

Air-cooled liquid chillers SBSF-OPT series, scroll compressors, R410A / R32 / R454B refrigerant, brazed plate / shell and tube evaporator, condenser coil with copper tubes and aluminium fins, integrated and optimized free-coolecing coils, AC axial fans controlled by cut-phase speed regulator. Electrical feed 400V/3ph/50Hz (60Hz version as option). IP54 protection rating, chillers suitable for outdoor installation.

Additional modules (2 fans) can be added to improve efficiency (before the order). Inbuilt water storage tank and single pump P3 as option.

Type of available evaporators:

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

B-ES = stainless steel brazed plate evaporator

Type of available expansion elements

VTS = Thermostatic expansion valve

ETS = Electronic expansion valve (available as option)

TECHNICAL DATA

PERFORMANCES

NOMINAL COOLING CAPACITY	W 12°C/7°C @ 35°C (1)	kW	99,8	124,4	148,6	179,0	186,4	230,9	297,3	331,8
TOTAL NOMINAL ABSORBED POWER		kW	29,2	36,9	42,9	50,6	56,5	74,2	93,7	108,3
EER		kW/kW	3,42	3,38	3,46	3,53	3,30	3,11	3,17	3,06
SEPR (HT) (3)		-	5,02	5,04	5,02	5,03	5,06	5,06	5,05	5,05
AIR TEMPERATURE FOR 100% FREE COOLING CAPACITY		°C	3,85	2,73	4,60	3,90	2,74	3,60	3,80	3,20
NOMINAL WATER FLOW		m3/h	17,2	21,4	25,6	30,8	32,1	39,7	51,1	57,1
MECHANICAL MODE PRESSURE DROPS (4) (6) (7)		kPa	72	70	65	63	60	55	68	76
FREE COOLING MODE PRESSURE DROPS (5)		kPa	149	165	122	128	129	149	145	167

FRIGORIFIC SECTION

COMPRESSORS / REFRIGERATING CIRCUITS / PARTITION STEP	nr.	2/1/2	2/1/2	4/2/4	4/2/4	4/2/4	4/2/4	4/2/4	4/2/4
KIND OF EXPANSION ELEMENT	-	VTS	VTS	VTS	VTS	VTS	VTS	VTS	VTS
KIND OF EVAPORATOR	-	B-ES	B-ES	ST	ST	ST	ST	ST	ST

HYDRAULIC SECTION

WATER FLOW RANGE (7)	m3/h	13,0÷23,0	16,0÷23,0	21,0÷36,0	25,0÷45,0	25,0÷45,0	30,0÷55,0	36,0÷66,0	40,0÷73,0
MAXIMUM PUMP ABSORBED POWER (WP OR OPTION DP)	P3 (2)	kW	6,12	6,12	6,12	10,20	10,20	10,20	16,22
MAXIMUM PUMP ABSORBED CURRENT (WP OR OPTION DP)		A	10,40	10,40	10,40	17,40	17,40	17,40	26,60
MAXIMUM PUMP ABSORBED POWER (OPTION PH OR DPH)	P5 (2)	kW	8,30	12,03	12,03	12,03	19,94	19,94	19,94
MAXIMUM PUMP ABSORBED CURRENT (OPTION PH OR DPH)		A	14,10	20,20	20,20	20,20	32,70	32,70	32,70
HYDRAULIC CONNECTIONS (FLANGED)	DN	DN65	DN65	DN80	DN80	DN80	DN80	DN100	DN100
TANK VOLUME (6) (9)	dm³3	150	150	300	300	300	300	380	380
EXPANSION VESSEL NUMBER x VOLUME (OPTION XV) (10)	liters	1x12	1x12	1x19	1x19	1x19	1x19	2x19	2x19

FAN SECTION (AXIAL)

FANS	nr.	4	4	6	6	6	6	8	8
MAXIMUM FANS ABSORBED POWER	AC	kW	7,36	7,36	11,04	11,04	11,04	14,72	14,72
MAXIMUM FANS ABSORBED CURRENT		A	15,32	15,32	22,98	22,98	22,98	30,64	30,64
TOTAL AIR FLOW	m3/h	68000	68000	102000	102000	102000	102000	136000	136000

