

GEA Searle Air Cooled Condensers

Top-level engineering solutions


Customer proximity
Sustainable solutions for g
GEA Heat Exchan
Global expertise and experience
Global servic
Extensive product portfolio



GEA Searle Centre of Excellence

Engineers fully concentrate on you and your requirements. As a result, you can concentrate on what really counts: your business.

The specialists in air-cooled condensers

GEA Searle designs, engineers and manufactures air cooled condensers, systems and solutions for customers who employ refrigeration as an essential part of their primary processes. The new range of GEA Searle condensers offers you a wider choice than ever before – including both flat-bed and V-bank units, arranged in single- or double-bank configurations, and with multiple module lengths. The wide range is suitable for most refrigeration and air conditioning condenser applications. The new generation of condensers features EC fan-sets, which can produce energy savings of up to 50 % compared to traditional AC fan sets, new fan designs to improve airflow and reduce noise – as well as advanced fin coatings that ensure full life expectancy even in the harshest climates. The demand for such refrigeration technology in the UK and European supermarket industry is the driving force behind natural refrigeration. Our Centre of Excellence is dedicated to serving customers anywhere in the world and is committed to continuously providing state-of-the-art solutions and components with the lowest total cost of ownership.

Greener refrigeration solutions

GEA Searle has turned the spotlight on improved energy efficiency, quieter operation, and greater durability in its range of air-cooled condensers and dry coolers. With continued excellence of our products in terms of innovation, design and performance GEA Searle will continuously make active improvements to help our customers reduce their carbon footprint.



Research and Development

In order to guarantee the continued excellence of our products in terms of innovation, design and performance, GEA has invested in one of the most comprehensive Research & Development facilities in the European refrigeration industry. GEA also undertakes special projects on behalf of other manufacturers, customers and end-users. In our R&D testing facilities Searle and Küba are able to test for the following performance characteristics: duty (kW), air flow (m3/hr), motor performance and noise.

Eurovent Certification

This Europe-wide scheme provides a single, common, voluntary performance certification programme for heat exchangers. The scheme is managed by a separate, autonomous organisation - the Eurovent Certification Company - which carries out independent testing against agreed European/International standards. This ensures that the actual performance of certified products matches the claimed performance.

GEA Searle Products and Services

Centre of excellence

To promote innovative developments, we founded our competence center for compact finned-tube systems within GEA Heat Exchangers. Experienced specialists work here who are particularly well acquainted with the precise engineering design of the finned-tube systems they support.

GEA Searle is one of the longest established and principal manufacturers of heat exchange products for the refrigeration and air conditioning industry in Europe. GEA Searle's range of of dry cooler units guarantee the continued excellence of our product range in terms of innovation, design and performance to offer the ideal product at a competitive price. They are the 1st choice product for their proven design and reliability, the range comes with many benefits which is often utilised across many industries and applications.

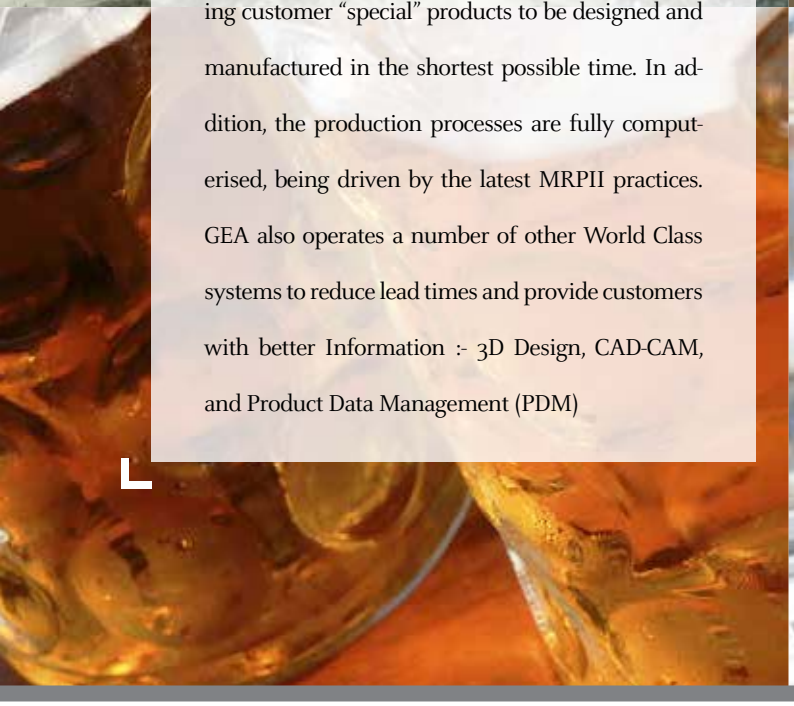
Air Cooled Condensers

Our ranges have literally 1000s of models, created through a modular design and variety of fan sizes, offering a greater choice to match your requirements. Our condensers can meet even the most stringent noise restrictions utilising the best fan technology in the market today. In addition, we offer EC technology across the standard range, which offers variable speed control and high efficiency. Due to rising energy costs efficiency is becoming a key industry issue and is increasingly important on end-user criteria. Our new units use the latest technology to ensure greater energy efficiency. GEA has extensive experience in the design of controls either using the GEA controller or 'industry standard' controllers such as Millennium 2 or RDM.



Engineering Facilities

The advanced Computer Aided Design system interfaces directly with production machinery allowing customer "special" products to be designed and manufactured in the shortest possible time. In addition, the production processes are fully computerised, being driven by the latest MRPII practices. GEA also operates a number of other World Class systems to reduce lead times and provide customers with better Information :- 3D Design, CAD-CAM, and Product Data Management (PDM)





Quality , Support and Website

Trained staff will advise you through every step of the selection process. Our customer service continues past the product delivery, and we are always on hand to advise on any issues.

Keep up to date with our products and latest news by visiting the website, www.gea-heatexchangers.com



"Certify-all" scheme

The new scheme closes a number of existing loopholes and introduces the "certify-all" principle. This requires that each participating manufacturer must certify all its products marketed within all product groups covered by the scope of the programme, namely Air cooled refrigerant condensers. The certification programme covers all forced convection air cooled refrigeration condensers using axial flow fans. The programme certifies standard capacity, fan power, air volume flow, A-weighted sound power and pressure level and the external surface area of the heat exchanger. With reliable performance figures, refrigeration systems can be designed with confidence using correctly sized and matched equipment. This leads to lower capital costs and, through the choice of certified equipment, reduced running costs through improved energy efficiency.

Noise level is an increasingly important parameter in the selection and comparison of refrigeration condensers. For this reason the certification programme covers both sound power and sound pressure levels. The programme also specifies standard correction factors for alternative temperature differences (including factors taking into account of refrigerants with glide), for different refrigerants and for different fin materials. The programme uses a number of International standards as the basis for testing, including EN327 (test procedures for condensers), ISO3741/4/5, ISO9614-1 and EN13487 (for noise measurement).

The GEA Searle Product Selector provides an electronic catalogue covering the majority of product ranges offered by GEA Searle. The range of products available to you is very broad with many options. This software provides the fastest and easiest way to select the most appropriate product for your specific needs. GEA Searle Product Selector has been completely revised to run on the latest versions of Windows (including both 32-bit and 64-bit versions of Vista and Windows 7).



Product Selection Software

Intelligence in cooling



Fig 1



Fig 2



Fig 3

All four product types (Coolers, Condensers, Dry Coolers and Glycol Coolers) are now available in a single program. You can select the type of product either by clicking the icons which may be familiar to users of older versions of the program or by selecting the product type from the drop-down list. (Fig 1)

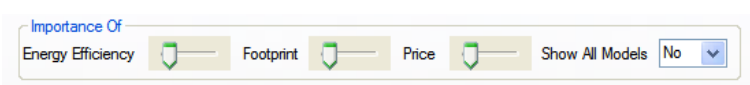
If you know the model number or the range you require (for example MM or MMA124), you can type this into the box next to the Select button. This will make the selection faster and exclude models which may not be relevant for your needs. This box will also accept wildcard characters, for example KEC*-4*. (Fig 2)

You can start a selection by clicking the Select button, by pressing F9 or by pressing Enter, and produce PDF of Excel files of your selection results. (Fig 3) The program normally operates using SI units. On the requirements screen you can choose alternative units by clicking (or right-clicking) on any unit (such as kW) to display a menu of alternative units.



What is important to you?

You can decide which features of the product are most important for each application: energy efficiency, footprint (physical size) and price. You adjust the slider controls to indicate the relative importance to you of each of these three elements. You can also choose to display all possible models, or just the 'top 10' which best meet your selection criteria.



Once the selected models are displayed, the 'best' options in each category (energy efficiency, footprint and price) will be highlighted in yellow. (Fig 5)



Range	Model	Act Cap. (kW)	Act TD (K)	Noise (dB(A))	Energy Rating	footprint
MV	MVA294L-EC425	633	16.6	43	A	17.24
MV	MVB254L-EC465	628.5	16.7	43	A	17.24
MV	MVA294L-EC465	689.4	15.2	44	A	17.24
MV	MVB254L-EC525	628	15.3	45	A	17.24
MV	MVA254L-EC525	629	16.7	46	A	14.48
MV	MVB244L-EC615	618.4	17	48	A	13.93
MV	MVC244L-EC615	682	15.4	48	A	17.24
MV	MVC244M-EC615	619.2	17	48	A	17.24
MV	MVA264L-EC525	754.8	13.9	47	A	17.24
MV	MVA263L-EC525	668.4	15.7	47	A	17.24
MVHE	MVH234-CSD	664.55	15.8	54	D	9.54
MDG6	MDG235-6D	634.4	16.6	62	E	14.51

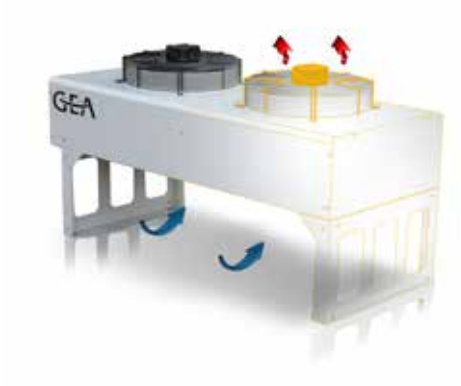
Fig 5

These notes provide basic usage information for the March 2013, release of the GEA Searle Product Selector, version 3.5. For a more detailed overview of this new version of the software, please download the GEA Searle Product Selector from www.gea-heatexchanger.com or call your local sales representative.

The MS range of fully weatherproof air-cooled condensers, consists of 9 models, each with two fan speed options, giving 18 models in total. The capacity range is from 5 to 27.6kW. The range is suitable for use in most refrigeration and air conditioning condenser applications and is performance certified by the Eurovent Certification Company under the Certify-All programme.

MS Air Cooled Condenser

Making the difference



MSA Condenser

The unit can be installed either vertically or horizontally, floor or wall mounted, by using the supplied mounting legs, which are also used to provide additional protection for header and return bends during transport. Fans are the highest quality and efficiency, which when matched to the case / orifice design offer extremely low noise levels. For ease of stocking, fans are supplied separately, individually packaged, for site mounting. Fan can be used with triac speed controllers, although noise levels may exceed catalogue rates.

Coil

The coils are manufactured from seamless 8mm copper tube employing the latest extended inner surface technology, mechanically expanded into aluminum ripple fin spaced at 2.1mm. The fully collared holes in the fin ensure an efficient and permanent bond between the expanded tube and the fin, giving the most effective heat transfer characteristics. Alternative fin materials are available to give added protection in saline or polluted atmospheres. Optional header and return bend covers are available.

Casework

The casework is fabricated from pre-galvanised sheet steel with grey polyester powder painted external surfaces, oven cured at 180°C. This ensures an even, flexible and durable gloss finish, with excellent corrosion protection properties and tolerance to UV exposure. All fastenings are corrosion resistant with the majority being stainless steel

MS Features

- Fully weatherproof air-cooled condensers.
- Comprise of 9 models.
- Capacity range is from 5 to 27.6kW.
- Two fan speed options, giving 18 models in total.
- Suitable for use in most refrigeration and air conditioning condenser applications.
- Eurovent certified.
- Unit can be installed either vertically or horizontally.



1	2	3	4		5	6	7
MSA	1	1	2	-	35	04	AL

1. Range:	MSA
2.Bank Of Fans:	1
3.Fans per bank:	1, 2, 3
4. Coil row:	2, 3, 4
5. Fan Type:	35
6. Motor speed:	04, 06
7. Fin material:	AL

MS Fan data

Fan type & Pole	Diameter	Module	Speed (rpm)		FLC (Amp)		SC (Amp)	
			Δ	Y	Δ	Y	Δ	Y
3504 - 4 Pole	350mm	A	1295	-	0.75	-	1.2	-
3506 - 6 Pole		A	880	-	0.14	-	1.2	-

MS Selection data

Model	Duty@ 15KDT1 *	Sound Data **		Air volume	Power Input	Efficiency Rating	Current	No. of fans	Rows deep	Surface	Internal Volume	Connections	
												Inlet	Outlet
	kW	Lwa	Lpa 10m	m^3/hr	W		A			m^2	dm^3	mm	mm
MSA112-3504	6.6	70	39	2628	150	D	0.75	1	2	11.3	1.4	15	15
MSA113-3504	8.2	70	39	2376	150	C	0.75	1	3	17.0	1.9	15	15
MSA114-3504	8.7	70	39	2268	150	C	0.75	1	4	22.7	2.5	15	15
MSA122-3504	13.2	73	42	5220	300	D	1.50	2	2	22.7	2.4	22	22
MSA123-3504	16.4	73	42	4788	300	C	1.50	2	3	34.0	3.5	22	22
MSA124-3504	17.5	73	42	4500	300	C	1.50	2	4	45.3	4.5	22	22
MSA132-3504	19.7	75	44	7848	450	D	2.25	3	2	33.5	3.4	22	22
MSA133-3504	24.6	75	44	7164	450	C	2.25	3	3	51.0	5.0	22	22
MSA134-3504	26.2	75	44	6768	450	C	2.25	3	4	67.9	6.7	22	22
MSA112-3506	5.1	61	30	1620	70	B	0.14	1	2	11.3	1.4	15	15
MSA113-3506	6.1	61	30	1476	70	B	0.14	1	3	17.0	1.9	15	15
MSA114-3506	6.5	61	30	1368	70	B	0.14	1	4	22.7	2.5	15	15
MSA122-3506	10.2	64	33	3204	140	B	0.28	2	2	22.7	2.4	22	22
MSA123-3506	12.2	64	33	2952	140	B	0.28	2	3	34.0	3.5	22	22
MSA124-3506	12.9	64	33	2736	140	B	0.28	2	4	45.3	4.5	22	22
MSA132-3506	15.3	66	35	4824	210	B	0.42	3	2	33.5	3.4	22	22
MSA133-3506	18.3	66	35	4428	210	B	0.42	3	3	51.0	5.0	22	22
MSA134-3506	19.4	66	35	4104	210	B	0.42	3	4	67.9	6.7	22	22

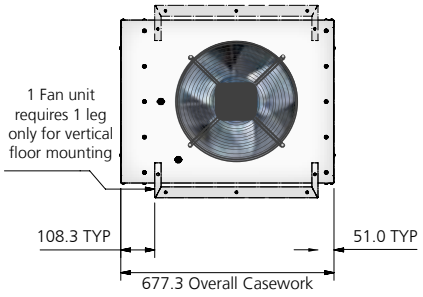
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound data quoted as sound power level Lwa and mean pressure level Lpa at 10m according to EN13487

MS Dimensions

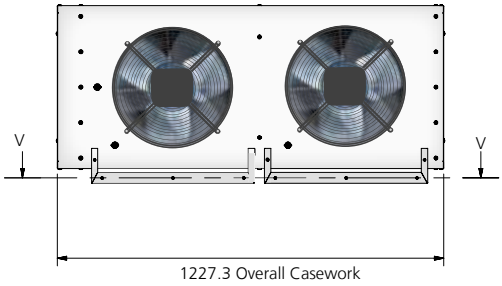
Model	Coil rows	Fans	Dim A	Dim B	Dim C	Weight (Less fan)	Weight (Inc fan)
			mm	mm	mm	kg	kg
MSA 112	2	1	570	N/A	620	20	24
MSA 113	3	1	570	N/A	620	22	27
MSA 114	4	1	570	N/A	620	24	29
MSA 122	2	2	1120	100	1170	29	39
MSA 123	3	2	1120	100	1170	33	42
MSA 124	4	2	1120	100	1170	37	47
MSA 132	2	3	1670	650	1720	38	52
MSA 133	3	3	1670	650	1720	44	58
MSA 134	4	3	1670	650	1720	50	64

Note: Units and fan sold/supplied separately, Units packed in vertical arrangement

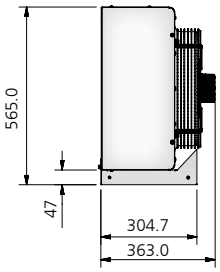
MS 112, 113, 114



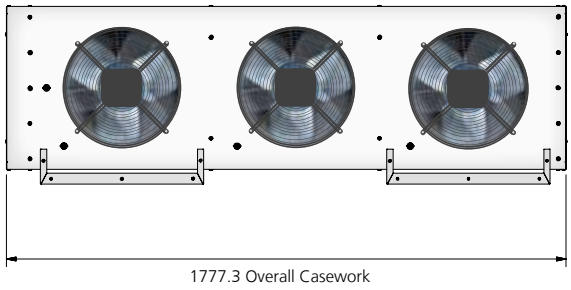
MS 122,1 23, 124



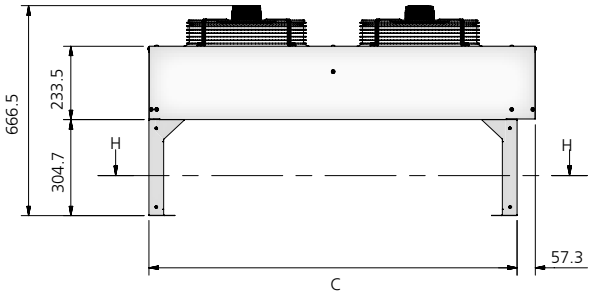
Vertical operation



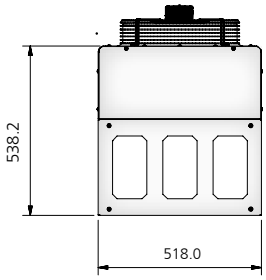
MS 132, 133, 134



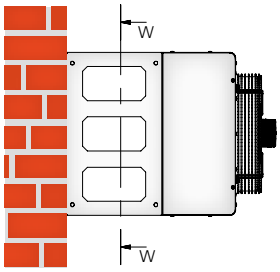
Horizontal operation



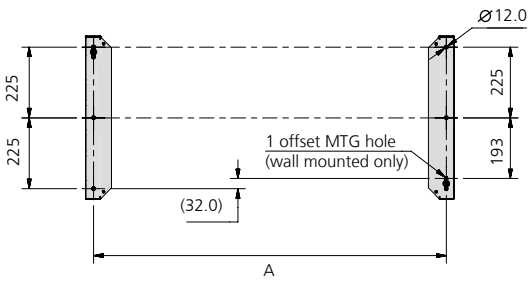
Horizontal operation



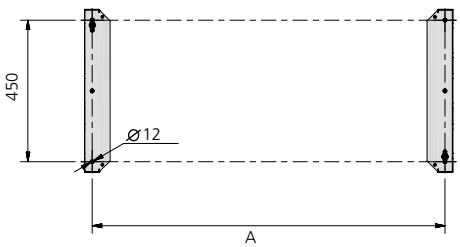
Wall mounted operation



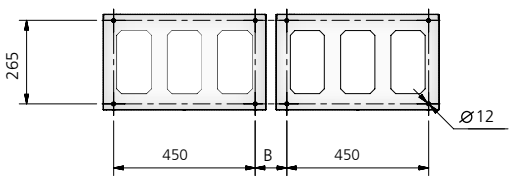
Wall mounted footprint



Horizontal floor mounted footprint



Vertical floor mounted footprint

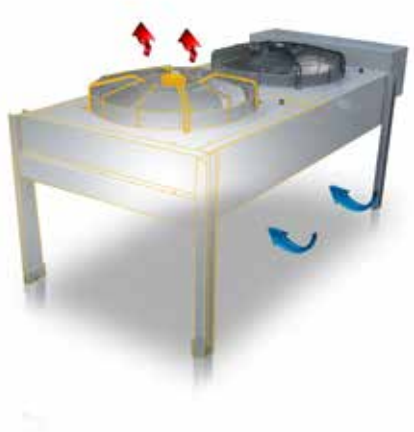


Note: All dimensions in mm

Reliable and efficient cooling - GEA Searle is a market leader in the field of air-side heat exchange and industrial air conditioning. Its range of air-cooled condensers is one of the largest in Europe and encompasses a wide range of applications. GEA Searle is a well-known and trusted brand among many supermarket chains.

ME Air Cooled Condenser

Making the difference



ME Condenser

The ME range of air-cooled condensers is based upon the well established E fin heat exchange matrix, combined with utilising the best fan technology in the market today. This combination offers versatility and economical solution to many refrigeration and air conditioning applications. The range consists of one to four fans in three coil depths and modules with 500mm and 630mm diameter 4, 6 and 8 pole fans. This results in a wide range of capacities, noise levels and footprints to meet the diverse requirements of the industry.

Optional extras for the ME range include vertical orientation (1 to 4 fan), multi circuiting, integral sub cooling section, alternative fin materials and coating. Control options include fan cycling, variable speed (including EC) and individual fan isolators. The model selections can be made either directly from this brochure or by using the popular GEA Searle selection software available from your GEA local sales representative.

ME Condenser

- 3 fan Module sizes (A,B,C).
- 500mm or 630mm diameter fan sets.
- 4,6,8 pole or EC.
- Optional coil fin materials and coating.
- Powder coated robust casework.
- Factory fitted or separate control options.
- Compact design vertical coil (1 bank of fans) or horizontal coil (1 or 2 bank(s) of fans).
- Wall mounting kits available for Vertical coil 1-4 fan units.

1	2	3	4	5								
ME	B	1	2	4	H	-	N6	04	3	-	AL	
					6		7	8	9		10	



1. Range: ME

2. Module Size: A, B, C

3. Bank of fans 1

4. Fans per bank: 1 - 4

5. Coil row: 2, 3, 4

6. Orientation: H = Horizontal, V = Vertical

7. Fan type: See table below

8. Motor speed: 04, 06, 08, EC

9. Power: 1 & 3 phase

10. Coil material: AL = copper tubes/ aluminium fins,
AV = Copper tubes with 2
pack epoxy coated aluminium fins,
CU = copper tubes/ copper fins,
ET = copper tubes/copper fins electro-tinned,
Bg = copper tube/aluminium fin Blygold coated

ME Fan data

Fan type & Pole	Diameter	Module	Speed (rpm)		FLC (Amp)		SC (Amp)	
			Δ	Y	Δ	Y	Δ	Y
N504 - 4 Pole	500mm	A,B	1225	-	2.8	-	4.7	-
N506 - 6 Pole		A,B	915	-	1.2	-	5.4	-
N508 - 8 Pole		A,B	680	-	0.4	-	1	-
N6 - EC43	630mm	B,C	Variable speed 100-1150rpm	-	1.7	-	2.4	-
N604 - 4 Pole	630mm	B,C	1330	1035	5	3.1	20	14
N606 - 6 Pole		B,C	900	700	1.8	1.1	5.4	1.7
N608 - 8 Pole		B,C	640	440	1	0.5	1.9	0.6

ME 4 pole Selection data

Model	Capacity R404A & R507A *		Air Volume		Sound Level **		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m²	dm³	kg
500mm 4 pole single phase													
MEA112-N504-1	16.3	-	6840	-	45	-	540	-	D	-	26	5	1.6
MEA113-N504-1	21.5	-	6408	-	45	-	560	-	D	-	38	7	2.2
MEA114-N504-1	23.7	-	6048	-	44	-	570	-	D	-	51	9	2.8
MEA122-N504-1	33.6	-	13752	-	48	-	1090	-	D	-	51	9	2.8
MEA123-N504-1	43.3	-	12888	-	48	-	1120	-	D	-	77	12	3.8
MEA124-N504-1	46.8	-	12096	-	47	-	1150	-	D	-	102	16	5.1
MEA132-N504-1	50.3	-	20592	-	50	-	1630	-	D	-	77	12	3.8
MEA133-N504-1	65.31	-	19296	-	49	-	1680	-	D	-	115	17	5.4
MEA134-N504-1	74.8	-	18144	-	51	-	1720	-	D	-	154	24	7.6
MEA142-N504-1	67.5	-	27432	-	49	-	2170	-	D	-	102	16	5.1
MEA143-N504-1	85.9	-	25704	-	50	-	2230	-	D	-	154	23	7.3
MEA144-N504-1	93.7	-	24264	-	50	-	2290	-	D	-	205	31	9.8
MEB112-N504-1	20.1	-	7416	-	46	-	530	-	D	-	38	7	2.2
MEB113-N504-1	25.5	-	72000	-	46	-	530	-	C	-	58	10	3.2
MEB114-N504-1	28.8	-	6912	-	45	-	540	-	C	-	77	12	3.8
MEB122-N504-1	40.2	-	14904	-	49	-	1060	-	D	-	77	12	3.8
MEB123-N504-1	51.0	-	14400	-	49	-	1070	-	C	-	155	18	5.7
MEB124-N504-1	57.6	-	13896	-	48	-	1080	-	C	-	154	24	7.6
MEB132-N504-1	60.3	-	22320	-	51	-	1580	-	D	-	155	18	5.7
MEB133-N504-1	76.5	-	21528	-	50	-	1600	-	C	-	173	26	8.2
MEB134-N504-1	86.4	-	20808	-	50	-	1620	-	C	-	230	34	10.7
MEB142-N504-1	80.4	-	29736	-	52	-	2110	-	D	-	154	23	7.3
MEB143-N504-1	102.0	-	28728	-	51	-	2130	-	C	-	230	34	10.7
MEB144-N504-1	115.2	-	27792	-	51	-	2160	-	C	-	307	44	13.9
630mm 4 pole 3 phase													
MEB112-N604-3	28.2	24.8	13536	10728	61	52	2500	1640	E	E	39	7	2.2
MEB113-N604-3	37.5	32.4	12888	10116	60	52	2540	1660	E	E	58	10	3.2
MEB114-N604-3	43.3	36.8	12312	9576	60	52	2580	1680	E	E	77	12	3.8
MEB122-N604-3	56.5	49.6	27144	21456	63	54	4990	3290	E	E	77	13	4.1
MEB123-N604-3	75.2	64.9	25776	2232	63	54	5080	3320	E	E	115	18	5.7
MEB124-N604-3	87.0	73.9	24624	19224	63	54	5160	3360	E	E	154	23	7.3
MEB132-N604-3	87.1	77.2	40680	32184	65	56	7490	4930	E	E	115	18	5.7
MEB133-N604-3	113.0	97.4	38664	30384	65	56	7630	4980	E	E	173	26	8.2
MEB134-N604-3	130.7	109.9	36936	28800	65	56	7740	5030	E	E	231	34	10.7
MEB142-N604-3	113.1	99.3	3888	42912	66	57	9990	6580	E	E	154	23	7.3
MEB143-N604-3	149.2	130.1	51480	40464	66	57	10170	6630	E	E	231	34	10.7
MEB144-N604-3	174.3	148.0	49248	38376	66	57	10320	6710	E	E	307	44	13.9
MEC112-N604-3	32.8	28.5	14040	11160	61	52	2460	1640	E	E	48	9	2.8
MEC113-N604-3	42.5	36.3	13536	10728	61	52	2500	1640	E	E	72	12	3.8
MEC114-N604-3	48.9	41.4	13032	10296	60	52	2530	1650	E	E	96	16	5.1
MEC122-N604-3	66.3	57.5	28080	22320	63	54	4930	3280	E	E	96	16	5.1
MEC123-N604-3	85.0	73.2	27144	21528	63	54	4990	3290	E	E	144	23	7.3
MEC124-0604-3	98.3	82.5	26136	20664	63	54	5060	3310	E	E	192	30	9.5
MEC132-N604-3	99.6	86.6	42120	33480	65	56	7390	4920	E	E	144	23	7.3
MEC133-N604-3	128.0	109.3	40680	32256	65	56	7490	4930	E	E	216	33	10.4
MEC134-N604-3	146.7	124.5	39168	30960	65	56	7590	4960	E	E	288	43	13.6
MEC142-N604-3	130.9	115.3	56160	44640	66	57	9850	6560	E	E	192	29	9.2
MEC143-N604-3	170.4	146.7	54216	42984	66	57	9990	6570	E	E	288	44	13.9
MEC144-N604-3	196.9	166.3	52200	41256	66	57	10120	6610	E	E	384	57	18.0

Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10 metres according to EN13487.

ME 6 pole Selection data

Model	Capacity R404A & R507A *		Air Volume		Sound Level **		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m²	dm³	kg
500mm 6 pole single phase													
MEA112-N506-1	14.0	-	5040	-	37	-	230	-	C	-	26	5	1.6
MEA113-N506-1	17.9	-	4752	-	36	-	240	-	B	-	38	7	2.2
MEA114-N506-1	19.1	-	4464	-	36	-	250	-	B	-	51	9	2.8
MEA122-N506-1	28.1	-	10152	-	40	-	470	-	C	-	51	9	2.8
MEA123-N506-1	34.2	-	9504	-	39	-	480	-	B	-	77	12	3.8
MEA124-N506-1	38.3	-	8928	-	39	-	490	-	B	-	102	16	5.1
MEA132-N506-1	42.8	-	15192	-	41	-	700	-	C	-	77	12	3.8
MEA133-N506-1	54.1	-	14328	-	41	-	720	-	B	-	115	18	5.7
MEA134-N506-1	57.8	-	13392	-	42	-	940	-	C	-	102	16	5.1
MEA142-N506-1	56.4	-	20232	-	41	-	740	-	B	-	154	24	7.6
MEA143-N506-1	72.2	-	19080	-	42	-	970	-	B	-	154	23	7.3
MEA144-N506-1	77.0	-	17856	-	42	-	990	-	B	-	205	30	9.5
MEB112-N506-1	16.7	-	5544	-	38	-	230	-	B	-	38	7	2.2
MEB113-N506-1	20.6	-	5328	-	37	-	230	-	B	-	58	9	2.8
MEB114-N506-1	22.9	-	5112	-	37	-	230	-	B	-	77	12	3.8
MEB122-N506-1	33.4	-	11016	-	41	-	450	-	B	-	77	12	3.8
MEB123-N506-1	41.2	-	10656	-	40	-	460	-	B	-	115	17	5.4
MEB124-N506-1	45.8	-	10296	-	40	-	470	-	B	-	154	24	7.6
MEB132-N506-1	50.1	-	16560	-	42	-	680	-	B	-	115	18	5.7
MEB133-N506-1	61.8	-	15984	-	42	-	690	-	B	-	173	26	8.2
MEB134-N506-1	68.7	-	15408	-	41	-	700	-	B	-	230	34	10.7
MEB142-N506-1	66.8	-	22104	-	43	-	910	-	B	-	154	23	7.3
MEB143-N506-1	82.4	-	21240	-	43	-	920	-	B	-	230	34	10.7
MEB144-N506-1	91.6	-	20520	-	42	-	930	-	B	-	307	44	13.9
630mm 6 pole 3 phase													
MEB112-0606-3	23.3	20.8	9792	7416	46	39	2700	470	D	D	39	7	2.2
MEB113-N606-3	29.4	25.3	9072	6840	46	39	710	480	D	C	58	10	3.2
MEB114-N606-3	33.1	27.6	8496	6336	47	39	730	490	C	C	77	12	3.8
MEB122-N606-3	46.9	41.8	19584	14832	49	42	1410	940	D	D	77	13	4.1
MEB123-N606-3	59.0	50.8	18144	13680	49	42	1420	970	D	C	115	18	5.7
MEB124-N606-3	66.3	55.3	17064	12744	50	42	1450	980	C	C	154	23	7.3
MEB132-N606-3	70.9	62.5	29376	22248	50	43	2110	1400	D	D	115	18	5.7
MEB133-N606-3	88.0	76.1	27216	20520	51	43	2130	1450	D	C	173	26	8.2
MEB134-N606-3	98.1	83.23	25488	19080	52	44	2180	1470	C	C	231	34	10.7
MEB142-N606-3	94.2	83.7	39168	29664	51	44	2810	1870	D	D	154	23	7.3
MEB143-N606-3	118.3	101.7	36288	27288	52	44	2840	1940	D	C	231	34	10.7
MEB144-N606-3	132.9	110.8	33984	25488	53	45	2910	1960	C	C	307	44	13.9
MEC112-N606-3	26.6	23.5	10440	7920	46	39	700	460	D	C	48	9	2.8
MEC113-N606-3	33.1	28.4	9864	7416	46	39	700	470	C	C	72	12	3.8
MEC114-N606-3	37.5	31.4	9288	7056	46	39	710	480	C	C	96	16	5.1
MEC122-N606-3	53.5	47.1	20880	15912	49	42	1390	920	D	C	96	16	5.1
MEC123-N606-3	67.1	57.3	19656	14904	49	42	1410	930	C	C	144	23	7.3
MEC124-N606-3	75.3	63.0	18648	14040	49	42	1420	960	C	C	192	30	9.5
MEC132-N606-3	80.2	70.3	31248	23832	50	44	2090	1380	D	C	144	23	7.3
MEC133-N606-3	100.6	86.1	29520	22320	50	43	2110	1400	C	C	216	33	10.4
MEC134-N606-3	113.3	93.9	27936	21096	50	43	2120	1440	C	C	288	43	13.6
MEC142-N606-3	107.3	94.4	41688	31752	51	45	2790	1840	D	C	192	29	9.2
MEC143-N606-3	134.5	114.7	39384	29808	51	44	2810	1870	C	C	288	44	13.9
MEC144-N606-3	150.8	125.1	37296	28152	51	44	2830	1920	C	C	384	57	18.0

Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

ME 8 pole Selection data

Model	Capacity R404A & R507A *		Air Volume		Sound Level **		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m²	dm³	kg
500mm 8 pole 3 phase													
MEA112-N504-1	11.5	10.4	3744	3096	29	25	120	80	B	A	26	5	1.6
MEA113-N504-1	14.3	12.7	3456	2880	29	25	120	80	A	A	38	5	2.2
MEA114-N504-1	15.0	13.2	3240	2736	28	24	130	80	A	A	51	9	2.8
MEA122-N504-1	23.1	21.0	7488	6264	32	28	250	160	B	A	51	8	2.5
MEA123-N504-1	28.8	25.5	6984	5760	32	27	250	160	A	A	77	12	3.8
MEA124-N504-1	30.2	26.6	6480	5400	31	27	260	160	A	A	102	16	5.1
MEA132-N504-1	35.5	31.8	11160	9360	34	30	370	240	B	A	77	12	3.8
MEA133-N504-1	43.4	38.2	10440	8640	33	29	370	240	A	A	115	17	5.4
MEA134-N504-1	45.1	39.6	9648	8136	33	29	400	240	A	A	154	24	7.6
MEA142-N504-1	46.6	42.2	14904	12456	35	31	500	320	B	A	102	16	5.1
MEA143-N504-1	57.9	51.2	13896	11520	34	30	500	320	A	A	154	23	7.3
MEA144-N504-1	60.7	53.3	12888	108720	34	30	530	320	A	A	205	31	9.8
MEB112-N504-1	13.8	12.4	4104	3456	29	26	120	80	A	A	38	7	2.2
MEB113-N504-1	16.6	14.8	3960	3312	29	25	120	80	A	A	28	9	2.8
MEB114-N504-1	18.0	15.8	3816	3168	29	25	120	80	A	A	77	12	3.8
MEB122-N504-1	27.6	24.8	8208	6984	32	29	250	150	A	A	77	12	3.8
MEB123-N504-1	33.2	29.6	7848	6624	32	28	250	160	A	A	115	17	5.4
MEB124-N504-1	36.0	31.6	7560	6264	32	28	250	160	A	A	154	23	7.3
MEB132-N504-1	41.4	37.2	12312	10440	34	60	370	230	A	A	115	17	5.7
MEB133-N504-1	49.8	44.4	11808	9936	34	30	370	230	A	A	173	26	8.2
MEB134-N504-1	54.0	47.4	11376	9432	33	30	370	240	A	A	230	34	10.7
MEB142-N504-1	55.2	49.6	16416	13896	35	31	490	310	A	A	154	23	7.3
MEB143-N504-1	66.4	59.2	15768	13248	35	31	500	310	A	A	230	34	10.7
MEB144-N504-1	72.0	63.2	15120	12600	35	31	500	320	A	A	307	44	13.9

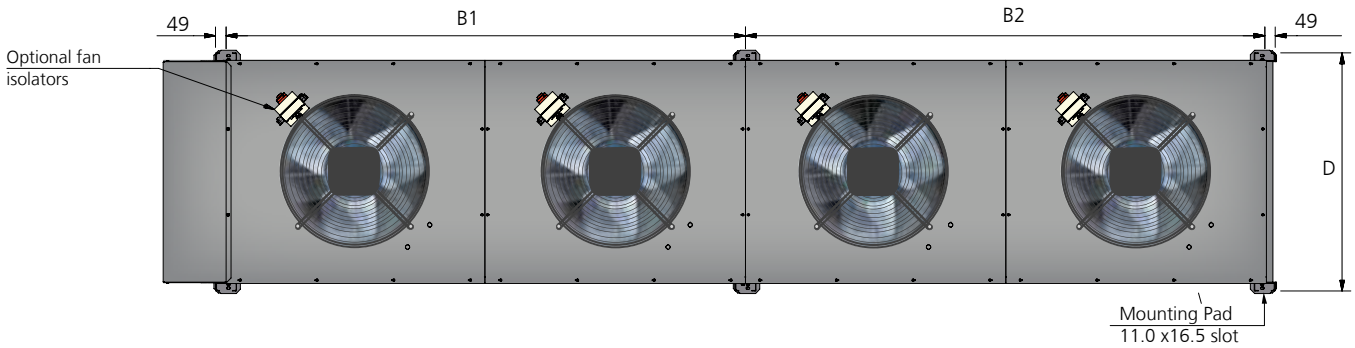
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

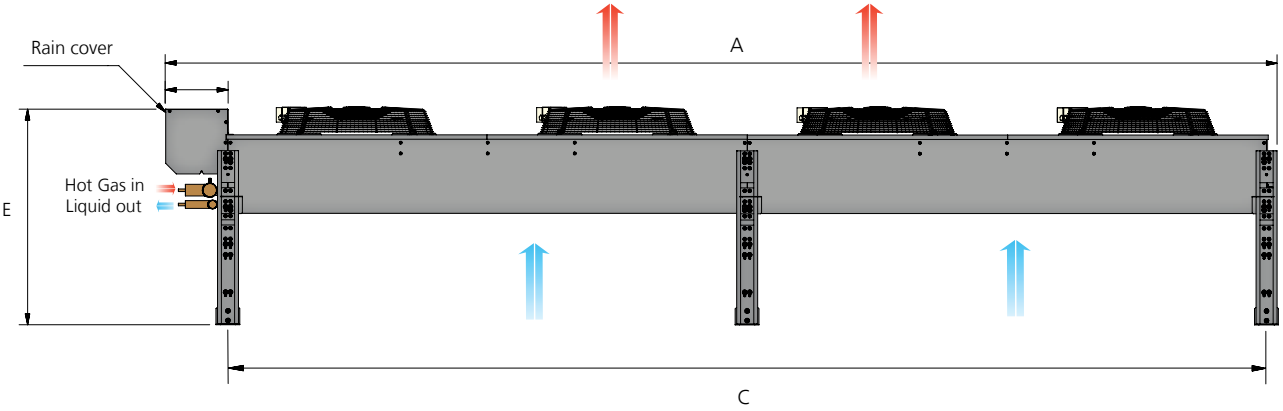
ME 8 pole Selection data

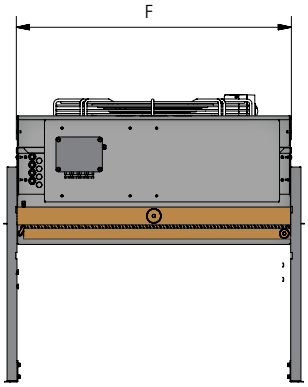
Model	Capacity R404A & R507A *		Air Volume		Sound Level **		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ W	Y W	Δ	Y	m²	dm³	kg
630mm 8 pole 3 phase													
MEB112-N608-3	19.7	16.3	7128	4824	37	28	350	200	C	B	39	7	2.2
MEB113-N608-3	24.2	19.1	6624	4536	37	29	360	200	C	B	58	10	3.2
MEB114-N608-3	26.4	20.4	6192	4248	38	29	370	200	B	B	77	12	3.8
MEB122-N608-3	39.7	32.6	14256	9720	40	31	700	400	C	B	77	13	4.1
MEB123-N608-3	48.5	38.1	13248	9000	40	32	720	400	C	B	115	18	5.7
MEB124-N608-3	53.0	40.8	12384	8496	41	32	740	410	B	B	154	23	7.3
MEB132-N608-3	9.1	47.7	21384	14544	41	33	1050	600	C	B	115	18	5.7
MEB133-N608-3	72.7	57.6	19872	13536	41	34	1080	610	C	B	173	26	8.2
MEB134-N608-3	79.9	61.7	18576	12672	42	34	1110	610	B	B	231	34	10.7
MEB142-N608-3	79.5	65.3	28512	18720	42	34	1400	790	C	B	154	23	7.3
MEB143-N608-3	97.0	76.5	26496	18072	42	35	1440	810	C	B	231	34	10.7
MEB144-N608-3	106.0	82.3	24696	16920	43	35	1480	820	B	B	307	44	13.9
MEC112-N608-3	22.1	18.1	7560	5184	37	28	340	200	C	B	48	9	2.8
MEC113-N608-3	27.1	21.5	7128	4896	37	28	350	200	B	B	72	12	3.8
MEC114-N608-3	30.0	23.1	6840	4680	37	29	360	200	B	A	96	16	5.1
MEC122-N608-3	44.4	36.2	15192	10368	40	31	680	390	C	B	96	16	5.1
MEC123-N608-3	54.3	42.9	14328	9792	40	31	700	400	B	B	144	23	7.3
MEC124-N608-3	60.2	46.2	13608	10080	40	32	710	400	B	A	192	30	9.5
MEC132-N608-3	66.4	53.7	22752	1552	41	33	1030	590	C	B	144	23	7.3
MEC133-N608-3	81.7	64.4	21492	14688	41	33	1050	600	B	B	216	33	10.4
MEC134-N608-3	90.1	69.0	20412	13968	41	33	1070	600	B	A	288	43	13.6
MEC142-N608-3	88.9	72.7	30348	2736	43	34	1370	780	C	B	192	29	9.2
MEC143-N608-3	108.7	85.9	28656	19584	42	34	1400	790	B	B	288	44	13.9
MEC144-N608-3	120.1	91.6	27216	18576	42	34	1430	800	B	A	384	57	18.0

Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

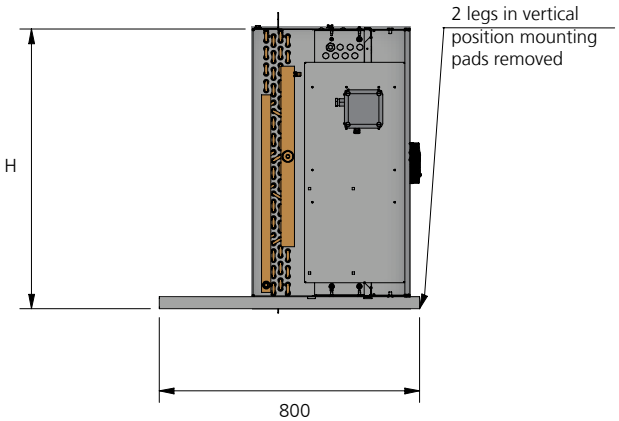
Model drawings



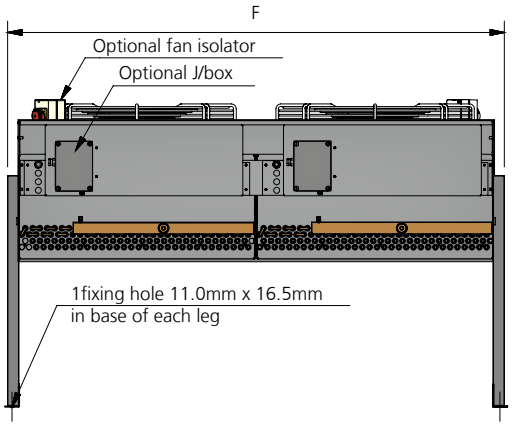




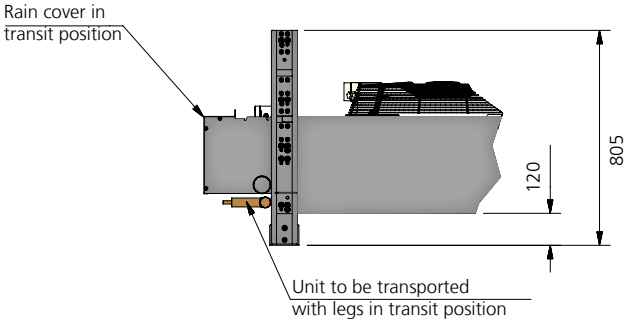
ME Vertical unit



ME Double Bank Horizontal Unit



Unit in transit



Note: All dimensions in mm

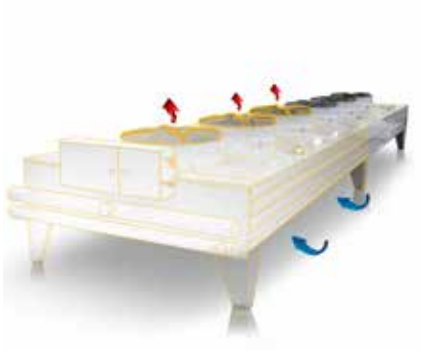
ME Dimensions

Model	Banks	Fans per bank	A	B1	B2	C	D	E	F	H	Appox Dry Weight.	
											AL/AV	CU/ET
			mm	mm	mm	mm	mm	mm	mm	mm	kg	kg
MEA112	1	1	893	-	-	795	898	997	828	860	75	85
MEA113	1	1	893	-	-	795	898	997	828	860	80	97
MEA114	1	1	893	-	-	795	898	997	828	860	85	107
MEA122	1	2	1698	-	-	1600	898	997	828	860	120	142
MEA123	1	2	1698	-	-	1600	898	997	828	860	130	163
MEA124	1	2	1698	-	-	1600	898	997	826	860	140	184
MEA132	1	3	2501	-	-	2403	898	997	826	860	164	197
MEA133	1	3	2501	-	-	2403	898	997	826	860	183	233
MEA134	1	3	2501	-	-	2403	898	997	826	860	195	261
MEA142	1	4	3308	-	-	3210	898	997	826	860	209	254
MEA143	1	4	3308	-	-	3210	898	997	826	860	229	296
MEA144	1	4	3308	-	-	3210	898	997	826	860	249	338
MEA212	2	1	893	-	-	795	1728	997	1658	-	144	164
MEA213	2	1	893	-	-	795	1728	997	1658	-	154	187
MEA214	2	1	893	-	-	795	1728	997	1658	-	164	209
MEA222	2	2	1698	-	-	1600	1728	997	1658	-	233	278
MEA223	2	2	1698	-	-	1600	1728	997	1658	-	253	320
MEA224	2	2	1698	-	-	1600	1728	997	1658	-	273	362
MEA232	2	3	2501	-	-	2403	1728	997	1658	-	322	389
MEA233	2	3	2501	-	-	2403	1728	997	1658	-	360	460
MEA234	2	3	2501	-	-	2403	1728	997	1658	-	383	517
MEA242	2	4	3308	-	-	3210	1728	997	1658	-	413	502
MEA243	2	4	3308	-	-	3210	1728	997	1658	-	452	586
MEA244	2	4	3308	-	-	3210	1728	997	1658	-	492	670
MEB112	1	1	1534	-	-	1195	898	1008	828	860	97	113
MEB113	1	1	1534	-	-	1195	898	1008	828	860	104	129
MEB114	1	1	1534	-	-	1195	898	1008	828	860	113	146
MEB122	1	2	2741	-	-	2403	898	997	828	860	163	196
MEB123	1	2	2741	-	-	2403	898	997	828	860	177	227
MEB124	1	2	2741	-	-	2403	898	997	828	860	192	259
MEB132	1	3	3944	-	-	3605	898	997	828	860	230	280
MEB133	1	3	3944	-	-	3605	898	997	828	860	252	327
MEB134	1	3	3944	-	-	3605	898	997	828	860	274	375
MEB142	1	4	5144	2403	2403	4805	898	997	828	860	322	389
MEB143	1	4	5144	2403	2403	4805	898	997	828	860	352	452
MEB144	1	4	5144	2403	2403	4805	898	997	828	860	381	515
MEB212	2	1	1293	-	-	1195	1728	997	1658	-	188	221
MEB213	2	1	1293	-	-	1195	1728	997	1658	-	203	252
MEB214	2	1	1293	-	-	1195	1728	997	1658	-	219	286
MEB222	2	2	2051	-	-	2403	1728	997	1658	-	319	386
MEB223	2	2	2051	-	-	2403	1728	997	1658	-	349	449
MEB224	2	2	2051	-	-	2403	1728	997	1658	-	379	512
MEB232	2	3	3703	-	-	3605	1728	997	1658	-	454	554
MEB233	2	3	3703	-	-	3605	1728	997	1658	-	498	648
MEB234	2	3	3703	-	-	3605	1728	997	1658	-	543	743
MEB242	2	4	4903	2403	2403	4805	1728	997	1658	-	632	766
MEB243	2	4	4903	2403	2403	4805	1728	997	1658	-	693	892
MEB244	2	4	4903	2403	2403	4805	1728	997	1658	-	751	1018
MEC112	1	1	1293	-	-	1195	1101	997	1031	1063	104	125
MEC113	1	1	1293	-	-	1195	1101	997	1031	1063	114	145
MEC114	1	1	1293	-	-	1195	1101	997	1031	1063	123	165
MEC122	1	2	2501	-	-	2403	1101	997	1031	1063	175	216
MEC123	1	2	2501	-	-	2403	1101	997	1031	1063	193	256
MEC124	1	2	2501	-	-	2403	1101	997	1031	1063	212	295
MEC132	1	3	3697	-	-	3605	1101	997	1031	1063	250	312
MEC133	1	3	3697	-	-	3605	1101	997	1031	1063	278	312
MEC134	1	3	3697	-	-	3605	1101	997	1031	1063	206	431
MEC142	1	4	4903	2403	2403	4805	1101	997	1031	1063	344	427
MEC143	1	4	4903	2403	2403	4805	1101	997	1031	1063	381	506
MEC144	1	4	4903	2403	2403	4805	1101	997	1031	1063	418	585
MEC212	2	1	1293	-	-	1195	2134	997	2064	-	197	238
MEC213	2	1	1293	-	-	1195	2134	997	2064	-	216	278
MEC214	2	1	1293	-	-	1195	2134	997	2064	-	234	317
MEC222	2	2	2501	-	-	2403	2134	997	2064	-	319	386
MEC223	2	2	2501	-	-	2403	2134	997	2064	-	349	449
MEC224	2	2	2501	-	-	2403	2134	997	2064	-	379	512
MEC232	2	3	3703	-	-	3605	2134	997	2064	-	454	554
MEC233	2	3	3703	-	-	3605	2134	997	2064	-	498	648
MEC234	2	3	3703	-	-	3605	2134	997	2064	-	543	743
MEC242	2	4	4903	2403	2403	4805	2134	997	2064	-	632	766
MEC243	2	4	4903	2403	2403	4805	2134	997	2064	-	693	892
MEC244	2	4	4903	2403	2403	4805	2134	997	2064	-	751	1018

The RF range of fully weather-proofed air cooled condensers is suitable for a wide variety of applications, with a duty range of 26.9kW to 1166kW. These capacities can be achieved both in flat-bed horizontal and vertical configurations. Using the latest innovative design this new generation of condenser can use 12mm tube that reduces cost and refrigerant charge, also the case work has been specifically designed for the optimisation of air flow and increased strength with reduced weight.

RF Air Cooled Condenser
engineering for a better world

Through extensive testing GEA Searle has decided to utilise 2 tube patterns for its new range of RF condensers; one with 12mm tube the other with 3/8 tube. These two configurations are differently suited to varying applications, the best of each for the users application will be put forward in the Searle Product Selector.



RF Condenser

Using the latest innovative design the condenser range can be constructed up to 12 metres with interlock side plate construction for strength, internal side plates, populated for modular variants and structural integrity maintained throughout the entire Condenser range.

T-Fin (S32)

The Searle 'T-Fin' incorporates 12mm tube on an equilateral spacing that balances tube diameter and useful surface to achieve optimal heat exchanger efficiency for this tube diameter. Fin enhancements such as flat top corrugation and GEA's unique 'turbulator' to ensure that a minimal amount of material is required to achieve a given capacity, which ensures our condensers are sustainably designed, both economically and environmentally.

EL-Fin (Louvre)

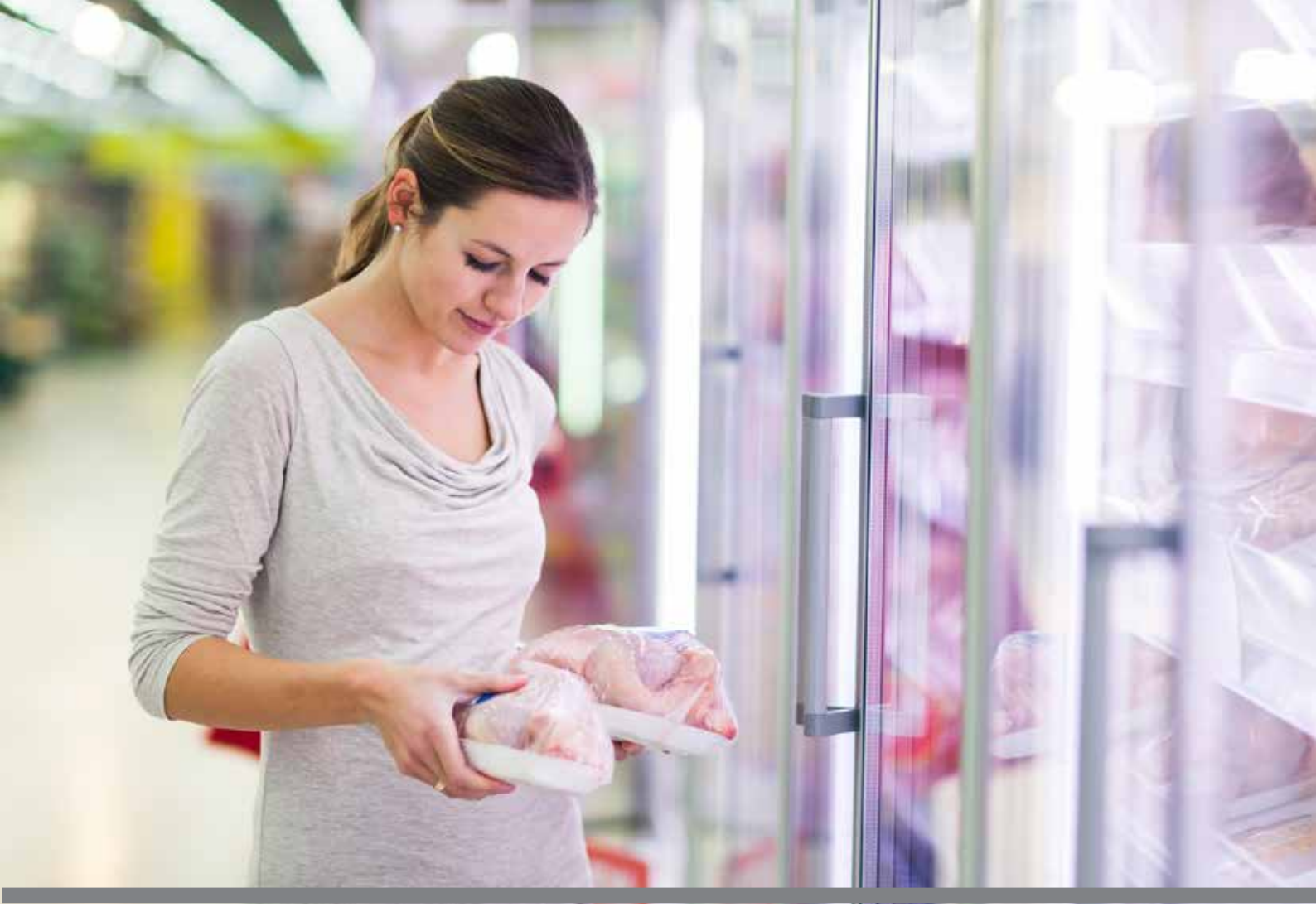
The Searle 'EL-Fin' incorporates 3/8" tube diameter on an equilateral spacing that balances tube diameter and useful surface to achieve optimal heat exchanger efficiency for this tube diameter. 3/8" tube diameter offers a good balance of reduced refrigerant charge whilst maintaining appropriate thermal load to achieve good system stability. Extensive research combining the GEA R&D resources and various academic institutions, utilising both physical test rigs and CFD analysis to optimise the fin enhancements incorporated within the new Searle 'EL-Fin'. The increased heat exchanger efficiencies achieved using 'EL-Fin' offers users multiple benefits such as reduced unit size, lower unit cost and lower operating costs.

Full fan set options are available, including the 910mm EC energy efficient fanset, which enables a highly efficient, very low noise complete fan speed-control package. This optimizes selection for coil resistance giving significant savings in power consumption. Details of the EC fanset and ideal application areas please ask your local sales representative.

RF Features

- Up to 12m long unit construction.
- Coil supports replaced with centre plates for 'H' frame construction.
- Interlock side plate construction cold form to create 'I' frame structure for strength.
- Easy to assemble due to reduced number of components.
- Structural integrity maintained throughout the entire Condenser range.

1	2		3	4	5	6	7							
R	F	-	P	A	2	04	T	2	H	-	080	N	06	D
								8	9		10	11	12	13



1. Product series:	R = Refrigerant	**8. Coil rows:**	2, 3, 4
2. Unit form:	F = Flatbed, V = V bank	**9. Orientation:**	H = Horizontal, V = Vertical, X = V - bank
3. Module width:	M = Narrow, N = Medium, P = Wide	**10. Fan Diameter:**	080 = 800mm, 090 = 900mm, 091 = 910mm
4. Module length:	A = 1200mm, B = 1500mm, C = 1800mm, D = 2100mm, E = 2400mm	**11. Fan type:**	N = AC Normal, E = ebm EC, P = Ziehl EC
		12. Motor pole:	6, 8, 12, EC
5. Fan rows:	1 or 2	**13. Motor wiring:**	Delta, Star
6. Fans per row:	1 - 10		
7. Fin type:	L = Louvre, T = 32		

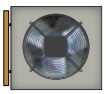
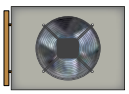
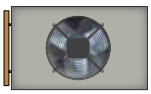
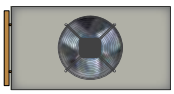
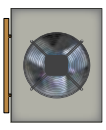
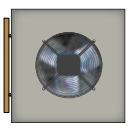
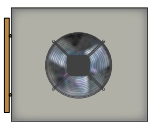
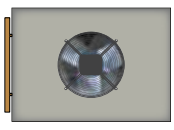
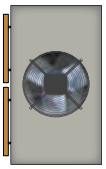
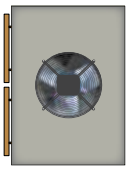
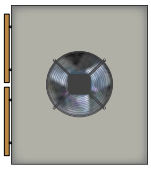
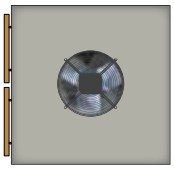
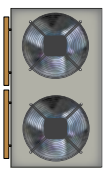
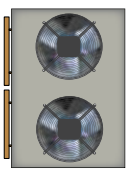
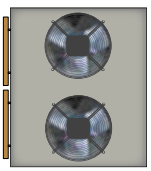
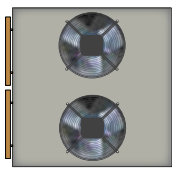
Fan data

Fan type & Pole	Diameter	Module	Speed (rpm)		FLC (Amp)		SC (Amp)	
			Δ	Y	Δ	Y	Δ	Y
0806 N6 Pole	800mm	A,B,C,D	920	730	4.3	4.2	2.3	14
0808 N8 Pole		A,B,C,D	670	550	2.5	2.5	1.3	6.2
091 N6 Pole	910mm	A,B,C,D	905	640	5.7	5.7	3.3	19
091 H6 Pole		A,B,C,D	910	710	5.5	5.5	3.5	19
091 N12 Pole		A,B,C,D	440	340	3.5	0.85	0.4	2
091 E - EC Technology		A,B,C,D	865 -115					
091 P - EC Technology		A,B,C,D	930 - 90					

RF, L - Fin - 910mm 6 Pole, H Fan Type

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m³/h	Y m³/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m²	dm³	kg
RF-MC101L4	94.8	81.9	23641	18563	57.0	52.0	89.0	83.2	2540	1790	D	C	151	25	8
RF-NB101L4	107.3	92.5	25237	19928	58.0	51.0	89.1	82.9	2500	1760	D	C	175	30	10
RF-PA101L4	115.7	100.2	26292	21028	58.0	52.0	89.5	83.2	2460	1750	C	C	201	36	12
RF-PB201L4	169.5	144.8	42436	32802	61.0	55.0	92.5	87.1	5130	3600	D	D	251	43	14
RF-MC102L4	190.1	164.2	47282	37127	60.0	54.0	92.0	86.2	5080	3590	D	C	301	48	16
RF-NB102L4	215.2	185.3	50474	39856	60.0	54.0	92.1	85.9	4990	3520	D	C	350	58	19
RF-PB102L3	225.4	199.8	56893	46369	61.0	55.0	93.0	87.0	4780	3500	C	C	377	60	20
RF-PA102L4	232.3	200.8	52584	42056	61.0	54.0	92.5	86.2	4920	3490	C	C	402	64	21
RF-NA103L3	236.6	210.0	73273	57725	62.0	56.0	93.7	87.7	7560	5340	D	D	315	53	17
RF-PC102L3	246.4	217.6	58536	47736	61.0	55.0	93.0	87.0	4770	3500	C	C	452	71	23
RF-PD102L3	263.2	232.8	59203	48726	61.0	55.0	93.0	87.0	4770	3510	C	C	527	81	26
RF-PC102L4	282.1	241.7	57276	46287	61.0	55.0	93.0	87.0	4780	3500	C	C	603	92	30
RF-NB103L4	323.1	278.1	75710	59784	62.0	56.0	93.9	87.6	7490	5290	D	C	526	84	27
RF-PA103L4	348.8	301.5	78876	63084	62.0	56.0	94.2	88.0	7380	5240	C	C	603	96	31
RF-PC103L3	370.0	326.7	87804	71604	63.0	57.0	94.8	88.8	7160	5250	C	C	678	106	34
RF-PC202L4	389.9	336.0	94565	74254	63.0	57.0	95.0	89.2	10160	7180	D	C	603	96	31
RF-PB103L4	390.5	335.4	83046	66710	63.0	56.0	94.8	88.5	7230	5240	C	C	753	117	38
RF-NC105L2	393.3	355.9	143247	117986	64.0	58.0	97.0	91.0	11950	8750	D	D	526	83	27
RF-PD103L3	395.1	349.4	88805	73088	62.0	56.0	94.8	88.8	7160	5260	C	C	791	122	39
RF-PA104L4	465.3	402.2	105168	84112	63.0	57.0	95.5	89.2	9840	6980	C	C	804	124	40
RF-MB107L3	508.3	451.4	162773	127435	65.0	59.0	97.5	91.7	17860	12600	E	D	659	97	31
RF-MD105L4	524.5	454.4	126357	99779	63.0	57.0	96.1	89.8	12480	8810	D	C	879	129	42
RF-MA108L4	548.1	472.8	144183	111702	68.0	62.0	100.3	94.3	20460	14000	E	D	804	118	38
RF-PA105L4	581.9	502.8	131459	105140	64.0	58.0	96.5	90.2	12300	8730	C	C	1005	154	50
RF-ND105L4	643.1	553.6	137780	110588	64.0	58.0	96.9	90.7	12080	8740	C	C	1226	180	58
RF-PD105L3	659.0	582.5	148008	121814	64.0	58.0	97.0	91.0	11930	8760	C	C	1318	197	64
RF-PB106L3	677.6	600.2	170680	139105	65.0	59.0	97.8	91.8	14350	10500	C	C	1130	171	55
RF-PA106L4	698.4	603.5	157751	126168	65.0	59.0	97.2	91.0	14760	10470	C	C	1205	182	59
RF-PC105L4	706.0	604.7	143190	115716	64.0	58.0	97.0	91.0	11950	8750	C	C	1507	223	72
RF-PD105L4	744.4	658.5	145082	118924	64.0	58.0	97.0	91.0	11940	8750	C	B	1758	257	83
RF-PA107L4	814.9	704.1	184043	147196	65.0	59.0	97.9	91.7	17220	12220	C	C	1406	209	68
RF-PC106L4	847.3	725.7	171828	138859	65.0	59.0	97.8	91.8	14340	10500	C	C	1808	264	86
RF-PA109L3	895.5	793.4	245204	198495	67.0	60.0	99.4	93.2	21840	15730	D	C	1356	202	65
RF-PB107L4	911.9	783.0	193773	155657	66.0	59.0	98.4	92.2	16880	12230	C	C	1758	257	83
RF-PA108L4	931.5	804.8	210335	168224	66.0	60.0	98.5	92.2	19680	13970	C	C	1607	237	77
RF-PA109L4	1048.0	905.5	236627	189252	66.0	60.0	99.0	92.7	22140	15710	C	C	1808	264	86
RF-PD205L4	1078.2	929.6	252715	199559	66.0	60.0	99.1	92.8	24950	17620	D	C	1758	257	83
RF-PA208L4	1127.4	965.6	288441	223483	71.0	65.0	103.3	97.3	40930	28800	E	D	1607	237	77
RF-PC206L4	1172.1	1009.2	283695	222762	67.0	61.0	99.7	93.9	30490	21530	D	C	1808	264	86
RF-PA209L4	1268.4	1086.3	324494	251418	71.0	65.0	103.8	97.9	46050	32400	E	D	1808	264	86

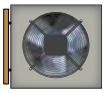
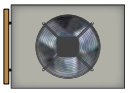
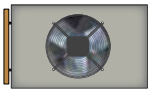
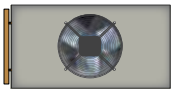
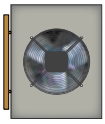
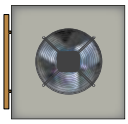
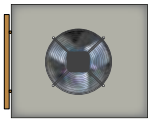
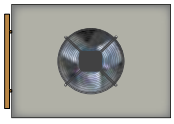
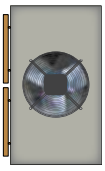
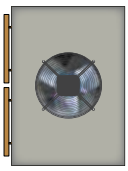
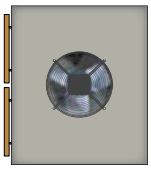
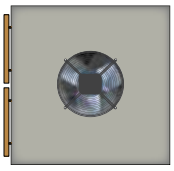
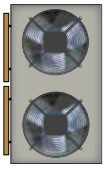
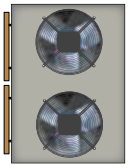
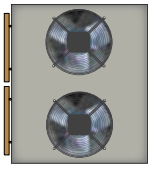
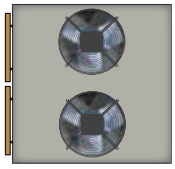
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		43.2 - 685.5 kW		51 - 658.5 kW		57.8 - 571.3 kW		63.6 - 524.5 kW
N		54.9 - 892.6 kW		63.3 - 854 kW		70.9 - 714.9 kW		77.2 - 643.1 kW
P1		68.9 - 1164.6 kW		78 - 1042.2 kW		85.3 - 847.3 kW		92.2 - 744.4 kW
P2		86.3 - 1409.4 kW		101.6 - 1362 kW		115 - 1172.1 kW		127.5 - 1078.2 kW

RF, L - Fin - 910mm 6 Pole, N Fan Type

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m^3/h	Y m^3/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m^2	dm^3	kg
RF-NB101L4	101.2	85.2	22939	17642	52.0	45.0	83.8	76.4	2310	1520	D	C	175.2	30.3	9.8
RF-PA101L4	109.6	91.8	24096	18532	52.0	45.0	83.9	76.6	2230	1490	C	C	200.9	35.8	11.6
RF-PB101L4	123.4	103.2	25689	19982	52.0	45.0	83.9	77.2	2130	1450	C	B	251.1	42.7	13.8
RF-MC102L4	179.4	149.6	42839	32240	55.0	48.0	86.8	79.5	4770	3090	D	C	301.4	48.1	15.6
RF-PA102L4	219.8	183.9	48192	37028	55.0	48.0	86.9	79.6	4470	2990	C	C	401.8	64.1	20.8
RF-PC102L3	236.4	206.0	54536	43772	55.0	49.0	87.4	81.1	4060	2790	C	B	452.0	70.7	22.9
RF-PD102L3	253.2	220.2	55565	44940	56.0	49.0	87.6	81.4	3990	2760	C	B	527.4	81.0	26.2
RF-PA103L3	285.3	250.2	75518	59906	57.0	50.0	88.7	81.8	6500	4360	D	C	452.0	70.7	22.9
RF-PB103L3	325.4	281.7	79700	62980	57.0	50.0	88.9	82.4	6230	4270	C	C	565.0	90.8	29.4
RF-PB103L4	371.1	310.2	77068	59947	57.0	50.0	88.7	82.0	6400	4360	C	B	753.4	116.9	37.9
RF-MC105L3	396.0	345.1	114489	88167	58.0	51.0	90.8	83.4	11540	7590	D	C	565.0	85.6	27.7
RF-MD104L4	396.6	335.6	91868	70703	57.0	50.0	89.9	82.4	9210	6070	D	C	703.2	104.7	33.9
RF-MB106L3	415.2	358.6	126051	94509	59.0	52.0	91.7	84.3	14450	9300	E	D	565.0	84.0	27.2
RF-PB104L3	434.0	375.7	106266	83974	58.0	51.0	90.2	83.7	8310	5690	C	C	753.4	116.6	37.8
RF-MD105L3	440.1	383.5	120947	94627	58.0	51.0	90.9	83.6	11130	7420	D	C	659.2	96.9	31.4
RF-PC104L3	473.4	412.4	109073	87544	58.0	52.0	90.4	84.1	8120	5590	C	B	904.1	137.2	44.4
RF-PB105L3	542.7	469.7	132833	104967	59.0	52.0	91.1	84.7	10390	7120	C	C	941.7	145.5	47.1
RF-PA105L4	550.6	460.2	120480	92581	59.0	51.0	90.8	83.5	11160	7480	C	C	1004.5	154.4	50.0
RF-NC105L4	564.8	471.8	122287	94109	58.0	51.0	90.9	83.7	11050	7430	C	C	1051.2	155.6	50.4
RF-MA110L3	579.5	493.9	183433	134447	63.0	55.0	95.4	87.6	25180	15860	E	D	753.4	111.4	36.1
RF-PC105L3	591.9	515.6	136342	109430	59.0	52.0	91.4	85.1	10150	6980	C	B	1130.1	171.2	55.5
RF-ND105L4	611.4	511.8	127660	99213	58.0	51.0	90.9	84.1	10720	7290	C	B	1226.4	179.6	58.2
RF-PB105L4	618.9	517.1	128447	99912	58.0	52.0	90.9	84.2	10670	7270	C	B	1255.6	188.7	61.1
RF-PB106L3	651.3	563.7	159399	125961	59.0	53.0	91.9	85.4	12460	8540	C	C	1130.1	171.2	55.5
RF-PA106L4	660.9	552.3	144576	111094	59.0	52.0	91.6	84.3	13400	8970	C	C	1205.4	181.8	58.9
RF-NA108L4	681.9	566.3	164779	122914	61.0	53.0	93.1	85.7	19430	12450	D	C	1121.3	165.2	53.5
RF-PD105L4	708.5	611.2	135670	108472	59.0	52.0	91.4	85.1	10190	7010	C	B	1757.9	257.4	83.4
RF-PA108L3	761.4	667.6	201379	159749	60.0	53.0	92.9	86.1	17320	11640	D	C	1205.4	181.5	58.8
RF-PC106L4	801.2	693.3	158934	126221	59.0	53.0	92.0	85.5	12490	8530	C	B	1808.1	264.2	85.6
RF-PB107L4	866.7	724.1	179826	139876	60.0	53.0	92.3	85.6	14930	10180	C	B	1757.9	257.4	83.4
RF-PC205L4	920.5	765.4	214196	161207	61.0	54.0	93.8	86.5	23870	15440	D	C	1506.8	223.0	72.3
RF-PA208L3	928.1	790.2	293519	215127	65.0	57.0	97.4	89.6	40280	25370	E	D	1205.4	181.5	58.8
RF-PB206L4	963.9	793.5	231130	170856	63.0	55.0	95.6	88.0	29780	18900	D	D	1506.8	223.0	72.3
RF-PB207L3	969.0	836.9	294123	220536	63.0	55.0	95.3	88.0	33720	21700	E	D	1318.4	197.0	63.8
RF-PB108L4	990.6	827.6	205515	159859	60.0	53.0	92.9	86.2	17070	11630	C	B	2009.0	291.7	94.5
RF-PD205L4	1017.1	856.3	229672	176758	61.0	54.0	93.8	86.4	23030	15170	D	C	1757.9	257.4	83.4
RF-PA110L4	1101.9	920.7	240960	185154	61.0	54.0	93.9	86.6	22330	14950	C	C	2009.0	291.7	94.5
RF-PC206L4	1104.7	918.6	257036	193448	62.0	55.0	94.6	87.3	28650	18520	D	C	1808.1	264.2	85.6
RF-PB207L4	1124.7	925.8	269651	199331	63.0	56.0	96.2	88.7	34740	22050	D	D	1757.9	257.4	83.4
RF-PB208L4	1285.5	1058.1	308173	227806	64.0	56.0	96.8	89.3	39700	25200	D	D	2009.0	291.7	94.5

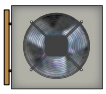
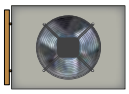
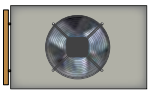
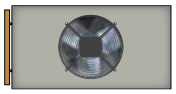
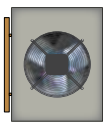
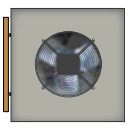
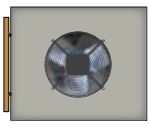
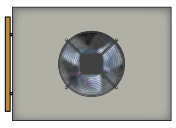
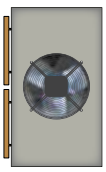
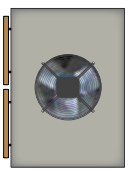
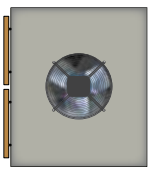
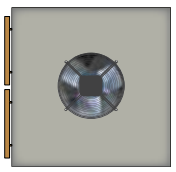
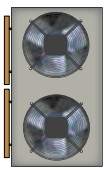
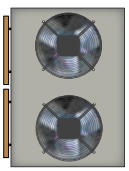
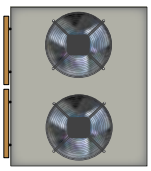
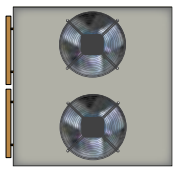
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		40 - 579.5 kW		48 t- 623.8 kW		54.3 -538.9 kW		60.5 - 495.9 kW
N		51.8 - 843.5 kW		60.4 - 806.4 kW		67.6 - 677.9 kW		73.6 - 611.4 kW
P1		65.6 - 1101.9 kW		74.2 - 990.6 kW		81.7 - 801.2 kW		88.5 - 708.5 kW
P2		80 - 1161.8 kW		95.4 - 1285.5 kW		108.9 - 1104.7 kW		121.3 - 1017.1 kW

RF, L - Fin - 800mm 6 Pole, N Fan Type

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m³/h	Y m³/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m²	dm³	kg
RF-MB101L3	62.3	53.2	17196	12908	50.0	42.0	81.1	74	1770	1100	D	C	94.2	16.9	5.5
RF-NB101L4	87.6	70.5	18385	13529	49.0	42.0	80.9	74	1720	1090	C	C	175.2	30.3	9.8
RF-PA101L4	94.1	75.7	19170	14234	49.0	43.0	81.0	75	1680	1080	C	B	200.9	35.8	11.6
RF-MA102L3	106.2	90.1	30855	22915	54.0	45.0	85.5	77	3720	2310	E	D	150.7	25.0	8.1
RF-MB102L3	124.9	106.6	34391	25816	52.0	45.0	84.1	77	3540	2190	D	C	188.3	30.2	9.8
RF-MA103L2	126.2	109.3	51485	38663	54.0	46.0	85.9	78	5310	3290	E	D	150.7	24.9	8.1
RF-MC102L3	141.0	118.9	36740	27434	52.0	45.0	83.9	77	3430	2180	D	C	226.0	35.3	11.4
RF-PB201L4	143.4	115.9	32240	23517	53.0	45.0	84.4	77	3640	2270	D	C	251.1	42.7	13.8
RF-MD102L3	154.6	129.5	38412	28832	52.0	46.0	84.0	78	3360	2160	C	C	263.7	41.8	13.5
RF-NC102L3	170.0	143.4	39797	30447	52.0	46.0	84.2	78	3280	2140	C	C	315.4	52.6	17.0
RF-NB102L4	175.5	141.1	36770	27057	52.0	45.0	83.9	77	3430	2180	C	C	350.4	57.6	18.7
RF-ND102L3	181.6	154.2	40318	31488	52.0	46.0	84.3	78	3250	2120	C	B	367.9	59.8	19.4
RF-PA102L4	188.5	151.7	38339	28468	52.0	46.0	84.0	78	3360	2160	C	B	401.8	64.1	20.8
RF-NA103L3	202.0	172.0	53735	40673	54.0	47.0	85.7	78	5210	3270	D	C	315.4	52.6	17.0
RF-PD102L3	209.1	178.1	41736	33442	53.0	45.0	84.5	77	3170	2080	C	B	527.4	81.0	26.2
RF-NB103L3	231.5	194.5	57578	43203	54.0	47.0	85.8	79	5040	3240	C	C	394.2	63.4	20.5
RF-PA103L3	248.4	208.3	59189	45059	54.0	48.0	85.9	80	4940	3220	C	C	452.0	70.7	22.9
RF-PB202L3	249.9	213.1	68783	51632	55.0	48.0	87.1	80	7070	4380	D	C	376.7	60.4	19.6
RF-PC202L3	281.9	237.7	73481	54868	55.0	48.0	86.9	80	6860	4360	D	C	452.0	70.7	22.9
RF-MC104L3	282.4	237.9	73480	54868	55.0	48.0	86.9	80	6860	4360	D	C	452.0	70.2	22.7
RF-PB202L4	287.3	235.6	64485	48074	55.0	48.0	87.4	80	7270	4470	D	C	502.3	77.8	25.2
RF-NA105L3	337.0	286.8	89557	67788	56.0	49.0	87.9	81	8680	5450	D	C	525.6	83.5	27.1
RF-MC105L3	353.1	297.5	91850	68585	55.0	49.0	87.9	81	8580	5440	D	C	565.0	85.6	27.7
RF-PA106L3	497.0	416.8	118379	90117	57.0	50.0	88.9	83	9890	6430	C	C	904.1	137.2	44.4
RF-NA108L3	539.5	459.0	143291	108461	57.0	50.0	90.0	83	13890	8720	D	C	841.0	126.7	41.0
RF-PB106L3	550.0	466.9	121297	94862	57.0	50.0	89.1	82	9720	6350	C	B	1130.1	171.2	55.5
RF-PC204L3	564.8	475.9	146961	109736	58.0	51.0	89.9	83	13730	8710	D	C	904.1	140.3	45.5
RF-PA107L3	579.9	486.3	138109	105137	57.0	51.0	89.6	83	11540	7500	C	C	1054.7	160.9	52.1
RF-PB106L4	615.3	513.2	118355	90801	56.0	50.0	89.0	83	9890	6420	C	B	1506.8	223.0	72.3
RF-PB107L3	641.7	544.7	141513	110672	57.0	50.0	89.8	83	11350	7410	C	B	1318.4	197.0	63.8
RF-PA107L4	660.6	531.5	134188	99640	57.0	50.0	89.4	83	11760	7580	C	B	1406.3	209.3	67.8
RF-PB205L4	719.2	589.5	161211	120185	59.0	51.0	91.4	84	18180	11180	D	C	1255.6	188.7	61.1
RF-PA108L4	755.1	607.5	153358	113874	57.0	51.0	90.0	84	13440	8660	C	B	1607.2	236.8	76.7
RF-PC205L4	807.3	650.3	174505	127671	58.0	51.0	91.1	84	17570	10970	C	C	1506.8	223.0	72.3
RF-PA109L4	849.5	683.5	172528	128109	58.0	51.0	90.5	84	15120	9740	C	B	1808.1	264.2	85.6
RF-PB206L4	863.1	707.4	193454	144222	60.0	52.0	92.1	84	21820	13420	D	C	1506.8	223.0	72.3
RF-PD205L4	878.4	706.2	184053	135455	58.0	51.0	90.9	84	17150	10900	C	C	1757.9	257.4	83.4
RF-PC206L4	968.9	780.5	209405	153205	59.0	52.0	91.9	84	21080	13170	C	C	1808.1	264.2	85.6
RF-PA208L4	974.9	793.3	226289	164717	63.0	53.0	95.2	86	31080	19040	D	D	1607.2	236.8	76.7
RF-PB207L4	1007.1	825.4	225696	168258	60.0	52.0	92.8	85	25450	15660	D	C	1757.9	257.4	83.4

