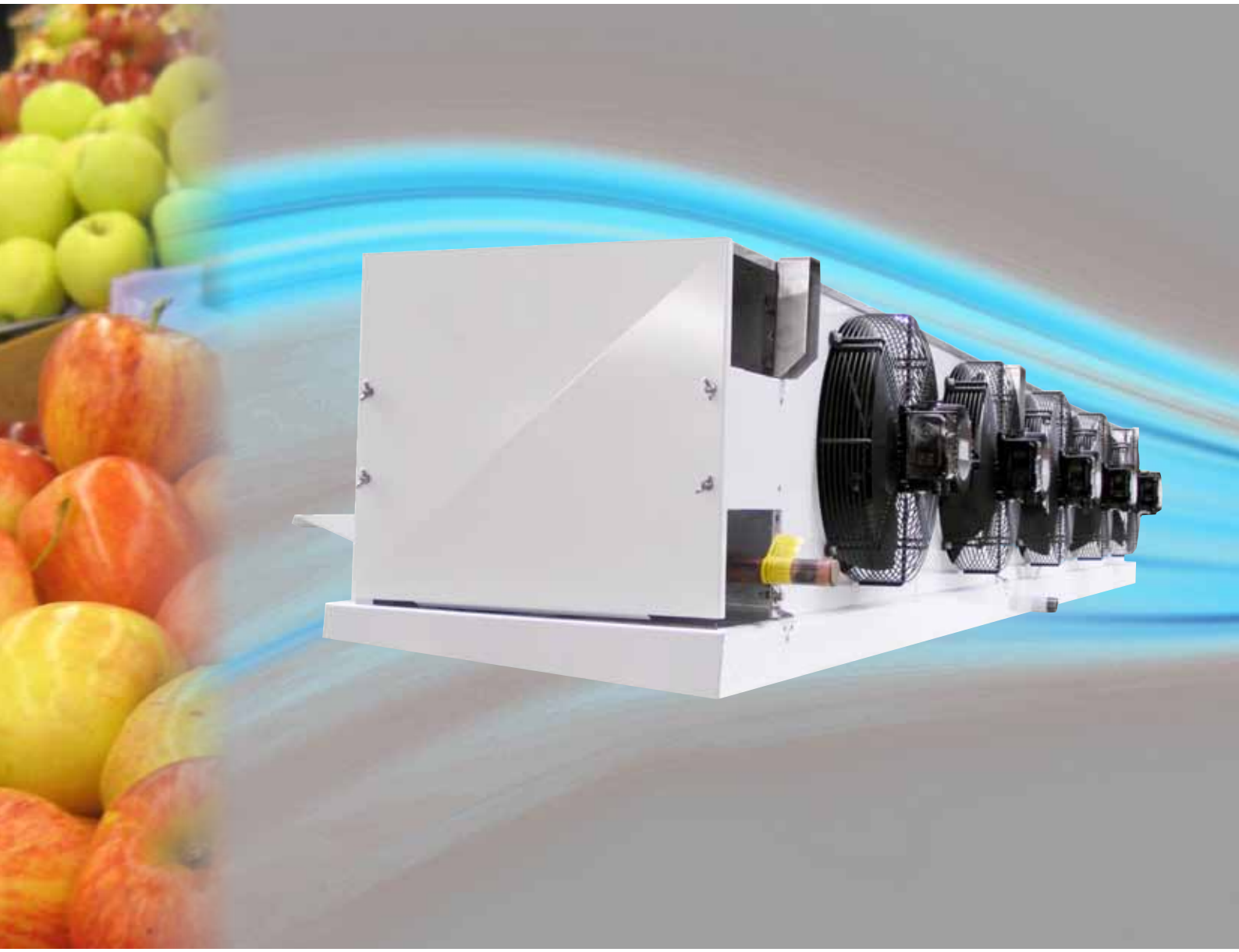


Goedhart VNS

Air coolers for agricultural applications
Cu/Al

R404A - CO_2

Goedhart VNS

The Goedhart VNS range of ceiling mounted aircoolers are specially designed for use in chill rooms, working with an air temperature of ± 0°C. The aircoolers are especially suitable for vegetable and fruit storage, working with a small Δ T to prevent dehydration of the product. The height of the aircooler is low, so the maximum space in the chill room can be utilised. The coil block is standard build from aluminium end plates, copper tubes and aluminium fins The range consists of 16 types with a nominal capacity range between 12,1 and 62,5 kW. The modular design incorporates 4 different sizes of fans (350, 400, 450 and 500 mm)..

