



DAS HERZ DER FRISCHE

AIR AND WATER COOLED

CONDENSING UNITS

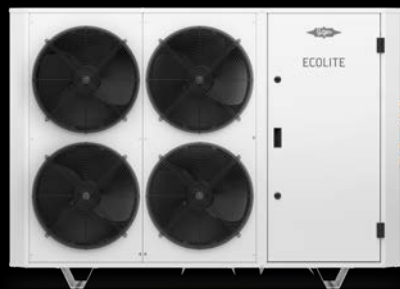
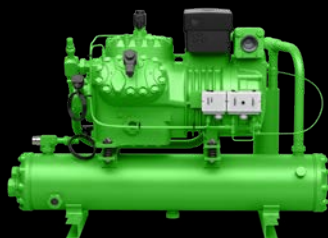
THE RIGHT CHOICE FOR YOUR APPLICATION

KP-261-3 EN



STANDARD RANGE

air and water cooled



ADVANCED RANGE

air cooled



PREMIUM RANGE

air cooled



COMMERCIAL REFRIGERATION



CONDENSING UNITS



RECIPROCATING COMPRESSORS

BITZER EXPERTISE AND INNOVATION



AIR CONDITIONING



HEAT PUMPS



REFRIGERATION



PROCESS COOLING



TRANSPORT

We are always striving for the highest possible energy efficiency and quality at BITZER. As an independent global leader in refrigeration, air conditioning and heat pump technology for comfort air conditioning, process technology and mobile applications, we use our extensive experience to provide innovative products and intelligent solutions which create additional value for our partners and the environment all over the world.



INNOVATION
DRIVER SINCE
1934

EMPLOYEES
> 4,300

SITES
75

COUNTRIES
37

Learn more at bitzer.de

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FOR EVERY CUSTOMER FOR EVERY REQUIREMENT

	APPLI- CATIONS	CAPACITY CONTROL	HOUSING	REF. CLASS	Q _o RANGE
PREMIUM ECOSTAR (air cooled)		✓ VARISPEED or VARIPACK FI 25–87 Hz	✓	A1	LT 1.2 up to 9.3 kW MT 2.6 up to 26.0 kW
ADVANCED ECOLITE (air cooled)		✓ VARISTEP CRII 10%–100% ✓ VARIPACK + CR 30–70 Hz + 50%/100%	✓	A1 + A2L	LT 1.3 up to 8.0 kW MT 3.2 up to 27.0 kW
STANDARD LHE (air cooled) LHE PRO (air cooled)		optional with VARISTEP CRII 10%–100%	optional	A1 + A2L A3	LT 0.4 up to 23.0 kW MT 0.8 up to 60.0 kW LT 0.7 up to 1.8 kW MT 1.7 up to 5.7 kW
STANDARD K SERIES (water cooled)		optional with VARISTEP CRII 10%–100%	–	A1 + A2L	LT 0.3 up to 28.0 kW MT 0.8 up to 89.0 kW

ECOSTAR

THE PREMIUM CHOICE

WHETHER SUPERMARKET OR PROCESS COOLING – THE ECOSTAR SERIES GUARANTEES THE HIGHEST EFFICIENCY WHILE ENSURING SAFE OPERATION AND CONTINUOUS ADAPTATION TO THE COOLING DEMAND.

- INTELLIGENT PRODUCTS**
- HFO BLEND READY**
- ECODESIGN CONFORM**
- BEST SOFTWARE**
- BITZER DIGITAL NETWORK**

EXTENSIVE UNIT PACKAGE

- // Low and medium temperature applications are fully covered
- // ECOSTAR controller via BEST SOFTWARE/ BEST App for easy configuration, diagnosis, analysis and communication
- // Highly efficient ECOLINE VARISPEED compressor or ECOLINE with VARIPACK
- // Highest fan efficiency due to EC fans controlled by ECOSTAR controller

AHEAD OF MARKET DEMANDS

ECOSTAR units are compliant with low GWP refrigerants of the A1 safety class as well as for common HFC and HFO blend refrigerants. Furthermore, the series fully complies with the EU Ecodesign Product Regulation 2015/1095. The unit is supplied fully tested from the factory, including factory-fitted equipment and extensive software functions.

»» THE PREMIUM SOLUTION FOR YOUR APPLICATION

The ECOSTAR air cooled condensing unit offers intelligent technology for efficient and safe operation at any time. It is the ideal solution for customers who are looking for a sustainable, robust and easy plug-and-play concept made of proven BITZER components. It is a perfect match for commercial refrigeration with different applications, such as cold storage, hotels and pharmaceutical processes.

RETAIL AND CONVENIENCE STORES



The ECOSTAR is ideal for systems with cold rooms and cabinets, even with multi-evaporators. The series adjusts safely and efficiently to cooling demands.

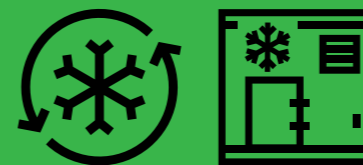
PHARMA/ LABS



The BITZER controller of the ECOSTAR series enhances close temperature control and safe operation of pharmaceutical processes and vaccine conservation.

SCALABLE PERFORMANCE ACCORDING TO YOUR NEEDS

PROCESS COOLING AND COLD STORAGE



Process cooling and cold storage rooms require different cooling capacities with a wide application range of the evaporating temperature. The ECOLINE VARISPEED compressor or ECOLINE with VARIPACK enables low and medium temperatures with a large frequency band (from 25 [30] up to 87 Hz).

HOTEL/ BISTRO



The ECOSTAR, an IQ product, combines the highest efficiency for low operating costs with individual user profiles – to provide guests with a warm welcome.

THE INTELLIGENT SOLUTION: ECOSTAR – FOR COMMERCIAL REFRIGERATION



READY TO USE

PLUG-AND-PLAY CONCEPT



FAST RETURN ON INVESTMENT/LOW LIFE CYCLE COSTS

ALWAYS PERFECTLY ADAPTING TO THE SYSTEM DEMAND



INSTALLATION FLEXIBILITY

SUITABLE FOR SYSTEMS WITH LONG PIPES



FAST COMMISSIONING

QUICK START-UP WITH FIVE PARAMETERS ONLY

The premium choice for commercial refrigeration – no matter if single or multi-evaporator installation. The BITZER ECOSTAR with frequency inverter guarantees precise refrigeration capacity adaptation. The fully equipped product allows convenient and easy on-site installation.



The ECOSTAR combines the latest technologies, such as highly efficient EC fans, comprehensive controller functions and optimised mini-channel condensers.

PLUG AND PLAY

The complete equipment permits quick and easy on-site set-up without complex installation of additional components. With easy access to all components, commissioning is also made easy and convenient.

CAPACITY CONTROL

The large band of frequency modulation from 25 (30) up to 87 Hz allows quick and precise adaptation of refrigeration capacity to the demand. This enhances the installation efficiency while ensuring precise temperature control.

PREMIUM BITZER CONTROLLER

The controller makes simple configuration, safe operation, quick analysis and easy communication possible. The unit can thus reach the highest level of efficiency combined with reliability and user-friendliness.

SUSTAINABLE

The ECOSTAR enables low refrigerant charges due to the optimised condenser and receiver design. It is also Ecodesign-compliant thanks to its ECOLINE semi-hermetic compressor with frequency inverter combined with EC fan(s).

ECOSTAR: THE PREMIUM AIR COOLED CONDENSING UNIT

COMPREHENSIVE STANDARD EQUIPMENT

- // BITZER inclined liquid receiver
- // Robust metal weather protection housing
- // Sight glass and filter drier
- // HP/LP cartridge pressure switches* and transmitters
- // Oil heater
- // Suction, discharge and ambient temperature sensors
- // Complete piping and wiring
- // Oil charge

BITZER CONTROLLER WITH DISPLAY AND PREWIRED SWITCHBOARD

- // Access to the most important parameters via controller
- // Full access to all parameters via Bluetooth and BEST SOFTWARE (via laptop or BEST App)
- // Modbus RS485

IQ INTELLIGENT PRODUCTS

B BITZER DIGITAL NETWORK

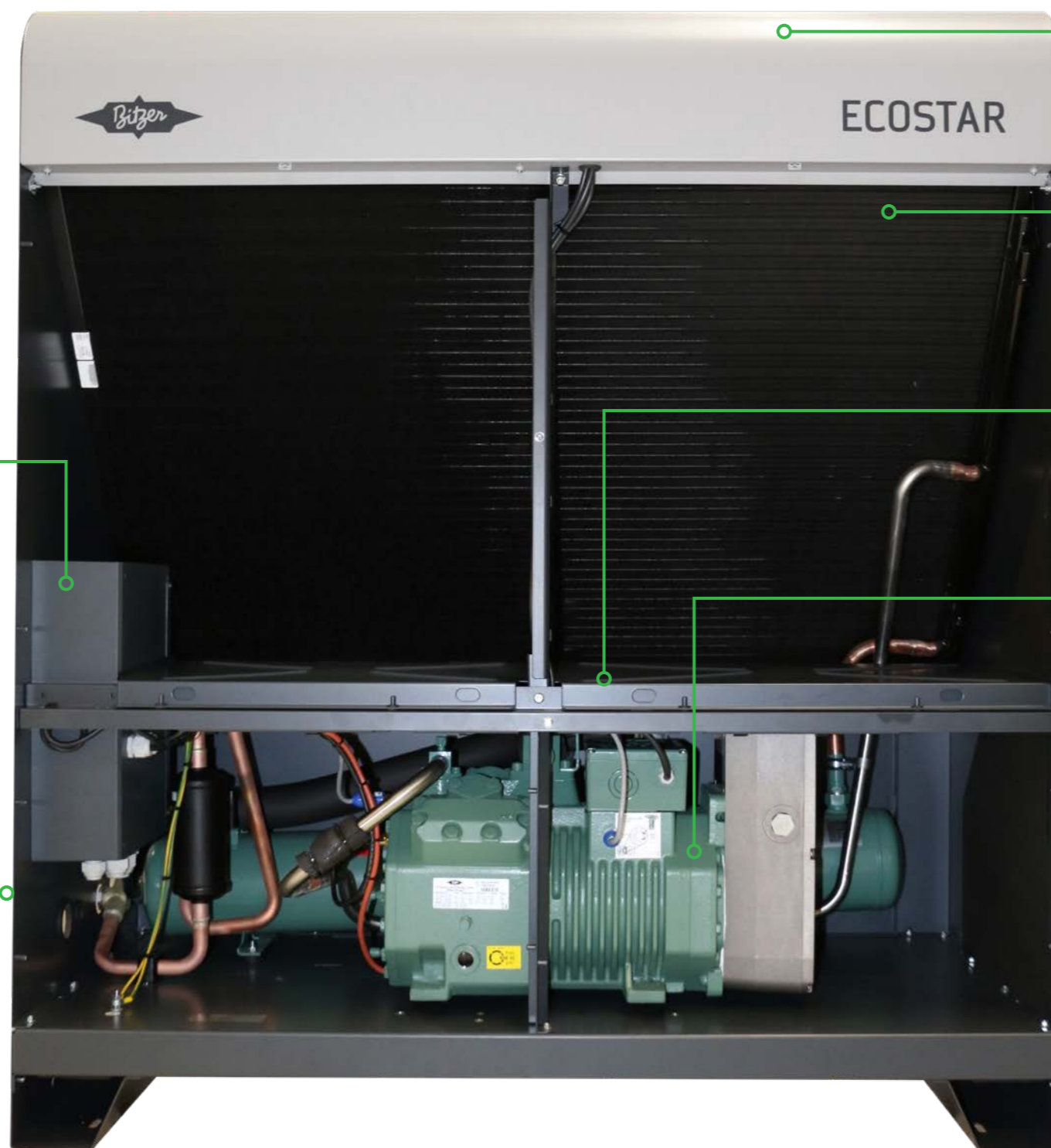
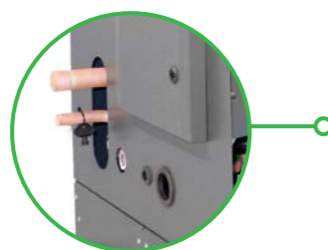


LIQUID LINE WITH FILTER DRIER AND SIGHT GLASS AND SUCTION GAS LINE

HFO BLEND HFO BLEND READY

B BEST SOFTWARE

E ECODESIGN CONFORM



SPEED-CONTROLLED EC FAN(S)

- // Low power consumption

SYSTEM-OPTIMISED CONDENSER

- // Mini-channel condenser with high heat transfer rate and low refrigerant charge
- // Optional: with improved corrosion protection

SOUNDPROOF AND ROBUST DESIGN

- // Optional sound insulation of compressor housing (mandatory RI system)
- // Reduces sound emissions up to 5 dB(A)

BITZER ECOLINE COMPRESSOR WITH EXTERNAL VARIPACK OR VARISPEED WITH INTEGRATED FREQUENCY INVERTER

- // Capacity control from 25 (30)–87 Hz
- // Low starting current
- // Precise cooling

F FREQUENCY INVERTERS

OPTIONAL EQUIPMENT

- // RI system for refrigerant injection for low temperature application
- // Oil separator with check valve
- // Check valve in liquid line
- // Cold room temperature sensor
- // OLC-K1 or Delta-PII

The product picture shows an almost fully equipped ECOSTAR Unit with ECOLINE VARISPEED compressor. For the standard extent of delivery and optionally available equipment, please see the following pages.

* Exception LHV7E/4NE-14.FY with adjustable high-pressure switch

BITZER CONTROLLER: FUNCTIONS

OPERATION MODES

- // Suction pressure control
- // Cold room temperature control

PUMP DOWN/OUT MODE AND PI-CONTROL MODE

OUTPUTS

- // Status of the Inputs unit
- // For example, second set point

COMPRESSOR OPERATION

For example, RI system, oil heater

LIMITER CONTROL AND APPLICATION LIMITS PROTECTION

For example, min. evaporating/ max. condensing temperature

EMERGENCY MODE

- // HP/LP or cold room sensor
- // Frequency inverter



COMMUNICATION

- // Bluetooth via BEST SOFTWARE (via laptop or BEST App)
- // Mini USB via BEST SOFTWARE/BEST App
- // Modbus RTU (RS485)

CAPACITY CONTROL

- // Frequency inverter
- // 25–87 Hz for four cylinders
- // 30–87 Hz for two cylinders

ALARM CODE VISUALISATION

- // On integrated display with alarm number, failure code and short text
- // Via BEST SOFTWARE
- // Via status lamps

FUNCTIONS

- // Winter start
- // EC fan(s) control
- // Oil return mode
- // Wet operation detection

EXTENT OF DELIVERY

ECOSTAR AIR COOLED CONDENSING UNITS WITH ECOLINE VARISPEED COMPRESSORS OR ECOLINE WITH VARIPACK		LHVE	
		LHV5E/..	LHV7E/..
Semi-hermetic reciprocating compressor	ECOLINE VARISPEED with integrated frequency inverter or ECOLINE with VARIPACK*	S	S
Oil heater	200 .. 260 V, PTC	S	S
Air cooled condenser	– mini channel design with 1 fan – EC motor, speed controlled	S	
	– mini channel design with two fans – EC motors, speed controlled		S
Weather protection housing		S	S
Liquid receiver	with shut-off valve	S	S
Connection for pressure relief valve	at receiver / condenser	S	S
Sight glass and filter drier	in liquid line	S	S
High and low pressure switch	– cartridge pressure switch (not adjustable)	S	S
	– LHV7E/4NE-14.FY: adjustable high pressure switch		
Temperature sensor	– for suction gas temperature	S	S
	– for discharge gas temperature		
	– for ambient temperature		
Pressure transmitters	for high and low pressure	S	S
Complete piping	– discharge line	S	S
	– liquid line		
	– suction line (insulated)		
ECOSTAR controller	control of compressor speed and further functions of condensing unit	S	S
Complete wiring	main switch, compressor contactor, etc.	S	S
Oil charge	BSE32 (ester oil) for HFC and HFC/HFO refrigerants tc < 70°C	S	S

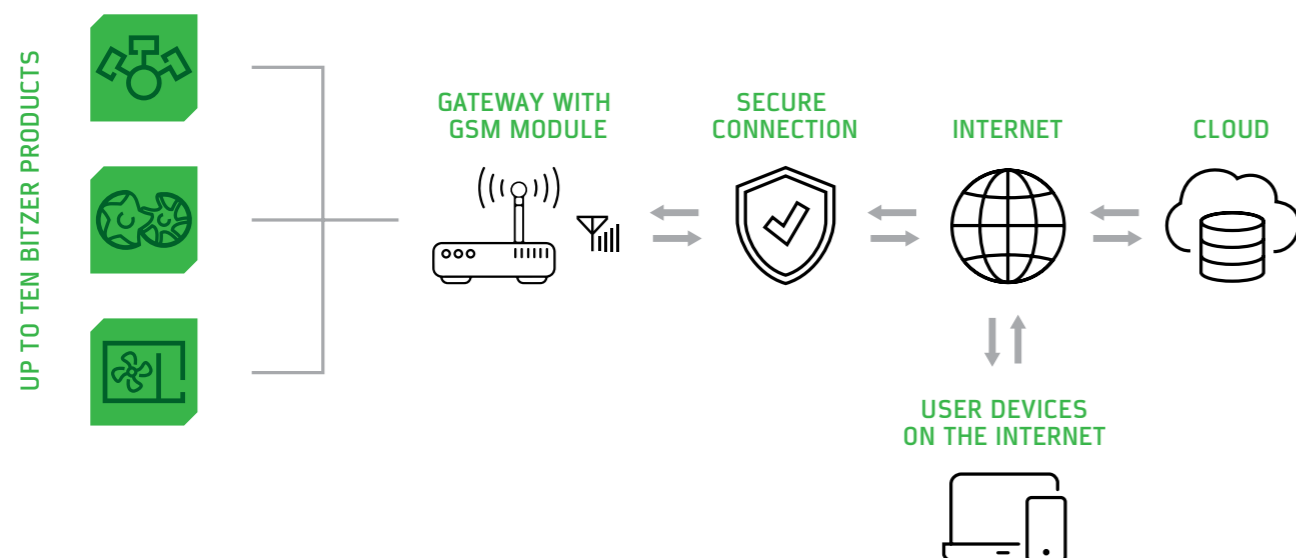
S = extent of delivery
(Subject to change without notice)

* With external frequency inverter BITZER VARIPACK

- LHV7E/4DE-7.FY
- LHV7E/4CE-9.FY
- LHV7E/4VE-7.FY
- LHV7E/4TE-9.FY
- LHV7E/4PE-12.FY
- LHV7E/4NE-14.FY

BITZER DIGITAL NETWORK: ALL-ROUND VIEW OF THE HEART OF REFRIGERATION AND A/C SYSTEMS

This provides you with important product- and application-related information on all the BITZER products, including, among others, data analyses and compressor operation reports.

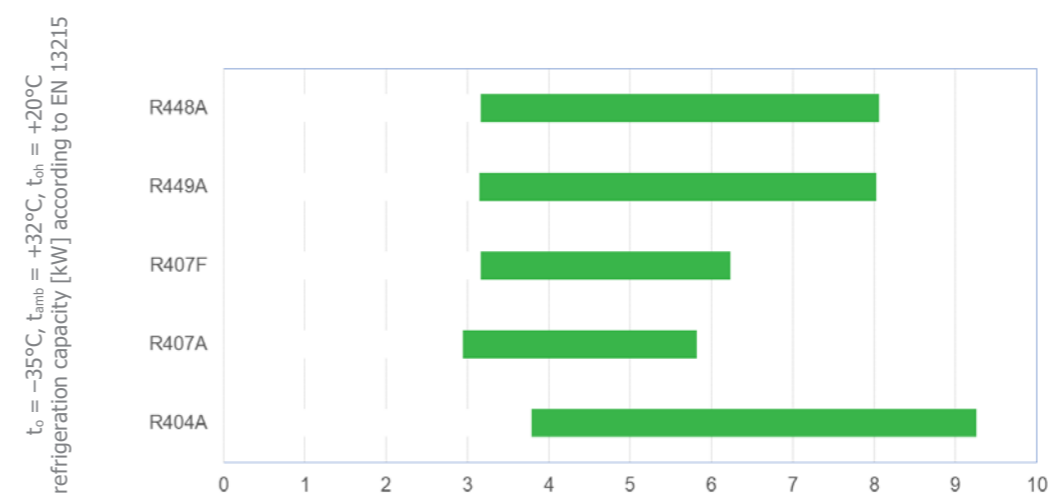
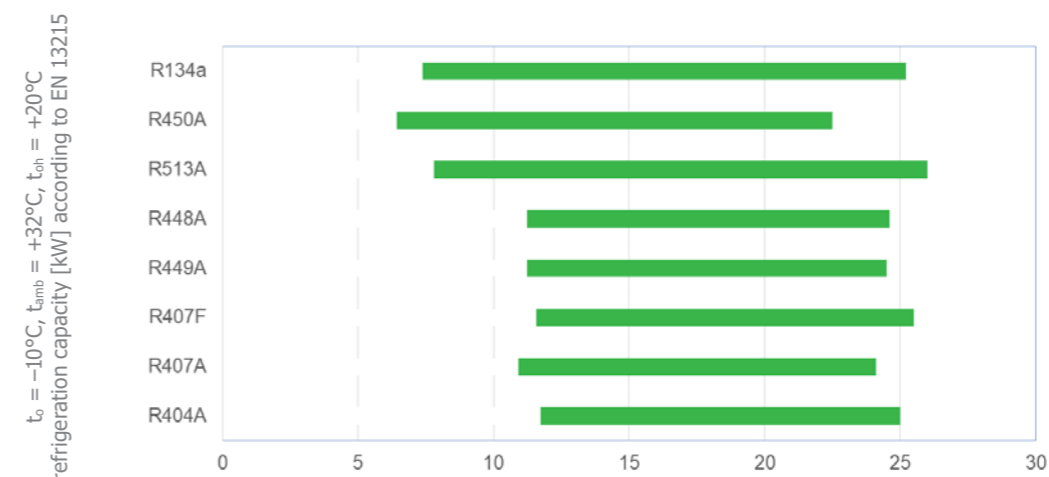


EXTRAORDINARY OPTIONAL EQUIPMENT TO FULFIL YOUR DEMANDS

ECOSTAR AIR COOLED CONDENSING UNITS WITH ECOLINE VARISPEED COMPRESSORS OR ECOLINE WITH VARIPACK		LHV5E/..	LHV7E/..
Warranty extension up to 5 years	For details, see price list	•	•
Temperature sensor	for cold store temperature	•	•
Check valve*	in liquid line – mounted	•	•
Oil separator*	with check valve in discharge line – mounted	•	•
RI system (refrigerant injection cooling)*	– mounted	•	•
Condenser improved corrosion protection*	plastic-coated fins or copper fins	•	•
Sound insulation for compressor housing*	RI system (refrigerant injection cooling) is mandatory	•	•
Oil charge	BSE55 (ester oil) for HFC and HFC/HFO refrigerants – at high condensing temperatures $t_c > 70^\circ\text{C}$	○	○
	B5.2: 'Y' in compressor designation omitted	○	○
Oil level monitoring OLC-K1 – opto-electronic	230 V-1-50/60 Hz mounted	• ¹	
Differential oil pressure switch Delta-PII	115 .. 230 V-1-50/60 Hz mounted	•	•
BITZER Digital Network		•	•

• = option available, ○ = option without extra charge
* = retrofitting not possible.
¹ = only for LHV5E/2DES-3.F1(Y).
(Subject to change without notice)

APPLICATION RANGE

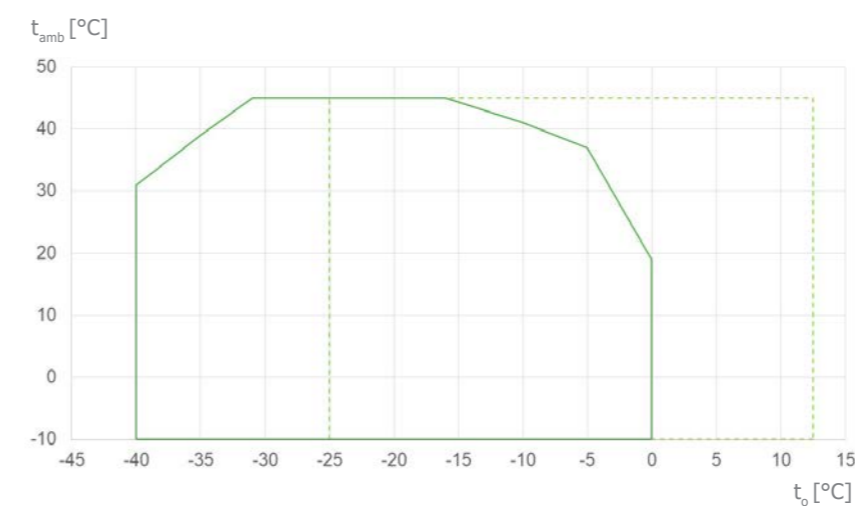


For further details, please refer to BITZER SOFTWARE

BITZER SOFTWARE



APPLICATION LIMITS



LHV7E/4FE-5.F1Y, 80Hz, R448A/R449A, $t_{\text{oh}} = +20^\circ\text{C}$
LHV7E/4CE-9.FY, 80 Hz, R134a/R513A, $t_{\text{oh}} = +20^\circ\text{C}$

t_o Evaporating temperature [$^\circ\text{C}$]
 t_{amb} Ambient temperature [$^\circ\text{C}$]
 t_{oh} Suction gas temperature [$^\circ\text{C}$]

ASERCOM-CERTIFIED PERFORMANCE DATA

The Association of European Refrigeration Component Manufacturers (ASERCOM) has implemented a procedure of certifying condensing units' performance data.

