THE RIGHT AIR AT ANY TIME
WITH US IT'S ALWAYS A BREEZE

Contents

Let your fantasy run free

Areas of application

MKV/TKV radial fans for the:
• graphics industry
• particulate removal industry
• food industry
• chemical industry (max. ATEX zone 22)
• wood industry
• general machine industry
• exhaust gases from garages (max. ATEX zone 22)
• textile industry
• room dehumidification
Convey air volumes of up to 6,300 m³/h and reach total pressure increases of up to 450 daPa

With optimised efficiency for the smaller motor

MKV/TKV 2015 is the result of the continuous advancement of the MKV/TKV programme contained independently in the product line.

A large quantity of impellers, more flexible connection options using DIN flanges, frequency converter mode and specifications as per ATEX (zone 22) offer even more possibilities for your applications and make the MKV/TKV 2015 programme a safe investment for the future.

General

This documentation applies to radial fans with an aluminium and cast iron frame of the **MKV** and **TKV** models.
It is used for the comparison of the old MKV/TKV generation with the currently revised version – MKV/TKV 2015.

The **model designation** of these fans breaks down according to the following formula:

Examples:

TKV 026
MKV 026-001030-00

Model
Pressure series
Volume flow and speed

The rated quantity corresponds to the clear connection diameters in cm (rounded) at discharge and inlet.

The specific MKV/TKV fan is selected primarily based on the desired air flow rate V and the required total pressure increase Δpt. Basically all three models and impeller variants (MKV-R, MKV-V and TKV) are suited to the delivery of **non-corrosive** gases and vapours at temperatures of up to +80°C (other temperatures upon request) **without** solids. Only the **TKV** model may be used during the pneumatic conveyance of solids, otherwise impeller clogging or caked deposits on the blades cannot be ruled out.
In particular cases the selection of special **protective coatings of paint** also allows the delivery of corrosive conveyed media. In these cases, please feel free to contact us about individual issues. Select details of a specific type of fan preferably using the type selection sheets or the charts on page 12 et. seq. Other data important to the planning engineer (speed, power requirements, acoustic data, among others) can be found there.

Always the right choice

Selection example

A suitable fan should be selected for the operating data V = 1,800 m³/h = 30 m³/min, Δpt = 330 daPa (conveyance of air at room temperature).

Solution:

1st option: MKV032-003530-00 with n = 2,900 rpm (page 18)

2nd option: MKV031-005030-00 with n = 2,900 rpm (page 19)

In both cases the power requirement is around 2.8 kW but in the first case the sound pressure level of 81 dB(A) is somewhat more favourable than the approximately 83 dB(A) in the second case. On top of that the fan mentioned first (size 016) is smaller than the second and thus more cost-effective.

Therefore we choose: MKV 032-003530-00

Other data (taken from diagrams):

Speed	n = 2,900 rpm
Power requirements	Pw = 2.8 kW
Sound pressure level	LpA = 61 dB(A)
1 m in front of free suction opening	LpA1 = 81 dB (A)

Note: The MKV-V model may be used since the conveyance of solids is not foreseen.

The following points must be taken into account during installation planning:

Flow control

Undisturbed and twist-free intake flow must be ensured as much as possible to reach optimal fan performance. The outflow should also be in a straight line as much as possible. Avoid abrupt cross section alterations. In case of clear intake, some space in front of the fan inlet corresponding to at least twice the fan's rated diameter must be left open. If the line connection is at inlet, the stretch in front of the fan should have a length that is at least five times the fan's rated diameter. If the space needed for this purpose is lacking, the flow should be made to go through well rounded bends.
Cross section extensions in the shape of diffusers must be designed at the fan's discharge. As much as possible avoid abrupt direction changes of lines through the selection of the position of discharge.

Vibration damping

To prevent vibrations from being transmitted to the mounting level, install the fan on anti-vibration mounts. At the same time, attach flexible connections between the fan and pipeline system.

