

# Centrifugal unit cooler



## NC industrial range

- The NC range is designed for use in cold rooms or work areas.
- Centrifugal motors delivering an available pressure of up to 200 Pa.
- Wide choice of options for industrial applications.
- 4 blowing positions possible.
- Floor or ceiling installation.

Heatcraft reserves itself the right to make changes at any time without preliminary notice - Photos non-contractual



Natural fluids:  
Glycol water



5 80 kW

FRIGA-BOHN

**HK**®  
REFRIGERATION

# NC - Industrial centrifugal unit cooler

## Market segments



**FSM** Hard Discount - Supermarkets - Hypermarkets

**FCS** Refrigerated storage and transit stocking - Dispatch centres - Food processing - Canteen kitchens

## Description

### Casing

- Compact and sturdy, it is made of white enamelled galvanized steel.
- External aluminium drain pan.
- Intermediate aluminium drain pan to reduce the condensation effect.

### Ventilation

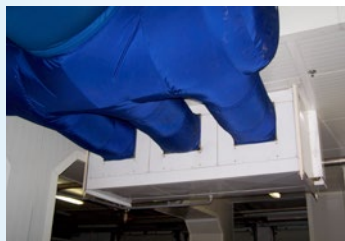
- Direct-drive, "twin inlet" centrifugal type fans.
- Pressure of up to 200 Pascals available.
- Rotation speed 1,000 rpm.
- Enclosed motors with internal thermal overload protection, IP 54 class F, designed for operating conditions between -40 °C and +70 °C.

### Coil

- The coils of NC unit coolers are designed with aluminium fins spaced at 4.23 mm (model P) or 6.35 mm (model N) crimped to staggered copper tubes Ø1/2" (12.7 mm).

## Application of options

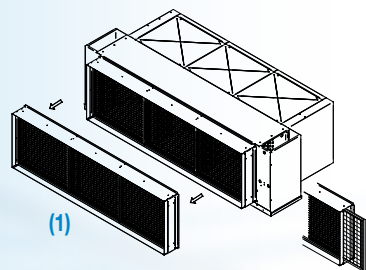
### Application requiring installation of a textile duct



#### VGT option

Circular shell for connection of textile ducting (ducts not provided).

### Air intake filter and ducting



#### FLA option

gravimetric air intake filter.

#### CFA option (1)

The enclosure enables connection of an air intake duct; the filter may be removed from the side of the enclosure for easy servicing (2).

### Adapted power and noise level, thermal insulation



#### VVU / VKK option

modulated voltage speed controller. Guaranteed acoustic comfort at low and medium speeds for employees in the vicinity.

#### IPH option

10 mm thick insulation to help reduce the sheeting vibration and provide thermal insulation of the unit to limit the effect of condensation.

## Designation

# NCP<sup>(1)</sup> 6294<sup>(2)</sup> H3<sup>(3)</sup>

(1) Fin spacing: **NCP** = 4,23 mm - **NCN** = 6,35 mm

(2) Model

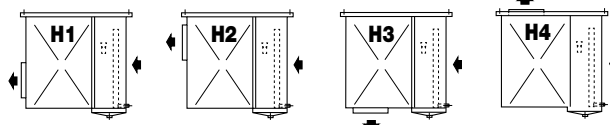
(3) Air direction

## Advantages

### Installation

The design concept enables floor or ceiling installation and offers easy access to all components.

4 blowing positions available (to be indicated when ordering).



Later modification is particularly easy.

Possibility to supply an optional speed controller factory fitted or in kit form (**VVU/VVK**) for optimization of the "power/noise level" ratio.

### Servicing / Maintenance

Direct-drive centrifugal fans require no specific maintenance.

The external aluminium drain pan may be easily removed.

Easy access to the distributor.

## Certifications



Range not concerned by Eurovent certification.

