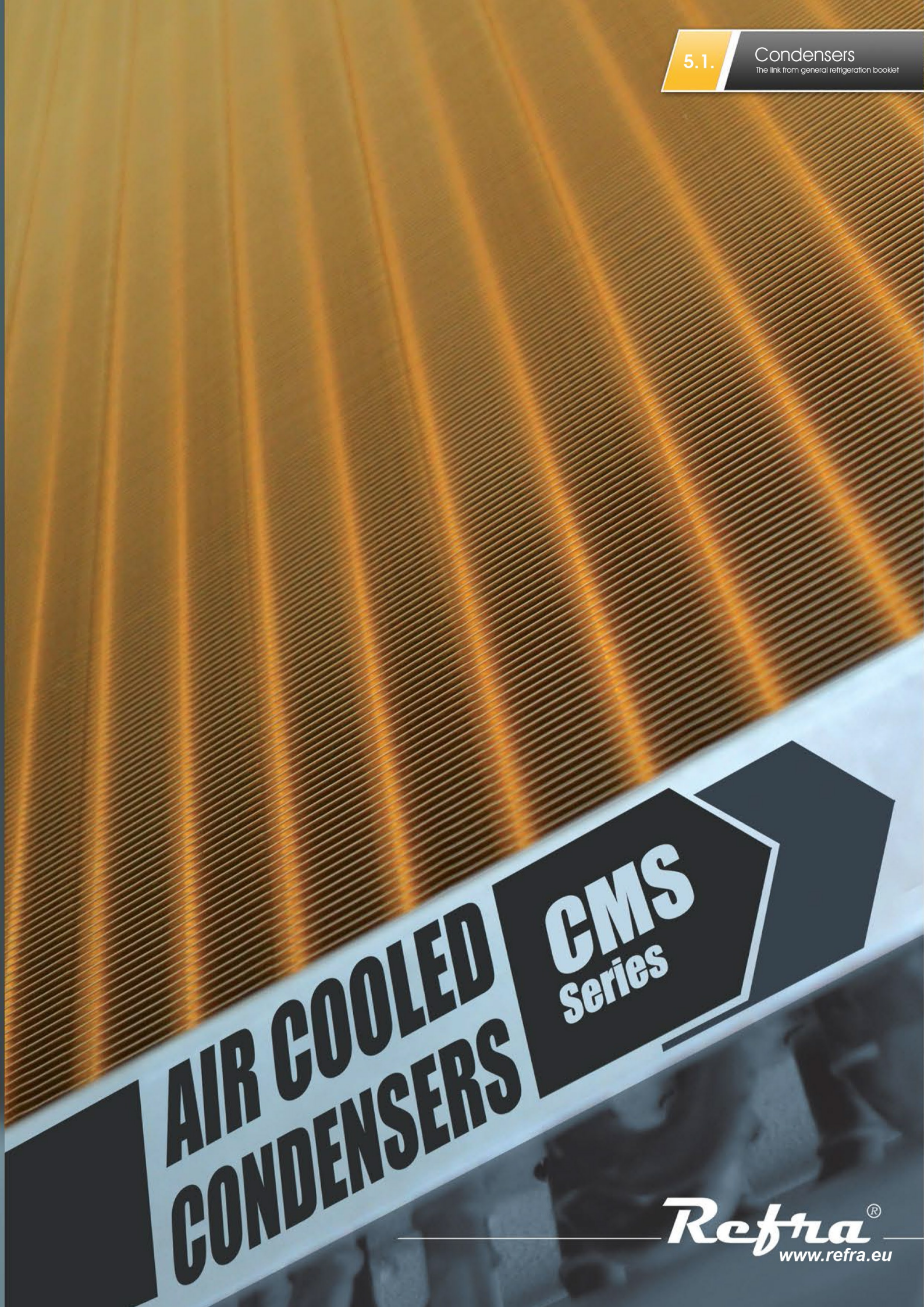

AIR COOLED
CONDENSERS
CMS
Series
Refra®
www.refra.eu

GENERAL FEATURES

Overview

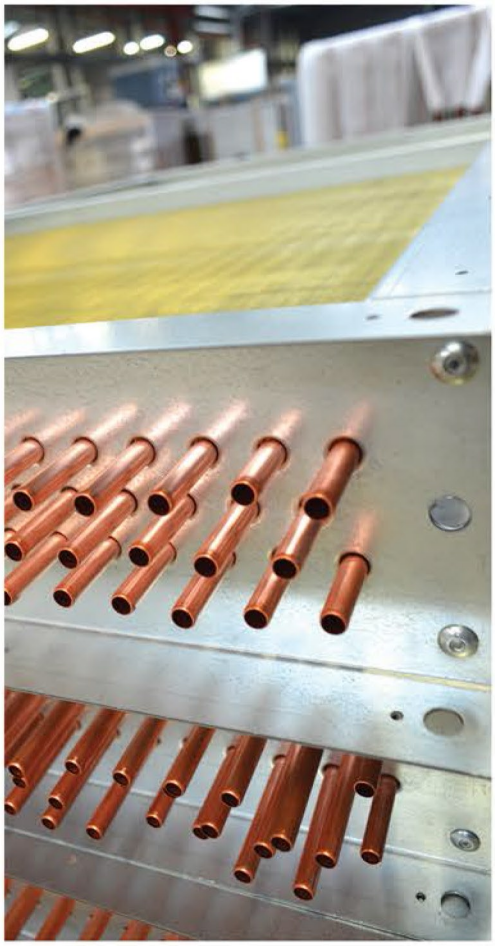
Refra CMS series are standard flat condensers built for commercial and industrial refrigeration or air conditioning systems with wide heat capacity ranges. Units are designed for outdoor installation, coil fins are covered with epoxy-coat to guarantee long term operation. All condenser coils are tested with air pressure up to 35 Bar, and are suitable for work with most refrigerants. In our coil production process we use corrugated fins and inner-grooved tubes to ensure high coil heat exchange rate. Units are equipped with axial fans 630 and 800 mm in diameter, which are compliant with latest efficiency requirements. All fans come with guard grilles, motor thermal overload protection and IP 54 protection.

