



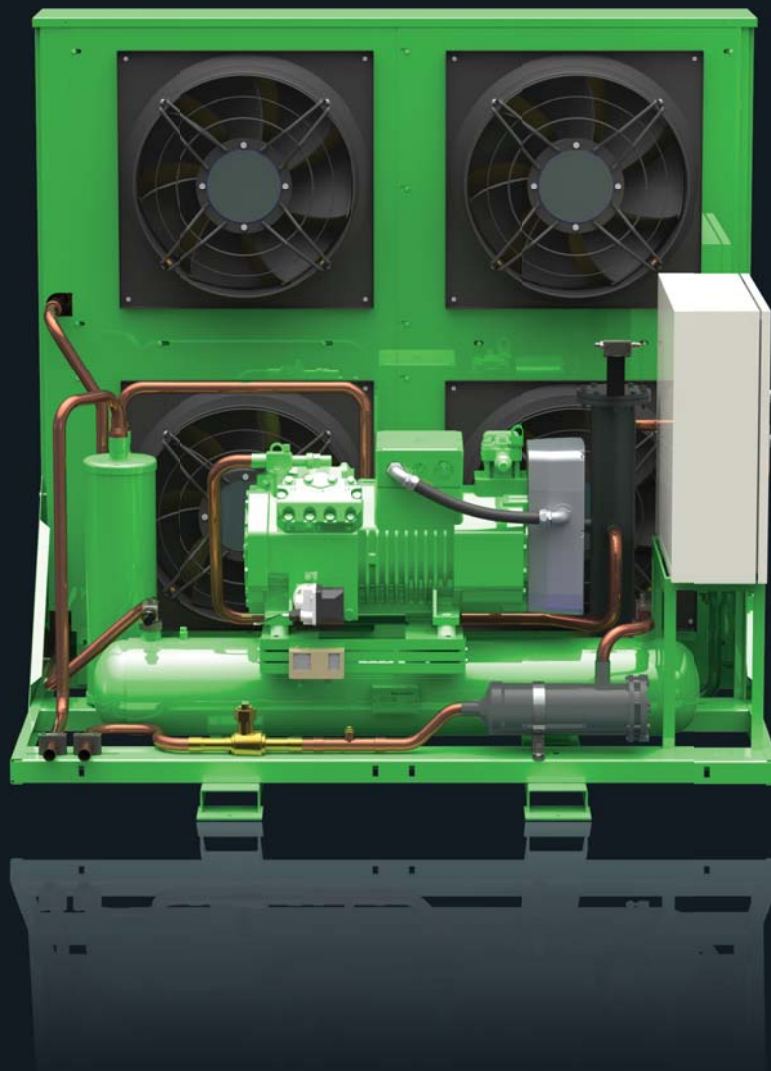
THE HEART OF FRESHNESS

LARGE COMPACT SERIES - C666

AIR COOLED CONDENSING UNIT

INDOOR AIR COOLED CONDENSING UNIT

ORIGINAL MANUFACTURED EQUIPMENT



BA-519-2 AUS



Product Specifications

The Large Compact Series of Indoor Condensing Units provides users a range of accessory options to meet almost any application. These units boast the BITZER Ecoline compressor series with world class condenser fans, assembled with Australian made components and ingenuity. The combination of compressors, condensers, pressure vessels, and electrical fitout options means that these units can be adapted to every system.

This series of indoor units has been manufactured by BITZER Australia for over 20 years and are still going strong in the market place through the inclusion of the latest compressor, condenser fan and controls technology. Whether you need a condensing unit to operate in horticultural applications where specific control of suction pressure and room temperature is paramount, or a simple robust system for cold storage these units can be configured to meet your application.

With new refrigerants and improved operating efficiency being at the forefront of legislation these units can be supplied to meet or exceed these proposed changes.

When combining BITZER Australia condensing units with BUFFALO TRIDENT heat exchange you are being supplied with a system that can be definitively controlled. Whether you're cooling broccoli, bananas, mangos or just maintaining temperature in a preparation area you can be sure that these units will exceed your expectations.

Speak to one of our representatives today and find out how these units can meet your expectations.

