

Explosion-protected motors



VEM CHEM
ex motors

SENSE EXPERIENCE
EXPERIENCE VISION





Safe when there is the danger of explosions – drives (VEMoCHEM) for the chemical, oil and gas industry

It is absolutely necessary to have protection from explosions in the chemical and petrochemical as well as oil and gas industries to guarantee safe plant operation. This is what our range of drive solutions and electrical components aims at.



Operating spaces where explosive mixtures of gases and steam/air form or flammable

dust could occur demand special electrical drives and solutions accompanied by the appropriate service. The special machines, speed-controlled drives and complete systems from VEM in the low- and medium-voltage ranges are adapted to these special needs and designed for specific customers. Product safety is essential for your plants and efficiently using resources and our

VEMoCHEM

ex-motoren

Different requirements by the chemical and petrochemical industry and low "Cost of Ownership" decided VEM Motors GmbH to design a motor which meets best of both. Special needs as to explosion protection, IP enclosure, corrosion, noise level, life cycle cost, availability, efficiency and last but not least ecological aspects were considered with the development of the "VEMoCHEM" motor series. The industrial requirements combined with VEM experience of many years result in the standard „VEMoCHEM“ experience for decades in development, design and production of ATEX-protected motors guarantees maximum safety.

The "VEMoCHEM" motor series are first introduced at the ACHEMA 2012 at Frankfurt am Main and are available in the various explosion hazard zones Ex nA, Ex e, Ex de and Ex tD, which were for the first time gathered under the brand name "VEMoCHEM".



SERMES

officiële dealer, met voorraad voor
France, Nederland en Luxembourg

SERMES Nederland

Tel : 088-0118 000

Fax : 088-0118 088

e-mail : motor-holland@sermes.fr

homepage: www.sermes-elektromotoren.nl



Explosion-protected motors

Type of protection "n" (non-sparking)

Efficiency classes IE1, IE2 and IE3



Drives for the chemical and power generation industries

Safe drives in case of explosion hazards

Situations in which explosive gas or vapour/air mixtures can be formed, or where combustible dusts can arise, call for special electric drives. VEM is able to supply drives to suit your particular needs, because › highly qualified specialists are at hand to advise our customers

- › VEM has many decades of experience in highquality explosion-protected drives
- › production in our factories is governed by a quality management system certified by IBExU Freiberg
- › machines are available for use in hazardous areas in zone 1 and 2, equipment group II, category 2G and 3G
- › VEM drives of this type are already operating reliably at renowned European and global chemical and power enterprises.

**Type KPER / KPR / IE1-KPR / KPER / IE2-KPR / KPER
K1.R / IE1-K1.R / IE2-W.1R / IE3-W41R**

Size	56 to 355
Power range	0.06 – 450 kW
Efficiency class	IE1, IE2 and IE3 acc. to IEC 60034-30 in the
power range	0.75 ...375 kW, 2-, 4- and 6-pole
Type of protection	IP 54, IP 55, IP 56, IP 65 acc. to EN 60034-5
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
Mounting dimensions and performances	acc. to EN 50347

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).

Temperature class T2, T3 or T4
Ambient temperatures -40 °C up to +55 °C, (for shaft size 56 – 112: -20 °C up to +55 °C)

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

EN 60079-0 General requirements

EN 60079-15 Type of protection "n" (non -sparking)

For the design of the motors the following EC type examination certificates are available:

Design series and sizes	EC type examination certificate
KPR 56 – 112	IBExU06ATEXB001
KPR 63 – 132T	IBExU06ATEXB002
(IE1-)K1.R 112 – 355	IBExU09ATEXB006
IE2-W.1R 112 – 315	IBExU03ATEXB004
IE2-W.1R 355	Manufacturer's declaration
IE3-W41R 112 – 355	Manufacturer's declaration

Example of identification mark:

Ex nA II T3, new acc. to EN 60079-0:2009 (EPL): Ex nA IIC T3 Gc

Quality tested and certified

The motors of the VEM type series are tested and certified by IBExU Institut für Sicherheitstechnik GmbH Freiberg (*Notified Body* no. 0637) or by manufacturer's declaration, and comply with the directive 94/9/EC – ATEX 95.