The high standard of this certification is assured by
 // plausibility checks of the data performed by experts
 // regular random tests at independent institutes

These efforts result in the fact that only a limited number of condensing units can be submitted. Due to this, not all BITZER products are certified yet.

Performance data of condensing units that meet the strict requirements carry the label 'ASERCOM-certified performance'. All certified condensing units and further information are listed on the ASERCOM website (www.ASERCOM.org).



In the BITZER SOFTWARE, the appropriate condensing units are marked with this label.

PERFORMANCE DATA

REFRIGERATION CAPACITY Q_o @ $t_{amb} +32^\circ\text{C}$

	MT. -10°C . midpoint					LT. -35°C . midpoint	
	R404A	R448A R449A	R513A	R450A	R134a	R404A	R448A R449A
LHV5E/2DES-3.F1Y	11.74	10.77	7.81	6.44	7.38	3.76	2.96
LHV5E/4FE-5.F1Y	14.89	14.14	9.81	8.13	9.28	5.27	4.17
LHV5E/4EE-6.F1Y	17.34	16.65	12.42	10.5	11.89	6.34	5.09
LHV7E/4FE-5.F1Y	16.13	15.01	10.09	8.31	9.51	5.38	4.26
LHV7E/4EE-6.F1Y	19.13	18.01	13.03	10.84	12.38	6.51	5.23
LHV7E/4DE-5.F1Y			14.81	12.37	14.09		
LHV7E/4CE-6.F1Y			17.68	14.94	16.92		
LHV7E/4DE-7.FY	21.5	19.92	14.81	12.36	14.08	7.71	5.85
LHV7E/4CE-9.FY	25	23.9	17.68	14.94	16.92	9.21	7.62
LHV7E/4VE-7.FY			18.25	15.44	17.44		
LHV7E/4TE-9.FY			21.2	18.12	20.4		
LHV7E/4PE-12.FY			23	19.75	22.1		
LHV7E/4NE-14.FY			26	22.5	25.2		

SEPR

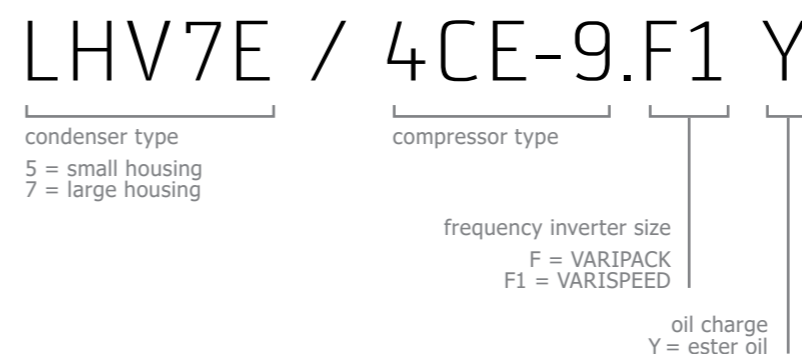
SEPR	MT. -10°C . midpoint					LT. -35°C . midpoint	
	R404A	R448A R449A	R513A	R450A	R134a	R404A	R448A R449A
LHV5E/2DES-3.F1Y	3.64	3.44	3.92	3.82	3.91	2.04	1.91
LHV5E/4FE-5.F1Y	3.4	3.27	3.56	3.52	3.54	1.84	1.77
LHV5E/4EE-6.F1Y	3.3	3.2	3.5	3.44	3.48	1.84	1.77
LHV7E/4FE-5.F1Y	3.58	3.29	3.81	3.68	3.77	1.91	1.82
LHV7E/4EE-6.F1Y	3.39	3.25	3.76	3.74	3.78	1.95	1.85
LHV7E/4DE-5.F1Y			3.64	3.66	3.65		
LHV7E/4CE-6.F1Y			3.44	3.47	3.45		
LHV7E/4DE-7.FY	3.32	3.23	3.6	3.59	3.61	1.95	1.83
LHV7E/4CE-9.FY	3.2	3.13	3.44	3.47	3.45	1.94	1.79
LHV7E/4VE-7.FY			3.41	3.36	3.41		
LHV7E/4TE-9.FY			3.37	3.29	3.35		
LHV7E/4PE-12.FY			3.39	3.29	3.36		
LHV7E/4NE-14.FY			3.32	3.27	3.3		

Tentative data

BITZER CONDENSING UNITS COMPLYING WITH THE EU ECODESIGN REGULATION 2015/1095

According to MEPS Tier-2, for more details please see BITZER brochure A-530-1	COP	SEPR
MT ($t_o -10^\circ\text{C}$) – refrigeration capacity	0.2 .. ≤ 5 kW	5 .. 50 kW
LT ($t_o -35^\circ\text{C}$) – refrigeration capacity	0.1 .. ≤ 2 kW	2 .. 20 kW

EXPLANATION OF TYPE DESIGNATION



TECHNICAL DATA

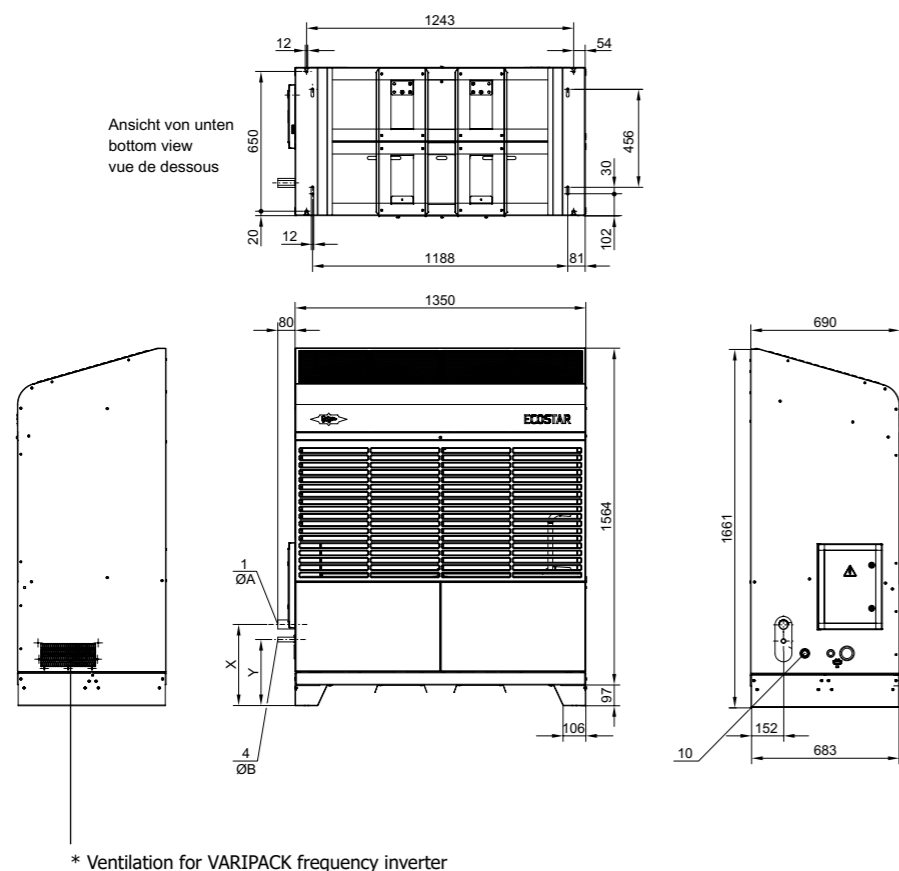
Type	Weight in kg (standard extent of delivery)	Max. fan power in W	Max. condenser air flow in m^3/h	Receiver volume in dm^3	Max. operating current in A	Sound pressure level*
LHV5E/2DES-3.F1Y	295	1x350	5200	21	16	41.5
LHV5E/4FE-5.F1Y	312	1x350	5200	21	21	42.5
LHV5E/4EE-6.F1Y	312	1x350	5200	21	23	43
LHV7E/4FE-5.F1Y	330	2x350	10400	21	22	43
LHV7E/4EE-6.F1Y	330	2x350	10400	21	24	43.5
LHV7E/4DE-5.F1Y	330	2x350	10400	21	24	47
LHV7E/4CE-6.F1Y	330	2x350	10400	21	24	47.5
LHV7E/4DE-7.FY	330	2x350	10400	21	30	47
LHV7E/4CE-9.FY	330	2x350	10400	21	36	47.5
LHV7E/4VE-7.FY	390	2x350	10400	21	25	47.5
LHV7E/4TE-9.FY	390	2x350	10400	21	28	48
LHV7E/4PE-12.FY	390	2x350	10400	21	32	48.5
LHV7E/4NE-14.FY	390	2x350	10400	21	36	49.5

* in dB(A) at $t_o -10^\circ\text{C}/t_{amb} +32^\circ\text{C}$ 80 Hz at 10 m distance (Subject to change without notice)

Tentative data

DIMENSIONS

LHV5E/LHV7E



Connection positions

- 1 = Suction gas line
- 4 = Refrigerant outlet
- 10 = Sight glass

Type	Ø A		Ø B		X	Y
	mm	in.	mm	in.		
LHV5E/2DES-3.F1Y	22	7/8	16	5/8	372	310
LHV5E/4FE-5.F1Y	28	1 1/8	16	5/8	375	310
LHV5E/4EE-6.F1Y	28	1 1/8	16	5/8	375	310
LHV7E/4FE-5.F1Y	28	1 1/8	16	5/8	375	310
LHV7E/4EE-6.F1Y	28	1 1/8	16	5/8	375	310
LHV7E/4DE-5.F1Y	35	1 3/8	22	7/8	383	308
LHV7E/4CE-6F.1Y	35	1 3/8	22	7/8	383	308
LHV7E/4DE-7.FY*	35	1 3/8	22	7/8	383	308
LHV7E/4CE-9.FY*	35	1 3/8	22	7/8	383	308
LHV7E/4VE-7.FY*	42	1 5/8	22	7/8	383	308
LHV7E/4TE-9.FY*	42	1 5/8	22	7/8	383	308
LHV7E/4PE-12.FY*	42	1 5/8	22	7/8	383	308
LHV7E/4NE-14.FY*	42	1 5/8	22	7/8	383	308

Tentative data

ACCESSORIES



OIL SEPARATOR WITH CHECK VALVE KEEPS THE COMPRESSOR LUBRICATED

The right oil supply to the compressor at any time with the optional oil separator with check valve in the discharge line.

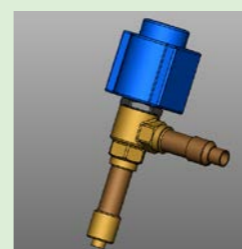
- // Optional accessory (no retrofit possible)
- // Available for whole ECOSTAR series



CONDENSER WITH PLASTIC-COATED/COPPER FINNS FOR IMPROVED CORROSION PROTECTION

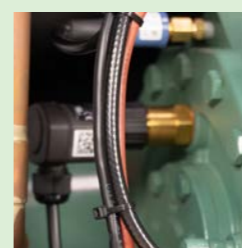
For safe installation worldwide even in a challenging environments.

- // Optional accessory



RI SYSTEM FOR LOW TEMPERATURE APPLICATIONS

- // Optional accessory
- // Refrigerant injection with solenoid valve
- // Required for optional sound insulation



OIL LEVEL MONITORING/ DIFFERENTIAL OIL PRESSURE SWITCH FOR SAFE ECOSTAR OPERATION

- // Optional accessory
- // OLC-K1 for LHV5E/2DES-3.F1(Y)
- // Delta-PII for LHV5E/LHV7E

Images are for illustration purposes only

ECOLITE

ALWAYS THE RIGHT CHOICE

WHETHER FOR PETROL STATIONS OR CORNER SHOPS – THE BITZER ECOLITE GUARANTEES EASY HANDLING AND TIME-SAVING INSTALLATION.

- HFO
- ECODESIGN CONFORM
- BEST SOFTWARE
- CONDENSING UNITS

VERSATILE APPLICATION POSSIBILITIES

- // Low and medium temperature applications are fully covered
- // Perfect adaptability to the system demand with VARISTEP as standard
- // For even larger refrigeration capacity, a combination of VARIPACK and CR as standard is the solution
- // Use in urban areas is easily possible thanks to the low sound level
- // Designed for all climate zones even in rural areas: even at high ambient temperatures up to 55°C, the cooling temperature remains constant
- // Heat recovery can be used to achieve the highest system efficiency

FLEXIBILITY

The extensive standard equipment and the multitude of functions leave nothing to be desired. The units are ready for all common HFC refrigerants, including HFO blends and HFOs, meaning they are future-proof. They come with CE marking according to PED 2014/68/EU (Pressure Equipment Directive) and they fully comply with the EU Ecodesign Product Regulation 2015/1095.

THE RIGHT SOLUTION FOR YOUR APPLICATION

The advanced ECOLITE air cooled condensing unit for commercial refrigeration fits perfectly with the well-proven standard and premium series from BITZER. It is the ideal solution for demanding customers who are looking for a sustainable, future-proof and easy-to-install plug-and-play concept product made of approved BITZER components. It is a perfect match for different applications, such as petrol stations, corner shops, service stations, fast food restaurants and many more.

PETROL STATION



A perfect match: ECOLITE and petrol stations worldwide. Always connected with your unit and up to date thanks to the BITZER Digital Network.

PHARMA/LABS



With ECOLITE, certain temperature levels can be maintained precisely and constantly. In industry, this reliability, quality and precision is a must-have.

HORECA



The ECOLITE is the right choice for long pipe runs and varying cooling loads thanks to the oil return mode and integrated VARISTEP capacity regulation.

SCALABLE PERFORMANCE ACCORDING TO YOUR NEEDS

CONVENIENCE STORE



Sustainability is our demand. With the integrated floating condensing pressure and possible heat recovery, we reach an outstanding level of efficiency and a low carbon footprint.

COLD STORAGE



Even challenging applications are no problem for the ECOLITE. We combine LT and MT within one unit to reach the highest flexibility for your demands.

ALL-IN-ONE PACKAGE: PROVEN BITZER COMPONENTS



REDUCED LIFE CYCLE COSTS

HIGHEST EFFICIENCY IN CLASS



CONVENIENT COMMISSIONING, OPERATION AND MONITORING

READY TO USE



HIGHEST FLEXIBILITY

MULTIPLE REFRIGERANTS APPROVED FOR LT AND MT APPLICATIONS



SUITABLE FOR ALL AREAS

LOW SOUND



Highly efficient BITZER ECOLINE compressors with VARISTEP mechanical capacity control or with VARIPACK external frequency inverter combined with system-optimised condensers and speed-controlled fans make all eleven types suitable for low and medium temperature applications as standard.



Due to its versatility and future-proof design, this new series is a state-of-the-art and affordable line of condensing units featuring the latest BITZER technology.

EASY-TO-USE CONCEPT

Comprehensive standard equipment, easy access to all components and the plug-and-play concept offer convenient commissioning and integration into the system. The smart and user-friendly BITZER controller allows you to constantly monitor the parameters and change settings. Thanks to the BEST SOFTWARE and/or BITZER Digital Network, everything is under control – everywhere and any time.

RELIABLE BITZER COMPONENTS

The proven semi-hermetic ECOLINE reciprocating compressor is the heart of our ECOLITE. The solid and robust design combined with proven BITZER components and versatile software functions offer a high degree of reliability.

SUSTAINABLE

Thanks to the large maintenance door, all components are accessible and maintenance is made easy. In addition, the semi-hermetic design of the ECOLINE compressor makes repair possible, which increases the sustainability of the ECOLITE condensing unit by prolonging the operating lifetime. The option of heat recovery connections is an additional plus for a small carbon footprint.

ADAPTABILITY – CAPACITY CONTROL

The standard mechanical capacity control also in combination with a frequency inverter enables you to match the provided refrigeration capacity to the actual cooling demand. It prevents high switching frequency of the compressor, thereby ensuring more efficient operation of the system, which results in lower operation costs. The ECOLITE adapts automatically to system demands 365 days a year.

ECOLITE: THE ADVANCED AIR COOLED CONDENSING UNIT

COMPREHENSIVE STANDARD EQUIPMENT

- // BITZER liquid receiver with PRV connection
- // Sight glass + filter dryer + ball valve
- // HP/LP cartridge pressure switches and transmitters
- // Oil heater
- // Suction, discharge and ambient temperature sensors
- // Sound insulation

SPEED-CONTROLLED AC FANS

- // Floating condensing pressure for the highest efficiency
- // LHL3E: one fan, LHL5E: two fans, LHL7E/LHL7EF: four fans

ADDITIONAL SERVICE ACCESS POINT FOR LHL7E(F)

SYSTEM-OPTIMISED CONDENSER

- // Mini-channel condenser with high heat transfer rate and low refrigerant charge

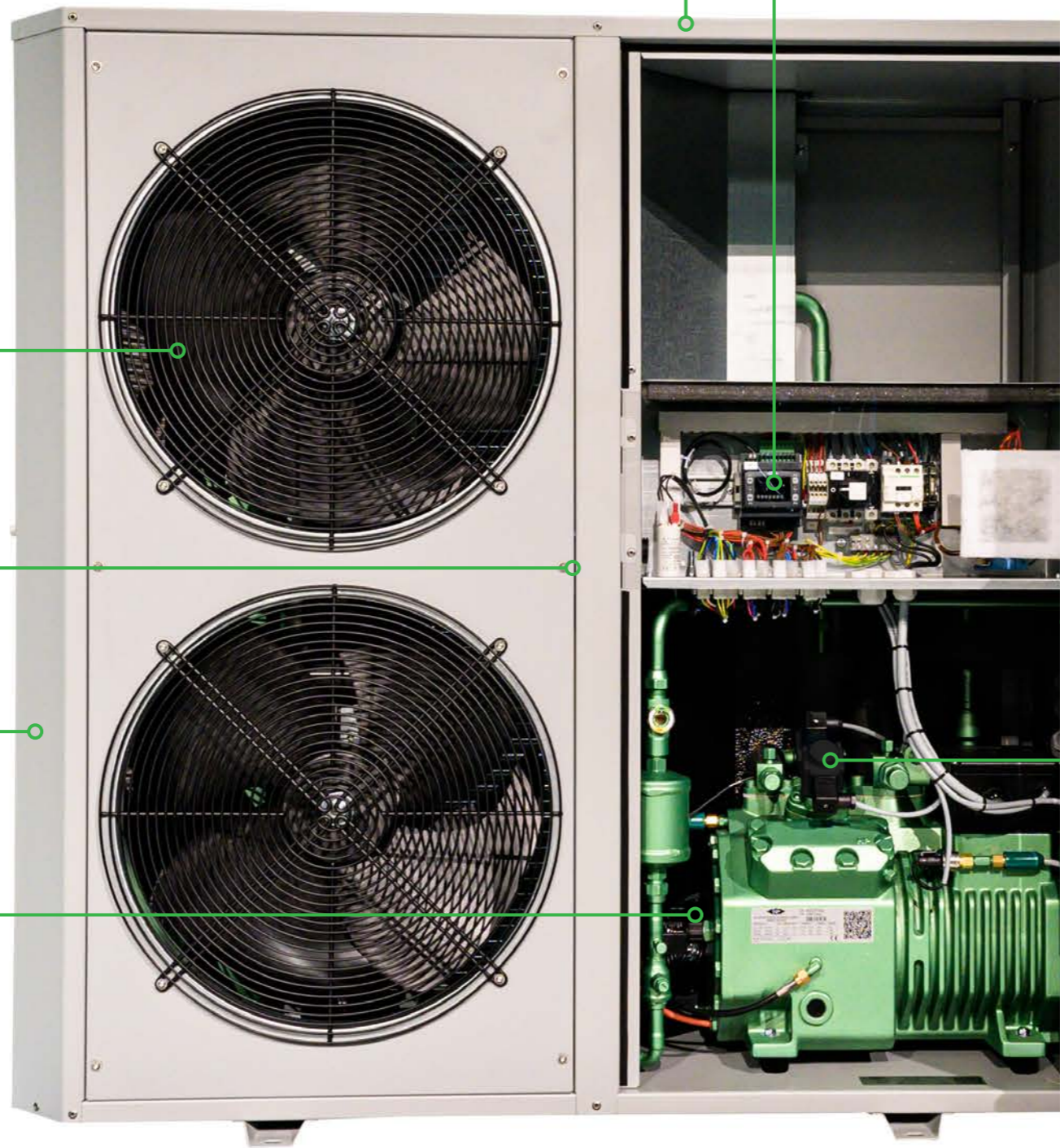
ADDITIONAL EC FAN(S) FOR COOLING OF COMPRESSOR COMPARTMENT

- // For reliable operation in demanding conditions

RECIPROCATING COMPRESSORS

HFO

BEST SOFTWARE



SOUNDPROOF DESIGN

- // The robust housing and compressor compartment including sound insulation is developed for maximum sound protection



CONTROLLER WITH DISPLAY AND PREWIRED SWITCHBOARD

- // Controller including dedicated software developed by BITZER
- // BEST SOFTWARE connectivity
- // Approved for A2L refrigerants
- // Modbus RTU (RS485)

HEAT RECOVERY CONNECTIONS

- // Ready-to-use connections with shut-off valve to manually close and open (LHL5E and LHL7E/LHL7EF)

LIQUID AND SUCTION LINE

- // Easily accessible, with all pipes on one side

ADJUSTABLE HP/LP SWITCH

- // Optional accessory for LHL3E/LHL5E/LHL7E/LHL7EF
- // Retrofit kit available
- // Standard cartridge pressure switches omitted

BITZER ECOLINE COMPRESSOR WITH VARISTEP // WITH VARIPACK AND CR COMBINED

- // Highly efficient BITZER ECOLINE compressor with VARISTEP capacity control from (10%) 50% to 100%

MECHATRONIC CAPACITY CONTROL

- // In combination with BITZER VARIPACK capacity control range 30 Hz up to 70 Hz

FREQUENCY INVERTER



The product picture shows a fully equipped ECOLITE LHL5E with VARISTEP unit. For further units, standard extent of delivery and optionally available equipment, please see the following pages.

BITZER CONDENSING UNIT: CONTROLLER FUNCTIONS

OPERATION MODES

- // Evaporating temp. control
- // Room temp. control

PUMP DOWN/OUT MODE

Standard = enabled

OUTPUTS

For example, fault alarm

INPUTS

For example, set point adjustment

MODBUS



VARISTEP CONTROL

- // One VARISTEP
→ 50%–100% capacity modulation
- // Two VARISTEP
→ 10%–100% capacity modulation

ALARM CODE VISUALISATION

Alarm memory for 20 alarms with timestamp

EMERGENCY MODES

Transducers/sensors

WINTER START

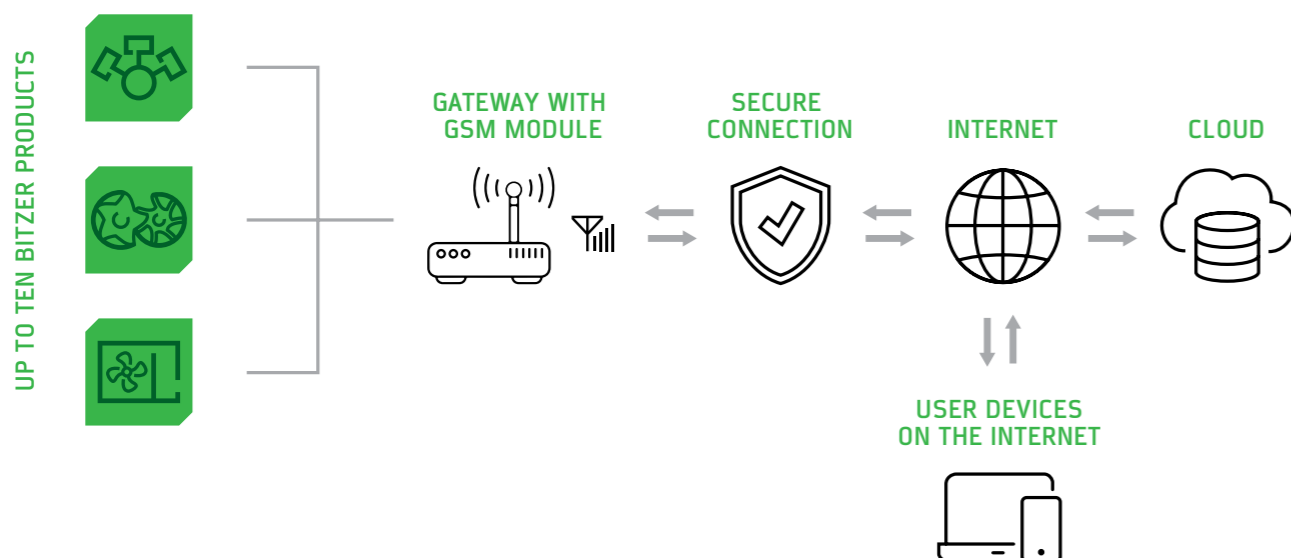
OIL RETURN MODE

FAN(S) SPEED CONTROLLED

AC condenser fan(s) and EC fan for compressor compartment

BITZER DIGITAL NETWORK: ALL-ROUND VIEW OF THE HEART OF REFRIGERATION AND A/C SYSTEMS

This provides you with important product- and application-related information on all the BITZER products, including, among others, data analyses and compressor operation reports.



