



SCAEY

**Air cooled water chillers
air cooled reversible heat pumps
from 45 kW to 320 KW**



R 410A
Compressors Scroll

Serie:	SCAEY	Catalogo:	DE 88
Series:		Leaflet:	
Emissione:	04/11	Sostituisce:	12/10
Issue:		Supersedes:	

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Identification code

S C A E Y – 151 H – PAC
1 2 3 4 5 6 7 8 9 10 11

1	S	Small series >40 kW
2	C	Chiller unit
3	A	Air cooled
4	E	Axial fans
5	Y	Refrigerant R410A
6	- A	Scroll Compressors Recip. Compressors
7	15	Capacity factors
8	1	Number of circuits
9	- H	Cooling only version Heat pump unit version
10	- F	Plate-to-plate evaporator Shell and tube evaporator
11	PAC P1	Storage tank + pump 1 pump
	P2	2 pumps
	DS	Desuperheater
	RCS	Heat recovery fitted in series (70-90%)
	RCP	Heat recovery fitted in parallel (100%)
	LN	Low Noise
	VLN	Very Low Noise

SCAEY

General features

FRAME

Self-supporting galvanized steel frame protected with polyester powder painting. Panels are easily removable for maintenance and service activities.

COMPRESSORS

Hermetic «scroll» type with overload protection by a klixon and complete with oil sight glass. They are installed on vibrations absorbing rubber and placed within a close compartment to reduce sound level and to allow service and maintenance activities while the unit is in operation.

EVAPORATOR

Braze welded plate type with one or two independent refrigerant circuits and one water circuit.

The circuit is made to guarantee an homogeneous cooling of all the water flow even during partial load. The insulation is made of flexible closed-cells lining.

As protection, a flow switch is recommended to be mounted to stop the unit in case of no water circulation.

CONDENSER

Copper tube and aluminium finned coil. As option a filter/protection grid is available.

FANS

Axial fans with aerodynamic outline blade section made of Al/Mg, directly coupled to a three phase electric motor with external rotor. A safety fan guard is fitted on air flow discharge.

REFRIGERANT CIRCUIT

Each unit is equipped with one or two refrigerant circuits. Each circuit includes: filter dryer, sight glass, electronic thermostatic valve, Schrader service valve.

To protect the refrigerant circuit the following devices are installed: manual reset high pressure switch, automatic reset low pressure switch, antifreeze thermostat.

The Heat Pump Units version contain, in addition: safety thermostat on the discharge line, 4-way valve, non-return valve, two electronics thermostatic valves, liquid receiver and, if necessary, li-liquid separator on the compressor suction line.

ELECTRICAL BOARD

With protection grade IP54 the el. board is mounted in the compressor chamber. Service activities can be done while the unit is in operation. It includes: main circuit automatic breaker with locking door device, compressors and fans contactors and relé, auxiliary circuit transformer.

Microprocessor to control automatically the unit with a visual system to display the function as well as failures.

Versioni

DS

Partial condensing heat recovery. Each refrigerant circuit includes: a desuperheater insulated and installed in series between the compressor and the condenser.

RCS

Condensing heat recovery from 70% to 90%. Each refrigerant circuit includes: a heat exchanger insulated and mounted in series between compressor condenser, and condensing control pressure transducer type.

RCP

100% condensing heat recovery. Each refrigerant circuit includes: a heat exchanger insulated and mounted in parallel to the condenser and solenoid valves.

P

This version is equipped with hydraulic kit. It includes: one or two pumps (one as stand-by), expansion vessel, gauges, flow switch, safety valve, air purger, shut off valve and hydraulic circuit insulated. In case of stand-by pump non-return valves are mounted. Relevant electrical circuit. As option, pumps with higher ESP are available.

PAC

Further to what included in the P version, a insulated inertial storage tank is installed.

LN

Low noise version. This version equipped with low speed fans.

VLN

Very low noise version. Further to the LN devices, this execution is equipped with sound proofing on the compressors.

OPTIONS

- Power factor correction.
- Fan speed control.
- Remote control panel.
- Clock card.
- RS 485 card.
- Evaporator el. heater (STD in H-version).
- El. Heater PAC version.
- Compressor shut off valves.
- HP/LP gauges.
- Cu/Cu or Epoxy Protection Coils.
- Flow switch (STD in P and PAC versions)
- Pump shut off valve.
- Pumps with higher ESP.
- Protection grid/filter condenser (protection grid only in H-units).
- Rubber AV mounts.
- Spring AV mounts.
- Wooden crate.

SCAEY Technical Data

SIZE		61	71	81	91	101	121
COOLING MODE SCAEY STD							
Cooling capacity (1)	kW	47	52	61	66	82	95
Abs. power (2)	kW	17	20.6	21.8	25.6	28.2	33.3
EER (2)	-	2.76	2.52	2.79	2.57	2.9	2.85
COOLING MODE SCAEY LN/VLN							
Cooling capacity (1)	kW	44	48	57	62	77	88
Abs. power (2)	kW	17,1	20.9	22.3	25.5	28.9	33.1
HEATING MODE SCAEY...H							
Heating capacity (1)	kW	48	56	65	71	86	99
Abs. power (2)	kW	16,3	19	21	23	26,3	32,2
COP (2)	-	2,95	2,95	3	3	3,2	3
COMPRESSOR (scroll)							
Quantity	n°	2					
Refrigerant circuit	n°	1					
Capacity step	n°	2					
Refrigerant	-	R410A					
Refrigerant charge	kg	15	16	17	19	21	25
EVAPORATOR Plate-to-plate (3)							
Water flow rate	m3/h	8	8,9	10,4	11,3	14,1	16,3
Pressure drop	kPa	31	37	32	35	28	27
Water volume	l	2	2	2,4	2,4	4,8	4,8
PAC Version							
Storage tank water volume	l	200	200	200	200	300	300
Water pump nominal power	kW	0,75	0,75	0,75	0,75	1,1	1,1
Water pump nominal current	A	2,2	2,2	2,2	2,2	3,5	3,5
External static pressure	kPa	120	120	120	110	140	115
CONDENSER (STD version) (4) (5)							
Axial fans	n°	2	2	2	2	2	2
Max abs. power	kW	2,2	2,2	2,2	2,2	2,2	4
Max abs. current	A	4,6	4,6	4,6	4,6	4,6	8
CONDENSER (LN/VLN version) (4)							
Axial fans	n°	2	2	2	2	2	2
Max. abs. power	kW	1,5	1,5	1,5	1,5	1,5	2,6
Max abs. current	A	2,8	2,8	2,8	2,8	2,8	5
UNIT ELECTRICAL DATA (6)							
Max abs. current	A	42,6	48,8	53,6	58,8	69,2	78,7
Max LRC	A	136,3	146,4	148,8	173,4	212,6	267,2
Voltage supply	V/f/Hz	400/3/50					
DS Version (7)							
Heating capacity	kW	11	12	14	16	19	22
Water flow rate	m3/h	0,9	1	1,2	1,4	1,6	1,8
Pressure drop	kPa	10	10	15	15	16	16
Sound pressure level at 1 m (6) (8)							
STD Version	dB(A)	72	72	72	72	73	77
LN Version	dB(A)	66	66	66	66	67	71
VLN Version	dB(A)	64	64	64	64	65	69

Note:

- 1) Cooling mode: water temp. 12 °C / 7 °C; air temperature 35 °C;
Heating mode: water temp. 40 °C / 45 °C; air temperature 7 °C db, 6 °C wb;
- 2) Compressors + fans only. No water pump(s);
- 3) It becomes condenser in SCAEY...H (heat pump) version;
- 4) It becomes evaporator in SCAEY...H (heat pump) version;
- 5) Max air flow
- 6) Without water pump(s), STD version;
- 7) Water temperature from 40 °C to 50 °C;
- 8) Compressors site and according to ISO 3744.

