

# EC- FANS FOR CLEAN ROOMS



# The Rosenberg Group

Air conditioning and ventilation technology  
is our world



Air is our element – **moving it intelligently and efficiently** is our passion.  
Since 1981 we have been developing and producing adjustable external rotor motors, fans and air handling units.

**Established**

1981

**Employees**

350 in Germany  
Approx. 1,400 worldwide

**Production sites**

Germany, Hungary, Czech Republic,  
Italy, France, China, Slovakia

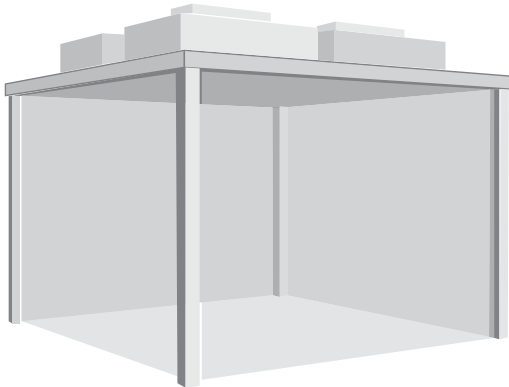
**Development centres  
(certified laboratory)**

Germany, France,  
Hungary and China

**Subsidiaries  
and Partners**

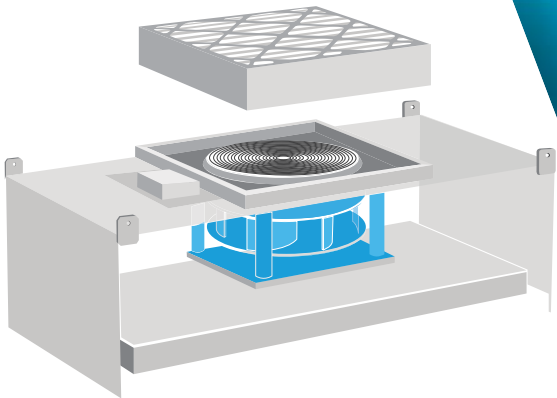
ROX Klimatechnik GmbH,  
ECOFIT, ETRI, Airtècnics





**Clean room technology**

Cleanroom technology has experienced a continuous upswing over the last 20 years. Modern and trend-setting manufacturing processes, especially for semiconductor manufacturing, optics and laser technology, aerospace technology and even Research facilities include clean rooms with constant temperature, humidity and pressure conditions. Demand-driven, controllable and energy-saving EC fans are ideal for maintaining constant environmental conditions.



**FAN-Filter-Unit (FFU)**

A fan filter unit serves to generate a uniform, particle-free airflow in the clean room. Multi-stage filter systems are required for this. Rosenberg EC fans will generate the airflow required and will work against the increasing resistances of the filters to deliver a constant volume of air. There are often a large number of FFU's installed in the ceiling of a clean room. Energy-saving EC fans are an important component and help to reduce energy consumption and costs.



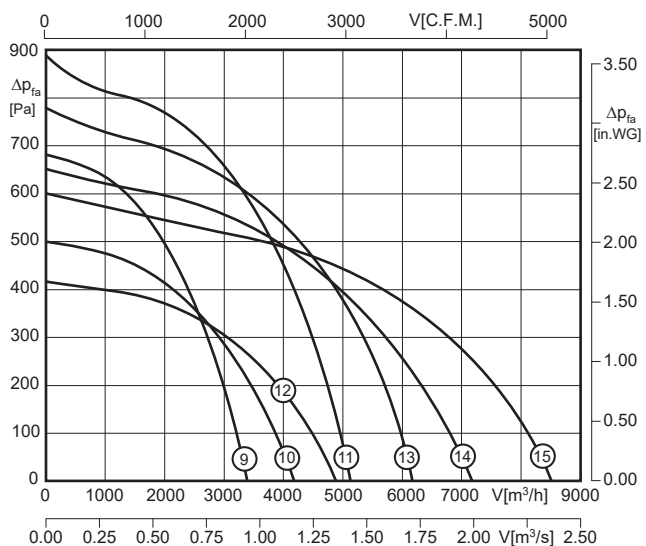
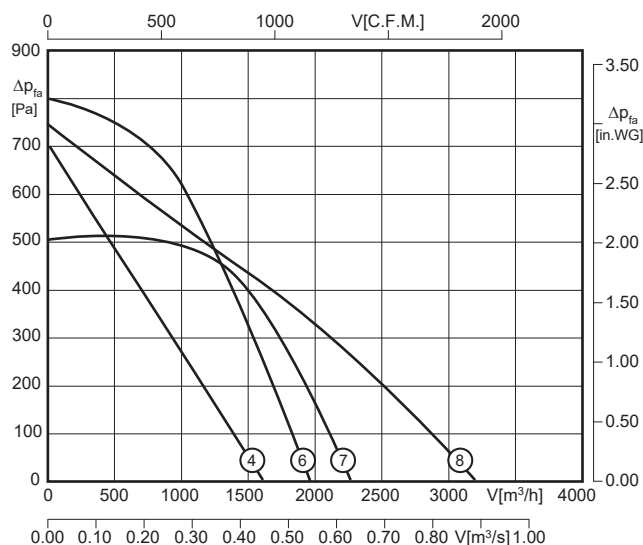
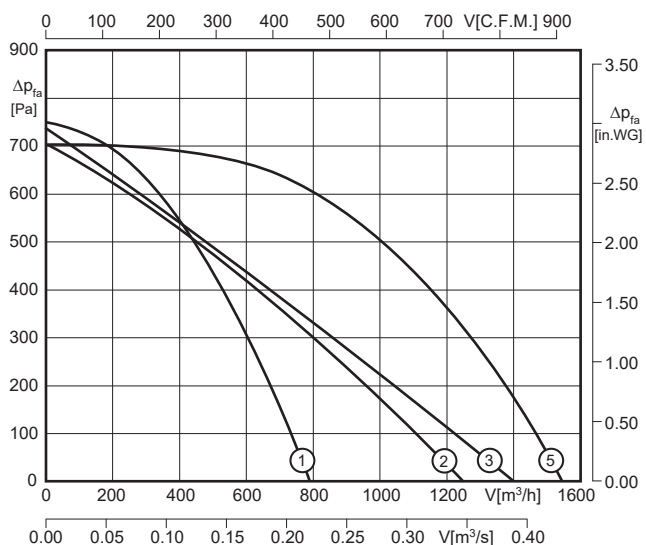
**Laminar Flow Box**

