Utek

indoor air quality and energy saving

TECHNICAL DATA

UNIT	CLASS
DEH 1 DEH 1-HIDRONIC	B
DEH 2 DEH 2-HIDRONIC	B

UNIT	CLASS
DEH 1-ENT. DEH 1-ENT.-HIDRONIC	B
DEH 2-ENT. DEH 2-ENT.-HIDRONIC	B

DEH e DEH-HIDRONIC
DEH-ENT. e DEH-ENT.-HIDRONIC

HEAT RECOVERY VENTILATION UNITS with INTEGRATED
AIR/AIR HEAT PUMP (CLIMATIZATION and DEHUMIDIFICATION

DEH

Dehumidification unit and air change with heat recoveryresidential ventilation unit wiyh heat recovery and dehumidification in combination with radiant cooling systems
- Ceiling installation
- Horizontal configuration

Range: n. 2 models:
- DEH-1 with air flow rate from 300 to 150 m³ / h
- DEH-2 with air flow rate from 500 to 250 m³ / h

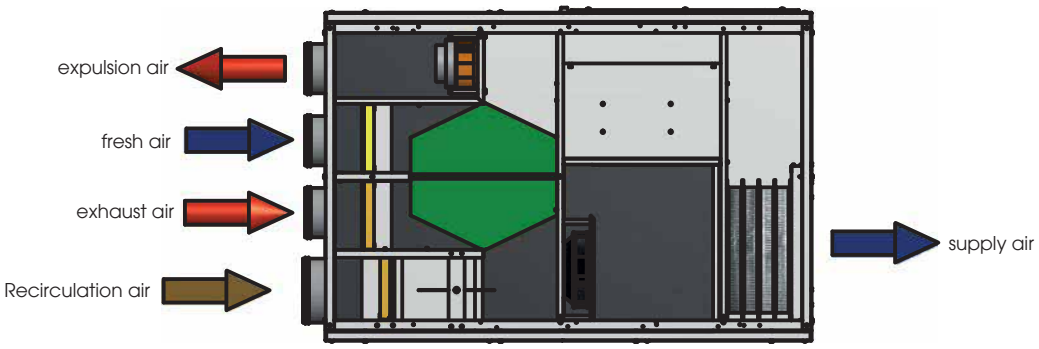
DESCRIPTION
- Aluzinc® self-supporting panels, sides in double panels insulated with foam polyurethane, 23 mm thick, top and bottom sheet single (insulated),
- Aluzinc® drip tray condensation
- Basic configuration: electronic microprocessor and electrical cabinet pre-wired on the machine (plug-nplay)
- Configuration with CO_2 probe for automatic control of the flow of fresh air (optional)
- Refrigerant circuit with hermetic compressor that uses refrigerant R134A

ELECTRIC FANS
- Electronic motors Fan EC plug fans 230V-1-50 / 60Hz high efficiency (ErP-2015)

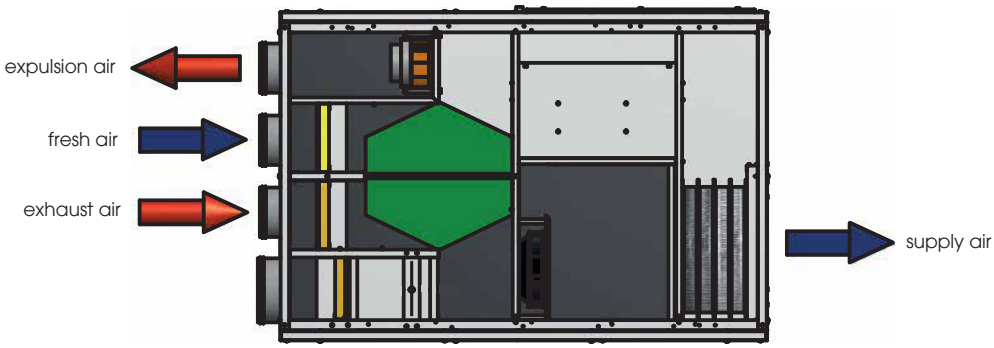
HEAT EXCHANGER
- Polypropylene exchanger counterflow high efficiency. **DEH is also available in enthalpy version to recover the latent heat (humidity) in addition to the sensible heat (temperature)**.

FILTERS
- Filters: air extraction / renewal / recirculation: class Coarse 65% (G4) / ePM1 70% (F7) / Coarse 65% (G4) (EN 779)

