

DUCTED SPLIT UNITS

R407C

R22



- Cooling Only and Heat Pump
- Cooling Capacities of 14,5 - 98 kW



AIRCOOLAIR

COOLING ONLY AND HEAT PUMP

Cooling Capacities of 14.5 - 98 kW



LNA/LHB 5-7-8-10-15 E



LFE/LHX 17-20-30-35-40 D



KNA-K/KAB 5-7 E



KNA-K/KAB 8-10 E-15 E



KNA-K/KAB-15D-17D
KNA-K/KAB-20D-30D

AIRCOOLAIR ducted split units

The Lennox Aircoolair range are ducted split type Cooling Only and Heat Pump air conditioning units, designed specifically for ducted air applications.. The Aircooler range is available in a variety of cooling capacities of between 14.5-98KW.

The outdoor unit is fully weatherproofed and manufactured with galvanized sheet steel, and painted with a polyester powder coated finish.

The systems versatility allows the indoor unit to supply air in either Horizontal or Vertical configurations.

The units consist of:

- Copper and aluminium fins on heat exchangers.
- Compressors mounted on anti-vibration mounts.
- Belt/Pulley driven Centrifugal fans on indoor units size 8 and above.
- Axial fans on outdoor units.
- Indoor unit provided with easy removable washable air filters.
- Easy access to all components by means of removable panels.
- Cooling circuit composed of:
 - Sealed compressor
 - Compressor discharge silencer
 - Filter drier
 - Expansion system
 - Manual reset high pressure switch
 - Manual reset low pressure switch
 - Four-way valve (HAB/VAB models)
 - Suction accumulator (HAB/VAB models)
 - Crankcase heater (HAB/VAB models)
- Electrical panel composed of:
 - Contactors
 - Compressor and fan thermal protection
 - Five minute starting timer
 - Defrost thermostat timer

CONTROLLERS



111 - X2

111 - X2

(For 5 - 15 E models)

24V cable-operated remote control for Cooling Only and Heat Pump units with manual switches for operating mode, cool/heat and manual/automatic operation.

1 fan speed. 1 stage Cooling. 1 stage Heating.
(May be replaced by the 111 - XV THERMOSTAT).



111 - XV

122 - F 700

(For Cooling Only models 15 DK to 40 DK)

24V cable-operated remote Controller with LCD display for Cooling Only units and provides automatic reset after power failure, 1 Fan Speed, 2 stage Cooling, 3 state Heating.



122 - F

123-B 600

(For Heat Pump models 15 D - 40 D)

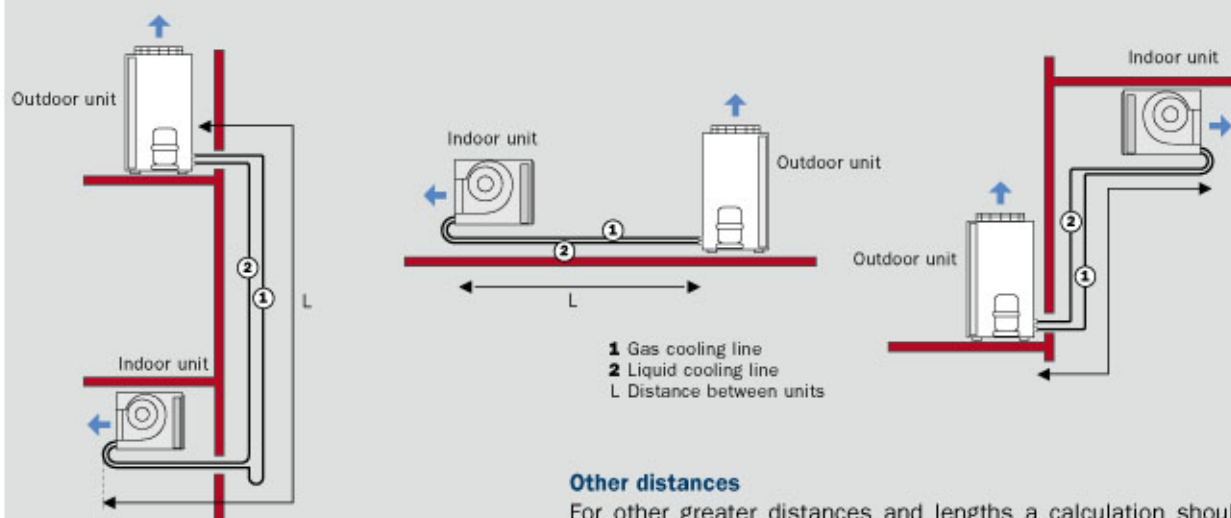
24V cable-programmable thermostat, with LCD display for Heat Pump units. Provides automatic reset after power failure. 1 Fan Speed, 2 stage Cooling, 3 state Heating.