Mobile or permanently installed clean room workstations are used for product and personal protection. Free-running wheels or double-inlet centrifugal fans with EC technology draw in the air via a pre-filter and convey it through a high-performance HEPA filter. This creates a vertical or horizontal airflow that protects the workspace / process from the environment.



# EC Fans with free running impeller

## Type: RR\_EC / GKH\_

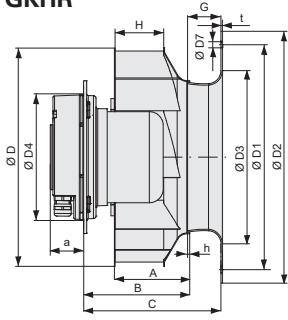


RR\_EC / GKH\_

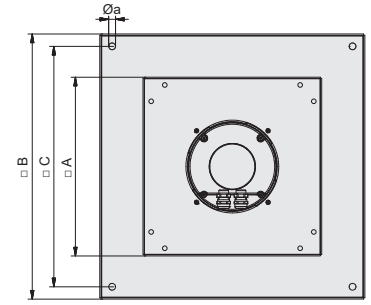
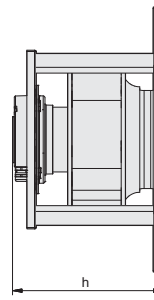
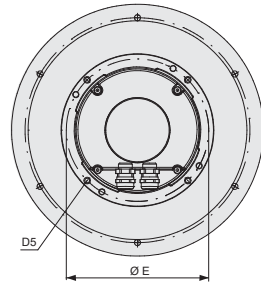
No.	Size	Fan Type	U [V]	f [Hz]	P <sub>e</sub> [kW]	n <sub>N</sub> [min <sup>-1</sup> ]	I <sub>N</sub> [A]	L <sub>wA</sub> [dB(A)]	t <sub>R</sub> [°C]
1	192	RR_G9 192 x 40R	1~230	50 / 60	0,14	3990	1,15	74	50
2	220	RR_G9 220 x 45R	1~230	50 / 60	0,145	3395	1,19	70,5	50
3	225	RR_G9 225 x 63R	1~230	50 / 60	0,15	2780	1,19	70,8	50
4	250	RR_G9 250 x 50R	1~230	50 / 60	0,15	2965	1,19	-	50
5	250	RR_V8 250 x 50R	1~200-277	50 / 60	0,187	3015	0,84*	-	60
6	250	RR_V8 250 x 50R	1~200-277	50 / 60	0,266	3390	1,19*	-	50
7	280	RR_V8 280 x 80R	1~200-277	50 / 60	0,17	2305	0,77*	-	60
8	337	RR_V8 337 x 88R	1~200-277	50 / 60	0,3	2200	1,35*	-	60
9	315	GKH_ 315.088.4EA	1~200-277	50 / 60	0,53	2265	2,35*	74	40
10	355	GKH_ 355.112.4EA	1~200-277	50 / 60	0,5	1715	2,2*	72	40
11	355	GKH_ 355.112.5FA	1~200-277	50 / 60	1,12	2250	5,0*	81	45
12	400	GKH_ 400.125.4FF	1~200-277	50 / 60	0,52	1400	2,3*	71	40
13	400	GKH_ 400.125.5FA	1~200-277	50 / 60	1,15	1875	5,1*	78	40
14	450	GKH_ 450.136.5FA	1~200-277	50 / 60	1,15	1550	5,1*	77	40
15	500	GKH_ 500.154.5HF	1~200-277	50 / 60	1,15	1300	5,1*	76	40

Notice: \*230V/50Hz, Measurement according to ISO 13347-3. The free-outlet sound power level L<sub>wAIB</sub> is depicted.

