

Standard solutions

★carbo-Rack



CO₂ booster for typical supermarket applications, optional with parallel compression and ★c-Ejector

★carboX



CO₂ gas cooler unit for expanding existing systems for medium temperature 10 – 20 kW

★c-greyline



Standard series as modular system – quick and easy to configure by yourself, online at www.compact-kaeltetechnik.de/greyline

★cab



compact ammonia basics with screw compressors and oil separator, up to 1500 kW



c-greyline

Benefit from our standard **c-greyline** series for small and medium cooling capacities (1 to 120 kW) available as a modular system: Our proven series concept is often a useful, economical and time-saving alternative to customised systems.

c-greyline enables a fast and reliable implementation of your projects due to the high readiness to deliver.

c-greyline saves a lot of space at a maximum depth of 700 mm.

c-greyline exclusively uses components from leading manufacturers for highest quality and reliability.

c-greyline configurator – quick and easy price comparison of different system configurations. Decision templates for the best price-performance ratio without software installation.

Configurable at any time in the browser and on mobile devices under www.compact-kaeltetechnik.de/greyline.

- ✓ quick access to the offer details
- ✓ user-friendly operation (with integrated help)
- ✓ support in the preselection of components depending on the limits of the entered performance parameters
- ✓ individual selection from the extensive range of accessories
- ✓ immediate access to documents such as P&ID and technical drawings

Scope of standard delivery

- Frame for supporting 1-3 Bitzer compressor, type CE1 / CE2 / CE3 / CE4
- Frame made of polished profile steel and powder coated RAL 7012
- Oil management system incl. HP separator, oil filter and regulators (lockable)
- Liquid receiver installed within the frame
- Instrument panel incl. HP / LP service opening
- LP transmitter
- PSH pressure switch for each compressor
- PSL pressure switch for each system
- Shut-off valve after oil separator
- Crankcase heater for each compressor
- Piping in copper
- Insulation of suction line
- 4 anti-vibration metal rubber feet

c-greyline PLUS - Accessories

- optoelectronic level monitoring on liquid receiver
- Receiver inlet valve
- Safety valve 28 bar
- incl. 2 safety valves 28 bar
- Capacity steps (50/100%) only for 1 compressor
- CRH capacity regulation (10-100%) only for 1 compressor
- Additional fan (compressor head fan)
- Additional high pressure switch
- High-pressure transmitter (4 ... 20 mA)
- Pressure gauges for high and low pressure
- Wall bracket / console
- Control cabinet incl. wiring and pre-configuration of the controller (ELREHA MSR eco 3140 or WURM DCC-XP)
- Housing with mounted condenser



Ammonia chiller **cab**

cab uses the environmentally friendly refrigerant NH_3 . With a GWP of **0**, ammonia is the long-term and sustainable solution for your cooling application.

cab saves useful time during on-site installation as a complete solution. Pressure gauge, pressure switch and the entire oil circuit with oil cooler are already part of our machines. Benefit from the industrial production of these compressor units.

cab offers solutions as single compressor units or as a parallel system with two open screw compressors.

cab is equipped with standardised motors, is flexible to use and offers optimum service conditions.

cab is partly equipped with compressors with optimised slider concept and Vi-adjustment. This allows the power adjustment and maximum efficiency to be achieved at each operating point.

Your individual power requirement can be optimally realised by the free combination of different **cab**.

