

Condensing Units

VANGUARD

0,5 kW 10,5 kW



FRIGA-BÖHN

WWW

NEW !

VANGUARD is a totally new "ready-to-install" outdoor condensing unit. This new generation unit is suitable for most commercial refrigeration applications.

It may be used alone to supply refrigerated display cases or cabinets or as a split system (with a fully fitted unit cooler + optimised control) for cold rooms or food preparation zones. The VANGUARD range comprises 19 models: 13 for chill applications and 6 for low temperature applications covering a capacity range from 5 kW to 10.6 kW.



NOMENCLATURE ...

VG ScP 051

Condensing unit

Model

H : Hermetic compressor
Sc : Scroll compressor

P : Chill range
N : Low temperature range



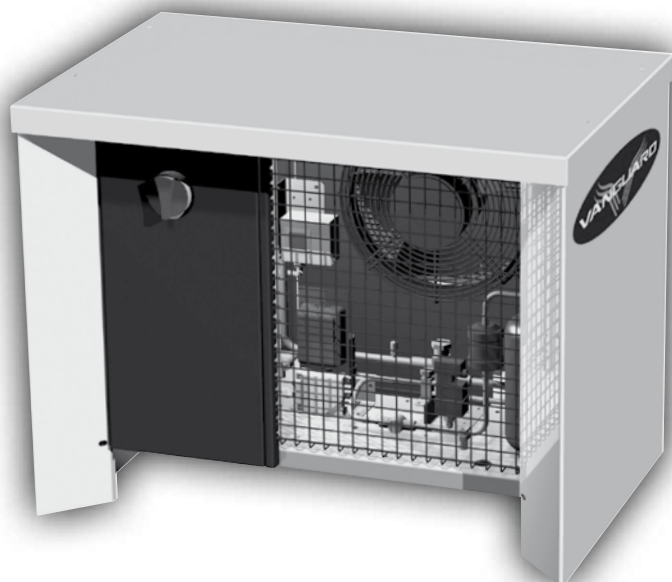
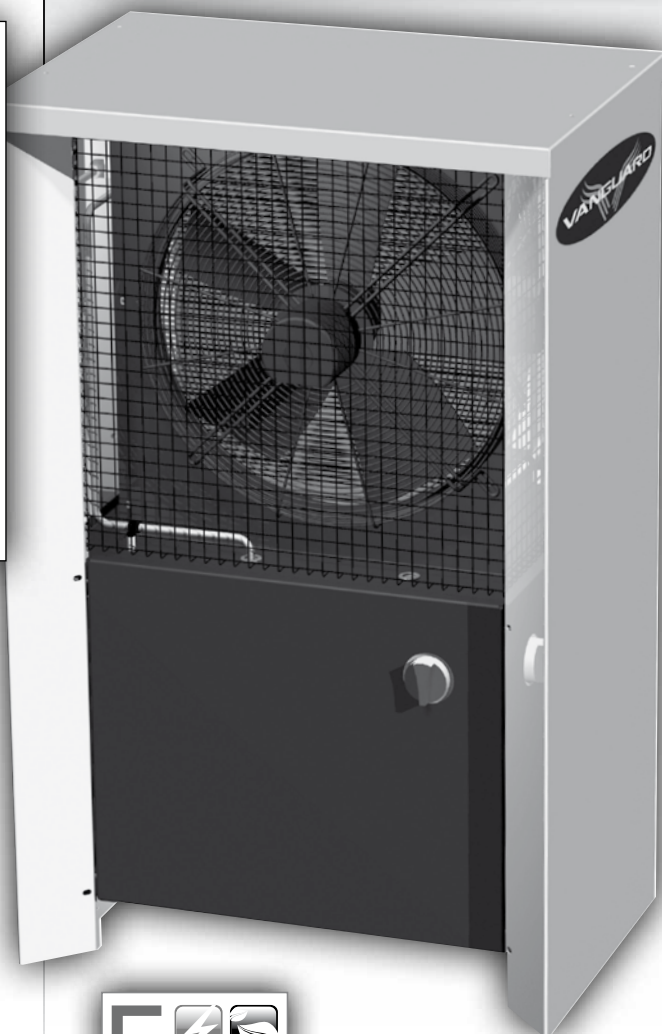
The new VANGUARD condensing unit combines the innovation of micro-channel condenser coils and Scroll compressor technology with an exceptional aesthetic finish for better integration in an urban environment.

