

CLOSE CONTROL UNITS FOR TELECOM CENTRES

DIRECT EXPANSION AND CHILLED WATER CLOSE CONTROL UNITS

PACKAGED AND SPLIT VERSIONS



ED.P 181 SF.E.K

Series ED.A... .SF..K / Series UV ...SF

1 and 2 refrigerant circuits - Cooling capacities from 5 to 27 kW

Direct expansion close control units (ED) of packaged type or with remote condenser and with chilled water coil (UV), with in-built free-cooling system, suitably designed for technological and data processing rooms, telecom centres.

The ED units have been specially designed for the ecological gas R407C.

For ED of packaged type and UV units, working conditions from +20 °C to +37 °C of room air temperature.

For ED units with remote condenser, working conditions from -20°C (with option RG) to 45°C.

Available in:

Packaged version

ED.P ... SF.E.K displacement air diffusion

ED.P ... SF.U.K upflow

ED.P ... SF.D.K downflow

Split version with remote condenser

ED.A ... SF.E.K displacement air diffusion

ED.A ... SF.U.K upflow

ED.A ... SF.D.K downflow

Chilled water version

UV ... SF.E displacement air diffusion

UV ... SF.U upflow

UV ... SF.D downflow

Made up of:

Housing realized in profiles of hot galvanized steel, with removable panels in steel plate, externally plasticized. The closing panels are internally coated with thermal insulation and open-cell soundproofing materials

For ED models, high efficiency Scroll compressor, installed on rubber dampers, with internal heat protection and oil sump heater.

Direct expansion cooling coil with copper pipe and aluminium fins.

For UV models, chilled water coil with copper pipe and aluminium fins with purging air valves, three-way modulating valve with servomotor, electronically controlled.

Centrifugal fans directly coupled with low fan speed regulation.

In-built free-cooling system, made by a dampers modulating the external air, controlled by a proportional servomotor, with the possibility of a simultaneous operation of the compressor and of free-cooling.

Drain pan made up of aluminium.

Washable air filters - Efficiency F4.

Differential flow switch for air flow alarm.

Differential flow switch for clogged filters alarm

Components of the cooling circuit (for ED units): copper pipes with condensing insulation on the suction line, thermostatic valve, high and low pressure switches, high pressure safety valve, dehydrating filter, sight glass, non-freezing oil charge.

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.

Control microprocessor.

For packaged version "P" (in-built):

Condensing coil with aluminium fins and copper pipe.

Double suction centrifugal fan with rotation speed suitably regulated by an electronic pressostatic device to control the condensing pressure.

Accessories

AA	Flooding detector
AE	Electrical supply different from standard
AL	Smoke alarm
B	Adjustable base-frame
CS	Compressor inrush counter
H	Humidifier
IG	Watch card
IH	Interface card RS 485
IM	Seawood package
KC	Spare F4 filter kit
MF	Phase monitor
RE	Electrical heater with aluminium armoured elements and safety thermostat
RM	Epoxy coating of condensing coil for sea environment
RR	Condensing coil with copper/copper fins

