DAS HERZ DER FRISCHE

AIR COOLED

CONDENSING UNITS

50 Hz // KP-206-1 EN

ECOLITE

ADVANCED SERIES

- ECODESIGN CONFORM
- HFO BLEND READY
- BEST SOFTWARE

BITZER ECOLITE air-cooled condensing units

The new ECOLITE air-cooled condensing units for commercial refrigeration perfectly complement BITZER's proven standard LHE and premium ECOSTAR series. It is the ideal solution for cost-conscious customers who are looking for a sustainable and easy to install product made of approved BITZER components.

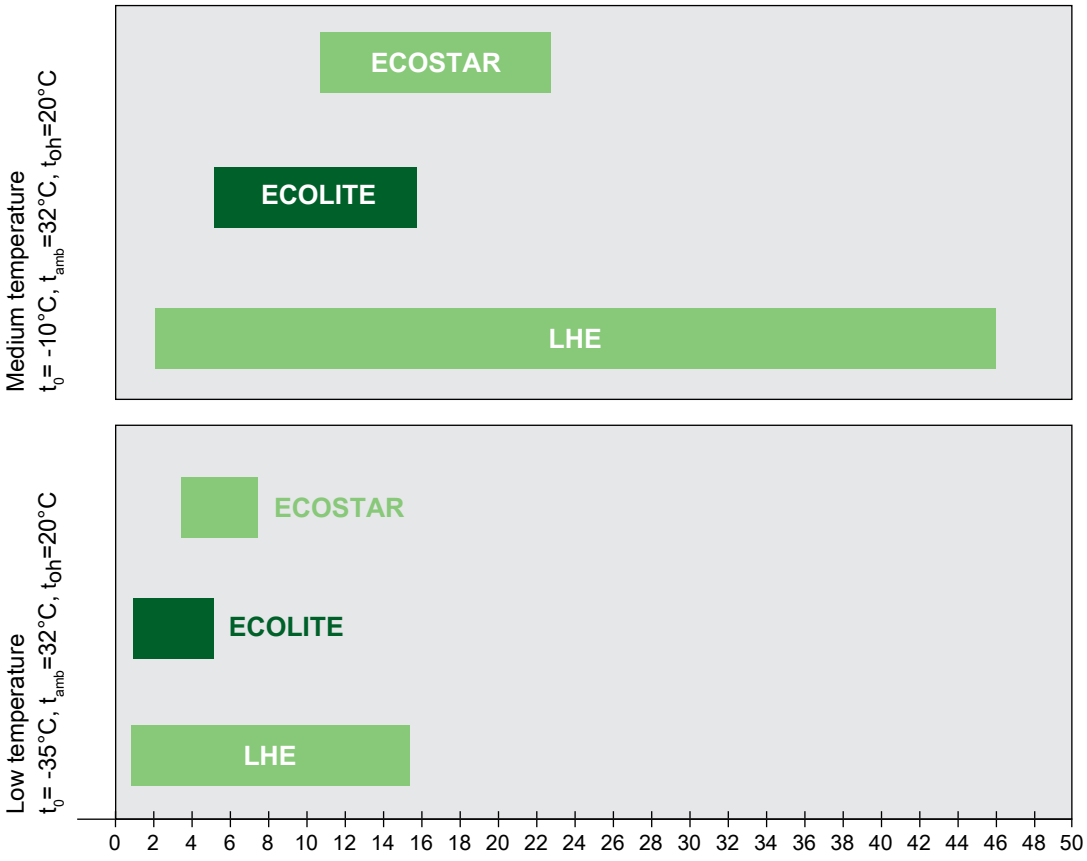
Highly efficient BITZER ECOLINE compressors with capacity control combined with system-optimized condensers and speed-controlled fans make all seven unit models suitable for low and medium temperature applications as standard.

Comprehensive equipment and a smart BITZER controller form a comfortable plug and play concept allowing simple implementation in the cooling system and constant monitoring of operating parameters and settings.

The ECOLITE series is available for all common refrigerants, including HFO blends, and fully complies with the EU Ecodesign Product Regulation 2015/1095.

