

STAND-ALONE AND HORIZONTAL SPLIT UNITS

R407C
R22



- **Cooling Only and Heat Pump**
- **Cooling Capacities of 9,8 - 28,1 kW**



FLATAIR

COOLING ONLY AND HEAT PUMP

Cooling Capacities
of 9,8 - 28,1 kW



Height energy efficiency

Scroll compressors

on all models

Digital controller

R407C on Cooling Only
and Heat Pump units



Pressure test point connections



Electrical panel

Stand-Alone or Horizontal Split Aircooled Condensing Units

Cooling Only or Heat Pump models

- Scroll compressors
- Class M1 self-extinguishing insulation on outdoor unit
- Aluminium mesh insulation on indoor unit:
 - Self-extinguishing in case of fire, class M1
 - Toxicity classification F1
- Height energy efficiency (EER/COP)
 - Height efficiency exchanger with rifled copper pipe.

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

Fitted with lifting points for handling and **installation**.

The indoor unit is provided with washable **air filters**, **self-extinguishing class M1**.

Easy access to all components by means of **removable panels**.

Motor fans: centrifugal type for both indoor and outdoor units, with **flexible connections** to prevent vibration being transmitted into ductwork.

Cooling circuit consisting of:

- Scroll compressor mounted on nati-vibration pads.
- Filter drier.
- Orifice plate expansion system on models 10, 12 and 16.
- Thermostatic expansion valve on models 22, 24, 28 and 30.
- Height/Low pressure switch with automatic reset via the controller.
- Non return valves (FLH models).
- Pressure test connections on models 24, 28 and 30 accessible from the outside.

Electrical panel to EN 60204-1 European directive including:

- Contactors
- Compressor and fan motors protection fuse
- Crankcase heater (FLH models)
- Electronic controller

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 R407C		Maximum Temperatures	Minimum Temperature
■ Cooling operation	Indoor temperature	32° C DB/ 23° C WB	21° C DB/ 15° C WB
	Outdoor temperature	46° C DB	0° C (with standard low ambient kit) 19° C DB (with standard low ambient kit) (Optional)
■ Heating operation	Indoor temperature	27° C DB/ 18° C WB	21° C DB/ 15° C WB
	Outdoor temperature	24° C DB/ 18° C WB	-10° C DB/ -11° C WB

CONTROLLER



• Two-wire thermostat connection

- Automatic reset in the event of a power failure
- Selection of various setpoints:

Categorie	COOLING	HEAT
COMFORT	Desired temperature (setpoint)	Desired temperature (setpoint)
SHORT ABSENCE	Setpoint increases 4° C by selecting in Comfort category	Setpoint decreases 4° C by selecting in Comfort category
NIGHT-TIME	Setpoint increases 2° C by selecting in Comfort category	Setpoint decreases 2° C by selecting in Comfort category



LCD display

- Shows room temperature, setpoint, unit operating mode.
- Easy selection of unit operating mode: Comfort/Short Absence/Night-time.
- Setting control, different regulating parameters, time programming (optional), 24-hour, 7-day.
- Remote sensor in return duct (optional), remote environment sensor (optional).
- Indicates and displays various alarms, such as: air filter dirty, unit operating outside limits, high pressure switch cutout, etc.

OPTIONS

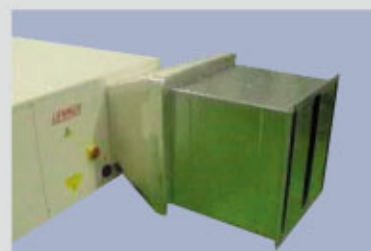
- Electric heating coil
- Main ON/OFF switch
- Free-cooling kit
- Phase protection
- ON/OFF condenser head pressure control (models 10/12/16)
- Outdoor air filter
- Outdoor fan acoustic silencer (except models 10/12)
- Crankcase heater (FLC models)
- Outdoor installation kit
- Hot gas by-pass valve (mod. 22/24/28/30)



