



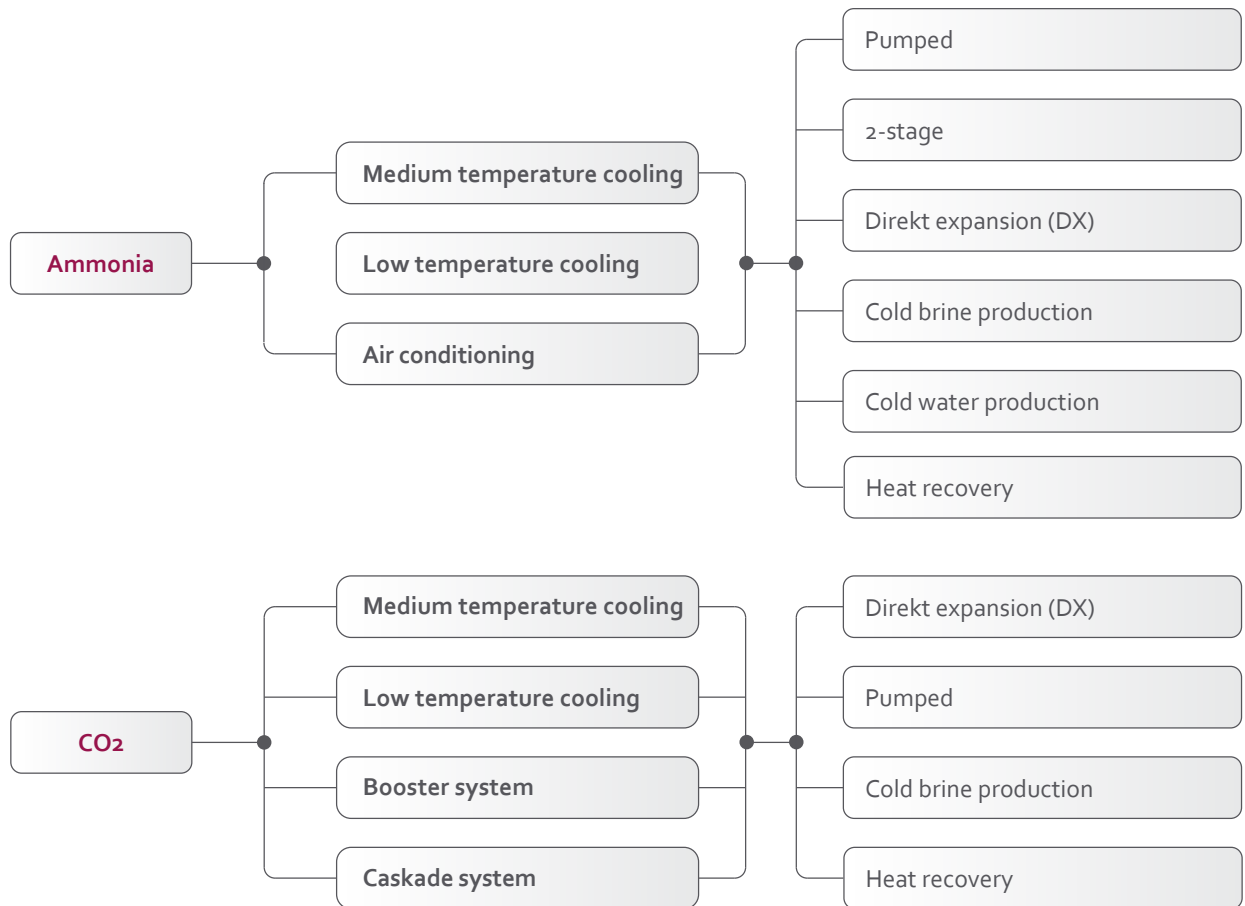
Powerful solutions for industrial refrigeration

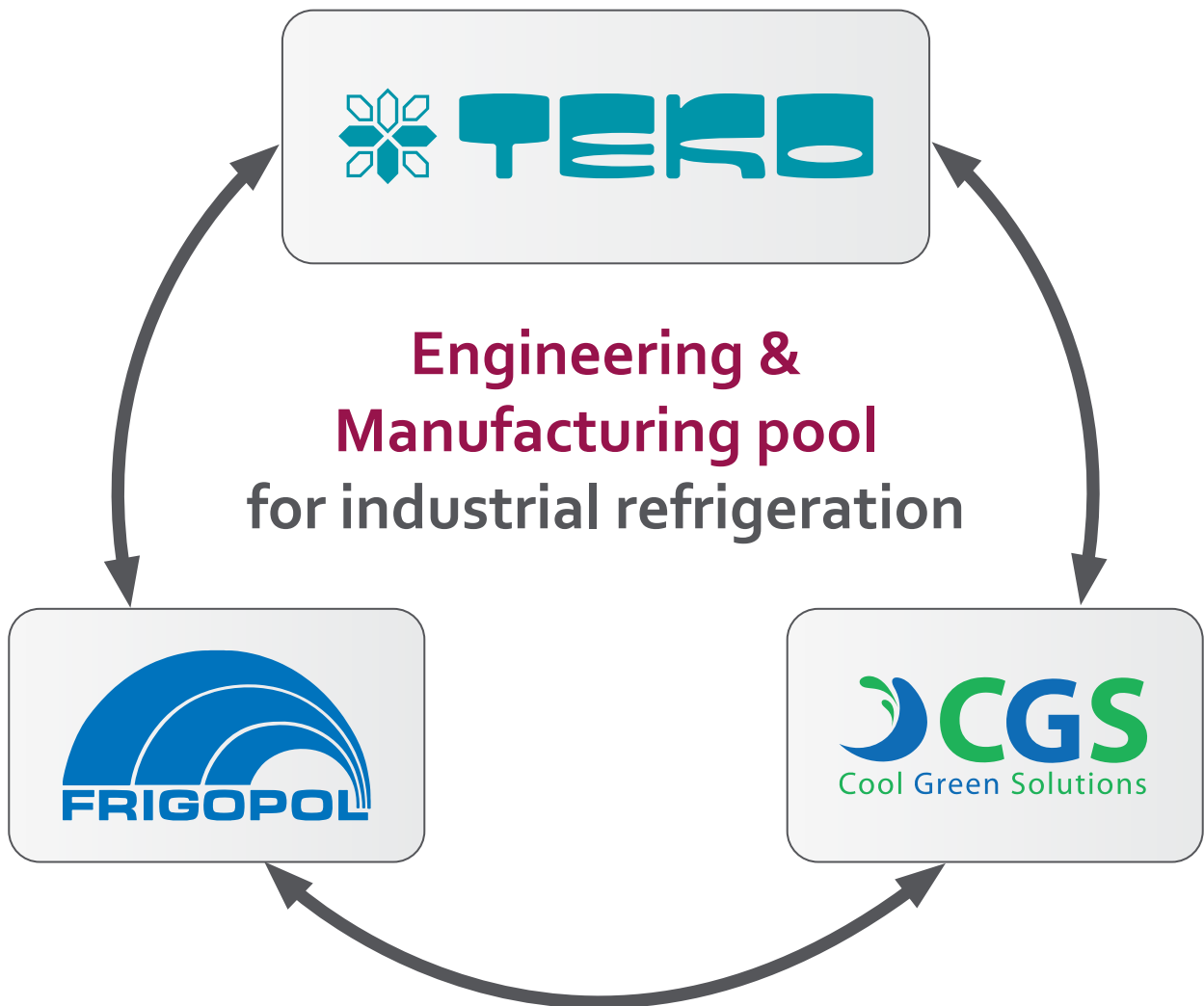


YOUR PARTNERS FOR THE BEST POSSIBLE RESULT

We have the right system technologies for your next project!

