

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

The pressure variations periodically happen according to the different defrosting phases and during the opening and closing of the 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.

The valves are supplied in five different models:

MICROELEBAR – MINIELEBAR – MINIELEBAR EXTENSIBLE – ELEBAR – MAXIELEBAR

All the models except the sole MICROELEBAR are delivered in two versions:

- (T.N.) Positive temperature from +10°C to +1°C
- (B.T.) Low temperature from 0°C to -30°C

The Elebar B.T. and MiniElebar extensible B.T. can be provided with the VDE certification.

T.N. MODEL
MicroElebar (from +10°C to -18°C)
MiniElebar TN
MiniElebar Extensible TN
Elebar TN
MaxiElebar TN

B.T. MODEL	SUPPLY	POWER
MiniElebar BT	220 V	7 W
MiniElebar Extensible BT	220 V	7 W
Elebar BT	220 V	16 W
MaxiElebar BT	220 V	36 W



The compensating valve will have to be strictly installed in a horizontal position in order to keep the flap gates free to move and further more nothing will have to be placed in front either of the inlet or of the outlet in order to let the air flow freely through the valve.

In case of use at low temperature (B.T.) we suggest **not to install the internal grid**.

Only the MICROELEBAR valve can be installed either in a horizontal or in a vertical position, always paying attention to the position of the flap gates.

During the cooling-off period, to the operating temperature, one of the doors has to be left partly opened as provided by the article 7.1.2 of the UNI 10933 rule, dated June 2001

The formula to determine the air flow necessary to balance the difference between the internal and external pressure is:

$$Q = K \times V \times \Delta t$$

Where:

Q = required air flow (lt/min)

K = 3,66 (constant)

V = cold room volume (m³)

Δt = maximum temperature variation in °C that happens inside the cold room in one minute.

The model selection of a valve will have to be done by verifying that the air flow obtained via the a.m. formula is among the ones indicated in the table below, suggested min and max temperature, for each model.

COMPENSATING VALVE AIR FLOW ACCORDING TO THE TEMPERATUR (in lt/min.)

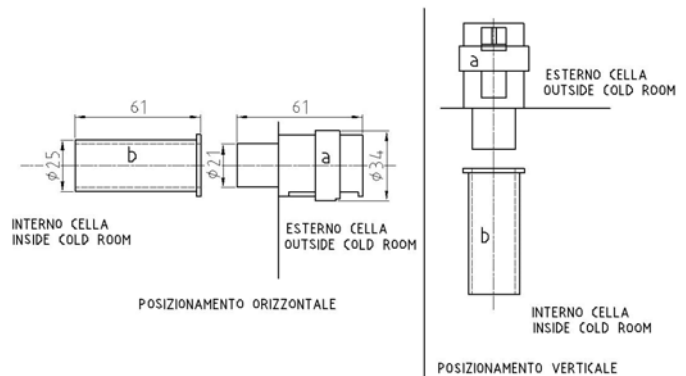
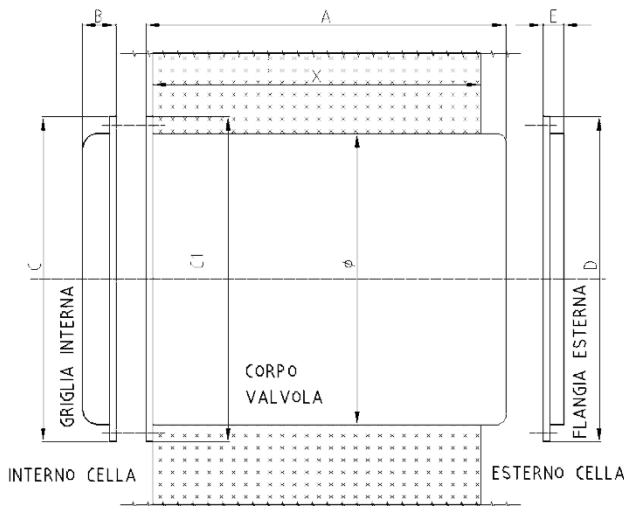
MODEL	POSITIVE +10°C	TEMPERATUR +1°C	NEGATIVE 0°C	TEMPERATUR -30°C
MiniElebar	250	360	195	250
MiniElebar Extensible	250	360	195	250
Elebar	623	898	486	623
MaxiElebar	4300	6200	3400	4300

The **MicroElebar** has been designed for duties inside storage cabinets having a maximum capacity of 2000 lit. Samples:

- 1) T.N. cold room having a volume of 60 m³ and with Δt = 2°C **Q** = 3,66 x 60 x 2 = 439 lt/min. 1 Elebar is suggested
- 2) B.T. cold room having a volume of 25 m³ and with Δt = 2°C **Q** = 3,66 x 25 x 2 = 183 lt/min. 1 Minielebar is suggested
- 3) B.T. cold room having a volume of 1600 m³ and with Δt = 1°C **Q** = 3,66 x 1600 x 1 = 5856 lt/min. 2 Maxielebar is suggested
- 4) B.T. cold room having a volume of 1600 m³ and with Δt = 0,5°C **Q** = 3,66 x 1600 x 0,5 = 2928 lt/min. 1 Maxielebar is suggested

Please Note: once the calculus have been performer always round up before making your choice.

It is suggested an over estimation of the number of the valves by always being inside the limits shown in the table.



MiniElebar – MiniElebar Extensible - Elebar - MaxiElebar	MicroElebar
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DIMENSIONS (mm)

Valve Model	A	B	C	C1	D	E	Ø	X max
MiniElebar	62 (B.T. 74)	14	85	85			61	60 (B.T. 70)
MiniElebar Extensible	92 / 152	5		98	102	18	67	70 / 130
Elebar	147	36	115	115	114	6	81,5 (B.T. 80,5)	130
MaxiElebar	260	40	242	242	255	6	215	above 130