



PACKAGED AIR COOLED WATER CHILLER
EXTRA LOW NOISE
OUTDOOR INSTALLATION

Cooling capacity: 190,7 kW - 1312,2 kW

R407c - Twin Screw



SILENCED VERSION



Engineering Data 2010

The Interklima RPCA ELN large series are packaged air cooled water chillers for cooling applications and outdoor installation. They are available in 13 models with nominal capacities ranging from 190,7 to 1312,2 kW.

These series are ideal in combination with Interklima fan coil or air handling units for air conditioning office buildings, hotels, hospitals shopping centers, restaurants, etc., or for supplying chilled water for industrial applications.

Features

- Optimized design for R407c refrigerant.
- Casing: Galvanized steel plate with polyester coating.
- Assembly: Fully bolted/welding free.
- Compressor: Twin Screw Semi Hermetic.
- Air heat exchanger: Cross fin coil Internally grooved copper tubes and louvered aluminium fins.
- Fan: Very low speed, quiet operation. Direct drive propeller
- Fan speed control device
- Water heat exchanger: Shell and tube type.
- Acoustic protection cover on the compressors
- Safety and functional devices:
 - High/low pressure switch.
 - Phase sequence - phase failure - reverse phase and voltage monitoring device.
 - Evaporator low temperature protection.
 - Electronic microprocessor control with digital display.
 - Differential water pressure switch.
 - High and low pressure manometers.
 - High pressure relieve valve on compressor discharge.
 - Liquid injection cooling system to ensure the appropriate gas discharge temperature.
 - Electronic expansion valve, ensuring constant suction gas superheat, at all operating conditions.
 - Stepless compressor control, continuously regulating output capacity from 25% to 100%, in accordance with load demand.
 - Factory piped hydraulic circuit



1. Technical data RPCA-RTB-ELN

1.1 RPCA 070-385RTB-ELN

Type RPCA ELN		RPCA - 070	RPCA - 085	RPCA - 095	RPCA - 105	RPCA - 125	RPCA - 150
Nominal cooling capacity	kw	190,7	246,2	286,9	349,3	381,5	452,3
	RT	54	70	81	99	108	128
	Btu/h	650.216	839.455	977.898	1.190.693	1.300.432	1.541.932
Construction	Material/Color	Galvanized steel / Light grey-beige (RAL 9002)					
Compressor		Twin Screw					
Quantity		1		2			
Capacity steps		Stepless down to 25 %		Stepless down to 12,5 %			
Absorbed power	kw	73,5	89,9	110,8	134,0	147,0	163,8
Nominal operating current	A	120,7	147,3	180,6	220,8	241,4	269,2
Maximum operating current	A	174,0	224,0	244,0	292,0	326,0	366,0
Condenser		High capacity cross finned coil with internally grooved tubes and louver fins					
Evaporator		Shell and Tube					
Quantity		1					
Water content	lit	55,0	94,0	88,0	80,0	133,0	125,0
Max. Operating pressure	Water side bar	16					
	Refrigerant side bar	29					
Connections		DN 100	DN 125	DN 125	DN 125	DN 150	DN 150
Nominal water flow	lit/h	32,806	42,353	49,338	60,074	65,611	77,796
Water pressure drop	kpa	36,0	25,0	28,0	45,0	28,0	39,0
Minimum system water content	lit	687	886	1033	1257	1373	1628
Fan							
Quantity		4	4	8	8	8	8
Speed	rpm	675					
Total air flow	m ³ /h	48.200	56.300	96.250	96.250	96.250	112.500
Absorbed power	kw	3,9	3,9	7,8	7,8	7,8	7,8
Nominal operating current	A	11,2	11,2	22,4	22,4	22,4	22,4
Maximum operating current	A	11,3	11,3	22,6	22,6	22,6	22,6
Electrical characteristics		400V/3Ph/50Hz					
Total absorbed power	kw	77,4	93,8	118,6	141,8	154,8	171,6
Nominal operating current	A	131,9	158,5	203,0	243,2	263,8	291,6
Maximum operating current	A	185,3	235,3	266,6	314,6	348,6	388,6
Compressor carter resistance power	W	300	300	300	300	300	300
Starting current	A	423	497	330	439	543	632
Fuses	A	3x250	3x250	3x400	3x400	3x400	3x500
Voltage operating limits	V	360-440V					
Refrigerant circuit							
Number of circuits		1		2			
Expansion device		electronic expansion valve					
Refrigerant type		R407c					
Noise level @ 10m	dbA	52	53	54	54	54,5	55
Dimensions	Width mm	2.200	2.200	2.200	2.200	2.200	2.200
	Length mm	3.225	3.225	5.225	5.225	6.125	6.125
	Height mm	2.300	2.300	2.300	2.300	230	2.300
Shipping weight	kg	2.350	2.750	3.650	3.850	3.950	4.850

