

Free-cooling liquid chillers FCC series, scroll compressors, R410A / R32 / R454B refrigerant, coaxial / shell and tube evaporator, condenser and free-cooling coil with copper tubes and aluminium finned fins, AC axial fans regulated with cut phase fan speed regulator. Electrical feed 400V/3ph/50Hz. IP54 protection rating, chillers suitable for outdoor installation. Inbuilt water storage tank and single pump P3 as standard.

Type of available evaporators:

CX = Coaxial evaporator, convoluted tube in tube exchanger (outer tube in carbon steel or stainless steel, inner tubes in copper) installed inside the water storage tank

ST = shell and tube evaporator, with high thickness copper tubes (0,41mm)

B-ES = stainless steel brazed plate evaporator

TECHNICAL DATA

PERFORMANCES

	Model	008	010	016	022	030	038	045	055		
NOMINAL COOLING CAPACITY	kW	7,9	9,2	13,5	23,4	29,8	38,6	45,2	57,7		
		TOTAL NOMINAL ABSORBED POWER	kW	5,1	5,3	6,1	9,7	11,3	16,5	18,4	22,2
		EER	kW/kW	1,93	2,16	2,67	2,77	2,97	2,70	2,80	2,89
		SEPR (HT) (4)	-	4,52	4,53	5,79	5,48	5,42	5,72	5,58	5,62
		AIR TEMPERATURE FOR 100% FREE COOLING CAPACITY	°C	-2,9	-4,4	-4,6	0,7	0,1	2,0	1,0	0,5
		NOMINAL WATER FLOW	m3/h	1,4	1,6	2,3	4,0	5,1	6,6	7,8	9,9
MECHANICAL MODE PRESSURE DROPS (5)	kPa	29	25	33	49	47	56	58	60		
FREE COOLING MODE PRESSURE DROPS (6)	kPa	65	72	84	75	76	74	82	107		
NOMINAL COOLING CAPACITY	kW	8,8	10,3	15,1	26,0	33,1	42,9	50,2	64,1		
		TOTAL NOMINAL ABSORBED POWER	kW	4,8	5,0	5,7	9,2	10,7	15,7	17,4	20,9
		EER	kW/kW	2,30	2,56	3,19	3,28	3,53	3,18	3,30	3,43
		AIR TEMPERATURE FOR 100% FREE COOLING CAPACITY	°C	-3,0	-4,9	-5,2	1,8	1,0	3,5	2,1	1,5
		NOMINAL WATER FLOW	m3/h	1,7	1,9	2,9	4,9	6,3	8,1	9,5	12,1
		MECHANICAL MODE PRESSURE DROPS (5)	kPa	48	42	54	82	78	93	96	99
FREE COOLING MODE PRESSURE DROPS (6)	kPa	107	120	140	124	126	123	136	177		

FRIGORIFIC SECTION

COMPRESSORS / REFRIGERATING CIRCUITS / PARTITION STEP	nr.	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1	1/1/1
KIND OF EVAPORATOR	-	CX	CX	CX	CX	CX	CX	CX	CX

HYDRAULIC SECTION

WATER FLOW RANGE (8)	m3/h	01÷03	01÷03	01÷03	04÷08	04÷08	06÷12	06÷12	06÷12	
MAXIMUM PUMP ABSORBED POWER (WP OR OPTION DP)	P3 (3)	kW	0,98	0,98	0,98	1,28	1,28	2,20	2,20	2,20
MAXIMUM PUMP ABSORBED CURRENT (WP OR OPTION DP)		A	1,78	1,78	1,78	2,37	2,37	4,24	4,24	4,24
MAXIMUM PUMP ABSORBED POWER (OPTION PH OR DPH)	P5 (3)	kW	2,17	1,10	1,10	1,47	2,94	2,94	2,94	2,94
MAXIMUM PUMP ABSORBED CURRENT (OPTION PH OR DPH)		A	2,17	2,17	2,17	2,86	5,83	5,83	5,83	5,83
HYDRAULIC CONNECTIONS (THREADED / FLANGED)	BSP / DN	3/4"	3/4"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	
TANK VOLUME (7)	dm³	50	50	110	270	270	270	270	270	
EXPANSION VESSEL NUMBER x VOLUME (OPTION XV)	liters	5	5	8	12	12	12	12	12	

FAN SECTION (AXIAL)

FANS	nr.	1	1	1	2	2	2	2	2	
MAXIMUM FANS ABSORBED POWER	AC	kW	0,72	0,72	0,81	1,62	1,62	3,88	3,88	3,88
MAXIMUM FANS ABSORBED CURRENT		A	1,41	1,41	1,54	3,08	3,08	7,80	7,80	7,80
TOTAL AIR FLOW	m3/h	6102	6102	6800	13800	13000	30000	30000	28000	

