



COMPENSATING VALVES
FOR COLD ROOMS

The main purpose of compensating valves for cold rooms is to keep the internal and external pressure balanced.

Pressure variations periodically happen according to the different defrosting phases and during the opening and closing of doors.

The lack of installation of a compensating valve may cause the following problems:

- Sudden opening of the door with a resulting deterioration of the products stored;*
- Cracking in coincidence of the junctions and consequent frosting.*

MTH valves have an excellent performance at normal temperature and also at very low temperature.

These can be mounted both in vertical and in horizontal position. Also they are protected on the external side by an anti-insects net.



*The main differences between MTH valves and other compensating valves in the market, particularly high air flow valve family, are the **vertical installation option ("V" version)** where you can install the valve on the ceiling of the cold room and, thanks to the main body valve symmetry, the possibility of wiring it either inside or outside the cold room.*

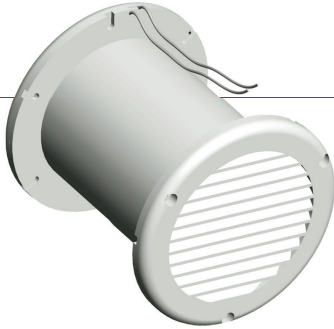
Furthermore, the special gasket applied on the two inner laps that allow the air passage guarantees a better seal and, with the application of the heating cable, an excellent operation at very low temperature.

During the cooling-off period and up to the operating temperature, the door must be open (UNI10933-2001-7.1.2).



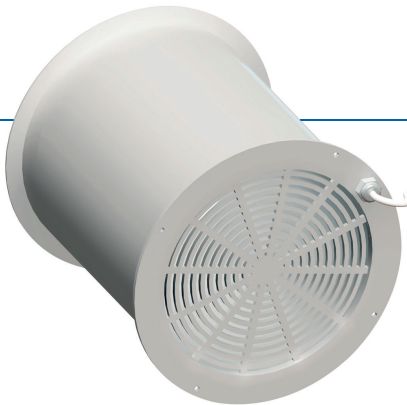
19VAL003 - 004

These valves, in TN (19VAL003) and LWT (19VAL004) version, have to be mounted in horizontal position. A 61mm hole on the board is enough to fix it by means of the self-threading screws. It's suitable for cold rooms up to 50m³ for TN type and up to 30m³ for LWT type.



19VAL001 15015

This valve, resists up to -40°C. It can be mounted both in vertical and horizontal position. A 100mm hole on the board is enough to fix it by means of the self-threading screws. It's suitable for cold rooms of 2m³ up to 120m³; you can use further valves in case of larger volumes.



19VAL012 - 018 - 019 - 020

These valves are for high air flow, and must be installed in horizontal (19VAL012, 19VAL018) or vertical (19VAL019, 19VAL020) position. Taking care that nothing obstructs the air flow passage. The suitable valves have to be chosen with the below rule:

$$N^{\circ} = \frac{K \times V \times \Delta t}{Q}$$

Where:

- N° = Number of valves;
- $K = 3,66$ (constant);
- V = cold room volume (m³);
- Δt = maximum temperature variation in °C that happens inside the cold room in one minute;
- Q = required air flow (lt/min); this value is different for each valve (see below):