Kit	Factory
	<b>CMU</b>
<b>VGT</b>	
<b>VPS</b>	
<b>VVK</b>	<b>VVU</b>
	<b>BAE</b>
	<b>WCO</b>
	<b>E1U</b>
	<b>HGT</b>
	<b>IPH</b>
	<b>FLA</b>
	<b>CFA</b>
	<b>ECB</b>

## Options

### Ventilation

- Motors factory wired.
- Textile duct shell.
- Blower deflector vanes (please contact us for details).
- Speed controller.

### Coil

- Protection of fins.
- Glycol water, coolant (please contact us for details).

### Defrost

- Light electric defrost.
- Hot gas (coil and drain pan).

### Casing

- Noise Insulation (M1\*).
- Intake filters (M1\*).
- Air intake filter housing (M1\*).
- Full crate packaging.

\* M1: Non-flammable.

NCP

4,23 mm

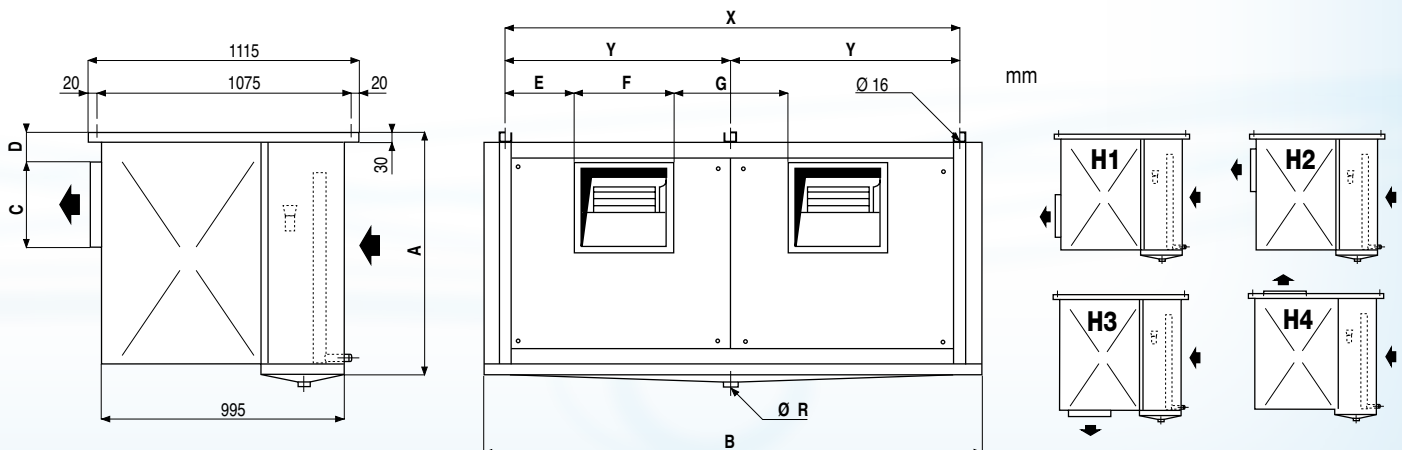
		NCP ...	831	1622	1591	2393	3162	4693	6294	
100 Pa (1) R404A	Capacity (2)	DT1 = 10K - SC 1	kW	10,85	21,05	21,05	31,01	41,84	62,15	82,25
		DT1 = 8K - SC 2	kW	7,11	13,85	13,67	20,41	27,28	40,62	53,72
	Air flow		m <sup>3</sup> /h	3200	6310	6590	9420	13080	19570	26060
Acoustic	Lp 4 m (3)		dB(A)	44	47	54	49	57	58	60
	Lw		dB(A)	74	77	84	79	87	88	90
150 Pa (1) R404A	Capacity (2)	DT1 = 10K - SC 1	kW	9,58	18,59	20,08	27,31	39,89	59,27	78,46
		DT1 = 8K - SC 2	kW	6,32	12,26	13,06	18,08	26,11	38,82	51,35
	Air flow		m <sup>3</sup> /h	2740	5400	6060	8060	11980	17900	23820