Phase protection



Free-cooling kit



Acoustic silencer

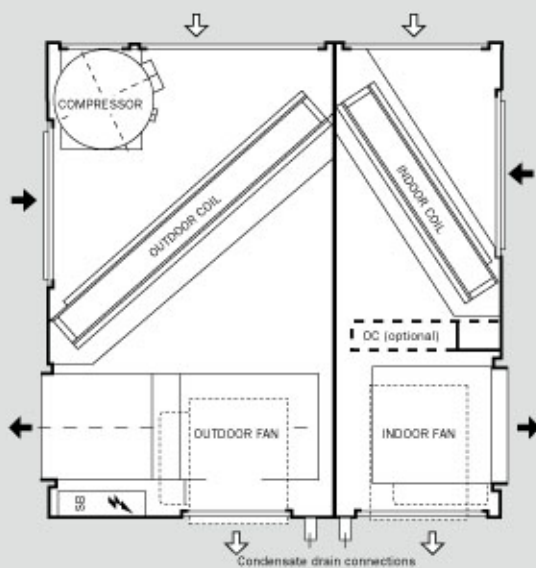
OPERATING LIMITS (DB: Dry Bulb Temperature / WB: Wet Bulb Temperature)

HEAT PUMP UNITS R22		Maximum Temperatures	Minimum Temperature
■ Cooling 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

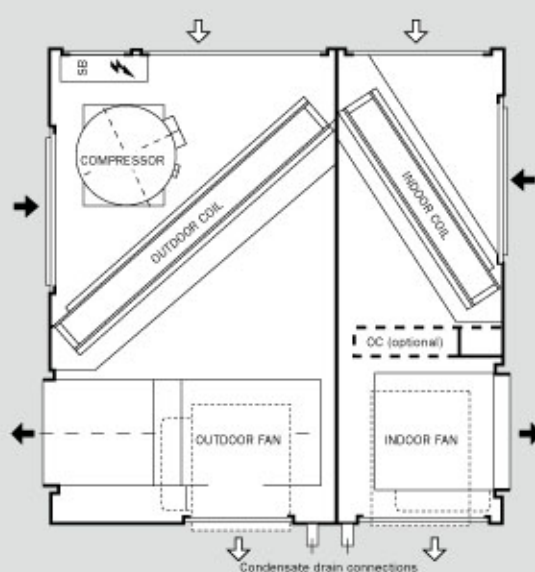
FLATAIR COMPONENTS

Various duct connection possibilities

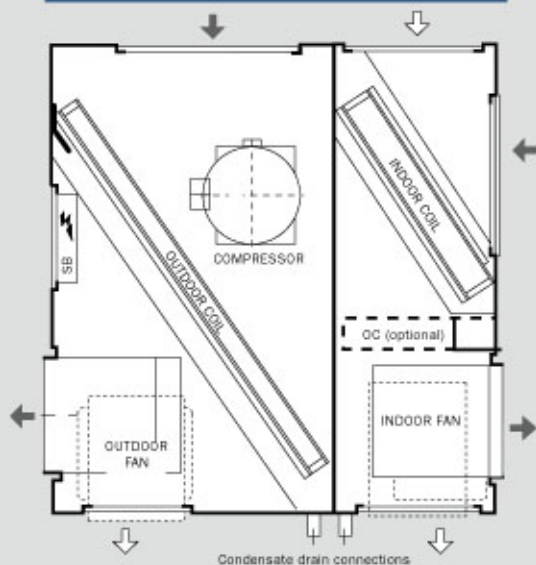
MODELS 10 - 12 - 16



MODEL 22



MODELS 24 - 28 - 30



- ← Standard
- ⬅ Optional
- ⚡ Electrical panel

COOLING DATA

Model		10	12	16	22	24	28	30
Diameter unit welding connection pipe	Liquid	3/8"	3/8"	1/2"	5/8"	5/8"	5/8"	5/8"
	Gas	3/4"	3/4"	7/8"	7/8"	1-1/8"	1-1/8"	1-1/8"

COOLING DISTANCES

Model		10	12	16	22	24	28	30
Cooling distances	Total vert. + horiz.	0-10m 10-30m	0-10m 10-30m	0-10m 10-30m	0-10m 10-30m	0-10m 10-30m	0-10m 10-30m	0-10m 10-30m
	∅ bevel coupling pipe	Liquid 3/8" 3/8"	3/8" 3/8"	1/2" 5/8"	5/8" 5/8"	5/8" 5/8"	5/8" 5/8"	5/8" 5/8"
	Gas	3/4" 7/8"	3/4" 7/8"	7/8" 7/8"	7/8" 7/8"	1-1/8" 1-1/8"	1-1/8" 1-1/8"	1-1/8" 1-3/8"
Cooling distances	Max. vertical (m)	15	15	15	15	15	15	15
Number of bends	Maximum	12	12	12	12	12	12	12

