

FAN COOLER OR HEATER MUAT-FBC Series

MUNDCLIMA®

APPLICATIONS

The fan coolers/heaters are suitable for industrial warehouses, stores, factories, production lines, sports centers, churches, showrooms, etc.

The main function of the fan coolers/heaters is to heat the room through a large warm air flow.

FEATURES



FAN

Equipped with a 3-speed fan, this allows to control the operation and effectiveness of the fan cooler/heater.



EPP CASE

Modern design with expandable polypropylene (EPP) casing, strong and lightweight.



AIR DEFLECTORS

The air outlet is equipped with adjustable deflectors to direct the air where it's needed.



MUAT-FBC TRAY

Equipped with a droplet separator to prevent droplets from escaping with the air. The water in the condensate tray is evacuated by gravity.



ROTATIONAL SUPPORT

Allows the fan cooler/heater to be installed on the wall. It also allows the equipment to be rotated 170° with respect to the fixing points of the support.



MULTIPLE OPTIONS

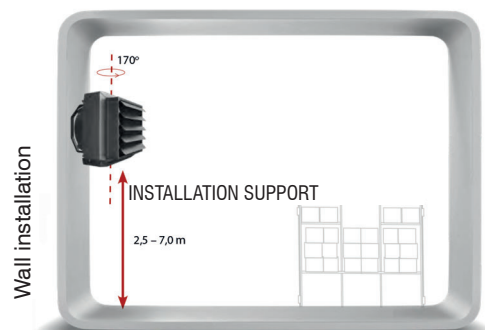
Possibility of integrating the fan cooler/heater into a centralized control system and even combining its operation with MUD-DT destratifiers.



INSTALLATION

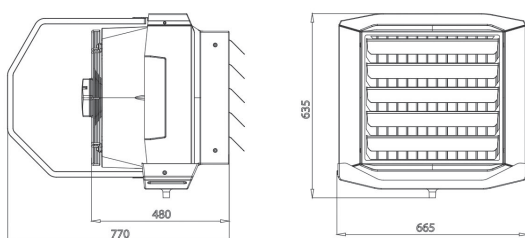
The MUAT-FBC air heaters also incorporate threaded rod holders in the 4 corners.

Ceiling installation

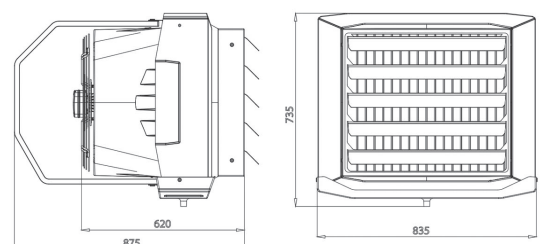


DIMENSIONS

MUAT-10-FBC



MUAT-20-FBC



FAN COOLER/HEATER «MUAT-FBC Series»



TECHNICAL SPECIFICATIONS

Model			MUAT-10-FBC			MUAT-20-FBC		
Code			CL 05 208			CL 05 209		
Speed			LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH
Air flow		m³/h	1,150	2,050	2,900	2,000	3,350	4,200
Max. consumption		W	120	240	340	270	370	550
Max. intensity		A	0.6	1.2	1.5	1.4	1.8	2.4
Sound pressure level 1m (*1)		dB(A)	47.5	59.9	69.5	58.1	66.5	72.9
Sound pressure level 5 m (*2)		dB(A)	42.1	54.5	64.1	52.3	61.1	67.5
Heating rated capacity (*3)		kW	23.1			47.4		
Cooling rated capacity (*4)		°C	9.7			21.8		
Max. water inlet temperature		°C	70					
Max. working pressure		Mpa	1.6					
Air distribution range	Horizontal (*5)	m	7.1	12.7	18.0	9.7	16.3	20.5
Installation height	Built-in	m	2.5 - 7.0					
Connection		inch	3/4"					
Power supply		V/ Hz	230/50					
Protection degree			IP 54					
Color			Gray / Black					
Casing material:			EPP (Expanded Polypropylene)					
Dimensions (W x H x D)		mm	665 x 635 x 480			835 x 735 x 620		
Empty weight		kg	23.1			36.0		

Notes:

(*1) Sound pressure level according to EN 3741:2011

(*2) Sound pressure level measured at 5 m from the unit, in a room with average sound absorption capacity and a volume of 1500 m³.

(*3) High speed, water temperature 70/50, ambient temperature 16°C (for other conditions see CAPACITY TABLES or installation manual)

(*4) High speed, water temperature 7/12°C, room temperature 26°C (for other conditions see the CAPACITY TABLES or the installation manual).