DEHUMIDIFY CONFIGURATION view from above



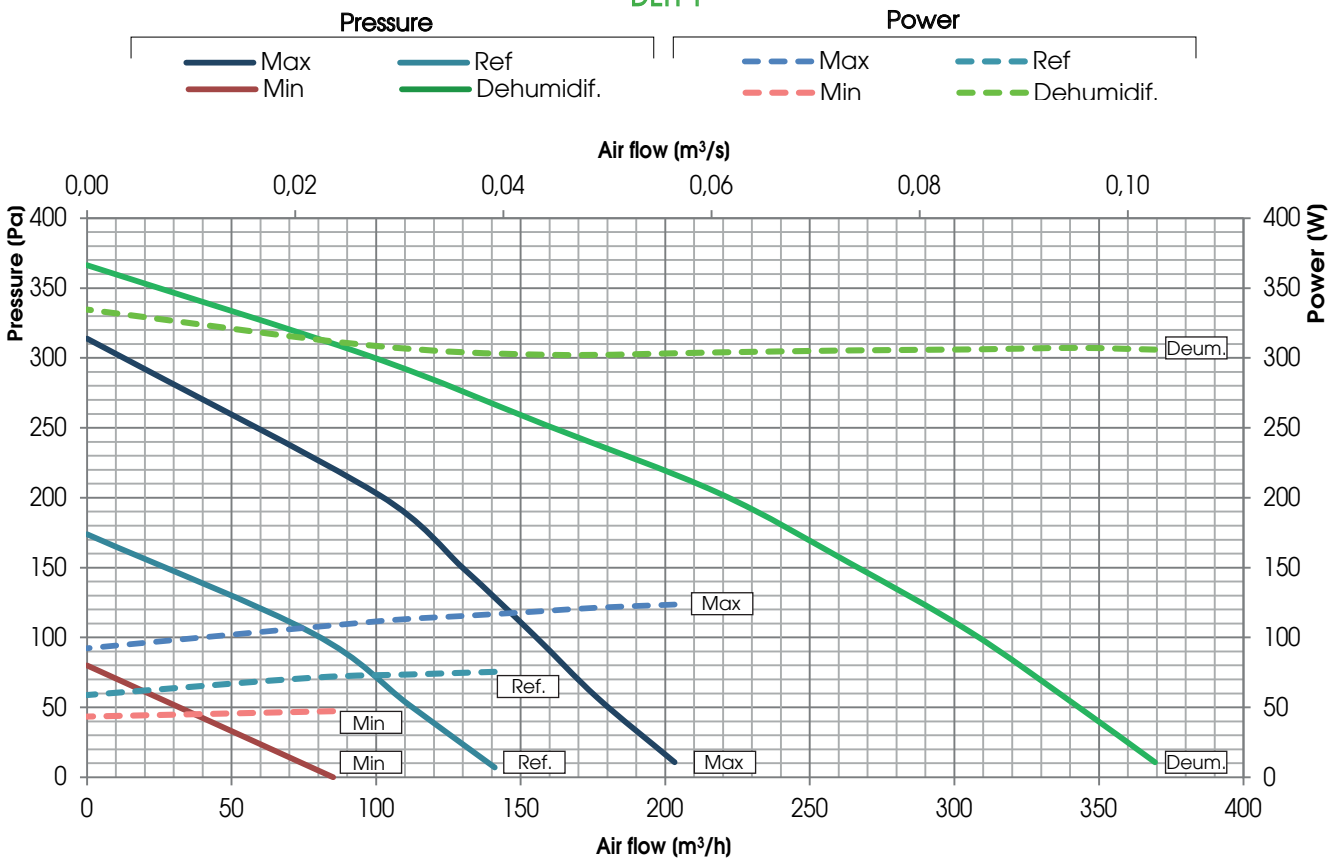
VMC CONFIGURATION view from above



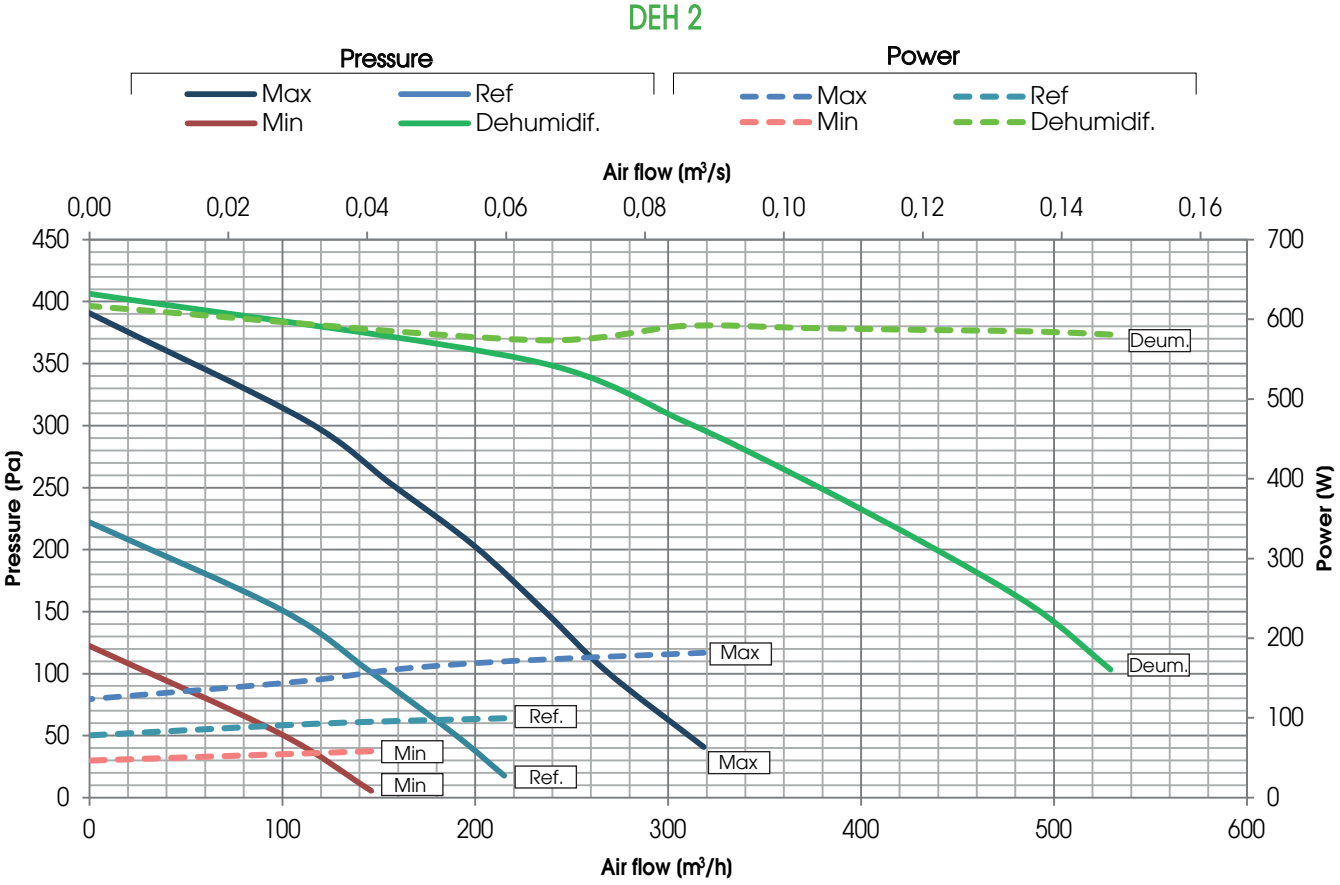
PERFORMANCES (UNI EN 13141-7)

The unit must be ducted properly: UTEK authorizes the use only according to its performance diagram shown into this catalogue
The declared performances are with CLEAN filters, and guaranteed ONLY with the original filters UTEK low pressure drop.

DEH 1



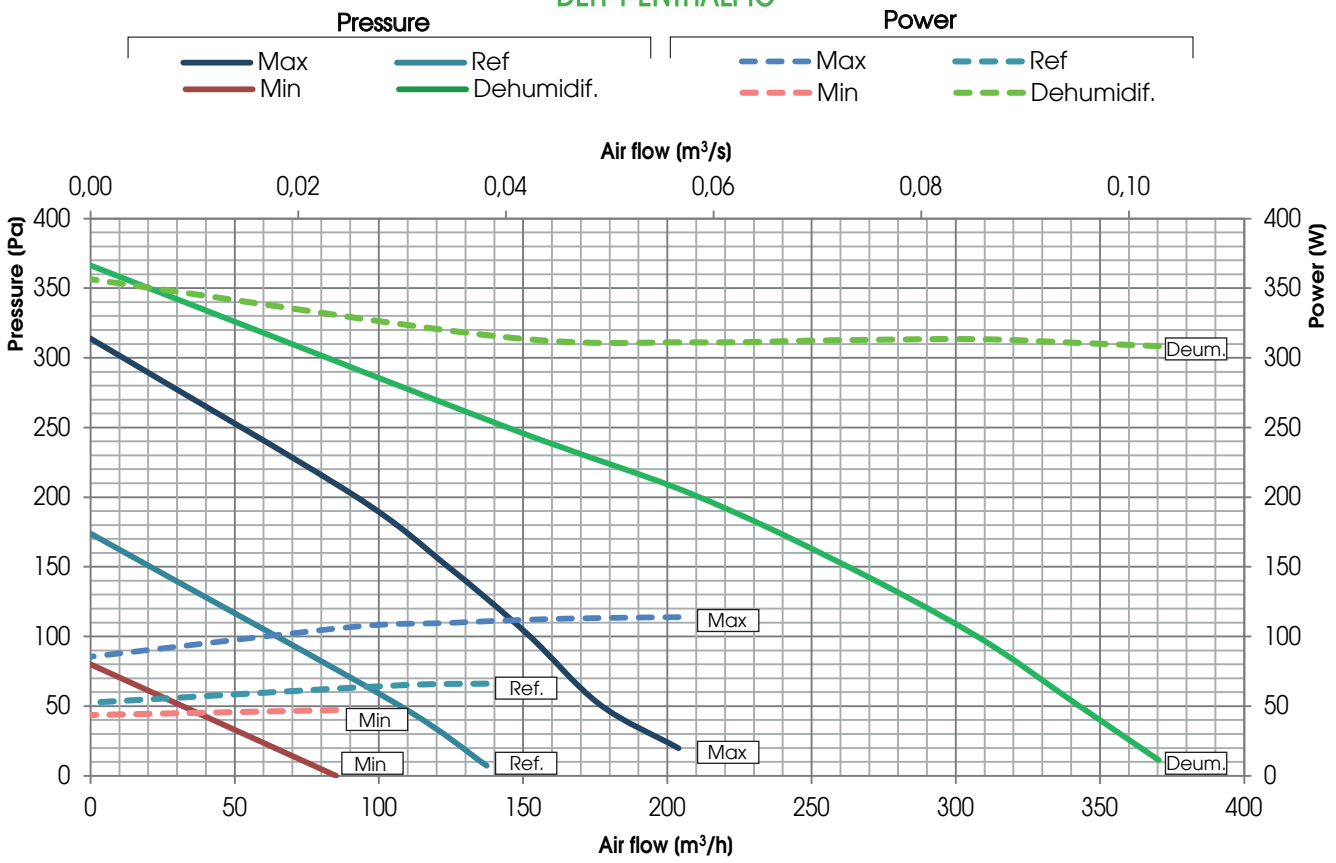
DEH 2



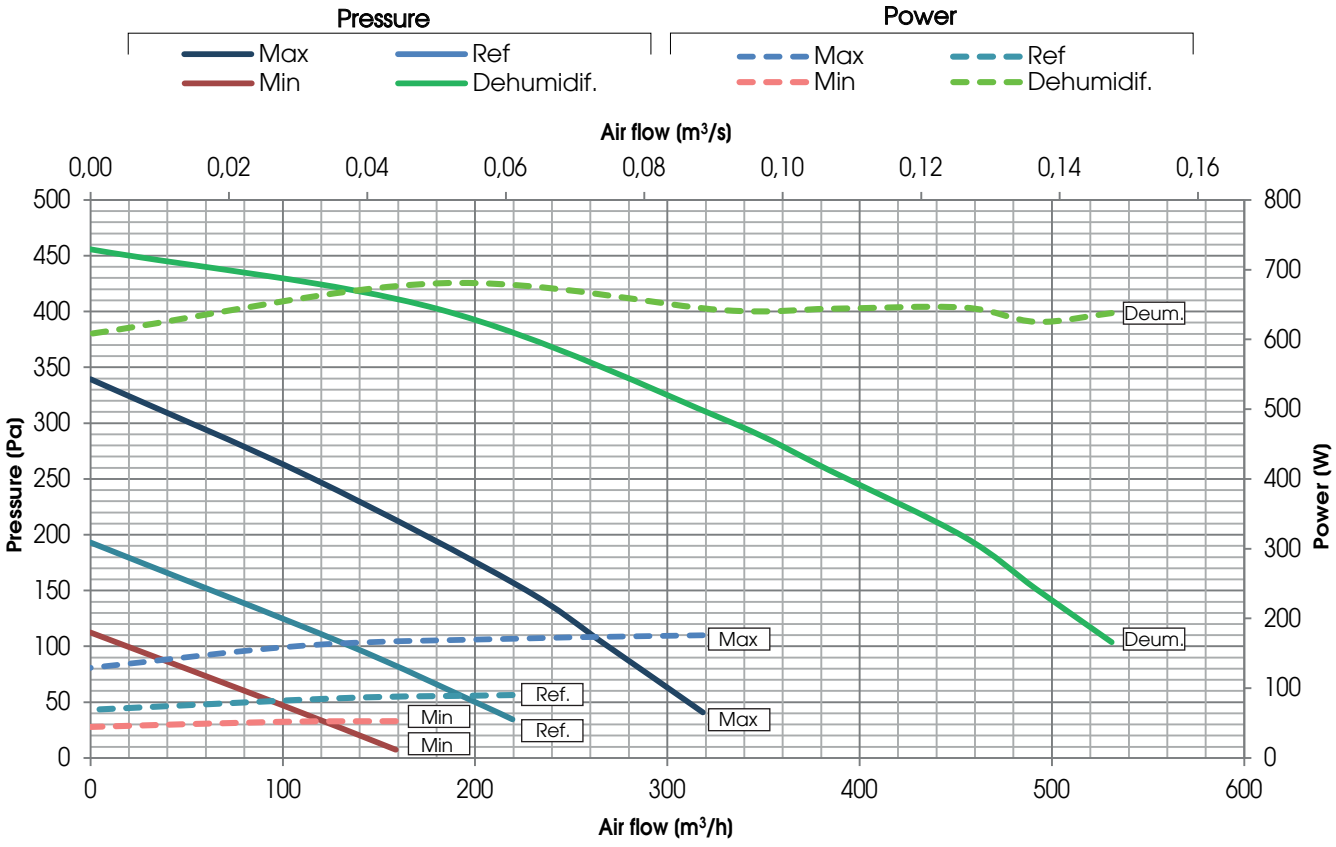
PERFORMANCES (UNI EN 13141-7)

The unit must be ducted properly: UTEK authorizes the use only according to its performance diagram shown into this catalogue
The declared performances are with CLEAN filters, and guaranteed ONLY with the original filters UTEK low pressure drop.