Standard Features

- BITZER ECOLINE compressor
- Delta PII oil pressure switch
- Mechanical dual pressure control
- Crankcase heater
- SE-B1 motor thermistor module
- Liquid receiver
- Liquid line filter drier and sight glass
- Aluminium fin & copper tube, high ambient condenser
- 3 Phase AC external rotor condenser fans
- Horizontal airflow design

Standard Optional Accessories

- CRII capacity control solenoid(s) and controller
- VARIPACK (inverter / compressor safety device)
- Varispeed compressor with on-board inverter
- Gold epoxy fin and copper tube condenser
- EC Condenser fans
- Internal reservoir oil separator
- Kriwan oil level regulator
- Mechanical unloader control
- Head Fan
- Suction Accumulator
- Demountable liquid line and suction line driers / filters
- Liquid line solenoid
- Liquid line ball valve
- CAREL pRack controller
- Condenser fan speed control
- MP15 Phase protection
- Pre-wired electrical panel and componentry

Explanation of Type Designation

4FE-25Y-C666-4P

Compressor number of cylinders and displacement code

4FE-25Y-C666-4P

ECOLINE line compressor

4FE-25Y-C666-4P

Code for Motor size

4FE-25Y-C666-4P

Code for Ester Oil

4FE-25Y-C666-4P

Condenser model

4FE-25Y-C666-4P

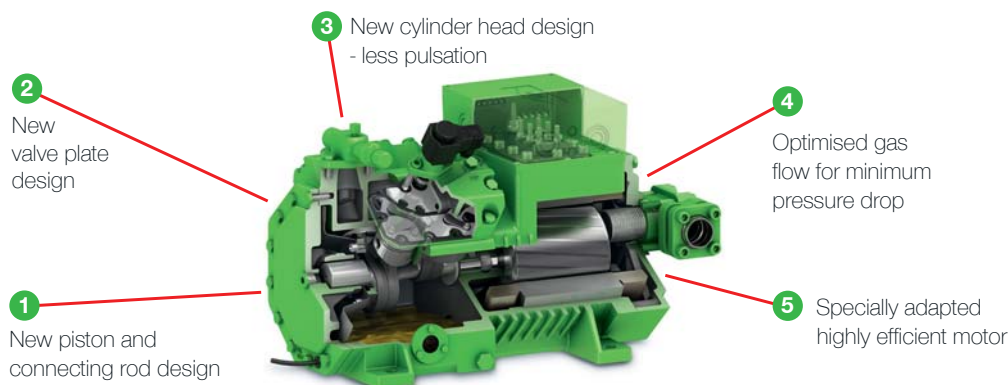
4 Pole, 6 Pole or EC Condenser Fan Motor

Standard Features

BITZER ECOLINE Compressor

BITZER has always paid special attention to the efficiency of compressors and a few years ago introduced the BITZER ECOLINE series, which has been optimised especially for R134a. More models have now been added to the BITZER ECOLINE series and it has been further developed for the universal use with different refrigerants at an extended application range. This includes, R134a, R404A R407A, R407C, R407F, R507A and R22. This continues to incorporate the extra high efficiency and moderate pressure levels (reduced leakage rates) common to the series. This gives the BITZER ECOLINE compressors, which can also be used at very low condensing temperatures, a beneficial seasonal energy efficiency ratio beyond comparison.

The Special Highlights of the BITZER ECOLINE Compressors



Optional Features

VARIPACK Unit

A frequency inverter series for all BITZER reciprocating compressors

For easy and safe capacity control, BITZER VARIPACK series offers a new generation of intelligent frequency inverters that can be used with all BITZER reciprocating compressors.

The new VARIPACK frequency inverter series was specially developed for refrigeration and operation of BITZER refrigeration compressors. The focus of the development was the easy use, the reliability and the high performance of the frequency inverters. They can be for example put into operation intuitively and perform control functions of the refrigeration system.

The optimised adaptation to the current cooling demand of a system reduces energy consumption effectively and thus costs.

It can be saved twice thanks to the high efficiency of the frequency inverters and optimised adaptation to the compressors.



The VARIPACK Unit Controller

The unit will be fitted standard with a unit safety control module. This controller will perform and provide the following actions:

- Provide energy and cost savings through intelligent capacity control incl.
 - Compressor frequency inverter by Suction pressure
 - Condenser Fan control also by internal inverter control
- Start / Stop the compressor
- Compressor Protection
- Easy installation
- Refrigerant configurable
- Provide energy and cost savings through intelligent fan speed regulation by condensing temperature



BITZER ECOLINE VARISPEED Compressor

The BITZER ECOLINE compressors with their innovative design are extended by the new series featuring integrated frequency inverter (FI) which allows stepless capacity control.



