



DAS HERZ DER FRISCHE

AIR COOLED CONDENSING UNITS

50 Hz // KP-206-2 EN



ECOLITE



ECODESIGN
CONFORM



HFO
READY



BEST
SOFTWARE

BITZER ECOLITE air-cooled condensing units

The 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 highly flexible, sustainable and easy to install product made of approved BITZER components.

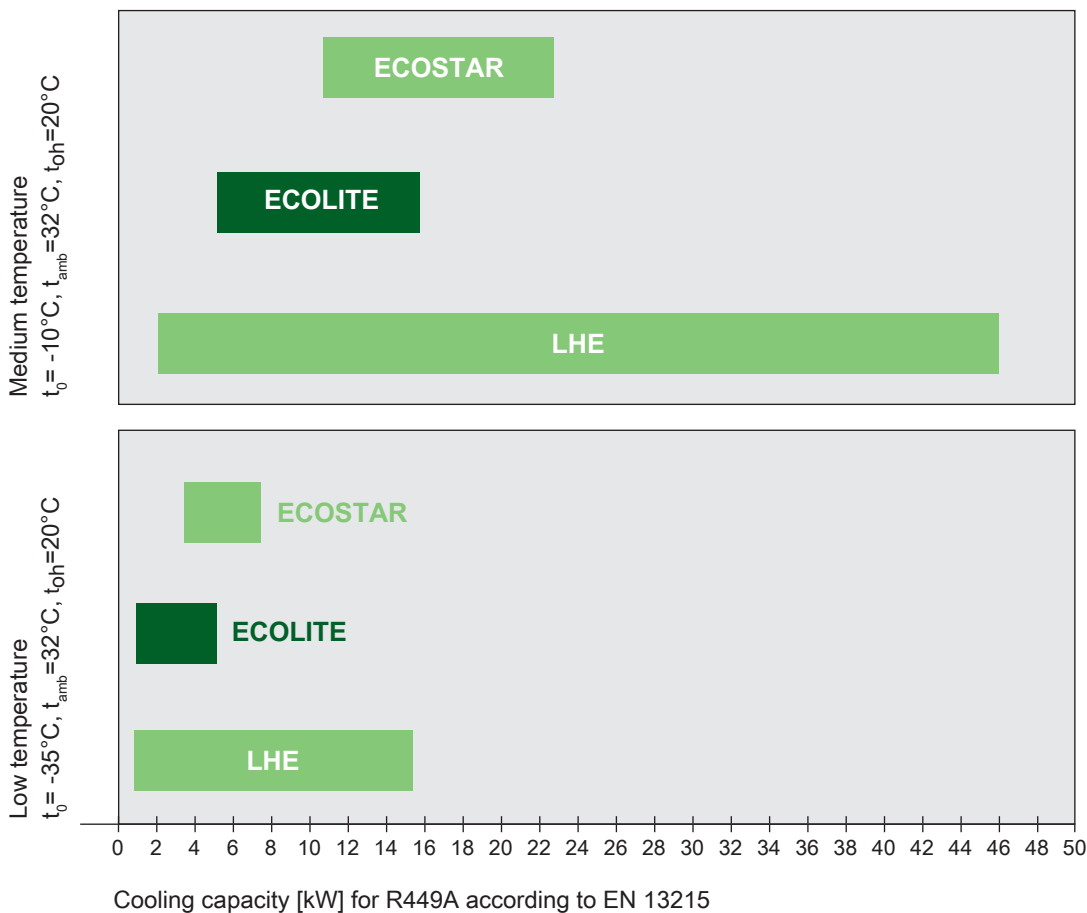
Highly efficient BITZER ECOLINE compressors with capacity control combined with system-optimized condensers and speed-controlled fans make all seven unit models suitable for low and medium temperature applications as standard.

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 A2L flammable refrigerants R134a, R450A, R513A, R1234yf, R1234ze(E), R404A, R448A, R449A, R407A/C/F, R454C, R455A. It fully complies with the EU Ecodesign Product Regulation 2015/1095.

