FLAT DRY COOLER

The reliable, efficient, and sustainable cooling solution for industrial and commercial applications

DHN/DCH

Cooling capacity from 10 kW to 1.050 kW

ENEX TECHNOLOGIES presents the **Flat Dry Cooler** range for industrial and commercial applications. This product line is designed to meet or exceed customer needs including energy efficiency, ergonomics, space, etc.

All ENEX TECHNOLOGIES products are designed and conceived with levels of excellence in food preservation, robustly built to withstand every weather condition including heavy snow and wind, ensuring long life.

Ready to use in Industrial Refrigeration, Energy & Process Cooling, IT Cooling and HVAC applications, our Flat Dry Cooler line consists of more than 300 models of axial dry coolers for commercial and industrial applications, available in cooling capacities between 10 and 1.030 KW.

All ENEX TECHNOLOGIES flat dry coolers offer low noise levels and minimum energy consumption. All models can be fitted with optional EC fan motors. Fan speed can be controlled electronically to increase energy savings.

Our complete portfolio offers a large range of configurations and accessories to meet any specification and can be customized according to the application.

LEADING PROFESSIONAL SOLUTIONS IN HEAT REJECTION

ENEX TECHNOLOGIES' assessment of Flat Dry Coolers performance parameters under different conditions and control strategies is essential to designing and optimizing the units for specific applications.

Our FLAT DRY COOLERS range which are segmented into two ranges:

RANGE	STANDARD CONDITIONS SC15 (kW)
DHN	10 - 235
DCH	30 - 1050

Standard Conditions SC15: Fluid: Water, Fluid Inlet Tª 40ºC, Fluid Outlet Tª 35ºC, Air inlet Tº 25

MAIN FEATURES

With more than 400 years of combined experience in design, production and distribution and doing business in over 125 countries, ENEX TECHNOLOGIES flat dry cooler line offers customers a wide spectrum of benefits including, but not limited to:

HIGH PERFORMANCE

• Optional EC fans adapt to the needs of the application with minimal energy consumption (30% savings compared to an AC fan).
• Copper tubes are staggered across self-spaced louvered fins to achieve high performance.

CUSTOMIZATION ON DEMAND

• Highest level of customization available to meet application requirements.

LONG PRODUCT LIFE

• Strong and robust design includes high quality components to meet all thermodynamic and product life cycle requirements.
• 10 surface treatments available to increase product life cycle in challenging environments.

SELECTION SOFTWARE

• Our proprietary selection software gives customers flexibility in adjusting settings as parameters of the application change.

SAFETY & RELIABILITY

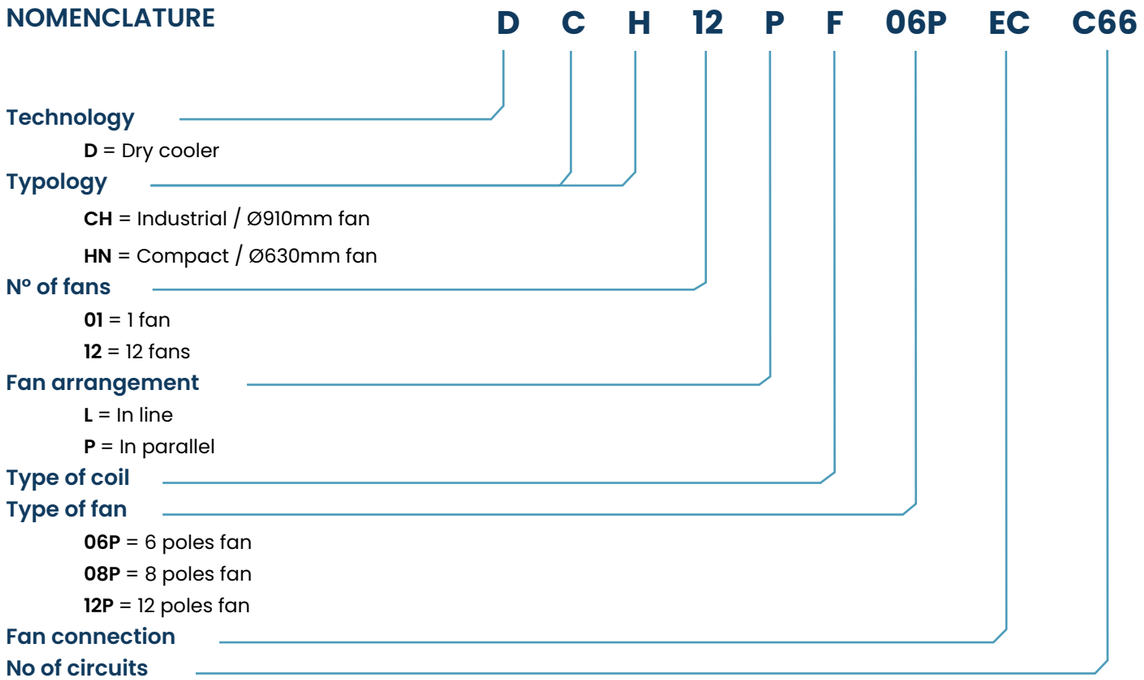
• Resistance and leaks tests up to 23 bar
• Burst tests up to 48 bar
• Equipment pressurized with nitrogen at 2bar

