

Condensers

NEOSTAR



18 kW

1250 kW



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EUROVENT
CERTIFIED PERFORMANCE



CERTIFY ALL
AIR COOLED CONDENSERS

FRIGA-BOHM

WWW

NEW !

The air cooled condenser units of the new NEOSTAR range are designed for refrigeration or air conditioning applications and outdoor installation. The 470 basic models cover a capacity range from 18 to 1250 kW.



NOMENCLATURE ...

PN (Power Normal)	PE 06D P16 B3	Type of module
PE (Power Extra)		
PU (Power Ultra)		
SN (Silence Normal)	SU 16Y P14 A2	Number of fans
SE (Silence Extra)		
SU (Silence Ultra)		
Number of poles		Fan arrangement :
D = delta coupling		L : fans in line
Y = star coupling		P : fans in parallel

DESCRIPTION ...

HIGH-TECH HEAT EXCHANGER

- The NEOSTAR air cooled condenser units are equipped with a high-performance, finned coil composed of profiled aluminium fins crimped onto ribbed copper tubes.
- For this latest generation of condensers, the new optimised fins have been specially designed to improve performance, efficiency and compactness of the units.
- Special coil coatings are available (Vinyl protection (option BAE), Blygold Polual XT protection (BXT)) offering greater corrosion resistance when used in aggressive atmospheres.

VENTILATION

- The NEOSTAR air cooled condenser range is equipped as standard with 2 speed external rotor fans units (star or delta coupling).
- The **Neostar Power** line is equipped with the following motor fan units:
 - Ø 910 mm: 06P (D/Y)= 890/685 rpm,
 - Ø 800 mm: (heavy-duty motor): 06P (D/Y)= 910/730 rpm,
 - Ø 800 mm: 06P (D/Y)= 895/685 rpm.
- The **Neostar Silence** line is equipped with the following motor fan units Ø 800 mm:
 - 08P (D/Y)= 660/ 515 rpm,
 - 12P (D/Y)= 435/ 330 rpm,
 - 16P (D/Y)= 360/255 rpm.
- These motors are of the type 400V, three-phase, 50Hz, sealed, IP54, class F, compliant with standard EN 60529 and permanently lubricated. If the temperature exceeds 60°C, consult us.
- The motor fan units are wired as standard and factory connected as follows:
 - One electrical box for the models L (motors connected in series),
 - Two electrical boxes for the models P (motors connected in parallel).
- **We are also able to deliver the units unwired upon request (option SCU).**
- The protection guards are compliant with standard NF EN 294.
- In the case of an installation with horizontal air flow, the predominant wind direction must be taken into consideration in order to avoid the risk of propeller damage (propeller turning in the wrong direction during stoppage periods) or difficult motor start up at low speed.
- EC type of motor fan units (MEC) is also optional available and enables optimised operation of your installation.
- Fans units with special voltage ratings:
 - M60: Fan motor 400 V/3/60Hz, IP54, class F, in version 06P Ø800mm
 - M26: Fan motor 230 V/3/60Hz, IP54, class F, in version 06P Ø800mm
 - M25: Fan motor 230 V/3/50Hz, IP54, class F, in version 06P and 12P Ø800mm

CASING

- The casing is composed of galvanised sheet steel and pre-painted galvanized metal, colour grey RAL7035.
- The use of stainless steel screws guarantees excellent, long-lasting corrosion resistance (standard ISO 7253) and aesthetic quality.
- All components used have successfully passed the salt mist corrosion and Kesternich tests.
- The units are delivered screwed to a wooden base.

Note : A wider selection of models is available on our software package in order to better meet your needs.



NEOSTAR



This NEOSTAR range is sub-divided into two product lines to better meet the needs expressed in the various application fields:

neostar SILENCE

The "Silence" line is perfectly adapted to city centre commercial applications and all other applications where quiet operation is a key factor. In compliance with Eurovent standards the noise level at 10 metres is as low as 19 dB(A) per module !

neostar POWER

The "Power" line offers even more capacity. One unit can deliver up to 1250 kW.

