

> UT REC - UT REC C

SINGLE-PANEL HEAT RECOVERY UNITS



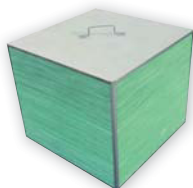
Units Series

Unit type

UT REC with recuperator in aluminium



UT REC C with paper pack recuperator



Unit specification

The UT-REC and UT-REC C heat recovery units feature compact dimensions and easy assembly. The UT-REC and UT-REC C heat recovery units combine maximum room comfort with certain energy savings. Current air-conditioning and air handling systems require forced ventilation, which consequently involves the discharge of the conditioned air and as a result means signi-

ficant energy consumption and an increase in running costs.

The UT-REC and UT-REC C series have been designed to resolve these problems by the use of static exchangers.

The series UT-REC C adopts a heat recovery made of plane sheets of special paper. These exchangers are also called total heat recoveries:

in fact, they can recover both sensible and latent heat (humidity), with temperature efficiency between 60-80% and enthalpy efficiency between 50-70%.

For the UT-REC series, the heat recuperator is composed of aluminium plate, with air flows separated by special seal; this system allows to save over 50% of the energy that would otherwise be lost.

Both units can be perfectly integrated into traditional systems made up of fan coils, radiators and air-conditioning units, and work in both heating and cooling modes. The UT-REC and UT-REC C series are made up of nine models, covering a range of flow-rates from 300 m³/h to 5130 m³/h.

Each model is available in two versions:

- **Horizontal, called UT-REC/O, UT-REC C/O**

- **Vertical UT-REC/V, UT-REC C/V**

Moreover it is possible to realize lots of configurations. The high static pressure values available allow the use of ducting for the extraction or distribution of air in a series of rooms.

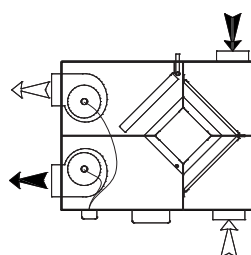
Main accessories/Options

- BE** Electric post-heating section
- BW** Post-heating internal water coil (mod. 110÷530)
- BFW** Water coil section
- SER** Regulation damper
- SC** Damper actuators
- SPC** N. 4 connections for circular ducts kit
- VVM** Electronic speed controller (only for mod. 33-55)
- COM3** Speed controller (mod. 110÷530)
- PCO** Unit control panel
 - Unit control panel with 0-10V output
 - Unit control panel with LCD display
 - Signal lamps kit
- 2xPRF** Pressure switch for dirty filter signal
- TA** Anti-freeze thermostat

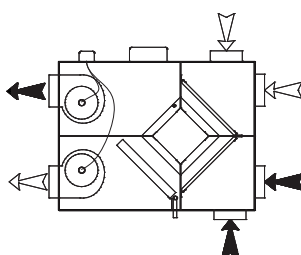
CONFIGURATION

Depending on the configuration of the plant duct are available four possible configurations of recovery.

