.6 | TX7-Z18 |
| | 245.1 | 259.7 | 271.6 | 281.2 | 288.9 | 260.8 | 231.2 | 199.8 | TX7-Z19 |
| 35 | 39.6 | 42.6 | 45.1 | 47.2 | 48.8 | 44.3 | 39.4 | 34.2 | TX7-Z13 |
| | 49.2 | 53.0 | 56.1 | 58.6 | 60.6 | 55.0 | 49.0 | 42.5 | TX7-Z14 |
| | 60.3 | 65.0 | 68.8 | 71.9 | 74.3 | 67.4 | 60.0 | 52.1 | TX7-Z15 |
| | 99.5 | 107.3 | 113.5 | 118.6 | 122.7 | 111.3 | 99.1 | 86.0 | TX7-Z16 |
| | 122.7 | 132.2 | 140.0 | 146.2 | 151.2 | 137.3 | 122.2 | 106.0 | TX7-Z17 |
| | 161.5 | 174.1 | 184.3 | 192.5 | 199.1 | 180.7 | 160.9 | 139.5 | TX7-Z18 |
| | 226.4 | 244.0 | 258.2 | 269.8 | 279.1 | 253.2 | 225.4 | 195.5 | TX7-Z19 |

Thermo™-Expansion Valves Series TX7

Quick Selection (included 1.5 bar pressure drop for liquid line components and distributor)

Quick selection capacity table is for operation in normal flow direction. For reverse flow direction use the following factors:

| Valve size | TX7-..3 | TX7-..4 | TX7-..5 | TX7-..6 | TX7-..7 | TX7-..8 | TX7-..9 |
|--|---------|---------|---------|---------|---------|---------|---------|
| Reverse flow versus normal flow capacity | -1% | -2% | -3% | -16% | -18% | -13% | -10% |

