



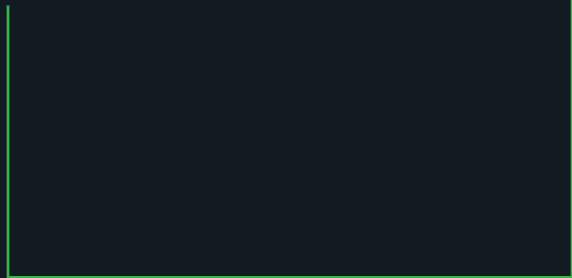
THE HEART OF FRESHNESS

# TRANSPORT APPLICATIONS





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 3,200 employees, the quality of our products and our worldwide service scheme 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. We have been developing and improving our technologies continuously since 1934. It is our aim to manufacture the most efficient and most environmentally friendly compressors in the world. You can profit from the competence of a market leader. With BITZER you obtain exactly the correct compressor for every application.

# SAFETY

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 business worldwide. You can thus count on exceptional reliability and efficiency. The superb quality of our products is a result of our strict monitoring. 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 in the long term.

# OUR CUSTOMERS ARE ON THE ROAD ALL OVER THE WORLD. **OUR COMPRESSORS GO WITH THEM.**

## MOBILITY

Be it on the road, on rails or on the high seas, you can depend on BITZER's decades of experience for all transport-related air conditioning and refrigeration applications. We provide you with the widest spectrum of services and applications in the industry, based on appropriate reciprocating, screw and scroll compressors. And all this in the famously reliable BITZER quality.

## A STEP AHEAD

BITZER leads in transport cooling. Our success is reflected in the dynamic growth of our company in recent years. Our efficient compressors are tailored precisely to the requirements of mobile applications. Especially in situations that call for low weight and small size, BITZER continues to set new standards and ensures the ideal temperature.

## SERVICE

BITZER stands not only for reliable quality but also for a unique level of support. With local service points on all five continents, you can be assured that our service team is always on hand. You can also reach BITZER's experienced specialists at any time at [transport@bitzer.de](mailto:transport@bitzer.de). Our comprehensive no-worry package also includes detailed technical documentation, software tools to help you select the correct compressor and find replacement parts as well as product training options worldwide.

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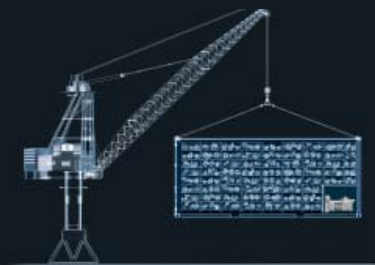
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## CONTAINER

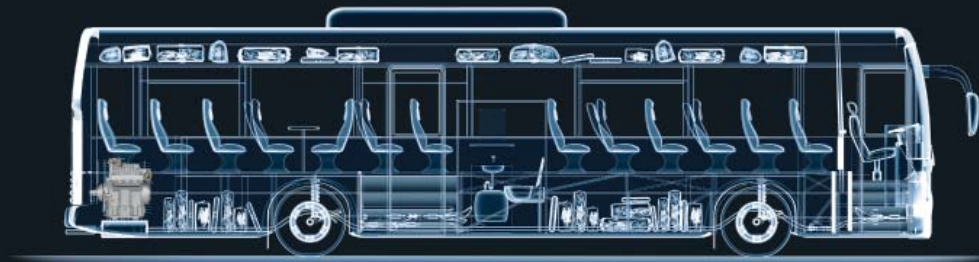
### COOLING

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BUS AIR CONDITIONING

FOR TRAVELLERS, IT'S ALL ABOUT  
THE DESTINATION. **FOR US, IT'S ALL  
ABOUT THE RIGHT TEMPERATURE.**



For passengers to enjoy bus and coach trips, the inside of the vehicle needs to be exactly at the right temperature. Leave this to BITZER. Our compressors offer maximum efficiency, light weight and reliability. And we have by far the widest range of reciprocating, screw and scroll compressors on the market. Furthermore, they are suitable for all types of buses, coaches, hybrid buses, midi- and trolley buses. So with BITZER, you keep the climate in your vehicle just right – whatever the temperature outside.



## OPEN DRIVE ALUMINUM RECIPROCATING COMPRESSORS // BITZER ROADSTAR

### 2-CYLINDER COMPRESSOR

The BITZER ROADSTAR 2TFC(Y)...2GFC(Y) expand the product portfolio towards smaller displacements. The slim 2-cylinder compressors are designed for air conditioning in medium and small size buses.

To find out more, see KP-545.

### 4-CYLINDER COMPRESSOR

The BITZER ROADSTAR 4UFC(Y)...4GFC(Y) compressors are designed for air conditioning in city buses and coaches. The 4GFC(Y) is a lightweight and compact alternative to 6 cylinder compressors and is especially suitable for hot environmental conditions as well as double-decker and articulated buses.