SCAEY Technical Data

SIZE		131	141	151	161	191	222
COOLING MODE SCAEY STD							
Cooling capacity (1)	kW	101	113	121	136	159	191
Abs. power (2)	kW	38.2	42	48	53.6	61.6	66.6
EER (2)	-	2.65	2.69	2.52	2.53	2.58	2.86
COOLING MODE SCAEY LN/VLN							
Cooling capacity (1)	kW	96	106	113	130	153	176
Abs. power (2)	kW	38.8	43.2	49.6	56.3	63.3	66.4
HEATING MODE SCAEY...H							
Heating capacity (1)	kW	109	122	133	153	174	197
Abs. power (2)	kW	35,6	38,7	43	48,6	57,2	64,4
COP (2)	-	3	3,15	3,1	3,15	3	3
COMPRESSOR (scroll)							
Quantity	n°	2					4
Refrigerant circuit	n°	1					2
Capacity step	n°	2					4
Refrigerant	-	R410A					
Refrigerant charge	kg	25	30	31	35	36	23+23
EVAPORATOR Plate-to-plate (3)							
Water flow rate	m3/h	17.3	19,4	20.8	22.3	26.3	30.2
Pressure drop	kPa	32	38	44	43	40	41
Water volume	l	6,8	6,8	6,8	8,2	8,4	9,8
PAC Version							
Storage tank water volume	l	300	500	500	500	500	500
Water pump nominal power	kW	1,1	1,5	1,5	1,85	1,85	2,2
Water pump nominal current	A	3,5	5	5	5	5	5,1
External static pressure	kPa	110	130	120	140	120	140
CONDENSER (STD version) (4) (5)							
Axial fans	n°	2	3	3	3	3	4
Max abs. power	kW	4	3,3	3,3	3,3	6	8
Max abs. current	A	8	6,9	6,9	6,9	12	16
CONDENSER (LN/VLN version) (4)							
Axial fans	n°	2	3	3	3	3	4
Max. abs. power	kW	2,6	2,25	2,25	2,25	4,8	5,2
Max abs. current	A	5	4,2	4,2	4,2	7,5	10
UNIT ELECTRICAL DATA (6)							
Max abs. current.	A	81	91,6	99,7	114,1	133,9	154,4
Max LRC	A	269,5	319	327,1	365,1	384,9	342,9
Voltage supply	V/f/Hz	400/3/50					
DS Version (7)							
Heating capacity	kW	24	28	33	38	42	46
Water flow rate	m3/h	2	2,4	2,8	3,2	3,6	3,9
Pressure drop	kPa	15	18	18	20	20	20
Sound pressure level at 1 m (6) (8)							
STD Version	dB(A)	77	74	74	74	79	82
LN Version	dB(A)	71	68	68	68	73	76
VLN Version	dB(A)	66	66	66	66	71	73

Note:

- 1) Cooling mode: water temp. 12 °C / 7 °C; air temperature 35 °C;
Heating mode: water temp. 40 °C / 45 °C; air temperature 7 °C db, 6 °C wb;
- 2) Compressors + fans only. No water pump(s);
- 3) It becomes condenser in SCAEY...H (heat pump) version;
- 4) It becomes evaporator in SCAEY...H (heat pump) version;
- 5) Max air flow
- 6) Without water pump(s), STD version;
- 7) Water temperature from 40 °C to 50 °C;
- 8) Compressors site and according to ISO 3744.

SCAEY Technical Data

SIZE		242	262	282	312	342	382
COOLING MODE SCAEY STD							
Cooling capacity (1)	kW	200	222	238	271	303	320
Abs. power (2)	kW	76	84.4	85.8	92	107,4	123.2
EER (2)	-	2.63	2.63	2.77	2.94	2.82	2.59
COOLING MODE SCAEY LN/VLN							
Cooling capacity (1)	kW	190	213	224	253	282	308
Abs. power (2)	kW	76.8	86.9	84.6	91.8	108.6	125.8
HEATING MODE SCAEY...H							
Heating mode (1)	kW	218	245	250	280	316	348
Abs. power (2)	kW	72	77,3	83,8	92,8	103,2	114
COP (2)	-	3	3,1	3	3	3	3
COMPRESSOR (scroll)							
Quantity	n°	4					
Refrigerant circuit	n°	2					
Capacity step	n°	4					
Refrigerant	-	R410A					
Refrigerant charge	kg	25+25	29+29	31+31	34+34	36+36	38+38
EVAPORATOR Plate-to-plate (3)							
Water flow rate	m3/h	34,4	38,1	40,9	46.6	52,1	55
Pressure drop	kPa	50	42	48	59	52	56
Water volume	l	9,8	13	13	13	18	21
PAC Version							
Storage tank water volume	l	500	500	500	750	750	750
Water pump nominal power	kW	2,2	3	3	3	4	4
Water pump nominal current	A	5	6,5	6,5	6,5	7,7	7,7
External static pressure	kPa	110	130	120	110	140	130
CONDENSER (STD version) (4) (5)							
Axial fans	n°	4	6	6	6	6	6
Max abs. power	kW	8	6,6	12	12	12	12
Max abs. current	A	16	14	24	24	24	24
CONDENSER (LN/VLN version) (4)							
Axial fans	n°	4	6	6	6	6	6
Max abs. power	kW	5,2	4,5	7,8	7,8	7,8	7,8
Max abs. current	A	10	8,4	15	15	15	15
UNIT ELECTRICAL DATA (6)							
Max abs. current	A	166,2	180,2	191	207,2	236	264,8
Max LRC	A	354,7	407,6	418,4	434,6	487	515,8
Voltage supply	V/f/Hz	400/3/50					
DS Version (7)							
Heating capacity	kW	52	62	65	75	83	88
Water flow rate	m3/h	4,4	5,3	5,5	6,4	7,1	7,5
Pressure drop	kPa	20	22	22	24	26	26
Sound pressure level at 1 m (6) (8)							
STD Version	dB(A)	82	80	84	84	84	84
LN Version	dB(A)	76	74	78	78	78	78
VLN Version	dB(A)	73	72	76	76	76	76

Note:

- | | |
|--|--|
| 1) Cooling mode: water temp. 12 °C / 7 °C; air temperature 35 °C;
Heating mode: water temp. 40 °C / 45 °C; air temperature 7 °C db,
6 °C wb; | 4) It becomes evaporator in SCAEY...H (heat pump) version; |
| 2) Compressors + fans only. No water pump(s); | 5) Max air flow |
| 3) It becomes condenser in SCAEY...H (heat pump) version; | 6) Without water pump(s), STD version; |
| | 7) Water temperature from 40 °C to 50 °C; |
| | 8) Compressors site and according to ISO 3744. |

SCAEY R 410A: PERFORMANCES Plate-to-plate exchanger

COOLING CAPACITY AND ABSORBED POWER

MOD.	EVAP	CONDENSER Ambient air temperature °C													
	Tw °C out.	26		29		32		35		38		41		44	
		kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa
61	5	50	11,7	48	12,5	46	13,4	44	14,2	42	15,3	41	16,3	39	17,4
	6	51	11,8	49	12,7	47	13,5	46	14,3	44	15,4	42	16,4	40	17,6
	7	52	12,0	50	12,8	48	13,6	47	14,4	45	15,5	43	16,6	41	17,7
	8	53	12,1	52	13,0	50	13,8	48	14,4	46	15,6	44	16,7	42	18,0
	9	55	12,2	53	13,1	51	13,9	49	14,7	47	15,8	46	16,8	43	18,1
	10	56	12,4	55	13,2	53	14,0	51	14,8	48	15,8	47	17,0	45	18,0
71	5	55	14,4	53	15,5	51	16,6	49	17,6	47	18,9	45	20,1	43	21,5
	6	56	14,6	54	15,7	52	16,7	50	17,7	48	19,0	46	20,3	44	21,7
	7	57	14,8	56	15,8	54	16,8	52	17,8	50	19,2	48	20,5	46	21,9
	8	59	15,0	57	16,0	55	17,0	53	17,9	51	19,2	49	20,6	47	22,3
	9	60	15,1	59	16,2	57	17,2	55	18,2	53	19,5	50	20,8	48	22,4
	10	62	15,3	60	16,3	58	17,3	56	18,3	54	19,6	51	21,0	49	22,3
81	5	65	15,7	62	16,9	60	18,0	57	19,1	55	20,6	53	21,9	51	23,5
	6	66	15,9	63	17,1	61	18,2	59	19,3	57	20,8	54	22,1	52	23,7
	7	67	16,1	65	17,3	63	18,3	61	19,4	59	20,9	56	22,3	54	23,9
	8	69	16,3	67	17,5	65	18,5	62	19,5	60	21,0	57	22,5	55	24,3
	9	71	16,5	69	17,6	66	18,7	64	19,8	62	21,3	59	22,7	56	24,4
	10	73	16,7	71	17,8	68	18,9	66	20,0	63	21,3	60	22,9	58	24,3
91	5	70	18,0	67	19,3	65	20,6	62	21,9	59	23,5	57	25,1	55	26,9
	6	72	18,2	69	19,5	66	20,8	64	22,0	61	23,8	59	25,3	56	27,1
	7	73	18,4	71	19,8	68	21,0	66	22,2	63	23,9	61	25,5	58	27,3
	8	75	18,6	73	20,0	70	21,2	67	22,3	65	24,0	62	25,8	59	27,8
	9	77	18,9	75	20,2	72	21,4	69	22,6	67	24,4	64	26,0	61	28,0
	10	79	19,1	77	20,4	74	21,6	71	22,9	68	24,4	65	26,2	63	27,8
101	5	87	21,2	84	22,8	80	24,4	77	25,9	74	27,8	71	29,6	68	31,7
	6	89	21,5	85	23,1	82	24,6	80	26,0	76	28,0	73	29,9	70	32,0
	7	90	21,7	88	23,3	84	24,8	82	26,2	79	28,2	75	30,1	72	32,2
	8	93	22,0	90	23,6	87	25,0	84	26,3	80	28,3	77	30,4	74	32,8
	9	95	22,3	93	23,8	89	25,3	86	26,7	83	28,7	80	30,7	75	33,0
	10	98	22,5	95	24,0	92	25,5	89	27,0	84	28,8	81	30,9	78	32,8
121	5	101	23,7	97	25,5	93	27,2	89	28,9	86	31,1	83	33,1	79	35,5
	6	103	24,0	99	25,8	95	27,5	92	29,1	88	31,4	85	33,4	81	35,7
	7	105	24,3	102	26,1	98	27,7	95	29,3	91	31,6	87	33,7	84	36,0
	8	107	24,6	105	26,4	101	28,0	97	29,4	93	31,6	89	34,0	86	36,6
	9	110	24,9	107	26,6	104	28,2	100	29,9	96	32,1	92	34,3	87	36,9
	10	114	25,2	110	26,9	106	28,5	103	30,2	98	32,2	94	34,6	90	36,6

