

PRECISION AIR CONDITIONING UNITS

PRECISION AIR CONDITIONING UNITS

DIRECT EXPANSION, AIR OR WATER CONDENSATION WITH FREE-COILING COIL



EDA.F 415 D

EDA.F... – EDW.F... Series

Two refrigerant circuits - Cooling capacities from 22 to 84 kW

The precision air conditioning units series ED with direct water or air expansion coil have been designed for being used in technology centres, computer processing centres, telecom applications and where special thermo-hygrometric conditions are required

The units have been specially designed to use both R22 refrigerant and the ecological gas R407C (K version)

The units are equipped with an additional coil, which, thanks to the coupling with dry cooler or remote condenser, allows the power saving production of cold water using the external temperature

The units are supplied with nitrogen charge.

Operating conditions from +20 °C to +37 °C of room air temperature for standard models

Available versions:

EDA.F... indoor unit with free-cooling coil and remote condenser

EDA.F...K with ecological gas R407C charge

EDW.F... indoor unit with free-cooling coil and water cooled condenser installed on board, in series to the water coil (for 2-pipe installation). The pressostatic valve (option VP) is strongly recommended.

EDW.F...K with ecological gas R407C charge

The units are available in different versions in relation to the air intake and discharge:

U frontal air intake, upwards air discharge

D up air intake, downwards air discharge

Made up of:

Housing in steel sections and panels, finely painted with epoxy powders. Sound insulated panels, internally covered by sound-proofing material.

High efficient Scroll compressor, installed on rubber dampers, with internal heat protection and

oil sump heater, where needed.

Centrifugal fans directly coupled with low fan speed regulation.

Direct expansion cooling coil with copper pipe and aluminium fins.

Drain pan made up of stainless steel.

Free-cooling coil with aluminium fins with high efficiency and copper pipe.

Regenerable air filters - Efficiency F4.

Components of the cooling circuit: thermostatic valve with external equalizer, sight glass, dehydrating filter, safety device, high and low pressure switch, liquid receiver, non-return valve (only for EDA.F), solenoid valve (only for EDA.F), check valve on liquid line (only for EDA.F).

Electric board in compliance with CE regulations provided with: main switch, automatic switches, remote control switches, motor protection switches, low-tension auxiliary circuits and terminal board.

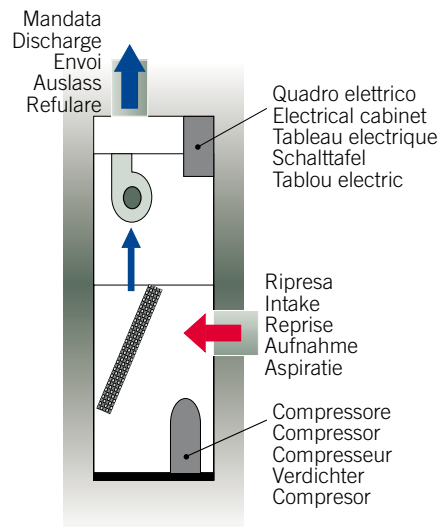
EMIPUS control microprocessor.

Fans alarm.

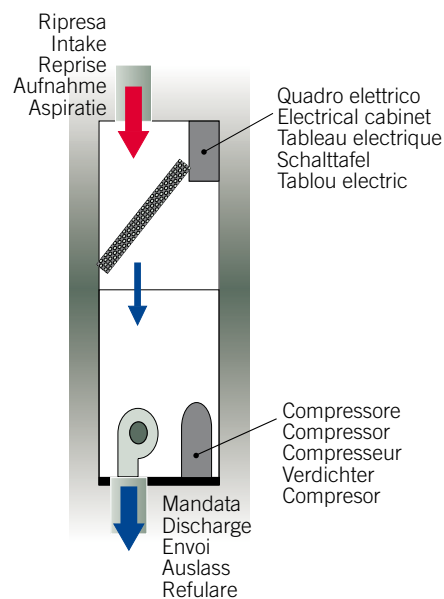
Accessories

AA	Flooding detector
AE	Electrical supply different from standard
AF	Clogged filters alarm
AL	Smoke alarm
B	Adjustable base-frame
CS	Compressor inrush counter
H	Humidifier
IH	Interface card RS 485
PR	Fresh air inlet with filter
RE	Electrical heater with aluminium armoured elements and safety thermostat
VP	Pressostatic valve (suggested for EDW.F)

- U** ripresa dal fronte e mandata verso l'alto
- U** frontal air intake, upwards air discharge
- U** reprise frontale et envoi en haut
- U** vorne Luftaufnahme, Luftauslass nach oben
- U** aspiratie prin partea frontala si refulare prin partea superioara



- D** ripresa dall'alto e mandata verso il basso
- D** up air intake, downwards air discharge
- D** reprise du haut et envoi en bas
- D** Luftaufnahme von oben, Luftauslass nach unten
- D** aspiratie prin partea superioara si refulare prin partea inferioara