Furthermore, this "ready-to-install" unit also combines reliability and sturdiness with accessibility and silence. Indeed, all standard models in the VANGUARD range have a very low noise level.

The capacity range is achieved with a small number of models, equipped with everything necessary for system operation. This renders selection of a model much easier.

The VANGUARD range is also available as a Split System, with 6 standard pre-selected applications (4 at medium temperature and 2 at low temperature), each equipped with a unit cooler adapted to the specific requirements (cubic, ceiling unit, double-flow,...).

VANGUARD



**Reduced sound
Environment**



DESCRIPTION ...

COMPRESSOR

- The VANGUARD range uses two types of compressor technology:
- **H**: Hermetic piston up to 1 1/2 HP chill and 1 1/4 HP low temperature.
- **Sc**: Scroll from 2 HP chill and 2 1/2 HP low temperature.

The compressors used in this range are attributed as follows:

Chill models	VG ...	HP 012	HP 014	HP 017	HP 020	HP 024	HP 030	HP 038
Compressor power	HP	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2
Casing	Size	TA	●	●	●	●	-	-
	Size	TB	-	-	-	-	●	●

Chill models	VG ...	ScP 043	ScP 050	ScP 065	ScP 075	ScP 086	ScP 103
Compressor power	HP	2	2 1/2	3	4	5	6
Casing	Size	TA	-	-	-	-	-
	Size	TB	●	●	●	●	●

Low temp. models	VG ...	HN 006	HN 008	HN 013	ScN 022	ScN 027	ScN 031
Compressor power	HP	1/2	3/4	1 1/4	2 1/2	3	4
Casing	Size	TA	●	●	-	-	-
	Size	TB	-	-	●	●	●

- In the case of TB models, the compressor compartment is noise insulated to reduce unit noise level.

COILS

- The key innovation in the VANGUARD condensing unit resides in the use of new condenser coil technology. This aluminium, micro-channel coil technology has proven its value in the automobile sector and is now used for its numerous advantages in the refrigeration sector.
- Furthermore, the coils are largely dimensioned in order to function correctly at high ambient temperatures (+43°C).
- These coils offer better performance than traditional coils (copper tubes/aluminium fins). They are much lighter which offers a weight reduction for the unit and renders it easier to handle (less risk of damage or injury when installing the unit).
- Furthermore, they are extremely reliable and sturdy (high impact resistance) over a long period of time and offer an excellent corrosion resistance. An additional protection is provided with a special coating on the coils.
- As the coil is brazed in a single operation, the risk of leakage is considerably limited and the quality inspections are stringent: 100% of the products are tested with helium.
- The coil is 100% recyclable (a single metal) and the internal refrigerant volume is considerably reduced.

VENTILATION

- Each model in the range is equipped with a single fan the speed of which is controlled with a voltage regulator to help reduce the system running noise level at night.
- The three references of these motor-fan units (Ø300 mm Ø400 mm Ø600 mm) are all class F and index IP55

CASING

- The casing is made of sheet steel pre-painted RAL7035, designed for outdoor use and is therefore perfectly weatherproof. For the size TB, the front and rear panels of the compressor compartment are made of sheet steel pre-painted in black RAL9005.
- All sheet metal casing elements are easily removed and offer total access to all unit components.
- Once the casing elements have been removed (side, front and rear panels for the size TB), the unit structure is self-supporting thus simplifying any work on the unit.