Highlights and technical features

- Maintenance-free, suction gas-cooled
- The frequency inverter is solidly flanged on the compressor's motor cover
- The suction gas cooling for the power elements of the FI ensures an optimum temperature of the electrical components and therefore no fan or regular maintenance work is needed.
- Through operation with frequency inverter the compressor cooling capacity can be increased by approx. 70 % (25 -87Hz).
- Optimum capacity adaptation due to integrated FI - capacity control range of more than 3:1
- Very cost-effective due to high system efficiency: slight suction pressure fluctuations and optimised compressor running time
- Maintenance-free, suction gas-cooled
- Low starting current during compressor start

Varispeed Unit Controller

A Varispeed condensing unit will be fitted standard with a Carel pR300 control module. This controller will perform and provide the following actions:

- Provide energy and cost savings through intelligent capacity control incl.
 - Compressor frequency inverter by Suction pressure
 - Condenser fan control by Discharge pressure
- Start / Stop the compressor
- Compressor Protection
- Easy installation
- Refrigerant configurable

The CRII System

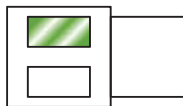
Capacity control is often required to match the output of a refrigeration, air-conditioning or heat pump system to the actual requirement. It prevents high switching frequency of the compressor and thus ensures more efficient operation of the system.



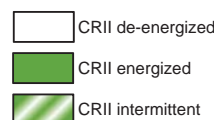
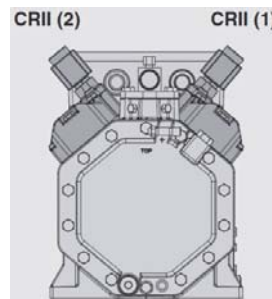
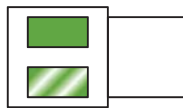
The CRII system is designed for the special requirements of intelligent system controls. This enables higher cycling frequency of capacity control.

CRII Control:

min 5 s on / 5 s off
 Example: 4 cylinder compressor
 - Quasi-stepless: 100% .. 50%



- Quasi-stepless: 50% .. 10%



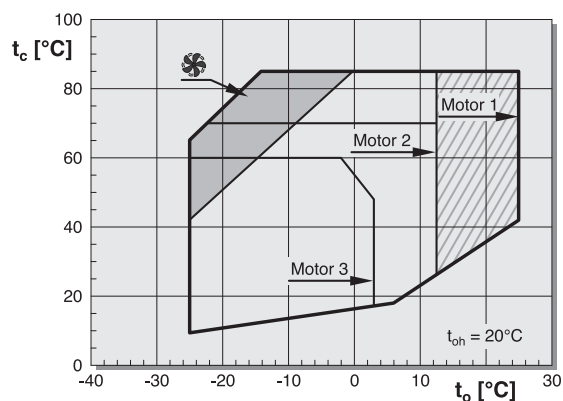
The CRII Unit Controller

As an optional feature BITZER utilises the Carel pR300 controller to operate and control the functionality of the BITZER CRII capacity control system. The controller will start / stop, load / unload the compressor based upon the suction pressure set point. The capacity steps can be activated / deactivated much faster than traditional cylinder unloading (10s); 10 - 100% (4 cylinder); 33 - 100% (6 cylinder).

