

# HOT WATER AIRHEATERS

## MUAT-FB Series

### APPLICATIONS

The air heaters are designed for sites such as industrial buildings, warehouses, factories, production lines, sports halls, churches, exhibition halls, etc.

The main function of the air heater is to heat the room by means of a large flow of hot air.



### FEATURES



#### FAN

Equipped with a 3-speed fan, this way you can control the operation and effectiveness of the air heater.



#### HOUSING EPP

Modern design with expandable polypropylene (EPP) housing, with high strength and low weight.



#### AIR DEFLECTORS

The air outlet is equipped with adjustable deflectors to direct the air as required.



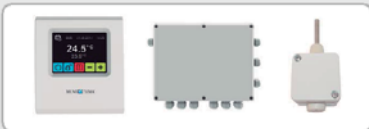
#### AIR INJECTOR

The fan is located in a special air injector to reduce noise and increase the efficiency of the unit.



#### ROTATIONAL BRACKET

Allows the air heater to be installed at different angles, both on the wall and on the ceiling. It also allows to rotate the equipment with respect to the fixing points of the bracket.



#### MULTIPEL OPTIONALS

Possibility of integrating the air heater in a centralized control system and even combining its operation with MUD-DT destratifiers.

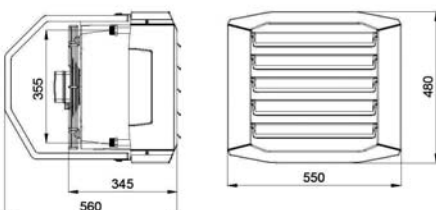
### INSTALLATION

The MUAT-FB Aerothermal heaters also have threaded rod fasteners at the 4 corners.

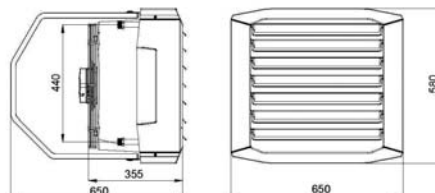


### DIMENSIONS

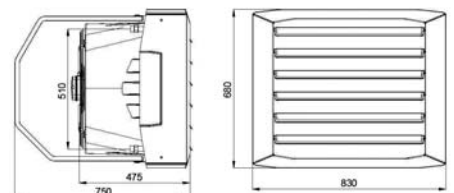
#### MUAT-10/20/30-FB



#### MUAT-25/40/55-FB



#### MUAT-75/100-FB



### HOT WATER AIRHEATERS MUAT-FB Series

#### TECHNICAL SPECIFICATIONS

Model		MUAT-10-FB			MUAT-20-FB			MUAT-30-FB			MUAT-25-FB			
Code		CL 05 200			CL 05 201			CL 05 202			CL 05 203			
Speed		LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH	
Air flow rate	m <sup>3</sup> /h	1,400	1,850	2,250	1,200	1,600	2,000	1,000	1,350	1,800	1,850	3,050	4,400	
Max. consumption	W	65	80	110	65	80	110	65	80	110	115	200	280	
Max. intensity	A	0.3	0.4	0.5	0.3	0.4	0.5	0.3	0.4	0.5	0.6	0.9	1.3	
Sound pressure level 1m <sup>(1)</sup>	dB(A)	47	53	58	47	53	58	47	53	58	42	54	64	
Sound pressure level 5m <sup>(2)</sup>	dB(A)	41	47	52	41	47	52	41	47	52	36	48	58	
Nominal capacity Heating <sup>(3)</sup>	kW	9.0			18.9			23.3			23.4			
Temperature increase (ΔT) <sup>(3)</sup>	°C	12			28			38			15.5			
Max. inlet water temp.	°C	120												
Max. operation pressure	Mpa	1.6												
Air distribution range	Horizontal <sup>(4)</sup>	m	10.0	13.0	15.5	8.5	11.0	14.0	7.0	9.5	12.5	10.5	17.0	24.5
	Vertical <sup>(5)</sup>	m	3.9	5.0	5.9	3.4	4.4	5.3	2.9	3.8	4.9	4.0	6.1	8.4
Installation height	On the wall	m	3									2.5 - 8.0		
	On the ceiling	m	2.5 - 5.0									2.5 - 10.0		
Connection	inch	1/2"									3/4"			
Power supply	V/ Hz	230 / 50												
Protection degree		IP 54												
Color		Grey (similar to RAL 9007)												
Housing material		EPP (Expanded Polypropylene)												
Dimensions (W x H x D)	mm	550 x 480 x 345									650 x 580 x 355			
Weight in vacuum	kg	9.3			10.2			11.3			14.8			