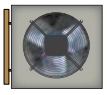
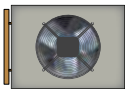
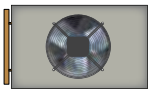
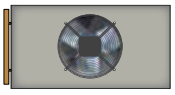
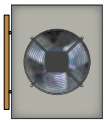
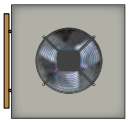
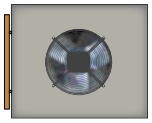
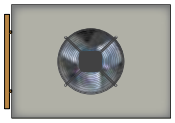
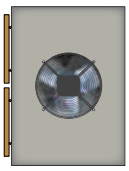
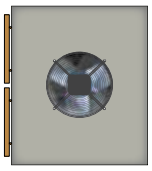
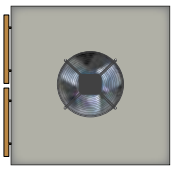
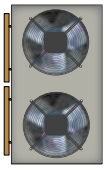
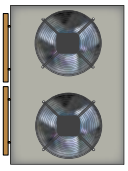
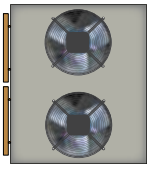
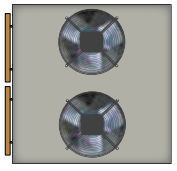
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		36.2 - 594.8 kW		342.4 - 555.7 kW		47.7 - 473.6 kW		52.2 - 431.1 kW
N		45.5 - 752 kW		52 - 701.6 kW		57.4 - 573.7 kW		62.2 - 508 kW
P1		55.9 - 943.9 kW		62.7 - 820.5 kW		68.3 - 673.1 kW		73.4 - 584.4 kW
P2		72.4 - 1218.8 kW		84.4 - 1151 kW		95.3 - 968.9 kW		104.3 - 878.4 kW

RF, L - Fin - 800mm 8 Pole, N Fan Type

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m³/h	Y m³/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m²	dm³	kg
RF-MB101L3	53.0	43.1	12831	9252	42.0	35.0	73.5	66	850	530	C	B	94.2	16.9	5.5
RF-MB102L3	106.2	86.4	25663	18503	45.0	37.0	76.5	69	1700	1070	C	B	188.3	30.2	9.8
RF-NA102L3	113.7	92.9	26760	19473	45.9	38.0	77.4	70	1660	1060	C	B	210.2	34.9	11.3
RF-MC102L3	117.3	96.8	26961	19965	45.0	37.0	76.5	69	1650	1060	B	B	226.0	35.3	11.4
RF-PB201L4	118.3	93.0	24156	16860	44.9	37.0	76.4	69	1750	1080	C	B	251.1	42.7	13.8
RF-NB102L3	127.3	104.8	28011	20984	45.0	37.0	76.4	69	1620	1050	B	B	262.8	42.1	13.6
RF-PA102L3	135.4	110.8	28935	21865	44.0	37.0	76.1	69	1590	1040	B	B	301.4	49.2	15.9
RF-PD102L2	142.8	120.9	31157	25057	43.0	36.0	75.0	68	1530	960	B	A	351.6	55.8	18.1
RF-NA103L3	170.7	139.5	40140	29210	46.9	40.0	79.2	71	2490	1590	C	B	315.4	52.6	17.0
RF-PA202L3	181.9	145.6	46613	32608	47.9	40.0	79.4	72	3570	2170	C	C	301.4	50.1	16.2
RF-PA103L3	203.1	166.2	43403	32798	46.0	39.0	77.8	71	2390	1550	B	B	452.0	70.7	22.9
RF-PB202L3	212.4	172.8	51326	37001	48.0	40.0	79.5	72	3400	2140	C	B	376.7	60.4	19.6
RF-MB104L3	212.6	172.9	51325	37006	47.0	40.0	79.5	72	3400	2140	C	B	376.7	58.3	18.9
RF-PB103L3	224.7	188.7	45005	34682	45.0	38.0	77.4	70	2350	1520	B	A	565.0	86.1	27.9
RF-PC202L3	234.7	193.5	53923	39928	48.0	40.0	79.5	72	3310	2110	B	B	452.0	70.7	22.9
RF-MC104L3	235.0	193.7	53922	39930	47.0	40.0	79.5	72	3310	2110	B	B	452.0	68.6	22.2
RF-NB104L3	254.9	209.7	56023	41968	47.0	40.0	79.4	72	3240	2090	B	B	525.6	81.3	26.3
RF-PD202L3	255.2	209.8	56069	42013	47.0	40.0	79.4	72	3240	2090	B	B	527.4	81.0	26.2
RF-PA104L3	270.9	221.6	57870	43730	47.0	40.0	79.1	72	3180	2070	B	B	602.7	91.3	29.6
RF-PA105L2	272.8	232.9	75733	58202	47.0	40.0	79.6	73	3890	2530	B	B	502.3	77.2	25.0
RF-PD104L2	285.9	242.0	65670	50113	45.0	38.0	78.0	71	2980	1920	B	A	703.2	104.7	33.9
RF-PB203L3	318.8	259.4	76988	55511	49.0	42.0	81.3	74	5090	3200	C	B	565.0	88.7	28.7
RF-MB106L3	319.1	259.5	76988	55510	49.0	42.0	81.3	74	5090	3200	C	B	565.0	85.6	27.7
RF-PB204L3	425.3	345.9	102651	74015	50.0	43.0	82.5	75	6790	4270	C	B	753.4	116.6	37.8
RF-PB106L3	449.7	377.6	90009	69363	48.0	41.0	80.4	73	4690	3040	B	A	1130.1	168.1	54.4
RF-NA108L3	455.9	372.3	107039	77893	50.9	43.0	83.4	76	6640	4240	C	B	841.0	124.4	40.3
RF-MA110L4	496.5	377.1	106449	71986	51.0	43.0	84.0	76	9510	5500	C	C	1004.5	144.3	46.7
RF-PA205L4	503.6	383.1	106454	72036	52.0	43.0	84.0	76	9510	5500	C	C	1004.5	151.2	49.0
RF-PB205L3	531.7	432.4	128314	92519	51.0	44.0	83.5	76	8490	5340	C	B	941.7	145.5	47.1
RF-PA206L3	546.5	437.8	139837	98037	51.9	44.0	84.2	76	10720	6510	C	C	904.1	140.3	45.5
RF-NA110L3	569.9	465.4	133799	97367	51.9	44.0	84.4	77	8300	5300	C	B	1051.2	155.4	50.3
RF-PA208L2	582.2	500.0	205018	154566	53.0	46.0	85.5	78	13590	8490	D	C	803.6	126.3	40.9
RF-PC205L3	587.6	484.3	134806	99826	51.0	43.0	83.5	76	8270	5280	B	B	1130.1	171.2	55.5
RF-PB206L3	638.2	518.9	153976	111023	52.0	44.0	84.3	77	10190	6410	C	B	1130.1	171.2	55.5
RF-PD205L3	638.6	525.0	140171	105034	51.0	43.0	83.4	76	8100	5230	B	B	1318.4	197.0	63.8
RF-PA109L4	688.4	539.2	124856	93060	50.0	43.0	83.0	76	7330	4720	B	A	1808.1	264.2	85.6
RF-PA208L3	728.7	583.7	186449	130715	52.9	45.0	85.4	78	14290	8680	C	C	1205.4	181.5	58.8
RF-PA110L4	764.9	599.1	138729	103400	51.0	43.0	83.4	76	8140	5240	B	A	2009.0	291.7	94.5
RF-PA209L3	819.9	656.7	209756	147054	52.9	45.0	86.0	78	16080	9770	C	C	1356.1	202.1	65.5
RF-PB207L4	830.0	651.5	169094	117948	51.9	45.0	84.9	77	12280	7570	C	B	1757.9	257.4	83.4

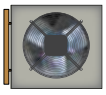
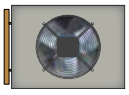
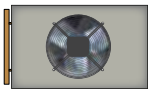
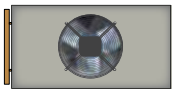
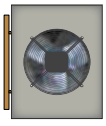
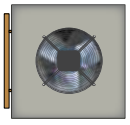
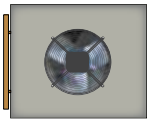
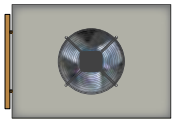
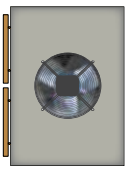
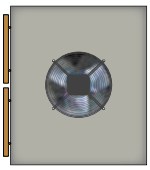
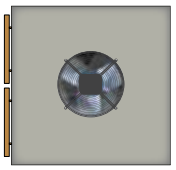
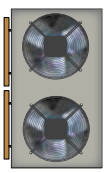
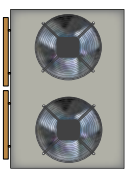
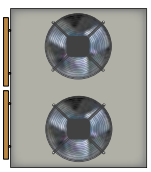
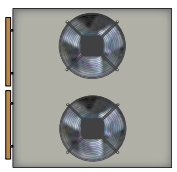
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		31.1 - 496.5 kW		35.6 - 464.1 kW		39.9 - 381.6 kW		43.3 - 344.3 kW
N		38.1 - 612 kW		43.2 - 559.4 kW		47.5- 466.8 kW		51.3 - 410.9 kW
P1		46.4 - 764.9 kW		51.9 - 661.7 kW		56.5 - 525 kW		60.4 - 455.4 kW
P2		62.2 - 1008.2 kW		71 - 948.6 kW		79.1 - 777.5 kW		86.9 - 699.1 kW

RF, L - Fin - 910mm 12 Pole, N Fan Type

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m³/h	Y m³/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m²	dm³	kg
RF-MB101L3	40.9	33.5	8521	6442	32.0	26.0	63.3	57	320	200	A	A+	94.2	15.5	5.0
RF-MC101L3	45.6	38.1	9207	7167	32.0	26.0	63.1	58	320	190	A	A+	113.0	19.5	6.3
RF-MD101L3	49.7	42.1	9758	7660	32.0	26.0	63.1	58	310	190	A+	A+	131.8	22.0	7.1
RF-PA101L3	53.3	44.7	10234	8020	32.0	27.0	63.4	58	300	190	A+	A+	150.7	25.9	8.4
RF-MA102L2	59.0	50.1	17499	13327	35.0	29.0	66.3	60	640	390	B	A	100.5	17.6	5.7
RF-MC102L2	76.8	66.3	20448	16077	35.0	29.0	66.3	61	610	380	A	A+	150.7	24.5	7.9
RF-MB102L3	81.9	67.2	17041	12885	35.0	29.0	66.3	60	650	390	A	A+	188.3	29.8	9.6
RF-PA102L2	89.9	79.2	22037	17602	35.0	30.0	66.9	62	590	360	A	A+	200.9	35.2	11.4
RF-MC102L3	91.4	76.3	18414	14333	34.0	29.0	66.1	61	630	390	A	A+	226.0	35.3	11.4
RF-NB102L3	99.5	84.3	19492	15303	34.0	29.0	66.2	61	620	380	A+	A+	262.8	42.1	13.6
RF-MA103L3	104.3	85.6	22404	16773	38.0	30.0	69.3	62	990	600	B	A	226.0	35.3	11.4
RF-PA102L3	106.7	89.4	20468	16038	35.0	29.0	66.4	61	610	380	A+	A+	301.4	49.2	15.9
RF-NA103L3	131.5	108.9	26844	20631	36.0	30.0	67.9	62	960	590	A	A+	315.4	49.3	16.0
RF-PA103L2	135.0	118.8	33056	26403	37.0	32.0	68.6	64	880	550	A	A+	301.4	48.9	15.8
RF-PB103L2	152.6	130.8	34227	27422	37.0	32.0	69.0	64	850	540	A+	A++	376.7	59.2	19.2
RF-PA103L3	160.2	134.1	30702	24056	36.0	31.0	68.2	63	910	570	A+	A+	452.0	69.8	22.6
RF-PB202L3	163.7	134.4	34050	25762	37.0	31.0	69.3	63	1290	790	A	A+	376.7	59.5	19.3
RF-PB103L3	179.8	148.0	32648	25807	37.0	32.0	68.6	64	890	590	A+	A++	565.0	86.1	27.9
RF-PA104L2	180.1	158.5	44075	35204	38.0	33.0	69.9	65	1180	730	A	A+	401.8	63.5	20.6
RF-NB104L3	199.1	168.5	38983	30589	37.0	32.0	69.2	64	1240	770	A+	A+	525.6	81.3	26.3
RF-MD104L3	199.4	168.9	39031	30639	37.0	32.0	69.2	64	1240	770	A+	A+	527.4	78.9	25.6
RF-PB104L2	203.5	174.4	45635	36563	38.0	33.0	70.2	66	1140	710	A+	A++	502.3	77.2	25.0
RF-PA105L2	225.2	198.1	55094	44005	39.0	34.0	70.9	66	1470	910	A	A+	502.3	77.2	25.0
RF-MB107L2	240.4	206.2	67093	52037	39.0	34.0	71.5	66	2180	1350	A	A	439.5	66.7	21.6
RF-ND105L2	250.9	216.5	56918	45529	39.0	34.0	71.2	66	1420	890	A+	A++	613.2	93.1	30.2
RF-PA105L3	267.0	223.4	51170	40098	38.0	33.0	70.4	65	1510	1050	A+	A+	753.4	111.9	36.2
RF-NC105L3	274.0	228.9	51966	40698	38.0	33.0	70.5	65	1510	1050	A+	A+	788.4	119.5	38.7
RF-PC203L3	274.3	229.0	55243	43002	39.0	33.0	70.9	65	1890	1170	A	A+	678.0	101.6	32.9
RF-NA108L2	294.2	253.8	79984	62463	40.0	34.0	72.2	67	2450	1530	A	A+	560.7	88.1	28.5
RF-MA108L4	295.0	231.5	53012	39637	43.0	35.0	75.4	68	2690	1630	B	A	803.6	118.4	38.4
RF-PB105L3	299.8	246.7	54414	43012	38.0	34.0	70.9	66	1480	1050	A+	A+	941.7	140.2	45.4
RF-PB106L3	359.7	296.3	65296	51615	39.0	34.0	71.6	67	1770	1100	A+	A++	1130.1	168.1	54.4
RF-PB205L3	410.2	336.5	85225	64436	41.0	35.0	73.3	67	3230	1970	A	A+	941.7	142.3	46.1
RF-PA108L3	427.3	357.8	81872	64151	40.0	35.0	72.4	67	2420	1510	A+	A+	1205.4	178.4	57.8
RF-PC205L3	457.5	381.8	92072	71669	41.0	35.0	73.1	68	3160	1940	A	A+	1130.1	168.1	54.4
RF-PA208L2	468.4	405.2	139997	106637	43.0	37.0	75.4	69	5140	3140	B	A	803.6	123.1	39.9
RF-PD205L3	498.7	422.3	97578	76605	40.0	35.0	73.1	68	3090	1920	A+	A+	1318.4	193.8	62.8
RF-PA208L3	556.9	457.3	119515	89514	44.0	37.0	76.6	69	5280	3200	B	A	1205.4	181.5	58.8
RF-PB208L3	656.3	538.6	136359	103096	42.0	36.0	75.4	69	5170	3150	A	A+	1506.8	222.7	72.2
RF-PA210L4	736.9	579.9	132504	99078	46.0	39.0	79.3	72	6720	4070	B	A	2009.0	291.7	94.5

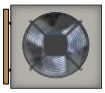
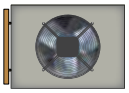
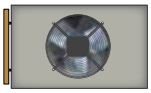
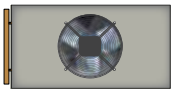
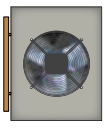
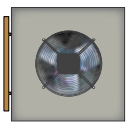
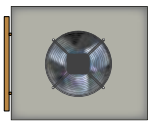
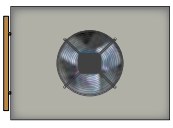
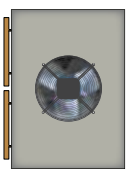
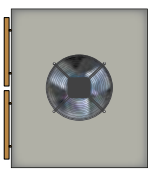
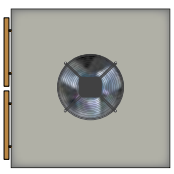
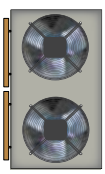
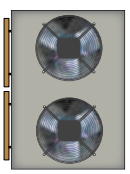
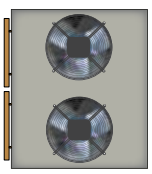
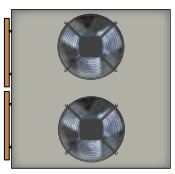
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		24.9 - 368.7 kW		29.3 - 343.6 kW		33.1 - 289.9 kW		36.5 - 264.3 kW
N		31.6 - 461.7 kW		36.4- 422.1 kW		40.4 - 347.3 kW		43.2 - 297.4 kW
P1		39.5 - 566.6 kW		43.5 - 479.7 kW		47.1 - 381 kW		49.9 - 330.8 kW
P2		50.4 - 736.9 kW		58.8 - 687.4 kW		66.1 - 580.6 kW		73 - 528.1 kW

RF, L - Fin - 910mm 12 pole, N EC Fan Type

Model	Capacity R404A & R507A *	Air Volume	Sound Pressure Mean **	Sound Power	Power Input	Energy Rating	Total Surface	Internal Volume	R404A Charge
	kW	m^3/h	dB(A)	dB(A)	W	Y	m^2	dm^3	kg
RF-NA101L2H-091E125	15.1	2650	15.0	33.4	30	A++	70	15	5
RF-PA101L2H-091E190	26.4	4945	15.0	44.7	40	A++	100	19	6
RF-NC101L2H-091E190	27.0	5019	15.0	44.7	40	A++	105	20	6
RF-MB101L3H-091P290	30.5	5580	23.0	54.9	70	A++	94	17	5
RF-MD101L3H-091P290	35.9	6285	21.0	53.0	70	A++	132	22	7
RF-PA102L2H-091E140	37.8	6897	15.0	39.6	60	A++	201	35	11
RF-NB102L2H-091E140	38.5	6727	15.0	39.6	60	A++	175	30	10
RF-NB101L3H-091E320	43.6	8027	27.0	58.9	140	A++	131	24	8
RF-MC101L2H-091P630	48.4	15496	40.0	71.7	530	B	75	14	5
RF-MC101L3H-091P510	52.8	11431	37.0	68.6	300	A+	113	19	6
RF-MD101L3H-091P510	57.5	11986	37.0	68.6	300	A+	132	22	7
RF-PB102L2H-091E200	59.4	10931	17.0	49.2	100	A++	251	42	14
RF-PA101L4H-091E450	64.4	11283	36.0	67.6	330	A+	201	33	11
RF-MC101L3H-091P770	69.6	18022	48.0	79.5	920	B	113	19	6
RF-MB102L2H-091P570	82.2	26592	43.0	74.3	810	B	126	21	7
RF-PD102L2H-091E290	94.2	17687	27.0	59.5	180	A++	352	56	18
RF-PC102L2H-091E400	111.5	23904	37.0	68.5	410	A++	301	49	16
RF-PD102L2H-091E400	118.3	24297	37.0	68.6	410	A++	352	56	18
RF-MA103L3H-091P510	123.9	29735	42.0	74.2	970	A	226	35	11
RF-PC201L4H-091P690	146.6	30376	48.0	79.9	1460	B	301	50	16
RF-PA102L3H-091E610	150.2	33833	47.0	79.2	1360	A	301	49	16
RF-PA103L3H-091E400	162.4	31499	38.0	70.0	670	A++	452	71	23
RF-PD102L3H-091E550	178.3	33487	46.0	77.9	970	A+	527	81	26
RF-PB103L3H-091E400	182.6	33324	38.0	70.0	650	A++	565	86	28
RF-PB102L4H-091E610	189.0	34215	47.0	79.2	1360	A	502	78	25
RF-PC103L3H-091E400	194.2	34323	38.0	70.0	640	A++	678	102	33
RF-PB104L3H-091E320	201.3	35104	33.0	64.9	540	A++	753	117	38
RF-PA102L4H-091E865	213.4	46036	58.0	89.5	3510	C	402	63	20
RF-PD102L3H-091E700	213.5	42990	52.0	84.3	1770	A	527	81	26
RF-MC105L2H-091P510	214.1	61499	42.0	74.6	1460	A	377	58	19
RF-PC103L3H-091E550	252.0	48961	47.0	79.5	1490	A+	678	102	33
RF-MD105L3H-091P460	265.3	53324	41.0	73.2	1100	A++	659	98	32
RF-PA103L4H-091E700	280.2	56739	53.0	84.8	2980	B	603	92	30
RF-PB103L4H-091E700	307.4	59152	53.0	84.8	2900	B	753	112	36
RF-PB106L4H-091E610	567.4	102646	51.0	83.9	4070	A	1507	223	72
RF-PD105L4H-091E865	681.4	128774	61.0	93.5	8260	B	1758	257	83
RF-PB106L4H-091E865	718.9	146942	62.0	94.3	10250	B	1507	223	72
RF-PB108L4H-091E865	958.6	195922	63.0	95.5	13670	B	2009	292	95
RF-PA109L4H-091E865	962.4	207161	63.0	96.0	15780	C	1808	264	86
RF-PD205L4H-091P930	985.5	218482	65.0	97.5	17360	C	1758	257	83

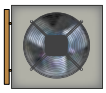
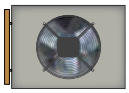
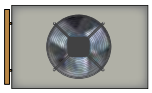
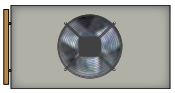
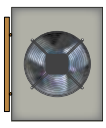
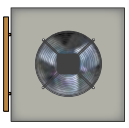
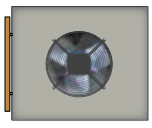
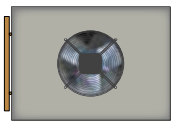
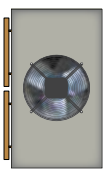
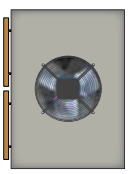
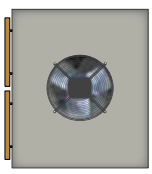
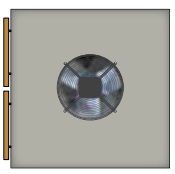
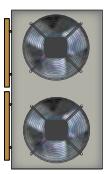
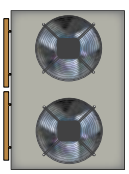
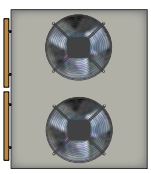
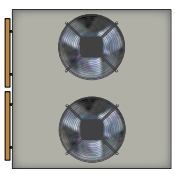
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		4.3 - 663.1 kW		11 - 624.4 kW		12 - 527.5 kW		12.7- 481 kW
N		10.7 - 828.69 kW		11.5 - 784.9 kW		11.5 - 657.3 kW		11.8 - 592 kW
P1		11.4 - 958.6 kW		11.8 - 958.6 kW		17.5 - 771.3 kW		18 - 681.4 kW
P2		8.1 - 1360.6 kW		21.2 - 1280.5 kW		20.2 - 1081 kW		24.3 - 985.5 kW

RF, T - Fin - 910mm 6 Pole, H Fan Type

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m³/h	Y m³/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m²	dm³	kg
RF-MB101T4	79.6	68.1	23055	17747	58.0	53.0	89.5	84.1	2560	1800	D	D	150	26	9
RF-MC101T4	92.3	78.7	24913	19453	57.0	52.0	89.0	83.2	2500	1770	D	D	180	31	10
RF-PA101T4	103.3	89.8	26968	21629	58.0	52.0	89.5	83.2	2440	1750	D	C	240	44	14
RF-MB102T3	138.0	120.9	49463	38620	60.0	54.0	92.0	86.2	5020	3550	E	D	225	37	12
RF-PB201T4	156.1	133.5	46110	35494	61.0	55.0	92.5	87.1	5110	3600	D	D	300	53	17
RF-MD102T3	167.1	147.5	54298	43679	61.0	54.0	92.6	86.3	4860	3490	D	D	315	53	17
RF-NB102T4	194.9	168.5	52370	41602	60.0	54.0	92.1	85.9	4930	3490	D	C	424	72	23
RF-PD102T3	239.4	212.3	62462	51672	61.0	55.0	93.0	87.0	4770	3510	C	C	631	101	33
RF-PA103T3	269.2	238.9	83593	67947	63.0	56.0	94.6	88.4	7210	5250	D	C	541	88	28
RF-MD103T4	293.0	253.5	78387	62215	62.0	55.0	93.9	87.6	7400	5240	D	C	631	100	32
RF-NA104T3	294.9	258.5	103172	81355	63.0	57.0	95.0	88.9	9910	7010	E	D	509	86	28
RF-PA103T4	312.9	271.4	80905	64889	62.0	56.0	94.2	88.0	7310	5240	D	C	721	117	38
RF-MA106T3	349.1	303.4	133426	102408	65.0	60.0	97.7	92.5	15360	10800	E	E	541	87	28
RF-MC104T4	374.2	318.9	99654	77815	63.0	57.0	95.0	89.2	10020	7090	D	D	721	113	37
RF-ND104T3	404.3	358.7	115388	94840	64.0	58.0	96.0	90.0	9560	7000	D	C	891	139	45
RF-PB104T3	404.6	360.1	115574	95037	64.0	58.0	96.0	90.0	9560	7000	D	C	901	144	47
RF-MB105T4	404.8	345.9	115275	88737	64.0	59.0	96.5	91.1	12790	9000	D	D	751	117	38
RF-MB106T3	420.5	367.7	148390	115862	64.0	59.0	96.8	91.0	15060	10660	E	D	676	105	34
RF-NB105T3	422.4	373.1	135981	109470	64.0	58.0	96.6	90.3	12140	8740	D	D	795	125	40
RF-PC104T3	451.4	399.7	123068	101467	64.0	58.0	96.0	90.0	9540	7010	C	C	1082	170	55
RF-NC105T3	467.4	414.6	140636	114782	64.0	58.0	97.0	90.7	11970	8740	D	C	954	148	48
RF-MC106T4	565.6	481.8	149481	116723	64.0	58.0	96.7	90.9	15030	10640	D	C	1082	165	53
RF-ND105T4	585.6	511.2	140404	114579	64.0	58.0	96.9	90.7	11980	8740	C	C	1484	227	73
RF-PC105T4	649.0	566.2	150722	123868	64.0	58.0	97.0	91.0	11940	8750	C	C	1803	278	90
RF-NC106T4	652.9	567.2	163740	131959	65.0	58.0	97.4	91.1	14550	10480	D	C	1527	233	75
RF-MA110T4	671.1	565.4	199220	149311	68.0	63.0	101.2	95.3	25700	18000	E	D	1202	182	59
RF-PD204T3	673.7	595.1	217194	174718	66.0	60.0	98.6	92.3	19440	13980	D	D	1262	199	65
RF-PD105T4	691.6	603.3	153591	126763	64.0	58.0	97.0	91.0	11930	8760	C	C	2103	321	104
RF-NA108T4	692.0	593.8	194411	151498	66.0	60.0	98.2	92.3	20180	14280	D	D	1357	208	68
RF-PA107T4	738.5	640.2	188778	151409	65.0	59.0	97.9	91.7	17050	12230	D	C	1682	261	84
RF-PC205T3	771.3	678.5	262018	208111	67.0	60.0	99.1	92.9	24630	17450	D	D	1352	212	69
RF-PB107T4	825.1	720.1	196932	160829	66.0	59.0	98.4	92.2	16760	12240	C	C	2103	321	104
RF-PA108T4	845.4	733.5	215747	173039	66.0	60.0	98.5	92.2	19490	13970	D	C	1923	295	96
RF-PA207T4	931.8	785.7	278908	209036	70.0	64.0	102.7	96.8	35980	25200	E	D	1682	258	83
RF-PA208T3	939.1	814.1	355801	273090	69.0	64.0	102.0	96.8	40970	28800	E	E	1442	222	72
RF-PA109T4	953.6	827.2	242715	194669	66.0	60.0	99.0	92.7	21920	15720	D	C	2163	330	107
RF-PB206T4	956.0	816.6	276660	212969	68.0	62.0	100.3	94.9	30690	21600	D	D	1803	275	89
RF-PD205T4	985.5	852.2	261291	207386	66.0	60.0	99.1	92.8	24660	17450	D	C	2103	318	103
RF-PA208T4	1067.8	900.2	318752	238899	71.0	65.0	103.3	97.3	41120	28800	E	D	1923	295	96
RF-PB208T4	1282.6	1095.7	368881	283958	69.0	63.0	101.5	96.1	40910	28800	D	D	2403	365	118

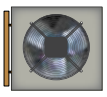
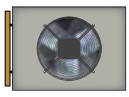
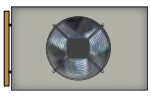
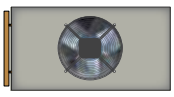
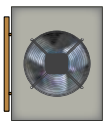
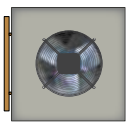
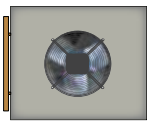
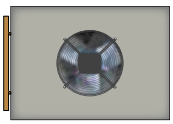
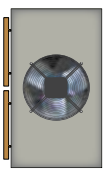
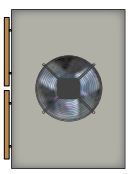
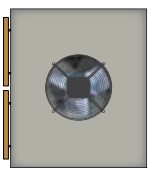
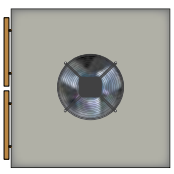
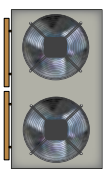
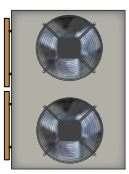
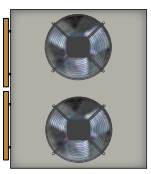
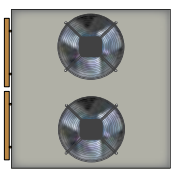
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		37.7- 671.1 kW		45.2 - 654.1 kW		50 - 565.6 kW		55.4 - 492.8 kW
N		48.5 - 869.2 kW		55.7 - 794.5 kW		61.7 - 652.9 kW		67.2 - 585.6 kW
P1		59.4 - 1063.4 kW		67.8 - 945.8 kW		76 - 782.3 kW		82 - 691.6 kW
P2		75.3 - 1342.4 kW		88.6 - 1282.6 kW		100 - 1082 kW		110.9 - 985.5 kW

RF, T - Fin - 910mm 6 Pole, N Fan Type

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m^3/h	Y m^3/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m^2	dm^3	kg
RF-MB101T4	74.9	61.9	20718	15209	53.0	46.0	84.8	77.2	2420	1560	D	D	150	26	9
RF-MC101T4	86.8	72.1	22593	17024	52.0	45.0	83.8	76.5	2330	1530	D	C	180	31	10
RF-NB101T4	91.6	77.6	23900	18456	52.0	45.0	83.8	76.4	2240	1500	D	C	212	38	12
RF-PA101T4	97.9	83.7	24806	19448	52.0	45.0	83.9	76.6	2190	1470	D	C	240	44	14
RF-MB102T3	131.1	111.8	44849	33706	55.0	48.0	86.9	79.6	4670	3060	E	D	225	37	12
RF-MD102T3	159.4	138.7	50062	39361	55.0	48.0	86.9	79.6	4350	2930	D	C	315	53	17
RF-NB102T3	159.9	139.1	50178	39478	55.0	48.0	86.9	79.6	4340	2920	D	C	318	56	18
RF-NC102T3	177.4	154.6	52395	41745	55.0	48.0	86.9	80.2	4200	2850	D	C	382	65	21
RF-ND102T3	192.1	168.0	53942	43396	55.0	49.0	87.1	80.6	4100	2800	C	C	445	74	24
RF-PB103T3	290.9	254.4	81072	65265	57.0	50.0	88.9	82.4	6140	4200	C	C	676	107	35
RF-PC103T3	324.2	284.3	86739	70518	57.0	51.0	89.2	82.9	5980	4120	C	C	811	129	42
RF-MA107T3	386.8	325.8	140191	102317	61.0	54.0	93.9	86.0	17160	10980	E	E	631	100	32
RF-PB104T3	389.4	340.4	108096	87020	58.0	51.0	90.2	83.7	8180	5600	C	C	901	144	47
RF-PA104T4	397.0	338.3	99223	77794	58.0	50.0	89.9	82.6	8750	5880	C	C	961	153	50
RF-PA105T3	432.4	377.4	129319	102629	59.0	52.0	90.9	84.0	10610	7190	D	C	901	144	47
RF-PC104T3	434.4	380.6	115652	94024	58.0	52.0	90.4	84.1	7980	5500	C	C	1082	170	55
RF-MC105T4	441.0	366.2	112964	85121	58.0	51.0	90.8	83.5	11630	7640	D	C	901	137	45
RF-PB104T4	445.5	381.1	104776	83428	58.0	51.0	89.9	83.2	8400	5710	C	C	1202	188	61
RF-PD104T3	466.0	408.5	117673	96421	58.0	52.0	90.6	84.4	7840	5430	C	B	1262	196	64
RF-PA105T4	497.5	423.9	124029	97242	59.0	51.0	90.8	83.5	10940	7350	C	C	1202	188	61
RF-NC105T4	515.5	440.2	126019	99375	58.0	51.0	90.9	83.7	10810	7290	C	C	1272	194	63
RF-MB107T4	535.3	442.1	145023	106463	61.0	53.0	93.2	85.7	16960	10910	D	D	1051	161	52
RF-ND105T4	558.0	477.5	130636	103947	58.0	51.0	90.9	84.1	10530	7150	C	C	1484	227	73
RF-PB105T4	558.6	477.9	130970	104285	58.0	52.0	90.9	84.2	10510	7140	C	C	1502	235	76
RF-NB106T4	559.6	473.3	143402	110737	59.0	52.0	91.6	84.2	13470	8980	D	C	1272	196	64
RF-NA108T4	651.3	543.2	175822	131619	61.0	53.0	93.1	85.7	18870	12300	D	D	1357	208	68
RF-PA107T4	700.1	596.7	173641	136139	60.0	52.0	92.3	85.0	15310	10290	C	C	1682	261	84
RF-PC205T3	733.7	633.9	239215	184900	61.0	54.0	93.8	86.4	22430	14960	D	D	1352	212	69
RF-NA109T4	734.2	612.3	197800	148071	61.0	54.0	93.7	86.2	21220	13840	D	D	1527	233	75
RF-PB205T4	745.2	615.1	207176	152090	62.0	55.0	94.8	87.2	24230	15590	D	D	1502	235	76
RF-PB206T3	782.7	667.6	269094	202236	62.0	55.0	94.7	87.4	28020	18370	E	D	1352	212	69
RF-PA108T4	802.1	683.6	198447	155588	60.0	53.0	92.9	85.6	17500	11760	C	C	1923	295	96
RF-PD205T3	807.9	702.7	250308	196807	61.0	54.0	93.9	86.6	21740	14630	D	C	1577	242	78
RF-PC205T4	846.6	708.1	225928	170243	61.0	54.0	93.8	86.5	23260	15280	D	C	1803	275	89
RF-PA208T3	886.5	746.6	320436	233868	65.0	57.0	97.4	89.6	39220	25100	E	E	1442	222	72
RF-PA109T4	904.6	771.0	223253	175036	61.0	53.0	93.4	86.1	19690	13230	C	C	2163	330	107
RF-PD205T4	930.9	786.8	238382	183891	61.0	54.0	93.8	86.4	22480	14990	D	C	2103	318	103
RF-PC206T4	1019.7	852.9	271114	204291	62.0	55.0	94.6	87.3	27910	18340	D	C	2163	327	106
RF-PA210T3	1113.4	938.1	400545	292334	66.0	58.0	98.4	90.6	49020	31370	E	E	1803	277	90
RF-PB208T4	1203.6	993.5	331482	243345	64.0	56.0	96.8	89.3	38770	24940	D	D	2403	365	118

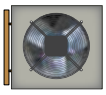
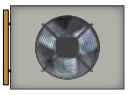
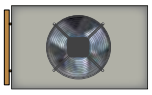
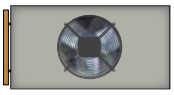
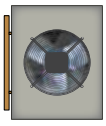
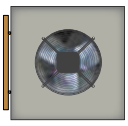
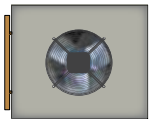
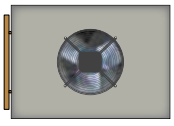
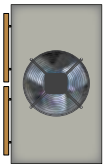
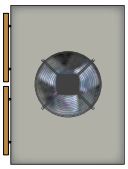
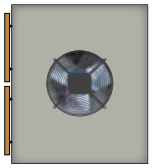
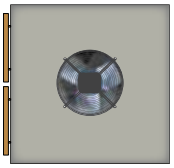
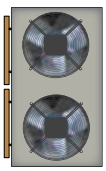
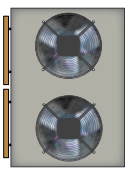
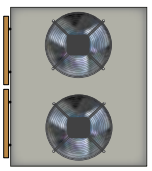
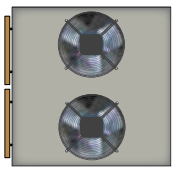
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		36.1 - 556.7 kW		43.1 - 613.8 kW		47.9 - 531.3 kW		52.8 - 465.5 kW
N		45.8 - 817.9 kW		53.1 - 750.9 kW		58.9 - 620.9 kW		64.4 557.9 kW
P1		57.4 - 1007.6 kW		65.3 - 901.8 kW		73.3 - 747.2 kW		79.2 - 661.8 kW
P2		71.9 - 1113.4 kW		84.5 - 1203.5 kW		95.7 - 1019.7 kW		105.7 - 930.9 kW

RF, T - Fin - 800mm 6 Pole, N Fan Type

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m³/h	Y m³/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m²	dm³	kg
RF-MB101T3	58.3	49.3	17939	13422	50.0	42.0	81.1	73.5	1730	1090	D	C	113	21	7
RF-MC101T4	74.8	61.4	18041	13522	49.0	42.0	81.1	73.5	1730	1090	D	C	180	31	10
RF-PA101T4	83.7	69.7	19462	14977	49.0	43.0	81.0	74.5	1660	1070	C	C	240	41	13
RF-MC102T3	128.4	109.0	37913	28789	52.0	45.0	83.9	77.0	3380	2160	D	C	270	44	14
RF-MB102T4	132.8	109.2	33778	25012	54.0	45.0	85.4	76.5	3560	2200	D	C	300	48	16
RF-PA103T3	223.6	191.8	60008	47014	54.0	48.0	85.9	79.7	4900	3190	C	C	541	88	28
RF-PB202T3	229.7	193.6	71755	53687	55.0	48.0	87.1	79.5	6940	4370	D	D	451	75	24
RF-ND103T3	247.1	212.7	61648	49059	54.0	47.0	86.1	79.5	4800	3140	C	C	668	106	34
RF-PA103T4	253.1	210.8	58386	44931	54.0	47.0	85.7	79.3	4990	3220	C	C	721	114	37
RF-PB202T4	260.4	214.1	67556	50024	55.0	48.0	87.4	79.5	7120	4400	D	C	601	97	31
RF-NB104T3	281.6	240.1	78399	60622	55.0	49.0	87.0	80.7	6620	4280	D	C	636	104	34
RF-MA106T3	300.9	253.2	99055	72978	58.0	49.0	90.2	81.3	10790	6650	E	D	541	87	28
RF-MA106T4	338.3	276.3	90725	65980	59.0	50.0	91.0	81.8	11280	7080	E	D	721	113	37
RF-MB106T3	356.4	300.7	107632	80530	56.0	49.0	88.9	81.3	10410	6550	D	C	676	106	34
RF-MD105T4	400.7	331.2	94474	71554	55.0	48.0	87.9	80.9	8460	5410	C	C	1051	161	52
RF-MB106T4	403.7	332.1	101335	75036	58.0	49.0	90.1	81.3	10690	6600	D	C	901	139	45
RF-MB107T3	417.0	351.6	125571	93952	57.0	49.0	89.6	82.0	12140	7640	D	C	789	121	39
RF-NC105T4	437.0	365.3	98341	76266	56.0	49.0	88.0	81.8	8260	5340	C	C	1272	194	63
RF-PA106T3	451.1	386.8	120016	94029	57.0	50.0	88.9	82.7	9790	6370	C	C	1082	170	55
RF-PB204T3	463.1	390.9	143509	107374	58.0	50.0	90.1	82.5	13880	8730	D	D	901	144	47
RF-MB107T4	472.5	388.5	118223	87541	58.0	49.0	90.8	82.0	12470	7700	D	C	1051	159	52
RF-MB108T3	478.2	403.4	143509	107374	57.0	50.0	90.1	82.5	13880	8730	D	C	901	137	44
RF-PB106T3	501.1	431.4	123454	98303	57.0	50.0	89.1	82.5	9600	6280	C	C	1352	209	68
RF-NA108T3	502.3	424.9	149047	112563	57.0	50.0	90.0	82.7	13630	8680	D	C	1018	157	51
RF-PC204T3	517.3	438.6	151653	115155	58.0	51.0	89.9	83.0	13520	8640	D	C	1082	170	55
RF-PB204T4	524.3	431.5	135113	100047	58.0	50.0	90.4	82.5	14250	8800	D	C	1202	191	62
RF-PA107T3	527.1	452.3	140019	109700	57.0	51.0	89.6	83.4	11430	7430	C	C	1262	199	65
RF-NA108T4	568.3	469.3	141319	105679	58.0	50.0	90.2	82.5	13970	8750	D	C	1357	208	68
RF-PA108T3	604.6	518.1	160021	125372	58.0	51.0	90.2	84.0	13060	8490	C	C	1442	225	73
RF-NA109T4	640.8	529.1	158984	118889	58.0	50.0	90.7	83.0	15720	9840	D	C	1527	233	75
RF-PC205T3	649.6	550.4	189566	143944	58.0	51.0	90.9	84.0	16900	10800	D	C	1352	212	69
RF-PA109T3	681.2	583.8	180024	141043	58.0	52.0	90.7	84.5	14690	9560	C	C	1622	251	81
RF-PA108T4	683.7	569.5	155695	119816	57.0	51.0	90.0	83.5	13300	8580	C	C	1923	295	96
RF-PB206T3	698.8	589.6	215264	161061	59.0	52.0	91.9	84.3	20820	13100	D	C	1352	212	69
RF-PC205T4	735.3	606.6	180415	135216	58.0	51.0	91.1	83.5	17300	10910	D	C	1803	278	90
RF-PA109T4	771.1	642.3	175157	134793	58.0	51.0	90.5	84.1	14970	9650	C	C	2163	330	107
RF-PB206T4	791.7	651.1	202669	150071	60.0	52.0	92.1	84.3	21370	13200	D	C	1803	278	90
RF-PD205T4	801.2	662.6	188947	143108	58.0	51.0	90.9	83.9	16930	10810	C	C	2103	321	104
RF-PA110T4	858.8	715.3	194619	149770	58.0	52.0	91.0	84.5	16630	10720	C	C	2403	365	118
RF-PA208T4	906.6	740.6	241932	175945	63.0	53.0	95.2	86.1	30090	18880	D	D	1923	292	95

