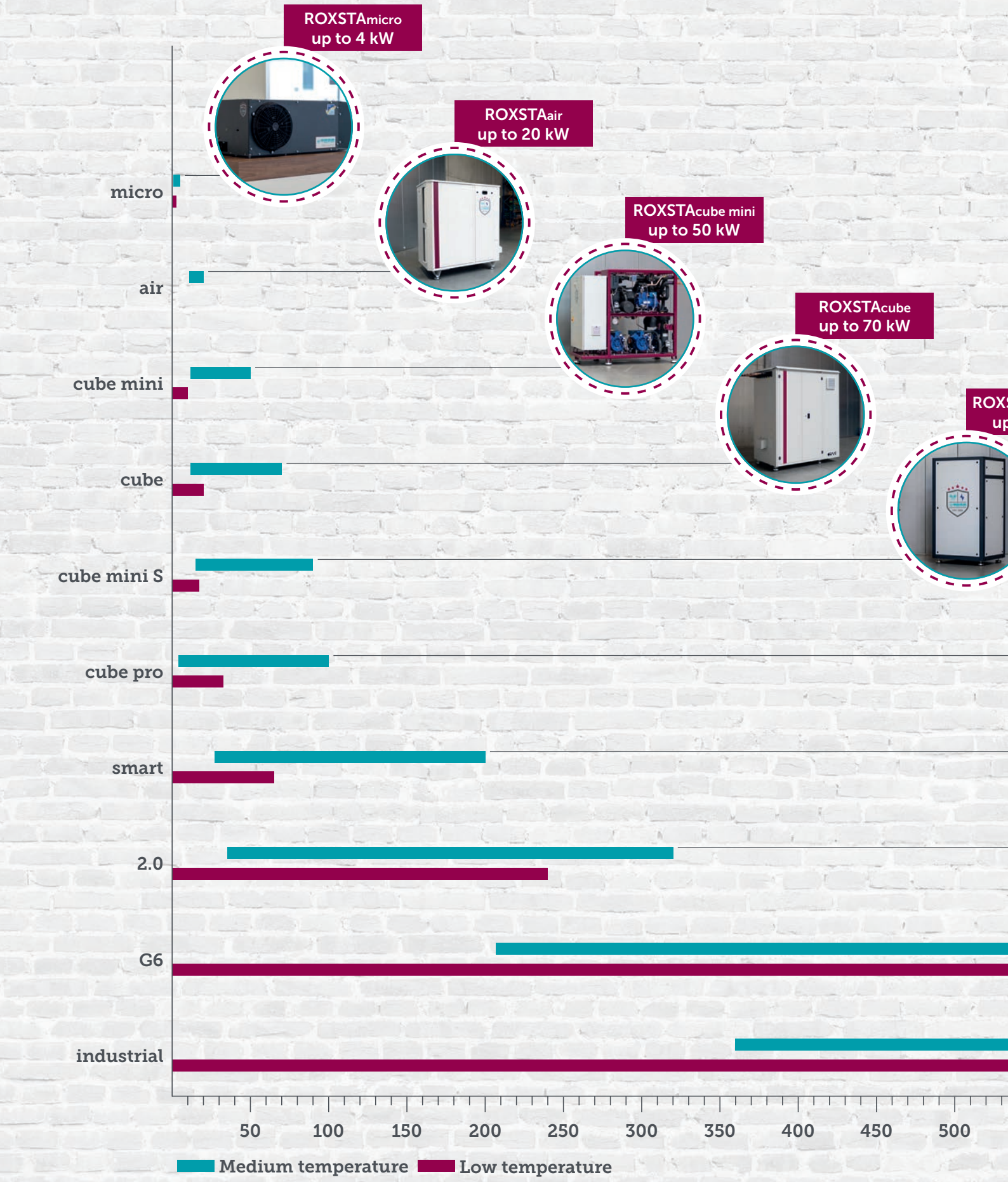
Future-proof CO_2 Solutions

ROXSTA Series



With **years of expertise in transcritical CO_2 systems** and **several thousand successful installations,** we offer **customized system solutions**, including **control technology for every application**. Our systems are characterized by a high degree of hermetic sealing, short delivery times, and TÜV-compliant technology – fully piped, wired, and CE-compliant.

Your safety and satisfaction are our top priorities: Reduced brazed joints, fully automated bending machines, and, since 2023, the state-of-the-art tube processing center ensure the highest manufacturing quality. Each system undergoes pressure resistance and leak tests before delivery, including a helium leak detection test with accuracy up to 1 g/year.

We go beyond products and **invest in the future of the industry.** We annually **train hundreds of professionals**, including refrigeration engineers, planners, and operators.

Explore the **TEKO ROXSTA series** on the following pages – **your solutions for highest efficiency and operational safety.**

STAcube mini S
to 90 kW

ROXSTAcube pro
up to 100 kW

ROXSTAsmart
up to 200 kW

ROXSTA2.0
up to 320 kW

ROXSTAG6
up to 640 kW

ROXSTAindustrial
up to 960 kW

kW

550 600 650 700 750 800 850 900 950 1.000

ROXSTAmicro

CO_2 retrofit/expansion solution – for direct installation on plug-and-play refrigeration and freezer units, as well as cold storage rooms.

Capacities

(t_0 MT -7 °C / t_0 LT -30 °C / t_{GC} 32 °C)

- **Medium temperature** 0.9...4.0 kW
  1 two-stage CO_2 rotary compressor
- **Low temperature** 0.5...2.2 kW
  1 two-stage CO_2 rotary compressor

Air-cooled & Water-cooled version

- **Air-cooled:** Gas cooler / intercooler combination suitable for retail food stores, commercial kitchens, and ice production
- **Water-cooled:** Plate heat exchanger for combination with chiller units and drycoolers

Operating behavior

The speed-controlled, two-stage CO_2 rotary compressor offers real time optimisation to the required cooling capacity with the lowest possible energy consumption.