(*5) Isothermal horizontal flow range (speed limit is equal to 0,5 m/s).

FAN COOLER/HEATER MUAT-FBC Series



CAPACITY TABLES (HEATING)

MUAT-10-FBC (Heating)								
Tw1/Tw2	70/50°C				60/40°C			
Tp1	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2
°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
III: V = 2900 [m³/h] V = 2900 [m³/h] V = 2900 [m³/h] V = 2900 [m³/h]								
0	32.2	1409	8.0	36.5	25.9	1131	5.0	29.5
10	26.5	1161	6.0	40.0	20.2	879	4.0	33.0
15	23.7	1035	5.0	41.5	17.2	749	3.0	34.5
20	20.7	907	4.0	43.0	14.1	616	2.0	36.0
25	17.7	776	3.0	45.0	10.9	477	1.0	37.0

MUAT-20-FBC (Heating)								
Tp1	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2
°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
III: V = 2900 [m³/h] V = 2900 [m³/h] V = 2900 [m³/h] V = 2900 [m³/h]								
0	65.4	2862	8.0	50.5	53.1	2313	6.0	41.0
10	54.2	2373	6.0	51.5	41.8	1820	4.0	42.0
15	48.5	2123	5.0	52.0	35.9	1563	3.0	42.0
20	42.8	1871	4.0	52.0	29.8	1299	2.0	42.5
25	36.9	1612	3.0	53.0	23.4	1021	2.0	43.0

Note:

- High air speed values, for low and medium speed values please consult the installation manual.

Legend

- PT --> Cooling / Heating capacity
- Tp1 --> Air inlet temperature
- Tp2 --> Air outlet temperature
- Tw1 --> Water inlet temperature
- Tw2 --> Water outlet temperature
- Qw --> Water flow
- Δpw --> No battery charge

FAN COOLER/HEATER MUAT-FBC Series



CAPACITY TABLE (COOLING)

MUAT-10-FBC (Cooling)															
Tw1/Tw2		3/8°C							5/10°C						
Tp1	Fi1	PT	Qw	Δpw	Tp2	Fi2	W	SHR	PT	Qw	Δpw	Tp2	Fi2	W	SHR
°C	%	kW	l/h	kPa	°C	%	g/s	-	kW	l/h	kPa	°C	%	g/s	-
III: V = 2900 [m³/h] V = 2900 [m³/h] V = 2900 [m³/h] V = 2900 [m³/h]															
32	40	17.1	2931	36.0	19.5	66.0	2.3	0.66	15.4	2640	30.0	20.0	66.0	1.9	0.69
30	45	15.9	2721	32.0	18.5	70.0	2.3	0.64	14.2	2432	26.0	19.5	70.0	1.9	0.67
28	50	14.6	2494	27.0	18.0	73.0	2.2	0.69	12.9	2205	22.0	18.5	73.0	1.8	0.73
26	55	13.1	2251	23.0	17.0	76.0	2.0	0.61	11.4	1963	18.0	18.0	76.0	1.6	0.64
24	55	11.1	1905	17.0	16.0	77.0	1.5	0.66	9.4	1613	12.0	16.5	77.0	1.1	0.71

MUAT-10-FBC (Cooling)															
Tw1/Tw2		7/12°C							10/15°C						
Tp1	Fi1	PT	Qw	Δpw	Tp2	Fi2	W	SHR	PT	Qw	Δpw	Tp2	Fi2	W	SHR
°C	%	kW	l/h	kPa	°C	%	g/s	-	kW	l/h	kPa	°C	%	g/s	-
III: V = 2900 [m³/h] V = 2900 [m³/h] V = 2900 [m³/h] V = 2900 [m³/h]															
32	40	13.6	2333	24.0	21.0	67.0	1.4	0.74	10.8	1855.00	15.00	22.00	68.00	0.60	0.85
30	45	12.4	2126	20.0	20.0	70.0	1.4	0.71	9.6	1648.00	13.00	21.00	72.00	0.60	0.83
28	50	11.1	1900	16.0	19.5	73.0	1.3	0.80	8.3	1423.00	10.00	20.50	75.00	0.60	0.93
26	55	9.7	1658	13.0	18.5	76.0	1.2	0.69	6.9	1183.00	7.00	19.50	77.00	0.50	0.83
24	55	7.6	1307	9.0	17.0	77.0	0.6	0.79	5.0	867.00	4.00	18.50	76.00	0.10	0.97