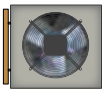
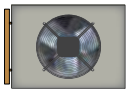
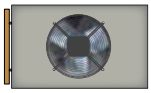
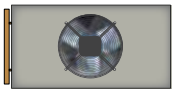
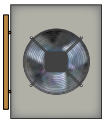
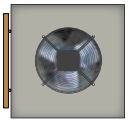
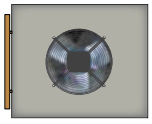
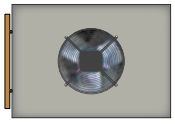
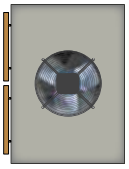
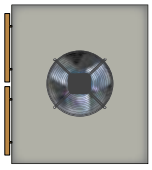
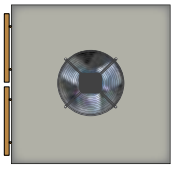
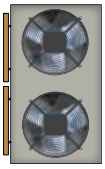
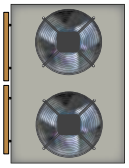
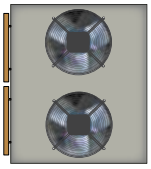
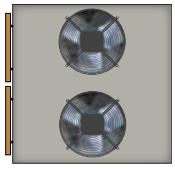
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		32 - 569.2 kW		38.1 - 541.6 kW		41.9 - 458.7 kW		46.2 - 400.7 kW
N		40.2 - 713.9 kW		46.4 - 645.7 kW		50.9 - 526.3 kW		55.1 - 466.6 kW
P1		49.4 - 858.8 kW		55.8 - 753.3 kW		61.9 - 615.6 kW		66.4 - 538.7 kW
P2		64.2 - 1138.4 kW		74.8 - 1062 kW		83.8 - 885.7 kW		92.4 - 801.2 kW

RF, T - Fin - 800mm 8 Pole, N Fan Type

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m³/h	Y m³/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m²	dm³	kg
RF-MB101T4	54.2	43.9	12478	9219	41.9	34.0	73.4	65.8	860	530	C	B	150	26	9
RF-MC101T4	60.8	49.3	13335	10018	42.0	35.0	73.5	66.3	830	530	B	B	180	31	10
RF-MB102T3	98.0	81.9	26516	19878	45.0	37.0	76.5	69.2	1670	1060	C	B	225	37	12
RF-MC102T3	107.2	89.9	28038	21365	45.0	37.0	76.5	68.9	1620	1040	C	B	270	44	14
RF-PC102T2	119.3	102.7	33460	26437	43.0	36.0	75.1	68.0	1510	960	B	B	361	60	19
RF-PA102T3	123.4	103.6	29859	23041	44.0	37.0	76.1	69.0	1570	1020	B	B	361	61	20
RF-MA103T3	125.8	104.2	36568	26843	45.9	39.0	78.2	70.5	2620	1610	C	C	270	44	14
RF-NC102T3	127.1	106.3	30180	23338	44.0	37.0	75.9	69.0	1560	1010	B	B	382	62	20
RF-PD102T2	127.5	109.1	33793	26771	43.0	36.0	75.0	68.0	1500	950	B	A	421	69	22
RF-PB102T3	136.2	114.5	30892	24122	44.0	37.0	75.6	68.6	1540	990	B	A	451	74	24
RF-PA202T3	167.1	138.4	48757	35791	47.9	40.0	79.4	71.7	3490	2150	C	C	361	61	20
RF-PB202T3	192.1	160.7	53032	39757	48.0	40.0	79.5	72.2	3340	2110	C	B	451	75	24
RF-PB103T3	205.0	172.6	46338	36184	45.0	38.0	77.4	70.3	2310	1480	B	A	676	107	35
RF-PB202T4	213.8	173.3	49913	36877	47.9	40.0	79.4	71.8	3450	2140	C	B	601	97	31
RF-PC202T3	214.4	179.9	56075	42731	48.0	40.0	79.5	71.9	3240	2080	C	B	541	88	28
RF-MB104T4	219.7	178.0	49913	36878	46.9	40.0	79.4	71.8	3450	2140	C	B	601	94	30
RF-NB104T3	233.9	196.3	58234	44715	47.0	40.0	79.4	72.0	3170	2050	B	B	636	102	33
RF-PA104T3	248.5	208.3	59719	46082	47.0	40.0	79.1	72.0	3130	2030	B	B	721	114	37
RF-MA106T3	253.5	209.9	73136	53687	48.9	41.0	81.2	73.5	5240	3220	C	C	541	85	28
RF-MB107T2	271.7	232.0	99377	75894	48.9	42.0	81.9	74.5	5630	3630	C	C	526	84	27
RF-ND104T3	273.4	229.7	61690	48138	46.0	39.0	78.7	71.6	3080	1980	B	A	891	141	46
RF-PA203T4	278.2	221.5	67497	48341	50.0	41.0	81.8	73.5	5520	3260	C	C	721	114	37
RF-MD105T3	293.7	246.5	72664	55775	48.0	40.0	80.4	73.0	3970	2570	B	B	789	122	40
RF-PC104T3	301.0	251.5	65664	51449	47.0	39.0	79.4	71.3	3050	1940	B	A	1082	166	54
RF-MC105T4	309.0	250.7	66677	50089	48.0	41.0	80.5	73.3	4160	2640	B	B	901	139	45
RF-NC105T3	321.3	268.9	75450	58346	47.0	40.0	79.9	73.0	3900	2530	B	B	954	150	49
RF-PC203T3	323.0	271.1	84113	64096	49.0	42.0	81.3	73.7	4860	3130	C	B	811	131	43
RF-NB106T3	353.0	296.3	87352	67072	49.0	41.0	81.1	73.8	4760	3080	B	B	954	150	49
RF-PA106T3	374.8	314.3	89578	69123	48.0	41.0	80.8	73.8	4700	3050	B	B	1082	170	55
RF-PA108T2	392.8	339.2	123807	96478	49.0	42.0	81.6	74.6	6160	3960	C	B	961	152	49
RF-MB108T3	400.4	334.2	106064	79513	50.0	42.0	82.5	75.2	6670	4220	C	B	901	139	45
RF-NA107T4	406.9	330.9	91578	68487	50.0	42.0	82.0	74.5	5880	3710	C	B	1188	182	59
RF-PC105T4	411.9	337.1	80581	62723	47.0	40.0	79.6	72.6	3850	2470	B	A	1803	275	89
RF-PB106T3	413.8	348.4	92677	72367	48.0	41.0	80.4	73.4	4620	2970	B	A	1352	209	68
RF-PD105T4	433.1	353.2	82038	64069	47.0	40.0	79.3	72.3	3810	2440	A	A	2103	318	103
RF-PB205T3	486.0	405.6	132580	99392	51.0	44.0	83.5	76.2	8340	5280	C	B	1127	177	57
RF-PD205T3	587.3	493.1	145329	111550	51.0	43.0	83.4	76.0	7940	5140	B	B	1577	245	79
RF-PB108T4	609.1	502.3	120491	93665	49.0	42.0	82.0	75.0	6240	4040	B	A	2403	365	118
RF-PD205T4	650.7	531.5	139517	105966	51.0	44.0	83.5	76.8	8120	5220	B	B	2103	321	104
RF-PA209T3	766.0	634.6	219409	161061	52.9	45.0	86.0	78.2	15710	9650	C	C	1622	251	81

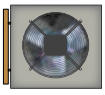
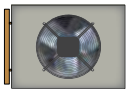
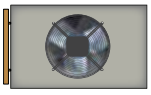
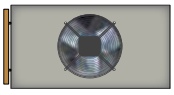
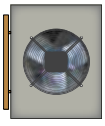
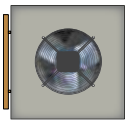
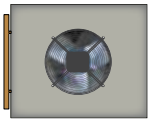
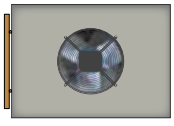
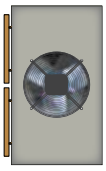
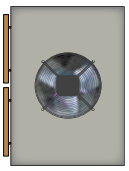
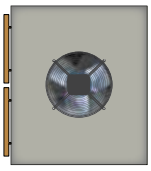
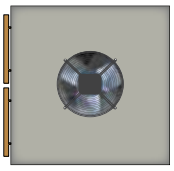
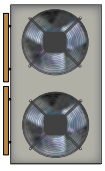
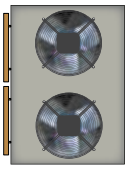
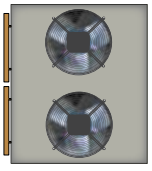
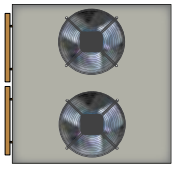
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		27.6 - 472.2 kW		32.6 - 444.7 kW		35.5 - 372 kW		38.6 - 325.3 kW
N		34.2 - 585.6 kW		38.7 - 524.4 kW		42.4 - 426.5 kW		46 - 376.8 kW
P1		41.1 - 697.2 kW		46.2 - 609.1 kW		51.1 - 496.2 kW		54.1 - 433.1 kW
P2		55.3 - 944.4 kW		63.9 - 872 kW		71.1 - 723.3 kW		77.3 - 650.7 kW

RF, T - Fin' - 910mm 12 Pole, N Fan Type

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m³/h	Y m³/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m²	dm³	kg
RF-MB101T3	38.7	32.8	9254	7246	32.0	26.0	63.3	57.3	320	190	A	A+	113	19	6
RF-MB101T4	41.7	34.4	8546	6611	32.0	25.0	63.9	57.0	320	200	A	A+	150	25	8
RF-MC101T3	42.3	36.1	9959	7926	32.0	26.0	63.1	57.6	310	190	A	A+	135	22	7
RF-PA101T3	48.9	41.9	10906	8781	32.0	27.0	63.4	58.3	300	180	A+	A+	180	32	10
RF-MC102T3	85.2	72.5	19919	15851	34.0	29.0	66.1	60.6	610	380	A	A+	270	43	14
RF-ND102T2	88.6	76.9	23383	19096	35.0	31.0	67.2	62.5	550	350	A+	A+	297	49	16
RF-NB102T3	92.6	79.8	21019	16971	34.0	29.0	66.2	61.0	600	370	A	A+	318	53	17
RF-NA103T3	123.1	105.0	29235	23141	36.0	30.0	67.9	62.3	930	580	A	A+	382	62	20
RF-PB202T3	151.8	128.9	37015	28984	37.0	31.0	69.3	63.3	1260	780	A	A+	451	74	24
RF-MB104T3	156.1	132.3	37015	28984	37.0	31.0	69.3	63.3	1260	780	A	A+	451	71	23
RF-PB103T3	163.2	138.7	34144	27555	37.0	32.0	68.6	63.7	850	530	A+	A++	676	106	34
RF-MD104T3	186.4	160.7	41930	33828	37.0	32.0	69.2	63.9	1200	740	A	A+	631	98	32
RF-MB105T3	195.8	165.7	46268	36230	38.0	32.0	70.3	64.3	1580	970	A	A+	563	88	29
RF-MA106T3	197.2	166.7	49395	38336	40.0	33.0	72.3	65.1	1950	1180	B	A	541	85	28
RF-PA104T3	197.8	170.1	43624	35125	37.0	32.0	69.4	64.3	1180	730	A+	A+	721	114	37
RF-PA105T2	199.8	177.5	56904	46307	39.0	34.0	70.9	66.0	1420	890	A	A+	601	96	31
RF-PA105T3	248.1	212.7	54530	43906	38.0	33.0	70.4	65.3	1480	910	A+	A+	901	140	45
RF-NA106T3	248.3	211.3	58469	46281	39.0	33.0	71.0	65.3	1850	1150	A	A+	763	120	39
RF-PC203T3	256.1	218.7	59757	47554	39.0	33.0	70.9	65.4	1840	1140	A	A+	811	127	41
RF-NC105T3	256.3	218.7	55330	44449	38.0	33.0	70.5	65.5	1460	900	A+	A++	954	148	48
RF-MC106T3	258.5	220.7	59757	47554	38.0	33.0	70.9	65.4	1840	1140	A	A+	811	124	40
RF-PB105T3	273.9	232.2	56907	45924	38.0	34.0	70.9	65.9	1420	890	A+	A++	1127	172	56
RF-NB106T3	281.4	242.4	63058	50913	38.0	33.0	70.9	65.7	1800	1110	A	A+	954	150	49
RF-PB204T3	306.2	259.5	74030	57968	40.0	34.0	72.4	66.3	2520	1550	A	A+	901	142	46
RF-PA107T3	349.6	298.5	76342	61469	39.0	34.0	71.9	66.8	2070	1270	A+	A+	1262	196	64
RF-PB205T3	384.1	324.8	92537	72461	41.0	35.0	73.3	67.3	3150	1940	A	A+	1127	177	57
RF-PA108T3	400.4	342.5	87248	70250	40.0	35.0	72.4	67.3	2360	1450	A+	A+	1442	222	72
RF-PC205T3	429.2	366.7	99594	79256	41.0	35.0	73.1	67.6	3060	1900	A	A+	1352	209	68
RF-PA108T4	431.9	361.5	83067	66438	39.0	34.0	72.1	66.9	2410	1490	A+	A++	1923	292	95
RF-PA109T3	451.2	385.8	98154	79032	40.0	35.0	73.0	67.8	2660	1640	A+	A+	1622	248	80
RF-PB206T3	462.4	391.2	111044	86953	42.0	36.0	74.1	68.1	3780	2330	A	A+	1352	209	68
RF-PD205T3	468.1	402.8	104824	84570	40.0	35.0	73.1	67.9	3000	1850	A	A+	1577	242	78
RF-PB206T4	498.2	410.5	102547	79329	42.0	35.0	74.7	67.8	3880	2360	A	A+	1803	275	89
RF-PC206T3	517.1	441.5	119514	95107	41.0	36.0	73.9	68.4	3680	2280	A	A+	1622	248	80
RF-PB207T3	540.2	457.2	129552	101445	42.0	36.0	74.8	68.8	4410	2720	A	A+	1577	245	79
RF-PA208T4	565.1	465.4	118894	91565	46.0	38.0	78.4	70.5	5290	3200	B	A	1923	295	96
RF-PB207T4	582.8	480.2	119638	92550	43.0	36.0	75.3	68.5	4520	2750	A	A+	2103	321	104
RF-PA209T3	595.8	503.8	148184	115008	44.0	37.0	77.1	69.9	5850	3550	B	A	1622	251	81
RF-PB208T3	620.0	524.9	148059	115937	42.0	36.0	75.4	69.3	5040	3100	A	A+	1803	277	90
RF-PA209T4	637.7	524.9	133756	103011	46.0	38.0	78.9	71.0	5950	3600	B	A	2163	330	107

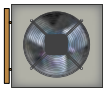
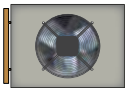
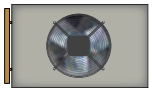
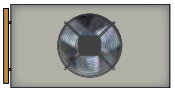
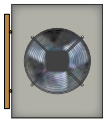
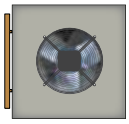
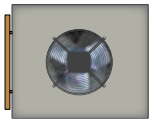
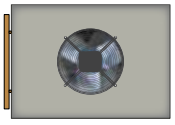
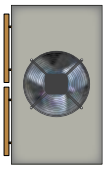
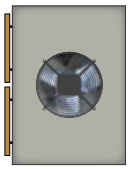
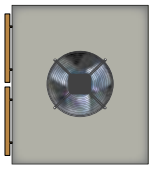
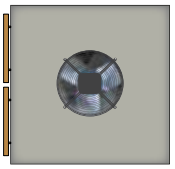
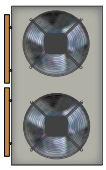
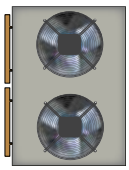
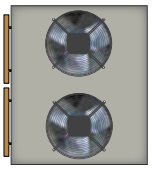
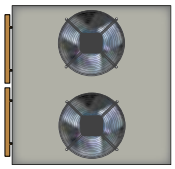
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		23.1 - 354.9 kW		27.4 - 340.8 kW		30 - 285.1 kW		32.8 - 252.4 kW
N		28.8 - 449.6 kW		32.9 - 406.9 kW		35.9 - 333.6 kW		38.4 - 297.4 kW
P1		35 - 542.4 kW		38.3 - 478.7 kW		42.2 - 386.7 kW		45 - 335.5 kW
P2		46.1 - 709.9 kW		53.8 - 668.2 kW		60 - 557.2 kW		65.5 - 504.8 kW

RF, T - Fin' - 910mm 12 pole N EC Fan Type

Model	Capacity R404A & R507A *	Air Volume	Sound Pressure Mean **	Sound Power	Power Input	Energy Rating	Total Surface	Internal Volume	R404A Charge
	kW	m^3/h	dB(A)	dB(A)	W	Y	m^2	dm^3	kg
RF-NA101T3H-091E115	11.8	2096	15.0	31.0	30	A++	127	25	8
RF-NB101T2H-091E125	16.1	3365	15.0	33.4	30	A++	106	21	7
RF-NB101T3H-091E140	19.8	3558	15.0	36.6	30	A++	159	29	9
RF-PA101T3H-091E160	23.1	4175	15.0	40.4	30	A++	180	32	10
RF-PA101T3H-091E170	24.7	4484	15.0	41.6	40	A++	180	32	10
RF-NC101T3H-091E190	28.0	5119	15.0	44.7	40	A++	191	34	11
RF-MB101T3H-091P290	29.2	6187	23.0	54.9	70	A++	113	21	7
RF-PA101T4H-091E200	29.4	5061	15.0	46.2	50	A++	240	41	13
RF-MD101T3H-091P290	33.9	6874	21.0	53.0	70	A++	158	27	9
RF-NB101T3H-091E320	40.3	8663	27.0	58.9	140	A++	159	29	9
RF-MC101T3H-091P410	41.0	9525	31.0	63.0	170	A++	135	24	8
RF-MB101T4H-091P460	45.0	9507	35.0	67.0	230	A+	150	26	9
RF-PA103T2H-091E125	50.1	10316	15.0	38.2	80	A++	361	60	19
RF-MC101T4H-091P510	54.3	11388	37.0	69.0	310	A+	180	31	10
RF-PC102T2H-091E190	54.9	11618	16.0	47.8	80	A++	361	60	19
RF-MC101T4H-091P690	68.1	15667	45.0	76.9	720	B	180	31	10
RF-NB101T4H-091E610	70.9	16171	45.0	76.2	700	B	212	37	12
RF-PD102T2H-091E260	79.3	17082	24.0	56.5	120	A++	421	69	22
RF-PB103T2H-091E200	82.8	17435	19.0	50.9	140	A++	451	74	24
RF-NB101T4H-091E865	88.9	22802	55.0	86.5	1760	C	212	37	12
RF-PC102T2H-091E500	116.7	32801	41.0	72.8	710	A+	361	60	19
RF-PA102T4H-091E450	119.1	24033	39.0	70.6	630	A+	481	79	25
RF-PA103T3H-091E290	119.1	24151	29.0	60.9	300	A++	541	88	28
RF-PD102T3H-091E550	164.8	35845	46.0	77.9	940	A+	631	101	33
RF-MA103T4H-091P930	187.8	54736	61.0	92.8	5720	D	361	57	18
RF-PD102T3H-091E700	195.4	45811	52.0	84.3	1710	A	631	101	33
RF-PC104T3H-091E320	205.4	40071	33.0	64.9	490	A++	1082	170	55
RF-PB103T3H-091E610	228.1	55152	49.0	80.9	1910	A	676	107	35
RF-PC103T3H-091E610	252.1	59017	50.0	81.9	1860	A	811	127	41
RF-PB104T4H-091E610	340.7	71223	50.0	82.2	2620	A	1202	188	61
RF-PC105T4H-091E700	520.0	109823	55.0	88.0	4510	A	1803	275	89
RF-PB106T4H-091E700	565.8	122240	55.0	87.8	5620	B	1803	275	89
RF-PB106T4H-091E760	601.5	133366	59.0	91.1	7140	B	1803	275	89
RF-PA107T4H-091E760	628.7	147375	58.0	90.8	8690	B	1682	261	84
RF-NA108T4H-091E865	634.8	168583	65.0	98.0	14710	D	1357	206	67
RF-PD105T4H-091E865	637.9	136940	61.0	93.5	8110	B	2103	318	103
RF-NA110T4H-091E865	797.2	210728	66.0	99.0	18390	D	1697	257	83
RF-PC205T4H-091P930	821.6	215093	65.0	97.7	17570	C	1803	278	90
RF-PD205T4H-091P860	847.4	205562	62.0	95.1	13030	C	2103	321	104
RF-PB207T4H-091P930	1032.2	282006	67.0	99.5	25670	D	2103	321	104

Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		5 - 637.2 kW		12.3 - 603.6 kW		5.6 - 514.9 kW		13.4 - 448.2 kW
N		11.1 - 797.2 kW		11.7 - 728.5 kW		12.2 - 601.3 kW		12.6 - 539.8 kW
P1		11.9 - 977.8 kW		12.6 - 872.5 kW		18.4 - 720.6 kW		18.8 - 637.9 kW
P2		10.1 - 1274.4 kW		24.2 - 1183.5 kW		11.1 - 979.6 kW		26.9 - 896.3 kW

GEA Searle is a market leader in the field of air-side heat exchange and industrial air conditioning. Its range of air-cooled condensers is one of the largest in Europe and encompasses a wide range of applications. Using the latest innovative technologies the new range of condenser have been designed with ammonia as the working refrigerant.

NF Air Cooled Condenser
engineering for a better world

The NF range of air cooled condensers has been designed for use with ammonia (NH_3) as the working refrigerant. It is suitable for a wide range of applications with a duty range of 11kW to 1270kW. Known to be used as a refrigerant as early as the 1850's, ammonia has recently gained interest amongst equipment specifiers and end users because of its impressive environmental credentials; such as no global warming potential and zero ozone depletion factor. To align with this renewed interest in NH_3, GEA Searle has introduced a new range of condensers specifically for use with NH_3 as the working fluid.



NF Condenser

The NF range of condensers is available with all RF options such as EC fan technology, adiabatic spray systems and the popular GEA Searle controls packages. In addition to the standard RF range features, stainless steel coil tube and stainless steel header tube has been specified because of its compatibility with NH_3. The capacity data for a range of the available units is detailed in this brochure, but for a more comprehensive selection the GEA Searle product selector should be used. The listed capacity data is based upon standard conditions designated in EN 327:2000; it should be noted that NH_3 standard operating conditions main discrepancy from R404A/R507 is the increased gas inlet temperature, which is 90°C for the NF range.

T-Fin (S32)

The Searle 'T-Fin' incorporates 12mm tube on an equilateral spacing that balances tube diameter and useful surface to achieve optimal heat exchanger efficiency for this tube diameter. Fin enhancements such as flat top corrugation and GEA's unique 'turbulator' to ensure that a minimal amount of material is required to achieve a given capacity, which ensures our condensers are sustainably designed, both economically and environmentally.

NF Features

- Up to 12m long unit construction.
- Coil supports replaced with centr plates for 'H' frame construction.
- Side plate construction cold form to create 'I' frame structure for strength.
- Easy to assemble due to reduced number of components.
- Structural integrity maintained throughout the entire range.
- High grade stainless steel coil block and header tubes.

1	2		3	4	5	6	7							
N	F	-	P	A	2	04	T	2	H	-	080	N	06	D
								8	9		10	11	12	13



1. Product series:	N = NH3 (St/St tubes)	**8. Coil rows:**	2, 3, 4
2. Unit form:	F = Flatbed, V = V bank	**9. Orientation:**	H = Horizontal, V = Vertical, X = V - bank
3. Module width:	M = Narrow, N = Medium, P = Wide	**10. Fan Diameter:**	080 = 800mm, 090 = 900mm, 091 = 910mm
4. Module length:	A = 1200mm, B = 1500mm, C = 1800mm, D = 2100mm, E = 2400mm	**11. Fan type:**	N = AC Normal, E = ebm EC, P = Ziehl EC
		12. Motor pole:	6, 8, 12, EC
5. Fan rows:	1 or 2	**13. Motor wiring:**	Delta, Star
6. Fans per row:	1 - 10		
7. Fin type:	T = s32		

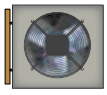
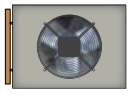
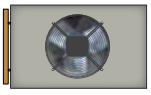
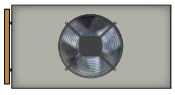
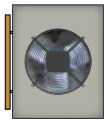
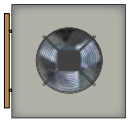
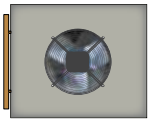
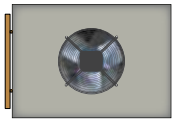
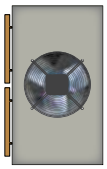
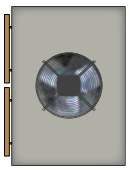
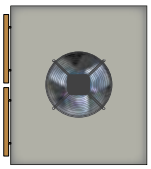
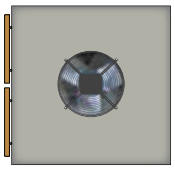
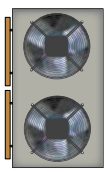
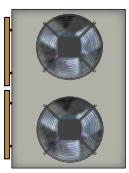
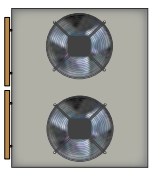
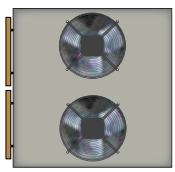
Fan data

Fan type & Pole	Diameter	Module	Speed (rpm)		FLC (Amp)		SC (Amp)	
			Δ	Y	Δ	Y	Δ	Y
0806 N6 Pole	800mm	A,B,C,D	920	730	4.3	4.2	2.3	14
0808 N8 Pole		A,B,C,D	670	550	2.5	2.5	1.3	6.2
091 N6 Pole	910mm	A,B,C,D	905	640	5.7	5.7	3.3	19
091 H6 Pole		A,B,C,D	910	710	5.5	5.5	3.5	19
091 N12 Pole		A,B,C,D	440	340	3.5	0.85	0.4	2
091 E - EC Technology		A,B,C,D	865 -115					
091 P - EC Technology		A,B,C,D	930 - 90					

NF, T - Fin - 910mm 6 Pole, H Fan Type

Model	Capacity NH3 *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m³/h	Y m³/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m²	dm³	kg
NF-MB101T4	77.3	66.2	23055	17747	58.0	53.0	89.5	84.1	2560	1800	D	D	150	26	4
NF-MC101T4	87.5	75.1	24914	19454	57.0	52.0	89.0	83.2	2500	1770	D	D	180	31	5
NF-PA101T4	102.3	89.0	26968	21630	58.0	52.0	89.5	83.2	2440	1750	D	C	240	44	7
NF-MB102T3	136.8	119.9	49464	38621	60.0	54.0	92.0	86.2	5020	3550	E	D	225	37	6
NF-PB201T4	154.7	132.3	46110	35495	61.0	55.0	92.5	87.1	5110	3600	D	D	300	53	8
NF-MD102T3	168.8	149.0	54299	43680	61.0	54.0	92.6	86.3	4860	3490	D	D	315	53	8
NF-NB102T4	193.1	167.0	52371	41602	60.0	54.0	92.1	85.9	4930	3490	D	C	424	72	11
NF-PD102T3	242.0	214.5	62462	51672	61.0	55.0	93.0	87.0	4770	3510	C	C	631	101	16
NF-PA103T3	272.2	241.4	83594	67947	63.0	56.0	94.6	88.4	7210	5250	D	C	541	88	14
NF-MD103T4	290.3	251.2	78387	62216	62.0	55.0	93.9	87.6	7400	5240	D	C	631	100	16
NF-NA104T3	298.0	261.3	103173	81356	63.0	57.0	95.0	88.9	9910	7010	D	D	509	86	13
NF-PA103T4	310.0	269.0	80905	64890	62.0	56.0	94.2	88.0	7310	5240	D	C	721	117	18
NF-MA106T3	352.8	306.7	133426	102409	65.0	60.0	97.7	92.5	15360	10800	E	E	541	87	13
NF-MC104T4	354.7	304.6	99654	77816	63.0	57.0	95.0	89.2	10020	7090	D	D	721	113	18
NF-MB105T4	393.3	336.0	115276	88737	64.0	59.0	96.5	91.1	12790	9000	D	D	751	117	18
NF-ND104T3	408.6	362.6	115388	94841	64.0	58.0	96.0	90.0	9560	7000	D	C	891	139	22
NF-PB104T3	408.9	363.9	115574	95038	64.0	58.0	96.0	90.0	9560	7000	D	C	901	144	22
NF-MB106T3	416.6	364.4	148391	115863	64.0	59.0	96.8	91.0	15060	10660	E	D	676	105	16
NF-NB105T3	426.9	377.1	135981	109470	64.0	58.0	96.6	90.3	12140	8740	D	D	795	125	19
NF-PC104T3	456.3	404.0	123068	101467	64.0	58.0	96.0	90.0	9540	7010	C	C	1082	170	26
NF-NC105T3	472.4	419.1	140636	114782	64.0	58.0	97.0	90.7	11970	8740	D	C	954	148	23
NF-MC106T4	536.1	460.2	149482	116723	64.0	58.0	96.7	90.9	15030	10640	D	D	1082	165	26
NF-ND105T4	580.3	506.6	140405	114579	64.0	58.0	96.9	90.7	11980	8740	C	C	1484	227	35
NF-PC105T4	643.1	561.1	150722	123868	64.0	58.0	97.0	91.0	11940	8750	C	C	1803	278	43
NF-NC106T4	647.0	562.0	163741	131960	65.0	58.0	97.4	91.1	14550	10480	D	C	1527	233	36
NF-MA110T4	665.1	560.2	199221	149312	68.0	63.0	101.2	95.3	25700	18000	E	D	1202	182	28
NF-PD204T3	680.9	601.5	217194	174719	66.0	60.0	98.6	92.3	19440	13980	D	D	1262	199	31
NF-PD105T4	685.3	597.8	153592	126764	64.0	58.0	97.0	91.0	11930	8760	C	C	2103	321	50
NF-NA108T4	685.6	588.3	194411	151498	66.0	60.0	98.2	92.3	20180	14280	D	D	1357	208	32
NF-PA107T4	731.8	634.4	188779	151409	65.0	59.0	97.9	91.7	17050	12230	D	C	1682	261	41
NF-PC205T3	779.5	685.7	262018	208112	67.0	60.0	99.1	92.9	24630	17450	D	D	1352	212	33
NF-PB107T4	817.6	713.5	196932	160829	66.0	59.0	98.4	92.2	16760	12240	C	C	2103	321	50
NF-PA108T4	837.7	726.8	215747	173039	66.0	60.0	98.5	92.2	19490	13970	D	C	1923	295	46
NF-PA207T4	923.3	778.5	278909	209036	70.0	64.0	102.7	96.8	35980	25200	E	D	1682	258	40
NF-PA109T4	944.9	819.6	242716	194669	66.0	60.0	99.0	92.7	21920	15720	D	C	2163	330	51
NF-PB206T4	947.4	809.1	276661	212969	68.0	62.0	100.3	94.9	30690	21600	D	D	1803	275	43
NF-PA208T3	949.1	822.8	355802	273090	69.0	64.0	102.0	96.8	40970	28800	E	E	1442	222	35
NF-PD205T4	976.5	844.5	261291	207386	66.0	60.0	99.1	92.8	24660	17450	D	C	2103	318	49
NF-PA208T4	1058.1	892.1	318753	238899	71.0	65.0	103.3	97.3	41120	28800	E	D	1923	295	46
NF-PB208T4	1270.9	1085.7	368881	283959	69.0	63.0	101.5	96.1	40910	28800	D	D	2403	365	57

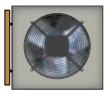
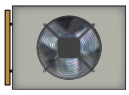
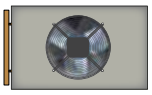
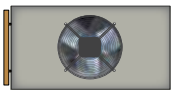
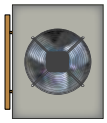
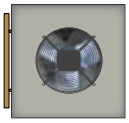
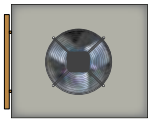
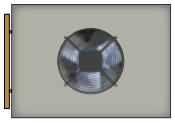
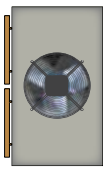
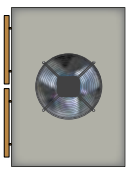
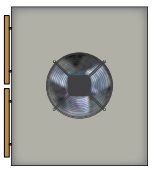
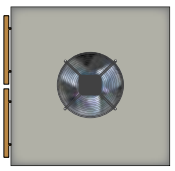
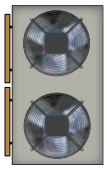
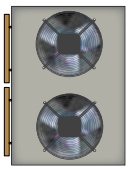
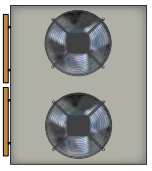
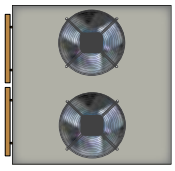
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		37.3 - 665.1 kW		43.9 - 635.5 kW		49.5 - 536.1 kW		54.9 - 488.3 kW
N		48.1 - 861.2 kW		55.2 - 787.2 kW		61.1 - 646.9 kW		66.5 - 580.3 kW
P1		58.9 - 1053.7 kW		67.2 - 937.2 kW		75.3 - 775.2 kW		81.2 - 685.3 kW
P2		74.6 - 1330.1 kW		87.7 - 1270.9 kW		99.1 - 1072.2 kW		109.9 - 976.5 kW

NF, T - Fin - 910mm 6 Pole, N Fan Type

Model	Capacity NH3 *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m^3/h	Y m^3/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m^2	dm^3	kg
NF-MB101T4	72.7	60.1	20718	15209	53.0	46.0	84.8	77.2	2420	1560	D	D	150	26	4
NF-MC101T4	82.5	69.0	22593	17024	52.0	45.0	83.8	76.5	2330	1530	D	C	180	31	5
NF-NB101T4	90.8	76.8	23900	18456	52.0	45.0	83.8	76.4	2240	1500	D	C	212	38	6
NF-PA101T4	97.0	83.0	24806	19448	52.0	45.0	83.9	76.6	2190	1470	D	C	240	44	7
NF-MB102T3	130.0	110.8	44849	33706	55.0	48.0	86.9	79.6	4670	3060	E	D	225	37	6
NF-MD102T3	161.2	140.2	50062	39361	55.0	48.0	86.9	79.6	4350	2930	D	C	315	53	8
NF-NB102T3	161.5	140.5	50178	39478	55.0	48.0	86.9	79.6	4340	2920	D	C	318	56	9
NF-NC102T3	179.2	156.2	52395	41745	55.0	48.0	86.9	80.2	4200	2850	D	C	382	65	10
NF-ND102T3	194.2	169.8	53942	43396	55.0	49.0	87.1	80.6	4100	2800	C	C	445	74	12
NF-PB103T3	293.9	257.2	81072	65265	57.0	50.0	88.9	82.4	6140	4200	C	C	676	107	17
NF-PC103T3	327.7	287.4	86739	70518	57.0	51.0	89.2	82.9	5980	4120	C	C	811	129	20
NF-MA107T3	390.9	329.3	140191	102317	61.0	54.0	93.9	86.0	17160	10980	E	E	631	100	16
NF-PA104T4	393.3	335.2	99223	77794	58.0	50.0	89.9	82.6	8750	5880	D	C	961	153	24
NF-PB104T3	393.7	344.0	108096	87020	58.0	51.0	90.2	83.7	8180	5600	C	C	901	144	22
NF-MC105T4	419.4	350.8	112964	85121	58.0	51.0	90.8	83.5	11630	7640	D	C	901	137	21
NF-PA105T3	437.0	381.4	129319	102629	59.0	52.0	90.9	84.0	10610	7190	D	C	901	144	22
NF-PC104T3	439.0	384.7	115652	94024	58.0	52.0	90.4	84.1	7980	5500	C	C	1082	170	26
NF-PB104T4	441.4	377.7	104776	83428	58.0	51.0	89.9	83.2	8400	5710	C	C	1202	188	29
NF-PD104T3	471.0	412.9	117673	96421	58.0	52.0	90.6	84.4	7840	5430	C	B	1262	196	31
NF-PA105T4	493.0	420.1	124029	97242	59.0	51.0	90.8	83.5	10940	7350	C	C	1202	188	29
NF-NC105T4	510.8	436.3	126019	99375	58.0	51.0	90.9	83.7	10810	7290	C	C	1272	194	30
NF-MB107T4	520.0	429.4	145023	106463	61.0	53.0	93.2	85.7	16960	10910	D	D	1051	161	25
NF-ND105T4	552.9	473.1	130636	103947	58.0	51.0	90.9	84.1	10530	7150	C	C	1484	227	35
NF-PB105T4	553.5	473.6	130970	104285	58.0	52.0	90.9	84.2	10510	7140	C	C	1502	235	36
NF-NB106T4	554.5	468.9	143402	110737	59.0	52.0	91.6	84.2	13470	8980	D	C	1272	196	31
NF-NA108T4	645.3	538.3	175822	131619	61.0	53.0	93.1	85.7	18870	12300	D	D	1357	208	32
NF-PA107T4	693.7	591.2	173641	136139	60.0	52.0	92.3	85.0	15310	10290	C	C	1682	261	41
NF-NA109T4	727.5	606.8	197800	148071	61.0	54.0	93.7	86.2	21220	13840	D	D	1527	233	36
NF-PB205T4	738.4	609.5	207176	152090	62.0	55.0	94.8	87.2	24230	15590	D	D	1502	235	36
NF-PC205T3	741.5	640.6	239215	184900	61.0	54.0	93.8	86.4	22430	14960	D	D	1352	212	33
NF-PB206T3	791.1	674.8	269094	202236	62.0	55.0	94.7	87.4	28020	18370	E	D	1352	212	33
NF-PA108T4	794.8	677.4	198447	155588	60.0	53.0	92.9	85.6	17500	11760	C	C	1923	295	46
NF-PD205T3	816.6	710.2	250308	196807	61.0	54.0	93.9	86.6	21740	14630	D	C	1577	242	38
NF-PC205T4	838.8	701.6	225928	170243	61.0	54.0	93.8	86.5	23260	15280	D	C	1803	275	43
NF-PA208T3	896.0	754.7	320436	233868	65.0	57.0	97.4	89.6	39220	25100	E	D	1442	222	35
NF-PA109T4	896.4	763.9	223253	175036	61.0	53.0	93.4	86.1	19690	13230	C	C	2163	330	51
NF-PD205T4	922.4	779.7	238382	183891	61.0	54.0	93.8	86.4	22480	14990	D	C	2103	318	49
NF-PC206T4	1010.4	845.2	271114	204291	62.0	55.0	94.6	87.3	27910	18340	D	C	2163	327	51
NF-PA210T3	1125.3	948.2	400545	292334	66.0	58.0	98.4	90.6	49020	31370	E	D	1803	277	43
NF-PB208T4	1192.6	984.5	331482	243345	64.0	56.0	96.8	89.3	38770	24940	D	D	2403	365	57