EXTENT OF DELIVERY

COMING SOON

ECOLITE AIR COOLED CONDENSING UNITS WITH ECOLINE COMPRESSORS		LHL3E/..	LHL5E/..	LHL7E/..	LHL7EF/..
Semi-hermetic reciprocating compressor	with capacity regulator CRII (1×)	S			
	with capacity regulator CRII (1×) and CRII prepared (1×)		S	S	
	ECOLINE with capacity regulator CR (1×) and frequency inverter VARIPACK				S
Oil heater	200 .. 260 V, PTC	S	S	S	S
Air cooled condenser with fans	– with one fan – AC motor, speed controlled	S			
	– with two fans – AC motors, speed controlled		S		
	– with four fans – AC motors, speed controlled			S	S
Fan(s) for compressor compartment cooling*	EC motor	S	S	S	S
Liquid receiver	– with shut-off valve – with connection for pressure relief valve – with three sight glasses (LHL7EF only)	S	S	S	S
Sight glass, filter drier and ball valve	in liquid line, LHL3E/LHL5E: screwed filter drier, LHL7E/LHL7EF: brazed filter drier	S	S	S	S
High and low pressure switch	cartridge pressure switch not adjustable	S	S	S	S
Temperature sensor	– for suction gas temperature – for discharge gas temperature – for ambient temperature	S	S	S	S
Pressure transmitters	for high and low pressure	S	S	S	S
Discharge line		S	S	S	S
ECOLITE controller	control of capacity regulator and further functions of condensing unit	S	S	S	S
Complete piping and wiring		S	S	S	S
Oil charge	BSE32 (ester oil) for HFC and HFC/HFO refrigerants $t_c < +70^\circ\text{C}$	S	S	S	S
Weather protection housing	with sound insulation for compressor compartment	S	S	S	S
Approval for A2L application	– release certification for A2L – access code to unlock released refrigerations in the controller (R1234ze(E)/yf, R454C, R455A)	S	S	S	S
CE according to PED (Pressure Equipment Directive)		S	S	S	S
Protection device	SE-B3	S	S	S	
	IQ MODULE				S

S = extent of delivery

* Large application limits – even for low temperature application no refrigerant injection needed (Subject to change without notice)

EXTRAORDINARY OPTIONAL EQUIPMENT TO FULFIL YOUR DEMANDS

COMING
SOON

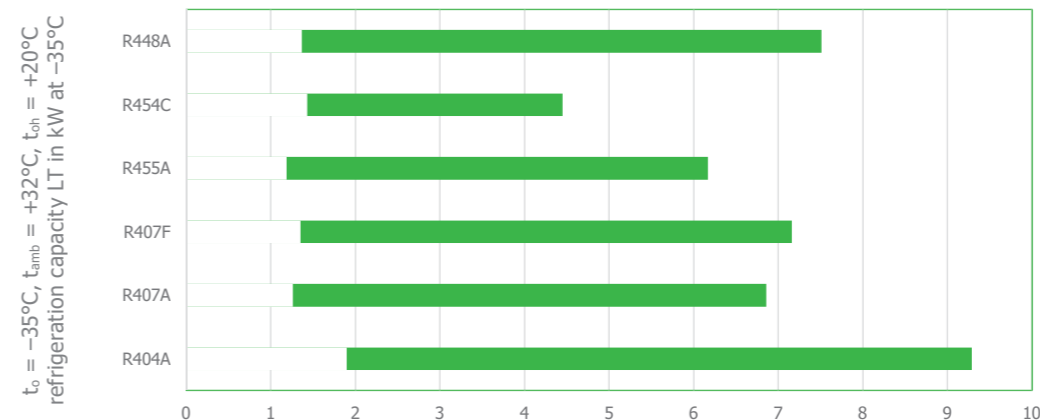
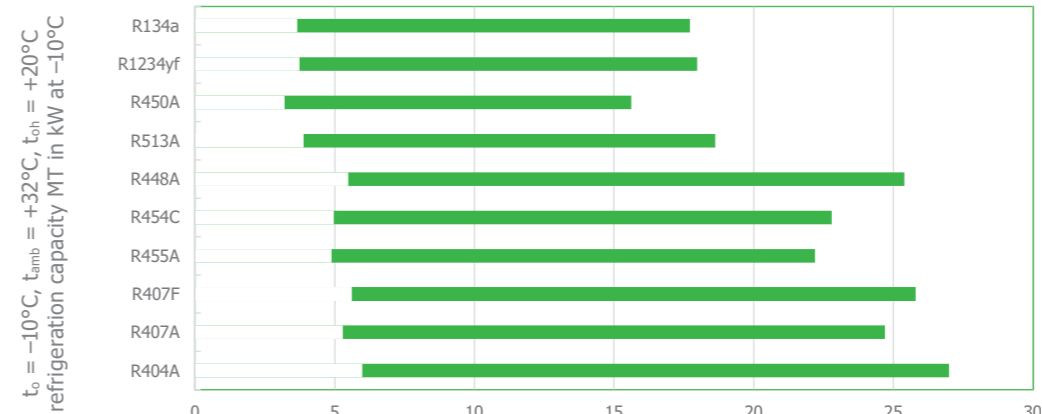
ECOLITE AIR COOLED CONDENSING UNITS WITH ECOLINE COMPRESSORS		LHL3E/..	LHL5E/..	LHL7E/..	LHL7EF/..
Warranty extension up to five years	for details see price list	•	•	•	•
Temperature sensor	for cold room	•	•	•	•
Oil separator with check valve*	mounted	•	•	•	•
Check valve*	in liquid line – mounted	•	•	•	•
Sight glass for liquid receiver	– sight glasses (2x) (LHL3E / LHL5E)* – sight glasses (3x) (LHL7E)*	•	•	•	S
Condenser improved corrosion protection*	plastic-coated or copper fins	•	•	•	•
Heat recovery connections*	pipng connections prepared with shut-off valve (manual) in combination with oil separator and check valve		•	•	•
BEST interface converter (BITZER Electronic Service Tool)	interface converter device with cable kit	•	•	•	•
Oil charge	BSE55 (ester oil) for HFC and HFC/HFO refrigerants – at high condensing temperatures $t_c > +70^\circ\text{C}$ – for R1234ze(E) $t_c < 70^\circ\text{C}/t_o < 15^\circ\text{C}$ ¹	○	○	○	○
	B5.2: 'Y' in compressor designation omitted	○	○	○	○
Oil level monitoring OLC-K1 – opto-electronic – mounted ex-factory	retrofitting possible with kit part no. 34733491	•	•		
Oil differential pressure switch Delta-PII	– 115 .. 230 V-1-50/60 Hz – retrofitting possible with kit part no. 34733492			•	
Oil differential pressure switch DP-3 – mounted	24 V – for compressor module – retrofitting possible				•
Second capacity regulator CRII – mounted ex-factory	retrofitting possible with kit part no. 30235550		•	•	
BITZER Digital Network		•	•	•	•
High pressure and low pressure switch – mounted ex-factory	adjustable, recommended for pressure relief valve				
	– replaces standard cartridge pressure switch – retrofitting possible with kit part no. 34732505 (LHL3E/LHL5E) with kit part no. 34732512 (LHL7E/LHL7EF)	•	•	•	•

• = option available, ○ = option without extra charge

* retrofitting not possible.

¹ for R1234ze(E), $t_c > +70^\circ\text{C}/t_o > +15^\circ\text{C}$, on request.
(Subject to change without notice)

APPLICATION RANGE*



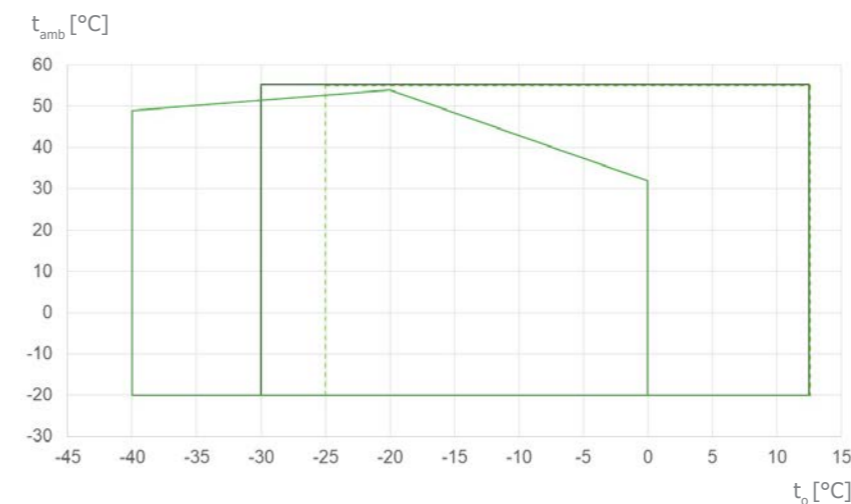
* Maximum refrigeration capacity [kW] for biggest model LHL7E/4NE-14Y (tentative data)

For further details, please refer to BITZER SOFTWARE

BITZER SOFTWARE



APPLICATION LIMITS



Tentative data

LHL5E/4DES-5Y, 50 Hz, R134a/450A, $t_{\text{oh}} = +20^\circ\text{C}$
LHL7E/4NE-14Y, 50 Hz, R513A/R1234yf, $t_{\text{oh}} = +20^\circ\text{C}$
LHL5E/4FES-3Y, 50 Hz, R448A/449A/454C, $t_{\text{oh}} = +20^\circ\text{C}$

t_o Evaporating temperature [$^\circ\text{C}$]
 t_{amb} Ambient temperature [$^\circ\text{C}$]
 t_{oh} Suction gas temperature [$^\circ\text{C}$]

ASERCOM-CERTIFIED PERFORMANCE DATA

The Association of European Refrigeration Component Manufacturers (ASERCOM) has implemented a procedure of certifying condensing units' performance data.

The high standard of this certification is assured by
 // plausibility checks of the data performed by experts
 // regular random tests at independent institutes

These efforts result in the fact that only a limited number of condensing units can be submitted. Due to this, not all BITZER products are certified yet.

Performance data of condensing units that meet the strict requirements carry the label 'ASERCOM-certified performance'. All certified condensing units and further information are listed on the ASERCOM website (www.ASERCOM.org).



In the BITZER SOFTWARE, the appropriate condensing units are marked with this label.

PERFORMANCE DATA

REFRIGERATION CAPACITY Q_o @ $t_{amb} +32^{\circ}\text{C}$																
	MT. -10°C . midpoint											LT. -35°C . midpoint				
	R134a	R450A	R513A	R1234yf	R404A	R407A	R407F	R448A	R454C	R455A	R404A	R407A	R407F	R448A	R454C	R455A
LHL3E/2EES-2Y	4.32	3.79	4.56	4.28	6.74	6.01	5.49	6.22	5.65	5.54	2.22	1.49	1.60	1.37	1.21	1.19
LHL3E/2DES-2Y	5.22	4.59	5.49	5.29	8.12	7.34	6.22	7.58	6.91	6.77	2.83	1.95	2.08	1.62	1.45	1.41
LHL3E/2CES-3Y	5.76	5.04	6.11	5.90	9.79	8.91	7.58	9.09	8.22	8.11	3.26	2.33	2.39	2.10	1.92	1.85
LHL5E/4FES-3Y	7.44	6.53	7.83	7.53	11.89	10.64	9.09	11.00	9.98	9.81	4.05	2.74	2.93	2.42	2.13	2.13
LHL5E/4EES-4Y	8.47	7.44	8.93	8.39	13.34	11.85	11.00	12.24	11.14	10.92	4.63	3.06	3.27	2.96	2.65	2.60
LHL5E/4DES-5Y	10.23	9.01	10.74	10.35	15.74	14.43	12.24	14.87	13.57	13.30	5.52	3.98	4.24	3.31	3.00	2.91
LHL5E/4CES-6Y	11.47	10.06	12.14	11.72	18.34	16.33	14.87	16.92	14.98	14.72	5.72	4.09	4.40	4.28	3.92	3.79
LHL7E/4VE-7Y	13.68	12.02	14.43	13.92	21.50	19.48	16.92	19.99	17.74	17.43	7.07	5.31	5.49	4.49	3.70	3.71
LHL7E/4TE-9Y	15.24	13.41	16.08	15.54	23.70	21.50	19.99	22.10	19.72	19.23	7.62	5.56	5.79	5.67	4.71	4.68
LHL7E/4PE-12Y	17.71	15.62	18.62	17.98	27.00	24.70	22.10	25.40	22.80	22.20	9.29	6.86	7.16	6.01	5.09	4.96
LHL7E/4NE-14Y	17.7	15.76	18.62	17.97	27.12	26.25	25.40	26.99	24.66	24.73	9.37	7.7	8.08	7.51	6.41	6.17
LHL7EF/4VE-7Y																
LHL7EF/4TE-9Y																
LHL7EF/4PE-12Y																
LHL7EF/4NE-14Y																



Tentative data

Tentative data

SEPR // COP																
COP	MT. -10°C . midpoint											LT. -35°C . midpoint				
	R134a	R450A	R513A	R1234yf	R404A	R407A	R407F	R448A	R454C	R455A	R404A	R407A	R407F	R448A	R454C	R455A
LHL3E/2EES-2Y	2.59	2.53	2.59	2.55	3.40	3.30	3.26	3.30	2.35	2,11	1,40	1.21	1.23	1.24	1.20	1.14
LHL3E/2DES-2Y	2.53	2.50	2.53	2.49	3.20	3.14	3.09	3.13	3.23	2,83	1,92	1.22	1.23	1.24	1.22	1.14
LHL3E/2CES-3Y	3.50	2.47	3.49	3.49	2.96	2.95	2.89	2.93	3.05	2,68	1,91	1.23	1.69	1.72	1.26	1.15
LHL5E/4FES-3Y	3.56	3.45	3.61	3.6	3.46	3.32	3.29	3.33	3.35	3,00	1,86	1.61	1.62	1.66	1.56	1.54
LHL5E/4EES-4Y	3.73	3.65	3.76	3.73	3.21	3.19	3.14	3.17	3.25	2,88	1,92	1.67	1.69	1.73	1.65	1.58
LHL5E/4DES-5Y	3.61	3.57	3.61	3.62	3.05	3.07	3.02	3.06	3.17	2,78	1,91	1.68	1.70	1.74	1.71	1.57
LHL5E/4CES-6Y	3.49	3.49	3.47	3.47	2.80	2.86	2.81	2.84	2.96	2,61	1,89	1.69	1.70	1.74	1.73	1.58
LHL7E/4VE-7Y	3.62	3.45	3.7	3.71	3.33	3.35	3.33	3.39	3.31	2,95	1,93	1.72	1.76	1.76	1.63	1.60
LHL7E/4TE-9Y	3.66	3.54	3.67	3.67	3.16	3.20	3.17	3.23	3.21	2,85	1,95	1.76	1.80	1.80	1.70	1.64
LHL7E/4PE-12Y	3.64	3.58	3.64	3.63	3.08	3.13	3.10	3.14	3.18	2,82	1,97	1.76	1.81	1.80	1.73	1.65
LHL7E/4NE-14Y	3.56	3.57	3.54	3.53	2.85	2.92	2.89	2.93	3.01	2,65	1,95	1.78	1.82	1.83	1.77	1.65
LHL7EF/4VE-7Y																
LHL7EF/4TE-9Y																
LHL7EF/4PE-12Y																
LHL7EF/4NE-14Y																



BITZER CONDENSING UNITS COMPLYING WITH THE EU ECODESIGN REGULATION 2015/1095

According to MEPS Tier-2. for more details please see BITZER brochure A-530-1	COP	SEPR
MT ($t_o = -10^{\circ}\text{C}$) – refrigeration capacity	0.2 .. ≤5 kW	5 .. 50 kW
LT ($t_o = -35^{\circ}\text{C}$) – refrigeration capacity	0.1 .. ≤2 kW	2 .. 20 kW

Tentative data

Tentative data

EXPLANATION OF TYPE DESIGNATION

LHL3E / 2DES-2Y

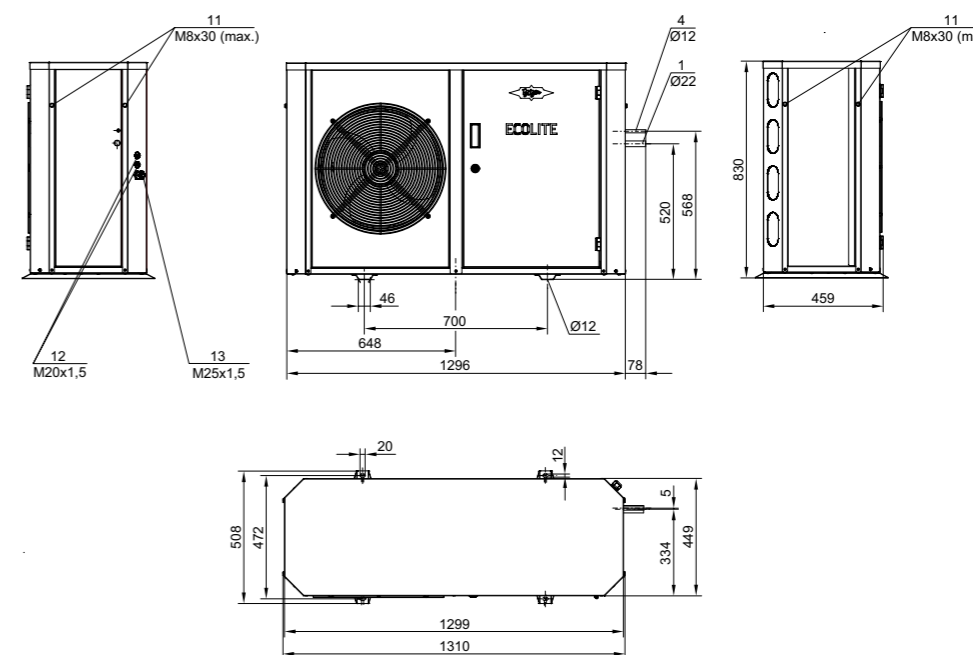


Type	Weight in kg (standard extent of delivery)	Max. fan power consumption in kW	Air flow condenser in m ³ /h	Receiver volume in dm ³	Max. operating current in A	Sound pressure level*
LHL3E/2EES-2Y	157	0.12	3000	7.8	6.6	36.0
LHL3E/2DES-2Y	157	0.12	3000	7.8	8.0	36.0
LHL3E/2CES-3Y	159	0.12	3000	7.8	9.7	36.5
LHL5E/4FES-3Y	210	0.24	6000	15	10.0	37.0
LHL5E/4EES-4Y	214	0.24	6000	15	12.8	38.0
LHL5E/4DES-5Y	216	0.24	6000	15	15.1	38.5
LHL5E/4CES-6Y	218	0.24	6000	15	18.3	39.0
LHL7E/4VE-7Y	347	0.48	12000	25	17.6	41.0
LHL7E/4TE-9Y	349	0.48	12000	25	20.9	42.0
LHL7E/4PE-12Y	352	0.48	12000	25	23.7	43.0
LHL7E/4NE-14Y	360	0.48	12000	25	27.6	44.0
LHL7EF/4VE-7Y	360	0.48	12000	30	16.0	41.0
LHL7EF/4TE-9Y	360	0.48	12000	30	19.5	42.0
LHL7EF/4PE-12Y	360	0.48	12000	30	21.5	43.0
LHL7EF/4NE-14Y	360	0.48	12000	30	26.3	44.0

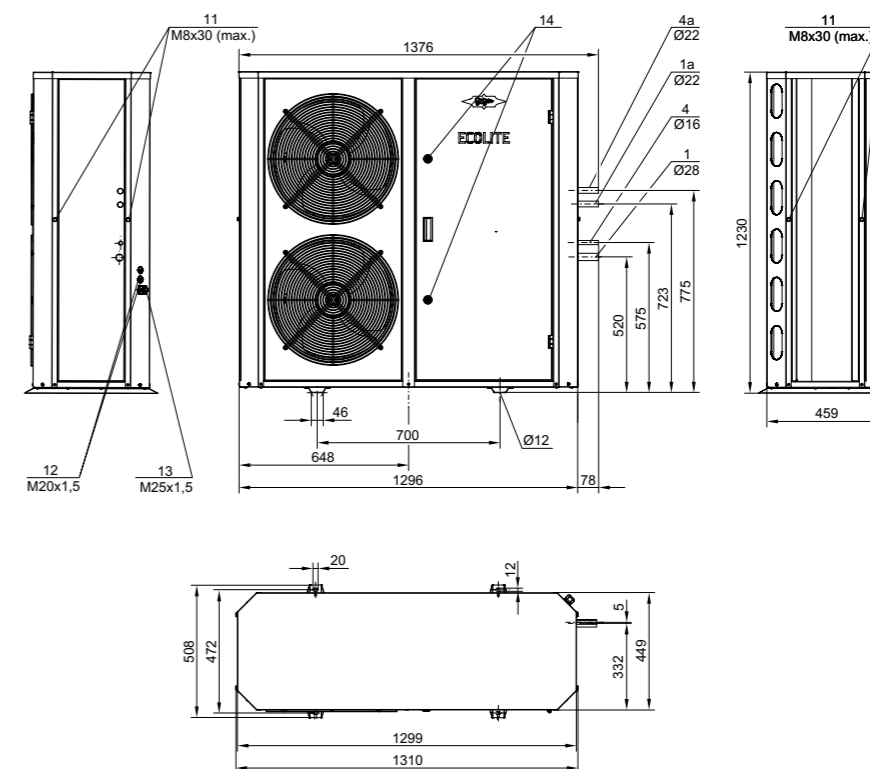
* In dB(A) at -10/32°C 50 Hz at 10 m distance for R513A
(Subject to change without notice)

DIMENSIONS

LHL3E



LHL5E



Tentative data

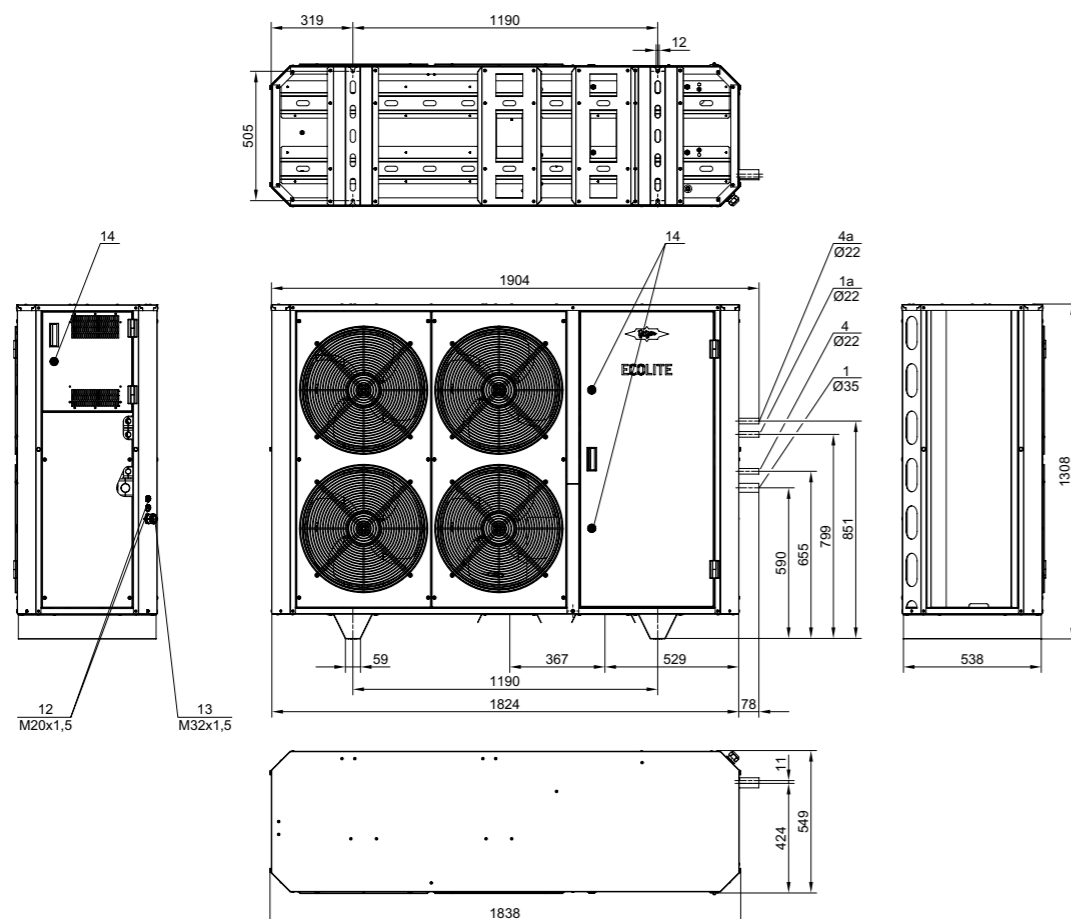
Connections

- 1 Refrigerant inlet (suction gas line), SL
- 1a Heat recovery inlet (optional)
- 4 Refrigerant outlet, DL
- 4a Heat recovery outlet (optional)

- 11 Load suspension points
- 12 Plug for screwed cable gland
- 13 Cable bushing (for cables 9–17 mm)
- 14 Door lock

DIMENSIONS

LHL7E
LHL7EF

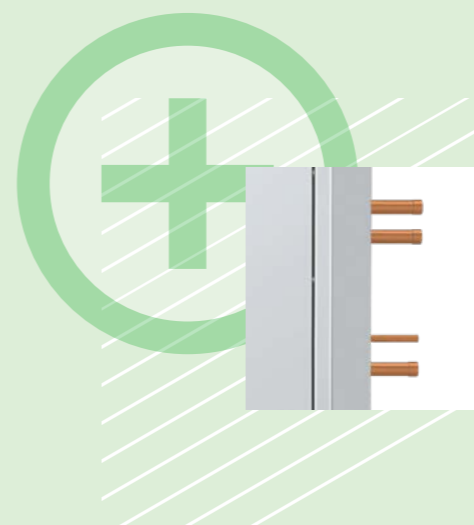


Connections

- | | |
|--|---------------------------------------|
| 1 Refrigerant inlet (suction gas line), SL | 11 Load suspension points |
| 1a Heat recovery inlet (optional) | 12 Plug for srewed cable gland |
| 4 Refrigerant outlet, DL | 13 Cable bushing (for cables 9–17 mm) |
| 4a Heat recovery outlet (optional) | 14 Door lock |

Tentative data

ACCESSORIES



HEAT RECOVERY CONNECTION COMBINATION OF HEATING AND COOLING

Heat recovery: an easy next step towards energy saving and sustainability. It increases system efficiency, while operating costs are minimised. The digital output for the heat recovery mode is integrated into the ECOLITE controller and is user-friendly due to the prepared piping. Flexible use of heat recovery according to system demands is ensured.