Type	RPCA ELN	RPCA - 170	RPCA - 205	RPCA - 230	RPCA - 270	RPCA - 300	RPCA - 350	RPCA - 385
Nominal cooling capacity	kw	492,1	641,7	729,4	851,9	937,7	1002,9	1312,2
	RT	140	182	207	242	266	285	373
	Btu/h	1.677.443	2.187.750	2.486.693	2.904.205	3.196.568	3.418.943	4.473.409
Construction	Material/Color	Galvanized steel / Light grey-beige (RAL 9002)						
Compressor		Twin Screw						
Quantity		2						
Capacity steps		Stepless down to 12,5 %						
Absorbed power	kw	179,8	207,6	265,2	311,4	343,6	376,8	474,4
Nominal operating current	A	294,6	352,4	431,4	507,2	557,0	620,2	783,0
Maximum operating current	A	392,0	512,0	588,0	638,0	738,0	860,0	980,0
Condenser		High capacity cross finned coil with internally grooved tubes and louver fins						
Evaporator		Shell and Tube						
Quantity		1						
Water content	lit	221,0	207,0	185,0	222,0	320,0	313,0	348,0
Max. Operating pressure	Water side bar	16						
	Refrigerant side bar	29						
Connections		DN 200	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200
Nominal water flow	lit/h	84,633	110,379	125,462	146,527	161,278	172,497	225,698
Water pressure drop	kpa	44,0	48,0	42,0	36,0	29,0	34,0	48,0
Minimum system water content	lit	1771	2310	2626	3067	3376	3610	4724
Fan								
Quantity		8	12	12	18	18	18	24
Speed	rpm	675						
Total air flow	m ³ /h	112.500	168.200	168.200	252.300	252.300	248.200	336.000
Absorbed power	kw	7,8	11,6	11,6	17,5	17,5	17,5	23,3
Nominal operating current	A	22,4	33,6	33,6	50,4	50,4	50,4	67,2
Maximum operating current	A	22,6	34,0	34,0	50,9	50,9	50,9	67,9
Electrical characteristics		400V/3Ph/50Hz						
Total absorbed power	kw	187,6	219,2	276,8	328,9	361,1	394,3	497,7
Nominal operating current	A	317,0	386,0	465,0	557,6	607,4	670,6	850,2
Maximum operating current	A	414,6	546,0	622,0	688,9	788,9	910,9	1047,9
Compressor carter resistance power	W	300	300	300	300	300	300	300
Starting current	A	644	822	1130	1250	1635	2080	2500
Fuses	A	3x500	3x600	3x700	3x800	3x900	3x1000	3x1200
Voltage operating limits	V	360-440V						
Refrigerant circuit								
Number of circuits		2						
Expansion device		electronic expansion valve						
Refrigerant type		R407c						
Noise level @ 10m	dba	55	56	57	58	58,5	59,5	61
Dimensions	Width mm	2.200	2.200	2.200	2.200	2.200	2.200	2.200
	Length mm	6.125	9.025	9.025	10.675	10.675	10.675	12.900
	Height mm	2.300	2.350	2.350	2.350	2.350	2.350	2.500
Shipping weight	kg	5.850	7.350	7.950	8.950	9.250	9.850	10.650

NOTES

1 Nominal cooling capacities are given for the following operational conditions: Ambient air temperature 35°C, water inlet/outlet 12/7°C.

