

**LUFT/VANN ISVANNSAGGREGAT
MED AKSIALVIFTER**

**BE/SRAT 2002 – 4804
R22**



Beskrivelse aggregat

Luft kjølt vannkjøler med aksial vifter laget for utendørs installasjon.

Aggregat er levert med olje og R22 kuldemedie. Alle aggregat er testet på fabrikk.

Ramme

Ramme og bærestruktur er laget av malte galvanisert stål

Kompressor

Semi-hermetisk skruekompressor med 2 rotor med 5 "han" og 6 "hun" skruer. Rotor er festet rett på en 2-pole motor (2950 r.p.m.), uten bruk av unødvendige gearoverføringer. Kompressjonen foregår 5 ganger pr rotasjon slik at man slipper pulsingen som er vanelig på stempel kompressoerer.

Spesielle, vedlikeholdsfrie lager gir sjeldnere behov for overhaling. Smøring styres av en egen oljepumpe. Og egen oljeseparator sikrer riktig oljemengde i kompressoren.

Rotorene er dynamisk avbalansert. Og kombinert med få bevegelige deler gir kompressoren rolig og sikker drift.

Kapasitetsregulering for hver kompressor på 50% og 75%.

Startmetode er stjerne trekant.

Hver enkelt kompressor er utstyrt med termisk beskyttelse med manuel reset. Ellers finnes seglass, oljevvarmer, oljenivå,temperaturkontroll .

Varmevexlser

Direct expansion type with asymmetric refrigerant paths to maintain the correct refrigerant velocity inside the tubes during both liquid and gaseous phases. The shell is insulated with a anti-condensation lining made by foamed reticle polyethylene with an anti-scratch coating with UVA protection . The copper pipes are internally grooved so as to improve the heat exchange. The pipes are mechanically expanded onto the tube plate ends. A thermostatically controlled electric heater prevents the formation of ice inside the casing of the heat-exchanger. The unit is equipped with hydraulic connections VICTAULIC type with additional trunk to be welded.

Differential pressure switch for controlling the water flow is standardly fitted.

Kondensatorbatteri

Kondensatorbatteri laget av kobberør og aluminiumslameller. Den laveste del av batteri brukes til underkjøling.

Vifter

Axial vifter med aliminiums blader.

Seks polet motor med IP 54 beskyttelse plassert i en aerodynamisk ritkig utformet ramme med beskyttelsesgitter.

Presostatstyring via av/på vifter.

Kulde krets

Hver kuldemediekrets er utstyrt med følgende

komponenter:avstengningventil i væskeledningen, magnetventil i væskeledningen, tørrefilter med utskiftbar kjerne, seglass,termostatisk ekspansjonsventil med utvendig trykkutligning, høyttrykks-sikkerhetsventil, høy og lavtrykkspressostater,

UNIT DESCRIPTION

Air cooled liquid chiller with axial fans, suitable for outdoor installation.

The unit is supplied with its full charge of antifreeze oil and R22 refrigerant charge. The unit is factory tested, so that only water and electrical connections need to be made on site.

Supporting frame

Base and supporting structure and panels are made of galvanized polyester coated steel with high tickness (including the panels of the electrical board).

Compressors

Semi-hermetic screw-compressors with two rotors with five and six lobes.

The five-lobe rotor is keyed directly onto the 2-pole motor (2950 r.p.m.), without the inclusion of speed increasing gears.

The compression process occurs five times every motor rotation and therefore the discharge of gas occurs continuously without the typical throbbing of reciprocating compressors.

The rotors and mechanical machining of the bearing seats are carried out with the very latest computerised-numerical-control machines.

Special, maintenance-free bearings enable very wide work cycles.

Lubrication is forced, without the use of an oil pump.

The highly efficient built-in oil separator ensures the constant presence of oil in the compressor.

The rotors are dynamically balanced thus guaranteeing the absence of those vibrations typical of reciprocating compressors.

The lack of vibrations and the absence of delicate intake and discharge valves, in addition to very fine manufacturing tolerances, sophisticated quality controls during the production process and a reduced number of moving parts, guarantee quiet and dependable operation.

The slide valve provides capacity control for each compressor of 50% and and 75%.

motor starting method is a star-delta type, to limit the current absorbed in the compressor starting stages.

Each compressor is equipped with motor thermic protection with manual reset, discharge temperature control, float oil-level control, oil-level sight-glass and an electrical resistance for heating the oil when the compressor is stopped.

Each compressor is protected against the atmospheric agents by means of an easy to remove casing which also guarantees adequate sound-proofing.