// Optional accessory for LHL5E and LHL7E / LHL7EF

// Shut-off valve inside the unit for manually closing and opening the heat recovery piping



OIL SEPARATOR WITH CHECK VALVE DEMANDING APPLICATIONS ARE NO PROBLEM

No matter if there is a long pipe run or multiple evaporators, the right oil supply is provided to the compressor at all times.

// Optional accessory for LHL3E, LHL5E and LHL7E/LHL7EF (no retrofit possible)



OIL LEVEL MONITORING/OIL DIFFERENTIAL SWITCH FOR ADDITIONAL COMPRESSOR PROTECTION, ESPECIALLY IN APPLICATIONS WITH MANY CONSUMERS OR LONG-DISTANCE SYSTEMS

// Optional accessory for LHL3E, LHL5E and LHL7E/LHL7EF

// Retrofit kit available



ADJUSTABLE HP/LP SWITCH

The standard cartridge pressure switches can be replaced with adjustable HP/LP switches.

// Optional accessory for LHL3E, LHL5E and LHL7E/LHL7EF

// Retrofit kit available

Images are for illustration purposes only

LHE

INDIVIDUAL, EASY, HIGHLY EFFICIENT

WHETHER FOR LOW OR MEDIUM TEMPERATURE APPLICATIONS OR HIGH AMBIENT TEMPERATURES – THE BITZER LHE SERIES WITH ITS MODULAR SYSTEM GUARANTEES LARGE COOLING CAPACITIES, HIGH FLEXIBILITY AND SUSTAINABILITY.



VERSATILE APPLICATION POSSIBILITIES

- // Wide variety of accessories and options, such as VARISTEP capacity control and weather protection housing
- // Large range of refrigerants – including low-GWP refrigerants of the A2L safety group
- // Low and medium evaporating temperature application ranges with high ambient temperature up to 50°C
- // IQ MODULE CM-RC-02 is standard for all condensing units with an ECOLINE compressor starting from CE3 housing size up to BE6
- // LHE PRO is the natural solution, with refrigerants of the A3 safety class with a refrigeration capacity range up to 1.8 kW for low temperature and 5.8 kW for medium temperature

AN OFFER FOR EVERY TYPE OF APPLICATION

The LHE series and its six families with BITZER ECOLINE compressors cover a range from 0.8 to 60.0 kW in medium temperature and 0.4 to 23.0 kW in low temperature evaporation, as well as a very low temperature range with 2-stage compressors. The LHE series offers the best options and variants regardless of the installation needs. Furthermore, the series fully complies with the EU Ecodesign Product Regulation 2015/1095.

THE RIGHT SOLUTION FOR YOUR APPLICATION

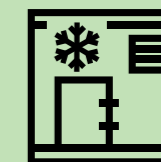
The standard LHE series air cooled condensing unit fits perfectly for indoor or outdoor installations. It is the ideal solution for customers who are looking for a flexible, sustainable and reliable product made by BITZER. It is a perfect match for different applications, such as the agricultural food industry, logistics centre storage, process cooling and many more.

AGRI-FOOD INDUSTRY



Food processing industries, such as bakery, confectionery, chocolate and ice cream production as well as others, require refrigeration systems. These sectors need stable and accurate cooling systems that operate reliably in all conditions globally, guaranteed by the LHE series.

COLD STORAGE ROOMS



No matter what variety of items are stored in the cold room – with the LHE and its semi-hermetic ECOLINE compressor technology, the performance and reliability are ensured with the perfect cold room temperature.

SCALABLE PERFORMANCE ACCORDING TO YOUR NEEDS

PROCESS- COOLING



With the well-proven and robust LHE series, the important factors for process cooling, such as reliability and robustness, are ensured.

FLORISTRY



The preservation of flowers or food that are sensitive to temperature variations can be guaranteed with our LHE series. Thanks to the efficiency and reliability of the ECOLINE compressor equipped with mechanical capacity modulation, VARISTEP is available as an option.

PRECISE COOLING WITH THE LHE SERIES – RECOGNISED WORLDWIDE

+ EASY ACCESS TO COMPONENTS

CONVENIENT AND QUICK COMMISSIONING,
OPERATION AND MAINTENANCE

+ LOW OPERATION COSTS

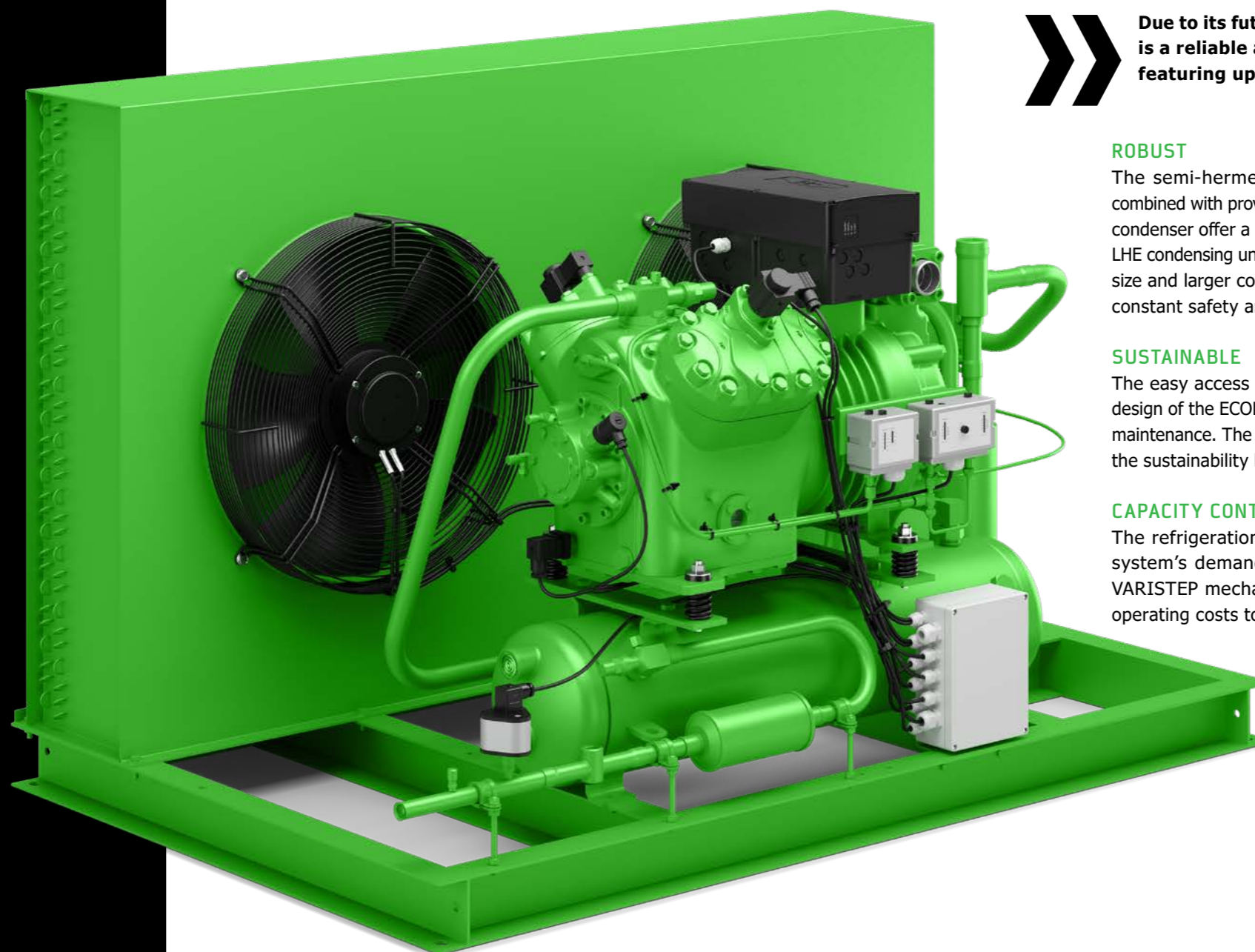
HIGHEST EFFICIENCY IN CLASS

+ HIGHEST SYSTEM/ APPLICATION FLEXIBILITY

LARGE VARIETY OF ACCESSORIES
AND WIDE SELECTION OF REFRIGER-
ANTS FOR THE FULL SERIES

+ ROBUST DESIGN

LONG-STANDING EXPERIENCE IN THE
FIELD OF REFRIGERATION, RELATED
TO COMPRESSORS, RECEIVERS
AS WELL AS CONDENSING UNITS



The LHE series is approved for operation in different applications, such as LT/MT and challenging environments with high ambient temperatures. The basic version of the condensing unit is equipped with a BITZER ECOLINE reciprocating compressor and BITZER receiver which is perfectly complemented by a mini-channel condenser. Flexible solutions with additional factory-fitted components according to the system requirements are possible.



Due to its future-proof design, this standard series is a reliable and well-recognised condensing unit featuring up-to-date BITZER technology.

ROBUST

The semi-hermetic ECOLINE reciprocating compressor combined with proven BITZER components like the mini-channel condenser offer a high degree of reliability and robustness. All LHE condensing units with an ECOLINE compressor CE3 housing size and larger come with the IQ MODULE CM-RC-02 for the constant safety and protection of the compressor.

SUSTAINABLE

The easy access to all components and the semi-hermetic design of the ECOLINE compressor enable fast and convenient maintenance. The combination of all these attributes increases the sustainability by prolonging the operating lifetime.

CAPACITY CONTROL

The refrigeration capacity, which perfectly matches the system's demands and its operating conditions via the VARISTEP mechanical stepless capacity control, reduces operating costs to a minimum.

EASY INTEGRATION AND INSTALLATION

All units are fully factory tested and fulfil the requirements of the EU Ecodesign Regulation 2015/1095. Together with a wide variety of refrigerants, the condensing unit is future-proof and can easily be integrated into systems. The LHE series is equipped for easy installation at the place of use.

LHE: THE STANDARD CONDENSING UNIT

IQ MODULE

- // Compressor family CE3 .. BE6
- // Protection mode

BITZER ECOLINE COMPRESSOR

- // Semi-hermetic reciprocating compressor
- // Highly efficient
- // Well proven and reliable
- // Crankcase heater
- // Discharge gas temperature sensor
- // Oil (pressure/level) control

MINI-CHANNEL CONDENSER

- // Approved design: copper tubes Ø 5 mm** and aluminium fins
- // Best heat exchange
- // Lower refrigerant charge
- // Optional: special coated condenser

EFFICIENT AND LOW SOUND EC FANS*

- // Less power consumption
- // Sound-optimised air duct
- // Ecodesign Product Regulation 327/2011

PIPING

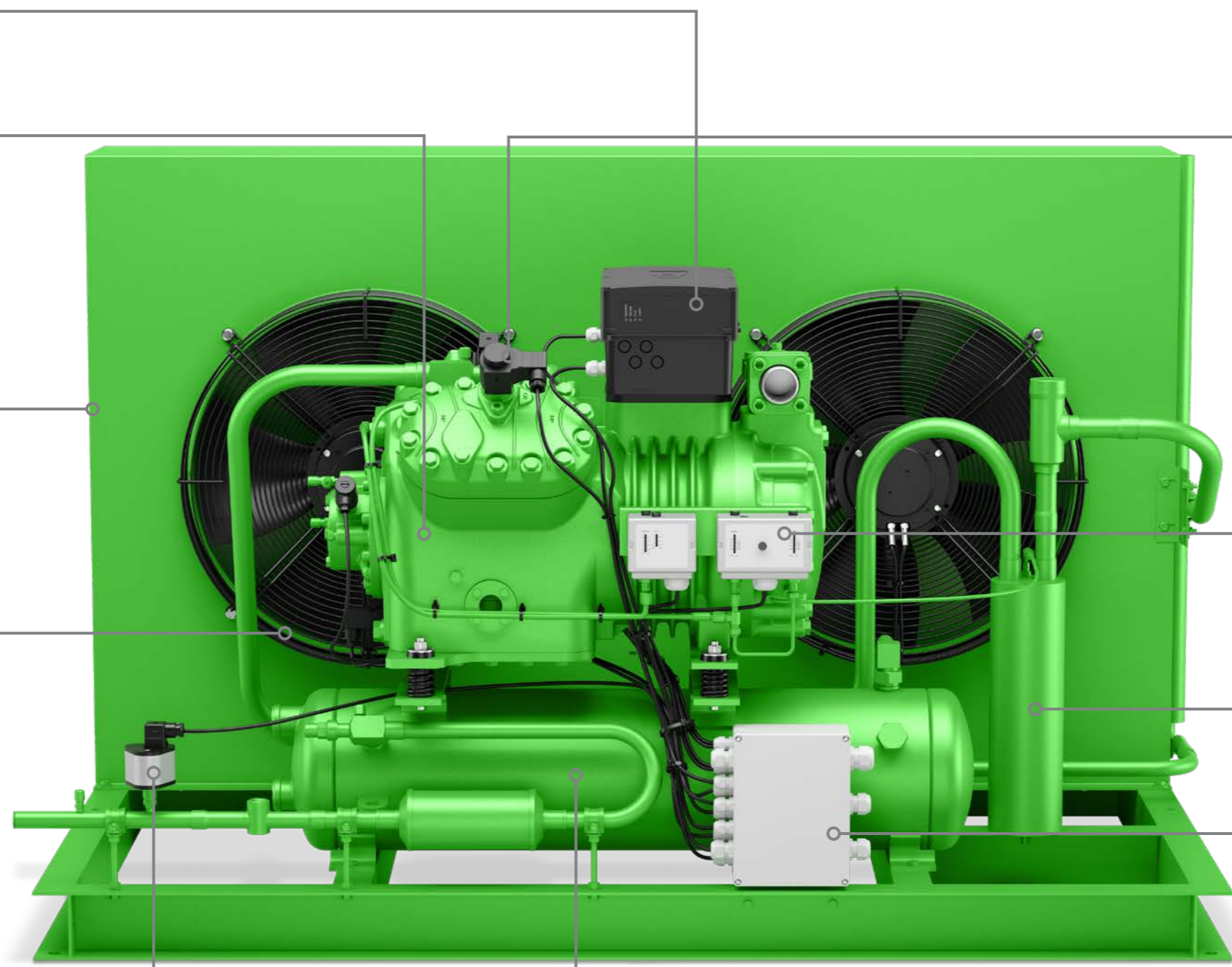
- // Made of steel

RECIPROCATING COMPRESSORS

HFO

HYDROCARBON

ECODSIGN CONFORM



ELECTRONIC SPEED CONTROL DEVICE FOR CONDENSER FAN (WINTER CONTROLLER)

- // Pressure range 5 to 15 bar
- // Pressure range 8 to 25 bar

BITZER LIQUID RECEIVER

- // Optional: larger volume
- // PRV connection
- // Sight glass and shut-off valve

ACCESSORY PACK

- // HP/LP switch (mounted)
- // Wiring to terminal/junction box
- // Liquid line with sight glass and filter drier
- // Insulated suction line to outer unit edge until LH84E

VARISTEP – MECHANICAL CAPACITY CONTROL

- // Highly efficient BITZER ECOLINE compressor with VARISTEP capacity control from 10%–100% (details on request)

START UNLOADER

- // Compressor family CE4 .. BE6
- // Cylinder head with PTC sensor (mounted)
- // Control valve, enclosed

HP/LP SWITCH

- // Mounted
- // With HP safety pressure cut-out, mounted (from compressor type 4NES-14(Y))

OIL SEPARATOR

- // With check valve in discharge line (mounted)

WIRING OF ELECTRICAL COMPONENTS

- // To terminal box of compressor
- // To junction box (mounted)
- // Optional mounted and wired ex-factory

WEATHER PROTECTION HOUSING

- // Simple to assemble
- // Robust design with compact dimensions

The product picture shows a fully equipped LHE unit. For the standard extent of delivery and optionally available equipment, please see the following pages.

* Except LH265E – AC instead of EC fans, ** Except LH265E – Ø 7 mm copper tubes

BITZER LHE CONDENSING UNIT: HIGH AMBIENT TEMPERATURE

RELIABLE OPERATION

// At high ambient temperatures

HIGH REFRIGERATION CAPACITY

// 37 types with up to 126.8 m³/h 50 Hz
// LH33E .. LH265E

HIGHLY EFFICIENT ECOLINE COMPRESSORS

// Well-known and proven BITZER technology

SPEED-CONTROLLED EC FANS

// For efficient and low-sound operation (optionally available/ exception: not available for LH265E)

SYSTEM-OPTIMISED

MINI-CHANNEL CONDENSER

// For best heat exchange and low refrigerant charge

ROBUST DESIGN AND COMPACT DIMENSIONS

// Small installation dimensions at place of use

EASY HANDLING AND COMMISSIONING

// Easy service thanks to directly accessible system components

LHE PRO FOR HYDROCARBONS: THE NATURAL SOLUTION

NATURAL

// For A3 refrigerants (R290 / R1270)

RELIABLE

// Highly efficient ECOLINE PRO compressor
// Enhanced tightness

UNIT SIZES: LH32E .. LH53E

// Eleven models
// 4.06 m³/h .. 13.42 m³/h

AIR COOLED CONDENSER WITH EC FAN

BITZER LIQUID RECEIVER

PROTECTION DEVICE

// SE-B3 (standard)
// IQ MODULE (optional, coming soon)

ADAPTABLE

// Motor 1 or Motor 2
// Various optional equipment available

Type	$Q_0 @ t_o -10^\circ\text{C} / t_{\text{amb}} +32^\circ\text{C} / \text{SH } 20^\circ\text{C} / t_{\text{cu}} 1\text{K}, 50 \text{ Hz, in kW}$	$Q_0 @ t_o -35^\circ\text{C} / t_{\text{amb}} +32^\circ\text{C} / \text{SH } 20^\circ\text{C} / t_{\text{cu}} 1\text{K}, 50 \text{ Hz, in kW}$
	R290	R290
LH32E/2KESP-05P	1.74	0.46 (not for EU)
LH32E/2JESP-07P	2.26	0.69
LH33E/2HESP-1P	2.76	0.90
LH33E/2HESP-2P	2.80	0.92
LH33E/2GESp-2P	3.17	1.07
LH44E/2GESp-2P	3.28	1.08
LH53E/2GESp-2P	3.40	1.09
LH44E/2FESP-2P	3.94	1.37
LH44E/2FESP-3P	3.94	1.38
LH44E/2EESP-2P	4.70	1.47
LH53E/2DESP-2P	5.71	1.78

LHE WITH 2-STAGE COMPRESSORS: FOR LOW TEMPERATURE APPLICATIONS

The air cooled condensing units with 2-stage compressors from BITZER impress thanks to a compressor design made especially for low temperature applications. They combine well with components such as efficient condenser and fans. Furthermore, low-GWP refrigerants are approved for increased sustainability.

Eight types with displacement LP/HP from 19.70/12.60 m³/h .. 101.10/50.50 m³/h 50 Hz.

Type	$Q_0 @ t_o -45^\circ\text{C} / t_{\text{amb}} +32^\circ\text{C}, 50 \text{ Hz, in kW}$	$Q_0 @ t_o -45^\circ\text{C} / t_{\text{amb}} +32^\circ\text{C}, 50 \text{ Hz, in kW}$
	R404A	R448A/R449A, midpoint
LH104E/S4T-5.2Y	4.05	3.36
LH104E/S4N-8.2Y	5.72	4.79
LH124E/S4G-12.2Y	9.24	7.23
LH135E/S6J-16.2Y	13.19	10.85
LH135E/S6H-20.2Y	15.17	12.23
LH135E/S6G-25.2Y	17.25	13.89
LH265E/S6G-25.2Y	17.55	14.44
LH265E/S6F-30.2Y	20.8	17.28

EXTENT OF DELIVERY

LHE – AIR COOLED CONDENSING UNITS INCLUDING HIGH AMBIENT TEMPERATURE TYPES	LH32E/.. P – LH53E/.. P	LH32E/.. – LH84E/..	LH104E/.. – LH135E/..	LH265E/..
Semi-hermetic reciprocating compressor		S	S	S
	– ECOLINE compressors – 2-stage compressors			
	ECOLINE PRO compressors	S		
Air cooled condenser	– mini channel design with one fan – EC motor, capable of speed control	S		
	– mini channel design with one fan – EC motor, capable of speed control – enhanced tightness	S		
	– mini channel design with two fans – EC motors, capable of speed control		S	
	– with two fans – AC 3 phase motors			S
Liquid receiver	with shut-off valve	S	S	S
Connection for pressure relief valve	LH32E .. LH84E: additional connections at receiver required (accessory)		S	S
Discharge line	–	S	S	S
Oil charge	BSE32 (ester oil) for HFC and HFC/HFO refrigerants $t_c < 70^\circ\text{C}$		S	S
	BSG68K (PAG)	S		
IQ MODULE CM-RC-02	Compressor module in module housing – default setting protection mode (SE-B) – starting from CE3 compressor		S	S
Protection device	SE-B3	S	S	

S = extent of delivery
(Subject to change without notice)

EXTRAORDINARY OPTIONAL EQUIPMENT TO FULFIL YOUR DEMANDS

LHE – AIR COOLED CONDENSING UNITS INCLUDING HIGH AMBIENT TEMPERATURE TYPES		2KESP .. 2DESP	2KES .. 2FES	2EES .. 2CES	4FES .. 4CES	4TES .. 4NES			4JE .. 4GE	6JE .. 6HE	S4T .. S4N	S4G	S6J .. S6G	
		LH32E/.. – LH53E/..	LH32E/.. – LH44E/..	LH44E/.. – LH84E/..	LH64E/.. – LH114E/..	LH104E/.. – LH114E/..	LH135E/..	LH124E/ 4NES-.. – LH135E/ 4NES-..	LH135E/.. LH265E/..	LH135E/.. LH265E/..	LH104E/..	LH124E/..	LH135E/.. LH265E/..	
Warranty extension up to five years	for details see price list		•	•	•	•	•	•	•	•	•	•	•	
Liquid receiver with larger volume*	–		•	•	•	•					•			
Weather protection housing	mounting kit	•	•	•	•	•	•	•*	•*	•	•	•*	•*	* except LH265E/..
Condenser improved corrosion protection*	plastic-coated fins or copper fins		•	•	•	•	•	•	•	•	•	•	•	
Accessory pack*	– HP and LP switches, mounted – wiring of electrical components to junction box/terminal box included – liquid line with sight glass and filter dryer – with LH32E .. LH84E insulated suction line to outer unit edge		•	•	•	•	•	•	•					
Electronic speed control device for condenser fan	pressure range 5 to 15 bar		•	•	•	•	•	•*	•*	•	•	•*	•*	* except LH265E/..
	pressure range 8 to 25 bar		•	•	•	•	•	•*	•*	•	•	•*	•*	* except LH265E/..
High and low pressure switch (adjustable)	mounted		•	•	•	•	•			•				
	with HP safety pressure cut-out, mounted							•	•	•	•	•	•	
Wiring of electrical components*	to terminal box of compressor – included in accessory pack		•	•*										* except LH64E/LH84E
	to junction box – mounted – included in accessory pack			•*	•	•	•	•*	•*					* except LH44E/LH53E/LH265E
Check valve*	in discharge line				•	•	•	•	•					
Oil separator*	with check valve in discharge line – mounted		•	•	•	•	•	•	•	•	•	•	•	
Additional connections at receiver*	– sight glass / sight glasses – connection for pressure relief valve – if available for receiver	•	• ¹	•	• S ²	S	S	S						¹ for LH44E/.. ² Standard for LH104E/.. ; LH114E/..
Motor for special voltage*	for available motors see technical information KT-410		•	•	•	•	•	•	•	•	•	•	•	
Oil charge	BSE55 (ester oil) for HFC and HFC/HFO refrigerants – at high condensing temperatures t _c > 70°C – for R1234ze(E) t _c < 70°C/t _o < 15°C ¹		○	○	○	○	○	○	○*	○*				* except LH265E/ .. and 2-stage units S4T .. S6G (not released for A2L refrigerants)
	B5.2: 'Y' in compressor designation omitted		○	○	○	○	○	○	○	○	○	○	○	
	SHC226E (PAO)	○												