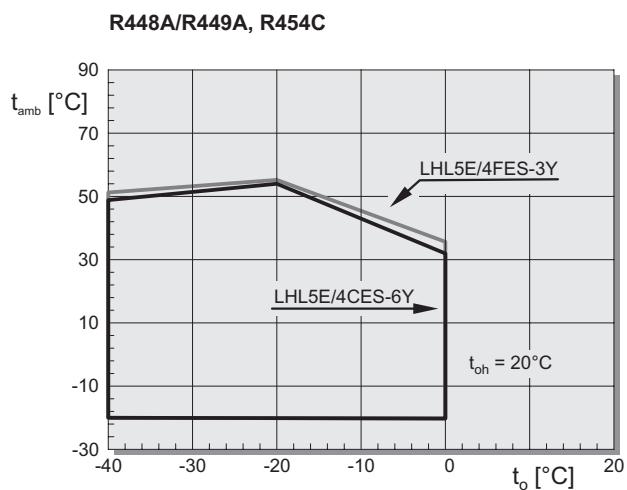
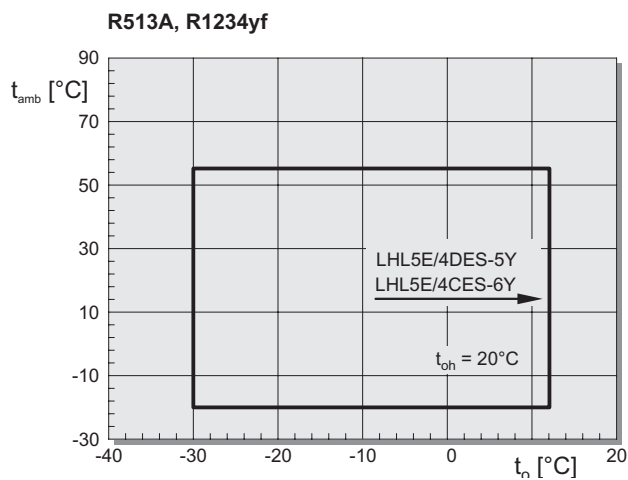
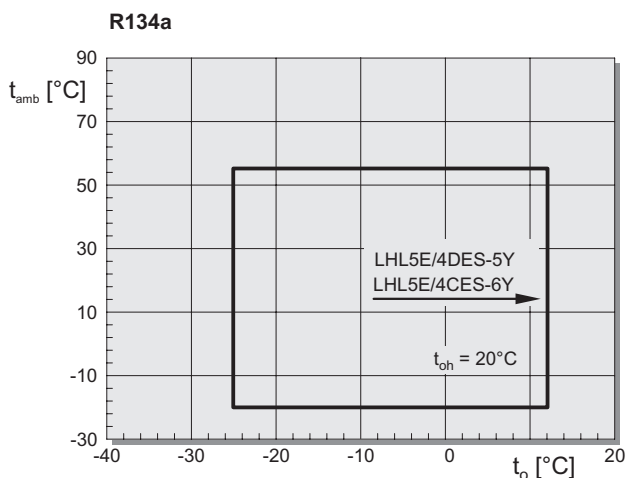
Due to its versatility and future-proof design, this series is a state of the art, affordable line of condensing units featuring the latest BITZER technology.

BITZER air-cooled condensing units range



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Application limits



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

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

- // Minichannel condenser with high heat transfer rate and low refrigerant charge
 - Optional plastic coating for industrial environment
 - Optional copper fins

SPEED-CONTROLLED FANS

- // Low power consuming AC 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



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CONTROLLER WITH DISPLAY + PRE-WIRED SWITCH BOARD

- // Controller including dedicated software developed by BITZER with key parameters monitoring
- // BEST SOFTWARE connectivity for entire system monitoring + datalog
- // Selectable emergency operation
- // Pump down function
- // Simple commissioning through Plug and Play concept
- // Safe for A2L refrigerants