SUSTAINABILITY

• With a GWP of 0

TECHNICAL FEATURES

NOMENCLATURE



FINNED COILS

• All of our Ø 3/8" (DHN series) and Ø 12mm (DCH series) copper tubes are built in compliance with CU-PROCLIMA specifications.
• The staggered arrangement of copper tubes across self-spaced, louvered fins accurately links tubes and fins for higher coil performance.
• FLOATING PACK SYSTEM allows coils to levitate to avoid leaks.
• All coils are subjected to resistance and leakage testing under a rated pressure of 23 bar (PS 16bar) and pressurized using nitrogen at 2 bar to avoid inner surface corrosion of the copper tubes.
• Welding Neck Flanges - Nominal Pressure 16 - DIN2633.

CASING

• Manufactured in galvanized steel with external surface painted epoxy-polyester and then baked and cured at 180° C for greater protection against corrosion even in extreme environmental conditions, also allowing the casing to meet more demanding food hygiene standards.
• Internal separators avoid the "by-pass" effect during sequential operation of fans.
• Metallic protection on connections and return bends.

FAN MOTORS

• Available fans' diameters: Ø 630/910 mm.
• Axial fans with external rotor (400V III @ 50Hz).
• Optional EC fan motors that modulate rotation speed according to unit requirements, delivering excellent acoustic performance and peak operation.

CONSTRUCTION

• Can be specified with vertical or horizontal air inlets.

DRY COOLERS
FLAT DRY COOLER - DHN/DCH

OPTIONS & ACCESORIES

COIL

• Copper Fins
• Coated Fins
• AquaAero treatment
• Blygold treatment
• Other material

CASING

• Legs - Horizontal coil (DHN series)
• Taller legs: 800mm and 1000 mm (optional)
• Silent blocks