Note:

Tw - Evaporator outlet water temperature (delta T 5 °C)

kWf - Cooling capacity

kWa - Abs. power (compressor only)

SCAEY R 410A: PERFORMANCES Plate-to-plate exchanger

COOLING CAPACITY AND ABSORBED POWER

MOD.	EVAP	CONDENSER Ambient air temperature °C													
	Tw °C out.	26		29		32		35		38		41		44	
		kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa
131	5	107	27,4	103	29,4	99	31,4	95	33,4	91	35,8	88	38,2	84	40,9
	6	110	27,7	105	29,7	101	31,7	98	33,6	94	36,2	90	38,5	86	41,2
	7	111	28,1	108	30,1	104	31,9	101	33,8	97	36,4	93	38,9	89	41,6
	8	114	28,4	111	30,4	107	32,3	103	33,9	99	36,5	95	39,2	91	42,3
	9	117	28,7	114	30,7	110	32,6	106	34,5	102	37,1	98	39,5	93	42,6
	10	121	29,1	117	31,0	113	32,9	109	34,8	104	37,2	100	39,9	96	42,3
141	5	120	30,9	115	33,1	111	35,4	106	37,6	102	40,4	98	43,1	94	46,1
	6	123	31,2	118	33,5	113	35,7	110	37,8	105	40,8	101	43,4	96	46,5
	7	124	31,6	121	33,9	116	36,0	113	38,1	108	41,1	104	43,8	99	46,9
	8	128	32,0	124	34,3	120	36,4	115	38,2	111	41,1	106	44,2	102	47,6
	9	131	32,4	128	34,6	123	36,7	119	38,9	114	41,8	110	44,6	104	48,0
	10	136	32,8	131	34,9	127	37,1	122	39,2	116	41,9	112	45,0	107	47,6
151	5	129	35,6	123	38,3	119	40,9	114	43,4	109	46,6	105	49,7	100	53,2
	6	131	36,1	126	38,7	121	41,3	117	43,7	113	47,1	108	50,2	103	53,7
	7	133	36,5	129	39,2	125	41,6	121	44,0	116	47,4	111	50,6	106	54,1
	8	137	37,0	133	39,6	128	42,0	123	44,1	119	47,5	114	51,0	109	55,0
	9	140	37,4	137	40,0	132	42,4	127	44,9	122	48,3	117	51,5	111	55,4
	10	145	37,8	140	40,3	136	42,8	131	45,3	125	48,4	120	51,9	115	55,0
161	5	145	41,0	139	44,0	133	47,1	128	49,9	122	53,6	118	57,2	113	61,2
	6	148	41,5	141	44,5	136	47,5	132	50,2	126	54,1	121	57,7	116	61,7
	7	150	42,0	146	45,0	140	47,8	136	50,6	131	54,5	125	58,2	120	62,2
	8	154	42,5	150	45,5	144	48,3	139	50,8	133	54,6	128	58,7	122	63,3
	9	158	43,0	154	45,9	148	48,8	143	51,6	137	55,5	132	59,2	125	63,8
	10	163	43,5	158	46,4	152	49,2	147	52,1	140	55,7	135	59,7	129	63,3
191	5	169	45,0	162	48,4	156	51,7	149	54,9	143	58,9	138	62,8	132	67,3
	6	173	45,6	165	48,9	159	52,2	154	55,2	148	59,5	142	63,4	135	67,8
	7	175	46,1	170	49,5	164	52,5	159	55,6	153	59,9	146	63,9	140	68,4
	8	180	46,7	175	50,0	169	53,1	162	55,8	156	60,0	149	64,5	143	69,5
	9	184	47,3	180	50,5	173	53,6	167	56,7	161	61,0	154	65,1	146	70,1
	10	191	47,8	184	51,0	178	54,1	172	57,3	164	61,2	157	65,6	151	69,5
222	5	203	47,5	195	51,0	187	54,5	180	57,8	172	62,1	166	66,2	159	70,9
	6	207	48,1	199	51,6	191	55,0	185	58,2	178	62,7	170	66,8	162	71,5
	7	210	48,6	204	52,2	197	55,4	191	58,6	183	63,2	176	67,4	168	72,1
	8	216	49,2	210	52,7	202	56,0	195	58,8	187	63,3	180	68,0	172	73,3
	9	222	49,8	216	53,2	208	56,5	201	59,8	193	64,3	185	68,6	176	73,8
	10	229	50,4	222	53,7	214	57,0	206	60,4	197	64,5	189	69,1	181	73,3

Note:

Tw - Evaporator outlet water temperature (delta T 5 °C)

kWf - Cooling capacity

kWa - Abs. power (compressor only)

SCAEY R 410A: PERFORMANCES Plate-to-plate exchanger

COOLING CAPACITY AND ABSORBED POWER

MOD.	EVAP	CONDENSER Ambient air temperature °C													
	Tw °C out.	26		29		32		35		38		41		44	
		kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa
242	5	213	55,1	204	59,2	196	63,2	188	67,1	180	72,1	174	76,8	166	82,3
	6	217	55,8	208	59,8	200	63,8	194	67,5	186	72,8	178	77,5	170	83,0
	7	220	56,4	214	60,5	206	64,3	200	68,0	192	73,3	184	78,2	176	83,6
	8	226	57,1	220	61,2	212	64,9	204	68,2	196	73,4	188	78,9	180	85,0
	9	232	57,8	226	61,7	218	65,6	210	69,4	202	74,6	194	79,6	184	85,7
	10	240	58,5	232	62,4	224	66,2	216	70,0	206	74,8	198	80,2	190	85,0
262	5	236	63,7	226	68,5	218	73,2	209	77,7	200	83,4	193	88,9	184	95,2
	6	241	64,5	231	69,3	222	73,8	215	78,1	206	84,2	198	89,7	189	96,0
	7	244	65,3	238	70,0	229	74,4	222	78,7	213	84,8	204	90,5	195	96,8
	8	251	66,1	244	70,8	235	75,2	226	78,9	218	85,0	209	91,3	200	98,4
	9	258	66,9	251	71,5	242	75,9	233	80,3	224	86,3	215	92,1	204	99,2
	10	266	67,7	258	72,2	249	76,6	240	81,1	229	86,6	220	92,9	211	98,4
292	5	253	59,8	243	64,2	233	68,6	224	72,8	214	78,2	207	83,4	198	89,3
	6	258	60,5	248	64,9	238	69,2	231	73,3	221	79,0	212	84,1	202	90,0
	7	262	61,3	255	65,7	245	69,7	238	73,8	228	79,6	219	84,9	209	90,8
	8	269	62,0	262	66,4	252	70,5	243	74,0	233	79,7	224	85,6	214	92,3
	9	276	62,7	269	67,0	259	71,1	250	75,3	240	81,0	231	86,3	219	93,0
	10	286	63,5	276	67,7	267	71,8	257	76,0	245	81,2	236	87,1	226	92,3
312	5	288	64,8	276	69,6	266	74,4	255	79,0	244	84,8	236	90,4	225	96,8
	6	294	65,6	282	70,4	271	75,0	263	79,4	252	85,6	241	91,2	230	97,6
	7	298	66,4	290	71,2	279	75,6	271	80,0	260	86,2	249	92,0	238	98,4
	8	306	67,2	298	72,0	287	76,4	276	80,2	266	86,4	255	92,8	244	100,0
	9	314	68,0	306	72,6	295	77,1	285	81,6	274	87,8	263	93,6	249	100,8
	10	325	68,8	314	73,4	304	77,8	293	82,4	279	88,0	268	94,4	257	100,0
342	5	322	77,3	309	83,0	297	88,7	285	94,2	273	101,1	264	107,8	251	115,4
	6	329	78,2	315	84,0	303	89,5	294	94,7	282	102,1	270	108,8	258	116,4
	7	333	79,2	324	84,9	312	90,2	303	95,4	291	102,8	279	109,7	267	117,3
	8	342	80,1	333	85,9	321	91,1	309	95,7	297	103,0	285	110,7	273	119,3
	9	351	81,1	342	86,6	330	92,0	318	97,3	306	104,7	294	111,6	279	120,2
	10	364	82,0	351	87,5	339	92,8	327	98,3	312	104,9	300	112,6	288	119,3
382	5	340	90,1	326	96,7	314	103,4	301	109,8	288	117,9	278	125,7	266	134,6
	6	348	91,2	333	97,9	320	104,3	310	110,4	298	119,0	285	126,8	272	135,7
	7	352	92,3	342	99,0	330	105,1	320	111,2	307	119,9	294	127,9	282	136,8
	8	362	93,4	352	100,1	339	106,2	326	111,5	314	120,1	301	129,0	288	139,0
	9	371	94,5	362	101,0	349	107,2	336	113,4	323	122,0	310	130,1	294	140,1
	10	384	95,6	371	102,0	358	108,2	346	114,5	330	122,3	317	131,2	304	139,0