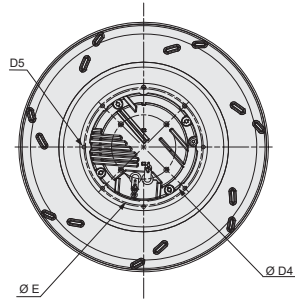
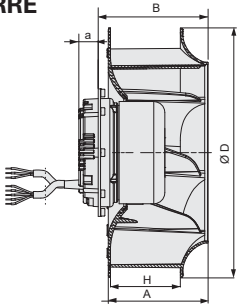
GKHR



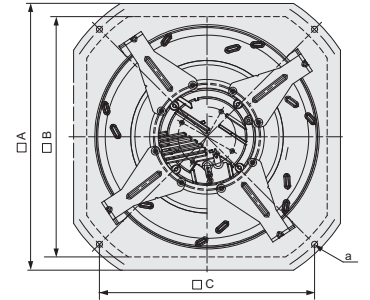
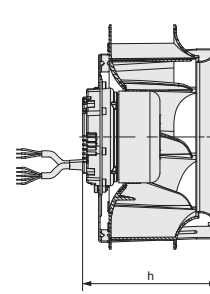
GKHM



RRE



RRM



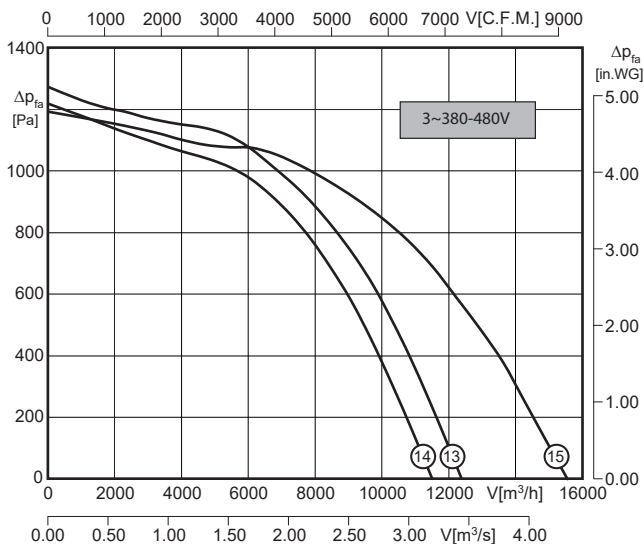
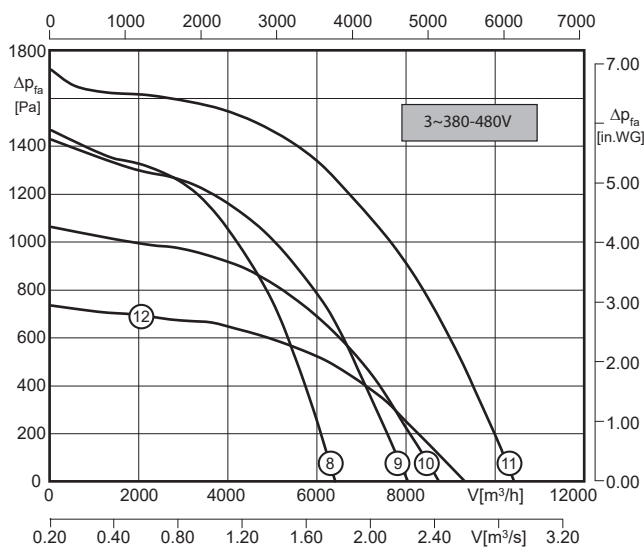
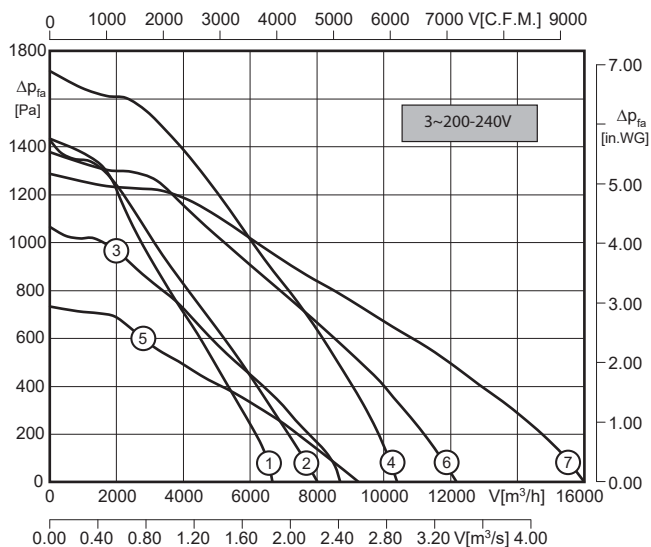
No.	Fan Type	A	B	C	H	D	a	D4	D5	E	h	D3	D2	D1	D7	G	t
1	<b>RREG9 192 x 40R</b>	60	70	-	40	192	17,5	97,7	M4 x 6***	107,5	-	-	-	-	-	-	-
1	<b>RRMG9 192 x 40R</b>	267,5	202				6				112,5						
2	<b>RREG9 220 x 45R</b>	63	71	-	45	220	17,5	97,7	M4 x 6***	107,5	-	-	-	-	-	-	-
2	<b>RRMG9 220 x 45R</b>	267,5	241				6				122						
3	<b>RREG9 225 x 63R</b>	90	99	-	63	225	17,5	97,7	M4 x 6***	107,5	-	-	-	-	-	-	-
3	<b>RRMG9 225 x 63R</b>	267,5	241				6				135,5						
4	<b>RREG9 250 x 50R</b>	81,7	99	-	50,7	252	17,5	97,7	M4 x 6***	107,5	-	-	-	-	-	-	-
4	<b>RRMG9 250 x 50R</b>	296	265				6				156						
5	<b>RREV8 250 x 50R</b>	80,8	99	-	50	252	41	110,1	M5 x 10***	125	-	-	-	-	-	-	-
6	<b>RREV8 250 x 50R</b>	81,7	99	-	50,7	252	41	110,1	M5 x 10***	125	-	-	-	-	-	-	-
7	<b>RREV8 280 x 80R</b>	114,8	128		80	281	41	110,1	M5 x 10***	125	-	-	-	-	-	-	-
8	<b>RREV8 337 x 88R</b>	142,5	152,5		88	337	41	110,1	M5 x 10***	125	-	-	-	-	-	-	-
