

AERZEN

POSITIVE DISPLACEMENT BLOWERS

for conveying of air and neutral gases for rough vacuum

series GMa / GLa . . . V

theoretical nominal suction volume flow from 240 m³/h to 3.500 m³/h

ROUGH
VACUUM



AERZEN

AERZENER MASCHINENFABRIK

GMBH

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Aerzen Vacuum-Blowers

Aerzen Positive Displacement Blowers (of the "Roots" type design) have been manufactured since 1868 and today are highly developed standard production machines designed and adapted to find use in a wide variety of applications.

Fields of application

Conveying of air and neutral gases.

Vacuum from 1 mbar to approx. 1.000 mbar for HV-blowers

available in 8 sizes for theoretical nominal suction volume flow from 240 to 3.500 m³/h.

The max. admissible differential pressure depends on the thermal load.

(See performance diagrams / chart - below)

Design

Due to the 0-ring seals the housing flanges are vacuum-tight, aircooled. Splash oil lubrication.

Shaft sealings

Conveying chamber by combined oil slinger- piston ring labyrinth seals. Driving shaft by double radial seal rings with grease barrier.

Direction of flow (viewed onto driving shaft)

For V-blowers to size 13.8 V alternatively

GMa = vertical or GLa = horizontal, by variation 085 direction of flow each on both sides.

Drive

Direct coupling with motor, converter operation, or narrow v-belt drive restricted to the smaller pressure differentials.

Drive unit

Consisting of cast connector with perforated sheet cover, flexible coupling and flanged B5-motor acc. to IEC-standard equipped with 3 PTC-thermistors, suitable for frequency-converter operation.

Test run of the blower stages

The test run is already carried out at assembly line and includes the leakage test by means of an economical nekal test. An ascertainment of the leakage rate and performance data will not be effected.

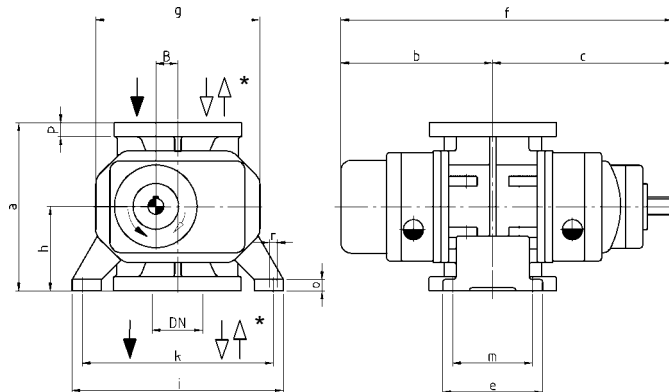


Operating-and Performance Diagrams for Aerzen Rough Vacuum Blowers

For sizes	50 Hz operation			60 Hz operation		
	Speed [1/min]	Suction volume S_{th} [m ³ /h]	Drawing-no. Performance diagram	Speed [1/min]	Suction volume S_{th} [m ³ /h]	Drawing-no. Performance diagram
GMa / GLa 10.1 V	2950	240	4TG-4181	3600	295	4TG-4167
GMa / GLa 10.2 V	2950	365	4TG-4182	3600	440	4TG-4154
GMa / GLa 11.3 V	2950	500	4TG-4183	3600	600	4TG-4155
GMa / GLa 11.4 V	2950	730	4TG-4184	3600	880	4TG-4156
GMa / GLa 12.5 V	2950	1000	4TG-4185	3600	1200	4TG-4157
GMa / GLa 12.6 V	2950	1400	4TG-4186	3600	1700	4TG-4158
GMa / GLa 13.f7 V	2950	2010	4TG-4187	3600	2420	4TG-4159
GMa / GLa 13.8 V	2950	2840	4TG-4188	3600	3420	4TG-4160

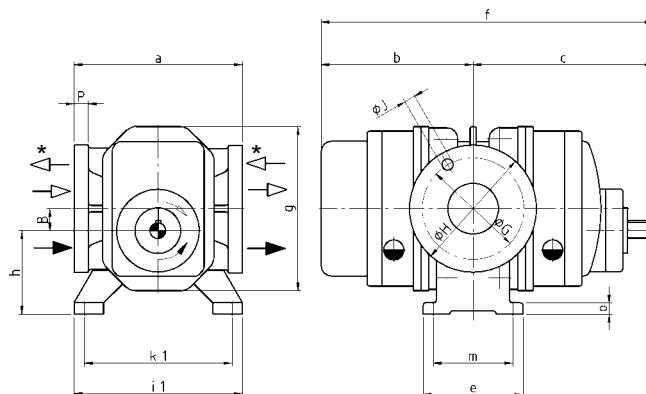
Dimensions Blower-Stage V

Type of construction GMa



* = variation . . . 085
direction of flow on both sides!

