AirSelect3D
AHU SELECTION SOFTWARE · ECP-05-2026 READY

TECHNICAL DATA

DATE	04.07.2026	REV. DATE	04.07.2026
PROJECT ID	41B25AD3	TRACKING NUMBER	—
PROJECT NAME	AHU-5000-Plate-2026-06-29-002	SOFTWARE	AirSelect3D · v2
AHU NAME	Double-Deck Plate HRS - (1 QTY)		
AHU MODEL	V2 122 X 78 [PWT CWC]		
DESIGNER	—	ENGINE	V2 Eurovent ECP-05-2026 · Winter A+ (fs 0.90) sg1 · Summer A+ ↻ (fs 0.90) sg2 · combined A+

ECP-05-2026 VERDICT CONFIRMED — Class A+ · fs-Pref 0.90 / 0.90

GENERAL SPECIFICATIONS

AIR FLOW	5000 m³/h	RETURN AIR FLOW	5000 m³/h
AIR VELOCITY	1.82 m/s	RETURN AIR VELOCITY	1.82 m/s
COIL AIR VELOCITY	1.90 m/s	ALTITUDE	0 m
DESIGN OUTDOOR (WINTER)	-4.1 °C/80 %	DESIGN OUTDOOR (SUMMER)	30.3 °C/37 %
MODEL / FRAME	Aluminum Profile T2 · 50 mm D2 T2 TB2	DIMENSIONS	W 1222 × H 1614 × L 4686 mm (estimate)
INSULATION MATERIAL	50 mm Rockwool 70 kg/m³	TOTAL WEIGHT	366.6 kg
OUTSIDE SHEET MATERIAL	1 mm Painted Galvanize	INSIDE SHEET MATERIAL	1 mm Galvanize
BASE	Galvanized 2 mm	ROOF (INSIDE)	Galvanized 1 mm
HRS CAPACITY (W/S)	34.10 kW / -10.45 kW	HRS EFFICIENCY (W/S)	78 % / 78 %
TOTAL HEATING CAPACITY	34.10 kW	TOTAL COOLING CAPACITY	43.11 kW
TOTAL SENSIBLE CAPACITY	32.66 kW	TOTAL ABSORBED POWER	2.65 kW
SPECIFIC FAN POWER (TOTAL)	1031 W/(m³/s)	EXTERNAL STATIC PRESSURE	300 Pa
RETURN EXTERNAL STATIC PRESSURE	250 Pa	ERP CODE	NRVU
INTERNAL ΔP — SUPPLY CHAIN	323 Pa	INTERNAL ΔP — EXTRACT CHAIN	282 Pa
COMPONENTS — SUPPLY CHAIN	4	COMPONENTS — EXTRACT CHAIN	3
FS-PREF (W/S)	0.90 / 0.90		
EUROVENT ENERGY CLASS	WINTER sg1 A+ fs-Pref 0.90 · SUMMER sg2 ↻ A+ fs-Pref 0.90		
REFERENCE CITY	**PARIS BEAUVAIS TILLE, France** — ASHRAE 2017 design heating-99 % / cooling-2 % reference		
SPEED CLASS (V)	S: V2 · E: V2	POWER CLASS (P)	P4
SFP CLASS (PER SIDE)	S: SFP 2 (1033 W/(m³/s)) · E: SFP 2 (875 W/(m³/s))	HEAT RECOVERY CLASS	H1
MAX INTERNAL LEAKAGE @ 700 PA	2.5 %	PLANT TYPE	NRVU (NRVU)

SOUND POWER LEVEL (dBA)

Frequency Hz	125	250	500	1000	2000	4000	8000	LwA-tot
Airborne Sound Power Level	50.1	46.9	52.3	57.8	50.0	40.4	26.3	**60.1 dBA**
Air Outlet Induct Sound Power Level	64.1	68.9	74.3	75.8	73.0	68.4	61.3	**80.1 dBA**
Air Inlet Induct Sound Power Level	60.0	64.3	64.7	66.8	66.9	62.7	56.1	**72.7 dBA**
Return Outlet Induct Sound Power Level	62.5	66.5	72.6	73.5	71.1	66.3	60.1	**78.1 dBA**
Return Inlet Induct Sound Power Level	58.4	62.6	62.9	64.9	64.8	60.5	54.6	**70.8 dBA**

AHU-level sound power = energetic sum of fan octaves ($10 \cdot \log_{10}(\Sigma\ 10^{(L/10)})$). Airborne row = supply-fan discharge — casing panel transmission loss. Source unit: A-weighted dBA.