Model		MUAT-40-FB			MUAT-55-FB			MUAT-75-FB			MUAT-100-FB			
Code		CL 05 204			CL 05 205			CL 05 206			CL 05 207			
Speed		LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH	LOW	MEDIUM	HIGH	
Air flow rate	m <sup>3</sup> /h	1,600	2,600	3,900	1,450	2,350	3,500	2,600	4,100	5,600	2,100	3,700	5,200	
Max. consumption	W	115	200	280	115	200	280	260	350	450	260	350	450	
Max. intensity	A	0.6	0.9	1.3	0.6	0.9	1.3	1.4	1.5	2.0	1.4	1.5	2.0	
Sound pressure level 1m <sup>(1)</sup>	dB(A)	42	54	64	42	54	64	53	62	69	53	62	69	
Sound pressure level 5m <sup>(2)</sup>	dB(A)	36	48	58	36	48	58	47	56	63	47	56	63	
Nominal capacity Heating <sup>(3)</sup>	kW	38.8			49.8			69.3			88.2			
Temperature increase (ΔT) <sup>(3)</sup>	°C	29.5			42			36.5			50			
Max. inlet water temp.	°C	120												
Max. working pressure	Mpa	1.6												
Air distribution range	Horizontal <sup>(4)</sup>	m	9.0	14.5	21.5	8.0	13.0	19.5	11.5	18.0	25.0	9.5	16.5	23.0
	Vertical <sup>(5)</sup>	m	3.5	5.3	7.6	3.2	4.9	6.9	4.3	6.1	8.2	3.5	5.0	6.6
Installation height	On the wall	m	2.5 - 8.0											
	On the ceiling	m	2.5 - 10.0											
Connection	inch	3/4"												
Power supply	V/ Hz	230 / 50												
Protection degree		IP 54												
Color		Grey (similar to RAL 9007)												
Housing material		EPP (Expanded Polypropylene)												
Dimensions (W x H x D)	mm	650 x 580 x 355						830 x 680 x 475						
Weight in vacuum	kg	16.0			18.3			22.0			26.3			

Notes: <sup>(1)</sup> Sound pressure level according to EN 3741:2011.

<sup>(2)</sup> Sound pressure level measured frontally at 5 m from the unit, in a room with medium sound absorption capacity and a volume of 1 500 m<sup>3</sup>.

<sup>(3)</sup> High speed, temp. water 90/70 °C, ambient temperature 5 °C (for other conditions refer to the CAPACITY TABLES or the installation manual).

<sup>(4)</sup> Horizontal isothermal flow range (speed limit is equal to 0.5 m/s).

<sup>(5)</sup> Vertical non-isothermal flow range at ΔT = 5 °C (speed limit is equal to 0.5 m/s).