Note:

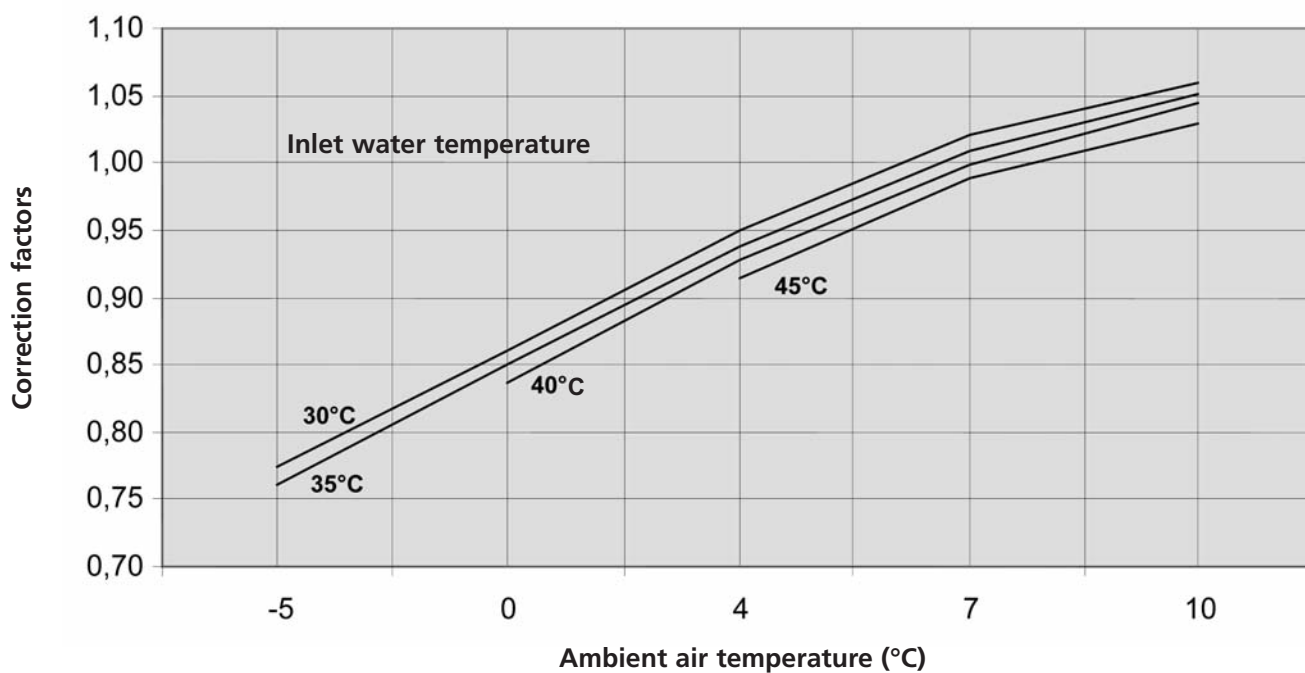
Tw - Evaporator outlet water temperature (delta T 5 °C)

kWf - Cooling capacity

kWa - Abs. power (compressor only)

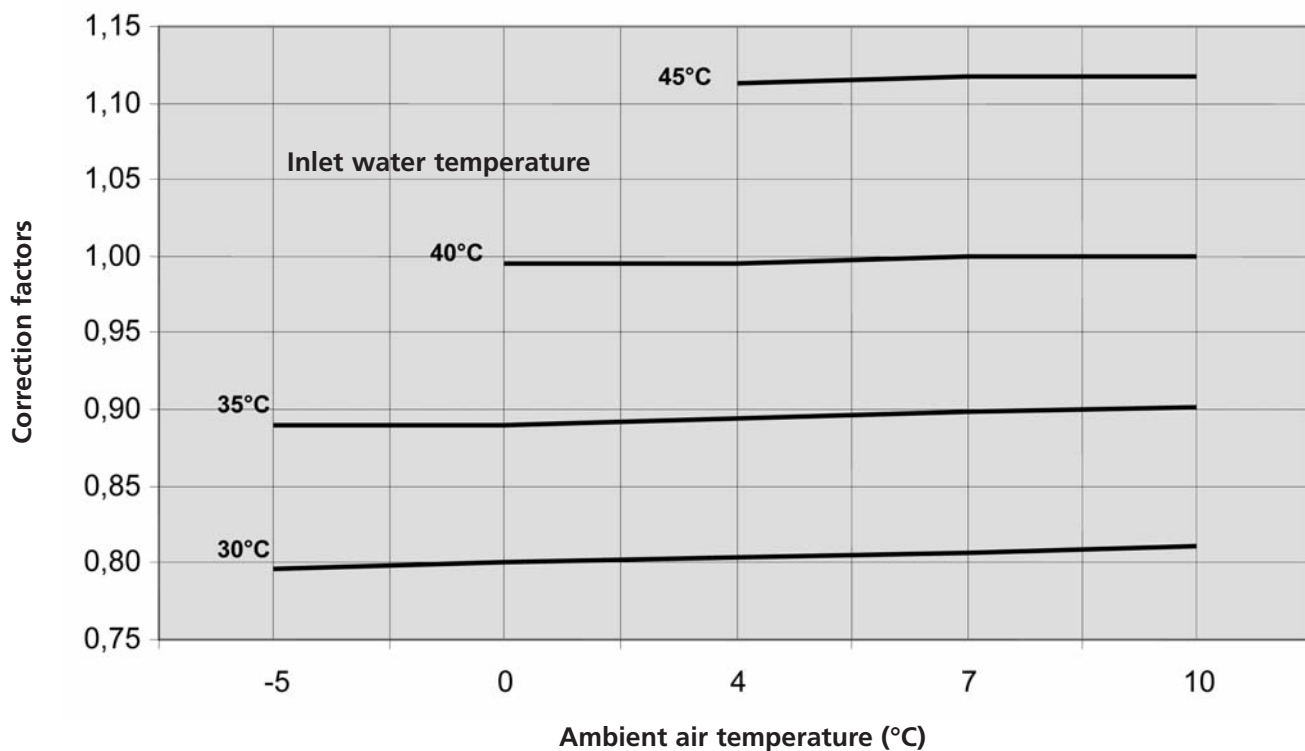
SCAEY: PERFORMANCES HEATING MODE

CORRECTION FACTORS HEATING CAPACITY

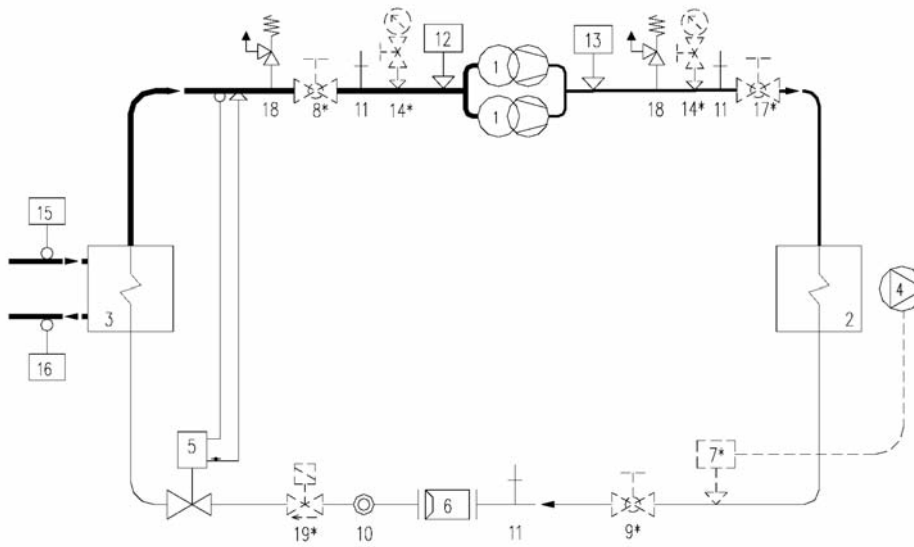


E.g. SCAEY 81 H - according to page 4 the heating capacity is 67 kW, the abs. power is 19 kW at ambient air temp. 7 °C and inlet water temp. 40 °C. Calculate the performances at 0 °C ambient air temp. and 40 °C inlet water temp. as follows: Heating capacity $67 \times 0,84 = 56,2$ kW; abs. power $19 \times 0,99 = 18,8$ kW.