| Condensing temperature [°C] | R450A Capacity in normal flow direction [kW] | | | | | | | Valve type |
|-----------------------------|--|------|------|------|------|------|------|------------|
| | Evaporating temperature [°C] | | | | | | | |
| | 10 | 5 | 0 | -5 | -10 | -15 | -20 | |
| 65 | 15.9 | 15.7 | 15.5 | 15.3 | 14.9 | 13.2 | 10.9 | TX7-M..3 |
| | 19.7 | 19.6 | 19.3 | 19.0 | 18.6 | 16.4 | 13.5 | TX7-M..4 |
| | 24.2 | 24.0 | 23.7 | 23.3 | 22.8 | 20.1 | 16.6 | TX7-M..5 |
| | 39.9 | 39.6 | 39.1 | 38.4 | 37.6 | 33.2 | 27.3 | TX7-M..6 |
| | 49.2 | 48.8 | 48.2 | 47.3 | 46.3 | 40.9 | 33.7 | TX7-M..7 |
| | 64.7 | 64.3 | 63.4 | 62.3 | 61.0 | 53.9 | 44.4 | TX7-M..8 |
| | 90.7 | 90.0 | 88.9 | 87.4 | 85.5 | 75.5 | 62.2 | TX7-M..9 |
| 60 | 15.9 | 15.9 | 15.8 | 15.6 | 15.3 | 13.6 | 11.3 | TX7-M..3 |
| | 19.7 | 19.7 | 19.6 | 19.4 | 19.0 | 16.9 | 14.0 | TX7-M..4 |
| | 24.2 | 24.2 | 24.0 | 23.7 | 23.3 | 20.7 | 17.1 | TX7-M..5 |
| | 39.9 | 39.9 | 39.6 | 39.2 | 38.5 | 34.2 | 28.3 | TX7-M..6 |
| | 49.2 | 49.2 | 48.9 | 48.3 | 47.5 | 42.2 | 34.9 | TX7-M..7 |
| | 64.8 | 64.8 | 64.3 | 63.6 | 62.5 | 55.5 | 45.9 | TX7-M..8 |
| | 90.8 | 90.8 | 90.1 | 89.1 | 87.6 | 77.8 | 64.4 | TX7-M..9 |
| 55 | 15.6 | 15.8 | 15.8 | 15.7 | 15.5 | 13.8 | 11.5 | TX7-M..3 |
| | 19.5 | 19.6 | 19.6 | 19.5 | 19.2 | 17.2 | 14.3 | TX7-M..4 |
| | 23.8 | 24.0 | 24.0 | 23.8 | 23.6 | 21.0 | 17.5 | TX7-M..5 |
| | 39.4 | 39.6 | 39.6 | 39.4 | 38.9 | 34.7 | 28.9 | TX7-M..6 |
| | 48.5 | 48.9 | 48.8 | 48.5 | 48.0 | 42.8 | 35.6 | TX7-M..7 |
| | 63.9 | 64.3 | 64.3 | 63.9 | 63.2 | 56.4 | 46.9 | TX7-M..8 |
| | 89.5 | 90.1 | 90.1 | 89.5 | 88.5 | 79.0 | 65.7 | TX7-M..9 |
| 50 | 15.2 | 15.4 | 15.5 | 15.5 | 15.4 | 13.8 | 11.6 | TX7-M..3 |