OPTIONS

- Condenser Head Pressure Control
- Remote fault indication
- Hot gas by-pass valve
- Mains ON/OFF switch
- Circuit breakers
- Electric heater coils
- Hot water coils
- Free-cooling kit



COOLING DATA



Other distances

For other greater distances and lengths a calculation should be made in accordance with our technical department or sales network. This calculation will provide the following data: insulation types, refrigerant charge, dimensions and pipe siphons.

COOLING DATA (1)

MODELS

		5 E*	7 E	8 E	10 E	15 E
Ø Bevel coupling pipe	Liquid	5/8"	5/8"	5/8"	5/8"	3/4"
	Gas	3/4"	7/8"	1 1/8"	1 3/8"	1 3/8"
Cooling distances	Max. vert. D2	6	6	10	10	10
	Max. vert. D1	9	9	15	15	15
	Total vert.+ horiz.	15	20	25	25	25
Maximum number of bends		12	12	12	12	12

COOLING DATA (1)

MODELS

		15 D	17 D	20 D	30 D	35 D	40 D
Ø Bevel coupling pipe	Liquid	2x5/8"	2x5/8"	2x5/8"	2x3 / 4"	2x7/8"	2x7/8"
	Gas	2x7/8"	2x1-1/8"	2x1-1/8"	2x1-3/8"	2x1-5/8"	2x1-5/8"
Cooling distances	Max. vert. D2	10	10	10	10	15	15
	Max. vert. D1	15	15	15	15	15	15
	Total vert.+ horiz.	25	25	25	25	25	25
Maximum numbers of bends		12	12	12	12	12	12

(1) The distances shown are maximum, with standard piping, although they may vary according to the number of bends used.

OPERATING LIMITS (DB: Dry Bulb Temperature / WB: Wet Bulb Temperature)

COOLING ONLY UNITS R407C		Maximum Temperatures	Minimum Temperature
■ Cooling operation	Indoor temperature	32° C DB/ 23° C WB	21° C DB / 15° C WB
	Outdoor temperature	42° C DB	0° C (with standard ON/OFF Low ambient kit) -10° C (with optional PROPORTIONAL Low ambient kit)
HEAT PUMP UNITS R22		Maximum Temperatures	Minimum Temperature
■ Cool operation	Indoor temperature	32° C DB/ 23° C WB	21° C DB / 15° C WB
	Outdoor temperature	46° C DB	19° C DB
■ Heating operation	Indoor temperature	27° C DB/ 18° C WB	21° C DB / 15° C WB
	Outdoor temperature	24° C DB/ 18° C WB	-8° C DB / -9° C WB

TECHNICAL DATA

INDOOR UNITS

INDOOR UNIT COOLING ONLY INDOOR UNIT HEAT PUMP		LNA 5EK LHB 5/LVB 5E	LNA 7EK LHB 7/LVB 7E	LNA 8EK LHB 8E	LNA 10EK LHB 10E	LNA 15EK LHB 15E
Power input	kW	0,74	1,00	1,1	1,5	2,2
Voltage: 50 Hz	V/f	230/1	230/1	230-400/III	230-400/III	230-400/III
Maximum current	A	5,2	6	4,8/2,8	6,4/3,7	9,4/5,4
Starting current	A	15,6	18	14,4/8,4	19,2/11,1	28,2/16,1
Max/Min air flow (Cooling)	m³/h	4200 / 3400	5000 / 3800	5700 / 4200	8400 / 5600	8400 / 5600
Max/Min air flow (Heating)	m³/h	4300 / 3400	5500 / 3800	5700 / 4200	8400 / 5600	8400 / 5600
Maximum pressure available (Cooling)	Pa	180	180	230	230	370
Maximum pressure available (Heating)	Pa	200	230	230	230	370
Condensate drain pipe diameter	mm	16	16	16	16	16
Dimensions (H x L x D) Cooling Only	mm	440x1010x650	440x1010x650	512x1285x720	660x1555x805	660x1555x805
Dimensions (H x L x D) Heat Pump	mm	485x1015x966 /	996x1015x485	512x1285x720	660x1555x805	660x1555x805
Net weight (Cooling)	kg	90	100	100	180	200
Net weight (Heating)	kg	106	106	100	150	200