DEH 1 ENTHALPIC



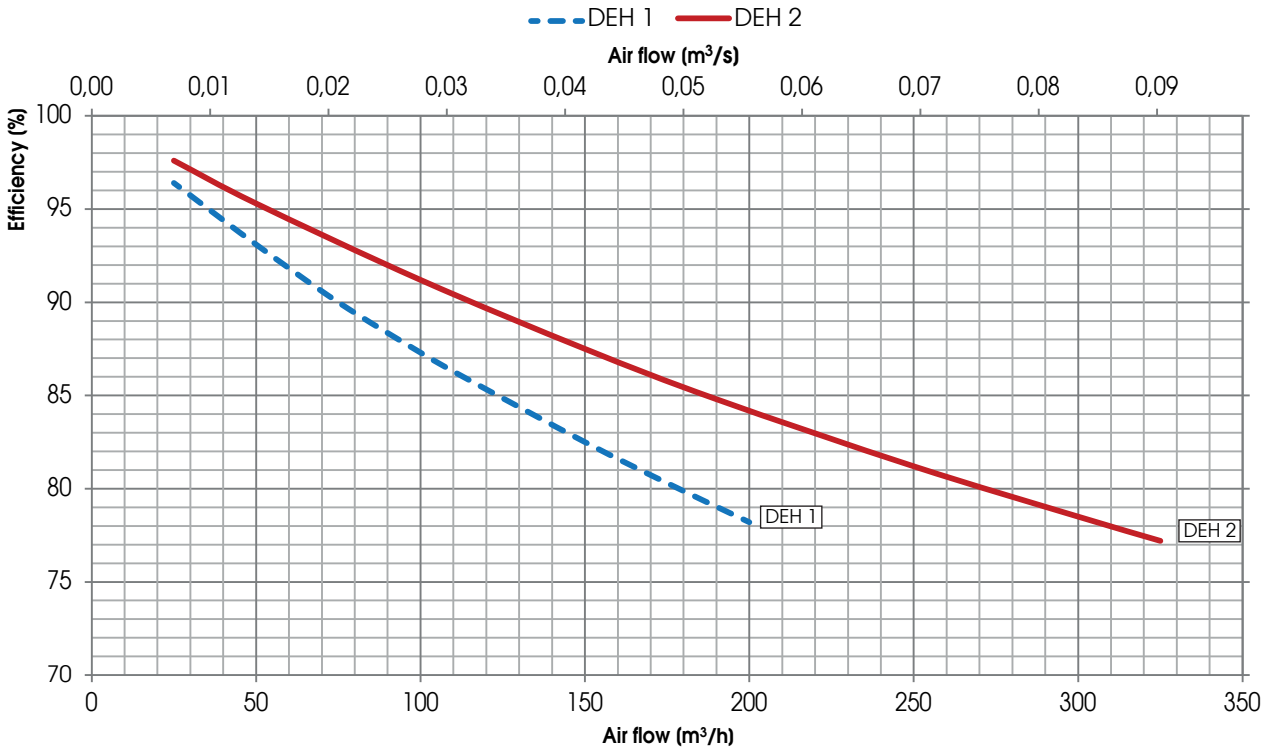
DEH 2 ENTHALPIC



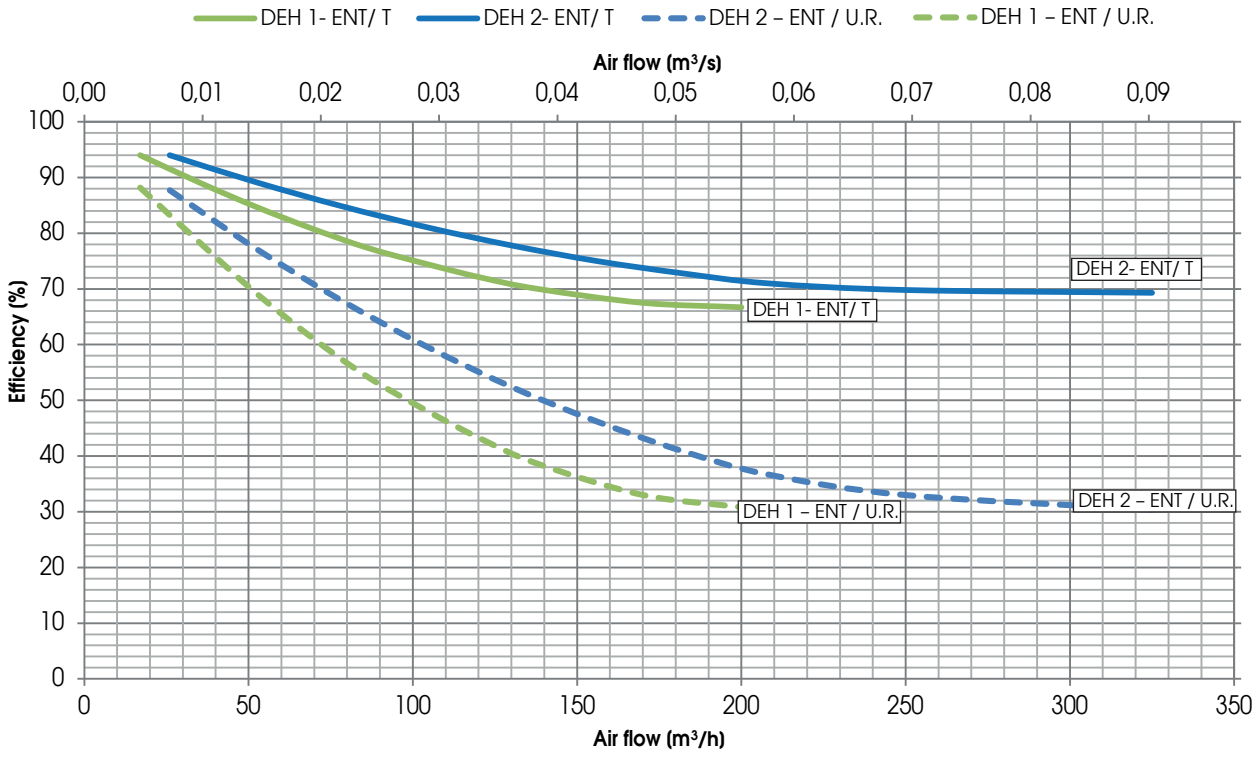
HEAT RECOVERY PERFORMANCE (sensible and latent efficiency)

Values refered to the following conditions(UNI EN 13141-7): Tbs external air 7°C; U.R. esternal 72%; Tbs enviorment 20°C; U.R. enviorment 28%

DEH



DEH ENTHALPIC



T = temperature, sensible heat recovery / U.R = relative humidity

DEH 1 (all)

TEST LEAKAGE according UNI EN 13141-7

LEAKAGE	TEST CONDITIONS	CLASS
OUTDOOR	Positive pression 250 Pa	A2
OUTDOOR	Negative pression 250 Pa	A2
INDOOR	Pressure difference100 Pa	A2

DEH 2 (all)

TEST LEAKAGE according UNI EN 13141-7

LEAKAGE	TEST CONDITIONS	CLASS
OUTDOOR	Positive pression 250 Pa	A2
OUTDOOR	Negative pression 250 Pa	A2
INDOOR	Pressure difference100 Pa	A2

NOISE LEVEL

Lw Sound power level taken in accordance to UNI EN ISO 3741 - CLASSE 3

	NOISE FROM THE CASE (dB)							
Unit **DEH 1 (all)**	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_w dB(A)
MAX	63,6	64,7	62,3	49,9	46,2	42,8	45,8	61,7
REF	58,5	63,2	54,6	49,2	41,4	37,8	44,4	57,6

	NOISE IN THE SUPPLY AIR DUCTS (dB)							
Unit **DEH 1 (all)**	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_w dB(A)
MAX	63,7	63,2	66,9	58,6	54,6	49,7	50,8	66,0
REF	58,5	60,6	59,9	51,1	47,3	41,4	44,0	59,4

	NOISE IN THE EXHAUST AIR DUCTS (Hz)							
Unit **DEH 1 (all)**	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_w dB(A)
MAX	63,6	62,1	63,7	54,0	53,0	51,2	55,7	63,8
REF	57,6	60,5	58,1	53,7	47,7	43,6	45,6	59,3

	NOISE FROM THE CASE (dB)							
Unit **DEH 1 (all) Dehumidification**	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_w dB(A)
MAX	64,4	66,9	63,8	55,2	51,2	46,9	50,3	64,1
REF	60,4	64,0	55,4	50,5	44,4	41,1	46,3	58,7

	NOISE IN THE SUPPLY AIR DUCTS (dB)							
Unit **DEH 1 (all) Dehumidification**	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_w dB(A)
MAX	65,1	63,8	70,0	58,0	55,6	50,2	50,9	68,2
REF	59,3	60,2	59,8	52,8	47,4	41,4	43,4	59,6

	NOISE FROM THE CASE (dB)							
Unit **DEH 2 (all)**	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_w dB(A)
MAX	63,6	64,7	62,3	49,9	46,2	42,8	45,8	61,7
REF	58,5	63,2	54,6	49,2	41,4	37,8	44,4	57,6