TECHNICAL DATA

FLATAIR - SPLIT UNITS WITH SCROLL COMPRESSOR R-407C

INDOOR UNIT COOLING ONLY		LFXO 10	LFXO 12	LFXO 16	LFCK 22	LFCK 24	LFCK 28	LFCK 30
OUTDOOR UNIT COOLING ONLY		KFCK 10	KFCK 12	KFCK 16	KFCK 22	KFCK 24	KFCK 28	KFCK 30
Cooling capacity (1)	W	9.800	11.800	15.300	19.500	22.000	26.300	28.100
Power input (1)	kW	3,69	4,58	6,41	8,1	9	10,38	12,2
INDOOR UNIT HEAT PUMP		LFXO 10	LFXO 12	LFXO 16	LFHK 22	LFHK 24	LFHK 28	LFHK 30
OUTDOOR UNIT HEAT PUMP		KFHK 10	KFHK 12	KFHK 16	KFHK 22	KFHK 24	KFHK 28	KFHK 30
Cooling capacity (1)	W	9.800	11.800	15.300	19.500	22.000	26.300	28.100
Heating capacity (1)	W	10.000	12.000	15.500	20.200	22.500	27.000	28.700
Power input - cooling (1)	kW	3,69	4,58	6,41	8,1	9	10,38	12,2
Power input - heating (1)	kW	3,16	4,11	5,6	6,74	8,6	9,2	10,32
Voltage: 50 Hz + neutral + ground	V/f	230/1/230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	24.3/22.4/12.9	25/14.4	31.7/18.3	37.2/21.5	39.8/23	44/25.4	52/30
Starting current	A	99/96/47	102/54	148/77	193/110	181/109	183/83	177/109
INDOOR UNIT COOLING ONLY		LFXO 10	LFXO 12	LFXO 16	LFCK 22	LFCK 24	LFCK 28	LFCK 30
INDOOR UNIT HEAT PUMP		LFXO 10	LFXO 12	LFXO 16	LFHK 22	LFHK 24	LFHK 28	LFHK 30
Power input	kW	0,38	0,38	0,9	1,3	1,35	1,35	1,35
Voltage: 50 Hz + neutral + ground	V/f	230/1/y 230-400/III	230/1/y 230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	2,6	2,6	7/4	7.4/4.3	7.4/4.3	7.4/4.3	7.4/4.3
Starting current	A	7,8	7,8	21/23	22/14	22/14	22/14	22/14
Max./Min air flow	m³/h	2.350/1.500	2.300/1.650	3.700/2.400	5.350/3.200	6.300/4.000	6.000/4.250	6.000/4.500
Maximum ESP available	Pa	120	110	160	180	240	200	180
Condensate drain pipe diameter		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Dimensions (HxLxD)	mm	495x1.250x430	495x1.250x430	595x1.300x500	595x1.450x620	645x1.500x775	645x1.500x775	645x1.500x775
Net weight	kg	70	70	100	130	140	150	150
OUTDOOR UNIT COOLING ONLY		KFCK 10	KFCK 12	KFCK 16	KFCK 22	KFCK 24	KFCK 28	KFCK 30
OUTDOOR UNIT HEAT PUMP		KFHK 10	KFHK 12	KFHK 16	KFHK 22	KFHK 24	KFHK 28	KFHK 30
Power input	kW	3,31	4,2	5,51	6,8	7,65	9,03	10,85
Heat power consumption	kW	2,78	3,73	4,70	5,44	7,25	7,85	8,97
Voltage: 50 Hz+neutral+ground	V/f	230/1/y 230-400/III	230/1/y 230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	21.7/19.8/10.3	22.4/11.8	24.7/14.3	29.8/17.2	33.4/19.3	36.6/21	44.6/25.7
Starting current	A	99/96/47	102/54	148/77	193/110	181/109	183/83	177/109
Max./Min air flow	m³/h	3.500/2.350	3.400/2.400	4.950/3.750	5.900/4.350	6.600/4.500	6.400/5.000	6.400/5.250
Maximum ESP available	Pa	100	90	120	150	160	120	100
Condensate drain pipe diameter		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Dimensions (AxLxH)	mm	495x1.250x820	495x1.250x820	595x1.300x830	595x1.450x900	645x1.500x1.025	645x1.500x1.025	645x1.500x1.025
Weight C/H	kg	130/135	135/140	180/185	185/200	265/270	275/280	285/285