A check valve situated on the gas delivery prevents dangerous reverse rotation of rotors after stopping.

Heat exchangers

Direct expansion type with asymmetric refrigerant paths to maintain the correct refrigerant velocity inside the tubes during both liquid and gaseous phases. The shell is insulated with a anti-condensation lining made by foamed reticle polyethylene with an anti-scratch coating with UVA protection . The copper pipes are internally grooved so as to improve the heat exchange. The pipes are mechanically expanded onto the tube plate ends. A thermostatically controlled electric heater prevents the formation of ice inside the casing of the heat-exchanger. The unit is equipped with hydraulic connections VICTAULIC type with additional trunk to be welded.

Differential pressure switch for controlling the water flow is standardly fitted.

Condensing coils

Heat exchanger coils made of copper tubes and aluminium fins. The lower part functions as a sub-cooling circuit.

Fans

Axial fans with external rotor and die-cast aluminium blades.

Six pole electric motor complete with thermal protection (IP54 protection ratio). They are housed in an aerodynamic hood and equipped with safety protection grills.

Pressostatic condensing control by on/off of the fans.

Refrigerant circuit

Each refrigerant circuit is complete with: non-return valve on compressor discharge line, liquid line shut-off valve, liquid line solenoid valves, dryer filter with replaceable core, sight glass equipped with presence of humidity signal, externally equalised thermal expansion valve, high pressure safety valve, low pressure

kontrollutstyr

Elektrisk utstyr og kontroller

Electrical power and control panel built in compliance with EN 60204-1/IEC 204-1 norms, complete with contactors and triads of fuses for the compressors and fans. The power section uses a bar-type distribution system and interlock-door mains isolator. The electrical panel is fitted with a seal-tight double door and is suitable for outdoor installation. Contactors are of spring type clamps to avoid cabling untightness due to vibrations.

The electrical section follows the norms:
CE 89/392/CEE (machine directive); 89/336/CEE (electromagnetic compatibility directive); 73/23/CEE (low tension directive).

Kontroll system

2002 - 2202 - 2402 - 2422 - 2702 - 2002 - 2202 - 2402 - 2422 - 2702 - 2002 - 2202 - 2402 - 2422 - 2702

Mikroprosessor styrt kontroll system som består av, volt og frekvens kontroll, fjern av/på, felles alarmsignal, vanntemperatur fordampner inn/ut i display, feilsignal kompressor, generell alarm.

Utskriftsmulighet for temperatur og trykk (hvis installert), oppsett parametre, historiske alarmer og hendelser.

Propesjonal regulering av inngående vanntemperatur, forsinket oppstart, antall starter pr kompressor pr time, styring av utgående isvann fordampner, pump down ved kompressor start og stopp, kompressor olje nivå, vifte hastighets kontroll, sentral reset av alarmer, komminukasjonsprotokoll, automatisk selvtest.

Kontroll system

3003 - 3203 - 3403 - 3603 - 4004 - 4404 - 4804 - 3003 - 3203 - 3403 - 3603 - 4004 - 4404 - 4804 - 3003 - 3203 - 3403 - 3603 - 4004 - 4404 - 4804

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Modello BE/SRAT

Kun kjøling

Modell BE/SRAD

This version differs from the basic one for a freon-water heat exchanger located on the compressors discharge line. The above heat exchanger, which is in series before the traditional condenser of the refrigerant circuit, is specially sized so as to allow the recovery of the de-superheating heat for hot water production at medium-high temperatures (secondary circuit or heat recovery circuit). The hot water production, for sanitary use or others, in the heat recovery circuit is available regardless the operating mode selected. The heating capacity of the heat recovery circuit, is approximately equal to the compressor absorbed power. After having crossed the de-superheating heat exchanger, the refrigerant ends the condensation process in the condenser.

Modell BE/SRAR

This version differs from the basic one for a freon-water heat exchanger located on the compressors discharge line. The above heat exchanger, which is in parallel to the traditional condenser of the refrigerant circuit, is specially sized so as to allow the total heat recovery of the condensation process for hot water production (secondary circuit or heat recovery circuit). The heating capacity of the heat recovery circuit, is approximately equal to the compressor absorbed power added to the cooling capacity.

safety valve (where foreseen by norms), control and check devices.

Electrical power and control panel

Electrical power and control panel built in compliance with EN 60204-1/IEC 204-1 norms, complete with contactors and triads of fuses for the compressors and fans. The power section uses a bar-type distribution system and interlock-door mains isolator. The electrical panel is fitted with a seal-tight double door and is suitable for outdoor installation. Contactors are of spring type clamps to avoid cabling untightness due to vibrations.