Refra CMS series condenser main benefits:

- Silent operation
- Wide capacity range
- Simple construction

Standard Refra CMS series condenser features:

- Copper tubes with grooved inner surface
- Epoxy-coated aluminum fins
- Fin pitch 2,1 mm
- ErP 2015 compliant AC motor fans, IP54
- Galvanized steel sheet case
- RAL 7044 paint color



CODE EXPLANATION

CMS 6 2 3-S 6-S V .X

6	630 mm	8	800 mm		Fan size
1	2	3	4	5	Number of fans in a row
2	3	4			Number of tube rows
D	3 Phase triangle connection	Y	3 Phase star connection	E	EC Fan — Fan type
4	6				Fan motor poles number
S	Single	D	Double		Fan rows
H	Horizontal	V	Vertical		Fan size
X	Non standard options				

Order example: CMS 633 D4 SH

CMS series air cooled condenser with 630 mm size fans 3 pieces and 3 row coil (633). Fans equipped with 4 pole motor connected via three-phase delta link (D4). Single fan row heat exchanger with horizontal orientation (SH).

TECHNICAL DATA

The capacities indicated in the catalogue are stated in accordance with the ENV 327 standards talking into consideration the following working conditions:

Refrigerant	R404A	Air inlet temperature (T_A)	25 °C	Condensation temperature (T_C)	40 °C
ΔT (T_C - T_A)	15 K	Altitude	0 m	Sound level distance from unit	10 m

Altitude corretion factor (fR)						
0 m	500 m	1000 m	1500 m	2000 m	2500 m	3000 m
1.00	0.96	0.93	0.89	0.85	0.81	0.78

SINGLE FAN ROW

Motor	6 poles		4 poles		6 poles		4 poles		6 poles		4 poles							
Wiring	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y						
Model	**Capacity, kW**				**Air flow m³/h**				**Sound, dB(A)**				**Fans**	**A, m²**	**Vol, l**	**Net, kg**	**in**	**out**	**Pic. No**
CMS 622	48,1	42,2	54,2	50,2	20.510	16.810	25.910	21.900	41,2	36,0	51,7	47,0	630x2	101,1	13,1	178,7	35	28	1
CMS 623	59,9	51,5	71,4	63,0	19.570	15.910	25.170	21.020	40,1	36,0	51,0	47,0	630x2	151,6	19,6	199,2	35	28	1
CMS 624	67,2	56,8	81,8	70,6	18.810	15.100	24.430	20.100	39,3	36,0	50,3	47,0	630x2	202,2	26,2	219,8	35	28	1
CMS 633	89,8	77,2	107,1	94,5	29.360	23.860	37.755	31.530	41,9	37,8	52,8	48,8	630x3	227,2	28,9	286,0	42	35	2
CMS 634	100,6	84,7	122,5	105,9	28.220	22.650	36.650	30.140	41,1	37,8	52,1	48,8	630x3	302,8	39,2	316,8	42	35	2
CMS 643	119,4	103,3	141,1	125,4	39.140	31.810	50.340	42.040	43,1	39,0	54,0	50,0	630x4	303,0	38,5	372,8	54	42	3
CMS 644	134,7	113,8	163,0	141,5	37.620	30.200	48.860	40.190	42,3	39,0	53,3	50,0	630x4	404,4	52,2	413,8	54	42	3
CMS 822	91,9	80,4	-	-	41.360	33.320	-	-	45,7	41,0	-	-	800x2	173,0	25,7	299,5	42	35	7
CMS 823	113,9	96,9	-	-	38.780	30.780	-	-	45,9	41,5	-	-	800x2	259,5	38,6	335,1	42	35	7
CMS 824	128,0	106,8	-	-	36.790	28.810	-	-	46,0	41,0	-	-	800x2	346,0	51,5	370,8	42	35	7
CMS 833	170,9	145,5	-	-	58.170	46.170	-	-	47,7	43,3	-	-	800x3	389,2	57,8	486,4	54	42	8
CMS 834	190,6	160,0	-	-	55.180	43.210	-	-	47,8	42,8	-	-	800x3	519,0	77,0	539,9	54	42	8
CMS 843	229,0	196,0	-	-	77.560	61.560	-	-	48,9	44,5	-	-	800x4	519,0	76,9	637,8	64	54	9
CMS 844	256,5	213,8	-	-	73.580	57.620	-	-	49,0	44,0	-	-	800x4	691,9	102,6	708,9	64	54	9
CMS 854	315,5	265,2	-	-	91.970	72.020	-	-	50,0	45,0	-	-	800x5	864,9	128,1	878,0	64	54	10