**HOT WATER AIRHEATERS MUAT-FB Series**

**CAPACITY TABLES**

MUAT-10-FB																				
Tw1/ Tw2	90/70 °C				80/60 °C				70/50 °C				60/40 °C				50/40 °C			
	Tp1	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw
°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
0	9.6	426	2.3	12.5	8.1	358	1.8	10.5	6.6	289	1.2	8.5	5.0	217	0.8	6.5	5.3	457	3.0	7.0
5	9.0	397	2.1	17.0	7.5	329	1.5	15.0	5.9	260	1.0	13.0	4.3	186	0.6	10.5	4.6	398	2.3	11.0
10	8.4	368	1.8	21.0	6.8	300	1.3	19.0	5.3	230	0.8	17.0	3.5	153	0.4	14.5	3.9	339	1.8	15.0
15	7.7	339	1.6	25.0	6.2	271	1.1	23.0	4.6	199	0.6	21.0	2.6	115	0.3	18.5	3.2	279	1.2	19.0
20	7.0	310	1.3	29.0	5.5	241	0.9	27.0	3.8	168	0.5	25.0	1.7	73	0.1	22.0	2.5	216	0.8	23.0
MUAT-20-FB																				
Tw1/ Tw2	90/70 °C				80/60 °C				70/50 °C				60/40 °C				50/40 °C			
	Tp1	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw
°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
0	20.1	889	14.2	30.0	17.3	760	11.0	25.5	14.4	631	8.2	21.5	11.5	502	5.6	17.0	11.1	970	18.7	16.5
5	18.9	832	12.6	33.0	16.0	703	9.6	28.5	13.1	574	6.9	24.5	10.2	445	4.5	20.0	9.8	855	14.9	19.5
10	17.6	776	11.1	36.0	14.7	646	8.2	31.5	11.8	517	5.7	27.5	8.9	386	3.6	23.0	8.5	741	11.5	22.5
15	16.3	719	9.7	39.0	13.4	589	7.0	34.5	10.5	459	4.6	30.5	7.5	328	2.7	26.0	7.2	625	8.5	25.5
20	15.0	663	8.4	42.0	12.1	532	5.8	37.5	9.2	401	3.6	33.5	6.1	267	1.9	29.0	5.8	508	5.9	28.5
MUAT-30-FB																				
Tw1/ Tw2	90/70 °C				80/60 °C				70/50 °C				60/40 °C				50/40 °C			
	Tp1	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw
°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
0	24.9	1 098	11.1	41.0	21.2	933	8.5	35.0	17.6	769	6.2	29.0	13.8	603	4.2	23.0	13.7	1 191	14.4	22.5
5	23.3	1 026	9.8	43.0	19.6	861	7.4	37.0	15.9	697	5.2	31.0	12.2	530	3.3	25.0	12.0	1 047	11.4	24.5
10	21.6	954	8.6	45.5	18.0	789	6.3	39.5	14.3	624	4.3	33.5	10.5	457	2.5	27.0	10.4	902	8.7	27.0
15	20.0	883	7.5	47.5	16.3	717	5.3	41.5	12.6	551	3.4	35.5	8.8	382	1.8	29.0	8.7	755	6.4	29.0
20	18.4	811	6.4	49.5	14.7	645	4.4	43.5	10.9	478	2.6	37.5	7.0	304	1.2	31.5	7.0	608	4.3	31.5
MUAT-25-FB																				
Tw1/ Tw2	90/70 °C				80/60 °C				70/50 °C				60/40 °C				50/40 °C			
	Tp1	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw
°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
0	25.0	1 105	9.7	17.0	21.3	934	7.3	14.5	17.4	762	5.2	11.5	13.5	588	3.4	9.0	13.8	1 196	12.5	9.5
5	23.4	1 032	8.6	20.5	19.6	860	6.3	18.0	15.7	688	4.4	15.5	11.8	513	2.7	13.0	12.0	1 047	9.8	13.0
10	21.7	958	7.5	24.5	17.9	786	5.4	22.0	14.0	613	3.5	19.5	10.0	437	2.0	16.5	10.3	896	7.4	17.0
15	20.0	884	6.5	28.5	16.2	711	4.5	26.0	12.3	537	2.8	23.0	8.2	358	1.4	20.5	8.6	745	5.3	20.5
20	18.4	810	5.5	32.0	14.5	636	3.7	29.5	10.5	461	2.1	27.0	6.4	277	0.9	24.0	6.8	591	3.5	24.5
20	11.6	510	2.4	38.0	9.1	401	1.6	34.5	6.6	290	0.9	30.5	3.7	162	0.3	26.0	4.3	370	1.5	26.5

Note: Values for high air speed, for values at low and medium speeds refer to the installation manual.