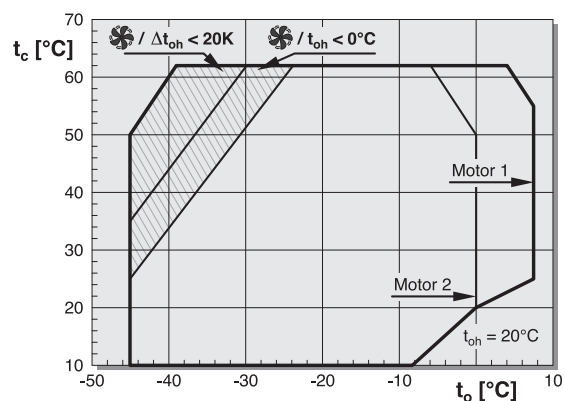
Application limits

Relating to 20°C suction gas temperature

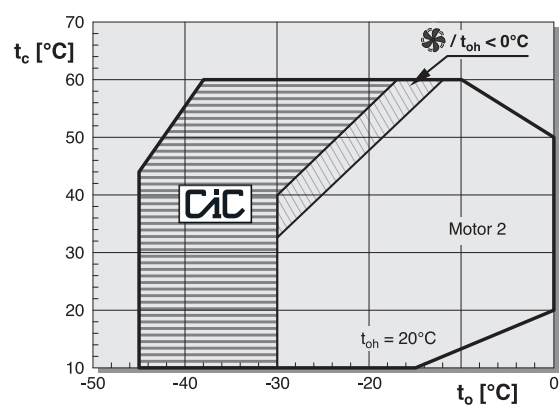
R134a ① 2KES-05Y .. 6FE-50Y



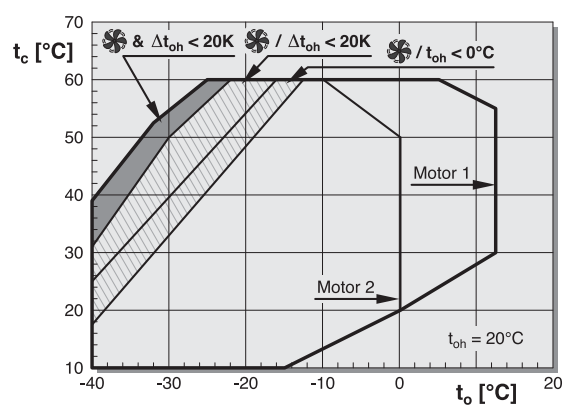
R404A ■ R507A 2KES-05Y .. 6FE-50Y



R407F ③ 4VES-7Y .. 6FE-40Y



R407F ③ 4VES-7F .. 6FE-50Y



- Additional cooling or limitation see diagram
- Additional cooling
- Additional cooling + limitation see diagram
- Limitation see diagram
- Suction gas superheat >10 K
- Additional fan +

① ③ For further information, refer to BITZER product brochure KP-104-3, ECOLINE Semi-hermetic reciprocating compressors



Technical Data

Compressor Data									
Compressor Model	Motor Version	Motor Connection Volt	Max Operating Current Amps	Maximum Power Consumption kW	Capacity Control	Oil Charge dm ³	Compressor Weight kg	Crankcase Heater 240/1/50	Suction Line Size Inlet inch
4NES-14Y	2	PW 380.420V YY/3/50Hz	26.6	17.0	Optional 50%. Further control with CRIL unloader available. See KT-100-3 and KT-101-2 for further information.	2.6	141	0 .. 140W Heater	1 3/8
4NES-20Y	1		33.2	19.0			150		1 5/8
4JE-13Y	3		19.8	11.0			179		1 5/8
4JE-15Y	2		30.8	19.0		190	1 5/8		
4JE-22Y	1		37.2	21.0		190	1 5/8		
4HE-15Y	3		22.5	13.0		183	1 5/8		
4HE-18Y	2		36.7	22.0		190	1 5/8		
4HE-25Y	1		44.0	25.0		194	2 1/8		
4GE-20Y	3		25.9	16.0		192	2 1/8		
4GE-23Y	2		43.9	27.0		192	2 1/8		
4GE-30Y	1	51.2	28.0	206	2 1/8				
6JE-22Y	3	PW 380.420V YY/3/50Hz	28.5	16.0	Optional 66% / 33%. Further control with CRIL unloader available. See KT-100-3 and KT-101-2 for further information.	4.5	213	0 .. 140W Heater	2 1/8
6JE-25(Y)	2		46.4	27.0			228		2 1/8
6JE-33(Y)	1		53.2	30.0			231		2 1/8
6HE-25Y	3		32.9	19.0		224	2 1/8		
6HE-28(Y)	2		53.2	33.0		228	2 1/8		
6HE-35(Y)	1		64.4	36.0		235	2 1/8		
6GE-30Y	3		40.0	23.0		228	2 1/8		
6GE-34(Y)	2		65.5	40.0		228	2 1/8		
6GE-40(Y)	1		73.9	42.0		238	2 1/8		
6FE-40Y	3		51.1	27.0		238	2 1/8		
6FE-44(Y)	2	83.2	46.0	241	2 1/8				
6FE-50(Y)	1	380.400V YY/3/50Hz 440.460V YY/3/60Hz	96.2	51.0	241	2 1/8			

VARISPEED Compressor Data								
Compressor Model	Motor Version	Fl Connection Volt	Max Operating Current Amps	Maximum Power Consumption kW	Oil Charge dm ³	Compressor Weight kg	Crankcase Heater 240/1/50	Suction Line Size Inlet inch
4VES-7.F3Y	2	380.480V YY/3/50Hz	23	14	26	153	140W Heater	1-5/8
4VES-10.F4Y	1		35	22		163		1-5/8
4TES-9.F3Y	2		26	16		158		1-5/8
4TES-12.F4Y	1		42	26		165		1-5/8
4PES-12.F3Y	2		30	19		163		1-5/8
4PES-15.F4Y	1		48	30		171		1-5/8
4NES-14.F3Y	2		34	22		165		1-5/8
4NES-20.F4Y	1		55	36		174		1-5/8

Note: For total unit power consumption, add compressor and condensing unit values together.
Maximum operating current is based on 380V/3/50Hz power.