Design pressure

- 90 bar suction line (MT/LT)
- 90 bar medium pressure
- 120 bar high pressure

Scope of delivery

Installed as standard

- 2-stage variable-speed BLDC (Brushless Direct Current) Panasonic rotary compressor
- Intermediate pressure vessel
- High-pressure valve
- Filter dryer including sight glass
- Two service valves
- Insulation on suction and intermediate pressure sides
- Air-cooled intercooler (Type 63/163)
- Powder-coated housing
- Control electronics
- Air-cooled version: Gas cooler (to be installed on site)
- Water-cooled version: Plate heat exchanger (to be installed on site)

Accessories

- Check valve and safety valve 60/80 bar (consider evaporator design pressure)

Capacities up to 4 kW

Model	Dimensions (mm)			Weight
	Length	Depth	Height max.	(≈kg)
Air-cooled				
63 AC-S	750	500	325	30
163 AC-S				
163 AC-L				35
303 AC-L			360	
Water-cooled				
63 LC-S	750	500	325	30
163 LC-S				
163 LC-L				35
303 LC-L			360	

ROXSTAair

CO_2 condensing unit for applications with a smaller standard cooling demand. Ideal for retailers and individual cooling applications.

Capacities

(t_0 MT -5 °C / t_{GC} 38 °C)

- **Medium temperature** 11...20 kW
  1 transcritical CO_2 compressor

Installation options

Space saving desing.

- **Indoor** installation with 2 EC radial fans
- **Outdoor** installation with 2 EC axial fans

Plug & Play

The piping including HP and LP safety valves is located inside the housing. Only the liquid and suction lines need to be piped, which simplifies installation and saves time.

Design pressure

- 45/80 bar Suction line
- 45/80 bar Medium pressure
- 120 bar High pressure

Sound data

- 54 dB(A) in 10 m

Sound measurements under laboratory conditions (airborne sound at 50 Hz). Despite careful control of the content, we do not assume any liability for the accuracy of the data.

Scope of delivery

Installed as standard

- Transcritical compressor
- Frequency converter included
- Safety devices according to DIN EN 378
- Switch panel with electronic control
- Muffler in the discharge line
- Flash gas heat exchanger
- Intermediate pressure tank (20 litres)
- Shut-off measuring connections
- Insulation on the suction side
- Machine tray with integrated safety valves
- Condenser housing (corrosion category C3) with 2 EC radial/axial fans
- Emergency cut off switch
- Built in ventilation
- Anti-vibration paids for optimal and low-vibration stability

Accessories

- CO_2 evaporators

Model	Dimensions (mm)			Weight
	Length	Depth	Height max.	(≈kg)
ROXSTAair	1,575	965	1,630	420

Capacities up to 20 kW

Capacities up to 50 kW

ROXSTAcube mini

CO_2 system in a compact design. Designed for discount stores, organic markets, or small retailers with a market size of up to 1,000 m^2.

Capacities

(t_0 MT -5 °C / t_0 LT -30 °C / t_{GC} 38 °C)

- **Medium temperature** 12...50 kW
  2 transcritical CO_2 compressors
- **Low temperature** 0...10 kW
  0-1 subcritical CO_2 compressors

Benefits

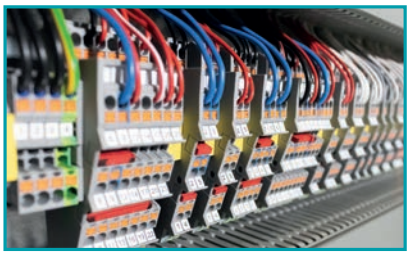
- Flexible setup – indoor & outdoor
- Quiet operation through various sound protection options
- Compact construction
- Easy to install
- Maintenance-friendly

Design pressure

- 30/60 bar Suction line (LT)
- 45/60 bar Suction line (MT)
- 45/60 bar Medium pressure
- 120/130 bar High pressure

Model Installation options	Switchboard	Dimensions (mm) Length[1]	 Depth	 Height	Receiver (litres)	Weight* (≈kg)
Indoor – without sound protection	mounted	1,670	800	1,620	80	900
Indoor & Outdoor – sound protection 40 mm		1,945	1,219[2]	1,624		1,200
Outdoor – sound protection 100 mm		2,355	1,355[2]	1,830		1,900

[1] Plus 200 mm pipe connections
[2] Incl. 200 mm ventilation hood
* Depending on the equipment, the weight can vary significantly



Scope of delivery

Installed as standard

- Trans- & subcritical compressors
- Capacity control for each MT lead compressor
- Active oil management
- Minimum level indicator
- Shut-off ball valve before and after HP & MP valves
- Suction filter in combination with shut-off ball valve in the MT suction line (supplied separately)
- Liquid set consisting of two shut-off ball valves, liquid filter, and sight glass
- Suction side insulation
- Flash gas heat exchanger
- Vibration feet for optimal, low-vibration positioning
- Safety valves for HP & MP and suction side (optional redundant)
- Safety devices according to DIN EN 378

Switchboard and control

- All switching devices necessary for fully automatic operation
- Ventilated switchboard
- Main switch
- Control transformers
- Independent power supply closes the HP and MP valves in case of a power failure
- Electrical components marked according to German standards
- Shared energy metering (optional)

Optional

- Controlled post-injection
- Weather/sound protection housing for indoor & outdoor installation
  - Basic sound protection 40 mm
  - Increased sound protection 100 mm
  - Special sound protection housing for extra quiet operation

– Capacity control

- Lead compressor MT: Frequency converter or mechanical power control
- Follow-up compressor MT: Mechanical power control (50/100)
- Lead compressor LT: Frequency converter

– Heat recovery

- COOL2HEATbasic including 3-way motorized valve and insulation of the discharge line, oil separator, and plate heat exchanger (domestic or heating water)
- COOL2HEATbasic as stand-alone (second water circuit)

Capacities up to 70 kW

ROXSTAcube

CO_2 system in a compact design. Designed for discount stores or supermarkets with a market size up to 1,200 m^2.