DOUBLE FAN ROW

Motor	6 poles		4 poles		6 poles		4 poles		6 poles		4 poles								
Wiring	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y							
Model	**Capacity, kW**				**Air flow m³/h**				**Sound, dB(A)**				**Fans**	**A, m²**	**Vol, l**	**Net, kg**	**in**	**out**	**No**
CMS 623	119,8	103,1	142,9	126,1	39.140	31.810	50.340	42.040	43,1	39,0	54,0	50,0	630x4	303,3	39,3	351,9	35 x2	28 x2	4
CMS 624	134,4	113,6	163,6	141,2	37.620	30.200	48.860	40.190	42,3	39,0	53,3	50,0	630x4	404,4	52,4	393,0	35 x2	28 x2	4
CMS 633	179,9	154,7	214,5	189,3	58.720	47.720	75.510	63.060	44,9	40,8	55,8	51,8	630x6	454,9	58,8	505,4	42 x2	35 x2	5
CMS 634	201,7	169,7	245,6	212,1	56.430	45.300	73.290	60.290	44,1	40,8	55,1	51,8	630x6	606,6	78,4	566,9	42 x2	35 x2	5
CMS 643	239,4	206,9	283,0	251,3	78.300	63.620	100.680	84.080	46,1	42,0	57,0	53,0	630x8	606,6	78,3	658,9	54 x2	42 x2	6
CMS 644	269,4	227,7	325,9	283,0	75.240	60.400	97.720	80.380	45,3	42,0	56,3	53,0	630x8	808,8	104,3	740,9	54 x2	42 x2	6
CMS 822	177,4	155,1	-	-	81.540	64.400	-	-	48,7	44,5	-	-	800x4	326,2	47,2	521,4	42 x2	35 x2	11
CMS 823	221,2	187,8	-	-	76.320	60.270	-	-	48,9	45,0	-	-	800x4	490,1	72,9	588,7	42 x2	35 x2	11
CMS 824	248,2	205,5	-	-	72.080	55.770	-	-	49,1	45,0	-	-	800x4	653,5	97,2	656,0	42 x2	35 x2	11
CMS 833	332,0	281,9	-	-	114.470	90.410	-	-	50,7	46,8	-	-	800x6	735,2	109,1	856,0	54 x2	42 x2	12
CMS 834	370,0	304,8	-	-	108.110	83.650	-	-	50,9	46,8	-	-	800x6	980,3	145,5	956,9	54 x2	42 x2	12
CMS 843	444,2	379,5	-	-	152.630	120.550	-	-	51,9	48,0	-	-	800x8	980,3	145,3	1123,3	64 x2	54 x2	13
CMS 844	497,4	411,5	-	-	144.150	111.530	-	-	52,1	48,0	-	-	800x8	1307,0	193,7	1257,7	64 x2	54 x2	13
CMS 854	611,1	510,0	-	-	180.190	139.420	-	-	53,1	49,0	-	-	800x10	1633,7	242,0	1558,5	64 x2	54 x2	14

FAN MOTORS

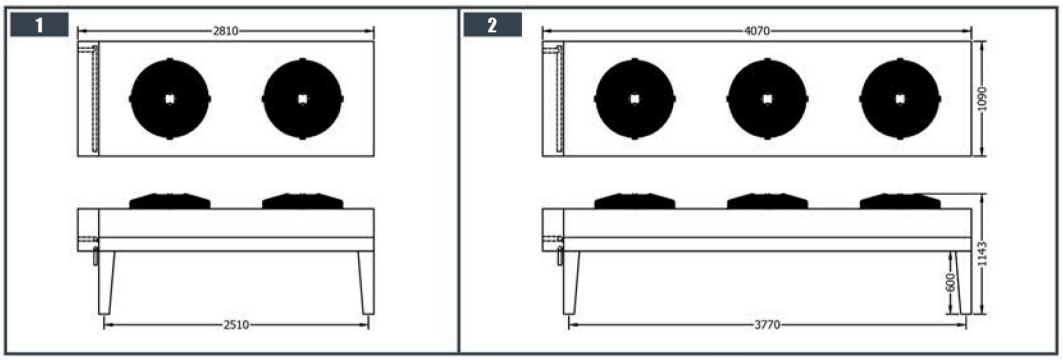
Ø630 fan 6 poles - Δ wiring	3f~400 V; 1,2 A; 0,6 kW; 900 RPM
Ø630 fan 6 poles - Y wiring	3f~400 V; 0,6 A; 0,4 kW; 700 RPM
Ø630 fan 4 poles - Δ wiring	3f~400 V; 2,2 A; 1,0 kW; 1360 RPM
Ø630 fan 4 poles - Y wiring	3f~400 V; 1,3 A; 0,8 kW; 1140 RPM
Ø800 fan 6 poles - Δ wiring	3f~400 V; 3,6 A; 1,7 kW; 900 RPM
Ø800 fan 6 poles - Y wiring	3f~400 V; 2,1 A; 1,1 kW; 710 RPM