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

BITZER air-cooled condensing units range



Cooling capacity [kW] for R449A according to EN 13215

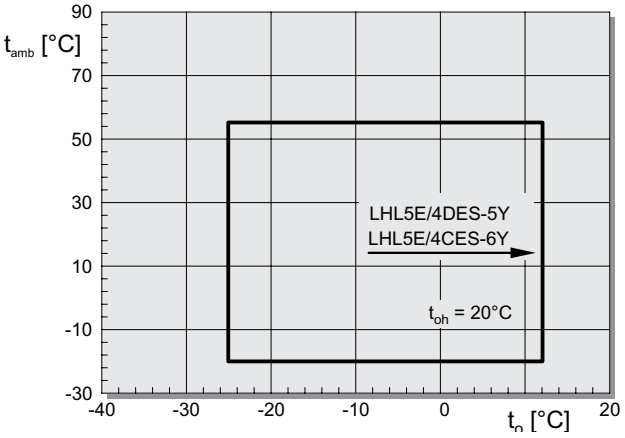
ECODESIGN CONFORM

HFO BLEND READY

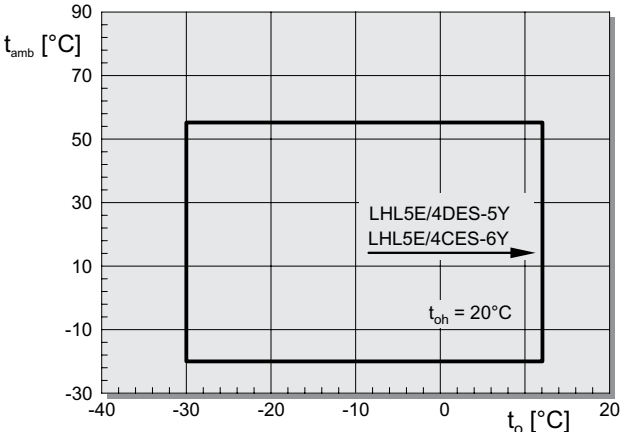
BEST SOFTWARE

Application limits

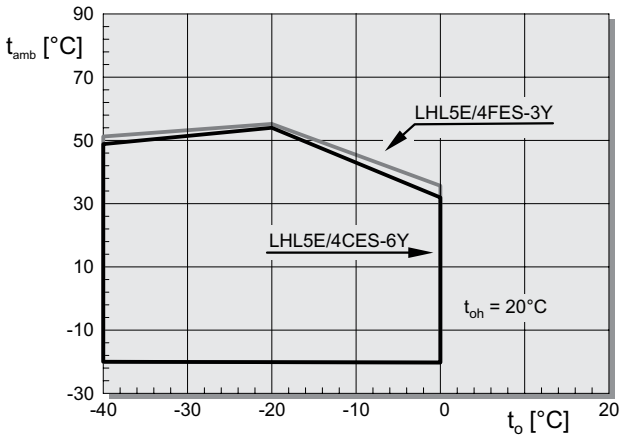
R134a



R513A



R448A/R449A



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

Explanation of model designation

Example:

L H L 3 E / 2 D E S — 2 Y

Condenser type
3 = Small housing
5 = Large housing

Compressor type

Oil charge
Y = ester oil

Tentative data

SYSTEM-OPTIMIZED CONDENSER

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

SPEED-CONTROLLED FANS

// Low power consuming fan motor with variable speed controller

COMPREHENSIVE EQUIPMENT

// Liquid receiver
// Sight glass
// Filter dryer
// High and low pressure switches and transmitters
// Oil heater
// Suction, discharge and ambient temperature sensors

ECODESIGN CONFORM

HFO BLEND READY

BEST SOFTWARE

CONTROLLER WITH DISPLAY

// Controller including dedicated software created by BITZER with key parameters monitoring

// BEST SOFTWARE connectivity for entire system monitoring

// Automatic emergency operation

PRE-WIRED SWITCH BOARD

// Simple commissioning through Plug and Play concept

// Main power service switch for fast and easy maintenance

SOUND PROOF DESIGN

// Unit housing and compressor compartment developed for maximum sound protection

BITZER ECOLINE COMPRESSOR

// Highly efficient BITZER ECOLINE compressor with
– VARISTEP capacity control (50% to 100%)
– Start unloading

// Suitable for a wide range of refrigerants including HFO blends with lower GWP (Global Warming Potential)

Performance data

based on 20°C suction gas temperature with 1K liquid subcooling.
Cooling capacity and COP at 32°C ambient temperature.
SEPR according to EN 13215.