TOTAL ELECTRIC DATA

MAXIMUM ABSORBED CURRENT (F.L.A) (8)	A	10,5	10,8	13,1	21,4	24,7	36,5	42,0	48,5
MAXIMUM PEAK CURRENT (L.R.A) (8)	A	49,8	49,8	64,8	104,4	120,4	144,2	178,2	229,2
MAXIMUM PEAK CURRENT WITH SOFT START (OPTION SF) (L.R.A) (8)	A	NA	NA	NA	NA	NA	116,2	143,4	184,2

NOISE DATA

SOUND PRESSURE FOR STANDARD CONFIGURATION (8) (9)	dB(A)	49,7	49,7	53,2	56,6	56,6	58,5	58,6	59,6
SOUND PRESSURE FOR LOW NOISE CONFIGURATION (OPTION LN) (8) (9)	dB(A)	49,6	49,6	53,1	56,4	56,4	58,3	58,3	58,6

DIMENSIONS AND WEIGHT

LENGTH	mm	1120	1120	1310	1610	1610	2220	2220	2220
WIDTH	mm	615	615	720	860	860	1100	1100	1100
HEIGHT	mm	1415	1415	1585	1550	1550	2120	2120	2120
WEIGHT EMPTY FOR STANDARD CONFIGURATION (7) (8)	kg	165	170	215	460	470	635	650	740
WEIGHT OPERATIVE FOR STANDARD CONFIGURATION (7) (8)	kg	215	220	345	745	755	930	950	1035

The manufacturer reserves the right to modify specifications without notice.

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Revision: 00-2020

Data referred to:

- (1) Data referred to inlet/outlet water temperature = +12/+7 °C, ambient temperature = +35°C, fluid = Water
- (2) Data referred to inlet/outlet water temperature = +15/+10 °C, ambient temperature = +30°C, fluid = 70% Water + 30% Ethylene Glycol
- (3) SEPR: data comply with the European Regulation (EU) 2016/2281, referring to high temperature process chillers
- (4) Pressure drops taken in account: evaporator, valves, piping
- (5) Pressure drops taken in account: evaporator, valves, piping, free-cooling coil
- (6) Data referred to standard chiller configuration as indicated in frigorific section, with different evaporator this data can change
- (7) Data referred to standard chiller configuration WP (single pump P3) and AC fans
- (8) Sound pressure level referred to measures according to normative ISO3744, pressure level at distance of 10 m, referred to free field on reflecting surface

* For the configurations NT.NP (no tank, no pump), NT.WP (no tank, single pump P3), and NT.PH (no tank, single pump P5) the chiller width will be 1105mm

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Type of available evaporators:

CX = Coaxial evaporator, convoluted tube in tube exchanger (outer tube in carbon steel or stainless steel, inner tubes in copper) installed inside the water storage tank

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B-ES = stainless steel brazed plate evaporator

