

SCAEY

*Air cooled water chillers
air cooled reversible heat pumps
from 50 kW to 360 kW*



R 410A
Compressors Scroll

Series:	SCAEY	Leaflet:	DE88
Issue:	01/16	Supersedes:	02/15

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Identification code

S C A E Y - 1 5 1 H - P A C
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	-	Plate-to-plate evaporator
11	PAC1	Storage tank + pump
	P1	N°1 pump
	P2	N°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 - R410A

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, 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.

Version

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. It includes pressostatic fan speed control and special sound proofing for the compressors.

VLN

Very low noise version. Further to the LN devices, this execution is equipped with very low speed fans.

OPTIONS

- Power factor correction
- Fan speed control
- Remote control panel
- Clock card
- RS 485 card (Protocol: low work, bacnet, trend)
- 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
- EC inverter axial fans

SCAEY Technical Data

SIZE			61	71	81	91	101	121
Cooling mode SCAEY STD / LN								
Cooling capacity	(1)	kW	51	57	65	72	87	107
Absorbed power	(2)	kW	16.2	19.3	20.7	24	27.8	35.7
EER	-	-	3.14	2.95	3.14	3	3.12	2.99
Heating mode SCAEY... H								
Heating capacity	(1) (9)	kW	55	62	72	80	97	120
Absorbed power	(2)	kW	17	19.8	21.5	24.2	27	35.8
COP	-	-	3.23	3.13	3.34	3.30	3.59	3.35
Compressor (scroll)								
Quantity	n°		2					
Refrigerant circuit	n°		1					
Capacity step	n°		2					
Refrigerant	-		R410A					
Refrigerant charge	Kg		10	10	15	17	21	23
Evaporator Plate-to-plate			(3)					
Water flow rate	m³/h		8.7	9.8	11.1	12.3	14.9	18.4
Pressure drop	kPa		34	43	36	44	30	41
Water volume	l		4	4	6	6	8	8
Condenser (STD - LN)			(4)					
Axial fans	n°		2	2	2	2	2	2
Max absorbed power	kW		1.8	1.8	1.8	1.8	1.8	3.6
Max absorbed current	A		4	4	4	4	4	8
Condenser (VLN)			(4)					
Axial fans	n°		2	2	2	2	2	2
Max absorbed power	kW		1.5	1.5	1.5	1.5	1.5	2.6
Max absorbed current	A		2.8	2.8	2.8	2.8	2.8	5
Unit electrical data			(6)					
Max absorbed current	A		52,0	54,0	60,0	72,0	78,0	92,0
Max LRC	A		142,0	150,0	153,0	181,0	218,0	316,0
Voltage supply	V/f/Hz		400 / 3 / 50					
PAC Version								
Storage tank water volume	l		200	200	200	200	200	300
Water pump nominal power	kW		0,75	0,75	0,75	0,75	0,75	1,1
Water pump nominal current	A		2,2	2,2	2,2	2,2	2,2	3,5
ESP - External static pressure	kPa		100	90	85	80	115	95
DS Version			(7)					
Heating capacity	kW		11	12	16	18	21	24
Water flow rate	m³/h		0.95	1	1.4	1.6	1.8	2
Pressure drop	kPa		10	10	15	15	15	15
Sound pressure level at 1m			(6) (8)					
STD Version	dB(A)		69	69	70	70	70	73
LN Version	dB(A)		66	66	66	66	67	71
VLN Version	dB(A)		64	64	64	64	64	69

Notes:

- 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 free field hemispheric

SCAEY Technical Data

SIZE		131	141	151	161	191	222
Cooling mode SCAEY STD / LN							
Cooling capacity	(1) kW	113	129	133	153	176	217
Absorbed power	(2) kW	38.2	44.4	47.5	54.2	60.6	71.6
EER	-	2.95	2.90	2.80	2.82	2.90	3.03
Heating mode SCAEY... H							
Heating capacity	(1) (9) kW	126	146	151	175	198	240
Absorbed power	(2) kW	37.3	43.1	45.5	53.6	60.4	69.6
COP	-	3.37	3.38	3.32	3.27	3.28	3.45
Compressor (scroll)							
Quantity	n°	2					
Refrigerant circuit	n°	1					
Capacity step	n°	2					
Refrigerant	-	R410A					
Refrigerant charge	Kg	24	27	27	28	28	44
Evaporator Plate-to-plate		(3)					
Water flow rate	m³/h	19.4	22.1	22.8	26.3	30.2	37.3
Pressure drop	kPa	58	48	51	45	58	48
Water volume	l	10	10	14	14	16	20
Condenser (STD - LN)		(4)					
Axial fans	n°	2	3	3	3	3	4
Max absorbed power	kW	3.6	2.7	2.7	2.7	5.4	7.2
Max absorbed current	A	8	6	6	6	12	16
Condenser (VLN)		(4)					
Axial fans	n°	2	3	3	3	3	4
Max absorbed power	kW	2.6	2.25	2.25	2.25	4.8	5.2
Max absorbed current	A	5	4.2	4.2	4.2	7.5	10
Unit electrical data		(6)					
Max absorbed current	A	95,0	111,5	108,5	125,5	147,0	179,0
Max LRC	A	319,0	356,5	332,5	370,5	392,0	403,0
Voltage supply	V/f/Hz	400 / 3 / 50					
PAC Version							
Storage tank water volume	l	300	500	500	500	500	500
Water pump nominal power	kW	1.10	1.50	1.50	1.85	1.85	2.20
Water pump nominal current	A	3.5	5	5	5	5	6.5
ESP - External static pressure	kPa	85	95	85	110	95	115
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 1m		(6) (8)					
STD Version	dB(A)	74	73	73	74	75	76
LN Version	dB(A)	71	71	71	73	73	74
VLN Version	dB(A)	68	68	68	69	69	71

Notes:

- 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 free field hemispheric

SCAEY Technical Data

GRANDEZZA UNITÀ			242	262	282	312	342	382
Cooling mode SCAEY STD / LN								
Cooling capacity	(1)	kW	226	255	267	284	320	349
Absorbed power	(2)	kW	74.6	88.3	88	90.6	105.4	120.9
EER	-	-	3.02	2.88	3.03	3.13	3.03	2.88
Heating mode SCAEY... H								
Heating capacity	(1) (9)	kW	252	293	300	322	361	398
Absorbed power	(2)	kW	73.5	82.1	87.5	92.6	103	115
COP	-	-	3.43	3.57	3.43	3.48	3.52	3.48
Compressor (scroll)								
Quantity	n°		4					
Refrigerant circuit	n°		2					
Capacity step	n°		4					
Refrigerant	-		R410A					
Refrigerant charge	Kg		52	57	57	72	77	77
Evaporator Plate-to-plate								
Water flow rate	(3)	m³/h	38.8	43.8	45.9	48.8	55	60
Pressure drop		kPa	52	36	39	44	38	45
Water volume		l	20	24.2	24.2	24.2	31	31
Condenser (STD - LN)								
Axial fans	(4)	n°	4	6	6	6	6	6
Max absorbed power		kW	7.2	5.4	10.8	10.8	10.8	10.8
Max absorbed current		A	16	12	24	24	24	24
Condenser (VLN)								
Axial fans	(4)	n°	4	6	6	6	6	6
Max absorbed power		kW	5.2	4.5	7.8	7.8	7.8	7.8
Max absorbed current		A	10	8.4	15	15	15	15
Unit electrical data								
Max absorbed current	(6)	A	185.0	218.0	227.0	221.0	263.0	297.0
Max LRC		A	409.0	398.0	407.0	445.0	508.0	542.0
Voltage supply		V/f/Hz	400 / 3 / 50					
PAC Version								
Storage tank water volume		l	500	500	500	500	750	750
Water pump nominal power		kW	2.20	3.00	3.00	3.00	4.00	4.00
Water pump nominal current		A	6.5	6.5	6.5	6.5	7.7	7.7
ESP - External static pressure		kPa	85	110	100	80	125	110
DS Version								
Heating capacity	(7)	kW	52	62	65	75	83	88
Water flow rate		m³/h	4.4	5.3	5.5	6.4	7.2	7.5
Pressure drop		kPa	20	22	22	24	26	26
Sound pressure level at 1m								
STD Version	(6) (8)	dB(A)	77	76	79	79	79	78
LN Version		dB(A)	74	74	77	77	77	76
VLN Version		dB(A)	71	71	73	73	73	72