- Legend: PT → Heating Capacity  
 Tp1 → Inlet Air Temperature  
 Tp2 → Outlet Air Temperature  
 Tw1 → Inlet Water Temperature  
 Tw2 → Outlet Water Temperature  
 Qw → Water Flow Rate  
 Δpw → Battery Load Loss

**HOT WATER AIRHEATERS MUAT-FB Series**

**CAPACITY TABLES**

MUAT-40-FB																				
Tw1/ Tw2	90/70 °C				80/60 °C				70/50 °C				60/40 °C				50/40 °C			
	Tp1	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw
°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
0	41.5	1 830	12.2	31.5	35.5	1 557	9.3	27.0	29.4	1 285	6.8	22.5	23.2	1 012	4.6	17.5	22.9	1 990	15.8	17.5
5	38.8	1 711	10.8	34.5	32.7	1 438	8.1	30.0	26.6	1 166	5.7	25.0	20.5	891	3.7	20.5	20.1	1 750	12.6	20.0
10	36.1	1 593	9.4	37.0	30.0	1 319	6.9	32.5	23.9	1 046	4.7	28.0	17.7	769	2.8	23.5	17.4	1 509	9.6	23.0
15	33.4	1 474	8.2	40.0	27.3	1 199	5.8	35.5	21.1	925	3.8	31.0	14.8	646	2.1	26.0	14.6	1 266	7.0	26.0
20	30.7	1 355	7.0	43.0	24.6	1 079	4.8	38.5	18.3	803	2.9	33.5	11.9	519	1.4	29.0	11.7	1 021	4.8	28.5
MUAT-55-FB																				
Tw1/ Tw2	90/70 °C				80/60 °C				70/50 °C				60/40 °C				50/40 °C			
	Tp1	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw
°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
0	53.2	2 349	18.1	45.0	45.7	2 009	14.0	38.5	38.2	1 671	10.4	32.5	30.6	1 332	7.2	26.0	29.5	2 563	23.7	25.0
5	49.8	2 199	16.0	47.0	42.3	1 859	12.1	40.5	34.7	1 520	8.7	34.5	27.1	1 180	5.8	28.0	26.0	2 261	18.9	27.0
10	46.4	2 049	14.1	49.0	38.9	1 708	10.4	42.5	31.3	1 368	7.2	36.5	23.6	1 027	4.5	30.0	22.5	1 958	14.6	29.0
15	43.0	1 899	12.3	51.0	35.5	1 557	8.8	44.5	27.8	1 216	5.9	38.0	20.0	872	3.4	31.5	19.0	1 654	10.8	31.0
20	39.7	1 750	10.6	53.0	32.0	1 407	7.3	46.5	24.3	1 063	4.6	40.0	16.4	714	2.4	33.5	15.5	1 346	7.4	33.0
MUAT-75-FB																				
Tw1/ Tw2	90/70 °C				80/60 °C				70/50 °C				60/40 °C				50/40 °C			
	Tp1	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw
°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
0	74.0	3 267	32.8	39.0	63.6	2 794	25.4	33.5	53.1	2 324	18.7	28.0	42.6	1 855	12.9	22.5	41.0	3 567	42.9	21.5
5	69.3	3 059	29.1	41.5	58.8	2 585	22.0	36.0	48.3	2 115	15.8	30.5	37.7	1 645	10.4	25.0	36.2	3 148	34.2	24.0
10	64.6	2 850	25.6	44.0	54.1	2 377	18.9	38.5	43.5	1 905	13.1	33.0	32.9	1 433	8.1	27.5	31.4	2 727	26.4	26.5
15	59.9	2 642	22.3	46.5	49.3	2 167	16.0	41.0	38.7	1 694	10.6	35.0	28.0	1 218	6.1	29.5	26.5	2 304	19.4	29.0
20	55.2	2 435	19.2	48.5	44.6	1 957	13.3	43.0	33.9	1 481	8.3	37.5	23.0	1 001	4.3	32.0	21.6	1 877	13.4	31.0
MUAT-100-FB																				
Tw1/ Tw2	90/70 °C				80/60 °C				70/50 °C				60/40 °C				50/40 °C			
	Tp1	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw	Tp2	PT	Qw	Δpw
°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C	kW	l/h	kPa	°C
0	94.1	4 155	26.0	53.5	81.0	3 560	20.2	46.0	67.9	2 969	15.0	38.5	54.6	2 379	10.4	31.0	52.2	4 542	34.1	29.5
5	88.2	3 890	23.0	55.0	75.0	3 295	17.5	47.5	61.8	2 704	12.6	40.0	48.5	2 112	8.4	32.5	46.1	4 011	27.2	31.0
10	82.2	3 627	20.3	56.5	69.0	3 031	15.1	49.0	55.7	2 437	10.5	41.5	42.3	1 843	6.6	34.0	40.0	3 479	21.0	32.5
15	76.2	3 364	17.7	58.0	63.0	2 766	12.8	50.5	49.6	2 170	8.5	43.0	36.1	1 571	5.0	35.5	33.8	2 944	15.6	34.0
20	70.3	3 101	15.2	59.0	56.9	2 501	10.6	52.0	43.5	1 902	6.7	44.5	29.7	1 296	3.5	36.5	27.6	2 405	10.8	35.5