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REF	58,5	60,6	59,9	51,1	47,3	41,4	44,0	59,4

	NOISE IN THE EXHAUST AIR DUCTS (Hz)							
Unit **DEH 2 (all)**	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_w dB(A)
MAX	63,6	62,1	63,7	54,0	53,0	51,2	55,7	63,8
REF	57,6	60,5	58,1	53,7	47,7	43,6	45,6	59,3

	NOISE FROM THE CASE (dB)							
Unit **DEH 2 (all) Dehumidification**	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_w dB(A)
MAX	64,4	66,9	63,8	55,2	51,2	46,9	50,3	64,1
REF	60,4	64,0	55,4	50,5	44,4	41,1	46,3	58,7

	NOISE IN THE SUPPLY AIR DUCTS (dB)							
Unit **DEH 2 (all) Dehumidification**	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L_w dB(A)
MAX	65,1	63,8	70,0	58,0	55,6	50,2	50,9	68,2
REF	59,3	60,2	59,8	52,8	47,4	41,4	43,4	59,6

ELECTRICAL DATA

UNIT	FAN				
		Power	Supply	Current max	Insulation class
DEH 1 (all)	Expulsion	43 W	230 V, 50/60 Hz 1F	0,32 A	IP 44
	Supply	85 W	230 V, 50/60 Hz 1F	0,75 A	IP 54
DEH 2 (all)	Expulsion	85 W	230 V, 50/60 Hz 1F	0,75 A	IP 54
	Supply	170 W	230 V, 50/60 Hz 1F	1,65 A	IP 54

UNIT	version with COMPRESSOR - data (only compressor)	
	Supply	Max current
DEH 1 / DEH 1 - ENT.	230 V, 50 Hz 1F	2,1 A
DEH 2 / DEH 2 - ENT.	230 V, 50 Hz 1F	4,9 A

UNIT	version with COMPRESSOR - unit data	
	Supply	Max current
DEH 1 / DEH 1 - ENT.	230 V, 50 Hz 1F	3,5 A
DEH 2 / DEH 2 - ENT.	230 V, 50 Hz 1F	7,5 A

VERSION WITH COMPRESSOR

UNIT	Indoor air			outdoor air			Water					Cooling capacity			
	Air flow (m³/h)	Temp (°C)	Umidity (%)	Air flow (m³/h)	Temp (°C)	Umidity (%)	Water flow (l/h)	Input (°C)	Output (°C)	ΔT (°C)	ΔP (kPa)	Water battery (W)	Compressor (W)	Tot. (W)	Condensate l/day
DEH 1	150	26	55	150	33	55	200	15	19,4	4,4	4	990	988	1978	26,8
								18	21,2	3,2		730	987	1717	20,7
								21	23,4	2,4		560	1017	1577	17,3
DEH 2	250	26	55	250	33	55	350	15	19,8	4,8	3	1950	1542	3492	46,0
								18	21,9	3,9		1610	1607	3217	33,1
								21	23,9	2,9		1190	1608	2798	30,0

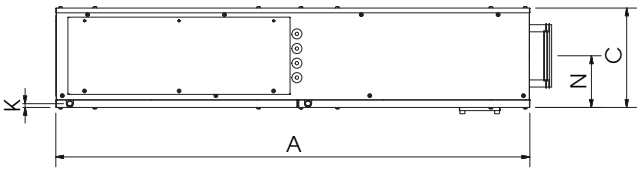
HYDRONIC VERSION (dehumidification only with H_2O battery)

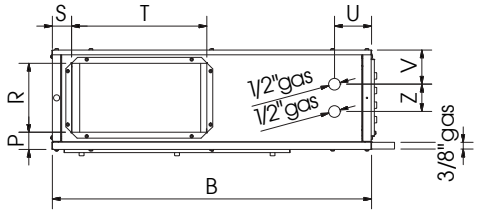
UNIT	Indoor air			outdoor air			Water					Cooling capacity			
	Air flow (m³/h)	Temp (°C)	Umidity (%)	Air flow (m³/h)	Temp (°C)	Umidity (%)	Water flow (l/h)	Input (°C)	Output (°C)	ΔT (°C)	ΔP (kPa)	Water battery (W)	Compressor (W)	Tot. (W)	Condensate l/day
DEH HIDR. 1	150	26	55	150	33	55	200	7,0	16,3	9,3	8	1970	-	1970	26,3
							300		14,8	7,9	17	2370	-	2370	33,8
							400		13,9	6,9	28	2610	-	2610	38,3
DEH HIDR. 2	250	26	55	250	33	55	350	7,0	15,3	8,3	5	3360	-	3360	44,8
							525		13,7	6,7	11	4110	-	4110	57,9
							700		12,6	5,6	18	4530	-	4530	66,4

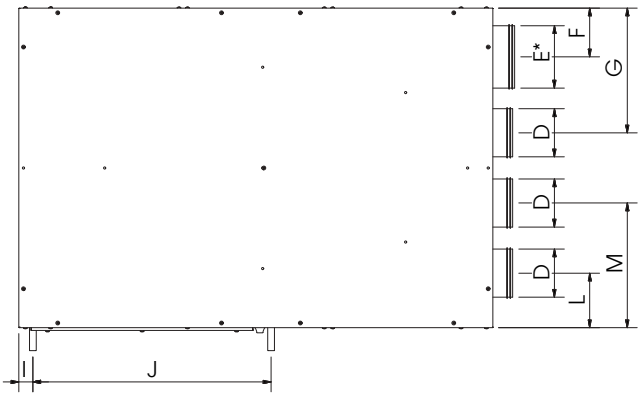
DIMENSIONS (mm) WEIGHT (kg)

UNIT	A	B	C	D	E*	F	G	K	L	M	N	P	R	S	T	U	V	Z
DEH 1/ENT	1216	827	263	125	160	125	320	10	140	320	123	44	177	50	385	94	88	70
DEH 2/ENT	1216	960	328	160	200	164	381	10	150	380	170	44	252	60	487	94	125	76

*ricircolo





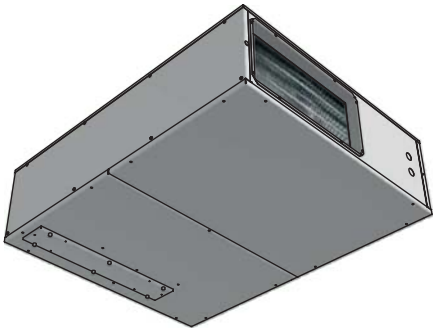


Weight : DEH 1: 85 kg
DEH 2: 100 kg
DEH 1 - ENT: 88 kg
DEH 2 - ENT: 103 kg
DEH 1 HYDRONIC: 75 kg
DEH 2 HYDRONIC: 85 kg
DEH 1 - ENT - HYDRONIC: 78 kg
DEH 2 - ENT - HYDRONIC: 88 kg

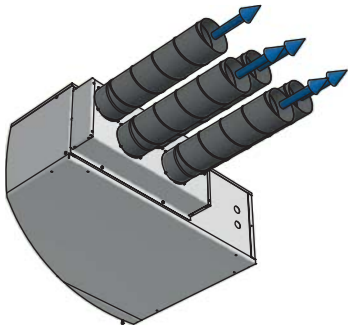
CONDENSATE DRAIN = 3/8 "
ATTACKS H_2O battery
. version with Compressor = 1/2 "
. HYDRONIC version - DEH 1 = 1/2 "
. HYDRONIC version - DEH 2 = 3/4 "

DISTRIBUTION PLENUM - POSSIBLE ALTERNATIVES

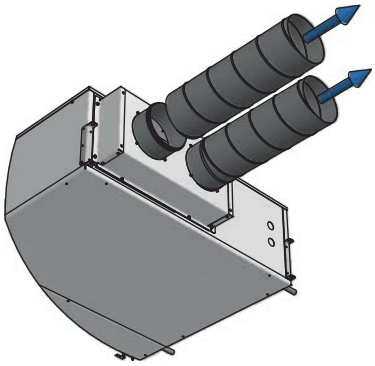
DELIVERY Plenum: standard or X-AIR



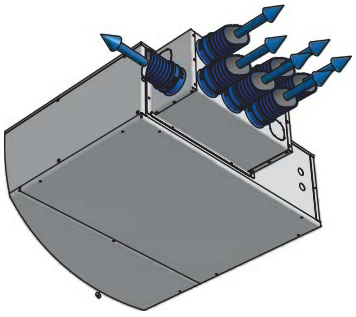
Rectangular outlet



Standard plenum DEH 2: 5 attacks Ø 125 mm
(for DEH 1: 3 attacks Ø 125 mm)

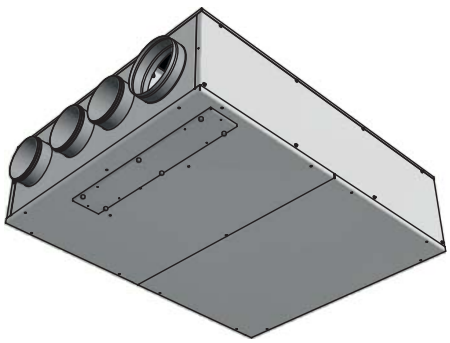


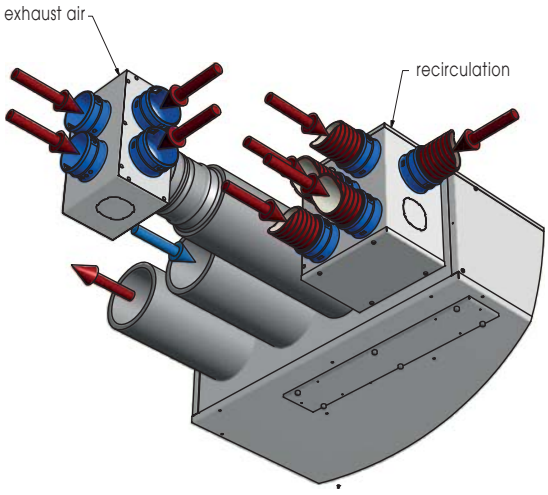
Standard plenum DEH 2: 2 attacks Ø 160 mm
(for DEH 1: 1 attack Ø 160 mm)