Type description

VNS 66457

- 6: Number of rows deep (6)
- 6: Number of fans (2,3,4,5,6,7,8)
- 4: Fin spacing (7 mm)
- 5: Fan diameter in cm (35, 40, 45, 50)

Coil execution

- Tube pitch : 50x50 mm square
- Fin spacing : 7 mm
- Material : 15mm o.d. copper tubes
  : aluminium HT-fins
- Optimized cooling circuits
- Standard refrigerant connections are positioned on the left hand side of the unit when looking with the direction of the airflow.
- Goedhart VNS coil blocks have copper tubes mechanically expanded into fully collared aluminium fins, providing excellent thermal contact. All evaporator coils are pressure tested to 30 bars and supplied with a light overpressure charge.
- The coolers are suitable for the most commonly used refrigerants/mediums with the exception of NH_3.

Casing

- Construction for ceiling mounting
- Casing material of galvanized sheet steel
- Finishing is standard white epoxy spray (RAL 9003)
- Bend/header projection by end covers, easy removed for maintenance
- Hinged drip tray
- Defrost by hot gas spiral or electric defrost elements will be fixed to the bottom side of the coil
- .Stainless steel fasteners

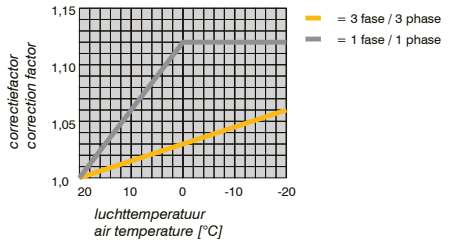
Fans

- Manufacturer : Ziehl Abegg
- Diameter : 350, 400, 450 and 500 mm
- Electrical supply : 3x400V-50Hz or 1x230V-50Hz
- Protection class : IP44 / IP54
- Frequency regulation : only in combination with
- all-pole sinus filter
- Temperature : 3ph: between -40°C and +70°C
  : 1ph: between -25°C and +55°C
- Thermo contact : PTO (must always be connected)

Execution

The fans meet the ErP directive. The fans have very good aerodynamic features because of the special impeller geometry. This special impeller geometry gives the fan a low noise level and an high efficiency.

The maximum allowable working data in the table and on the name plate of the fans are to operate in an air temperature of 20 °C (air density of ρ = 1,2 kg/m³). For air temperatures lower then +20 °C, the current amperage can be calculated by using the diagram multiplication factor, suitable thermal overloads can then be selected. Against an extra price and with extra delivery times stainless steel guards and EC-fans are available.



Capacities

The listed nominal cooling capacities are based on R404A, DTM or DT1, RH of 85% and 4 pole 3 phase fans connected in Δ.

Capacity optimisation

Goedhart optimise the coil circuitry to suit the design condition. This provides the best performance for a given cooler in combination with application, refrigerant and capacity.

Mounting and Maintenance

VNS is delivered on a wooden frame. When on the frame, Goedhart VNS can be handled by forklift truck, which makes positioning and installation simple. Refer to our maintenance and installation manual.

Sound data

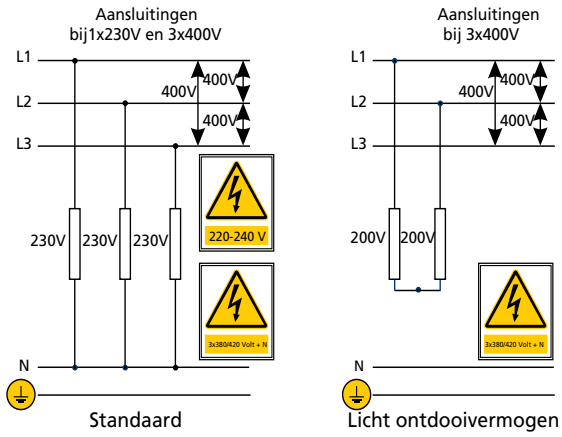
The mean sound pressure (LpA @ 3m ± 2 dB (A)) each air cooler is a calculated indication value according to the EN13487 standard parallel pipe. Goedhart uses the fan manufacturer's sound power level (LwA) at the inlet side of the fan. Changes to or by the fan or the product, affect the sound, in these cases, consult the manufacturer for the new indication value. In critical sound requirements, we advise you to consult an expert.