The test certificates are recognised by all member states of the European Union, and are additionally accepted by those CENELEC members which do not belong to the EU.

In the case of special versions influencing explosion protection (pole-changing motors, other frequencies, outputs or coolant temperatures, converter operation, etc.), supplementary or renewed approval is required.



SERMES

officiële dealer, met voorraad voor
France, Nederland en Luxemburg

SERMES Nederland

Tel : 088-0118 000

Fax : 088-0118 088

e-mail : motor-holland@sermes.fr

homepage: www.sermes-elektromotoren.nl

Explosion-protected motors

Type of protection increased safety "e"

Efficiency class IE1, IE2 and IE3



Drives for the chemical industry and power generation industry

Safe drives in case of explosion hazards

Situations in which explosive gas or vapour/air mixtures can be formed, or where combustible dusts can arise, call for special electric drives. VEM is able to supply drives to suit your particular needs, because

- › highly qualified specialists are at hand to advise our customers
- › VEM has many decades of experience in high quality explosion-protected drives
- › production in our factories is governed by a quality management system certified by IBExU Freiberg
- › machines are available for use in hazardous areas in zones 1 and 2, equipment group II, categories 2G and 3G (Gb, Gc)
- › VEM drives of this type are already operating reliably at renowned European and global chemical and power enterprises.

is required.

Quality tested and certified

The motors of the VEM type series are tested and certified by

- › Physikalisch-Technische Bundesanstalt Braunschweig (*Notified Body* no. 0102)
- › IBExU Institut für Sicherheitstechnik GmbH Freiberg (*Notified Body* no. 0637),
- › DEKRA EXAM GmbH (*Notified Body* no. 0158) and comply with the directive 94/9/EC – ATEX 95.

The test certificates are recognised by all member states of the European Union, and are additionally accepted by those CENELEC members which do not belong to the EU. In the case of special versions influencing explosion protection (pole-changing motors, other frequencies, outputs or coolant temperatures, inverter operation, etc.), supplementary or renewed approval

Type KPR / KPER / IE1-KPR / IE1-KPER / IE2- KPR / IE2-KPER K1.R / IE1-K1.R / IE2-K1.R / IE3-K1.R

Sizes 56 to 355

Efficiency class without, IE1, IE2 and IE3 acc. to IEC 60034-30 in the power range 0.75...275 kW, 2-, 4-, 6- and 8-pole

Type of protection IP 54, IP 55, IP 56, IP 65 acc. to EN 60034-5

Type of construction IM B3, IM B35, IM B5, IM B14, IM B34 and derived types of construction acc. to EN 60034-7

Type of cooling IC 411 acc. to EN 60034-6

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). Explosion-protected design complying with equipment group II, category 2 acc. to

EN 60079-0 General requirements
EN 60079-7 increased safety "e"

Temperature classes T1 and T2, T3 or T4

Ambient temperature -40 °C up to +40 °C

For sizes 56 to 112: -20 °C up to +40°C

Other values complying with the addition and related data and continuation sheets

Mounting dimensions and performances acc. to EN 50347 (DIN 42673 sheet 2 and DIN 42677 sheet 2)