The electrical section follows the norms:
CE 89/392/CEE (machine directive); 89/336/CEE (electromagnetic compatibility directive); 73/23/CEE (low tension directive).

Computerized control system

2002 - 2202 - 2402 - 2422 - 2702 - 2002 - 2202 - 2402 - 2422 - 2702 - 2002 - 2202 - 2402 - 2422 - 2702

Microprocessor control system equipped with, voltage and frequency supply control, missing external consens led signal, remote on/off by external volt-free contact, cumulative fault warning alarm, evaporator inlet/outlet water temperature display, compressor/circuit failure signal, unit general-alarm signal, print-out of the temperature and pressure values (if any), configuration parameters print-out, historical alarms and events memory and print-out, proportional control on the inlet water temperature, delayed compressor start, compressor start per hour and restarting time control, compressor working-hours control and display, compressor working hours balance system, pump-down when stopped, compressor discharge temperature control, compressor oil level control, fan speed control, led display of interface board correct operation, auto-diagnostic of the electrical part, comunication protocol.

Computerized control system

3003 - 3203 - 3403 - 3603 - 4004 - 4404 - 4804 - 3003 - 3203 - 3403 - 3603 - 4004 - 4404 - 4804 - 3003 - 3203 - 3403 - 3603 - 4004 - 4404 - 4804

Microprocessor control system equipped with, voltage and frequency supply control, missing external consens led signal, remote on/off by external volt-free contact, cumulative fault warning alarm, evaporator inlet/outlet water temperature display, compressor/circuit failure signal, unit general-alarm signal, print-out of the temperature and pressure values (if any), configuration parameters print-out, historical alarms and events memory and print-out, proportional control on the inlet water temperature, real-time internal clock, delayed compressor start, compressor start per hour and restarting time control, compressor working-hours control and display, compressor working hours balance system, pump-down when stopped, compressor discharge temperature control, compressor oil level control, fan speed control, led display of interface board correct operation, auto-diagnostic of the electrical part, comunication protocol.

BE/SRAT model

Cooling only.

BE/SRAD model

This version differs from the basic one for a freon-water heat exchanger located on the compressors discharge line. The above heat exchanger, which is in series before the traditional condenser of the refrigerant circuit, is specially sized so as to allow the recovery of the de-superheating heat for hot water production at medium-high temperatures (secondary circuit or heat recovery circuit). The hot water production, for sanitary use or others, in the heat recovery circuit is available regardless the operating mode selected. The heating capacity of the heat recovery circuit, is approximately equal to the compressor absorbed power. After having crossed the de-superheating heat exchanger, the refrigerant ends the condensation process in the condenser.

BE/SRAR model

This version differs from the basic one for a freon-water heat exchanger located on the compressors discharge line. The above heat exchanger, which is in parallel to the traditional condenser of the refrigerant circuit, is specially sized so as to allow the total heat recovery of the condensation process for hot water production (secondary circuit or heat recovery circuit). The heating capacity of the heat recovery circuit, is approximately equal to the compressor absorbed power added to the cooling capacity.

Versjon B
Standard versjon

Version B
Standard version unit.