TOTAL ELECTRIC DATA

MAXIMUM ABSORBED CURRENT (F.L.A) (7)	A	75,3	88,2	110,4	83,0	143,0	168,7	209,1	238,4
MAXIMUM PEAK CURRENT (L.R.A) (7)	A	219,3	276,8	225,9	227,0	287,0	357,3	436,5	489,2
MAXIMUM PEAK CURRENT WITH SOFT START (OPTION SF) (L.R.A) (7)	A	184,5	231,8	197,9	192,2	252,2	312,3	382,1	427,2

NOISE DATA

SOUND PRESSURE FOR STANDARD CONFIGURATION (7) (8)	dB(A)	57,5	59,6	59,1	58,8	59,6	62,1	64,5	64,5
SOUND PRESSURE FOR LOW NOISE OPTION (LNJ) (7) (8)	dB(A)	56,5	57,5	58,2	58,1	58,5	59,6	61,6	61,6
SOUND PRESSURE FOR SUPER LOW NOISE OPTION (SLN) (7) (8)	dB(A)	56,3	56,8	58,0	58,0	58,1	58,8	60,5	60,5
SOUND PRESSURE FOR EXTRA LOW NOISE OPTION (ELN) (7) (8)	dB(A)	51,8	53,1	53,5	53,3	53,8	55,4	57,6	57,6

DIMENSIONS AND WEIGHT

LENGTH	mm	3300	3300	4600	4600	4600	4600	5900	5900
WIDTH	mm	2210	2210	2210	2210	2210	2210	2210	2210
HEIGHT	mm	2500	2500	2500	2500	2500	2500	2500	2500
WEIGHT EMPTY FOR STANDARD CONFIGURATION (6) (7)	kg	1670	1830	2690	2810	2810	3230	3490	3540
WEIGHT OPERATIVE FOR STANDARD CONFIGURATION (6) (7)	kg	1776	1946	2940	2960	2960	3400	3726	3786

The manufacturer reserves the right to modify specifications without notice.

Last update: 27/01/2021
Revision: 02-2021

Data referred to:

(1) Data referred to inlet/outlet water temperature = +12/+7 °C, ambient temperature = +35°C, fluid = Water

(2) Available pressure can be calculated from Hitema Online Selection Software

(3) SEPR: data comply with the European Regulation (EU) 2016/2281, referring to high temperature process chillers in the configuration with brazed plate or shell and tube evaporator and without pump. Any added option that modify cooling capacity or absorbed power of the chiller will not be considered in the SEPR value

(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 NP (no pump) 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

(9) To avoid excessive start/stop of the compressors a minimum water volume for the entire plant must be guarantee, the tank supplied by Hitema can be not enough

(10) The expansion vessel volume is calculated considering 50°C of deltaT between water temperature with chiller stopped and chiller active, 1/2bar of hydraulic circuit pre-charge and considering only the water volume of the unit

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Type of available expansion elements

VTS = Thermostatic expansion valve

ETS = Electronic expansion valve (available as option)

TECHNICAL DATA

PERFORMANCES

	Model	380	430	470	530	570	610	660	720
NOMINAL COOLING CAPACITY	kW	386,5	430,3	464,1	514,9	545,0	606,2	667,6	706,8
TOTAL NOMINAL ABSORBED POWER	kW	121,2	143,1	159,2	170,5	186,6	200,0	216,5	232,1
EER	kW/kW	3,19	3,01	2,91	3,02	2,92	3,03	3,08	3,05
SEPR (HT) (3)	-	5,01	5,57	5,50	5,53	5,53	5,56	5,50	5,52
AIR TEMPERATURE FOR 100% FREE COOLING CAPACITY	°C	3,60	3,00	2,50	3,00	2,60	3,00	3,20	2,80
NOMINAL WATER FLOW	m3/h	66,5	74,0	79,8	88,6	93,7	104,3	114,8	121,6
MECHANICAL MODE PRESSURE DROPS (4) (6) (7)	kPa	79	79	84	86	78	83	94	98
FREE COOLING MODE PRESSURE DROPS (5)	kPa	150	163	177	171	170	174	179	191