ELECTRICAL OPTIONS

• EC fans
• Shielded Wiring
• Individual service switch by fan

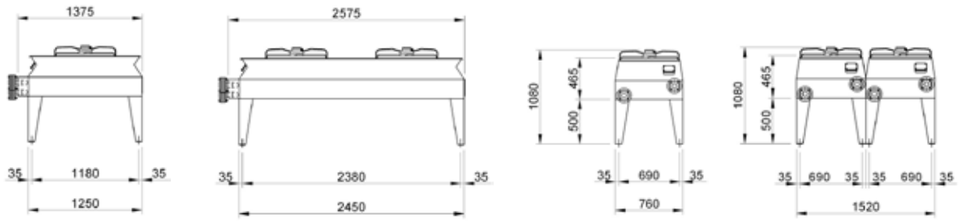
OTHER

• Adiabatic spray system

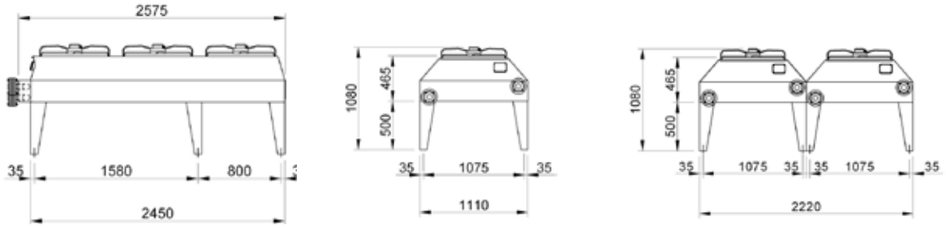
PRODUCT RANGE OVERVIEW · DHN

HORIZONTAL COIL POSITION

1, 2 and 4 fans models

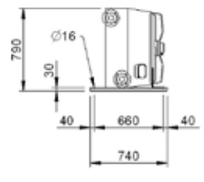


3 and 6 fans models

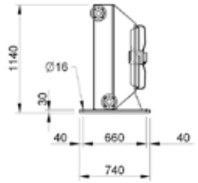


VERTICAL COIL POSITION

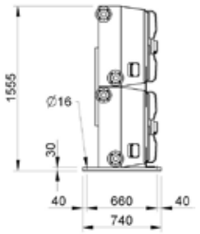
1 and 2 fans models



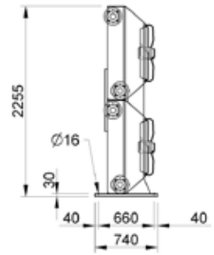
3 fans models



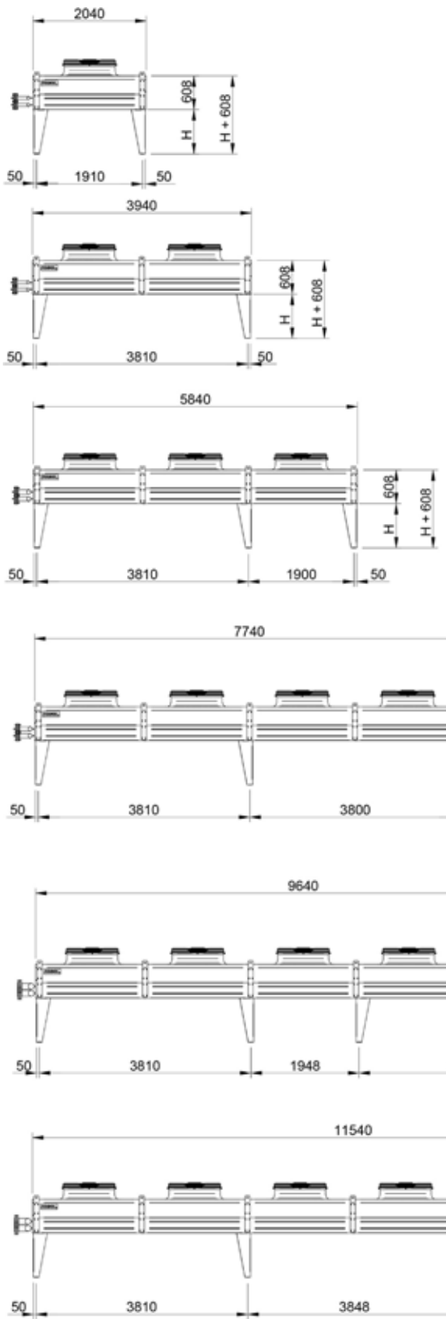
4 fans models



6 fans models

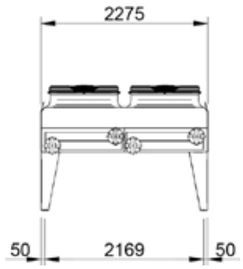


PRODUCT RANGE OVERVIEW · DCH

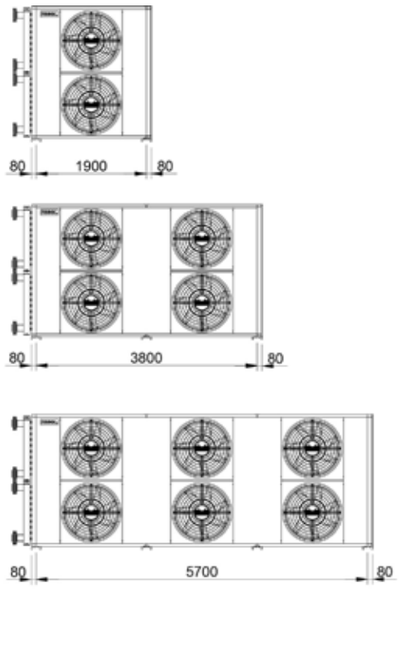


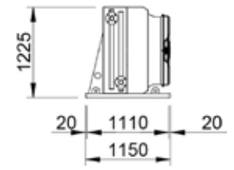
Lateral view
Type of coil : A & B

Lateral view
Type of coil : C & D

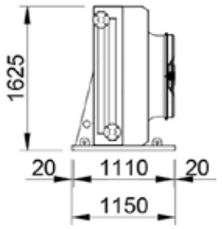


Lateral view
Type of coil : E & F

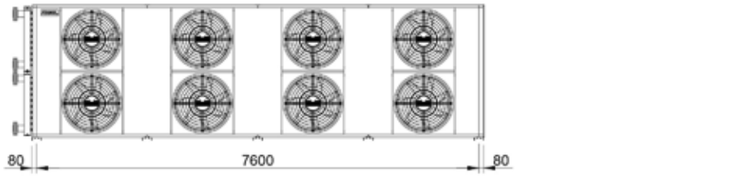


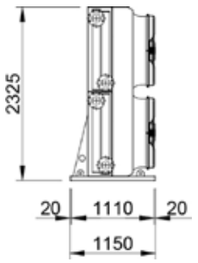


Lateral view
Type of coil : A & B