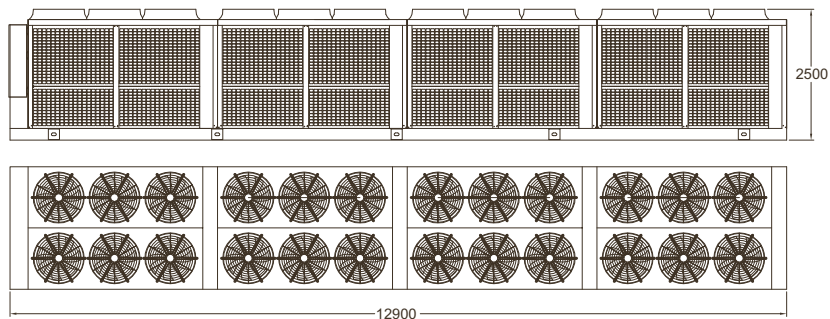
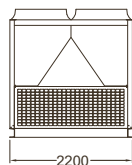
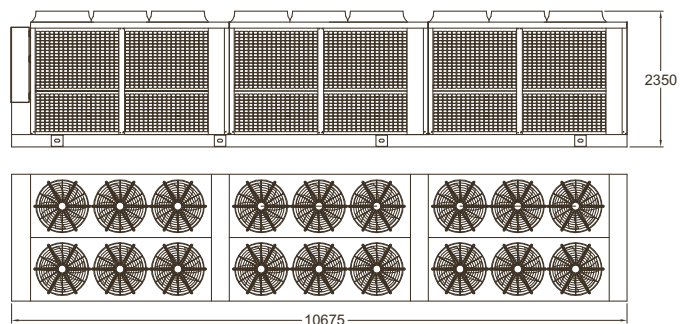
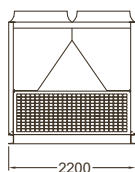
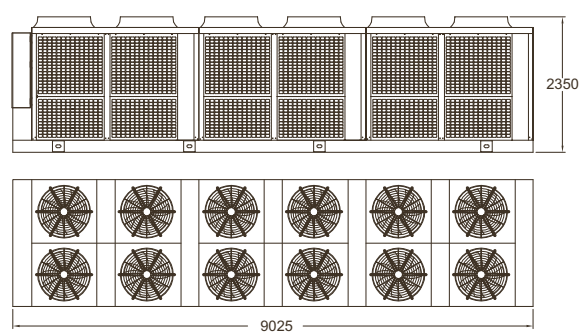
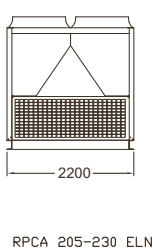
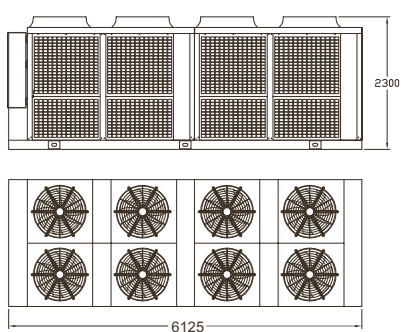
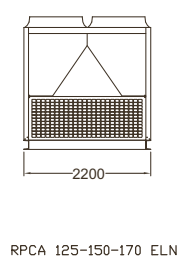
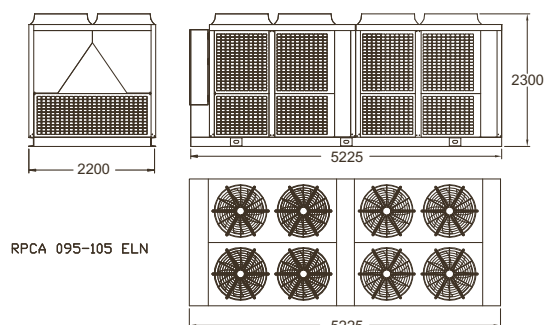
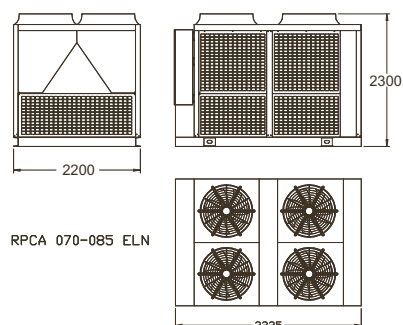
2. Cooling Capacity RPCA-RTB-ELN