Design series and sizes	EC-Type examination certificate	EC-Type examination certificate
IE -KPER 56	PTB99ATEX3308	IBExU02ATEX1109
IE -KPER 63	PTB99ATEX3309	IBExU02ATEX1110
IE -KPER 71	PTB99ATEX3310	IBExU02ATEX1111
IE -KPER 80	PTB99ATEX3311	IBExU02ATEX1112
IE -KPER 90	PTB99ATEX3312	IBExU02ATEX1113
IE -KPER 100	PTB99ATEX3313	IBExU02ATEX1114
IE -K1.R 112	PTB99ATEX3314	IBExU02ATEX1115
IE -K1.R 112	PTB08ATEX3004 / PTB08ATEX3026X	IBExU02ATEX1109
IE -K1.R 132	PTB08ATEX3007 / PTB08ATEX3001X	IBExU99ATEX1142
IE -K1.R 150	PTB08ATEX3039 / PTB07ATEX3142X	IBExU99ATEX1105
IE -K1.R 180	PTB08ATEX3039 / PTB07ATEX3143X	IBExU99ATEX1138
IE -K1.R 200	PTB08ATEX3040 / PTB08ATEX3027X	IBExU99ATEX1143
IE -K1.R 225	PTB08ATEX3041 / PTB08ATEX3028X	IBExU99ATEX1144
IE -K1.R 250	PTB08ATEX3042 / PTB08ATEX3029X	IBExU99ATEX1131
IE -K1.R 280	PTB08ATEX3043 / PTB08ATEX3030X	IBExU99ATEX1030
IE -K1.R 315	PTB08ATEX3044 / PTB08ATEX3031X	IBExU99ATEX1137
IE -K1.R 355	PTB08ATEX3032X	IBExU01ATEX1009

Example of identification mark:

Ex e II T3, new acc. to EN 60079-0:2009 (EPL): Ex e IIC T3 Gb



SERMES
officiële dealer, met voorraad voor
France, Nederland en Luxemburg

SERMES Nederland

Tel : 088-0118 000

Fax : 088-0118 088

e-mail : motor-holland@sermes.fr

homepage: www.sermes-elektromotoren.nl



Explosion-protected motors

Type of protection flameproof enclosure “d/de”

Efficiency classes IE2 and IE3

Drives for the chemical and petrochemical industries and for offshore applications



Safe drives in case of explosion hazards

Situations in which explosive gas or vapour/air mixtures can be formed, or where combustible dusts can arise, call for special electric drives. VEM is able to supply drives to suit your particular needs, because

- › highly qualified specialists are at hand to advise our customers
- › VEM has many decades of experience in high quality explosion-protected drives
- › production in our factories is governed by a quality management system certified by IBExU Freiberg
- › machines are available for use in hazardous areas in zones 1 and 2, equipment group II, categories 2 and 3
- › VEM drives of this type are already operating reliably at renowned European and global chemical and power enterprises.

Quality tested and certified

The motors of the VEM type series are tested and certified by:

- › Physikalisch-Technische Bundesanstalt Braunschweig (Notified Body no. 0102),

and comply with the directive 94/9/EC – ATEX 95.

The test certificates are recognised by all member states of the European Union, and are additionally accepted by those CENELEC members which do not belong to the EU. In the case of special versions influencing explosion protection (pole-changing motors, other frequencies, outputs or coolant temperatures, converter operation, etc.), supplementary or renewed approval is required.

Production quality assurance measures are certified by IBExU Freiberg and are monitored in accordance with Art. 10 (1) of the directive 94/9/EC.

Size	: 63 to 450
Power range	: 0.06 – 630 kW
Efficiency class	: IE2 and IE3 acc. to IEC 60034-30 in the
power range	: 0.75 ...375 kW, 2-, 4- and 6-pole
Type of protection	: IP 55, IP 56, IP 65 acc. to EN 60034-5
Type of construction	: IM B3, IM B35, IM B5, IM B14, IM B34
	and derived types of construction acc. to EN 60034-7
Explosion-protected design	:complying with equipment group II, category 2 Ex d(e)
	EN 60079-0 General requirements
	EN 60079-1 flameproof enclosure “d”
Ambient temperature	: -55 °C up to +60 °C
Temperature class	: T3 to T6
Type of cooling	; IC 411 acc. to DIN EN 60034-6

Mounting dimensions and performances acc. to DIN 42673 sheet 3 and DIN 42677 sheet 3