Electrical connections

Execute these in compliance with local regulations. In terms of temperature range, MKV and TKV fans are suited without restrictions for maximum conveyed medium temperatures of up to +80°C. At higher temperatures the application possibility must be tested on a case-by-case basis. In such a case, please feel free to contact us.

Our application in your system

Motor

Squirrel-cage rotor motors (400 V, 50 Hz) as per IEC standard, model B5. Degree of protection from IP 55, insulation class F. Bearing with long-term grease lubrication. Motors with other degrees of protection and insulation classes as well as for other line voltages and frequencies upon request.
Depending on motor size and load, the effective speed can deviate somewhat from the rated speed given in the selection charts. The deviations that normally arise have already been considered in the progress of curves shown. When selecting the motor, it is recommended that a power reserve of at least 15% be considered.
The structurally dependent limitations of motor sizes indicated in the selection charts must also be taken into account. In particular, this applies to the use of pole-changing motors as well as 60 Hz drives.

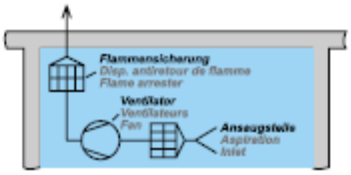
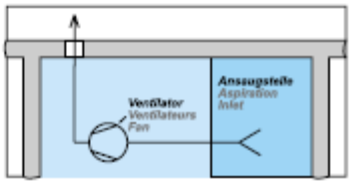
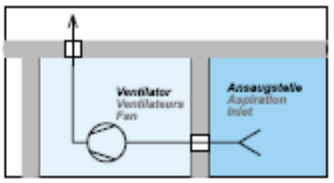
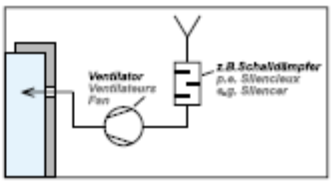
60 Hz drive

Basically MKV/TKV fans are also suited for drives with 60 Hz motors (rated speed approx. 3,500 and 1,750 rpm). However, in some cases limitations due to the maximum applicable motor size are possible.
In any event, take into consideration that increasing the speed by 20% causes the performance data of fans to undergo the following changes with respect to the plotted curves:

Volume flow:	increase by a factor of 1.2
Total pressure difference:	increase by a factor of 1.22 = 1.44
Power requirements:	increase by a factor of 1.23 = 1.73
Sound level:	increase by 4 dB(A)

Special ATEX designs

Basically fans from the MKV and TKV series can be used in a potentially explosive environment due to dust in zone 22. This requires the application of European Community Directive 94/9/EC (ATEX 95) to the planning, manufacture and circulation. Special equipment features such as special-purpose motors, accessories, etc. are offered upon request.

