

PRODUCT CATALOGUE



PROVIDING **GLOBAL SYSTEM** SOLUTIONS

**CHILLER
ECOMAX**

EcoMAX



INTRODUCTION TO THE RANGE

The simple and robust design of the Ecomax range brings real benefits in terms of savings in investment, operation and maintenance.

To meet the requirements of every application, the Ecomax range is available in :
(Reciprocating compressors, only available in High Ambient) **3 versions** :

- **Standard (STD)** : *economical*
Complete unit, ready for use, benefiting from Lennox design and manufacturing quality
- **High Ambient (HA)** : *severe environment*
High-Efficiency condenser fans, ventilated control panel with resistance heater to prevent condensation
- **Low Noise (LN)** : *low sound level*
Low-speed condenser fan, oversized condenser coils and sound insulation cabinet for compressors. 6 dB reduction in sound power

CONSTRUCTION

- Machine welded framework for enhanced rigidity
- Aluzinc sheet casing
- Protection by Epoxy treatment (RAL 9002)
- Semi-sealed piston compressor, part-winding starting (LCH P)
- Semi-sealed screw compressor, part-winding starting (LCH V)
- R407C refrigerant
- Multitube dry expansion evaporator - 13 mm close cell foam insulation
- Vertical condenser coils (reduced clogging - easy cleaning)
- High efficiency condenser fan with low noise level
- IP55 class F motor
- Control and protection panel according to EN 60 204-1
- 2, 3 and 4 independent cooling circuits according to size
- Filter dryer, liquid indicator, thermostatic expansion valve, HP pressure switches, manual valve on each compressor discharge
- HP and LP electronic pressure sensors
- CLIMATIC™ 50 electronic controller
- PN 16 flanged water connection



CLIMATIC™ CONTROL

- PID control
- CLIMATIC™ : Start/stop programming - Set point change
- Compressor operating time balancing
- Set point adjustment according to external temperature
- Fault control for each component
- General alarm with report
- Antifreeze protection
- Control of one or more pumps
- Connectable to a BMS
- Digital screen



LCH V / P - 340 → 1 439 kW

GENERAL DATA - SCREW COMPRESSORS - LN VERSION

ECOMAX LN	LCH V	402	422	442	452	502	552	602	652	702	752
Cooling mode											
Cooling capacity ⁽¹⁾	kW	368	403	418	449	503	549	594	654	684	740
Power Input ⁽¹⁾	kW	126	144	145	159	174	203	204	247	231	257
COP ⁽²⁾		3,1	3,0	3,1	3,0	3,1	2,9	3,1	2,8	3,2	3,1
Electrical data											
Voltage	V / Ph / Hz	400V/III/50Hz									
Start-up intensity (Part-winding)	A	550	566	593	603	744	754	796	813	874	872
Maximum current	A	275	301	318	338	370	397	422	456	485	481
Refrigeration circuit											
Number of circuits	Nb	2	2	2	2	2	2	2	2	2	2
Compressor	Nb	2	2	2	2	2	2	2	2	2	2
Evaporator	Type	DX Shell and tubes									
Capacity steps	%	0-12-25-37 50-62-75 87-100									
Refrigerant charge per circuit	kg	86/65	86/65	86	86	111/86	111/86	111	111	131	131
Hydraulic connection											
Type		Flanges - PN 16									
Diameter		DN 150	DN 150	DN 150	DN 150	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200
Condenser fan (helicoïdal)											
Number	Nb	7	7	8	8	9	9	10	10	12	12
Nominal air flow	m ³ /h	137200	137200	156400	156400	177400	177400	198400	198400	236000	236000
Total motor power input	kW	8,4	8,4	9,6	9,6	10,8	10,8	12	12	14,4	14,4
Fan speed	tr/mn	550	550	550	550	550	550	550	550	550	550
Acoustic											
Sound pressure level ⁽²⁾	dB(A)	90	90	91	91	91	91	92	92	93	93
Operating limits											
Maxi. outside air temperature	°C	51	51	51	51	50,5	50,5	50,5	50,5	50,5	50,5
Mini. outside air temperature	°C	+6 °C as standard and -10 °C with "all seasons operation" kit									
Maxi. inlet water temperature	°C	20									
Mini. outlet water temperature	°C	+5 °C and -10 °C with 30% glycol									