CORRECTIONS FACTORS ABSORBED POWER



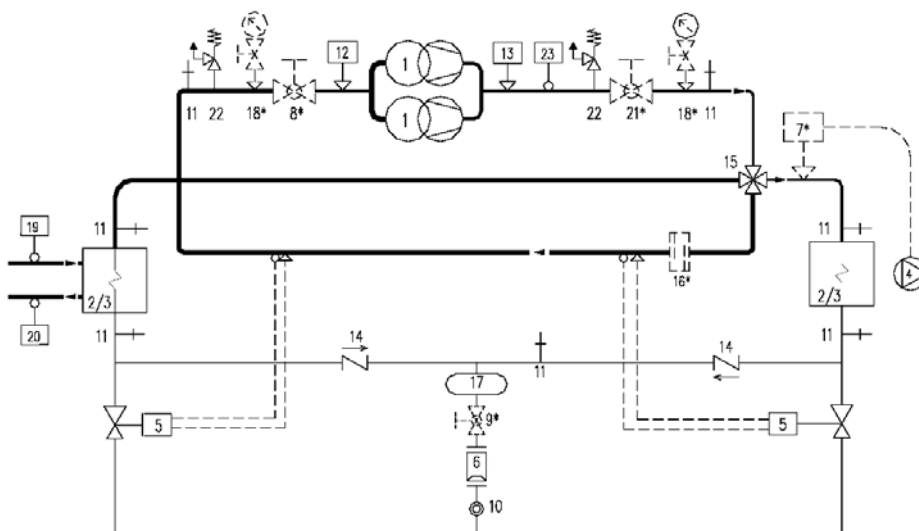
Refrigerant circuit SCAEY



- 1 = Compressor
- 2 = Condenser
- 3 = Evaporator
- 4 = Fans
- 5 = Thermostatic valve
- 6 = Dryer
- 7 = Fan speed regulator **
- 8 = Shut off valve suction line **
- 9 = Shut off valve liquid line **
- 10 = Sight glass
- 11 = Schrader service valve
- 12 = Low pressure switch
- 13 = High pressure switch
- 14 = Gauges **
- 15 = Temperature probe
- 16 = Antifreeze probe
- 17 = Shut off valves discharge line **
- 18 = Safety valve

** The outlined components are optional

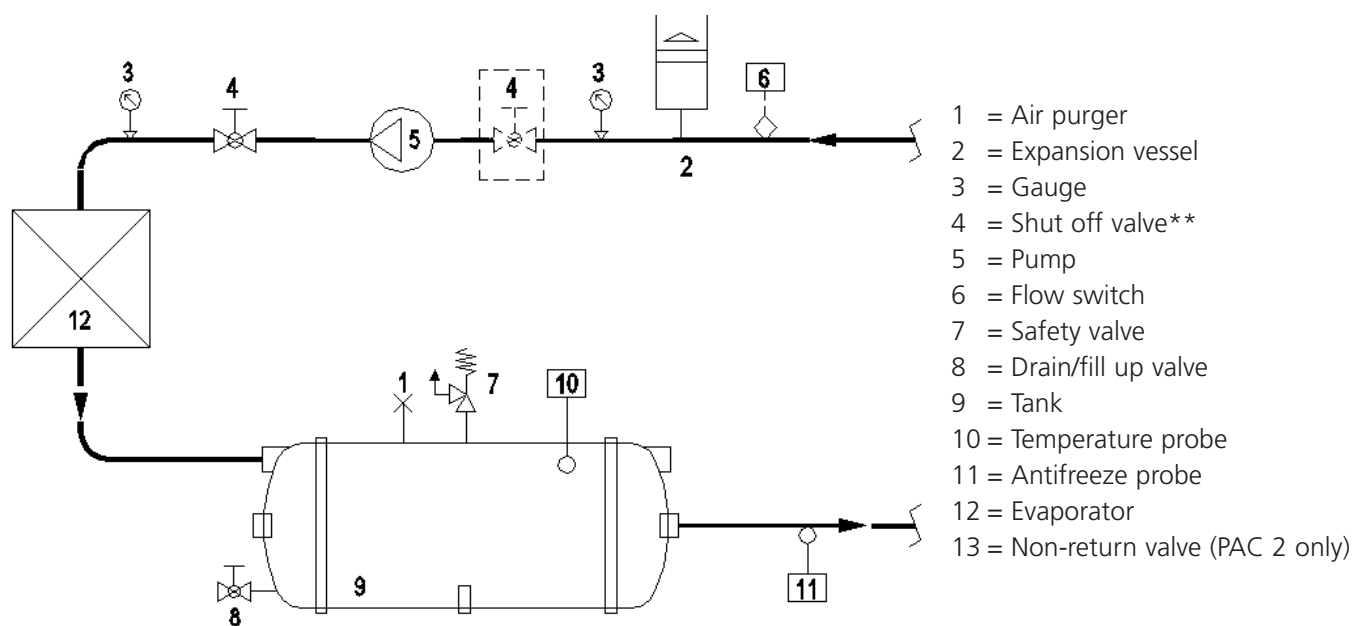
Refrigerant circuit SCAEY...H



- 1 = Compressor
- 2 = Condenser
- 3 = Evaporator
- 4 = Fans
- 5 = Thermostatic valve
- 6 = Dryer
- 7 = Fan speed regulator **
- 8 = Shut off valve suction line **
- 9 = Shut off valves liquid line **
- 10 = Sight glass
- 11 = Schrader service valve
- 12 = Low pressure switch
- 13 = High pressure switch
- 14 = Non-return valve
- 15 = 4-way valve
- 16 = Liquid separator suction line **
- 17 = Liquid receiver
- 18 = Gauges **
- 19 = Temperature probe
- 20 = Antifreeze probe
- 21 = Shut off valve discharge line **
- 22 = Safety valve
- 23 = Pressure transducer

** The outlined components are optional

Hydraulic circuit SCAEY... PAC 1 (PAC 2)



** The outlined components are optional

- PAC 1: 1 off pump
- PAC 2: 2 off pumps

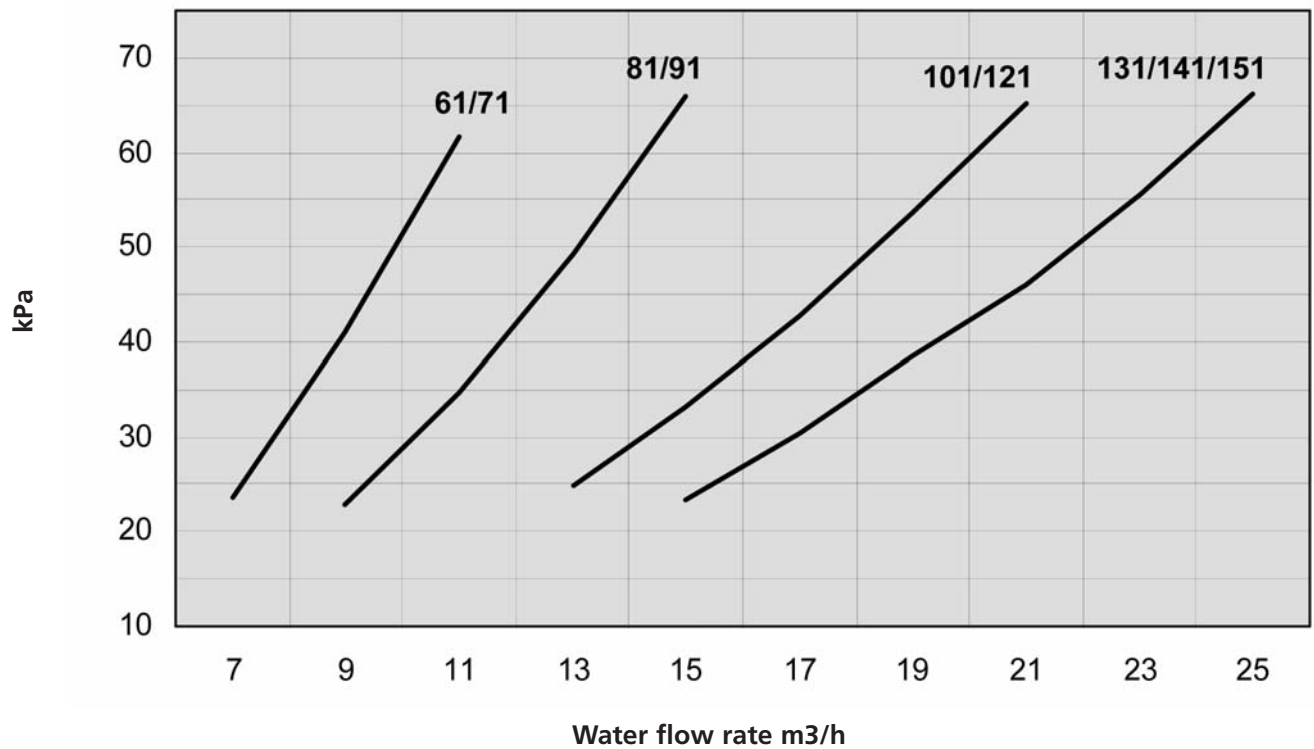
Operating range		Cooling	Heating
INLET WATER TEMPERATURE	Max °C	17	45
	Min °C	9	30
OUTLET WATER TEMPERATURE	Max °C	10	50
	Min °C	5	35
AMBIENT AIR TEMPERATURE	Max °C	46	20
	Min °C	15 (1)	-5

(1) This temperature can go down to -15 °C only if the appropriate kit has been installed