MUAT-20-FBC (Cooling)															
Tw1/Tw2		3/8°C							5/10°C						
Tp1	Fi1	PT	Qw	Δpw	Tp2	Fi2	W	SHR	PT	Qw	Δpw	Tp2	Fi2	W	SHR
°C	%	kW	l/h	kPa	°C	%	g/s	-	kW	l/h	kPa	°C	%	g/s	-
III: V = 4200 [m³/h] V = 2900 [m³/h] V = 2900 [m³/h] V = 2900 [m³/h]															
32	40	37.4	6403	45.0	13.5	82.0	5.1	0.65	33.7	5777	37.0	14.5	82.0	4.3	0.68
30	45	35.0	5991	40.0	13.0	84.0	5.0	0.63	31.3	5366	32.0	14.5	84.0	4.3	0.65
28	50	32.3	5530	34.0	13.0	86.0	4.9	0.67	28.6	4905	27.0	14.0	86.0	4.1	0.71
26	55	29.4	5030	29.0	12.5	88.0	4.6	0.60	25.7	4405	23.0	14.0	87.0	3.8	0.62
24	55	24.9	4264	22.0	11.5	88.0	3.5	0.65	21.2	3633	16.0	13.0	88.0	2.6	0.69

MUAT-20-FBC (Cooling)															
Tw1/Tw2		7/12°C							10/15°C						
Tp1	Fi1	PT	Qw	Δpw	Tp2	Fi2	W	SHR	PT	Qw	Δpw	Tp2	Fi2	W	SHR
°C	%	kW	l/h	kPa	°C	%	g/s	-	kW	l/h	kPa	°C	%	g/s	-
III: V = 4200 [m³/h] V = 2900 [m³/h] V = 2900 [m³/h] V = 2900 [m³/h]															
32	40	29.8	5116	29.0	16.0	83.0	3.3	0.71	23.8	4087	19.0	17.5	84.0	1.8	0.78
30	45	27.4	4707	25.0	15.5	84.0	3.3	0.69	21.4	3674	16.0	17.5	85.0	1.8	0.78
28	50	24.7	4246	21.0	15.0	86.0	3.1	0.76	18.7	3213	13.0	17.0	87.0	1.7	0.88
26	55	21.8	3744	17.0	15.0	88.0	2.9	0.66	15.8	2713	9.0	16.5	88.0	1.4	0.78
24	55	17.3	2977	11.0	14.0	88.0	1.7	0.75	11.6	1990	5.0	16.0	88.0	0.4	0.91

Note:

- High air speed values, for low and medium speed values please check the installation manual.

Legend:

- PT --> Cooling / Heating capacity
- Tp1 --> Air inlet temperature
- Tp2 --> Air outlet temperature
- Fi1 --> Relative humidity at air inlet
- Fi2 --> Relative humidity at air outlet
- Tw1 --> Water inlet temperature
- Tw2 --> Water outlet temperature
- Qw --> Water flow
- Δpw --> No battery charge
- SHR --> Sensible Heat Ratio

OPTIONALS MUAT-FB, MUAT-FBC AND MUD-DT Series

MUNDCLIMA®

Thermostat SE-3 (CO14653)

Room thermostat, 3 speeds and 10-30°C range.



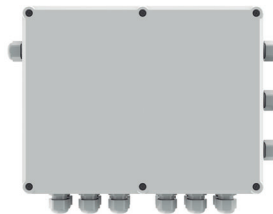
Area Valves



Valve	1/2"	3/4"
2-ways	CO13251	CO13252
3-ways	CO13254	CO13255

RX Concentrator (CL91186)

It allows the 3-speed equipment integration into a group or centralized control system. Up to 3 RX concentrators can be combined, which means that a single group can consist of up to 36 devices:

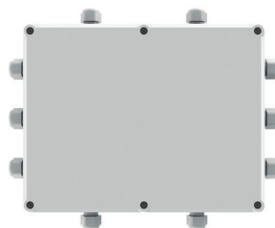


- 12 units of MUAT-10/20/30-FB;
- 6 units of MUAT-25/40/55-FB and MUAT-10-FBC air cooler/heater;
- 6 units of MUD-DT destratifier
- 3 units of MUAT-75/100-FB and MUAT-20-FBC air cooler/heater;
- 3 units of MU-GC air curtain (except R3)

The connection of up to 36 units is made with 3 RX concentrators connected to a control device (Thermostat SE-3 or other); in the case of air curtains, the RX concentrator also allows the connection of DCm door sensors.