2.1 RPCA 070-385RTB-ELN

TYPE	water outlet °C	Ambient temperature °C											
		25				30				35			
		Cooling capacity kW	Absorbed power Kw	Current A	Cooling capacity kW	Absorbed power Kw	Current A	Cooling capacity kW	Absorbed power Kw	Current A	Cooling capacity kW	Absorbed power Kw	Current A
RPCA -070	5	206.8	59.5	96.7	192.1	65.6	106.5	175.9	72.4	117.6	158.3	79.7	129.5
	7	223.2	60.5	98.3	207.7	66.2	107.5	190.7	73.5	120.7	171.7	80.9	131.3
	10	249.5	62.2	101.0	232.7	68.4	111.0	214.6	75.0	121.8	195.1	82.5	134.1
RPCA -085	5	266.9	72.8	118.3	248.0	80.2	130.3	227.0	88.6	143.8	204.4	97.5	158.4
	7	288.1	74.0	120.2	268.2	80.9	131.4	246.2	89.9	147.3	221.6	98.9	160.6
	10	322.1	76.1	123.5	300.4	83.6	135.8	277.0	91.7	149.0	251.9	101.0	164.0
RPCA -095	5	310.9	89.7	145.8	288.9	98.8	160.5	264.5	109.1	177.3	238.1	120.2	195.3
	7	335.6	91.2	148.1	312.4	99.7	162.0	286.9	110.8	180.6	258.2	121.9	198.0
	10	375.2	93.7	152.3	350.0	103.0	167.4	322.7	113.0	183.6	293.4	124.4	202.1
RPCA -105	5	378.6	108.5	176.3	351.7	119.5	194.2	322.0	132.0	214.4	289.9	145.4	236.2
	7	408.6	110.3	179.1	380.4	120.8	195.9	349.3	134.0	220.8	314.3	147.4	239.4
	10	456.8	113.4	184.2	428.1	124.6	202.4	392.9	136.7	222.0	357.3	150.5	244.4
RPCA -125	5	413.5	119.1	193.4	384.1	131.1	213.0	351.7	144.8	235.2	316.6	159.5	259.1
	7	446.3	121.0	196.5	415.4	132.3	214.9	381.5	147.0	241.4	343.3	161.7	262.7
	10	498.9	124.4	202.0	465.4	136.7	222.1	429.1	149.9	243.6	390.2	165.1	268.2
RPCA -150	5	490.3	132.7	215.5	455.5	146.1	237.3	417.0	161.3	262.1	375.4	177.7	288.7
	7	529.2	134.8	219.0	492.6	147.4	239.5	452.3	163.8	269.2	407.1	180.2	292.7
	10	591.6	138.6	225.1	551.8	152.3	247.5	508.8	167.1	271.4	462.7	183.9	298.8
RPCA -170	5	532.4	145.6	236.6	515.5	160.4	260.5	453.7	177.1	287.7	408.4	195.1	318.9
	7	575.7	148.0	240.4	535.8	161.8	262.9	482.1	179.8	294.6	442.8	197.8	321.3
	10	643.6	152.1	247.1	600.3	167.2	271.6	553.6	183.4	297.9	503.4	201.9	328.0
RPCA -205	5	695.6	168.2	273.2	646.2	185.2	300.6	591.7	204.5	332.2	532.6	225.2	365.9
	7	750.8	170.9	277.5	698.9	186.8	303.5	641.7	207.6	352.4	577.6	228.4	371.0
	10	839.4	175.6	285.3	782.9	193.1	313.6	722.0	211.8	344.0	656.5	233.1	378.7
RPCA -230	5	790.7	214.8	348.9	734.5	236.6	384.3	672.5	261.2	424.3	605.4	287.7	467.4
	7	853.4	218.3	354.5	794.3	238.7	387.7	729.4	265.2	431.4	656.5	291.7	473.9
	10	954.1	224.4	364.5	889.9	246.6	400.6	820.6	270.5	439.4	746.2	297.8	483.8
RPCA -270	5	923.5	252.2	409.7	857.9	277.8	451.2	785.5	306.7	498.3	707.1	337.9	548.8
	7	996.7	256.3	416.3	927.7	280.3	455.3	851.9	311.4	507.2	766.7	342.5	556.4
	10	1114.3	263.4	427.9	1039.3	289.6	470.4	958.4	317.6	516.0	871.5	349.7	568.1
RPCA -300	5	1016.4	278.3	452.1	944.2	306.5	497.9	864.5	336.4	549.6	778.3	372.8	605.6
	7	1097.1	282.8	459.4	1021.1	309.2	502.3	937.7	343.6	557.0	843.9	378.0	614.0
	10	1226.5	290.7	472.2	1143.9	319.5	519.1	1054.9	350.5	569.3	959.2	385.9	626.8
RPCA -350	5	1087.1	305.2	495.8	1009.9	336.1	546.0	924.7	371.1	602.9	832.4	408.8	664.1
	7	1173.4	310.1	503.7	1092.1	339.1	560.9	1002.9	376.8	620.2	902.6	414.5	673.1
	10	1311.8	318.8	517.8	1223.5	350.4	569.2	1128.3	384.3	624.3	1026.0	423.1	687.4
RPCA -385	5	1422.4	384.3	624.2	1321.4	423.2	687.4	1209.8	467.3	759.1	1089.1	514.7	836.1
	7	1535.3	390.4	634.2	1429.0	427.0	693.6	1312.2	474.4	783.0	1181.0	521.6	847.7
	10	1716.4	401.3	652.0	1600.9	441.2	716.7	1476.2	483.9	786.0	1342.4	532.8	865.4