Kapasitet				STØRRELSE								
				2002	2202	2402	2422	2702	3003	3203		
BE/SRAT												
Kulde kapasitet		[kW]		569	627	683	726	786	856	903		
Effekt forbruk		[kW]		214	234	253	247	284	315	341		
Totalt effekt forbruk		[kW]		230	251	269	263	304	340	366		
Fordamper vann mengde		[m ³ /h]		98	108	118	125	135	147	155		
Fordamper trykk fall		[kPa]		23	27	32	28	33	35	34		
CVM mikroprosessor				300	300	300	300	300	3000	3000		
BE/SRAD												
Kulde kapasitet		[kW]		591	651	708	753	815	888	937		
Effekt forbruk		[kW]		206	226	244	238	274	304	329		
Totalt effekt forbruk		[kW]		223	243	260	255	294	329	354		
Desuperheater varme kapasitet		[kW]		191	209	225	220	254	281	304		
Fordamper vann mengde		[m ³ /h]		102	112	122	130	140	153	161		
Fordamper trykk fall		[kPa]		25	29	34	30	35	37	36		
Desuperheater vann mengde		[m ³ /h]		33	36	39	38	44	49	53		
Desuperheater trykkfall		[kPa]		34	34	33	32	37	33	34		
CVM mikroprosessor				300	300	300	300	300	3000	3000		
BE/SRAR												
Kulde kapasitet		[kW]		602	668	726	749	824	890	960		
Effekt forbruk		[kW]		199	217	234	236	268	298	316		
Gjenvinning kapasitet		[kW]		789	871	946	971	1076	1170	1257		
Fordamper vann mengde		[m ³ /h]		104	115	125	129	142	153	165		
Fordamper trykk fall		[kPa]		26	30	36	30	36	38	38		
Gjenvinning vannmengde		[m ³ /h]		137	151	164	169	187	203	218		
Gjenvinning trykk fall		[kPa]		45	46	46	49	60	44	45		
CVM mikroprosessor				300	300	300	300	300	3000	3000		
Vifter												
Antall vifter		[n]		12	12	12	12	14	18	18		
Luft mengde		[m ³ /s]		59,2	58,1	57,0	53,2	70,5	87,3	87,3		
Kompressor												
Antall kompressorer		[n]		2	2	2	2	2	3	3		
Antall kretser		[n]		2	2	2	2	2	3	3		
Kapasitets trinn		STD+OPT [n]		6	6	6	6	6	6	6		
Fylling mengder												
BE/SRAT	Kuldemedie	[kg]		126	135	144	230	182	189	198		
BE/SRAD	Kuldemedie	[kg]		132	143	154	240	192	198	209		
BE/SRAR	Kuldemedie	[kg]		166	178	190	276	228	249	261		
	Olje	[kg]		40	40	40	40	43	60	60		
Drifts vekt												
BE/SRAT		[kg]		5810	5910	6020	6470	7300	8340	8550		
BE/SRAD		[kg]		6020	6135	6240	6730	7540	8630	8860		
BE/SRAR		[kg]		6350	6480	6600	7090	7880	9120	9350		
Lyd effekt nivå												
		[dB(A)]		100	100	100	100	101	102	102		
Lyd trykk nivå (1)												
		[dB(A)]		84	84	84	84	84	85	85		

(1) Lyd trykk nivå målt på 1 meter i åpent felt

Data refererer seg til:

BE/SRATIsvann 12/7 [°C]
Utetemperatur 35 [°C]**BE/SRAR**Isvann 12/7 [°C]
Varmt vann (gjenvinning) 40/45 [°C]**BE/SRAD**Isvann 12/7 [°C]
Varmt vann (desuperhea) 40/45 [°C]
Ute temperatur 35 [°C]

Kapasitet		STØRRELSE					
		3403	3603	4004	4404	4804	
BE/SRAT							
Kulde kapasitet	[kW]	973	1021	1139	1250	1365	
Effekt forbruk	[kW]	354	380	427	467	505	
Totalt effekt forbruk	[kW]	379	405	461	501	539	
Fordamper vann mengde	[m ³ /h]	167	176	196	215	235	
Fordamper trykk fall	[kPa]	39	43	23	27	31	
CVM mikroprosessor		3000	3000	3000	3000	3000	
BE/SRAD							
Kulde kapasitet	[kW]	1009	1059	1182	1297	1417	
Effekt forbruk	[kW]	342	367	412	451	487	
Totalt effekt forbruk	[kW]	367	392	446	484	521	
Desuperheater varme kapasitet	[kW]	316	339	381	417	451	
Fordamper vann mengde	[m ³ /h]	174	182	203	223	244	
Fordamper trykk fall	[kPa]	42	47	25	29	34	
Desuperheater vann mengde	[m ³ /h]	55	59	66	72	78	
Desuperheater trykkfall	[kPa]	32	33	34	34	33	
CVM mikroprosessor		3000	3000	3000	3000	3000	
BE/SRAR							
Kulde kapasitet	[kW]	1017	1088	1204	1329	1451	
Effekt forbruk	[kW]	333	351	398	433	468	
Gjenvinning kapasitet	[kW]	1330	1419	1579	1736	1891	
Fordamper vann mengde	[m ³ /h]	175	187	207	229	250	
Fordamper trykk fall	[kPa]	43	49	26	31	36	
Gjenvinning vannmengde	[m ³ /h]	231	247	274	302	329	
Gjenvinning trykk fall	[kPa]	45	46	45	45	46	
CVM mikroprosessor		3000	3000	3000	3000	3000	
Vifter							
Antall vifter	[n]	18	18	24	24	24	
Luft mengde	[m ³ /s]	85,0	85,0	118,4	116,2	114,0	
Kompressor							
Antall kompressorer	[n]	3	3	4	4	4	
Antall kretser	[n]	3	3	4	4	4	
Kapasitets trinn	STD+OPT [n]	6	6	8	8	8	
Fylling mengder							
BE/SRAT	Kuldemedie [kg]	207	216	252	270	288	
BE/SRAD	Kuldemedie [kg]	220	231	264	286	308	
BE/SRAR	Kuldemedie [kg]	273	285	332	356	380	
	Olje [kg]	60	60	80	80	80	
Drifts vekt							
BE/SRAT	[kg]	8780	8800	11530	11740	11930	
BE/SRAD	[kg]	9100	9140	11920	12145	12370	
BE/SRAR	[kg]	9615	9670	12570	12820	13090	
Lyd effekt nivå		[dB(A)]	102	102	103	103	103
Lyd trykk nivå (1)		[dB(A)]	85	85	85	85	85