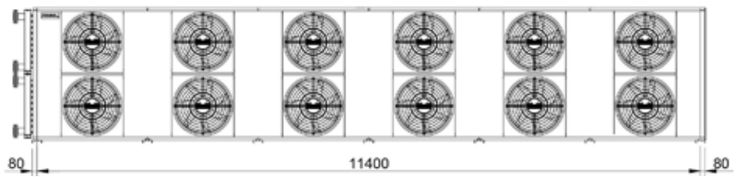


Lateral view
Type of coil : C & D





Lateral view
Type of coil : E & F



TECHNICAL DATA

Fan ø= 500 mm

Fin pitch = 2,5 mm, Rpm = 1.600, water

Model	Capacity (kW)	Pressure Drop	Surface	Internal Volume	Air Flow	Noise Level	Fans Data			Weight
	SC15	KPa	m²	dm³	m³/h	dBA (10m)	Nº	kW	A	kg
DHN-107L EC	24,3	77,0	46,7	8,3	10.200	49	1	0,7	1,2	70
DHN-114L EC	28,2	60,0	62,3	11,1	9.500	46	1	0,8	1,3	75
DHN-210L EC	48,1	39,0	93,4	16,6	20.400	52	2	1,4	2,5	130
DHN-213L EC	55,6	29,0	124,5	22,2	19.000	49	2	1,6	2,6	140
DHN-307L EC	71,2	37,0	137,0	24,4	30.450	53	3	2,2	3,7	190
DHN-309L EC	82,3	29,0	182,7	32,5	28.200	51	3	2,5	4,0	205
DHN-407P EC	111,2	29,0	249,1	44,3	38.000	52	4	3,3	5,2	280
DHN-607P EC	142,4	37,0	274,0	48,8	60.900	56	6	4,3	7,4	380
DHN-609P EC	164,6	29,0	365,3	65,0	56.400	54	6	4,9	8,0	410

For cooling connection please see our selection software.
In this table are included the most representative models. For other selection please see our selection software.