Notes:

- 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)
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- 5) Max air flow
- 6) Without water pump(s), STD version
- 7) Water temperature from 40 °C to 50 °C
- 8) Compressors site free field hemispheric

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	53,55	11,73	51,79	12,48	49,97	13,29	48,07	14,18	46,12	15,15	44,10	16,22	42,02	17,39
	6	55,25	11,84	53,44	12,59	51,56	13,40	49,63	14,29	47,63	15,26	45,57	16,32	43,48	17,50
	7	56,96	11,96	55,10	12,71	53,18	13,52	51,20	14,41	49,17	15,38	47,08	16,44	44,95	17,61
	8	58,71	12,08	56,79	12,83	54,83	13,64	52,80	14,53	50,73	15,50	48,60	16,56	46,44	17,73
	9	60,49	12,21	58,52	12,96	56,50	13,78	54,42	14,66	52,31	15,63	50,15	16,69	47,96	17,86
	10	62,30	12,35	60,26	13,10	58,20	13,92	56,07	14,80	53,91	15,77	51,71	16,83	49,49	18,00
71	5	60,69	14,19	58,47	15,14	56,15	16,17	53,77	17,28	51,31	18,48	48,83	19,78	46,31	21,19
	6	62,57	14,33	60,30	15,28	57,92	16,31	55,48	17,43	52,99	18,63	50,43	19,93	47,86	21,34
	7	64,49	14,47	62,15	15,43	59,73	16,46	57,23	17,57	54,67	18,78	52,07	20,08	49,45	21,50
	8	66,43	14,62	64,05	15,58	61,56	16,61	59,01	17,73	56,40	18,93	53,73	20,24	51,05	21,66
	9	68,41	14,77	65,97	15,73	63,43	16,77	60,82	17,89	58,15	19,09	55,44	20,40	52,70	21,82
	10	70,42	14,93	67,91	15,89	65,33	16,93	62,66	18,05	59,92	19,26	57,17	20,57	54,39	22,00
81	5	69,13	15,41	66,76	16,40	64,32	17,46	61,79	18,60	59,16	19,81	56,43	21,11	53,62	22,48
	6	71,30	15,55	68,87	16,54	66,35	17,61	63,77	18,75	61,08	19,97	58,31	21,27	55,45	22,66
	7	73,53	15,69	71,02	16,69	68,44	17,76	65,78	18,91	63,04	20,14	60,22	21,44	57,32	22,84
	8	75,79	15,84	73,20	16,85	70,56	17,92	67,83	19,07	65,04	20,31	62,16	21,62	59,22	23,02
	9	78,09	16,00	75,44	17,01	72,72	18,09	69,92	19,24	67,07	20,48	64,14	21,80	61,16	23,21
	10	80,44	16,16	77,71	17,17	74,92	18,26	72,06	19,42	69,14	20,66	66,16	21,99	63,12	23,41
91	5	76,44	18,29	73,81	19,39	71,08	20,57	68,26	21,84	65,36	23,18	62,39	24,62	59,36	26,15
	6	78,76	18,50	76,05	19,61	73,24	20,79	70,33	22,06	67,36	23,41	64,31	24,85	61,21	26,39
	7	81,13	18,71	78,32	19,82	75,43	21,01	72,44	22,28	69,39	23,64	66,27	25,08	63,11	26,63
	8	83,53	18,93	80,64	20,04	77,65	21,24	74,59	22,51	71,46	23,87	68,26	25,32	65,03	26,87
	9	85,98	19,16	82,99	20,27	79,92	21,47	76,77	22,75	73,55	24,11	70,29	25,57	66,99	27,13
	10	88,47	19,38	85,38	20,50	82,22	21,70	78,99	22,99	75,69	24,36	72,34	25,82	68,98	27,39
101	5	92,08	21,57	88,98	22,80	85,78	24,12	82,49	25,54	79,09	27,07	75,60	28,72	72,01	30,51
	6	94,89	21,81	91,68	23,04	88,37	24,36	84,96	25,78	81,50	27,31	77,91	28,97	74,26	30,76
	7	97,73	22,04	94,41	23,28	91,01	24,61	87,52	26,03	83,95	27,57	80,28	29,22	76,55	31,02
	8	100,64	22,29	97,21	23,53	93,70	24,86	90,11	26,28	86,42	27,82	82,69	29,48	78,89	31,28
	9	103,59	22,54	100,05	23,78	96,43	25,11	92,74	26,54	88,98	28,08	85,13	29,74	81,27	31,55
	10	106,60	22,79	102,95	24,04	99,23	25,38	95,43	26,81	91,56	28,35	87,64	30,02	83,70	31,82
121	5	113,23	26,51	109,34	28,07	105,35	29,73	101,27	31,52	97,11	33,42	92,90	35,46	88,66	37,64
	6	116,74	26,79	112,74	28,35	108,63	30,02	104,42	31,81	100,15	33,72	95,84	35,77	91,51	37,96
	7	120,33	27,08	116,21	28,64	111,97	30,32	107,66	32,12	103,27	34,03	98,84	36,09	94,41	38,28
	8	123,98	27,37	119,72	28,94	115,37	30,63	110,93	32,43	106,43	34,35	101,90	36,41	97,37	38,61
	9	127,69	27,68	123,32	29,25	118,83	30,94	114,28	32,75	109,66	34,68	105,01	36,74	100,39	38,95
	10	131,48	27,98	126,97	29,57	122,36	31,26	117,68	33,07	112,94	35,01	108,20	37,08	103,47	39,30