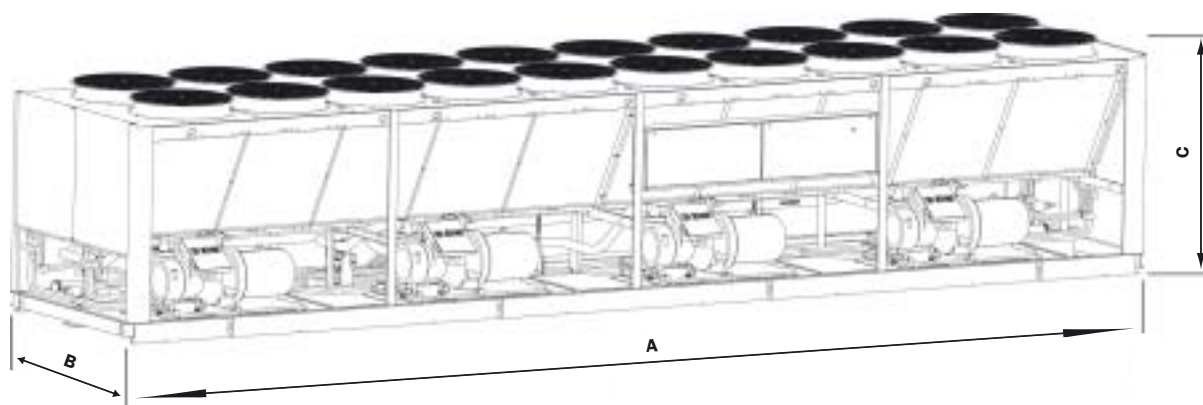
ECOMAX LN	LCH V	803	853	953	1003	1053	1153	1254	1354	1404	1504
Cooling mode											
Cooling capacity ⁽¹⁾	kW	775	836	922	1009	1040	1125	1196	1309	1338	1446
Power Input ⁽¹⁾	kW	259	287	302	363	353	398	403	489	477	541
COP ⁽²⁾		3,0	2,9	3,1	2,8	2,9	2,8	3,0	2,7	2,8	2,7
Electrical data											
Voltage	V / Ph / Hz	400V/III/50Hz									
Start-up intensity (Part-winding)	A	950	970	1009	1043	1111	1107	1217	1268	1348	1342
Maximum current	A	561	579	635	686	722	716	843	911	959	951
Refrigeration circuit											
Number of circuits	Nb	3	3	3	3	3	3	4	4	4	4
Compressor	Nb	3	3	3	3	3	3	4	4	4	4
Evaporator	Type	DX Shell and tubes									
Capacity steps	%	0-16-25-33 50-58-66-83 92-100					0-12-19-25-37 44-50-62-69 75-87-94-100				
Refrigerant charge per circuit	kg	131/86	131/86	111/131	111/131	111/131	111/131	111	111	111	111
Hydraulic connection											
Type		Flanges - PN 16									
Diameter		DN 200	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200	DN 200
Condenser fan (helicoïdal)											
Number	Nb	14	14	16	16	16	16	20	20	20	20
Nominal air flow	m ³ /h	274400	274400	316400	316400	316400	316400	396800	396800	396800	396800
Total motor power input	kW	16,8	16,8	19,2	19,2	19,2	19,2	24	24	24	24
Fan speed	tr/mn	550									
Acoustic											
Sound pressure level ⁽²⁾	dB(A)	93	93	94	94	94	94	95	95	95	95
Operating limits											
Maxi. outside air temperature	°C	50,5	50,5	50,5	50,5	49	49	50,5	50,5	49	49
Mini. outside air temperature	°C	+6 °C as standard and -10 °C with "all seasons operation" kit									
Maximum inlet water temperature	°C	20									
Minimum outlet water temperature	°C	+5 °C and -10 °C with 30% glycol									