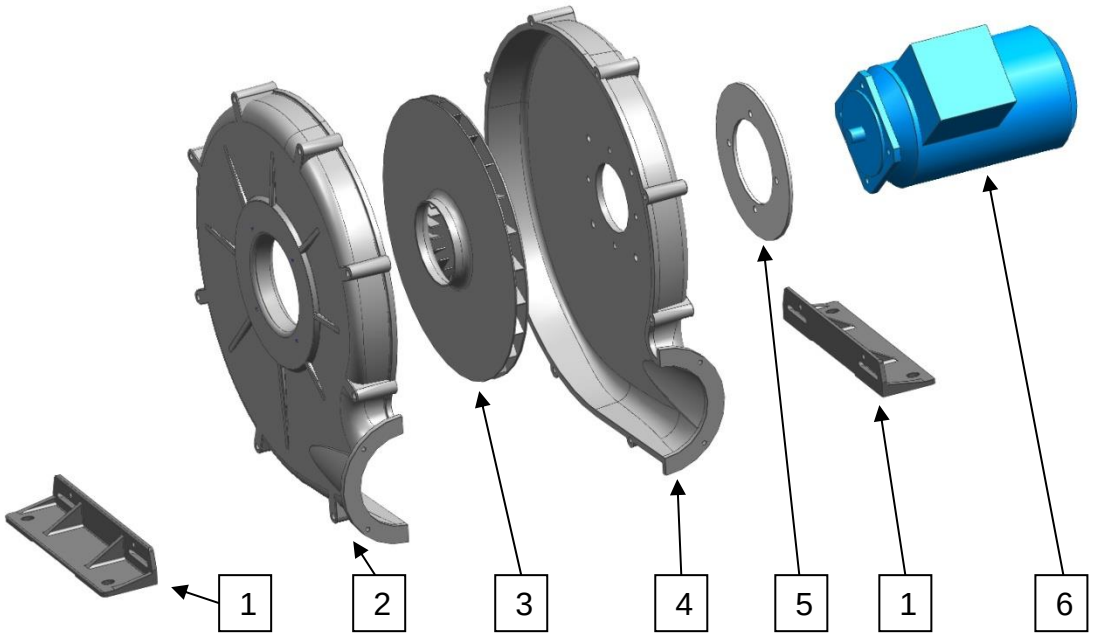
Brennbare Gase, Dämpfe, Nebel im Gemisch mit Luft Gaz de combustion, vapeur, mélanges gaz-air Combustible gases, vapours, mists and dusts mixed with air		Brennbare Stäube im Gemisch mit Luft Mélanges air-poussieres inflammables Combustible dusts mixed with air		Auftreten explosionsfähiger Atmosphäre Présence d'une atmosphère explosive Occurrence of potentially explosive atmosphere	Bildliche Darstellung der Zonen Graphique des zones Pictorial representation of the zones
Zone Zone Zone	Gerätekategorie Catégorie d'appareil Category	Zone Zone Zone	Gerätekategorie Catégorie d'appareil Category		
0	1G	20	1D	**ständig, langzeitig oder häufig** continuellement, longue durée ou fréquemment sustained, long-term or frequent **Baumusterprüfung zwingend notwendig, nicht im Lieferumfang** Examen de type obligatoire, non compris a la livraison test of structural design type compulsory, not covered in scope of supply	
1	2G	21	2D	**gelegentlich** occasionnellement occasional **ATEX-konforme Ausführ. u. Doku. an benannte Stelle** Exécution et documentation conforme aux normes ATEX design acc. to ATEX and documentation to certification body	
2	3G	22	3D	**selten und kurzzeitig** rarement et courtes périodes rare and momentary	
A	S	A	S	**niemals** jamais never	

Legende: Auftreten explosionsfähiger Atmosphäre
Légende : Présence d'une atmosphère explosive - Legend: Occurrence of potentially explosive atmosphere

- ständig vorhanden — présence continue — permanent occurrence
- gelegentlich vorhanden — présence occasionnelle — occasional occurrence
- selten oder kurzzeitig vorhanden — présence rare ou des courtes périodes — rare or momentary occurrence
- nie vorhanden — présence nulle — no occurrence