SOUND PROOF DESIGN

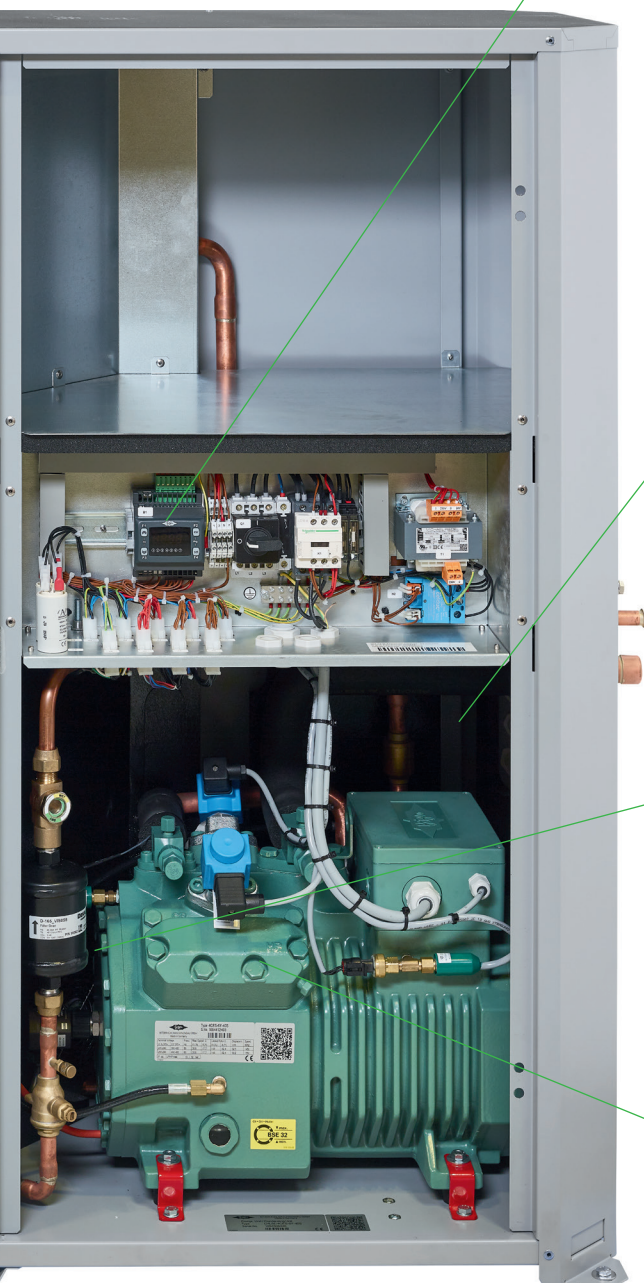
- // Unit housing and compressor compartment developed for maximum sound protection

MOTOR FAN COOLING

- // For reliable operation at demanding conditions

BITZER ECOLINE COMPRESSOR

- // Highly efficient BITZER ECOLINE compressor with – VARISTEP capacity control (50% to 100%)
- // Suitable for a wide range of refrigerants including HFOs and blends with low 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.

Cooling Capacity Q_0 [kW]

ECOLITE	Medium Temperature application, Dew point -10°C									Low Temperature application, Dew point -35°C				
	R134a	R404A	R407A	R407F	R448A R449A	R454C	R450A	R513A	R1234yf	R404A	R407A	R407F	R448A R449A	R454C
LHL3E/2EES-2Y	3,66	5,99	5,29	5,61	5,49	4,87	3,21	3,88	3,69	1,90	1,26	1,35	1,37	1,25
LHL3E/2DES-2Y	4,32	6,74	6,01	6,36	6,22	5,50	3,79	4,56	4,22	2,22	1,49	1,60	1,62	1,51
LHL3E/2CES-3Y	5,22	8,12	7,34	7,76	7,58	6,69	4,59	5,49	5,22	2,83	1,95	2,08	2,10	2,01
LHL5E/4FES-3Y	5,76	9,79	8,91	9,30	9,09	8,03	5,04	6,11	5,78	3,26	2,33	2,39	2,42	2,18
LHL5E/4EES-4Y	7,44	11,89	10,64	11,25	11,00	9,71	6,53	7,83	7,38	4,05	2,74	2,93	2,96	2,70
LHL5E/4DES-5Y	8,47	13,34	11,85	12,52	12,24	10,78	7,44	8,93	8,19	4,63	3,06	3,27	3,31	3,04
LHL5E/4CES-6Y	10,23	15,74	14,43	15,23	14,87	13,06	9,01	10,74	10,10	5,52	3,98	4,24	4,28	3,86

Efficiency

ECOLITE	Medium Temperature application, Dew point -10°C									Low Temperature application, Dew point -35°C				
	R134a	R404A	R407A	R407F	R448A R449A	R454C	R450A	R513A	R1234yf	R404A	R407A	R407F	R448A R449A	R454C
LHL3E/2EES-2Y	2,59	3,40	3,30	3,26	3,30	3,41	2,53	2,59	2,52	1,40	1,21	1,23	1,24	1,22
LHL3E/2DES-2Y	2,53	3,20	3,14	3,09	3,13	3,42	2,50	2,53	2,46	1,92	1,22	1,23	1,24	1,26
LHL3E/2CES-3Y	3,50	2,96	2,95	2,89	2,93	3,03	2,47	3,49	3,40	1,91	1,23	1,69	1,72	1,65
LHL5E/4FES-3Y	3,54	3,46	3,32	3,29	3,33	3,38	3,42	3,58	3,59	1,85	1,61	1,62	1,66	1,49
LHL5E/4EES-4Y	3,71	3,21	3,19	3,14	3,17	3,25	3,63	3,72	3,61	1,92	1,67	1,69	1,73	1,57
LHL5E/4DES-5Y	3,61	3,05	3,07	3,02	3,06	3,16	3,55	3,61	3,47	1,91	1,68	1,70	1,74	1,62
LHL5E/4CES-6Y	3,49	2,80	2,86	2,81	2,84	2,92	3,49	3,47	3,29	1,89	1,69	1,70	1,74	1,60