(1) Lyd trykk nivå målt på 1 meter i åpent felt

Data refererer seg til:

BE/SRAT

Isvann 12/7 [°C]
Utetemperatur 35 [°C]

BE/SRAR

Isvann 12/7 [°C]
Varmt vann (gjenvinning) 40/45 [°C]

BE/SRAD

Isvann 12/7 [°C]
Varmt vann (desuperhea) 40/45 [°C]
Ute temperatur 35 [°C]

Tev	Modell 2002				Tev	Modell 2202				Tev	Modell 2402				Tev	Modell 2422				Tev	Modell 2702							
	Twc					Twc					Twc					Twc					Twc							
	inn ut	11 5	13 7	15 9		inn ut	11 5	13 7	15 9		inn ut	11 5	13 7	15 9		inn ut	11 5	13 7	15 9		inn ut	11 5	13 7	15 9	inn ut	11 5	13 7	15 9
20	Pf	643	678	714	20	Pf	712	750	789	20	Pf	774	815	857	20	Pf	825	872	921	20	Pf	889	937	986				
	Qev	111	117	123		Qev	123	129	136		Qev	133	140	148		Qev	142	150	159		Qev	153	161	170	Qev	153	161	170
	dPev	29	33	36		dPev	35	38	43		dPev	41	45	50		dPev	36	41	45		dPev	42	47	52	dPev	42	47	52
	Pa	158	163	168		Pa	173	179	184		Pa	187	192	198		Pa	177	182	187		Pa	211	217	223	Pa	211	217	223
	Qc	129	136	143		Qc	143	150	157		Qc	155	163	171		Qc	167	176	185		Qc	179	188	197	Qc	179	188	197
dPc	40	44	49	dPc	47	52	57	dPc	55	61	67	dPc	50	56	62	dPc	57	63	70	dPc	57	63	70					
22	Pf	635	669	703	22	Pf	702	739	777	22	Pf	764	804	844	22	Pf	808	853	899	22	Pf	877	924	971				
	Qev	109	115	121		Qev	121	127	134		Qev	131	138	145		Qev	139	147	155		Qev	151	159	167	Qev	151	159	167
	dPev	29	32	35		dPev	34	37	41		dPev	40	44	49		dPev	35	39	43		dPev	41	46	50	dPev	41	46	50
	Pa	165	170	174		Pa	181	186	191		Pa	195	200	206		Pa	187	192	197		Pa	219	226	232	Pa	219	226	232
	Qc	127	134	140		Qc	141	147	154		Qc	153	160	168		Qc	163	172	180		Qc	176	184	193	Qc	176	184	193
dPc	39	43	47	dPc	45	50	55	dPc	54	59	65	dPc	48	53	59	dPc	56	61	67	dPc	56	61	67					
24	Pf	625	658	691	24	Pf	691	727	763	24	Pf	752	790	830	24	Pf	790	834	878	24	Pf	863	908	954				
	Qev	108	113	119		Qev	119	125	131		Qev	129	136	143		Qev	136	144	151		Qev	148	156	164	Qev	148	156	164
	dPev	28	31	34		dPev	33	36	40		dPev	38	43	47		dPev	33	37	41		dPev	40	44	49	dPev	40	44	49
	Pa	172	176	181		Pa	188	193	198		Pa	203	208	214		Pa	196	202	207		Pa	228	235	241	Pa	228	235	241
	Qc	125	131	137		Qc	138	145	151		Qc	150	157	164		Qc	159	167	175		Qc	173	181	189	Qc	173	181	189
dPc	37	41	45	dPc	44	48	53	dPc	52	57	62	dPc	46	50	55	dPc	54	59	65	dPc	54	59	65					
25	Pf	619	652	684	25	Pf	685	720	756	25	Pf	745	783	821	25	Pf	782	824	867	25	Pf	855	900	945				
	Qev	107	112	118		Qev	118	124	130		Qev	128	135	141		Qev	134	142	149		Qev	147	155	163	Qev	147	155	163
	dPev	27	30	33		dPev	32	35	39		dPev	38	42	46		dPev	33	36	40		dPev	39	43	48	dPev	39	43	48
	Pa	175	180	184		Pa	192	197	202		Pa	207	212	218		Pa	201	206	212		Pa	233	239	245	Pa	233	239	245
	Qc	124	130	136		Qc	137	143	150		Qc	148	155	162		Qc	157	165	173		Qc	171	179	187	Qc	171	179	187
dPc	37	40	44	dPc	43	47	51	dPc	51	55	61	dPc	44	49	54	dPc	53	58	63	dPc	53	58	63					
27	Pf	607	638	670	27	Pf	671	705	739	27	Pf	730	766	804	27	Pf	764	804	846	27	Pf	838	881	925				
	Qev	104	110	115		Qev	115	121	127		Qev	126	132	138		Qev	131	138	146		Qev	144	152	159	Qev	144	152	159
	dPev	26	29	32		dPev	31	34	37		dPev	36	40	44		dPev	31	35	38		dPev	37	41	46	dPev	37	41	46
	Pa	182	186	191		Pa	199	204	209		Pa	215	220	226		Pa	210	215	221		Pa	242	248	254	Pa	242	248	254
	Qc	121	127	132		Qc	133	140	146		Qc	145	152	158		Qc	153	160	168		Qc	167	175	183	Qc	167	175	183
dPc	35	38	42	dPc	41	45	49	dPc	48	53	58	dPc	42	46	51	dPc	50	55	60	dPc	50	55	60					
30	Pf	586	615	645	30	Pf	647	679	711	30	Pf	704	739	773	30	Pf	737	775	813	30	Pf	809	849	890				
	Qev	101	106	111		Qev	111	117	122		Qev	121	127	133		Qev	127	133	140		Qev	139	146	153	Qev	139	146	153
	dPev	24	27	30		dPev	29	31	34		dPev	34	37	41		dPev	29	32	35		dPev	35	38	42	dPev	35	38	42
	Pa	192	196	201		Pa	210	215	220		Pa	227	232	238		Pa	223	228	234		Pa	255	262	268	Pa	255	262	268
	Qc	116	122	127		Qc	128	134	140		Qc	139	145	152		Qc	147	154	161		Qc	160	168	175	Qc	160	168	175
dPc	32	35	39	dPc	38	41	45	dPc	45	49	53	dPc	39	43	47	dPc	46	51	55	dPc	46	51	55					