Note: Values for high air speed, for values at low and medium speeds refer to the installation manual.

- Legend:
- PT → Heating Capacity
  - Tp1 → Inlet Air Temperature
  - Tp2 → Outlet Air Temperature
  - Tw1 → Inlet Water Temperature
  - Tw2 → Outlet Water Temperature
  - Qw → Water Flow Rate
  - Δpw → Battery Load Loss

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**OPTIONALS**

**Thermostat SE-3 (CO14653)**  
Ambient Thermostat, 3 speeds and range: 10-30 °C



**Ambient temperature sensor PT-1000 (CL91187)**  
Ambient temperature sensor PT-1000 IP65, for connection to a DRV module.



**Zone valve**



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

**T-BOX Central Control (CL91182)**  
Central 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 range 5 - 45°.
- Intuitive use and easy view of operating parameters.
- Multi-language (Spanish, English, German, etc.).
- Cooperation with MODBUS-RTU.



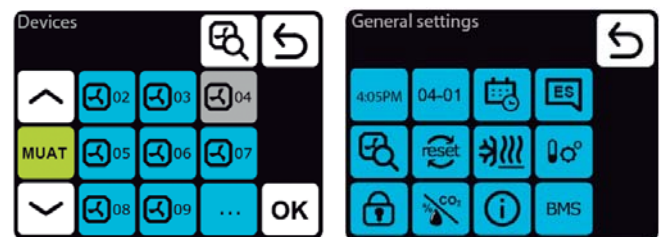
**Concentrator RX (CL91186)**  
Allows integration of 3-speed equipment into a group or centralized control system. Up to 3 RX concentrators can be combined, meaning that a single group can consist of up to 36 units:



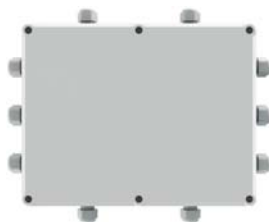
- 12 units of MUAT-10/20/30-FB air heater;
- 6 units of MUAT-25/40/55-FB air heater;
- 6 units of MUD-DT destratifier;
- 3 units of MUAT-75/100-FD air heater;
- 3 MU-GC air curtain units (except R3);

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

Combined with the MUAT-FB air heaters with the MUD-DT destratifiers (with their respective DRV modules), it automatically manages the room destratification, so that when the room temperature drops below the set point, the destratifiers are started first and if this does not increase the room temperature, the air heaters are automatically activated.