Acoustic	Lp 4 m (3)		dB(A)	42	45	53	46	56	57	59
	Lw		dB(A)	72	75	83	76	86	87	89
200 Pa (1) R404A	Capacity (2)	DT1 = 10K - SC 1	kW	-	-	18,79	-	37,41	55,61	73,48
		DT1 = 8K - SC 2	kW	-	-	12,27	-	24,57	36,55	48,28
	Air flow		m <sup>3</sup> /h	-	-	5190	-	10240	15280	20320
Acoustic	Lp 4 m (3)		dB(A)	-	-	51	-	54	54	56
	Lw		dB(A)	-	-	81	-	84	84	86
		NCP ...	831	1622	1591	2393	3162	4693	6294	
Surface			m <sup>2</sup>	47,0	86,6	75,2	126,2	142,0	208,8	275,6
Circuit volume			dm <sup>3</sup>	9,1	16,8	14,6	24,5	27,6	40,5	53,5
			Nb	1	2	1	3	2	3	4
Turbine	230V/1/50 Hz		kW	0,67	1,34	-	2,01	-	-	-
		A max (4)		2,9	5,8	-	8,7	-	-	-
	230-400V/3/50 Hz		kW	-	-	2,0	-	4,0	6,0	8,0
		A max (4)		-	-	3,3	-	6,6	9,9	13,2
Net weight			kg	88	151	118	200	241	305	463
Dimensions	A		mm	760	760	870	765	875	880	880
	B		mm	1170	1810	1490	2450	2450	3410	4370
	C		mm	290	290	342	290	342	342	342
	D		mm	152	152	197	152	197	197	197
	E		mm	234	234	363	234	363	363	363
	F		mm	331	331	395	331	395	395	395
	G		mm	-	306	-	306	564	564	564
	X		mm	790	1430	1110	2070	2070	3030	3990
	Y		mm	-	-	-	-	-	-	1995
Connections	Ø R		Ø	1"	1"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
	Inlet		Ø	5/8"	5/8"	7/8"	7/8"	7/8"	1 1/8"	1 1/8"
	Outlet		Ø	7/8"	1 1/8"	1 1/8"	1 3/8"	1 3/8"	1 5/8"	2 1/8"