To find out more, see KP-545.

### 6-CYLINDER COMPRESSOR

The BITZER ROADSTAR 6UFC(Y)...6NFC(Y) compressors are designed for high capacity air conditioning in city buses, articulated buses and coaches as well as double-decker buses.

To find out more, see KP-545.

14.5 .. 21.6 CIR //  
882 .. 1313 CFH based on 1750 rpm

24.4 .. 45.4 CIR //  
1479 .. 2758 CFH based on 1750 rpm

36.6 .. 59.1 CIR //  
2221 .. 3597 CFH based on 1750 rpm



OPEN DRIVE ALUMINUM  
RECIPROCATING COMPRESSORS  
F400Y

Based on highly regarded BITZER technology for reciprocating compressors, the F400Y is very close to the ROADSTAR family. Developed especially for smaller Bus air conditioning systems and applications with more compact requirements, the F400Y brings you benefits compared to a 4 cylinder within the same capacity range. The F400Y is lighter, quieter and vibrates less. And as well as being remarkably compact, it boasts the high standards of reliability and quality you expect from BITZER.

To find out more, see KP-575.

24.4 CIR //  
1483 CFH based on 1750 rpm



SEMI-HERMETIC ALUMINUM  
SCROLL COMPRESSORS  
ECH209Y

The ECH209Y, BITZER's latest and most advanced semi-hermetic aluminum scroll compressor employs EC motor technology. So you will find it offers unmatched energy efficiency and runs incredibly quietly. Compact and light, the compressor also features stepless capacity control. This is achieved via speed adaptation which functions independently of the vehicle's engine. As a result, the ECH209Y is well suited for small compact Bus rooftop air conditioning systems and bus driver's cab units, which is used more and more in European countries with normal climate zones.

To find out more, see ESP-305.

131 .. 304 CFH based on variable speed





### HERMETIC SCROLL COMPRESSORS ELH // ELA

BITZER's hermetic scroll compressors are ideal for electrical bus applications like hybrid or trolley buses. Due to their horizontal design and the integrated suction gas cooled electrical motor, they are ideally suited for use in compact rooftop air conditioning units. High efficiency and smooth operation are achieved by the patented suction gas cooled spirals, which create a thermal equilibrium between the rotating and fixed spirals.

To find out more, see ESP-205.

7.5 .. 15 HP (nominal motor power) //  
1065 .. 1833 CFH based on 60 Hz operation



### HERMETIC SCREW COMPRESSORS VSK

Our hermetic VSK compressors are specially tailored to the exacting demands for air conditioning rooftop units in applications for electrical bus systems like hybrid or trolley buses. Key benefits include the compressors' low installation height – thanks to their horizontal design – and the large speed control range. Boasting the efficiency and reliability you expect from BITZER, these compressors are a unique technological breakthrough unmatched by competitors.

To find out more, see SP-300.

15 .. 25 HP (nominal motor power) //  
1960 .. 3410 CFH based on 60 Hz operation

RAILWAY AIR CONDITIONING

TRAIN PASSENGERS SHOULD FEEL LIKE  
THEY'RE AT HOME. **WE CREATE THE MOST  
COMFORTABLE ATMOSPHERE.**



Keeping trains at a pleasant temperature is crucial. After all, passengers want to have a comfortable journey and arrive at their destination rested. BITZER helps you ensure trains have exactly the right atmosphere. Our wide range of reciprocating, scroll and screw compressors guarantees unmatched efficiency and reliability. The products are suitable for high speed and long distance trains, commuter and subway trains, and even trams. BITZER compressors – for perfect air conditioning, whatever the season, wherever you are in the world.



### HERMETIC SCREW COMPRESSORS VSK

Our hermetic VSK compressors are specially tailored to the exacting demands for air conditioning Railway vehicles. Key benefits include the compressors' low installation height – thanks to their horizontal design – and the large speed-control range. Boasting the efficiency and reliability you expect from BITZER, these compressors are a unique technological breakthrough unmatched by competitors.

To find out more, see SP-300.

15 .. 25 HP (nominal motor power) //  
1960 .. 3470 CFH based on 60 Hz operation



HERMETIC  
SCROLL COMPRESSORS  
ESH // ELH // ELA

BITZER's ELH/ELA horizontal hermetic scroll compressors are ideal for applications in Railway systems due to their compact design, low height and integrated suction gas cooled electrical motor. High efficiency and smooth operation are achieved by the patented suction-gas cooled spirals, which create a thermal equilibrium between the rotating and fixed spirals.

The vertical version ESH is available for air conditioning units with sufficient height.

To find out more, see ESP-105 and ESP-205.