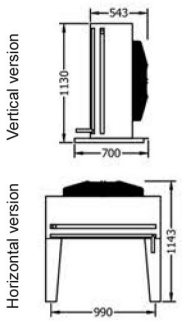
SINGLE FAN ROW

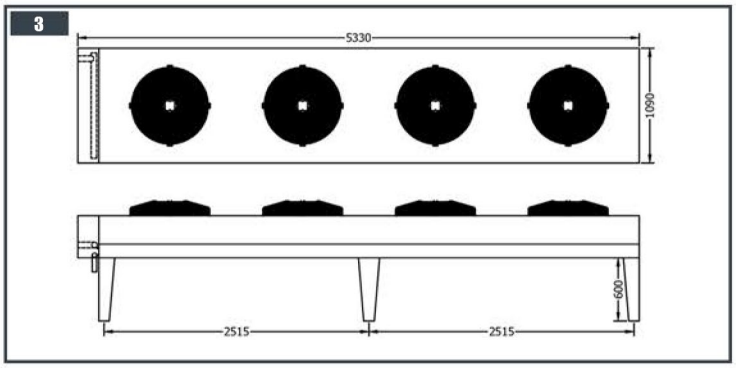
Motor	6 poles				4 poles				6 poles				4 poles				6 poles				4 poles			
Wiring	Δ		Y		Δ		Y		Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y
ΔT	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K
Model	**R404A capacity, kW**								**R407F capacity, kW**								**R134A capacity, kW**							
CMS 622	48,1	30,5	42,2	26,7	54,2	34,3	50,2	31,8	40,4	24,3	35,4	21,3	45,5	27,3	42,1	25,3	48,6	30,8	42,6	27,0	54,7	34,6	50,7	32,1
CMS 623	59,9	37,9	51,5	32,6	71,4	45,2	63,0	39,9	50,3	30,2	43,3	26,0	60,0	36,0	52,9	31,8	60,5	38,3	52,0	32,9	72,1	45,7	63,6	40,3
CMS 624	67,2	42,6	56,8	36,0	81,8	51,8	70,6	44,7	56,4	33,9	47,7	28,6	68,7	41,2	59,3	35,6	67,8	43,0	57,4	36,3	82,6	52,3	71,3	45,1
CMS 633	89,8	56,9	77,2	48,9	107,1	67,8	94,5	59,8	75,4	45,3	64,9	38,9	89,9	54,0	79,3	47,6	90,7	57,4	78,0	49,4	108,1	68,5	95,4	60,4
CMS 634	100,6	63,7	84,7	53,7	122,5	77,6	105,9	67,0	84,5	50,7	71,1	42,7	102,9	61,8	88,9	53,4	101,6	64,3	85,5	54,2	123,7	78,3	106,9	67,7
CMS 643	119,4	75,6	103,3	65,4	141,1	89,4	125,4	79,4	100,3	60,2	86,7	52,1	118,5	71,1	105,3	63,2	120,6	76,4	104,2	66,0	142,5	90,2	126,6	80,2
CMS 644	134,7	85,3	113,8	72,1	163,0	103,2	141,5	89,6	113,1	67,9	95,6	57,4	136,8	82,2	118,8	71,3	136,0	86,1	114,9	72,8	164,5	104,2	142,8	90,5
CMS 822	91,9	58,2	80,4	50,9	-	-	-	-	77,2	46,3	67,5	40,5	-	-	-	-	92,8	58,8	81,1	51,4	-	-	-	-
CMS 823	113,9	72,1	96,9	61,4	-	-	-	-	95,6	57,4	81,4	48,9	-	-	-	-	114,9	72,8	97,8	62,0	-	-	-	-
CMS 824	128,0	81,1	106,8	67,6	-	-	-	-	107,5	64,5	89,7	53,8	-	-	-	-	129,2	81,8	107,8	68,3	-	-	-	-
CMS 833	170,9	108,2	145,5	92,1	-	-	-	-	143,5	86,2	122,2	73,3	-	-	-	-	172,5	109,3	146,9	93,0	-	-	-	-
CMS 834	190,6	120,7	160,0	101,3	-	-	-	-	160,1	96,1	134,3	80,6	-	-	-	-	192,5	121,9	161,5	102,3	-	-	-	-
CMS 843	229,0	145,0	196,0	124,1	-	-	-	-	192,3	115,4	164,5	98,8	-	-	-	-	231,2	146,4	197,8	125,3	-	-	-	-
CMS 844	256,5	162,4	213,8	135,4	-	-	-	-	215,4	129,3	179,6	107,8	-	-	-	-	258,9	164,0	215,9	136,7	-	-	-	-
CMS 854	315,5	199,8	265,2	167,9	-	-	-	-	265,0	159,1	222,7	133,7	-	-	-	-	318,5	201,7	267,7	169,5	-	-	-	-