Efficiency

ECOLITE	Medium Temperature application, Dew point -10°C								Low Temperature application, Dew point -35°C			
	R134a	R404A	R407A	R407C	R407F	R448A R449A	R450A	R513A	R404A	R407A	R407F	R448A R449A
LHL3E/2EES-2Y	2,59	3,40	3,30	3,32	3,26	3,30	2,53	2,59	1,40	1,21	1,23	1,24
LHL3E/2DES-2Y	2,53	3,20	3,14	3,17	3,09	3,13	2,50	2,53	1,92	1,22	1,23	1,24
LHL3E/2CES-3Y	3,50	2,96	2,95	3,00	2,89	2,93	2,47	3,49	1,91	1,23	1,69	1,72
LHL5E/4FES-3Y	3,54	3,46	3,32	3,35	3,29	3,33	3,42	3,58	1,85	1,61	1,62	1,66
LHL5E/4EES-4Y	3,71	3,21	3,19	3,24	3,14	3,17	3,63	3,72	1,92	1,67	1,69	1,73
LHL5E/4DES-5Y	3,61	3,05	3,07	3,13	3,02	3,06	3,55	3,61	1,91	1,68	1,70	1,74
LHL5E/4CES-6Y	3,49	2,80	2,86	2,93	2,81	2,84	3,49	3,47	1,89	1,69	1,70	1,74

COP at 32°C SEPR

Cooling Capacity Q_0 [kW]

ECOLITE	Medium Temperature application, Dew point -10°C								Low Temperature application, Dew point -35°C			
	R134a	R404A	R407A	R407C	R407F	R448A R449A	R450A	R513A	R404A	R407A	R407F	R448A R449A
LHL3E/2EES-2Y	3,66	5,99	5,29	5,21	5,61	5,49	3,21	3,88	1,90	1,26	1,35	1,37
LHL3E/2DES-2Y	4,32	6,74	6,01	5,89	6,36	6,22	3,79	4,56	2,22	1,49	1,60	1,62
LHL3E/2CES-3Y	5,22	8,12	7,34	7,18	7,76	7,58	4,59	5,49	2,83	1,95	2,08	2,10
LHL5E/4FES-3Y	5,76	9,79	8,91	8,21	9,30	9,09	5,04	6,11	3,26	2,33	2,39	2,42
LHL5E/4EES-4Y	7,44	11,89	10,64	10,00	11,25	11,00	6,53	7,83	4,05	2,74	2,93	2,96
LHL5E/4DES-5Y	8,47	13,34	11,85	11,37	12,52	12,24	7,44	8,93	4,63	3,06	3,27	3,31
LHL5E/4CES-6Y	10,23	15,74	14,43	13,88	15,23	14,87	9,01	10,74	5,52	3,98	4,24	4,28