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

kWf - Cooling capacity

kWa - Absorbed 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	119,07	28,65	114,97	30,29	110,76	32,05	106,46	33,95	102,07	35,98	97,63	38,16	93,19	40,51
	6	122,73	28,96	118,50	30,61	114,16	32,37	109,75	34,27	105,25	36,31	100,69	38,50	96,13	40,85
	7	126,46	29,27	122,10	30,93	117,64	32,70	113,09	34,61	108,48	36,65	103,82	38,84	99,16	41,21
	8	130,26	29,60	125,77	31,26	121,17	33,04	116,50	34,95	111,77	37,00	107,00	39,20	102,24	41,57
	9	134,12	29,93	129,49	31,60	124,77	33,38	119,97	35,30	115,12	37,35	110,25	39,56	105,40	41,94
	10	138,04	30,27	133,28	31,94	128,44	33,74	123,51	35,66	118,55	37,72	113,57	39,93	108,62	42,32
141	5	136,96	34,41	132,12	36,40	127,18	38,55	122,15	40,88	117,06	43,39	111,92	46,10	106,77	49,06
	6	141,11	34,82	136,13	36,82	131,05	38,98	125,87	41,30	120,64	43,82	115,36	46,55	110,12	49,51
	7	145,34	35,24	140,21	37,25	134,98	39,41	129,66	41,75	124,29	44,27	118,90	47,01	113,53	49,99
	8	149,63	35,67	144,36	37,69	138,97	39,86	133,51	42,21	128,00	44,74	122,48	47,49	117,01	50,48
	9	154,01	36,11	148,56	38,14	143,02	40,33	137,43	42,68	131,78	45,23	126,14	47,99	120,56	50,99
	10	158,45	36,57	152,84	38,61	147,16	40,81	141,41	43,17	135,63	45,73	129,87	48,50	124,19	51,52
151	5	141,36	37,04	136,30	39,17	131,14	41,46	125,90	43,90	120,64	46,52	115,36	49,33	110,16	52,36
	6	145,65	37,47	140,44	39,61	135,14	41,91	129,76	44,36	124,35	47,00	118,96	49,82	113,63	52,86
	7	150,00	37,91	144,64	40,07	139,19	42,37	133,68	44,84	128,13	47,48	122,62	50,32	117,19	53,38
	8	154,43	38,37	148,91	40,53	143,32	42,85	137,67	45,32	131,98	47,98	126,36	50,83	120,82	53,91
	9	158,91	38,83	153,26	41,01	147,52	43,33	141,72	45,82	135,93	48,49	130,16	51,36	124,54	54,46
	10	163,49	39,31	157,67	41,49	151,78	43,83	145,85	46,33	139,93	49,01	134,06	51,90	128,33	55,02
161	5	162,18	42,46	156,32	44,93	150,38	47,58	144,35	50,43	138,29	53,51	132,26	56,83	126,31	60,44
	6	167,08	42,98	161,05	45,45	154,92	48,12	148,73	50,98	142,52	54,07	136,33	57,41	130,27	61,04
	7	172,07	43,51	165,85	46,00	159,56	48,68	153,19	51,56	146,82	54,66	140,50	58,02	134,31	61,66
	8	177,10	44,06	170,72	46,56	164,26	49,25	157,74	52,15	151,22	55,27	144,75	58,64	138,44	62,31
	9	182,24	44,63	175,67	47,14	169,03	49,85	162,35	52,76	155,68	55,90	149,08	59,29	142,66	62,99
	10	187,43	45,21	180,70	47,74	173,88	50,46	167,04	53,39	160,22	56,54	153,50	59,96	*	*
191	5	186,27	45,54	179,74	48,19	173,09	51,06	166,35	54,16	159,54	57,52	152,73	61,15	145,98	65,09
	6	192,05	46,06	185,33	48,73	178,47	51,61	171,52	54,72	164,53	58,08	157,54	61,72	150,63	65,68
	7	197,94	46,61	191,00	49,28	183,95	52,17	176,80	55,29	169,61	58,67	162,45	62,32	155,36	66,30
	8	203,92	47,17	196,78	49,86	189,51	52,76	182,17	55,89	174,79	59,28	167,44	62,95	160,20	66,94
	9	210,00	47,75	202,64	50,45	195,17	53,37	187,63	56,52	180,05	59,92	172,53	63,61	165,13	67,62
	10	216,17	48,35	208,60	51,07	200,93	54,00	193,18	57,16	185,42	60,58	177,73	64,29	170,17	68,32
222	5	228,58	53,19	220,72	56,30	212,65	59,64	204,37	63,20	195,94	67,02	187,42	71,09	178,87	75,45
	6	235,66	53,76	227,54	56,88	219,27	60,23	210,75	63,80	202,09	67,63	193,34	71,71	184,59	76,09
	7	242,89	54,34	234,52	57,47	225,93	60,82	217,23	64,41	208,35	68,25	199,38	72,35	190,43	76,74
	8	250,24	54,93	241,62	58,07	232,78	61,44	223,79	65,04	214,72	68,89	205,55	73,00	196,38	77,41
	9	257,72	55,54	248,84	58,69	239,75	62,07	230,52	65,68	221,16	69,54	211,83	73,67	202,47	78,10
	10	265,32	56,16	256,18	59,33	246,85	62,71	237,37	66,34	227,79	70,21	218,23	74,36	208,69	78,80

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

kWf - Cooling capacity

kWa - Absorbed power (compressor only)

SCAEY R 410A: PERFORMANCES Plate-to-plate exchanger COOLING CAPACITY AND ABSORBED POWER

MOD.	EVAP Tw °C OUT	CONDENSER Ambient air temperature °C													
		26		29		32		35		38		41		44	
		kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa	kWf	kWa
242	5	238,83	57,35	230,59	60,64	222,11	64,16	213,52	67,95	204,71	72,01	195,78	76,37	186,81	81,07
	6	246,17	57,97	237,66	61,27	228,95	64,81	220,11	68,61	211,06	72,68	201,92	77,05	192,74	81,76
	7	253,65	58,61	244,88	61,92	235,91	65,47	226,77	69,27	217,54	73,36	208,17	77,74	198,79	82,47
	8	261,26	59,26	252,23	62,58	243,00	66,14	233,59	69,96	224,08	74,05	214,55	78,45	204,98	83,19
	9	269,00	59,92	259,69	63,26	250,20	66,83	240,55	70,66	230,80	74,76	221,02	79,18	211,30	83,94
	10	276,86	60,60	267,29	63,95	257,54	67,54	247,65	71,38	237,66	75,50	227,65	79,92	217,74	84,71
262	5	269,39	68,39	259,93	72,37	250,26	76,67	240,44	81,31	230,42	86,33	220,30	91,76	210,19	97,67
	6	277,53	69,18	267,78	73,17	257,81	77,48	247,71	82,14	237,42	87,17	227,07	92,62	216,73	98,55
	7	285,78	69,99	275,73	74,00	265,49	78,33	255,05	82,99	244,57	88,05	233,96	93,51	223,39	99,46
	8	294,20	70,83	283,83	74,85	273,29	79,20	262,58	83,88	251,75	88,95	240,96	94,44	230,18	100,41
	9	302,72	71,69	292,07	75,73	281,21	80,10	270,22	84,80	259,13	89,88	248,06	95,39	237,10	101,40
	10	311,37	72,57	300,41	76,64	289,28	81,02	277,99	85,75	266,65	90,85	255,31	96,39	244,17	102,43
282	5	280,73	63,88	271,38	67,58	261,81	71,56	252,01	75,87	242,06	80,53	231,90	85,57	221,66	91,02
	6	289,55	64,53	279,90	68,24	270,02	72,23	259,91	76,55	249,63	81,22	239,24	86,26	228,75	91,72
	7	298,51	65,20	288,57	68,92	278,38	72,93	267,97	77,25	257,39	81,93	246,74	86,98	235,97	92,45
	8	307,67	65,89	297,40	69,62	286,90	73,64	276,19	77,98	265,30	82,66	254,31	87,72	243,33	93,20
	9	316,98	66,60	306,39	70,34	295,57	74,38	284,55	78,73	273,38	83,42	262,09	88,49	250,80	93,99
	10	326,45	67,33	315,54	71,09	304,40	75,14	293,08	79,50	281,58	84,21	270,02	89,30	258,48	94,80
312	5	296,66	66,14	286,96	69,96	277,00	74,08	266,77	78,50	256,34	83,23	245,83	88,32	235,21	93,75
	6	306,11	66,75	296,12	70,59	285,83	74,71	275,31	79,14	264,58	83,89	253,73	88,98	242,88	94,44
	7	315,74	67,37	305,44	71,22	294,85	75,36	284,00	79,81	272,99	84,57	261,82	89,67	250,66	95,14
	8	325,56	68,01	314,94	71,88	304,05	76,03	292,90	80,49	281,56	85,26	270,12	90,38	258,66	95,86
	9	335,58	68,67	324,64	72,55	313,42	76,71	301,95	81,18	290,31	85,97	278,57	91,10	266,83	96,60
	10	345,77	69,34	334,50	73,23	322,97	77,41	311,18	81,89	299,24	86,69	287,19	91,84	275,19	97,35
342	5	336,16	78,23	324,75	82,77	313,15	87,66	301,24	92,93	289,17	98,61	277,01	104,72	264,89	111,31
	6	346,68	79,05	334,93	83,60	322,89	88,50	310,70	93,79	298,29	99,48	285,80	105,61	273,36	112,22
	7	357,41	79,88	345,27	84,45	332,89	89,37	320,31	94,67	307,57	100,38	294,76	106,53	282,01	113,16
	8	368,30	80,75	355,81	85,33	343,05	90,27	330,07	95,58	317,04	101,32	303,90	107,48	290,84	114,13
	9	379,40	81,63	366,53	86,23	353,41	91,19	340,07	96,53	326,62	102,27	313,21	108,47	299,87	115,14
	10	390,67	82,55	377,44	87,17	363,93	92,15	350,25	97,50	336,45	103,27	322,66	109,48	309,07	116,19
382	5	368,12	90,68	355,28	95,99	342,18	101,72	328,88	107,92	315,52	114,63	302,09	121,90	288,78	129,78
	6	379,48	91,71	366,22	97,03	352,72	102,78	339,03	109,00	325,25	115,73	311,52	123,02	297,87	130,92
	7	390,99	92,76	377,33	98,10	363,44	103,88	349,36	110,12	335,19	116,87	321,06	124,18	307,15	132,12
	8	402,71	93,86	388,66	99,22	374,35	105,02	359,88	111,29	345,34	118,06	330,83	125,39	316,60	133,37
	9	414,61	94,98	400,14	100,38	385,44	106,20	370,57	112,49	355,66	119,30	340,81	126,66	326,20	134,67
	10	426,69	96,15	411,82	101,58	396,71	107,43	381,45	113,75	366,15	120,58	350,96	127,99	336,05	136,04