Type of construction GLa



Type of construction GMa/GLa	a	b	c	e	f	g	h	i	i1	k	k1	m	o	r (for)	B	DN	G	H	P	Weight approx. kgs
10.1 V	264	239	283	157	522	258	132	332	264	300	232	125	18	M12	34	80	160	200	22	90
10.2 V	264	287	324	239	611	258	132	332	264	300	232	207	18	M12	34	80	160	200	22	105
11.3 V	320	280	324	200	604	295	160	390	300	350	260	150	20	M16	42.6	100	180	220	22	125
11.4 V	320	330	374	290	704	295	160	390	300	350	260	245	24	M16	42.6	100	180	220	22	170
12.5 V	360	325	380	260	705	360	180	440	336	400	296	210	30	M16	53.3	100	180	220	22	225
12.6 V	360	381	436	340	817	360	180	500	396	460	356	290	27	M16	53.3	150	240	285	24	275
13.f7 V	400	383	423	330	806	436	200	570	440	510	380	270	35	M20	67.5	150	240	285	24	330
13.8 V	400	453	493	470	946	436	200	570	440	510	380	410	27	M20	67.5	150	240	285	24	445

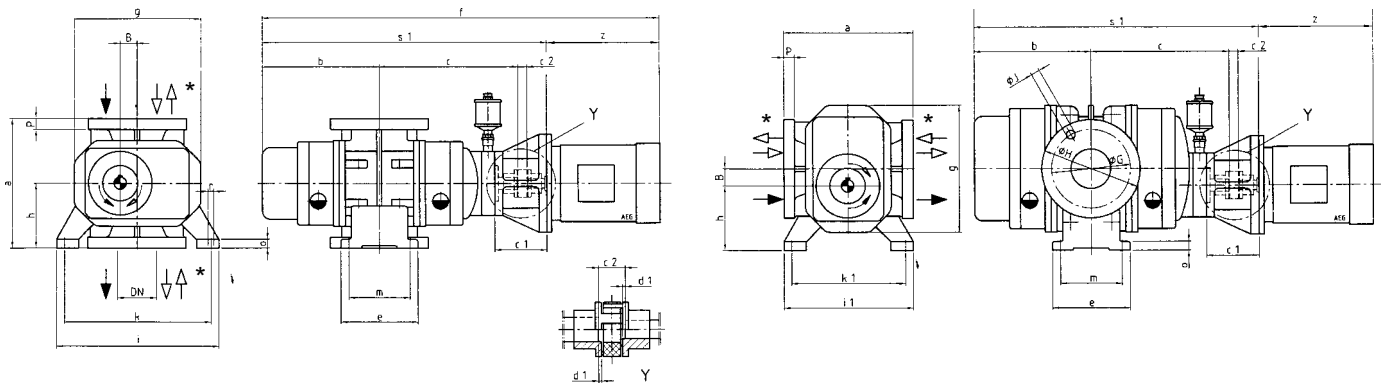
Mechanical loading capacity acc. to sheet 4 TG - 4153

Socket flanges drilled acc. to DIN 2533

Technical Data of the drive units for Aerzen Rough Vacuum Blowers

For sizes:	10.1 V	10.2 V	11.3 V	11.4 V	12.5 V	12.6 V	13.7 V	13.8 V
Theoretical suction volume at 50 Hz [m³/h]	240	365	500	730	1000	1400	2010	2840
Theoretical suction volume at 60 Hz [m³/h]	295	440	600	880	1200	1700	2420	3420
Mech. max.adm. differential pressure [mbar]	140	130	140	130	130	130	110	100
Oil filling quantity for GMa...V [liter]	0,9	0,9	1,1	1,1	1,5	1,5	2,5	2,5
Oil filling quantity for GLa...V [liter]	0,7	0,7	0,8	0,8	1,1	1,1	2,1	2,1
Motor rating at 50 Hz [kW]	1,1	1,5	2,2	3	4	5,5	7,5	11
System voltage at 50 Hz [V]	230/400	230/400	230/400	400/690	400/690	400/690	400/690	400/690
Weight stage + drive unit [kG]	90	105	125	170	225	275	330	445
Drawing-no. of the unit:	2 ZG - 8863	2 ZG - 8864	2 ZG - 8865	2 ZG - 8866	2 ZG - 8867	2 ZG - 8868	2 ZG - 8869	2 ZG - 8870
Order-no. of the drive units:	730268000	720702000	720703000	720704000	720705000	720706000	730270000	720707000

Dimensions Blower-Units V



Type of construction GMa

* = variation . . . 085

Type of construction GLa

direction of flow on both sides!

Type of construction GMa/GLa	a	b	c	c 1	c 2	d 1	e	f	g	h	i	i 1	k	k 1	m	o	r (for)	B	s 1	z	DN	G	H	P	Weight approx. kgs
10.1 V	264	239	283	106	18	-	157	812	258	132	332	264	300	232	125	18	M12	34	580	232	80	160	200	22	90
10.2 V	264	287	324	116	18	-	239	946	258	132	332	264	300	232	207	18	M12	34	679	267	80	160	200	22	105
11.3 V	320	280	324	134	18	-	200	939	295	160	390	300	350	260	150	20	M16	42.6	672	267	100	180	220	22	125
11.4 V	320	330	374	146	20	-	290	1089	295	160	390	300	350	260	245	24	M16	42.6	784	305	100	180	220	22	170
12.5 V	360	325	380	186	20	-	260	1113	360	180	440	336	400	296	210	30	M16	53.3	785	328	100	180	220	22	225
12.6 V	360	381	436	206	20	-	340	1287	360	180	500	396	460	356	290	27	M16	53.3	917	370	150	240	285	24	275
13.7 V	400	383	423	206	26	3	330	1282	436	200	570	440	510	380	270	35	M20	67.5	912	370	150	240	285	24	330
13.8 V	400	453	493	234	24	-	470	1583	436	200	570	440	510	380	410	27	M20	67.5	1080	503	150	240	285	24	445

Socket flanges drilled acc. to DIN 2533



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