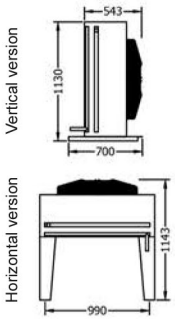
DOUBLE FAN ROW

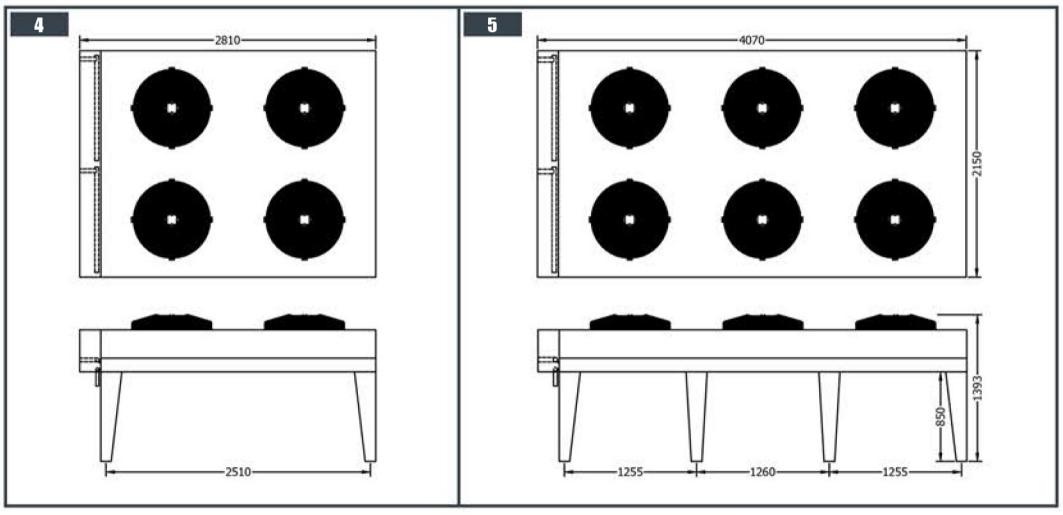
Motor	6 poles				4 poles				6 poles				4 poles				6 poles				4 poles			
Wiring	Δ		Y		Δ		Y		Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y	Δ	Y
ΔT	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K	15 K	10 K
Model	**R404A capacity, kW**								**R407F capacity, kW**								**R134A capacity, kW**							
CMS 623	119,8	75,9	103,1	65,3	142,9	90,5	126,1	79,8	100,6	60,4	86,5	52,0	120,0	72,0	105,9	63,6	121,0	76,6	104,0	65,9	144,2	91,3	127,3	80,6
CMS 624	134,4	85,1	113,6	72,0	163,6	103,6	141,2	89,4	112,9	67,8	95,4	57,3	137,4	82,5	118,5	71,2	135,7	85,9	114,7	72,7	165,2	104,6	142,5	90,2
CMS 633	179,9	113,9	154,7	98,0	214,5	135,9	189,3	119,9	151,1	90,7	129,9	78,0	180,1	108,2	158,9	95,4	181,6	115,0	156,2	98,9	216,6	137,2	191,1	121,0
CMS 634	201,7	127,7	169,7	107,5	245,6	155,6	212,1	134,3	169,3	101,7	142,5	85,6	206,3	123,8	178,1	106,9	203,6	128,9	171,3	108,5	248,0	157,1	214,2	135,6
CMS 643	239,4	151,6	206,9	131,0	283,0	179,2	251,3	159,2	201,0	120,7	173,7	104,3	237,6	142,7	211,0	126,7	241,7	153,1	208,9	132,3	285,7	180,9	253,7	160,7
CMS 644	269,4	170,6	227,7	144,2	325,9	206,4	283,0	179,2	226,2	135,8	191,2	114,8	273,7	164,3	237,6	142,7	272,0	172,2	229,8	145,6	329,0	208,4	285,7	180,9
CMS 822	177,4	112,4	155,1	98,3	-	-	-	-	149,0	89,4	130,3	78,2	-	-	-	-	179,1	113,4	156,6	99,2	-	-	-	-
CMS 823	221,2	140,1	187,8	119,0	-	-	-	-	185,7	111,5	157,7	94,7	-	-	-	-	223,3	141,4	189,6	120,1	-	-	-	-
CMS 824	248,2	157,2	205,5	130,1	-	-	-	-	208,4	125,1	172,5	103,6	-	-	-	-	250,6	158,7	207,4	131,4	-	-	-	-
CMS 833	332,0	210,3	281,9	178,5	-	-	-	-	278,8	167,4	236,7	142,1	-	-	-	-	335,1	212,3	284,6	180,2	-	-	-	-
CMS 834	370,0	234,3	304,8	193,0	-	-	-	-	310,7	186,5	255,9	153,7	-	-	-	-	373,5	236,6	307,7	194,9	-	-	-	-
CMS 843	444,2	281,3	379,5	240,3	-	-	-	-	373,0	224,0	318,6	191,3	-	-	-	-	448,4	284,0	383,1	242,6	-	-	-	-
CMS 844	497,4	315,0	411,5	260,6	-	-	-	-	417,6	250,7	345,6	207,5	-	-	-	-	502,1	318,0	415,4	263,1	-	-	-	-
CMS 854	611,1	387,0	510,0	323,0	-	-	-	-	513,1	308,1	428,2	257,1	-	-	-	-	616,9	390,7	514,8	326,1	-	-	-	-