ECODESIGN CONFORM

HFO BLEND READY

Optional equipment

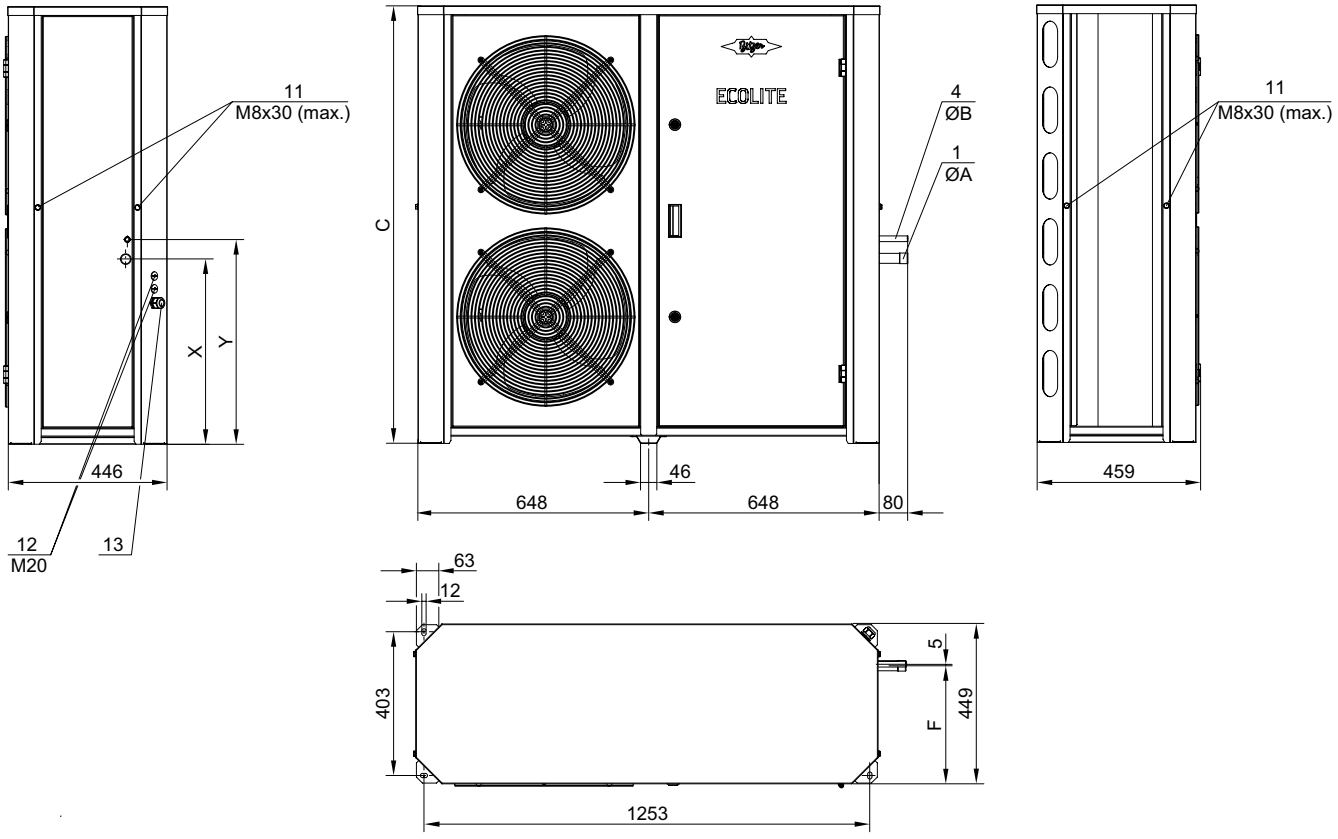
// Enhanced capacity control from 10% to 100% for LHL5E (second VARISTEP)
// Oil seperator with check valve
// Oil level monitoring
// Start unloading
// Liquid receiver with 2 sight glasses and connection for pressure relief valve
// Cold room temperature sensor
// BEST interface converter for connection to BEST SOFTWARE

Tentative data

Technical Data

Model	Weight	Fan (s)		Receiver volume	Compressor
		Max. power consumption	Air flow condenser		Max. operating current
	kg	kW	m³/h	dm³	A
LHL3E/2EES-2Y	163	0,12	3000	7,8	6,56
LHL3E/2DES-2Y	163	0,12	3000	7,8	8,06
LHL3E/2CES-3Y	163	0,12	3000	7,8	9,66
LHL5E/4FES-3Y	222	0,24	6000	15,0	10,06
LHL5E/4EES-4Y	222	0,24	6000	15,0	12,76
LHL5E/4DES-5Y	222	0,24	6000	15,0	15,06
LHL5E/4CES-6Y	222	0,24	6000	15.0	18.26

Dimensional Drawing



Connections

1 Refrigerant inlet (suction gas line), SL
4 Refrigerant outlet, DL
11 Load suspension points
12 Plug for srewed cable gland
13 Cable bushing (for cables 9–17mm)

Type	ØA mm	ØB mm	C mm	F mm	X mm	Y mm
LHL3E/2EES-2Y .. LHL3E/2CES-3Y	22	12	830	334	520	575
LHL5E/4FES-3Y .. LHL5E/4CES-6Y	28	16	1230	332	520	575

Example shows
LHL5E/4FES-3Y .. LHL5E/4CES-6Y

Tentative data

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