INDOOR UNIT COOLING ONLY INDOOR UNIT HEAT PUMP		LFE 15DK LHX 15D	LFE 17DK LHX 17D	LFE 20DK LHX 20D	LFE 30DK LHX 30D	LFE 35DK LHX 35D	LFE 40DK LHX 40D
Power input	kW	1,6	2,4	3,4	3,4	4,5	5,6
Voltage: 50 Hz	V/f	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	7,4/4,3	12,0/7,0	12,0/7,0	12,0/7,0	21,3/11,5	23,3/13,5
Starting current	A	22,2/12,9	36,1/21,1	36,1/21,1	36,1/21,1	132/71	144/84
Max/Min air flow	m³/h	8200/6600	11400/9200	13600/9100	14800/10100	17000/12500	18300/15000
Maximum pressure available	Pa	200	190	290	240	300	280
Condensate drain pipe diameter	mm	16	16	16	16	16	16
Dimensions (H x L x D)	mm	590x1660x650	640x2250x750	640x2250x750	640x2250x750	665x3140x750	665x3140x750
Net weight	kg	150	210	230	235	270	295

OUTDOOR UNITS

OUTDOOR UNIT COOLING ONLY OUTDOOR UNIT HEAT PUMP		KNA 5 EK KAB 5E	KNA 7 EK KAB 7E	KNA 8 EK KAB 8E	KNA 10 EK KAB 10E	KNA 15 EK KAB 15E
Cooling only power input	kW	5,76	7,2	8,38	11,1	14,11
Heat Pump power input C/H	kW	5,96/6,46	7,2/7,9	8,38 / 8,9	11,1 / 12,1	14,1 / 15,1
Voltage: 50 Hz	V/f	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current C.H.P.	A	23,8 /13,7-24,2/14,1	29,1/18,1	32,8/20	41,8/24,9	52,4/32,4
Starting current	A	117 / 60	135/67	176/78,5	170/105	208/130
Compressors / Type	Nº	1/Reciprocating	1/Reciprocating	1/Reciprocating	1/Reciprocating	1/Reciprocating
Air flow	m³/h	4500	5200	9500	9000	10400
Condensate drain pipe diameter	mm	16	16	16	16	16
Dimensions (H x L x D)	mm	870x800x800	870x800x800	895x1600x800	895x1600x800	895x1600x800
Net weight Cooling	kg	135	145	210	230	260
Net weight Heat Pump	kg	140	150	215	235	265

OUTDOOR UNIT COOLING ONLY OUTDOOR UNIT HEAT PUMP		KNA 15 DK KAB 15D	KNA 17 DK KAB 17D	KNA 20 DK KAB 20D	KNA 30 DK KAB 30D	KNA 35 DK KAB 35D	KNA 40 DK KAB 40D
Cooling only power input	kW	14,2	16,2	21	26,8	27,5	33,5
Heating only power input	kW	11,5	13,4	17,3	22	24,5	28,5
Voltage: 50 Hz	V/f	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	56,36/34,36	63,96 / 38,36	82,4/48,6	100,4/60,4	127,5 / 63,3	161,5 / 79,1
Starting current	A	166,8 / 106,8	169,8 / 109,3	223,6 / 142,6	269,6 / 176,6	500 / 226	410/196
Compressors / Type	Nº	2/Reciprocating	2/Reciprocating	2/Reciprocating	2/Reciprocating	2/Scroll	2/Reciprocating
Air flow	m³/h	14400	14200	20000	19200	2x14200	2x20000
Condensate drain pipe diameter	mm	16	16	16	16	16	16
Dimensions (H x L x D)	mm	1330x2000x1000	1330x2000x1000	1830x2000x1000	1830x2000x1000	1330x2000x1000	1830x2000x1000
Net weight Cooling Only	kg	305	350	405	455	2x430	2x475
Net weight Heat Pump	kg	312	357	415	470	2x430	2x475