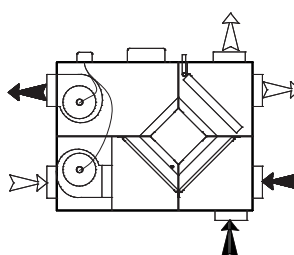
TYPE 01



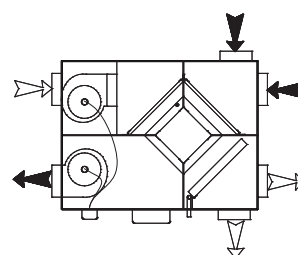
TYPE 02



TYPE 03



TYPE 04



NB: Indicare sempre orientamento ed esecuzione in fase d'ordine

← ESP
↔ MAND

Technical data

MODEL - UT-REC, UT-REC C	33	55	110	175	220	255	320	410	530		
Nominal air flow	300	620	920	1580	1850	2250	2950	3920	5130	m ³ /h	
External static pressure ⁽¹⁾	265	55	65	70	77	80	100	100	130	Pa	
Total max absorbed current	1,2	1,8	2,2	4,4	4,8	5,2	8,3	5,0	6,6	A	
Sound pressure level ⁽²⁾	47	51	50	53	52	51	54	56	57,5	db (A)	
FANS - UT-REC, UT-REC C	33	55	110	175	220	255	320	410	530		
Power input	90 x 2	90 x 2	147 x 2	350 x 2	350 x 2	350 x 2	550 x 2	750 x 2	800 x 2	W	
Poles	2						4				n°
Speed number	1 ⁽³⁾						3 ⁽⁴⁾		2 ⁽⁴⁾		n°
Enclosure protection	44						55	44	55	20	IP
Insulation class	F										
Electrical supply	230/1/50							400/3/50		V/ph/Hz	
PAPER HEAT EXCHANGER - UT-REC C	33	55	110	175	220	255	320	410	530		
Winter conditions ⁽⁵⁾											
Efficiency (temp/enthalpy)	76/62	74/60	72/56	68/55	73/65	75/67	70/62	66/56	67/57	%	
Heating recovery capacity	2,6	5,2	7,2	12,2	16,9	21,1	25,6	30,8	36,6	kW	
Supply air temperature	14,0	13,5	13,0	12,0	13,3	13,8	12,5	11,5	11,7	°C	
Supply air umidity	39,5	39,7	36,7	42,0	49,4	48,8	50,2	47,6	48,2	%	
Summer conditions ⁽⁶⁾											
Efficiency (temp/enthalpy)	62/60	60/58	58/55	54/53	59/59	62/62	56/55	52/51	53/52	%	
Heating recovery capacity	1,0	2,0	2,9	4,7	6,1	7,9	9,1	11,2	15,1	kW	
Supply air temperature	28,3	28,4	28,5	28,8	28,5	28,3	28,6	28,9	28,8	°C	
Supply air umidity	51,2	51,2	51,5	50,8	50,5	50,5	51,0	50,9	50,5	%	
PLATE HEAT EXCHANGER ⁽⁵⁾ - UT-REC	33	55	110	175	220	255	320	410	530		
Efficiency	53	54	55	54	54	54	51	57	50	%	
Heating recovery capacity	1,5	3,1	4,7	7,9	9,2	11,2	13,9	20,6	21,3	kW	
Supply air temperature	8,3	8,5	8,8	8,5	8,5	8,5	7,8	9,3	7,5	°C	
INTERNAL BATTERY AFTER WATER HEATING - BW	33	55	110	175	220	255	320	410	530		
Heat output			8,2	12,2	14,4	20,3	24,2	29,9	40,6	kW	
Geometry	-	-	2522	2522	2522	2522	2522	2522	2522		
Tubes for rank	-	-	14	18	18	22	22	22	22	n	
Ranks	-	-	2	2	2	2	2	2	2	n	
Fin spacing	-	-	2,5	2,5	2,5	2,5	2,5	2,5	2,5	mm	
Leaving air temperature	-	-	33,4	30,8	30,2	33,2	31,3	29,7	31,2	°C	
Pressure drop on the air side	-	-	25	32	30	25	33	43	38	Pa	
Pressure drop on the water side	-	-	8	14	15	17	22	30	20	kPa	
Diameter collectors	-	-	3/4	3/4	3/4	3/4	3/4	3/4	1	0 gas	
Weight	-	-	2,5	2,5	2,5	5	5	6,5	9	kg	
ELECTRICAL RESISTANCE HEATING POST - BE	33	55	110	175	220	255	320	410	530		
Power and the appointment appointment	1,5	3	3	6	6	12	12	12	18	kW	
Voltage	230	230	400	400	400	400	400	400	400	V	
Phases	1	1	3	3	3	3	3	3	3	n	
Stadiums	1	1	1	1	1	1	1	1	1	n	
Absorption	6,5	13	4,3	8,65	8,65	17,3	17,3	17,3	26	A	
T air outlet	23,3	22,2	17,6	18,1	17,5	22,3	19,3	16,7	18,6	°C	
Weight	1,5	1,5	2,5	2,5	2,5	5	5	5	8	kg	
SECTION WITH WATER COIL HOT / COLD - BFW	33	55	110	175	220	255	320	410	530		
Geometry	2522	2522	2522	2522	2522	2522	2522	2522	2522	-	
Tubes for rank	13	13	16	22	25	26	26	26	32	n°	
Ranks	3	3	3	3	3	3	3	3	3	n°	
Fin spacing	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1	mm	
Heat output ⁽⁷⁾	4,7	8,2	12	19,7	23,7	30,5	37	46,2	59,3	kW	
Leaving air temperature	52,8	45,6	45	43,4	44,5	46,5	43,7	41,5	41,8	°C	
Water flow	0,4	0,7	1,1	1,7	2,1	2,7	3,3	4,1	5,2	m ³ /h	
Water pressure drops	3	7	6	20	34	30	43	36	37	kPa	
Pressure drop air	10	13	27	38	34	25	38	50	55	Pa	
Cooling capacity ⁽⁸⁾	2	3,5	5	8,8	11,1	14,7	17,4	20,9	26,2	kW	
Sensible cooling capacity	1,3	2,3	3,3	5,8	7,2	9,4	11,4	13,9	17,4	kW	
Leaving air temperature	16,9	18,7	19	18,9	18,7	17,3	18,3	19,3	19,4	°C	
Water flow	0,3	0,6	0,9	1,5	1,9	2,5	3,0	3,6	4,5	m ³ /h	
Water pressure drop	3	7	6	21	39	36	49	39	35	kPa	
Loss of air cargo	20	30	38	48	45	35	52	65	62	Pa	