Plenum X-AIR for circular duct
(DEH 1: 8 attacks, DEH 2: 12 attacks)

EXHAUST AIR and RECIRCULATION plenum, version X-AIR

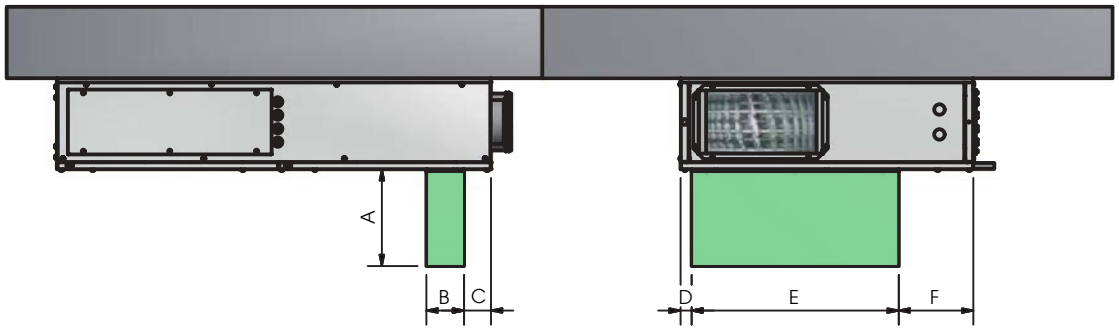




INSTALLATION DEH (all)

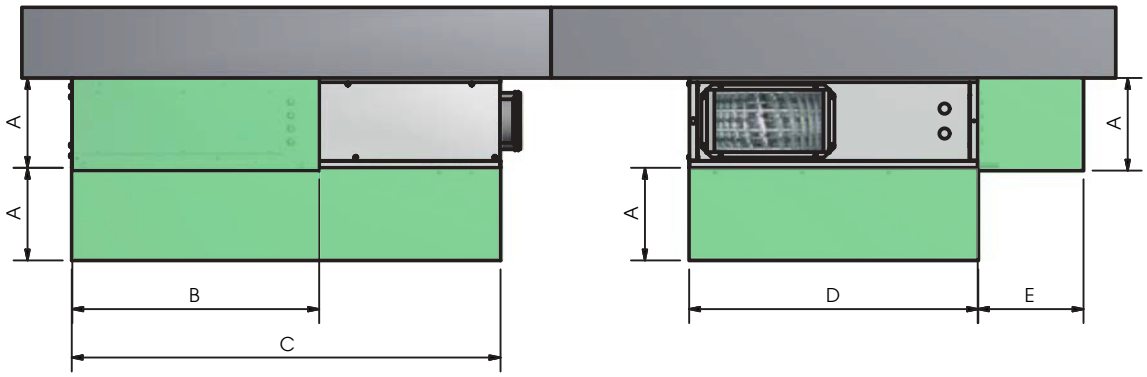
CEILING INSTALLATION

Minimum required space for maintenance FILTERS (mm)



UNIT	A	B	C	D	E	F
DEH 1 (all)	270	110	76	30	580	210
DEH 2 (all)	330	110	73	30	650	275

Minimum required space for maintenance -(mm)

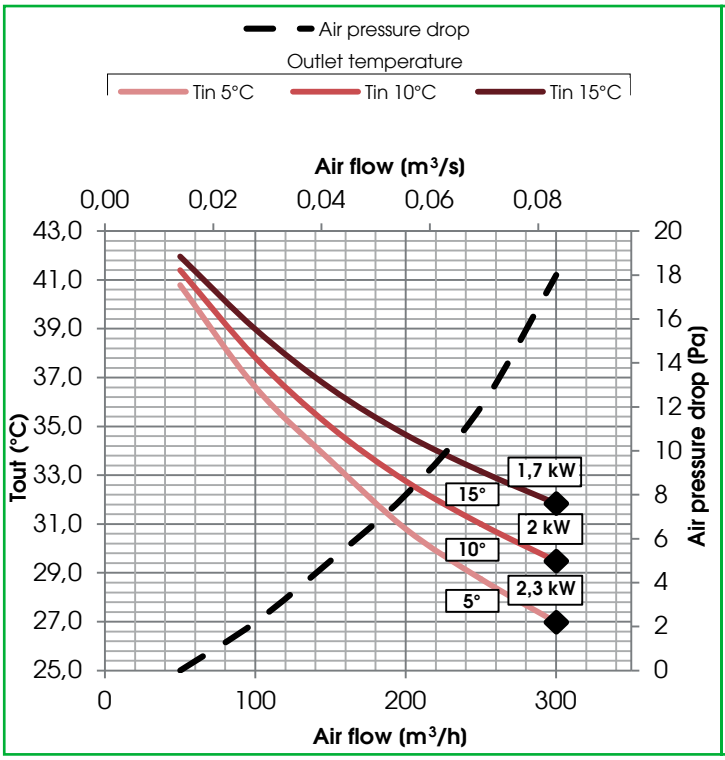


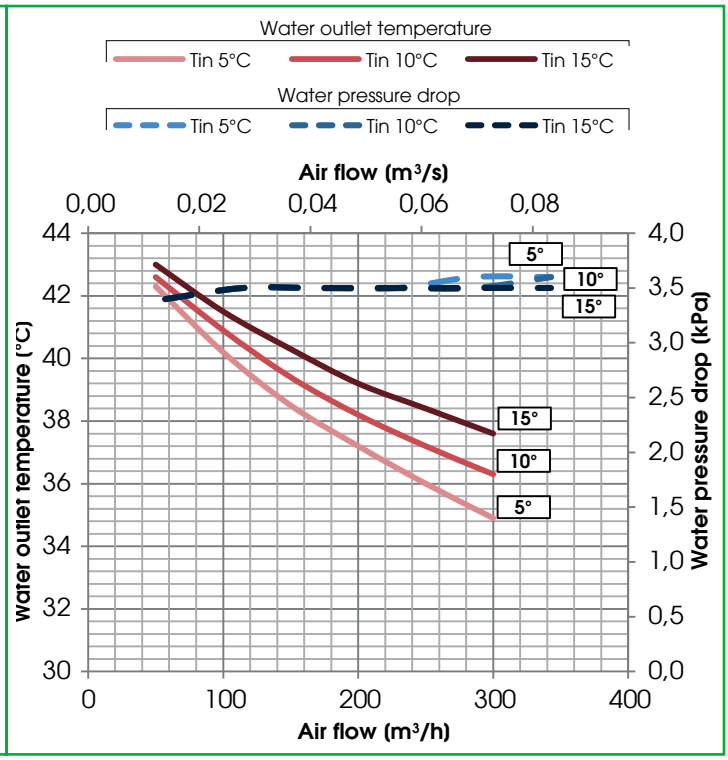
UNIT	A	B	C	D	E
DEH 1 (all)	260	700	1220	820	300
DEH 2 (all)	330	700	1220	960	300

The way to read the graphs is specified within the accessories techno-list.

