



Dust-explosion protected motors

Type of protection Protection by enclosure “tc” for use in Zone 22
Efficiency classes IE1, IE2 and IE3

VEM  CHEM
ex motors

SENSE EXPERIENCE
EXPERIENCE VISION





Dust-explosion protected motors

Type of protection Protection by enclosure “tc” for use in Zone 22

Efficiency classes IE1, IE2 and IE3

Drives for wood processing industry, agriculture, power generation and general processing industries

Safety for every eventuality

Situations in which explosive gas or vapour/air mixtures can be formed, or where combustible dusts can arise, call for special electric drives. The decisions as to which outdoor or indoor areas are to be considered potentially hazardous in the sense of ATEX 137 or other relevant directives and regulations must be left exclusively to the operator or to the responsible authorities.

Whichever decision is made, VEM is able to supply a suitable drive, because

- › highly qualified specialists are at hand to advise our customers
- › VEM has many decades of experience in high-quality drives with dust-explosion protection

- › production in our factories is governed by a quality management system certified by IBExU Institut für Sicherheitstechnik GmbH Freiberg (*Notified Body* no. 0637)
- › VEM drives of this type are already operating reliably in explosive-dust atmospheres at renowned European and global enterprises.

Quality tested and certified

The motors of the VEM type series comply with the directive 94/9/EC – ATEX 95; the certificate is issued as manufacturer’s declaration.

Special versions influencing explosion protection (pole-changing motors, other frequencies, outputs or coolant temperatures, converter operation, etc.) are available on request.

Type	KPR/KPER/IE1-KPR/IE1-KPER/IE2-KPR/IE2-KPER K1.R/K2.R/K1.R/IE1-K2.R/IE2-W.1R/IE3-W41R
Size	56 to 400
Power range	0.06 – 650 kW
Efficiency class	IE1, IE2 und IE3 acc. to IEC 60034-30 in the power range 0.75...375 kW, 2-, 4- and 6-pole
Type of protection	IP 55 acc. to EN 60034-5 (for conductive dusts IP 65)
Type of construction	IM B3, IM B35, IM B5 and derived types of construction acc. to EN 60034-7
Type of cooling	IC 411 acc. to EN 60034-6
Max. surface temperature	125 °C, other surface temperatures on request



Power generation, agriculture and wood processing are among the most important branches which require explosion-protected motors with protection rating „tc“ (enclosure protection) for use in Zone 22.

When installing motors in types of construction with vertical shaft it must be prevented that foreign objects can fall in the air inlets (protective cover).

Mounting dimensions and performances acc. to EN 50347.

Ambient temperatures -40 °C up to +40 °C (+55 °C)

for shaft size 56 up to 132T: -35 °C up to +40 °C

Explosion-protected design complying with equipment group II, category 3

EN 60079-0 General requirements

EN 60079-31 Protection by enclosure “t”

The design of the motors is certified with a manufacturer’s declaration.

rpm	Rated output P [kW]				rpm	Rated output P [kW]			
	2-pole	4-pole	6-pole	8-pole ¹⁾		2-pole	4-pole	6-pole	8-pole ¹⁾
Size	3000	1500	1000	750	Size	3000	1500	1000	750
56 K U	0.09	0.06	-	-	180 M	22	19	-	-
56 G	0.12	0.09	-	-	180 L	-	22	15	11.0
63 K	0.18	0.12	0.09	-	200 L	30	30	19	15.0
63 G	0.25	0.18	0.12	-	200 LX	37	-	22	-
71 K	0.37	0.25	0.18	0.09	225 S	-	37	-	18.5
71 G	0.55	0.37	0.25	0.12	225 M	45	45	30	22
80 K	0.75	0.55	0.37	0.18	250 M	55	55	37	30
80 G	1.1	0.8	0.6	0.25	280 S	75	75	45	37
90 S	1.5	1.1	0.8	0.37	280 M	90	90	55	45
90 L	2.2	1.5	1.1	0.55	315 S	110	110	75	55
100 L	3.0	2.2	1.5	0.75	315 M	132	132	90	75
100 LX	-	3.0	-	1.1	315 MX	160	160	110	90
112 M	4.0	4.0	2.2	1.5	315 MY	200	200	132	110
112 MX	-	-	-	-	315 L	250	250	160	132
132 S.T	5.5	5.5 ²⁾	3.0 ²⁾	2.2	315 LX	315	315	200	160
132 SX.T	7.5 ²⁾	-	-	-	355 MY	315	315	200	160
132 S	5.5	5.5	3.0	2.2	355 M	355	355	250	200
132 SX	7.5	-	-	-	355 MX	400	400	315	250
132 M	-	7.5	4.0	3.0	355 LY	450	450	355	280
132 MX	-	-	5.5	-	355 L	500	500	-	-
160 M	11.0	11.0	7.5	4.0	400 M	530	530	380	320
160 MX	15.0	-	-	5.5	400 MX	600	600	420	360
160 L	18.5	15.0	11.0	7.5	400 L	650	650	460	400

Shaft height 80 K to 132 SX.T on request for IE3

Example of identification mark: Ex tc IIIB T125 °C Dc

For conductive dust: Ex tc IIIC T125 °C Dc

¹⁾ without IE-marking

²⁾ IE2 not available

Please refer to our catalogues for technical details. The catalogues are available in printed or in digital version on CD-ROM. They are also available in the internet.





For detailed information
please visit our website.

SENSE EXPERIENCE
EXPERIENCE VISION | www.vem-group.com