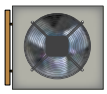
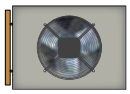
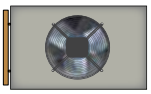
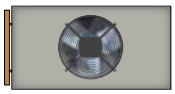
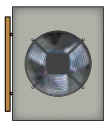
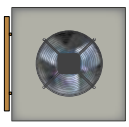
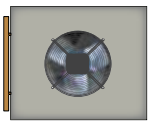
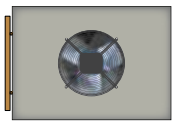
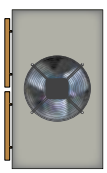
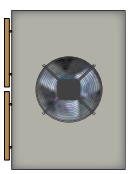
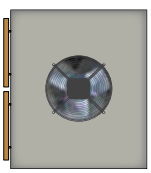
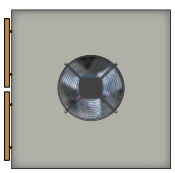
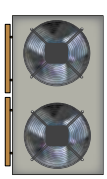
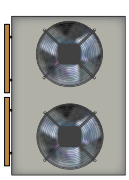
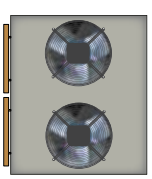
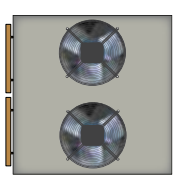
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		35.7 - 562.7 kW		41.8 - 596.3 kW		47.4 - 505.2 kW		52.3 - 461.2 kW
N		45.4 - 810.5 kW		52.6 - 743.9 kW		58.3 - 615.2 kW		63.8 - 552.8 kW
P1		56.8 - 998.4 kW		64.7 - 893.6 kW		72.6 - 740.3 kW		78.5 - 655.8 kW
P2		71.4 - 1125.3 kW		83.6 - 1192.6 kW		94.8 - 1010.4 kW		104.7 - 922.4 kW

NF, T - Fin - 800mm 6 Pole, N Fan Type

Model	Capacity NH3 *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m³/h	Y m³/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m²	dm³	kg
NF-MB101T3	57.8	48.8	17939	13422	52.0	42.0	83.1	73.5	1730	1090	D	D	113	21	3
NF-MC101T4	71.6	59.1	18041	13522	51.0	42.0	83.1	73.5	1730	1090	D	C	180	31	5
NF-PA101T4	83.0	69.1	19462	14977	51.0	43.0	83.0	74.5	1660	1070	C	C	240	41	6
NF-MB102T4	129.0	106.1	33778	25012	55.0	45.0	86.4	76.5	3560	2200	D	C	300	48	8
NF-MC102T3	129.8	110.2	37913	28789	54.0	45.0	85.9	77.0	3380	2160	D	C	270	44	7
NF-PA103T3	226.0	193.9	60008	47014	56.0	48.0	87.9	79.7	4900	3190	C	C	541	88	14
NF-PB202T3	232.1	195.7	71755	53687	57.0	48.0	89.1	79.5	6940	4370	D	D	451	75	12
NF-ND103T3	249.7	214.9	61648	49059	56.0	47.0	88.1	79.5	4800	3140	C	C	668	106	17
NF-PA103T4	250.8	208.9	58386	44931	56.0	47.0	87.7	79.3	4990	3220	C	C	721	114	18
NF-PB202T4	258.0	212.1	67556	50024	57.0	48.0	89.4	79.5	7120	4400	D	C	601	97	15
NF-NB104T3	284.6	242.7	78399	60622	57.0	49.0	89.0	80.7	6620	4280	D	C	636	104	16
NF-MA106T3	304.1	255.8	99055	72978	59.0	49.0	91.2	81.3	10790	6650	E	D	541	87	13
NF-MA106T4	335.2	273.9	90725	65980	60.0	50.0	92.0	81.8	11280	7080	E	D	721	113	18
NF-MB106T3	353.1	297.9	107632	80530	58.0	49.0	90.9	81.3	10410	6550	D	C	676	106	17
NF-MB106T4	392.2	322.6	101335	75036	59.0	49.0	91.1	81.3	10690	6600	D	C	901	139	22
NF-MD105T4	397.0	328.3	94474	71554	57.0	48.0	89.9	80.9	8460	5410	C	C	1051	161	25
NF-MB107T3	413.2	348.4	125571	93952	59.0	49.0	91.6	82.0	12140	7640	D	C	789	121	19
NF-NC105T4	433.0	362.0	98341	76266	58.0	49.0	90.0	81.8	8260	5340	C	C	1272	194	30
NF-PA106T3	455.9	390.9	120016	94029	59.0	50.0	90.9	82.7	9790	6370	C	C	1082	170	26
NF-MB107T4	459.0	377.4	118223	87541	59.0	49.0	91.8	82.0	12470	7700	D	C	1051	159	25
NF-PB204T3	468.1	395.1	143509	107374	60.0	50.0	92.1	82.5	13880	8730	D	C	901	144	22
NF-MB108T3	473.9	399.7	143509	107374	59.0	50.0	92.1	82.5	13880	8730	D	C	901	137	21
NF-PB106T3	506.4	435.9	123454	98303	59.0	50.0	91.1	82.5	9600	6280	C	C	1352	209	33
NF-NA108T3	507.7	429.4	149047	112563	59.0	50.0	92.0	82.7	13630	8680	D	C	1018	157	24
NF-PB204T4	519.5	427.5	135113	100047	60.0	50.0	92.4	82.5	14250	8800	D	C	1202	191	30
NF-PC204T3	522.8	443.3	151653	115155	60.0	51.0	91.9	83.0	13520	8640	D	C	1082	170	26
NF-PA107T3	532.7	457.1	140019	109700	59.0	51.0	91.6	83.4	11430	7430	C	C	1262	199	31
NF-NA108T4	563.1	465.0	141319	105679	60.0	50.0	92.2	82.5	13970	8750	D	C	1357	208	32
NF-PA108T3	611.1	523.6	160021	125372	60.0	51.0	92.2	84.0	13060	8490	C	C	1442	225	35
NF-NA109T4	634.9	524.3	158984	118889	60.0	50.0	92.7	83.0	15720	9840	D	C	1527	233	36
NF-PC205T3	656.6	556.4	189566	143944	60.0	51.0	92.9	84.0	16900	10800	D	C	1352	212	33
NF-PA108T4	677.5	564.3	155695	119816	59.0	51.0	92.0	83.5	13300	8580	C	C	1923	295	46
NF-PA109T3	688.5	590.1	180024	141043	60.0	52.0	92.7	84.5	14690	9560	C	C	1622	251	39
NF-PB206T3	706.2	595.8	215264	161061	61.0	52.0	93.9	84.3	20820	13100	D	C	1352	212	33
NF-PC205T4	728.6	601.0	180415	135216	60.0	51.0	93.1	83.5	17300	10910	D	C	1803	278	43
NF-PA109T4	764.0	636.5	175157	134793	60.0	51.0	92.5	84.1	14970	9650	C	C	2163	330	51
NF-PB206T4	784.4	645.2	202669	150071	62.0	52.0	94.1	84.3	21370	13200	D	C	1803	278	43
NF-PD205T4	794.0	656.5	188947	143108	60.0	51.0	92.9	83.9	16930	10810	C	C	2103	321	50
NF-PA110T4	851.0	708.8	194619	149770	60.0	52.0	93.0	84.5	16630	10720	C	C	2403	365	57
NF-PA208T4	898.3	733.8	241932	175945	64.0	53.0	96.2	86.1	30090	18880	E	D	1923	292	45

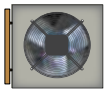
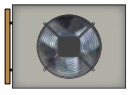
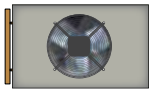
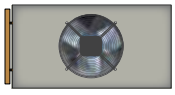
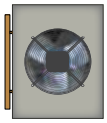
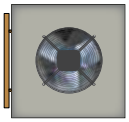
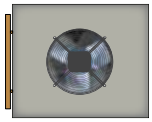
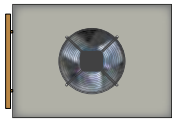
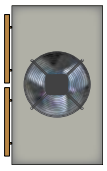
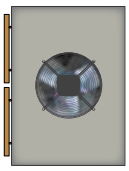
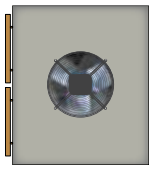
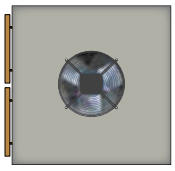
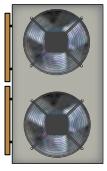
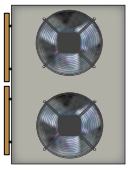
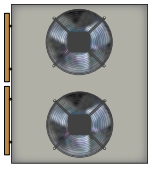
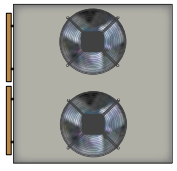
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		31.8 - 563.9 kW		37.0 - 526.2 kW		41.5 - 438.8 kW		45.8 - 396.9 kW
N		39.8 - 707.3 kW		45.9 - 639.8 kW		50.4 - 521.5 kW		54.6 - 462.3 kW
P1		49 - 850.9 kW		55.3 - 746.5 kW		61.3 - 610.0 kW		65.8 - 533.7 kW
P2		63.6 - 1127.9 kW		74.1 - 1052.4 kW		83.1 - 877.6 kW		91.5 - 793.9 kW

NF, T - Fin - 800mm 8 Pole, N Fan Type

Model	Capacity NH3 *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m³/h	Y m³/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m²	dm³	kg
NF-MB101T4	52.7	42.7	12478	9219	43.0	34.0	74.5	65.8	860	530	C	B	150	26	4
NF-MC101T4	58.5	47.7	13335	10018	43.0	35.0	74.5	66.3	830	530	B	B	180	31	5
NF-MB102T3	97.1	81.2	26516	19878	46.0	37.0	77.5	69.2	1670	1060	C	B	225	37	6
NF-MC102T3	108.4	90.9	28038	21365	46.0	38.0	77.5	69.9	1620	1040	C	B	270	44	7
NF-PC102T2	118.2	101.8	33460	26437	44.0	37.0	76.1	69.0	1510	960	B	B	361	60	9
NF-PA102T3	124.8	104.7	29859	23041	45.0	38.0	77.1	70.0	1570	1020	B	B	361	61	9
NF-PD102T2	126.3	108.1	33793	26771	44.0	37.0	76.0	69.0	1500	950	B	A	421	69	11
NF-MA103T3	127.1	105.3	36568	26843	47.0	39.0	79.3	70.5	2620	1610	C	C	270	44	7
NF-NC102T3	128.4	107.4	30180	23338	45.0	38.0	76.9	70.0	1560	1010	B	B	382	62	10
NF-PB102T3	137.6	115.8	30892	24122	45.0	38.0	76.6	69.6	1540	990	B	A	451	74	11
NF-PA202T3	168.9	139.9	48757	35791	49.0	40.0	80.5	71.7	3490	2150	C	C	361	61	9
NF-PB202T3	194.2	162.4	53032	39757	49.0	40.0	80.5	72.2	3340	2110	C	B	451	75	12
NF-PB103T3	207.2	174.4	46338	36184	46.0	39.0	78.4	71.3	2310	1480	B	A	676	107	17
NF-PB202T4	211.8	171.7	49913	36877	49.0	40.0	80.5	71.8	3450	2140	C	B	601	97	15
NF-MB104T4	213.5	172.9	49913	36878	48.0	40.0	80.5	71.8	3450	2140	C	B	601	94	15
NF-PC202T3	216.7	181.8	56075	42731	49.0	41.0	80.5	72.9	3240	2080	C	B	541	88	14
NF-NB104T3	236.4	198.4	58234	44715	48.0	41.0	80.4	73.0	3170	2050	B	B	636	102	16
NF-PA104T3	251.2	210.5	59719	46082	48.0	41.0	80.1	73.0	3130	2030	B	B	721	114	18
NF-MA106T3	256.2	212.1	73136	53687	50.0	41.0	82.3	73.5	5240	3220	C	C	541	85	13
NF-MB107T2	263.9	225.3	99377	75894	50.0	43.0	83.0	75.5	5630	3630	C	C	526	84	13
NF-PA203T4	275.7	219.5	67497	48341	51.0	41.0	82.8	73.5	5520	3260	C	C	721	114	18
NF-ND104T3	276.2	232.1	61690	48138	47.0	40.0	79.7	72.6	3080	1980	B	A	891	141	22
NF-MD105T3	296.8	249.1	72664	55775	49.0	41.0	81.4	74.0	3970	2570	B	B	789	122	19
NF-MC105T4	297.6	242.5	66677	50089	49.0	41.0	81.5	73.3	4160	2640	B	B	901	139	22
NF-PC104T3	304.2	254.3	65664	51449	47.0	40.0	79.4	72.3	3050	1940	B	A	1082	166	26
NF-NC105T3	324.7	271.8	75450	58346	48.0	41.0	80.9	74.0	3900	2530	B	B	954	150	23
NF-PC203T3	326.4	274.0	84113	64096	50.0	43.0	82.3	74.7	4860	3130	C	B	811	131	20
NF-NB106T3	356.8	299.5	87352	67072	50.0	42.0	82.1	74.8	4760	3080	B	B	954	150	23
NF-PA106T3	378.9	317.6	89578	69123	49.0	42.0	81.8	74.8	4700	3050	B	B	1082	170	26
NF-PA108T2	389.3	336.0	123807	96478	50.0	43.0	82.6	75.6	6160	3960	C	B	961	152	24
NF-MB108T3	396.7	331.1	106064	79513	51.0	42.0	83.5	75.2	6670	4220	C	B	901	139	22
NF-NA107T4	403.1	327.9	91578	68487	51.0	42.0	83.0	74.5	5880	3710	C	B	1188	182	28
NF-PC105T4	408.1	334.0	80581	62723	48.0	41.0	80.6	73.6	3850	2470	B	A	1803	275	43
NF-PB106T3	418.1	352.2	92677	72367	49.0	42.0	81.4	74.4	4620	2970	B	A	1352	209	33
NF-PD105T4	429.2	350.0	82038	64069	48.0	41.0	80.3	73.3	3810	2440	A	A	2103	318	49
NF-PB205T3	491.2	409.9	132580	99392	52.0	44.0	84.5	76.2	8340	5280	C	B	1127	177	27
NF-PD205T3	593.6	498.3	145329	111550	52.0	44.0	84.4	77.0	7940	5140	B	B	1577	245	38
NF-PB108T4	603.6	497.8	120491	93665	50.0	43.0	83.0	76.0	6240	4040	B	A	2403	365	57
NF-PD205T4	644.7	526.7	139517	105966	52.0	44.0	84.5	76.8	8120	5220	B	B	2103	321	50
NF-PA209T3	774.2	641.4	219409	161061	54.0	45.0	87.1	78.2	15710	9650	C	C	1622	251	39

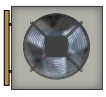
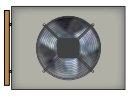
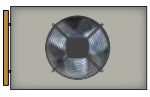
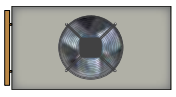
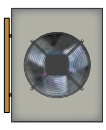
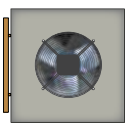
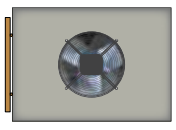
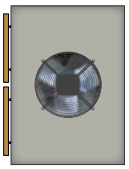
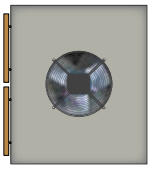
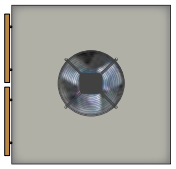
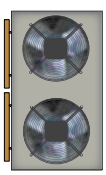
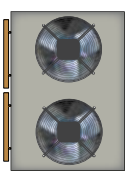
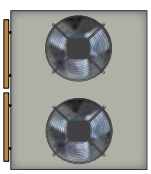
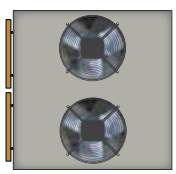
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		33.8 - 580.2 kW		38.4 - 519.5 kW		35.2 - 358.3 kW		38.3 - 322.2 kW
N		33.8 - 580.2 kW		38.4 - 519.5 kW		42.1 - 422.6 kW		45.6 - 373.3 kW
P1		40.7 - 690.8 kW		45.8 - 603.6 kW		50.6 - 491.6 kW		53.6 - 429.1 kW
P2		54.8 - 935.7 kW		63.3 - 864 kW		70.4 - 716.6 kW		76.5 - 644.7 kW

NF, T - Fin -910mm 12 Pole, N Fan Type

Model	Capacity NH3 *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	△ kW	Y kW	△ m³/h	Y m³/h	△ dB(A)	Y dB(A)	△ dB(A)	Y dB(A)	△ W	Y W	△	Y	m²	dm³	kg
NF-MB101T3	39.4	33.4	9254	7246	32.0	26.0	63.3	57.3	320	190	A+	A+	113	21	3
NF-MB101T4	42.5	35.0	8546	6611	32.0	25.0	63.9	57.0	320	200	A+	A+	150	26	4
NF-MC101T3	43.2	36.8	9959	7926	32.0	26.0	63.1	57.6	310	190	A+	A+	135	24	4
NF-PA101T3	49.9	42.8	10906	8781	32.0	27.0	63.4	58.3	300	180	A+	A+	180	32	5
NF-MC102T3	86.9	74.0	19919	15851	34.0	29.0	66.1	60.6	610	380	A+	A+	270	44	7
NF-ND102T2	90.4	78.5	23383	19096	35.0	31.0	67.2	62.5	550	350	A+	A+	297	49	8
NF-NB102T3	94.4	81.4	21019	16971	34.0	29.0	66.2	61.0	600	370	A+	A+	318	54	8
NF-NA103T3	125.5	107.1	29235	23141	36.0	30.0	67.9	62.3	930	580	A+	A+	382	65	10
NF-PB202T3	154.9	131.4	37015	28984	37.0	31.0	69.3	63.3	1260	780	A+	A+	451	75	12
NF-MB104T3	159.2	134.9	37015	28984	37.0	31.0	69.3	63.3	1260	780	A+	A+	451	72	11
NF-PB103T3	166.4	141.5	34144	27555	37.0	32.0	68.6	63.7	850	530	A+	A++	676	107	17
NF-MD104T3	190.2	163.9	41930	33828	37.0	32.0	69.2	63.9	1200	740	A+	A+	631	100	16
NF-MB105T3	199.7	169.0	46268	36230	38.0	32.0	70.3	64.3	1580	970	A+	A+	563	90	14
NF-MA106T3	201.2	170.0	49395	38336	40.0	33.0	72.3	65.1	1950	1180	B	A+	541	87	13
NF-PA104T3	201.7	173.5	43624	35125	37.0	32.0	69.4	64.3	1180	730	A+	A+	721	118	18
NF-PA105T2	203.8	181.0	56904	46307	39.0	34.0	70.9	66.0	1420	890	A+	A+	601	98	15
NF-PA105T3	253.1	216.9	54530	43906	38.0	33.0	70.4	65.3	1480	910	A+	A+	901	144	22
NF-NA106T3	253.3	215.5	58469	46281	39.0	33.0	71.0	65.3	1850	1150	A+	A+	763	120	19
NF-PC203T3	261.2	223.0	59757	47554	39.0	33.0	70.9	65.4	1840	1140	A+	A+	811	131	20
NF-NC105T3	261.4	223.0	55330	44449	38.0	33.0	70.5	65.5	1460	900	A+	A++	954	148	23
NF-MC106T3	263.7	225.1	59757	47554	38.0	33.0	70.9	65.4	1840	1140	A+	A+	811	124	19
NF-PB105T3	279.4	236.8	56907	45924	38.0	34.0	70.9	65.9	1420	890	A+	A++	1127	177	27
NF-NB106T3	287.0	247.2	63058	50913	38.0	33.0	70.9	65.7	1800	1110	A+	A+	954	148	23
NF-PB204T3	312.3	264.6	74030	57968	40.0	34.0	72.4	66.3	2520	1550	A+	A+	901	144	22
NF-PA107T3	356.6	304.5	76342	61469	39.0	34.0	71.9	66.8	2070	1270	A+	A+	1262	199	31
NF-PB205T3	391.8	331.3	92537	72461	41.0	35.0	73.3	67.3	3150	1940	A+	A+	1127	180	28
NF-PA108T3	408.4	349.3	87248	70250	40.0	35.0	72.4	67.3	2360	1450	A+	A++	1442	225	35
NF-PC205T3	437.8	374.0	99594	79256	41.0	35.0	73.1	67.6	3060	1900	A+	A+	1352	212	33
NF-PA108T4	440.5	368.8	83067	66438	39.0	34.0	72.1	66.9	2410	1490	A+	A++	1923	295	46
NF-PA109T3	460.3	393.6	98154	79032	40.0	35.0	73.0	67.8	2660	1640	A+	A+	1622	251	39
NF-PB206T3	471.6	399.0	111044	86953	42.0	36.0	74.1	68.1	3780	2330	A+	A+	1352	212	33
NF-PD205T3	477.5	410.9	104824	84570	40.0	35.0	73.1	67.9	3000	1850	A+	A+	1577	245	38
NF-PB206T4	508.2	418.7	102547	79329	42.0	35.0	74.7	67.8	3880	2360	A+	A+	1803	275	43
NF-PC206T3	527.4	450.3	119514	95107	41.0	36.0	73.9	68.4	3680	2280	A+	A+	1622	248	39
NF-PB207T3	551.0	466.4	129552	101445	42.0	36.0	74.8	68.8	4410	2720	A+	A+	1577	242	38
NF-PA208T4	576.4	474.7	118894	91565	46.0	38.0	78.4	70.5	5290	3200	B	A+	1923	292	45
NF-PB207T4	594.4	489.8	119638	92550	43.0	36.0	75.3	68.5	4520	2750	A+	A+	2103	318	49
NF-PA209T3	607.7	513.8	148184	115008	44.0	37.0	77.1	69.9	5850	3550	B	A+	1622	248	39
NF-PB208T3	632.4	535.4	148059	115937	42.0	36.0	75.4	69.3	5040	3100	A+	A+	1803	274	43
NF-PA209T4	650.4	535.4	133756	103011	46.0	38.0	78.9	71.0	5950	3600	B	A+	2163	330	51

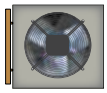
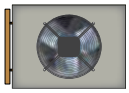
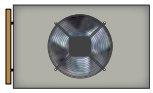
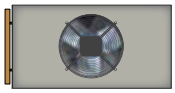
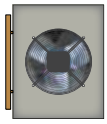
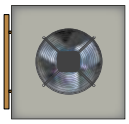
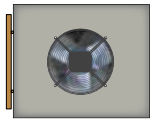
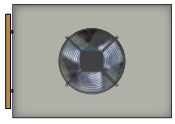
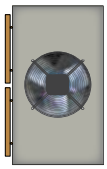
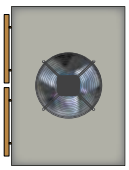
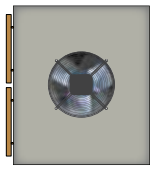
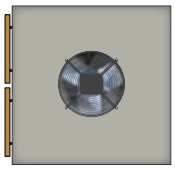
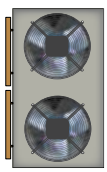
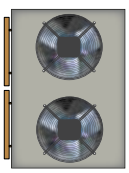
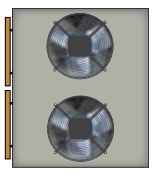
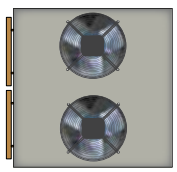
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		23.5 - 362 kW		27.9 - 347.6 kW		30.6 - 290.8 kW		33.4 - 257.4 kW
N		29.4 - 458.6 kW		33.5 - 414.9 kW		36.6 - 340.2 kW		39.2 - 303.3 kW
P1		35.7 - 553.2 kW		39.1 - 488.3 kW		43.1 - 394.4 kW		45.9 - 342.2 kW
P2		47 - 724.1 kW		54.8 - 681.5 kW		61.2 - 568.3 kW		66.8 - 514.9 kW

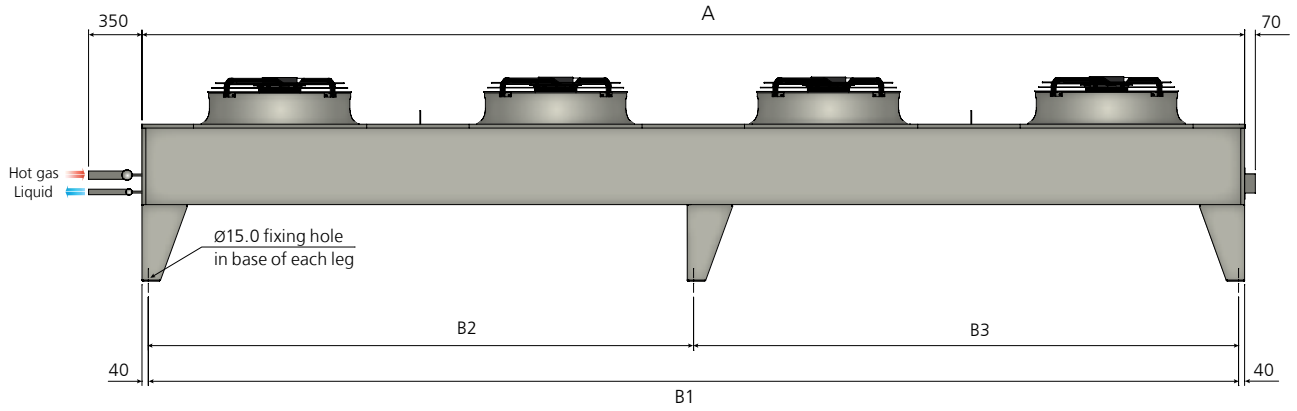
NF, T - Fin - 910mm 12 pole N EC Fan Type

Model	Capacity NH3 *	Air Volume	Sound Pressure Mean **	Sound Power	Power Input	Energy Rating	Total Surface	Internal Volume	R404A Charge
	kW	m^3/h	dB(A)	dB(A)	W	Y	m^2	dm^3	kg
NF-NA101T3H-091E115	11.9	2096	15.0	31.0	30	A++	127	21	3
NF-NB101T2H-091E125	15.9	3365	15.0	33.4	30	A++	106	19	3
NF-NB101T3H-091E140	20.0	3558	15.0	36.6	30	A++	159	27	4
NF-PA101T3H-091E160	23.3	4175	15.0	40.4	30	A++	180	30	5
NF-PA101T3H-091E170	25.0	4484	15.0	41.6	40	A++	180	31	5
NF-NC101T3H-091E190	28.3	5119	15.0	44.7	40	A++	191	32	5
NF-MB101T3H-091P290	28.9	6187	23.0	54.9	70	A++	113	19	3
NF-PA101T4H-091E200	29.1	5061	15.0	46.2	50	A++	240	40	6
NF-MD101T3H-091P290	34.3	6874	23.0	54.5	70	A++	158	26	4
NF-NB101T3H-091E320	40.7	8663	27.0	58.9	140	A++	159	27	4
NF-MC101T3H-091P410	41.5	9525	31.0	63.0	170	A++	135	22	3
NF-MB101T4H-091P460	43.7	9507	35.0	67.0	230	A+	150	25	4
NF-PA103T2H-091E125	49.6	10316	15.0	38.2	80	A++	361	57	9
NF-MC101T4H-091P510	52.4	11388	37.0	69.0	310	A+	180	31	5
NF-PC102T2H-091E190	54.4	11618	16.0	47.8	80	A++	361	57	9
NF-MC101T4H-091P690	65.3	15667	46.0	77.9	720	B	180	31	5
NF-NB101T4H-091E610	70.3	16171	46.0	77.2	700	B	212	37	6
NF-PD102T2H-091E260	78.6	17082	24.0	56.5	120	A++	421	66	10
NF-PB103T2H-091E200	82.1	17435	19.0	50.9	140	A++	451	70	11
NF-NB101T4H-091E865	88.1	22802	55.0	86.5	1760	C	212	38	6
NF-PC102T2H-091E500	115.6	32801	43.0	75.3	710	A+	361	60	9
NF-PA102T4H-091E450	118.0	24033	40.0	71.6	630	A+	481	79	12
NF-PA103T3H-091E290	120.3	24151	29.0	60.9	300	A++	541	87	13
NF-PD102T3H-091E550	166.6	35845	46.0	77.9	940	A+	631	100	16
NF-MA103T4H-091P930	186.0	54736	61.0	92.8	5720	D	361	59	9
NF-PD102T3H-091E700	197.5	45811	52.0	84.3	1710	A	631	101	16
NF-PC104T3H-091E320	207.6	40071	33.0	64.9	490	A++	1082	166	26
NF-PB103T3H-091E610	230.6	55152	50.0	81.9	1910	A	676	107	17
NF-PC103T3H-091E610	254.9	59017	50.0	81.9	1860	A	811	127	20
NF-PB104T4H-091E610	337.6	71223	51.0	83.2	2620	A	1202	188	29
NF-PC105T4H-091E700	515.4	109823	55.0	88.0	4510	A	1803	275	43
NF-PB106T4H-091E700	560.6	122240	56.0	88.8	5620	B	1803	278	43
NF-PB106T4H-091E760	596.1	133366	59.0	91.1	7140	B	1803	278	43
NF-PA107T4H-091E760	622.9	147375	59.0	91.8	8690	B	1682	261	41
NF-NA108T4H-091E865	629.0	168583	65.0	98.0	14710	D	1357	208	32
NF-PD105T4H-091E865	632.1	136940	61.0	93.5	8110	B	2103	321	50
NF-NA110T4H-091E865	789.9	210728	66.0	99.0	18390	D	1697	257	40
NF-PC205T4H-091P930	814.1	215093	65.0	97.7	17570	C	1803	275	43
NF-PD205T4H-091P860	839.7	205562	62.0	95.1	13030	C	2103	318	49
NF-PB207T4H-091P930	1022.7	282006	67.0	99.5	25670	D	2103	318	49

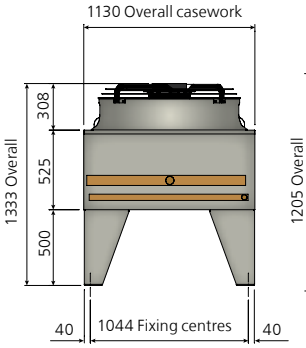
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

Unit	Module A	Capacity	Module B	Capacity	Module C	Capacity	Module D	Capacity
M		5 - 631.4 kW		12 - 586.3 kW		5.5 - 490.3 kW		13.3 - 444 kW
N		10.9 - 780 kW		11.6 - 721.9 kW		12 - 595.8 kW		12.4 - 534.9 kW
P1		11.8 - 968.9 kW		12.4 - 864.5 kW		18.2 - 714 kW		18.7 - 888.1 kW
P2		9.9 - 1262.7 kW		23.9 - 1172.7 kW		11 - 980.6 kW		26.6 - 888.1 kW

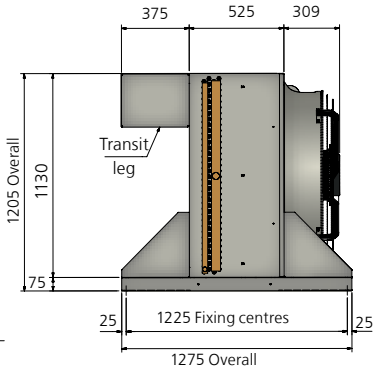
RF/NF Model drawings



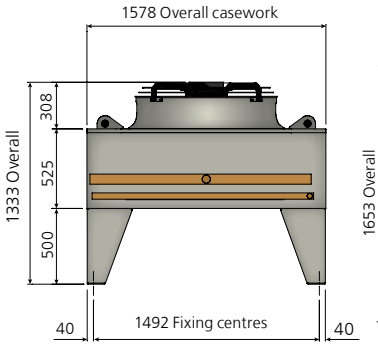
M



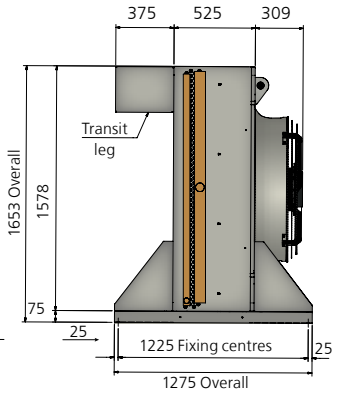
M vertical



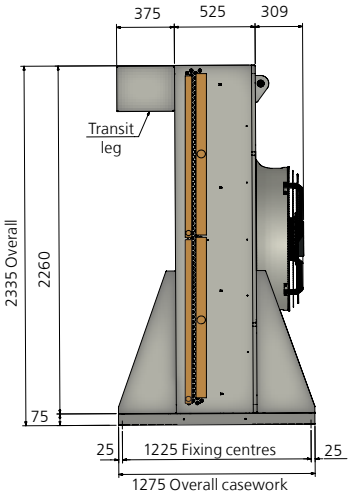
N



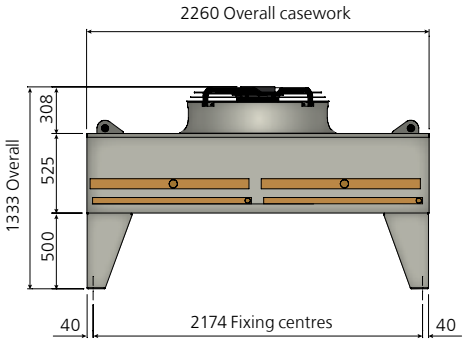
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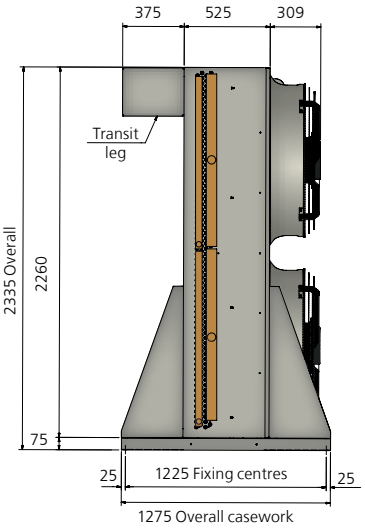
P-1 vertical



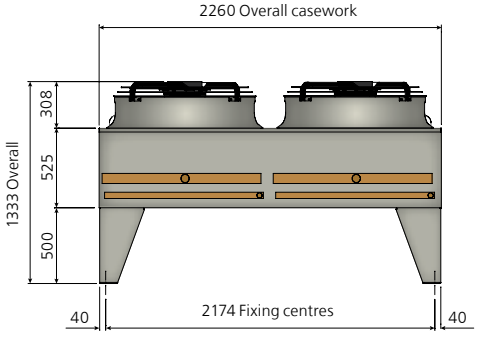
P-1



P-2 vertical



P-2



Note: All dimensions in mm. Common junction box will vary in size and position depending on the control option required.

Unit	Module	Fan banks	Fan per banks	Dim A	Dim B1	Dim B2	Dim B3	Total Unit Dry Weight (Approx)							
								M		N		P1		P2	
								Al	Cu	Al	Cu	Al	Cu	Al	Cu
								kg	kg	kg	kg	kg	kg	kg	kg
_F_A_01T2	1200	1 or 2	1	1203	1123	-	-	214	239	258	294	315	366	365	416
_F_A_01T3	1200	1 or 2	1	1203	1123	-	-	226	265	276	330	340	416	390	466
_F_A_01T4	1200	1 or 2	1	1203	1123	-	-	239	290	293	366	365	467	415	517
_F_A_02T2	1200	1 or 2	2	2403	2323	-	-	369	421	454	526	552	655	649	752
_F_A_02T3	1200	1 or 2	2	2403	2323	-	-	394	471	489	597	685	756	699	853
_F_A_02T4	1200	1 or 2	2	2403	2323	-	-	419	522	524	669	652	857	749	954
_F_A_03T2	1200	1 or 2	3	3603	3523	-	-	525	602	650	758	790	944	934	1088
_F_A_03T3	1200	1 or 2	3	3603	3523	-	-	562	678	702	865	865	1095	1009	1239
_F_A_03T4	1200	1 or 2	3	3603	3523	-	-	600	753	755	972	939	1247	1083	1391
_F_A_04T2	1200	1 or 2	4	4803	4723	-	-	574	676	738	883	921	1126	1112	1316
_F_A_04T3	1200	1 or 2	4	4803	4723	-	-	624	777	808	1025	1020	1328	1211	1518
_F_A_04T4	1200	1 or 2	4	4803	4723	-	-	673	878	879	1168	1120	1529	1310	1720
_F_A_05T2	1200	1 or 2	5	6003	5923	-	-	695	823	900	1081	1124	1381	1362	1618
_F_A_05T3	1200	1 or 2	5	6003	5923	-	-	758	950	988	1259	1249	1633	1486	1871
_F_A_05T4	1200	1 or 2	5	6003	5923	-	-	820	1076	1075	1437	1373	1885	1611	2123
_F_A_06T2	1200	1 or 2	6	7203	7123	3562	3561	827	971	1061	1278	1328	1635	1613	1920
_F_A_06T3	1200	1 or 2	6	7203	7123	3562	3561	891	1122	1167	1492	1477	1938	1762	2223
_F_A_06T4	1200	1 or 2	6	7203	7123	3562	3561	966	1273	1272	1706	1626	2241	1911	2525
_F_A_07T2	1200	1 or 2	7	8403	8323	3562	4761	969	1149	1254	1507	1562	1921	1895	2254
_F_A_07T3	1200	1 or 2	7	8403	8323	3562	4761	1056	1325	1376	1756	1736	2274	2069	2607
_F_A_07T4	1200	1 or 2	7	8403	8323	3562	4761	1143	1502	1499	2005	1910	2627	2243	2960
_F_A_08T2	1200	1 or 2	8	9603	9523	4762	4761	1091	1296	1415	1705	1766	2176	2146	2555
_F_A_08T3	1200	1 or 2	8	9603	9523	4762	4761	1190	1497	1555	1989	1964	2579	2344	2959
_F_A_08T4	1200	1 or 2	8	9603	9523	4762	4761	1289	1699	1696	2274	2163	2982	2543	3362
_F_A_09T2	1200	1 or 2	9	10803	10723	4762	5961	1212	1443	1577	1902	1969	2430	2396	2857
_F_A_09T3	1200	1 or 2	9	10803	10723	4762	5961	1324	1670	1734	2223	2193	2884	2619	3311
_F_A_09T4	1200	1 or 2	9	10803	10723	4762	5961	1436	1897	1892	2543	2416	3338	2843	3765
_F_A_10T2	1200	1 or 2	10	12003	11923	5962	5961	1334	1590	1738	2100	2173	2685	2646	3159
_F_A_10T3	1200	1 or 2	10	12003	11923	5962	5961	1458	1842	1913	2456	2421	3189	2895	3663
_F_A_10T4	1200	1 or 2	10	12003	11923	5962	5961	1582	2094	2089	2812	2669	3694	3143	4167
_F_B_01T2	1500	1 or 2	1	1503	1423	-	-	233	265	281	327	353	417	405	469
_F_B_01T3	1500	1 or 2	1	1503	1423	-	-	248	296	303	371	384	480	436	532
_F_B_01T4	1500	1 or 2	1	1503	1423	-	-	264	328	326	416	415	543	467	595
_F_B_02T2	1500	1 or 2	2	3003	2923	-	-	408	472	500	591	629	757	729	857
_F_B_02T3	1500	1 or 2	2	3003	2923	-	-	439	535	544	680	691	883	791	983
_F_B_02T4	1500	1 or 2	2	3003	2923	-	-	470	598	588	769	753	1009	853	1110
_F_B_03T2	1500	1 or 2	3	4503	4423	-	-	454	550	591	727	776	968	925	1117
_F_B_03T3	1500	1 or 2	3	4503	4423	-	-	501	645	657	861	870	1158	1019	1307
_F_B_03T4	1500	1 or 2	3	4503	4423	-	-	547	740	723	994	963	1347	1112	1496
_F_B_04T2	1500	1 or 2	4	6003	5923	-	-	616	744	797	978	1039	1295	1237	1493
_F_B_04T3	1500	1 or 2	4	6003	5923	-	-	678	870	885	1156	1163	1548	1361	1745
_F_B_04T4	1500	1 or 2	4	6003	5923	-	-	740	997	973	1334	1288	1800	1485	1998
_F_B_05T2	1500	1 or 2	5	7503	7423	2962	4461	748	908	974	1200	1272	1592	1519	1839
_F_B_05T3	1500	1 or 2	5	7503	7423	2962	4461	826	1066	1083	1422	1428	1908	1674	2154
_F_B_05T4	1500	1 or 2	5	7503	7423	2962	4461	903	1224	1193	1645	1583	2223	1829	2469
_F_B_06T2	1500	1 or 2	6	9003	8923	4462	4461	880	1073	1150	1421	1505	1890	1800	2185
_F_B_06T3	1500	1 or 2	6	9003	8923	4462	4461	913	1262	1282	1688	1692	2268	1987	2563
_F_B_06T4	1500	1 or 2	6	9003	8923	4462	4461	1066	1451	1413	1956	1878	2646	2173	2941
_F_B_07T2	1500	1 or 2	7	10503	10423	4462	5961	1043	1267	1357	1674	1769	2218	2114	2562
_F_B_07T3	1500	1 or 2	7	10503	10423	4462	5961	1152	1488	15111	1985	1987	2659	2331	3004
_F_B_07T4	1500	1 or 2	7	10503	10423	4462	5961	1260	1709	1664	2297	2204	3100	2549	3445
_F_B_08T2	1500	1 or 2	8	12003	11923	5962	5961	1175	1431	1534	1895	2002	2515	2396	2908
_F_B_08T3	1500	1 or 2	8	12003	11923	5962	5961	1299	1684	1709	2251	2251	3019	2664	3413
_F_B_08T4	1500	1 or 2	8	12003	11923	5962	5961	1423	1936	1884	2607	2499	3524	3413	3917
_F_C_01T2	1800	1 or 2	1	1803	1723	-	-	252	290	305	359	357	433	410	487
_F_C_01T3	1800	1 or 2	1	1803	1723	-	-	271	328	331	413	394	509	447	562
_F_C_01T4	1800	1 or 2	1	1803	1723	-	-	289	366	358	466	431	585	485	638
_F_C_02T2	1800	1 or 2	2	3603	3523	-	-	446	523	547	656	636	790	740	893
_F_C_02T3	1800	1 or 2	2	3603	3523	-	-	483	599	600	763	711	941	814	1045
_F_C_02T4	1800	1 or 2	2	3603	3523	-	-	521	674	652	869	785	1093	889	1196
_F_C_03T2	1800	1 or 2	3	5403	5323	-	-	486	601	636	798	762	992	916	1146
_F_C_03T3	1800	1 or 2	3	5403	5323	-	-	542	715	715	959	874	1219	1027	1373
_F_C_03T4	1800	1 or 2	3	5403	5323	-	-	598	828	794	1119	985	1446	1139	1600
_F_C_04T2	1800	1 or 2	4	7203	7123	3562	3561	659	812	857	1074	1020	1327	1224	1531
_F_C_04T3	1800	1 or 2	4	7203	7123	3562	3561	733	964	962	1287	1169	1630	1373	1834
_F_C_04T4	1800	1 or 2	4	7203	7123	3562	3561	807	1115	1067	1501	1318	1933	1522	2137
_F_C_05T2	1800	1 or 2	5	9003	8923	3562	5361	801	993	1048	1319	1248	1633	1502	1887
_F_C_05T3	1800	1 or 2	5	9003	8923	3562	5361	894	1182	1179	1586	1435	2011	1689	2265
_F_C_05T4	1800	1 or 2	5	9003	8923	3562	5361	987	1372	1311	1853	1621	2389	1875	2643
_F_C_06T2	1800	1 or 2	6	10803	10723	5362	5361	974	1204	1269	1594	1507	1968	1811	2272
_F_C_06T3	1800	1 or 2	6	10803	10723	5362	5361	1085	1431	1426	1915	1730	2421	2034	2726
_F_C_06T4	1800	1 or 2	6	10803	10723	5362	5361	1197	1658	1584	2235	1953	2875	2258	3180
_F_D_01T2	2100	1 or 2	1	2103	2023	-	-	271	316	328	454	395	484	450	539
_F_D_01T3	2100	1 or 2	1	2103	2023	-	-	293	360	359	454	438	573	493	628
_F_D_01T4	2100	1 or 2	1	2103	2023	-	-	404	404	390	516	482	661	537	716
_F_D_02T2	2100	1 or 2	2	4203	4123	-	-	365	454	474	601	593	772	699	879
_F_D_02T3	2100	1 or 2	2	4203	4123	-	-	408	542	536	725	350	949	786	1055
_F_D_02T4	2100	1 or 2	2	4203	4123	-	-	631	631	597	850	767	1125	873	1232
_F_D_03T2	2100	1 or 2	3	6303	6223	-	-	577	712	740	930	910	1179	1069	1338
_F_D_03T3	2100	1 or 2	3	6303	6223	-	-	643	844	832	1117	1041	1444	1199	1602
_F_D_03T4	2100	1 or 2	3	6303	6223	-	-	977	977	924	10304	1171	1709	1330	1861
_F_D_04T2	2100	1 or 2	4	8403	8323	4162	4161	731	910	946	1199	1168	1527	1378	1737
_F_D_04T3	2100	1 or 2	4	8403	8323	4162	4161	818	1087	1068	1448	1342	1880	1552	2090
_F_D_04T4	2100	1 or 2	4	8403	8323	4162	4161	1263	1263	1191	1697	1516	2233	1726	2443
_F_D_05T2	2100	1 or 2	5	10503	10423	4162	6261	884	1108	1152	1468	1426	1874	1688	2136
_F_D_05T3	2100	1 or 2	5	10503	10423	4162	6261	993	1329	1305	1780	1643	2316	1905	2578
_F_D_05T4	2100	1 or 2	5	10503	10423	4162	6261	1549	1549	1458	2091	1861	2757	2122	3019

The GEA Searle V-Bank configuration are suitable for all refrigeration and air conditioning applications and can also be configured as dry air liquid coolers. With a combination of 3 coil widths and 3 module lengths and 2 fans wide the available range can now achieve up to 12 metres long and has an option of 20 fans.