DRV MODULE

The DRV module is designed for connection to fan coolers/heaters and destratifiers. Up to 31 DRV modules can be combined and controlled by a single T-BOX central control.



DRV functions:

It is possible to connect the T-BOX central control
It is possible to connect a MODBUS-RTU
It is possible to connect a PT-1000 temperature sensor

Code	Model	For equipment
CL 91 183	DRV-FB	MUAT-FB
CL 91 184	DRV-DT	MUD-DT
CL 09 402	DRV-FBC	MUAT-FBC
XL 06 679	DRV-GC	MU-GC-A/W/W2F/R3

INDUSTRIAL Aerothermal energy

FB, FBC and DT Series

AIR CURTAINS

MU-GC-A / W / W2F / R3 Series

PT-1000 room temperature sensor (CL91187)

PT-1000 IP65 room temperature sensor, to connect to a DRV module.



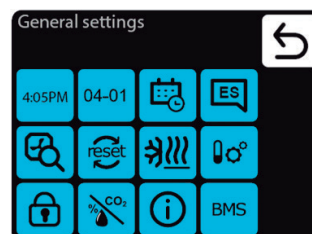
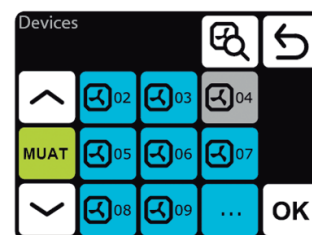
Centralized T-BOX control (CL91182)

Centralized touch control of up to 31 DRV modules.



Functions:

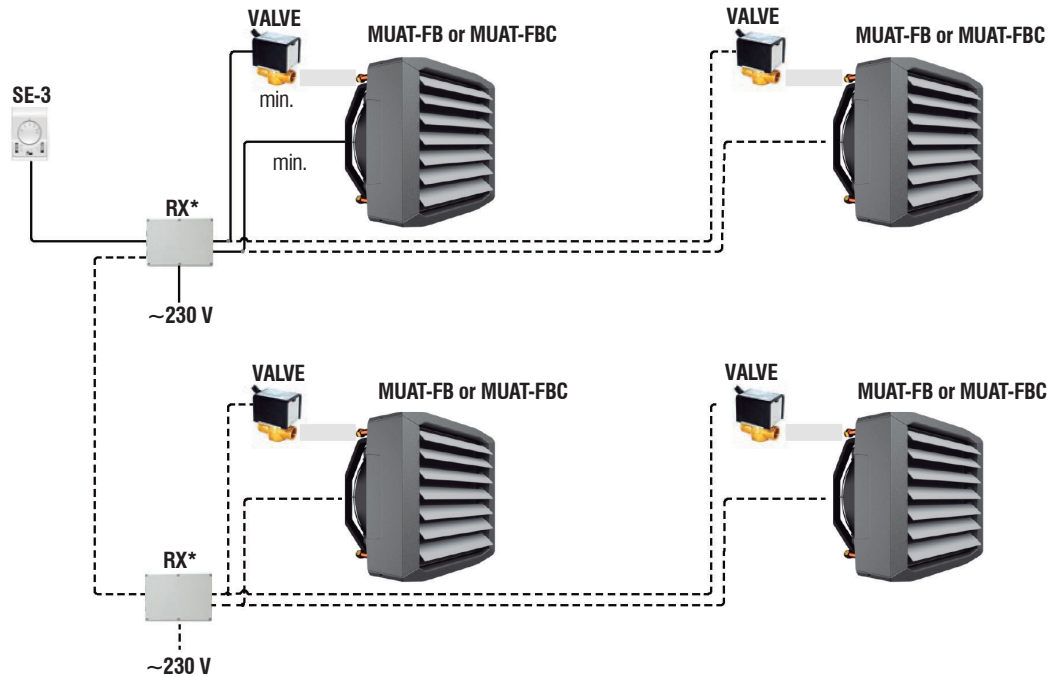
- Weekly programmer with up to 20 actions, each action can be set to a different temperature in the 5 - 45° range.
- Intuitive use and easy view of operating parameters
- Multi-language (Spanish, English, German,...).
- Cooperation with MODBUS-RTU.
- Combining the MUAT-FB, MUAT-FBC and MUD-DT fan coolers/heaters with the MUD-DT destratifiers (with their respective DRV modules), it automatically manages the destratification of the room, so that when the room temperature drops below the set point, the destratifier first starts the heating and if this fails to raise the room temperature, the fan coolers/heaters are automatically activated.