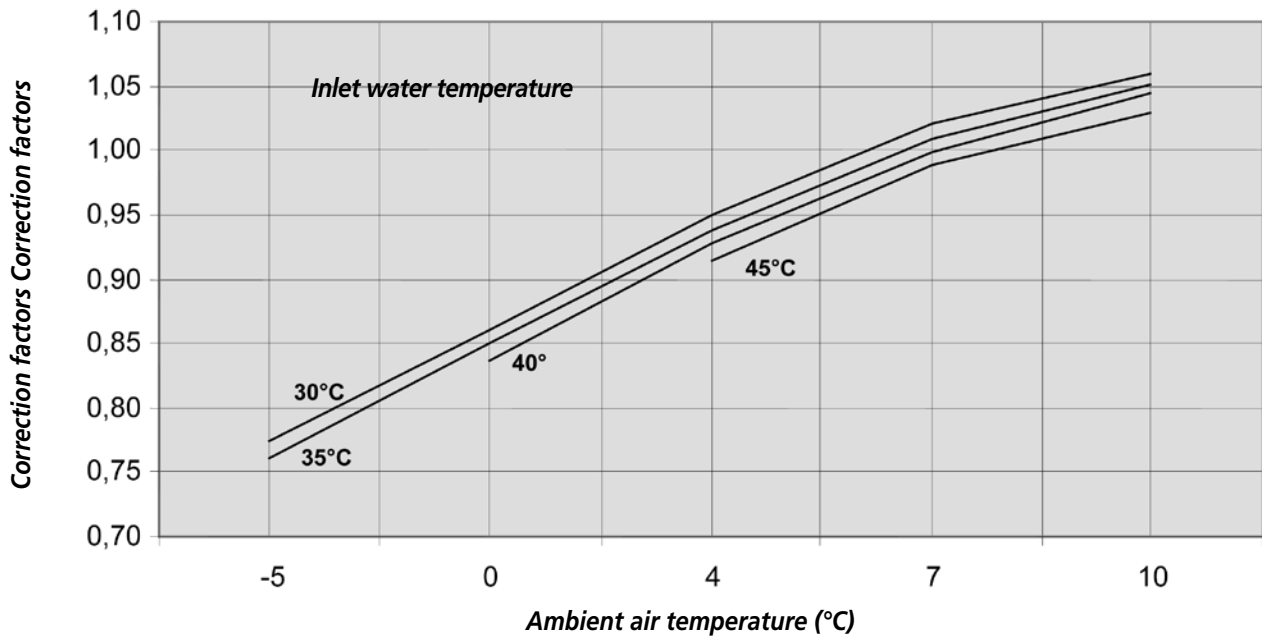
Notes:
Tw - Evaporator outlet water temperature (delta T 5 °C)

kWf - Cooling capacity

kWa - Absorbed power (compressor only)