You can draw on a broad expertise base from solid partners that have countless years of experience in industrial refrigeration. We offer unit solutions with natural refrigerants for a wide range of industrial applications. Adapted to your needs.





Standard

High Specification



Wijbenga

The Dutch company, Wijbenga, has been the leading provider and developer of components in industrial refrigeration technologies for over 30 years. Counting on a holistic knowledge of the interplay between individual components, Wijbenga is constantly at the cutting edge of technology, with a particular focus on the natural refrigerants propane and CO₂ in their products. wjbenga.nl



AMMON-S-H

Single compressor units

- Compressor design: open screw compressor
- Compressor brand: Bitzer / Mayekawa
- Oil separator: horizontal version

Product features

Base frame

Base frame made of a torsion-resistant sectional steel construction, painted in RAL 4004, mounted on anti vibration pads.

Compressor

- Open screw compressor design incl. coupling / coupling housing for standard drives
- Compressor drive, 1-speed low-voltage three-phase motor, IE3 compliant, for frequency inverter operation
- Infinite capacity control via capacity slider
- Industrial high pressure cut out and safety high pressure cut out
- Discharge gas temperature sensor
- Stainless steel dripping water drip tray below the compressor
- PE plastic profiles below the drive motor

Oil management

- Horizontal oil separator, 3-stage-separation (deposition rate 5 ppm)
- Oil cooler (shell-and-tube heat exchanger)
- 3-way-thermo-mixing-valve for the internal oil temperature control
- Oil temperature sensor
- Constant pressure valve on the HP side ensuring the reliable oil supply of the compressors
- Oil pump (only with booster compressors)

Piping

All refrigerant pipes are made of stainless steel according to EN ISO 1127 / EN 10217-7.

General design

- Pressure gauge station can be individually shut off for each pressure stage
- In-plant pressure test of the assembly ready for installation
- The machine unit complies to CE, PED 2014/68/EU, DIN EN 378

AMMON-SB-...-H with Bitzer screw compressor and horizontal oil separator

Model	-10 / +35 °C		-10 / +35 °C / Eco		-35 / -10 °C		-35 / +35 °C / Eco	
	Q _o (kW)	EER	Q _o (kW)	EER	Q _o (kW)	EER	Q _o (kW)	EER
AMMON-SB-...-H								
8551	188	3,20	215	3,44	79	5,20	--	--
8561	220	3,29	249	3,52	90	5,20	--	--
8571	266	3,58	298	3,81	103	5,20	98	1,57
8581	317	3,80	355	4,03	118	5,20	--	--
8591	349	3,63	389	3,87	134	5,20	128	1,65
9593	589	3,83	672	4,15	--	--	221	1,70
95103	659	3,91	759	4,23	--	--	252	1,77

* The above-mentioned performance data refer to operation at 50 Hz.

Dimensions (LxWxH): 2.650 x 1.500 x 2.130 mm

AMMON-SM-...-H with Mayekawa screw compressor and horizontal oil separator

Model	-10 / +35 °C		-35 / +35 °C		-35 / +35 °C / Eco	
	Q _o (kW)	EER	Q _o (kW)	EER	Q _o (kW)	EER
AMMON-SM-...-H						
i125S	120	3,40	36	1,42	44	1,58
i125L	180	3,49	55	1,47	66	1,62
i160S	261	3,51	80	1,49	97	1,65
i160M	326	3,72	100	1,55	121	1,70
i160L	390	3,76	120	1,56	145	1,72

* The above-mentioned performance data refer to operation at 50 Hz.

Dimensions (LxWxH): 2.650 x 1.500 x 2.130 mm



AMMON-S-V

Single compressor units

- Compressor design: open screw compressor
- Compressor brand: Bitzer / Mayekawa
- Oil separator: vertical version

Product features

Base frame

Base frame made of a torsion-resistant sectional steel construction, painted in RAL 4004, mounted on anti vibration pads.

Compressor

- Open screw compressor design incl. coupling / coupling housing for standard drives
- Compressor drive, 1-speed low-voltage three-phase motor, IE3 compliant, for frequency inverter operation
- Infinite capacity control via capacity slider
- Industrial high pressure cut out and safety high pressure cut out
- Discharge gas temperature sensor
- Stainless steel dripping water drip tray below the compressor
- PE plastic profiles below the drive motor

Oil management

- Vertical oil separator, 3-stage-separation (deposition rate 5 ppm)
- Oil cooler (shell-and-tube heat exchanger)
- 3-way-thermo-mixing-valve for the internal oil temperature control
- Oil temperature sensor
- Constant pressure valve on the HP side ensuring the reliable oil supply of the compressors
- Oil pump (only with booster compressors)

Piping

All refrigerant pipes are made of stainless steel according to EN ISO 1127 / EN 10217-7.

General design

- Pressure gauge station can be individually shut off for each pressure stage
- In-plant pressure test of the assembly ready for installation
- The machine unit complies to CE, PED 2014/68/EU, DIN EN 378

AMMON-SB-...-V with Bitzer screw compressor and vertical oil separator

Model	-10 / +35 °C		-10 / +35 °C / Eco		-35 / -10 °C		-35 / +35 °C / Eco	
	Q _o (kW)	EER	Q _o (kW)	EER	Q _o (kW)	EER	Q _o (kW)	EER
AMMON-SB-...-V								
8551	188	3,20	215	3,44	79	5,20	--	--
8561	220	3,29	249	3,52	90	5,20	--	--
8571	266	3,58	298	3,81	103	5,20	98	1,57
8581	317	3,80	355	4,03	118	5,20	--	--
8591	349	3,63	389	3,87	134	5,20	128	1,65
9593	589	3,83	672	4,15	--	--	221	1,70
95103	659	3,91	759	4,23	--	--	252	1,77

* The above-mentioned performance data refer to operation at 50 Hz.

Dimensions (LxWxH): 3.400 x 1.300 x 2.300 mm

AMMON-SM-...-V mit Mayekawa screw compressor and vertical oil separator

Model	-10 / +35 °C		-35 / +35 °C		-35 / +35 °C / Eco	
	Q _o (kW)	EER	Q _o (kW)	EER	Q _o (kW)	EER
AMMON-SM-...-V						
i125S	120	3,40	36	1,42	44	1,58
i125L	180	3,49	55	1,47	66	1,62
i160S	261	3,51	80	1,49	97	1,65
i160M	326	3,72	100	1,55	121	1,70
i160L	390	3,76	120	1,56	145	1,72

* The above-mentioned performance data refer to operation at 50 Hz.

Dimensions (LxWxH): 3.400 x 1.300 x 2.300 mm



AMMON-S

Multiple screw compressor packs

- Compressor design: open screw compressors
- Compressor brand: Bitzer / Mayekawa
- No. of compressors: 2-4 pieces

Product features

Base frame

Base frame made of a torsion-resistant sectional steel construction, painted in RAL 4004, mounted on anti vibration pads.

Compressors

- Open screw compressor design incl. coupling / coupling housing for standard drives
- Compressor drive, 1-speed low-voltage three-phase motor, IE3 compliant, for frequency inverter operation
- Infinite capacity control via capacity slider
- Industrial high pressure cut out and safety high pressure cut out
- Discharge gas temperature sensor
- Stainless steel dripping water drip tray below the compressor block
- PE plastic profiles below the drive motor

Oil management

- Oil separator, 3-stage-separation (deposition rate 5 ppm)
- Oil cooler (shell-and-tube heat exchanger)
- 3-way-thermo-mixing-valve for the internal oil temperature control
- Oil temperature sensor
- Constant pressure valve on the HP side ensuring the reliable oil supply of the compressors
- Oil pump (only for booster compressors)

Piping

All refrigerant pipes are made of stainless steel according to EN ISO 1127 / EN 10217-7.