Defrost systems

For room temperatures where ice-build up can be expected and where the coil can not be defrosted by the room air, electric or hot gas defrost is necessary

Electrical defrost

On request Goedhart VNS can be provided with electrical defrost. The stainless steel heating elements are fitted in the coil block within aluminium tubes, which forms a highly conductive medium between the heaters and the fins. In the drip tray heater elements are fitted to the underside of the aluminium inner tray. The elements are rated for 220/240 V and are connected (IP55) for 380/415 V (with neutral) supply. The heater elements in the coil block are removable from the bend side, whilst the tray heater elements can be removed once the outer tray has been removed.



Hot gas defrost

The coil block is suited for hot gas defrost (hot gas supply through the suction header). The drip tray can be provided with a copper hot gas spiral. This is enclosed in aluminium profiles that are rigidly secured to the under side of the aluminium inner drip tray

Optional extras

Various optional extras for the Goedhart VNS are available with price and delivery time upon request, some of them are:

- Insolution discs
- Feet for floor mounting
- Coating on the coil block
- 60Hz fan motors
- EC-fans
- Cooling mediums (glycol/water/etc.)
- Pump system
- Stainless steel casing
- coupling between hotgas spiral and suctionheader
- other fin spacings
- relative humidity regulation (the coilblock will be supplied in 2 parts, a heating and cooling section

Goedhart VNS Technical data

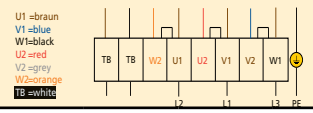
=7 mm

Type	3x400V-50Hz-4 polig - Δ (1500 tpm)						Surface	Fans		Electrical defrost			Air coolers details
	Capacity DTM (R404A)			Capacity DT1 (R404A)	Airvolume	Sound pressure indication (LpA) at 3 m (+/- 2 dB(A))*		Number	Diameter	Coilblock	Drip tray	Total	
	DTM=7K -5/+2	DTM=6K -5/+1	DTM=5K -5/0	DT1=8K Air on=0°C -8 / 0									
VNS	kW	kW	kW	kW	m³/h	dB(A)	m²		mm	kW	kW	kW	
6.3.35.7	14,1	11,7	9,3	12,1	7719	55,7	77	3	350	3,36	2,07	5,43	
6.4.35.7	18,7	13,9	11,5	16,0	10289	56,7	103	4	350	4,67	2,76	7,43	
6.5.35.7	24,8	19,7	14,1	21,0	12858	57,5	128	5	350	5,70	2,34	8,04	
6.6.35.7	28,9	24,0	18,5	24,8	15427	58,1	154	6	350	6,72	2,74	9,46	
6.7.35.7	34,7	26,9	21,6	29,4	17997	58,6	180	7	350	7,75	3,12	10,87	
6.8.35.7	39,8	32,2	23,7	33,8	20567	59,0	205	8	350	8,82	3,52	12,34	
6.3.40.7	19,8	15,8	12,5	16,6	9888	58,5	107	3	400	4,41	2,47	6,88	
6.4.40.7	26,4	21,5	16,6	22,2	13182	59,5	143	4	400	5,70	2,34	8,04	
6.5.40.7	31,9	25,9	20,8	26,8	16476	60,2	178	5	400	6,72	2,74	9,46	
6.6.40.7	40,2	31,8	23,6	33,6	19769	60,8	214	6	400	8,26	3,34	11,60	
6.3.45.7	30,5	24,3	19,1	25,6	15398	60,4	163	3	450	8,27	2,34	10,61	
6.4.45.7	40,6	33,2	25,6	34,3	20528	61,3	217	4	450	10,09	2,94	13,03	
6.5.45.7	51,4	41,3	32,0	43,3	25659	62,1	271	5	450	12,40	3,52	15,92	
6.6.45.7	59,4	49,5	38,7	50,5	30788	62,6	325	6	450	15,57	4,16	19,73	
6.5.50.7	54,5	44,4	33,7	51,7	34695	64,7	285	5	500	13,22	3,72	16,94	
6.6.50.7	64,9	52,1	41,4	62,5	41634	65,2	342	6	500	16,53	4,38	20,91	

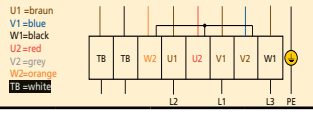
* = Sound pressure indication (LpA) at 3 m distance each air cooler (+/- 2 dB(A)), free field conditions, according EN13487