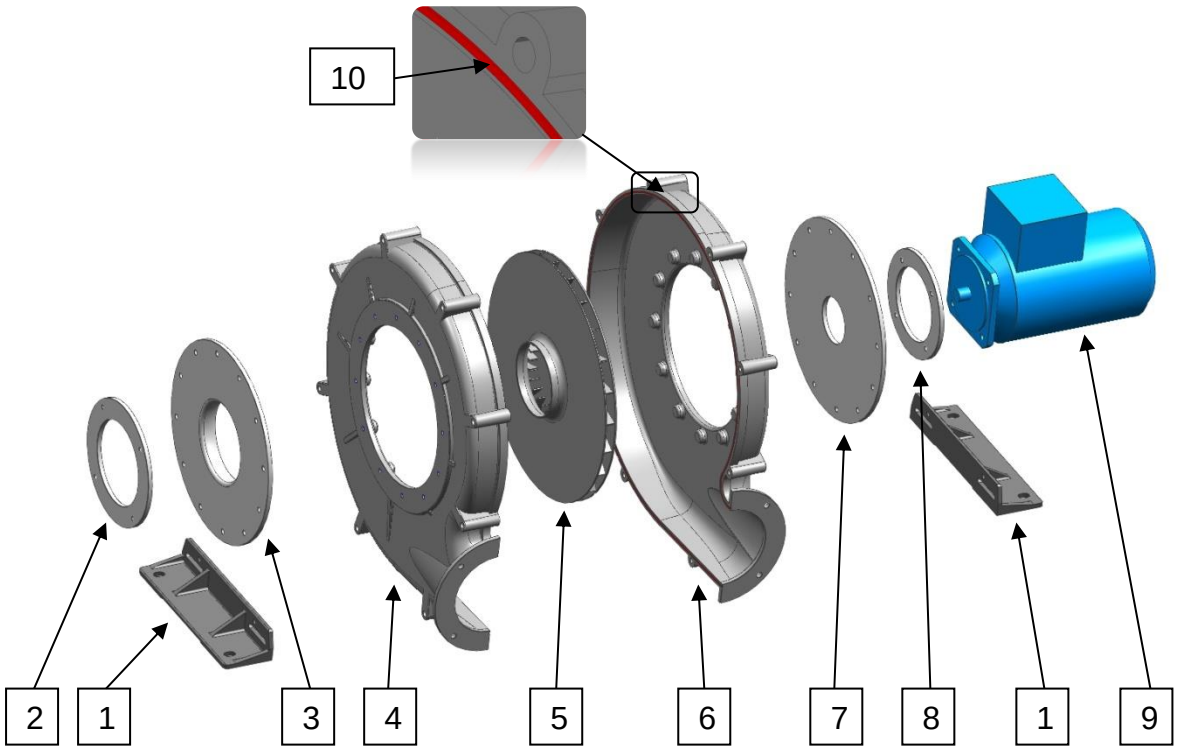
Modifications at first glance

MKV/TKV from the prior generation



1. Fan base for fastening
2. Right half of housing
3. Impeller
4. Left half of housing
5. Flange plate for the motor mount
6. Motor

Model version of the future MKV/TKV 2015 series



1. Fan base
2. DIN flange at inlet
3. Flange plate with inlet nozzle
4. Right half of housing
5. Impeller
6. Left half of housing
7. Cover panel for motor mount
8. Screwed flange for motor mount
9. Motor
10. Fitted Teflon gasket

NEW against OLD

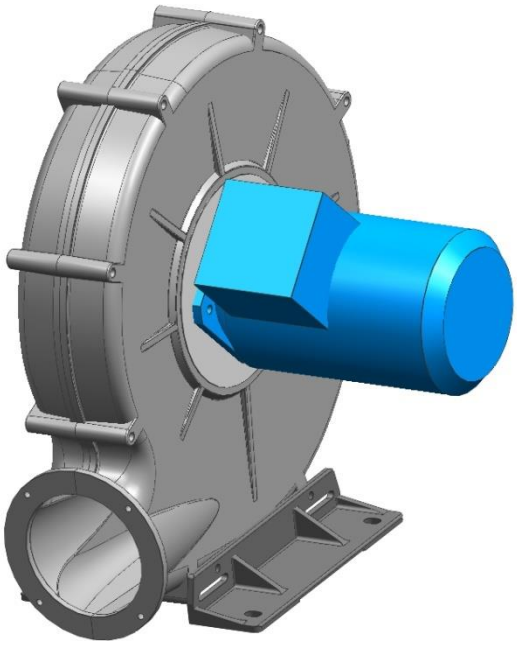
Consequence of the change

- Omission of housing sizes 006 / 010 / 016; operating data is preserved and implemented with housing sizes 008 / 012 and 020
- Better connection options using DIN flanges (compliant with DIN 24154, series 1) at discharge and inlet
- Increase in tightness between both halves of housing through the use of a self-adhesive Teflon gasket
- Flexible setting for position of discharge
- Position of discharge (not direction of rotation) can be adjusted to the customer requirement at any time and without complications
- The motor's terminal box can adapted to the environmental conditions in terms of position so that access is possible at any time
- Short delivery time through optimised stock-keeping
- Wide range of choices

