

AERZEN

POSITIVE DISPLACEMENT BLOWERS

New Aerzen Positive Displacement Blower Units
Delta Blower Generation 5 as **vacuum design**
Intake volume flows from 30 m³/h to 3.600 m³/h

**It's new and
individual!**

Vacuum



**AERZENER MASCHINENFABRIK
GMBH**

G1-080 | 00 | EN

3000

4.2007

**Now also available
as vacuum design**

Delta Blower
Generation 5

- the name of the new
blower units of Aerzener
Maschinenfabrik

Aerzener Maschinenfabrik started manufacturing positive displacement blowers in 1868 and is proud to be one of the oldest and largest manufacturers worldwide, with a market leading position in Europe. Technical competence, experienced staff and constant dialogue with our customers maintains the basis for the successful developments that originate from Aerzen.

Our priority is that the customer benefits and because of these innovative products Aerzener Maschinenfabrik can guarantee that plant manufacturers

and end users alike can secure their market success in the short and long term.



Customers benefit from technical progress

The Delta Blower Generation 5 is the synthesis of the successful characteristics developed in previous generations combined with new technical innovations that already meet the market requirements of the future.

Why Generation 5?

Aerzener Maschinenfabrik was the first blower manufacturer to design a compact unit in 1960 and has developed this machine type continuously ever since.

Delta Blower Generation 5 is therefore the fifth generation of Aerzen blower units and represents the successful combination of tradition and innovation. However compared to other blower models this new series offers 5 main advantages for the customers. 5 main advantages which led to the name „Generation 5“.

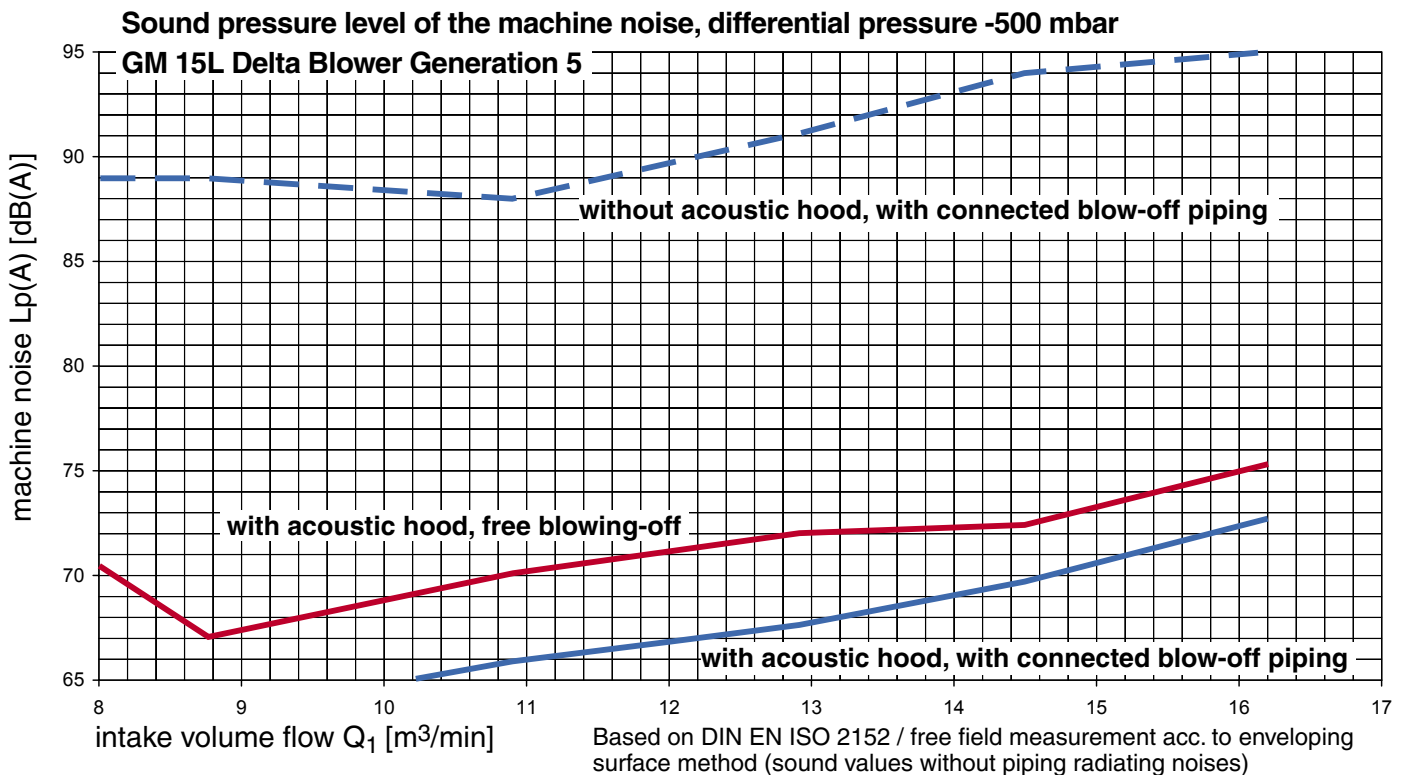
For the special requirements in the suction pneumatic the new series has now been adjusted and further developed.

