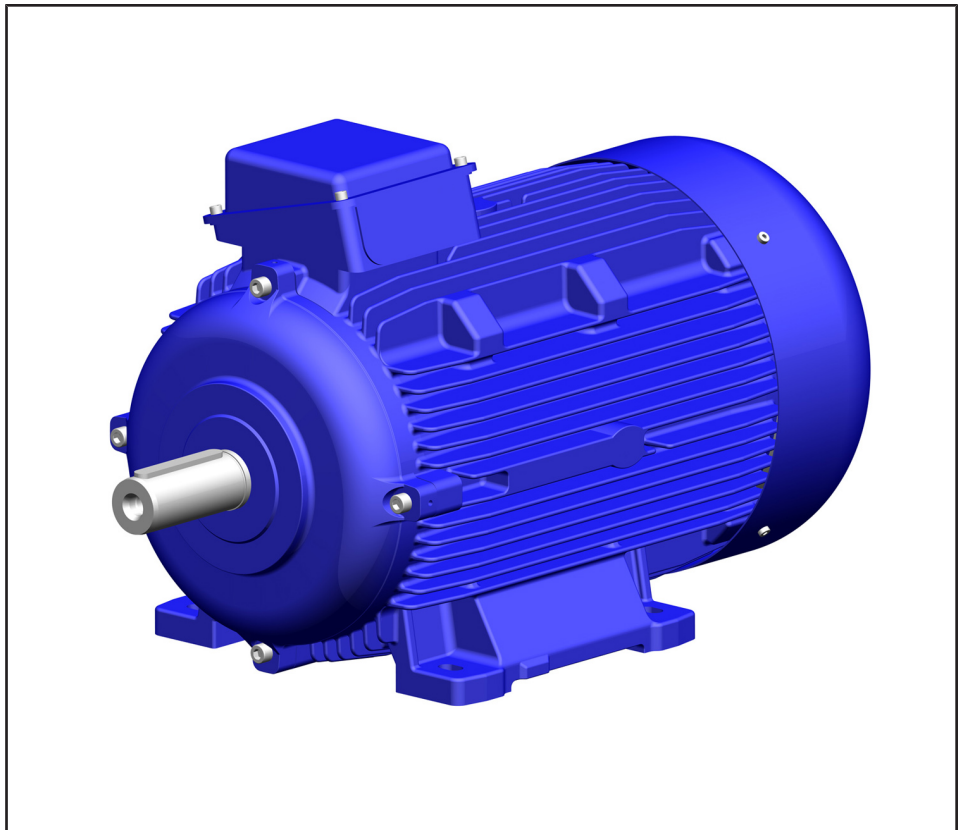


# KSB IE3-Motor

Standard Electric motor acc. to KSB  
Non explosive Atmosphere  
0.75 to 132 kW, IE3  
IMB3 and IMV1/IMV15  
Data sheets 2-pole and 4-pole

## Motor catalog



## **Legal information/Copyright**

Motor catalog KSB IE3-Motor

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## Overviews

### Overview of B3, 2-pole

Table 1: Overview of available motors

Power [kW]		Motor size	Rated voltage				Frequency	Mat. No.	Page
50 Hz	60 Hz		50 Hz		60 Hz				
			Δ	Y	Δ	Y			
0,75	0,75	80M	230	400	-	460	50/60Hz	01583941	(⇒ Page 6)
1,1	1,1	80M	230	400	-	460	50/60Hz	01583942	(⇒ Page 7)
1,5	1,5	90S	230	400	-	460	50/60Hz	01583943	(⇒ Page 8)
2,2	2,2	90L	230	400	-	460	50/60Hz	01583944	(⇒ Page 9)
3	3	100L	400	690	460	-	50/60Hz	01583927	(⇒ Page 10)
4	4	112M	400	690	460	-	50/60Hz	01583928	(⇒ Page 11)
5,5	5,5	132S	400	690	460	-	50/60Hz	01583929	(⇒ Page 12)
7,5	7,5	132S	400	690	460	-	50/60Hz	01583930	(⇒ Page 13)
11	11	160M	400	690	460	-	50/60Hz	01583931	(⇒ Page 14)
15	15	160M	400	690	460	-	50/60Hz	01583932	(⇒ Page 15)
18,5	18,5	160L	400	690	460	-	50/60Hz	01583933	(⇒ Page 16)
22	22	180M	400	690	460	-	50/60Hz	01583896	(⇒ Page 17)
30	30	200L	400	690	460	-	50/60Hz	01583917	(⇒ Page 18)
37	37	200L	400	690	460	-	50/60Hz	01583918	(⇒ Page 19)
45	45	225M	400	690	460	-	50/60Hz	01583919	(⇒ Page 20)
55	55	250M	400	690	460	-	50/60Hz	01583920	(⇒ Page 21)
75	75	280S	400	690	460	-	50/60Hz	01583786	(⇒ Page 22)
90	90	280M	400	690	460	-	50/60Hz	01583855	(⇒ Page 23)
110	110	315S	400	690	460	-	50/60Hz	01583858	(⇒ Page 24)
132	132	315M	400	690	460	-	50/60Hz	01583859	(⇒ Page 25)