**DRV-FB (CL91183) Module**  
The DRV-FB module is designed for connection to the MUAT-FB air heaters. Up to 31 DRV modules can be combined and controlled with a single central T-BOX control.



**DRV-FB functions:**

- Possibility to connect the T-BOX central control.
- Possibility to connect to MODBUS-RTU.
- Possibility of connecting a PT-1000 temperature sensor.

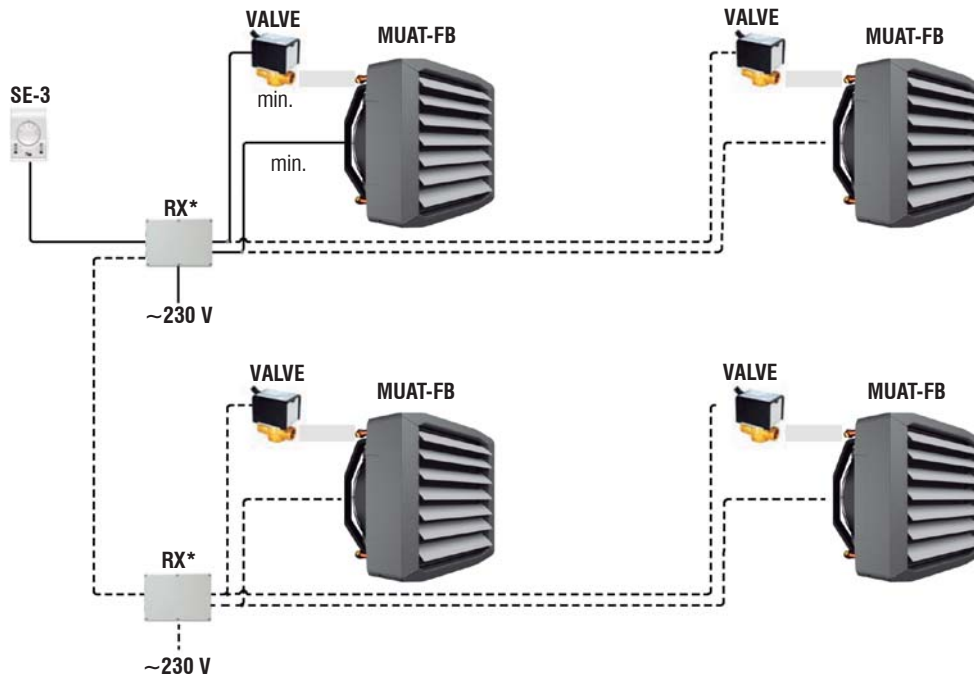


**HOT WATER AIRHEATERS MUAT-FB Series**

**EXAMPLE OF CONNECTIONS**

**1) SE-3 CONTROL CONNECTION + RX CONCENTRATOR + MUAT-FB AIR HEATER**

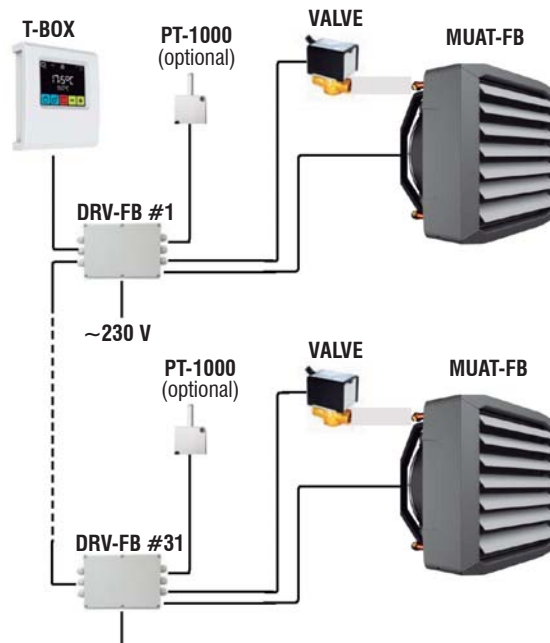
To control up to 36 MUAT-FB units grouped together with a single SE-3 (or similar) thermostat, perform the following configuration:



\*Note: Max. 3 RX hubs to one SE-3 (or similar) control; Max. 12 units MUAT-10/20/30-FB; Max. 6 units MUAT-25/40/55/75/100-FB; to every concentrator RX.