➤ Lower sound levels

In comparison with the previous generation the sound levels of the new series Delta Blower Generation 5 could be considerably decreased, in average by approx. 6 db(A), in single cases even more. **Special focus has been placed on the disturbing blow-off noise, therefore, for the nominal widths DN 80 to DN 125 (60 m³/h to 1550 m³/h) an integrated silencer had been designed.** Within this range of nominal widths it can freely be blown off the acoustic hood resp. via piping. Upon request for the other sizes additional blow-off silencers are available.

Thanks to the considerable sound reductions costly special measures (e.g. special acoustic hoods) can be avoided from the start.





Easy operation and maintenance:
 Transport with fork lifters and lifting trucks, the main maintenance work is carried out from the front.

The oil level control can be viewed from the outside when blower is running.



➤ Simple operation and easy maintenance

During development, special consideration was given to the ease of handling of the new units. The first consideration was easy positioning and installation: The units can be transported at site, by means of a suitable fork or pallet truck. They are delivered with a service pack that includes a lifting jack, oil funnel and an initial fill of oil, which also makes commissioning very easy. All service tasks and components that require maintenance are accessible from the front of the unit.

However, the important advantage is the new oil system. The oil level can be viewed and checked from the outside with the blower fully operational, this is possible without any problems. Therefore, blower shutdowns, process and production interruptions belong to the past. The most important advantage is however the new oil system. This makes a check of the oil level possible from the outside with the machine running. Necessary shutdowns of the machines and consequently interruptions of the process or the production thus belong to the past. Size DN 50 is the only exception. Due to the small dimensions the oil service can easily be carried out via the detachable acoustic hood roof.



➤ Mechanical fan

A mechanical fan mounted on the blower drive shaft is used to ventilate the acoustic hood. Without the need for an electric fan additional electrical installation and energy costs are saved.