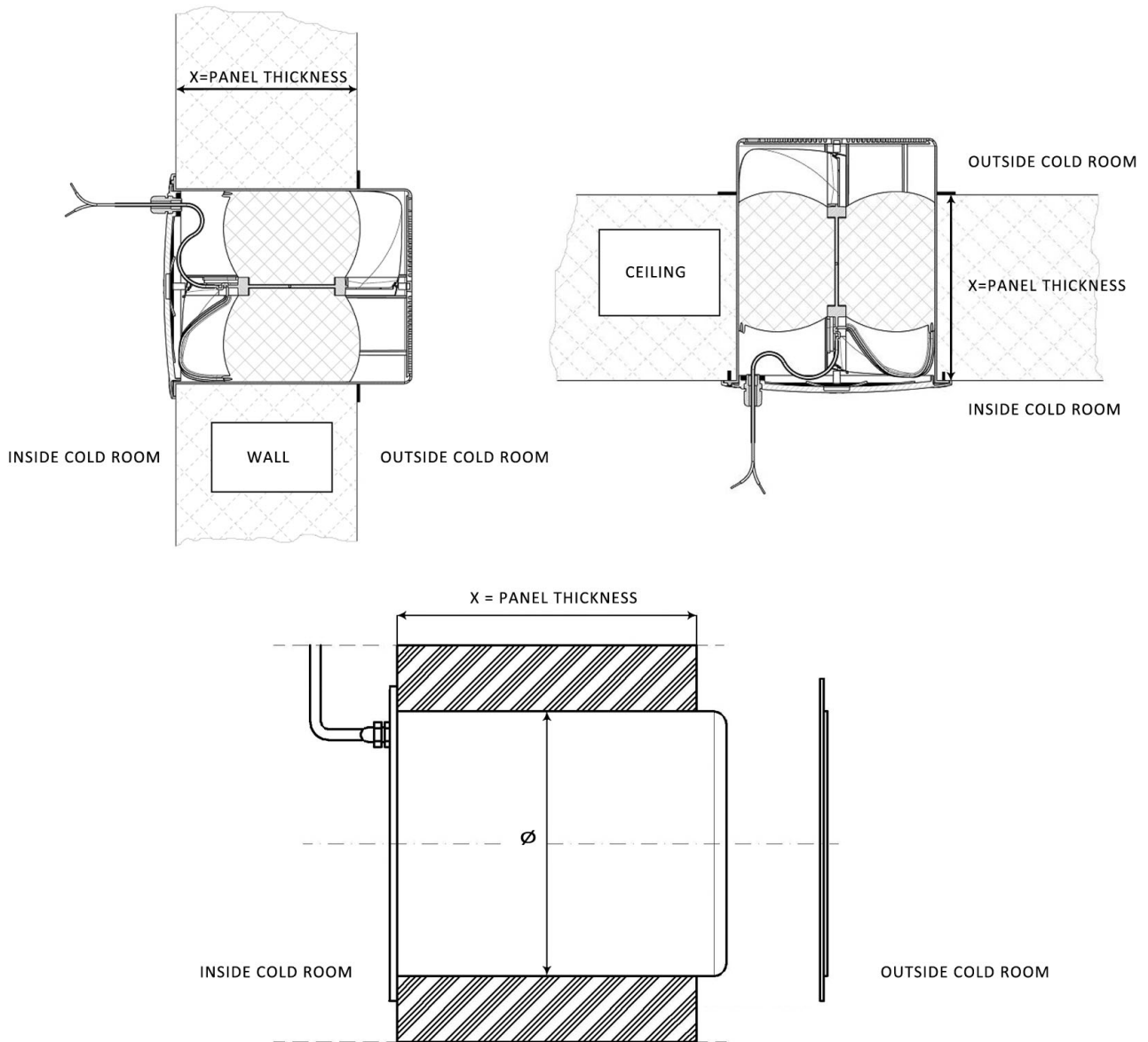
MTH CODE	VALVE MODEL	Maximum cold room volume (m ³) with $\Delta t=1^{\circ}\text{C}$	Q (lt/min)
19VAL012	COMPENSATING VALVE TN-H	20.000	6.200
19VAL018	COMPENSATING VALVE LWT-H	6.000	2.150
19VAL019	COMPENSATING VALVE TN-V	5.500	2.060
19VAL020	COMPENSATING VALVE LWT-V	4.000	1.430


Examples: 1) TN cold room having a volume of **10.000m³**, $\Delta t=0,2^{\circ}\text{C}$, horizontal valve
 $N^{\circ} = (3,66 \times 10.000 \times 0,2) / 6.200 = 1,18 \rightarrow N^{\circ} 1$ 19VAL012 is suggested

1) LWT cold room having a volume of **5.000m³**, $\Delta t=0,1^{\circ}\text{C}$, horizontal valve
 $N^{\circ} = (3,66 \times 5.000 \times 0,1) / 2.150 = 0,85 \rightarrow N^{\circ} 1$ 19VAL018 are suggested

The correctness and the result of the formulas depend on the accuracy of the enter data.

DATA SHEET



MTH Code	Valve Model	Installation Horiz-Vert	Panel Th. X (mm)	 20 Un
19VAL003 00000	COMPENSATING VALVE \varnothing 61 mm TN-H	H	70	20 Un
19VAL004 00000	COMPENSATING VALVE \varnothing 61 mm LWT-H	H	70	20 Un
19VAL001 15015	COMPENSATING VALVE \varnothing 100 mm TN/LWT-H/V	H/V	120	8 Un
19VAL012 00000	COMPENSATING VALVE \varnothing 215 mm TN-H	H	260	4 Un
19VAL018 00000	COMPENSATING VALVE \varnothing 215 mm LWT-H	H	260	4 Un
19VAL019 00000	COMPENSATING VALVE \varnothing 215 mm TN-V	V	260	4 Un
19VAL020 00000	COMPENSATING VALVE \varnothing 215 mm LWT-V	V	260	4 Un