EN 1886 MECHANICAL PROPERTY CLASSIFICATIONS

MODEL	V2 standard	**CS CLASS**	D2
CAL @ -400 PA (M)	L2	**CAL @ +700 PA (M)**	L2
CAL @ -400 PA (R)	L2	**CAL @ +400 PA (R)**	L2
FBL CLASS	F9	**TT CLASS**	T2
TBF CLASS	TB2	**PANEL**	50 mm

Casing Acoustical Insulation [dB]

125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
14	22	22	18	23	28	35

Per-panel transmission loss for 50 mm Rockwool 70 kg/m³ double-skin galvanised. Class L is evaluated at all four CAL test points (motor / return × ±400/+700 Pa) per EN 1886.

TRANSPORT SECTIONS

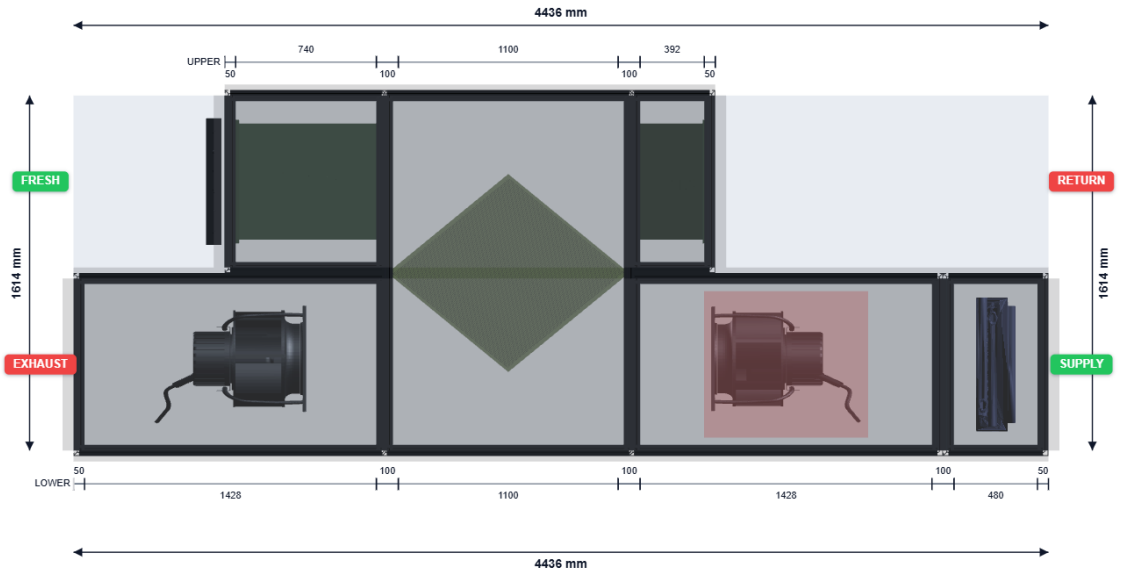
#	MODULES	LENGTH	WEIGHT	X-RANGE
1	M1, M2, M3	2232 mm	246.4 kg	0 → 2232 mm
2	M4	1428 mm	50.0 kg	0 → 1428 mm
3	M5, M7	1908 mm	70.2 kg	1428 → 3336 mm

Sections auto-split at 2400 mm boundaries (truck bed handling limit). Field assembly: bolt adjacent sections together, seal panel joints, re-test casing leakage if specified.

ENGINEERING PLANS — 3D scene captures (1/2)