An EC type motor fan option (MEC) is proposed for all these models in order to help reduce the energy impact of the user's installations. Indeed, use of this type of motor offers a very significant reduction in energy consumption for a given capacity. For this reason, the NEOSTAR range has been accorded the "E-Solution" label.



**Energy efficiency
Reduced sound**



OPTIONS ...

COILS

MCI	Multi-circuits
BXT	Blygold Palud XT protection of fins: Consult us.
BAE	Vinyl protection of fins.

FANS

M60	Motor fan unit 400 V/3/60Hz (consult us).
M25	Motor fan unit 230 V/3/50Hz (consult us).
M26	Motor fan unit 230 V/3/60Hz (consult us).
MTH	Motors equipped with overload thermostat. Recommended when the system could start very frequently (more than 30 starts per hour) or when used with a speed controller.
IRP	Main switch(es) per fan.
C2V	Factory wiring of 2 speeds into a common junction box.
SCU	Without factory wiring. To be indicated when ordering if the unwired condenser unit is required.

CASING

RAL	Special colour.
REH	Legs extended by 240 mm (legs = 800 mm)
RE2	Legs extended by 840 mm (legs = 1400 mm)
RE3	Legs extended by 1340 mm (legs = 1900 mm)
RE4	Legs extended by 1840 mm (legs = 2400 mm)
ECB	Full crate.

PROTECTION AND CONTROLS

CMP	Motor protection enclosure.
RP1	CMP + condensing pressure control with fan cycling.
RP2	CMP + condensing pressure control with speed variation (voltage).
RP3	CMP + condensing pressure control with speed variation (frequency).
MEC	Condensing pressure control with speed variation using electronic switching (EC) of motor.
MSK	Floor mounting kit.

CERTIFICATIONS



EUROVENT : The performance published of our products are certified in conformity with european standards EN327.

ISO 9001 : Our company is certified by LRQA to comply with quality standards ISO 9001 : 2000.

ROHS - WEEE : Our products are compliant with regards to european guideline 2002/95/CE and 2002/96/CE concerning electric and enlectronic components..

CE : Our products are in conformity with european guidelines.

GOST : Products in conformity with "GOST" agreement.

PROTECTION AND CONTROLS

CMP

- IP55 cabinet.
- Fault indication: One normally open contact (NO) and one normally closed contact (NC).
- A main switch
- One contactor per motor.
- Motor and supply packing glands.
- Wiring diagram.

RP1

- All components of the CMP cabinet.
- Pressure switches.
- One pressure sensor with Schrader connector and shielded cable.

This cabinet is proposed as an optional extra fitted to the unit (floor support for those larger than 800 x 800) or supplied in kit form packaged separately. When delivered in kit form, the cable connecting the cabinet to the unit is provided by the installer. A support kit for floor mounting is available as an optional extra (MSK).

RP2

- All components of the CMP cabinet.
- A voltage speed controller.
- Protection of the speed controller with fuses.
- Cabinet ventilation.
- One pressure sensor with Schrader connector and shielded cable.

This cabinet is proposed as an optional extra fitted to the unit (floor support for those larger than 800 x 800) or supplied in kit form packaged separately. When delivered not fitted, the cable connecting the cabinet to the unit is provided by the installer. A support kit for floor mounting is available as an optional extra.

Advantages:

- Price.

Remarks: This cabinet cannot be ordered separately for later installation. This control mode may generate noise at low rotation speeds. If the noise level is a key factor, give preference to the RP3 control system.

RP3

- All components of the CMP cabinet.
- A frequency speed controller.
- Protection of the speed controller with fuses.
- Cabinet ventilation.
- One pressure sensor with Schrader connector and shielded cable.