FLATAIR - SPLIT UNITS WITH SCROLL COMPRESSOR R-22

INDOOR UNIT HEAT PUMP		LFXO 10	LFXO 12	LFXO 16	LFHA 22	LFHA 24	LFHA 28	LFHA 30
OUTDOOR UNIT HEAT PUMP		KFHA 10	KFHA 12	KFHA 16	KFHA 22	KFHA 24	KFHA 28	KFHA 30
Cooling capacity (1)	W	9.400	11.300	14.700	19.200	21.000	26.000	27.600
Heating capacity (1)	W	10.300	12.300	15.600	20.000	22.800	27.000	29.800
Power input - cooling (1)	kW	3,5	4,31	6,11	7,92	8,8	10,36	11,78
Power input - heating (1)	kW	2,93	3,44	4,94	6,6	7,8	8,43	9,43
Voltage: 50 Hz + neutral + ground	V/f	230/1/230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	24.3/22.4 /12.9	25/14.4	31.7/18.3	37.2/21.5	39.8/23	44/25.4	52/30
Starting current	A	99/96/47	102/54	148/77	193/110	181/109	183/83	177/109
INDOOR UNIT		LFXO 10	LFXO 12	LFXO 16	LFHA 22	LFHA 24	LFHA 28	LFHA 30
Power input	kW	0,38	0,38	0,9	1,3	1,35	1,35	1,35
Voltage: 50 Hz+neutral+ground	V/f	230/1/y 230-400/III	230/1/y 230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	2,6	2,6	7/4	7.4/4.3	7.4/4.3	7.4/4.3	7.4/4.3
Starting current	A	7,8	7,8	21/23	22/14	22/14	22/14	22/14
Max./Min air flow	m³/h	2.350/1.500	2.300/1.650	3.700/2.400	5.350/3.200	6.300/4.000	6.000/4.250	6000/4500
Maximum ESP available	Pa	120	110	160	180	240	200	180
Condensate drain pipe diameter		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Dimensions (HxLxD)	mm	495x1.250x430	495x1.250x430	595x1.300x500	595x1.450x620	645x1.500x775	645x1.500x775	645x1.500x775
Net weight	kg	70	70	100	130	140	150	150
OUTDOOR UNIT		KFHA 10	KFHA 12	KFHA 16	KFHA 22	KFHA 24	KFHA 28	KFHA 30
Power input - cooling	kW	3,12	3,93	5,21	6,62	7,45	9,01	10,43
Power input - heating	kW	2,55	3,06	3,50	5,30	6,45	7,08	8,08
Voltage: 50 Hz+neutral+ground	V/f	230/1 230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	21.7/19.8/10.3	22.4/11.8	24.7/14.3	29.8/17.2	33.4/19.3	36.6/21	44.6/25.7
Starting current	A	99/96/47	102/54	148/77	193/110	181/109	183/83	177/109
Max./Min air flow	m³/h	3.500/2.350	3.400/2.400	4.950/3.750	5.900/4.350	6.600/4.500	6.400/5.000	6.400/5.250
Maximum ESP available	Pa	100	90	120	150	160	120	100
Condensate drain pipe diameter		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Dimensions (HxLxD)	mm	495x1.250x820	495x1.250x820	595x1.300x830	595x1.450x900	645x1.500x1.025	645x1.500x1.025	645x1.500x1.025
Net weight	kg	135	140	185	200	270	280	285