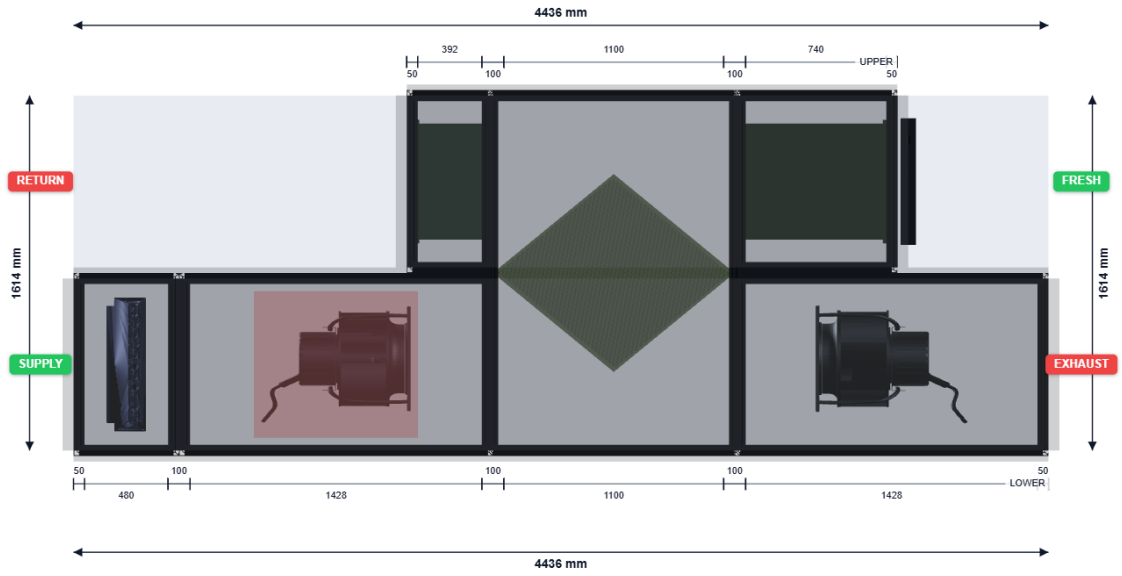
Orthographic projections of the unit as designed. Dimensions in mm. Per-section length labels run along the bottom of the FRONT and TOP views; overall casing dimensions are bracketed at top, bottom and sides. Filled slate bars on the section row mark each 50 mm panel — single bar at end-caps, double bar at every inter-module boundary.