MV Air Cooled Condenser
engineering for a better world



MV Condenser

The MV range extends the versatility of GEA Air cooled condensers into a V-Bank configuration with a combination of 3 coil widths and 3 module lengths, 2 fans wide. The available range has a duty from 36kW to 1088kW. GEA achieves a close specification match by offering three module length options of 1200mm, 1440mm or 1800mm across three coil width options in the small footprint V-Bank formation. The MV...M has 2 x 1524mm high coils and the MV...L has 2 x 1905mm high coils with 2 fans wide, both sizes offer the choice of 2 to 8 fans in length. Combined with coil sizes from 2 to 4 row coils and multiple standard fan options up to 910mm, this range of V configuration units is comprehensive.

GEA offers EC fans, a highly efficient and very low noise complete control package. Full details of the EC fans and the best-suited application areas are included within this brochure. Due to the large number of options only a selection of the range is available in this brochure, selection is best achieved using the condenser data tables or the GEA selection software, from your local sales representative.

MV Features

- V-Bank configuration.
- combination of 3 coil widths and 3 module lengths
- 2 fans wide.
- The available range has a duty from 36kW to 1088kW.
- We offer three module length options of 1200mm, 1440m or 1800mm.
- Combined with coil sizes from 2 to 4 row coils and multiple standard fan options up to 910mm.

1	2	3	4	5							
MV	A	2	6	2	M	-	N8	08	D	-	AL
					6		7	8	9		10



1. Range:	MV	**8. Motor speed:**	06, 08, 12, EC
2.Module size:	A (1200mm), B (1440mm), C (1800mm)	**9. Power:**	D = Delta, S = Star
3. Bank of fans:	2	**10. Coil material:**	AL = copper tubes/ aluminium fins,
4. Fans per bank	1-10		AV = Copper tubes with 2 pack epoxy coated aluminium fins,
5. Coil row:	2, 3 ,4		CU = copper tubes/ copper fins,
6. Coil height:	M = Medium, L = Large		ET = copper tubes/copper fins electro-tinned,
7. Fan type:	refer to table below		Bg = copper tube/aluminium fin Blygold coated

Fan data

Fan type & Pole	Diameter	Module	Speed (rpm)		FLC (Amp)		SC (Amp)	
			Δ	Y	Δ	Y	Δ	Y
0806 N6 Pole	800mm	A,B,C,D	920	730	4.3	4.2	2.3	14
0808 N8 Pole		A,B,C,D	670	550	2.5	2.5	1.3	6.2
091 N6 Pole	910mm	A,B,C,D	905	640	5.7	5.7	3.3	19
091 H6 Pole		A,B,C,D	910	710	5.5	5.5	3.5	19
091 N12 Pole		A,B,C,D	440	340	3.5	0.85	0.4	2
091 E - EC Technology		A,B,C,D	865 - 115					
091 P - EC Technology		A,B,C,D	930 - 90					

MV selection data

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m³/hr	Y m³/hr	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ kW	Y kW	Δ	Y	m²	dm³	kg
910mm 6 pole															
MVA212M	104.3	91.5	50472	39564	58	51	90	83	4.23	2.95	E	D	159	39	12.9
MVA222M	209.8	183.9	100980	79128	61	54	93	86	8.47	5.90	E	D	318	68	22.8
MVA224M	317.5	255.6	88380	64692	61	54	93	86	9.16	6.20	D	D	363	131	44.1
MVA233M	412.2	346.0	141012	105984	62	55	94	87	13.32	9.15	D	D	715	144	48.2
MVA264M	59.0	779.5	265176	194148	65	58	97	90	27.48	18.60	D	D	1908	350	114.2
MVB214M	177.6	144.8	47772	35748	58	51	90	83	4.39	3.04	D	C	382	81	26.9
MVB232M	351.4	308.6	159408	125964	63	55	95	87	12.24	7.21	E	D	572	118	40.0
MVB233M	458.1	388.8	149832	115128	62	55	94	87	12.80	8.95	D	D	858	168	56.1
MVB234M	534.2	436.2	143280	107280	62	55	94	87	13.18	9.13	D	C	1145	223	72.6
MVB244M	721.5	587.1	191052	143028	63	56	95	88	17.58	12.17	D	C	1526	285	93.2
MVB254M	895.8	734.2	238824	178812	64	57	95	89	21.98	15.22	D	C	1908	350	114.2
MVC212M	132.5	115.9	55512	44316	58	52	90	84	3.93	2.81	D	D	239	53	17.3
MVC222M	266.1	232.6	110988	88632	61	54	93	86	7.87	5.63	D	D	477	95	31.6
MVC234M	600.4	493.3	151920	117792	62	55	94	87	12.61	8.88	C	C	1431	268	88.0
MVC243M	694.4	591.4	211500	165672	63	56	95	88	16.39	11.60	D	C	1431	272	88.1
MVA212L	117.9	104.7	53640	42480	58	51	90	83	4.05	2.86	E	D	199	49	16.2
MVA223L	312.6	265.1	101124	77940	61	53	93	85	8.46	5.92	D	C	596	128	43.8
MVA233L	471.1	397.7	151704	116892	62	55	94	87	12.69	8.90	D	C	894	180	60.3
MVA234L	546.5	446.3	15552	109548	62	55	94	87	40.32	9.09	D	C	1192	229	73.6
MVA243L	627.3	528.8	202248	155880	64	56	96	88	1.69	11.87	D	D	1192	231	76.7
MVA264L	1088.99	904.5	290268	219096	65	57	97	89	26.16	18.19	D	C	2385	443	143.4
MVB213L	170.9	145.8	52884	41400	58	51	90	83	4.09	2.90	D	C	358	79	26.7
MVB222L	265.6	232.6	110988	88632	61	54	93	86	7.87	5.63	D	D	477	98	32.9
MVB224L	398.6	329.8	102024	78516	61	53	93	85	4.81	5.92	C	C	954	191	63.9
MVB243L	699.3	592.4	211500	165672	63	56	95	88	16.39	11.60	D	C	1431	272	89.8
MVB254L	1009.7	834.5	255096	196308	64	57	96	89	21.03	14.80	C	C	2385	443	143.4
MVC214L	219.2	183.8	53568	42012	58	51	90	83	4.05	2.88	C	C	596	121	40.2
MVC233L	573.3	489.1	165312	131148	63	56	95	88	11.89	8.49	C	C	1341	249	80.9
MVC243L	769.6	661.1	220428	174888	64	57	96	87	15.85	11.33	C	C	1788	334	109.6
MVC244L	889.9	745.0	214308	167976	63	56	95	88	16.23	11.53	C	C	2385	438	142.8
800mm 6 pole															
MVA212M	95.7	84.9	43236	34740	54	50	86	82	3.13	2.14	D	D	159	39	12.9
MVA222M	192.4	170.6	86472	69480	57	53	89	85	6.27	4.28	D	D	318	68	22.8
MVA224M	288.3	245.4	77112	61092	57	51	89	83	6.65	4.41	D	C	636	131	44.1
MVA233M	373.7	284.2	121104	79380	59	53	91	85	9.75	6.57	D	D	715	144	48.2
MVA264M	875.2	751.1	231300	183312	61	55	93	87	19.97	13.25	D	C	1908	350	114.2
MVB214M	159.3	135.3	40752	32436	54	48	86	80	3.23	2.18	C	C	382	81	26.9
MVB232M	321.2	282.1	135900	107964	58	54	90	86	7.67	5.29	D	C	572	118	40.0
MVB233M	412.9	358.4	127260	101952	59	54	91	86	9.50	64.70	D	C	858	168	56.1
MVB234M	480.1	408.3	122292	97308	59	53	91	85	9.71	6.56	C	C	1145	223	72.6
MVB244M	646.5	548.5	163044	129744	60	54	92	86	12.95	8.75	C	C	1526	285	93.2
MVB254M	806.8	687.7	203832	162180	61	55	93	87	16.18	10.94	C	C	1908	350	114.2
MVC212M	120.9	104.3	47160	37152	54	49	86	81	3.16	2.09	D	C	239	53	17.3
MVC222M	242.7	209.1	94320	9468	57	52	89	84	6.32	4.18	D	C	477	95	31.6
MVC234M	530.9	449.5	129168	103032	58	54	90	86	9.42	6.45	C	B	1431	268	88.0
MVC243M	623.4	535.4	178992	142056	59	55	91	87	12.33	8.50	C	C	1431	272	88.1
MVA212L	107.4	95.3	45648	32616	54	50	86	82	3.05	2.11	D	C	199	49	16.2
MVA223L	281.5	243.1	85716	58580	57	52	89	84	6.30	4.30	C	C	596	128	43.8
MVA233L	422.5	364.3	128592	102888	58	54	90	86	9.45	6.45	C	C	894	180	60.3
MVA234L	489.1	414.1	123696	98532	59	53	91	85	9.65	6.54	C	C	1192	229	73.6
MVA243L	562.2	483.7	171432	137196	60	55	92	87	12.60	8.61	C	C	1192	231	76.7
MVA264L	989.1	842.2	247392	197028	61	56	93	88	19.31	13.09	C	C	2385	443	143.4
MVB213L	152.2	131.9	44748	35496	54	50	86	82	3.08	2.12	C	C	358	79	26.7
MVB222L	242.4	209.2	94320	74268	57	52	89	84	6.00	4.18	D	C	477	98	32.9
MVB224L	354.6	301.8	86112	68400	57	52	89	84	6.28	4.30	C	B	954	191	63.9
MVB243L	625.1	534.7	178992	142056	59	55	91	87	12.33	8.50	C	C	1431	272	89.8
MVB254L	897.7	763.5	215280	171720	60	56	92	88	15.71	10.75	C	B	2385	443	143.4
MVC214L	195.1	165.2	45144	35748	54	50	86	82	3.06	2.12	C	B	596	121	40.2
MVC233L	511.1	435.4	139644	110088	58	54	90	86	9.05	6.30	C	B	1341	249	80.9
MVC243L	689.9	591.0	186192	146.772	59	55	91	87	12.07	8.40	C	B	1788	334	109.6
MVC244L	791.4	669.2	180612	143028	59	55	91	87	12.26	8.48	C	B	2385	438	142.8

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m³/hr	Y m³/hr	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ kW	Y kW	Δ	Y	m²	dm³	kg
800mm 8 pole															
MVA212M	82.7	70.0	33120	25308	47	40	79	72	1.58	0.99	C	B	159	39	12.9
MVA222M	166.0	140.3	66240	50400	50	43	82	74	3.16	1.98	C	B	318	68	22.8
MVA224M	231.5	189.8	6084	43092	51	44	83	76	3.31	2.08	C	B	636	131	44.1
MVA233M	311.3	259.4	90576	69336	52	45	84	77	4.83	3.07	C	B	715	144	48.2
MVA264M	709.9	584.6	169488	129276	55	48	87	80	9.95	6.24	B	B	1908	350	114.2
MVB214M	129.0	106.3	30384	23184	48	41	80	73	1.60	1.02	B	B	382	81	26.9
MVB232M	274.5	234.2	103248	79056	51	45	83	77	3.87	2.44	C	B	572	118	40.0
MVB233M	345.1	288.0	96408	73368	52	45	84	77	4.77	3.00	B	B	858	168	56.1
MVB234M	389.2	320.0	91116	69588	53	45	85	77	4.82	3.06	B	B	1145	223	72.6
MVB244M	522.6	429.2	121500	92772	55	46	87	78	6.43	4.08	B	B	1526	285	93.2
MVB254M	656.0	540.6	151884	115992	54	47	86	79	8.04	5.11	B	B	1908	350	114.2
MVC212M	101.8	87.3	35640	27432	46	40	78	72	1.50	0.95	C	B	239	53	17.3
MVC222M	204.0	174.3	71316	54864	49	43	81	75	3.01	1.91	C	B	477	95	31.6
MVC234M	432.3	354.3	97668	74160	52	44	84	76	4.75	2.99	B	A	1431	268	88.0
MVC243M	519.2	430.0	135504	103356	52	45	84	77	6.26	3.93	B	A	1431	272	88.1
MVA212L	92.9	79.3	34668	26568	47	40	79	72	1.54	0.97	C	B	199	49	16.2
MVA223L	234.7	195.5	65088	49500	50	43	82	75	3.17	1.99	B	B	596	128	43.8
MVA224L	264.3	216.9	61596	46980	51	43	83	75	3.20	2.03	B	B	795	180	60.3
MVA233L	351.4	292.0	97632	74232	52	45	84	77	4.76	2.99	B	B	894	229	73.6
MVA234L	395.0	324.1	92376	70488	53	45	85	77	4.81	3.05	B	B	1192	231	76.7
MVA243L	466.4	387.3	130176	98964	53	46	85	78	6.34	3.98	B	B	1192	443	143.4
MVA264L	804.2	661.9	184752	140976	55	48	87	80	9.62	6.10	B	B	2385	79	26.7
MVB213L	127.9	107.0	33876	25848	47	40	79	72	1.56	0.98	B	B	358	98	32.9
MVB222L	204.2	174.8	71316	4464	49	43	81	75	3.01	1.91	C	B	477	191	63.9
MVB243L	518.2	431.5	135504	103356	52	46	84	78	6.26	3.93	B	B	1431	272	89.8
MVB254L	734.6	600.5	162792	123588	54	46	86	78	7.93	4.98	B	A	2385	443	143.4
MVC214L	159.6	131.4	34128	26028	47	40	79	72	1.55	0.97	B	A	596	121	40.2
MVC233L	423.1	352.9	105516	80856	51	44	83	76	4.56	2.89	B	A	1341	249	80.9
MVC243L	574.5	480.7	140688	107820	52	45	84	77	6.08	3.86	B	A	1788	334	109.6
MVC244L	646.5	529.0	136512	104148	52	45	84	77	6.22	3.91	B	A	2385	438	142.8
800mm 12 pole (12-pole fan set option is not ERP compliant)															
MVA212M	60.0	54.0	20016	15840	35	29	67	61	0.61	0.34	B	A	159	39	12.9
MVA222M	121.4	108.5	40032	32652	38	32	70	64	1.22	0.68	B	A	318	68	22.8
MVA224M	160.0	138.2	34128	27612	38	32	70	64	1.27	0.74	A	A	636	131	44.1
MVA233M	219.8	192.7	54612	44460	40	34	72	66	1.86	1.06	A	A	715	144	48.2
MVA264M	482.6	417.8	102384	82872	43	36	75	68	3.81	2.23	A	A	1908	350	114.2
MVB214M	88.0	76.0	18216	14832	35	29	67	61	0.62	0.35	A	A	382	81	26.9
MVB232M	201.8	180.4	62568	51228	39	34	71	66	2.018	0.84	A	A	572	118	40.0
MVB233M	242.4	213.5	57816	47160	39	33	71	65	1.84	1.04	A	A	858	168	56.1
MVB234M	264.9	228.5	54612	44496	40	34	72	66	1.86	1.06	A	A	1145	223	72.6
MVB244M	356.8	307.7	72792	59292	41	35	73	67	2.48	1.42	A	A	1526	285	93.2
MVB254M	444.1	384.4	91008	74124	42	32	74	64	3.10	1.77	A	A	1908	350	114.2
MVC212M	75.2	67.0	21636	17604	35	29	67	61	0.60	0.33	A	A	239	53	17.3
MVC222M	150.8	134.3	43272	35244	38	32	70	64	1.20	0.66	A	A	477	95	31.6
MVC234M	295.1	251.6	58644	47340	39	34	71	66	1.83	1.04	A	A	1431	268	88.0
MVC243M	365.5	317.9	81864	66456	40	34	72	66	2.43	1.36	A	A	1431	272	88.1
MVA212L	68.3	61.2	20988	17208	35	29	67	61	0.60	0.33	A	A	199	49	16.2
MVA223L	165.0	144.8	39024	31932	38	31	70	63	1.22	0.69	A	A	596	128	43.8
MVA233L	247.3	217.8	58536	47880	39	34	71	66	1.83	1.03	A	A	894	180	60.3
MVA234L	270.3	232.9	55368	45036	40	34	72	66	1.85	1.05	A	A	1192	229	73.6
MVA243L	330.5	290.0	78012	63864	40	35	72	67	2.45	1.38	A	A	1192	231	76.7
MVA264L	546.4	470.3	110736	90108	42	36	74	68	3.70	2.11	A	A	2385	443	143.4
MVB213L	90.2	78.5	20484	16596	35	29	67	61	0.60	0.34	A	A	358	79	26.7
MVB222L	150.7	134.2	43272	35244	38	32	70	64	1.20	0.66	A	A	477	98	32.9
MVB224L	196.7	167.8	39096	31536	37	32	69	64	1.22	0.69	A	A	954	191	63.9
MVB243L	366.1	319.0	81864	66456	40	35	72	67	2.43	1.36	A	A	1431	272	89.8
MVB254L	496.4	424.5	97776	78876	41	35	73	67	3.06	1.73	A	A	2385	443	143.4
MVC214L	107.1	92.8	20484	16596	39	29	71	61	0.60	0.34	A	A	596	121	40.2
MVC233L	298.2	258.6	63648	51696	40	33	72	65	1.81	1.01	A	A	1341	249	80.9
MVC243L	400.9	347.5	84852	68760	40	34	72	66	2.42	1.34	A	A	1788	334	109.6
MVC244L	433.5	374.2	81900	66312	40	34	72	66	2.43	1.36	A	A	2385	438	142.8

* Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487. For more selection options please refer to our Selection Software.

MV selection data

Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ kW	Y kW	Δ	Y	m²	dm³	kg
910mm 6 pole M (high power)															
MVA212M	107.06	95.49	14.79	11.91	62.5	56.7	94.5	88.7	4.90	3.49	E	E	159.0	39.1	12.9
MVA222M	214.12	191.87	29.58	23.82	65.3	59.5	97.3	91.5	9.79	6.99	E	E	317.9	67.7	22.8
MVA232M	321.17	288.28	44.37	35.74	66.9	61.2	98.9	93.2	14.69	10.48	E	E	476.9	101.7	34.8
MVA224M	329.02	275.90	26.37	20.50	65.3	59.4	97.3	91.4	10.15	7.19	D	D	635.9	131.0	44.1
MVA233M	426.47	366.54	41.65	32.81	66.6	61.0	98.6	93.0	15.02	10.61	E	E	715.4	143.8	48.2
MVA252M	540.64	551.16	73.95	63.25	68.9	63.4	100.9	95.4	24.49	17.49	E	E	794.8	161.0	52.8
MVA264M	993.98	834.27	79.11	61.49	69.5	63.6	101.5	95.6	30.46	21.57	D	D	1907.6	350.3	114.2
MVA282M	865.03	769.53	118.32	95.30	70.5	64.7	102.5	96.7	39.18	27.94	E	E	1271.8	238.8	80.4
MVA292M	973.16	867.96	133.11	107.21	70.9	65.1	102.9	97.1	44.08	31.43	E	E	1430.7	266.2	89.2
MVB212M	119.32	106.07	15.45	12.53	62.9	57.0	94.9	89.0	4.81	3.50	E	E	190.8	44.6	14.7
MVB214M	183.79	154.63	14.20	11.08	62.0	56.4	94.0	88.4	4.97	3.52	D	D	381.5	80.5	26.9
MVB232M	359.60	319.49	46.34	37.60	67.4	61.4	99.4	93.4	14.44	10.49	E	E	572.3	118.2	40.0
MVB242M	486.15	430.04	61.78	50.13	68.4	62.5	100.4	94.5	19.25	13.99	E	E	763.0	151.1	50.5
MVB233M	473.24	406.36	44.14	35.05	66.8	60.9	98.8	92.9	14.72	10.47	D	D	858.4	168.4	56.1
MVB234M	552.70	465.70	42.60	33.25	66.4	60.9	98.4	92.9	14.92	10.57	D	D	1144.6	223.1	72.6
MVB243M	640.03	546.37	58.85	46.73	67.9	62.0	99.9	94.0	19.63	13.97	D	D	1144.6	222.2	72.4
MVB244M	746.98	627.19	56.80	44.34	67.4	61.9	99.4	93.9	19.89	14.09	D	D	1526.1	284.5	93.2
MVB253M	799.46	684.89	73.56	58.42	68.7	62.8	100.7	94.8	24.54	17.46	D	D	1430.7	267.1	89.5
MVB254M	927.34	782.39	71.00	55.42	68.3	62.7	100.3	94.7	24.86	17.62	D	D	1907.6	350.3	114.2
MVB274M	1303.95	1093.20	99.40	77.59	69.4	63.9	101.4	95.9	34.81	24.66	D	D	2670.7	486.4	156.8
MVB284M	1495.46	1249.37	113.61	88.68	69.8	64.3	101.8	96.3	39.78	28.19	D	D	3052.2	552.2	177.8
MVC212M	135.29	120.28	16.02	13.12	63.1	57.3	95.1	89.3	4.78	3.50	E	E	238.5	52.9	17.3
MVC222M	270.70	241.30	32.04	26.24	65.9	60.1	97.9	92.1	9.56	7.00	E	E	476.9	95.1	31.6
MVC234M	618.62	518.71	44.95	35.73	66.9	60.9	98.9	92.9	14.62	10.48	D	D	1430.7	268.1	88.0
MVC243M	713.17	610.96	61.61	49.63	68.2	62.3	100.2	94.3	19.28	13.98	D	D	1430.7	271.6	88.1
MVC234M	618.62	518.71	44.95	35.73	66.9	60.9	98.9	92.9	14.62	10.48	D	D	1430.7	268.1	88.0
MVC244M	832.39	701.86	59.93	47.64	67.9	62.0	99.9	94.0	19.49	13.97	D	D	1907.6	350.3	114.2
MVC254M	1032.32	877.03	74.91	59.54	68.7	62.8	100.7	94.8	24.36	17.46	D	D	2384.5	437.0	141.0
MVC264M	1250.49	1048.79	89.89	71.45	69.3	63.4	101.3	95.4	29.24	20.96	D	D	2861.4	519.3	167.3

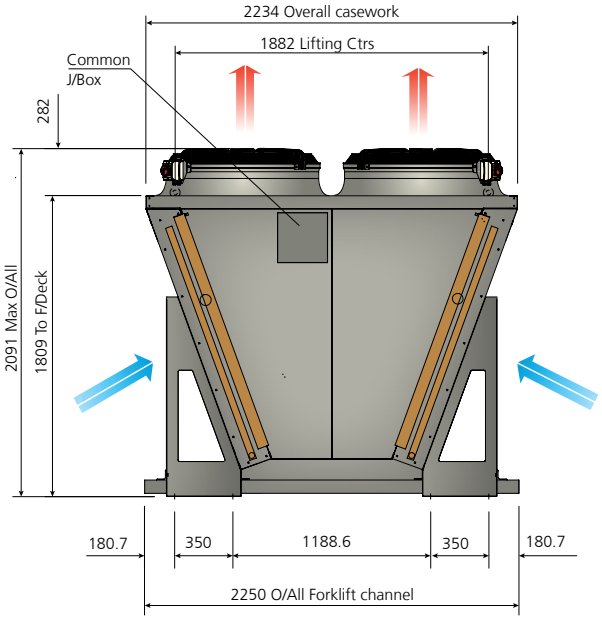
Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

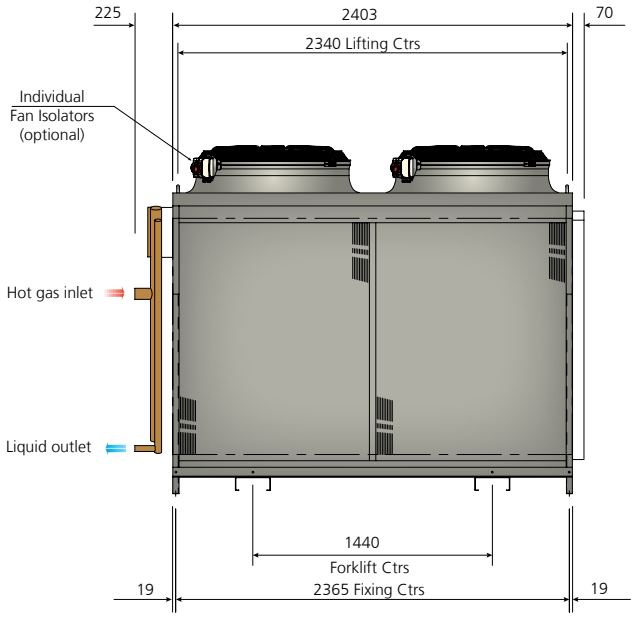
MV selection data

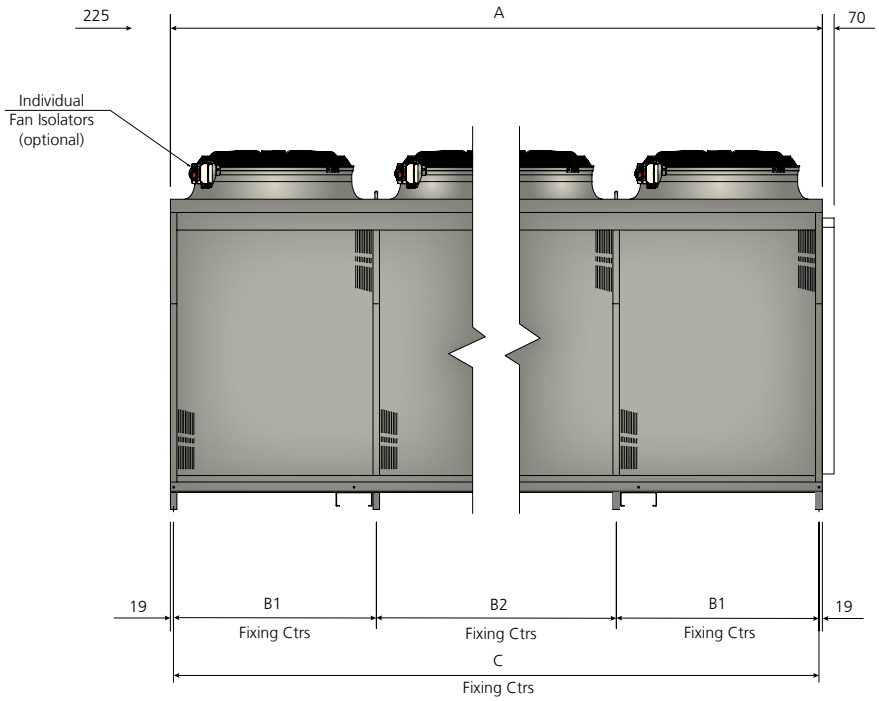
Model	Capacity R404A & R507A *		Air Volume		Sound Pressure Mean **		Sound Power		Power Input		Energy Rating		Total Surface	Internal Volume	R404A Charge
	Δ kW	Y kW	Δ m³/h	Y m³/h	Δ dB(A)	Y dB(A)	Δ dB(A)	Y dB(A)	Δ kW	Y kW	Δ	Y	m²	dm³	kg
910mm 6 pole L (high power)															
MVA212L	120.45	108.91	15.56	12.65	63.0	57.0	95.0	89.0	4.80	3.50	E	E	198.7	48.9	16.2
MVA222L	241.46	219.45	31.11	25.30	65.8	59.9	97.8	91.9	9.60	6.99	E	E	397.4	84.7	28.5
MVA232L	362.46	330.76	46.67	37.95	67.4	61.5	99.4	93.5	14.40	10.49	E	E	596.1	127.1	43.5
MVA224L	376.59	317.05	28.73	22.51	64.9	59.2	96.9	91.2	9.90	7.02	D	D	794.8	163.7	55.1
MVA233L	487.98	418.38	44.56	35.50	66.9	61.0	98.9	93.0	14.67	10.48	D	D	894.2	179.7	60.3
MVA254L	953.79	798.19	71.81	56.28	68.4	62.8	100.4	94.8	24.76	17.54	D	D	1987.1	369.4	120.9
MVA264L	1137.80	960.85	86.18	67.54	69.1	63.4	101.1	95.4	29.71	21.05	D	D	2384.5	443.5	143.4
MVA282L	974.55	871.77	124.45	101.20	71.0	65.1	103.0	97.1	38.39	27.98	E	E	1589.7	298.5	98.3
MVA292L	1097.71	989.96	140.01	113.85	71.4	65.5	103.4	97.5	43.19	31.48	E	E	1788.4	338.3	109.8
MVB212L	133.83	119.17	16.02	13.12	63.0	57.2	95.0	89.2	4.78	3.50	E	E	238.5	55.8	18.3
MVB214L	205.19	172.74	14.98	11.91	62.5	56.6	94.5	88.6	4.87	3.49	D	D	476.9	100.6	33.6
MVB232L	402.94	360.73	48.06	39.36	67.4	61.6	99.4	93.6	14.34	10.50	E	E	715.4	147.7	50.0
MVB242L	540.96	483.01	64.08	52.49	68.5	62.7	100.5	94.7	19.12	14.00	E	E	953.8	194.4	63.8
MVB233L	534.14	454.70	46.21	37.23	67.2	61.3	99.2	93.3	14.46	10.49	D	D	1073.0	216.1	70.7
MVB234L	618.52	520.91	44.95	35.73	66.9	61.0	98.9	93.0	14.62	10.48	D	D	1430.7	273.4	90.2
MVB243L	714.86	612.40	61.61	49.63	68.3	62.3	100.3	94.3	19.28	13.98	D	D	1430.7	272.2	89.8
MVB244L	819.29	695.00	59.93	47.64	68.0	62.1	100.0	94.1	19.49	13.97	D	D	1907.6	355.6	116.5
MVB253L	895.27	762.82	77.02	62.04	69.1	63.2	101.1	95.2	24.09	17.48	D	D	1788.4	333.9	109.6
MVB254L	1038.81	872.93	74.91	59.54	68.8	62.9	100.8	94.9	24.36	17.46	D	D	2384.5	443.5	143.4
MVB274L	1459.68	1221.24	104.88	83.36	69.9	64.0	101.9	96.0	34.11	24.45	D	D	3338.3	608.0	196.0
MVB284L	1659.86	1395.71	119.86	95.27	70.4	64.5	102.4	96.5	38.98	27.94	D	D	3815.2	706.3	224.0
MVC212L	150.23	133.63	16.44	13.51	69.8	56.7	101.8	88.7	4.77	3.49	D	D	298.1	66.1	21.6
MVC222L	301.44	267.22	32.88	27.02	72.6	59.4	104.6	91.4	9.54	7.14	D	D	596.1	123.5	40.0
MVC234L	675.05	573.99	46.71	37.72	67.2	61.2	99.2	93.2	14.39	10.49	C	C	1788.4	335.1	109.9
MVC243L	750.55	683.53	63.74	51.99	68.4	62.5	100.4	94.5	19.12	14.00	D	D	1788.4	333.9	109.6
MVC234L	675.05	573.99	46.71	37.72	67.2	61.2	99.2	93.2	14.39	10.49	C	C	1788.4	335.1	109.9
MVC244L	914.33	774.80	62.28	50.29	68.3	62.3	100.3	94.3	19.19	13.99	C	C	2384.5	437.9	142.8
MVC254L	1128.10	969.50	77.86	62.86	69.1	63.0	101.1	95.0	23.99	17.48	C	C	2980.7	546.3	176.2
MVC264L	1355.38	1158.07	93.43	75.44	69.7	63.7	101.7	95.7	28.78	20.98	C	C	3576.8	649.1	209.1

Note: * Capacity quoted at 15 K DT1 Dew Point, ** Sound level quoted as mean pressure level at 10m according to EN13487

MV...M Model drawings

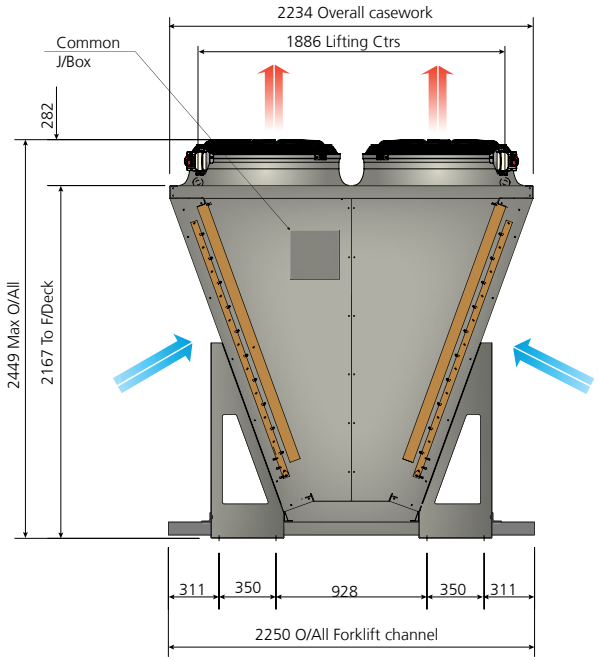


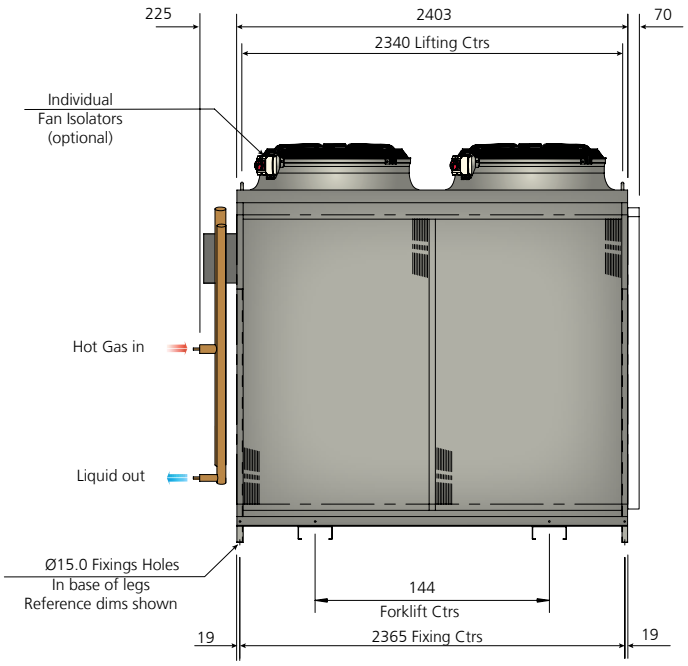


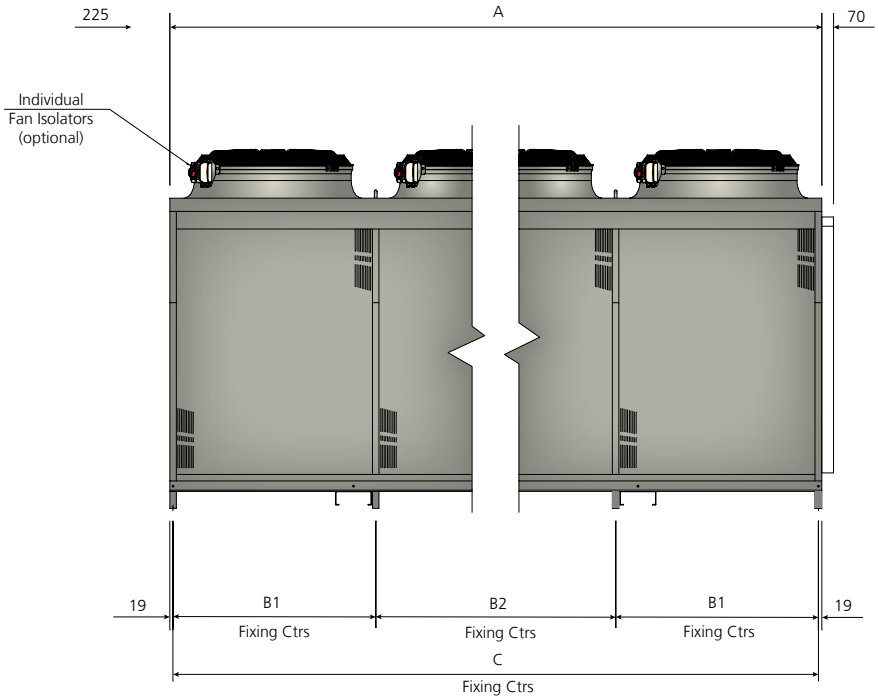


Note: All dimensions in mm. Common junction box will vary in size and position depending on the control option required.