ELECTRICAL ENCLOSURE

- The electrical enclosure is made of ABS with a protection rating of IP66 and contains all protection and control components of the unit:
- Protection against compressor overloads and surge voltages
- Protection against fan surge voltages
- The terminal rails for supply of the regulator and cooling units in the case of a split system application
- The isolator switch
- A fault relay for three-phase models

OTHER EQUIPMENT

- Speed controller: All models are equipped with a speed controller to guarantee optimum control of the condensation pressure.
- Liquid tank (2L, 3L, 5L) with shut-off valve at the tank outlet.
- Liquid line with valve, dryer filter and hygroscopic indicator.
- LP pressure regulator and HP safety pressure switch.
- Casing element.

CERTIFICATIONS



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.

PED : (Pressure Equipment Directive)
Our compressorized products are compliant with regards to european guideline 97/23/CE concerning pressure equipments.

CE : Our products are in conformity with european guidelines.

GOST : Products in conformity with "GOST" agreement.

TECHNICAL DATA ...

VANGUARD .. P

CHILL RANGE

Models	VG ...	HP 012	HP 014	HP 017	HP 020	HP 024	HP 030	HP 038	ScP 043	ScP 050	ScP 065	ScP 075	ScP 086	ScP 103
Compressor power	HP	3/8	1/2	5/8	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6
Capacity (1)	kW	1,18	1,40	1,68	1,98	2,30	2,99	3,82	4,23	5,03	6,56	7,46	8,65	10,32
Input power (1)	kW	0,65	0,76	0,95	1,05	1,15	1,41	1,99	1,79	2,20	2,74	3,18	3,62	4,64
Input current	A max.	5,0	5,6	6,6	6,0	6,8	8,7	12,9	4,6	5,6	8,0	8,9	10,7	12,7
Acoustic (1) (2)	Lp at 10m dB(A)	35	36	38	39	40	38	37	37	37	41	42	43	44
Fan 230V/1/50Hz	mm	1 x 300	1 x 300	1 x 300	1 x 300	1 x 300	1 x 300	1 x 400	1 x 400	1 x 400	1 x 600	1 x 600	1 x 600	1 x 600
Liquid volume	l.	2	2	2	2	2	2	2	3	3	3	5	5	5
Connections	Suction	Ø	3/8"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	7/8"	7/8"	7/8"	7/8"	1"1/8"
	Liquid	Ø	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"
Casing	Size	TA	●	●	●	●	-	-	-	-	-	-	-	-
	Size	TB	-	-	-	-	●	●	●	●	●	●	●	●
Net weight	kg	100	100	100	100	100	150	150	150	160	170	170	180	180

(1) Evaporating temperature -5°C - Ambient temperature +32°C - Superheat : 10K - Subcooling : 3K

(2) Sound pressure level in dB(A) measured at 10 meters, in free field, on a reflective plane in accordance with EN 13487 (parallelepipedic surface reference).

VANGUARD .. N

LOW TEMPERATURE RANGE

Models	VG ...	HN 006	HN 008	HN 013	ScN 022	ScN 027	ScN 031
Compressor power	HP	1/2	3/4	1 1/4	2 1/2	3	4
Capacity (1)	kW	0,55	0,71	1,24	2,21	2,72	3,06
Input power (1)	kW	0,61	0,71	1,18	1,96	2,4	2,65
Input current	A max.	4,7	5,0	7,9	6,1	6,9	7,1
Acoustic (1) (2)	Lp at 10m dB(A)	32	34	38	38	40	41
Fan 230V/1/50Hz	mm	1 x 300	1 x 300	1 x 300	1 x 400	1 x 400	1 x 400
Liquid volume	l.	2	2	2	2	5	5
Connections	Suction	Ø	3/8"	1/2"	7/8"	7/8"	7/8"
	Liquid	Ø	1/4"	3/8"	3/8"	3/8"	3/8"
Casing	Size	TA	●	●	-	-	-
	Size	TB	-	-	●	●	●
Net weight	kg	100	100	100	150	160	170

(1) Evaporating temperature -30°C - Ambient temperature +32°C - Superheat : 10K - Subcooling : 3K

(2) Sound pressure level in dB(A) measured at 10 meters, in free field, on a reflective plane in accordance with EN 13487 (parallelepipedic surface reference).