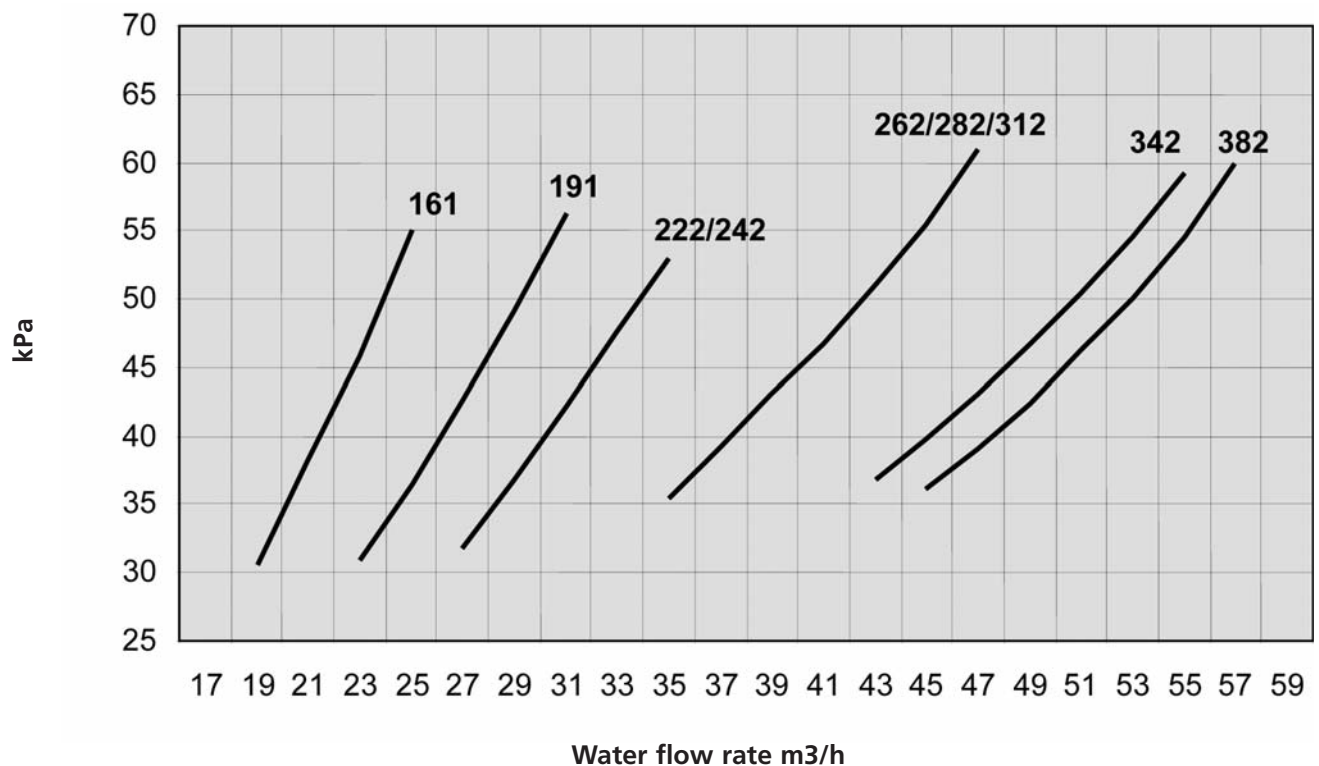
CORRECTION FACTORS

Ethylene glycol percentage by weight (%)	10	20	30	40	50
Freezing point (°C)	-3,6	-8,7	-15,3	-23,5	-35,5
Cooling capacity	0,986	0,980	0,973	0,966	0,960
Abs. power	1,000	0,995	0,990	0,985	0,975
Mixture flow rate	1,023	1,054	1,092	1,140	1,200
Pressure drop	1,061	1,114	1,190	1,244	1,310

PRESSURE DROP: PLATE-TO-PLATE EVAPORATOR FROM SCAEY 61 TO SCAEY 151

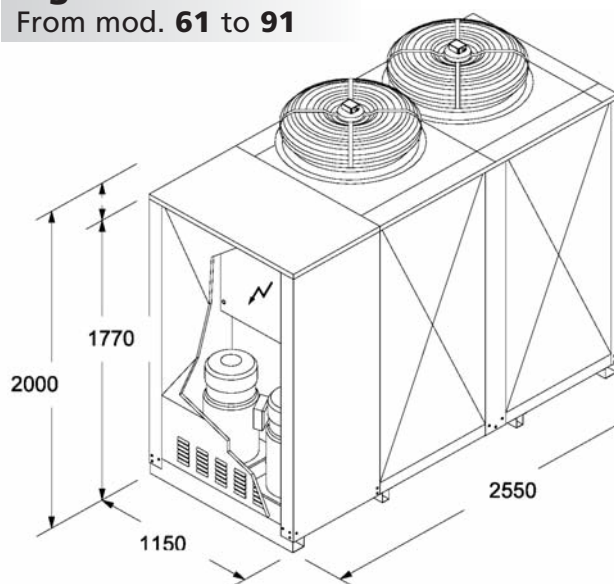


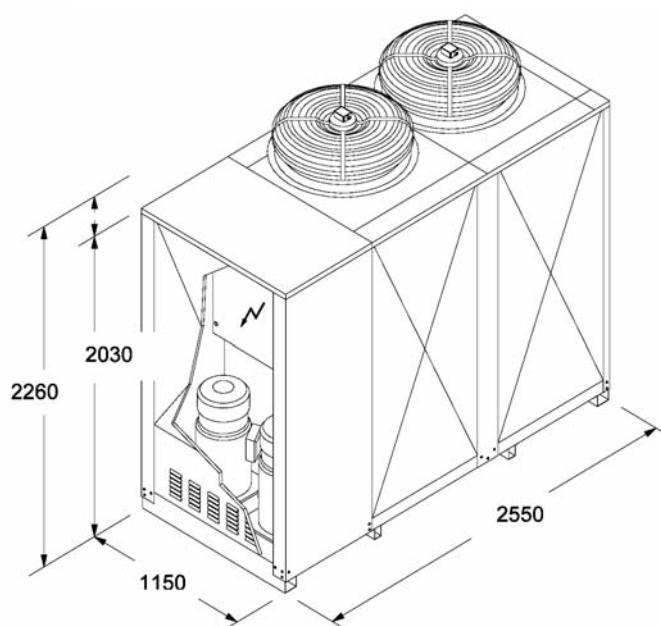
PRESSURE DROP: PLATE-TO-PLATE EVAPORATOR FROM SCAEY 161 TO SCAEY 382



DIMENSIONS:

Fig. A

 From mod. **61** to **91**

Fig. B

 From mod. **101** to **131**


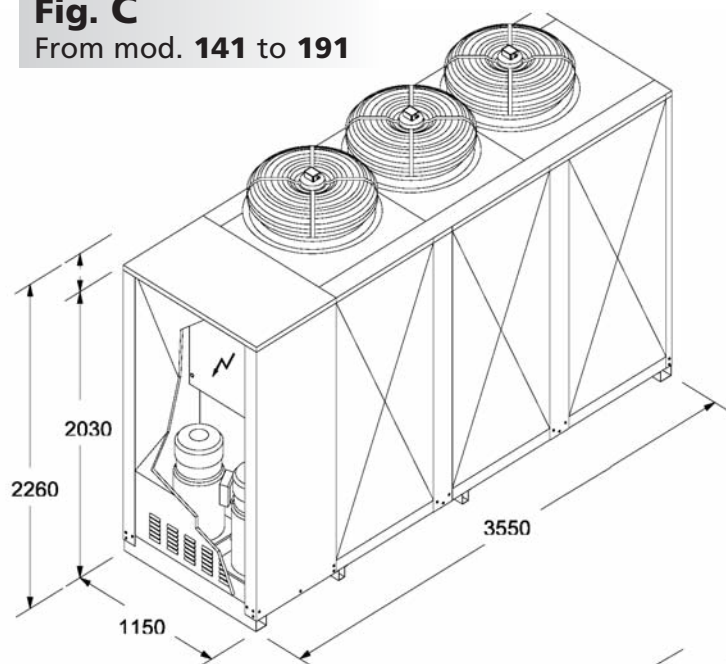
WEIGHTS (Kg)

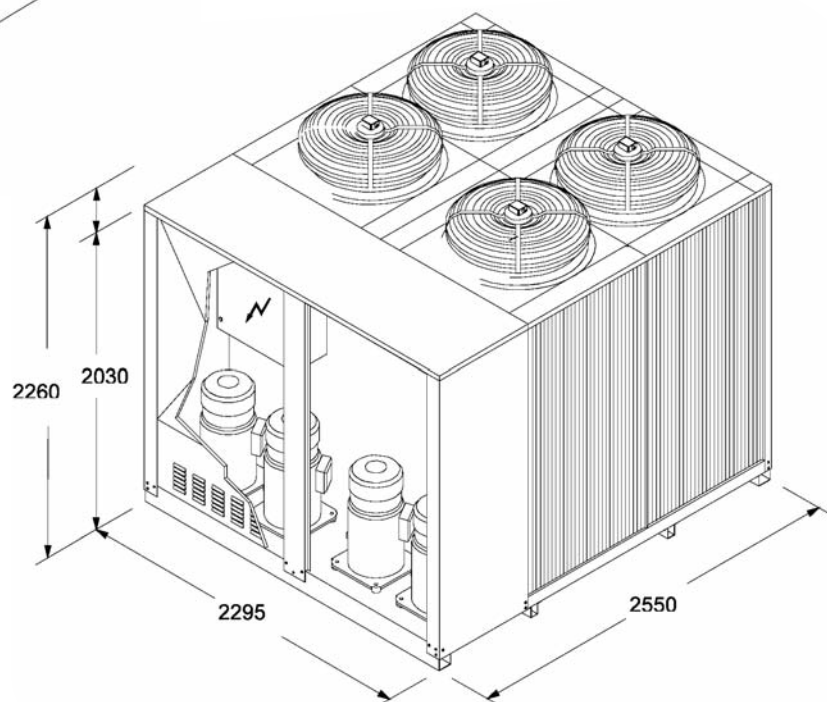
VERSION	STD							LN / VLN						
Mod.	61	71	81	91	101	121	131	61	71	81	91	101	121	131
Fig.	A	A	A	A	B	B	B	A	A	A	A	B	B	B
Operation (1)	710	750	790	870	1050	1105	1200	730	775	810	888	1075	1140	1240
Transport	710	750	790	870	1050	1105	1200	730	775	810	888	1075	1140	1240
P1 Version														
Operation (1)	725	775	815	895	1080	1155	1260	745	795	830	910	1105	1190	1300
Transport	725	775	815	895	1080	1155	1260	745	795	830	910	1105	1190	1300
PAC 1 Version														
Operation	1035	1070	1150	1210	1505	1595	1710	1085	1120	1200	1260	1555	1645	1760
Transport	795	835	920	990	1180	1260	1380	845	885	970	1040	1230	1310	1430

(1) The data has to be added to the evaporator water volume with regard to the selected model.