Tev [°C] Fordamper utgående vann
 Twc [°C] condenser water in/out
 Pf [kW] Kulde kapasitet
 Pt [kW] Varme kapasitet
 Pa [kW] Kompressorer effekt forbruk
 Qev [m³/h] Fordamper vann mengde
 dPev [kPa] Fordamper trykk fall
 Qc [m³/h] Kondensator vann mengde
 dPc [kPa] Kondensator trykk fall

Modell 3003				Modell 3203				Modell 3403				Modell 3603				Modell 4004								
Twc				Twc				Twc				Twc				Twc								
Tev	inn ut	11 5	13 7	15 9	Tev	inn ut	11 5	13 7	15 9	Tev	inn ut	11 5	13 7	15 9	Tev	inn ut	11 5	13 7	15 9					
20	Pf	956	1008	1061	20	Pf	1024	1078	1134	20	Pf	1091	1149	1209	20	Pf	1160	1222	1284	20	Pf	1287	1357	1428
	Qev	165	173	183		Qev	176	186	195		Qev	188	198	208		Qev	200	210	221		Qev	221	234	246
	dPev	43	48	53		dPev	43	48	53		dPev	49	55	61		dPev	56	62	69		dPev	29	33	36
	Pt	1115	1171	1228		Pt	1191	1249	1309		Pt	1270	1333	1397		Pt	1349	1414	1481		Pt	1501	1576	1653
Pa	232	239	246	Pa	252	260	267	Pa	261	268	276	Pa	282	290	298	Pa	316	326	335					
Qc	192	202	212	Qc	205	215	226	Qc	219	230	241	Qc	232	244	255	Qc	259	272	285					
dPc	59	65	72	dPc	59	65	71	dPc	67	74	81	dPc	76	83	91	dPc	40	44	49					
22	Pf	944	995	1046	22	Pf	1010	1063	1117	22	Pf	1077	1134	1192	22	Pf	1144	1204	1265	22	Pf	1270	1338	1407
	Qev	163	171	180		Qev	174	183	192		Qev	185	195	205		Qev	197	207	218		Qev	219	230	242
	dPev	42	47	52		dPev	42	47	52		dPev	48	53	59		dPev	54	60	66		dPev	29	32	35
	Pt	1099	1153	1209		Pt	1172	1228	1286		Pt	1252	1313	1375		Pt	1327	1390	1454		Pt	1478	1550	1624
Pa	242	249	256	Pa	263	270	278	Pa	272	279	287	Pa	293	302	310	Pa	330	339	349					
Qc	189	199	208	Qc	202	212	222	Qc	216	226	237	Qc	229	240	251	Qc	255	267	280					
dPc	57	63	70	dPc	57	63	69	dPc	65	72	79	dPc	73	80	88	dPc	39	43	47					
24	Pf	931	980	1030	24	Pf	993	1045	1097	24	Pf	1061	1117	1173	24	Pf	1126	1183	1242	24	Pf	1250	1315	1382
	Qev	160	169	177		Qev	171	180	189		Qev	183	192	202		Qev	194	204	214		Qev	215	226	238
	dPev	41	46	50		dPev	41	45	50		dPev	47	52	57		dPev	53	58	64		dPev	28	31	34
	Pt	1081	1133	1186		Pt	1150	1204	1260		Pt	1230	1289	1349		Pt	1302	1362	1424		Pt	1451	1520	1591
