LENNOX
EMEA

CENTRIFUGAL UNIT COOLER

INDUSTRIAL RANGE

Hard Discount - Supermarkets - Hypermarkets
Refrigerated storage and transit stocking - Dispatch centres
Food processing - Canteen kitchens

HFC CO2* W GLYCOL

5 > **95** kW

NC

- 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.

** Operating pressure 50 bar*

www.lennoxemea.com

FRIGA-BOHN

HK® REFRIGERATION

NC - Industrial centrifugal unit cooler

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

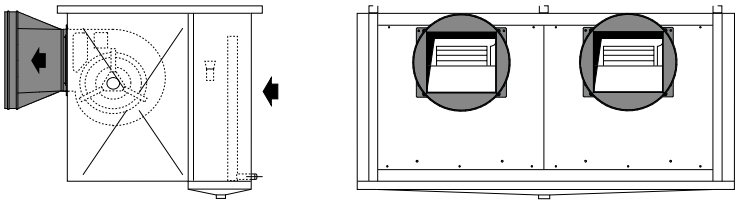
- The coils of NC unit coolers are designed with aluminium fins spaced at 4.23 mm (model P) or 6.35 mm (model N) crimped to staggered copper tubes Ø1/2" (12.7 mm).

CERTIFICATIONS

APPLICATION OF OPTIONS

Application requiring installation of a textile duct

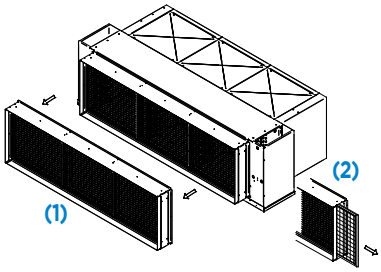
VGT option
Circular shell for connection of textile ducting (ducts not provided).



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 / VVK 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(1) **6294**(2) **H3**(3)

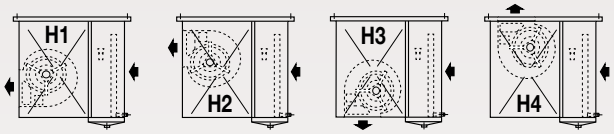
(1) Fin spacing: **NCP** = 4,23 mm - **NCN** = 6,35 mm
(2) Model
(3) Air direction

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.

OPTIONS

Kit	Factory	
		Ventilation
	CMU	Motors factory wired.
VGT		Textile duct shell.
VPS		Blower deflector vanes (please contact us for details).
VVK	VVU	Speed controller.
		Coil
	BAE	Protection of fins.
	WCO	Glycol water, coolant (please contact us for details).
	CO2	R744 optimization (please contact us for details).
		Defrost
	E1U	Light electric defrost.
	HGT	Hot gas (coil and drain pan).
		Casing
	IPH	Noise Insulation (M1*).
	FLA	Intake filters (M1*).
	CFA	Air intake filter housing (M1*).
	ECB	Wooden crate packaging.

* M1: Non-flammable.