General design

- Pressure gauge station can be individually shut off for each pressure stage
- Service valve with G1/2" connection, each header pipe
- In-plant pressure test of the assembly ready for installation
- The machine unit complies to CE, PED 2014/68/EU, DIN EN 378

Options

- Sensors wired to terminal box

AMMON-SB with Bitzer screw compressors

Model	-10 / +35 °C		-10 / +35 °C / Eco		-35 / -10 °C		-35 / +35 °C / Eco	
	Q _o (kW)	EER	Q _o (kW)	EER	Q _o (kW)	EER	Q _o (kW)	EER
AMMON-S2B								
8551	376	3,20	430	3,44	183	4,08	--	--
8561	440	3,29	498	3,52	208	4,08	--	--
8571	532	3,58	596	3,81	--	--	195	1,57
8581	633	3,80	710	4,03	--	--	--	--
8591	699	3,63	778	3,87	--	--	256	1,65
9593	1.178	3,83	1.344	4,15	--	--	442	1,70
95103	1.318	3,91	1.518	4,23	--	--	502	1,77
AMMON-S3B								
8551	564	3,20	645	3,44	180	4,02	--	--
8561	661	3,29	747	3,52	205	4,02	--	--
8571	789	3,58	894	3,81	234	4,02	293	1,57
8581	950	3,80	1.065	4,03	274	4,08	--	--
8591	1.048	3,63	1.167	3,87	312	4,08	384	1,65
9593	1.767	3,83	2.016	4,15	--	--	663	1,70
95103	1.977	3,91	227	4,23	--	--	756	1,77
AMMON-S4B								
8551	751	3,20	860	3,44	240	4,02	--	--
8561	881	3,29	996	3,52	273	4,02	--	--
8571	1.064	3,58	1.192	3,81	312	4,02	390	1,57
8581	1.266	3,80	1.420	4,03	366	4,08	--	--
8591	1.398	3,63	1.556	3,87	416	4,08	512	1,65
9593	2.356	3,83	2.688	4,15	--	--	884	1,70
95103	2.636	3,91	3.036	4,23	--	--	1008	1,77

* The above-mentioned performance data refer to operation at 50 Hz.

AMMON-SM with Mayekawa screw compressors

Model	-10 / +35 °C		-35 / +35 °C		-35 / +35 °C / Eco	
	Q _o (kW)	EER	Q _o (kW)	EER	Q _o (kW)	EER
AMMON-S2M						
i125S	241	3,40	72	1,42	88	1,58
i125L	359	3,49	109	1,47	132	1,62
i160S	522	3,51	160	1,49	194	1,65
i160M	651	3,72	200	1,55	242	1,70
i160L	781	3,76	240	1,56	290	1,72
AMMON-S3M						
i125S	361	3,40	109	1,42	132	1,58
i125L	539	3,49	164	1,47	198	1,62
i160S	782	3,51	239	1,49	291	1,65
i160M	977	3,72	300	1,55	363	1,70
i160L	1171	3,76	360	1,56	435	1,72
AMMON-S4M						
i125S	481	3,40	145	1,42	176	1,58
i125L	719	3,49	218	1,47	264	1,62
i160S	1.043	3,51	319	1,49	388	1,65
i160M	1.303	3,72	400	1,55	484	1,70
i160L	1.562	3,76	480	1,56	580	1,72

* The above-mentioned performance data refer to operation at 50 Hz.



AMMON-K

Multiple piston compressor packs

- Compressor design: open piston compressors
- Compressor brand: Bitzer
- No. of compressors: 1-5

Product features

Base frame

Base frame made of a torsion-resistant sectional steel construction, in RAL 4004, mounted on anti vibration pads.

Compressors

- Open piston compressor design incl. coupling / coupling housing for standard drives
- Compressor drive, 1-speed low-voltage three-phase motor, IE3 compliant, for frequency inverter operation
- Unloaded start device and capacity control by blocked cylinder head available
- Industrial high pressure cut out, safety high pressure cut out
- Oil differential pressure switch
- Oil level regulator
- Discharge gas temperature sensor
- Crankcase heater
- Cylinder heads with cooling water connection
- Stainless steel dripping water drip tray below the compressor
- PE plastic profiles below the drive motor

Oil management

- Oil separator
- Oil receiver with differential pressure valve
- Sight glass and filter in the oil supply pipe

Piping

All refrigerant pipes are made of stainless steel according to EN ISO 1127 / EN 10217-7.

General design

- Pressure gauge station can be individually shut off for each pressure stage
- Service valve with G1/2" connection, each header pipe
- In-plant pressure test of the assembly ready for installation
- The machine unit complies to CE, PED 2014/68/EU, DIN EN 378

Options

- Cylinder head cooling internally piped with shut-off and circuit control valve per compressor
- Sensors wired to terminal box

AMMON-KB with Bitzer piston compressors

Model	-10 / +35 °C		-5 / +35 °C		0 / +35 °C		+5 / +35 °C		Appr. Dimensions		
	Q _o (kW)	EER	Q _o (kW)	EER	Q _o (kW)	EER	Q _o (kW)	EER	Width (mm)	Height (mm)	Depth (mm)
AMMON-K1B											
W ₄ TA	20	3,40	26	4,12	33	5,00	41	6,13	1.300	1.400	1.400
W ₄ PA	24	3,44	32	4,17	40	5,06	50	6,20			
W ₄ NA	29	3,44	38	4,17	48	5,06	60	6,20			
W ₄ HA	38	3,44	50	4,17	63	5,06	79	6,20			
W ₄ GA	43	3,44	57	4,17	73	5,06	91	6,20			
W ₆ HA	57	3,44	75	4,17	95	5,06	119	6,20	1.800	1.650	1.800
W ₆ GA	65	3,44	86	4,17	109	5,06	136	6,20			
W ₆ FA	78	3,44	102	4,17	131	5,06	163	6,20			
AMMON-K2B											
W ₄ TA	40	3,40	52	4,12	66	5,00	82	6,13	2.150	1.400	1.400
W ₄ PA	48	3,44	64	4,17	80	5,06	100	6,20			
W ₄ NA	58	3,44	76	4,17	96	5,06	120	6,20			
W ₄ HA	76	3,44	100	4,17	126	5,06	158	6,20			
W ₄ GA	86	3,44	114	4,17	146	5,06	182	6,20			
W ₆ HA	114	3,44	150	4,17	190	5,06	238	6,20	2.750	1.650	1.800
W ₆ GA	130	3,44	172	4,17	218	5,06	272	6,20			
W ₆ FA	156	3,44	204	4,17	262	5,06	326	6,20			
AMMON-K3B											
W ₄ TA	60	3,40	78	4,12	99	5,00	123	6,13	3.000	1.400	1.400
W ₄ PA	72	3,44	96	4,17	120	5,06	150	6,20			
W ₄ NA	87	3,44	114	4,17	144	5,06	180	6,20			
W ₄ HA	114	3,44	150	4,17	189	5,06	237	6,20			
W ₄ GA	129	3,44	171	4,17	219	5,06	273	6,20			
W ₆ HA	171	3,44	225	4,17	285	5,06	357	6,20	3.700	1.650	1.800
W ₆ GA	195	3,44	258	4,17	327	5,06	408	6,20			
W ₆ FA	234	3,44	306	4,17	393	5,06	489	6,20			
AMMON-K4B											
W ₄ TA	80	3,40	104	4,12	132	5,00	164	6,13	3.850	1.400	1.400
W ₄ PA	96	3,44	128	4,17	160	5,06	200	6,20			
W ₄ NA	116	3,44	152	4,17	192	5,06	240	6,20			
W ₄ HA	152	3,44	200	4,17	252	5,06	316	6,20			
W ₄ GA	172	3,44	228	4,17	292	5,06	364	6,20			
W ₆ HA	228	3,44	300	4,17	380	5,06	476	6,20	4.650	1.650	1.800
W ₆ GA	260	3,44	344	4,17	436	5,06	544	6,20			
W ₆ FA	312	3,44	408	4,17	524	5,06	652	6,20			
AMMON-K5B											
W ₄ TA	100	3,40	130	4,12	165	5,00	205	6,13	4.700	1.400	1.400
W ₄ PA	120	3,44	160	4,17	200	5,06	250	6,20			
W ₄ NA	145	3,44	190	4,17	240	5,06	300	6,20			
W ₄ HA	190	3,44	250	4,17	315	5,06	395	6,20			
W ₄ GA	215	3,44	285	4,17	365	5,06	455	6,20			
W ₆ HA	285	3,44	375	4,17	475	5,06	595	6,20	5.600	1.650	1.800
W ₆ GA	325	3,44	430	4,17	545	5,06	680	6,20			
W ₆ FA	390	3,44	510	4,17	655	5,06	815	6,20			

* The above-mentioned performance data refer to operation at 50 Hz.