9	<b>GKHR 315.088.4EA</b>	142,5	167	207	88	337	38	150	M6 x 10***	164	3,1	265	307	286	7*	43	1,5
9	<b>GKHM 315.088.4EA</b>	500	360	450			11				222						23,5
10	<b>GKHR 355.112.4EA</b>	173	200,5	245	112	377	38	150	M6 x 10***	164	3,5	296	348	320	10*	48	1,5
10	<b>GKHM 355.112.4EA</b>	500	395	450			11				260						23,5
11	<b>GKHR 355.112.5FA</b>	173	207	251	112	377	58	180	M6 x 13***	202	3,5	296	348	320	10*	48	1,5
11	<b>GKHM 355.112.5FA</b>	500	395	450			11				267						43
12	<b>GKHR 400.125.4FF</b>	194	219,5	269	125	424	38	150	M6 x 10***	164	4	326	382	356	9**	53	1,5
12	<b>GKHM 400.125.4FF</b>	500	420	450			11				283						23
13	<b>GKHR 400.125.5FA</b>	194	226	275	125	424	58	180	M6 x 13***	202	4	326	382	356	9**	53	1,5
13	<b>GKHM 400.125.5FA</b>	500	420	450			11				290						43
14	<b>GKHR 450.136.5FA</b>	213	241	294	136	477	58	180	M6 x 13***	202	4,5	372	422	395	9**	57,5	1,5
14	<b>GKHM 450.136.5FA</b>	630	470	580			14				309						43
15	<b>GKHR 500.154.5HF</b>	240	264	323	154	534	58	180	M6 x 13***	202	5	411	464	440	10,5**	64	1,5
15	<b>GKHM 500.154.5HF</b>	630	535	580			14				338						43

\*6 x 60° / \*\*8 x 45° / \*\*\*4 x 90°

All dimensions in mm / individual adjustment possible / RR\_V8 only as Motor-Impeller-Unit available