This cabinet is proposed as an optional extra fitted to the unit (floor support for those larger than 800 x 800) or supplied in kit form packaged separately. When delivered in kit form, the cable connecting the cabinet to the unit is provided by the installer. It is recommendable to use a shielded cable.

A support kit for floor mounting is available as an optional extra.

Advantages:

- Low slip and therefore no motor heating.
- Simple programming adaptable to all types of processes.
- Fast installation.

ELECTRONICALLY COMMUTED MOTORS (EC) ...

MEC

- Electronically Commuted motors.
- IP 55 cabinet.

This option is always proposed with the controller wired:
 - Motor power connections wired,
 - The 0 - 10V circuit wired (between motor and cabinet),
 - The "motor fault" indicator wired to the electrical enclosure.

In addition to the standard elements proposed above, additional elements are also available (consult us):

- Serial bus wiring of motors with addressing of the motor fan units,
- Serial bus wiring of motors with addressing of the motor fan units and setting of max. speed parameter,
- Setting of day/night operation parameters,
- Emergency back-up operation possible.

Advantages:

- Extremely low power consumption.
- Very low noise level.
- Long working life of motors (no friction).
- Rotation speed may be reduced to zero.
- Integrated motor protection.

NEOSTAR SILENCE - SE .. L



Models		SE 16D L01 A1	SE 12D L01 A1	SE 16D L01 B1	SE 12D L01 B1	SE 16D L01 B2	SE 12D L01 D1	SE 16D L01 D2	SE 12D L01 D2	SE 16D L02 A1	SE 12D L02 A1	SE 16D L02 B1	SE 12D L02 B1
Capacity (1)	DT1 = 15K kW	23,5	26,1	26,7	29,5	30,8	34,3	35,5	40,1	47,0	52,2	53,5	59,1
Surface	m2	67	67	84	84	126	112	168	168	135	135	168	168
Circuit volume	dm3	9	9	12	12	17	15	23	23	18	18	23	23
Air flow	m3/h	7599	9023	8203	9650	7517	10287	8292	9744	15198	18045	16406	19300
Acoustic	Lp (2) dB(A)	28	32	28	32	28	32	28	32	31	35	31	35
	Lw dB(A)	60	64	60	64	60	64	60	64	63	67	63	67
Fans	Ø 800 Num.	1	1	1	1	1	1	1	1	2	2	2	2
Motors (3)	W tot.	209	320	205	312	210	303	204	311	419	641	410	624
Energy efficiency class		A	B	A	B	A	A	A	A	A	B	A	B
Overall length	mm	1512	1512	1842	1842	1842	2312	2312	2312	2712	2712	3342	3342
Net weight	kg	151	151	167	167	181	188	208	208	255	255	283	283

Models		SE 16D L02 B2	SE 12D L02 B2	SE 16D L03 A1	SE 12D L03 A1	SE 12D L02 D2	SE 16D L03 B1	SE 12D L02 D3	SE 12D L03 B1	SE 12D L03 A2	SE 16D L03 B2	SE 16D L04 A1
Capacity (1)	DT1 = 15K kW	61,6	69,8	70,4	78,3	80,1	80,2	84,9	88,6	91,5	92,4	93,9
Surface	m2	252	252	202	202	336	252	448	252	303	378	269
Circuit volume	dm3	35	35	28	28	46	35	62	35	42	52	37
Air flow	m3/h	15034	17876	22797	27068	19487	24609	18549	28950	24371	22551	30396
Acoustic	Lp (2) dB(A)	31	35	33	37	35	33	35	37	37	33	34
	Lw dB(A)	63	67	65	69	67	65	67	69	69	65	66
Fans	Ø 800 Num.	2	2	3	3	2	3	2	3	3	3	4
Motors (3)	W tot.	420	643	628	961	621	615	634	936	985	630	838
Energy efficiency class		A	B	A	B	A	A	A	B	B	A	A
Overall length	mm	3342	3342	3912	3912	4312	4842	4312	4842	3912	4842	5112
Net weight	kg	309	309	366	366	374	412	409	412	396	450	468