AMMONchill

Ammonia-chillers are often implemented in the business and industrial refrigeration sectors: in particular in cold storage, chemical industry, breweries, etc. The chillers use a double-circulatory system for refrigeration. The ammonia-chillers generate cold and a refrigerant (water or glycol mixture) carried out the task of transferring this cold via a second circuit to the cooling points.

The **AMMONchill** ammonia-chillers have a compact format, designed especially for indoor installation. The chillers can optionally be delivered as pre-installed in a machine container. This reduces installation costs and offers flexibility when choosing the installation location. The chillers are available with an air or water-cooled condenser and can be fitted with an economiser.

Advantages at a glance

- Small-area format - compact design
- Designed for installation in a container – no machine room required
- Low refrigerant charge
- Only high-quality components
- Fast delivery times due to a standardised but flexible design

Options

- Economiser
- Installation & delivery in a container
- Combination with evaporative condenser (separate delivery)

AMMONchill air – Air-cooled condenser

Model	Nominal Capacity MT (kW)		
	Glycol -3/-8 °C	Glycol +2/-3 °C	Water +12/+7 °C
AMMONchill air 2-85			
2-8551	387	489	745
2-8561	455	574	871
2-8571	557	699	1.053
2-8581	665	827	1.217
2-8591	723	904	1.358
AMMONchill air 3-85			
3-8551	581	737	1.117
3-8561	683	861	1.306
3-8571	835	1.048	1.580
3-8581	998	1.240	1.825
3-8591	1.085	1.356	2.037
AMMONchill air 2-95			
2-9593	1.283	1.583	2.338
2-95103	1.442	1.776	2.615

AMMONchill water – Water-cooled condenser

Model	Nominal Capacity MT (kW)		
	Glycol -3/-8 °C	Glycol +2/-3 °C	Water +12/+7 °C
AMMONchill water 2-85			
2-8551	447	555	827
2-8561	524	648	957
2-8571	632	780	1.152
2-8581	751	915	1.306
2-8591	831	1.016	1.475
AMMONchill water 3-85			
3-8551	671	833	1.241
3-8561	786	972	1.436
3-8571	948	1.170	1.728
3-8581	1.127	1.373	1.959
3-8591	1.247	1.524	2.213
AMMONchill water 2-95			
2-9593	1.394	1.711	2.505
2-95103	1.561	1.914	2.797

HEATrec

HEAT RECOVERY PUMP STATION

Product features

Base frame

Base frame made of a torsion-resistant sectional steel construction, painted in RAL 4004, mounted on anti vibration pads.

Plate heat transfer unit

- Screwed version made of profiled heat transfer plates with distribution embossing for uniform flow in the channel and for the minimisation of the soiling tendency
- Plate seals in roof shape – two seals between primary and secondary medium
- The seals are mounted without gluing using the "Clip-on method"

Circulation pumps

- 2 x 100% pumps (1 x operation / 1 x standby)
- Single-stage dry-runner centrifugal pump in inline design with directly flanged three-phase motor (IP 55)
- Bellows-type mechanical seal independent of the direction of rotation
- Cavitation-reduced plastic impeller

Piping

All refrigerant pipes are made of stainless steel according to EN ISO 1127 / EN 10217-7.

General design

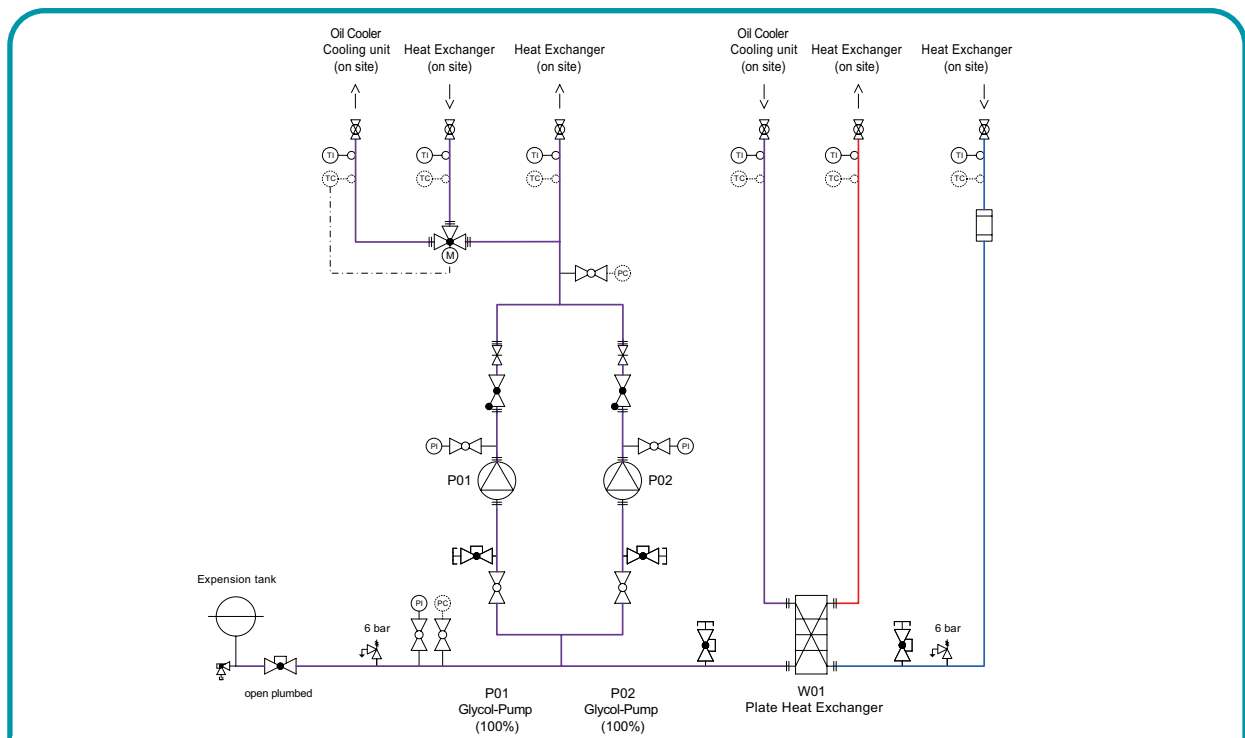
- Dirt receiver in front of plate heat transfer unit
- Analog thermometers each supply and return line
- Measuring connection 1/2" for the installation of on-site temperature sensors each supply and return line
- 3-way motor valves for the continuous control between heat recovery and emergency cooler operation
- Expansion tank (available versions: 80, 100 or 140 litres) incl. cap shut-off valve

HEATrec

Heat recovery pump station

No. of pumps: 2 pcs. (1 x operation, 1 x standby)

Use: Use of oil cooler waste heat from Ammonia screw compressors for water or glycol heating





Product features

General

The pressure- (CFR-C) and suction-ventilated (CFR-A) evaporative condensers are specially developed to ensure long and faultless operation. The design allows quick and easy maintenance. On the CFR-C, the position of the drive system (fan and motor) in the dry area of the housing prevents condensation from forming due to the spray water system. The unique DecsaCOATING PLUS powder coating ensures a long service life. The optional ribbing on the heat exchanger tubes increases the heat exchanger surface area. This increases capacity while the same installation area and/or the condenser can be operated without spraying (dry operation).

Product features

- Counterflow principle with radial (CFR-C) and axial fans (CFR-A)
- Housing plates hot-dip galvanised (725 g/m²) and also powder-coated
- Tube bundles as per PED 2014/68/EU
- Max. permissible operating pressure 28 bar

Quiet operation

- Evaporative condensers are fitted with quiet radial fans (CFR-C) and efficient axial fans (CFR-A) as standard
- CFR-C: Sound radiation is minimised by the one-sided air intake
- CFR-A: The risk of faulty circulation of exhaust air is minimised by the multi-sided air intake
- The optional air inlet and outlet silencers (CFR-C) and the quiet fans (CFR-A) (Axilent Fan Plus) reduce operating noise considerably





Main benefits

- Reliable, long-lasting design
- Quiet operation
- Easily accessible for maintenance work
- Compact design

Design

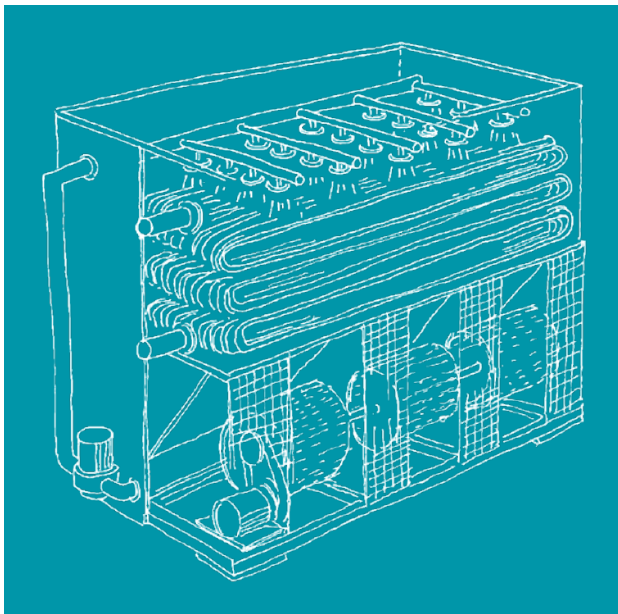
- The compact design allows the CFR-C to be installed in enclosed rooms or corners of buildings. The CFR-A can be installed on containers, for example, thanks to its small installation area.
- The one-sided air intake and the upward air outlet minimises the faulty circulation of exhaust air
- It is possible to install the system in buildings with a suitable supply and exhaust air system

Reduced delivery and installation costs

- The units in the CFR series have been designed in such a way that no special transport is required for the smaller models
- To reduce installation requirements on-site, units are pre-assembled as much as possible
- The clever design ensures a low operating weight, which also means it is possible to install the system on building roofs
- This series is also perfectly suited for installation on a machine container or for transport in overseas containers

**Nominal power range:
176 to 6.645 kW**

Model	Fan motor			Spray water pump			Weight		Dimensions		
	no. pieces	capacity per (kW)	capacity total (kW)	no. pieces	capacity per (kW)	capacity total (kW)	dry (kg)	operation (kg)	length (mm)	width (mm)	height (mm)
CFR-C 005	1	1,5	1,5	1	0,8	0,8	1028	1.572	1.280	980	2.590
CFR-C 007	1	2,2	2,2	1	0,8	0,8	1159	1.739			2.820
CFR-C 009	1	2,2	2,2	1	0,8	0,8	1282	1.893			3.050
CFR-C 016	1	4,0	4,0	1	1,1	1,1	1.954	2.973	2.480	980	2.590
CFR-C 019	1	4,0	4,0	1	1,1	1,1	2.128	3.210			2.820
CFR-C 022	1	4,0	4,0	1	1,1	1,1	2.361	3.505			3.050
CFR-C 027	1	5,5	5,5	1	1,5	1,5	2.748	4.238	3.680	980	2.670
CFR-C 032	1	7,5	7,5	1	1,5	1,5	3.117	4.700			2.920
CFR-C 038	1	7,5	7,5	1	1,5	1,5	3.450	5.127			3.170
CFR-C 042	1	11,0	11,0	1	2,2	2,2	4.214	6.908	3.680	1.530	4.060
CFR-C 051	1	11,0	11,0	1	2,2	2,2	4.728	7.574			4.310
CFR-C 063	1	11,0	11,0	1	2,2	2,2	5.241	8.239			4.560
CFR-C 060	1	15,0	15,0	1	3,0	3,0	5.641	8.648	3.680	2.180	4.060
CFR-C 075	1	18,5	18,5	1	3,0	3,0	6.427	9.653			4.310
CFR-C 090	1	18,5	18,5	1	3,0	3,0	7.187	10.633			4.560
CFR-C 095	1	22,0	22,0	1	4,0	4,0	7.958	12.384	5.480	2.180	4.140
CFR-C 121	1	30,0	30,0	1	4,0	4,0	9.145	13.901			4.410
CFR-C 140	1	30,0	30,0	1	4,0	4,0	10.261	15.346			4.680
CFR-C 118	2	15,0	30,0	2	3,0	6,0	11.282	17.296	7.360	2.180	4.060
CFR-C 149	2	18,5	37,0	2	3,0	6,0	12.854	19.306			4.310
CFR-C 181	2	18,5	18,5	2	3,0	6,0	14.374	21.266			4.560
CFR-C 189	2	22,0	44,0	2	4,0	8,0	15.916	24.768	10.960	2.180	4.140
CFR-C 244	2	30,0	60,0	2	4,0	8,0	18.290	27.802			4.410
CFR-C 279	2	30,0	60,0	2	4,0	8,0	20.522	30.692			4.680
CFR-C 080	1	22,0	22,0	1	4,0	4,0	7.132	12.255	3.680	2.980	4.060
CFR-C 103	1	30,0	30,0	1	4,0	4,0	8.234	13.660			4.310
CFR-C 127	1	30,0	30,0	1	4,0	4,0	9.256	14.986			4.560
CFR-C 131	2	18,5	37,0	1	5,5	5,5	10.002	17.562	5.480	2.980	4.140
CFR-C 159	2	22,0	44,0	1	5,5	5,5	11.575	19.590			4.410
CFR-C 184	2	22,0	44,0	1	5,5	5,5	13.099	21.569			4.680
CFR-C 160	2	22,0	44,0	2	4,0	8,0	14.264	24.510	7.360	2.980	4.060
CFR-C 205	2	30,0	60,0	2	4,0	8,0	16.468	27.320			4.310
CFR-C 254	2	30,0	60,0	2	4,0	8,0	18.512	29.972			4.560
CFR-C 262	4	18,5	74,0	2	5,5	11,0	20.004	35.124	10.960	2.980	4.140
CFR-C 319	4	22,0	88,0	2	5,5	11,0	23.150	39.180			4.410
CFR-C 367	4	22,0	88,0	2	5,5	11,0	26.198	43.138			4.680



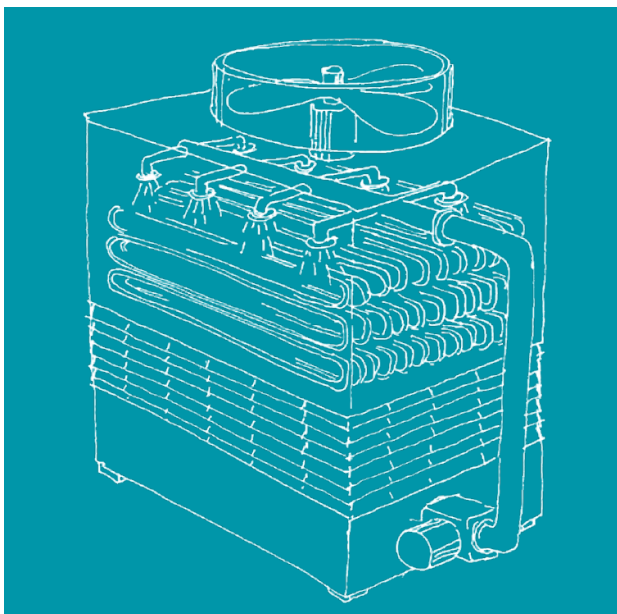
Typical application

- Small installation area
- Indoor installation
- Low noise emission
- Dry operation

CFR-A

PERFORMANCE DATA

Model	Fan motor			Spray water pump			Weight		Dimensions		
	no. pieces	capacity per (kW)	capacity total (kW)	no. pieces	capacity per (kW)	capacity total (kW)	dry (kg)	operation (kg)	length (mm)	width (mm)	height (mm)
CFR-A 005	1	2,2	2,2	1	0,8	0,8	818	1.388	1.590	990	3.500
CFR-A 007	1	2,2	2,2	1	0,8	0,8	898	1.499			3.730
CFR-A 009	1	2,2	2,2	1	0,8	0,8	978	1.610			3.960
CFR-A 016	2	2,2	4,4	1	1,1	1,1	1.365	2.492	2.790	990	3.500
CFR-A 019	2	2,2	4,4	1	1,1	1,1	1.485	2.674			3.730
CFR-A 022	2	2,2	4,4	1	1,1	1,1	1.645	2.897			3.960
CFR-A 027	3	2,2	6,6	1	1,5	1,5	1.847	3.531	3.990	990	3.580
CFR-A 032	3	2,2	6,6	1	1,5	1,5	2.077	3.854			3.830
CFR-A 038	3	2,2	6,6	1	1,5	1,5	2.307	4.178			4.085
CFR-A 042	2	4,0	8,0	1	2,2	2,2	3.698	6.566	3.680	1.530	3.795
CFR-A 051	2	4,0	8,0	1	2,2	2,2	4.261	7.281			4.045
CFR-A 063	2	4,0	8,0	1	2,2	2,2	4.824	7.996			4.295
CFR-A 060	1	11,0	11,0	1	3,0	3,0	5.056	9.250	3.680	2.180	3.795
CFR-A 075	1	11,0	11,0	1	3,0	3,0	5.847	10.260			4.045
CFR-A 090	1	11,0	11,0	1	3,0	3,0	6.641	11.274			4.295
CFR-A 095	2	7,5	15,0	1	4,0	4,0	7.343	13.538	5.480	2.180	3.875
CFR-A 121	2	11,0	22,0	1	4,0	4,0	8.571	15.096			4.145
CFR-A 140	2	11,0	22,0	1	4,0	4,0	9.716	16.570			4.415
CFR-A 118	2	11,0	22,0	2	3,0	6,0	10.112	18.500	7.360	2.180	3.795
CFR-A 149	2	11,0	22,0	2	3,0	6,0	11.694	20.520			4.045
CFR-A 181	2	11,0	22,0	2	3,0	6,0	13.282	22.548			4.295
CFR-A 189	4	7,5	30,0	2	4,0	8,0	14.686	27.076	10.960	2.180	3.875
CFR-A 244	4	11,0	44,0	2	4,0	8,0	17.142	30.192			4.145
CFR-A 279	4	11,0	44,0	2	4,0	8,0	19.432	33.140			4.415
CFR-A 080	1	15,0	15,0	1	4,0	4,0	6.559	12.331	3.680	2.980	3.795
CFR-A 103	1	18,5	18,5	1	4,0	4,0	7.664	13.720			4.045
CFR-A 127	1	18,5	18,5	1	4,0	4,0	8.740	15.099			4.295
CFR-A 131	2	11,0	22,0	1	5,5	5,5	9.599	18.096	5.480	2.980	3.875
CFR-A 159	2	11,0	22,0	1	5,5	5,5	11.164	20.117			4.145
CFR-A 184	2	11,0	22,0	1	5,5	5,5	12.727	22.135			4.415
CFR-A 160	2	15,0	30,0	2	4,0	8,0	13.118	24.662	7.360	2.980	3.795
CFR-A 205	2	18,5	37,0	2	4,0	8,0	15.328	27.440			4.045
CFR-A 254	2	18,5	37,0	2	4,0	8,0	17.480	30.198			4.295
CFR-A 262	4	11,0	44,0	2	5,5	11,0	19.198	36.192	10.960	2.980	3.875
CFR-A 319	4	11,0	44,0	2	5,5	11,0	22.328	40.234			4.145
CFR-A 367	4	11,0	44,0	2	5,5	11,0	25.454	44.270			4.415



Typical application

- Small installation area
- Low noise emission
- Dry operation



POLAROXindustrial

Subcritical CO₂ cascade

- Compressor design: Bitzer / Frascold
- No. of compressors: 1-10

Product features

Base frame

Base frame made of a torsion-resistant sectional steel construction, primed and subsequently painted in RAL 4004.

Compressors

- Semi-hermetic CO₂ reciprocating compressors of leading manufacturers for subcritical operation
- Crankcase heater
- Initial oil filling
- High pressure cutout valve and safety pressure cutout for each compressor

Oil management

- Oil separator for the whole rack unit
- Oil line with oil sight glass
- Oil receiver with sight glasses
- Check valve
- Oil filter
- Electronic oil level regulator for each compressor
- Initial oil filling for oil separator and oil receiver

Piping

All pipes containing refrigerants are made of K65 or stainless steel

General equipment

- HP gauge / HP pressure transducer
- Low pressure package
- HP / LP safety valve
- Desuperheater with EC fans
- Ball stop valve in the common discharge line
- Insulation at the suction side
- Suction gas heat transfer unit to protect the compressor from liquid slugging
- Refrigerant receiver
- 2 x safety valve with change-over valve at the refrigerant receiver

Optional accessories

- Frequency converter for compressor
- Standstill cooling unit with R 290, mounted
- Vibration eliminator in the discharge line
- Antivibration pads for optimal, low-vibration standing
- Minimum level monitoring of the liquid receiver

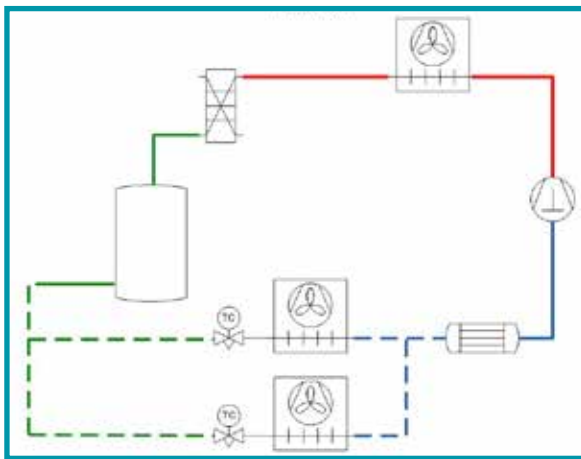
Condensation against R 134a

- Cascade heat transfer unit
- Electronic injection valve
- Suction line heat exchanger shell-and-tube R 134a

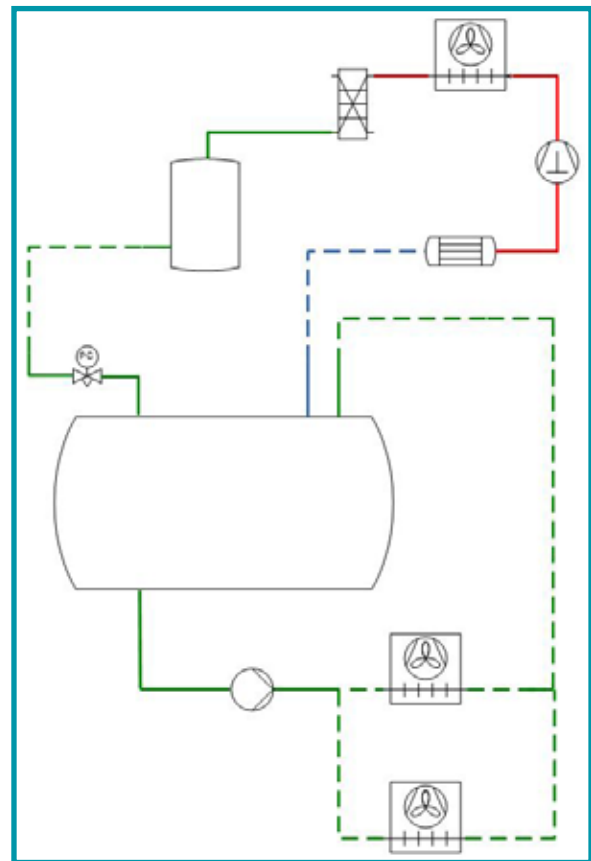
Condensation against brine

- Cascade heat exchanger
- Hot gas defrosting

Model	Q ₀ (kW)	Receiver (Litre)	Connections (Zoll)	CO ₂ separator (Litre)
POLAROX industrial	-40 °C (DX -45 °C) / -5 °C			
1-4	50...200	250	Discharge line DN40 Suction line DN80 Liquid line DN32	600
2-5	100...300			900
3-6	200...500	2 x 250	Discharge line DN65 Suction line DN125 Liquid line DN65	2.000
4-10	300...800	3 x 250		2.400



Subcritical application, DX operation.



Subcritical application, flooded operation.

CO₂ separator for flooded operation

- Redundant refrigerant pump
- Pump supply line for cavitation-free operation
- Q_{min} and Q_{max} orifice for compliance with the minimum and maximum pump capacity
- Oil expulsion
- Pipe coil for the connection of a standstill cooling unit
- Standpipe with level gauge as well as min./max. filling level monitoring
- Expansion valve to reduce the refrigerant pressure to low pressure level

Benefits of flooded operation

- Higher evaporating temperatures compared to DX operation
- Smaller pipeline diameters
- Improved utilisation of the heat transfer unit surface
- 10 % more economical than DX systems (2 years of amortisation)



ROXSTA G6

Transcritical CO₂ Series

- Compressor design: Bitzer
- No. of compressors: 3-6 MT
0-5 LT

Product features

TEKO's new series solution is tailored for large supermarkets and hypermarkets. The **ROXSTAG6** covers also many requirements in the field of food production and logistics.

Compact design

The combination of powerful 6-cylinder compressors with frequency controlled 4- or 6-cylinder guide compressors enables an extremely compact design for this size of unit. It does not leave out the optimally matched partial load requirements.

Capacities

(to MT -5 °C / to LT -30 °C / t_{cc} 38 °C)

- MT 207...550 kW. 3...6 transcritical CO₂ compressors
- LT 0...490 kW. 0...5 subcritical CO₂ compressors

Eco-parallel compression

In larger power ranges (> 80 kW), eco-parallel compression can deliver significant efficiency advantages. In combination with our control concept, it is checked during the operation of the unit whether the ECO-compression is an advantage. Depending on this, the feature is activated or not.

EVALIFT / TEKOJET / Ejectors

We are happy to advise you which efficiency-enhancing technologies are right for your project.

Design pressure

- 30 / 60 bar suction line (low temperature)
- 45 / 60 bar suction line (medium temperature)
- 45 / 60 bar medium pressure
- 130 bar high pressure side

Model ROXSTA G6	Receiver (litres)	Weight (kg)	Dimensions (mm)				
			Length Unit	Length MP station	Length Total	Depth	Height
3/0-2	250 / 2 x 250 420 / 2 x 420	on request	3,400	inside unit (250 / 420 L) 1,300 (2 x 250 / 2 x 420 L)	dependent on unit & MP station & switch cabinet	unit 1,150 switch cabinet 1,200 (up to 400 A) 1,600 (up to 630 A)	unit 2,030 switch cabinet 2,400
4/0-3			3,950				
5/0-4			4,500				
6/0-5			5,050				

Scope of delivery

- Trans- and subcritical compressors (Bitzer)
- Frequency converter included (per lead compressor)
- High and low pressure packages (gauge, LP cut-out, pressure transducer)
- Pressure cut-out for high and safety pressure, non-adjustable, type tested per compressor
- Safety valves for high/medium pressure and suction side (optional redundant)
- Insulation on suction side
- Medium pressure receiver (165 L / 250 L / 420 L / 2 x 165 L / 2 x 250 L)
- Sensor at the outlet of the gas cooler
- Minimum (and maximum – optional) level control
- Insulation of the medium pressure vessel
- Regulated post-injection
- Stop valve after filter-drier and sight glass
- Antivibration pads
- Suction filter (MT/LT)
- Oil sump heater each compressor

Switch cabinet and control

- All switching devices which are necessary for fully automatic operation
- Electric components are labelled according to German standards
- Ventilation of the switch cabinet
- Main switch
- Control transformers

- Independent power supply closes the high and medium pressure valves in case of power failure
- Energy metering MT/LT (optional)

Optional

- Flash gas and suction gas heat exchanger MT/LT
- Outdoor installation as container solution

Heating and air conditioning

- Heat exchanger for heating and service water incl. manual bypass & 3-way ball motor valve
- Insulation on pressure side (13 mm)

Efficiency enhancement

- Parallel compression
- Ejectors
- TEK development EVALIFT & TEKOJET

Heat exchanger

- CO₂ evaporators
- Gas coolers



ROXST*A*industrial

Transcritical CO₂ series

- Compressor design: Bitzer / Frascold
- No. of compressors: 4-6 MT
0-5 LT

Product features

Base frame

Base frame made of a torsion-resistant sectional steel construction, primed and subsequently painted in RAL 4004.

Compressors

- Transcritical and subcritical CO₂ piston compressors by Bitzer or Frascold connected as a booster
- Guide compressor with frequency converter
- High pressure cutout valve and safety high pressure cutout (fixed settings) for each compressor

Piping

All pipes containing refrigerants are made of K65 or stainless steel

General equipment

- High pressure gauge / High pressure transducer
- High pressure and low pressure packages
- HP / MP / LP safety valves
- Muffler for pulsation damping in the common discharge line
- Medium pressure receiver (165 / 250 / 2 x 165 / 2 x 250 L) & (420 / 2 x 420 L)
- Temperature sensor at the gas cooler outlet
- Insulation of the suction side
- Insulation of the medium pressure receiver
- Valve for post-injection
- Shut-off valve downstream of the filter drier and sight glass
- Antivibration pads

Optional accessories

- Maximum level display
- Flash gas and suction gas heat exchangers (MT/LT)
- Active liquid subcooling
- Subcooling plate for gas cooler
- Sound insulation / weather protection 40 mm incl. heater band on oil receiver

Switch cabinet and control

- Switch cabinet design according to DIN EN 60204; VDE 0113-1
- Protection class IP20, voltage 400V/3Ph/50Hz
- Any switchgear required for fully automatic operation
- Electrical components are coded according to German standard
- Switch cabinet ventilation
- Main switch
- Control transformers
- Independent power supply closes the high and medium pressure valves in case of voltage failure