SCAEY: PERFORMANCES HEATING MODE

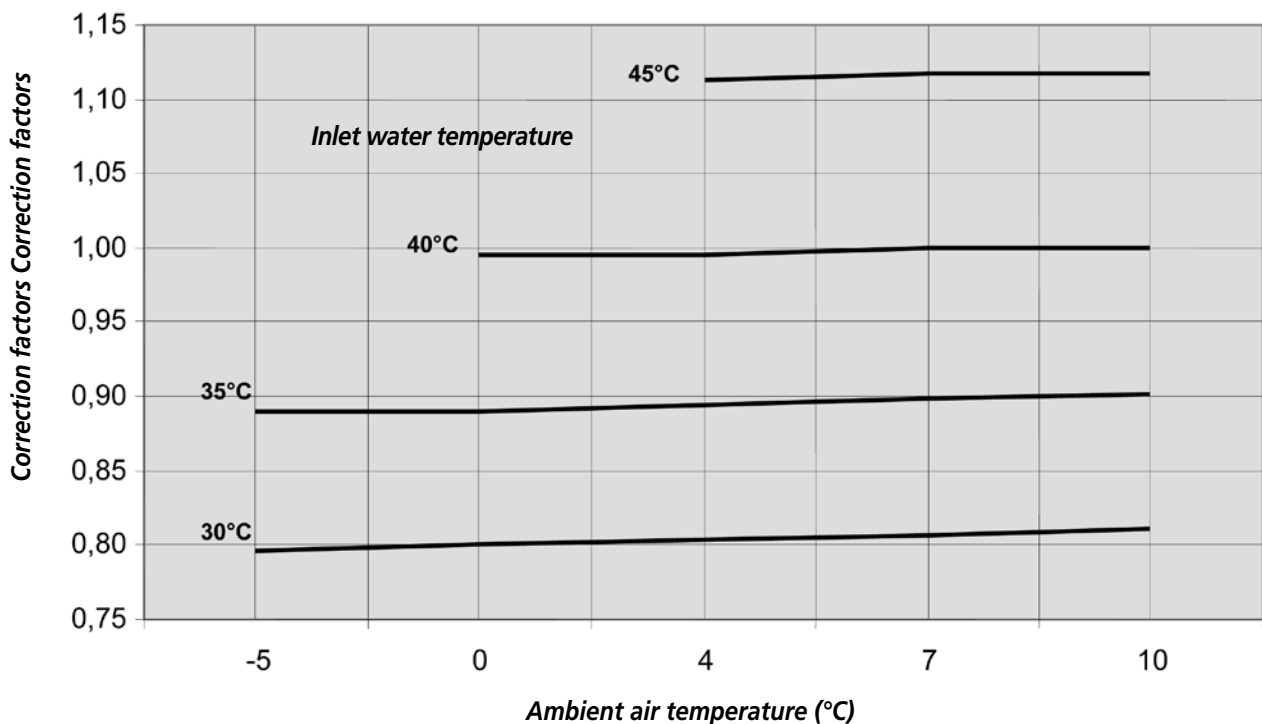
CORRECTION FACTORS HEATING CAPACITY



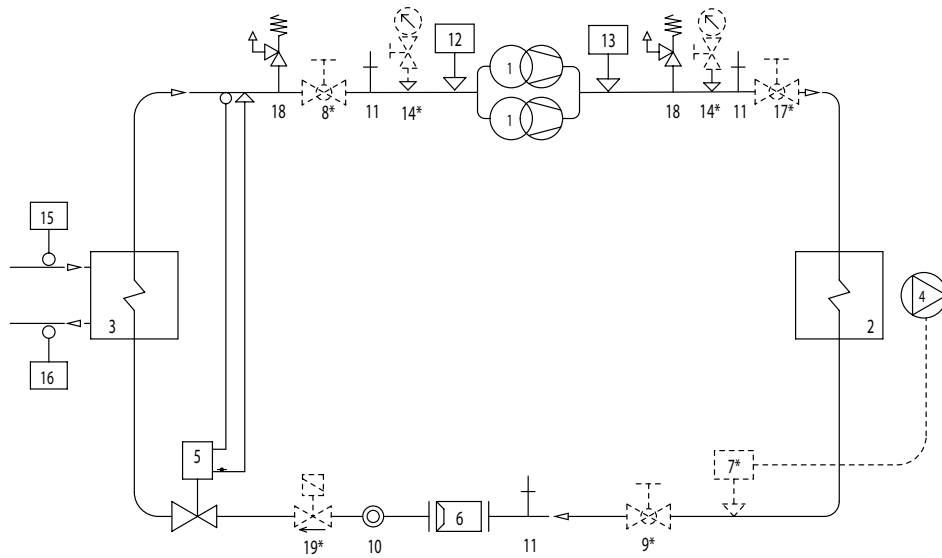
Example SCAEY 81 H

according to page 4 the heating capacity is 65 kW, the abs. power is 21 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 $65 \times 0,84 = 54,6$ kW; abs. power $21 \times 0,99 = 20,7$ kW.