FRONT VIEW



FRONT VIEW

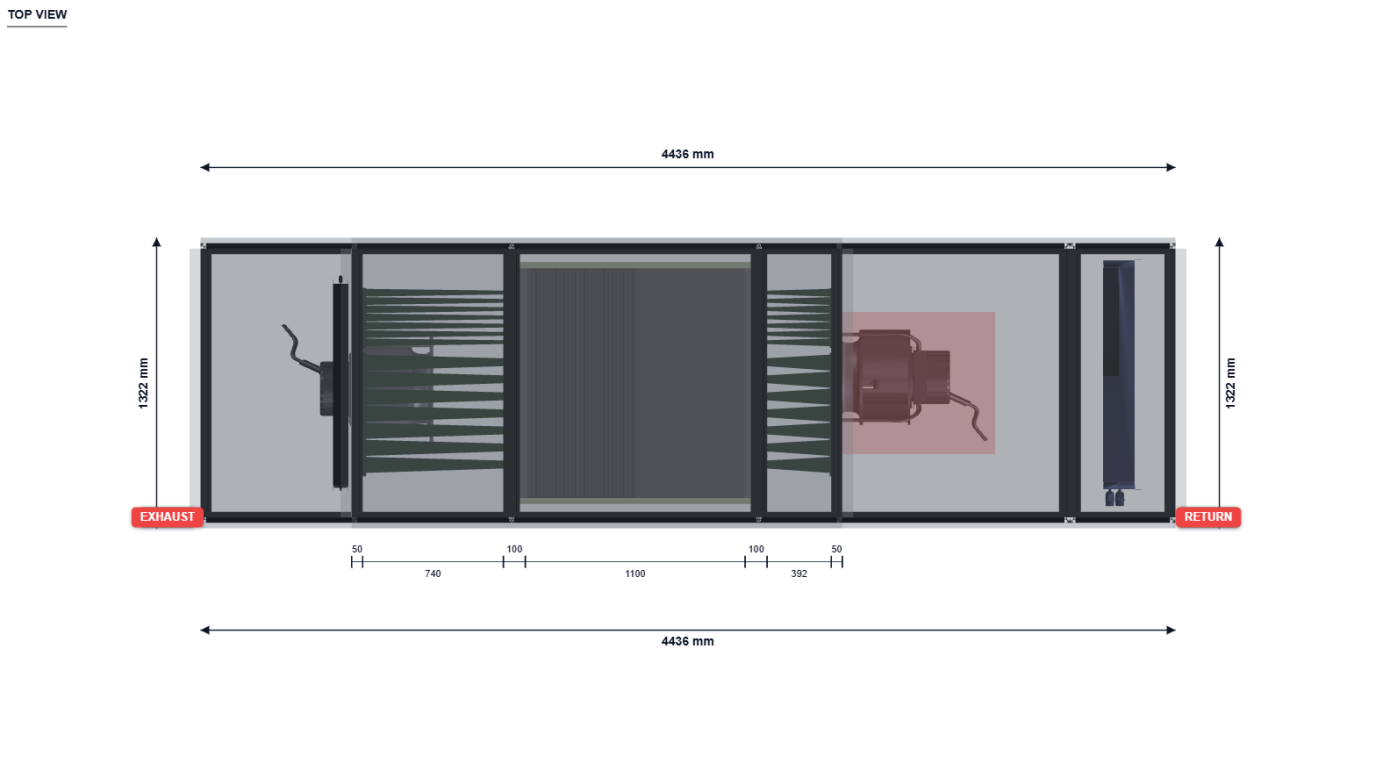
BACK VIEW



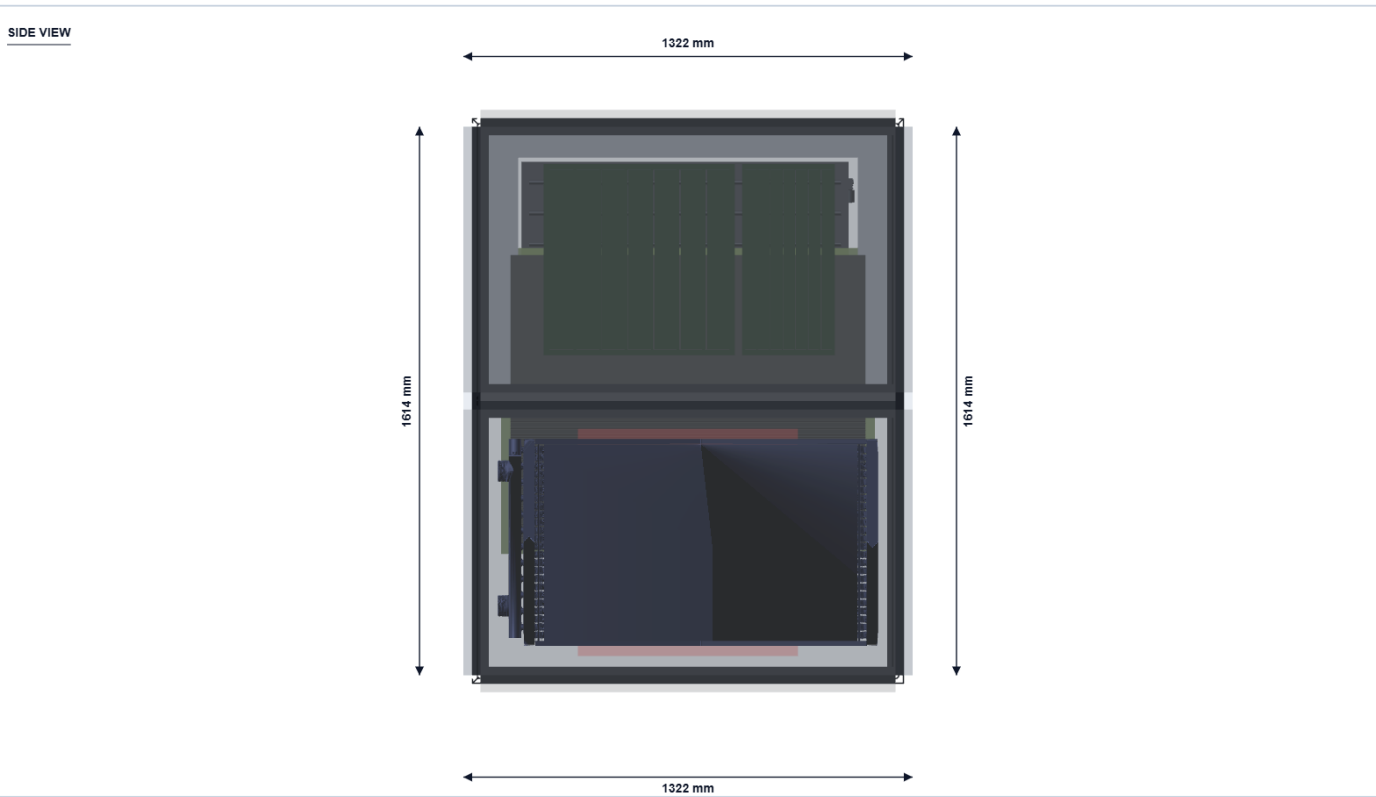
BACK VIEW

ENGINEERING PLANS — 3D scene captures (2/2)

Orthographic projections of the unit as designed. Dimensions in mm. Per-section length labels run along the bottom of the FRONT and TOP views; overall casing dimensions are bracketed at top, bottom and sides. Filled slate bars on the section row mark each 50 mm panel — single bar at end-caps, double bar at every inter-module boundary.