MV...L Model drawings







MV...M Dimensions

Model		Size	No of fans	A Casework overall	B1	B2	C	Approx dry weight	
								AL/AV	CU/ET
				mm	mm	mm	mm	kg	kg
MVA	222	M	4	2403	N/A	N/A	2365	652	798
MVA	223	M	4	2403	N/A	N/A	2365	720	939
MVA	224	M	4	2403	N/A	N/A	2365	788	1081
MVA	232	M	6	3603	1183	1200	3565	986	1206
MVA	233	M	6	3603	1183	1200	3565	1089	1418
MVA	234	M	6	3603	1183	1200	3565	1191	1530
MVA	242	M	8	4803	1183	2400	4765	1316	1609
MVA	243	M	8	4803	1183	2400	4765	1453	1892
MVA	244	M	8	4803	1183	2400	4765	1589	2175
MVA	252	M	10	6003	2383	1200	5965	1646	2012
MVA	253	M	10	6003	2383	1200	5965	1817	2366
MVA	254	M	10	6003	2383	1200	5965	1987	2719
MVA	262	M	12	7203	2383	2400	7165	1976	2415
MVA	263	M	12	7203	2383	2400	7165	2181	2840
MVA	264	M	12	7203	2383	1200	7165	2385	3264
MVA	272	M	14	8403	3583	1200	8365	2307	2819
MVA	273	M	14	8403	3583	1200	8365	2545	3314
MVA	274	M	14	8403	3583	1200	8365	2784	3809
MVA	282	M	16	9603	3583	2400	9565	2637	3223
MVA	283	M	16	9603	3583	2400	9565	2910	3788
MVA	284	M	16	9603	3583	2400	9565	3183	4354
MVB	222	M	4	2883	N/A	N/A	2845	761	937
MVB	223	M	4	2883	N/A	N/A	2845	844	1107
MVB	224	M	4	2883	N/A	N/A	2845	926	1277
MVB	232	M	6	4323	1423	1440	4285	1144	1407
MVB	233	M	6	4323	1423	1440	4285	1267	1662
MVB	234	M	6	4323	1423	1440	4285	1390	1917
MVB	242	M	8	5763	1423	2880	5725	1527	1878
MVB	243	M	8	5763	1423	2880	5725	1690	2217
MVB	244	M	8	5763	1423	2880	5725	1854	2557
MVB	252	M	10	7203	2863	1440	7165	1908	2347
MVB	253	M	10	7203	2863	1440	7165	2113	2772
MVB	254	M	10	7203	2863	1440	7165	2317	3196
MVB	262	M	12	8643	2863	2880	8602	2291	2818
MVB	263	M	12	8643	2863	2880	8602	2536	3327
MVB	264	M	12	8643	2863	2880	8602	2782	3836
MVC	222	M	4	3603	1783	N/A	3565	918	1138
MVC	223	M	4	3603	1783	N/A	3565	1021	1350
MVC	224	M	4	3603	1783	N/A	3565	1123	1562
MVC	232	M	6	5403	1783	1800	5365	1379	1709
MVC	233	M	6	5403	1783	1800	5365	1533	2027
MVC	234	M	6	5403	1783	1800	5365	1686	2345
MVC	242	M	8	7203	1783	3600	7165	1840	2279
MVC	243	M	8	7203	1783	3600	7165	2045	2704
MVC	244	M	8	7203	1783	3600	7165	2249	3128
MVC	252	M	10	9003	3583	1800	8965	2301	2850
MVC	253	M	10	9003	3583	1800	8965	2557	3380
MVC	254	M	10	9003	3583	1800	8965	2813	3910

Note: For 12 metre units please refer to the selection software or call your GEA representative. Total unit dry weight is dependent upon the coil material used (AL/AV = Copper tubes with Aluminium or Copper tubes with 2 pack epoxy coated aluminium fns, CU = Copper tubes with Copper fins or Copper fins electro-tinned).

MV...L Dimensions

Model		Size	No of fans	A Casework overall	B1	B2	C	Approx dry weight	
								AL/AV	CU/ET
				mm	mm	mm	mm	kg	kg
MVA	222	L	4	2403	N/A	N/A	2365	781	964
MVA	223	L	4	2403	N/A	N/A	2365	867	1141
MVA	224	L	4	2403	N/A	N/A	2365	953	1319
MVA	232	L	6	3603	1183	1200	3565	1182	1456
MVA	233	L	6	3603	1183	1200	3565	1310	1721
MVA	234	L	6	3603	1183	1200	3565	1438	1987
MVA	242	L	8	4803	1183	2400	4765	1576	1942
MVA	243	L	8	4803	1183	2400	4765	1747	2296
MVA	244	L	8	4803	1183	2400	4765	1918	2649
MVA	252	L	10	6003	2383	1200	5965	1972	2429
MVA	253	L	10	6003	2383	1200	5965	2185	2871
MVA	254	L	10	6003	2383	1200	5965	2398	3313
MVA	262	L	12	7203	2383	2400	7165	2367	2916
MVA	263	L	12	7203	2383	2400	7165	2623	3446
MVA	264	L	12	7203	2383	2400	7165	2878	3976
MVA	272	L	14	8403	3583	1200	8365	2762	3413
MVA	273	L	14	8403	3583	1200	8365	3061	4021
MVA	274	L	14	8403	3583	1200	8365	3359	4639
MVA	282	L	16	9603	3583	2400	9565	3158	3890
MVA	283	L	16	9603	3583	2400	9565	3499	4598
MVA	284	L	16	9603	3583	2400	9565	3839	5303
MVB	222	L	4	2883	N/A	N/A	2845	918	1138
MVB	223	L	4	2883	N/A	N/A	2845	1021	1350
MVB	224	L	4	2883	N/A	N/A	2845	1124	1563
MVB	232	L	6	4323	1423	1440	4285	1379	1709
MVB	233	L	6	4323	1423	1440	4285	1533	2027
MVB	234	L	6	4323	1423	1440	4285	1687	2345
MVB	242	L	8	5763	1423	2880	5725	1841	2280
MVB	243	L	8	5763	1423	2880	5725	2045	2704
MVB	244	L	8	5763	1423	2880	5725	2250	3128
MVB	252	L	10	7203	2863	1440	7165	2299	2848
MVB	253	L	10	7203	2863	1440	7165	2554	3378
MVB	254	L	10	7203	2863	1440	7165	2810	3908
MVB	262	L	12	8643	2863	2880	8602	2760	3419
MVB	263	L	12	8643	2863	2880	8602	3067	4055
MVB	264	L	12	8643	2863	2880	8602	3374	4691
MVC	222	L	4	3603	1783	N/A	3565	1114	1388
MVC	223	L	4	3603	1783	N/A	3565	1242	1653
MVC	224	L	4	3603	1783	N/A	3565	1370	1919
MVC	232	L	6	5403	1783	1800	5365	1672	2084
MVC	233	L	6	5403	1783	1800	5365	1864	2481
MVC	234	L	6	5403	1783	1800	5365	2056	2879
MVC	242	L	8	7203	1783	3600	7165	2195	2744
MVC	243	L	8	7203	1783	3600	7165	2486	3310
MVC	244	L	8	7203	1783	3600	7165	2742	3840
MVC	252	L	10	9003	3583	1840	8965	2753	3439
MVC	253	L	10	9003	3583	1840	8965	3109	4138
MVC	254	L	10	9003	3583	1840	8965	3428	4800

Note: For 12 metre units please refer to the selection software or call your GEA representative. Total unit dry weight is dependent upon the coil material used (AL/AV = Copper tubes with Aluminium or Copper tubes with 2 pack epoxy coated aluminium fns, CU = Copper tubes with Copper fins or Copper fins electro-tinned).

GEA Searle is introducing a range of CO2 gas coolers range, drawing on over 90 years of experience in the design and manufacture of heat exchangers, GEA Searle is confident that the new GF gas cooler range is set to be a market leader. Based on the standard condenser ranges, the main difference is that the CO2 units have a maximum operating pressure of 120BarG and incorporate a number of unique design features, including expansion gaps in the coil plates and extended coil tubes to ensure a long service life.

CO2 Gas cooler
Making a difference



GF Gas Cooler

GEA Searle – commitment to technological innovation is exemplified by the degree of automation throughout the business. With the most comprehensive Research and Development facilities in the British refrigeration industry GEA Searle will continue to look at new innovation for manufacture.

Other Options

GEA Searle offers a wide range of accessories and additional options, including: anti-vibration mounts and leg extensions to enhance air flow in difficult locations and Adiabatic Cooling System (Please see GEA Searle's Adiabatic Section for further details or contact your GEA sales representative)

The new range of CO2 gas coolers is a solution for customers who employ refrigeration as an essential part of their primary processes, the gas cooler can offer a single refrigerant operating in trans critical mode paired with quiet operation. With a choice of fan sizes from 500mm to 910mm with speeds from 4 up to 8 pole with EC variable speed drives, can offer the best available choice in terms of energy savings and the reduction of refrigerant costs. GEA Searle tested many material combinations and has standardised on copper tubes brazed in to T304L stainless steel headers to ensure long product life expectancy without the need for regular paint applications. To keep the heat exchangers in lower PED categories GEA Searle split the coils into multiple sections limiting header size . The coils are pneumatically leak and strength tested to avoid internal contamination. Due to the high discharge temperatures at the start of the cooling process, GEA Searle split the fin pack to ensure the structural stability of the heat exchanger over a long service life.

Coils

The coils are manufactured from high-quality materials ensuring a quality product without compromise. These coils have been tested extensively in GEA Searle's Research & Development facility to ensure performance. Standard coils are manufactured from copper tubes, which are mechanically expanded into fully collared holes in the fins. This ensures an effective and permanent bond between the tube and the fin, maximising heat transfer characteristics. Within the coil casework surround, each fan chamber is separated by internal plates to prevent wind milling of off-cycle fans. Alternative fin materials are available to give added protection in polluted or saline atmospheres: Cu/Av - Copper tube / aluminium fins, Cu/Cu - Copper tubes / copper fins, Cu/Et - Copper tubes / electro tinned copper fins , Cu/Al/Bg- Copper tubes / aluminium fins Blygold coated

Controls

There are various optional GEA Searle control packages available, including variable speed controlled products using GEA Searle inverter control or the latest EC fan control systems. The control options include: EC speed control, Inverter speed control, Triac speed control, Dual speed step control, Single speed step control. If a speed control method is utilised, GEA Searle recommends adding the option of internal motor protection.

Noise Data

The mean unit sound pressure data at 10m is given for each model in the catalogue and is certified as part of the Eurovent scheme. Sound power testing and sound pressure calculation are carried out in accordance with EN13487. Mean sound pressure levels are for a parallel piped surface surrounding the unit on a reflective plane. Power levels and sound spectrum are available on request.



1	2		3	4	5	6	7				8	9	10	11	12	13
G	F	-	P	A	2	04	T	2	H	-	080	N	06	D		

1. Product series: G = Gas Cooler

2. Unit form: F = Flatbed, V = V bank

3. Module width: M = Narrow, N = Medium, P = Wide

4. Module length: A = 1200mm, B = 1500mm, C = 1800mm, D = 2100mm, E = 2400mm

5. Fan rows: 1 or 2

6. Fans per row: 04, 06

7. Fin type: L= Louvre, T=s32

8. Coil rows: 2, 3, 4

9. Orientation: H = Horizontal, V = Vertical, X = V - bank

10. Fan Diameter: 080 = 800mm, 090 = 900mm, 091 = 910mm

11. Fan type: N = AC Normal, E = ebm EC, P = Ziehl EC

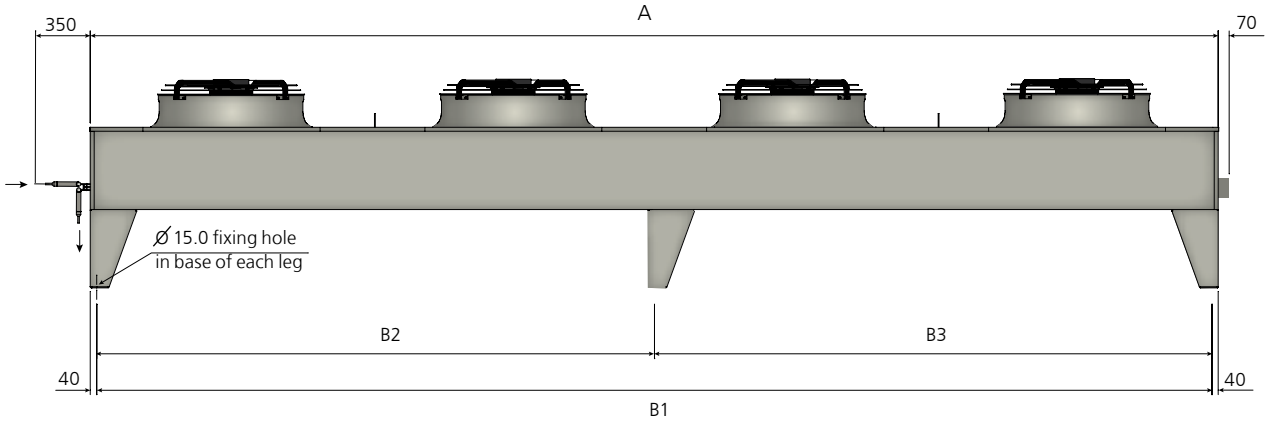
12. Motor pole: AC, EC

13. Motor wiring: Delta, Star

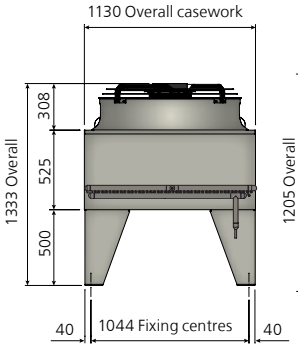
Fan data

Fan type & Pole	Diameter	Module	Speed (rpm)		FLC (Amp)		SC (Amp)	
			Δ	Y	Δ	Y	Δ	Y
0806 N6 Pole	800mm	A,B,C,D	920	730	4.3	4.2	2.3	14
0808 N8 Pole		A,B,C,D	670	550	2.5	2.5	1.3	6.2
091 N6 Pole	910mm	A,B,C,D	905	640	5.7	5.7	3.3	19
091 H6 Pole		A,B,C,D	910	710	5.5	5.5	3.5	19
091 N12 Pole		A,B,C,D	440	340	3.5	0.85	0.4	2
091 E - EC Technology		A,B,C,D	865 - 115					
091 P - EC Technology		A,B,C,D	930 - 90					

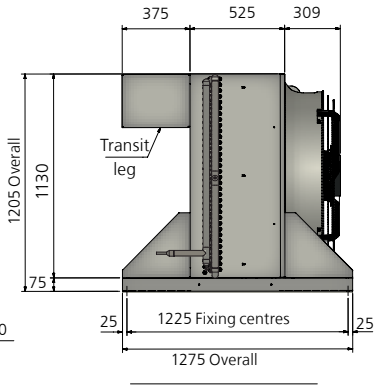
GF Model drawings



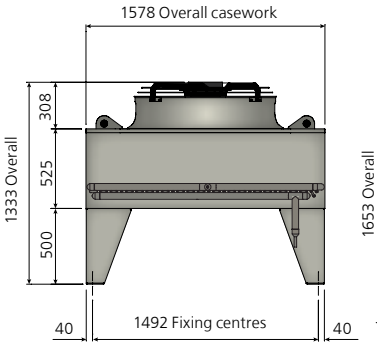
M



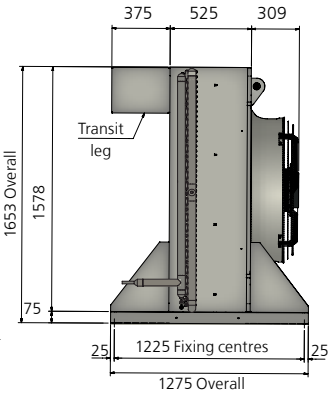
M vertical



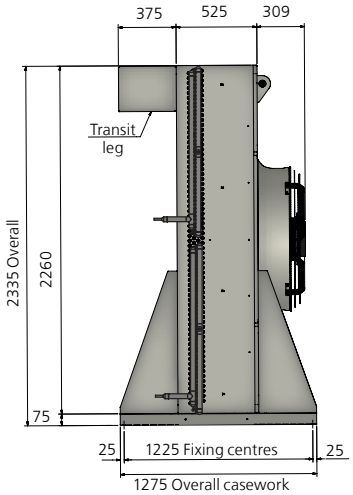
N



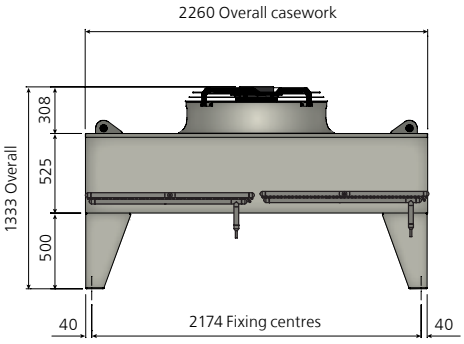
N vertical



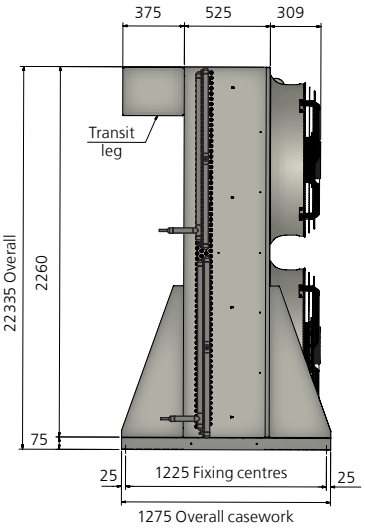
P-1 vertical



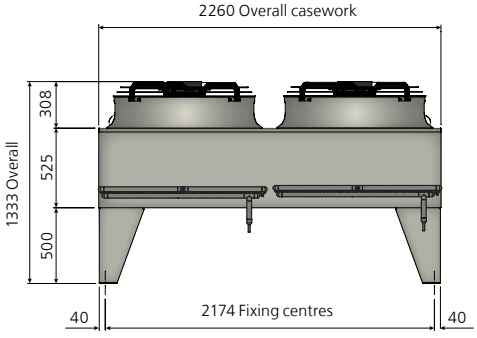
P-1



P-2 vertical



P-2



Note: All dimensions in mm. Common junction box will vary in size and position depending on the control option required.

GF Dimensions

Unit	Module	Fan banks	Fan per banks	Dim A	Dim B1	Dim B2	Dim B3	Total Unit Dry Weight (Approx)							
								M		N		P1		P2	
								Al	Cu	Al	Cu	Al	Cu	Al	Cu
								kg	kg	kg	kg	kg	kg	kg	kg
GF-_A_01T2	1200	1 or 2	1	1203	1123	-	-	214	239	258	294	315	366	365	416
GF-_A_01T3	1200	1 or 2	1	1203	1123	-	-	226	265	276	330	340	416	390	466
GF-_A_01T4	1200	1 or 2	1	1203	1123	-	-	239	290	293	366	365	467	415	517
GF-_A_02T2	1200	1 or 2	2	2403	2323	-	-	369	421	454	526	552	655	649	752
GF-_A_02T3	1200	1 or 2	2	2403	2323	-	-	394	471	489	597	685	756	699	853
GF-_A_02T4	1200	1 or 2	2	2403	2323	-	-	419	522	524	669	652	857	749	954
GF-_A_03T2	1200	1 or 2	3	3603	3523	-	-	525	602	650	758	790	944	934	1088
GF-_A_03T3	1200	1 or 2	3	3603	3523	-	-	562	678	702	865	865	1095	1009	1239
GF-_A_03T4	1200	1 or 2	3	3603	3523	-	-	600	753	755	972	939	1247	1083	1391
GF-_A_04T2	1200	1 or 2	4	4803	4723	-	-	574	676	738	883	921	1126	1112	1316
GF-_A_04T3	1200	1 or 2	4	4803	4723	-	-	624	777	808	1025	1020	1328	1211	1518
GF-_A_04T4	1200	1 or 2	4	4803	4723	-	-	673	878	879	1168	1120	1529	1310	1720
GF-_A_05T2	1200	1 or 2	5	6003	5923	-	-	695	823	900	1081	1124	1381	1362	1618
GF-_A_05T3	1200	1 or 2	5	6003	5923	-	-	758	950	988	1259	1249	1633	1486	1871
GF-_A_05T4	1200	1 or 2	5	6003	5923	-	-	820	1076	1075	1437	1373	1885	1611	2123
GF-_A_06T2	1200	1 or 2	6	7203	7123	3562	3561	827	971	1061	1278	1328	1635	1613	1920
GF-_A_06T3	1200	1 or 2	6	7203	7123	3562	3561	891	1122	1167	1492	1477	1938	1762	2223
GF-_A_06T4	1200	1 or 2	6	7203	7123	3562	3561	966	1273	1272	1706	1626	2241	1911	2525
GF-_A_07T2	1200	1 or 2	7	8403	8323	3562	4761	969	1149	1254	1507	1562	1921	1895	2254
GF-_A_07T3	1200	1 or 2	7	8403	8323	3562	4761	1056	1325	1376	1756	1736	2274	2069	2607
GF-_A_07T4	1200	1 or 2	7	8403	8323	3562	4761	1143	1502	1499	2005	1910	2627	2243	2960
GF-_A_08T2	1200	1 or 2	8	9603	9523	4762	4761	1091	1296	1415	1705	1766	2176	2146	2555
GF-_A_08T3	1200	1 or 2	8	9603	9523	4762	4761	1190	1497	1555	1989	1964	2579	2344	2959
GF-_A_08T4	1200	1 or 2	8	9603	9523	4762	4761	1289	1699	1696	2274	2163	2982	2543	3362
GF-_A_09T2	1200	1 or 2	9	10803	10723	4762	5961	1212	1443	1577	1902	1969	2430	2396	2857
GF-_A_09T3	1200	1 or 2	9	10803	10723	4762	5961	1324	1670	1734	2223	2193	2884	2619	3311
GF-_A_09T4	1200	1 or 2	9	10803	10723	4762	5961	1436	1897	1892	2543	2416	3338	2843	3765
GF-_A_10T2	1200	1 or 2	10	12003	11923	5962	5961	1334	1590	1738	2100	2173	2685	2646	3159
GF-_A_10T3	1200	1 or 2	10	12003	11923	5962	5961	1458	1842	1913	2456	2421	3189	2895	3663
GF-_A_10T4	1200	1 or 2	10	12003	11923	5962	5961	1582	2094	2089	2812	2669	3694	3143	4167
GF-_B_01T2	1500	1 or 2	1	1503	1423	-	-	233	265	281	327	353	417	405	469
GF-_B_01T3	1500	1 or 2	1	1503	1423	-	-	248	296	303	371	384	480	436	532
GF-_B_01T4	1500	1 or 2	1	1503	1423	-	-	264	328	326	416	415	543	467	595
GF-_B_02T2	1500	1 or 2	2	3003	2923	-	-	408	472	500	591	629	757	729	857
GF-_B_02T3	1500	1 or 2	2	3003	2923	-	-	439	535	544	680	691	883	791	983
GF-_B_02T4	1500	1 or 2	2	3003	2923	-	-	470	598	588	769	753	1009	853	1110
GF-_B_03T2	1500	1 or 2	3	4503	4423	-	-	454	550	591	727	776	968	925	1117
GF-_B_03T3	1500	1 or 2	3	4503	4423	-	-	501	645	657	861	870	1158	1019	1307
GF-_B_03T4	1500	1 or 2	3	4503	4423	-	-	547	740	723	994	963	1347	1112	1496
GF-_B_04T2	1500	1 or 2	4	6003	5923	-	-	616	744	797	978	1039	1295	1237	1493
GF-_B_04T3	1500	1 or 2	4	6003	5923	-	-	678	870	885	1156	1163	1548	1361	1745
GF-_B_04T4	1500	1 or 2	4	6003	5923	-	-	740	997	973	1334	1288	1800	1485	1998
GF-_B_05T2	1500	1 or 2	5	7503	7423	2962	4461	748	908	974	1200	1272	1592	1519	1839
GF-_B_05T3	1500	1 or 2	5	7503	7423	2962	4461	826	1066	1083	1422	1428	1908	1674	2154
GF-_B_05T4	1500	1 or 2	5	7503	7423	2962	4461	903	1224	1193	1645	1583	2223	1829	2469
GF-_B_06T2	1500	1 or 2	6	9003	8923	4462	4461	880	1073	1150	1421	1505	1890	1800	2185
GF-_B_06T3	1500	1 or 2	6	9003	8923	4462	4461	913	1262	1282	1688	1692	2268	1987	2563
GF-_B_06T4	1500	1 or 2	6	9003	8923	4462	4461	1066	1451	1413	1956	1878	2646	2173	2941
GF-_B_07T2	1500	1 or 2	7	10503	10423	4462	5961	1043	1267	1357	1674	1769	2218	2114	2562
GF-_B_07T3	1500	1 or 2	7	10503	10423	4462	5961	1152	1488	15111	1985	1987	2659	2331	3004
GF-_B_07T4	1500	1 or 2	7	10503	10423	4462	5961	1260	1709	1664	2297	2204	3100	2549	3445
GF-_B_08T2	1500	1 or 2	8	12003	11923	5962	5961	1175	1431	1534	1895	2002	2515	2396	2908
GF-_B_08T3	1500	1 or 2	8	12003	11923	5962	5961	1299	1684	1709	2251	2251	3019	2664	3413
GF-_B_08T4	1500	1 or 2	8	12003	11923	5962	5961	1423	1936	1884	2607	2499	3524	3413	3917
GF-_C_01T2	1800	1 or 2	1	1803	1723	-	-	252	290	305	359	357	433	410	487
GF-_C_01T3	1800	1 or 2	1	1803	1723	-	-	271	328	331	413	394	509	447	562
GF-_C_01T4	1800	1 or 2	1	1803	1723	-	-	289	366	358	466	431	585	485	638
GF-_C_02T2	1800	1 or 2	2	3603	3523	-	-	446	523	547	656	636	790	740	893
GF-_C_02T3	1800	1 or 2	2	3603	3523	-	-	483	599	600	763	711	941	814	1045
GF-_C_02T4	1800	1 or 2	2	3603	3523	-	-	521	674	652	869	785	1093	889	1196
GF-_C_03T2	1800	1 or 2	3	5403	5323	-	-	486	601	636	798	762	992	916	1146
GF-_C_03T3	1800	1 or 2	3	5403	5323	-	-	542	715	715	959	874	1219	1027	1373
GF-_C_03T4	1800	1 or 2	3	5403	5323	-	-	598	828	794	1119	985	1446	1139	1600
GF-_C_04T2	1800	1 or 2	4	7203	7123	3562	3561	659	812	857	1074	1020	1327	1224	1531
GF-_C_04T3	1800	1 or 2	4	7203	7123	3562	3561	733	964	962	1287	1169	1630	1373	1834
GF-_C_04T4	1800	1 or 2	4	7203	7123	3562	3561	807	1115	1067	1501	1318	1933	1522	2137
GF-_C_05T2	1800	1 or 2	5	9003	8923	3562	5361	801	993	1048	1319	1248	1633	1502	1887
GF-_C_05T3	1800	1 or 2	5	9003	8923	3562	5361	894	1182	1179	1586	1435	2011	1689	2265
GF-_C_05T4	1800	1 or 2	5	9003	8923	3562	5361	987	1372	1311	1853	1621	2389	1875	2643
GF-_C_06T2	1800	1 or 2	6	10803	10723	5362	5361	974	1204	1269	1594	1507	1968	1811	2272
GF-_C_06T3	1800	1 or 2	6	10803	10723	5362	5361	1085	1431	1426	1915	1730	2421	2034	2726
GF-_C_06T4	1800	1 or 2	6	10803	10723	5362	5361	1197	1658	1584	2235	1953	2875	2258	3180
GF-_D_01T2	2100	1 or 2	1	2103	2023	-	-	271	316	328	454	395	484	450	539
GF-_D_01T3	2100	1 or 2	1	2103	2023	-	-	293	360	359	454	438	573	493	628
GF-_D_01T4	2100	1 or 2	1	2103	2023	-	-	404	404	390	516	482	661	537	716
GF-_D_02T2	2100	1 or 2	2	4203	4123	-	-	365	454	474	601	593	772	699	879
GF-_D_02T3	2100	1 or 2	2	4203	4123	-	-	408	542	536	725	350	949	786	1055
GF-_D_02T4	2100	1 or 2	2	4203	4123	-	-	631	631	597	850	767	1125	873	1232
GF-_D_03T2	2100	1 or 2	3	6303	6223	-	-	577	712	740	930	910	1179	1069	1338
GF-_D_03T3	2100	1 or 2	3	6303	6223	-	-	643	844	832	1117	1041	1444	1199	1602
GF-_D_03T4	2100	1 or 2	3	6303	6223	-	-	977	977	924	10304	1171	1709	1330	1861
GF-_D_04T2	2100	1 or 2	4	8403	8323	4162	4161	731	910	946	1199	1168	1527	1378	1737
GF-_D_04T3	2100	1 or 2	4	8403	8323	4162	4161	818	1087	1068	1448	1342	1880	1552	2090
GF-_D_04T4	2100	1 or 2	4	8403	8323	4162	4161	1263	1263	1191	1697	1516	2233	1726	2443
GF-_D_05T2	2100	1 or 2	5	10503	10423	4162	6261	884	1108	1152	1468	1426	1874	1688	2136
GF-_D_05T3	2100	1 or 2	5	10503	10423	4162	6261	993	1329	1305	1780	1643	2316	1905	2578
GF-_D_05T4	2100	1 or 2	5	10503	10423	4162	6261	1549	1549	1458	2091	1861	2757	2122	3019

The GEA Searle Adiabatic cooling system is designed to enhance the thermal performance of air-cooled condensers and dry air coolers by reducing the effective incoming air temperature. Temperature reduction is achieved by spraying water into the incoming air via a series of sparge pipes and nozzles located adjacent to the heat exchange coils.

GEA Searle Adiabatic Systems

Excellence in heat transfer



Adiabatic Features

The following benefits and features may be achieved when fitting adiabatic systems:

- Fluid temperatures lower than the ambient dry bulb can be achieved when conditions are suitable.
- Reduction in physical size of plant.
- Increasing the capacity on existing systems.
- Standby - used as emergency capacity on critical applications or upgrades.

A sequence of operation has been developed:

- To ensure no free standing water is left in the system when inactive for long periods.
- Water in the supply pipe flushes the system before high pressure nozzle spraying starts.

The energy used to evaporate the spray water results in a reduction in air temperature and an increase in humidity. GEA is offering the Behring technology ensuring a microbiologic control of water, in combining a destruction of biofilm (aggregate of solid particles potentially containing bacteria) by hydrodynamic cavitation, followed by a specific UV treatment suited to intermittent flows.

System Description

GEA adiabatic cooling systems are made up of two principal assemblies. The adiabatic control box, which can be factory fitted to air-cooled condensers and dry air coolers. The sparge and nozzle assembly is factory fitted to V bank units and supplied loose (for shipment) on flat bed units. These items are also available as a retro fit kit for site upgrades. Three versions of the adiabatic control box are available:

Option 1: Low pressure spraying - Without a pressurisation pump where the supply water pressure, at design low rate, is not less than 5 bar.

Option 2: Average pressure spraying - A low flow rate pressurisation pump where the supply water pressure, at design flow rate, is not less than 2 bar.

Option 3: High pressure misting - A high pressurisation pump (>100bars) where the supply water pressure, at design flow rate, is not less than 2 bar.

All adiabatic control boxes are fitted with water strainer, mains inlet solenoid valve, vent solenoid valve, pressure regulator and pressure gauges, pressure switch, ultraviolet lamp, hydrodynamic cavitator, scale inhibitor and a 230-volt control panel. The electronic controls are mounted in a polycarbonate box and contain a mains isolator, adiabatic sequence controller and transformer. Water is sprayed into the air stream via a sparge system made of stainless steel pipes fitted with atomising nozzles and connected together with push fittings. A drain solenoid is fitted to the lowest part of the system.

When water is passed through the ultra-violet lamp the dose of UV radiation received is lethal to pathogens - including Legionella - eliminating any health risks. Prior to this, all solid aggregates contained into the water (biofilm) have been destroyed by hydrodynamic cavitation, which will ensure an absolute effectiveness of the UV rays. GEA Searle adiabatic cooling systems conform to the design requirements of ACOP L8 "control of Legionella bacteria in water systems"and NSF55 Class A.

The adiabatic system is normally started from an external volt free signal provided by a capacity control system, BMS or emergency override. The ultraviolet lamp is switched on and the vent and drain solenoids are closed. After a set time delay the main solenoid is opened to flush the system before the pump is started.

The pressure in the system and operation of the ultraviolet lamp as well as cavitation are monitored. If the water flow falls below the required limit, or the lamp fails the system will be closed down. The ultraviolet lamp and vent/drain solenoids are cycled off at the end of the day's operation, ensuring the lamp operates at full power and that flushing is not repeated unnecessarily, no free standing water is left in the system when inactive for extended periods. At the end of the sequence, the system (downstream of the main solenoid valve) has been fully drained and blown by compressed air.

Applications

Adiabatic systems can be applied to dry air coolers and air cooled condensers when there is a reasonable difference between the dry bulb and wet bulb temperatures.



Technical data

Unit designation	Fan designation models and speeds (Air speed codes)							
Module Ranges	091H6D	091H6S	091H6D	091N6S	080N6D	080N6S	080N8D	080N8S
RF-A module	A	A	A	B	A	B	B	C
RF-B module	A	A	A	B	A	B	B	C
RF-C module	A	B	A	B	B	B	B	C
RF-D module	A	B	A	B	C	C	C	C
MVA - M	A	B	A	B	A	B	B	C
MVB - M	A	B	A	B	B	B	B	C
MVC - M	B	B	B	B	B	C	C	C
MVA - L	A	B	A	B	B	B	C	C
MVB - L	B	B	B	B	B	C	C	C
MVC - L	B	C	B	C	C	C	C	C

Referring to the above tables choose the Dry Cooler/Condenser module designation and fan speed and then select the relevant letter (A, B or C) for the equivalent air velocity. Refer to the tables below for the selected letter and this will give you the adiabatic effective air on temperature for the specified ambient conditions.

Example 1 - Assume LFA with 080N6D fans = Table A. Assume ambient 32.0 °C dB / 50% RH / 23.6 °C dB = 27.0 °C WB effective adiabatic air on temperature

Example 2 - Assume MVA-L with 080N8D fans = Table C. Assume ambient 35.0 °C dB / 40% RH / 23.9 °C dB = 25.0 °C WB effective adiabatic air on temperature.

Table A - High air velocity

Ambient °C Dry Bulb	30% RH °C Wet Bulb	Effective air on temp °C dB	40% RH °C Wet Bulb	Effective air on temp °C dB	50% RH °C Wet Bulb	Effective air on temp °C dB	60% RH °C Wet Bulb	Effective air on temp °C dB
25.0	14.4	18.6	16.2	19.7	17.9	20.7	19.5	21.7
26.0	15.1	19.5	17.0	20.6	18.7	21.6	20.3	22.6
27.0	15.8	20.3	17.7	21.0	19.5	22.5	21.1	23.5
28.0	16.5	21.1	18.5	22.3	20.3	23.4	22.1	24.8
29.0	17.2	21.9	19.3	23.2	21.2	24.3	22.9	25.3
30.0	17.9	22.7	20.0	24.0	22.0	25.2	23.8	26.3
31.0	18.7	23.6	20.8	24.9	22.8	26.1	24.7	27.2
32.0	19.4	24.4	21.6	25.8	23.6	27.0	25.5	28.1
33.0	20.0	25.2	22.4	26.6	24.5	27.9	26.4	29.0
34.0	20.8	26.1	23.1	27.5	25.3	28.8	27.3	30.0
35.0	21.5	26.9	23.9	28.3	26.1	29.7	28.2	30.9

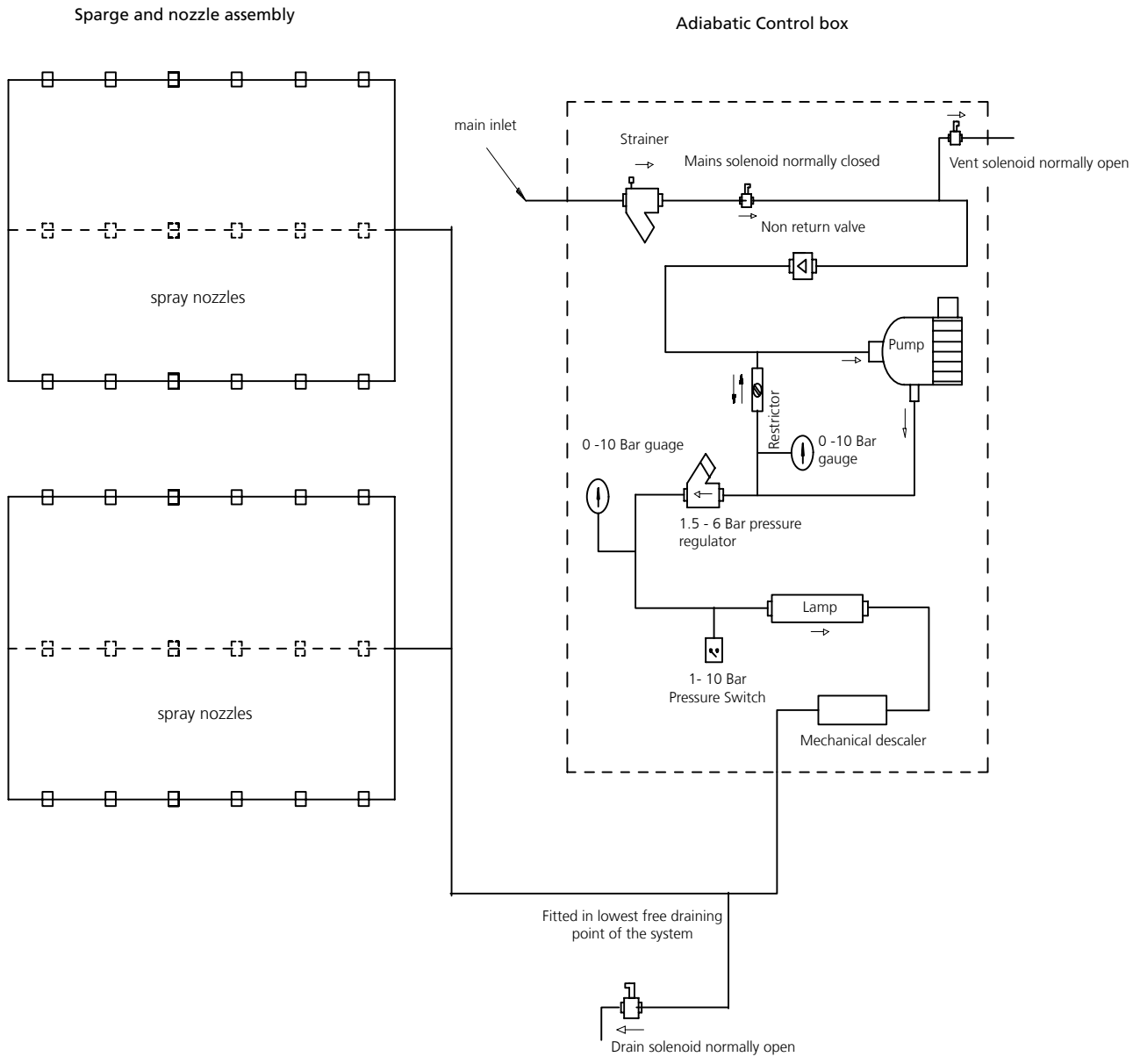
Table B - Medium air velocity

Ambient °C Dry Bulb	30% RH °C Wet Bulb	Effective air on temp °C dB	40% RH °C Wet Bulb	Effective air on temp °C dB	50% RH °C Wet Bulb	Effective air on temp °C dB	60% RH °C Wet Bulb	Effective air on temp °C dB
25.0	14.4	16.5	16.2	18.0	17.9	19.3	19.5	20.6
26.0	15.1	17.3	17.0	18.8	18.7	20.2	20.3	21.4
27.0	15.8	18.0	17.7	19.6	19.5	21.0	21.1	22.3
28.0	16.5	18.8	18.5	20.4	20.3	21.8	22.1	23.3
29.0	17.2	19.6	19.3	21.2	21.2	22.8	22.9	24.1
30.0	17.9	20.3	20.0	22.0	22.0	23.6	23.8	25.0
31.0	18.7	21.2	20.8	22.8	22.8	24.4	24.7	26.0
32.0	19.4	21.9	21.6	23.7	23.6	25.3	25.5	26.8
33.0	20.0	22.6	22.4	24.5	24.5	26.3	26.4	27.7
34.0	20.8	23.4	23.1	25.3	25.3	27.0	27.3	28.6
35.0	21.5	24.2	23.9	26.1	26.1	27.9	28.2	29.6

Table C - Low air velocity

Ambient °C Dry Bulb	30% RH °C Wet Bulb	Effective air on temp °C dB	40% RH °C Wet Bulb	Effective air on temp °C dB	50% RH °C Wet Bulb	Effective air on temp °C dB	60% RH °C Wet Bulb	Effective air on temp °C dB
25.0	14.4	15.5	16.2	17.1	17.9	18.6	19.5	20.1
26.0	15.1	16.2	17.0	17.9	18.7	19.4	20.3	20.9
27.0	15.8	16.9	17.7	18.6	19.5	20.3	21.1	21.7
28.0	16.5	17.7	18.5	19.5	20.3	21.1	22.1	22.7
29.0	17.2	18.4	19.3	20.3	21.2	22.0	22.9	23.5
30.0	17.9	19.1	20.0	21.0	22.0	22.8	23.8	24.4
31.0	18.7	19.9	20.8	21.8	22.8	23.6	24.7	25.3
32.0	19.4	20.7	21.6	22.6	23.6	24.4	25.5	26.2
33.0	20.0	21.3	22.4	23.5	24.5	25.4	26.4	27.1
34.0	20.8	22.1	23.1	24.2	25.3	26.2	27.3	28.0
35.0	21.5	22.9	23.9	25.0	26.1	27.0	28.2	28.9

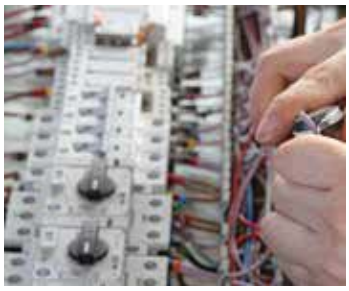
Control box and pipe schematic



GEA Searle Control options

Engineering at its best

GEA Searle offers a range of Controls solutions, suitable for the range of Air Cooled Condensers and Dry Air Coolers. These can be supplied factory fitted with all controls software installed and functioning so that the unit can be simply connected up and power supplied. This enables the installation time to be dramatically reduced and avoids problems using 3rd party controls.