PRECISION AIR CONDITIONING UNITS

PRECISION AIR CONDITIONING UNITS

DIRECT EXPANSION, AIR OR WATER CONDENSATION WITH FREE-COILING COIL

EDW.F... Technical data

MODEL	EDW...F	230	260	330	415	500	620	750	830	1000
Cooling capacity with R407C 1)										
Total	kW	19,9	23,4	29,5	36,6	44,1	55,1	66,6	73,7	80,7
Sensible	kW	18,1	20,5	28,5	35,1	41,5	50,3	62,7	70,0	77,1
Nominal absorbed power	kW	6,6	8,5	11,2	14,1	15,8	21,1	23,4	26,2	28,1
Nominal absorbed current	A	10,9	13,7	16,9	18,1	24,8	30,4	33,3	44,4	49,0
Cooling capacity with R22 2)										
Total	kW	20,3	23,9	30,2	37,4	45,0	56,3	68,0	75,2	82,3
Sensible	kW	18,5	20,9	29,1	35,9	42,3	51,3	64,0	71,4	78,7
Nominal absorbed power	kW	7,7	8,7	11,4	14,4	16,1	21,5	23,9	26,8	28,7
Nominal absorbed current	A	11	14	17	19	25	31	34	45	50
Cooling capacity with free cooling 4)										
Total	kW	22,8	26,0	33,3	39,0	47,5	57,0	72,0	80,4	94,1
Sensible	kW	20,5	23,4	30,0	35,1	42,7	51,4	64,8	72,4	80,1
Water flow rate	l/s	1,4	1,7	2,2	2,6	3,2	3,9	4,9	5,3	4,8
Water flow rate	m ³ /h	5,04	6,12	7,92	9,36	11,52	14,04	17,64	19,08	17,28
Pressure drop	kPa	90	110	120	100	130	120	120	100	80
Scroll compressors										
Quantity	n	2	2	2	2	2	2	2	2	2
Circuits	n	2	2	2	2	2	2	2	2	2
Standard steps capacity	%					0 - 50 - 100				
Maximum absorbed current	A	12	16	20	23	34	50	40	70	70
Inrush current	A	42	48	60	67	90	109	117	160	162
Fans on discharge side										
Quantity	n	2	2	2	2	3	3	4	4	4
Absorbed power	kW	1,5	1,5	1,8	2,2	3	1,1	1,5	1,1	1,1
Standard air flow	l/s	1.830	2.110	2.670	3.330	3.970	4.860	5.970	6.670	6.670
Standard air flow	m ³ /h	6.588	7.596	9.612	11.988	14.292	17.496	21.492	24.012	24.012
Standard nominal absorbed current	A	5,4	5,4	5	13,2	13,2	13,6	27,2	27,2	14,4
Available external pressure 3)	Pa	100	120	100	100	130	120	120	100	75
Humidifier										
Steam production	kg/h	8	8	8	8	8	8	8	8	8
Maximum absorbed power	kW	6	6	6	6	6	6	6	6	6
Maximum absorbed current	A	8,7	8,7	8,7	8,7	8,7	8,7	8,7	8,7	8,7
Specific conductivity at 20°C (min/max)	µS/cm					300 / 1250				
Total hardness (min/max)	mg/l CaCo ₃					100 / 400				
Electrical heaters										
Power	kW	9	9	9	13,5	13,5	13,5	18	18	18
Steps	n	3	3	3	3	3	3	3	3	3
Absorbed current	A	15	15	15	22,5	22,5	22,5	30	30	30
Sound pressure level 5)										
U Version	dB(A)	52	52	59	61	61	59	64	64	64
D Version	dB(A)	60	60	57	58	58	57	60	60	60
Dimensions U Version										
Length	mm	1.690	1.690	1.850	1.850	2.500	2.500	2.900	2.900	3.500
Width	mm	840	840	840	840	840	840	840	840	840
Height	mm	1.950	1.950	1.950	1.950	1.950	1.950	1.950	1.950	1.950
Weight	kg	600	620	660	680	850	880	930	980	1.020
Dimensions D Version										
Length	mm	1.690	1.690	1.850	1.850	2.500	2.500	2.500	2.500	2.950
Width	mm	840	840	840	840	840	840	1.015	1.015	1.015
Height	mm	1.950	1.950	1.950	1.950	1.950	1.950	1.995	1.995	1.995
Weight	kg	600	620	660	680	850	880	930	980	1.020
Ø in - Ø out	mm									
Power supply										
400V / 50 Hz / 3Ph + N + T										
Dry cooler - standard version ARW		35	35	35	50	65	80	90	100	100
Dry cooler - silenced version ARW.S		35	35	35	50	65	80	90	100	100
Dry cooler - ultrasilenced version ARW.U		35	35	35	50	65	90	90	90	90
Dry cooler - extra-ultrasilenced version ARW.XU		35	35	35	50	65	80	90	100	100

Operation limit: ambient temperature from 20 to 37°C

1) Condensing temperature 49 °C Dew

2) Condensing temperature 47 °C

3) Values for F4 air filters

4) Air 24°C - Water 12/7°C

5) Measured at 2 m in open field (ISO 3746) with air suction and air discharge in ducts

6) Dry-coolers selected for 35 °C external air temperature (see Dry-coolers)