Design series and sizes	Ex II 2G Ex d(e) IIC T3 – T6	Ex II 2G Ex d(e) IIB+H2 T3 – T6
K82, 63 – 71 (-Y2, -Y3)	PTB09ATEX1017 X	PTB09ATEX1032 X
K82, 80 – 160 (-Y2, -Y3)	PTB09ATEX1018 X	PTB09ATEX1033 X
K82, 160 (-Y2, -Y3)	PTB09ATEX1019 X	PTB09ATEX1034 X
K82, 200 (-Y2, -Y3)	PTB09ATEX1020 X	PTB09ATEX1035 X
K82, 225 – 315 (-Y2, -Y3)	PTB09ATEX1018 X	PTB09ATEX1033 X
K82, 355 (-Y2, -Y3)	PTB09ATEX1021 X	PTB09ATEX1036 X
K82, 400	PTB09ATEX1022 X	PTB09ATEX1037 X
K82, 450	PTB09ATEX1023 X	PTB09ATEX1038 X
B82, 80 – 132		PTB09ATEX1039 X

Example of identification mark:

Ex d IIC T4, new acc. to EN 60079-0:2009 // (EPL): Ex d IIC T4 Gb



SERMES
officiële dealer, met voorraad voor
France, Nederland en Luxembourg

SERMES Nederland

Tel : 088-0118 000
Fax : 088-0118 088
e-mail : motor-holland@sermes.fr



Dust-explosion protected motors

Type of protection Protection by enclosure "tD" for use in Zone 21

Efficiency classes IE1, IE2 and IE3



Drives for the chemical industry, agriculture, wood processing and power generation 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 highquality drives with dust-explosion protection
- › production in our factories is governed by a quality management system certified by IBCExU Freiberg

› 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 are tested and certified by DEKRA EXAM GmbH (*Notified Body* no. 0158) and IBCExU Institut für Sicherheitstechnik GmbH Freiberg (*Notified Body* no. 0637) and comply with the directive 94/9/EC – ATEX 95.

The test certificates are recognised by all member states of the European Union, and are additionally accepted by those CENELEC members which do not belong to the EU.

In the case of special versions influencing explosion protection (pole-changing motors, other frequencies, outputs or coolant temperatures, converter operation, etc.), supplementary or renewed approval is required.

Type KPR / KPER / IE1-KPR / IE1-KPER / IE2-KPR / IE2-KPER K2.Q / IE1-K2.Q / K1.R / IE1-K1.R / IE2-W.1R / IE3-W41R

Size	56 to 355
Power range	0.06 – 450 kW
Efficiency class	IE1, IE2 and IE3 acc. to IEC 60034-30 in the
power range	0.75...375 kW, 2-, 4- und 6-pole
Type of protection	IP 65 acc. to EN 60034-5
Type of construction	IM B3, IM B35, IM B5 and derived types of construction acc. to EN 60034-7 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
Explosion-protected design	complying with equipment group II, category 2 EN 60079-0, EN 61241-0 General requirements EN 61241-1 Protection by enclosure "tD"
Ambient temperatures	-30 °C up to +40 °C (+55 °C),
for shaft size	56 up to 132T: -20 °C up to +40 °C (+55 °C)
Type of cooling	IC 411 acc. to EN 60034-6
Max. surface temperature	125 °C, other surface temperatures on request

For the design of the motors the following EC type examination certificates are available:

Design series and sizes	EC type examination certificate
KPER 56 bis 132T	DTM00ATEXE012X
(IE1-K2.Q 112 – 315	IBEXU02ATEX1019
(IE1-K1.R 112 – 355	IBEXU09ATEX1065
(IE2-W.1R 112 – 315	IBEXU04ATEX111B
IE3-W.1R 112 – 315	in preparation

Example of identification mark:

Ex tD A21 IP 65 T125 °C

new acc. to EN 60079-0:2009 (EPL): Ex tb IIIC T125 °C Db



SERMES

officiële dealer, met voorraad voor
France, Nederland en Luxembourg

SERMES Nederland

Tel : 088-0118 000

Fax : 088-0118 088

e-mail : motor-holland@sermes.fr



Dust-explosion protected motors

Type of protection Protection by enclosure “tD” 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 355
- Power range 0.06 – 500 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

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 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, EN 61241-0 General requirements
EN 61241-1 Protection by enclosure “tD”

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

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

Example of identification mark:

Ex tD A22 IP 55 T125 °C new acc. to EN 60079-0:2009 (EPL): Ex tc IIIC T125 °C Dc

- 1) without IE-marking
- 2) IE2 not available

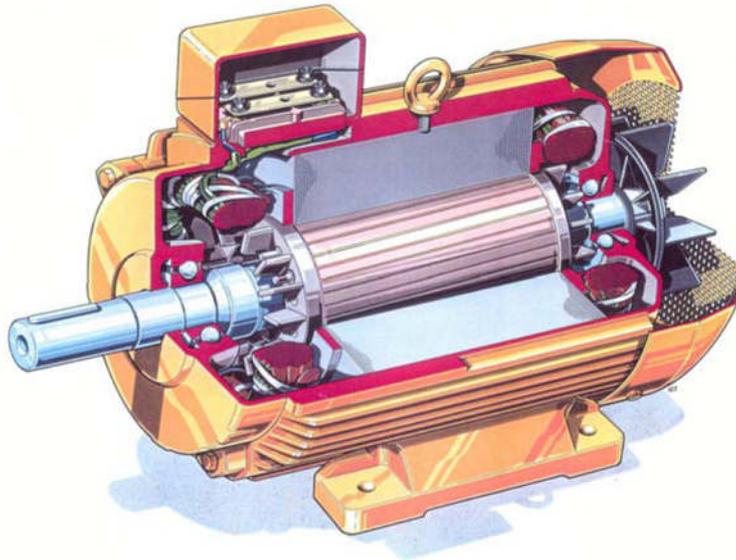
Type	Rated output P [kW]				Rated output P [kW]			
	2-pole	4-pole	6-pole	8-pole	2-pole	4-pole	6-pole	8-pole
56	0.06	0.06	-	-	56L	22	18	-
56 D	0.12	0.09	-	-	160 L	22	18	11.0
56 K	0.18	0.12	0.09	-	200 L	30	19	15.0
56 G	0.25	0.18	0.12	-	250 LK	37	22	-
71 K	0.37	0.25	0.18	0.09	225 S	-	37	18.5
71 G	0.55	0.37	0.25	0.12	225 M	45	30	22
80 K	0.75	0.55	0.37	0.18	250 M	55	35	30
80 D	1.1	0.8	0.6	0.25	280 S	75	45	37
90 S	1.5	1.1	0.8	0.37	280 M	90	55	45
90 L	2.2	1.5	1.1	0.55	315 S	110	75	55
100 L	3.0	2.2	1.5	0.75	315 M	132	90	75
100 LK	-	3.0	-	1.1	315 MK	160	110	90
112 M	4.0	4.0	2.2	1.5	315 MY	200	132	110
112 MK	-	-	-	-	-	-	-	-
132 S	5.5	5.5	3.0	2.2	315 L	250	160	132
132 SXT	7.5	-	-	-	315 LX	315	200	160
132 S	5.5	5.5	3.0	2.2	355 MY	315	200	160
132 SX	7.5	-	-	-	355 M	355	250	200
132 M	-	7.5	4.0	3.0	355 MK	400	275	210
132 MX	-	-	5.5	-	355 LY	450	300	230
160 M	11.0	11.0	7.5	4.0	355 L	500	350	-
160 MX	15.0	-	-	5.5	-	-	-	-
160 L	16.5	16.0	11.0	7.5	-	-	-	-