DRY COOLERS
FLAT DRY COOLER - DHN/DCH

Fan ø= 910 mm

Fin pitch = 2,4 mm, Rpm = 640, water

Model	Capacity (kW)	Pressure Drop	Surface	Internal Volume	Air Flow	Noise Level	Fans Data			Weight
	SC15	KPa	m²	dm³	m³/h	dBA (10m)	Nº	kW	A	kg
DCH 01 L A 08P EC	49,0	69,0	161,8	20,8	16.750	38	1	0,6	1,0	275
DCH 01 L B 08P EC	56,5	47,0	242,7	31,3	15.000	38	1	0,6	1,0	302
DCH 01 L C 08P EC	57,4	53,0	220,6	28,4	18.250	38	1	0,6	1,0	338
DCH 01 L D 08P EC	66,8	36,0	330,9	42,6	17.000	38	1	0,6	1,0	374
DCH 02 L A 08P EC	97,9	64,0	323,6	41,7	33.500	41	2	1,2	2,0	484
DCH 02 L B 08P EC	112,7	40,0	485,4	62,5	30.000	41	2	1,3	2,0	540
DCH 02 L C 08P EC	114,7	49,0	441,3	56,9	36.500	41	2	1,1	1,9	590
DCH 02 L D 08P EC	133,3	32,0	661,9	85,3	34.000	41	2	1,2	2,0	663
DCH 02 P E 08P EC	98,0	69,0	323,6	41,7	33.500	41	2	1,2	2,0	473
DCH 02 P F 08P EC	112,9	47,0	485,4	62,5	30.000	41	2	1,3	2,0	528
DCH 03 L A 08P EC	144,5	28,0	485,4	62,5	50.250	43	3	1,8	3,0	694
DCH 03 L B 08P EC	166,6	18,0	728,1	93,8	45.000	43	3	1,9	3,0	777
DCH 03 L C 08P EC	169,5	21,0	661,9	85,3	54.750	43	3	1,7	2,9	842
DCH 03 L D 08P EC	197,4	14,0	992,8	127,9	51.000	43	3	1,8	2,9	951
DCH 04 L A 08P EC	195,8	62,0	647,2	83,4	67.000	44	4	2,4	4,0	904
DCH 04 L B 08P EC	225,3	39,0	970,8	125,1	60.000	44	4	2,5	4,0	1.014
DCH 04 L C 08P EC	229,4	47,0	882,5	113,7	73.000	44	4	2,2	3,8	1.094
DCH 04 L D 08P EC	266,6	30,0	1323,8	170,6	68.000	44	4	2,4	3,9	1.240
DCH 04 P E 08P EC	195,9	64,0	647,2	83,4	67.000	44	4	2,4	4,0	840
DCH 04 P F 08P EC	225,4	40,0	970,8	125,1	60.000	44	4	2,5	4,0	949
DCH 05 L A 08P EC	237,6	16,0	809,0	104,2	83.750	45	5	3,0	5,0	1.150
DCH 05 L B 08P EC	284,1	73,0	1213,5	156,4	75.000	45	5	3,2	5,1	1.287
DCH 05 L C 08P EC	289,4	89,0	1103,1	142,1	91.250	45	5	2,8	4,8	1.346
DCH 05 L D 08P EC	335,9	57,0	1654,7	213,2	85.000	45	5	3,0	4,9	1.528
DCH 06 L A 08P EC	288,8	27,0	970,8	125,1	100.500	46	6	3,6	5,9	1.359
DCH 06 L B 08P EC	333,1	17,0	1456,2	187,6	90.000	46	6	3,8	6,1	1.524
DCH 06 L C 08P EC	338,9	21,0	1323,8	170,6	109.500	46	6	3,4	5,8	1.598
DCH 06 L D 08P EC	394,6	13,0	1985,7	255,9	102.000	46	6	3,6	5,9	1.816
DCH 06 P E 08P EC	288,9	28,0	970,8	125,1	100.500	46	6	3,6	5,9	1.207
DCH 06 P F 08P EC	333,2	18,0	1456,2	187,6	90.000	46	6	3,8	6,1	1.371
DCH 08 P E 08P EC	391,5	62,0	1294,4	166,8	134.000	47	8	4,8	7,9	1.574
DCH 08 P F 08P EC	450,7	39,0	1941,5	250,2	120.000	47	8	5,0	8,1	1.793
DCH 10 P E 08P EC	475,2	16,0	1618,0	208,5	167.500	48	10	6,0	9,9	1.940
DCH 10 P F 08P EC	568,3	73,0	2426,9	312,7	150.000	48	10	6,3	10,1	2.214
DCH 12 P E 08P EC	577,6	27,0	1941,5	250,2	201.000	49	12	7,2	11,9	2.308
DCH 12 P F 08P EC	666,2	17,0	2912,3	375,3	180.000	49	12	7,6	12,1	2.637

For cooling connection please see our selection software.
In this table are included the most representative models. For other selection please see our selection software.