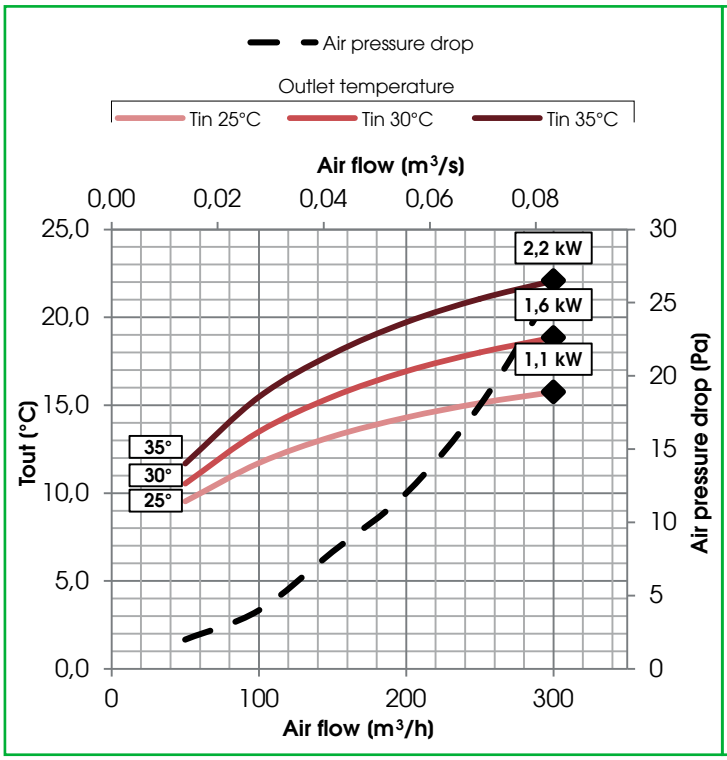
COILS **DEH / DEH-ENTHALPIC**

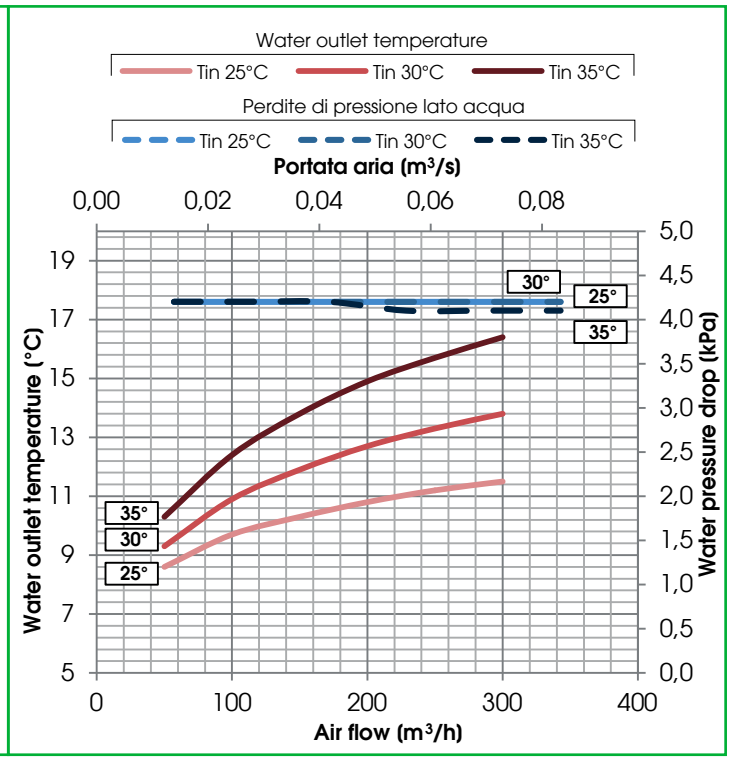
Coils DEH 1 / DEH 1 ENTHALPIC (+45°C/+35°C)





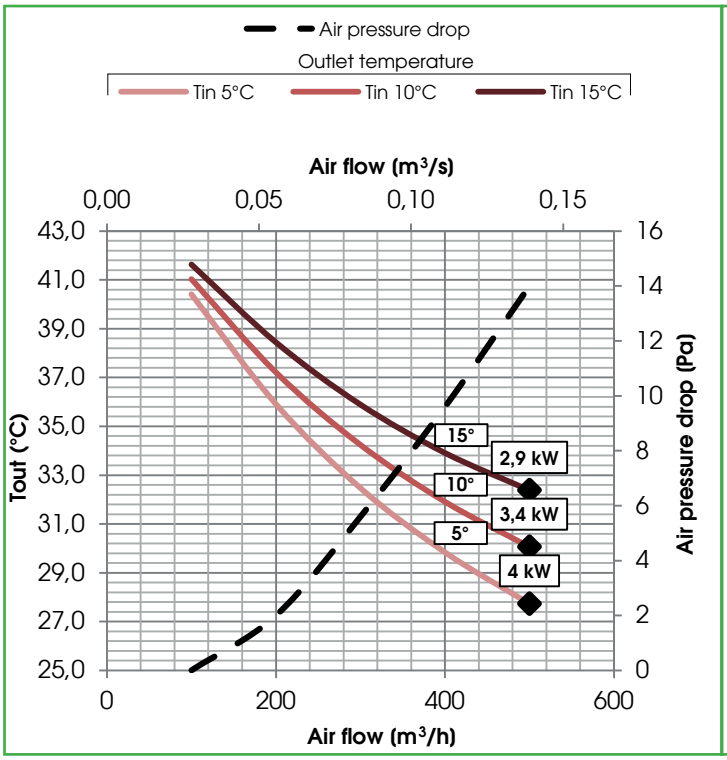
Coils DEH 1 / DEH 1 ENTHALPIC (+7°C/+12°C)

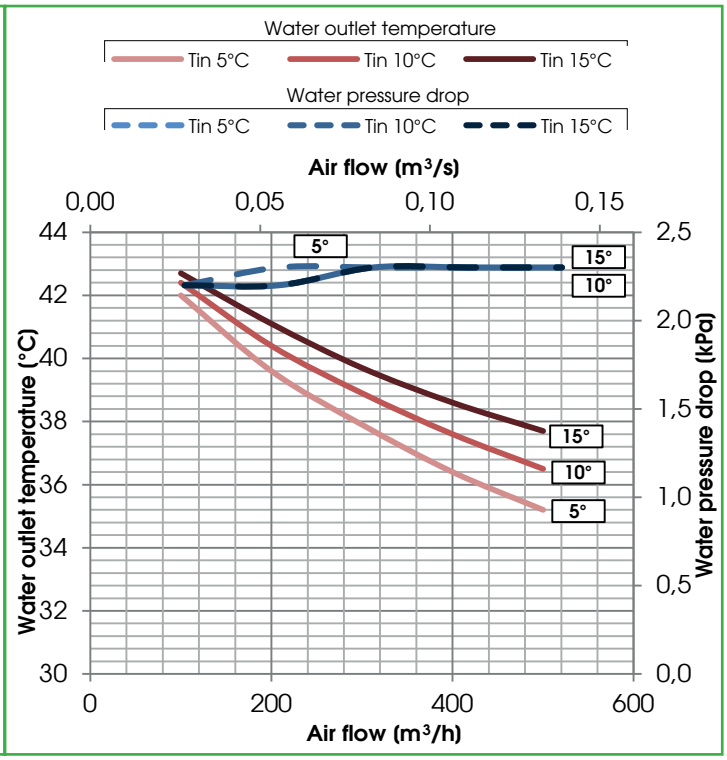




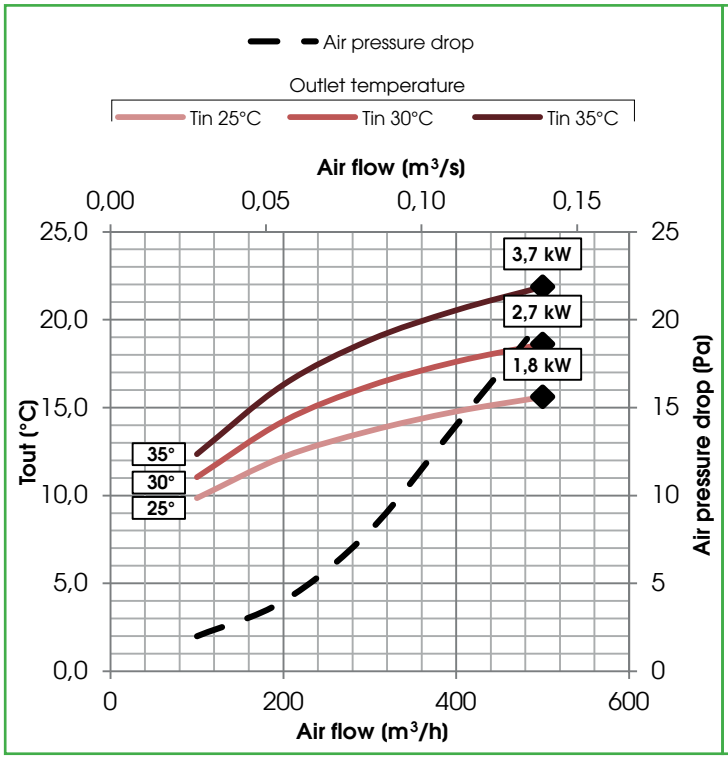
COILS **DEH / DEH-ENTHALPIC**

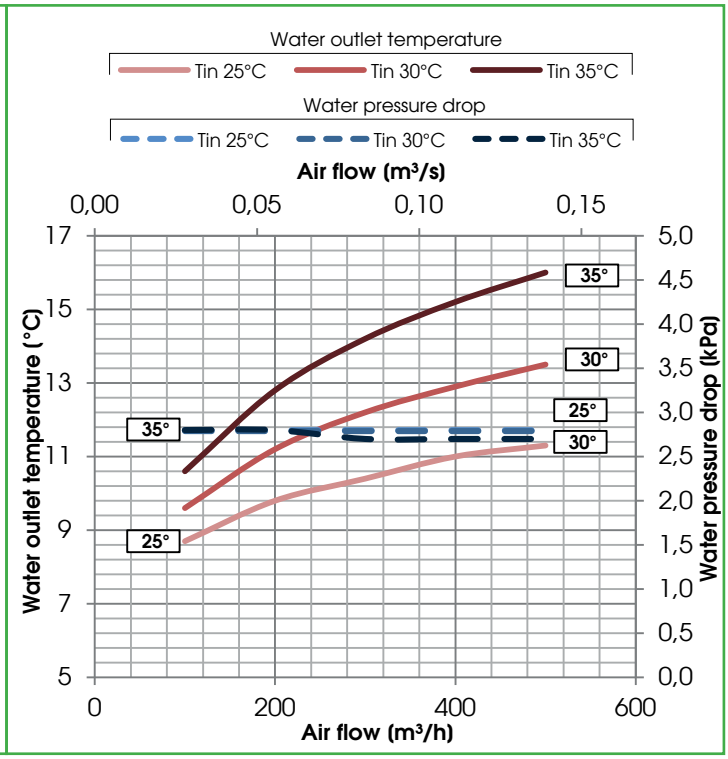
Coils DEH 2 / DEH 2 ENTHALPIC (+45°C/+35°C)