TECHNICAL DATA

PERFORMANCES		Model	061	070	075	090	100	130	160	185	
NOMINAL COOLING CAPACITY	W 12°C/7°C @ 35°C (1)	kW	60,5	69,6	74,7	87,4	101,7	118,0	150,0	174,0	
		TOTAL NOMINAL ABSORBED POWER	kW	23,4	25,6	28,7	34,3	37,3	47,6	59,1	67,3
		EER	kW/kW	3,03	3,15	2,95	2,84	3,01	2,84	2,83	2,85
		SEPR (HT) (4)	-	6,10	6,06	5,80	5,78	5,76	5,61	5,54	5,62
		AIR TEMPERATURE FOR 100% FREE COOLING CAPACITY	°C	2,5	2,2	1,7	2,0	1,5	1,5	1,2	1,5
		NOMINAL WATER FLOW	m3/h	10,4	12,0	12,8	15,0	17,5	20,3	25,8	29,9
MECHANICAL MODE PRESSURE DROPS (5)	kPa	33	33	26	42	58	66	78	88		
FREE COOLING MODE PRESSURE DROPS (6)	kPa	58	63	60	85	112	121	120	128		
NOMINAL COOLING CAPACITY	30%EG 15°C/10°C @ 30°C (2)	kW	67,2	77,3	83,9	97,0	112,9	131,0	166,5	193,1	
		TOTAL NOMINAL ABSORBED POWER	kW	22,1	24,1	27,0	32,3	35,0	44,9	55,6	63,1
		EER	kW/kW	3,61	3,75	3,52	3,37	3,57	3,38	3,35	3,40
		AIR TEMPERATURE FOR 100% FREE COOLING CAPACITY	°C	4,1	3,7	3,1	3,5	2,8	2,8	2,4	2,8
		NOMINAL WATER FLOW	m3/h	12,7	14,6	15,9	18,4	21,4	24,8	31,5	36,6
		MECHANICAL MODE PRESSURE DROPS (5)	kPa	55	55	44	69	96	109	129	145
FREE COOLING MODE PRESSURE DROPS (6)	kPa	96	104	102	140	185	200	199	212		
FRIGORIFIC SECTION											
COMPRESSORS / REFRIGERATING CIRCUITS / PARTITION STEP	nr.	2/1/2	2/1/2	2/1/2	2/1/2	2/1/2	4/2/4	4/2/4	4/2/4		
KIND OF EVAPORATOR	-	CX	CX	CX	CX	CX	ST	ST	ST		
HYDRAULIC SECTION											
WATER FLOW RANGE (8)	m3/h	09÷19	10÷22	10÷22	10÷22	12÷23	14÷27	18÷31	26÷35		
MAXIMUM PUMP ABSORBED POWER (WP OR OPTION DP)	P3 (3)	kW	3,46	3,46	3,46	3,46	3,46	6,12	6,12	6,12	
MAXIMUM PUMP ABSORBED CURRENT (WP OR OPTION DP)		A	6,33	6,33	6,33	6,33	6,33	10,40	10,40	10,40	
MAXIMUM PUMP ABSORBED POWER (OPTION PH OR DPH)	P5 (3)	kW	6,12	6,12	8,30	8,30	8,30	12,04	12,04	12,04	
MAXIMUM PUMP ABSORBED CURRENT (OPTION PH OR DPH)		A	10,40	10,40	14,10	14,10	14,10	20,20	20,20	20,20	
HYDRAULIC CONNECTIONS (THREADED / FLANGED)	BSP / DN	2"	2"	2"	2"	2"	DN65	DN65	DN65		
TANK VOLUME (7)	dm³	410	410	410	410	410	390	500	500		
EXPANSION VESSEL NUMBER x VOLUME (OPTION XV)	liters	19	19	19	19	19	19	19	19		
FAN SECTION (AXIAL)											
FANS	nr.	2	2	2	3	3	4	5	5		
MAXIMUM FANS ABSORBED POWER	AC	kW	3,88	3,88	3,88	5,82	5,82	7,76	9,70	9,70	
MAXIMUM FANS ABSORBED CURRENT		A	7,80	7,80	7,80	11,70	11,70	15,60	19,50	19,50	
TOTAL AIR FLOW	m3/h	36000	36000	36000	49500	54000	66000	72000	71000		
TOTAL ELECTRIC DATA											
MAXIMUM ABSORBED CURRENT (F.L.A) (8)	A	52,6	57,9	63,1	78,0	84,5	102,9	127,9	149,9		
MAXIMUM PEAK CURRENT (L.R.A) (8)	A	151,4	173,4	178,6	222,0	273,0	201,7	243,4	293,9		
MAXIMUM PEAK CURRENT WITH SOFT START (OPTION SF) (L.R.A) (8)	A	127,8	145,4	150,6	187,2	228,0	178,1	215,4	259,1		
NOISE DATA											
SOUND PRESSURE FOR STANDARD CONFIGURATION (8) (9)	dB(A)	59,1	59,2	59,3	60,8	61,4	61,8	62,9	63,0		
SOUND PRESSURE FOR LOW NOISE CONFIGURATION (OPTION LN) (8) (9)	dB(A)	58,8	58,8	58,9	60,4	60,6	61,5	62,5	62,5		
DIMENSIONS AND WEIGHT											
LENGTH	mm	3355	3355	3355	3355	4355	4355	5350	5350		
WIDTH	mm	1105	1105	1105	1105	1105	1105	1105	1105		
HEIGHT	mm	2205	2205	2205	2205	2205	2205	2205	2205		
WEIGHT EMPTY FOR STANDARD CONFIGURATION (7) (8)	kg	1120	1125	1150	1180	1480	1675	1910	2000		
WEIGHT OPERATIVE FOR STANDARD CONFIGURATION (7) (8)	kg	1590	1595	1620	1650	1970	2180	2515	2670		

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(2) Data referred to inlet/outlet water temperature = +15/+10 °C, ambient temperature = +30°C, fluid = 70% Water + 30% Ethylene Glycol