3. Outlook drawings RPCA-RTB-ELN

3.1 RPCA 070-385 ELN



4. Installation

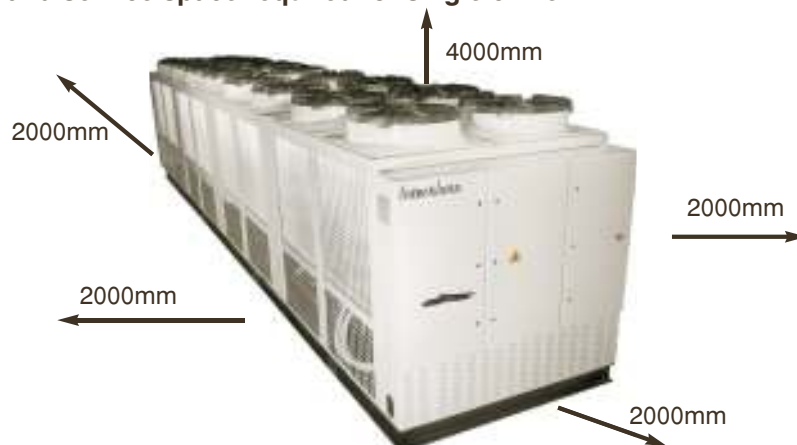
4.1 Selection of location

Installation and Service space

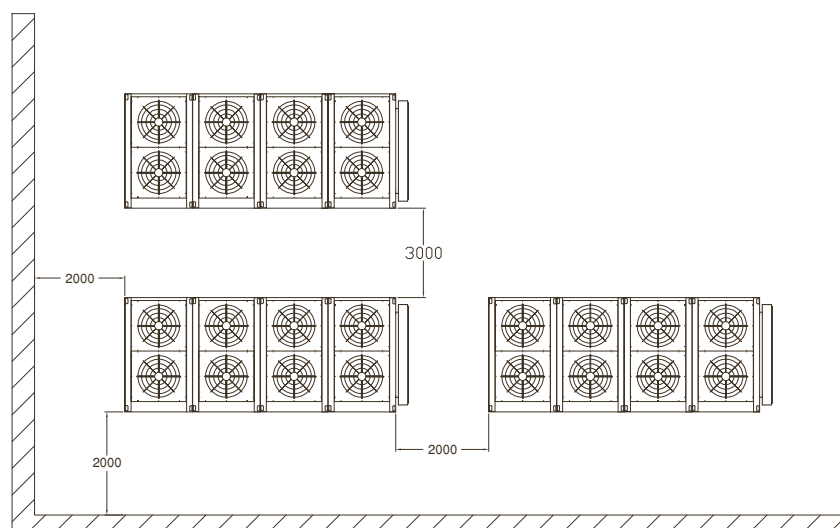
The RPCA unit should be installed in a location that meets the following requirements:

1. The foundation is strong enough to support the weight of the unit, and the floor is flat to prevent vibration and noise generation.
2. The space around the unit is adequate for servicing and the minimum space air inlet and air outlet is available. If several units are being installed side by side in parallel, the minimum service space between them must be taken into account.
3. There is no danger of fire due to leakage of inflammable gas.
4. Ensure that water cannot cause any damage to the surroundings in case it drips out of the unit.
5. Make sure that the air inlet and outlet of the unit are not positioned towards the main wind direction. Frontal wind shall disturb the operation of the unit. If necessary, use a windscreen to block the wind.
6. In heavy snowfall areas, select an installation site where snow shall not affect operation of the unit.
7. Make sure that the unit can be fixed directly on concrete. In order to avoid the transmission of vibration from the operating unit to its carrying structure, the use of antivibration material to install under the supports of the unit is recommended. It is suggested to install a rubber pad between the points of support and the base of the unit, or spring antivibration mounts under each point of support of the unit.

a. Installation and service space required for single chiller.



b. Installation and service space required for more than one chiller.



4.2 Watercharge, flow and quality

To ensure proper operation of the unit, a minimum water volume is required in the system and the water flow must be within the operation range as specified in the tables.