(1) Additional pressure available in Pascals.

(2) See page 10.

(3) Average sound pressure level in dB(A) measured at 4 m, at turbine height, in direct line of sight on a reflective surface, given for information only.

(4) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti") in order to obtain an approximate current value after the chamber temperature is attained.



CMU	VGT	VPS	VVK	VVU*	BAE	WCO	E1U	HGT	IPH	FLA	CFA	ECB
0	0	+	0	0	0	+	-	-	0	0	0	0

\* Only for turbines : 230V/1/50Hz

NCN

6,35 mm

			NCN ...	831	1622	1591	2393	3162	4693	6294	
100 Pa (1) R404A	Capacity (2)	DT1 = 8K - SC 2	kW	6,17	12,01	12,19	17,72	24,09	35,84	47,45	
	Air flow		m <sup>3</sup> /h	3270	6470	6700	9680	13330	19950	26580	
Acoustic	Lp 4 m (3)		dB(A)	44	47	54	49	57	59	60	
	Lw		dB(A)	74	77	84	79	87	89	90	
150 Pa (1) R404A	Capacity (2)	DT1 = 8K - SC 2	kW	5,49	10,66	11,61	15,68	22,90	34,09	45,08	
	Air flow		m <sup>3</sup> /h	2810	5560	6220	8310	12350	18470	24580	
Acoustic	Lp 4 m (3)		dB(A)	42	45	53	47	56	58	59	
	Lw		dB(A)	72	75	83	77	86	88	89	
200 Pa (1) R404A	Capacity (2)	DT1 = 8K - SC 2	kW	-	-	10,94	-	21,55	32,12	42,33	
	Air flow		m <sup>3</sup> /h	-	-	5380	-	10650	15900	21160	
Acoustic	Lp 4 m (3)		dB(A)	-	-	52	-	54	55	57	
	Lw		dB(A)	-	-	82	-	84	85	87	
			NCN ...	831	1622	1591	2393	3162	4693	6294	
Surface			m <sup>2</sup>	32,3	59,6	51,7	86,8	97,6	143,6	189,5	
Circuit volume			dm <sup>3</sup>	9,1	16,8	14,6	24,5	27,6	40,5	53,5	
Turbine	230V/1/50 Hz		Nb	1	2	1	3	2	3	4	
			kW	0,67	1,34	-	2,01	-	-	-	
	230-400V/3/50 Hz		A max (4)	2,9	5,8	-	8,7	-	-	-	
			kW	-	-	2,0	-	4,0	6,0	8,0	
Electric defrost E1U (5)	230-400V/3/50 Hz		A max (4)	-	-	3,3	-	6,6	9,9	13,2	
			Ω	Nb	5 +1	5 +1	5 +1	5 +1	5 +1	5 +1	5 +1
			W total	3900	6600	5400	9600	9600	17100	22800	
Net weight			kg	88	151	118	200	241	305	463	
Dimensions	A	mm	760	760	870	765	875	880	880		
	B	mm	1170	1810	1490	2450	2450	3410	4370		
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	F	mm	331	331	395	331	395	395	395		
	G	mm	-	306	-	306	564	564	564		
	X	mm	790	1430	1110	2070	2070	3030	3990		
	Y	mm	-	-	-	-	-	-	1995		
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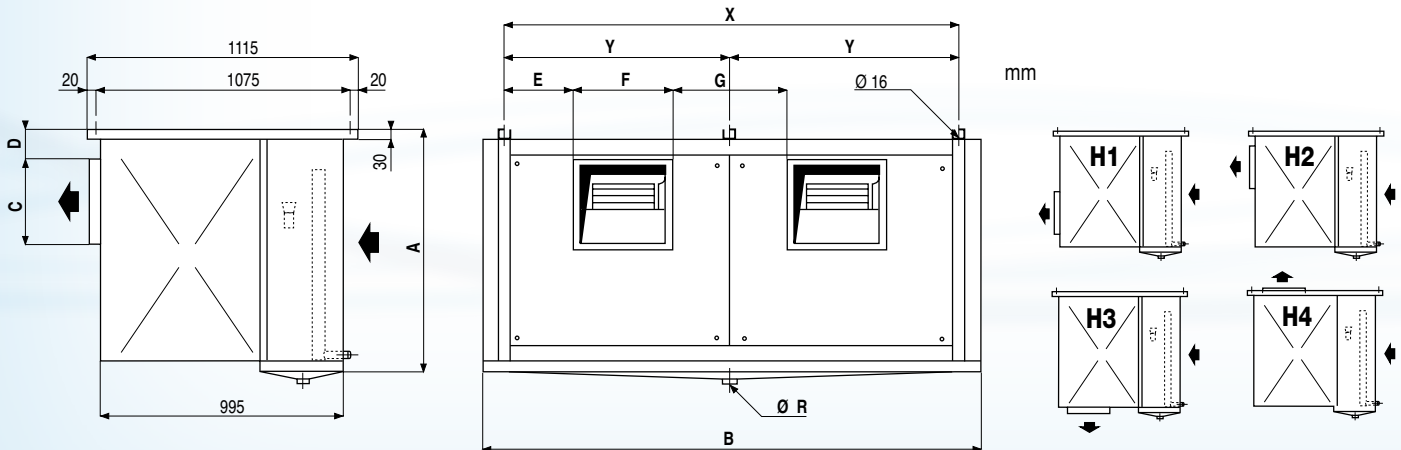
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(4) Setting of overload protection levels. For air temperatures "ti" other than +20 °C, multiply the currents in relation to 293/(273 + "ti")

in order to obtain an approximate current value after the chamber temperature is attained.

(5) Electric defrost option.



CMU	VGT	VPS	VVK	VVU*	BAE	WCO	E1U	HGT	IPH	FLA	CFA	ECB
0	0	+	0	0	0	+	0	0	0	0	0	0