CONNECTION EXAMPLES

1) CONNECTION OF SE-3 CONTROL + RX CONCENTRATOR + MUAT-FB or MUAT-FBC AIR HEATER

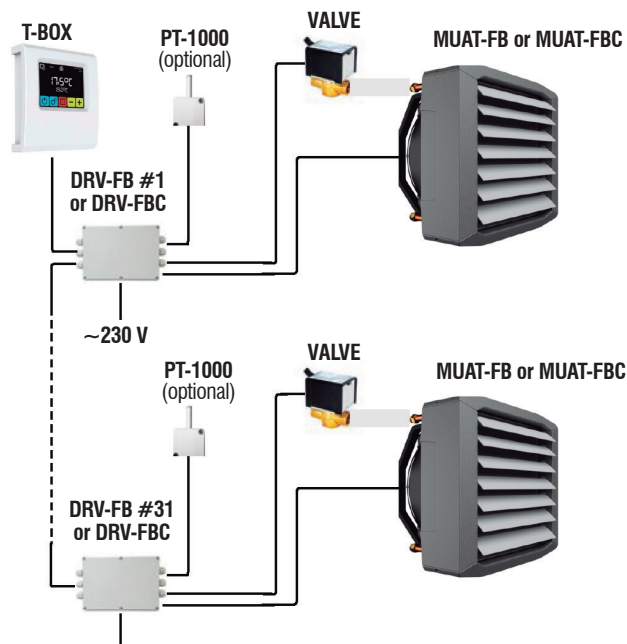
To control up to 36 MUAT-FB or MUAT-FBC units in a group with a single SE-3 (or similar) thermostat, perform the following configuration:



*Note: Max. 3 RX concentrators to an SE-3 control (or similar); Max. 12 units MUAT-10/20/30-FB; Max. 6 units MUAT-25/40/55 and MUAT-10-FBC; max. 1 unit, MUAT-75/100-FB and MUAT-20-FBC; to each RX concentrator.

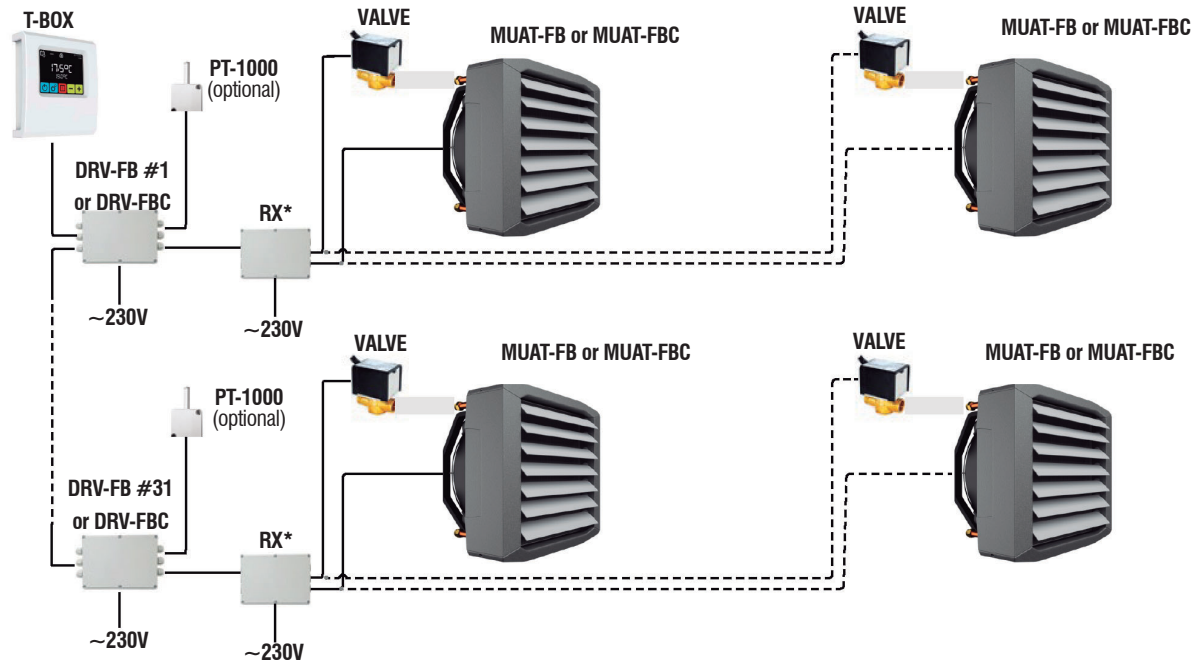
2) CONNECTION OF CENTRALIZED CONTROL T-BOX + DRV-FB or DRV-FBC MODULE + PT-1000 SENSOR + MUAT-FB or MUAT-FBC AIR HEATER