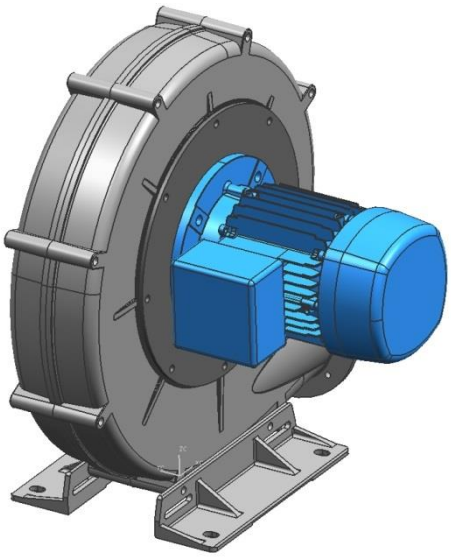
Good things endure

Our MKV/TKV models are and continue to be compact, lightweight and high-quality aluminium fans. The familiar performance curves are preserved and, if necessary, can be extended by using other impeller variants. The well-known accessories for the MKV/TKV such as filters, connecting pipes, flexible connections, etc. can all be used for the new MKV/TKV 2015 models. The changes in dimensions are minor as you can see from the table entitled "Size comparison MKV/TKV old with 2015" (page 14).

OLD



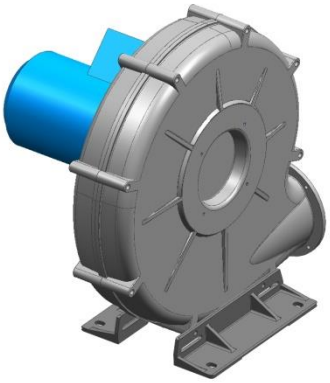
NEW



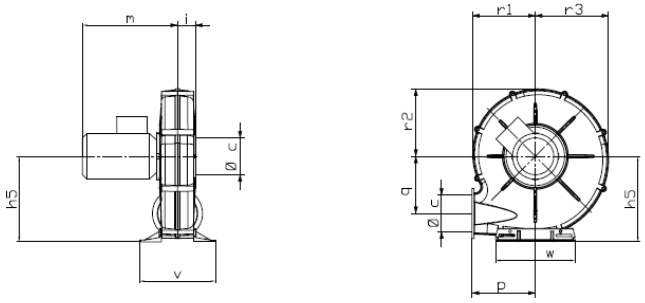
A question of size

Dimensions

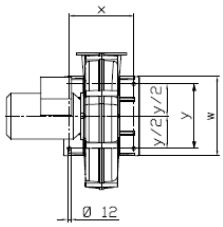
MKV/TKV current



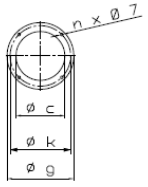
GEHAEUSESTELLUNG AUF DIE ANTRIEBSSEITE GESEHEN
housing position view from the drive
GL 270