Pa	252	259	266	Pa	274	281	289	Pa	283	291	298	Pa	305	313	322	Pa	343	352	362					
Qc	186	195	205	Qc	198	208	217	Qc	212	222	233	Qc	224	235	246	Qc	250	262	274					
dPc	56	61	67	dPc	55	60	66	dPc	63	69	76	dPc	70	77	84	dPc	37	41	45					
25	Pf	923	971	1021	25	Pf	984	1035	1086	25	Pf	1053	1107	1162	25	Pf	1115	1172	1230	25	Pf	1239	1303	1369
	Qev	159	167	176		Qev	169	178	187		Qev	181	191	200		Qev	192	202	212		Qev	213	224	236
	dPev	40	45	49		dPev	40	44	49		dPev	46	51	56		dPev	52	57	63		dPev	27	30	33
	Pt	1071	1122	1174		Pt	1138	1191	1245		Pt	1219	1276	1335		Pt	1288	1348	1408		Pt	1436	1504	1573
Pa	257	264	271	Pa	279	286	294	Pa	289	296	304	Pa	311	319	328	Pa	350	359	369					
Qc	185	193	203	Qc	196	205	215	Qc	210	220	230	Qc	222	232	243	Qc	247	259	271					
dPc	54	60	66	dPc	54	59	65	dPc	62	68	74	dPc	69	76	83	dPc	37	40	44					
27	Pf	906	953	1000	27	Pf	965	1013	1063	27	Pf	1033	1085	1139	27	Pf	1093	1147	1203	27	Pf	1214	1276	1340
	Qev	156	164	172		Qev	166	174	183		Qev	178	187	196		Qev	188	198	207		Qev	209	220	231
	dPev	39	43	47		dPev	39	43	47		dPev	44	49	54		dPev	50	55	60		dPev	26	29	32
	Pt	1049	1098	1148		Pt	1113	1163	1215		Pt	1193	1248	1304		Pt	1259	1315	1373		Pt	1404	1469	1535
Pa	267	274	281	Pa	290	297	305	Pa	300	308	316	Pa	323	331	340	Pa	363	373	382					
Qc	181	189	198	Qc	192	201	210	Qc	206	215	225	Qc	217	227	237	Qc	242	253	265					
dPc	52	57	63	dPc	51	56	61	dPc	59	65	71	dPc	66	72	78	dPc	35	38	42					
30	Pf	876	921	965	30	Pf	931	977	1023	30	Pf	999	1048	1098	30	Pf	1054	1105	1157	30	Pf	1172	1231	1290
	Qev	151	158	166		Qev	160	168	176		Qev	172	180	189		Qev	181	190	199		Qev	202	212	222
	dPev	36	40	44		dPev	36	40	43		dPev	41	46	50		dPev	46	51	56		dPev	24	27	30
	Pt	1011	1056	1103		Pt	1069	1116	1163		Pt	1149	1200	1252		Pt	1209	1261	1314		Pt	1349	1410	1471
Pa	283	289	296	Pa	306	313	321	Pa	317	325	333	Pa	341	349	358	Pa	384	393	402					
Qc	174	182	190	Qc	184	192	201	Qc	198	207	216	Qc	208	217	227	Qc	233	243	254					
dPc	49	53	58	dPc	48	52	56	dPc	55	60	65	dPc	61	66	72	dPc	32	35	39					