R407c	Minimum water volume (l)	Minimum water flow(l/h)	Nominal water flow(l/h)	Maximum water flow(l/h)
RPCA - 070RTB	790	22964	32806	40023
RPCA - 085RTB	886	29647	42353	51671
RPCA - 095RTB	1033	34537	49338	60192
RPCA - 105RTB	1257	42052	60074	73290
RPCA - 125RTB	1373	45928	65611	80045
RPCA - 150RTB	1628	54457	77796	94911
RPCA - 170RTB	1771	59243	84633	103252
RPCA - 205RTB	2310	77265	110379	134662
RPCA - 230RTB	2626	87823	125462	153064
RPCA - 270RTB	3067	102569	146527	178763
RPCA - 300RTB	3376	112895	161278	196759
RPCA - 350RTB	3610	120748	172497	210446
RPCA - 385RTB	4724	157989	225698	275352

Be sure the water quality is in accordance with the specifications below.

Items	Evaporator water		Heated water		Tendency if out of criteria
	Circulating water 20°C	Supply water	Circulating water 20°C-60°C	Supply water	
Items to be controlled:					
PH AT 25°C	6.8 - 8.0	6.8 - 8.0	7.0 - 8.0	7.0 - 8.0	corrosion + scale
Electrical conduct (mS/m) at 25°C	below 30	below 30	below 30	below 30	corrosion + scale
Chloride ion (mg Cl-/l)	below 50	below 200	below 30	below 30	corrosion
Sulfate ion (mg SO 2/4/l)	below 50	below 50	below 30	below 30	corrosion
M-alkalinity (ph 4.8) (mg SO3/l)	below 50	below 50	below 50	below 50	scale
Total hardness (mg CaCO3/l)	below 70	below 70	below 70	below 70	scale
Calcium hardness (mg CaCO3/l)	below 50	below 50	below 50	below 50	scale
Silica ion (mg SiO2/l)	below 30	below 30	below 30	below 30	scale
Items to be referred to:					
Iron (mg Fe/l)	below 1.0	below 0.3	below 1.0	below 0.3	corrosion + scale
Copper (mg Cu/l)	below 1.0	below 0.1	below 1.0	below 1.0	corrosion
Sulfide ion (mg S2-/l)	Not detectable	Not detectable	Not detectable	Not detectable	corrosion
Amonium ion (mg NH+4/l)	below 0.3	below 0.1	below 0.1	below 0.1	corrosion
Remaining chloride (mg Cl/l)	below 0.25	below 0.3	below 0.1	below 0.3	corrosion
Free carbide (mg SO2/l)	below 0.4	below 4.0	below 0.4	below 4.0	corrosion
Stability index	-	-	-	-	corrosion + scale