TECHNICAL DATA

DUCTED SPLIT UNITS (AIRCOOLAIR) R407C

COOLING ONLY MODEL		ANA 5EK	ANA 7EK	ANA 8EK	ANA 10EK	ANA 15EK
COOLING ONLY INDOOR UNIT		LNA 5EK	LNA 7EK	LNA 8EK	LNA 10EK	LNA 15EK
COOLING ONLY OUTDOOR UNIT		KNA 5EK	KNA 7EK	KNA 8EK	KNA 10EK	KNA 15EK
Cooling capacity	W	14.500	18.900	22.300	28.900	36.000
Cool mode power consumption	kW	6,5	8,2	9,4	12,6	16,3
Voltage: 50 Hz + neutral + ground	V/f	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	29,0/18,9	35,1/24,1	37,6/22,8	48,2/28,6	61,8/37,8
Starting current	A	122,2/65,2	141/73	180,8/81,3	176,4/108,7	217,4/135,4

DUCTED SPLIT UNITS (AIRCOOLAIR) R407C

COOLING ONLY MODEL		ANA 15DK	ANA 17DK	ANA 20DK	ANA 30DK	ANA 35DK	ANA 40DK
COOLING ONLY INDOOR UNIT		LFE 15DK	LFE 17DK	LFE 20DK	LFE 30DK	LFE 35DK	LFE 40DK
COOLING ONLY OUTDOOR UNIT		KNA 15D K	KNA 17D K	KNA 20D K	KNA 30D K	KNA 35D K	KNA 40D K
Cooling input	W	36.500	44.000	56.200	69.000	83.300	97.400
cooling mode power consumption	kW	15,8	18,6	24,4	30,2	32	39
Voltage: 50 Hz	V/f	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	63,76/38,66	75,96/45,36	94,4/55,6	112,4/67,4	148,8/74,8	184,8/92,6
Starting current	A	166,8/106,8	169,8/109,3	223,6/142,6	269,6/176,6	500/226	410/196

DUCTED SPLIT UNITS (AIRCOOLAIR) R22

HEAT PUMP MODEL		HAB 5E/VAB 5E	HAB 7E/VAB 7E	HAB 8E	HAB 10E	HAB 15E
INDOOR UNIT		LHB 5E/LVB 5E	LHB 7E/LVB 7E	LHB 8E	LHB 10E	LHB 15E
OUTDOOR UNIT		KAB 5E	KAB 7E	KAB 8E	KAB 10E	KAB 15E
Cooling capacity	W	15.000	19.000	22.300	28.900	36.000
Heating capacity	W	16.000	20.000	23.400	31.000	38.000
Cooling mode power input	kW	6,7	8,2	9,4	12,6	16,3
Heating mode power input	kW	7,2	8,9	10	13,6	17,3
Voltage: 50 Hz	V/f	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	29,4/19,3	35,1/24,1	37,6/22,8	48,2/28,6	61,8/37,8
Starting current	A	122,2/65,2	141/73	180,8/81,3	176,4/108,7	217,4/135,4

DUCTED SPLIT UNITS (AIRCOOLAIR) R22

HEAT PUMP MODEL		HAB 15D	HAB 15D	HAB 20D	HAB 30D	HAB 35D	HAB 40D
INDOOR UNIT		LHX 15D	LHX 17D	LHX 20D	LHX 30D	LHX 35D	LHX 40D
OUTDOOR UNIT		KAB 15D	KAB 17D	KAB 20D	KAB 30D	KAB 35D	KAB 40D
Cooling capacity	W	36.500	44.000	56.200	69.000	83.300	97.400
Heating capacity	W	40.150	48.800	62.700	78.200	91.450	107.000
Cooling mode power input	kW	15,8	18,6	24,4	30,2	32	39
Heating mode power input	kW	13,1	15,8	20,7	25,4	29	34
Voltage: 50 Hz	V/f	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	63,76/38,66	75,96/45,36	94,4/55,6	112,4/67,4	148,8/74,8	184,8/92,6
Starting current	A	166,8/106,8	169,8/109,3	223,6/142,6	269,6/176,6	500/226	410/196

(1) At Eurovent Conditions

Cooling operation

Indoor air 27°C d.b. - 19°C w.b.
Outdoor air 35°C w.b. - 24°C w.b.

Heating operation

Indoor air 20°C d.b. - 12°C w.b.
Outdoor air 7°C d.b. - 6°C w.b.