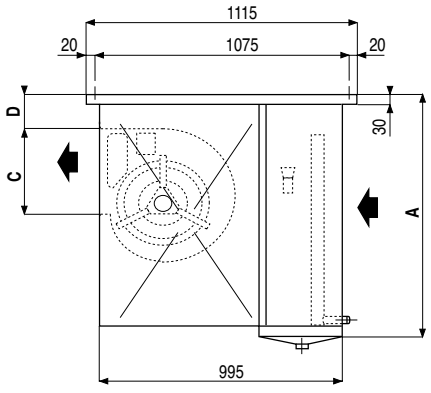
NCP

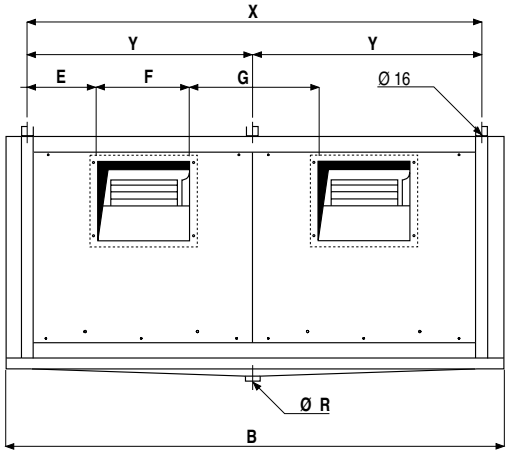
4,23 mm

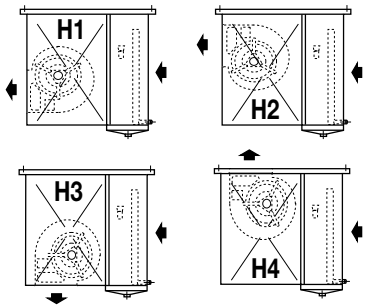
			NCP ...	831	1622	1591	2393	3162	4693	6294
100 Pa (1)	Capacity R404A (2)	**DT1 = 10K - SC 1**	kW	10,9	21,1	24,9	31,0	47,9	70,7	95,0
		DT1 = 8K - SC 2	kW	7,1	13,9	16,5	20,4	31,7	46,8	63,2
	Capacity CO2 (6)	**DT1 = 8K - SC 2**	kW	8,2	16,2	18,4	24,2	34,4	53,8	68,5
	Air flow		m^3/h	3200	6310	8190	9420	16150	24100	32040
Acoustic	**Lp 4 m** (3)		dB(A)	44	47	59	49	61	63	64
	Lw		dB(A)	74	77	89	79	91	93	94
150 Pa (1)	Capacity R404A (2)	**DT1 = 10K - SC 1**	kW	9,6	18,6	23,7	27,3	45,7	67,6	90,9
		DT1 = 8K - SC 2	kW	6,3	12,3	15,8	18,1	30,3	44,7	60,5
	Capacity CO2 (6)	**DT1 = 8K - SC 2**	kW	7,4	14,6	17,6	21,8	33,0	51,4	65,7
	Air flow		m^3/h	2740	5400	7610	8060	14990	22350	29720
Acoustic	**Lp 4 m** (3)		dB(A)	42	45	57	46	60	62	62
	Lw		dB(A)	72	75	87	76	90	92	92
200 Pa (1)	Capacity R404A (2)	**DT1 = 10K - SC 1**	kW	-	-	22,4	-	43,1	63,9	85,6
		DT1 = 8K - SC 2	kW	-	-	14,9	-	28,7	42,4	57,2
	Capacity CO2 (6)	**DT1 = 8K - SC 2**	kW	-	-	16,6	-	31,3	48,5	62,3
	Air flow		m^3/h	-	-	6950	-	13670	20390	27100
Acoustic	**Lp 4 m** (3)		dB(A)	-	-	55	-	58	60	61
	Lw		dB(A)	-	-	85	-	88	90	91

			NCP ...	831	1622	1591	2393	3162	4693	6294
Surface			m^2	47,0	86,6	75,2	126,2	142,0	208,8	275,6
Circuit volume			dm^3	9,1	16,8	14,5	24,4	27,5	40,4	53,3
Turbine			**Nb**	1	2	1	3	2	3	4
	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	-	-	3,3	-	6,6	9,9	13,2
			A max (4)	-	-	5,8	-	11,6	17,4	23,2
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
	Ø R		Ø	1"	1"	1"	1"1/2	1"1/2	1"1/2	1"1/2
Connections	Inlet		Ø	5/8"	5/8"	7/8"	7/8"	7/8"	1"1/8	1"1/8
R404A	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) Standard conditions : SC1 / +10°C (air inlet temp.) / 0 °C (evaporating temp.) / DT1 = 10K - SC2 / 0°C (air inlet temp.) / -8°C (evaporating temp.) / DT1 = 8K
(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.
(6) Operating pressure 50 bar - Tube diameter to define the order.







CMU	VGT	VPS	VVK	VVU*	BAE	WCO	CO2	E1U	HGT	IPH	FLA	CFA	ECB
O	O	+👤	O	O	O	+👤	+👤	-	-	O	O	O	O

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

Technical characteristics obtained with speed controller VVU or VVK:

VVU and VVK : 831 - 1622 - 2393

VVU Option with factory fitted speed controller.
VVK Speed controller kit shipped with the unit cooler chosen.

- Switching cabinet IP54.
- Single-phase electronic voltage regulator
- Potentiometer controller.
- One voltage regulator per fan.
- Setting of minimum voltage.
- Electrical wiring diagram.

VVK : 1591 - 3162 - 4693 - 6294

This option is in kit form shipped with the unit cooler chosen.

- Electromechanical voltage regulator.
- Manual rotary switch.
- Five stepped rotation speeds.
- Electrical wiring diagram.