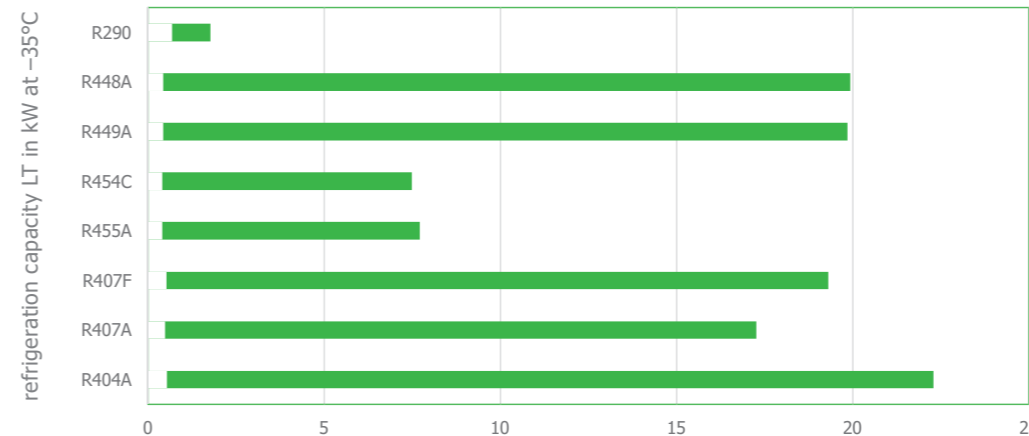
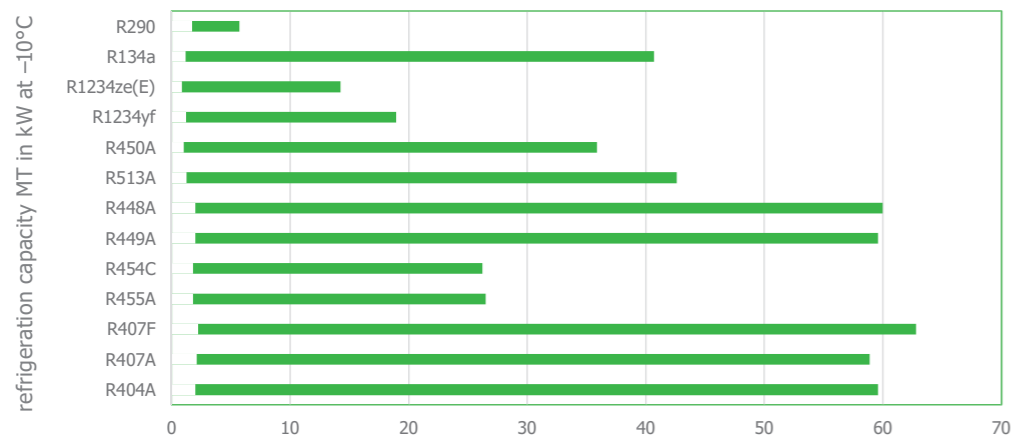
• = option available, ○ = option without extra charge
* retrofitting not possible.
¹ for R1234ze(E), t_c > +70°C/t_o > +15°C, on request.
(Subject to change without notice)

EXTRAORDINARY OPTIONAL EQUIPMENT TO FULFIL YOUR DEMANDS

LHE – AIR COOLED CONDENSING UNITS INCLUDING HIGH AMBIENT TEMPERATURE TYPES	2KESP .. 2DESP	2KES .. 2FES	2EES .. 2CES	4FES .. 4CES	4TES .. 4NES			4JE .. 4GE	6JE .. 6HE	S4T .. S4N	S4G	S6J .. S6G
	LH32E/.. – LH53E/..	LH32E/.. – LH44E/..	LH44E/.. – LH84E/..	LH64E/.. – LH114E/..	LH104E/.. – LH114E/..	LH135E/..	LH124E/ 4NES-.. – LH135E/ 4NES-..	LH135E/.. LH265E/..	LH135E/.. LH265E/..	LH104E/..	LH124E/..	LH135E/.. LH265E/..
Oil level monitoring OLC-D1 – opto-electronic	mounted			•	•	•	•					
Differential oil pressure switch MP54	mounted							•	•	•	•	•
Differential oil pressure switch DP-2	mounted							•	•	•	•	•
Oil heater	for details see price list	•	•	•	•	•	•	•	•	•	•	•
Discharge gas temperature sensor	PTC 140 (included in SU) PT1000 with IQ MODULE			•	•	•	•	•	•	•	•	•
Start unloader (SU)	cylinder head with PTC sensor, mounted control valve, enclosed check valve required				•	•	•	•	•			
Capacity regulator CRII (1×)	cylinder head, mounted control valve, enclosed for possible equipment see technical information KT-101		•	•	•	•	•	•	•			
Oil service valve					•	•	•	•	•	•	•	•
Liquid subcooler – mounted	– liquid injection valve sized for operation with subcooler – complete with piping – components assembled and insulated									•	•	•
IQ MODULE CM-RC-02 Compressor Module Add-on	for details see price list			•	•	•	•	•	•			
BITZER Digital Network	only with IQ MODULE			•	•	•	•	•	•			

• = option available, ◦ = option without extra charge, S = scope of delivery
*retrofitting not possible.
(Subject to change without notice)

APPLICATION RANGE



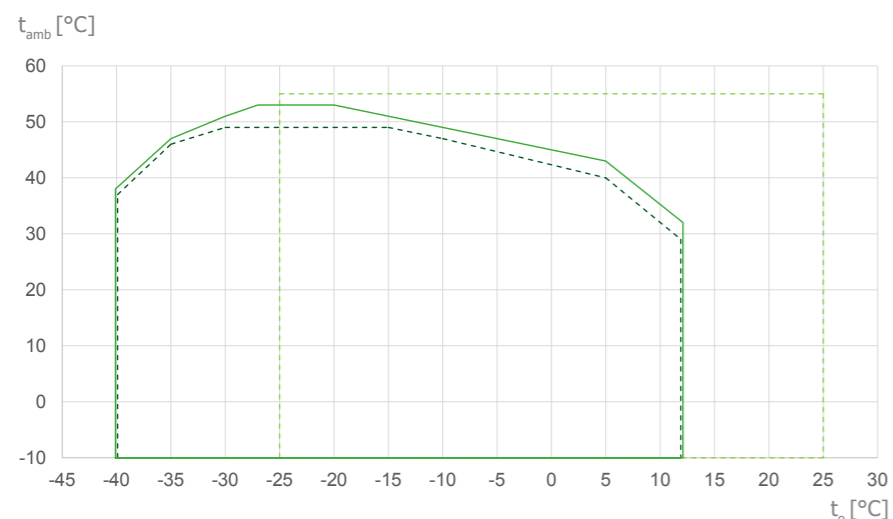
For further details, please refer to BITZER SOFTWARE

BITZER SOFTWARE



Scan for additional information

APPLICATION LIMITS



LH265E/4GE-30Y, 50 Hz, R448A/R449A, $t_{oh} = +20^{\circ}\text{C}$
 LH135E/4PES-15Y, 50 Hz, R448A/R449A, $t_{oh} = +20^{\circ}\text{C}$
 LH84E/4FES-5Y, 50 Hz, R134a/R513A, $t_{oh} = +20^{\circ}\text{C}$

t_o Evaporating temperature [°C]
 t_{amb} Ambient temperature [°C]
 t_{oh} Suction gas temperature [°C]

ASERCOM-CERTIFIED PERFORMANCE DATA

The Association of European Refrigeration Component Manufacturers (ASERCOM) has implemented a procedure of certifying condensing units' performance data.

The high standard of this certification is assured by
 // plausibility checks of the data performed by experts
 // regular random tests at independent institutes

These efforts result in the fact that only a limited number of condensing units can be submitted. Due to this, not all BITZER products are certified yet.

Performance data of condensing units that meet the strict requirements carry the label 'ASERCOM-certified performance'. All certified condensing units and further information are listed on the ASERCOM website (www.ASERCOM.org).

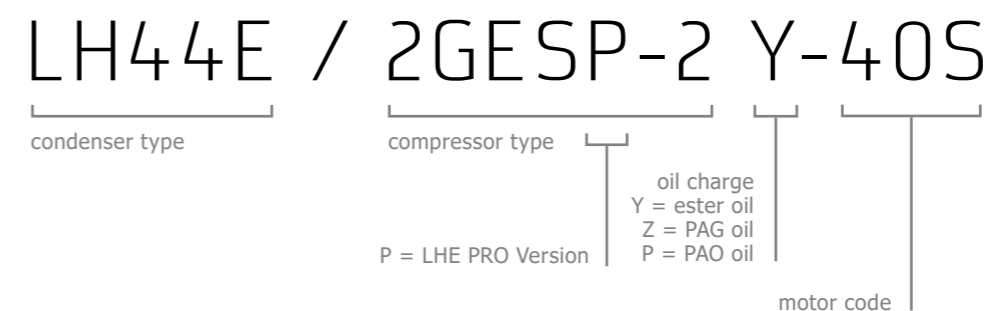


In the BITZER SOFTWARE, the appropriate condensing units are marked with this label.

BITZER CONDENSING UNITS COMPLYING WITH THE EU ECODESIGN REGULATION 2015/1095

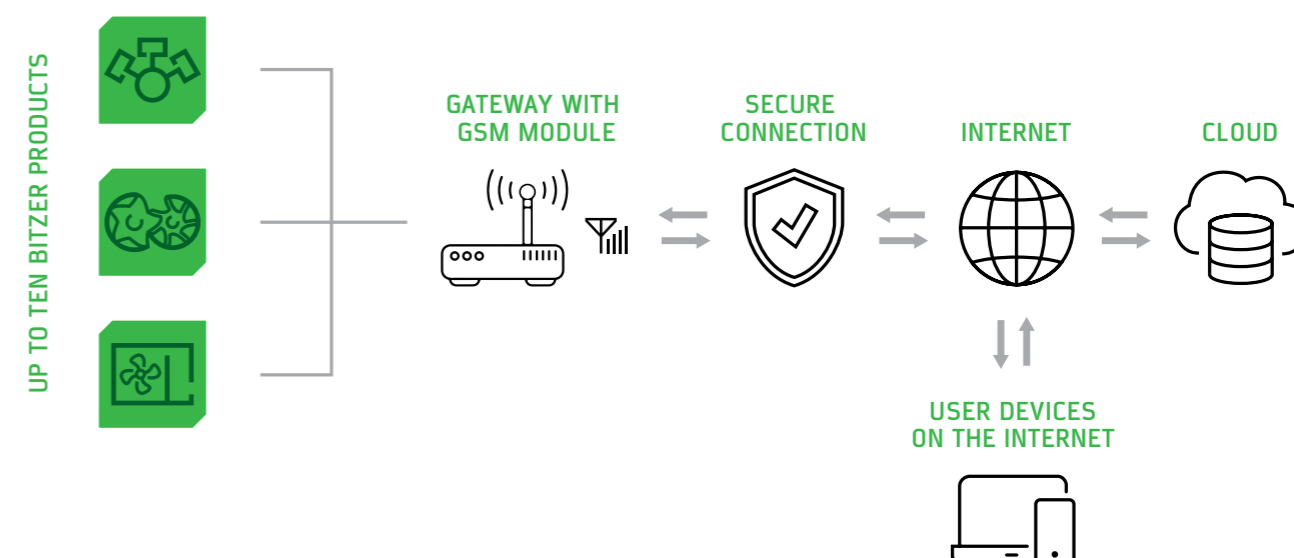
According to MEPS Tier-2, for more details please see BITZER brochure A-530-1	COP	SEPR
MT ($t_o = -10^{\circ}\text{C}$) – refrigeration capacity	0,2 .. ≤5 kW	5 .. 50 kW
LT ($t_o = -35^{\circ}\text{C}$) – refrigeration capacity	0,1 .. ≤2 kW	2 .. 20 kW

EXPLANATION OF TYPE DESIGNATION



BITZER DIGITAL NETWORK: ALL-ROUND VIEW OF THE HEART OF REFRIGERATION AND A/C SYSTEMS

This provides you with important product- and application-related information on all the BITZER products, including, among others, data analyses and compressor operation reports.*



* In combination with IQ MODULE – CM-RC-02.

PERFORMANCE DATA

STANDARD TYPES						
Type	Refrigeration capacity Q _o MT t _o -10/t _{amb} 32°C R513A	Refrigeration capacity Q _o LT t _o -35/t _{amb} 32°C midpoint R448A	Best efficiency MT with refrigerant		Best efficiency LT with refrigerant	
LH32E/2KES-05Y	1.26	0.43	2.09	R448A	0.99	R407F
LH32E/2JES-07Y	1.57	0.63	2.02	R448A	0.99	R407F
LH33E/2HES-1Y	2.12	0.85	2.07	R134a	1.19	R407F
LH33E/2HES-2Y	2.12	0.85	2.09	R407A	1.17	R407F
LH33E/2GES-2Y	2.45	1.01	2.05	R513A	1.21	R407F
LH44E/2GES-2Y	2.52	1.02	2.1	R513A	1.2	R407A
LH44E/2FES-2Y	3.07	1.29	2.19	R513A	1.25	R407F
LH44E/2FES-3Y	3.05	1.29	2.05	R513A	1.24	R407F
LH44E/2EES-2Y	3.66	1.61	2.27	R134a	1.3	R404A
LH53E/2DES-2Y	4.51	1.97	2.35	R134a	1.34	R404A
LH64E/2EES-3Y	4.02	1.67	2.25	R448A	1.21	R404A
LH64E/2DES-3Y	4.73	2	2.29	R513A	1.58	R449A
LH64E/2CES-3Y	5.71	2.64	3.09	R513A	1.75	R404A
LH64E/4FES-3Y	5.89	2.83	3.07	R513A	1.7	R404A
LH64E/4EES-4Y	7.44	3.43	3.08	R1234ze(E)	1.71	R448A
LH84E/2CES-4Y	5.93	2.65	3.37	R513A	1.83	R404A
LH84E/4FES-5Y	6.16	2.86	3.36	R513A	1.69	R449A
LH84E/4EES-6Y	7.86	3.56	3.37	R513A	1.82	R404A
LH84E/4DES-5Y	8.93	3.97	3.3	R134a	1.84	R404A
LH84E/4CES-6Y	10.68	5.09	3.18	R450A	1.82	R404A
LH104E/4DES-7Y	9.36	3.69	3.22	R513A	1.73	R404A
LH104E/4TES-9Y	13.95	6.21	3.2	R513A	1.83	R404A
LH114E/4CES-9Y	11.52	5.31	3.36	R513A	1.82	R404A
LH114E/4TES-12Y	14	6.3	3.3	R513A	1.87	R404A
LH114E/4PES-12Y	15.87	6.72	3.31	R513A	1.88	R404A
LH124E/4NES-14Y	18.7	8.43	3.35	R450A	1.86	R448A
LH135E/4PES-15Y	16.52	6.67	3.6	R513A	1.96	R404A
LH135E/4NES-20Y	19.42	8.67	3.52	R513A	1.98	R404A
LH135E/4JE-15Y	22.2	10.36	3.57	R134a	1.98	R449A
LH135E/4JE-22Y	21.8	9.63	3.58	R134a	1.97	R404A
LH135E/4HE-18Y	25.7	12.3	3.49	R1234ze(E)	1.95	R449A
LH135E/4HE-25Y	25.3	11.72	3.48	R1234ze(E)	1.95	R404A
LH135E/4GE-23Y	28.2	14.49	3.48	R1234ze(E)	1.92	R448A
LH135E/6JE-25Y	30.4	14.74	3.35	R1234ze(E)	1.94	R448A
LH135E/6HE-28Y	34.8	17.12	3.23	R1234ze(E)	1.86	R449A
HIGH AMBIENT TEMPERATURE						
LH265E/4JE-15Y	23.3	10.41	3.51	R513A	1.86	R404A
LH265E/4JE-22Y	22.9	8.89	3.5	R513A	1.85	R404A
LH265E/4HE-18Y	27.2	12.63	3.59	R513A	1.89	R404A
LH265E/4GE-23Y	30.2	15.1	3.53	R513A	1.87	R449A
LH265E/4GE-30Y	30.7	14.11	3.47	R513A	1.9	R404A
LH265E/4FE-28Y	36.1	17.77	3.33	R513A	1.89	R448A
LH265E/4FE-35Y	35.3	17.37	3.37	R134a	1.9	R449A
LH265E/6JE-25Y	32.8	15.5	3.48	R513A	1.94	R404A
LH265E/6HE-28Y	37.9	18.16	3.43	R450A	1.92	R404A
LH265E/6HE-35Y	37.3	17.29	3.4	R134a	1.88	R404A
LH265E/6GE-34Y	42.7	22.3	3.36	R450A	1.93	R449A

Tentative data

TECHNICAL DATA



STANDARD TYPES						
Type	Weight in kg (standard extent of delivery)	Max. fan power in W	Max. condenser air flow in m ³ /h	Receiver volume in dm ³	Max. operating current in A	Sound pressure level at -10/32°C 50 Hz at 10 m in dB(A)
LH32E/2KES-05Y	71	135	1650	3	4.2	45.4
LH32E/2JES-07Y	71	135	1650	3	5.1	45.5
LH33E/2HES-1Y	70	135	1650	3	5.2	45.6
LH33E/2HES-2Y	72	135	1650	3	5.9	45.6
LH33E/2GES-2Y	72	135	1650	3	6.4	42.4
LH44E/2GES-2Y	78	155	2000	5.6	6.4	42.4
LH44E/2FES-2Y	77	155	2000	5.6	6.7	43
LH44E/2FES-3Y	78	155	2000	5.6	7.5	43
LH44E/2EES-2Y	96	155	2000	5.6	7.4	43.1
LH53E/2DES-2Y	109	155	2600	5.6	9	44
LH64E/2EES-3Y	121	330	4300	7.8	9	45
LH64E/2DES-3Y	121	330	4300	7.8	10.1	45.1
LH64E/2CES-3Y	119	330	4300	7.8	10.6	45.2
LH64E/4FES-3Y	131	330	4300	7.8	11	45.6
LH64E/4EES-4Y	133	330	4300	7.8	13.7	46.8
LH84E/2CES-4Y	123	340	4600	13	11.5	45.3
LH84E/4FES-5Y	140	340	4600	13	12.3	45.7
LH84E/4EES-6Y	140	340	4600	13	15.1	46.9
LH84E/4DES-5Y	143	340	4600	13	16	48
LH84E/4CES-6Y	147	340	4600	13	19.2	48.2
LH104E/4DES-7Y	188	2×330	8000	15	18	48.3
LH104E/4TES-9Y	235	2×330	8000	15	21.4	48.7
LH114E/4CES-9Y	199	2×330	9300	15	21.7	48.6
LH114E/4TES-12Y	251	2×330	9300	15	26.6	48.7
LH114E/4PES-12Y	249	2×330	9300	15	24.2	50
LH124E/4NES-14Y	284	2×330	9800	30	28.1	55.3
LH135E/4PES-15Y	303	2×340	10400	30	29.8	53.4
LH135E/4NES-20Y	306	2×340	10400	30	34.8	55.5
LH135E/4JE-15Y	343	2×340	10400	30	32.4	50.5
LH135E/4JE-22Y	343	2×340	10400	30	38.8	50.5
LH135E/4HE-18Y	352	2×340	10400	30	38.3	50.9
LH135E/4HE-25Y	356	2×340	10400	30	45.6	50.9
LH135E/4GE-23Y	345	2×340	10400	30	45.5	53.5
LH135E/6JE-25Y	381	2×340	10400	30	48	52.1
LH135E/6HE-28Y	381	2×340	10400	30	54.8	54.2
2-STAGE						
LH104E/S4T-5.2Y	252	2×330	9800	15	16	on request
LH104E/S4N-8.2Y	257	2×330	9800	15	19	on request
LH124E/S4G-12.2Y	348	2×330	9800	30	26	on request
LH135E/S6J-16.2Y	395	2×340	10400	30	33	on request
LH135E/S6H-20.2Y	406	2×340	10400	30	39	on request
LH135E/S6G-25.2Y	419	2×340	10400	30	47	on request

Tentative data

K SERIES » LHE » ECOLITE » ECOSTAR

TECHNICAL DATA

STANDARD TYPES						
Type	Weight in kg (standard extent of delivery)	Max. fan power in W	Max. condenser air flow in m ³ /h	Receiver volume in dm ³	Max. operating current in A	Sound pressure level at -10/32°C 50 Hz at 10 m in dB(A)

LHE PRO						
LHE32E/2KESP-05P	71	135	1650	3	4.2	45.4
LHE32E/2JESP-07P	71	135	1650	3	5.1	45.5
LHE33E/2HESP-1P	70	135	1650	3	5.2	45.6
LHE33E/2HESP-2P	72	135	1650	3	5.9	45.6
LHE33E/2GESp-2P	72	135	1650	3	6.4	42.4
LHE44E/2GESp-2P	78	155	2000	5.6	6.4	42.4
LHE53E/2GESp-2P	92	155	2600	5.6	6.4	44.0
LHE44E/2FESP-2P	77	155	2000	5.6	6.7	43.0
LHE44E/2FESP-3P	78	155	2000	5.6	7.5	43.0
LHE44E/2EESP-2P	96	155	2000	5.6	7.4	43.1
LHE53E/2DESP-2P	109	155	2600	5.6	9.0	44.0

Tentative data

TECHNICAL DATA



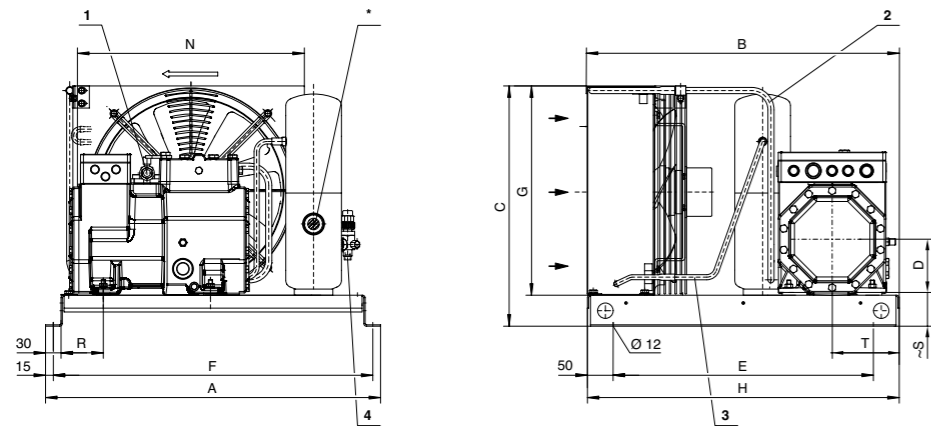
HIGH AMBIENT TEMPERATURE						
Type	Weight in kg (standard extent of delivery)	Max. fan power in W	Max. condenser air flow in m ³ /h	Receiver volume in dm ³	Max. operating current in A	Sound pressure level at -10/+32°C 50 Hz at 10 m in dB(A)