TOP VIEW



SIDE VIEW

CONNECTIONS

FRESH AIR CONNECTION DAMPER

CONNECTION TYPE	Damper DP1-1000-600	CONTROL TYPE	Manual
AIR FLOW	5000 m^3/h	AIR VELOCITY	2.31 m/s · @ damper aperture
DAMPER ΔP	13 Pa	DAMPER APERTURE (W × H)	W 1000 mm × H 600 mm (reduced from H 782 mm × W 1222 mm)
DAMPER SURFACE	1000 × 600 mm (0.600 m^2)		

SUPPLY CONNECTION

CONNECTION TYPE	Flange	CONTROL TYPE	Open
AIR FLOW	5000 m^3/h	AIR VELOCITY	1.45 m/s
PRESSURE DROP	0 Pa	APERTURE (W × H)	W 1222 mm × H 782 mm

RETURN CONNECTION

CONNECTION TYPE	Flange	CONTROL TYPE	Open
AIR FLOW	5000 m^3/h	AIR VELOCITY	1.45 m/s
PRESSURE DROP	0 Pa	APERTURE (W × H)	W 1222 mm × H 782 mm

EXHAUST CONNECTION

CONNECTION TYPE	Flange	CONTROL TYPE	Open
AIR FLOW	5000 m^3/h	AIR VELOCITY	1.45 m/s
PRESSURE DROP	0 Pa	APERTURE (W × H)	W 1222 mm × H 782 mm

FILTER × 2 (1 full + 1 half-V) (M1)

SUPPLY

AIR FLOW	5000 m^3/h	FILTER FACE VELOCITY	1.98 m/s
FILTER TYPE	BAG	FILTER CLASS (ISO 16890)	ISO ePM1 70%
INITIAL / FINAL / DESIGN ΔP	30 Pa / 135 Pa / 82 Pa	FILTER SIZE	1 × 592×640×592 + 1 × 287×640×592 mm
FACE DIMENSIONS	1122 × 682 mm	DEPTH ALONG AIRFLOW	640 mm
ENERGY CLASS	A+	ANNUAL ENERGY CONSUMPTION	672 kWh/yr
SERVICE LIFE	12 months	SECTION WEIGHT	33.2 kg

data_source: catalog_json · vendor: Camfil · code: 202070406

PLATE HEAT EXCHANGER (M2)

BRIDGE

DESIGNATION Hoval CASER PT-80 PLATE

MODEL	PT-80		
EXECUTION	Max. Efficiency		
OACF *	1.00	EATR (%) *	0.00 %
FRESH AIR FLOW	5000 m³/h	EXHAUST FLOW	5000 m³/h
VELOCITY (FRESH / EXHAUST)	1.40 m/s / 1.40 m/s	ΔP (FRESH / EXHAUST)	182 Pa / 189 Pa
CAPACITY WINTER / SUMMER	34.10 kW / -10.45 kW	FREE WATER	—
TEMP. EFF. WINTER / SUMMER	78.0 % / 78.0 %	HUM. EFFICIENCY	—
ENERGY EFFICIENCY	78.0 %	ERP EFF. (W / S)	78.0 % / 78.0 %
SECTION WEIGHT	180.0 kg		

Air Inlet / Outlet — Winter

	Outdoor Inlet	Supply Outlet	Extract Inlet	Exhaust Outlet
DT	-4.1 °C	16.3 °C	22 °C	1.6 °C
RH	80 %	19.6 %	30 %	100 %
x	2.23 g/kg	2.23 g/kg	4.9 g/kg	4.9 g/kg

Air Inlet / Outlet — Summer

	Outdoor Inlet	Supply Outlet	Extract Inlet	Exhaust Outlet
DT	32 °C	25.8 °C	24 °C	30.2 °C
RH	45 %	64.6 %	50 %	34.7 %
x	13.4 g/kg	13.4 g/kg	9.28 g/kg	9.28 g/kg

** OACF = Outdoor Air Correction Factor; EATR = Exhaust Air Transfer Ratio.*

data_source: catalog_hoval · vendor: Hoval · code: PT-80

FILTER × 2 (1 full + 1 half-V) (M3)