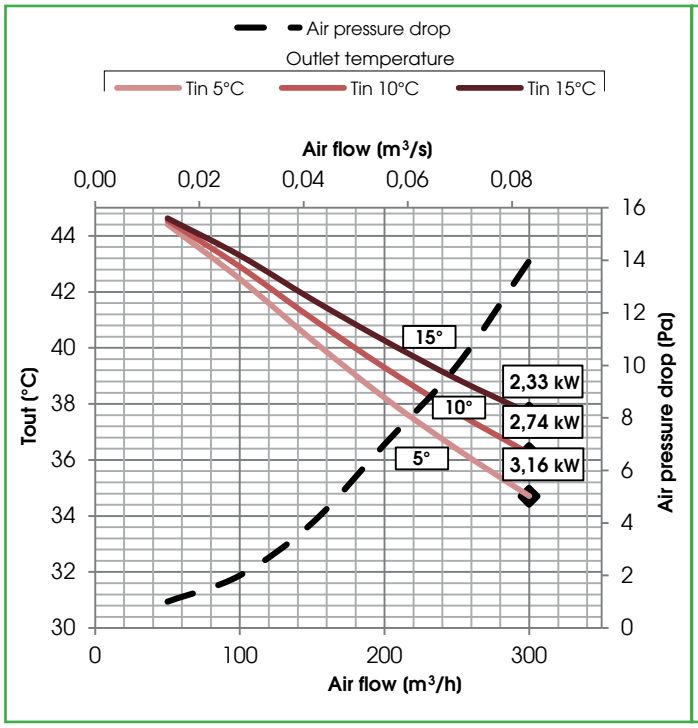
Coils DEH 2 / DEH 2 ENTHALPIC (+7°C/+12°C)

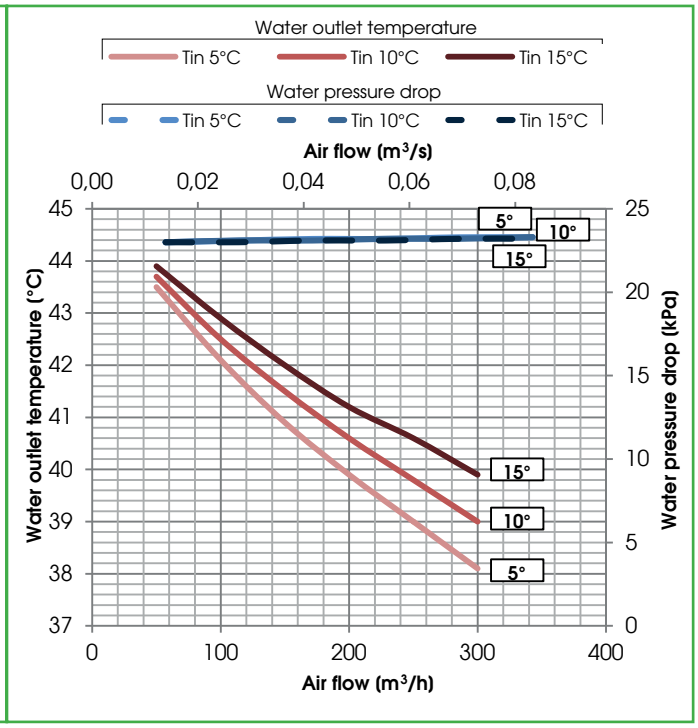




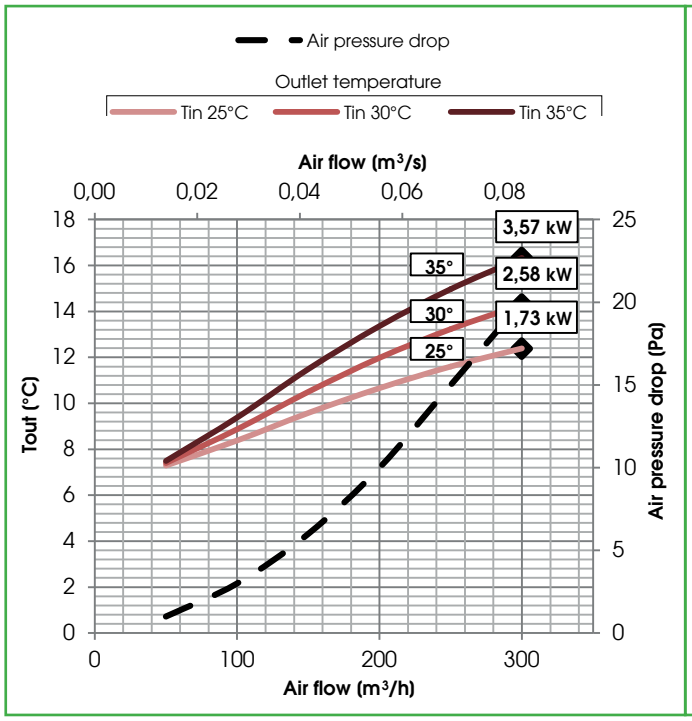
COILS **DEH-HIDRONIC / DEH-HIDRONIC ENTHALPIC**

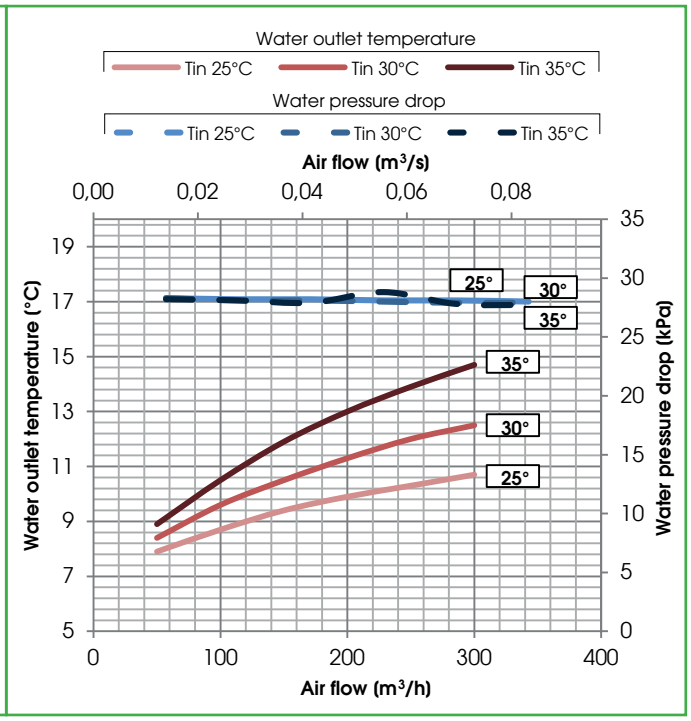
Coil DEH 1 HIDRONIC / DEH 1 HIDRONIC ENTHALPIC (+45°C/+35°C)





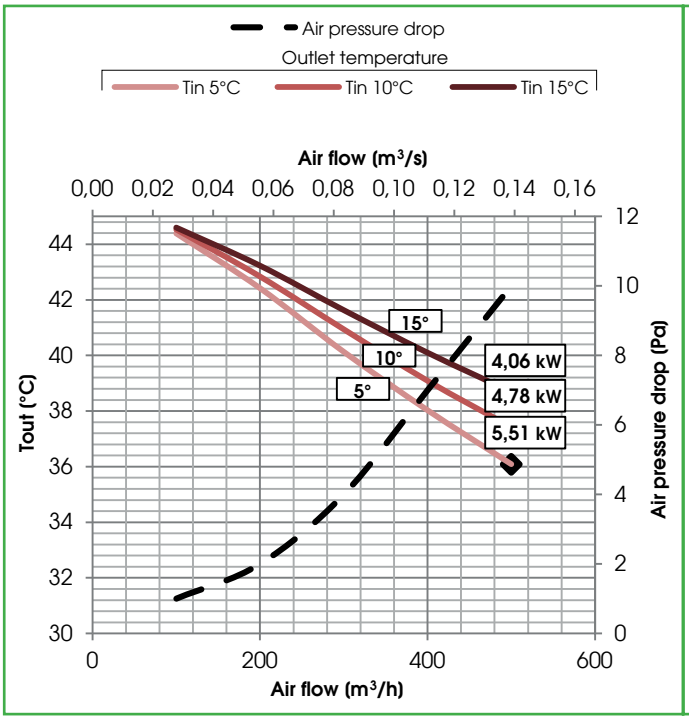
Coil DEH 1 HIDRONIC / DEH 1 HIDRONIC ENTHALPIC (+7°C/+12°C)