# EC Fans with free running impeller

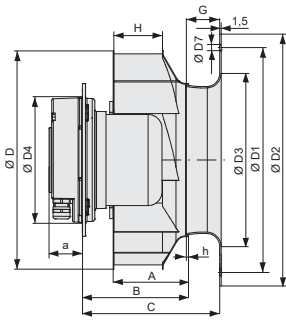
Type: RR\_EC / GKH\_



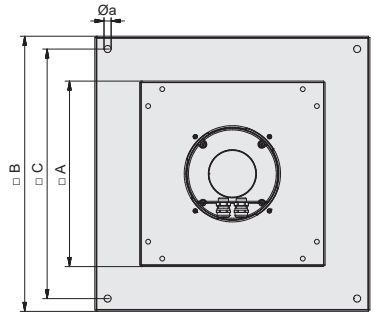
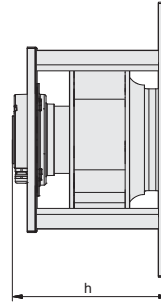
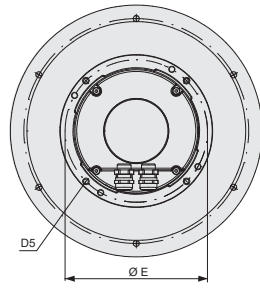
No.	Size	Fan Type	U [V]	f [Hz]	P [kW]	n [min <sup>-1</sup> ]	I <sub>n</sub> [A]	L <sub>wA</sub> [dB(A)]	t <sub>r</sub> [°C]
1	355	GKH_355.112.5FA Gen3	3~200-240	50 / 60	1,24	2450	3,75 *	84	40
2	400	GKH_400.125.5HF Gen3	3~200-240	50 / 60	1,75	2170	4,66 *	85	40
3	450	GKH_450.136.5HF Gen3	3~200-240	50 / 60	1,47	1690	3,93 *	81	40
4	450	GKH_450.136.6FF Gen3	3~200-240	50 / 60	2,98	2200	7,85 *	89	40
5	500	GKH_500.154.5HF Gen3	3~200-240	50 / 60	0,99	1250	2,7 *	77	40
6	500	GKH_500.154.6FF Gen3	3~200-240	50 / 60	2,68	1770	7,1 *	87	55
7	560	GKH_560.175.6IF Gen3	3~200-240	50 / 60	3,09	1530	8,0 *	87	40
8	355	GKH_355.112.5FA Gen3	3~380-480	50 / 60	1,97	2800	3,25 **	87	40
9	400	GKH_400.125.5HF Gen3	3~380-480	50 / 60	2,4	2470	3,8 **	87	40
10	450	GKH_450.136.5HF Gen3	3~380-480	50 / 60	1,94	1900	3,2 **	82	40
11	450	GKH_450.136.6FF Gen3	3~380-480	50 / 60	3,87	2400	5,95 **	90	40
12	500	GKH_500.154.5HF Gen3	3~380-480	50 / 60	1,41	1430	2,22 **	79	45
13	500	GKH_500.154.6FF Gen3	3~380-480	50 / 60	3,58	1950	5,5 **	88	60
14	500	GKH_500.154.6IF	3~380-480	50 / 60	3,45	1900	5,1 **	87	40
15	560	GKH_560.175.6IF Gen3	3~380-480	50 / 60	4,2	1700	6,44 **	88	50

Notice: \*230V/50Hz, \*\*400V/50Hz, Measurement according to ISO 13347-3. The free-outlet sound power level L<sub>wAIB</sub> is depicted.