	Nominal values at 50Hz-3x400V-T=40°C								Nominal values at 50Hz-1x230V-T=40°C				Fan details
	Δ				Y								
Fan type	Speed	Absorbed Power	Absorbed FLC	Sound power level each fan (LwA) (+/- 2dBA)	Speed	Absorbed Power	Absorbed FLC	Sound power level each fan (LwA) (+/- 2dBA)	Speed	Absorbed Power	Absorbed FLC	Sound power level each fan (LwA) (+/- 2dBA)	
mm	min⁻¹	Watt	A	dB(A)	min⁻¹	Watt	A	dB(A)	min⁻¹	Watt	A	dB(A)	
FN035	1390	190	0,40	73	1170	140	0,23	69	1260	170	0,75	75	
FN040	1370	230	0,44	76	1110	170	0,27	70,5	1350	240	1,10	77	
FN045	1250	350	0,64	78	950	220	0,35	70	1290	390	1,75	79	
FN050	1330	830	1,45	81	940	550	0,97	75	1230	750	3,35	83	

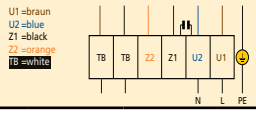
Ziehl Abegg 3x400V (Δ)-50Hz (108XB)

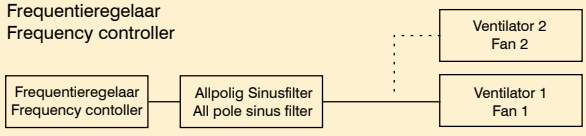


Ziehl Abegg 3x400V (Y)-50Hz (108XB)



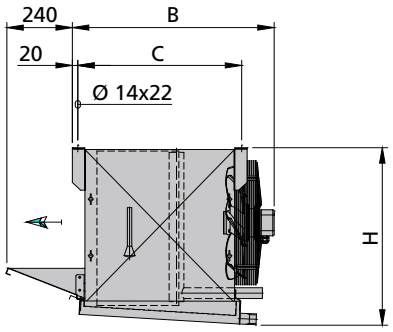
Ziehl Abegg 1x230V-50Hz (104XB)