EXTRACT

AIR FLOW	5000 m^3/h	FILTER FACE VELOCITY	1.98 m/s
FILTER TYPE	V	FILTER CLASS (ISO 16890)	ISO ePM1 55%
INITIAL / FINAL / DESIGN ΔP	51 Pa / 135 Pa / 93 Pa	FILTER SIZE	1 × 592×292×592 + 1 × 287×292×592 mm
FACE DIMENSIONS	1122 × 682 mm	DEPTH ALONG AIRFLOW	292 mm
ENERGY CLASS	B	ANNUAL ENERGY CONSUMPTION	1019 kWh/yr
SERVICE LIFE	12 months	SECTION WEIGHT	33.2 kg

data_source: catalog_json · vendor: Camfil · code: 195519653

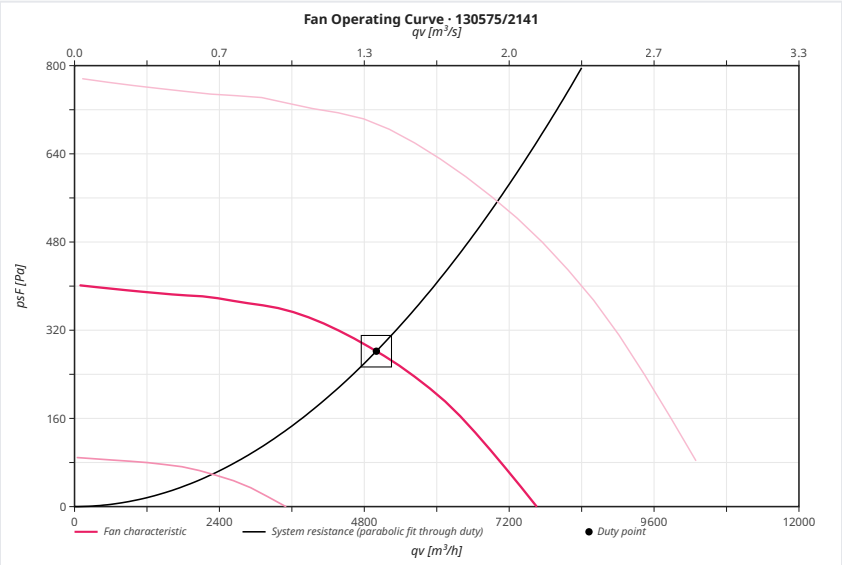
EXHAUST FAN (M4)

EXTRACT

DESIGNATION Ziehl-Abegg 130575/2141

AIR FLOW	5000 m³/h	MOTOR TYPE	EC
FAN MODEL	130575/2141		
FAN TYPE	EC (reverse-mounted)	DRIVE	EC
INTERNAL STATIC	282 Pa	EXTERNAL STATIC	250 Pa
TOTAL STATIC	532 Pa	DYNAMIC PRESSURE	37 Pa
TOTAL PRESSURE	569 Pa	SYSTEM EFFECT	27 Pa
MOTOR POWER	1.50 kW	MOTOR PHASE / VOLTAGE / FREQ.	1.50 kW / 3P / 360 V / 50 Hz
TOTAL EFFICIENCY	63.04 %	STATIC EFFICIENCY	60.84 %
SHAFT / ABSORBED POWER	1.09 kW / 1.22 kW	ABSORBED WITH VFD	—
FAN SPEED	1299 rpm (Max. 1450 rpm)	AIR DENSITY	1.1600 kg/m³
OUTLET VELOCITY	7.94 m/s	SFP_{INT} (ERP 1253)	483 W/(m³/s)
ELECTRICAL CURRENT	2.83 A	U-CONTROL	0–10 V
SECTION WEIGHT	50.0 kg	POWER MARGIN	19 %

Fan Operating Curve



– *Fan characteristic* · - - *System resistance (parabolic fit through duty)* · ● *Duty point*

Sound Power Level (dB)

Hz	63	125	250	500	1000	2000	4000	8000	LwA-tot
Outlet Side	45.8	62.5	66.5	72.6	73.5	71.1	66.3	60.1	78.2 dBA
Inlet Side	41.0	58.4	62.6	62.9	64.9	64.8	60.5	54.6	70.8 dBA
Combined Lw_A							*Inlet + outlet (energetic sum)*		**78.9 dBA**