Capacities

(t_0 MT -5 °C / t_0 LT -30 °C / t_{GC} 38 °C)

- **Medium temperature** 12...70 kW
  3 transcritical CO_2 compressors
- **Low temperature** 0...20 kW
  0-2 subcritical CO_2 compressors

Benefits

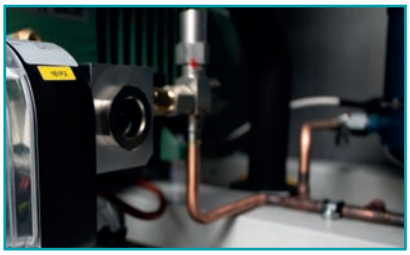
- Flexible setup – indoor & outdoor
- Quiet operation through various sound protection options
- Compact construction
- Easy to install
- Maintenance-friendly

Design pressure

- 30 bar Suction line (LT)
- 45 bar Suction line (MT)
- 45/60 bar Medium pressure
- 120/130 bar High pressure

Model Installation options	Switchboard	Dimensions (mm)			Receiver (litres)	Weight* (≈kg)
		Length	Depth	Height		
Indoor – without sound protection	without	1,340[1]	900	1,904[3]	80	1,050
	mounted	1,810[1]	900	1,904[3]		1,500
Outdoor – sound protection 40 mm		2,045[1/2]	1,180[2]	1,944[3]		1,500
Outdoor – sound protection 100 mm		2,320[1/2]	1,355[2]	2,410		1,800

[1] without pipe outlets / [2] incl. projections (scoops, gutters) / [3] incl. machine feets
* Depending on the equipment, the weight can vary significantly



Scope of delivery

Installed as standard

- Trans- & subcritical compressors
- Capacity control for each MT lead compressor
- Active oil management
- Minimum level indicator
- Shut-off ball valve before and after HP & MP valve
- Suction filter in combination with shut-off ball valve in the MT suction line (supplied seperately)
- Liquid set consisting of two shut-off ball valves, liquid filter, and sight glass
- Suction side insulation
- Flash gas heat exchanger
- Vibration feet for optimal, low-vibration positioning
- Safety valves for HP & MP and suction side (optional redundant)
- Safety devices according to DIN EN 378

Switchboard and control

- All switching devices necessary for fully automatic operation
- Ventilated switchboard
- Main switch
- Control transformers
- Independent power supply closes the HP and MP valves in case of a power failure
- Electrical components marked according to German standards
- Shared energy metering MT/LT (optional)
- Residual current device (optional)

Optional

- Maximum level indicator
- Controlled post-injection
- Weather/sound protection housing for outdoor installation
  - Basic sound protection 40 mm
  - Increased sound protection 100 mm
  - Special sound protection housing for extra quiet operation

– Capacity control

- Lead compressor MT: Frequency converter or mechanical power control
- Follow-up compressor MT: Mechanical power control (50/100)
- Lead compressor LT: Frequency converter

– Heat recovery

- COOL2HEATbasic including 3-way motorized valve and insulation of the discharge line, oil separator, and plate heat exchanger (domestic or heating water)
- COOL2HEATbasic as stand-alone (second water circuit)

Capacities up to 90 kW

ROXSTAcube mini S

Many features in a compact design. Designed for discount stores, organic markets, or small retailers with a market size of up to 1,000 m^2.

Capacities

(t_0 MT -5 °C / t_0 LT -30 °C / t_{GC} 38 °C)

- **Medium temperature** 15...90 kW
  1 IT / 2 MT transcritical CO_2 compressors
- **Low temperature** 0...17 kW
  0-1 subcritical CO_2 compressors

Benefits

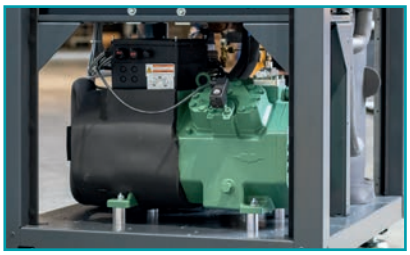
- Small footprint of 1 m^2
- Maximum operational reliability supported by TECO$_2$nditioner & TECO$_2$mulator
- All compressors with IQ module
- High efficiency due to parallel compressor, ejector & LSPM motor

Design pressure

- 30/60 bar Suction line (LT)
- 45/60 bar Suction line (MT)
- 60 bar Medium pressure
- 120/130 bar High pressure

Model	Dimensions (mm)			Receiver	Weight*
	Length[1]	Depth	Height[1]	(litres)	(≈kg)
2/0-1	1,100	880	1,990	84	1,200

[1] Pipe connections: Length plus 320 mm / Height plus 150 mm (easily detachable)
* Depending on the equipment, the weight can vary significantly



Scope of delivery

Installed as standard

- Trans- & subcritical compressors including IQ module CM-RC-02/CM-IO-A and built-in oil level regulator OLM-IQ
- Capacity control CRII for each MT lead compressor
- TECO2nditioner
- Active oil management – TECO2mulator
- Minimum level indicator
- Shut-off ball valve before and after HP & MP valve
- Strainer in the suction line – each MT/LT
- Suction side insulation
- Enclosure for indoor installation
- Vibration feet for optimal, low-vibration positioning
- Safety valves for HP & MP and suction side
- Safety devices according to DIN EN 378

Switchboard and control

- All switching devices necessary for fully automatic operation
- Ventilated switchboard
- Main switch
- Control transformers
- Independent power supply closes the HP and MP valves in case of a power failure
- Electrical components marked according to German standards
- Shared energy metering (optional)

Optional

- Soundproofing for indoor installation
- Weather/sound protection housing for outdoor installation
- Mounted safety valves including blow-off line

– Capacity control

- Lead compressor MT: Frequency converter or mechanical power control
- Follow-up compressor MT: Mechanical power control (50/100)
- Lead compressor LT: Frequency converter

– Efficiency enhancer

- Parallel compressors (capacity-controlled)
- LSPM motor
- Ejector

– Heat recovery

- Waste heat recovery including 3-way motorized valve and temperature sensor (stand-alone)

Available from Q1/2024

Capacities up to 100 kW

ROXSTAcube pro

CO_2 system in a compact design. Designed for discount stores or supermarkets with a market size up to 1,200 m^2.

Capacities

(t_0 MT -5 °C / t_0 LT -30 °C / t_{GC} 38 °C)

- **Medium temperature** 3...100 kW
  2-3 transcritical CO_2 compressors
- **Low temperature** 0...32 kW
  0-3 subcritical CO_2 compressors

Benefits

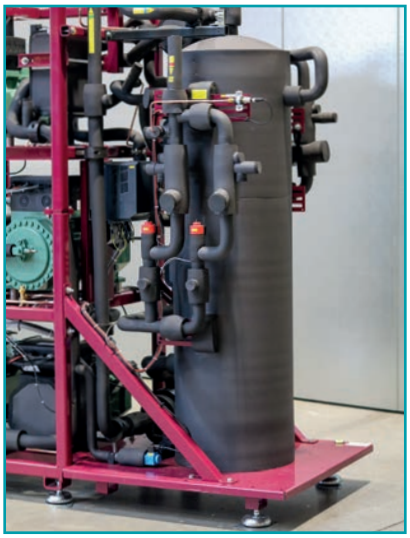
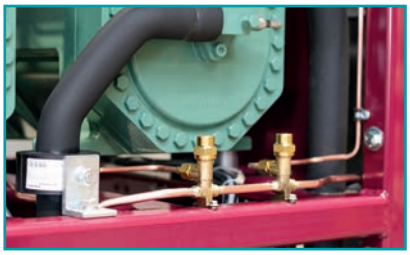
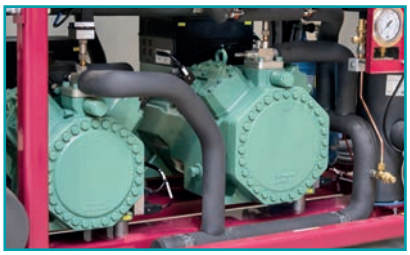
- Improved system stability & increased operational safety through TECO2nditioner
- Maintenance-friendly
- Compact construction
- Easy to install
- Simple integration through divisible composite frame

Design pressure

- 30/60 bar Suction line (LT)
- 45/53/60 bar Suction line (MT)
- 45/60 bar Medium pressure
- 120/130 bar High pressure

Model	Dimensions (mm)					Receiver	Weight*
	Length			Depth	Height		
	Comp. frame	MP frame	Switchboard			(litres)	(≈kg)
2-3/0-3	1,240	900	580	880 1,000[1] / 1,200[1]	1,940[1/2]	165	1,460

[1] Depending on switchboard options
[2] Divisible composite frame at height 1,045 mm
* Depending on the equipment, the weight can vary significantly

Scope of delivery

Installed as standard

- Trans- & subcritical compressors
- Capacity control for each MT lead compressor
- TECO2nditioner
- Active oil management
- Minimal level indicator
- Shut-off ball valve before and after HP & MP valve
- Strainer in the suction line – each MT/LT
- Liquid set consisting of two shut-off ball valves, liquid filter, and sight glass
- Suction side insulation
- Controlled post-injection
- Vibration-damping feet for optimal, low-vibration installation
- Safety valves for HP & MP and suction side (optional redundant)
- Safety devices according to DIN EN 378

Switchboard and control

- All switching devices necessary for fully automatic operation
- Ventilated switchboard
- Main switch
- Control transformers
- Independent power supply closes the HP and MP valves in case of a power failure
- Electrical components marked according to German standards
- Shared energy metering MT/LT (optional)
- Residual current device (optional)

Optional

- Maximum level indicator
- Gas cooler bypass (delivered separately)
- Active cooling for machine housing
- Sound protection housing for indoor installation
- Weather/sound protection housing for outdoor installation

– Capacity control

- Lead compressor MT: Frequency converter or mechanical power control
- Follow-up compressor MT: Mechanical power control (50/100)
- Lead compressor LT: Frequency converter

– Heat recovery

- COOL2HEATbasic including 3-way motorized valve and insulation of the discharge line, oil separator, and plate heat exchanger (domestic or heating water)
- COOL2HEATbasic as stand-alone (second water circuit)
- Pump for heat recovery

Capacities up to 200 kW

ROXSTAsmart

CO_2 system in a compact design. Designed for supermarkets with a market size up to 2,500 m².

Capacities

(t_0 MT -5 °C / t_0 LT -30 °C / t_{GC} 38 °C)

- **Medium temperature** 28...200 kW
  3-4 transcritical CO_2 compressors
- **Low temperature** 0...65 kW
  0-3 subcritical CO_2 compressors

Benefits

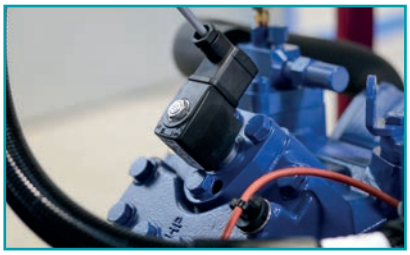
- Rack frame, medium-pressure station & optionally separable parallel compressor
- Compact construction
- Easy to install
- Maintenance-friendly

Design pressure

- 30/60 bar Suction line (LT)
- 45/53/60 bar Suction line (MT)
- 45/60/80 bar Medium pressure
- 120/130 bar High pressure

Model	Dimensions (mm)					Receiver	Weight*
	Length[1]			Depth[2]	Height max.[2]		
	Comp. frame	MP frame	Switchboard			(litres)	(≈kg)
Incl. switchboard, mounted on compressor frame							
3/0-2	2,100	900	mounted on frame	880	1,952	165	1,340
4/0-3	2,500					370	1,980
Incl. swichboard, mounted on side							
3/0-2	2,100	900	700	935 / 1,000 / 1,200	1,952 (Rack) 2,200 (Switchboard)	165	1,340
4/0-3	2,500					370	1,980

[1] With parallel compressor: length plus 600 mm
[2] For vertically mounted switchboard: depth & height depending on the option
* Depending on the equipment, the weight can vary significantly



Scope of delivery

Installed as standard

- Trans- & subcritical compressors
- Capacity control for each MT lead compressor
- TECO2nditioner
- Active oil management
- Minimal level indicator
- Shut-off ball valve before and after HP & MP valve
- Shut-off ball valve for the common discharge line MT before oil separator
- Suction filter in combination with shut-off ball valve in the suction line – each MT/LT
- Liquid set consisting of two shut-off ball valves, liquid filter, and sight glass
- Suction side insulation
- Controlled post-injection
- Vibration-damping feet for optimal, low-vibration installation
- Safety valves for HP & MP and suction side (optional redundant)
- Safety devices according to DIN EN 378

Switchboard and control

- All switching devices necessary for fully automatic operation
- Ventilated switchboard
- Main switch
- Control transformers
- Independent power supply closes the HP and MP valves in case of a power failure
- Electrical components marked according to German standards
- Shared energy metering MT/LT (optional)
- Residual current device (optional)

Optional

- Maximum level indicator
- Gas cooler bypass (delivered separately)
- Passive liquid subcooling LT
- Standstill cooling (delivered separately, connections provided at the receiver)
- Active cooling for machine housing
- Sound protection housing for indoor installation
- Weather/sound protection housing for outdoor installation

– Capacity control

- Lead compressor MT: Frequency converter or mechanical power control
- Follow-up compressor MT: Mechanical power control (50/100)
- Lead compressor LT: Frequency converter

– Efficiency enhancer

- Parallel compressor (capacity-controlled)
- LSPM motor

– Heat recovery

- COOL2HEATbasic including 3-way motorized valve and insulation of the discharge line, oil separator, and plate heat exchanger (domestic or heating water)
- COOL2HEATbasic as stand-alone (second water circuit)
- Pump for heat recovery

Capacities up to 320 kW

ROXSTA 2.0

CO_2 system for higher capacities. Designed for supermarkets with a market size up to 5,000 m^2.

Capacities

(t_0 MT -5 °C / t_0 LT -30 °C / t_{GC} 38 °C)

- **Medium temperature** 36...320 kW
  3-6 transcritical CO_2 compressors
- **Low temperature** 0...240 kW
  0-5 subcritical CO_2 compressors

Benefits

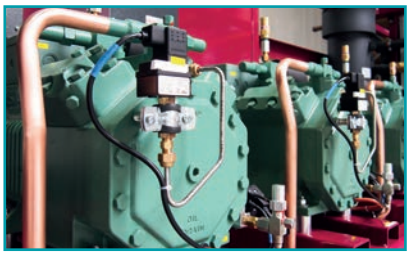
- Rack frame, medium-pressure station, and switchboard can be seperated
- Maintenance-friendly
- Easy to install
- Fully piped and wired
- Completely tested and CE compliant

Design pressure

- 30 bar Suction line (LT)
- 45/53/60 bar Suction line (MT)
- 45/60/80 bar Medium pressure
- 120/130 bar High pressure

Model	Dimensions (mm)					Receiver	Weight*
	Length			Depth[2]	Height		
	Comp. frame[1]	MP frame[2]	Switchboard			(litres)	(≈kg)
3/0-2	3,750	1,100 (250 L) 1,233 (420 L)	1,400[3]	890 (250 L) 1,050 (420 L)	2,030	250 420	on request
4/0-3	4,200						
5/0-4	5,100		1,800				
6/0-5	5,600						

[1] Incl. switchboard
[2] Depending on receiver volume
[3] 1,800 mm over 400A
* Depending on the equipment, the weight can vary significantly



Scope of delivery

Installed as standard

- Trans- & subcritical compressors
- Capacity control for each MT lead compressor
- TECO2nditioner
- Active oil management
- Minimal level indicator
- Shut-off ball valve before and after HP & MP valve
- Suction filter in combination with shut-off ball valve in the suction line – each MT/LT
- Liquid set consisting of two shut-off ball valves, liquid filter, and sight glass
- Suction side insulation
- Second HP and MP valve
- Controlled post-injection
- Vibration-damping feet for optimal, low-vibration installation
- Safety valves for HP & MP and suction side (optional redundant)
- Safety devices according to DIN EN 378

Switchboard and control

- All switching devices necessary for fully automatic operation
- Ventilated switchboard
- Main switch
- Control transformers
- Independent power supply closes the HP and MP valves in case of a power failure
- Electrical components marked according to German standards
- Shared energy metering MT/LT (optional)
- Residual current device (optional)

Optional

- Maximum level indicator
- Gas cooler bypass (delivered separately)
- Second HP and MP valve (redundant)
- Standstill cooling (delivered separately, connections provided at the receiver)

– Capacity control

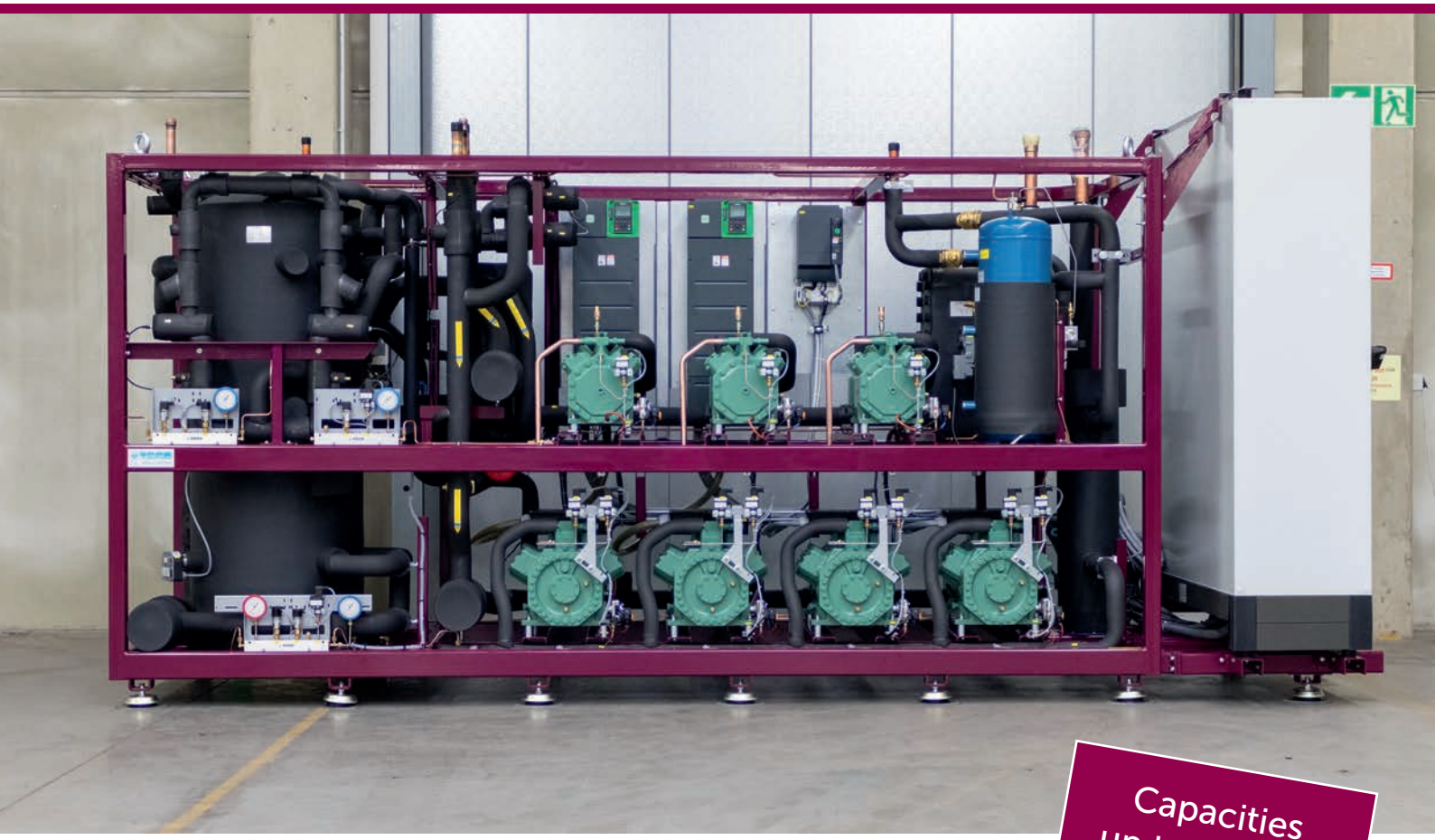
- Lead compressor MT: Frequency converter or mechanical power control
- Follow-up compressor MT: Mechanical power control (50/100)
- Lead compressor LT: Frequency converter

– Efficiency enhancer

- Parallel compressors (capacity-controlled)
- LSPM motor
- Gas-Ejektor (high-lift)

– Heat recovery

- COOL2HEATbasic including 3-way motorized valve and insulation of the discharge line, oil separator, and plate heat exchanger (domestic or heating water)
- COOL2HEATbasic as stand-alone (second water circuit)
- Pump for heat recovery



Capacities up to 640 kW

ROXSTA G6

CO_2 system for high capacities. Designed for Cash & Carry and hypermarkets with a market size up to 10,000 m^2.

Capacities

(t_0 MT -5 °C / t_0 LT -30 °C / t_{GC} 38 °C)

- **Medium temperature** 207...640 kW
  3-7 transcritical CO_2 compressors
- **Low temperature** 0...590 kW
  0-6 subcritical CO_2 compressors

Benefits

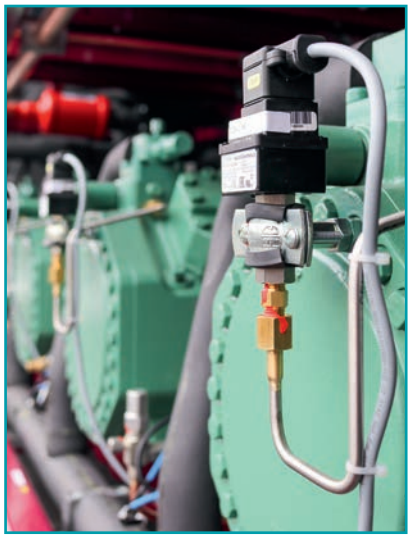
- 6-cylinder compressor
- Compact design
- Easy to install
- Fully piped and wired
- Completely tested and CE compliant

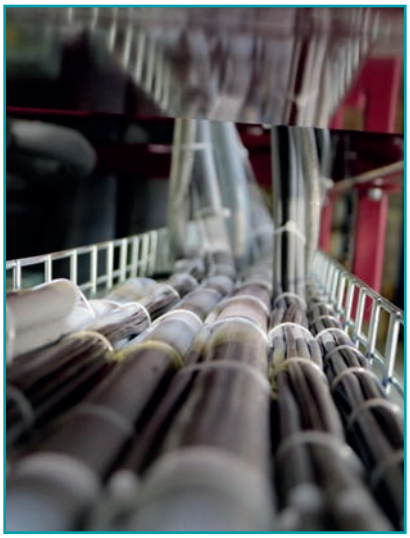
Design pressure

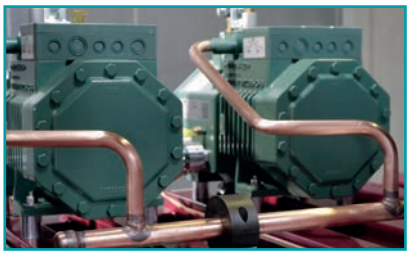
- 30/60 bar Suction line (LT)
- 45/53/60 bar Suction line (MT)
- 45/60/80 bar Medium pressure
- 120/130 bar High pressure

Model	Dimensions (mm)					Receiver	Weight*
	Length			Depth	Height		
	Rack	2. Receiver	Switchboard			(litres)	(≈kg)
3/0-2	3,440[1]	1,150	770 (up to 630 A)	1,250 (Rack)	2,030 (Rack)	250 420 2x 420	on request
4/0-3	3,900						
5/0-4	4,440		1,410 (up to 1,200 A)	1,600 (Switch-board[2])	2,300 (Switch-board)		
6/0-5	4,980						
7/0-6	5,520						

[1] Model 3/0-2 incl. parallel compression – mounted on frame 4/0-3
[2] Switchboard: 9-11 compressor, 400-630 A
* Depending on the equipment, the weight can vary significantly







Scope of delivery

Installed as standard

- Trans- & subcritical compressors
- Capacity control for each MT lead compressor
- Active oil management
- Minimal level indicator
- Shut-off ball valve before and after HP & MP valve
- Suction filter in combination with shut-off ball valve in the suction line – each MT/LT
- Liquid set consisting of two shut-off ball valves, liquid filter, and sight glass
- Suction side insulation
- Second HP and MP valve
- Controlled post-injection
- Vibration-damping feet for optimal, low-vibration installation
- Safety valves for HP & MP and suction side (optional redundant)
- Safety devices according to DIN EN 378

Switchboard and control

- All switching devices necessary for fully automatic operation
- Ventilated switchboard
- Main switch
- Control transformers
- Independent power supply closes the HP and MP valves in case of a power failure
- Electrical components marked according to German standards
- Shared energy metering MT/LT (optional)
- Residual current device (optional)

Optional

- Maximum level indicator
- Gas cooler bypass
- Flash gas & suction gas heat exchanger (MT/LT)
- Active liquid subcooling
- Liquid separator (60 bar, 70/150 litres)
- Standstill cooling (delivered separately, connections provided at the receiver)
- Active cooling for machine housing
- Weather/sound protection housing for outdoor installation

– Capacity control

- Lead compressor MT: Frequency converter or mechanical power control
- Follow-up compressor MT: Mechanical power control (50/100)
- Lead compressor LT: Frequency converter

– Efficiency enhancer

- Parallel compressors (capacity-controlled)
- LSPM motor
- Ejector
- EVALIFT

– Heat recovery

- COOL2HEATbasic including 3-way motorized valve and insulation of the discharge line, oil separator, and plate heat exchanger (domestic or heating water)
- COOL2HEATbasic as stand-alone (second water circuit)
- Pump for heat recovery

Capacities up to 960 kW

ROXSTAindustrial

CO_2 system for industrial applications such as hypermarkets, Cash & Carry, logistics warehouses, or industrial and process cooling.

Capacities

(t_0 MT -5 °C / t_0 LT -30 °C / t_{GC} 38 °C)

- **Medium temperature** 360...960 kW
  4-10 transcritical CO_2 compressors
- **Low temperature** 0...590 kW
  0-6 subcritical CO_2 compressors

Benefits

- Flexible
- Compact design
- Easy to install
- Fully piped and wired
- Completely tested and CE compliant

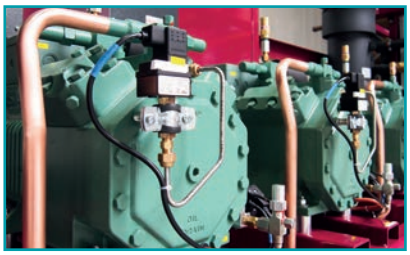
Design pressure

- 30 bar Suction line (LT)
- 45/53/60 bar Suction line (MT)
- 45/60/80 bar Medium pressure
- 120/130 bar High pressure

Model	Dimensions (mm)[1]					Receiver	Weight*
	Length			Depth	Height		
	Comp. frame	MP frame	Switchboard[2]			(litres)	(≈kg)
4/0-3	3,100	1,500 (250/420 L)	1,400 (bis 630 A) 1,800 (bis 800 A) 2,600 (bis 1.000 A)	1,300	2,300	250 420 2x 420	on request
5/0-4	3,700						
6/0-5	4,300	2,200 (2x420 L)					
7-10/0-6	on request						

Further configurations on request

[1] Dimensions may vary depending on the configuration
[2] Incl. frame parts
* Depending on the equipment, the weight can vary significantly



Scope of delivery

Installed as standard

- Trans- & subcritical compressors
- Capacity control for each lead compressor
- TECO2nditioner
- Muffler for pulsation damping in the total pressure line (LT)
- Active oil management
- Minimal level indicator
- Shut-off ball valve before and after HP & MP valve
- Suction filter in combination with shut-off ball valve in the suction line – each MT/LT
- Liquid set consisting of two shut-off ball valves, liquid filter, and sight glass
- Suction side insulation
- Second HP and MP valve
- Controlled post-injection
- Vibration-damping feet for optimal, low-vibration installation
- Safety valves for HP & MP and suction side (optional redundant)
- Safety devices according to DIN EN 378

Switchboard and control

- All switching devices necessary for fully automatic operation
- Ventilated switchboard
- Main switch
- Control transformers
- Independent power supply closes the HP and MP valves in case of a power failure
- Electrical components marked according to German standards
- Shared energy metering MT/LT (optional)
- Residual current device (optional)

Optional

- Maximum level indicator
- Gas cooler bypass
- Flash gas & suction gas heat exchanger (MT/LT)
- Active liquid subcooling
- Gascooler subcooler plate
- Additional suction pressure stage for (MT and/or LT)
- Liquid separator (60 bar, 70/150 litres)
- Standstill cooling (delivered separately, connections provided at the receiver)
- Active cooling for machine housing

– Capacity control

- Lead compressor MT: Frequency converter or mechanical power control
- Follow-up compressor MT: Mechanical power control (50/100)
- Lead compressor LT: Frequency converter

– Efficiency enhancer

- Parallel compressors (capacity-controlled)
- LSPM motor
- Gas-Ejektor (high-lift)

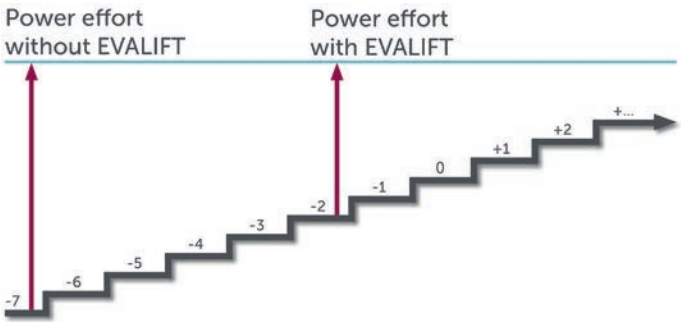
– Heat recovery

- COOL2HEATbasic including 3-way motorized valve and insulation of the discharge line, oil separator, and plate heat exchanger (domestic or heating water)
- COOL2HEATbasic as stand-alone (second water circuit)
- Pump for heat recovery
- Heat pump compressor / AC function

EVALIFT

The innovative solution EVALIFT effortlessly and cost-effectively enhances the efficiency of your refrigeration system for medium and low temprature applications. Thanks to our TEKO patent (since April 2019), we offer you a straightforward application where the required expertise is already available to the user.

Experience return on investment in less than 2 years and benefit from numerous additional advantages. In addition to the obvious efficiency increase, you enjoy higher system stability, greater operational safety, and an extended lifespan for your refrigeration system



Technology

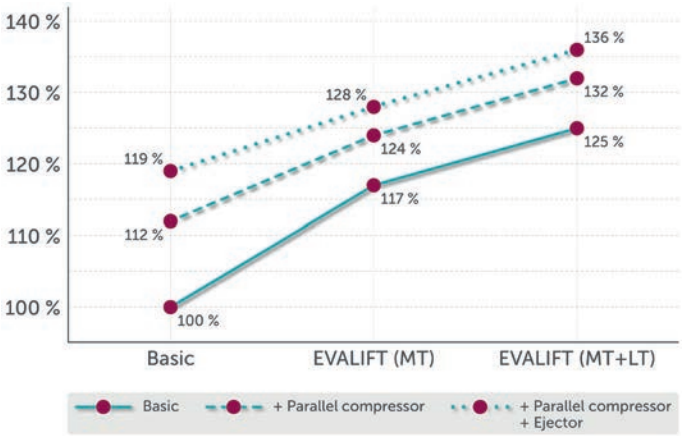
Functions

- Semi-flooded evaporators – higher evaporation temperatures
- All climate zones possible: sub-/transcritical, winter/summer & day/night
- Additional efficiency improvement of the low-temperature suction line
- No additional measures required in the oil system

Components

- TECO2nditioner for optimal suction gas conditioning in combination with EVALIFT
- In combination with an intelligent control system

Efficiency

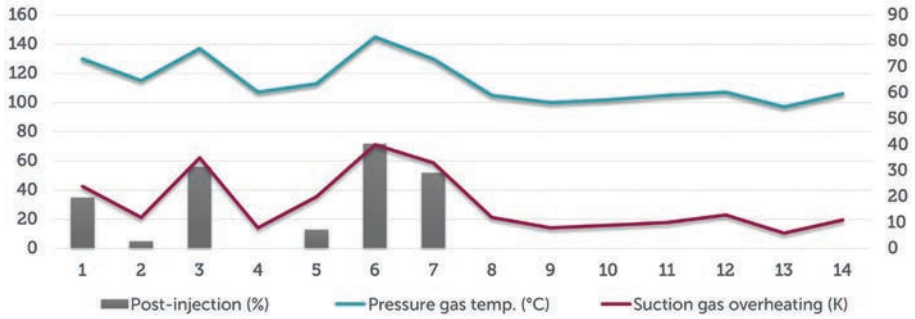


TECO$_2$nditioner

The patented heat exchanger TECO$_2$nditionier optimizes the suction and discharge temperatures of the low-stage compressors in transcritical CO_2 booster systems. By lowering and stabilizing the oil temperature, we achieve improved lubrication and an extended lifespan of the compressors.

The advantages at a glance:

- Improvement of system stability
- Increase in operational safety
- Extended lifespan for reciprocating compressors (MT)
- Replacement of the air-cooled superheater for high-pressure gas (LT)



Technology

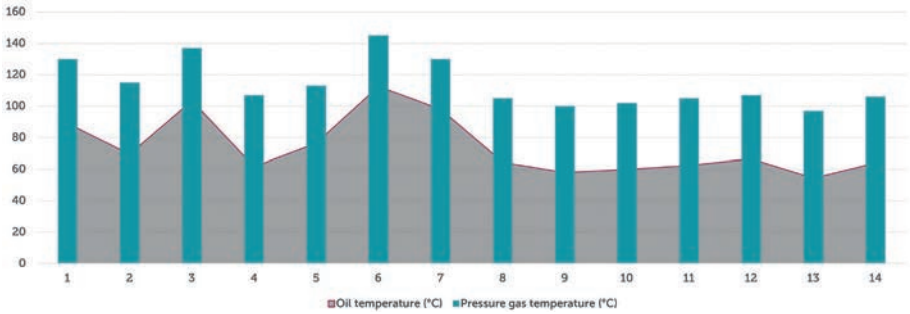
Functions

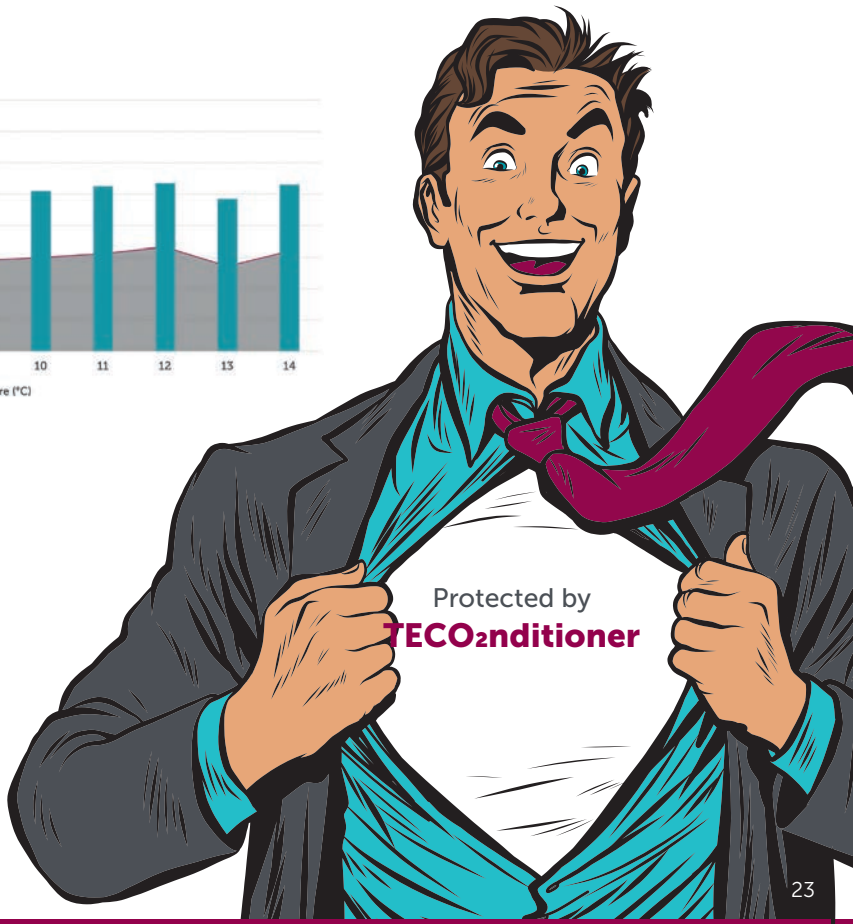
- Optimally conditioned suction gas at the inlet of the medium cooling compressor
- No additional control effort required

Components

- Specially developed heat exchanger
- In combination with an intelligent control system

Advantage





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Subject to change | Version E6 – 10/2024