CLOSE CONTROL UNITS FOR TELECOM CENTRES

DIRECT EXPANSION AND CHILLED WATER CLOSE CONTROL UNITS

PACKAGED AND SPLIT VERSIONS

ED - Packaged Versions - Technical data

MODEL		ED.P ... SF.K	51	71	131	161	181	191	262
Cooling capacity with R407C									
Total	(29°C - 45%)	kW	5,6	9,3	13,4	18,1	17,0	19,9	26,8
Sensible	(29°C - 45%)	kW	4,1	7,2	9,4	15,0	13,4	14,5	18,8
Total	(27°C - 45%)	kW	5,2	8,7	12,5	16,9	15,9	18,6	25,1
Sensible	(27°C - 45%)	kW	4,0	7,1	9,2	14,7	13,1	14,2	18,4
Total	(25°C - 45%)	kW	4,9	8,2	11,8	16,0	15,0	17,6	23,7
Sensible	(25°C - 45%)	kW	3,9	6,9	8,9	14,3	12,8	13,8	17,9
Nominal absorbed power	(29°C - 45%)	kW	1,7	2,5	3,8	4,8	4,7	5,4	11,5
Nominal absorbed current	(29°C - 45%)	A	2,9	4,7	6,8	8,9	8,6	9,4	13,6
Scroll compressors									
Quantity		n	1	1	1	1	1	1	2
Circuits		n	1	1	1	1	1	1	2
Standard steps capacity		%			0 - 100				0-50-100
Maximum absorbed current		A	4	6	8	11	11	13	18
Inrush current		A	24	40	50	66	66	74	100
Evaporating centrifugal fans									
Quantity		n	1	1	1	1	2	2	3
Standard motor power		kW	0,25	0,37	0,37	0,55	0,60	0,60	0,94
Standard air flow		l/s	375	600	550	583	940	900	1.100
Standard air flow		m ³ /h	1.350	2.160	1.980	2.100	3.384	3.240	3.960
Standard nominal absorbed current		A	0,9	2,3	2,3	3,5	3,8	3,8	5,8
Standard available external pressure		Pa	-	-	-	-	-	-	-
Condensing centrifugal fans									
Quantity		n	1	1	1	1	2	2	3
Standard motor power		kW	0,75	1,09	1,09	1,09	1,34	1,34	3,25
Standard air flow		l/s	640	1.070	1.050	870	1.500	1.500	2.100
Standard air flow		m ³ /h	2.304	3.852	3.780	3.100	5.400	5.400	7.560
Standard nominal absorbed current		A	4,7	6,8	6,8	6,8	8,4	8,4	14,9
Standard available external pressure		Pa	65	65	70	65	70	70	70
Sound pressure levels 1)									
		dB(A)	46	46	51	52	52	52	54
Electrical heaters									
Power		kW	3,7	3,7	3,7	3,7	4,5	4,5	6
Steps		n	1	1	1	1	1	1	2
Absorbed current		A	7,5	7,5	7,5	7,5	7,5	7,5	15
Dimensions									
Length		mm	900	900	900	900	1.200	1.200	1.800
Width		mm	750	750	750	750	750	750	750
Height		mm	2.250	2.250	2.250	2.250	2.250	2.250	2.250
Weight		kg	220	235	260	260	335	350	410
Power supply									
400V / 50 Hz / 3Ph + N + T									

Operation limit: ambient temperature from 20 to 37°C

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

External air temperature: 35°C (max 40°C)

CLOSE CONTROL UNITS FOR TELECOM CENTRES

DIRECT EXPANSION AND CHILLED WATER CLOSE CONTROL UNITS

PACKAGED AND SPLIT VERSIONS

ED - Split Version - Technical data

MODEL		ED.A ...SF.K	51	71	131	161	181	191	262
Cooling capacity with R407C 1)									
Total	(29°C - 45%)	kW	5,6	9,3	13,4	18,1	17,0	19,9	26,8
Sensible	(29°C - 45%)	kW	4,1	7,2	9,4	15,0	13,4	14,5	18,8
Total	(27°C - 45%)	kW	5,3	8,8	12,7	16,9	16,1	18,9	25,5
Sensible	(27°C - 45%)	kW	4,0	7,1	9,2	14,7	13,1	14,2	18,4
Total	(25°C - 45%)	kW	5,0	8,4	12,1	16,0	15,3	17,9	24,1
Sensible	(25°C - 45%)	kW	3,9	6,9	9,0	14,3	12,9	19,1	18,1
Nominal absorbed power	(29°C - 45%)	kW	1,7	2,5	3,8	4,8	4,7	5,4	11,5
Nominal absorbed current	(29°C - 45%)	A	2,9	4,7	6,8	8,9	8,6	9,4	13,6
Scroll compressors									
Quantity		n	1	1	1	1	1	1	2
Circuits		n	1	1	1	1	1	1	2
Standard steps capacity		%			0 - 100				0-50-100
Maximum absorbed current		A	4	6	8	11	11	13	18
Inrush current		A	24	40	50	66	66	74	100
Evaporating centrifugal fans									
Quantity		n	1	1	1	1	2	2	3
Standard motor power		kW	0,25	0,37	0,37	0,55	0,60	0,60	0,94
Standard air flow		l/s	375	600	550	583	940	900	1100
Standard air flow		m ³ /h	1.350	2.160	1.980	2.100	3.384	3.240	3.960
Standard nominal absorbed current		A	0,9	2,3	2,3	3,5	3,8	3,8	5,8
Standard available external pressure		Pa	-	-	-	-	-	-	-
Sound pressure levels 2)		dB(A)	45	45	50	51	51	51	53
Electrical heaters									
Power		kW	3,7	3,7	3,7	3,7	4,5	4,5	6
Steps		n	1	1	1	1	1	1	2
Absorbed current		A	7,5	7,5	7,5	7,5	7,5	7,5	15
Dimensions									
Length		mm	900	900	900	900	1.200	1.200	1.800
Width		mm	750	750	750	750	750	750	750
Height		mm	2.250	2.250	2.250	2.250	2.250	2.250	2.250
Weight		kg	220	235	260	260	335	350	410
Remote condenser 3)		CR	11	14	27	27	27	30	27
Quantity		n	1	1	1	1	1	1	2
Power supply			400V / 50 Hz / 3Ph + N + T						

Operation limit: ambient temperature from 20 to 37°C

2) Condensing temperature 49 °C Dew

3) 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 pages 280-283)

CLOSE CONTROL UNITS FOR TELECOM CENTRES

DIRECT EXPANSION AND CHILLED WATER CLOSE CONTROL UNITS

PACKAGED AND SPLIT VERSIONS

UV - Technical data

MODEL		UV...SF	160	180	220	250	300	340
Cooling capacity 1)								
Total	(29°C - 45%)	kW	16,1	19,1	22,1	25,8	30,2	34,4
Sensible	(29°C - 45%)	kW	10,0	11,6	13,0	15,7	18,4	20,6
Water flow rate	(29°C - 45%)	l/s	0,77	0,91	1,06	1,23	1,44	1,65
Water pressure drop (coil + valve)	(29°C - 45%)	kPa	30	50	40	30	45	60
Total	(27°C - 45%)	kW	13,4	15,9	18,4	21,5	25,2	28,7
Sensible	(27°C - 45%)	kW	9,2	10,7	11,9	14,4	16,9	18,9
Water flow rate	(27°C - 45%)	l/s	0,64	0,76	0,88	1,03	1,20	1,37
Water pressure drop (coil + valve)	(27°C - 45%)	kPa	28	47	39	28	43	58
Total	(25°C - 45%)	kW	10,9	13,0	15,1	17,5	20,5	23,4
Sensible	(25°C - 45%)	kW	8,2	9,5	10,7	12,8	15,1	16,9
Water flow rate	(25°C - 45%)	l/s	0,52	0,62	0,72	0,84	0,98	1,12
Water pressure drop (coil + valve)	(25°C - 45%)	kPa	27	45	37	25	40	56
Chilled water coil centrifugal fans								
Quantity		n	1	1	1	2	2	2
Standard motor power		kW	0,37	0,37	0,37	0,60	0,60	0,60
Standard air flow		l/s	600	600	550	950	940	940
Standard air flow		m ³ /h	2.160	2.160	1.980	3.420	3.384	3.384
Standard nominal absorbed current		A	2,3	2,3	2,3	3,8	3,8	3,8
Standard available external pressure		Pa	-	-	-	-	-	-
Free-cooling centrifugal fans								
Quantity		n	1	1	1	2	2	2
Standard motor power		kW	1,09	1,09	1,09	1,34	1,34	1,34
Standard air flow		l/s	1.070	1.070	1.070	1.050	1.050	1.050
Standard air flow		m ³ /h	3.852	3.852	3.852	3.780	3.780	3.780
Standard nominal absorbed current		A	6,8	6,8	6,8	8,4	8,4	8,4
Standard available external pressure		Pa	190	190	190	245	245	245
Sound pressure levels 2)								
		dB(A)	47	51	52	51	59	59
Electrical heaters								
Power		kW	3,7	3,7	3,7	4,5	4,5	4,5
Steps		n	1	1	1	1	1	1
Absorbed current		A	7,5	7,5	7,5	7,5	7,5	7,5
Dimensions								
Length		mm	900	900	900	1.200	1.200	1.200
Width		mm	750	750	750	750	750	750
Height		mm	2.250	2.250	2.250	2.250	2.250	2.250
Weight		kg	160	175	185	240	250	260
Ø in - Ø out		mm						
Power supply 400V / 50 Hz / 3Ph + N + T								

Operation limit: ambient temperature from 20 to 37°C

1) Nominal condition referred to: water 7/12 °C - 0% Glycol

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