Controls Overview

The new control range is based on a modular form starting with the basic package and the various control added as extras. Except for very small units and for EC Remote Condensers and DACs, which will be 230V 50/60Hz, the Control will be 24V 50/60Hz.

- Reduced installation costs
- Latest controls systems installed
- Factory fitted system

To cut costs on double bank units a Motor Starter and Contactor per pair of fans is an option. On single bank units each contactor coil is terminated to allow the customer to provide a signal for each contactor to close. For double bank units, the contactors will be controlled in pairs. Further steps can be obtained by applying a 2 Speed Strategy (Star Delta control). This requires 2-3 contactors per fan and is a fairly costly option. Standard practice on a 12-fan unit would 6 stages of Low Speed ("Star") and 2 stages 6 Fans each of High Speed ("Delta").

Junction Box Termination

3 Phase supply 4 core cable, A terminated 3 phase supply 4 core cable and 7 core cable containing 10V supply, 0-10V signal input, an alarm pair and RS485 communication of ACOP L8 "control of Legionella bacteria in water systems"and NSF55 Class A.

Controller options

Main Isolator, and then a MCB for each fan set with the additional options below will be provided. On very large units 1 MCB per par of fans will be provided. The EC technology provides over-load protection so only Short Circuit protection is required.

Directly connected Transducer

A "Closed Loop Control" strategy is applied to one fan set designated as the "Master" and any additional fan sets designated as "Slaves". This approach requires an external device such as a Laptop to set up the Master and alter the control settings.

Single Controller

There are 3 main options for a single controller: 1) GEA sequential controller 2) Millennium 3) RDM. All operate in a similar manner by reading a transducer input and applying a 0-10V signal in parallel to all fansets. The GEA controller lowers operating limits to be set in terms of noise level. Fansets can be preset to have an upper speed limit so as not to exceed specified noise requirements.

Backup Control

Backup control can be provided for any FSC strategy and can take the form of pressure switches or thermostats for small condensers or DACs and extra controllers and transducers for larger units. This requirement is becoming more common.

EC Fan Sets (Electronically Commutated)

The EC fansets provide a very good Fan Speed Control solution due to the internal electronics within the fanset enabling simple control. EC fansets are now the preferred choice for Condenser applications due to the varying load requirements during a normal day-night cycle. However, due to the inherent efficiency of EC motors, their use in fluid coolers is now becoming more common. There are various control options, depending on the selection of the controller and whether back-up control is required.

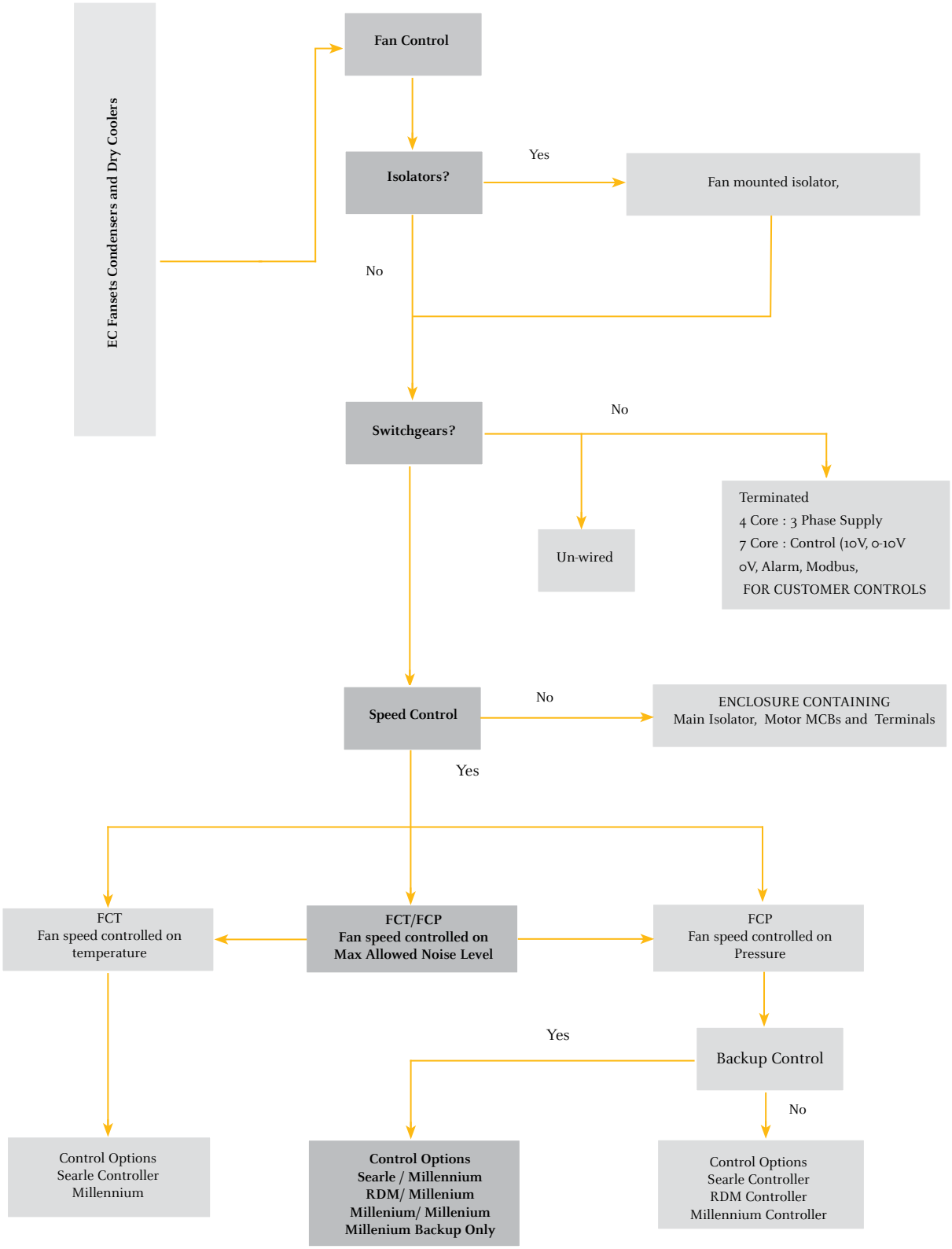
AC Fanset

FSC Fan Speed Control (Temperature or Pressure). In most cases the Inverter and FCB in most cases will be contained in one enclosure. Inverter Control will change the applied frequency to the motor; the Inverter can be programmed to employ an in built PID control strategy, which can also shut down the fans when they are not required to run. Alternatively an external signal from a controller such as the RDM Varipac can be used this would allow easy connection to a network for monitoring purposes. For all EBM fan sets it is mandatory for Sinusoidal Filtering to be used. Also Consider EC fansets as an alternative they are generally more efficient and cost effective.

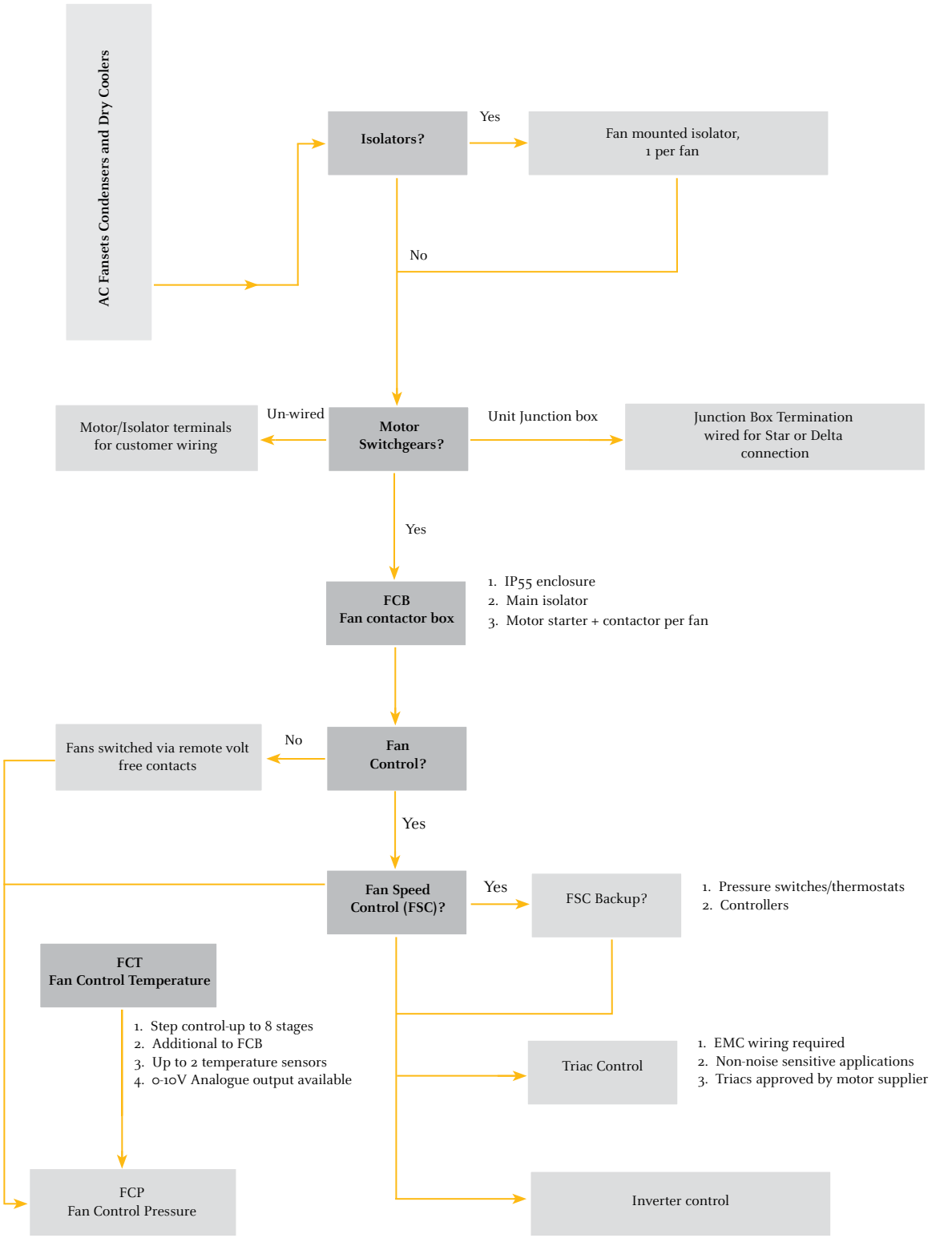
Control Options

- No Controls - Motor Wiring terminated in a junction box or Isolators, allowing either star or delta connections.
- FCB - Fan Contactor Box (Standard AC Motors)
- A single metal IP65 enclosure issued containing the following:
- Mains Isolator.
- Motor Starter and Contactor per fan as standard

EC Fanset


EC Fansets Condensers and Dry Coolers
Fan Control
Isolators?
Yes
Fan mounted isolator,
No
Switchgears?
No
Un-wired
Terminated
4 Core : 3 Phase Supply
7 Core : Control (10V, 0-10V
0V, Alarm, Modbus,
FOR CUSTOMER CONTROLS
Speed Control
No
ENCLOSURE CONTAINING
Main Isolator, Motor MCBs and Terminals
Yes
FCT
Fan speed controlled on
temperature
FCT/FCP
Fan speed controlled on
Max Allowed Noise Level
FCP
Fan speed controlled on
Pressure
Yes
Backup Control
No
Control Options
Searle Controller
Millennium
Control Options
Searle / Millennium
RDM/ Millenium
Millenium/ Millenium
Millenium Backup Only
Control Options
Searle Controller
RDM Controller
Millennium Controller

AC Fanset



1. Step control-up to 8 stages
2. Additional to FCB
3. Up to 2 temperature sensors
4. 0-10V Analogue output available

1. One enclosure containing FCB + Inverter
2. Sinusoidal filter required with EMB fanset

FCP-FCT Controls

Combined excellence in heat transfer



FCP-FCT Controls

The GEA sequential controller has been designed specifically for the control of air-cooled condensers and dry coolers, or either using step control or speed control, indirectly via inverter or EC technology. The controller can be configured for pressure or temperature inputs and up to 8 stages of control. There is also an analogue input that can be used to replace the input signal, adjust the setpoint or provide direct control of the outputs. A 0-10V output is available for EC or inverter control.

When factory fitted, the controllers have parameters set as per their defaults unless variations are required. For most standard applications it will only be necessary to adjust the setpoint to the required value. If the controller has been supplied as an accessory it will be required to reconfigure the controller parameters. The controller has two main functions: sequential (or step) control and speed control, both involve monitoring the control input (system pressure or fluid temperature) and switching its output relays (usually connected to fan contactors) in order to maintain the control input within a specified control band.

The sequential function is achieved by using one of two selectable control modes: RAMP and DEADBAND. Either mode can be used, but the best results are usually achieved using DEADBAND control for condensers and RAMP for dry coolers. For both modes the control band is specified by the SETPOINT at the top of the band and its range temp./press is the bottom limit of the control band. The default mode of stage rotation is "Linear" (Stage 1 on, 2 on, 2 off, 2 on, alternatively, CIRCULAR can be selected (Stage 1 on, 2 on, 1 off 3 on 2 off, 3 off). The speed control function uses the same Control Band value as for sequential control to modulate the 0-10 V output. The output is either simply proportional (intended for use with an inverter or triac) or tuned for use with EC fan sets. Operating limits (normal and setback) can be set as either speed or noise level. A mixture of sequential and speed control can be used when close control at the minimum cost is required. However, most of the advantage of reduced noise and power consumption at lower speeds will be lost.

Sensors

The pressure and temperature sensors are supplied wired to the controller but with the sensor loose. Pressure sensors are not fitted due to vulnerability of the joint during transport. Temperature sensor location will depend on the application and is best placed on pipework slightly remote from the unit. Pressure sensors should only be fitted by qualified refrigeration engineers. Temperature sensors should be fitted to give a good thermal contact with the fluid and lagged. Heat transfer paste can be used. It is possible to calibrate sensor readings using the offset parameters. The gain of pressure sensors can be adjusted by altering the Pressure Range parameter. Both sensors can be extended up to 10m using standard cable with a minimum section of 0.75mm². If a longer extension is required then twisted pair cable must be used and the sensors will need recalibration. [probably needs revising for PT1000]

The enter key is used to move from display mode to parameter list.

In display mode the up arrow accesses a secondary screen of data. In the parameter list it increases the value of a parameter. Hold in the key down scrolls the value and the rate of scrolling increases if the key is held down for a second.

As above, but value decrease

This enters the password (11) or returns from list to display mode, accepting any changes that have been made to the current parameter.

When in basic step control mode the primary display is typically:

Top row :



- Input Value (temperature in ℃ in this case)
- Setpoint.
- Active Setpoint (S – Summer, W – Winter)

If the controller is configured for two inputs then the Input Value is the average or maximum, as specified.

Top row:

- Stage status (stage number if active, "-" if not)
- Auxiliary status (auxiliary letter if active, "-" if not)

By holding down the ▲ or ▼ keys, secondary displays can be accessed.

For ▲ a typical display is:



Top row:

- Input Value (temperature in ℃ in this case)

Bottom row:

- Input Type (P - pressure, T - temperature, A - analogue)
- Input Mode (S – single, M – maximum, A – average, A – analogue)
- Auxiliary A Function (A – combined alarm, A – auxiliary stage)
- Night Setback (N – selected, n – deselected)
- Free Cooling (W – selected, w – deselected)
- Motor Fault (M – terminals linked, m – terminals open)
- Remote Off (R – selected, r – deselected)
- Sensor (number and o – open circuit, s – short circuit)
- Stages on hold (H followed by the number of stages waiting time delay)

For ▼ a typical display is:



Top row:

- Input Value and units
- Setpoint and units
- Free Cooling (S – Summer setpoint active
- W – Winter setpoint active)
- Current Calculated Noise (Speed)
- Current Noise (Speed) Limit
- Active Noise (Speed) Limit – (D – normal, N – setback)

With the Control Mode set to analogue only the above display becomes primary. The default language is English, but alternatives are selectable at start-up or through the parameters list.

Millennium Controller

Combined excellence in heat transfer



Millennium Controller



First Parameter page



Second Parameter page
Note: Dry cooler Version now available.

The Millennium controller is a versatile programmable logic controller, which GEA has adopted as either a main or backup controller. Using proprietary software, the controller can be used in a variety of applications and is easily setup via the front programming port, with simple front controls. The controller will start to run the fans at just above the Set Point and will ramp up the speed to the Set Back Speed as the pressure increases. The Control Band determines the rate at which the speed increases. With the default settings the fansets begin to run at just above 12 bar and rise to 50% speed at 13.5 bar (3 bar Control Band). The controller then will allow the pressure to drift up to the High Pressure Full Speed value (default of 20bar), when the controller will ramp the fans to full speed. The fansets will continue to run at full speed until the pressure falls to the top end of the control band where the controller will resume the set back speed control. When the controller is employed as a Backup controller the display will indicate that it is disabled under normal operation.

- Press and hold down “A” until the first set of parameters appears.
- Use the “ + ” & ” - “ buttons until the parameter required is highlighted then press “OK” and the parameter will lash. Use “ + ” or “ - “ to adjust the reading then press “OK” to confirm the setting.
- Use the “ + ” & ” - “ again buttons until the parameter required is highlighted and repeat.
- Press “B” to move to the next Menu page and repeat step 2 as necessary.
- Press “ESC” at any time to return to exit parameters.

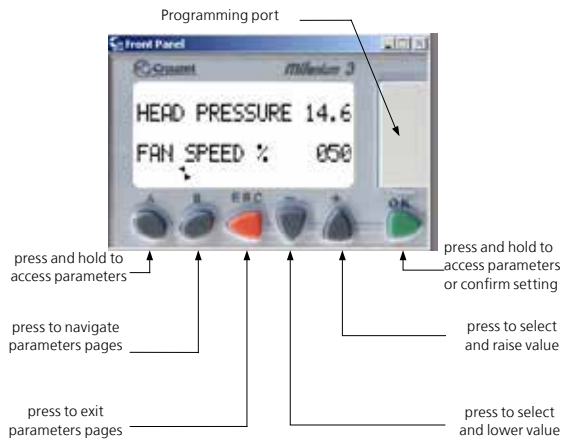
When the controller is employed as a Backup controller the display will indicate that it is disabled under normal operation. The controller monitors the discharge Pressure and will assume control when the HP Override value is exceeded (default 21 bar), and will remain in control until manually reset. Should the Pressure Transducer signal fail this will be indicated on the display and the fansets will run at the Fault Speed, if the controller is enabled.

Dry Testing

The fansets can be run without Pressure in the Condenser by selecting the Test Mode (Default 45%). Press and hold down “OK & “B” for 5 Seconds. The controller will remain in this mode. To exit this feature press “B” & “ESC”).

Note: 1) HP Override is only applicable in dual controller applications. 2) Transducer offset will not be updated until “OK” is pressed.

When the controller is used in Backup applications:- Backup can be forced by pressing “A” & ”B” simultaneously. Reset to primary Control can be achieved by pressing “A” & ”ESC” simultaneously.



Parameter	Min	Max	Def	Unit	Remarks
COND Set PNT	8.0	22.0	12.0	BAR	Condenser Set Point
COND CNTL BND	0.5	8.0	3.0	BAR	Control Band
HP Override P	9.0	22.0	21.0	BAR	High Pressure Override setting
COND Backup Del	10	300	20	SECS	Delay Time For Backup to start
CONDTX offset	10	10.0	0	BAR	Transducer Calibration
Setback Speed	10	100	50	%	Normal Maximum speed
HP Full Speed	10	22.0	20.0		High Pressure Full Speed
Fault Speed	10	100	45	%	TX Fail and Dry Test Speed

RDM Controller

Combined excellence in heat transfer

The 11-10V has an analogue output (0-10V dc or 4-20mA) to control variable speed devices. The controller has 2 options, Pack or Condenser. The control is a "Fuzzy logic" based algorithm, giving enhanced control whilst maintaining the starts/hr requirement. The algorithm also reduces the number of input parameters required for control; only a target pressure is needed. Like all Mercury controllers, the 11-10V has a serial output that can connect directly to a PC for quick set-up (PC running RDM Communicator application) or to one of RDMs' network modules. The controller can run off a supply voltage of 100 - 250 Vac and each relay can switch in excess of 2 Amps. There is a low voltage version : -10 - 35 Vdc or 15 - 30 Vac and also a remote display version for door mounting applications.



RDM Controller

The Mercury 11-10V is a controller intended for Pack and Condenser control. It has 10 relay outputs that are configurable for compressors, loaders or fans. The 10 digital inputs can be assigned for Pack or Condenser section inputs or general alarms. There are two 4-20mA inputs for pressure transducers and one temperature probe input.

Networks

The controller is capable of connecting to either a TCP/IP local area network or a RS485 network or controlling in stand alone mode with no network output. To connect to a network you must connect through a communications module or a Mercury Serial Hub.

- 485 Legacy module (Part No. PR0026)
- IP Futura module (Part No. PR0016)
- Mercury Serial Hub (Part No. PR0017/18)

Connecting to any of these communication modules will automatically be detected on power up and this will affect the set up screens made available to you.

Configuration

The controller has two configuration options

Display Value	Type
1	Pack
2	Controller

The controller is delivered pre-configured as a Pack Controller (Type 1)

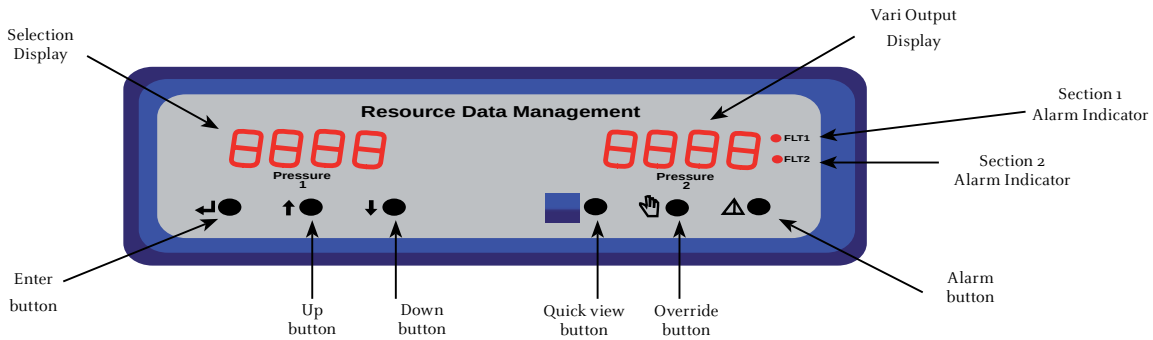
Section Display

4 character display, shows the pressure (suction for pack, discharge for condensers)
In set-up mode, displays the set-up menu items
In quick view mode, indicates the target pressure
In alarm view mode, indicates the alarm number
In Override mode, indicates and allows the number of stages forced on

Vari Output Display

4 character display, shows the percentage of the analogue output.
In set-up mode, display is blank.
In alarm view mode, indicates the alarm channel (e.g. S101 = section 1 input 1).
In Override mode, display is blank.

Front panel display



Front panel buttons

Enter Button: - Used to enter menu items.
Up Button: - Used to scroll up.
Down Button: - Used to scroll down.
Quick View Button: - Used to view the target pressure In "alarm view" mode, used to view the alarm occurred.
Override Button: - Used with the "Enter" button, to go into the override mode.
Button: - Used to enter the "alarm view" mode.

The PR0600RDM Controller is now available for the Dual Controls.

Ziehl-Abegg Fe2 Owlet and EC technology plays an integral role in GEA Condensers and Dry Coolers providing effective capacity control whilst retaining high energy efficiency and low noise levels, all at a competitive price. These speed control fansets can provide significant benefits over alternative motors and are ideally suited to the following application areas:- Commercial refrigeration, Building HVAC, Industrial refrigeration Process Cooling, Power Generation and Convenience Stores.

New generation of fans and motors
Combined expertise in heat transfer



The Adantages of EC Fansets

- Reduced energy usage and Low operating cost, providing short pay-back periods.
- Continuous speed control across the full operating range.
- Low noise compared to a similar unit fitted with step control.
- High efficiency across the full operational range.
- Simple to connect to AC mains supply.
- High efficiency across the full operational range to an asynchronous motor and 3 year warranty.
- Operation at peak load via the over speed function is
- pre-programmed into the control system.
- Integrated protective features; Phase failure detection; Overcurrent and temperature.
- Networked and bus-linked installations are easy to realise (RS485).
- Night time set back at night, operation at extremely low noise can be achieved through stepless speed control.
- Built in fail-safe features, including individual integrated electronics, self-regulating motors and internal motor protection.

GEA has the technical expertise to advise and select products for any application where energy efficiency, low noise and cost effective solutions are required. EC (Electronically Commutated) technology is a tried and tested technology which has been utilised by for a number of years.

The motors used in EC fansets are simply brush-less DC motors with characteristics similar to a “shunt” motor. Unlike the conventional motors where an AC current in the stator induces the magnetic field in the rotor, EC motors use permanent magnets, so the current in the stator is used solely to generate the torque not secondary magnetic fields. Therefore, with fewer losses the EC motor is inherently more efficient than the AC motor. Conventional DC motors use brushes to switch the supply and these wear over time; the new generation of EC motors use commutation electronics to sense the rotor position and switch supply. As switching is undertaken electronically with no physical contacts there is no wear and so reliability is increased.

High Energy-saving potential

The cost of energy has nearly tripled in recent years and is predicted to rise in the future. Rising energy costs means energy efficiency is becoming a key factor within industry issue and is rising in importance on end-user criteria. A GEA unit equipped with EC technology has a high energy saving rating, which in turn, translates into lower running costs.

The energy savings gained by relying on EC technology translates into short payback times when measured against the initial procurement costs. Moreover, the maintenance free and exceptionally high service life results in additional big savings.

High efficiency and low noise

The EC motor has a high efficiency at every speed. At nominal speed, there is energy saving of around 10% when compared to conventional AC options. At reduced speed the saving is substantially more pronounced. Where noise levels are a key consideration, a unit with EC technology helps by reducing perceived noise when compared to a similar unit with step control.

Fail-safe safety

Refrigeration plants operate 24 hours a day, therefore, both energy costs and fail-safety are crucial factors. EC motors are equipped with several fail-safe features helping to ensure disruption is minimal in the event of a failure. Each motor is fitted with an individual power unit, unlike traditional units with a single inverter. Should an EC fan inverter fail the other fans on the unit will remain fully functioning and in most cases compensate for the loss of one fan. In addition each fanset has internal motor protection.

General information
Air Cooled Condensers

Controls and other Options

There are various optional GEA control packages available, including variable speed controlled products using GEA inverter control or the latest EC fan control systems. The control options include: EC speed control Inverter speed control, Triac speed control, Dual speed step control, Single speed step control. If a speed control method is utilised, GEA Searle recommends adding the option of internal motor protection. GEA offers a wide range of accessories and additional options, including: anti-vibration mounts and leg extensions - to enhance air flow in difficult locations and Adiabatic cooling system (Please see GEA Adiabatic Section for further details or contact your GEA representative)

Dewpoint

The capacities shown in this brochure are rated at dew point. This is the pressure/temperature condition at which a refrigerant gas begins to condense on the surface. As some refrigerants have significant glide (e.g. R407A/ 407C), the saturated gas and saturated liquid temperatures are not necessarily the same. It is important to ensure that all the components of a system are selected using the same rating method whilst the use of mid-point does make selection easier, it is difficult to measure on site. At the brochure rating point of 15K DT1, mid point capacities would be approximately 9% higher for R407C than the equivalent dew point figures shown in the tables. Units maybe specified as horizontal (standard) or vertical orientation. Sub-Cooling is achieved by the use of an integrated sub-cooling section which utilises approximately 10% of the coil surface. This provides up to 7K of sub-cooling at the standard rating condition of 15K DT1. Operating below 15K DT1, the amount of sub-cooling is reduced. The total heat rejection capacity, inclusive of sub-cooling, will be reduced by 5%.

Coils

Coils are manufactured from high-quality materials ensuring a quality product without compromise. These coils have been tested extensively in GEA Searle's Research & Development facility to ensure performance. Standard coils are manufactured from copper tubes, which are mechanically expanded into fully collared holes in the fins. This ensures an effective and permanent bond between the tube and the fin, maximising heat transfer characteristics. Within the coil casework surround, each fan chamber is separated by internal baffe plates to prevent wind milling of off-cycle fans. Alternative fin materials are available to give added protection in polluted or saline atmospheres: -

- Cu/Av - Copper tube / Aluminum fins ,
- Cu/Cu - Copper tubes / copper fins,
- Cu/Et - Copper tubes / electro tinned copper fins,
- Cu/Al/Bg - Copper tubes / aluminum fins Blygold coated.

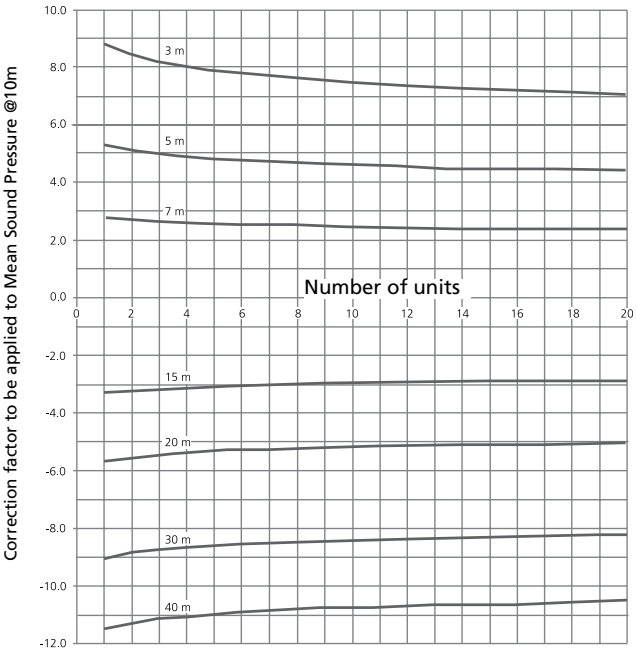
All standard coils are fully leak and strength tested to 36 bar for a maximum operating pressure of 27 bar.

Sound Pressure Correction for Distance

The chart gives correction factors for use with mean sound pressure values for a distance of 10 m, For example, for a 4 fan unit with the catalogue level of 62 dBA the correction factor for 3m is 8.0. Therefore the mean sound pressure level at 3 m for this unit is 70 dBA. The correction values are averages for all models so the tolerence for noise levels calculated with them is ±3 dBA. Results should be rounded to the nearest 1 dBA.

Formula for calculating noise data at specific distance

sound power level-sound power correction + correction factor for multiple fans



Noise Data & Multi-sectioning

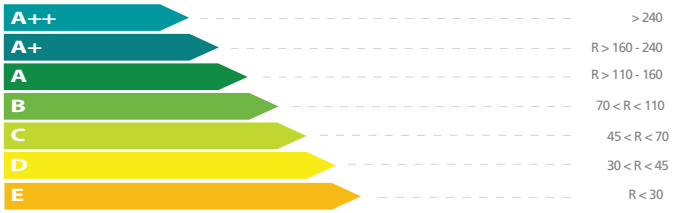
The mean unit sound pressure data at 10m is given for each model in the catalogue and is certified as part of the Eurovent scheme. Sound power testing and sound pressure calculation are carried out in accordance with EN13487. Mean sound pressure levels are for a parallel piped surface surrounding the unit on a reflective plane. Power levels and sound spectrum are available on request. All models are suitable for multi-sectioning, permitting more than one refrigeration system to operate with a single condenser. All V-bank, RF units are twin section as standard. Larger V-bank models are manufactured in 4 sections, 2 per coil to ensure they conform to category 1 of the 'Pressure Equipment Directive'.

Fansets

The fansets chosen for the range offer the best combined performance for air volume, noise and efficiency available in the refrigeration industry, customers can select the latest EC technology, offering high efficiency and speed controllability.

Energy Labelling

Energy Labelling is now part of the Eurovent Certify-All scheme. Rating is based on the ratio of nominal duty to power input with banding as in the table below. Where R= Nominal Capacity Total fan power input.



Blygold® Coating

Blygold® coating is applied and cured to protect the finned coils against harsh environmental conditions such as erosion by sand or salt. It provides a barrier and avoids the risk of electrolytic reactions between the two metals involved.

Installation and Location guidance

Before locating the unit in its final location, appropriate load calculations should be completed, taking into consideration functional unit load. This is to ensure its operating platform will withstand the units distributed weight. It is the responsibility of the installer to ensure that the relevant national building legislations are met and the operating surface is suitable to withstand the supplied condenser. For efficient operation, the unit needs airflow to be unrestricted and inlet air to be at ambient temperature. Adjacent building styles, plant and prevailing winds can often cause air currents which, in turn can create down draughts, consequently forcing the discharge air back down into the air intake stream causing high air entering temperatures and subsequent loss of performance. Other adjacent plant, either requiring an air supply or dissipating air will affect the air flow onto the unit. To achieve unrestricted air at ambient temperature, it is necessary to avoid hazards such as:

- Local wind conditions causing warm outlet air to be mixed with the cool inlet.
- Inlet air entraining warm exhaust air from other equipment.
- Solar heat absorption from surrounding surfaces increasing the local ambient.
- Vertical coils should be shaded from the sun.

Adding effects together, it is not unusual for there to be a 5 K temperature increase in inlet air temperature over and above ambient. This obviously has a serious effect on the performance. Sound pressure levels away from the unit will be affected by its surrounding objects/obstructions such as solid walls resulting in higher than specified levels of sound pressure.

Vertical units with AC fan speeds <400 rpm are not available as wind can overcome the power of the motor, making it impossible to start.

Detailed below are some guidelines for location and installation of the unit. These guidelines are applicable to flatbed and V bank units. It's recommended to allow maximum distance wherever space is available.

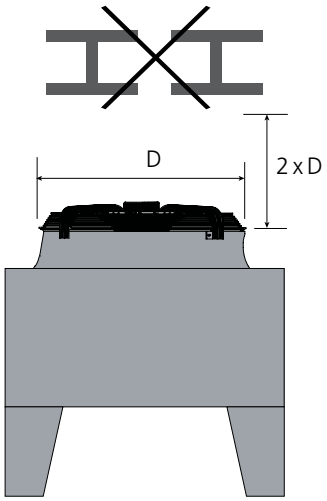
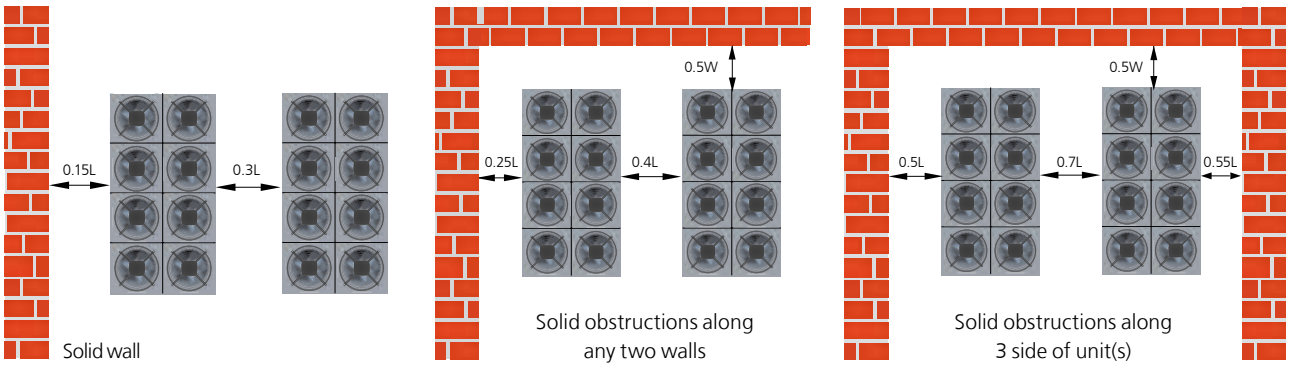


Fig 1

Avoid obstructions within 2 x diameter of the fan outlet



Note: L = Unit Length W= Width

Fig 2

Recommended dimensions for location of units to avoid inlet or outlet restrictions objects such as walls. Extended legs offer a cost effective way to reduce warm air recirculation, reducing inlet flow velocities and increasing the average distance between warm and cool air.

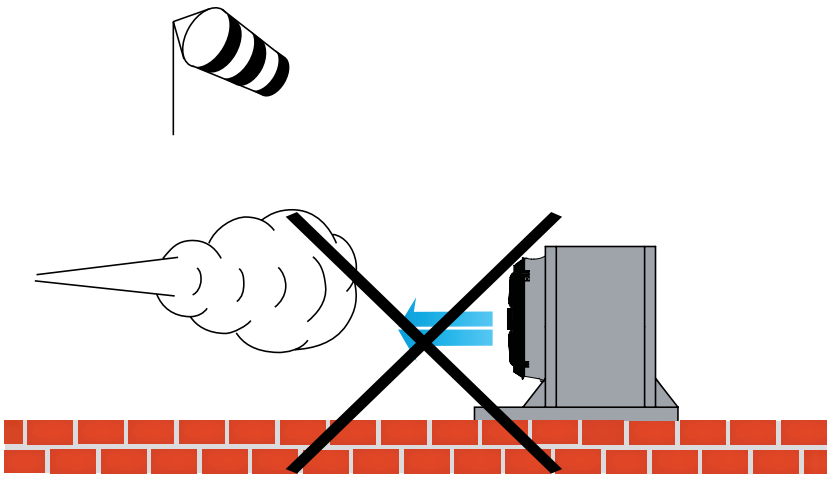
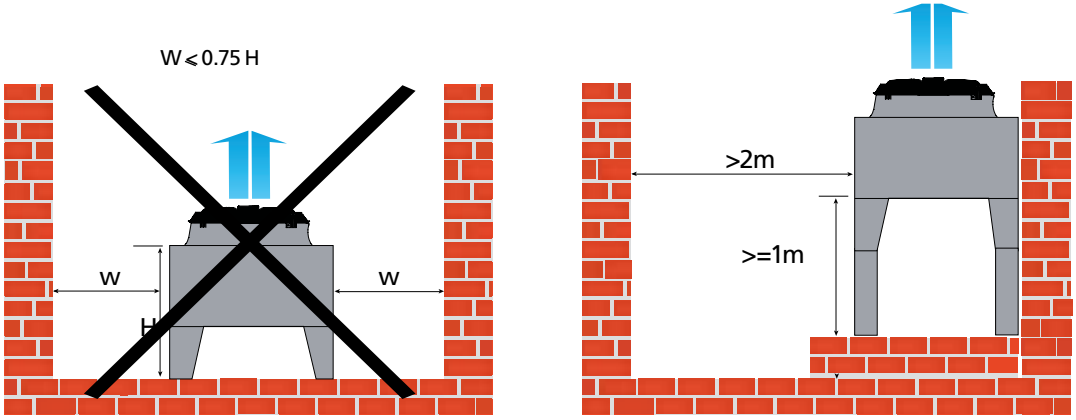


Fig 3

Avoid wind creating additional pressure for fans to work against, particularly at low speed - < 400 rpm.



Not applicable to V bank units

Fig 4

Avoid inlet air being drawn from above the height of the outlet.

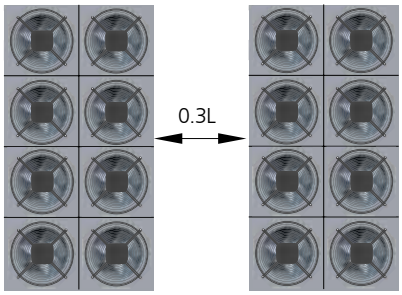


Fig 5

Avoid outlet air pulled down between adjacent units

Your GEA experts for Condensers & Dry Coolers worldwide

Reachable always and everywhere



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By concentrating various performance fields into a single, one-stop solution, GEA enables more effective control of the complex processes in refrigeration. It also speeds up order execution and simplifies preventive and remedial maintenance of refrigeration facilities. In this way, GEA creates clear and personally addressable responsibility for the entire process of project implementation. In a global, tightly meshed network, our highly qualified staff provides all key processes in industrial production and air treatment. GEA has set a new standard for efficiency, reliability, and availability in refrigeration. With production and service locations around the world, GEA offers – based on a single-source technology – a unique industrial network to provide excellence in engineering and expertise in local services and comprehensive support of our customers in a wide range of dedicated applications.

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.

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