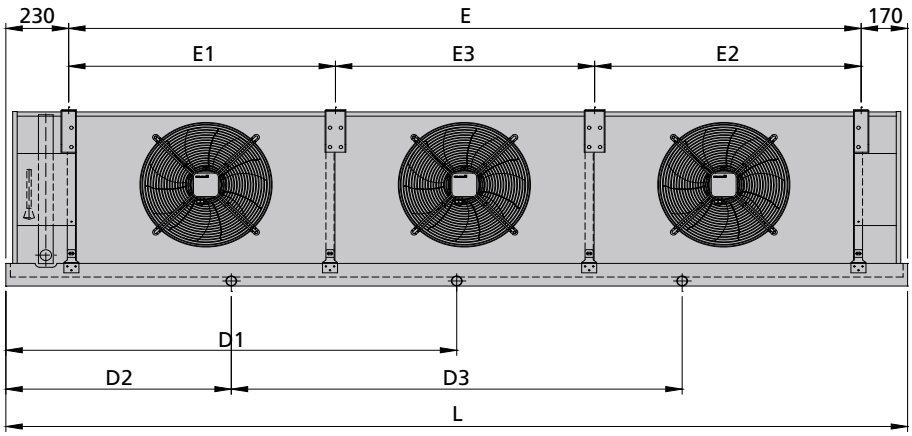




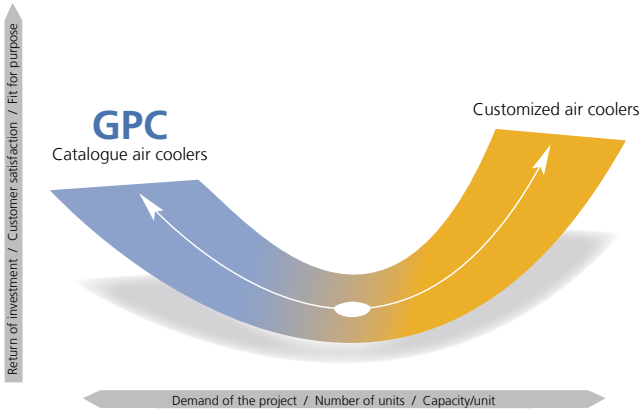
Goedhart VNS Technical data

Type	Dimensions											Internal volume	Weight (empty)	Dimension details
					Suspension			Drain						
	L	B	H	C	E1	E E2	E3	D1	D2	D3	Size			
VNS	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		dm³	kg	
6.3.35.7	2260	725	540	600		1856		1128			¾"	19	149	
6.4.35.7	2860	725	540	600		2456		1428			¾"	26	191	
6.5.35.7	3460	725	540	600	1228	1828			864	1728	¾"	32	230	
6.6.35.7	4060	725	540	600	1828	1828			1014	2028	¾"	38	269	
6.7.35.7	4660	725	540	600	1828	2428			1164	2328	¾"	45	310	
6.8.35.7	5260	725	540	600	2428	2428			1314	2628	¾"	51	351	
6.3.40.7	2710	715	590	600		2306		1353			1 ¼"	27	192	
6.4.40.7	3460	715	590	600	1528	1528			864	1728	1 ¼"	36	245	
6.5.40.7	4210	715	590	600	1528	2278			1052	2103	1 ¼"	44	300	
6.6.40.7	4960	715	590	600	2278	2278			1239	2478	1 ¼"	53	354	
6.3.45.7	3310	740	690	600		2906			827	1653	1 ¼"	40	257	
6.4.45.7	4260	740	690	600	1928	1928			1064	2128	1 ¼"	54	331	
6.5.45.7	5210	740	690	600	1928	2878			1302	2603	1 ¼"	67	406	
6.6.45.7	6160	740	690	600	2878	2878			1539	3078	1 ¼"	80	479	
6.5.50.7	5460	835	690	700	2028	3028			1364	2728	1 ¼"	71	499	
6.6.50.7	6460	835	690	700	2028	2028	2000		1614	3228	1 ¼"	85	591	





Best of both worlds



One question which always is in the mind of an industrial refrigeration engineer is the following:
Do I ask for standard or shall I go for tailor made?

There are good reasons for both choices. In some cases, the solution needed is beyond the boundaries of the standard program. In other occasions, tailor made can even offer a more economical solution. In again other situations standard would be the logical choice to go for.

In any of the cases GEA Goedhart can offer you the right solution. With the standard selection software GPC finding the right heat exchanger is just a few mouse clicks away. On other cases the GEA Goedhart engineers are happy to help you out!

Goedhart GPC Program, **your selection software** for air coolers and air cooled condensers!

Goedhart VNS air cooler selections are available in the Goedhart Product Catalogue or GPC.
On the tool section of **www.goedhart.nl** you will find the download button for the latest version of the GPC.

The GPC program is an easy to use tool for contractors, consultants and every other thinkable user and gives you access to many advantages such as:

- Multilingual
- The whole range of GEA Goedhart standard air coolers and air cooled condensers
- Pre-select buttons to application
- Selections including drawings and an extensive list of accessories
- Spare parts
- Accurate capacities: Under the GPC shell hides a sophisticated capacity calculation program which optimizes circuits to the design conditions as you work!

GEA Goedhart
air coolers
for every application

For Contractors and Original Equipment Manufacturers (OEM) related to the industrial refrigeration industry, GEA Goedhart B.V. offers an unlimited range of air coolers and air cooled condensers in several configurations.

Depending on the application, the optimum configuration will be selected in close cooperation with our customers.

Configurations
The following material combinations are available in various tube pitches and various fin spacing:

Tube material	Fin material
Copper (Cu)	Aluminium (Al)
Stainless steel (Stst)	Aluminium (Al)
Stainless steel (Stst)	Stainless steel (Stst)
Aluminium (Al)	Aluminium (Al)
Hot dipped galvanized steel (FeZn)	Hot dipped galvanized steel (FeZn)

Options on aluminium fins
- Goldlack coated fins
- Seawater resistant aluminium fins (AlMg)

Applications

Cooling	Freezing
Cold stores / Distribution centres	Cold stores / Distribution centres
Food processing rooms	Tunnel / spiral freezers
Fruit storage	Slaughter houses
Banana ripening storage	Automotive testing rooms
Greenhouse conditioning	Ski domes

Pressure Equipment Directive (P.E.D.)
All aircoolers produced by Goedhart comply with the Pressure Equipment Directive 97/23/EC. PED certificates can be downloaded from www.goedhart.nl.

LLOYD'S REGISTER QUALITY ASSURANCE · ISO9001

Lloyd's Register
PRESSURE EQUIPMENT

Excellence Passion Integrity Responsibility GEA-versity

GEA Group is a global mechanical engineering company with multi-billion euro sales and operations in more than 50 countries. Founded in 1881 the company is one of the largest providers of innovative equipment and process technology. GEA Group is listed in the STOXX Europe 600 Index.

GEA Heat Exchangers

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