CORRECTIONS FACTORS ABSORBED POWER

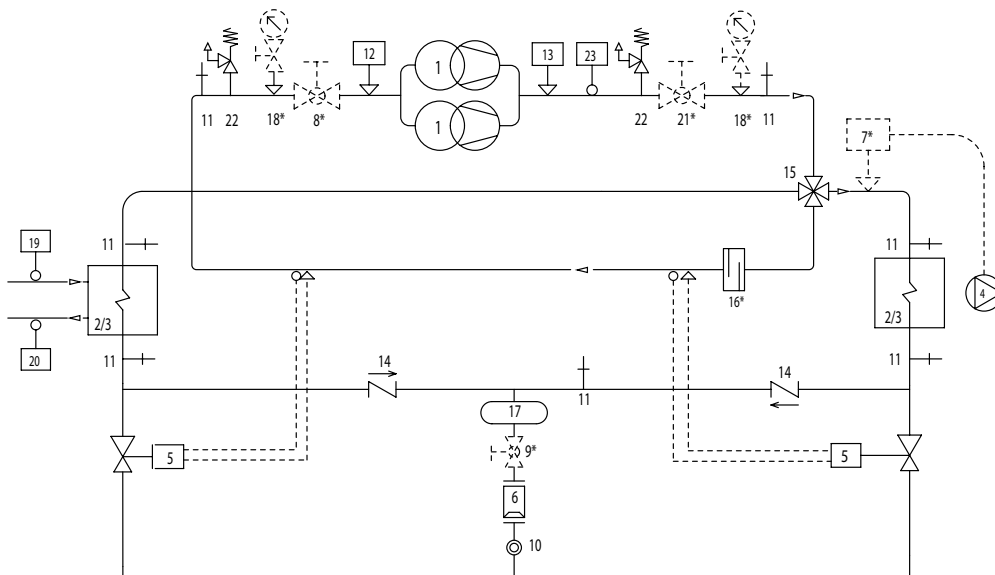


Refrigerant circuit SCAEY



- 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

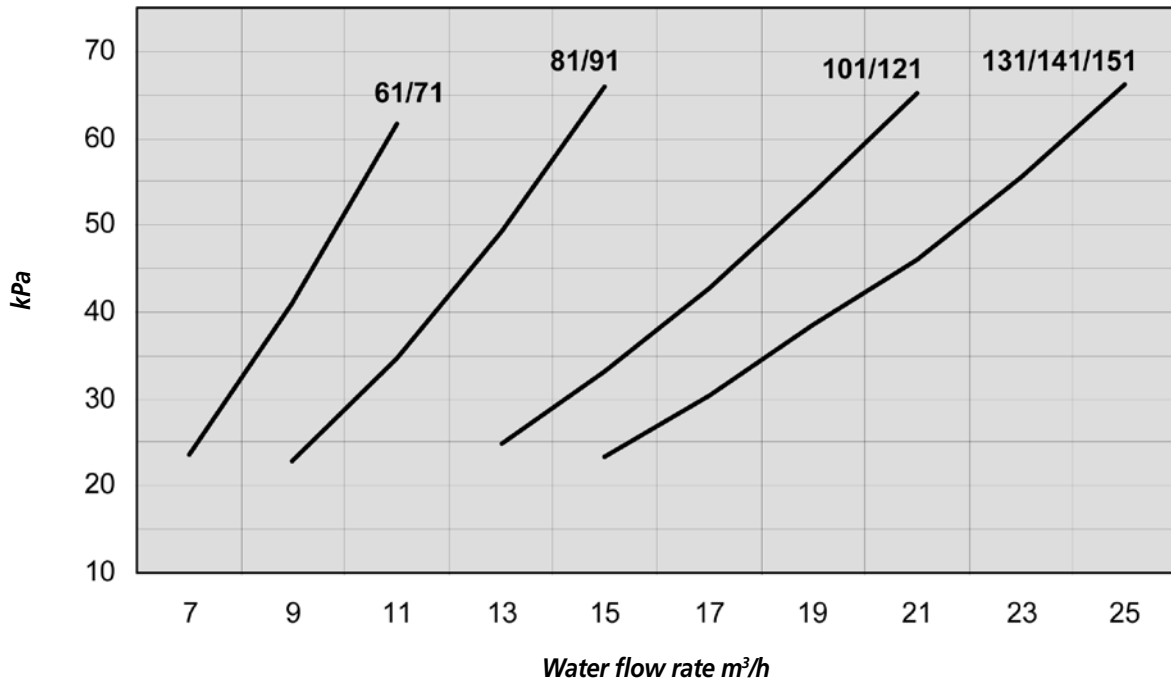
Refrigerant circuit SCAEY ... H



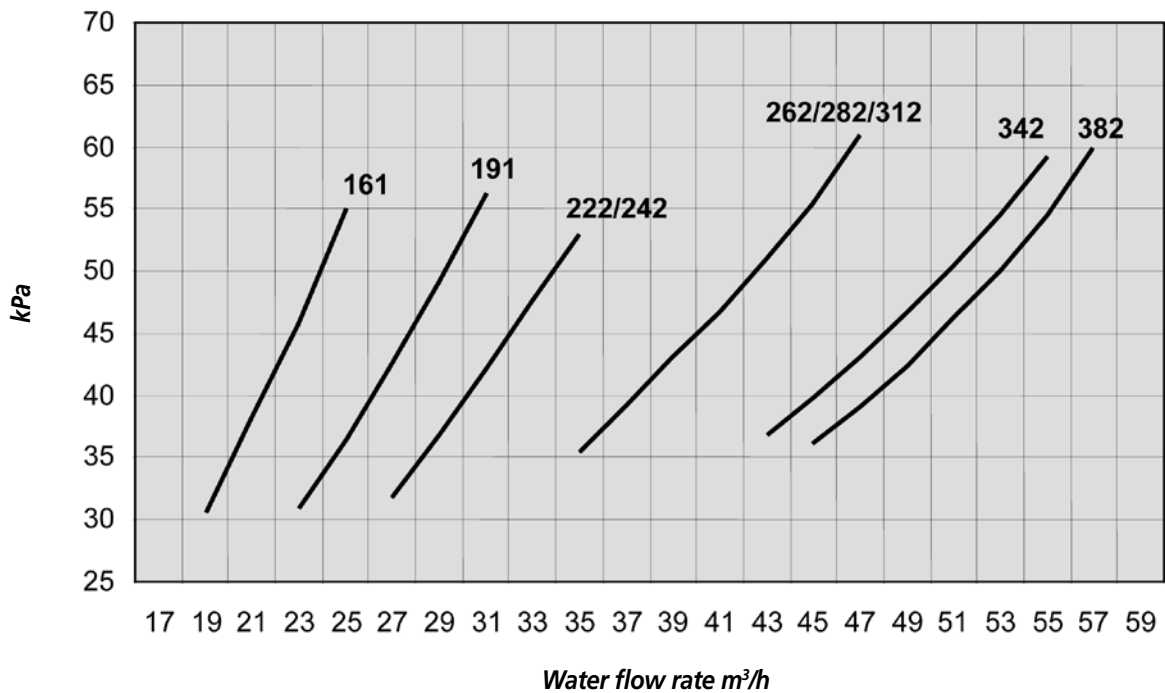
- 1 = Compressor
- 2 = Condenser
- 3 = Evaporator
- 4 = Fans
- 5 = Thermostatic valve
- 6 = Dryer
- 7 = Fan speed regulator*
- 8 = Shut off valve suction line*
- 9 = Shut off valves liquid line*
- 10 = Sight glass
- 11 = Schrader service valve
- 12 = Low pressure switch
- 13 = High pressure switch
- 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

**PRESSURE DROP: PLATE-TO-PLATE EVAPORATOR
SCAEY from 61 to 151**



**PRESSURE DROP: PLATE-TO-PLATE EVAPORATOR
SCAEY from 161 to 382**



DIMENSIONS

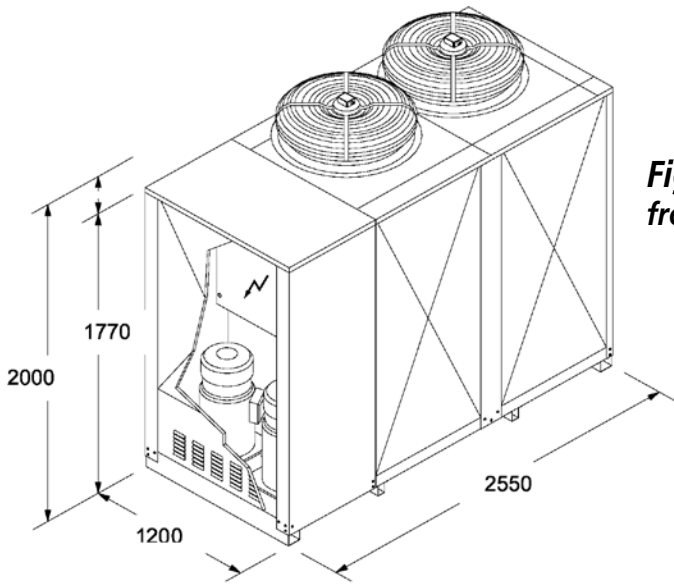


Fig. A
from 61 to 91

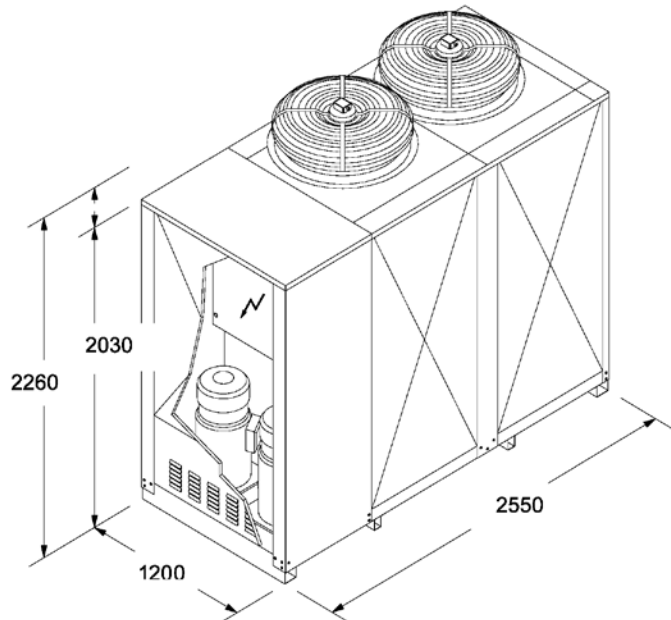


Fig. B
from 101 to 131

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
P 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 Version														
Operation (1)	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.

DIMENSIONS

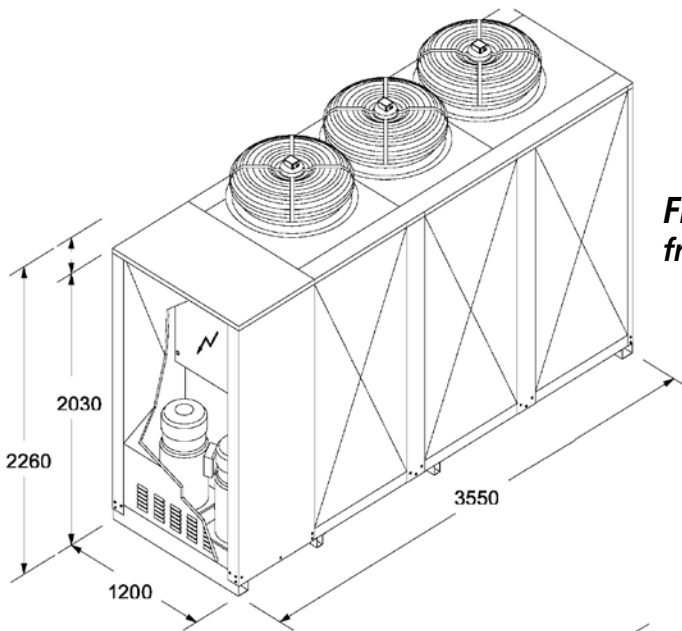
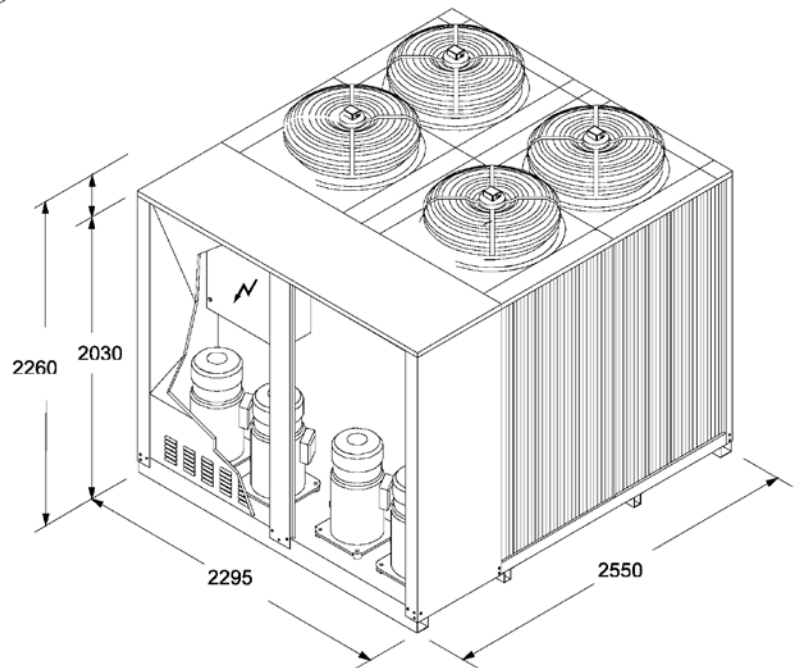