**2) CONNECTION OF CENTRAL CONTROL T-BOX + DRV-FB MODULE + PT-1000 SENSOR + PT-1000 SENSOR MUAT-FB AIR HEATER**

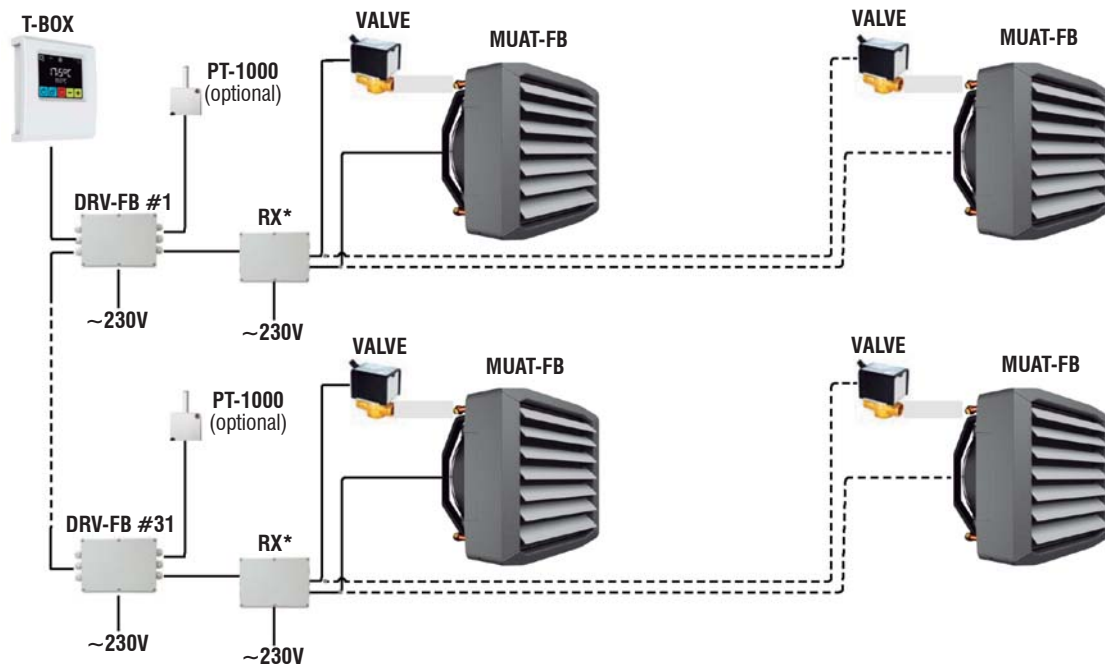
To control up to 31 MUAT-FB units independently with a single centralized T-BOX control, carry out the following configuration:



**HOT WATER AIRHEATERS MUAT-FB Series**

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

To control up to 1116 MUAT-FB units independently with a single centralized T-BOX control, carry out the following configuration:



\*Note: Max. 3 RX hubs to one SE-3 (or similar) control; Max. 12 units MUAT-10/20/30-FB; Max. 6 units MUAT-25/40/55/75/100-FB; to every concentrator RX.

**4) CONNECTION OF CENTRAL CONTROL T-BOX + DRV-FB MODULE + PT-1000 SENSOR + PT-1000 SENSOR MUAT-FB AIR HEATER + DRV-DT MODULE + MUD-DT DESTRAFICATOR**

To control up to 31 MUAT-FB or MUD-DT units independently with a single centralized T-BOX control, and to be able to carry out the combined operation of the air heaters with the destratifiers, carry out the following configuration:

