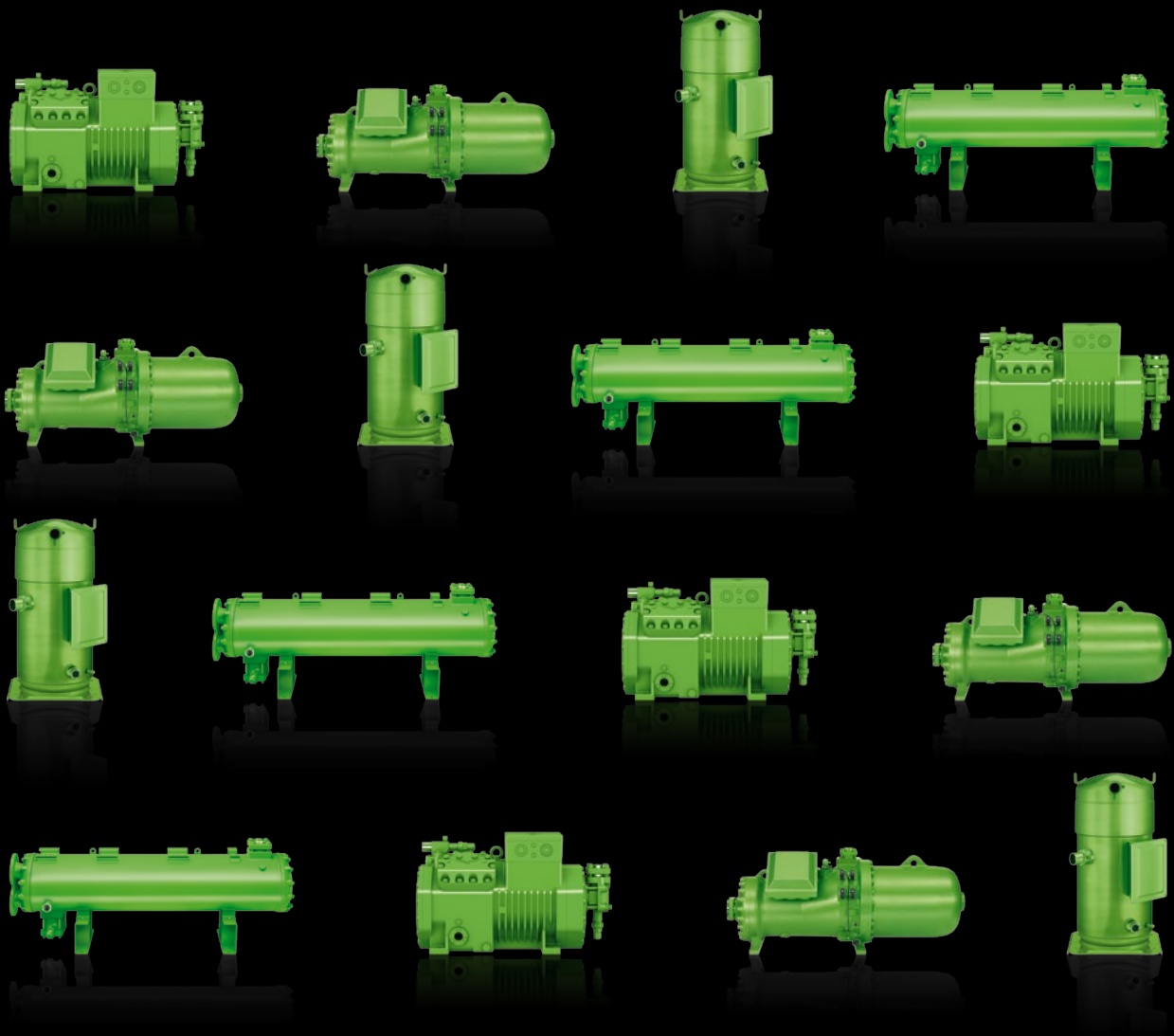




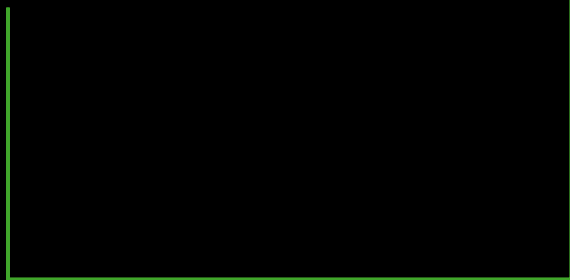
THE HEART OF FRESHNESS

PRODUCT RANGE





THE HEART OF FRESHNESS



PERFORMANCE

The compressor is the heart of every refrigeration or air conditioning system. It must beat reliably. Our company is founded on the principle that you can rely on your compressor performing to perfection, anywhere and at all times. The experience of our some 3,000 employees, the quality of our products, and our worldwide spectrum of services is your guarantee that with BITZER you have every refrigeration or air conditioning task securely in hand.

PASSION

Our heart beats for refrigeration and air conditioning systems. For the past 75 years, we have been developing and optimizing our technologies non-stop. As an innovation leader, BITZER pushes the entire industry forward, for example with intelligent compressors for more efficiency and system safety. And we give our all to continue writing success stories so that it's always safe to say: With BITZER compressors, you're setting a precedent for quality, reliability, and efficiency in all of your equipment.

CERTAINTY

Whether it is reciprocating, screw, or scroll compressors, whether hermetic, semi-hermetic, or open, BITZER has the widest spectrum of products and services in the industry worldwide. And as a result, the right solution for each of your individual needs. You can count on outstanding quality every step of the way due to a foundation of strict controls: we check every single compressor with extreme care and on the basis of up to 70 parameters. And you can be sure that with BITZER, every system is reliable over the long term.

OUR TECHNOLOGY IS OUTSTANDING. OUR SERVICE IS FIRST CLASS.

BITZER is a technology leader in compressors for refrigeration and air conditioning systems. Our compressors are energy-efficient, reliable, and always offer the optimal solution for both stationary and mobile applications. Just like our products, our services make your work as easy and stress-free as possible. We are there for you in person: Thanks to locations in over 90 countries, experienced BITZER experts are always close by. In addition, we offer product-specific seminars, workshops, and lectures at our own training facilities or directly on site. With BITZER, you also benefit from a wealth of detailed technical documentation. This is backed up by our software tools that support you in designing the compressor layout for your individual applications and in finding replacement parts. You can find all the information and tools online at www.bitzer.de.

CONTENTS

BRANCHES AND APPLICATION AREAS

// Page 06–07

RECIPROCATING COMPRESSORS

// Page 08–11



SCREW COMPRESSORS

// Page 12–15



SCROLL COMPRESSORS

// Page 16–17



PRESSURE VESSELS

// Page 18–19



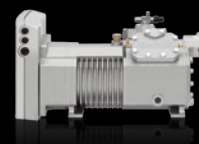
TRANSPORT APPLICATIONS

// Page 20–21



SPECIFIC CUSTOMER SOLUTIONS

// Page 22–23

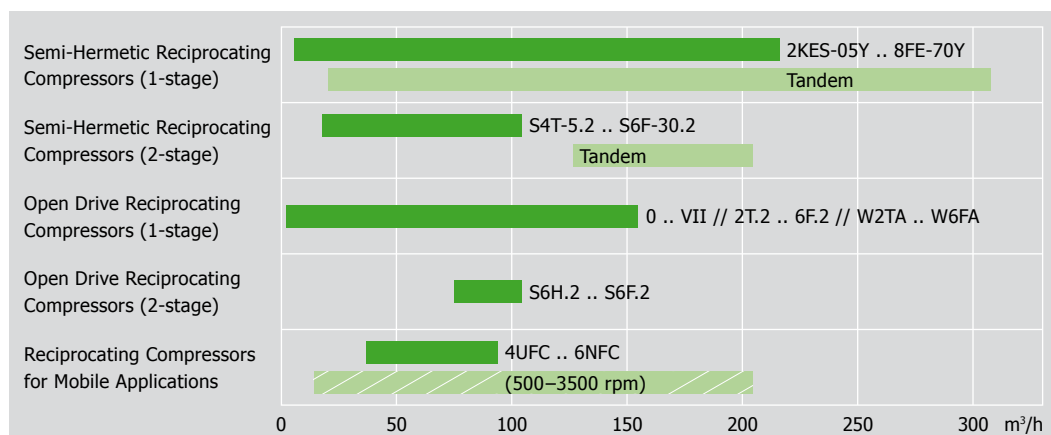


THE WIDE RANGE OF BITZER PRODUCTS. **WE ALWAYS HAVE THE RIGHT SOLUTION FOR YOU.**

BITZER is the only manufacturer that produces the three compressor technologies: reciprocating, screw, and scroll. For each, we uphold our claim of excellence in order to provide you with the best solutions possible for every application – from refrigeration and cooling to air conditioning, and even in heat pumps. We are able to implement these solutions with our wide range of products. Your system should be able to provide cooling for a single gas station, bakery, or entire supermarket? Then you're in the right place. For commercial or industrial refrigeration or mobile applications like in buses, rail vehicles, or ships, you can count on BITZER! With us, you will find the perfect compressor to meet your needs – as a single, tandem, or trio compressor, or as a complete condensing unit. To ensure problem-free and energy-efficient operation of your system.

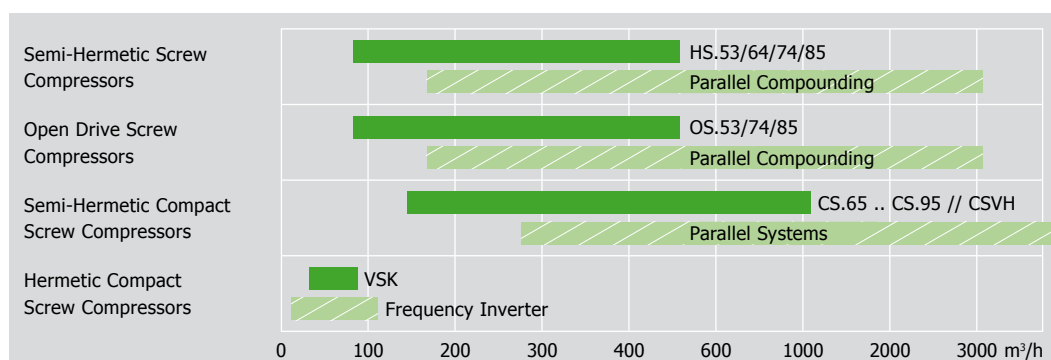
RECIPROCATING COMPRESSORS

Theoretical Displacement (Standard Series) at 50 Hz/1450 rpm



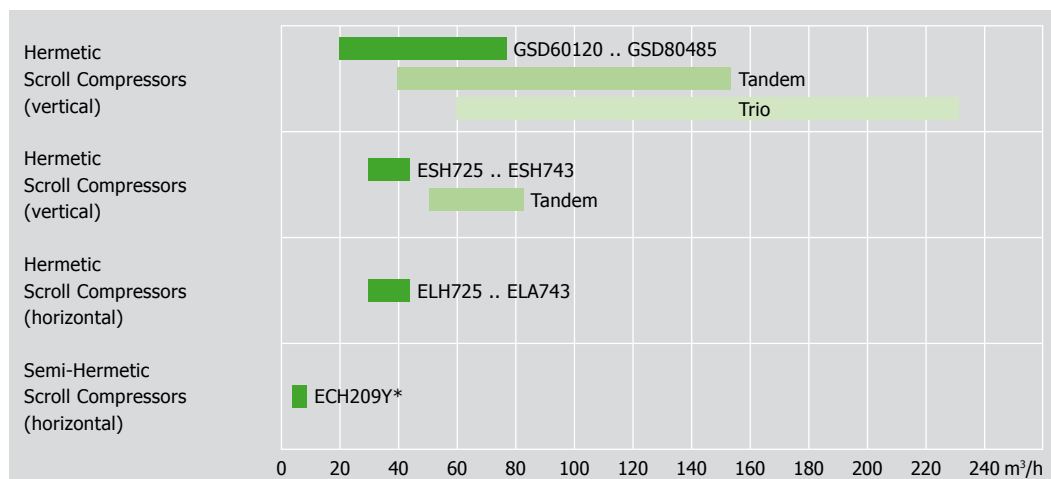
SCREW COMPRESSORS

Theoretical Displacement at 50 Hz/2900 rpm



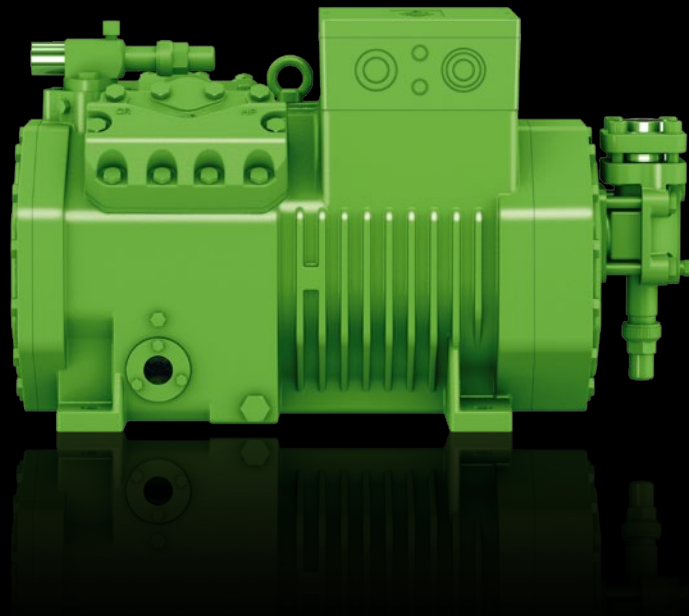
SCROLL COMPRESSORS

Theoretical Displacement (Standard Series) at 50 Hz/2900 rpm

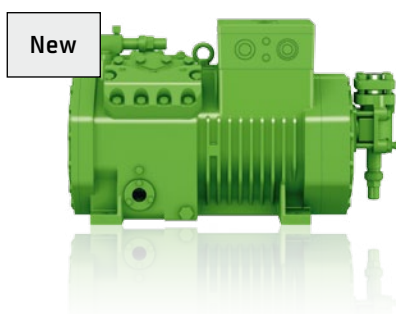


* At variable speed

THE CONTINUATION OF A SUCCESS STORY: **OUR RECIPROCATING COMPRESSORS.**



With our background of more than 75 years of experience in the manufacture of refrigerant compressors, we continue to develop reciprocating compressor technology further. We do this while paying close attention to current market and customer demands. Every year, more than 200,000 BITZER reciprocating compressors leave our factories around the world. All over the world, they testify to the meaning of the word "reliability."

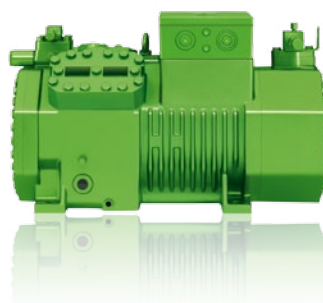


SEMI-HERMETIC CONSTRUCTION: NEW ECOLINE

The universal reciprocating compressor: The expanded NEW ECOLINE series joins the R134a and has now been optimized for numerous other refrigerants. The compressors are much more versatile.

The broad spectrum of applications includes cooling and refrigeration in commercial refrigeration. NEW ECOLINE compressors can also be used in industrial environments as well as in heat pumps, due to higher cooling performance, increased COP, and expanded functionality.

4.1 .. 221 m³/h at 50 Hz



SEMI-HERMETIC CONSTRUCTION: OCTAGON CO₂

Eco-friendly and efficient: The OCTAGON CO₂ compressor series offers future-oriented solutions for a variety of applications. As a compressor pioneer for this natural refrigerant, BITZER has worked for over ten years to optimize the products and model range, and make reliable compressors for subcritical as well as transcritical CO₂ applications available to you.

For supermarkets, this opens up the possibility of hybrid cooling and refrigeration systems when used in combination with the NEW ECOLINE series.

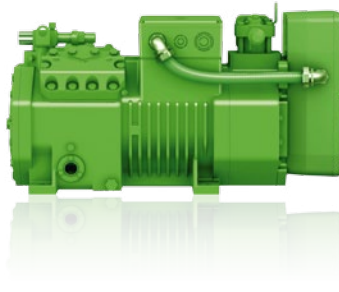
1.7 .. 46.9 m³/h at 50 Hz



SEMI-HERMETIC 2-STAGE CONSTRUCTION

Guaranteed reliability for extreme low-temperature cooling: These 2-stage compressors have proved themselves under the high demands of evaporation temperatures of down to -70°C. They are also highly flexible in application and can be used, for example, in environment simulation systems, freeze drying, and freezing systems. The liquid subcooler optionally available ex-works increases energy efficiency substantially along with refrigeration capacity.

19.7 .. 101 m³/h at 50 Hz



OPEN DRIVE CONSTRUCTION

The solution for fluctuating mains power quality: Our open compressors offer individual motor assignment and are therefore particularly service-friendly. The series is available, depending on size, with coupling housing or flywheel; if required, you can achieve a higher refrigeration capacity using larger pulleys.

There is also a series of models specially adapted for ammonia, and the 0 .. VII compressor series for smaller refrigeration capacities.

19.7 .. 151.6 m³/h at 1450 revolutions per minute

SEMI-HERMETIC CONSTRUCTIONS WITH FREQUENCY INVERTER

BITZER is heralding a new era of refrigeration with intelligent compressors. The reason? The pre-programmed integrated frequency inverter. So you can boost the "IQ" of your systems for the best results in reliability and efficiency.

Proof of this is the intelligent VARISPEED series for NEW ECOLINE and OCTAGON CO₂. The integrated frequency inverter ensures infinitely variable speed control to minimize your energy costs. The frequency inverter's integrated suction-gas cooling increases operational reliability and renders regular maintenance unnecessary.

8.1 .. 99.2 m³/h based on variable speed

CONDENSING UNITS: ECOSTAR

System intelligence: The ECOSTAR condensing unit is the most efficient solution for your cooling operations. The infinitely variable speed control of the integrated BITZER compressor with frequency inverter helps to minimize energy consumption significantly. The suction-gas cooled, parametric frequency inverter, the active monitoring of parameters and the integrated Ethernet cable guarantee the highest operational reliability and flexibility. Moreover, perfectly coordinated components reduce start-up time and operating costs.

8.1 .. 57.2 m³/h based on variable speed



CONDENSING UNITS: LE // LH UNITS

The sustainable solution for outdoors: With particularly low sound emissions thanks to a capsuled compressor section and low-sound fans, LE condensing units are impressive. Further benefits: easy installation through complete piping and wiring, and highly efficient NEW ECOLINE compressors and Micro-Channel condensers made of aluminum. In addition, the new LE condensing units already meet the efficiency criteria of the ErP Directive for 2017.

The advanced series: LH condensing units with large heat exchanger surfaces are suitable for use in all climate conditions. Special compressor-condenser combinations for high ambient temperatures and reduced noise emissions broaden the standard range.

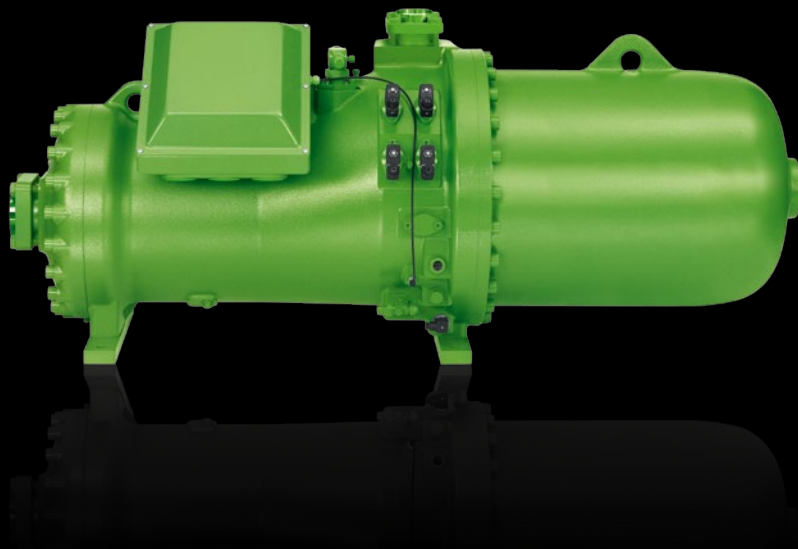
4.1 .. 110.5 m³/h at 50 Hz

REFRIGERANT TABLE

Refrigerant	Series, Design // Compressor Types	Displacement*
R134a // R407-Group // R404A // R507A	NEW ECOLINE 2KES-05Y .. 8FE-70Y	4.1 .. 221.0 m³/h
R410A	NEW ECOLINE R410A 4FDC-5Y .. 4NDC-20Y	12.4 .. 46.9 m³/h
R744 (CO ₂)	OCTAGON CO ₂ SL series // subcritical applications 2MSL-07K .. 4NSL-30K	1.7 .. 46.9 m³/h
R744 (CO ₂)	OCTAGON CO ₂ TC series // transcritical applications 4MTC-7K .. 4CTC-30K	6.5 .. 25.6 m³/h
R717 (R723)	Open compressors NH ₃ W2TA .. W6FA(L)	19.7 .. 151.6 m³/h
R290 // R1270	NEW ECOLINE R290 2KESP-05P .. 8FEP-60P	4.1 .. 221.0 m³/h

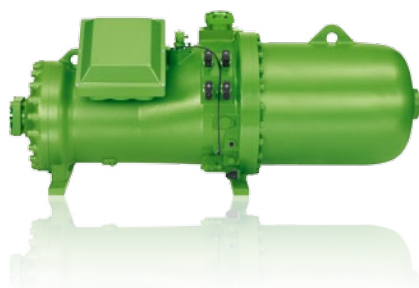
* With 1450 rpm // 50 Hz

LEADERS IN DESIGN AND EFFICIENCY: **OUR SCREW COMPRESSORS.**



BITZER is the largest independent manufacturer of screw compressors worldwide. With our innovative developments, we continue to set standards for this compressor technology. Our screw compressors impress with their versatility in application, energy-efficient operation, and long service life. Our many patents speak loud and clear: With BITZER you have every refrigeration, air conditioning, and heat pump application under control.

INTELLIGENT COMPRESSORS



SEMI-HERMETIC COMPACT CONSTRUCTION: CS

Improved energy efficiency: We have continued to develop our compact screw compressors of the CS.3 series. They feature an integrated oil separator and a 4-step or infinite capacity control. You can thus easily link these compressors into short circuits. Thanks to the economizer operation mode, you can significantly increase refrigeration capacity in both full and part-load operation.

Our CSW series screw compressors are specially optimized for R134a-based applications and low condensing temperatures. The CSH series, on the other hand, is particularly suited to applications with higher condensing temperatures and to use in heat pumps.

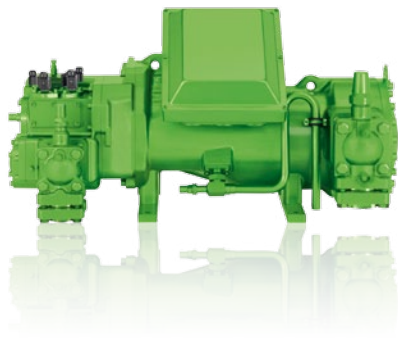
137 .. 1120 m³/h at 50 Hz



SEMI-HERMETIC COMPACT CONSTRUCTION WITH FREQUENCY INVERTER: CSV

The screw compressor that thinks with you: The CSV series of intelligent, networkable compact screw compressors boasts unrivalled full and part-load efficiency thanks to their ultra-modern technology. A huge time saver: All components are functionally pre-wired and tested. The fully integrated frequency inverter is chilled by refrigerant and guarantees the right temperature profile. Proactive monitoring of the operating range guarantees the utmost in operational reliability allowing you to take preemptive action.

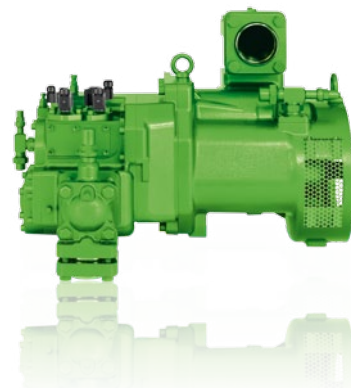
107 .. 725 m³/h based on variable speed



SEMI-HERMETIC CONSTRUCTION:
HS

Almost 30 years of success: Our renowned semi-hermetic screw compressors. The HS.85 series offers you an integrated slider for 3-step or infinite capacity control. This concept, featuring an external oil separator and optional oil cooler, makes parallel operation simple for larger applications in industrial and commercial settings. Even in part-load operation you can thus achieve good control of capacity and plant efficiency. Additionally, with economizer operation you can increase both refrigeration capacity and energy efficiency.

84 .. 535 m³/h at 50 Hz



OPEN DRIVE CONSTRUCTION:
OS

The solution for special applications: We have developed our open drive screw compressors for use with a flange-mounted motor. The compressors are flanged directly onto the motor by means of a coupling and coupling housing. The separation of the refrigerant circuit from the motor allows us to achieve a high level of flexibility and service friendliness. In addition, we offer versions of our open screw compressors for NH₃ and for explosion protection zones.

84 .. 535 m³/h at 2900 revolutions
per minute



ACCESSORIES: OIL SEPARATORS // OIL COOLERS

Highly reliable and comprehensive: BITZER offers primary, secondary, and combination oil separators in various sizes and also water and air cooled oil coolers. Our finely graded series are suited for use with single compressors and with compound systems. Additionally, we can provide you with special series for refrigeration systems using NH_3 or with flooded evaporators. BITZER oil separators are equipped with centrifugal and gravity separation, whereby minimal oil carry-over rates and a high separation rate under full and part-load operation are achieved.

Use for theoretical displacements of 160 to 2500 m^3/h // Oil charge from 18 to 250 dm^3

PERFECTION REVEALED IN A COMPACT FORM: **OUR SCROLL COMPRESSORS.**



BITZER is also extremely innovative in the field of scroll compressors. You can profit from our know-how and we guarantee you the highest levels of energy efficiency and reliability. Our scroll compressors are your best choice for small to medium-capacity stationary applications, for example in heat pumps and air conditioning systems.



HERMETIC SCROLL CONSTRUCTION:
ESH7

High in performance and efficiency: We have optimized the ESH7 series of compressors for small and medium-capacity air conditioning and heat pump applications. The special cooling process ensures that the spirals are at an equal temperature at all operating points. By this means, our compressors achieve the best efficiencies, high operational reliability, and low noise and vibration levels. These compressors are also available as parallel compounding in a tandem version.

25 .. 43 m³/h at 50 Hz
(single compressor)



HERMETIC SCROLL CONSTRUCTION:
ORBIT 6

Compact design with incredible performance: The ORBIT 6 series for R410A combines compact dimensions with a wide spectrum of applications. As a result, scroll compressors are setting new standards with the lowest noise levels in their class. In addition, ORBIT 6 offers the highest possible condensation temperature compared to competing products, making the compressor ideal for reversible heat pumps.

Whether single or parallel configuration, ORBIT 6 compressors are equipped to provide high energy efficiency at full and part-load conditions for air conditioning and heat pump applications. The result? Very high EER, ESEER/IPLV, and SCOP values and, therefore, low operating costs.

19.8 .. 37.6 m³/h at 50 Hz
(single compressor)



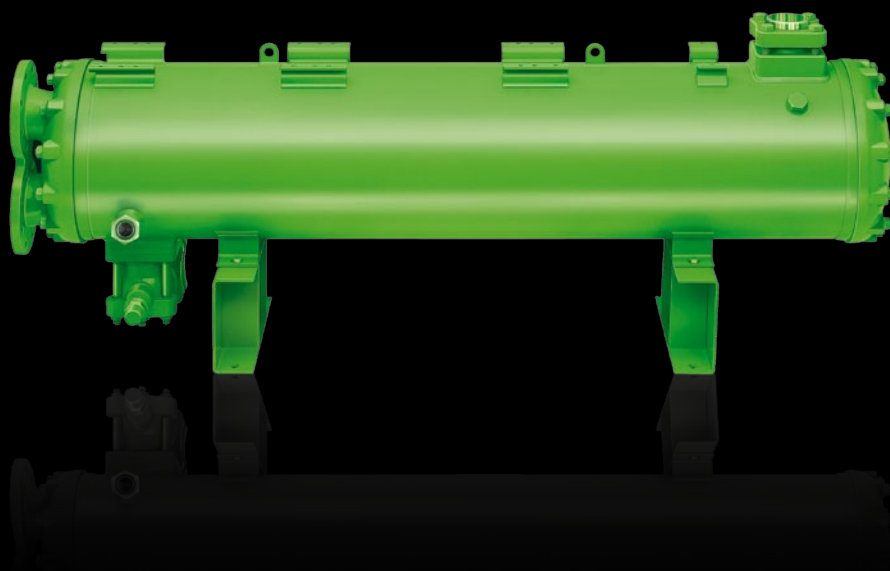
HERMETIC SCROLL CONSTRUCTION:
ORBIT 8

Just the way to meet all of your R410A application needs: Our standard ORBIT 8 series is optimized for use with high condensing temperatures. With the ORBIT 8 Boreal, we offer even more – a variant designed especially for low condensing temperatures.

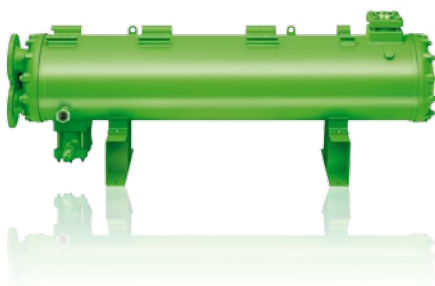
The ORBIT 8 series allows you to achieve maximum energy efficiency in every application. In addition, these compressors are extremely smooth, compact, and have a particularly low oil discharge rate. They are also available for parallel configuration in tandem and trio operations.

29 .. 77.2 m³/h at 50 Hz
(single compressor)

MAKING AN IMPRESSION IN QUALITY AND PERFORMANCE: **OUR PRESSURE VESSELS.**



As the market leader in refrigeration and air conditioning systems, we have guaranteed the outstanding quality and reliability of our pressure vessels for half a century. Whether it is stationary or mobile applications, and whether it is condensers, liquid receivers, oil separators, or oil coolers, each individual product is manufactured in BITZER's modern production facilities and then tested. Our pressure vessels comply with the European Pressure Equipment Directive 97/23/EC (PED) and the regulations of marine classification societies recognized worldwide.



SHELL AND TUBE CONDENSERS

Top performance technology: Thanks to the high-performance finned tubes, which are brazed in, we prevent leakages, while the “low fouling” structure of the ribbed pipes ensures low contamination. The compact construction and low water consumption of our shell and tube condensers guarantee particularly low operating costs and maximum reliability. Fixing rails or assembly panels allow you to add compressors or accessories. Additionally, our condensers are also available in a seawater-resistant version and in a propane version, or with a second refrigerant outlet.

Capacity 8 .. 913 kW



LIQUID RECEIVERS

Flexible and versatile: BITZER offers you a wide product spectrum of horizontal and vertical collectors and series with extra-large connections. Pressure vessels for both standard and natural (NH_3 , CO_2 Hydro Carbon) refrigerants are available. All our receivers naturally satisfy the requirements of the European Pressure Equipment Directive. For accessories, we provide you with electronic charge level monitoring and fixing rails for mounting the compressor.

Vessel volume 6.8 .. 550 dm³

DEPENDABLE COMPANIONS ON EVERY ROUTE: **OUR TRANSPORT COMPRESSORS.**



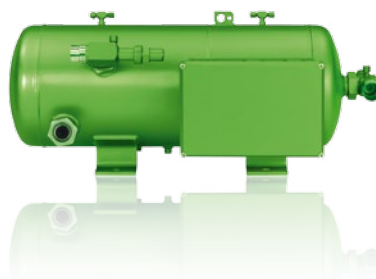
In the area of transport applications, you can depend on BITZER's decades of experience in air conditioning and refrigeration applications of all kinds. We guarantee you innovative and efficient solutions, and our compressors impress with their low weight, compact construction, quiet operation, and the famously dependable BITZER quality. You can find out more in our Transport Applications brochure (A-250-2).



OPEN DRIVE RECIPROCATING
COMPRESSORS:
BITZER ROADSTAR // F400

Benefits upon benefits: The BITZER compressors of the ROADSTAR series and the F400 for mobile applications are lightweight, compact, energy efficient and have a wide speed range. Thanks to the oil collector, the additional oil drain plugs, and the positioning of the oil sight glasses, these models are particularly service-friendly. With this innovative technology, we are setting the standard for bus air conditioning.

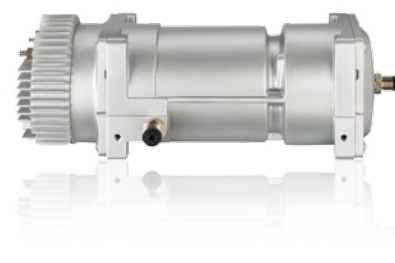
34.7 .. 84.4 m³/h at 1450 revolutions
per minute



HERMETIC SCREW COMPRESSORS:
VSK

Fits perfectly: The hermetic VSK compressors from BITZER are designed to perfectly meet the specific needs of mobile air conditioning, for example in trains or hybrid buses, making them highly efficient. With its horizontal construction, the compressor can be mounted without problems. A further advantage of our hermetic screw compressors is their wide control range with frequency inverter operation, which allows you infinite control over the cooling capacity.

46 .. 80 m³/h at 50 Hz



SEMI- AND FULL-HERMETIC
SCROLL COMPRESSORS:
ECH209Y // EL7

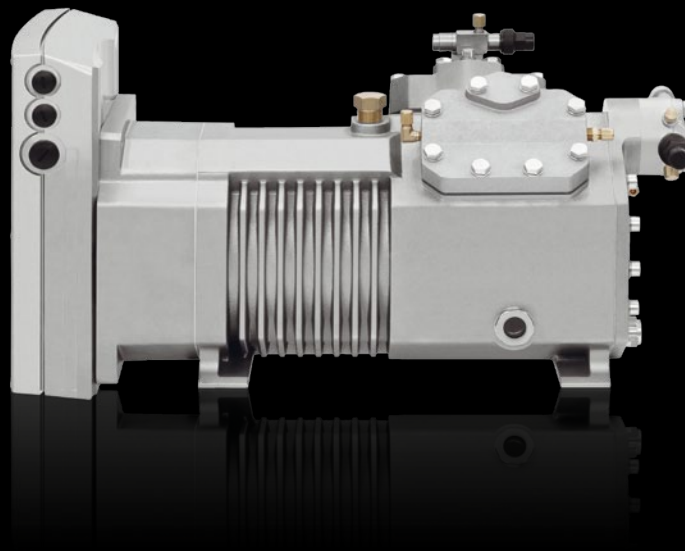
Real lightweights: With the ECH209Y, BITZER gives you a compressor with aluminum construction for mobile applications. These scroll compressors, equipped with a maintenance-free integrated EC motor, boast high system efficiency and speed, independent of the vehicle motor.

High performance and efficiency: Our EL7 horizontal hermetic scroll compressors are ideally suited to use in air conditioning in transport applications. Their advantages are low noise and vibration levels, reliable oil supply, and an exceptionally compact construction.

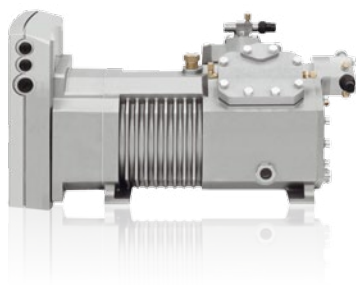
ECH209Y // 3.7 .. 8.6 m³/h with
variable speed

EL7 series // 25 .. 43 m³/h at 50 Hz

TAILORED TO MEET YOUR NEEDS: OUR SPECIFIC CUSTOMER SOLUTIONS.



Our promise: At BITZER, you will always find the right compressor for your needs. If you still need a more specific solution, then we will develop one for you and carry out extensive testing until it is market-ready. That's how you always find the compressor you're looking for – as promised – with the same high BITZER quality.



COMPRESSOR FOR CONTAINER COOLING: MAERSK CONTAINER INDUSTRY

Always at the perfect temperature: The StarCool container cooling system is the result of an extensive partnership between Maersk Container Industry and BITZER. It is designed for use in containers to control the temperature of perishable goods such as groceries. The heart of the system is an especially compact, lightweight, and vibration-free 2-stage aluminum compressor. Equipped with an integrated frequency inverter for outstanding efficiency and operational reliability. It's a concept that works: Within seven years, the StarCool system won market shares of roughly 30 percent. And we will continue with this success story to ensure perfect temperature control in containers worldwide.

COMPRESSORS FOR YOUR INDIVIDUAL SOLUTION

In addition to compressors designed for container cooling, BITZER has played a pivotal role – from start to finish – in a number of customer-specific product ideas. Excellent examples include our bus and train air conditioning solutions.

Do you also need a customized solution? We would be happy to help turn your idea into a reality. We look forward to your request: bitzer@bitzer.de

9.5 .. 41.8 m³/h with variable speed



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Subject to change // 09.2012