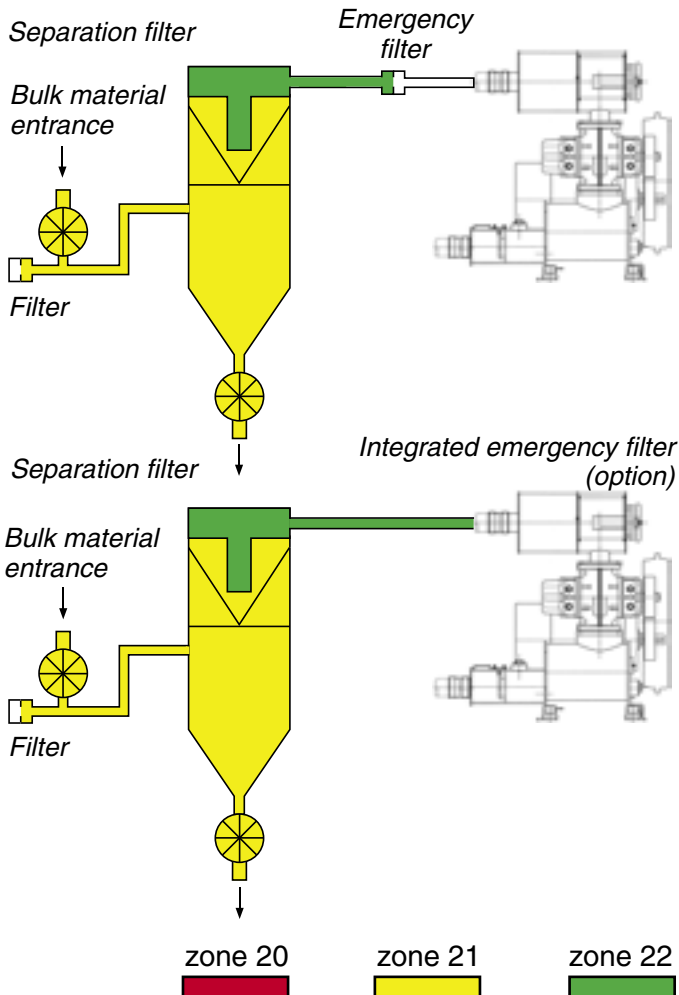
An additional advantage for this system is that it fully complies with all ATEX requirements. Expensive ex-proof fan motors are not required - a considerable cost saving.

➤ ATEX-certification

Aerzen blower units for intake- and discharge operation are designed acc. to the European machine guideline 94/9/EG especially for the requirements in categories 2 and 3 for dust- and gas zones. In addition the Aerzen units consider a protection against explosion for units acc. to ATEX-guideline 137 (1999/9/29EG).



Schematic description in case of suction conveyance



Regarding intake operation it is to be ensured that in case of separation filter damage, no combustible dust-air-mixture is sucked into the blower. For this reason, usually an additional filter element (emergency filter) must be provided by the unit design. This also means additional expenditures for the project work, assembly and installation.

Therefore Aerzener Maschinenfabrik has developed a puncture-proof filter element which can be integrated in the suction silencer. The filter is monitored by a differential pressure measurement. Consequently the Aerzen special filter element replaces the previous additionally necessary emergency filter.

➤ Space saving design

Especially with the smaller size units the dimensions have been reduced, linked with the facility to install the units "side by side", the required floor space has also been considerably reduced. Providing further cost savings in designing the size of the blower room.

Due to the changed dimensions and type of design there is a better possibility of replacement regarding the previous Aerzen generations KI, KII and KIII.

Further advantages of the new series Delta Blower Generation 5 in vacuum design are the following:

- Blower stage with patented procedure for pulsation reduction
- Standard application for energy-saving motors of class EFF1
- Compliant as per the PED guidelines (discharge silencer and pressure valve)
- Automatic belt retention due to hinged motor mounting plate

Delta Blower 5

Generation

Generation 5 uses a mechanical fan!

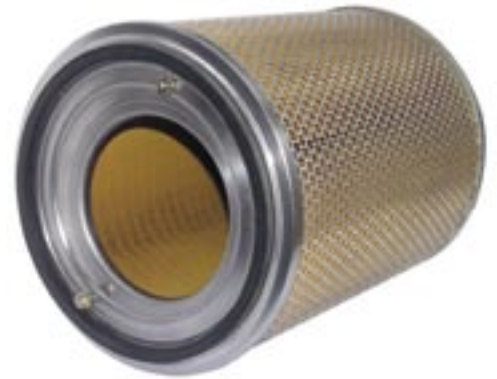
This is mounted on the blower shaft and, therefore, does not need any additional absorbed power or electrical installation costs.