Tev [°C] Fordamper utgående vann
 Twc [°C] condenser water in/out
 Pf [kW] Kulde kapasitet
 Pt [kW] Varme kapasitet
 Pa [kW] Kompressorer effekt forbruk
 Qev [m³/h] Fordamper vann mengde
 dPev [kPa] Fordamper trykk fall
 Qc [m³/h] Kondensator vann mengde
 dPc [kPa] Kondensator trykk fall

Tev	Modell 4404				Tev	Modell 4804			
	Twc					Twc			
	inn ut	11 5	13 7	15 9		inn ut	11 5	13 7	15 9
20	Pf	1418	1493	1571	20	Pf	1549	1631	1715
	Qev	244	257	271		Qev	267	281	295
	dPev	35	39	43		dPev	40	45	50
	Pt	1650	1732	1814		Pt	1801	1888	1978
	Pa	346	356	367		Pa	374	385	396
Qc	284	299	313	Qc	310	326	341		
dPc	48	53	58	dPc	55	60	66		
22	Pf	1398	1472	1547	22	Pf	1528	1608	1689
	Qev	241	253	266		Qev	263	277	291
	dPev	34	38	42		dPev	39	44	48
	Pt	1624	1702	1782		Pt	1772	1857	1943
	Pa	361	371	381		Pa	390	401	412
Qc	280	293	307	Qc	305	320	335		
dPc	46	51	56	dPc	53	58	64		
24	Pf	1376	1447	1520	24	Pf	1503	1580	1659
	Qev	237	249	262		Qev	259	272	286
	dPev	33	37	40		dPev	38	42	47
	Pt	1594	1669	1745		Pt	1739	1820	1903
	Pa	375	385	396		Pa	405	416	428
Qc	275	288	301	Qc	300	314	328		
dPc	44	49	53	dPc	51	56	61		
25	Pf	1363	1433	1505	25	Pf	1490	1566	1643
	Qev	235	247	259		Qev	256	270	283
	dPev	32	36	40		dPev	37	41	46
	Pt	1577	1651	1726		Pt	1721	1801	1882
	Pa	382	393	403		Pa	413	424	436
Qc	272	285	298	Qc	297	310	325		
dPc	44	48	52	dPc	50	55	60		
27	Pf	1336	1404	1472	27	Pf	1460	1533	1607
	Qev	230	242	254		Qev	251	264	277
	dPev	31	34	38		dPev	36	40	44
	Pt	1542	1612	1683		Pt	1682	1758	1836
	Pa	397	407	418		Pa	429	440	451
Qc	266	278	290	Qc	290	303	317		
dPc	42	46	50	dPc	48	52	57		
30	Pf	1289	1352	1416	30	Pf	1408	1477	1546
	Qev	222	233	244		Qev	242	254	266
	dPev	29	32	35		dPev	33	37	40
	Pt	1481	1546	1612		Pt	1616	1687	1758
	Pa	419	430	440		Pa	453	464	476
Qc	255	267	278	Qc	278	291	303		
dPc	38	42	46	dPc	44	48	52		

Tev	[°C]	Fordamper utgående vann
Twc	[°C]	condenser water in/out
Pf	[kW]	Kulde kapasitet
Pt	[kW]	Varme kapasitet
Pa	[kW]	Kompressorer effekt forbruk
Qev	[m³/h]	Fordamper vann mengde
dPev	[kPa]	Fordamper trykk fall
Qc	[m³/h]	Kondensator vann mengde
dPc	[kPa]	Kondensator trykk fall

Din totalleverandør av kulde- og ventilasjonsprodukter
Produkter for godt inneklima året rundt.

Ventilasjonsaggregater

Isvannsmaskiner

Luftfordelingsutstyr

Air-conditioning

Luftvarmere

Tørrkjølere

Spjeld

Fan-coils

Vifter

Kjøletårn

Befuktere

Dx-maskiner

Varmegjenvinnere

Varmepumper

Varme- og kjølebatterier

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