| | 18.9 | 19.2 | 19.3 | 19.3 | 19.2 | 17.2 | 14.4 | TX7-M..4 |
| | 23.1 | 23.5 | 23.6 | 23.6 | 23.5 | 21.1 | 17.6 | TX7-M..5 |
| | 38.1 | 38.8 | 39.0 | 39.0 | 38.8 | 34.8 | 29.1 | TX7-M..6 |
| | 47.0 | 47.8 | 48.1 | 48.1 | 47.8 | 42.9 | 35.8 | TX7-M..7 |
| | 61.9 | 62.9 | 63.4 | 63.4 | 63.0 | 56.5 | 47.2 | TX7-M..8 |
| | 86.7 | 88.1 | 88.8 | 88.8 | 88.3 | 79.2 | 66.1 | TX7-M..9 |
| 45 | 14.4 | 14.8 | 15.1 | 15.2 | 15.2 | 13.7 | 11.5 | TX7-M..3 |
| | 17.9 | 18.4 | 18.7 | 18.9 | 18.9 | 17.0 | 14.3 | TX7-M..4 |
| | 21.9 | 22.6 | 22.9 | 23.1 | 23.1 | 20.9 | 17.5 | TX7-M..5 |
| | 36.2 | 37.3 | 37.9 | 38.2 | 38.2 | 34.4 | 28.9 | TX7-M..6 |
| | 44.7 | 45.9 | 46.7 | 47.0 | 47.1 | 42.5 | 35.6 | TX7-M..7 |
| | 58.8 | 60.5 | 61.5 | 61.9 | 62.0 | 55.9 | 46.9 | TX7-M..8 |
| | 82.4 | 84.7 | 86.1 | 86.8 | 86.8 | 78.3 | 65.7 | TX7-M..9 |
| 40 | 13.3 | 13.9 | 14.4 | 14.6 | 14.7 | 13.4 | 11.3 | TX7-M..3 |
| | 16.6 | 17.3 | 17.9 | 18.2 | 18.3 | 16.6 | 14.0 | TX7-M..4 |
| | 20.3 | 21.3 | 21.9 | 22.3 | 22.4 | 20.4 | 17.2 | TX7-M..5 |
| | 33.5 | 35.1 | 36.1 | 36.7 | 37.0 | 33.6 | 28.4 | TX7-M..6 |
| | 41.3 | 43.2 | 44.5 | 45.3 | 45.7 | 41.4 | 35.0 | TX7-M..7 |
| | 54.4 | 56.9 | 58.6 | 59.6 | 60.1 | 54.6 | 46.0 | TX7-M..8 |
| | 76.3 | 79.8 | 82.1 | 83.6 | 84.2 | 76.5 | 64.5 | TX7-M..9 |
| 35 | 11.9 | 12.8 | 13.4 | 13.8 | 14.1 | 12.9 | 10.9 | TX7-M..3 |
| | 14.8 | 15.9 | 16.7 | 17.2 | 17.5 | 16.0 | 13.6 | TX7-M..4 |
| | 18.1 | 19.5 | 20.4 | 21.0 | 21.4 | 19.6 | 16.6 | TX7-M..5 |
| | 29.9 | 32.1 | 33.7 | 34.7 | 35.4 | 32.4 | 27.5 | TX7-M..6 |
| | 36.9 | 39.6 | 41.5 | 42.8 | 43.6 | 39.9 | 33.9 | TX7-M..7 |
| | 48.6 | 52.2 | 54.7 | 56.4 | 57.4 | 52.5 | 44.6 | TX7-M..8 |
| | 68.1 | 73.1 | 76.6 | 79.0 | 80.4 | 73.6 | 62.5 | TX7-M..9 |