FRIGORIFIC SECTION

COMPRESSORS / REFRIGERATING CIRCUITS / PARTITION STEP	nr.	4/2/4	6/2/4	6/2/4	6/2/4	6/2/4	6/2/4	6/2/4	6/2/4
KIND OF EXPANSION ELEMENT	-	VTS	VTS	ETS	ETS	ETS	ETS	ETS	ETS
KIND OF EVAPORATOR	-	ST	ST	ST	ST	ST	ST	ST	ST

HYDRAULIC SECTION

WATER FLOW RANGE (7)	m3/h	4,7÷8,7	5,8÷10,7	6,2÷11,5	7,8÷14,2	7,8÷14,2	8,4÷14,3	8,4÷14,8	8,4÷15,7
MAXIMUM PUMP ABSORBED POWER (WP OR OPTION DP)	P3 (2) kW	16,22	16,22	16,22	16,22	16,22	19,94	19,94	31,88
MAXIMUM PUMP ABSORBED CURRENT (WP OR OPTION DP)	A	26,60	26,60	26,60	26,60	26,60	32,70	32,70	53,50
MAXIMUM PUMP ABSORBED POWER (OPTION PH OR DPH)	P5 (2) kW	31,88	31,88	31,88	39,09	39,09	39,09	39,09	57,65
MAXIMUM PUMP ABSORBED CURRENT (OPTION PH OR DPH)	A	53,50	53,50	53,50	65,60	65,60	65,60	65,60	93,50
HYDRAULIC CONNECTIONS (FLANGED)	DN	DN100	DN125	DN125	DN150	DN150	DN150	DN150	DN150
TANK VOLUME (6) (9)	dm³3	500	500	500	500	500	500	700	700
EXPANSION VESSEL NUMBER x VOLUME (OPTION XV) (10)	liters	2x19	2x19	2x19	2x19	2x19	2x19	1x60	1x60

FAN SECTION (AXIAL)

FANS	nr.	10	10	10	12	12	14	16	16
MAXIMUM FANS ABSORBED POWER	AC kW	18,40	18,40	18,40	22,08	22,08	25,76	29,44	29,44
MAXIMUM FANS ABSORBED CURRENT	A	38,30	38,30	38,30	45,96	45,96	53,62	61,28	61,28
TOTAL AIR FLOW	m3/h	170000	170000	170000	204000	204000	238000	272000	272000

TOTAL ELECTRIC DATA

MAXIMUM ABSORBED CURRENT (F.L.A) (7)	A	275,5	306,0	335,3	372,3	401,7	438,4	475,0	504,0
MAXIMUM PEAK CURRENT (L.R.A) (7)	A	526,2	533,4	586,0	623,1	652,4	772,6	809,2	838,2
MAXIMUM PEAK CURRENT WITH SOFT START (OPTION SF) (L.R.A) (7)	A	464,2	479,0	524,0	561,1	590,4	691,0	727,6	756,6

NOISE DATA

SOUND PRESSURE FOR STANDARD CONFIGURATION (7) (8)	dB(A)	64,8	66,0	66,0	66,2	66,2	67,7	68,8	69,6
SOUND PRESSURE FOR LOW NOISE OPTION (LNJ) (7) (8)	dB(A)	62,1	62,9	62,9	63,3	63,3	64,5	65,5	66,0
SOUND PRESSURE FOR SUPER LOW NOISE OPTION (SLN) (7) (8)	dB(A)	61,2	61,7	61,7	62,2	62,2	63,3	64,1	64,5
SOUND PRESSURE FOR EXTRA LOW NOISE OPTION (ELN) (7) (8)	dB(A)	58,0	59,0	59,0	59,3	59,3	60,6	61,7	62,3

DIMENSIONS AND WEIGHT

LENGTH	mm	7200	7200	7200	8500	8500	9800	11100	11100
WIDTH	mm	2210	2210	2210	2210	2210	2210	2210	2210
HEIGHT	mm	2500	2500	2500	2500	2500	2500	2500	2500
WEIGHT EMPTY FOR STANDARD CONFIGURATION (6) (7)	kg	4320	4610	4690	5420	5520	6180	6780	6880
WEIGHT OPERATIVE FOR STANDARD CONFIGURATION (6) (7)	kg	4646	4946	5046	5616	5746	6492	7222	7342

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