COP at 32°C

SEPR



Optional equipment

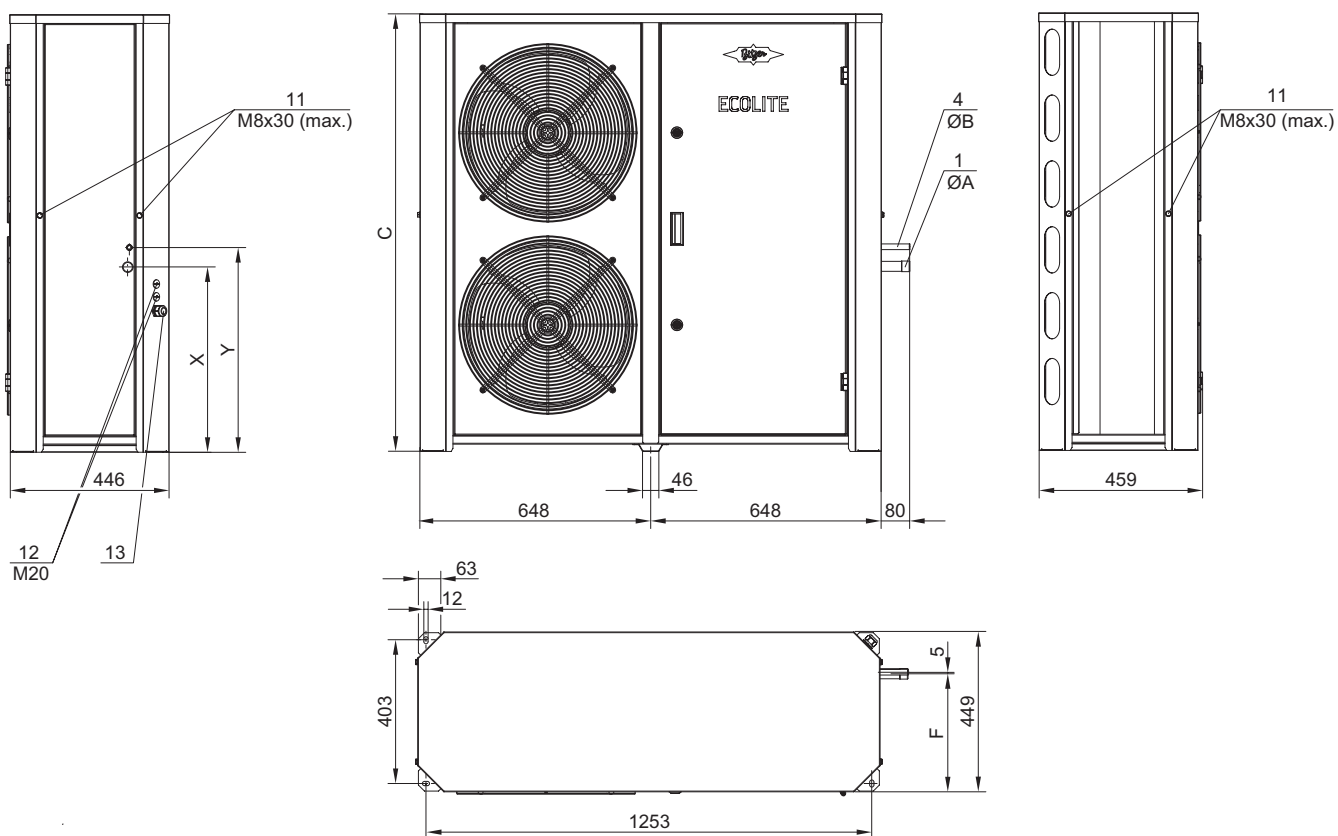
- // Enhanced capacity control from 10% to 100% for LHL5E (second VARISTEP)
- // Oil separator with check valve
- // Oil level monitoring
- // Minichannel condenser with plastic coating or optional copper fins
- // Liquid receiver with 2 sight glasses and connection for pressure relief valve
- // Cold room temperature sensor
- // BEST converter for connection to BEST SOFTWARE
- // Check valve in "condensate line" (liquid line)

Tentative data

Technical Data

Model	Weight kg	Fan (s)		Receiver volume dm ³	Compressor Max. operating current A
		Max. power consumption kW	Air flow condenser m ³ /h		
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)

Model	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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