LH33E/2KES-05Y	71	135	1650	3	4.2	45.5
LH33E/2JES-07Y	71	135	1650	3	5.1	45.5
LH44E/2HES-1Y	80	155	2000	5.6	5.2	43
LH44E/2HES-2Y	81	155	2000	5.6	5.9	43
LH53E/2GES-2Y	92	155	2600	5.6	6.4	44
LH64E/2FES-2Y	104	330	4300	7.8	7.1	45
LH64E/2EES-2Y	127	330	4300	7.8	7.8	45
LH64E/2DES-2Y	127	330	4300	7.8	9.3	45
LH84E/2CES-3Y	136	340	4600	13	10.8	45.3
LH84E/4FES-3Y	148	340	4600	13	11.2	45.7
LH104E/2DES-3Y	182	2×330	8000	15	10.4	46
LH104E/2CES-4Y	182	2×330	8000	15	11.8	46
LH104E/4EES-4Y	196	2×330	8000	15	14	47
LH104E/4EES-6Y	198	2×330	8000	15	15.4	47
LH114E/4FES-5Y	212	2×330	9300	15	12.6	48.6
LH114E/4DES-5Y	212	2×330	9300	15	16.3	48.6
LH114E/4DES-7Y	215	2×330	9300	15	18.3	48.6
LH124E/4CES-6Y	254	2×330	9800	30	19.5	55.3
LH124E/4CES-9Y	254	2×330	9800	30	22	55.3
LH124E/4TES-9Y	300	2×330	9800	30	21.7	55.3
LH124E/4TES-12Y	307	2×330	9800	30	26.9	55.3
LH135E/4PES-12Y	323	2×340	10400	30	24.7	53.4
LH135E/4NES-14Y	325	2×340	10400	30	28.6	55.3
LH265E/4JE-15Y	551	2×760	26000	39	33	on request
LH265E/4JE-22Y	582	2×760	26000	39	39.5	on request
LH265E/4HE-18Y	555	2×760	26000	39	39	on request
LH265E/4HE-25Y	575	2×760	26000	39	46.2	on request
LH265E/4GE-23Y	564	2×760	26000	39	46.2	on request
LH265E/4GE-30Y	578	2×760	26000	39	53.5	on request
LH265E/4FE-28Y	579	2×760	26000	39	55	on request
LH265E/4FE-35Y	579	2×760	26000	39	64.4	on request
LH265E/6JE-25Y	585	2×760	26000	39	48.7	on request
LH265E/6JE-33Y	603	2×760	26000	39	55.5	on request
LH265E/6HE-28Y	596	2×760	26000	39	55.5	on request
LH265E/6HE-35Y	607	2×760	26000	39	66.7	on request
LH265E/6GE-34Y	600	2×760	26000	39	67.8	on request
LH265E/6GE-40Y	610	2×760	26000	39	76.2	on request
2-STAGE						
LH265E/S6G-25.2Y	605	2×760	26000	39	52	on request
LH265E/S6F-30.2Y	606	2×760	26000	39	60	on request

Tentative data

DIMENSIONS

STANDARD UNIT (high ambient units on request)
LH32E/2KES-05(Y) .. LH84E/2CES-4(Y)

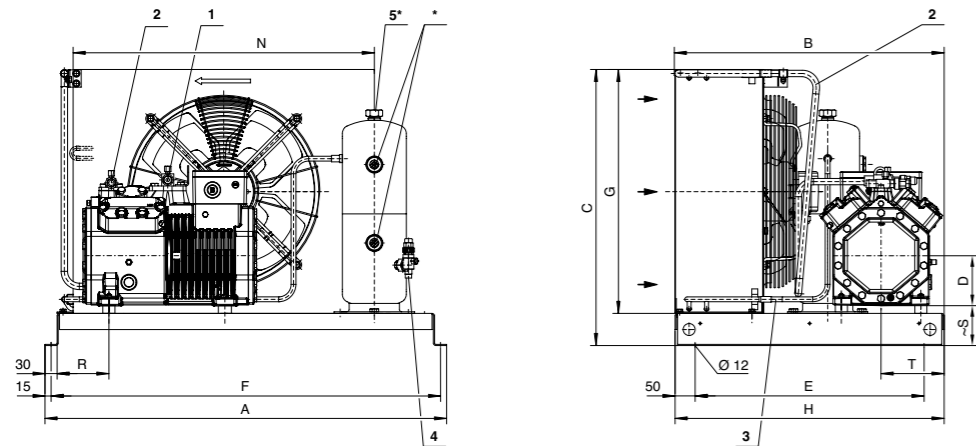


For further details, please refer to BITZER SOFTWARE

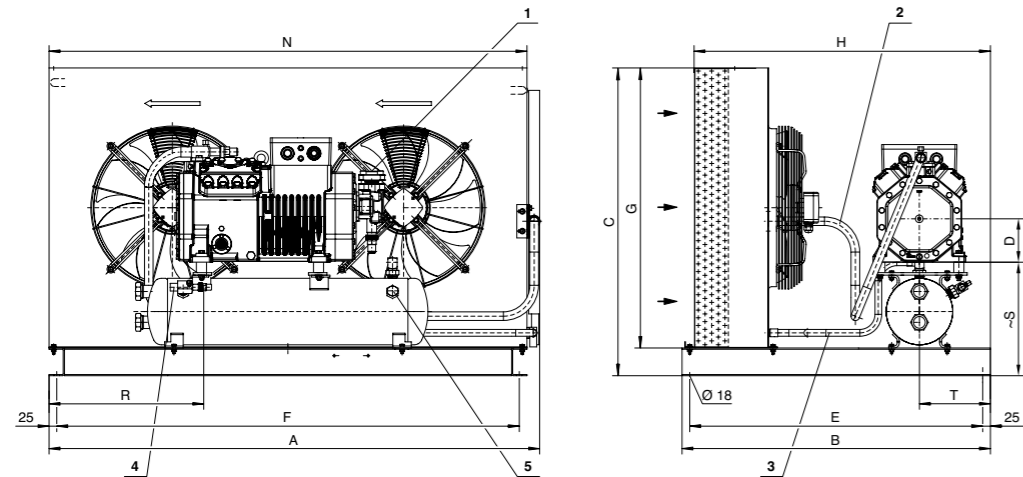


Scan for additional information

STANDARD UNIT (high ambient units on request)
LH64E/4FES-3(Y) .. LH84E/4DES-5(Y)/LH84E/4CES-6(Y)



STANDARD UNIT (high ambient units on request)
LH104E/4DES-7(Y) .. LH135E/6HE-28(Y)



Connection positions

- 1 Suction valve
 - 2 Discharge line
 - 3 Condensate line
 - 4 Refrigerant outlet
 - 5 Connection for pressure relief valve
internal thread: 3/8-18 NPTF
external thread: 1 1/4-12 UNF
- * Option set.

Tentative data

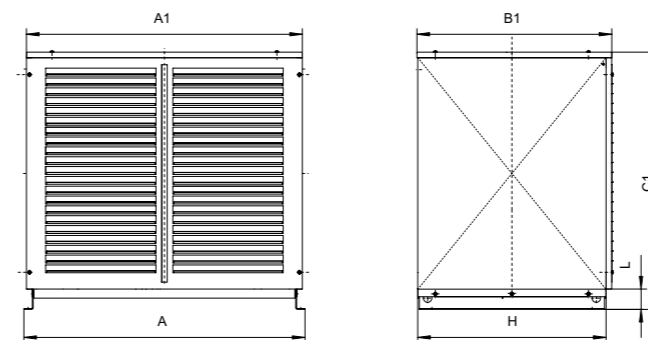
Tentative data

DIMENSIONS



Type	Dimensions in mm																	Connections			
																		Suction valve		Refrigerant outlet	
	A	A ₁	B	B ₁	C	C ₁	D	E	F	G	H	L	N	R	S	T	mm	in.	mm	in.	
LH32E/2KES(P)-05(Y)	650	630	607	645	466	574	102	505	620	406	605	62	440	82	66	133	12	1/2	10	3/8	
LH32E/2JES(P)-07(Y)	650	630	607	645	466	574	102	505	620	406	605	62	440	82	66	133	12	1/2	10	3/8	
LH33E/2HES(P)-1(Y)	650	630	607	645	466	574	102	505	620	406	605	62	440	82	66	133	16	5/8	10	3/8	
LH33E/2HES(P)-2(Y)	650	630	607	645	466	574	102	505	620	406	605	62	440	82	66	133	16	5/8	10	3/8	
LH33E/2GES(P)-2(Y)	650	630	607	645	466	574	102	505	620	406	605	62	440	82	66	133	16	5/8	10	3/8	
LH44E/2GES(P)-2(Y)	650	630	607	645	516	574	102	505	620	456	605	62	490	82	66	133	16	5/8	10	3/8	
LH44E/2FES(P)-2(Y)	650	630	607	645	516	574	102	505	620	456	605	62	490	82	66	133	16	5/8	10	3/8	
LH44E/2FES(P)-3(Y)	650	630	607	645	516	574	102	505	620	456	605	62	490	82	66	133	16	5/8	10	3/8	
LH44E/2EES(P)-2(Y)	650	630	702	740	516	574	121	600	620	456	700	62	490	146	82	174	22	7/8	10	3/8	
LH64E/2EES-3(Y)	1000	982	672	693	687	915	121	570	970	607	670	72	750	160	102	157	22	7/8	12	1/2	
LH53E/2GES(P)-2Y	1000	982	671	693	536	915	102	570	970	456	670	72	750	160	102	139	16	5/8	10	3/8	
LH53E/2DES(P)-2(Y)	1000	982	671	693	536	915	121	570	970	456	670	72	750	160	102	157	22	7/8	10	3/8	
LH64E/2DES-3(Y)	1000	982	672	693	687	915	121	570	970	607	670	72	750	160	102	157	22	7/8	12	1/2	
LH64E/2CES-3(Y)	1000	982	672	693	687	915	121	570	970	607	670	72	750	160	102	157	22	7/8	12	1/2	
LH84E/2CES-4(Y)	1000	982	672	693	837	915	121	570	970	757	670	72	850	160	102	157	22	7/8	12	1/2	
LH64E/4FES-3(Y)	1000	982	672	693	687	915	125	570	970	607	670	72	750	129	99	157	22	7/8	12	1/2	
LH84E/4FES-5(Y)	1000	982	672	693	837	915	125	570	970	757	670	72	850	129	99	157	22	7/8	12	1/2	
LH64E/4EES-4(Y)	1000	982	672	693	687	915	125	570	970	607	670	72	750	129	99	157	28	1 1/8	12	1/2	
LH84E/4EES-6(Y)	1000	982	672	693	837	915	125	570	970	757	670	72	850	129	99	157	28	1 1/8	12	1/2	
LH84E/4DES-5(Y)	1000	982	672	693	837	915	125	570	970	757	670	72	850	129	99	157	28	1 1/8	12	1/2	
LH84E/4CES-6(Y)	1000	982	672	693	837	915	125	570	970	757	670	72	850	129	99	157	28	1 1/8	12	1/2	

WEATHER PROTECTION HOUSING LH32E .. LH135E (not available for LH265E)

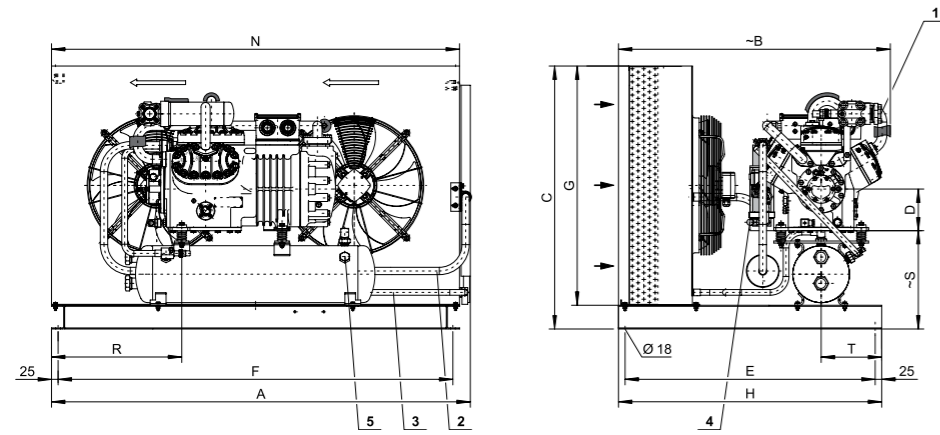


A1, B1, C1:
Dimensions of the appropriate weather protection housing

For further information see INFO-505 and INFO-506 at bitzer.de

DIMENSIONS

LH104E/S4T-5.2Y .. LH135E/S6G-25.2Y



Connection positions

- 1 Suction valve
- 2 Discharge line
- 3 Condensate line
- 4 Refrigerant outlet
- 5 Connection for pressure relief valve
internal thread: 3/8-18 NPTF
external thread: 1 1/4-12 UNF
- * Option set.

Type	Dimensions in mm															Connections			
																Suction valve		Refrigerant outlet	
	A	A ₁	B	B ₁	C	C ₁	D	E	F	G	H	N	R	S	T	mm	in.	mm	in.
LH104E/4DES-7(Y)	1140	1280	920	1060	723	795	125	870	1060	658	886	1100	326	282	215	28	1 1/8	16	5/8
LH114E/4CES-9(Y)	1356	1480	920	1060	773	845	125	870	1270	708	886	1310	431	282	215	28	1 1/8	16	5/8
LH104E/4TES-9(Y)	1140	1280	920	1060	773	795	142	870	1060	658	886	1100	289	297	215	35	1 3/8	16	5/8
LH114E/4TES-12(Y)	1356	1480	920	1060	773	845	142	870	1270	708	886	1310	394	297	215	35	1 3/8	16	5/8
LH114E/4PES-12(Y)	1356	1480	920	1060	773	845	142	870	1270	708	886	1310	394	297	215	35	1 3/8	16	5/8
LH135E/4PES-15(Y)	1591	1720	1000	1140	998	1070	142	950	1500	908	961	1550	502	368	230	42	1 5/8	22	7/8
LH124E/4NES-14(Y)	1591	1720	1000	1140	848	920	142	950	1500	758	961	1550	502	368	230	35	1 3/8	22	7/8
LH135E/4NES-20(Y)	1591	1720	1000	1140	998	1070	142	950	1500	908	961	1550	502	368	230	42	1 5/8	22	7/8
LH135E/4JE-15(Y)	1591	1720	1000	1140	998	1070	158	950	1500	908	961	1550	495	373	230	42	1 5/8	22	7/8
LH135E/4JE-22(Y)	1591	1720	1000	1140	998	1070	158	950	1500	908	961	1550	495	373	230	42	1 5/8	22	7/8
LH135E/4HE-18(Y)	1591	1720	1000	1140	998	1070	158	950	1500	908	961	1550	495	373	230	42	1 5/8	22	7/8
LH135E/4HE-25(Y)	1591	1720	1000	1140	998	1070	158	950	1500	908	961	1550	495	373	230	54	2 1/8	22	7/8
LH135E/4GE-23(Y)	1591	1720	1000	1140	998	1070	158	950	1500	908	961	1550	495	373	230	54	2 1/8	22	7/8
LH135E/6JE-25(Y)	1591	1720	1000	1140	998	1070	158	950	1500	908	961	1550	495	373	230	54	2 1/8	22	7/8
LH135E/6HE-28(Y)	1591	1720	1000	1140	998	1070	158	950	1500	908	961	1550	495	373	230	54	2 1/8	22	7/8

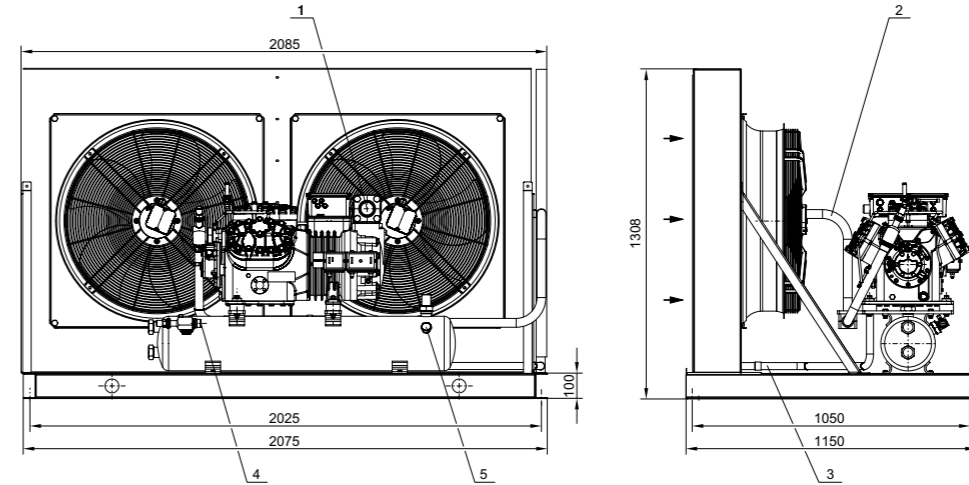
Tentative data

Tentative data

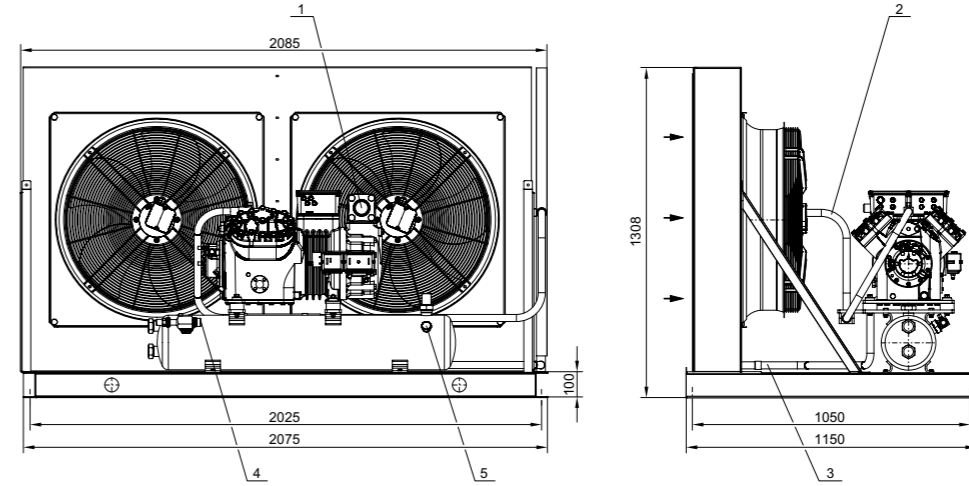


DIMENSIONS

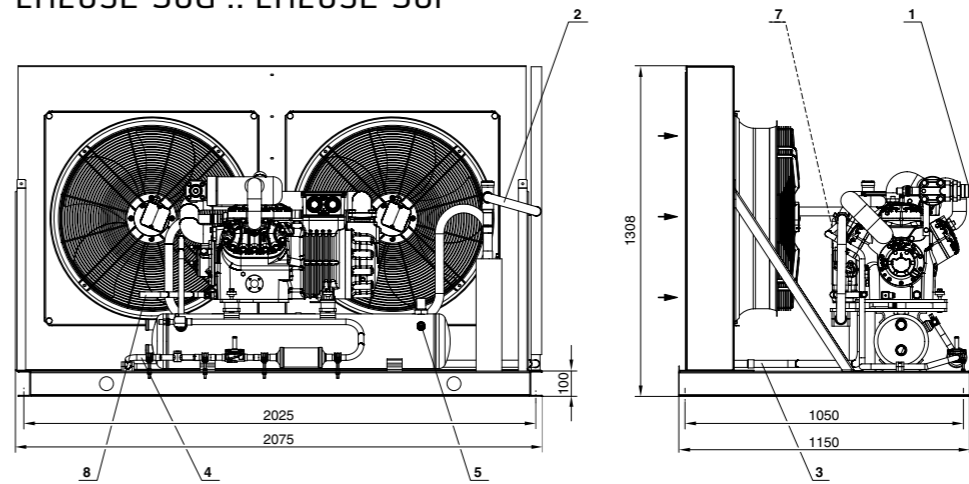
LH265E-6JE .. LH265E-6GE



LH265E-4JE .. LH265E-4FE



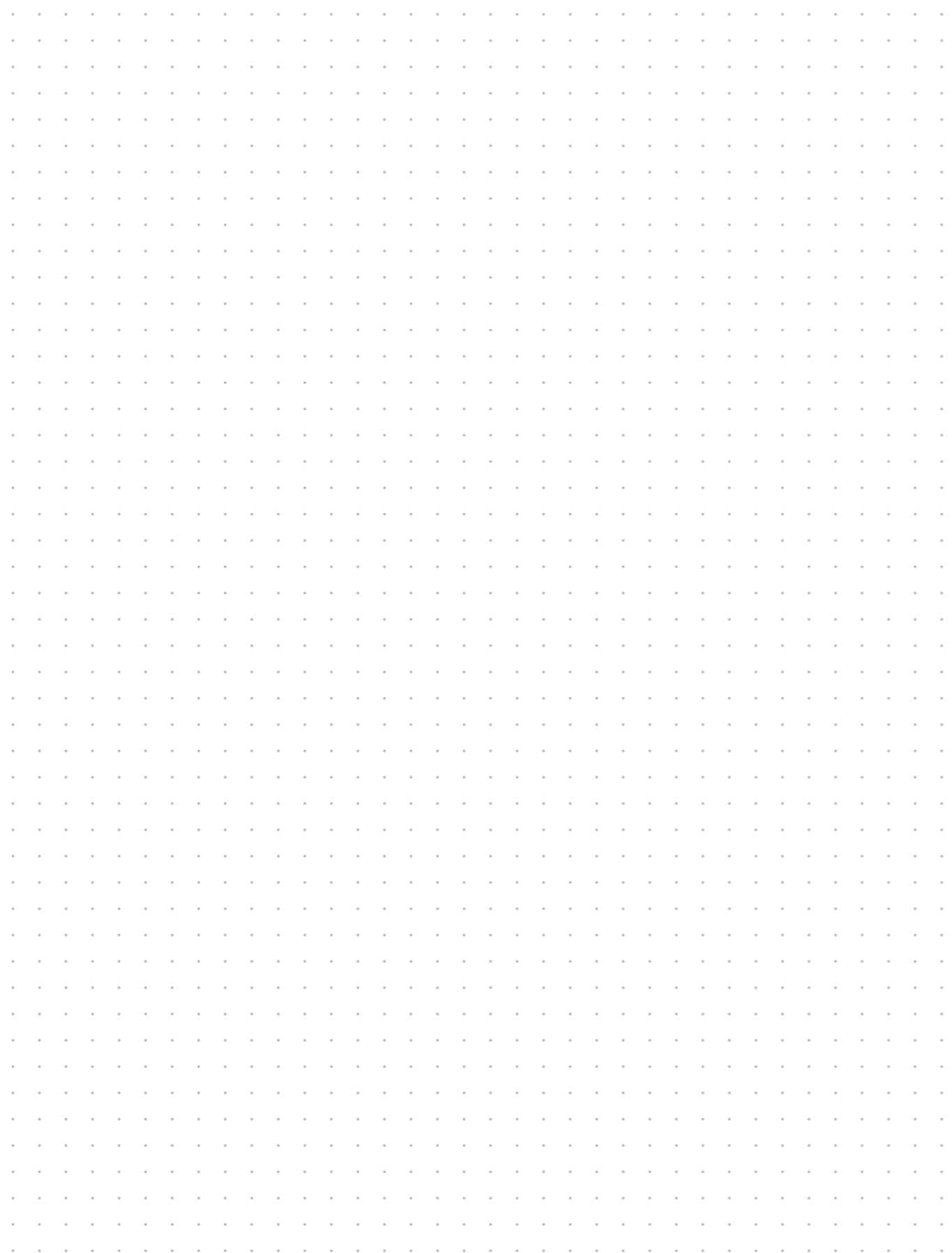
LH265E-S6G .. LH265E-S6F



Connection positions

- 1 Suction valve
- 2 Discharge line
- 3 Condensate line
- 4 Refrigerant outlet
- 5 Connection for pressure relief valve
internal thread: 3/8-18 NPTF
external thread: 1 1/4-12 UNF
- 7 Refrigerant inlet at liquid subcooler
- 8 Refrigerant outlet at liquid subcooler
- * Option set.

NOTES



ACCESSORIES



ACCESSORY PACK ALL-IN-ONE PACKAGE AND READY FOR USE

The accessory pack makes life more convenient: with its wired and mounted components (selected kits), commissioning is not only easy but also saves time and money.

- // HP/LP switches (mounted)
- // Wiring to junction box/terminal box
- // Liquid line with sight glass and filter drier
- // Insulated suction line to outer unit edge with LH32E .. LH84E



VARISTEP – MECHANICAL CAPACITY CONTROL ADAPTATION ACCORDING TO SYSTEM REQUIREMENTS

With the mechanical capacity control VARISTEP, changing cooling demands are no problem. It prevents high switching frequencies of the compressor and ensures efficient operation of the compressor. It is based on the principle of blocked suction.

- // Refrigeration capacity range from 10%–100% (details see KT-101) or with CM-RC-02



WIRING OF ELECTRICAL COMPONENTS ADDITIONAL TASKS EASILY SAVED

Leave the wiring and connection of electrical components to BITZER: it saves time and money for the installer as well as for the owner.

- // To terminal box of compressor
- // To junction box (mounted)



OIL SEPARATOR WITH CHECK VALVE KEEPS THE COMPRESSOR LUBRICATED – NO MATTER THE APPLICATION

The right oil supply to the compressor at any time is no problem with the optional oil separator with check valve in the discharge line.