Fig. C
from 141 to 191

Fig. D
from 222 to 242



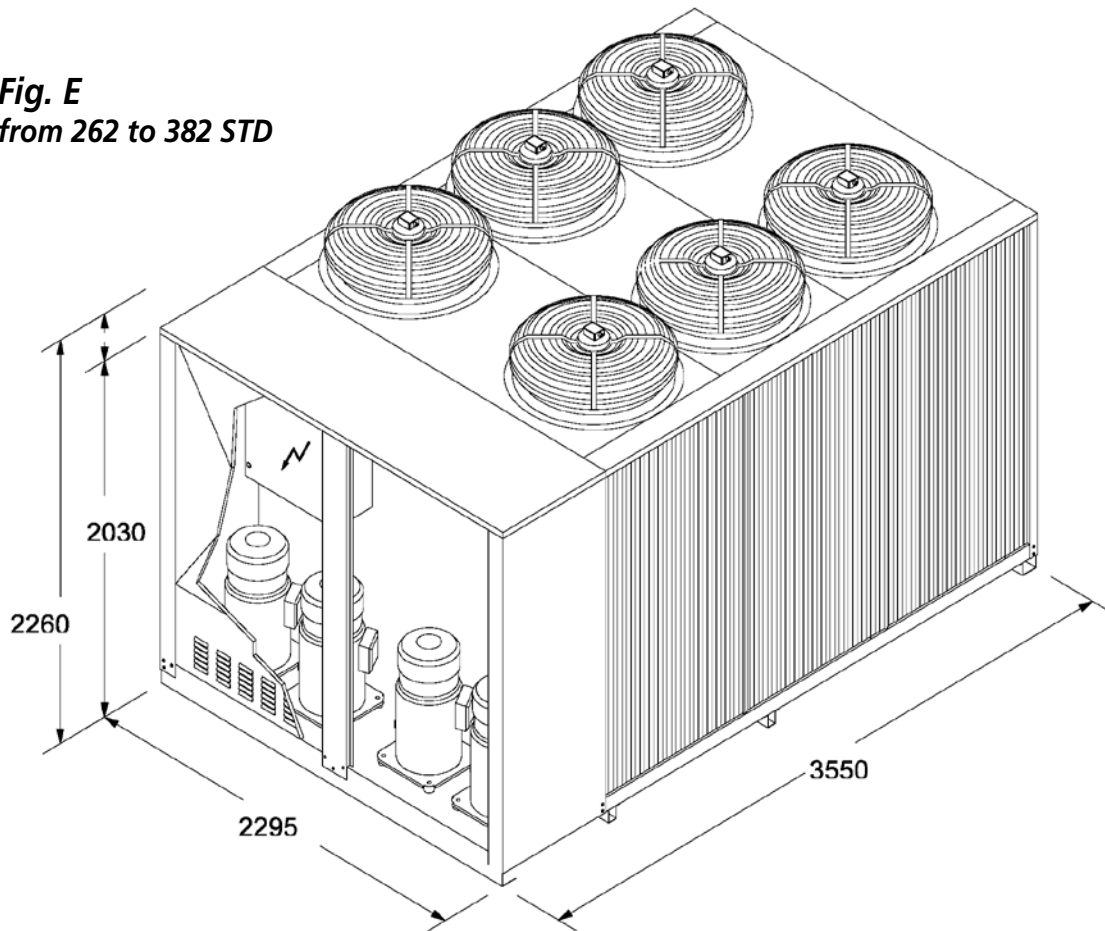
WEIGHTS (Kg)

VERSION	STD						LN / VLN					
	141	151	161	191	222	242	141	151	161	191	222	242
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
P 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
PAC Version												
Operation (1)	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.

DIMENSIONS

Fig. E
from 262 to 382 STD



WEIGHTS (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
P Version										
Operation (1)	2300	2410	2670	2840	3090	2370	2470	2730	2910	3170
Transport	2300	2410	2670	2840	3090	2370	2470	2730	2910	3170
PAC Version										
Operation (1)	3020	3100	3620	3780	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.

CLEARANCE AND SUPPORT POINTS

Fig. A
from 61 to 131

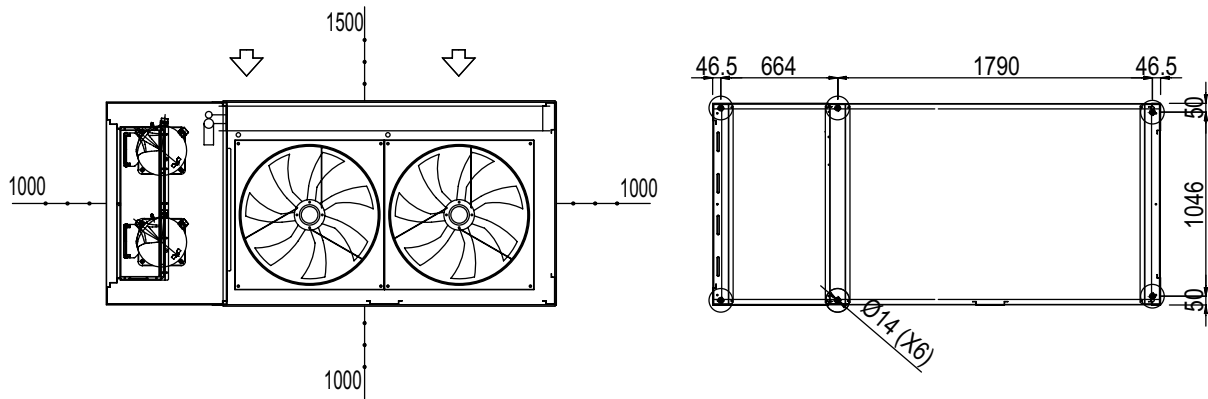
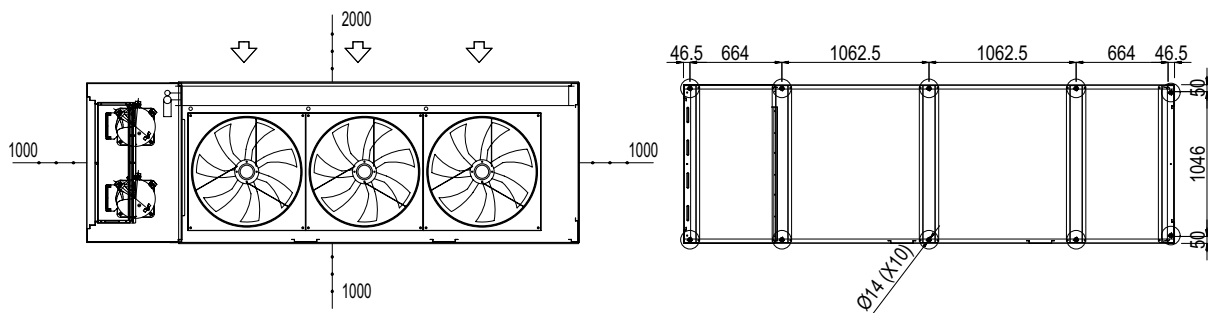