GKHR



GKHM



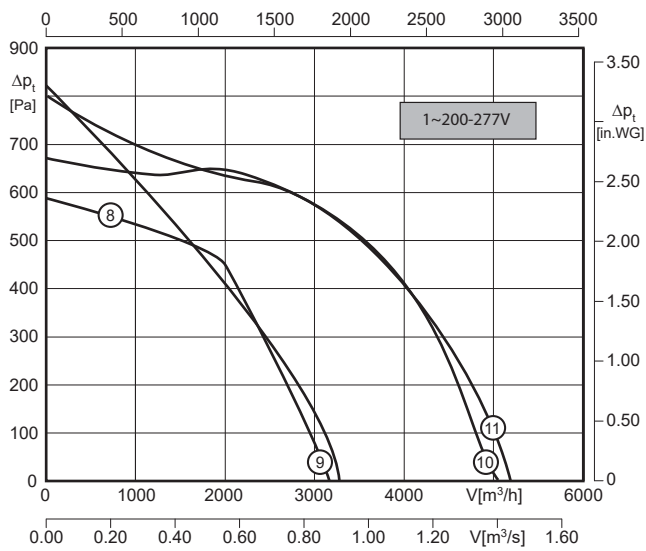
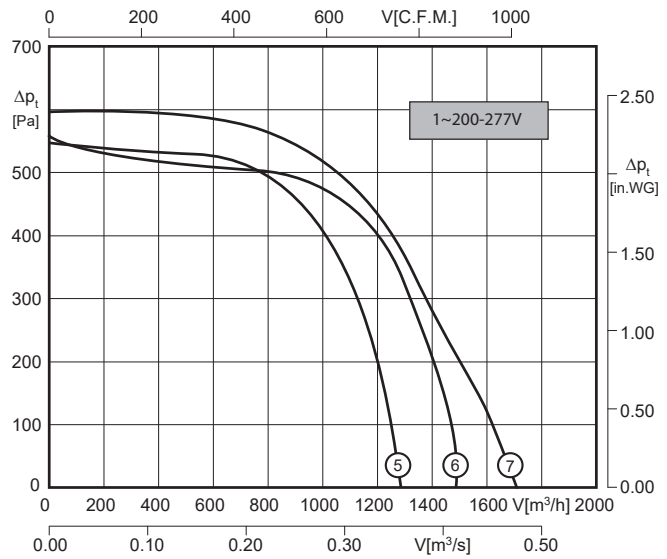
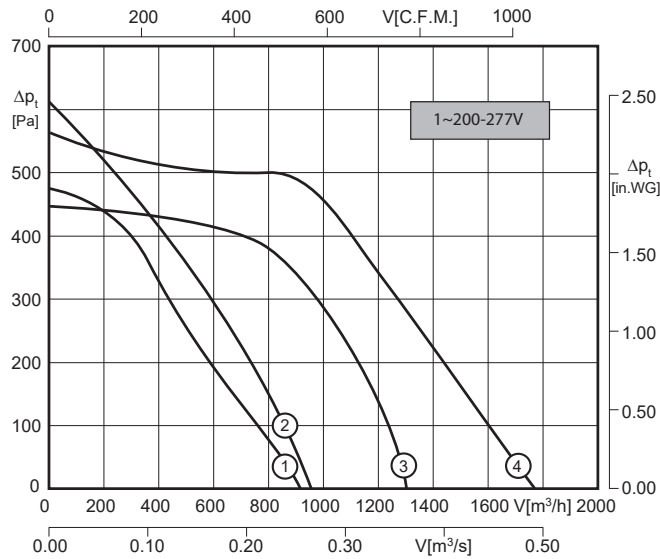
No.	Fan Type	A	B	C	H	D	a	D4	D5	E	h	D3	D2	D1	D7	G
1	<b>GKHR 355.112.5FA Gen3</b>	173	208	252	112	377	58	180	M6 x 22***	202	3,5	296	348	320	10*	50
1	<b>GKHM 355.112.5FA Gen3</b>	500	395	450			11				308					
2	<b>GKHR 400.125.5HF Gen3</b>	194	227	276	125	424	58	180	M6 x 22***	202	4	326	382	356	9**	55
2	<b>GKHM 400.125.5HF Gen3</b>	500	500	420	450		11				334					
3	<b>GKHR 450.136.5HF Gen3</b>	213	242	293	136	477	58	180	M6 x 22***	202	4,5	371	422	395	9**	58
3	<b>GKHM 450.136.5HF Gen3</b>	630	470	580			14				352					
4	<b>GKHR 450.136.6FF Gen3</b>	213	255	306	136	477	67	235	M10 x 28**	252	4,5	371	422	395	9**	57,5
4	<b>GKHM 450.136.6FF Gen3</b>	630	535	580			14				375					
5	<b>GKHR 500.154.5HF Gen3</b>	240	265	324	154	534	58	180	M6 x 22***	202	5	410	464	440	10,5**	65,5
5	<b>GKHM 500.154.5HF Gen3</b>	630	535	580			14				381,5					
6	<b>GKHR 500.154.6FF Gen3</b>	240	277	336	154	534	67	235	M10 x 28**	252	5	410	464	440	10,5**	64
6	<b>GKHM 500.154.6FF Gen3</b>	630	535	580			14				405					
7	<b>GKHR 560.175.6IF Gen3</b>	270	311	375	175	594	67	235	M10 x 28**	252	5,6	458	519	490	9**	70
7	<b>GKHM 560.175.6IF Gen3</b>	800	585	750			14				443					
8	<b>GKHR 355.112.5FA Gen3</b>	173	208	252	112	377	58	180	M6 x 22***	202	3,5	296	348	320	10*	50
8	<b>GKHM 355.112.5FA Gen3</b>	500	395	450			11				308					
9	<b>GKHR 400.125.5HF Gen3</b>	194	227	276	125	424	58	180	M6 x 22***	202	4	326	382	356	9**	55
9	<b>GKHM 400.125.5HF Gen3</b>	500	420	450			11				334					
10	<b>GKHR 450.136.5HF Gen3</b>	213	242	293	136	477	58	180	M6 x 22***	202	4,5	371	422	395	9**	58
10	<b>GKHM 450.136.5HF Gen3</b>	630	470	580			14				352					
11	<b>GKHR 450.136.6FF Gen3</b>	213	255	306	136	477	67	235	M10 x 28**	252	4,5	371	422	395	9**	57,5
11	<b>GKHM 450.136.6FF Gen3</b>	630	535	580			14				375					
12	<b>GKHR 500.154.5HF Gen3</b>	240	265	324	154	534	58	180	M6 x 22***	202	5	410	464	440	10,5**	65,5
12	<b>GKHM 500.154.5HF Gen3</b>	630	535	580			14				381,5					
13	<b>GKHR 500.154.6FF Gen3</b>	240	277	336	154	534	67	235	M10 x 28**	252	5	410	464	440	10,5**	64
13	<b>GKHM 500.154.6FF Gen3</b>	630	535	580			14				405					
14	<b>GKHR 500.154.6IF</b>	240	278	337	154	534	70	235	M10 x 28**	252	5	410	464	440	10,5**	64
14	<b>GKHM 500.154.6IF</b>	630	535	580			14				352					
15	<b>GKHR 560.175.6IF Gen3</b>	270	311	375	175	594	67	235	M10 x 28**	252	5,6	458	519	490	9**	70
15	<b>GKHM 560.175.6IF Gen3</b>	800	585	750			14				443					

\*6 x 60° / \*\*8 x 45° / \*\*\*4 x 90°

All dimensions in mm / individual adjustment possible.