- // Available for the whole LHE series

Images are for illustration purposes only

K SERIES

WATER COOLED SOLUTION AT ITS BEST

FOR ALL COMMERCIAL REFRIGERATION APPLICATIONS, FROM 0.3 KW UP TO 89.0 KW, EITHER LOW TEMPERATURE OR MEDIUM TEMPERATURE APPLICATIONS, THE K SERIES GUARANTEES THE BEST EFFICIENCY WHILE ENSURING HIGH RELIABILITY AND SAFE SYSTEM OPERATION.



MEETING MARKET DEMANDS

- // The K series water cooled condensing units can be operated with water from a tower, the city or the sea
- // Optimised for applications with limited space
- // Perfect combination of highly efficient BITZER ECOLINE compressor and BITZER water cooled condenser for proven reliability in all conditions
- // Approved for common refrigerants as well as HFO and HFC/HFO blends
- // Condenser: approval according to the EU Pressure Equipment Directive 2014/68/EU
- // IQ MODULE CM-RC-02 is standard for all condensing units with an ECOLINE compressor family starting from CE3 up to BE6

LARGE APPLICATION POSSIBILITIES

The modular system of the K series, with its several accessory extension levels, guarantees the highest flexibility. The main parts such as the semi-hermetic reciprocating compressor and shell-and-tube condenser are manufactured by BITZER and therefore meet the highest level of quality. Matching the ECOLINE compressor and K series condenser is easy thanks to the BITZER SOFTWARE.

AN OPTIMUM MATCHING UNIT PROGRAMME

Commercial refrigeration and A/C applications, such as low and medium temperatures, are feasible. It's a perfect fit for cold storage rooms, city grocery stores and convenience stores. The K series water cooled condensing unit is the perfect answer to system needs and combines efficiency and durability.

GROCERY STORE AND SUPERMARKET



The K series is ideal for systems with cold rooms and cabinets, even multi-evaporators and areas with limited space.

PHARMA/LABS



In processes where reliability, quality and precision are indispensable the K series is the right choice. Additionally you can rely on the global BITZER network.

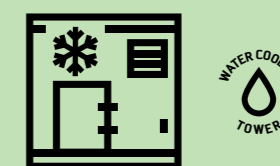
SCALABLE PERFORMANCE ACCORDING TO YOUR NEEDS

HORECA



Worldwide use is possible due to the flexibility with regard to the choice of cooling medium. Furthermore, varying cooling loads are no problem thanks to the optional VARISTEP mechanical capacity control.

WAREHOUSE/COLD STORAGE



Even demanding applications are no problem for the K series. We combine low and medium temperature applications in one condensing unit with a wide range of refrigerants.

K SERIES

THE COMPACT SOLUTION



COMPACT UNIT DESIGN

SMALL SPACE REQUIREMENTS ALLOW EASY AND FLEXIBLE PLACEMENT OF THE UNIT



WIDE RANGE OF REFRIGERATION CAPACITY

EASY SELECTION DUE TO EXTENSIVE PRODUCT PORTFOLIO



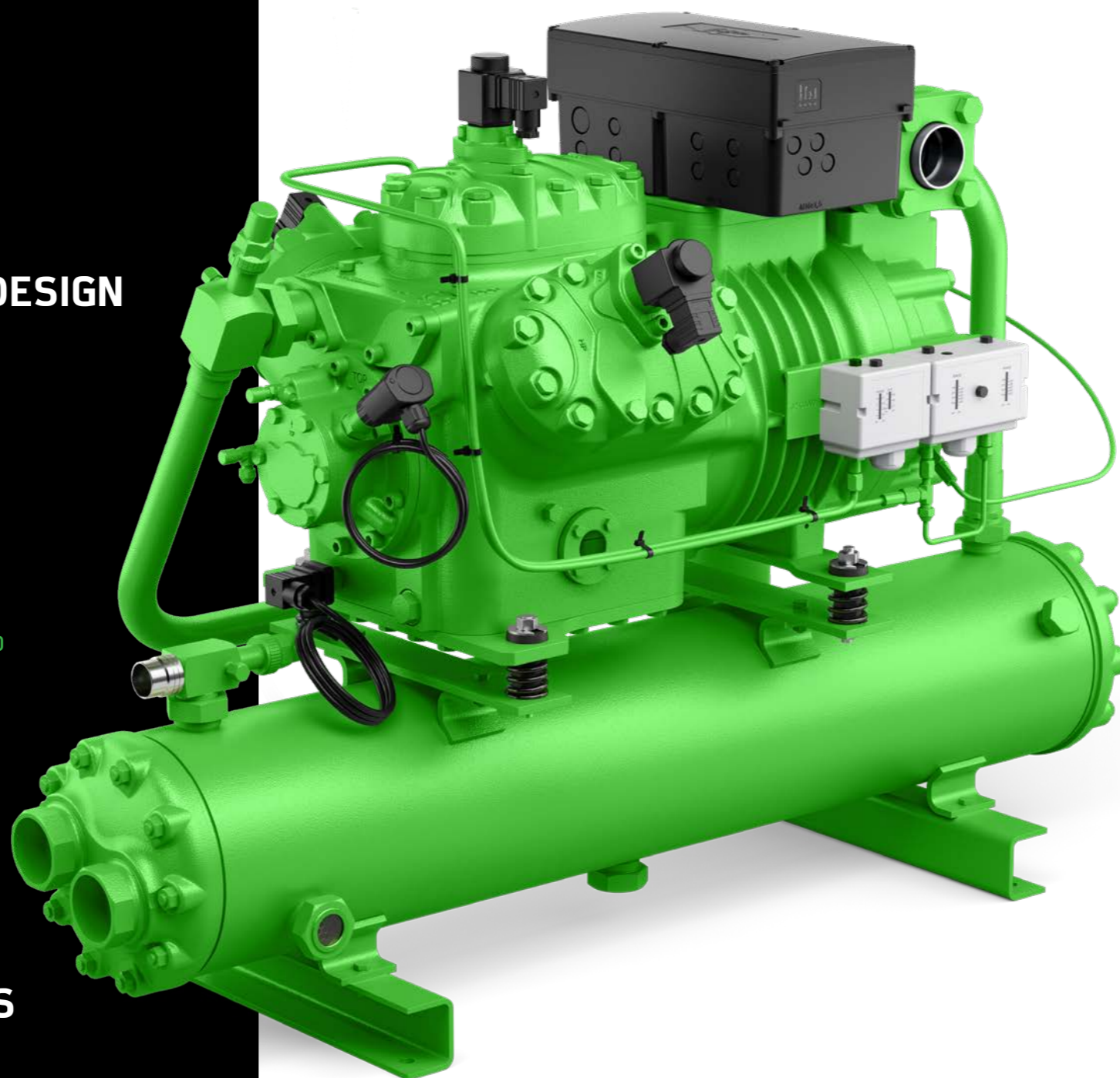
ROBUST AND SOLID DESIGN

LONG-STANDING EXPERIENCE IN COMPRESSOR AND CONDENSER TECHNOLOGY



VARIETY OF COOLING AGENTS

RANGING FROM SEAWATER TO FRESH WATER AND MANY MORE



The water cooled condensing unit is equipped with the **BITZER ECOLINE** semi-hermetic compressor and combined with the proven shell and tube **K condensers** from **BITZER**, thereby ensuring the best performance, efficiency, robustness and reliability.



Perfectly designed for indoor or even outdoor commercial refrigeration installations, **K series** condensing units are the answer for your system requirements and possible space restrictions.

PERFORMANCE

With a large range of cooling capacities from 0.3 kW up to 28.0 kW for low temperatures and from 0.8 kW up to 89.0 kW for medium temperatures, the ECOLINE compressor ensures the best efficiency over the entire operating envelope. Starting from the CE3 compressor family housing size, the CM-RC-02 IQ MODULE is standard for constant safety and protection of the compressor. The optional VARISTEP mechanical capacity modulation offers additional flexibility.

COMPACT DESIGN

Horizontal shell and tube condenser, equipped with compressor and several unit options, enables a very compact design with limited footprint for easy integration into any machine room or basement location.

SUSTAINABLE AND ROBUST DESIGN

The K series is approved for the most common and new HFO and HFC/HFO blends and is therefore future-proof. The semi-hermetic design of the ECOLINE compressor enables easy maintenance onsite or through BITZER Green Point service centres, which not only increases the lifetime but also sustainability.

K SERIES: THE STANDARD WATER COOLED CONDENSING UNIT

BITZER ECOLINE COMPRESSOR

- // Semi-hermetic reciprocating compressor
- // Highly efficient
- // Well proven and reliable
- // Crankcase heater
- // Discharge gas temperature sensor
- // Oil (pressure/level) monitoring
 - Oil level monitoring OLC-D1
 - Differential oil pressure switch MP54
 - Differential oil pressure switch DP-2

VARISTEP – MECHANICAL CAPACITY CONTROL

- // Highly efficient BITZER ECOLINE compressor with VARISTEP capacity control from 10%–100% (details on request)

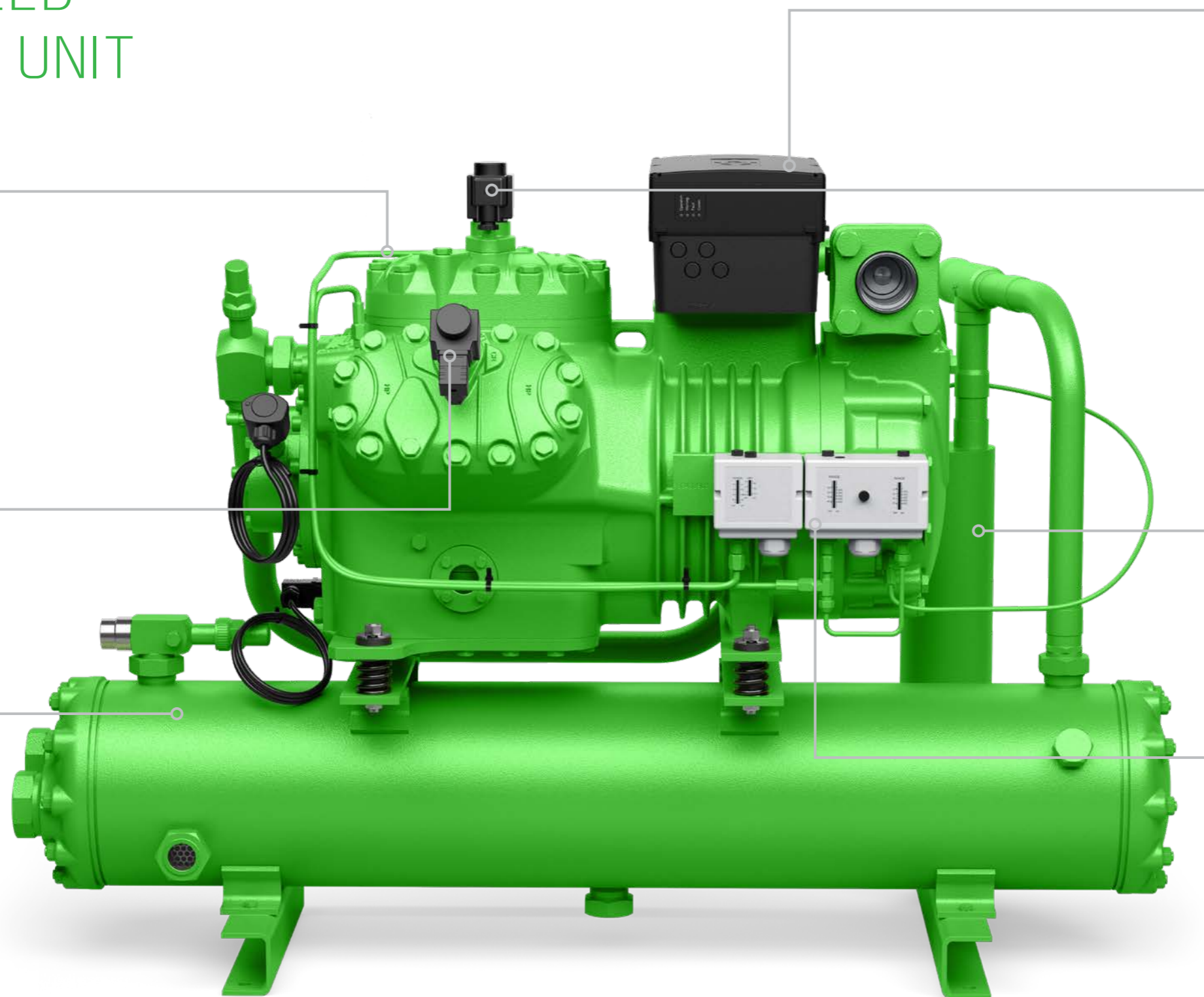
BITZER SHELL AND TUBE CONDENSER

- // With connection for pressure relief valve
- // With various cooling agents
- // Maximum allowable pressure:
 - Refrigerant side 33 bar
 - Coolant side 10 bar
- // Seawater condenser version

RECIPROCATING COMPRESSORS

HFO

MECHATRONIC CAPACITY CONTROL



IQ MODULE CM-RC-02

- // Compressor family CE3 .. BE6
- // Protection mode

START UNLOADER

- // Compressor family CE4 .. BE6
- // Cylinder head with PTC sensor (mounted)
- // Control valve, enclosed

OIL SEPARATOR

- // With check valve in discharge line

HP/LP SWITCH (ADJUSTABLE)

- // Mounted
- // With HP safety pressure cut-out, mounted (from compressor type 4NES-14(Y))

The product picture shows a fully equipped K series.
For the standard extent of delivery and optionally available equipment, please see the following pages.

BITZER KB SERIES: SEAWATER-RESISTANT

RELIABLE OPERATION

// Even with seawater

HIGH REFRIGERATION CAPACITY

// 41 types with up to 151.6 m³/h 50 Hz
// K073HB .. K1353TB

HIGHLY EFFICIENT ECOLINE COMPRESSORS

// Well-known and proven BITZER technology

SYSTEM-OPTIMISED WATER COOLED CONDENSER

// For best heat exchange and low refrigerant charge

ROBUST DESIGN AND COMPACT DIMENSIONS

// Small installation dimension at place of use

EASY HANDLING AND COMMISSIONING

// Easy service thanks to directly accessible system components

K(B)-SERIES WITH 2-STAGE COMPRESSOR: FOR LOW TEMPERATURES

The water cooled condensing units with 2-stage compressors from BITZER are convincing thanks to a compressor design layout, made especially for low temperature applications. They are well combined with the K condenser. Furthermore, low GWP refrigerants are approved for increased sustainability.

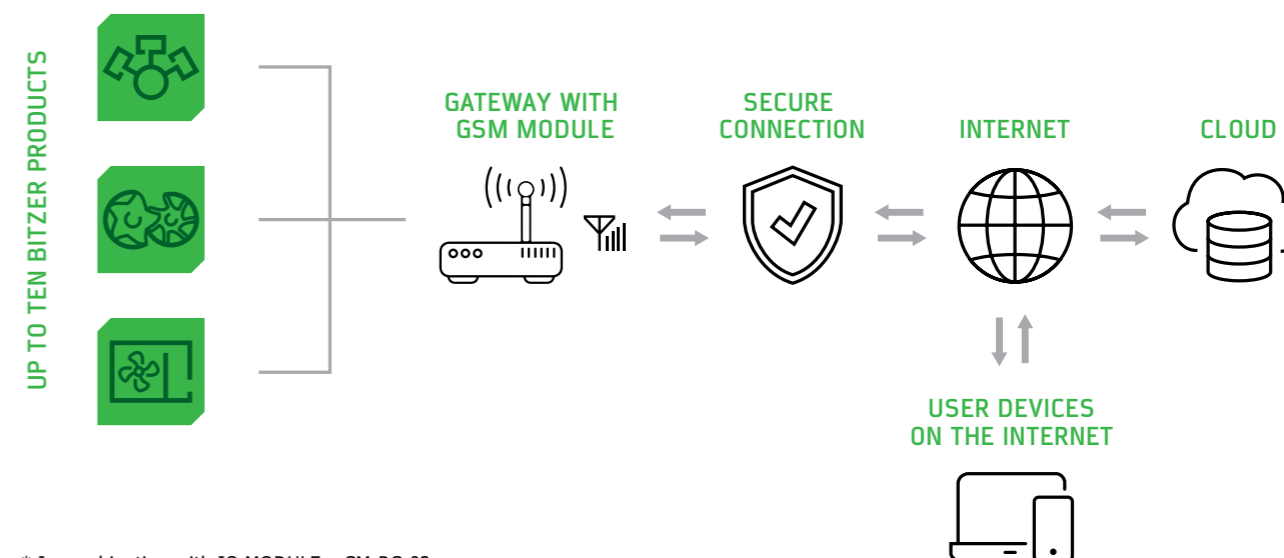
Seven types with displacement LP/HP from 19.70/12.60 m³/h .. 101.10/50.50 m³/h @ 1450 RPM 50 Hz.

Type	Q ₀ @ t ₀ = -35°C/t _c = +40°C, 50 Hz, in kW
	R448A, midpoint
K373H(B)/S4T-5.2(Y)	5.27
K373H(B)/S4N-8.2(Y)	7.49
K573H(B)/S4G-12.2(Y)	11.31
K573H(B)/S6J-16.2(Y)	16.98
K573H(B)/S6H-20.2(Y)	19.68
K813H(B)/S6G-25.2(Y)	22.60
K813H(B)/S6F-30.2(Y)	27.00

Tentative data

BITZER DIGITAL NETWORK: ALL-ROUND VIEW OF THE HEART OF REFRIGERATION AND A/C SYSTEMS

This provides you with important product- and application-related information on all the BITZER products, including, among others, data analyses and compressor operation reports.*



* In combination with IQ MODULE – CM-RC-02.

EXTENT OF DELIVERY

K(B) SERIES WATER COOLED UNIT WITH – ECOLINE COMPRESSOR – 2-STAGE COMPRESSOR	KE		
	K../..	K..B*/..	
Semi-hermetic reciprocating compressor	– ECOLINE compressors – 2-stage compressors	S	S
Shell and tube condenser		S	S
Connection for pressure relief valve	Condenser	S	S
Discharge line	–	S	S
Oil charge	BSE32 (ester oil) for HFC and HFC/HFO refrigerants t _c < 70°C	S	S
IQ MODULE CM-RC-02	Compressor module in module housing default setting protection mode (SE-B) starting from CE3 compressor	S	S
Protection device	SE-B3	S	S

S = extent of delivery
* sea-water resistant
(Subject to change without notice)

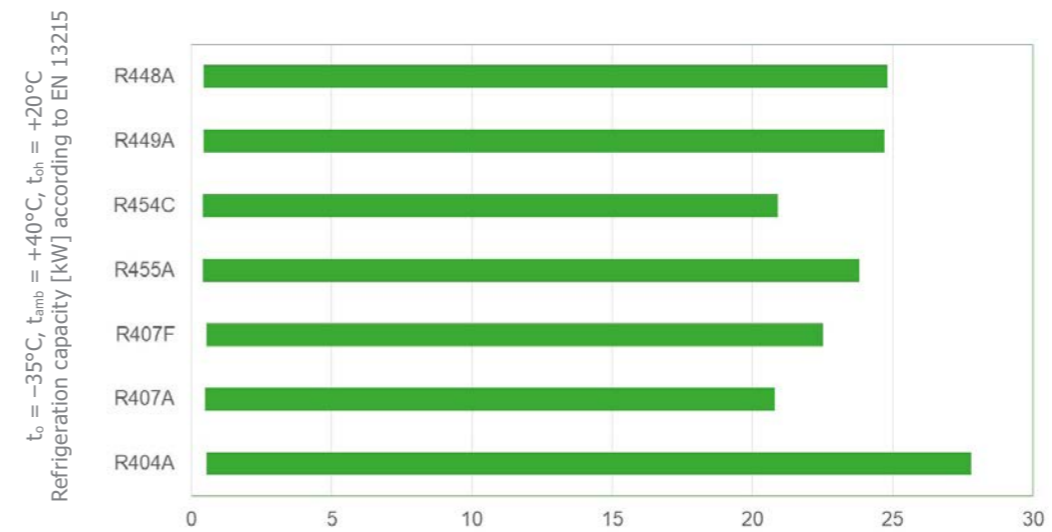
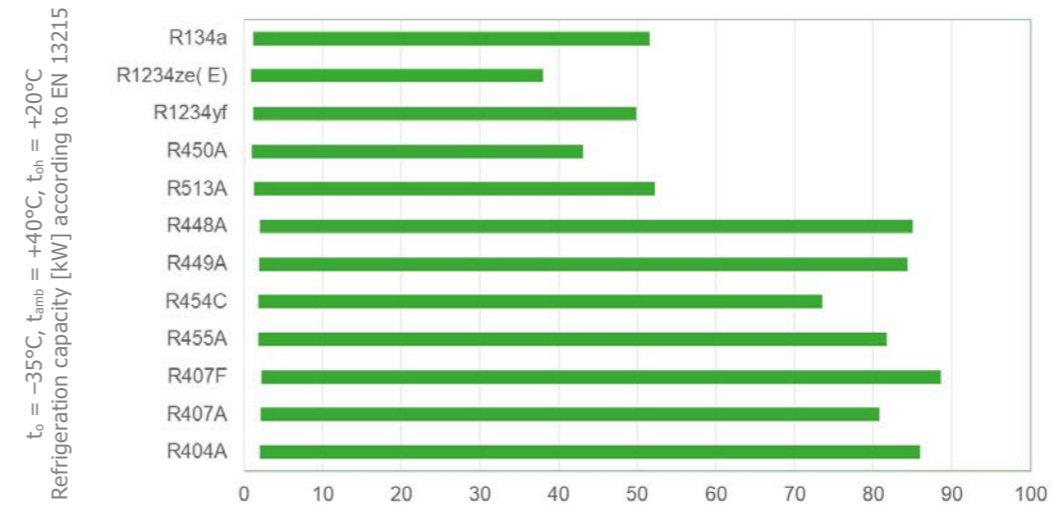
EXTRAORDINARY OPTIONAL EQUIPMENT TO FULFIL YOUR DEMANDS

WATER COOLED UNIT WITH ECOLINE SEAWATER COOLED UNIT WITH ECOLINE WATER COOLED UNIT WITH 2-STAGE COMPRESSOR		KE K../.. // K..B/..								
		ECOLINE						2-STAGE		
		2KES .. 2FES	2EES .. 2CES	4FES .. 4CES	4TES .. 4NES	4JE .. 4GE	6JE .. 6FE	S4T .. S4N	S4G	S6J .. S6F
Warranty extension up to 5 years	for details see price list	•	•	•	•	•	•	•	•	•
Check valve*	in discharge line				•	•	•			
Oil separator*	with check valve in discharge line – mounted	•	•	•	•	•	•	•	•	•
High and low pressure switch (adjustable)	mounted	•	•	•	•			•		
	with HP safety pressure cut-out, mounted				• ¹	•	•		•	•
Motor for special voltage*	for available motors, see technical information KT-410	•	•	•	•	•	•	•	•	•
Oil charge	BSE55 (ester oil) for HFC and HFC/HFO refrigerants – at high condensing temperatures $t_c > 70^\circ\text{C}$ – for R1234ze(E) $t_c < 70^\circ\text{C}/t_o < 15^\circ\text{C}^1$	○	○	○	○	○	○	○**		
	B5.2: 'Y' in compressor designation omitted	○	○	○	○	○	○	○	○	○
Oil level monitoring OLC-D1 – opto-electronic	mounted			•	•					
Differential oil pressure switch MP54	mounted					•	•	•	•	•
Differential oil pressure switch DP-2	mounted					•	•	•	•	•
Oil heater	for details, see price list	•	•	•	•	•		•	•	•
Discharge gas temperature sensor	PTC 140 (included in SU) PT1000 with IQ MODULE			•	•	•		•	•	•
Start unloader (SU)	cylinder head with PTC sensor, mounted control valve, enclosed check valve required				•	•	•			
Capacity regulator CRII (1x)	cylinder head, mounted control valve, possible enclosed equipment see KT-101		•	•	•	•	•			
Oil service valve					•	•	•	•	•	•
Additional fan		•	•	•	•					
Liquid subcooler – mounted	– liquid injection valve sized for operation with subcooler – complete with piping – components assembled and insulated							•	•	•
IQ MODULE CM-RC-02 Compressor Module add-on	for details, see price list			•	•	•	•			
BITZER Digital Network	only with IQ MODULE			•	•	•	•			

• = option available, ○ = option without extra charge
* retrofitting not possible.
** Exception: K1053H(B)/6FE-44(Y), K1353T(B)/6FE-50(Y) on request for A2L refrigerants.
¹ for R1234ze(E), $t_c > +70^\circ\text{C}/t_o > +15^\circ\text{C}$, on request.
(Subject to change without notice)



APPLICATION RANGE



PERFORMANCE DATA

SINGLE-STAGE COMPRESSORS

All performance data are based on the European Standard EN 13215: suction gas temperature 20°C with no liquid subcooling.

2-STAGE COMPRESSORS

All performance data are based on 20°C suction gas temperature according to EN 12900 at 50 Hz, including system inherently liquid subcooling based on optional liquid subcooler.