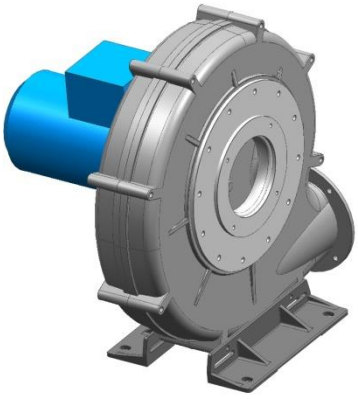
FUNDAMENTPLAN
foundation layout



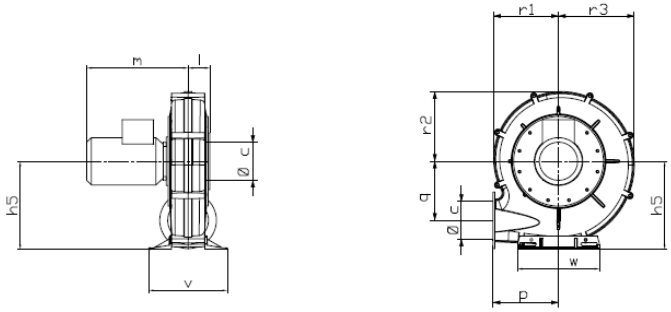
ANSCHLUSSFLANSCHE
connection flanges



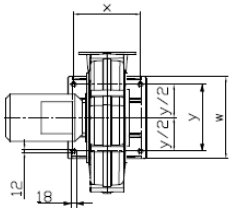
MKV/TKV 2015



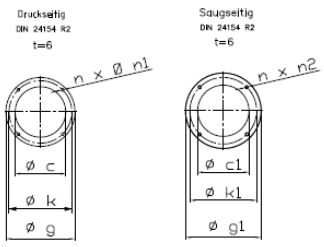
GEHAEUSESTELLUNG AUF DIE ANTRIEBSSEITE GESEHEN
housing position view from the drive
GR 270



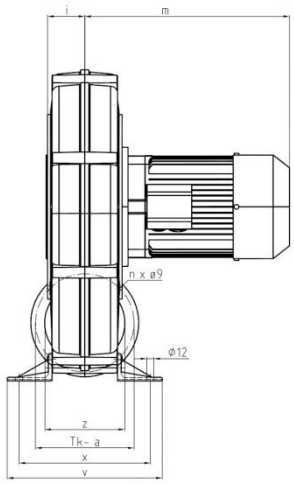
FUNDAMENTPLAN
foundation layout

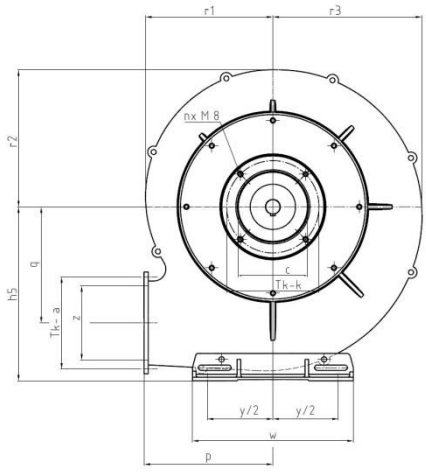


ANSCHLUSSFLANSCHE
connection flanges



Change in size in figures (dimensions in mm)





Size comparison MKV/TKV old to 2015

Important: The values for the 2015 variant are theoretical values. The values of the old version satisfy MKV/TKV documentation.