** The fan system effect is taken into account in the fan performance.*

`data_source: real_dll · vendor: ZiehlAbegg · code: 130575/2141`

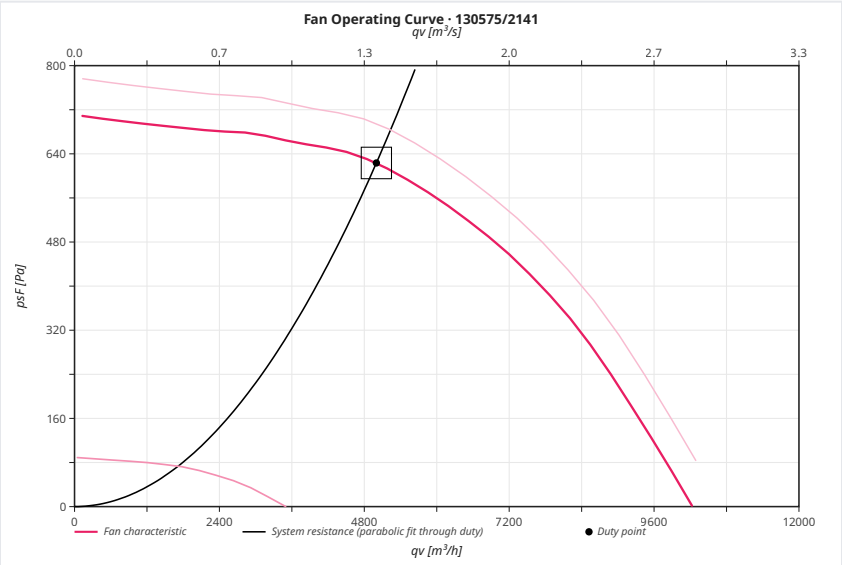
SUPPLY FAN (M5)

SUPPLY

DESIGNATION Ziehl-Abegg 130575/2141

AIR FLOW	5000 m³/h	MOTOR TYPE	EC
FAN MODEL	130575/2141		
FAN TYPE	EC	DRIVE	EC
INTERNAL STATIC	323 Pa	EXTERNAL STATIC	300 Pa
TOTAL STATIC	623 Pa	DYNAMIC PRESSURE	37 Pa
TOTAL PRESSURE	660 Pa	SYSTEM EFFECT	31 Pa
MOTOR POWER	2.20 kW	MOTOR PHASE / VOLTAGE / FREQ.	2.20 kW / 3P / 383 V / 50 Hz
TOTAL EFFICIENCY	62.24 %	STATIC EFFICIENCY	60.38 %
SHAFT / ABSORBED POWER	1.29 kW / 1.43 kW	ABSORBED WITH VFD	—
FAN SPEED	1385 rpm (Max. 1450 rpm)	AIR DENSITY	1.1600 kg/m³
OUTLET VELOCITY	7.94 m/s	SFP_{INT} (ERP 1253)	548 W/(m³/s)
ELECTRICAL CURRENT	3.90 A	U-CONTROL	0–10 V
SECTION WEIGHT	50.0 kg	POWER MARGIN	35 %

Fan Operating Curve



Fan characteristic · System resistance (parabolic fit through duty) · Duty point

Sound Power Level (dB)

Hz	63	125	250	500	1000	2000	4000	8000	LwA-tot
Outlet Side	47.8	64.1	68.9	74.3	75.8	73.0	68.4	61.3	80.2 dBA
Inlet Side	42.6	60.0	64.3	64.7	66.8	66.9	62.7	56.1	72.7 dBA
Combined Lw_A							*Inlet + outlet (energetic sum)*		**80.9 dBA**

** The fan system effect is taken into account in the fan performance.*

`data_source: real_dll · vendor: ZiehlAbegg · code: 130575/2141`

COIL (Cooling) (M6)