(2) H-Version : the operation weight has to be increased of 5%.

Fig. C

 From mod. **141** to **191**

Fig. D

 From mod. **222** to **242**


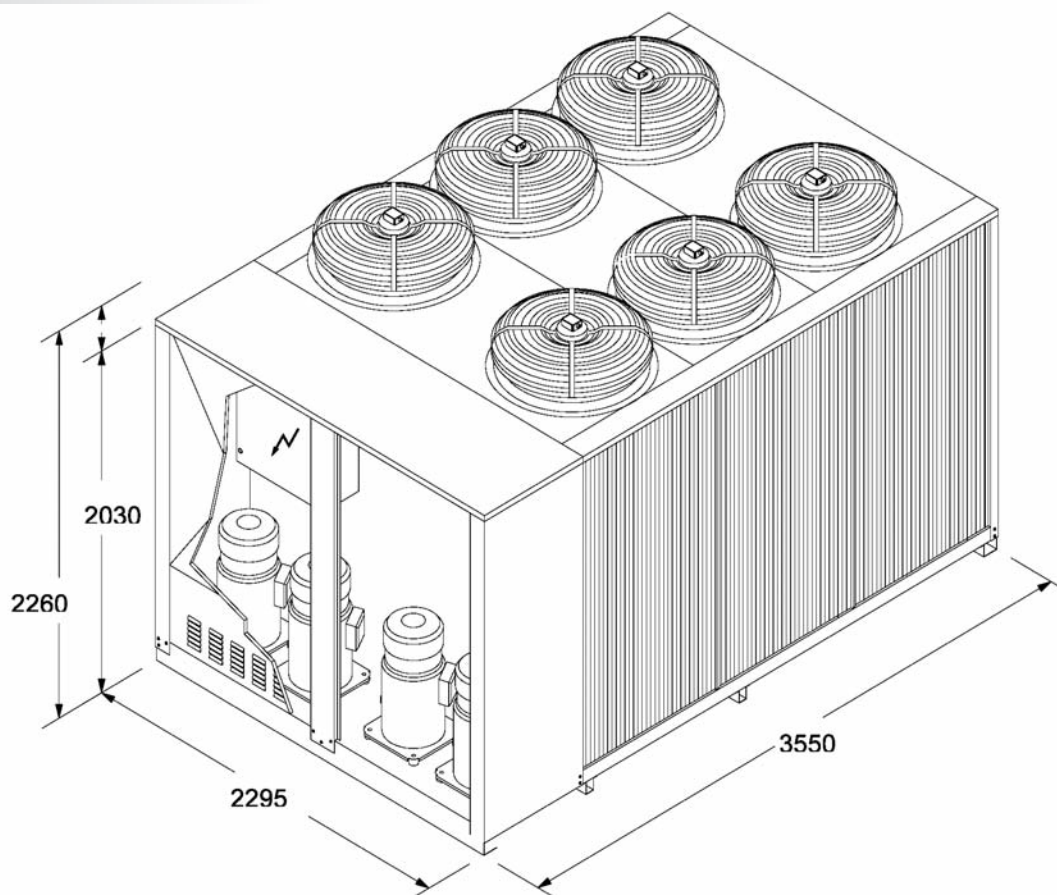
WEIGHT (Kg)

VERSION	STD						LN / VLN					
Mod.	141	151	161	191	222	242	141	151	161	191	222	242
Fig.	C	C	C	C	D	D	C	C	C	C	D	D
Operation (1)	1280	1355	1490	1580	1970	2190	1320	1395	1530	1620	2050	2260
Transport	1280	1355	1490	1580	1970	2190	1320	1395	1530	1620	2050	2260
P1 Version												
Operation (1)	1320	1395	1540	1620	2030	2260	1360	1435	1580	1660	2100	2330
Transport	1320	1395	1540	1620	2030	2260	1360	1435	1580	1660	2100	2330
P1 Version												
Operation	1790	2065	2190	2300	2700	2960	1840	2115	2240	2350	2750	3010
Transport	1450	1515	1660	1770	2180	2410	1500	1565	1710	1820	2230	2460

(1) The data has to be added to the evaporator water volume with regard to the selected model.

(2) H-Version: the operation weight has to be increased of 5%.

Fig. E

 From mod. **262** to **382 STD**


WEIGHT (Kg)

VERSION	STD					LN / VLN				
Mod.	262	282	312	342	382	262	282	312	342	382
Fig.	E	E	E	E	E	E	E	E	E	E
Operation (1)	2230	2340	2590	2750	2970	2300	2410	2660	2820	3050
Transport	2230	2340	2590	2750	2970	2300	2410	2660	2820	3050
P1 Version										
Operation (1)	2300	2410	2670	2840	3090	2370	2470	2730	2910	3170
Transport	2300	2410	2670	2840	3090	2370	2470	2730	2910	3170
PAC1 Version										
Operation	3020	3100	3620	3780a	3990	3070	3150	3690	3860	4050
Transport	2470	2550	2820	2980	3200	2520	2600	2890	3060	3260

(1) The data has to be added to the evaporator water volume with regard to the selected model.

(2) H-Version: the operation weight has to be increased of 5%.

CLEARANCE AND SUPPORT POINTS:

Fig. A

From mod. 61 to 101

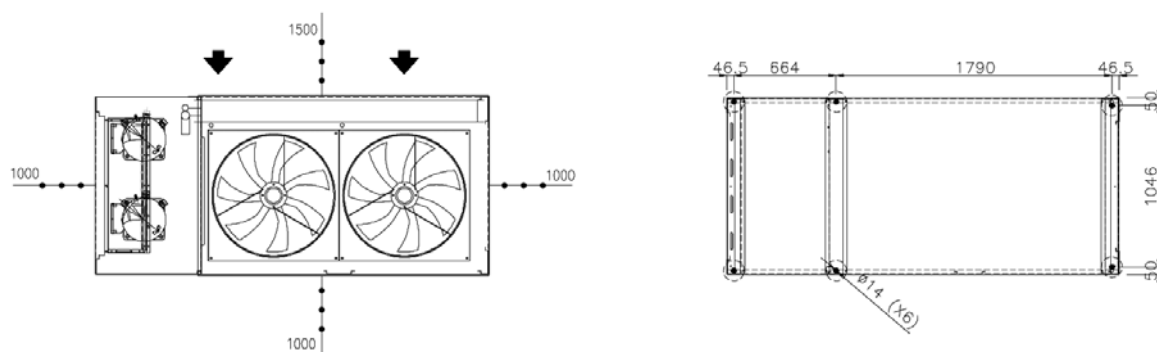
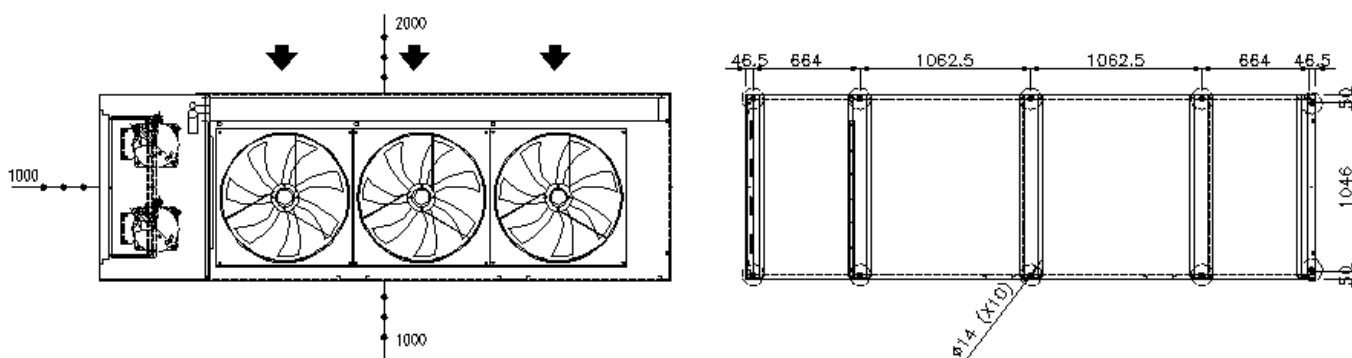