Quick Selection (included 1.5 bar pressure drop for liquid line components and distributor)

Quick selection capacity table is for operation in normal flow direction. For reverse flow direction use the following factors:

| Valve size | TX7-..3 | TX7-..4 | TX7-..5 | TX7-..6 | TX7-..7 | TX7-..8 | TX7-..9 |
|--|---------|---------|---------|---------|---------|---------|---------|
| Reverse flow versus normal flow capacity | -1% | -2% | -3% | -16% | -18% | -13% | -10% |

| Condensing temperature [°C] | R513A Capacity in normal flow direction [kW] | | | | | | | Valve type |
|-----------------------------|--|------|------|------|------|------|------|------------|
| | Evaporating temperature [°C] | | | | | | | |
| | 10 | 5 | 0 | -5 | -10 | -15 | -20 | |
| 65 | 15.3 | 15.1 | 14.9 | 14.5 | 14.1 | 12.4 | 10.1 | TX7-M..3 |
| | 19.1 | 18.8 | 18.5 | 18.1 | 17.6 | 15.4 | 12.6 | TX7-M..4 |
| | 23.4 | 23.1 | 22.7 | 22.1 | 21.5 | 18.9 | 15.4 | TX7-M..5 |
| | 38.6 | 38.1 | 37.4 | 36.6 | 35.5 | 31.2 | 25.5 | TX7-M..6 |
| | 47.5 | 47.0 | 46.1 | 45.1 | 43.8 | 38.4 | 31.4 | TX7-M..7 |
| | 62.6 | 61.8 | 60.7 | 59.3 | 57.7 | 50.6 | 41.4 | TX7-M..8 |
| | 87.7 | 86.7 | 85.1 | 83.1 | 80.8 | 70.9 | 58.0 | TX7-M..9 |
| 60 | 15.7 | 15.6 | 15.4 | 15.2 | 14.9 | 13.1 | 10.8 | TX7-M..3 |
| | 19.5 | 19.4 | 19.2 | 18.9 | 18.5 | 16.3 | 13.4 | TX7-M..4 |
| | 23.9 | 23.8 | 23.5 | 23.1 | 22.6 | 20.0 | 16.5 | TX7-M..5 |
| | 39.4 | 39.3 | 38.8 | 38.2 | 37.4 | 33.0 | 27.2 | TX7-M..6 |
| | 48.6 | 48.4 | 47.9 | 47.1 | 46.1 | 40.7 | 33.5 | TX7-M..7 |
| | 64.0 | 63.7 | 63.0 | 62.0 | 60.7 | 53.6 | 44.1 | TX7-M..8 |
| 55 | 15.7 | 15.8 | 15.7 | 15.6 | 15.3 | 13.6 | 11.3 | TX7-M..3 |
| | 19.6 | 19.6 | 19.6 | 19.4 | 19.1 | 16.9 | 14.0 | TX7-M..4 |
| | 24.0 | 24.1 | 24.0 | 23.7 | 23.4 | 20.8 | 17.2 | TX7-M..5 |
| | 39.6 | 39.7 | 39.6 | 39.2 | 38.6 | 34.3 | 28.4 | TX7-M..6 |
| | 48.8 | 48.9 | 48.8 | 48.3 | 47.5 | 42.3 | 35.0 | TX7-M..7 |
| | 64.2 | 64.4 | 64.2 | 63.6 | 62.6 | 55.6 | 46.0 | TX7-M..8 |
| 50 | 15.5 | 15.7 | 15.7 | 15.7 | 15.6 | 13.9 | 11.6 | TX7-M..3 |
| | 19.2 | 19.5 | 19.6 | 19.5 | 19.3 | 17.3 | 14.4 | TX7-M..4 |
| | 23.6 | 23.9 | 24.0 | 23.9 | 23.7 | 21.2 | 17.6 | TX7-M..5 |
| | 38.9 | 39.4 | 39.6 | 39.5 | 39.1 | 35.0 | 29.1 | TX7-M..6 |
| | 47.9 | 48.6 | 48.8 | 48.7 | 48.2 | 43.1 | 35.9 | TX7-M..7 |
| | 63.1 | 64.0 | 64.3 | 64.1 | 63.5 | 56.8 | 47.2 | TX7-M..8 |
| 45 | 14.9 | 15.3 | 15.5 | 15.6 | 15.5 | 14.0 | 11.7 | TX7-M..3 |
| | 18.5 | 19.0 | 19.2 | 19.3 | 19.3 | 17.4 | 14.5 | TX7-M..4 |
| | 22.7 | 23.3 | 23.6 | 23.7 | 23.7 | 21.3 | 17.8 | TX7-M..5 |
| | 37.4 | 38.4 | 38.9 | 39.1 | 39.1 | 35.1 | 29.4 | TX7-M..6 |
| | 46.1 | 47.3 | 48.0 | 48.3 | 48.1 | 43.3 | 36.2 | TX7-M..7 |
| | 60.7 | 62.3 | 63.2 | 63.5 | 63.4 | 57.0 | 47.7 | TX7-M..8 |
| 40 | 13.9 | 14.6 | 14.9 | 15.2 | 15.3 | 13.8 | 11.6 | TX7-M..3 |
| | 17.3 | 18.1 | 18.6 | 18.9 | 19.0 | 17.2 | 14.5 | TX7-M..4 |
| | 21.3 | 22.2 | 22.8 | 23.1 | 23.2 | 21.1 | 17.7 | TX7-M..5 |
| | 35.1 | 36.6 | 37.6 | 38.2 | 38.4 | 34.8 | 29.2 | TX7-M..6 |
| | 43.2 | 45.1 | 46.3 | 47.0 | 47.3 | 42.8 | 36.1 | TX7-M..7 |
| | 56.9 | 59.4 | 61.0 | 61.9 | 62.3 | 56.4 | 47.5 | TX7-M..8 |
| 35 | 12.6 | 13.5 | 14.1 | 14.5 | 14.7 | 13.5 | 11.4 | TX7-M..3 |
| | 15.7 | 16.8 | 17.6 | 18.0 | 18.3 | 16.7 | 14.2 | TX7-M..4 |
| | 19.2 | 20.6 | 21.5 | 22.1 | 22.5 | 20.5 | 17.4 | TX7-M..5 |
| | 31.7 | 34.0 | 35.5 | 36.5 | 37.1 | 33.9 | 28.7 | TX7-M..6 |
| | 39.1 | 41.9 | 43.8 | 45.0 | 45.7 | 41.7 | 35.4 | TX7-M..7 |
| | 51.5 | 55.2 | 57.6 | 59.3 | 60.2 | 55.0 | 46.6 | TX7-M..8 |
| | 72.2 | 77.3 | 80.8 | 83.1 | 84.4 | 77.0 | 65.2 | TX7-M..9 |