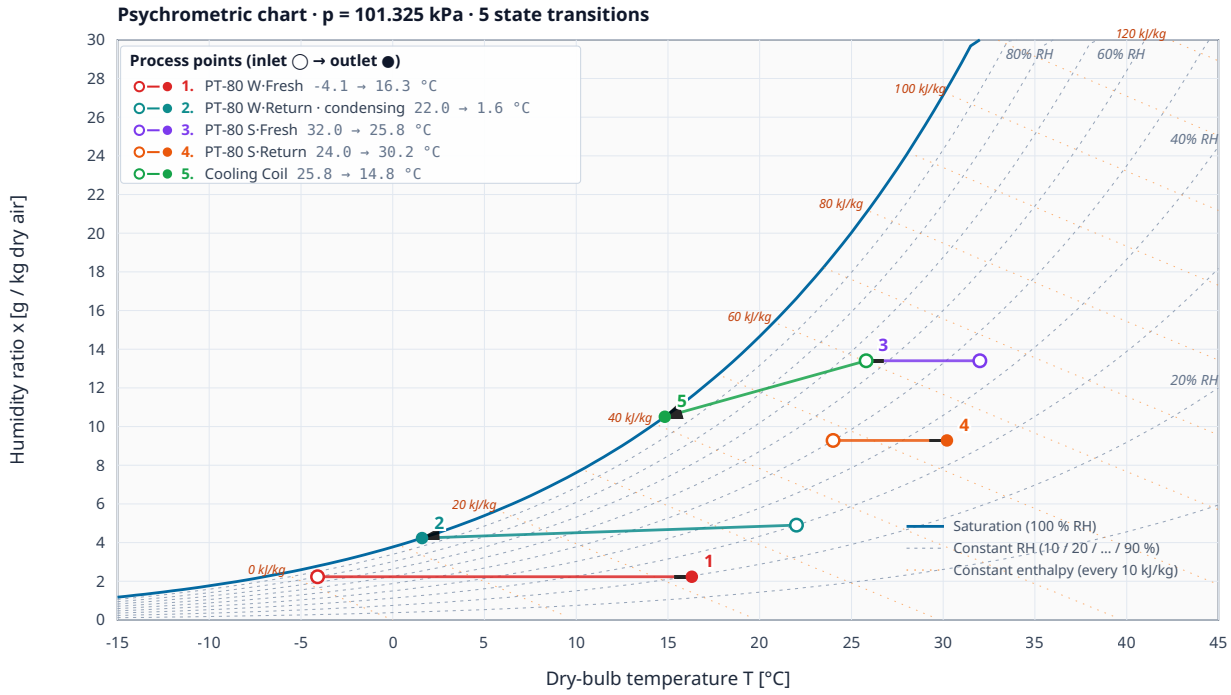
SUPPLY

DESIGNATION `Cu-Al-FeZn F25x22 4R-24T-1200A-2.1pa 48C 1" ( 1.90- 1.07- 2.3)`

AIR FLOW	5000 m^3/h	CAPACITY / SENSIBLE	32.66 kW / 32.66 kW
FACE VELOCITY	1.90 m/s	ROWS / FPI	4 / 12
COIL CODE	F25x22		
TUBE / FIN MATERIAL	Copper / Aluminium	TUBE / FIN THICKNESS	0.30 mm / 0.12 mm
FLUID KIND	WATER 7/12 °C	FLUID IN / OUT	7.0 °C / 12.0 °C
AIR IN / OUT (DB)	25.8 °C / 14.8 °C	AIR IN / OUT (WB)	20.9 °C / 14.8 °C
AIR RH IN / OUT	65 % / 100 %	AIR ENTHALPY IN / OUT	60.09 kJ/kg / 41.48 kJ/kg
FLUID MASS / VOL. FLOW	7823 kg/h / 7823 dm^3/h	AIR ΔP (WET/DRY)	46 Pa / 46
FLUID ΔP / VELOCITY	9.84 kPa / 1.07 m/s	CONNECTION SIZES	60.3 / 60.3 mm (2" DN50)
COIL SURFACE / TUBE VOLUME	35.14 m^2 / 4.87 L	AIR CONDENSATION	0.0000 l/h
SECTION WEIGHT	20.2 kg	MIXING RATIO	5 %

`data_source: real_dll · vendor: Friterm · code: F25x22`

PSYCHROMETRIC CHART



ψ-h diagram at 101.325 kPa. Saturation curve in cyan (100 % RH), constant-RH lines (20 / 40 / 60 / 80 %) in grey. Each process step shows an inlet (open circle) connected to its outlet (filled circle) with an arrow. Point numbers match the table below.

CHART POINTS

#	Step	Entrance T	Entrance x	Exit T	Exit x
(1)	PT-80 — Winter — Fresh Air	-4.1 °C	2.23 g/kg	16.3 °C	2.23 g/kg
(2)	PT-80 — Winter — Return Air	22.0 °C	4.90 g/kg	1.6 °C	4.24 g/kg
(3)	PT-80 — Summer — Fresh Air	32.0 °C	13.40 g/kg	25.8 °C	13.40 g/kg
(4)	PT-80 — Summer — Return Air	24.0 °C	9.28 g/kg	30.2 °C	9.28 g/kg
(5)	Cooling Coil	25.8 °C	13.40 g/kg	14.8 °C	10.51 g/kg