9 .. 15 HP (nominal motor power) //  
1065 .. 1833 CFH based on 60 Hz operation



SEMI-HERMETIC ALUMINUM  
SCROLL COMPRESSORS  
ECH209Y

The ECH209Y, BITZER's latest and most advanced semi-hermetic aluminum scroll compressor employs EC motor technology. So you will find it offers unmatched energy efficiency and runs incredibly quietly. Compact and light, the compressor also features stepless capacity control. This is achieved via speed adaptation which functions independently of the vehicle's engine. As a result, the ECH209Y is well suited for small compact Railway conditioning systems and driver's cab units.

To find out more, see ESP-305.

131 .. 304 CFH based on variable speed



### SEMI-HERMETIC RECIPROCATING COMPRESSORS ECOLINE

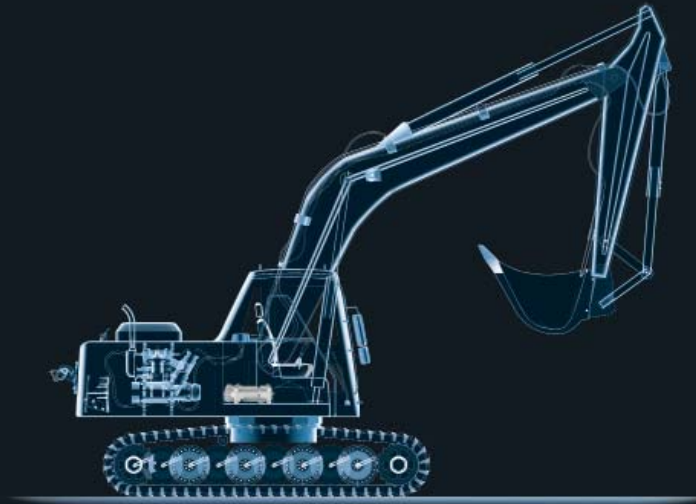
BITZER owes much of its success to the highly regarded ECOLINE series of reciprocating compressors. Remarkably compact and robust, these compressors are highly efficient and have very low levels of vibration and noise, making them ideal for Railway air conditioning. Special versions meet the defined requirements for Railway applications.

To find out more, see KP-109 (additional information about CO<sub>2</sub> versions on request).

0.5 .. 20 HP (nominal motor power) //  
175 .. 3606 CFH based on 60 Hz operation

DRIVER'S CAB AIR CONDITIONING

EFFECTIVE PROJECTS DEMAND  
EFFECTIVE VEHICLES. **WITH EVEN  
MORE EFFECTIVE COMPRESSORS.**



From cranes to all kinds of agricultural and construction machines: BITZER compressors keep driver's cabs perfectly air conditioned. You can trust our reliable, efficient scroll and reciprocating compressors to do the job. Due to their compact size, they leave plenty of room in the cabin. Take our word for it: BITZER compressors ensure you keep a cool head, no matter how heavy your workload.



### SEMI-HERMETIC ALUMINUM SCROLL COMPRESSORS ECH209Y

The ECH209Y, BITZER's latest and most advanced semi-hermetic aluminum scroll compressor employs EC motor technology. So you will find it offers unmatched energy efficiency and runs incredibly quietly. Compact and light, the compressor also features stepless capacity control. This is achieved via speed adaptation which functions independently of the vehicle's engine. As a result, the ECH209Y is well suited for compact driver's cab air conditioning units.

To find out more, see ESP-305.

131 .. 304 CFH based on variable speed



### SEMI-HERMETIC RECIPROCATING COMPRESSORS ECOLINE

BITZER owes much of its success to the highly-regarded ECOLINE series of reciprocating compressors. Remarkably compact and robust, these compressors are highly efficient and have very low levels of vibration, making them ideal for use in driver's cab air conditioning.

To find out more, see KP-109 (additional information about CO<sub>2</sub> versions on request).

0.5 .. 4.0 HP (nominal motor power) //  
175 .. 690 CFH based on 60 Hz operation

TRUCK & TRAILER REFRIGERATION

WHEN DELIVERING FRESH FOOD,  
EVERY MINUTE COUNTS. **AND EVERY  
DEGREE OF REFRIGERATION, TOO.**



If you are transporting perishable food and ingredients, you need a refrigeration system you can rely on. With BITZER, you are always on the safe side. Our reciprocating compressors for refrigerator and freezer trucks offer unmatched reliability and efficiency. They also help you minimize weight and save energy. And the best part? No matter how long your journey, no matter where the destination.