Fig. B

From mod. 121 to 191

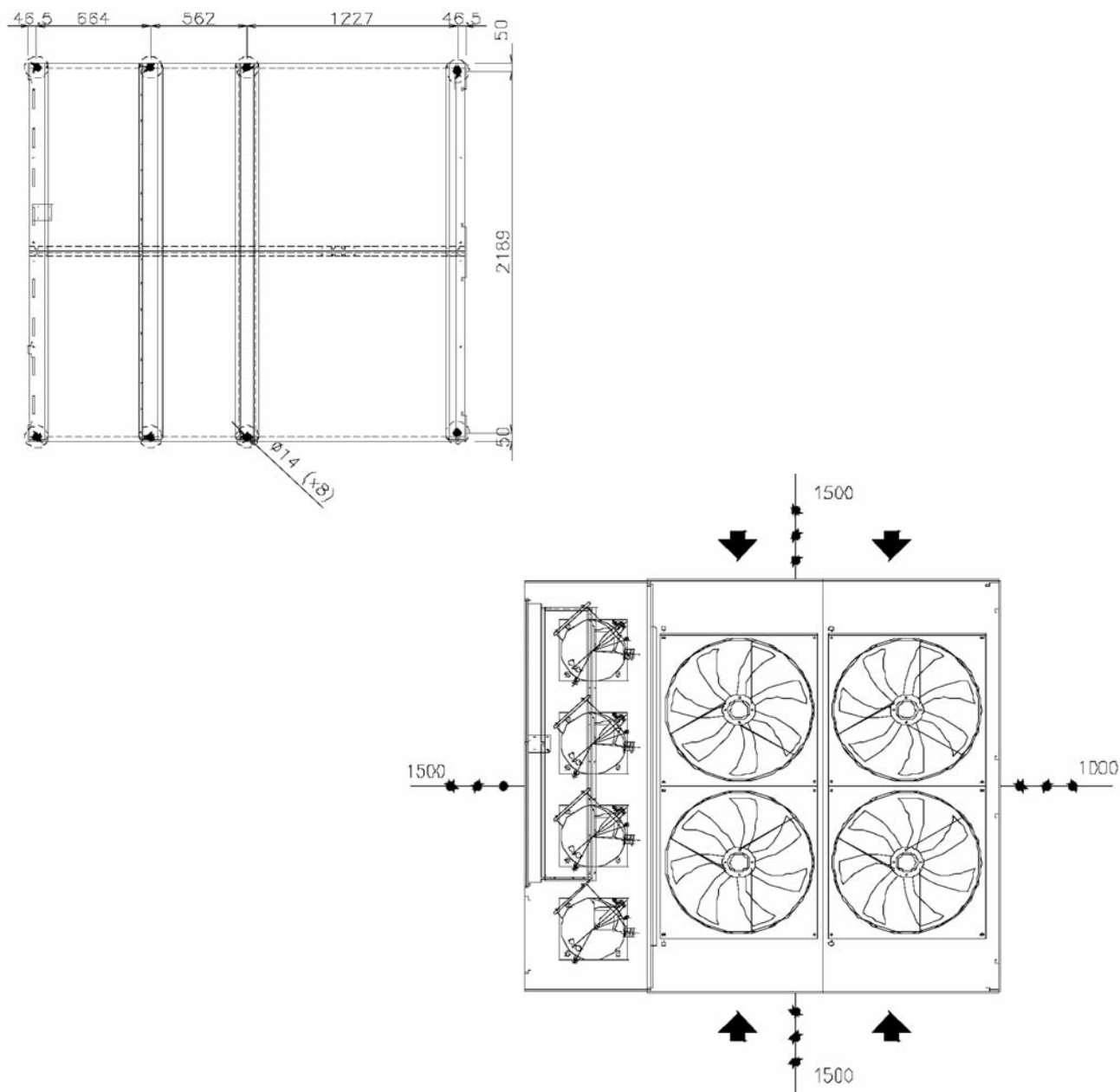


HYDRAULIC CONNECTIONS - Ø -

Mod.	61	71	81	91	101	121	131	141	151	161	191
Fig.	A	A	A	A	A	A	A	B	B	B	B
PLATE-TO-PLATE evaporator	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2
PAC version with tank	1" 1/2	1" 1/2	1" 1/2	1" 1/2	2"	2"	2"	2" 1/2	2" 1/2	2" 1/2	2" 1/2

Fig. C

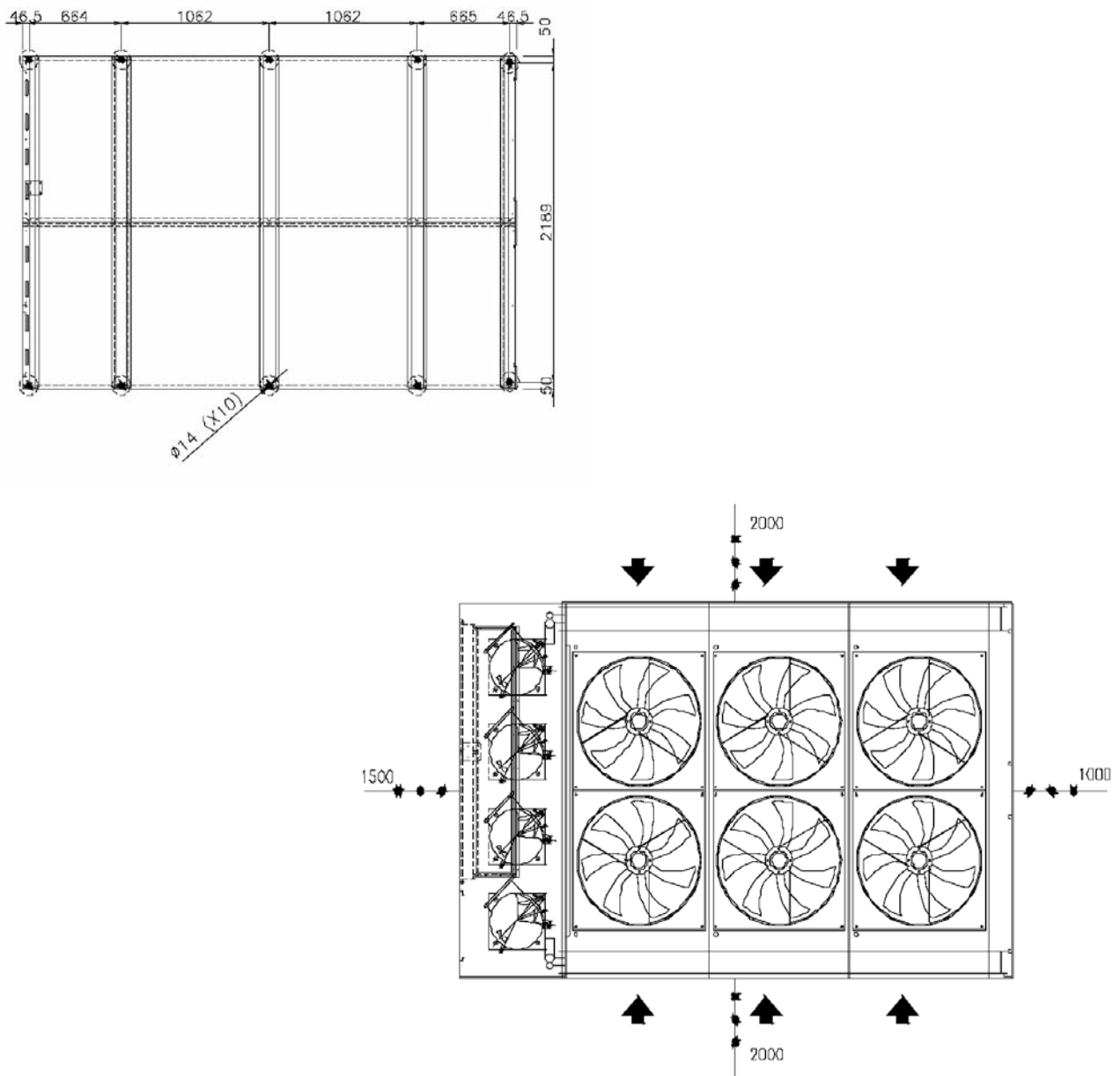
From mod. 222 to 242



HYDRAULIC CONNECTIONS - Ø -

Mod.	222	242
Fig.	C	C
PLATE-TO-PLATE evaporator	2" 1/2	2" 1/2
PAC version with tank	3"	3"

Fig. D
From mod. 262 to 382



HYDRAULIC CONNECTIONS - Ø -

Mod.	262	282	312	342	382
Fig.	D	D	D	D	D
PLATE-TO-PLATE evaporator	2" 1/2	2" 1/2	2" 1/2	2" 1/2	2" 1/2
PAC version with tank	3"	3"	4"	4"	4"

Technical data shown in this booklet are not binding.
ACM Kälte Klima S.r.l reserves the right to modify data without any prior notice..



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