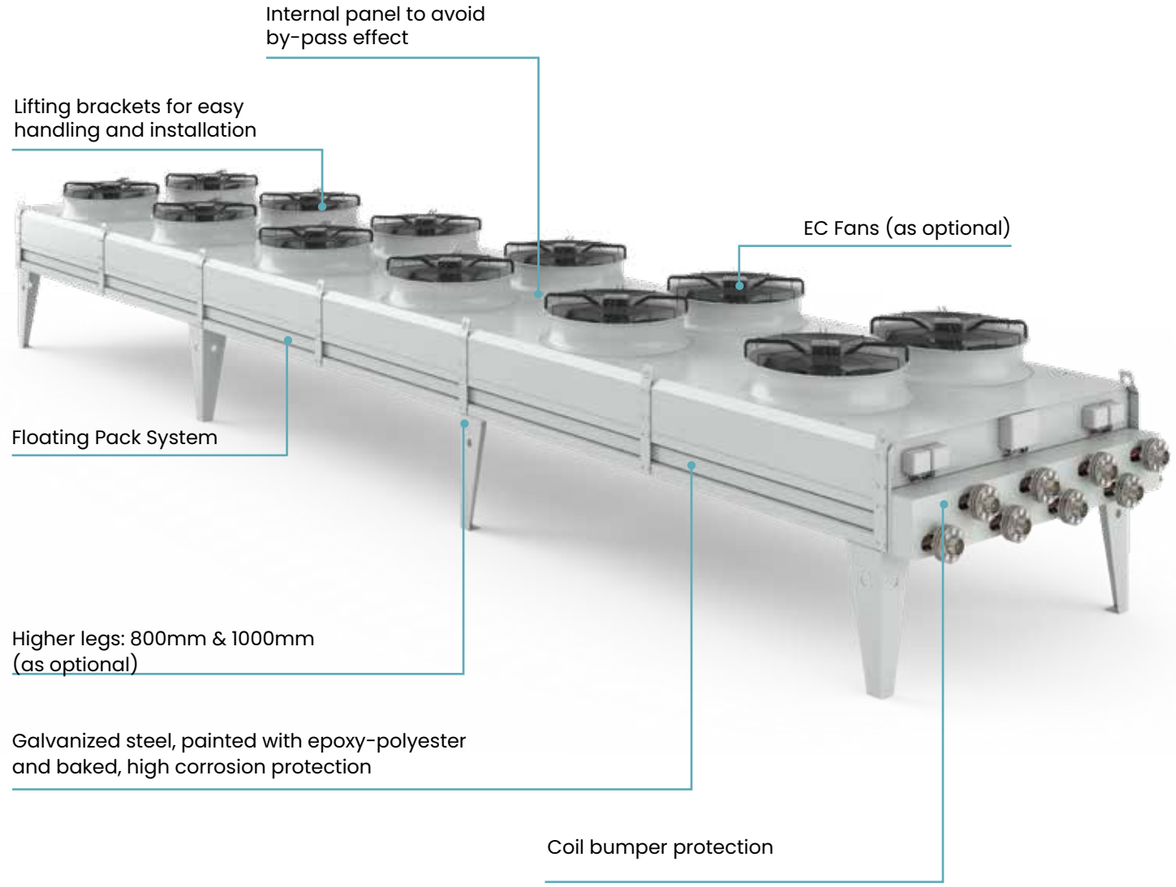
Fan ø= 910 mm

Fin pitch = 2,4 mm, Rpm = 640, water

Model	Capacity (kW)	Pressure Drop	Surface	Internal Volume	Air Flow	Noise Level	Fans Data			Weight
	SC15	KPa	m²	dm³	m³/h	dBA (10m)	Nº	kW	A	kg
DCH 01 L A 06P EC	69,9	55,0	161,8	20,8	30.300	47	1	2,4	3,6	275
DCH 01 L B 06P EC	86,1	41,0	242,7	31,3	27.500	47	1	2,6	3,9	302
DCH 01 L C 06P EC	82,1	45,0	220,6	28,4	32.000	48	1	2,2	3,4	338
DCH 01 L D 06P EC	103,2	33,0	330,9	42,6	31.000	47	1	2,3	3,6	374
DCH 02 L A 06P EC	135,2	17,0	323,6	41,7	60.600	50	2	4,8	7,3	484
DCH 02 L B 06P EC	166,5	12,0	485,4	62,5	55.000	50	2	5,2	7,9	540
DCH 02 L C 06P EC	158,8	13,0	441,3	56,9	64.000	51	2	4,5	6,8	590
DCH 02 L D 06P EC	209,4	70,0	661,9	85,3	62.000	50	2	4,6	7,1	663
DCH 02 P E 06P EC	139,9	55,0	323,6	41,7	60.600	50	2	4,8	7,3	473
DCH 02 P F 06P EC	172,1	41,0	485,4	62,5	55.000	50	2	5,2	7,9	528
DCH 03 L A 06P EC	209,8	53,0	485,4	62,5	90.900	52	3	7,1	10,9	694
DCH 03 L B 06P EC	257,9	37,0	728,1	93,8	82.500	52	3	7,7	11,8	777
DCH 03 L C 06P EC	245,9	41,0	661,9	85,3	96.000	53	3	6,7	10,3	842
DCH 03 L D 06P EC	309,3	30,0	992,8	127,9	93.000	52	3	7,0	10,7	951
DCH 04 L A 06P EC	270,1	16,0	647,2	83,4	121.200	53	4	9,5	14,5	904
DCH 04 L B 06P EC	332,8	12,0	970,8	125,1	110.000	53	4	10,3	15,7	1.014
DCH 04 L C 06P EC	317,4	13,0	882,5	113,7	128.000	54	4	9,0	13,7	1.094
DCH 04 L D 06P EC	418,6	67,0	1323,8	170,6	124.000	53	4	9,3	14,2	1.240
DCH 04 P E 06P EC	270,4	17,0	647,2	83,4	121.200	53	4	9,5	14,5	840