Technical Data - Continued

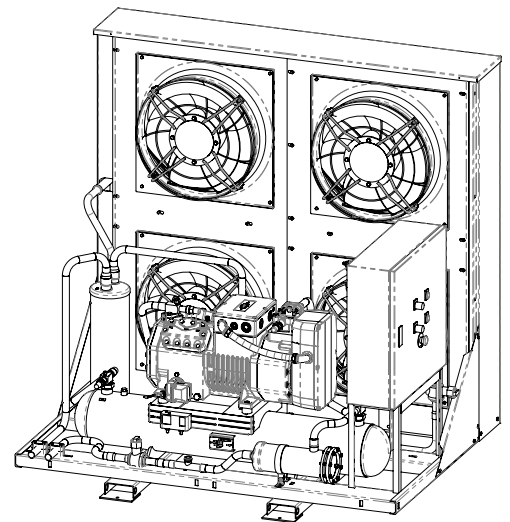
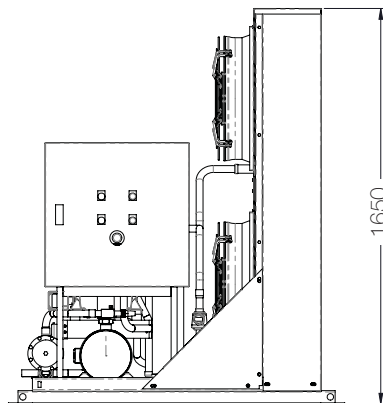
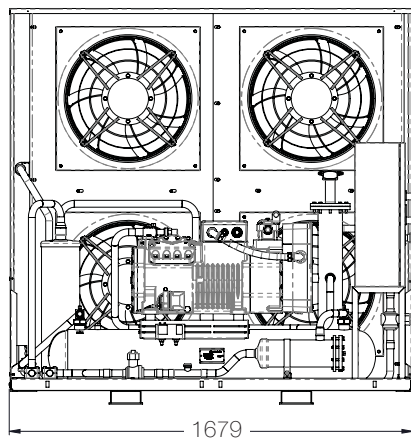
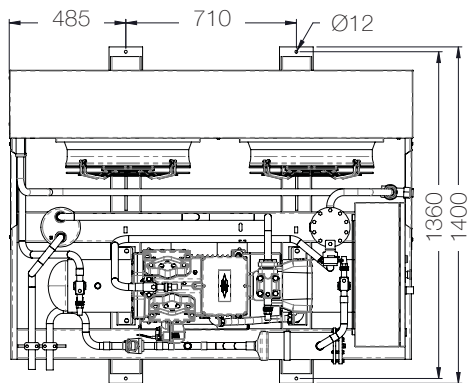
Condenser Data					
Model	Number of Fans	Fan Voltage	Fan Total Amps	Fan Total KW	Condenser Airflow L/S
C503-4P	4 x 500mm	415 / 3 / 50	5.4	3.1	8150
C503-6P	4 x 500mm		3.0	1.3	5380
C503-EC	4 x 500mm		6.4	4.0	8150
C666-4P	4 x 500mm		5.4	3.1	6760
C666-6P	4 x 500mm		3.0	1.3	4462
C666-EC	4 x 500mm		6.4	4.0	6760

Note: for total unit power consumption, add compressor and condensing unit values together.

Condensing Unit Data					
Model	Base Unit Weight KG	Receiver Pump Down KG			Liquid Line Size Outlet inch
		R134a	R404A	R507A	
C503	1017	43	36	38	1-1/8
C666	1028	43	36	38	1-1/8

Note: For total unit weight, add compressor and condensing unit values together.
Receiver pump down capacity calculated @ 80% of full capacity and +25°C ambient temperature.

Dimensional Data



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Note: The ISO standard only applies to the BITZER NSW and VIC branches