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TECHNICAL DATA

PERFORMANCES		Model	200	230	280	340	370	
NOMINAL COOLING CAPACITY	W 12°C/7°C @ 35°C (1)	kW	200,0	226,0	276,0	325,0	355,0	
		TOTAL NOMINAL ABSORBED POWER	kW	77,5	86,7	107,1	117,3	133,9
		EER	kW/kW	2,97	2,96	2,85	3,04	2,87
		SEPR (HT) (4)	-	5,46	5,42	5,22	5,17	5,06
		AIR TEMPERATURE FOR 100% FREE COOLING CAPACITY	°C	0,7	0,5	-1,2	-7,0	-8,2
		NOMINAL WATER FLOW	m ³ /h	34,4	38,8	47,4	55,8	61,0
MECHANICAL MODE PRESSURE DROPS (5)	30%EG 15°C/10°C @ 30°C (2)	kPa	64	53	60	68	77	
FREE COOLING MODE PRESSURE DROPS (6)		kPa	102	98	120	117	122	
NOMINAL COOLING CAPACITY		kW	222,0	250,9	306,4	360,8	394,1	
TOTAL NOMINAL ABSORBED POWER	kW	72,9	81,5	100,3	109,7	124,9		
EER	kW/kW	3,54	3,52	3,41	3,63	3,44		
AIR TEMPERATURE FOR 100% FREE COOLING CAPACITY	°C	1,8	1,5	-0,7	-8,3	-9,9		
NOMINAL WATER FLOW	m ³ /h	42,1	47,5	58,0	68,3	74,6		
MECHANICAL MODE PRESSURE DROPS (5)	kPa	106	79	90	102	116		
FREE COOLING MODE PRESSURE DROPS (6)	kPa	169	147	180	175	183		
FRIGORIFIC SECTION								
COMPRESSORS / REFRIGERATING CIRCUITS / PARTITION STEP	nr.	4/2/4	4/2/4	4/2/4	4/2/4	4/2/4		
KIND OF EVAPORATOR	-	ST	ST	ST	ST	ST		
HYDRAULIC SECTION								
WATER FLOW RANGE (8)	m ³ /h	26÷46	26÷46	31÷58	38÷72	42÷80		
MAXIMUM PUMP ABSORBED POWER (WP OR OPTION DP)	P3 (3)	kW	10,25	10,25	10,25	10,25	10,25	
MAXIMUM PUMP ABSORBED CURRENT (WP OR OPTION DP)		A	17,40	17,40	17,40	17,40	17,40	
MAXIMUM PUMP ABSORBED POWER (OPTION PH OR DPH)	P5 (3)	kW	19,94	19,94	19,94	19,94	19,94	
MAXIMUM PUMP ABSORBED CURRENT (OPTION PH OR DPH)		A	32,70	32,70	32,70	32,70	32,70	
HYDRAULIC CONNECTIONS (THREADED / FLANGED)	BSP / DN	DN80	DN80	DN100	DN100	DN100		
TANK VOLUME (7)	dm ³	500	500	500	500	500		
EXPANSION VESSEL NUMBER x VOLUME (OPTION XV)	liters	19	19	19	19	19		
FAN SECTION (AXIAL)								
FANS	nr.	5	6	6	6	6		
MAXIMUM FANS ABSORBED POWER	AC	kW	9,70	11,64	11,64	11,64	11,64	
MAXIMUM FANS ABSORBED CURRENT		A	19,50	23,40	23,40	23,40	23,40	
TOTAL AIR FLOW	m ³ /h	80000	84000	84000	84000	84000		
TOTAL ELECTRIC DATA								
MAXIMUM ABSORBED CURRENT (F.L.A) (8)	A	169,8	186,6	219,2	248,6	278,0		
MAXIMUM PEAK CURRENT (L.R.A) (8)	A	358,3	375,1	446,6	499,3	528,7		
MAXIMUM PEAK CURRENT WITH SOFT START (OPTION SF) (L.R.A) (8)	A	313,3	330,1	392,2	437,3	466,7		
NOISE DATA								
SOUND PRESSURE FOR STANDARD CONFIGURATION (8) (9)	dB(A)	63,7	64,8	66,1	66,1	66,1		
SOUND PRESSURE FOR LOW NOISE CONFIGURATION (OPTION LN) (8) (9)	dB(A)	62,8	63,6	64,4	64,4	64,4		
DIMENSIONS AND WEIGHT								
LENGTH	mm	6350	6350	6350	6350	6350		
WIDTH	mm	1305*	1305*	1305*	1305*	1305*		
HEIGHT	mm	2180	2180	2180	2180	2180		
WEIGHT EMPTY FOR STANDARD CONFIGURATION (7) (8)	kg	2465	2695	2820	2920	2980		
WEIGHT OPERATIVE FOR STANDARD CONFIGURATION (7) (8)	kg	3130	3365	3510	3625	3700		

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