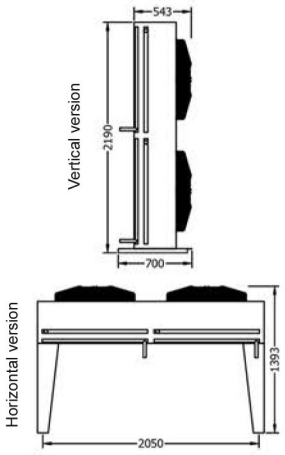

1
2810
2510
2
4070
3770
1090
1143
600

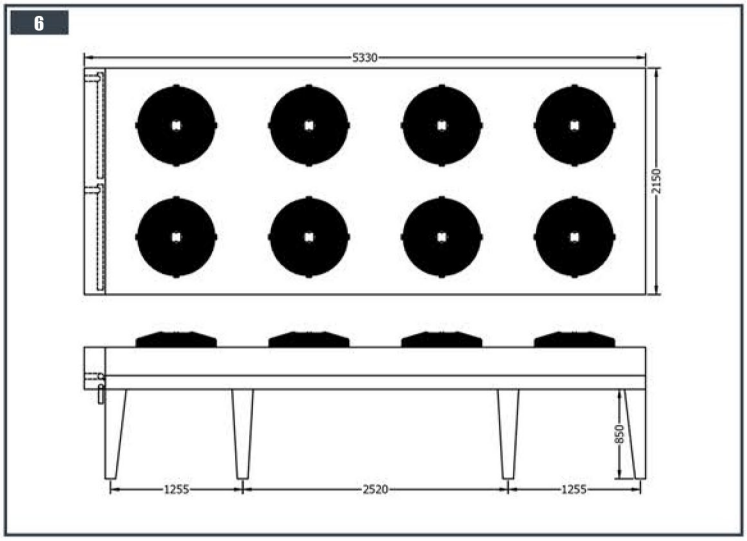

Vertical version
543
1130
700
Horizontal version
1143
990

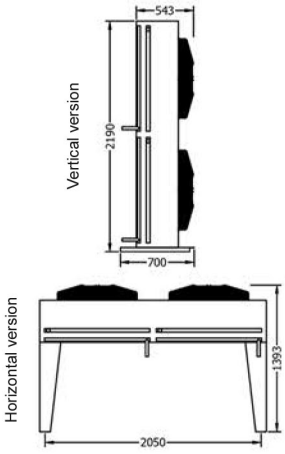

3
5330
1090
600
2515
2515

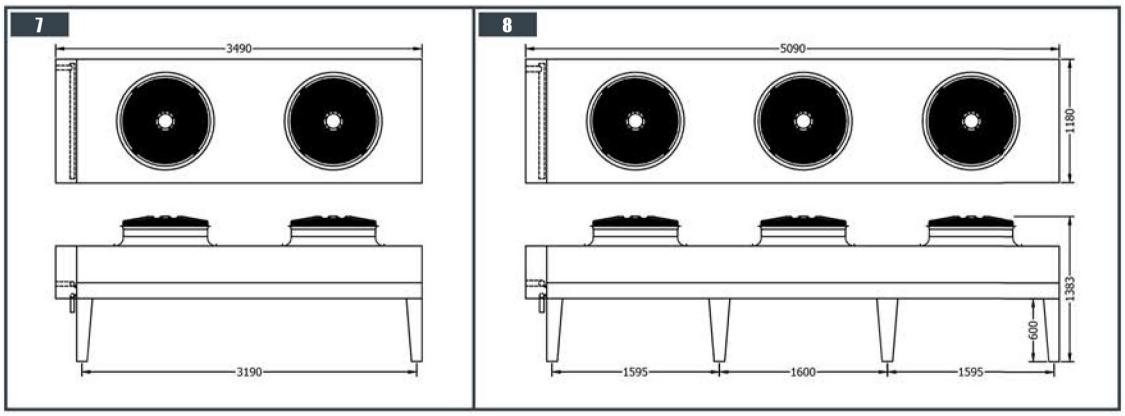

Vertical version
543
1130
700
Horizontal version
1143
990

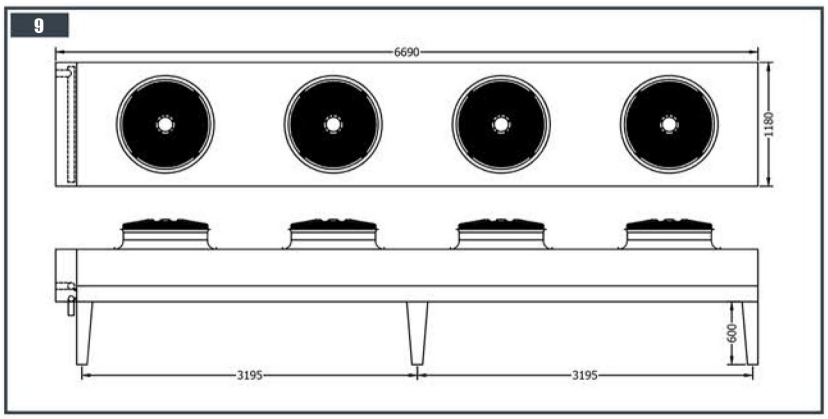

4
2810
2510
5
4070
2150
1393
850
1255
1260
1255

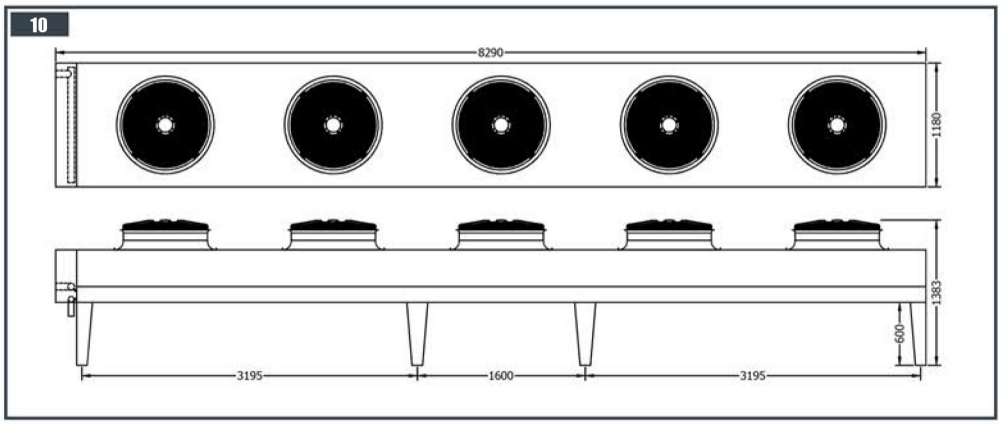

Vertical version
543
2190
700
Horizontal version
1393
2050


6
5330
2150
850
1255
2520
1255

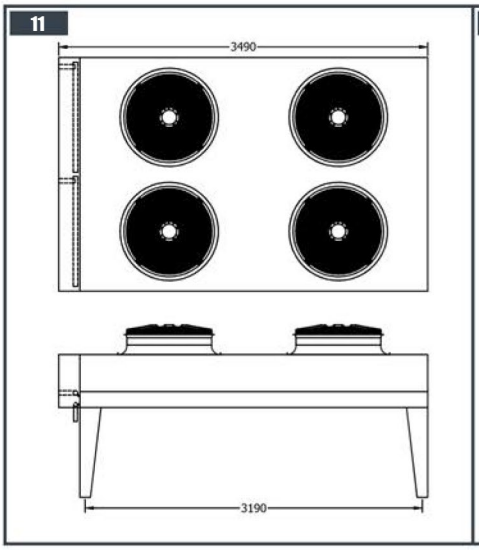

Vertical version
543
2190
700
Horizontal version
1393
2050


7
3490
3190
8
5090
1180
1383
600
1595
1600
1595
Vertical version
783
1220
950
Horizontal version
1383
1080

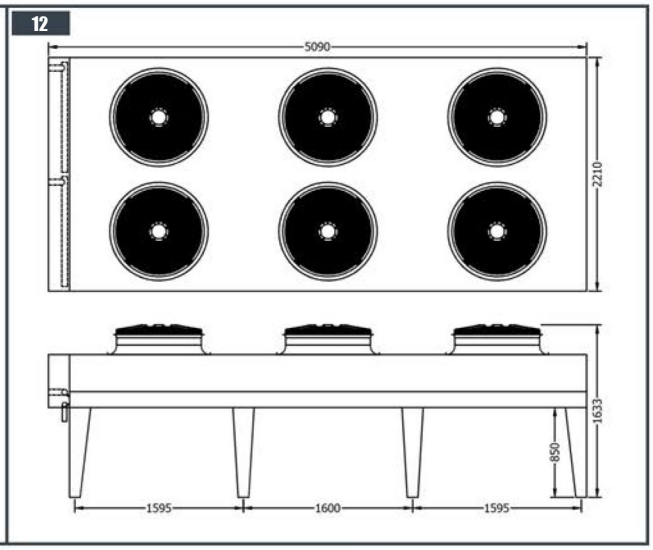

9
6690
1180
600
3195
3195
Vertical version
783
1220
950
Horizontal version
1383
1080