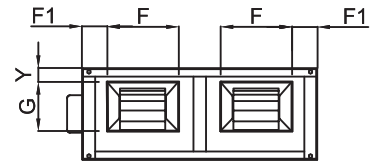
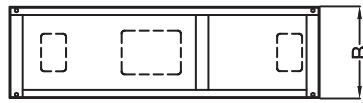
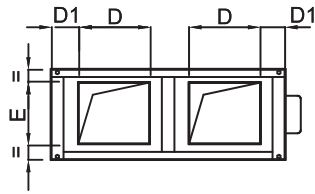
(1) Referred to the nominal air flow after plate heat exchanger and G4 standard filters.
 (2) Sound pressure level: data referred to 1,5 meters from inlet in free field. The actual operation noise level generally differs from the values shown in the table, depending on the operation conditions, on the reflected noise and on the surrounding noise.
 (3) Adjustable with electronic speed controller VVM (optional)
 (4) Selectionable with COM3 or PCO control (optional)

(5) Nominal winter conditions:
 outside air: -5°C DB, RH 80 % - ambient air: 20°C DB, RH 50 %
 (6) Nominal summer conditions:
 outside air: 32°C DB, RH 50 % - ambient air: 26°C DB, RH 50 %
 (7) Amounts refer to: Ting. air 8 ° C, water in / out 70/60 ° C, nominal air flow
 (8) Amounts refer to: Ting. air 30 ° C, 50% RH Water in / out 7/12 ° C, nominal air flow

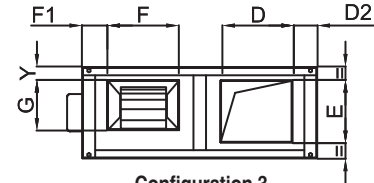
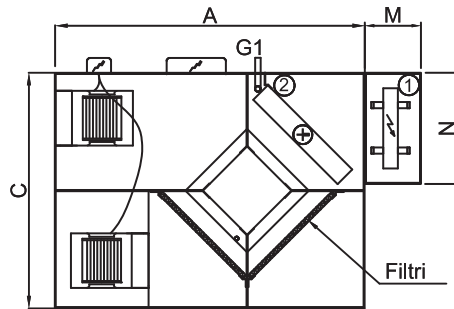
DIMENSIONS

(drawing indicative of the series)

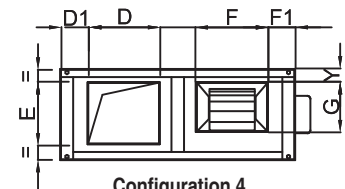
HORIZONTAL MODELS



Configuration 1 e 2



Configuration 3



Configuration 4

Key

1 Electric heater BE (optional). For UT-REC models the electric heater is internal, for UT-REC C models the external section is provided.
 2 Post-heating internal water coil BW (optional. Not available for sizes 33-55)