Nominal condition referred to: air 24 °C - condensing water 40 / 45 °C - glycol 35%

EDA.F... Technical data

MODEL	EDA...F	230	260	330	415	500	620	750	830	1000
Cooling capacity with R407C 1)										
Total	kW	22,6	26,5	33,5	41,5	50,0	65,5	75,5	83,6	101,5
Sensible	kW	20,3	23,0	32,0	39,4	46,5	56,4	70,3	78,5	87,3
Nominal absorbed power	kW	6,7	7,6	9,9	12,5	14,0	18,7	20,8	23,3	24,9
Nominal absorbed current	A	9,6	12,5	15,6	16,7	22,9	27,0	30,8	41,0	43,5
Cooling capacity with R22 2)										
Total	kW	22,7	26,6	33,6	41,6	50,1	65,6	75,6	83,7	101,6
Sensible	kW	20,4	23,1	32,1	39,5	46,6	56,5	70,4	78,6	87,4
Nominal absorbed power	kW	6,8	7,7	10,0	12,6	14,1	18,8	20,9	23,4	25,0
Nominal absorbed current	A	9,2	12,0	15,0	16,1	22,0	25,8	29,6	39,4	43,6
Cooling capacity with free cooling 4)										
Total	kW	22,8	26,0	33,3	39,0	47,5	57,0	72,0	80,4	94,1
Sensible	kW	20,5	23,4	30,0	35,1	42,7	51,4	64,8	72,4	80,1
Water flow rate	l/s	1,4	1,7	2,2	2,6	3,2	3,9	4,9	5,3	4,45
Water flow rate	m ³ /h	5,04	6,12	7,92	9,36	11,52	14,04	17,64	19,08	16,02
Pressure drop	kPa	90	110	120	100	130	120	120	100	80
Scroll compressors										
Quantity	n	2	2	2	2	2	2	2	2	2
Circuits	n	2	2	2	2	2	2	2	2	2
Standard steps capacity	%					0 - 50 - 100				
Maximum absorbed current	A	12	16	20	23	34	50	40	70	70
Inrush current	A	42	48	60	67	90	109	117	160	162
Fans on discharge side										
Quantity	n	2	2	2	2	3	3	4	4	4
Absorbed power	kW	1,5	1,5	1,8	2,2	3	1,1	1,5	1,1	1,1
Standard air flow	l/s	1830	2110	2670	3330	3970	4860	5970	6670	6670
Standard air flow	m ³ /h	6588	7596	9612	11988	14292	17496	21492	24012	24012
Standard nominal absorbed current	A	5,4	5,4	5	13,2	13,2	13,6	27,2	27,2	14,4
Available external pressure 3)	Pa	100	120	100	100	130	120	120	100	75
Humidifier										
Steam production	kg/h	8	8	8	8	8	8	8	8	8
Maximum absorbed power	kW	6	6	6	6	6	6	6	6	6
Maximum absorbed current	A	8,7	8,7	8,7	8,7	8,7	8,7	8,7	8,7	8,7
Specific conductivity at 20°C (min/max)	µS/cm					300 / 1250				
Total hardness (min/max)	mg/l CaCO ₃					100 / 400				
Electrical heaters										
Power	kW	9	9	9	13,5	13,5	13,5	18	18	18
Steps	n	3	3	3	3	3	3	3	3	3
Absorbed current	A	15	15	15	22,5	22,5	22,5	30	30	30
Sound pressure level 5)										
U Version	dB(A)	52	52	59	61	61	59	64	64	64
D Version	dB(A)	60	60	57	58	58	57	60	60	60
Dimensions U Version										
Length	mm	1690	1690	1850	1850	2500	2500	2900	2900	3500
Width	mm	840	840	840	840	840	840	840	840	840
Height	mm	1950	1950	1950	1950	1950	1950	1950	1950	1950
Weight	kg	600	620	660	680	850	880	930	980	1020
Dimensions D Version										
Length	mm	1690	1690	1850	1850	2500	2500	2500	2500	2950
Width	mm	840	840	840	840	840	840	1015	1015	1015
Height	mm	1950	1950	1950	1950	1950	1950	1995	1995	1995
Weight	kg	600	620	660	680	850	880	930	980	1020
Power supply										
						400V / 50 Hz / 3Ph + N + T				
Standard remote condenser 6) CR		2x18	2x27	2x27	2x30	2x36	2x46	2x53	2x59	2x71
Silenced remote condenser 6) CRS		2x22	2x22	2x25	2x29	2x35	2x57	2x57	2x57	2x67
Ultra-silenced remote condenser 6) CRU		2x20	2x23	2x28	2x32	2x32	2x43	2x68	2x68	2x74

Operation limit: ambient temperature from 20 to 37°C

1) Condensing temperature 49 °C Dew

2) Condensing temperature 47 °C

3) Values for F4 air filters

4) Air 24°C - Water 12/7°C

5) Measured at 2 m in open field (ISO 3746) with air suction and air discharge in ducts

6) Remote condenser selected for 35 °C external air temperature (see Remote condenser)

Nominal condition referred to: air 24 °C - condensing water 40/45 °C - glycol 30%