SERMES
officiële dealer, met voorraad voor
France, Nederland en Luxembourg

SERMES Nederland

Tel : 088-0118 000
Fax : 088-0118 088
e-mail : motor-holland@sermes.fr



Technical data in overview (VEM Motor version VC)

Motor range:	Size 71 – 355 low voltage
Power range:	Up to 400 kW (used as thermal class B at 40°C)
Number of poles:	2 - 8
Efficiency class:	IE2 according to EN 60034-30
Voltage:	Low voltage and voltage range acc. to IEC 60038
Duty type:	S1 DOL and S9 inverter (< 420V) acc. VIK, see table
Degree of protection:	IP55
Cooling:	IC 411
Mounting:	IM B3
Regulations:	IEC, EN
Version:	VIK 2011
Labelling:	Second name plate in terminal box additional plate for inverter duty with data for square(1:10) and constant(1:5) torque
Stator frame:	Cast iron
Terminal box:	Cast iron
Fan cover:	zinc-plated (not for Ex de)
Regreasing:	life time up to size 315M, from 315Mx regreasing nipple
Bearing:	ball bearing C3
Winding protection:	PTC as additional protection for inverter duty Exe and Ex de as only protection
Vibration intensity:	A
Balancing:	half key
Ex-protection:	Ex nA, Ex e, Ex de, Ex tD, non Ex
Noise level:	≤ 77 dBA + 3 dBA tolerance
Painting:	for chemical industry, paint system 07 - 150 µm
Cable entry:	with metric metallic ATEX-cable glands according to VEM catalogue
Screws (outside):	stainless steel

23.10.2012



Ex protection		IP 55	Ex nA	Ex e	Ex tD A22	Ex tD A21	Ex de
Motor range	Size up to	355	355	355	355	355	355
Power range:	Max. for 4pol.	430	400	275	400	400	400
Number of poles:	2 - 8-pole	x	x	x	x	x	x
Efficiency class:	IE2 acc. EN 60034-30	x	x	x	x	x	x
voltage:	Low voltage and voltage range acc. IEC 60038	x	x	x	x	x	x
Duty:	S1 DOL and S9 inverter duty (< 420V)	x	x	x ²⁾	x	x ¹⁾	x
Degree of protection:	IP55	x	x	x	x ³⁾	IP 65	x
Cooling:	IC 411	x	x	x	x	x	x
Mounting:	IM B3	x	x	x	x	x	x
Regulations:	IEC, EN	x	x	x	x	x	x
Version:	VIK 2011	x	x	x	x	x	x
Labelling:	Second plate in terminal box	x	x	x	x	x	x
	additional plate with data for inverter duty	x	x	x ²⁾	x	x ¹⁾	x
Stator frame:	Cast iron	x	x	x	x	x	x
Terminal box:	Cast iron	x	x	x	x	x	x
Fan cover:	Zinc-plated	x	x	x	x	x	-
Regreasing:	Life time up to 315M, from 315Mx with regreasing nipple	x	x	x	x	x	x
Bearing:	ball bearings C3	x	x	x	x	x	x
Winding protection:	PTC as additional protection	x	x	x ⁴⁾	x	x	-
Winding protection:	PTC as only protection	-	-	x ⁴⁾	-	-	x
Vibration intensity:	B	x	x	x	x	x	x
Balancing:	Half key	x	x	x	x	x	x
Noise level:	≤ 77 dBA + tolerance	x	x	x	x	x	x
Painting:	For chemical industry FS 07 RAL 7031	x	x	x	x	x	x

1 Ex-certificate including the inverter necessary

2 special series

3 IP 65 for Ex tD A21 and Ex tD A22 with conductive dust as standard

4 for inverter duty as only protection



VEM – motor for chemical industry

Options:

- Design for higher ambient temperatures
 - 55 °C to + 60 °C Ex de and non Ex
 - 40 °C to + 55 °C Ex nA and Ex tD A22
 - 30 °C to + 55 °C Ex tD A21
 - 35 °C to + 55 °C Ex e (size <132 only -20 - +55°C)
- SPM nipple from size 132 (stainless steel)
- regreasing system from size 160
- additional terminal box from size 132
- anti condensation heating from size 132
- 60 Hz, special voltage and pole-changing possible (Ex-certificate may be necessary)
- terminal box right or left hand side
- mounting from ex certified brakes or encoders
- degree of protection IP 56, 65, 66
- low noise version for 2-pole motors from size 132
- special bearing for high axial/radial forces
- type of construction IM B5, IM B35, IM V1, IM V3, IM V5, IM V18, IM B14, IM B34
- additional tag-plate
- inverter duty >420V (500/690 V) with peak voltage > 1,35 kV according to IEC 60034-17 figure 6 and voltage rise > 1,5 kV/us

Painting system FS 07

Special paint finishes, decontaminable, extreme chemical and thermal loads, high corrosion protection

Corrosivity class acc. to EN ISO 12944-2:1998 C3 – moderate

01	01 S	02	02 S	03	04	06	07	08	09 L	09 S
Moderate Th.Cl. F / H	Moderate Th.Cl. F	World wide Th.Cl. F / H	World Wide Th.Cl. F	Customer request	Special colouring	Moderate / World Wide Th.Cl. H special shade	Special colouring	primed	light duty off- shore design	heavy duty off shore design
RAL 7031	special shade *	RAL 7031	special shade							
Heat, indoors, outdoors protected	Heat, indoors, outdoors protected	Heat, outdoors, indoors high humidity	Heat, outdoors, indoors high humidity		Sea climate, harbour	Heat, humidity, outdoors	Chemistry, heat, humidity, high corrosion protection	Ready for varnishing	UV resistant, outdoors, high corrosion protection	Deep sea, ultimate corrosion protection
≥ 70 µm	≥ 70 µm	≥ 110 µm	≥ 110 µm		≥ 150 µm	≥ 110 µm	≥ 150 µm	≥ 70 µm	≥ 210 µm	≥ 240 µm
up to 120°C temporary 180°C	up to 100°C temporary 120°C	up to 120°C temporary 180°C	up to 100°C temporary 120°C		up to 80-90°C temp.. 130°C	up to 120°C temporary 180°C	up to 120°C temporary 180°C		up to 100°C temporary 140°C	bis 100°C kurzz. 140°C
KK C 2	KK C 2	KK C 2 - C 3	KK C 2 - C 3			KK C 2 - C 3	KK C 3		KK C 3	KK C 4/5
2K-EP TC (water based) 40 µm	2K-PUR TC 40 µm	2K-EP TC (water based) 40 µm 2K-EP Grd. (water based) 40 µm	2K-PUR TC 40 µm 2K-EP Grd. (water based) 40 µm	Customer request	2K-EP, ceramic filled 120 µm	2K-EP TC 40 µm 2K-EP Grd. (water based) 40 µm	2K-EP TC 40 µm 2K-EP Grd. (water based) 80 µm	2K-EP Grd. (water based) 40 µm	2K-PUR DL 80 µm 2K-EP Grd. (water based) 100 µm	2K-PUR DL 80 µm 2K-EP Grd. 110 µm 2K-EP zinc dust 50 µm
Grey cast iron/fan covers: water-soluble primers approx. 30 µm Sheet metal terminal boxes: powder-coated Grit blasting with SA 2,5/SIS 055900 for grey cast iron components; Cleaning, pickling for steel sheet parts										

Special shade * : colour system 01 not available for RAL 1000 to 2011, RAL 7047, 9001, 9002, 9005, 9010, 9011, 9016, 9017 and light ivory textured paint 1015
 KK : corrosivity class acc. to EN ISO 12944:1998

23.10.2012

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



SERMES

officiële dealer, met voorraad voor
France, Nederland en Luxembourg

SERMES Nederland

Tel : 088-0118 000

Fax : 088-0118 088

e-mail : motor-holland@sermes.fr