	MKV008 2015			MKV012 2015			MKV020 2015			MKV025 2015	
MKV/TKV	**6**	**8**		**10**	**12**		**16**	**20**		**25**	
Dimensions	MKV_006 old	MKV008 old	MKV008_2014	MKV010 old	MKV012 old	MKV012_2014	MKV016 old	MKV020 old	MKV020_2014	MKV025 old	MKV025_2014
a	**112**	**112**	112	**157**	**157**	157	**233**	**233**	233		
øc	**56**	**80**	74	**92**	**125**	116	**160**	**200**	190	**250**	250
øg	**108**	**124**	142	**145**	**171**	187	**214**	**255**	273	**312**	323
h1	**213**	**213**	213	**254**	**254**	254	**310**	**310**	310	**390**	390
h2	**208**	**208**	208	**244**	**244**	244	**293**	**293**	293	**390**	390
h3	**203**	**203**	203	**234**	**234**	234	**280**	**280**	280	**350**	350
h4	**198**	**198**	198	**227**	**227**	227	**267**	**267**	267	**350**	350
h5	**241**	**241**	241	**292**	**292**	292	**367**	**367**	367	**430**	430
h6	**222**	**222**	222	**263**	**263**	263	**327**	**327**	327	**430**	430
i	**36**	**43**	43,5	**51**	**61**	62,5	**75**	**92**	96	**118**	142
øk	**103**	**108**	112	**132**	**155**	157	**194**	**235**	233	**286**	292
n	**4**	**4**	4	**4**	**4**	4	**6**	**6**	8	**6**	8
n1			9,5			9,5			9,5		11,5
n2			M8			M8			M8		M10
p	**190**	**190**	190	**216**	**216**	216	**250**	**250**	250		
q	**178**	**169**	169	**207**	**195**	195	**243**	**223**	223		
r1	**188**	**188**	188	**214**	**214**	214	**248**	**248**	247,5		
r2	**198**	**198**	198	**230**	**230**	230	**273**	**273**	272,5		
r3	**210**	**210**	210	**250**	**250**	250	**305**	**305**	304,5		
v	**178**	**192**	192	**240**	**260**	260	**314**	**348**	352		
w	**225**	**225**	225	**270**	**270**	270	**350**	**350**	350		
x	**138**	**152**	152	**200**	**220**	220	**274**	**274**	312		
y	**175**	**175**	175	**220**	**220**	220	**300**	**300**	300		
z	**80**	**80**	80	**125**	**125**	125	**199**	**199**	199		
øA	**180**	**180**	180	**260**	**260**	260	**400**	**400**	400		
B	**90**	**190**	190	**280**	**280**	280	**420**	**420**	420		
63M	**270**	**280**	280								
71M	**280**	**280**	280	**277,5**	**300**	277,5			308,5		
80M	**290**	**290**	300	**307,5**	**310**	307,5	**300**	**310**	338,5		
90S				**347,5**	**350**	347,5	**340**	**360**	378,5		
90L				**372,5**	**380**	372,5	**370**	**380**	403,5		
100L (101 L)							**380**	**400**	433,5		
112M (114 M)							**420**	**420**	443,5		
132 M									**518,5**		
132 S									**483,5**		

The dimension "m" depends on the mounted motor variant or the selected motor manufacture and for this reason is not indicated as a constant in the table.

Re-engineering not yet complete, still delivered as before.

Exactly my type

Direction of rotation and position of discharge

Fan seen from the drive side. If there is no indication, position RD 270 is delivered.

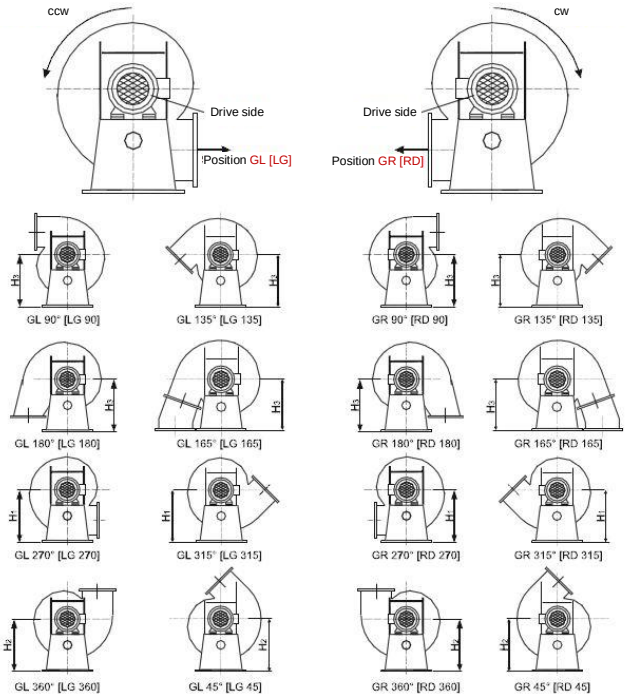
Direction of rotation

Single-stage radial fans are delivered with two directions of rotation. Seen from the drive side:

GR = clockwise [RD]*
GL = counterclockwise [LG]
*Designation in [...] as per EUROVENT

Positions of discharge

The position of discharge or the direction of the outlet connection is indicated in degrees depending on the angle. Basically the direction of rotation or the sense of impeller rotations is indicated as seen from the drive side.



Type selection

MKV/TKV pressure series

Old type	Model	Model designation	Pressure increase Δpt daPa	Volume flow m3/min.	Power requirements kW	Motor output kW	Rated speed rpm	Frequency Hz
MKV-006-V	MKV	006-000218-00	62	2,16	0,17	0,37	1740	60
MKV-008-V	MKV	006-000418-00	65	3,84	0,17	0,37	1740	60
MKV-010-V	MKV	009-000718-00	91	6,72	0,26	0,55	1740	60
MKV-012-V	MKV	009-001218-00	91	12	0,36	0,75	1740	60
MKV-016-V	MKV	011-002218-00	115	21,6	0,71	1,50	1740	60
MKV-020-V	MKV	011-003018-00	115	30	0,95	1,50	1740	60
MKV-006-R	MKV	006-000218-01	58	1,68	0,17	0,25	1740	60
MKV-008-R	MKV	006-000318-00	58	3	0,17	0,25	1740	60
MKV-010-R	MKV	007-000518-00	72	4,8	0,17	0,25	1740	60
MKV-012-R	MKV	007-000818-00	72	7,8	0,19	0,25	1740	60
MKV-016-R	MKV	009-001418-00	86	14,4	0,34	0,55	1740	60
MKV-020-R	MKV	008-001918-00	81	19,2	0,45	0,55	1740	60
MKV025/425-R	MKV	009-003018-00	91	30	0,86	1,10	1740	60
MKV025/450-R	MKV	010-003818-00	101	38,4	1,03	1,50	1740	60
MKV025/500-R	MKV	014-004218-00	144	42	1,71	2,20	1740	60
TKV-006	TKV	005-000218-00	48	1,8	0,09	0,18	1740	60
TKV-008	TKV	005-000318-00	48	3	0,08	0,18	1740	60
TKV-010	TKV	007-000518-00	68	5,4	0,19	0,25	1740	60
TKV-012	TKV	006-000818-00	63	7,8	0,26	0,37	1740	60
TKV-016	TKV	008-001518-00	86	15	0,48	0,75	1740	60
TKV-020	TKV	007-002418-00	76	24	0,72	1,10	1740	60
TKV-025/425	TKV	009-003418-00	91	33,6	1,14	2,20	1740	60
TKV-025/450	TKV	011-003618-00	108	36	1,46	2,20	1740	60
TKV-025/500	TKV	013-004318-00	130	43,2	2,07	3,00	1740	60

Layout at:
Inlet temperature: +20°C
Installation height: 0 m a.s.l.
Operation at inlet with connected duct

Wählen Sie aus der Vielfalt
unseres Leistungsprogramms.

Faites votre sélection parmi
notre gamme diversifiée de
produits.

Make your choice from the
variety of our program.

Basis-Programm___
Programme de base
Basic programme

Großventilatoren___
Grands ventilateurs
Large fans

Heissgas-Umwälzer
Ventilateurs de circulation à gaz chaud
Hot gas circulating fan

Zusatzprogramm_
Programme complémentaire
Additional programme

Sonderprodukte__
Produits spéciaux
Special products

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information here with examples
from the different industries
for which we design our fans.
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about your problem.