DCH 04 P F 06P EC	333,1	12,0	970,8	125,1	110.000	53	4	10,3	15,7	949
DCH 05 L A 06P EC	344,7	31,0	809,0	104,2	151.500	54	5	11,9	18,2	1.150
DCH 05 L B 06P EC	424,1	22,0	1213,5	156,4	137.500	54	5	12,9	19,7	1.287
DCH 05 L C 06P EC	404,4	24,0	1103,1	142,1	160.000	55	5	11,2	17,1	1.346
DCH 05 L D 06P EC	509,2	17,0	1654,7	213,2	155.000	54	5	11,6	17,8	1.528
DCH 06 L A 06P EC	419,4	51,0	970,8	125,1	181.800	55	6	14,3	21,8	1.359
DCH 06 L B 06P EC	515,5	36,0	1456,2	187,6	165.000	55	6	15,5	23,6	1.524
DCH 06 L C 06P EC	491,5	40,0	1323,8	170,6	192.000	56	6	13,4	20,5	1.598
DCH 06 L D 06P EC	618,4	29,0	1985,7	255,9	186.000	55	6	13,9	21,4	1.816
DCH 06 P E 06P EC	419,6	53,0	970,8	125,1	181.800	55	6	14,3	21,8	1.207
DCH 06 P F 06P EC	515,7	37,0	1456,2	187,6	165.000	55	6	15,5	23,6	1.371
DCH 08 P E 06P EC	540,3	16,0	1294,4	166,8	242.400	56	8	19,0	29,0	1.574
DCH 08 P F 06P EC	698,8	84,0	1941,5	250,2	220.000	56	8	20,6	31,4	1.793
DCH 10 P E 06P EC	689,4	31,0	1618,0	208,5	303.000	57	10	23,8	36,3	1.940
DCH 10 P F 06P EC	848,1	22,0	2426,9	312,7	275.000	57	10	25,8	39,3	2.214
DCH 12 P E 06P EC	838,8	51,0	1941,5	250,2	363.600	58	12	28,5	43,6	2.308
DCH 12 P F 06P EC	1030,9	36,0	2912,3	375,3	330.000	58	12	31,0	47,2	2.637

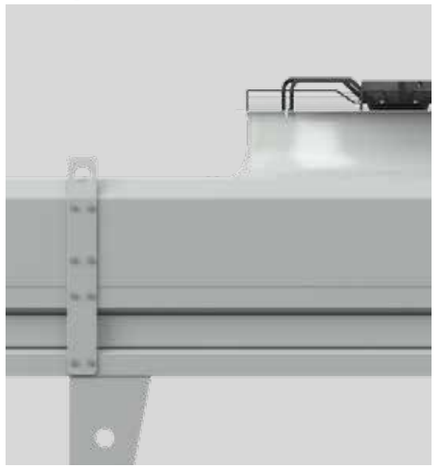
DRY COOLERS
FLAT DRY COOLER - DHN/DCH

DISTINCTIVE TECHNOLOGICAL CHOICES OF THE RANGE



Internal structure to avoid the by-pass effect

Lifting brackets



Coil bumper protection