To control up to 31 MUAT-FB or MUAT-FBC units independently with a single T-BOX centralized control, perform the following configuration:



3) CONNECTION OF CENTRALIZED CONTROL T-BOX + DRV-FB or DRV-FBC MODULE + PT-1000 SENSOR + RX CONCENTRATOR + MUAT-FB AIR HEATER

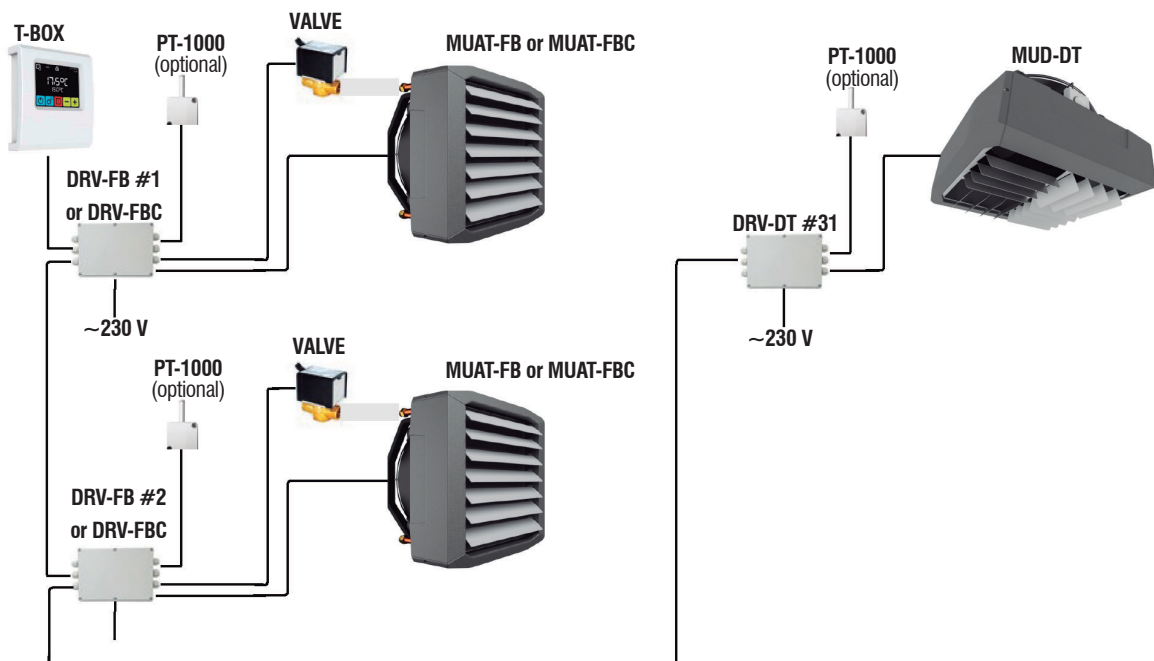
To control up to 1116 MUAT-FB or MUAT-FBC units in groups of up to 36 units, with a single T-BOX centralized control, perform the following configuration:



*Note: Max. 3 RX concentrators to an SE-3 control (or similar); Max. 12 units MUAT-10/20/30-FB; Max. 6 units MUAT-25/40/55 and MUAT-10-FBC; max. 1 unit, MUAT-75/100-FB and MUAT-20-FBC; to each RX concentrator.

4) CONNECTION OF CENTRALIZED CONTROL T-BOX + DRV-FB or DRV-FBC MODULE + PT-1000 SENSOR + MUAT-FB or MUAT-FBC AIR HEATER + DRV-DT MODULE + MUD-DT DESTRATIFIER

To control up to 31 MUAT-FB, MUAT-FBC or MUD-DT units independently with a single centralized T-BOX control, and to be able to perform the combined operation of the fan coolers/heaters with the destratifiers, make the following configuration:



5) CONNECTION OF THE T-BOX CENTRALIZED CONTROL + DRV-DT MODULE + PT-1000 SENSOR + MUD-DT DESTRATIFIER

To control up to 31 MUD-DT units independently with a single T-BOX central control, perform the following configuration:

