

DIRECT EXPANSION CLOSE CONTROL UNITS WITH REMOTE CONDENSERS

REFRIGERANT R410A



ED.X 1462 U Kc



Series ED.X - Power

Cooling capacity from 7 to 138 kW - 1 and 2 circuits

The range of close control units with remote condenser, **series ED.X**, is particularly indicated for use in technological centres, data processing rooms, in telecom centres and in such applications where it is important to keep the thermo-hygrometric conditions constant all over the year, so to assure the correct operation of the equipments installed in these sites.

Depending on the cooling capacity, they are available with 1 and 2 cooling circuits.

Thanks to their technologically advanced design, these close control units are able to control the ambient temperature with remarkably high precision and, when the humidity level is required, to adapt their cooling capacity to the room requirements, all automatically managed by the microprocessor on board.

The high technology employed during their design together with the use of the best components available on the markets, make these units extremely reliable and therefore able to work for long periods, without a break.

These units are particularly easy to install also in small spaces and easily accessible on the front side for ordinary and extraordinary service operations.

They are completely assembled and tested in the factory and supplied with nitrogen charge.

The remote condensers to be matched to these units are still provided with a condensing pressure control, by means of an actuated pressure fan speed controller, providing speed variation with a reduced full load current and allowing the operation of the condenser down to -20°C. For lower temperatures down to -40°C, it is necessary to select option BW on remote condensers.

The units are available in different configurations, related to the air return and discharge:

- U** front air return, upflow air discharge
- V** bottom air return, upflow air discharge
- B** back air return, upflow air discharge
- D** top air return, downflow air discharge

Operation limits: ambient temperature from 18 to 35°C.

Main components:

Structure realized with a framework and internal parts made of galvanized steel riveted profiles and supports, making the structure strong and suitable also for extreme transport and handling conditions. The external panels, fixed to frame with quick opening connections, are made of pre-painted steel sheet (RAL 9004), ensuring a long-term durability to the unit. They are internally insulated with class

1 sound-proofing material (except for frame 1, 2 and 3 for which this is an option), in conformity to the main European regulations in force, reducing the overall sound level of the unit and allowing a good air tightness. All the front and side panels can be dismantled so to allow an easy access to the main components. Moreover, the front of the unit is provided with double panels (not available for version U), suitably arranged to let the unit work also with open panels during technical interventions, to allow more accurate regulations and more quick timing for ordinary and extraordinary service operations.

High-efficiency scroll compressor (EER > 3.2 at ARI conditions), with low sound level, internal heat protection, installed on rubber vibration dampers, supplied with crankcase heater.

In the case of 2 circuit units, in case of problem on one of the circuit, the 50% operation of the unit is anyway granted.

Single-inlet and backward curved centrifugal fans made of high-performance composite material, directly coupled to a three-phase electrical motor with IP54 Class F protection and provided with a thermal protection inside the motor winding. The fans are fixed on suitable supports reducing the transmission of vibration to the frame and the impeller is statically and dynamically balanced with long-life bearings. It is possible to regulate the fan speed by means of an autotransformer and to adjust their air flow to the head pressure requested on site. It is clear that a higher fans speed rotation involves an increase in the sound level of the unit.

They are equipped with a low airflow and clogged filter alarms which, by means of a pressure switch, stops the unit operation in case of fans problems and gives a signal on microprocessor for replacement respectively.

Direct expansion evaporating coil, realized with copper tube and aluminium fins, it is suitably sized with a wide exchange surface and a low air crossing speed so to allow a remarkable heat exchange and reduce the pressure drops on the air side. It is provided with a hydrophilic treatment to reduce the surface tension between water and metal surface, promoting film condensation and avoiding the risk of condensing drops outside the drain tray.

Condensing **drain tray**, made in corrosion proof aluminium, placed underneath the evaporating coil, it is provided with a flexible pipe for condensing water discharge.

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Washable and self-extinguishing air filters Efficiency G4 – of pleated type, they are made of synthetic fibre and are contained in a suitable metal frame. Their pleated arrangement, with a wide surface area, ensures a higher filtering efficiency and low pressure drops.

Cooling circuit made of: electronic thermostatic valve, sight glass, dehydrating filter, safety device, high pressure switch, liquid receiver, shut-off valve on compressor discharge and on liquid line. Thanks to the electronic thermostatic valve, there is a more accurate regulation of the evaporating pressure/temperature in all working conditions, with subcooling at a constant value.

Electric board in compliance with CE norms, protected by a panel is separated by the air flow and is provided with main switch, automatic switches, remote control switches, motor protection switches, low-tension auxiliary circuits and terminal board for free contacts and remote general alarm, magnetothermic switches for humidifier and electric heaters (when installed).

Unit management microprocessor installed on the internal safety panel of the electrical board, complete with hour counter and electronic card to program the switch-over and rotation between units, after a pre-set time. On this purpose, in case of order, the information necessary for programming must be clearly defined. It allows a multi-language display reading, a detailed description of parameters, the possibility to manage up to 16 units, to manage non standard communication protocols, a quickest access to the program, the control of the electronic thermostatic valve and of the humidifier, the control of modulating valves.

Accessories

AA **Flooding detector:** placed in the downflow units, it is already wired and detects water in the false floor.

AE **Electrical power supply different from standard:** mainly, 230V three-phase, 460V three-phase. Frequency 50/60 Hz.

AL **Smoke alarm:** it consists of a sensor detecting smoke inside the unit and activating an alarm signal which stops the fans.

B **Adjustable base-frame** from 170mm to max 600mm for installation on raised floors. It is provided with adjustable feet.

BC **Hot water coil:** one-row or 2-row water coil, placed after the cooling coil for the re-heating and/or the heating of treated air. Provided with modulating actuator and with three-way valve, it is controlled by the microprocessor on board. (Alternative to BG).

BG **Hot gas coil:** placed after the cooling coil, it makes the re-heating of the treated air and is provided with a 3-way valve (ON/OFF) controlled by the microprocessor on board. It is available only with the dehumidification control (options DH). (Alternative to BC and not available with HG).

BN **Base-frame with conveyor:** it is provided with a suitable conveyor facilitating the air flow and remarkably reducing the pressure drop in case of horizontal air flow. It is adjustable in height from min 400mm to max 800mm. (Only for D version).

BS **Base-frame with ON/OFF damper:** it is equipped with an ON/OFF motorized damper. This device prevents the air return from the unit when it is not working or in the case some units are working near to it. Available only for D version; for other versions, being a special execution, please contact our Sales Dept.

CI **Soundproofing jacket on compressors:** made of soundproofing material, wrapped all around compressors so to further reduce the overall sound level of the unit.

CS **Compressors inrush counter:** Electromechanical device positioned inside the electrical board, recording the total inrush starts of compressors.

DH **Dehumidification control system:** managed by microprocessor, through the electronic thermostatic valves, it operates on two parameters, ensuring that the dehumidification process is carried out with a constant air flow, without partializing the evaporating coil. This will optimize the air distribution throughout the room.

DP **Internal double panels:** for shutting off the compartments affected by the air flow, they are made from pre-painted and galvanized steel plate, ensuring reduction in the noise transmitted through the panels and a better air tightness even without the external panels so that the access is guaranteed with the doors open during service operation.

EC-LP&HP **Single-inlet EC (electronically commutated) centrifugal fans with backward curved blade** (LP not available for D version), made of high-performance composite material, directly coupled to a three-phase electrical rotor with IP54 protection grade, they have the possibility of a continuous regulation of the speed by means of 10V signal, sent and integrated to the control. The fans are fixed on suitable supports reducing the transmission of vibration to the frame and the impeller is statically and dynamically balanced with long-life bearings. Thanks to their technology, the EC fans ensures a lower electrical absorption and sound level, if compared to the traditional centrifugal fans. It is possible to adjust their air flow to the head pressure requested on site.

F5-F6-F7-F9 **Higher efficiency air filters:** pleated filters, supplied as an alternative to standard G4 filters.

FR **Spare filter kit** as a replacement to the ones on board of the unit.

H **Humidifier** of immersed-electrode type for the modulating production of steam. It is made by a steam cylinder, by a steam distributor, by water inlet and outlet valves and by a maximum level probe. The microprocessor on board indicates when the steam cylinder needs to be replaced.

HG **Hot gas by-pass:** it is a mechanical device for modulating the cooling capacity, so to reduce the ON/OFF of compressors and therefore to wait for the re-starting timing, with influence on condensing temperature. It is not available for sizes 1, 2 and 3 and with options BG and DH.

IE **Fumigated wooden crate packing:** available on request for critical transports, so to assure a suitable protection to the unit.

IH **RS 485 serial interface:** electronic card to be connected to microprocessor, to allow communication between the units and a Carel supervision system. It is possible to fully control the unit from remote. For connection to other supervision systems, the protocol of the controlled parameters is available on request.

IM **Seawood packing:** fumigated seawood case and protection bag with hygroscopic salts, suitable for long sea transports.

IP **Magnetothermic switches for auxiliary circuits:** when required, they replace the fuses, as a protection of the auxiliary circuits.

IS1 **Class 1 insulating material** for frame 1, 2 and 3. Standard for other sizes.

MF **Phase monitor:** electronic device controlling the correct sequence and/or the eventual lack of one of the 3 phases, switching off the unit if necessary.

PB **Condensing water pump:** micro pump discharging the condensing water produced by the unit, it is factory installed.

PL **Distribution plenum** with front grid and a double row of adjustable fins for a better air distribution (for versions U,V,B).

PQ **Remote microprocessor:** remote terminal, allowing to display the temperature and humidity values detected by probes, the alarm digital inputs, the outputs and the remote ON/OFF of the unit, to change and program of the parameters, the sound signal and the display of the present alarms.

PR **Fresh air inlet:** external fresh air inlet with filter, placed on side (standard on the left side), with circular connection (Ø 100 mm).

RE **Electrical heaters:** made in aluminium and installed after the cooling coil, for re-heating and/or heating of the treated air. The heating capacity is split on 3 steps max, so to reduce the energy absorption. They are controlled by the microprocessor on board. (Not available with BC and/or BG).

RE M **Oversized Electrical heaters**

RV **Personalized frame painting in RAL colour**

SL **Main switch** with external padlock

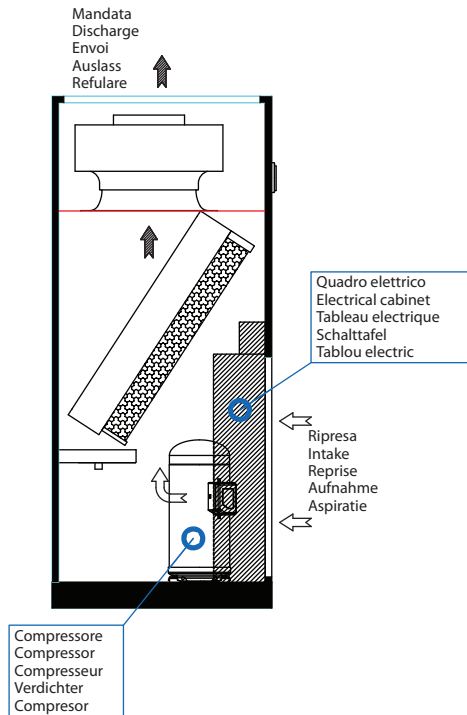
SV **Gravity overpressure damper** for ducted units, to prevent the air return when the units are not operating, where several units are installed in the same room. Available for U,V,B versions; for D version, being a special execution, please contact our Sales Dept.

WG **Electronic card** for interfacing to BMS with SNMP or TCP/IP protocols.

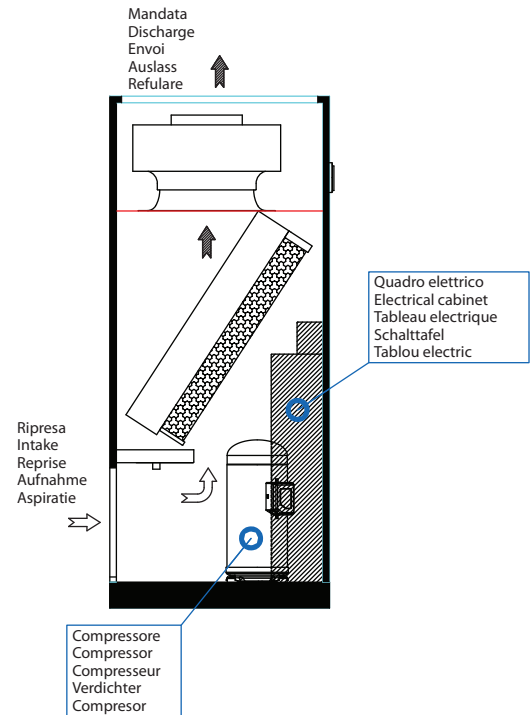
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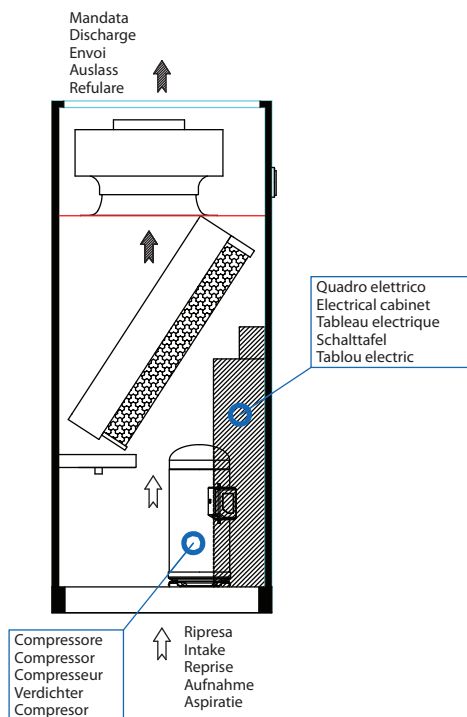
- U Ripresa dal fronte - Mandata verso l'alto
- U Frontal air intake - Upwards air discharge
- U Reprise frontale - Envoi en haut
- U Vorne Luftaufnahme - Luftauslass nach oben
- U Aspiratie prin partea frontala - Refulare prin partea superioara



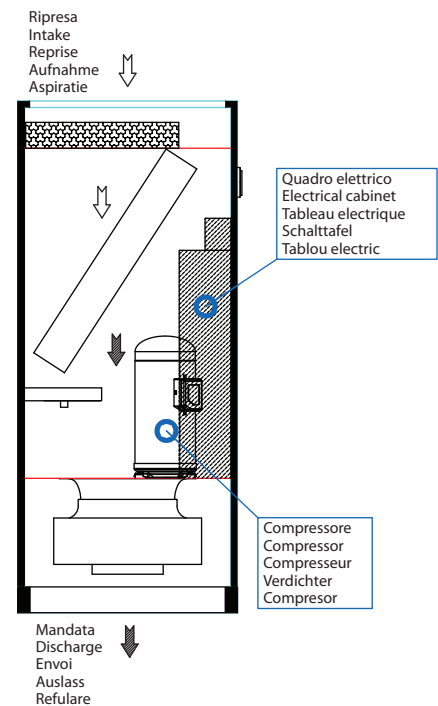
- B Ripresa da dietro - Mandata verso l'alto
- B Back air intake - Upwards air discharge
- B Reprise de derrière - Envoi en haut
- B Luftaufnahme von hinten - Luftauslass nach oben
- B Aspiratie prin partea posterioara - Refulare prin partea superioara



- V Ripresa dal basso - Mandata verso l'alto
- V Down air intake - Upwards air discharge
- V Reprise du bas - Envoi en haut
- V Luftaufnahme von unten - Luftauslass nach oben
- V Aspiratie prin partea inferioara - Refulare prin partea superioara



- D Ripresa dall'alto - Mandata verso il basso
- D Up air intake - Downwards air discharge
- D Reprise du haut - Envoi de bas
- D Luftaufnahme von oben - Luftauslass nach unten
- D Aspiratie prin partea superioara - Refulare prin partea inferioara



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Technical data - 1-circuit units - Versions U-V-B

ED.X U-V-B		71 Kc	81 Kc	101 Kc	131 Kc	161 Kc	211 Kc	231 Kc	261 Kc	271 Kc	281 Kc	331 Kc	371 Kc	421 Kc	461 Kc	501 Kc	551 Kc	591 Kc	771 Kc	921 Kc	991 Kc	
Frame																						
Frame		1			2			3			4			5			6		7			
Cooling capacity																						
Total cooling capacity (27°C – 50% R.H.)	kW	7,2	8,9	10,1	13,1	17,1	22,4	24,1	26,4	26,8	29,0	32,5	38,1	42,7	46,3	50,7	52,9	60,1	78,6	95,0	102,0	
Sensible cooling capacity (27°C – 50% R.H.)	kW	6,3	7,9	9,1	12,0	15,1	19,7	22,2	23,1	23,3	26,7	28,0	33,7	35,5	45,2	46,9	50,7	55,0	70,2	79,2	90,0	
SHR @ 27°C-50% R.H.	%	87	89	90	92	88	92	87	92	86	88	83	98	92	96	92	96	92	89	83	88	
Nominal input power (27°C – 50% R.H.)	kW	1,7	2,0	2,2	2,9	3,8	4,8	5,8	5,5	6,3	7,3	8,6	9,6	10,7	12,3	16,2	21,3	21,4				
Nominal input current (27°C – 50% R.H.)	A	3,1	4,1	4,5	4,6	6,5	10,0	9,7	9,1	11,3	15,0	17,2	17,6	17,7	18,6	18,7	22,8	29,9	37,3			
Total cooling capacity (24°C – 50% R.H.)	kW	6,7	8,2	9,3	12,1	15,8	20,7	22,3	24,4	24,8	26,8	30,0	38,1	39,5	42,9	46,9	50,1	55,6	72,5	87,7	94,1	
Sensible cooling capacity (24°C – 50% R.H.)	kW	6,1	7,6	8,8	11,6	14,6	19,0	21,4	22,3	22,5	25,7	27,0	33,7	34,4	42,9	45,1	50,1	53,1	67,8	76,6	87,0	
SHR @ 24°C-50% R.H.	%	91	93	94	96	92	96	91	96	90	92	87	100	96	100	96	93	87	92			
Nominal input power (24°C – 50% R.H.)	kW	1,7	2,1	2,2	2,9	3,8	4,8	5,8	5,5	6,3	7,2	8,4	9,5	9,6	10,6	10,7	12,3	16,2	21,2	21,3		
Nominal input current (24°C – 50% R.H.)	A	3,1	4,1	4,5	4,7	6,6	10,2	10,0	9,3	11,6	11,4	14,9	17,1	17,6	18,6	22,6	29,8	37,2	37,3			
Total cooling capacity (22°C – 50% R.H.)	kW	6,3	7,7	8,8	11,5	15,0	19,6	21,1	23,2	23,5	25,4	28,5	33,4	37,4	41,0	44,5	47,7	52,7	68,7	83,1	89,1	
Sensible cooling capacity (22°C – 50% R.H.)	kW	5,9	7,4	8,6	11,3	14,2	18,6	20,8	21,7	21,9	25,0	26,4	31,7	33,6	41,0	43,9	47,7	51,6	66,1	74,8	84,8	
SHR @ 22°C-50% R.H.	%	94	96	97	98	95	99	94	93	99	93	95	90	100	99	100	98	96	90	95		
Nominal input power (22°C – 50% R.H.)	kW	1,7	2,1	2,3	2,9	3,8	4,9	4,8	5,9	5,6	6,3	7,2	8,4	9,5	10,6	12,2	16,2	21,1	21,2			
Nominal input current (22°C – 50% R.H.)	A	3,2	4,1	4,5	4,7	6,7	10,3	10,1	9,4	11,8	11,5	14,8	17,0	17,5	17,6	18,6	22,6	29,8	37,2			
Scroll compressors																						
Quantity	n.	1			2			1			2											
Circuits	n.	1																				
Standard capacity steps	%	0 / 100																			0 / 50 / 100	
Maximum input current	A	4,7	10,0	10	13,0	15	19,0	26,0	19,0	25,0	27,0	30,0	33,0	38,6	51,0	66,0						
Inrush current	A	28,0	45,0	45	60,0	70	87,0	73,0	100,0	110,0	140,0	147,0	158,0	197,0	215,0	191,0						
AC fans with autotransformer																						
Quantity	n.	1			2			3														
Fan(s) supply voltage	V	270	300	340	300	340	290	320	260	280	230	250	300	260	290							
Air flow	m³/h	2'330			3'500			5'610			7'880			13'820		16'550		21'600				
Available pressure	Pa	20																				
Rotation speed	rpm	1'220	1'256	1'319	1'263	1'315	1'246	1'293	1'157	1'200	1'087	1'132	1'229	1'158	1'212							
Input power	kW	0,37	0,39	0,42	0,67	0,71	1,03	1,12	1,55	1,69	2,82	3,07	3,49	4,77	5,24							
Input current	A	0,67	0,73	0,87	1,17	1,33	1,94	2,20	2,71	2,96	4,84	5,25	6,27	8,23	9,13							
Max available pressure (max ESP)	Pa	99	82	53	99	60	140	94	242	194	306	260	164	236	177							
Sound pressure level @ 2 m – Version U	dB(A)	49	48	49	52	55	56	57	58	59	60	65	62									
Sound pressure level @ 2 m – Version U (max ESP)	dB(A)	50	49	53	58	57	58	60	62	66	64											
Sound pressure level @ 2 m – Version B	dB(A)	47	46	47	50	53	54	55	56	57	58	63	60									
Sound pressure level @ 2 m – Version B (max ESP)	dB(A)	48	47	51	56	55	56	58	60	64	62											
Sound pressure level @ 2 m – Version V	dB(A)	45	44	45	48	51	52	53	54	55	56	61	58									
Sound pressure level @ 2 m – Version V (max ESP)	dB(A)	46	45	49	54	53	54	56	58	62	60											
EC fans – LP (low pressure)																						
Quantity	n.	1			2			3														
Fan(s) supply voltage	V	400																				
Air flow	m³/h	5'610			7'880			13'820			16'550		21'600									
Max available pressure (max ESP)	Pa	183			136			156			108		223		177		75		151		92	
Fan(s) speed regulation	%	88			91			90			94		85		88		96		90		95	
Rotation speed	rpm	1'231			1'280			1'112			1'154		1'041		1'085		1'184		1'112		1'166	
Input power	kW	0,81			0,93			1,09			1,24		1,83		2,10		2,64		3,36		3,93	
Input current	A	1,30			1,49			1,74			1,99		2,93		3,37		4,24		5,39		6,31	
Sound pressure level @ 2 m – Version U	dB(A)	53			54			55		54		55		57		62		58				
Sound pressure level @ 2 m – Version U (max ESP)	dB(A)	54			53			54		56		55		56		57		62		59		
Sound pressure level @ 2 m – Version B	dB(A)	51			52			53		52		53		55		60		56				
Sound pressure level @ 2 m – Version B (max ESP)	dB(A)	52			51			52		53		54		55		60		57				
Sound pressure level @ 2 m – Version V	dB(A)	49			50			51		50		51		53		58		54				
Sound pressure level @ 2 m – Version V (max ESP)	dB(A)	50			49			50		51		52		53		58		55				

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EC fans – HP (high pressure)																						
Quantity	n.	1									2						3					
Fan(s) supply voltage	V	400																				
Air flow	m ³ /h	2'330			3'500			5'610			7'880			13'820			16'550		21'600			
Max available pressure (max ESP)	Pa	671	655	625	486	447	665	618			593		545		654		608		516	585	526	
Fan(s) speed regulation	%	58	59	61	70	73	68	71			72	71	74		67	69		76	71	75		
Rotation speed	rpm	1'211	1'239	1'289	1'258	1'311	1'231	1'278			1'113		1'154		1'040		1'084		1'185	1'111	1'164	
Input power	kW	0,29	0,31	0,34	0,49	0,56	0,81	0,95			1,05		1,21		1,78		2,06		2,57	3,27	3,84	
Input current	A	0,46	0,49	0,55	0,79	0,89	1,31	1,52			1,69		1,93		2,86		3,30		4,12	5,25	6,16	
Sound pressure level @ 2 m – Version U	dB(A)	47	46		50			54			55			56		57	62	59				
Sound pressure level @ 2 m – Version U (max ESP)	dB(A)	58			57			59			58			61		64		63				
Sound pressure level @ 2 m – Version B	dB(A)	45	44		48			52			53			54		55	60	57				
Sound pressure level @ 2 m – Version B (max ESP)	dB(A)	56			55			57			56			59		62		61				
Sound pressure level @ 2 m – Version V	dB(A)	43	42		46			50			51			52		53	58	55				
Sound pressure level @ 2 m – Version V (max ESP)	dB(A)	54			53			55			54			57		60		59				
Humidifier																						
Steam production (nominal)	kg/h	1,5			3			5			8											
Steam production (max)	kg/h	3						8						6								
Maximum input current	kW	1,12			2,25			3,75			8,7											
Maximum input current	A	5			10			5,5			8,7											
Specific conductivity at 20°C (min/max)	µS/cm	300 / 1'250																				
Total hardness (min/max)	mg/l CaCo3	100 / 400																				
Electrical heaters																						
Steps	n.	1			3			2			3											
Power	kW	3			4,5			6			9			15			18	24				
Input current	A	4,3			6,5			8,7			13			21,7			26	34,6				
Oversized electrical heaters																						
Steps	n.	3			2			3														
Power	kW	4,5			6			9			12			18			24	27				
Input current	A	6,5			8,7			13,0			17,3			26			34,6	39				
Hot water coil																						
Heating capacity	kW	5,5			8,2			10,7			16,2			31,1			38,4	53				
Water flow	m ³ /h	0,9			1,4			1,9			2,8			5,4			6,7	9,2				
Pressure drop (coil + 3-way valve)	kPa	44			43			57			56			59			48	64				
Internal volume of the coil	dm ³	1,0			1,3			1,5			2,8			5,3			6,5	10,1				
Hot gas coil																						
Heating capacity	kW	5,1			7,5			9,8			14,5			30			37,6	50,3				
Condensing water pump																						
Water flow	l/h	27,5			390																	
Dimensions																						
Length	mm	550			750			980			1'160			1'860			2'210	2'565				
Width	mm	550						750			850											
Height	mm	1'980																				
Weight for version U	kg	188	199	202	253	307	315	363	315	379	390	415	519	521	540	544	653	777	809			
Weight for version V	kg	188	199	202	253	313	321	369	321	374	384	409	530	532	551	555	664	788	820			
Weight for version B	kg	188	199	202	247	318	326	374	326	379	390	415	541	543	562	566	670	799	831			
Remote condenser																						
1-circuit Standard version	CR	9	12	19	22	29	34			47	55	64	73	97	114	137						
1-circuit Silenced version	CRS	8	14	18	23	30	34			46	55	73		97	114	137						
1-circuit Ultrasilenced version	CRU	11	14	17	22	29	34			46	55	64	73	92	-							
Electrical power supply																						
Electrical power supply	V / ph / Hz	400 / 3 / 50 + T + N																				

REMARKS:

- Condensing temperature 48°C
- Filters considered for 20% dirt
- Max pressure is referred to the nominal air flow and the max tension/regulation
- Hot water coil calculated for: water 40/45°C, ambient temperature 20°C and available pressure of 20 Pa
- The condensing water pump is calculated for a 2 m vertical difference in height respect to the pump; total length of the discharge pipe of 5 m, internal diameter of the flexible pipe of 12 mm (7 mm for EDX 71-81-101).
- Remote condenser suggested for external air temperature of 35°C.

DIRECT EXPANSION CLOSE CONTROL UNITS WITH REMOTE CONDENSERS

REFRIGERANT R410A

Technical data - 2-circuit units - Versions U-V-B

ED.X U-V-B		282 Kc	332 Kc	372 Kc	422 Kc	462 Kc	502 Kc	552 Kc	592 Kc	642 Kc	772 Kc	852 Kc	922 Kc	952 Kc	992 Kc	1022 Kc	1112 Kc	1122 Kc	1442 Kc	1462 Kc			
Frame																							
Frame		4				5				6			7				8						
Cooling capacity																							
Total cooling capacity (27°C – 50% R.H.)	kW	26,6	32,9	38,0	43,5	47,2	52,5	55,5	60,0	66,3	77,3	86,7	95,0	98,1	102,0	105,5	113,0	113,3	147,8	150,0			
Sensible cooling capacity (27°C – 50% R.H.)	kW	25,8	28,2	33,6	35,8	45,6	47,5	52,7	55,0	58,8	69,7	73,4	79,2	80,5	90,0	91,4	94,4	94,5	121,0				
SHR @ 27°C-50% R.H.	%	97	86	88	82	97	91	95	92	89	90	85	83	82	88	87	84	83	82	81			
Nominal input power (27°C – 50% R.H.)	kW	5,8	7,6	8,3	9,6		11,0		12,7	14,6	17,2	19,1	21,3	22,1	21,4	22,0	25,3	24,6	34,1	32,5			
Nominal input current (27°C – 50% R.H.)	A	9,1	13,2	15,7	20,0	19,6	22,9	22,4	22,6	30,1	34,4	35,3	37,3	46,4	37,3	45,4		68,6		59,7			
Total cooling capacity (24°C – 50% R.H.)	kW	24,6	30,5	35,1	40,2	43,6	48,5	51,6	55,4	61,1	71,4	80,1	87,7	90,6	94,1	97,4	104,2	104,6	136,4	138,4			
Sensible cooling capacity (24°C – 50% R.H.)	kW	24,6	27,2	32,4	34,7	43,6	45,8	51,5	53,0	56,8	67,3	71,0	76,6	77,9	87,0	88,4	91,4	91,5	117,2	118,1			
SHR @ 24°C-50% R.H.	%	100	89	92	86	100	94	100	96	93	94	89	87	86	92	91	88	87	86	85			
Nominal input power (24°C – 50% R.H.)	kW	5,8	7,6	8,3	9,7		11,1	11,0	12,6	14,5	16,9	19,1	21,3	22,1	21,3	22,1	25,2	24,4	33,6	32,5			
Nominal input current (24°C – 50% R.H.)	A	9,3	13,4	16,1	20,4	20,1	23,4	23,0	22,8	29,9	34,2	35,2	37,3	47,2	37,3	46,5	45,7	45,2	68,1	59,6			
Total cooling capacity (22°C – 50% R.H.)	kW	23,5	28,9	33,3	38,1	41,6	46,0	49,2	52,4	57,9	68,7	75,9	83,1	86,0	89,1	92,3	98,7	99,2	129,2	131,0			
Sensible cooling capacity (22°C – 50% R.H.)	kW	23,5	26,6	31,7	33,9	41,6	44,6	49,2	51,6	55,4	66,1	69,4	74,8	76,2	84,8	86,2	89,2	89,4	114,5	115,4			
SHR @ 22°C-50% R.H.	%	100	92	95	89	100	97	100	98	96	97	91	90	90	95	93	90		89	88			
Nominal input power (22°C – 50% R.H.)	kW	5,9	7,7	8,4	9,7		11,1		12,6	14,5	16,2	19,1	21,1	22,3	21,2	22,2	25,2	24,3	33,3	32,5			
Nominal input current (22°C – 50% R.H.)	A	9,4	13,6	16,2	20,6	20,3	23,6	23,3	22,8	29,8		35,1	37,2	47,7	37,2	47,1	45,8	45,0	67,9	59,7			
Scroll compressors																							
Quantity	n.					2							4	2	4	2	4	2					
Circuits	n.									2													
Standard capacity steps	%									0 / 50 / 100													
Maximum input current	A	26,0	30,0		38,0				50,0		54,0	60,0	66,0	76,0	66,0	76,0	77,2	108,0	102,0				
Inrush current	A	73,0	85,0	97,0	106,0		119,0		129,0	135,0	167,0	177,0	191,0	157,0	191,0	157,0	167,0	235,6	221,0	266,0			
AC fans with autotransformer																							
Quantity	n.	1				2				3				4									
Fan(s) supply voltage	V	260		280		230		250		300		260		290		280							
Air flow	m ³ /h	7'880				13'820				16'550				21'600				27'200					
Available pressure	Pa									20													
Rotation speed	rpm	1'157		1'200		1'087		1'132		1'229		1'158		1'212		1'204							
Input power	kW	1,55		1,69		2,82		3,07		3,49		4,77		5,24		6,92							
Input current	A	2,71		2,96		4,84		5,25		6,27		8,23		9,13		11,97							
Max available pressure (max ESP)	Pa	242		194		306		260		165		164		236		177		184					
Sound pressure level @ 2 m – Version U	dB(A)	57		58		59		60		62		64		63		64		67					
Sound pressure level @ 2 m – Version U (max ESP)	dB(A)	59		60		62		58		63		64		65		65		68					
Sound pressure level @ 2 m – Version B	dB(A)	55		56		57		58		60		62		61		62		65					
Sound pressure level @ 2 m – Version B (max ESP)	dB(A)	57		58		60		56		61		62		63		66							
Sound pressure level @ 2 m – Version V	dB(A)	53		54		55		56		58		60		59		60		63					
Sound pressure level @ 2 m – Version V (max ESP)	dB(A)	55		56		58		59		60		61		61		64							
EC fans – LP (low pressure)																							
Quantity	n.	1				2				3				4									
Fan(s) supply voltage	V									400													
Air flow	m ³ /h	7'880				13'820				16'550				21'600				27'200					
Max available pressure (max ESP)	Pa	156		108		223		177		75		151		92		101							
Fan(s) speed regulation	%	90		94		85		88		96		90		95		94							
Rotation speed	rpm	1'112		1'154		1'041		1'085		1'184		1'185		1'112		1'166		1'157					
Input power	kW	1,09		1,24		1,83		2,10		2,64		3,36		3,93		5,17							
Input current	A	1,74		1,99		2,93		3,37		4,24		5,39		6,31		8,30		830					
Sound pressure level @ 2 m – Version U	dB(A)	53		55		56		57		58		59		59		60		64					
Sound pressure level @ 2 m – Version U (max ESP)	dB(A)	54		55		56		57		58		59		60		65							
Sound pressure level @ 2 m – Version B	dB(A)	51		53		54		55		56		57		57		58		62					
Sound pressure level @ 2 m – Version B (max ESP)	dB(A)	52		53		54		55		56		57		58		63							
Sound pressure level @ 2 m – Version V	dB(A)	49		51		52		53		54		55		56		60							
Sound pressure level @ 2 m – Version V (max ESP)	dB(A)	50		51		52		53		54		55		56		61							

DIRECT EXPANSION CLOSE CONTROL UNITS WITH REMOTE CONDENSERS

REFRIGERANT R410A

ED.X U-V-B		282 Kc	332 Kc	372 Kc	422 Kc	462 Kc	502 Kc	552 Kc	592 Kc	642 Kc	772 Kc	852 Kc	922 Kc	992 Kc	1022 Kc	1112 Kc	1122 Kc	1442 Kc	1462 Kc														
EC fans – HP (high pressure)																																	
Quantity	n.	1			2						3				4																		
Fan(s) supply voltage	V	400																															
Air flow	m ³ /h	7'880			13'820						16'550				21'600				27'200														
Max available pressure (max ESP)	Pa	593	545	654	608	516	585	526	532	71	74	67	69	76	71	75	74	1'05	1,21	1,78	2,06	2,57	3,27	3,84	5,06								
Fan(s) speed regulation	%	71	74	67	69	76	71	75	74	1'113	1'154	1'040	1'084	1'185	1'186	1'111	1'164	1'154	1,69	1,93	2,86	3,30	4,12	5,25	6,16	8,12							
Rotation speed	rpm	1'113	1'154	1'040	1'084	1'185	1'186	1'111	1'164	1'154	1'69	1,93	2,86	3,30	4,12	5,25	6,16	8,12	54	55	56	57	59	58	59	60	65						
Input power	kW	1'05	1,21	1,78	2,06	2,57	3,27	3,84	5,06	54	55	56	57	59	58	59	60	65	58	59	61	59	56	54	55	54							
Input current	A	1,69	1,93	2,86	3,30	4,12	5,25	6,16	8,12	58	59	56	57	59	58	59	60	65	58	59	61	59	56	54	55	54							
Sound pressure level @ 2 m – Version U	dB(A)	54	55	56	57	59	58	59	60	65	58	59	56	57	59	58	59	60	65	58	59	61	59	56	54	55							
Sound pressure level @ 2 m – Version U (max ESP)	dB(A)	58	59	61	63	64	67	52	53	54	55	57	56	57	58	59	60	65	58	59	61	59	56	54	55	54							
Sound pressure level @ 2 m – Version B	dB(A)	52	53	54	55	57	56	57	58	63	64	67	52	53	54	55	57	56	57	58	59	61	59	56	54	55							
Sound pressure level @ 2 m – Version B (max ESP)	dB(A)	56	57	59	61	62	65	50	51	52	53	54	55	54	55	56	57	61	50	51	52	53	54	55	54	55							
Sound pressure level @ 2 m – Version V	dB(A)	50	51	52	53	54	55	54	55	54	55	54	55	54	55	54	55	61	50	51	52	53	54	55	54	55							
Sound pressure level @ 2 m – Version V (max ESP)	dB(A)	54	55	57	59	60	63	54	55	56	57	58	59	60	61	62	65	54	55	56	57	58	59	60	61	63							
Humidifier																																	
Steam production (nominal)	kg/h	8																															
Steam production (max)	kg/h	8																															
Maximum input current	kW	6																															
Maximum input current	A	8,7																															
Specific conductivity at 20°C (min/max)	µS/cm	300 / 1'250																															
Total hardness (min/max)	mg/l CaCo3	100 / 400																															
Electrical heaters																																	
Steps	n.	3																															
Power	kW	9	15	18	24	27	36	52	13	21,7	26	34,6	39	12	18	24	27	36	52	17,3													
Input current	A	13	21,7	26	34,6	39	52	17,3	21,7	26	34,6	39	52	17,3	21,7	26	34,6	39	52	17,3													
Oversized electrical heaters																																	
Steps	n.	3																															
Power	kW	12	18	24	27	36	52	17,3	21,7	26	34,6	39	52	17,3	21,7	26	34,6	39	52	17,3													
Input current	A	17,3	26	34,6	39	52	17,3	21,7	26	34,6	39	52	17,3	21,7	26	34,6	39	52	17,3	21,7													
Hot water coil																																	
Heating capacity	kW	16,2	31,1	38,4	53	69,1	2,8	5,4	6,7	9,2	12,1	56	59	48	64	72	2,8	5,3	6,5	10,1	12,4												
Water flow	m ³ /h	2,8	5,4	6,7	9,2	12,1	56	59	48	64	72	2,8	5,3	6,5	10,1	12,4	56	59	48	64	72												
Pressure drop (coil + 3-way valve)	kPa	56	59	48	64	72	2,8	5,3	6,5	10,1	12,4	56	59	48	64	72	2,8	5,3	6,5	10,1	12,4												
Internal volume of the coil	dm ³	2,8	5,3	6,5	10,1	12,4	56	59	48	64	72	2,8	5,3	6,5	10,1	12,4	56	59	48	64	72												
Hot gas coil																																	
Heating capacity	kW	15,4	29	37,1	44,2	58,4	15,4	29	37,1	44,2	58,4	15,4	29	37,1	44,2	58,4	15,4	29	37,1	44,2	58,4												
Condensing water pump																																	
Water flow	l/h	390																															
Dimensions																																	
Length	mm	1'160			1'860						2'210				2'565				3'100														
Width	mm	850																															
Height	mm	1'980																															
Weight for version U	kg	418	431	429	533	552	572	639	688	777	794	808	827	867	817	1'032	1'074	418	431	429	533	552	572	639	688	777	794	808	827	867	817	1'032	1'074
Weight for version V	kg	413	426	424	544	563	583	650	699	788	805	819	838	878	828	1'032	1'075	413	426	424	544	563	583	650	699	788	805	819	838	878	828	1'032	1'075
Weight for version B	kg	418	431	429	555	574	594	655	705	799	816	830	849	889	839	1'043	1'085	418	431	429	555	574	594	655	705	799	816	830	849	889	839	1'043	1'085
Remote condenser																																	
1-circuit Standard version	CR	2x19	2x22	2x29	2x34	2x47	2x55	2x64	2x73	2x97	2x18	2x23	2x30	2x34	2x46	2x55	2x73	2x97	2x17	2x22	2x29	2x34	2x46	2x55	2x64	2x73	2x92						
1-circuit Silenced version	CRS	2x18	2x23	2x30	2x34	2x46	2x55	2x73	2x97	2x17	2x22	2x29	2x34	2x46	2x55	2x64	2x73	2x92	2x17	2x22	2x29	2x34	2x46	2x55	2x64	2x73	2x92						
1-circuit Ultrasilenced version	CRU	2x17	2x22	2x29	2x34	2x46	2x55	2x64	2x73	2x92	40	50	70	80	101	120	143	183	40	46	60	70	80	101	120	143	183						
2-circuit Standard version	CR/2	40	50	70	80	101	120	143	183	40	46	60	70	80	101	120	143	183	40	46	60	70	80	101	120	143	183						
2-circuit Silenced version	CRS/2	40	60	70	80	101	120	143	183	40	46	60	70	80	101	120	143	183	40	46	60	70	80	101	120	143	183						
2-circuit Ultrasilenced version	CRU/2	40	46	60	70	80	100	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–						
Electrical power supply																																	
Electrical power supply	V / ph / Hz	400 / 3 / 50 + T + N																															

REMARKS:

- Condensing temperature 48°C
- Filters considered for 20% dirt
- Max pressure is referred to the nominal air flow and the max tension/regulation
- Hot water coil calculated for: water 40/45°C, ambient temperature 20°C and available pressure of 20 Pa
- The condensing water pump is calculated for a 2 m vertical difference in height respect to the pump; total length of the discharge pipe of 5 m, internal diameter of the flexible pipe of 12 mm.
- Remote condenser suggested for external air temperature of 35°C.

DIRECT EXPANSION CLOSE CONTROL UNITS WITH REMOTE CONDENSERS

REFRIGERANT R410A

Technical data - 1-circuit unit - Version D

ED.X D		71 Kc	81 Kc	101 Kc	131 Kc	161 Kc	211 Kc	231 Kc	261 Kc	271 Kc	281 Kc	331 Kc	371 Kc	421 Kc	461 Kc	501 Kc	551 Kc	591 Kc	771 Kc	921 Kc	991 Kc
Frame																					
Frame		1			2			3			4			5			6		7		
Cooling capacity																					
Total cooling capacity (27°C – 50% R.H.)	kW	7,2	8,9	10,1	13,1	17,1	22,4	24,1	26,4	23,5	29,0	32,5	38,1	42,7	46,3	50,7	52,9	60,1	78,6	95,0	102,0
Sensible cooling capacity (27°C – 50% R.H.)	kW	6,3	7,9	9,1	12,0	15,1	19,7	22,2	23,1	21,9	26,7	28,0	33,7	35,5	45,2	46,9	50,7	55,0	70,2	79,2	90,0
SHR @ 27°C-50% R.H.	%	87	89	90	92	88	92	87	92	86	88	83	98	92	96	92	96	92	89	83	88
Nominal input power (27°C – 50% R.H.)	kW	1,7	2,0	2,2	2,9	3,8	4,8	5,8	5,6	6,3	7,3	8,6	9,6	10,7	12,3	16,2	21,3	21,4			
Nominal input current (27°C – 50% R.H.)	A	3,1	4,1	4,5	4,6	6,5	10,0	9,7	9,1	11,8	11,3	15,0	17,2	17,6	17,7	18,6	18,7	22,8	29,9	37,3	
Total cooling capacity (24°C – 50% R.H.)	kW	6,7	8,2	9,3	12,1	15,8	20,7	22,3	24,4	24,8	26,8	30,0	35,2	39,5	42,9	46,9	50,1	55,6	72,5	87,7	94,1
Sensible cooling capacity (24°C – 50% R.H.)	kW	6,1	7,6	8,8	11,6	14,6	19,0	21,4	22,3	22,5	25,7	27,0	32,5	34,4	42,9	45,1	50,1	53,1	67,8	76,6	87,0
SHR @ 24°C-50% R.H.	%	91	93	94	96	92	96	91	96	90	92	87	100	96	100	96	100	96	93	87	92
Nominal input power (24°C – 50% R.H.)	kW	1,7	2,1	2,2	2,9	3,8	4,8	5,8	5,5	6,3	7,2	8,4	9,5	9,6	10,6	10,7	12,3	16,2	21,2	21,3	
Nominal input current (24°C – 50% R.H.)	A	3,1	4,1	4,5	4,7	6,6	10,2	10,0	9,3	11,6	11,4	14,9	17,1	17,6	18,6	22,6	29,8	37,2	37,3		
Total cooling capacity (22°C – 50% R.H.)	kW	6,3	7,7	8,8	11,5	15,0	19,6	21,1	23,2	23,5	25,4	28,5	33,4	37,4	41,0	44,5	47,7	52,4	68,7	83,1	89,1
Sensible cooling capacity (22°C – 50% R.H.)	kW	5,9	7,4	8,6	11,3	14,2	18,6	20,8	21,7	21,9	25,0	26,4	31,7	33,6	41,0	43,9	47,7	51,6	66,1	74,8	84,8
SHR @ 22°C-50% R.H.	%	94	96	97	98	95	99	94	93	99	93	95	90	100	99	100	98	96	90	95	
Nominal input power (22°C – 50% R.H.)	kW	1,7	2,1	2,3	2,9	3,8	4,9	4,8	5,9	5,6	6,3	7,2	8,4	9,5	10,6	12,6	16,2	21,1	21,2		
Nominal input current (22°C – 50% R.H.)	A	3,2	4,1	4,5	4,7	6,7	10,3	10,1	9,4	11,8	11,5	14,8	17,0	17,5	17,6	18,6	22,8	29,8	37,2		
Scroll compressors																					
Quantity	n.	1			2			1			2										
Circuits	n.	1																			
Standard capacity steps	%	0 / 100																			0 / 50 / 100
Maximum input current	A	4,7	10,0	10	13	15	19,0	26,0	19,0	25,0	27,0	30,0	33,0	38,6	51,0	66,0					
Inrush current	A	28,0	45,0	45	60	70	87,0	73,0	100,0	110,0	140,0	147,0	158,0	197,0	215,0	191,0					
AC fans with autotransformer																					
Quantity	n.	1			2			3													
Fan(s) supply voltage	V	320	340	400	340	400	280	310	290	320	260	280	340	310	340						
Air flow	m³/h	2'330			3'500			5'610			7'880			13'820		16'550		21'600			
Available pressure	Pa	20																			
Rotation speed	rpm	1'288	1'323	1'386	1'306	1'357	1'228	1'276	1'221	1'262	1'157	1'200	1'288	1'244	1'295						
Input power	kW	0,40	0,42	0,46	0,71	0,76	1,00	1,09	1,75	1,88	3,20	3,44	3,88	5,51	5,96						
Input current	A	0,79	0,88	1,11	1,29	1,52	1,86	2,10	3,09	3,38	5,49	5,94	7,20	9,76	11,00						
Max available pressure (max ESP)	Pa	67	51	21	67	28	157	111	170	122	234	188	92	140	81						
Sound pressure level @ 2 m – Version D	dB(A)	46			49	50	52	53	55	56	57	58	62	60	61						
Sound pressure level @ 2 m – Version D (max ESP)	dB(A)	47	46	50	55	57	58	57	59	60	63	62									
EC fans – HP (high pressure)																					
Quantity	n.	1			2			3													
Fan(s) supply voltage	V	400																			
Air flow	m³/h	2'330			3'500			5'610			7'880			13'820		16'550		21'600			
Max available pressure (max ESP)	Pa	640	623	594	454	415	681	635	521	473	582	540	536	444	490	431					
Fan(s) speed regulation	%	60	62	64	72	75	67	70	75	78	71	73	74	80	77	80					
Rotation speed	rpm	1'265	1'293	1'341	1'301	1'353	1'214	1'261	1'175	1'215	1'108	1'150	1'244	1'195	1'245						
Input power	kW	0,32	0,34	0,38	0,54	0,61	0,80	0,91	1,28	1,45	2,22	2,51	3,07	4,20	4,81						
Input current	A	0,52	0,55	0,61	0,87	0,99	1,28	1,46	2,06	2,32	3,55	4,02	4,92	6,74	7,72						
Sound pressure level @ 2 m – Version D	dB(A)	44	43	44	48	51	52	51	52	53	52	53	54	59	56	57					
Sound pressure level @ 2 m – Version D (max ESP)	dB(A)	57	56	57	55	57	56	59	61												
Humidifier																					
Steam production (nominal)	kg/h	1,5			3			5			8										
Steam production (max)	kg/h	3			8																
Maximum input current	kW	1,12			2,25			3,75		6											
Maximum input current	A	5			10			5,5		8,7											
Specific conductivity at 20°C (min/max)	µS/cm	300 / 1'250																			
Total hardness (min/max)	mg/l CaCo3	100 / 400																			
Electrical heaters																					
Steps	n.	1			3			2			3										
Power	kW	3			4,5			6			9			15		18		24			
Input current	A	4,3			6,5			8,7			13			21,7		26		34,6			
Oversized electrical heaters																					
Steps	n.	3			2			9			3										
Power	kW	4,5			6			12			18			24		27					
Input current	A	6,5			8,7			13,0			17,3			26		34,6		39			
Hot water coil																					
Heating capacity	kW	5,5			8,2			10,7			16,2			31,1		38,4		53			
Water flow	m³/h	0,9			1,4			1,9			2,8			5,4		6,7		9,2			
Pressure drop (coil + 3-way valve)	kPa	44			43			57			56			59		48		64			
Internal volume of the coil	dm³	1,0			1,3			1,5			2,8			5,3		6,7		10,1			

DIRECT EXPANSION CLOSE CONTROL UNITS WITH REMOTE CONDENSERS

REFRIGERANT R410A

ED.X D		71 Kc	81 Kc	101 Kc	131 Kc	161 Kc	211 Kc	231 Kc	261 Kc	271 Kc	281 Kc	331 Kc	371 Kc	421 Kc	461 Kc	501 Kc	551 Kc	591 Kc	771 Kc	921 Kc	991 Kc		
Hot gas coil																							
Heating capacity	kW	5,1			7,5			9,8			14,5			30			37,6			50,3			
Condensing water pump																							
Water flow	l/h	27,5			390																		
Dimensions																							
Length	mm	550			750			980			1'160			1'860			2'210		2'565				
Width	mm	550				750				850													
Height	mm	1'980																					
Weight for version D	kg	194	204	208	247	318	326	374	326	379	390	415	552	554	573	577	681	794	826				
Remote condenser																							
1-circuit Standard version	CR	9	12	19	22	29	34			47	55	64	73	97	114	137							
1-circuit Silenced version	CRS	8	14	18	23	30	34			46	55	73	97	114	137								
1-circuit Ultrasilenced version	CRU	11	14	17	22	29	34			46	55	64	73	92	-								
Electrical power supply																							
Electrical power supply	V / ph / Hz	400 / 3 / 50 + T + N																					

REMARKS:

- Condensing temperature 48°C
- Filters considered for 20% dirt
- Max pressure is referred to the nominal air flow and the max tension/regulation
- Hot water coil calculated for: water 40/45°C, ambient temperature 20°C and available pressure of 20 Pa
- The condensing water pump is calculated for a 2 m vertical difference in height respect to the pump; total length of the discharge pipe of 5 m, internal diameter of the flexible pipe of 12 mm (7 mm for EDX 71-81-101).
- Remote condenser suggested for external air temperature of 35°C.

DIRECT EXPANSION CLOSE CONTROL UNITS WITH REMOTE CONDENSERS

REFRIGERANT R410A

Technical data - 2-circuit units - Version D

ED.X D		282 Kc	332 Kc	372 Kc	422 Kc	462 Kc	502 Kc	552 Kc	592 Kc	642 Kc	772 Kc	852 Kc	922 Kc	952 Kc	992 Kc	1022 Kc	1112 Kc	1122 Kc	1442 Kc	1462 Kc	
Frame																					
Frame		4				5				6			7				8				
Cooling capacity																					
Total cooling capacity (27°C – 50% R.H.)	kW	26,6	32,9	38,0	43,5	47,2	52,5	55,5	60,0	66,3	77,3	86,7	95,0	98,1	102,0	105,5	113,0	113,3	147,8	150,0	
Sensible cooling capacity (27°C – 50% R.H.)	kW	25,8	28,2	33,6	35,8	45,6	47,5	52,7	55,0	58,8	69,7	73,4	79,2	80,5	90,0	91,4	94,4	94,5	121,0	121,9	
SHR @ 27°C-50% R.H.	%	97	86	88	82	97	91	95	92	89	90	85	83	82	88	87	84	83	82	81	
Nominal input power (27°C – 50% R.H.)	kW	5,8	7,6	8,3	9,6		11,0		12,7	14,6	17,2	19,1	21,3	22,1	21,4	22,0	25,3	24,6	34,1	32,5	
Nominal input current (27°C – 50% R.H.)	A	9,1	13,2	15,7	20,0	19,6	22,9	22,4	22,6	30,1	34,4	35,3	37,3	46,4	37,3	45,4		68,6	59,7		
Total cooling capacity (24°C – 50% R.H.)	kW	24,6	30,5	35,1	40,2	43,6	48,5	51,6	55,4	61,1	71,4	80,1	87,7	90,6	94,1	97,4	104,2	104,6	136,4	138,4	
Sensible cooling capacity (24°C – 50% R.H.)	kW	24,6	27,2	32,4	34,7	43,6	45,8	51,5	53,0	56,8	67,3	71	76,6	77,9	87,0	88,4	91,4	91,5	117,2	118,1	
SHR @ 24°C-50% R.H.	%	100	89	92	86	100	94	100	96	93	94	89	87	86	92	91	88	87	86	85	
Nominal input power (24°C – 50% R.H.)	kW	5,8	7,6	8,3	9,7		11,1	11,0	12,6	14,5	16,9	19,1	21,2	22,2	21,3	22,1	25,2	24,4	33,6	32,5	
Nominal input current (24°C – 50% R.H.)	A	9,3	13,4	16,1	20,4	20,1	23,4	23,0	22,8	29,9	34,2	35,2	37,2	47,2	37,3	46,5	45,7	45,2	68,1	59,6	
Total cooling capacity (22°C – 50% R.H.)	kW	23,5	28,9	33,3	38,1	41,6	46,0	49,2	52,4	57,9	67,7	75,9	83,1	86,0	89,1	92,3	98,7	99,2	129,2	131,0	
Sensible cooling capacity (22°C – 50% R.H.)	kW	23,5	26,6	31,7	33,9	41,6	44,6	49,2	51,6	55,4	65,6	69,4	74,2	76,2	84,8	86,2	89,2	89,4	114,5	115,4	
SHR @ 22°C-50% R.H.	%	100	92	95	89	100	97	100	98	96	97	91	90	89	95	93	90		89	88	
Nominal input power (22°C – 50% R.H.)	kW	5,9	7,7	8,4	9,7		11,1		12,6	14,5	16,8	19,1	21,1	22,3	21,2	22,2	25,2	24,3	33,3	32,5	
Nominal input current (22°C – 50% R.H.)	A	9,4	13,6	16,2	20,6	20,3	23,6	23,3	22,8	29,8	34,1	35,1	37,2	47,7	37,2	47,1	45,8	45,0	67,9	59,7	
Scroll compressors																					
Quantity	n.	2				2				4			2		4		2		4		
Circuits	n.	2				2				4			2		4		2		4		
Standard capacity steps	%	0 / 50 / 100																			
Maximum input current	A	26,0	30,0		38,0				50,0		54,0	60,0	66,0	76,0	66,0	76,0		77,2	108,0	102,0	
Inrush current	A	73,0	85,0	97,0	106,0		119,0		129,0	135,0	167,0	177,0	191,0	157,0	191,0	157,0	167,0	235,6	221,0	266,0	
AC fans with autotransformer																					
Quantity	n.	1				2				3				4							
Fan(s) supply voltage	V	290		320		260		280		340		310		340							
Air flow	m³/h	7'880				13'820				16'550				21'600			27'200				
Available pressure	Pa	20																			
Rotation speed	rpm	1'221		1'262		1'157		1'200		1'288		1'244		1'295		1'287					
Input power	kW	1,75		1,88		3,20		3,44		3,88		5,51		5,96		7,86					
Input current	A	3,09		3,38		5,49		5,94		7,20		9,76		11,00		14,38					
Max available pressure (max ESP)	Pa	170		122		234		188		92		140		81		90					
Sound pressure level @ 2 m – Version D	dB(A)	55		56		57		58		60		61		62		64					
Sound pressure level @ 2 m – Version D (max ESP)	dB(A)	57		58		60		61		62		63		65							
EC fans – HP (high pressure)																					
Quantity	n.	1				2				3				4							
Fan(s) supply voltage	V	400																			
Air flow	m³/h	7'880				13'820				16'550				21'600			27'200				
Max available pressure (max ESP)	Pa	521		473		582		536		444		490		431		438					
Fan(s) speed regulation	%	75		78		71		74		80		77		80		79					
Rotation speed	rpm	1'175		1'215		1'108		1'150		1'244		1'195		1'245		1'237					
Input power	kW	1,28		1,45		2,22		2,51		3,07		4,20		4,81		6,32					
Input current	A	2,06		2,32		3,55		4,02		4,92		6,74		7,72		10,14					
Sound pressure level @ 2 m – Version D	dB(A)	52		53		54		56		57		58		61							
Sound pressure level @ 2 m – Version D (max ESP)	dB(A)	56		59		59		61		61		62		64							
Humidifier																					
Steam production (nominal)	kg/h	8																			
Steam production (max)	kg/h	8																			
Maximum input current	kW	6																			
Maximum input current	A	8,7																			
Specific conductivity at 20°C (min/max)	µS/cm	300 / 1'250																			
Total hardness (min/max)	mg/l CaCo3	100 / 400																			
Electrical heaters																					
Steps	n.	3																			
Power	kW	9				15				18			24				27				
Input current	A	13				21,7				26			34,6				39				
Oversized electrical heaters																					
Steps	n.	3																			
Power	kW	12				18				24			27				36				
Input current	A	17,3				26				34,6			39				52				
Hot water coil																					
Heating capacity	kW	16,2				31,1				38,4			53				69,1				
Water flow	m³/h	2,8				5,4				6,7			9,2				12,1				
Pressure drop (coil + 3-way valve)	kPa	56				59				48			64				72				
Internal volume of the coil	dm³	2,8				5,3				6,5			10,1				12,4				

DIRECT EXPANSION CLOSE CONTROL UNITS WITH REMOTE CONDENSERS

REFRIGERANT R410A

ED.X D		282 Kc	332 Kc	372 Kc	422 Kc	462 Kc	502 Kc	552 Kc	592 Kc	642 Kc	772 Kc	852 Kc	922 Kc	952 Kc	992 Kc	1022 Kc	1112 Kc	1122 Kc	1442 Kc	1462 Kc	
Hot gas coil																					
Heating capacity	kW	15,4			29				37,1			44,2				58,4					
Condensing water pump																					
Water flow	l/h	390																			
Dimensions																					
Length	mm	1'160			1'860				2'210			2'565				3'100					
Width	mm	850																			
Height	mm	1'980																			
Weight for version D	kg	418	431	429	566	585	605	666	716	793	810	825	844	884	834	1'065	1'107				
Remote condenser																					
1-circuit Standard version	CR	2x19	2x22	2x29	2x34	2x47	2x55	2x64	2x73	2x97											
1-circuit Silenced version	CRS	2x18	2x23	2x30	2x34	2x46	2x55	2x73	2x97												
1-circuit Ultrasilenced version	CRU	2x17	2x22	2x29	2x34	2x46	2x55	2x64	2x73	2x92											
2-circuit Standard version	CR/2	40	50	70	80	101	120	143	183												
2-circuit Silenced version	CRS/2	40	60	70	80	101	120	143	183												
2-circuit Ultrasilenced version	CRU/2	40	46	60	70	80	100	-													
Electrical power supply																					
Electrical power supply	V / ph / Hz	400 / 3 / 50 + T + N																			

REMARKS:

- Condensing temperature 48°C
- Filters considered for 20% dirt
- Max pressure is referred to the nominal air flow and the max tension/regulation
- Hot water coil calculated for: water 40/45°C, ambient temperature 20°C and available pressure of 20 Pa
- The condensing water pump is calculated for a 2 m vertical difference in height respect to the pump; total length of the discharge pipe of 5 m, internal diameter of the flexible pipe of 12 mm.
- Remote condenser suggested for external air temperature of 35°C.