Thermo™-Expansion Valves Series TX7

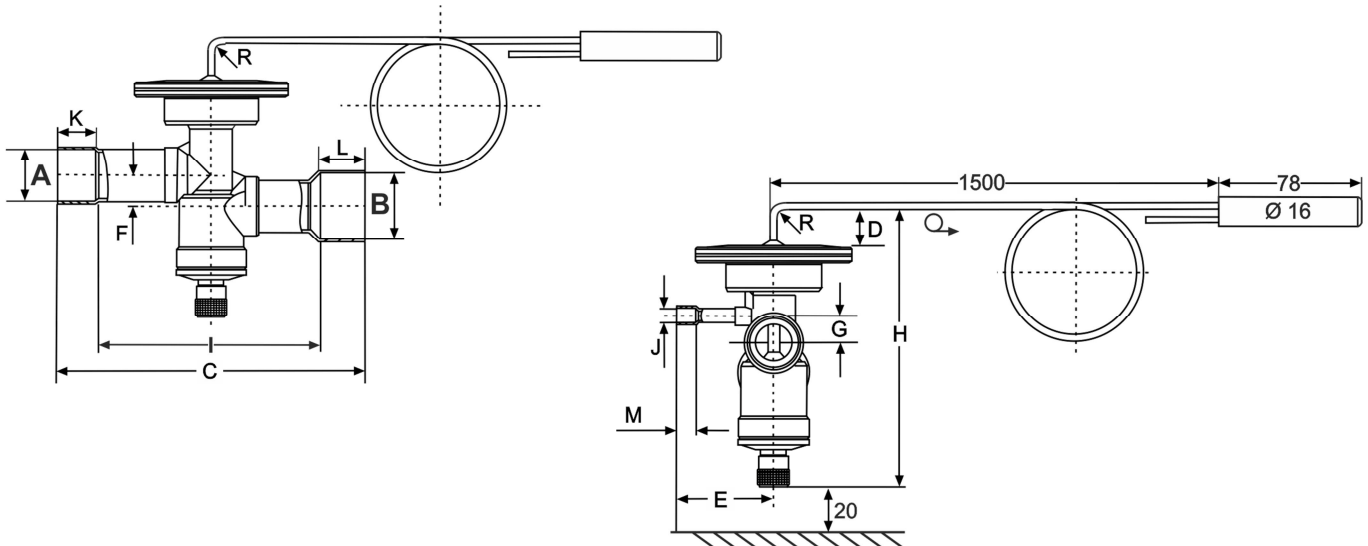
Technical Data

| | |
|-----------------------------|--|
| Maximum working pressure PS | 46 bar |
| Burst pressure | 230 bar |
| Factory test pressure PT | 50.6 bar |
| Medium temperature range TS | -25...+70°C |
| Storage temperature | -30...+70°C |
| Compatibility | R410A, R134a, R407C, R32, R450A, R513A |

| | |
|-----------------------|--|
| Connections | Copper ODF |
| Capillary tube length | 1.5 m |
| Power elements | Stainless steel, Laser welded |
| Label | Laser printing |
| Gross weight | Approx. 0.54...0.6 kg (depend on the valve size) |
| Marking | CE is not required, EAC & UL (pending) |

| Charge | Refrigerant | Recommended evaporating temperature range [°C] | Maximum bulb temperature [°C] |
|-----------------|-------------|--|-------------------------------|
| M0 | R134a | -25...+30 | 88 |
| N0 | R407C | -25...+20 | 71 |
| M1 MOP 3.8 bar | R134a | -25...+10 | 120 |
| N1 MOP 6.9 bar | R407C | -25...+14 | 120 |
| Z1 MOP 12.1 bar | R410A/ R32 | -40...+14 | 120 |

Dimensions [mm]



| Size/ Type | Inlet * A ODF | Outlet * B ODF | External equalizer J ODF | Min. overall height [mm] H | Distance between inlet & outlet pipes [mm] I | Min. capillary tube bending height ** [mm] D | Other [mm] | | | | | | |
|------------|---------------------|----------------------|-----------------------------------|-------------------------------------|--|--|---------------|----|---|------|------|---|------|
| | | | | | | | C | E | F | G | K | L | M |
| TX7-..3 | 1/2" | 5/8" | 1/4" | 106 | 109.8 | 10 | 130 | 39 | 8 | 11.1 | 15.9 | 8 | |
| TX7-..3M | 12mm | 16mm | 6mm | | | | | | | | | | |
| TX7-..4 | 5/8" | 7/8" | 1/4" | | 103 | | | | | | | | |
| TX7-..4M | 16mm | 22mm | 6mm | | | | | | | | | | |
| TX7-..5 | 5/8" | 7/8" | 1/4" | | 109 | | | | | | | | 95.2 |
| TX7-..5M | 16mm | 22mm | 6mm | | | | | | | | | | |
| TX7-..6 | 7/8" | 1-1/8" | 1/4" | | | | | | | | | | |
| TX7-..6M | 22mm | 28mm | 6mm | | | | | | | | | | |
| TX7-..7 | 7/8" | 1-1/8" | 1/4" | | | | | | | | | | |
| TX7-..7M | 22mm | 28mm | 6mm | | | | | | | | | | |
| TX7-..8 | 7/8" | 1-1/8" | 1/4" | | | | | | | | | | |
| TX7-..8M | 22mm | 28mm | 6mm | | | | | | | | | | |
| TX7-..9 | 7/8" | 1-1/8" | 1/4" | | | | | | | | | | |
| TX7-..9M | 22mm | 28mm | 6mm | | | | | | | | | | |

Note: *) Indication for normal flow direction

**) Bending radius R = 5 mm

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