Industrial equipment for:

- ✓ Warehouse
- ✓ Process cooling
- ✓ Production facilities
- ✓ Cold water systems

Controller

Compressor control and protection by Siemens SIMATIC. One communication module establishes connection between different **cabs** for optimum power adjustment. Integrated interfaces ensure easy integration with superior systems.

cab PLUS – Accessories

- ✓ heat exchangers as evaporators
- ✓ condensers or economisers
- ✓ containers, pumping stations
- ✓ frequency converters
- ✓ and much more



Application: Medium temperature (MT)

Technical data

Refrigerant: R717 | Evaporation: -6°C | Condensing: 42°C | Subcooling: 0 K
superheating: 2.00 K | RPM: 2900/min

		Cooling capacity	Shaft power	Condensing capacity	Oil flow	Oil cooler capacity	Length*	Width*	Height*	Weight*
		[kW]	[kW]	[kW]	[m³/h]	[kW]	[mm]	[mm]	[mm]	[kg]
Single compressor cab-SE	cab-SE-0100	70	22	79	0,91	12	2300	895	1750	850
	cab-SE-0118	82	26	94	0,91	15	2300	895	1750	850
	cab-SE-0192	143	47	162	2,38	28	2300	895	1750	1350
	cab-SE-0220	170	54	192	2,38	31	2800	995	1850	1800
	cab-SE-0250	186	58	211	2,13	32	2800	995	1850	1850
	cab-SE-0315	210	70	238	2,99	41	2800	995	1850	2000
	cab-SE-0359	245	80	279	2,9	46	2800	995	1850	2500
	cab-SE-0410	298	90	339	2,81	49	2800	1100	1980	2550
	cab-SE-0470	353	100	401	4,26	52	2800	1100	1980	2750
	cab-SE-0535	388	116	440	4,26	63	2800	1100	1980	2800
	cab-SE-0910	668	185	759	9,07	93	2600	1300	2050	4050
	cab-SE-1015	748	203	850	9,07	101	2600	1300	2050	4100
Parallel System cab-SZ	cab-SZ-0200	140	44	158	1,82	24	2300	1500	1570	1350
	cab-SZ-0236	164	52	188	1,82	30	2300	1500	1570	1350
	cab-SZ-0384	286	94	324	4,76	56	2800	2200	1800	2100
	cab-SZ-0440	340	108	384	4,76	62	2800	2200	1800	2600
	cab-SZ-0500	372	116	422	4,26	64	2800	2200	1800	2650
	cab-SZ-0630	420	140	476	5,98	82	2800	2200	1800	3200
	cab-SZ-0718	490	160	558	5,8	92	3300	2400	1980	4800
	cab-SZ-0820	596	180	678	5,62	98	3300	2400	1980	4900
	cab-SZ-0940	706	200	802	8,52	104	2600	2400	2050	4850
	cab-SZ-1070	776	232	880	8,52	126	2600	2400	2050	5000
	cab-SZ-1820	1336	370	1518	18,14	186	2700	2450	2200	6500
	cab-SZ-2030	1496	406	1700	18,14	202	2700	2450	2200	6700

*For mandatory dimensions and weights, please refer to the technical documentation.

Application: Low temperature (LT)

Technical data

Refrigerant: R717 | Evaporation: -32°C | Condensing: 12°C | Subcooling: 0 K
superheating: 2.00 K | RPM: 2900/min


		Cooling capacity	Shaft power	Condensing capacity	Oil flow	Oil cooler capacity	Length*	Width*	Height*	Weight*
		[kW]	[kW]	[kW]	[m³/h]	[kW]	[mm]	[mm]	[mm]	[kg]
Single compressor cab-SE	cab-SE-0100	28	9	34	0.59	4	2300	895	1750	850
	cab-SE-0118	33	11	40	0.59	5	2300	895	1750	850
	cab-SE-0192	50	18	60	1.49	8	2300	895	1750	1350
	cab-SE-0220	64	23	76	1.49	11	2800	995	1850	1800
	cab-SE-0250	72	26	86	1.49	12	2800	995	1850	1850
	cab-SE-0315	-	-	-	-	-	-	-	-	-
	cab-SE-0359	-	-	-	-	-	-	-	-	-
	cab-SE-0410	113	38	135	1.83	17	2800	1100	1980	2550
	cab-SE-0470	-	-	-	-	-	-	-	-	-
	cab-SE-0535	151	45	180	16.2	16	2800	1100	1980	2800
	cab-SE-0910	254	74	302	5.2	26	2600	1300	2050	4050
	cab-SE-1015	284	81	337	5.2	28	2600	1300	2050	4100
Parallel System cab-SZ	cab-SZ-0200	56	18	68	1.18	8	2300	1500	1570	1350
	cab-SZ-0236	66	22	80	1.18	10	2300	1500	1570	1350
	cab-SZ-0384	100	36	120	2.98	16	2800	2200	1800	2100
	cab-SZ-0440	128	46	152	2.98	22	2800	2200	1800	2600
	cab-SZ-0500	144	52	172	2.98	24	2800	2200	1800	2650
	cab-SZ-0630	-	-	-	-	-	-	-	-	-
	cab-SZ-0718	-	-	-	-	-	-	-	-	-
	cab-SZ-0820	226	76	270	3.66	34	3300	2400	1980	4900
	cab-SZ-0940	-	-	-	-	-	-	-	-	-
	cab-SZ-1070	302	90	360	32.4	32	2600	2400	2050	5000
	cab-SZ-1820	508	148	604	10.4	52	2700	2450	2200	6500
	cab-SZ-2030	568	162	674	10.4	56	2700	2450	2200	6700

*For mandatory dimensions and weights, please refer to the technical documentation.



Features


- Efficiency increase of 15-30% possible (compared to a booster system with flash gas bypass)
- Lower compressor capacity required (smaller or less compressors)
- Individually adaptable to each application and each capacity
- Air conditioning and / or heat pump evaporator can be integrated
- Extended running time of the parallel compressor even at low outside temperatures
- High reliability (no moving or rotating components)
- Short payback time (depending on system size)

 **c-Ejector** is used to increase the efficiency in CO₂ booster systems. In connection with a high-pressure valve, three different types of gas and two types of liquid ejectors can be combined.

Technical data

- **Refrigerant:** R744
- **Max. operating pressure:** 120 bar
- **Tested according to AD 2000:**
1.1 x 120 bar
- **Temperature of medium:** -50 °C ... +150 °C
- **Ambient temperature:** -10 °C ... +50 °C
- **Material:** stainless steel 1.4301
- **Weight:** 1,3 kg

Configuration

The  **c-Ejector** can be combined from the various ejector types as required. The mass flow through the gas cooler determines the size. The pressure difference between the medium pressure and the suction pressure of MT stage determines the entrained mass flow.

	Type	Nominal mass flow motive nozzle [kg/h] @ 90 bar & 35 °C
Gas ejector	GEW2	250
	GEW4	500
	GEW8	1000
Fluid ejector	FEW1	125
	FEW2	250

CO₂ Booster **carbo-Rack**

The **carbo-Rack** series is perfectly suited to the requirements in the retail food segment. By using the environmentally friendly refrigerant CO₂ with a GWP of 1, all cooling requirements can be met safely, efficiently and in compliance with all the applicable standards and laws.

carbo-Rack allows a free combination of compressor racks for LT and MT refrigeration. This allows a high degree of flexibility.

carbo-Rack works with 3 compressors for LT and up to 4 compressors for MT stage. This increases the operational safety and provides better performance levels. For further efficiency improvement, parallel compressors and **c-Ejector** may be utilised.

carbo-Rack comes with a frequency inverter on each main compressor for each pressure stage.

User-friendly

High and medium pressure valves are pre-installed before delivery. This keeps high pressure piping work reduced to a minimum. A redundant valve design ensures maximum service convenience.

The control cabinet, with complete booster and gas cooler control, may be mounted to the left or right side of the machine frame.

Safety

- ✓ Safety valves (120/45/30 bar) on a stainless steel panel for outdoor assembly.
- ✓ A well-sized liquid receiver ensures safe operation throughout the year.

carbo-Rack PLUS – Accessories:

- ✓ Container / housing / sound-proof enclosure
- ✓ gas cooler separate or installed
- ✓ heat recovery system with speed-controlled efficiency pump
- ✓ parallel compression
- ✓ ejector, emergency cooling

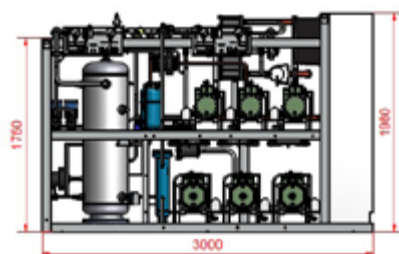


Technical data

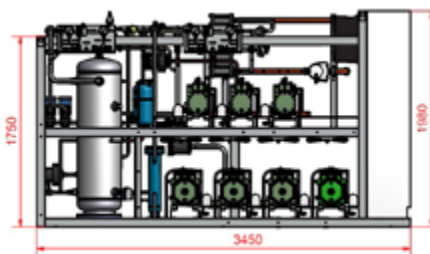
	carbo-Rack with flash gas bypass LT at -30 / -5°C, to,h = 24K MT at -5 / 36°C, to,h = 16K		carbo-Rack with flash gas parallel system LT at -38/-8°C MT at -8/38°C
	carbo-Rack 33	carbo-Rack 34	carbo-Rack 342
Low temperature	3 compressors	3 compressors	3 compressors
Cooling capacity Compr.	9 kW – 25 kW	9 kW – 25 kW	15 kW – 88 kW
Condensing capacity	Max. 29 kW	Max. 29 kW	Max. 110 kW
Medium temperature	3 compressors	4 compressors	4 compressors + 2 parallel compressors
Cooling capacity Compr.	27 kW – 74 kW	45 kW – 110 kW	40 kW – 163 kW
Gas cooler capacity	Max. 128 kW	Max. 182 kW	Max. 310 kW
Max. Operating current	Max. 95 A	Max. 138 A	Max. 311 A
Liquid Receiver	125 l	150 l	125 l – 200 l
Length	3000 mm	3750 mm	4900 mm
Width	800 mm	1000 mm	1150 mm
Height	2080 mm	2080 mm	2080 mm
Weight	Max. 2000 kg	Max. 2250 kg	Max. 3500 kg

Sketch / Dimensions:

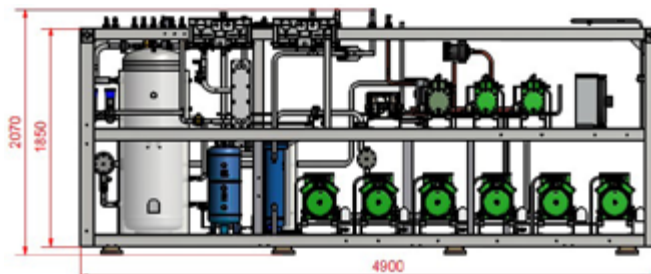
carbo-Rack 33



carbo-Rack 34



carbo-Rack 342



CO₂ Gas cooler unit **carboX**

The **carboX** series is perfectly suited for normal cooling from 10 to 20 kW. (Deep-freezing on request).

carboX uses the environmentally friendly refrigerant CO₂ with a GWP of 1. All cooling requirements can be met safely, efficiently and in compliance with all the applicable standards and laws.

carboX doesn't require any pipe work in sections with 120 bar. This makes installation on site very simple. Liquid and suction lines operate at a pressure level of 52 bar.

carboX is designed for outdoor installation. This gives you more space inside the building.

carboX is provided with a frequency inverter on the compressor. The gas cooler is controlled by EC fans. Sub- and transcritical conditions are handled safely and efficiently.

carboX is a complete plug-and-play system, including controller and safety devices. This allows you to use the CO₂ technology in a easy and secure manner.

Application

- ✓ Small food markets
- ✓ Shops at petrol stations
- ✓ To extend existing systems

User-friendly

The optimised housing size allows safe installation, even under restricted installation conditions.

Gas cooler as well as high and medium pressure valves are already installed before delivery. This eliminates the need for piping work in the high-pressure range.

The control cabinet, including the compressor and gas cooler control is located within the housing.

Benefit from the well-thought arrangement of components and save time during maintenance and installation.



Safety

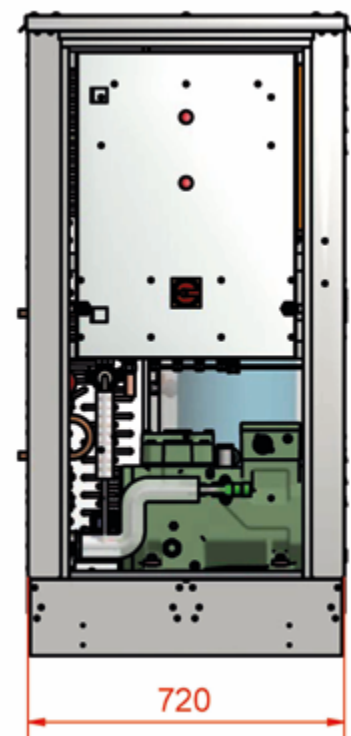
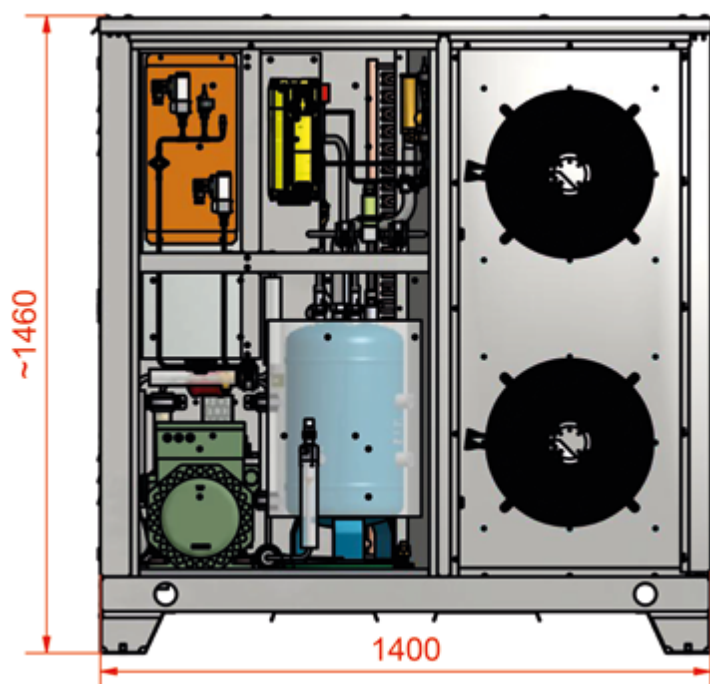
- ✓ Safety valve (120 bar) installed ready for operation.
- ✓ Stainless steel pipes for maximum stability and machine safety, at all pressure levels. K65 adapters may be mounted for easy one-site assembly.
- ✓ The large liquid receiver ensures safe operation throughout the year.

Performance data medium temperature

Medium temperature at -10 °C / 38 °C / 70 Hz

⁺ carboX	33	48	65
Cooling capacity	8,8 kW	12,8 kW	16,5 kW
Power consumption	5,7 kW	8,3 kW	11,3 kW
Gas cooler capacity	14,5 kW	21,0 kW	27,8 kW
Max. operating current	12 A	17 A	22 A
Weight	304 kg	310 kg	320 kg
Sound pressure level *	45 dB (A) in 10 m		

* temporary value





**We have the best solution for
your specific cooling application**

The compact Kältetechnik GmbH is a leading manufacturer of energy-efficient, innovative refrigeration machines in Germany.

Founded in 1992, we manufacture custom-designed refrigeration units for almost all applications – with all common synthetic refrigerants as well as the natural refrigerants CO₂, NH₃, Propane.

Our refrigeration units are used for food retail and processing, commercial and industrial cooling.

compact Kältetechnik GmbH

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