Scope of supply:

- Blower stage
- Base support with integrated discharge silencer
- Intake system with safety relief valve (vacuum breaking element)
- Drive (hinged motor mounting plate and belt drive)
- Connecting housing with pressure valve and non-return flap
- Flexible piping connection

Accessories:

- Acoustic hood for internal or external installation
- Driving motor EFF1
- Vacuum meter for indication of intake pressure
- Differential pressure monitoring (option)
- Aerzen blower control ASG 200 (option)
- Puncture-proof filter element (option)



Optional accessories:

puncture-proof filter element



Low-maintenance:

Automatic belt re-tension by hinged motor support

Application ranges and use

Pneumatic conveying devices are very common in the bulk industry: They are easy to install, do not have many movable parts and require, therefore, only little maintenance and are very adaptable. Even in case of longer distances solid particles are blown by air or inert gas through corresponding pipings.

There is a difference between pressure- and suction conveyance. Regarding the pneumatic conveyance the load of solid particles influences considerably the operation behaviour of the unit.

The smaller the load the less tendency for the pipings to get clogged. However, a smaller load (air conveyance / pressure conveyance) requires high flow speeds and a lot of energy leading to wear. In general hard and bulk materials sensitive to abrasion should be transported by means of suction conveyance, i.e. with smaller gas speeds. In the medium pressure range positive displacement blowers are proven for the pressure conveyance as well as for the intake operation.

At present, Delta Blower Generation 5 is available for vacuum applications with nominal widths of DN 50 to DN 200.

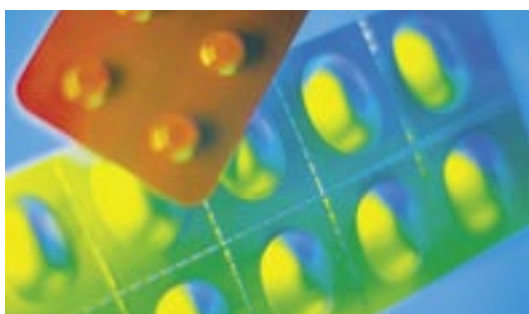
Further sizes are available in series Delta Blower.

Using a flexible modular construction and a belt driven system makes it possible for all blowers and motor sizes to be installed, within a nominal range. Therefore, achieving an optimum adjustment to match the blower output and power consumption. Further modifications are also possible.

For the new series Generation 5 10 vacuum series are available for intake volume flows from approx. 30 m³/h to 3.600 m³/h

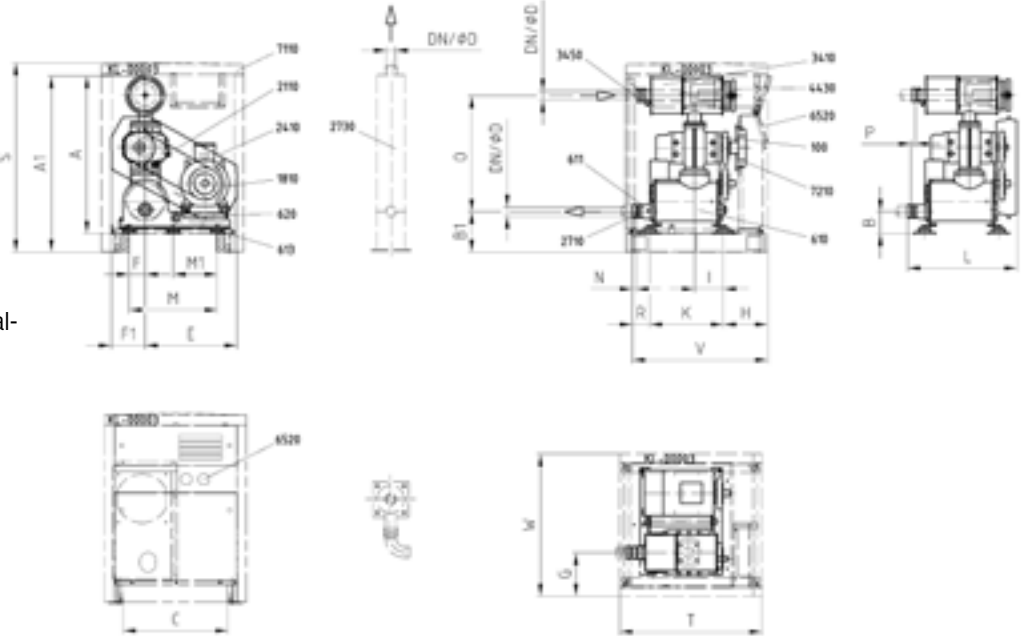
Examples of the various pneumatic application ranges are e.g.:

- Cement technology
- Foodstuff technology
- Synthetic granulating pneumatics
- Pharmaceutical industry
- and many more



Dimensions – DELTA BLOWER – GM 3 S to GM 25 S

- 100 positive displacement blower
- 610 base frame
- 611 connection housing DS
- 612 integrated non-return flap
- 613 anti-vibration mountings
- 620 hinged motor plate
- 1810 electric motor
- 2110 belt drive
- 2410 belt guard (only in case of installation without acoustic hood)
- 2710 flexible pipe connection DS
- 2730 blow-off silencer (accessories)
- 3410 intake silencer
- 3450 flexible pipe connection SS
- 4430 intake valve
- 6520 vacuum meter
- 7110 acoustic hood
- 7210 fan

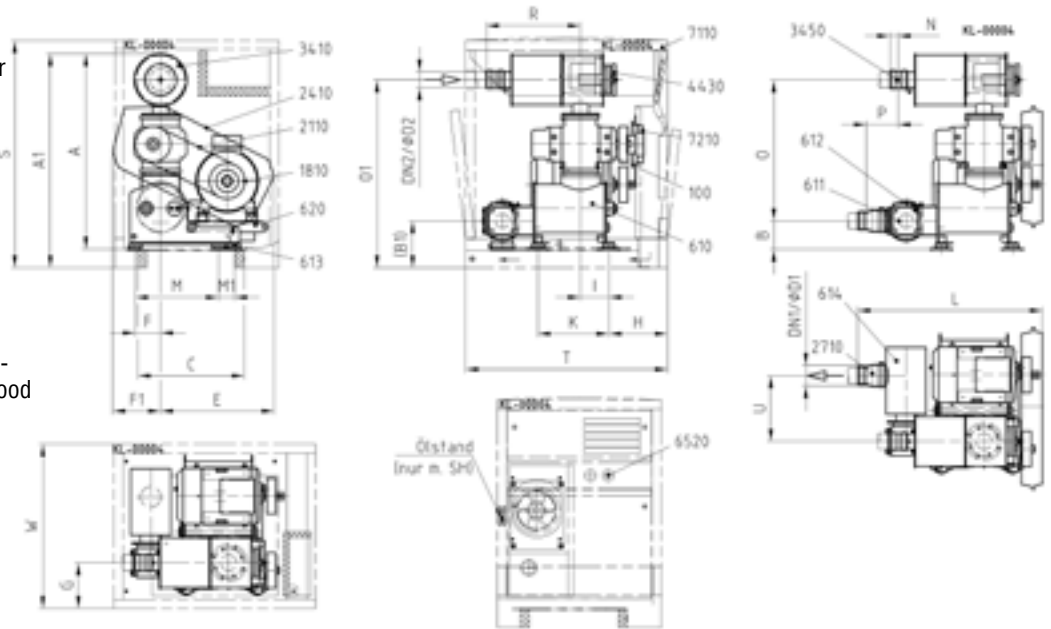


type	A	A ₁	B	B ₁	C	DN / ø D	E	F	F ₁	G	I	H	K	L	M	M ₁	N	O	P	R	S	T	V	W	Weight without acoustic hood	Weight with acoustic hood
3 S	886	991	123	228	590	50 / ø 60.3	606	90	192	245	163	249	416	615	495	247,5	20	650	24	96	1055	800	761	800	170 kg	234 kg