Heating and air-conditioning operation

- Heat exchanger for heating and service water including loading pumps
- Heat pump compressor
- Air-conditioning function

Increased efficiency

- Parallel compression
- Ejectors
- EVALIFT

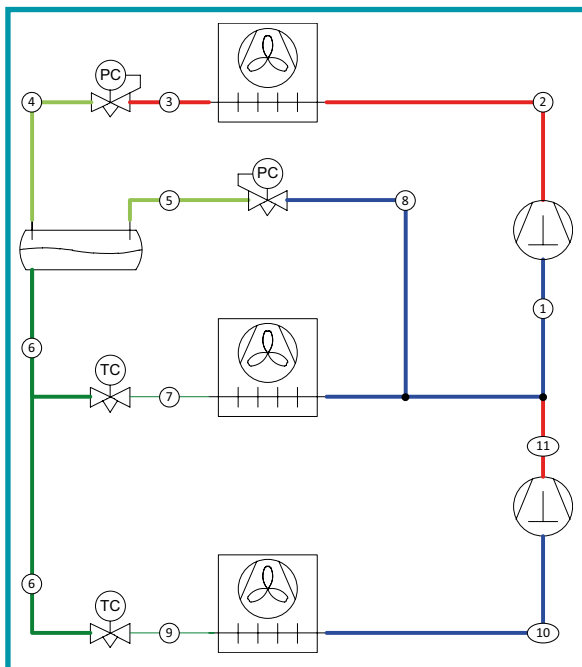
Heat exchangers

- CO₂ evaporators
- Gas cooler

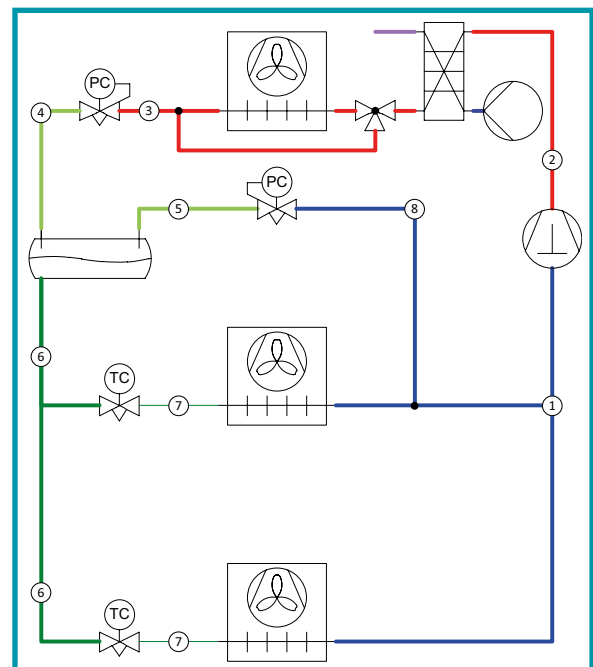
Modell ROXSTA <i>industrial</i>	Receiver (litres)	Weight (kg)	Dimensions (mm)*					
			Length unit	Length MP station	Length** switch cabinet	Length total	Depth	Height
4/0-3	165 / 2 x 165	on request	3,100	1,500 (165 / 250 / 420 L)	1,400 (up to 630 A)	dependent on MP station & switch cabinet	1,300	2,300
5/0-4	250 / 2 x 250		3,700	2,200 (2 x 165 / 2 x 250 / 2 x 420 L)	1,800 (up to 800 A)			
6/0-5	420 / 2 x 420		4,300	2,600 (up to 1,000 A)				

* The dimensions may vary depending on the project

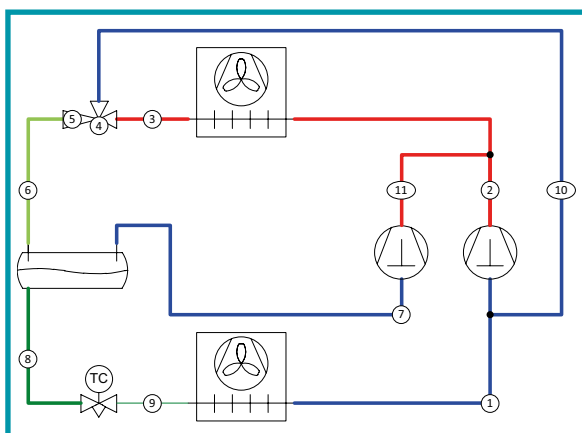
** Incl. frame part



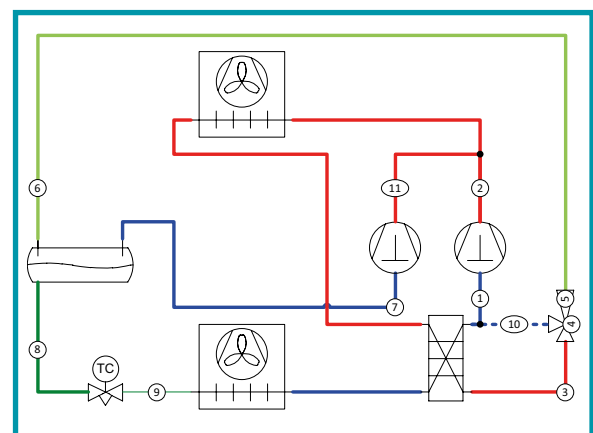
Subcritical and transcritical application



Heat recovery + heat pump



Ejector operation (gas)



EVALIFT



NH₃/CO₂ cascades

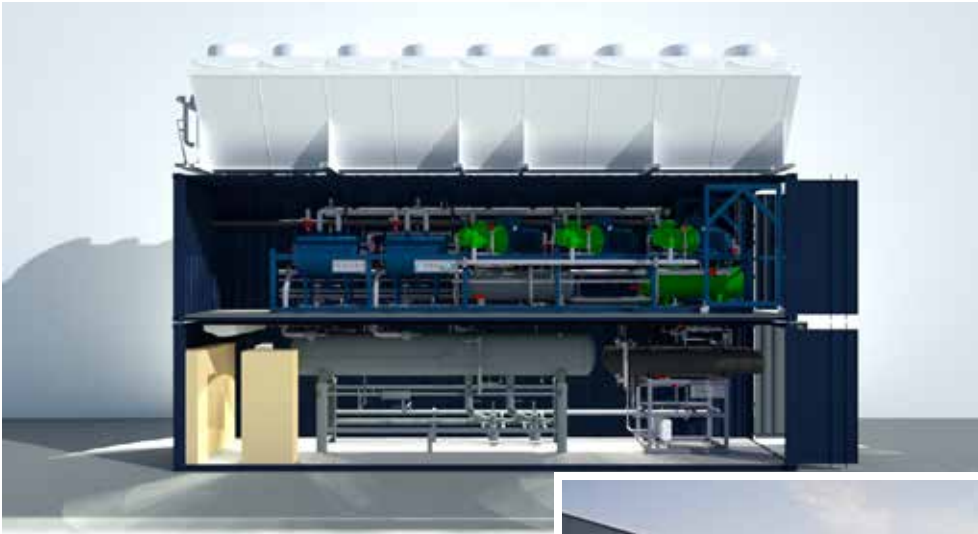
Do you need a new refrigeration unit, but don't have enough room in your machine room, or don't have a machine room? No problem! On request, we can install and deliver these units in a machine container.

Nominal capacity range

- Medium temperature (NH₃): up to 1.500 kW (-10 / +35 °C)
- Low temperature (CO₂): up to 1.000 kW (-35 / -5 °C)

Benefits

- Small-area base
- High-quality build
- Compact, but maintenance-friendly design
- Low engineering requirement for our customers
- Minimal plumbing-in and wiring-in works required on



TEKO Refrigeration
www.teko-gmbh.com