TECHNICAL DATA

FLATAIR - STAND-ALONE UNITS WITH SCOLL COMPRESSOR R-407C

COOLING ONLY MODELS		FLCK 10	FLCK 12	FLCK 16	FLCK 22	FLCK 24	FLCK 28	FLCK 30
HEAT PUMP MODELS		FLHK 10	FLHK 12	FLHK 16	FLHK 22	FLHK 24	FLHK 28	FLHK 30
Cooling capacity (1)	W	9.800	11.800	15.300	19.500	22.000	26.300	28.100
Heating capacity (1)	W	10.000	12.000	15.500	20.200	22.500	27.000	28.700
Power input (1)	kW	3,69	4,58	6,41	8,1	9	10,38	12,2
Power input (1)	kW	3,16	4,11	5,6	6,74	8,6	9,2	10,32
Voltage: 50 Hz + neutral + ground	V/f	230/l-230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	24.3/22.4/12.9	25/14.4	31.7/18.3	37.2/21.5	39.8/23	44/25.4	52/30
Starting current	A	99/96/47	102/54	148/ 77	193/110	181/109	183/83	177/109
Dimensions (HxLxS)	mm	495x1.250x1250	495x1.250x1250	595x1.300x1330	595x1.450x1520	645x1.500x1.800	645x1.500x1.800	645x1.500x1.800
Weight C/H	kg	200/205	205/210	280/285	325/330	405/410	425/430	430/435
INDOOR SECTION		10	12	16	22	24	28	30
Power input	kW	0,38	0,38	0,9	1,3	1,35	1,35	1,35
Voltage: 50 Hz + neutral + ground	V/f	230/l y 230-400/III	230/l y 230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	2,6	2,6	7/4	7.4/4.3	7.4/4.3	7.4/4.3	7.4/4.3
Starting current	A	7,8	7,8	21/23	22/14	22/14	22/14	22/14
Max./Min. air flow	m³/h	2.350/1.500	2.300/1.650	3.700/2.400	5.350/3.200	6.300/4.000	6.000/4.250	6.000/4.500
Maximum ESP available	Pa	120	110	160	180	240	200	180
Condensate drain pipe diameter		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
OUTDOOR SECTION		10	12	16	22	24	28	30
Power input - cooling	kW	3,31	4,2	5,51	6,8	7,65	9,03	10,85
Power input - heating	kW	2,78	3,73	4,70	5,44	7,25	7,85	8,97
Voltage: 50 Hz + neutral + ground	V/f	230/l 230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	21.7/19.8/10.3	22.4/11.8	24.7/14.3	29.8/17.2	33.4/19.3	36.6/21	44.6/25.7
Starting current	A	99/96/47	102/54	148/77	193/110	181/109	183/83	177/109
Max./Min. air flow	m³/h	3.500/2.350	3.400/2.400	4.950/3.750	5.900/4.350	6.600/4.500	6.400/5.000	6.400/5.250
Maximum ESP available	Pa	100	90	120	150	160	120	100
Condensate drain pipe diameter		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"

FLATAIR - STAND-ALONE UNITS WITH SCROLL COMPRESSOR R-22

HEAT PUMP MODELS		FLHA 10	FLHA 12	FLHA 16	FLHA 22	FLHA 24	FLHA 28	FLHA 30
Cooling capacity (1)	W	9.400	11.300	14.700	19.200	21.000	26.000	27.600
Heating capacity (1)	W	10.300	12.300	15.600	20.000	22.800	27.000	29.800
Power input - cooling (1)	kW	3,5	4,31	6,11	7,92	8,8	10,36	11,78
Power input - heating (1)	kW	2,93	3,44	4,94	6,6	7,8	8,43	9,43
Voltage: 50 Hz + neutral + ground	V/f	230/l 230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	24.3/22.4/12.9	25/14.4	31.7/18.3	37.2/21.5	39.8/23	44/25.4	52/30
Starting current	A	99/96/47	102/54	148/77	193/110	181/109	183/83	177/109
Dimensions (HxLxD)	mm	495x1.250x1250	495x1.250x1250	595x1.300x1.330	595x1.450x1.520	645x1.500x1.800	645x1.500x1.800	645x1.500x1.800
Net weight	kg	205	210	285	330	410	430	435
INDOOR SECTION		10	12	16	22	24	28	30
Power consumption	kW	0,38	0,38	0,9	1,3	1,35	1,35	1,35
Voltage: 50 Hz+neutral+ground	V/f	230/l y 230-400/III	230/l y 230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	2,6	2,6	7/4	7.4/4.3	7.4/4.3	7.4/4.3	7.4/4.3
Starting current	A	7,8	7,8	21/23	22/14	22/14	22/14	22/14
Max./Min. air flow	m³/h	2350/1500	2300/1650	3700/2400	5350/3200	6300/4000	6000/4250	6000/4500
Maximum ESP available	Pa	120	110	160	180	240	200	180
Condensate drain pipe diameter		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
OUTDOOR SECTION		10	12	16	22	24	28	30
Power input - cooling	kW	3,12	3,93	5,21	6,62	7,45	9,01	10,43
Power input - heating	kW	2,55	3,06	3,50	5,30	6,45	7,08	8,08
Voltage: 50 Hz+neutral+ground	V/f	230/l 230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III	230-400/III
Maximum current	A	21.7/19.8/10.3	22.4/11.8	24.7/14.3	29.8/17.2	33.4/19.3	36.6/21	44.6/25.7
Starting current	A	99/96/47	102/54	148/77	193/110	181/109	183,4/82,8	177,4/109,3
Max./Min. air flow	m³/h	3500/2350	3400/2400	4950/3750	5900/4350	6600/4500	6400/5000	6400/5250
Maximum ESP available	Pa	100	90	120	150	160	120	100
Condensate drain pipe diameter		3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"

(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.