Fig. B
from 41 to 191

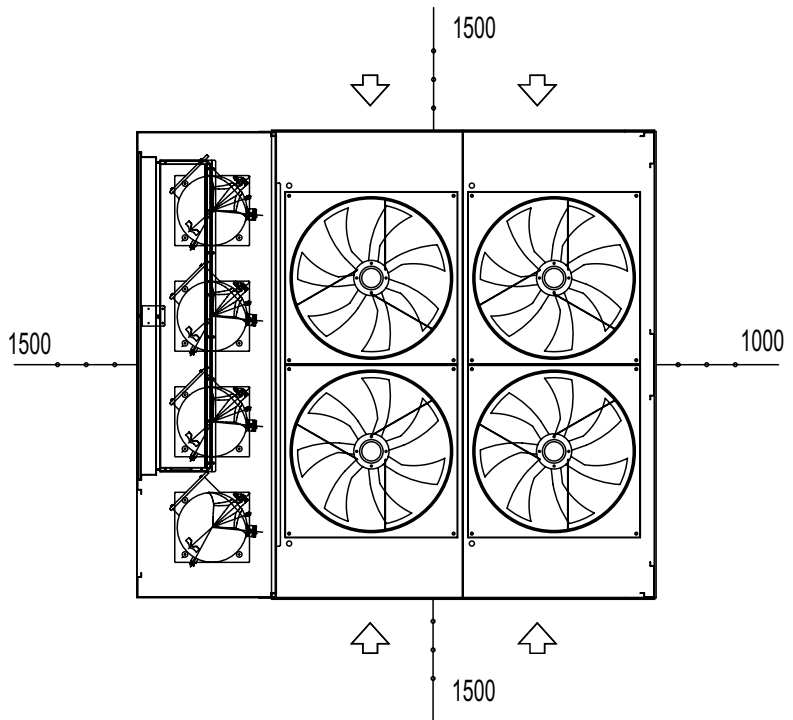
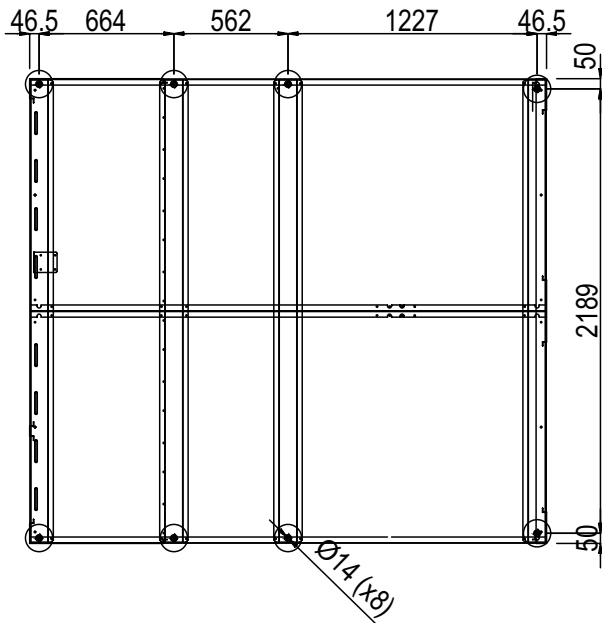


HYDRAULIC CONNECTIONS Ø

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

CLEARANCE AND SUPPORT POINTS

Fig. C
from 222 to 242

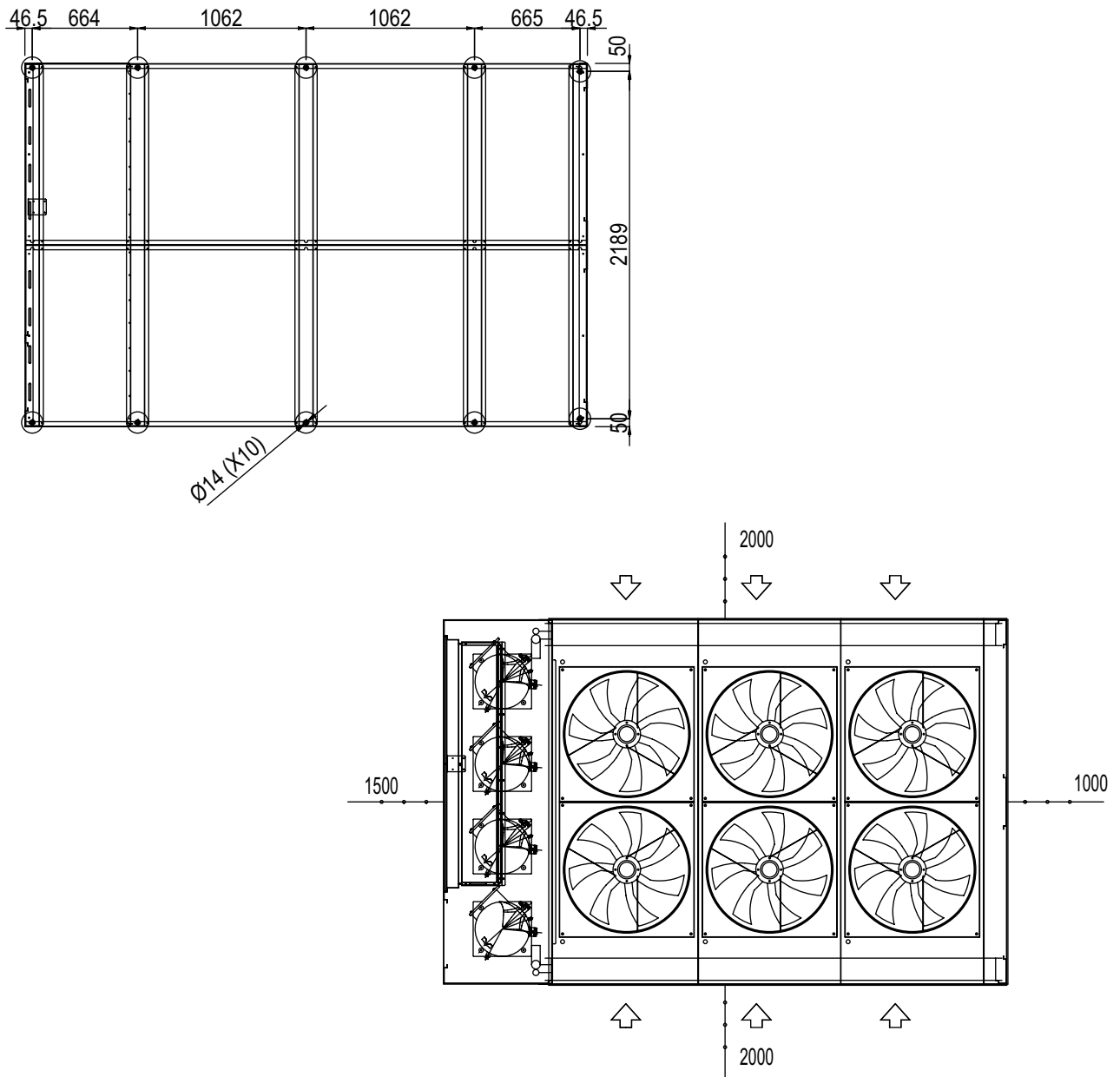


HYDRAULIC CONNECTIONS Ø

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

CLEARANCE AND SUPPORT POINTS

Fig. D
from 262 to 382



HYDRAULIC CONNECTIONS Ø

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

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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