CONDENSING UNITS

The standard performance data for water cooled condensing units according to EN 13215 are determined at 40°C condensing temperature. With the BITZER SOFTWARE, the data are easily calculated for many refrigerants as compressor data at the same condensing temperature using the above-mentioned values for suction gas temperature and liquid subcooling.

For performance data for individual operating conditions and 60 Hz operation see BITZER SOFTWARE.

For further details, please refer to BITZER SOFTWARE



Scan for additional information

PERFORMANCE DATA

Type	Capacity at MT t_o -10°C/ t_c +40°C R134a in kW	Capacity at LT t_o -35°C/ t_c +40°C R448A midpoint in kW
K073H(B)/2KES-05(Y)	1.14	0.36
K073H(B)/2JES-07(Y)	1.46	0.55
K073H(B)/2HES-1(Y)	2.06	0.74
K073H(B)/2HES-2(Y)	2.06	0.74
K073H(B)/2GES-2(Y)	2.43	0.9
K073H(B)/2FES-2(Y)	3.06	1.15
K123H(B)/2FES-3(Y)	3.04	1.15
K123H(B)/2EES-2(Y)	3.75	1.5
K123H(B)/2EES-3(Y)	3.75	1.5
K123H(B)/2DES-2(Y)	4.5	1.8
K123H(B)/2DES-3(Y)	4.5	1.8
K123H(B)/2CES-3(Y)	5.57	2.4
K203H(B)/2CES-4(Y)	5.57	2.4
K203H(B)/4FES-3(Y)	5.78	2.58
K203H(B)/4FES-5(Y)	5.77	2.58
K203H(B)/4EES-4(Y)	7.65	3.2
K203H(B)/4EES-6(Y)	7.65	3.2
K203H(B)/4DES-5(Y)	8.85	3.62
K203H(B)/4CES-6(Y)	10.97	4.82
K283H(B)/4DES-7(Y)	8.85	3.62
K283H(B)/4TES-9(Y)	14.04	5.68
K373H(B)/4CES-9(Y)	10.97	4.82
K373H(B)/4TES-12(Y)	13.68	5.67
K373H(B)/4PES-12(Y)	15.87	6.01
K373H(B)/4NES-14(Y)	18.89	7.72
K573H(B)/4PES-15(Y)	15.49	5.93
K573H(B)/4NES-20(Y)	18.67	7.81
K573H(B)/4JE-15(Y)	21.8	9.39
K573H(B)/4JE-22(Y)	21.3	8.58
K573H(B)/4HE-18(Y)	25.9	11.46
K573H(B)/4GE-23(Y)	29.2	13.86
K573H(B)/6JE-25(Y)	32	14.08
K813H(B)/4HE-25(Y)	25.4	10.84
K813H(B)/4GE-30(Y)	29.6	12.78
K813H(B)/6JE-33(Y)	32.2	12.63
K813H(B)/6HE-28(Y)	38	16.91
K813H(B)/6GE-34(Y)	43.7	21.3
K1053H(B)/6HE-35(Y)	37.2	15.97
K1053H(B)/6FE-44(Y)	52.9	24.8
K1353H(B)/6GE-40(Y)	43.5	18.85
K1353H(B)/6FE-50(Y)	51.6	23.1

EXPLANATION OF TYPE DESIGNATION



Tentative data

TECHNICAL DATA

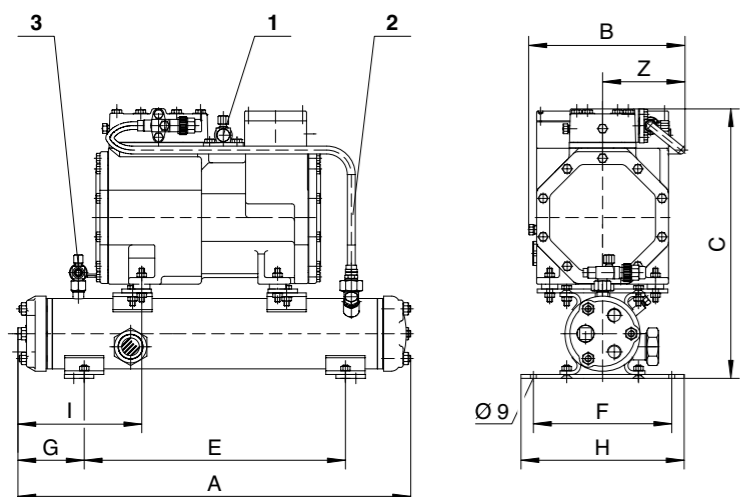


Type	Condenser volume in dm ³	Weight in kg (standard extent of delivery)	Max. operating current in A
K073H(B)/2KES-05(Y)	3.4	54	2.8
K073H(B)/2JES-07(Y)	3.4	54	3.7
K073H(B)/2HES-1(Y)	3.4	55	3.8
K073H(B)/2HES-2(Y)	3.4	56	4.5
K073H(B)/2GES-2(Y)	3.4	56	5
K073H(B)/2FES-2(Y)	3.4	56	5.3
K123H(B)/2FES-3(Y)	5.1	61	6.1
K123H(B)/2EES-2(Y)	5.1	82	6
K123H(B)/2EES-3(Y)	5.1	85	7.5
K123H(B)/2DES-2(Y)	5.1	82	7.5
K123H(B)/2DES-3(Y)	5.1	85	8.6
K123H(B)/2CES-3(Y)	5.1	84	9.1
K203H(B)/2CES-4(Y)	11.8	95	10
K203H(B)/4FES-3(Y)	11.8	107	9.5
K203H(B)/4FES-5(Y)	11.8	111	10.8
K203H(B)/4EES-4(Y)	11.8	109	12.2
K203H(B)/4EES-6(Y)	11.8	111	13.6
K203H(B)/4DES-5(Y)	11.8	111	14.5
K203H(B)/4CES-6(Y)	11.8	116	17.7
K283H(B)/4DES-7(Y)	11.3	116	16.5
K283H(B)/4TES-9(Y)	11.3	161	19.9
K373H(B)/4CES-9(Y)	14.5	126	20.2
K373H(B)/4TES-12(Y)	14.5	176	25.1
K373H(B)/4PES-12(Y)	14.5	174	22.7
K373H(B)/4NES-14(Y)	14.5	176	26.6
K573H(B)/4PES-15(Y)	29.4	206	28.2
K573H(B)/4NES-20(Y)	29.4	209	33.2
K573H(B)/4JE-15(Y)	29.4	249	30.8
K573H(B)/4JE-22(Y)	29.4	249	37.2
K573H(B)/4HE-18(Y)	29.4	249	36.7
K573H(B)/4GE-23(Y)	29.4	251	43.9
K573H(B)/6JE-25(Y)	29.4	287	46.4
K813H(B)/4HE-25(Y)	27.7	256	44
K813H(B)/4GE-30(Y)	27.7	268	51.2
K813H(B)/6JE-33(Y)	27.7	293	53.2
K813H(B)/6HE-28(Y)	27.7	290	53.2
K813H(B)/6GE-34(Y)	27.7	290	65.5
K1053H(B)/6HE-35(Y)	40	320	64.4
K1053H(B)/6FE-44(Y)	40	326	83.2
K1353H(B)/6GE-40(Y)	37	333	73.9
K1353H(B)/6FE-50(Y)	37	336	96.2
2-STAGE			
K373H(B)/S4T-5.2(Y)	14.5	171	14
K373H(B)/S4N-8.2(Y)	14.5	176	17
K573H(B)/S4G-12.2(Y)	29.4	239	24
K573H(B)/S6J-16.2(Y)	29.4	268	31
K573H(B)/S6H-20.2(Y)	29.4	279	37
K813H(B)/S6G-25.2(Y)	27.7	295	43
K813H(B)/S6F-30.2(Y)	27.7	296	51

Tentative data

DIMENSIONS

K073H/2KES-05(Y) .. K203H/2CES-4(Y)

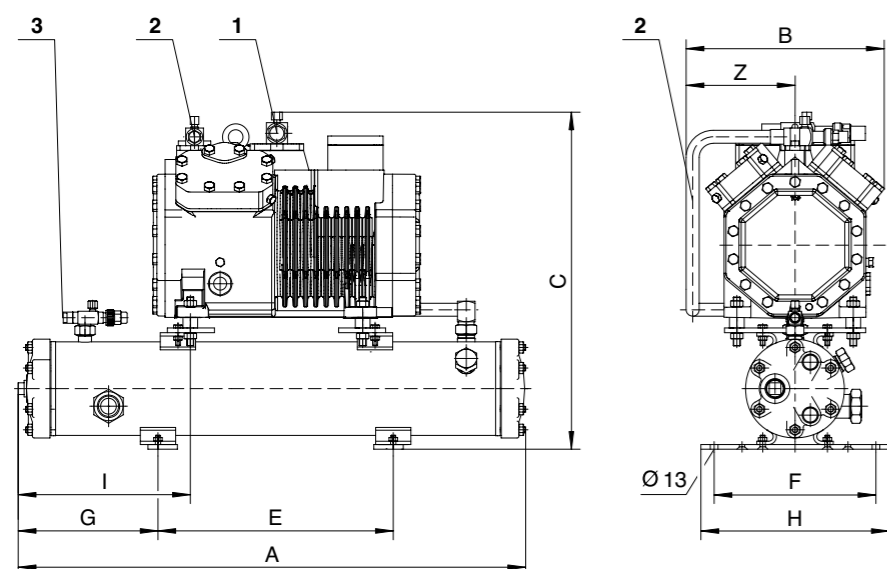


For further details, please refer to BITZER SOFTWARE



Scan for additional information

K203H/4FES-3(Y) .. K813H/4GE-30(Y)



For further details, please refer to BITZER SOFTWARE



Scan for additional information

Connection positions
1 Suction valve
2 Discharge line
3 Refrigerant outlet (Liquid line)

Tentative data

Tentative data

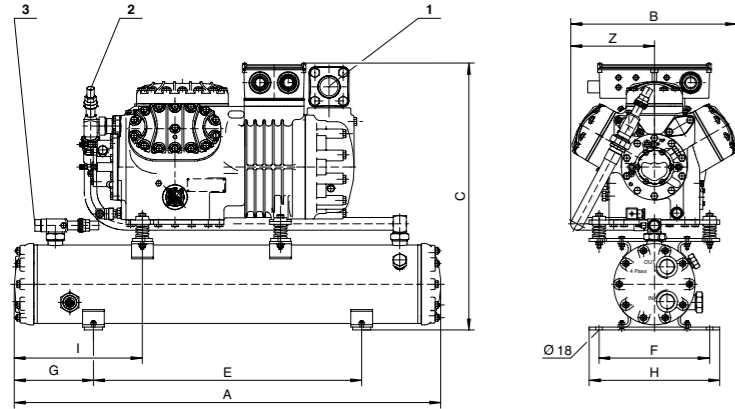
DIMENSIONS

Type	Dimensions in mm									
	A	B	C	E	F	Ø	G	H	I	Z
K073H/2KES-05(Y)	602	251	413	400	212	9	102	250	190	126
K073H/2JES-07(Y)	602	251	413	400	212	9	102	250	190	126
K073H/2HES-1(Y)	602	251	413	400	212	9	102	250	190	126
K073H/2HES-2(Y)	602	251	413	400	212	9	102	250	190	126
K073H/2GES-2(Y)	602	251	413	400	212	9	102	250	190	126
K073H/2FES-2(Y)	602	251	413	400	212	9	102	250	190	126
K123H/2FES-3(Y)	852	251	435	400	275	13	227	320	348	112
K123H/2EES-2(Y)	852	323	463	400	275	13	227	320	341	163
K123H/2EES-3(Y)	852	323	463	400	275	13	227	320	341	163
K123H/2DES-2(Y)	852	323	463	400	275	13	227	320	341	163
K123H/2DES-3(Y)	852	323	463	400	275	13	227	320	341	163
K123H/2CES-3(Y)	852	323	463	400	275	13	227	320	341	163
K203H/2CES-4(Y)	863	323	528	400	275	13	238	320	308	163
K203H/4FES-3(Y)	863	345	573	400	275	13	238	320	293	185
K203H/4FES-5(Y)	863	345	573	400	275	13	238	320	293	185
K203H/4EES-4(Y)	863	345	573	400	275	13	238	320	293	185
K203H/4EES-6(Y)	863	345	573	400	275	13	238	320	293	185
K203H/4DES-5(Y)	863	345	573	400	275	13	238	320	293	185
K283H/4DES-7(Y)	863	345	573	400	275	13	238	320	293	185
K203H/4CES-6(Y)	863	345	573	400	275	13	238	320	293	185
K373H/4CES-9(Y)	1113	345	573	740	275	13	193	320	382	185
K283H/4TES-9(Y)	863	363	626	400	275	13	238	320	256	204
K373H/4TES-12(Y)	1113	363	626	740	275	13	193	320	382	204
K373H/4PES-12(Y)	1113	363	626	740	275	13	193	320	382	204
K573H/4PES-15(Y)	1176	363	672	740	305	18	218	360	360	204
K373H/4NES-14(Y)	1113	363	626	740	275	13	193	320	382	204
K573H/4NES-20(Y)	1176	363	672	740	305	18	218	360	360	204
K573H/4JE-15(Y)	1176	439	743	740	305	18	218	360	353	230
K573H/4JE-22(Y)	1176	439	743	740	305	18	218	360	353	230
K573H/4HE-18(Y)	1176	439	743	740	305	18	218	360	353	230
K813H/4HE-25(Y)	1176	439	743	740	305	18	218	360	353	230
K573H/4GE-23(Y)	1176	439	743	740	305	18	218	360	353	230
K813H/4GE-30(Y)	1176	439	743	740	305	18	218	360	353	230

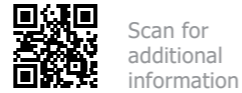
See DP-200 for dimensions and seawater-resistant condenser design as well as for information on fixing plates and fixing rails

DIMENSIONS

K573H/6JE-25(Y) .. K1353T*/6FE-50(Y)

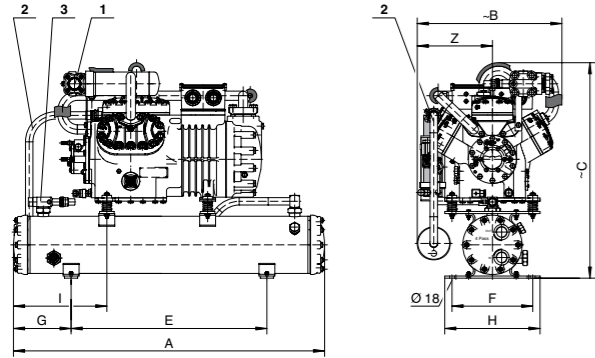


For further details, please refer to BITZER SOFTWARE



Scan for additional information

K373H/S4T-5.2(Y) .. K813H/S6F-30.2(Y)



Connection positions
1 Suction valve
2 Discharge line
3 Refrigerant outlet (Liquid line)

Type	Dimensions in mm									
	A	B	C	E	F	Ø	G	H	I	Z
K573H/6JE-25(Y)	1176	458	736	740	305	18	218	360	353	231
K813H/6JE-33(Y)	1176	458	736	740	305	18	218	360	353	231
K813H/6HE-28(Y)	1176	458	736	740	305	18	218	360	353	231
K1053H/6HE-35(Y)	1634	517	735	900	305	18	367	360	551	291
K813H/6GE-34(Y)	1176	458	736	740	305	18	218	360	353	291
K1353T/6GE-40(Y)	1634	517	797	900	305	18	367	360	551	291
K1053H/6FE-44(Y)	1634	517	735	900	305	18	367	360	551	291
K1353T/6FE-50(Y)	1634	517	797	900	305	18	367	360	551	291

Water cooled condensing units with 2-stage compressors										
K373H/S4T-5.2(Y)	1113	490	~ 698	740	275	13	193	320	398	260
K373H/S4N-8.2(Y)	1113	490	~ 698	740	275	13	193	320	398	260
K573H/S4G-12.2(Y)	1176	491	~ 783	740	305	18	218	360	353	282
K573H/S6J-16.2(Y)	1176	~ 547	~ 814	740	305	18	218	360	353	284
K573H/S6H-20.2(Y)	1176	~ 547	~ 814	740	305	18	218	360	353	284
K813H/S6G-25.2(Y)	1176	~ 547	~ 814	740	305	18	218	360	353	284
K813H/S6F-30.2(Y)	1176	~ 547	~ 814	740	305	18	218	360	353	284

* With K1353T refrigerant outlet below

See DP-200 for dimensions and seawater-resistant condenser design as well as for information on fixing plates and fixing rails

Tentative data

ACCESSORIES



OIL SEPARATOR WITH CHECK VALVE KEEPS THE COMPRESSOR LUBRICATED – NO MATTER THE APPLICATION

The right oil supply to the compressor at any time is no problem with the optional oil separator with check valve in the discharge line.

// Available for the whole K series



HP/LP PRESSURE SWITCHES

The adjustable HP/LP switches are fully factory-fitted.

// Optional accessory for the whole K series



VARISTEP – MECHANICAL CAPACITY CONTROL ADAPTATION ACCORDING TO SYSTEM REQUIREMENTS

With the VARISTEP mechanical capacity control, changing cooling demands are no problem. It prevents high switching frequencies of the compressor and ensures efficient operation of the compressor. It is based on the principle of blocked suction.

// Refrigeration capacity range from 10%–100% (details see KT-101) or with the IQ MODULE CM-RC-02

Images are for illustration purposes only

BITZER DIGITAL NETWORK

CONNECTED TO YOUR BITZER PRODUCTS

BITZER Digital Network (BDN) offers you easy access to valuable digital services relating to BITZER products for refrigeration and air conditioning. This provides you with important product- and application-related information on all the BITZER products you're using, including, among others, data analyses and compressor operation reports. And with it, usable findings with which you can optimise the most important aspects of the cooling systems.



- // 360° product information
- // Tracking of service activities
- // Operation report
- // Real-time data
- // Notification
- // Flexible access rights



BITZER ON-SITE SERVICES

WE OFFER SOLUTIONS BEYOND THE ORDINARY



- // Warranty extension for up to five years
- // Free one-year warranty extension for BITZER IQ products
- // Commissioning assistance for excellent results



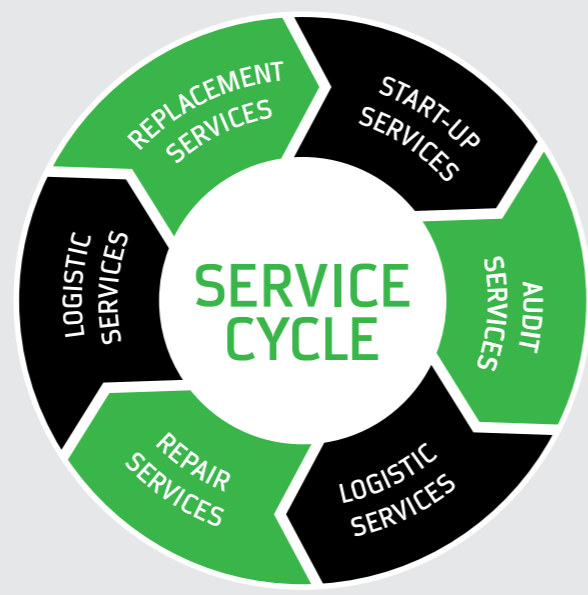
- // Assessment services for extended lifetimes
- // Retrofitting solutions for secure investments
- // Refrigerant compliance and strategy consulting

Green Point[®]
A SERVICE BY BITZER GROUP

ALWAYS THERE FOR YOU

The global service network comprises more than 50 locations. Everywhere, our specialists maintain, overhaul and repair BITZER compressors, replace wear and safety-relevant parts and stock BITZER ORIGINAL SPARE PARTS AND OIL. Highly committed engineers ensure that the service cycle is always precisely and perfectly executed.

bitzergreenpoint.com



THE SCHAUFLENER ACADEMY

PRACTICAL SOLUTIONS FOR A CHALLENGING INDUSTRY

At the SCHAUFLENER Academy, the international seminar and training centre of BITZER, you will find German and English seminars and training courses regarding the handling of refrigeration and air conditioning components and alternative refrigerants. Not only service and installation specialists can rely on our training courses, but also project engineers, planners and technical engineers.



The SCHAUFLENER Academy offers you training courses in small groups with theoretical contents and practical exercises on real training systems. Motivated and experienced teaching staff are available to answer questions and respond to your needs. Together with the pleasant and professional environment, this leads to fast learning success. We are looking forward to your visit.



Standing for education and knowledge transfer, we consider it as our responsibility to provide information about our products, applications, tools and basics. In cases where in-person training is not possible, we can still provide you with some content to learn from home or in the office with our e-learning seminars.



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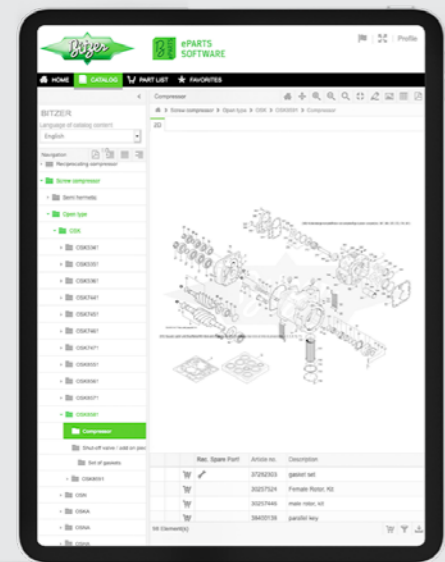
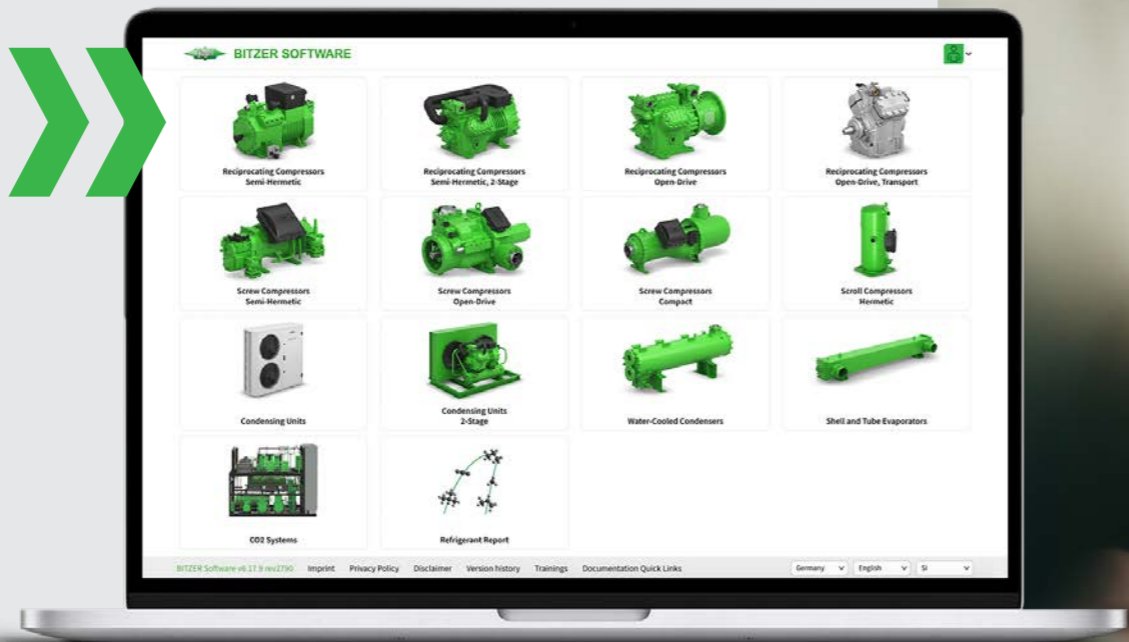


A PLUS FOR YOU

BITZER SOFTWARE

CHOOSE THE RIGHT PRODUCTS AND FIND MORE DETAILED TECHNICAL DATA.

Wherever you are and no matter what device you are using, BITZER SOFTWARE will help you select the appropriate product from our extensive and flexible range of products and accessories. Here you can find technical data and have the possibility to quickly calculate the performance data of compressors and components.



ePARTS SOFTWARE

FIND SUITABLE SPARE PARTS EASILY.

Our free-of-charge tool makes finding the appropriate spare parts for our products fast and easy. The parts are listed according to the type range and appear as a simple zoomable exploded-view drawing.



BEST APP AND BEST SOFTWARE

OPERATE YOUR BITZER IQ PRODUCTS WITH ONLY ONE SOFTWARE TOOL

BEST provides comprehensive access to all operating data and parameters. The intuitive user interface provides a complete overview of the operating status and a data log for easy maintenance and service.

FIND YOUR PLUS:

- BEST APP
- BITZER SPOT APP
- REFRIGERANT RULER APP
- BEST SOFTWARE
- BITZER SOFTWARE
- ePARTS SOFTWARE



BITZER SOFTWARE



BITZER Apps

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BITZER Kühlmaschinenbau GmbH
Peter-Schaufler-Platz 1 // 71065 Sindelfingen // Germany
Tel +49 [0]70 31 932-0 // Fax +49 [0]70 31 932-147
bitzer@bitzer.de // www.bitzer.de

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