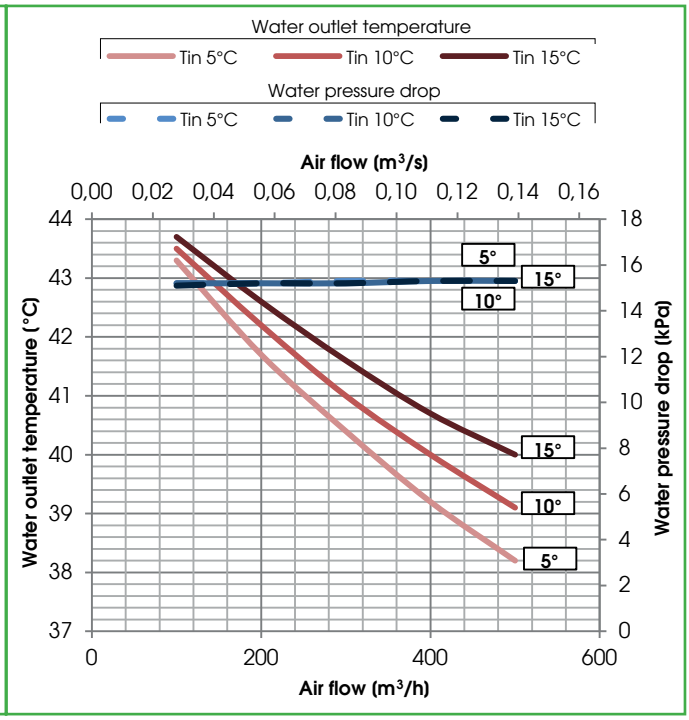




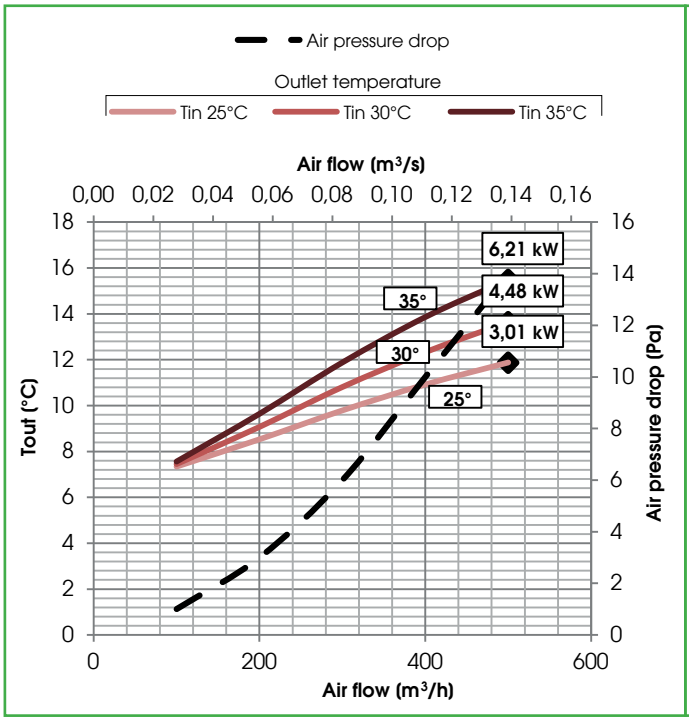
COILS **DEH-HIDRONIC / DEH-HIDRONIC ENTHALPIC**

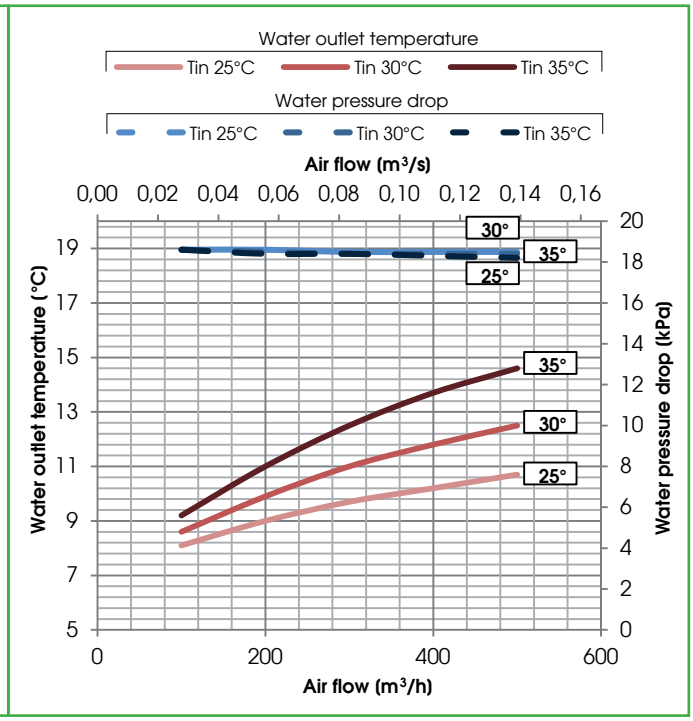
Coil DEH 2 HIDRONIC / DEH 2 HIDRONIC ENTHALPIC (+45°C/+35°C)





Coil DEH 2 HIDRONIC / DEH 2 HIDRONIC ENTHALPIC (+7°C/+12°C)





A	Manufacturer's name C.L.A. S.r.l					
B	Manufacturer's model identifier		DEH 1	DEH 2	DEH 1 ENTALPICO	DEH 2 ENTALPICO
C	Specific energy consumption (SEC) (kWh/m².a)	COLD	-67,8	-70,3	-62,7	-64,9
		AVERAGE	-30,0	-32,8	-27,9	-30,8
		WARM	-5,7	-8,6	-5,3	-8,6
	SEC class		B	B	B	B
D	Declared typology		UVR - UVB	UVR - UVB	UVR - UVB	UVR - UVB
E	Type of drive installed		Variable speed drive	Variable speed drive	Variable speed drive	Variable speed drive
F	Type of heat recovery system		Recuperative	Recuperative	Recuperative	Recuperative
G	Thermal efficiency of heat recovery (%)		86,0	84,8	74,1	71,6
H	Maximum flow rate (m³/s)		0,042	0,074	0,042	0,074
I	Electrical power input at maximum flow rate (W)		119	177	112	174
I	Sound power level (Lwa) (dB)		62	58	62	58
K	Reference flow rate (m³/s)		0,031	0,053	0,030	0,056
L	Reference pressure difference (Pa)		50	50	50	50
M	SPI (W/m³/h)		0,653	0,516	0,604	0,447
N	Control factor CLTR		0,85	0,85	0,85	0,85
	Control typology		Clock control (no DCV)	Clock control (no DCV)	Clock control (no DCV)	Clock control (no DCV)
O	Declared maximum internal / external leakage rates (%)		6.2 / 7.1	6.3 / 4.7	6.5 / 7.5	6.0 / 4.5
P	Mixing rate of non-ducted bidirectional ventilation units (%)		-	-	-	-
Q	Position and description of visual filter warning for RVUs intended for use with filters, including text pointing out the importance of regular filter changes for performance and energy efficiency of the unit		Filter warning is signaled on the display of the control system: the flashing writing "DirtyFilters" will appear. "To preserve the energy efficiency of the NRVU, it's recommended to replace the filters when signaled." Positioned near the filters inspection.			
R	For unidirectional ventilation systems, instructions to install regulated supply/exhaust grilles in the façade for natural air supply/extraction		-			
S	Internet address for pre-/dis-assembly instructions		www.utek.it			
T	For non-ducted units only: the airflow sensitivity to pressure variations at + 20 Pa and – 20 Pa		-			
U	For non-ducted units only: the indoor/outdoor air tightness		-			
V	The annual electricity consumption (AEC) (kWh/a)		631	512	591	449
W	The annual heating saved (AHS) for each type of climate (kWh/a)		2045 (WARM)	2030 (WARM)	1900 (WARM)	1870 (WARM)
			8845 (COLD)	8782 (COLD)	8210 (COLD)	8080 (COLD)
			4521 (AVERAGE)	4489 (AVERAGE)	4200 (AVERAGE)	4130 (AVERAGE)

A	Manufacturer's name C.L.A. S.r.l					
B	Manufacturer's model identifier		DEH 1 HYDRONIC	DEH 2 HYDRONIC	DEH 1 HYDRONIC ENTALPIC	DEH 2 IHYDRONIC ENTALPIC
C	Specific energy consumption (SEC) (kWh/m².a)	COLD	-67,8	-70,3	-62,7	-64,9
		AVERAGE	-30,0	-32,8	-27,9	-30,8
		WARM	-5,7	-8,6	-5,3	-8,6
	SEC Class		B	B	B	B
D	Declared typology		UVR - UVB	UVR - UVB	UVR - UVB	UVR - UVB
E	Type of drive installed		Variable speed drive	Variable speed drive	Variable speed drive	Variable speed drive
F	Type of heat recovery system		Recuperative	Recuperative	Recuperative	Recuperative
G	Thermal efficiency of heat recovery (%)		86,0	84,8	74,1	71,6
H	Maximum flow rate (m³/s)		0,042	0,074	0,042	0,074
I	Electrical power input at maximum flow rate (W)		119	177	112	174
I	Sound power level (Lwa) (dB)		62	58	62	58
K	Reference flow rate (m³/s)		0,031	0,053	0,030	0,056
L	Reference pressure difference (Pa)		50	50	50	50
M	SPI (W/m³/h)		0,653	0,516	0,604	0,447
N	Control factor CLTR		0,95	0,95	0,95	0,95
	Control typology		Clock control (no DCV)	Clock control (no DCV)	Clock control (no DCV)	Clock control (no DCV)
O	Declared maximum internal / external leakage rates (%)		6.2 / 7.1	6.3 / 4.7	6.5 / 7.5	6.0 / 4.5
P	Mixing rate of non-ducted bidirectional ventilation units (%)		-	-	-	-
Q	Position and description of visual filter warning for RVUs intended for use with filters, including text pointing out the importance of regular filter changes for performance and energy efficiency of the unit		Filter warning is signaled on the display of the control system: the flashing writing "DirtyFilters" will appear. "To preserve the energy efficiency of the NRVU, it's recommended to replace the filters when signaled." Positioned near the filters inspection.			
R	For unidirectional ventilation systems, instructions to install regulated supply/exhaust grilles in the façade for natural air supply/extraction		-			
S	Internet address for pre-/dis-assembly instructions		www.utek.it			
T	For non-ducted units only: the airflow sensitivity to pressure variations at + 20 Pa and – 20 Pa		-			
U	For non-ducted units only: the indoor/outdoor air tightness		-			
V	The annual electricity consumption (AEC) (kWh/a)		631	512	591	449
W	The annual heating saved (AHS) for each type of climate (kWh/a)		2045 (WARM)	2030 (WARM)	1900 (WARM)	1870 (WARM)
			8845 (COLD)	8782 (COLD)	8210 (COLD)	8080 (COLD)
			4521 (AVERAGE)	4489 (AVERAGE)	4200 (AVERAGE)	4130 (AVERAGE)

Dear Customer

Thanks for your attention to the product UTEK , designed and manufactured to ensure the real values to the User : Quality, Safety and Savings on working.

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV GL
ISO 9001

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