(1) Water : 12 °C / 7 °C - Air : 35 °C (2) EUROVENT conditions



PHYSICAL DATA

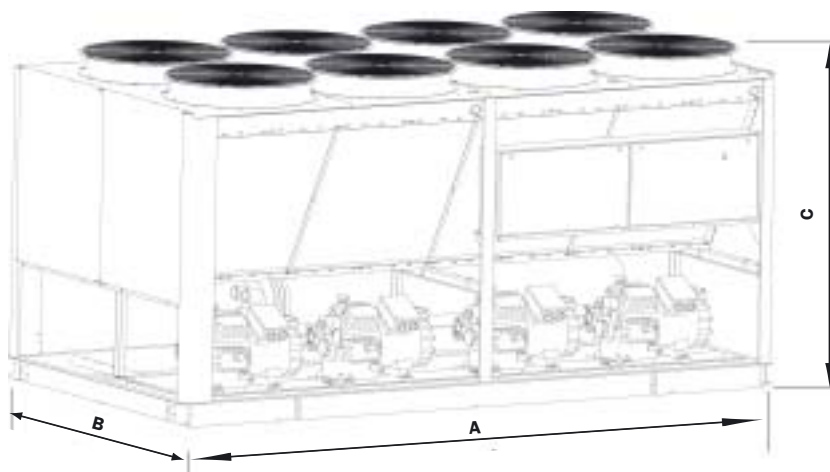
1



ECOMAX - Screw compressors	LCH V	402	422	442	452	502	552	602	652	702	752
STD version											
A	mm	4494	4494	4494	4494	5704	5704	5704	5704	6920	6920
B	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300
C	mm	2263	2263	2263	2263	2263	2263	2263	2263	2283	2283
Weight without water	kg	3658	3658	3864	3864	4644	4644	5401	5401	6100	6100
Operating weight	kg	3742	3742	3968	3968	4764	4764	5609	5609	6293	6293
HA version											
A	mm	4494	4494	4494	4494	5704	5704	5704	5704	6920	6920
B	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300
C	mm	2263	2263	2263	2263	2263	2263	2263	2263	2283	2283
Weight without water	kg	3758	3758	3979	3979	4773	4773	5544	5544	6271	6271
Operating weight	kg	3842	3842	4082	4082	4893	4893	5752	5752	6465	6465
LN version											
A	mm	4494	4494	4494	4494	5704	5704	5704	5704	6920	6920
B	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300
C	mm	2443	2443	2443	2443	2443	2443	2443	2443	2463	2463
Weight without water	kg	4002	4002	4269	4269	5094	5094	5894	5894	6920	6920
Operating weight	kg	4087	4087	4373	4373	5214	5214	6102	6102	6797	6797

ECOMAX - Screw compressors	LCH V	803	853	953	1003	1053	1153	1254	1354	1404	1504
STD version											
A	mm	7920	7920	9130	9130	9130	9130	11340	11340	11340	11340
B	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300
C	mm	2283	2283	2303	2303	2303	2303	2304	2304	2304	2304
Weight without water	kg	6826	6826	8496	8496	8771	8771	11046	11046	11234	11234
Operating weight	kg	7019	7019	8741	8741	9096	9096	11371	11371	11810	11810
HA version											
A	mm	7920	7920	9130	9130	9130	9130	11340	11340	11340	11340
B	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300
C	mm	2283	2283	2303	2303	2303	2303	2304	2304	2304	2304
Weight without water	kg	7026	7026	8725	8725	9000	9000	11332	11332	11520	11520
Operating weight	kg	7219	7219	8969	8969	9325	9325	11657	11657	12096	12096
LN version											
A	mm	7920	7920	9130	9130	9130	9130	11340	11340	11340	11340
B	mm	2300	2300	2300	2300	2300	2300	2300	2300	2300	2300
C	mm	2463	2463	2483	2483	2483	2483	2484	2484	2484	2484
Weight without water	kg	7492	7492	9318	9318	9593	9593	12027	12027	12216	12216
Operating weight	kg	7686	7686	9562	9562	9918	9918	12352	12352	12791	12791

2



ECOMAX - Reciprocating compressors	LCH P	322	412	462	532
HA version					
A	mm	3390	4390	4390	4390
B	mm	2300	2300	2300	2300
C	mm	2263	2263	2263,5	2263,5
Weight without water	kg	3463	4025	4544	4910
Operating weight	kg	3566	4145	4694	5061

□ OPTIONS

- Anti intrusion Guards
- Antifreeze protection
- Anti-vibration mounts rubber
- Anti-vibration mounts spring
- BLYGOLD PLUS Coils treated
- Coils protection Guards
- Control panel Anti-condensation heaters
- Cu / Cu Condenser coils
- Electronic Expansion valve
- Embellished posts
- Epoxy Coated Condenser fins
- Flow switch (a paddle)
- Flow switch (pressure drop control)
- HP&LP pressure gauges
- HP&LP pressure gauges and oil
- DC 50 Comfort Display
- DS 50 Service Display
- Low Ambient kit
- Main ON/OFF switch
- Mod-Bus interface
- Power Factor Correction
- R22
- Reinforced evaporator insulation
- Soft Starter
- Suction isolation Valve
- UDT standard conformity
- Water filter
- Water inlet/outlet valves
- Water inlet/outlet manometer
- Electrical meter
- 1 extra step control





www.lennox europe.com

**BELGIUM,
LUXEMBOURG :**

LENNOX BENELUX N.V./S.A.
www.lennoxbelgium.com

CZECH REPUBLIC :

LENNOX JANKA a.s.
www.janka.cz

FRANCE :

LENNOX FRANCE
www.lennoxfrance.com

GERMANY :

LENNOX DEUTSCHLAND GmbH
www.lennoxdeutschland.com

NETHERLANDS :

LENNOX BENELUX B.V.
www.lennoxbenelux.com

POLAND :

LENNOX POLSKA Sp. z o. o.
www.lennoxpolska.pl

PORTUGAL :

LENNOX PORTUGAL Lda.
www.lennoxportugal.com

RUSSIA :

LENNOX DISTRIBUTION MOSCOW
www.lennoxrussia.com

SLOVAKIA :

LENNOX SLOVENSKO s.r.o.
www.lennoxdistribution.com

SPAIN :

LENNOX REFAC S.A.
www.lennox-refac.com

UKRAINE :

LENNOX DISTRIBUTION KIEV
www.lennoxrussia.com

**UNITED KINGDOM,
IRELAND :**

LENNOX INDUSTRIES Ltd
www.lennoxind.com

**OTHER EUROPEAN COUNTRIES,
AFRICA,
MIDDLE-EAST :**

LENNOX DISTRIBUTION
www.lennoxdistribution.com