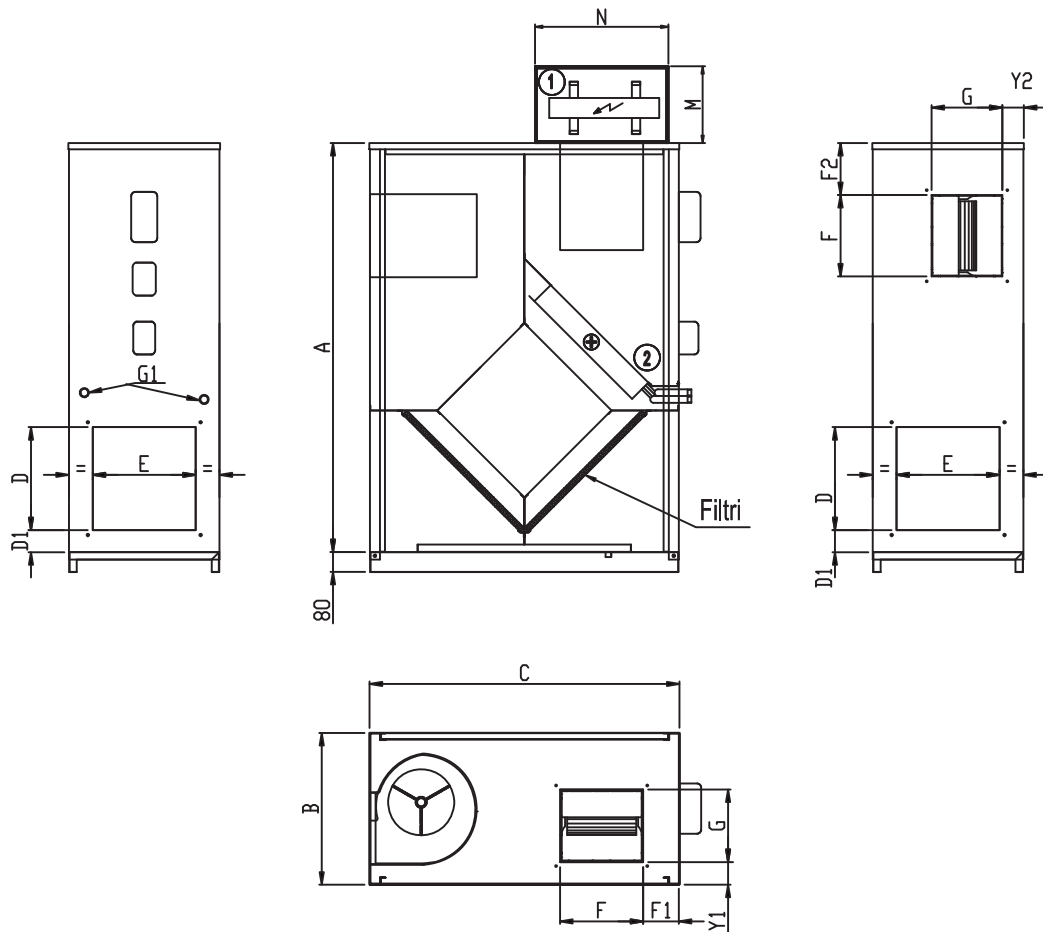
Mod.	33	55	110	175	220	255	320	410	530	
A	990	990	1140	1300	1380	1650	1650	1750	1970	mm
B	290	290	410	500	500	600	600	600	700	mm
C	750	750	860	860	960	1230	1230	1330	1400	mm
D	200	200	260	290	310	410	410	410	510	mm
D1	92	92	95	77	87	91	91	116	85	mm
D2	92	92	115	77	87	91	91	116	85	mm
E	210	210	210	310	330	410	410	410	510	mm
F	224	224	220	225	225	288	321	321	321	mm
F1	85	85	115	109	129	152	135	160	178	mm
G	100	100	200	255	255	255	280	280	280	mm
G1 (1)	-	-	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1"	ø gas
M (2)	250	250	250	250	250	250	250	250	250	mm
N (2)	380	380	450	430	480	570	570	570	600	mm
Y	130	130	50	75	75	162	125	125	225	mm
Weight	41	45	80	125	138	160	174	190	209	kg

(1) Only with post-heating water coil BW
 (2) Only for UT-REC C models with electric heater BE (installed in external section)

DIMENSIONS

(drawing indicative of the series)

VERTICAL MODELS



Legenda

1 Electric heater BE (optional). For UT-REC models the electric heater is internal, for UT-REC C models the external section is provided.
 2 Post-heating internal water coil BW (optional. Not available for sizes 33-55)

Mod.	33	55	110	175	220	255	320	410	530	
A	990	990	1140	1300	1380	1650	1650	1750	1970	mm
B	290	290	410	500	500	600	600	600	700	mm
C	750	750	860	860	960	1230	1230	1330	1400	mm
D	210	210	260	290	290	410	410	410	510	mm
D1	137	137	62	47	47	87	87	87	87	mm
E	200	200	220	310	310	410	410	410	510	mm
F	224	224	225	225	225	291	324	324	324	mm
F1	80	80	115	105	115	163	147	147	180	mm
F2	155	155	148	158	158	223	207	207	207	mm
G	100	100	201	255	255	255	282	282	282	mm
G1 (1)	-	-	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	1"	ø gas
M (2)	250	250	250	250	250	250	250	250	250	mm
N (2)	380	380	450	430	480	570	570	570	600	mm
Y1	54	54	70	80	80	104	100	100	100	mm
Y2	54	54	62	78	78	95	85	85	85	mm
Weight kg	37	41	72	113	125	144	157	171	188	kg

(1) Only with post-heating water coil BW
 (2) Only for UT-REC C models with electric heater BE (installed in external section)