# Double inlet centrifugal fan in scroll casing with EC technology

## Type: DRAG / GDS

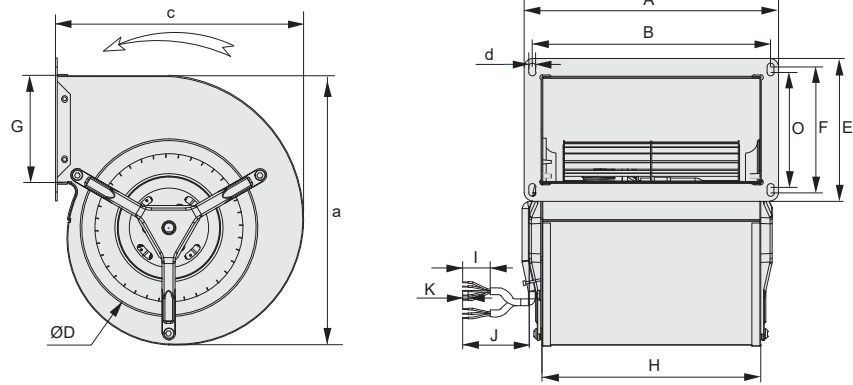


No.	Size	Fan Type	U [V]	f [Hz]	P <sub>e</sub> [kW]	n <sub>n</sub> [min <sup>-1</sup> ]	I <sub>N</sub> [A]	Lw <sub>A</sub> [dB(A)]	t <sub>R</sub> [°C]
1	133	GDSG9 133 x190 R	1~200-277	50/60	0,098	1485	0,79	60	50
2	146	GDSG9 146 x188 R	1~200-277	50/60	0,098	1230	0,86	59	50
3	160	GDSV8 160 x160 L	1~200-277	50/60	0,30	2025	1,32	-	60
4	160	GDSV8 160 x 242 L	1~200-277	50/60	0,30	1620	1,33	-	60
5	146	GDSV8 146 x 188 L	1~200-277	50/60	0,30	2205	1,32	-	60
6	160	GDSV8 160 x 242 L	1~200-277	50/60	0,18	1390	0,81	-	60
7	180	GDSV8 180 x 180 L	1~200-277	50/60	0,285	1445	1,26	-	60
8	249	DRAG 249 x 4FF	1~200-277	50/60	0,52	1700	2,3	76	40
9	251	DRAG 251 x 4FF	1~200-277	50/60	0,52	1700	2,3	76	40
10	279	DRAG 279 x 5FA	1~200-277	50/60	1,1	1550	4,8	80	40
11	281	DRAG 281 x 5FA	1~200-277	50/60	1,11	1550	4,9	80	40

Notice:  
 DRAG: Measurement according to ISO 13347-3. The free-outlet sound power level L<sub>w(A)B</sub> is depicted.  
 GDS: Measurement according to ISO 3744. The A-weighted sound pressure level is given.



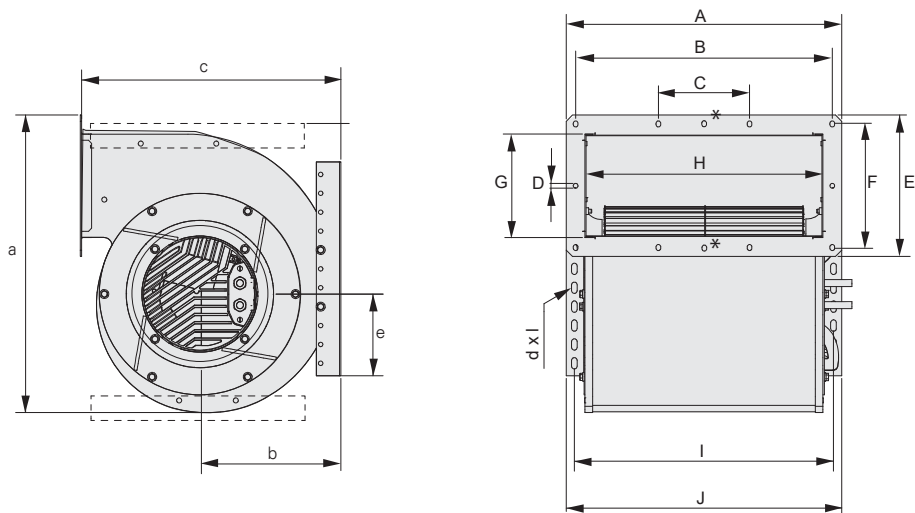
**GDS**



No.	Fan Type	A	B	H	D	I	J	K	F	E	G	O	d**	c	a
1	<b>GDS G9 133x190 R</b>	270	254	231,5	-	80	780	6	126	142	104	-	4 x Ø7	205	218
2	<b>GDS G9 146x188 R</b>	270	254	231,5	-	80	780	6	126	142	104	-	4 x Ø7	205	218
3	<b>GDS V8 160x160 L</b>	232	217	200	135	80	780	6	115	130	98	105	6,3	226	246
4	<b>GDS V8 160x242 L</b>	308	293	275,5	135	80	780	6	115	130	98	105	6,3	226	246
5	<b>GDS V8 146x188 L</b>	270	254	231,5	117	80	780	6	126	142	104	-	4 x Ø7	205	218
6	<b>GDS V8 160x242 L</b>	308	293	275,5	135	80	780	6	115	130	98	105	6,3	226	246
7	<b>GDS V8 180x180 L</b>	262	242	223,5	150	80	780	6	120	145	-	-	6,3	270	300