Dimensions expressed (in mm), not binding

weight without motor and belt drive

- 100 positive displacement blower
- 610 base frame
- 611 connection housing DS
- 612 integrated non-return flap
- 613 anti-vibration mountings
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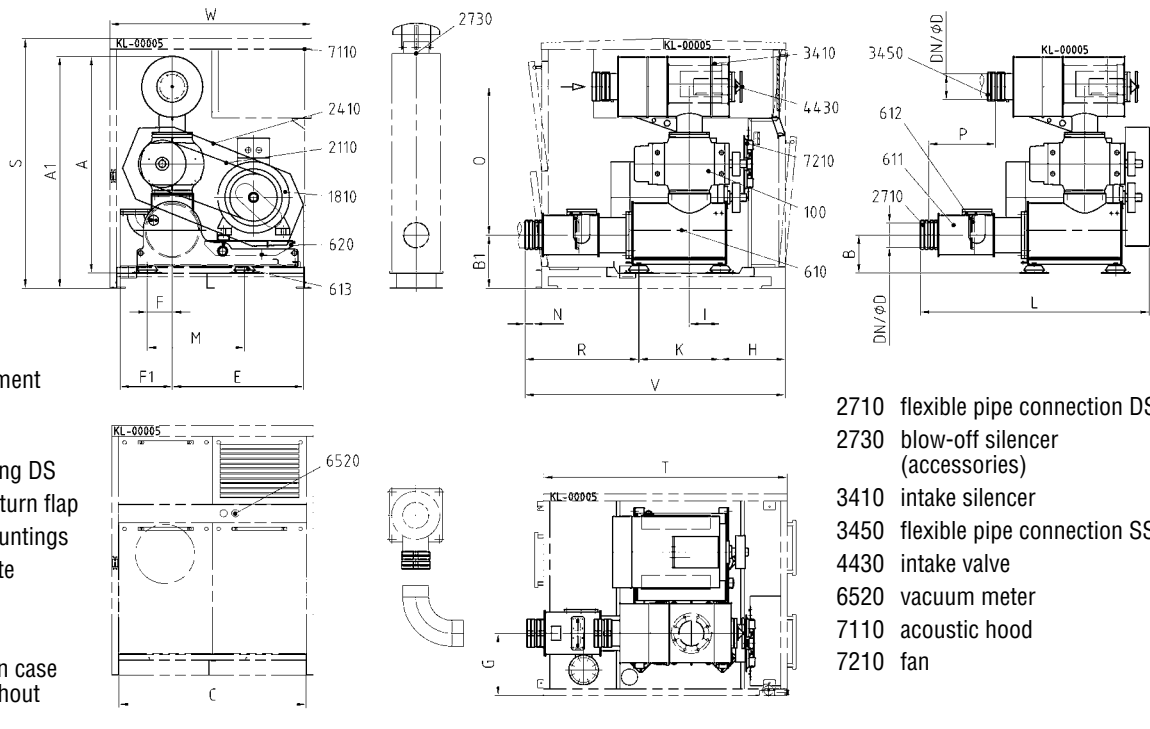