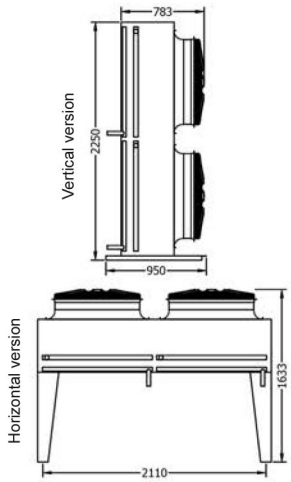

10
8290
1180
1383
600
3195
1600
3195
Vertical version
783
1220
950
Horizontal version
1383
1080

11

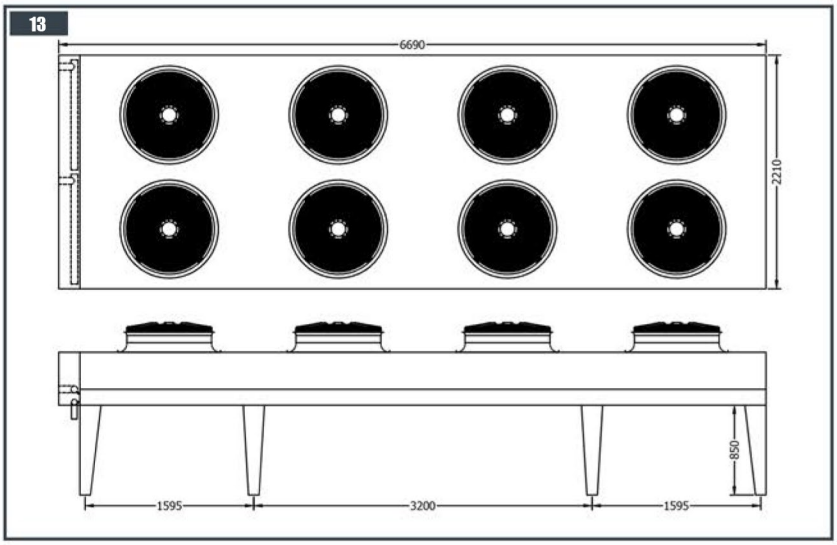

3490
3190

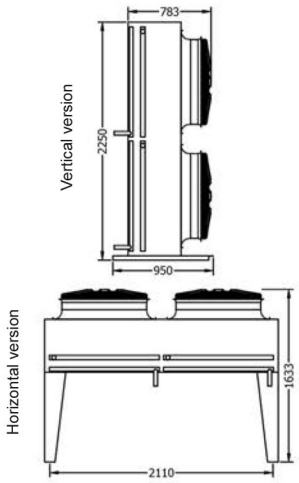
12


5090
2210
1633
850
1595
1600
1595

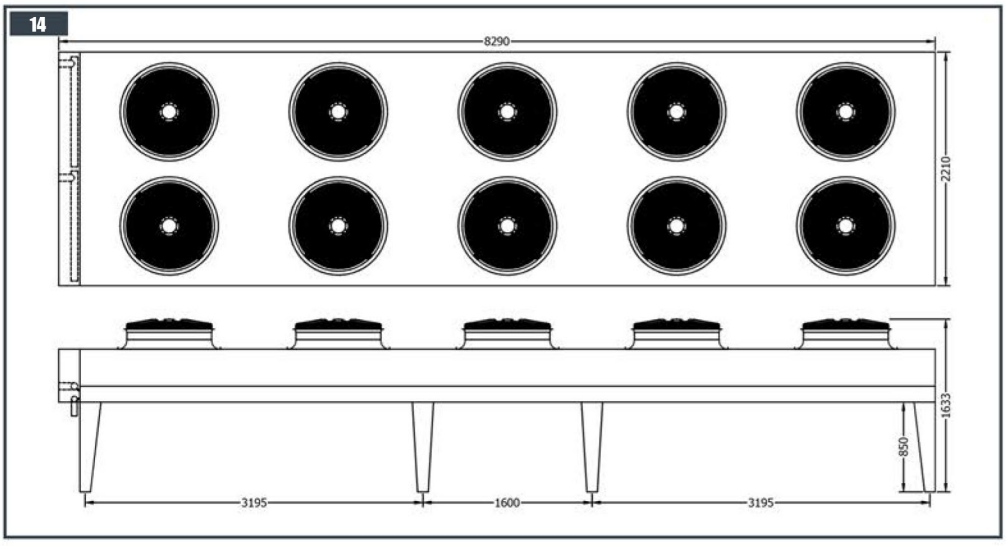

783
Vertical version
2250
950
Horizontal version
1633
2110

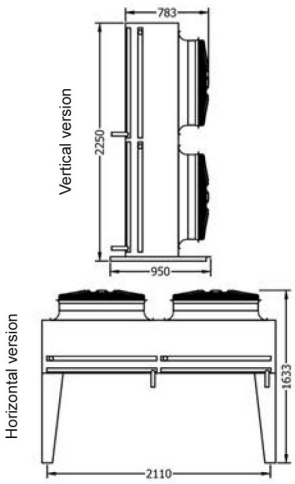
13


6690
2210
850
1595
3200
1595


783
Vertical version
2250
950
Horizontal version
1633
2110

14


8290
2210
1633
850
3195
1600
3195


783
Vertical version
2250
950
Horizontal version
1633
2110

ABOUT COMPANY

JSC “Refra” is one of the leading companies in the field of manufacturing refrigeration equipment. The long-term work experience, cooperation with leading world producers of compressors and other parts of refrigeration equipment, the widest range of products, an individual approach to each client and professionalism - those advantages enabled our company to obtain wide publicity in refrigeration market segment. Production plant takes more than 15000 square meters and is divided into several departments:

- Refrigeration and air conditioning department
- Doors for cold-storage production department
- Production of metal construction (frames and cover boxes) for central refrigerating systems
- Painting department
- Control equipment department
- Condenser production departmen

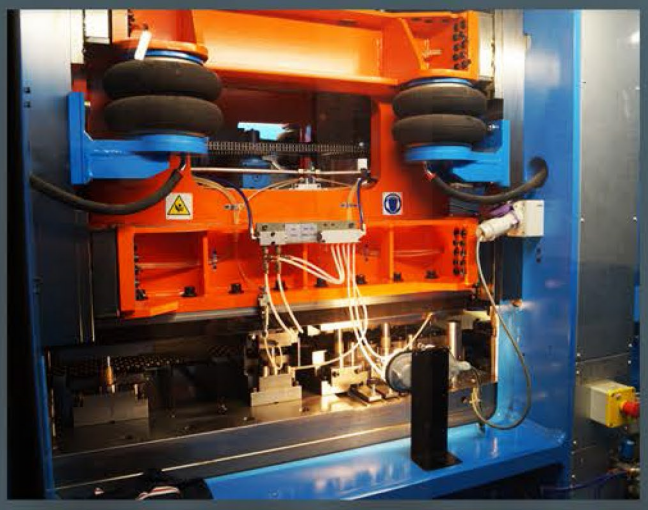
Due to the effective combination of the department’s work we able to offer non standart solutions for our customers and produce equipment in short terms. Moreover high qualified staff guarantees best quality of equipment.

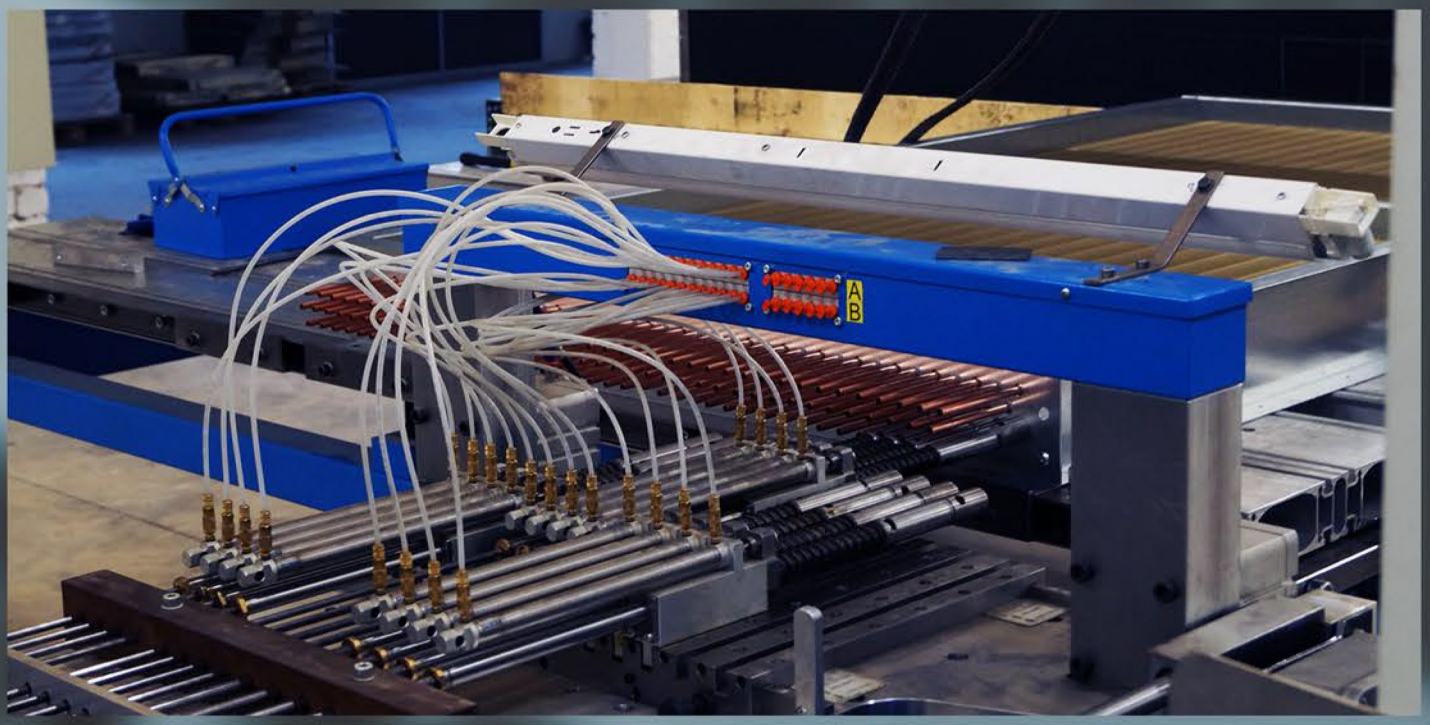
Also using the “know how” technologies helps us to offer high quality and low price for all types of our products. Our products are compliant with next directives:

- EC Machines Directive 98/37/EC
- EC Low Voltage Directive 73/27/EEC
- EC Pressure Equipment Directive 97/23 (PED)
- EMC Directive 89/336/EEC

The refrigeration units have been designed and manufactured in conformity to European Standards EN349, EN378, EN12263, EN60204-1 and other normative requirements.

The refrigeration units are certified and conform to all the requirements of the European Union.





UAB “REFRA”
Dariaus ir Gireno str. 179
Vilnius, LT-02189, Lithuania

info@refra.eu
www.refra.eu

+370 5 2031020
+370 5 2031021
+370 5 2031023

CE 1399

ISO 9001 BUREAU VERITAS Certification

UKAS QUALITY MANAGEMENT 008