\*\* Slot or round hole varies

**DRAG**



\*249/251 Center hole

No.	Fan Type	A	B	C	H	D	E	F	G	J	I	d x l	a	b	c	e
8	<b>DRAG 249</b>	354	322	-	292	7,5	212	180	153	352	326	18 x 9	431	197	376	142
9	<b>DRAG 251</b>	352	322	-	292	7,5	228	198	164	352	326	18 x 9	474	238	414	129
10	<b>DRAG 279</b>	438	408	145	378	7,5	225	198	164,5	438	412	18 x 9	473	224	412	130
11	<b>DRAG 281</b>	438	408	145	378	7,5	256	226	196	438	412	18 x 9	553	271	474	220

### Railway Technology

Rosenberg is one of the world's in railway technology. Rosenberg OEM Products are not only installed to air-condition driver's cabins and passenger compartments but also to cool switchboards, drive inverters and many other components.



### Compressor cooling

Knowledge and experience - Rosenberg has been active in the compressor cooling sector for many years. Due to the close cooperation with well-known manufacturers, numerous fans have already been adapted to the needs of the industry.



### Transformer Cooling

Efficient cooling plays an important role in the lifetime and constantly high operation safety of transformers. Customized fans assume this task for many years and are characterized by reliability and high quality.





### **Data Centers**

Protecting data centers from overheating and humidity is one of the main tasks of fans within this application. Rosenberg OEM products with AC or EC drive guarantee a smooth and failsafe operation of the computer systems in an efficient manner.



### **Marine**

Cruise Ships have a wide range of ventilation needs. Rosenberg OEM Products offer solutions for exhaust ventilation of elevators, restrooms, laundries or battery compartments as well as solutions for the use in HVAC applications dedicated to yachts and cruise ships cabins.



### **Packaging Industry**

In highly complex packaging processes, it is essential to prevent a failure of the entire system. Therefore Rosenberg OEM products are used for cooling to ensure a trouble-free operation of various machines in industrial packaging processes.

Since its foundation in 1981 by Karl Rosenberg the Rosenberg Ventilatoren GmbH has emerged through its development and production of adjustable external rotor motors, fans, air handling units and control technology as an important center for Europe for the ventilation and air conditioning industry in Europe.

Customer-oriented and high-quality production is our top priority. The continuous information flow and a good cooperation between customers and our employees is very important to us to ensure quality and product innovation. Modern perfor-

mance testing, computer-controlled production machines and self-directed work groups are also included as well as the integration of measures for higher quality and environment protection.

At the headquarters in Künzelsau, Rosenberg employ 240 members of staff, with over 1.400 employees worldwide. Further Rosenberg production plants are located in Glaubitz (Germany), Waldmünchen (Germany), Hungary, Czech Republic, Italy, France, Slovakia, Turkey, Mexico and in China.



Weiterführende Informationen finden Sie auch unter /  
*You can find more information on:*  
**[www.rosenberg-gmbh.com](http://www.rosenberg-gmbh.com)**

## Your contact persons:



### **Patrick Dörr**

07940 / 142 214  
Patrick.Doerr@rosenberg-gmbh.com

Maybachstr. 1/9, D-74653  
Künzelsau-Gaisbach



### **Felix Riedling**

07940 / 142 266  
Felix.Riedling@rosenberg-gmbh.com

Maybachstr. 1/9, D-74653  
Künzelsau-Gaisbach



# Airbox

RLT Units according to VDI 6022,  
Easily access, inspect, and clean.

## Quality characteristics:

- Rosenberg – • Rosenberg - Hygienic AHU's meet the highest hygienic requirements in accordance with VDI 6022.
- Trouble-free cleaning and inspection of the air conveying components
- Condensate drains for fast and complete emptying
- Tested and certified by TÜV Nord
- According to DIN 1946-4 filter stages are adapted to the required room classes.



Regelkonform  
zur Richtlinie  
RLT 01





**Rosenberg Ventilatoren GmbH**  
Maybachstr. 1/9  
74653 Künzelsau-Gaisbach  
Germany

Fon. +49 (0)7940 / 142-0  
Fax. +49 (0)7940 / 142-125  
[www.rosenberg-gmbh.com](http://www.rosenberg-gmbh.com)  
[info@rosenberg-gmbh.com](mailto:info@rosenberg-gmbh.com)