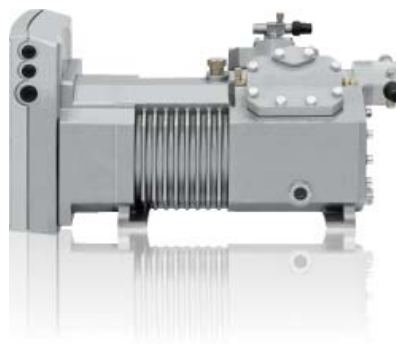


**OPEN DRIVE  
ALUMINUM COMPRESSORS  
BITZER ROADSTAR**

Developed for special requirements of vehicle application and to cope with the challenges of all climatic zones and mobile operating conditions. The BITZER ROADSTAR family consists of the extended series of the 2 cylinder and the optimized 4 (4UFR...4NFR) cylinder compressors. These aluminum compact compressors offer technical progress with convincing advantages and they are perfect for use in transport refrigeration systems.

To find out more, see KP-565.

14.5 .. 39.4 CIR //  
882 .. 2225 CFH based on 1750 rpm



**2-STAGE ALUMINUM  
RECIPROCATING COMPRESSORS  
S4BCF-5.2Y**

Based on BITZER's highly-regarded OCTAGON technology, this special 4-cylinder 2-stage aluminum compressor is a breakthrough in transport cooling. Compact, light and low on vibration, the compressor features an integrated refrigerant cooled inverter suited to a remarkably wide range of speeds. As a result, the compressor offers world-class efficiency and boasts extremely smooth running characteristics. This makes it excellently suited to all of your refrigeration applications in trucks and trailers.

To find out more, see KP-156.

335 .. 1476 CFH based on variable speed



**SEMI-HERMETIC  
RECIPROCATING COMPRESSORS  
ECOLINE**

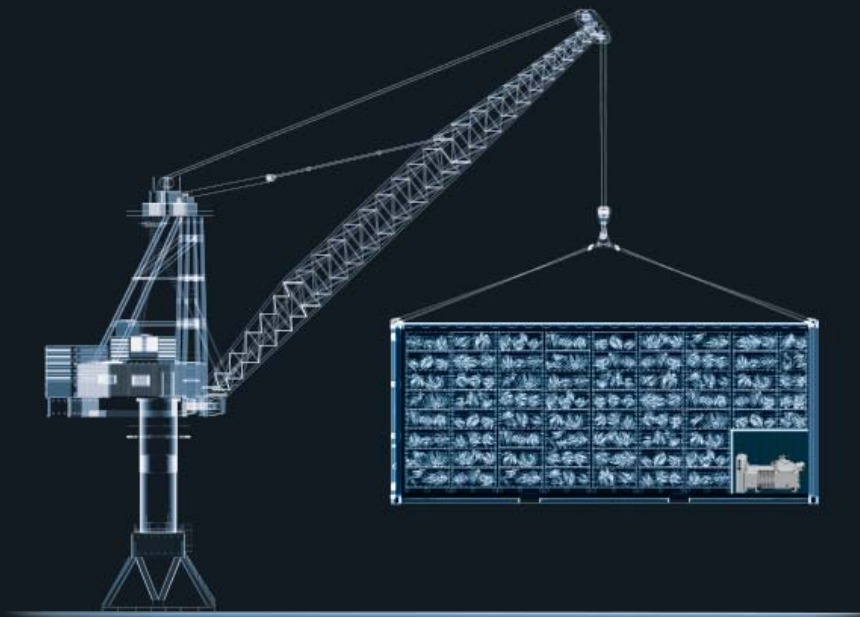
BITZER owes much of its success to the highly-regarded ECOLINE series of reciprocating compressors. Remarkably compact and robust, these compressors are highly efficient and have very low levels of vibration and noise, making them ideal for use in truck and trailer refrigeration. And of course, their design is compatible with all modern refrigerants.

To find out more, see KP-109.

3.0 .. 20 HP (nominal motor power) //  
771 .. 2395 CFH based on 60 Hz operation

CONTAINER COOLING

CONTAINERS TRAVEL THROUGH ALL KINDS OF CLIMATES. **UNLIKE THEIR CONTENTS.**



Whether crossing a continent or the ocean, by truck, train or ship: with BITZER compressors, your containers will always stay at the right temperature. Our aluminum reciprocating compressors are highly reliable and energy efficient. They take up a minimum amount of space and help you keep weight low. And thanks to the frequency inverter, they ensure unmatched flexibility when transporting chilled goods. So whatever you place in your container, it will stay at the right temperature until it reaches its destination.



### 2-STAGE ALUMINUM RECIPROCATING COMPRESSORS S4BCF-5.2Y

Based on BITZER's highly-regarded OCTAGON technology, this special 4-cylinder 2-stage aluminum compressor is a breakthrough in transport cooling. Compact, light and low on vibration, the compressor features an integrated refrigerant cooled inverter suited to a remarkably wide range of speeds. As a result, the compressor offers world-class energy efficiency and boasts extremely smooth running characteristics. This makes it excellently suited to requirements of container cooling applications around the world.

To find out more, see KP-156.

335 .. 1476 CFH based on variable speed



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