Models		SE 12D L04 A1	SE 12D L03 B2	SE 16D L03 D2	SE 16D L04 B1	SE 16D L05 A1	SE 12D L04 B1	SE 12D L03 D2	SE 12D L04 A2	SE 16D L04 B2	SE 12D L05 A1	SE 16D L05 B1
Capacity (1)	DT1 = 15K kW	104,4	104,7	106,6	107,0	117,4	118,2	120,2	122,0	123,3	130,6	133,7
Surface	m2	269	378	505	336	336	336	505	404	505	336	420
Circuit volume	dm3	37	52	69	46	46	46	69	55	69	46	58
Air flow	m3/h	36091	26814	24875	32811	37996	38599	29231	32495	30068	45114	41014
Acoustic	Lp (2) dB(A)	38	37	33	34	35	38	37	38	34	39	35
	Lw dB(A)	70	69	65	66	67	70	69	70	66	71	67
Fans	Ø 800 Num.	4	3	3	4	5	4	3	4	4	5	5
Motors (3)	W tot.	1281	964	613	821	1047	1247	932	1314	840	1601	1026
Energy efficiency class		B	B	A	A	A	B	A	B	A	B	A
Overall length	mm	5112	4842	6312	6342	6312	6342	6312	5112	6342	6312	7842
Net weight	kg	468	450	540	528	579	528	540	508	579	579	661

Models		SE 12D L04 B2	SE 16D L06 A1	SE 16D L04 D2	SE 12D L05 B1	SE 12D L05 A2	SE 16D L05 B2	SE 12D L06 A1	SE 16D L06 A2	SE 12D L04 D2	SE 12D L05 B2	SE 12D L06 A2
Capacity (1)	DT1 = 15K kW	139,6	140,9	142,1	147,7	152,5	154,1	156,7	160,1	160,3	174,5	183,0
Surface	m2	505	404	673	420	505	631	404	605	673	631	605
Circuit volume	dm3	69	55	92	58	69	87	55	83	92	87	83
Air flow	m3/h	35752	45595	33167	48249	40619	37585	54136	40437	38975	44690	48743
Acoustic	Lp (2) dB(A)	38	36	34	39	39	35	40	36	38	39	40
	Lw dB(A)	70	68	66	71	71	67	72	68	70	71	72
Fans	Ø 800 Num.	4	6	4	5	5	5	6	6	4	5	6
Motors (3)	W tot.	1286	1257	818	1559	1642	1050	1922	1285	1242	1607	1970
Energy efficiency class		B	A	A	B	B	A	B	A	A	B	B
Overall length	mm	6342	7512	8312	7842	6312	7842	7512	7512	8312	7842	7512
Net weight	kg	579	690	711	661	631	725	690	751	711	725	751

SE12D : 400 V/3/50 Hz - 370 W max. - 1,15 A max (4)

SE16D : 400 V/3/50 Hz - 235 W max. - 0,65 A max (4)

- (1) The capacities are given in kW for R404A refrigerant with DT1 = 15 K. They are equal to the capacities measured in accordance with the CEN EN 327 European draft.
 'DT1' represents the difference between the entering air temperature and the condensing temperature considered as being equal to the pressure equivalent of the condenser inlet.
 (2) The sound pressure in dB(A) measured at a line-of-sight to reflecting parallelepiped surface distance of 10 meters, is given as an indication only.
 Values measured under normal working conditions with a clean coil at nominal voltage.
 (3) Power required for all motors.
 (4) Setting of overbad protections.

	MCI	BXT	BAE	M60	M25	M26	MTH	IRP	C2V	SCU	RE...	ECB	CMP	RP1	RP2	RP3	MEC
NEOSTAR ...	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

TYPE OF MODULE: B

VERTICAL AIR FLOW