type	A	A ₁	B	B ₁	C	DN ₁ / ø D ₁	DN ₂ / ø D ₂	E	F	F ₁	G	I	H	K	L	M	M ₁	N	O	P	R	S	T	U	W	Weight without acoustic hood	Weight with acoustic hood
4 S	1101	1206	160	265	600	DN 80 / 88.9	DN 80 / 88.9	639	142	268	258	160	329	400	1005	558	-	50	793	177	530	1280	1135	370	925	268 kg	382 kg
7 L	1101	1206	160	265	600	DN 80 / 88.9	DN 80 / 88.9	639	142	268	258	160	329	400	1040	558	-	50	793	177	530	1280	1135	370	925	282 kg	395 kg
10 S	1101	1206	160	265	600	DN 80 / 88.9	DN 80 / 88.9	639	142	268	258	160	329	400	1040	558	-	50	793	177	530	1280	1135	370	925	307 kg	420 kg
10 S	1311	1416	228	333	700	DN 100 / 114.3	DN 100 / 114.3	830	160	268	375	185	349	500	1235	610	110	50	920	298	565	1500	1350	401	1250	375 kg	540 kg
15 L	1311	1416	228	333	700	DN 100 / 114.3	DN 100 / 114.3	830	160	268	375	185	349	500	1275	610	110	50	920	298	565	1500	1350	401	1250	390 kg	555 kg
25 S	1311	1416	228	333	700	DN 125 / 139.7	DN 125 / 139.7	830	160	268	375	185	349	500	1281	610	110	70	920	298	615	1500	1350	401	1250	463 kg	628 kg

Dimensions expressed (in mm), not binding

weight without motor and belt drive

Dimensions – DELTA BLOWER – GM 30 L to GM 60 S



- 100 positive displacement blower
- 610 base frame
- 611 connection housing DS
- 612 integrated non-return flap
- 613 anti-vibration mountings
- 620 hinged motor plate
- 1810 electric motor
- 2110 belt drive
- 2410 belt guard (only in case of installation without acoustic hood)

- 2710 flexible pipe connection DS
- 2730 blow-off silencer (accessories)
- 3410 intake silencer
- 3450 flexible pipe connection SS
- 4430 intake valve
- 6520 vacuum meter
- 7110 acoustic hood
- 7210 fan

type	A	A ₁	B	B ₁	C	DN ₁ / ø D ₁	E	F	F ₁	G	H	I	K	L	M	N	O	P	R	S	T	V	W	Weight without acoustic hood	Weight with acoustic hood
30 L	1628	1768	216	356	1373	DN 150 / 168.3	1016	180	390	435	549	229	615	1616	800	70	1204	404	772	1978	1800	1936	1500	807 kg	1335 kg
35 S	1668	1808	216	356	1373	DN 150 / 168.3	1016	180	390	435	549	229	615	1616	800	70	1244	404	772	1978	1800	1936	1500	865 kg	1395 kg
50 L	1716	1808	216	356	1373	DN 150 / 168.3	1016	180	390	435	549	229	615	1633	800	70	1241	364	772	1978	1800	1936	1500	945 kg	1475 kg
50 L	1730	1860	320	450	1575	DN 200 / 219.1	1106	210	435	525	547	261,5	688	1942	820	70	1150	565	962	2109	2055	2196	1700	1060 kg	1630 kg
60 S	1830	1960	320	450	1575	DN 200 / 219.1	1106	210	435	525	547	261,5	688	1922	820	70	1250	565	962	2109	2055	2196	1700	1180 kg	1750 kg

Dimensions expressed (in mm), not binding

weight without motor and belt drive

Performance data – DELTA BLOWER – vacuum operation

blower size	vacuum pressure	volume flow	motor rating	sound pressure level*
	mbar	m ³ /h	kW	dB(A)
GM 3 S-G5	-500	210	7,5	68
GM 4 S-G5	-500	300	7,5	70
GM 7 L-G5	-500	450	11	70
GM 10 S-G5	-500	600	15	70
GM 10 S-G5	-500	660	15	70
GM 15 L-G5	-500	975	22	73
GM 25 S-G5	-500	1410	30	73
GM 30 L-G5	-500	1980	45	75
GM 35 S-G5	-500	2280	55	75
GM 50 L-G5	-500	2700	75	75
GM 50 L-G5	-500	3250	75	78
GM 60 S-G5	-500	3340	75	78

* without blow-off noise



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