NOTES

The above tables are purely indicative and non-binding

4.3 Operating pressure of the refrigerant circuit

It is important to check the high and low pressure of the refrigerant circuit to ensure the proper operation of the unit and to guarantee that the rated output shall be obtained.

Attention:

The pressures measured shall vary between a maximum and minimum value, depending on the water and ambient temperatures at the moment of measurement.

R407C	Cooling mode (region)	Minimum (outdoor temp. 15°CDB) (leaving water temp 6°C)	Nominal (outdoor temp. 35 CDB) (leaving water temp, 7°C)	Maximum (outdoor temp. 38CDB) (leaving water temp, 25°C)
	low pressure	3,5-4,0 bar	4,0-5,0 bar	5,5-6,0 bar
	high pressure	17-19 bar	21-23 bar	24-26 bar

Engineering Data 2010

Products are manufactured in ISO 9001:2000 certified factories. ISO 9001:2000 pertains to quality assurance regarding design, development, manufacturing and installation of products as well as to services related to the product.

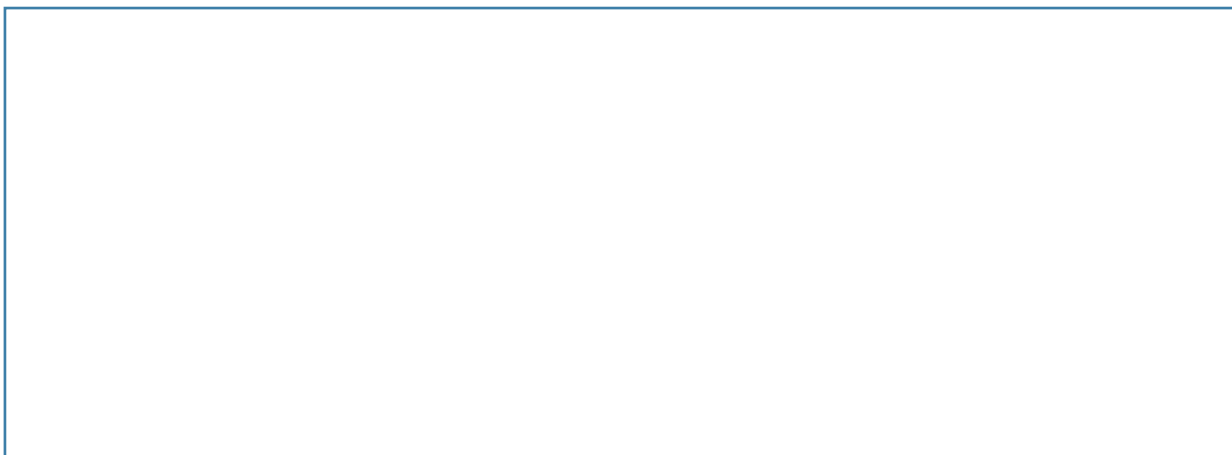
Οι μονάδες Interklima πληρούν τους Ευρωπαϊκούς κανονισμούς που εξασφαλίζουν την ασφάλεια του προϊόντος.

Interklima units comply with the European regulations that guarantee the safety of the product

Specifications subject to change without notice



INTERKLIMA PRODUCTS ARE DISTRIBUTED BY:



technology &
design

Interklima®

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