100 Pa (1)			NCP 831	NCP 1622	NCP 1591	NCP 2393	NCP 3162	NCP 4693	NCP 6294	NCN 831	NCN 1622	NCN 1591	NCN 2393	NCN 3162	NCN 4693	NCN 6294
Capacity (2) DT1 = 10K SC 1	High speed	kW	10,9	21,1	24,9	31,0	47,9	70,7	95,0	-	-	-	-	-	-	-
	Medium speed	kW	10,2	19,7	23,6	29,0	45,4	67,2	90,2	-	-	-	-	-	-	-
	Low speed	kW	8,6	17,3	20,7	26,0	40,0	59,0	79,6	-	-	-	-	-	-	-
Capacity (2) DT1 = 8K SC 2	High speed	kW	7,1	13,9	16,5	20,4	31,7	46,8	63,2	6,2	12,0	13,5	17,7	26,8	39,8	53,3
	Medium speed	kW	6,7	13,0	15,7	19,1	30,1	44,5	60,0	5,8	11,3	12,8	16,7	25,4	38,0	50,8
	Low speed	kW	5,7	11,4	13,7	17,1	26,5	39,1	53,0	5,0	9,7	11,5	14,6	22,7	33,2	45,4
Air flow	High speed	m^3/h	3200	6310	8190	9420	16150	24100	32040	3270	6470	8450	9680	16740	25020	33290
	Medium speed	m^3/h	2890	5680	7460	8450	14710	21940	29170	2960	5860	7630	8740	15110	22910	30480
	Low speed	m^3/h	2270	4630	6020	7150	11810	17630	23670	2300	4550	6220	7030	12320	17970	24850
Acoustic Lp 4 m (3)	High speed	dB(A)	44	47	59	49	61	63	64	44	47	59	49	62	64	65
	Medium speed	dB(A)	40	43	55	45	57	59	60	40	43	55	45	58	60	61
	Low speed	dB(A)	32	35	50	37	53	55	56	32	35	50	37	53	56	57

150 Pa (1)			NCP 831	NCP 1622	NCP 1591	NCP 2393	NCP 3162	NCP 4693	NCP 6294	NCN 831	NCN 1622	NCN 1591	NCN 2393	NCN 3162	NCN 4693	NCN 6294
Capacity (2) DT1 = 10K SC 1	High speed	kW	9,6	18,6	23,7	27,3	45,7	67,6	90,9	-	-	-	-	-	-	-
	Medium speed	kW	9,3	18,0	22,4	26,5	43,6	64,5	86,5	-	-	-	-	-	-	-
	Low speed	kW	8,0	16,0	20,3	24,1	39,2	58,2	78,0	-	-	-	-	-	-	-
Capacity (2) DT1 = 8K SC 2	High speed	kW	6,3	12,3	15,8	18,1	30,3	44,7	60,5	5,5	10,7	13,1	15,7	25,8	38,3	51,3
	Medium speed	kW	6,2	11,9	15,0	17,6	28,9	42,6	57,6	5,3	10,1	12,0	15,1	23,5	35,4	47,3
	Low speed	kW	5,3	10,6	13,5	16,0	26,0	38,5	51,9	4,3	8,5	10,2	12,7	19,6	29,5	39,5
Air flow	High speed	m^3/h	2740	5400	7610	8060	14990	22350	29720	2810	5560	7910	8310	15630	23340	31050
	Medium speed	m^3/h	2640	5180	6990	7720	13770	20550	27330	2430	4630	7080	6980	14100	21130	28180
	Low speed	m^3/h	2110	4320	5890	6720	11580	17300	23010	1930	3940	6430	5980	12880	19380	25880
Acoustic Lp 4 m (3)	High speed	dB(A)	42	45	57	46	60	62	62	42	45	58	47	61	63	63
	Medium speed	dB(A)	36	38	51	39	54	56	56	36	38	52	39	55	57	57
	Low speed	dB(A)	29	32	46	33	49	51	52	29	32	47	34	50	52	53

200 Pa (1)			NCP 831	NCP 1622	NCP 1591	NCP 2393	NCP 3162	NCP 4693	NCP 6294	NCN 831	NCN 1622	NCN 1591	NCN 2393	NCN 3162	NCN 4693	NCN 6294
Capacity (2) DT1 = 10K SC 1	High speed	kW	-	-	22,4	-	43,1	63,9	85,6	-	-	-	-	-	-	-
	Medium speed	kW	-	-	21,3	-	41,2	61,1	82,8	-	-	-	-	-	-	-
	Low speed	kW	-	-	19,7	-	37,7	55,7	75,5	-	-	-	-	-	-	-
Capacity (2) DT1 = 8K SC 2	High speed	kW	-	-	14,9	-	28,7	42,4	57,2	-	-	12,4	-	24,6	36,5	48,8
	Medium speed	kW	-	-	14,2	-	27,4	40,5	55,3	-	-	11,9	-	23,3	34,8	47,3
	Low speed	kW	-	-	13,1	-	25,1	37,0	50,4	-	-	11,0	-	21,6	32,2	43,0
Air flow	High speed	m^3/h	-	-	6950	-	13670	20390	27100	-	-	7240	-	14290	21330	28380
	Medium speed	m^3/h	-	-	6470	-	12690	18910	25590	-	-	6710	-	13110	19560	26730
	Low speed	m^3/h	-	-	5610	-	10980	16310	22080	-	-	5820	-	11430	17060	22700
Acoustic Lp 4 m (3)	High speed	dB(A)	-	-	55	-	58	60	61	-	-	56	-	59	61	62
	Medium speed	dB(A)	-	-	47	-	50	52	53	-	-	48	-	51	53	54
	Low speed	dB(A)	-	-	45	-	48	50	51	-	-	46	-	49	51	52