### Overview of B3, 4-pole

Table 2: Overview of available motors

Power [kW]		Motor size	Rated voltage				Frequency	Mat. No.	Page
50 Hz	60 Hz		50 Hz		60 Hz				
			Δ	Y	Δ	Y			
0,75	0	80M	230	400	-	-	50Hz	01583945	(⇒ Page 26)
1,1	0	90S	230	400	-	-	50Hz	01583946	(⇒ Page 27)
1,5	1,5	90L	230	400	-	460	50/60Hz	01583947	(⇒ Page 28)
2,2	0	100L	230	400	-	-	50Hz	01583934	(⇒ Page 29)
3	3	100L	400	690	460	-	50/60Hz	01583935	(⇒ Page 30)
4	4	112M	400	690	460	-	50/60Hz	01583936	(⇒ Page 31)
5,5	0	132S	400	690	-	-	50Hz	01583937	(⇒ Page 32)
7,5	0	132M	400	690	-	-	50Hz	01583938	(⇒ Page 33)
11	11	160M	400	690	460	-	50/60Hz	01583939	(⇒ Page 34)
15	15	160L	400	690	460	-	50/60Hz	01583940	(⇒ Page 35)
18,5	18,5	180M	400	690	460	-	50/60Hz	01583921	(⇒ Page 36)
22	22	180L	400	690	460	-	50/60Hz	01583922	(⇒ Page 37)
30	30	200L	400	690	460	-	50/60Hz	01583923	(⇒ Page 38)
37	37	225S	400	690	460	-	50/60Hz	01583924	(⇒ Page 39)
45	45	225M	400	690	460	-	50/60Hz	01583925	(⇒ Page 40)
55	55	250M	400	690	460	-	50/60Hz	01583926	(⇒ Page 41)
75	75	280S	400	690	460	-	50/60Hz	01583856	(⇒ Page 42)
90	90	280M	400	690	460	-	50/60Hz	01583857	(⇒ Page 43)
110	110	315S	400	690	460	-	50/60Hz	01583860	(⇒ Page 44)
132	132	315M	400	690	460	-	50/60Hz	01583862	(⇒ Page 45)

## Overview of V1, 2-pole

**Table 3:** Overview of available motors

Power [kW]		Motor size	Rated voltage				Frequency	Mat. No.	Page
50 Hz	60 Hz		50 Hz		60 Hz				
			Δ	Y	Δ	Y			
0,75	0,75	80M	230	400	-	460	50/60Hz	01583975	(⇒ Page 46)
1,1	1,1	80M	230	400	-	460	50/60Hz	01583976	(⇒ Page 47)
1,5	1,5	90S	230	400	-	460	50/60Hz	01583977	(⇒ Page 48)
2,2	2,2	90L	230	400	-	460	50/60Hz	01583981	(⇒ Page 49)
3	3	100L	400	690	460	-	50/60Hz	01583961	(⇒ Page 50)
4	4	112M	400	690	460	-	50/60Hz	01583962	(⇒ Page 51)
90	90	280M	400	690	460	-	50/60Hz	01619779	(⇒ Page 52)
110	110	315S	400	690	460	-	50/60Hz	01619792	(⇒ Page 53)
132	132	315M	400	690	460	-	50/60Hz	01619793	(⇒ Page 54)

## Overview of V15, 2-pole

**Table 4:** Overview of available motors

Power [kW]		Motor size	Rated voltage				Frequency	Mat. No.	Page
50 Hz	60 Hz		50 Hz		60 Hz				
			Δ	Y	Δ	Y			
5,5	5,5	132S	400	690	460	-	50/60Hz	01583963	(⇒ Page 67)
7,5	7,5	132S	400	690	460	-	50/60Hz	01583964	(⇒ Page 68)
11	11	160M	400	690	460	-	50/60Hz	01583965	(⇒ Page 69)
15	15	160M	400	690	460	-	50/60Hz	01583966	(⇒ Page 70)
18,5	18,5	160L	400	690	460	-	50/60Hz	01583967	(⇒ Page 71)
22	22	180M	400	690	460	-	50/60Hz	01583902	(⇒ Page 72)
30	30	200L	400	690	460	-	50/60Hz	01583903	(⇒ Page 73)
37	37	200L	400	690	460	-	50/60Hz	01583904	(⇒ Page 74)
45	45	225M	400	690	460	-	50/60Hz	01583905	(⇒ Page 75)
55	55	250M	400	690	460	-	50/60Hz	01583900	(⇒ Page 76)
75	75	280S	400	690	460	-	50/60Hz	01619778	(⇒ Page 77)

## Overview of V1, 4-pole

**Table 5:** Overview of available motors

Power [kW]		Motor size	Rated voltage				Frequency	Mat. No.	Page
50 Hz	60 Hz		50 Hz		60 Hz				
			Δ	Y	Δ	Y			
0,75	0	80M	230	400	-	-	50Hz	01583978	(⇒ Page 58)
1,1	0	90S	230	400	-	-	50Hz	01583979	(⇒ Page 59)
1,5	1,5	90L	230	400	-	460	50/60Hz	01583980	(⇒ Page 60)
2,2	0	100L	230	400	-	-	50Hz	01583968	(⇒ Page 61)
3	3	100L	400	690	460	-	50/60Hz	01583969	(⇒ Page 62)
4	4	112M	400	690	460	-	50/60Hz	01583970	(⇒ Page 63)
90	90	280M	400	690	460	-	50/60Hz	01619759	(⇒ Page 64)
110	110	315S	400	690	460	-	50/60Hz	01619795	(⇒ Page 65)
132	132	315M	400	690	460	-	50/60Hz	01619796	(⇒ Page 66)

## Overview of V15, 4-pole

**Table 6:** Overview of available motors

Power [kW]		Motor size	Rated voltage				Frequency	Mat. No.	Page
50 Hz	60 Hz		50 Hz		60 Hz				
			Δ	Y	Δ	Y			
5,5	0	132S	400	690	-	-	50Hz	01583971	(⇒ Page 78)
7,5	0	132M	400	690	-	-	50Hz	01583972	(⇒ Page 79)
11	11	160M	400	690	460	-	50/60Hz	01583973	(⇒ Page 80)
15	15	160L	400	690	460	-	50/60Hz	01583974	(⇒ Page 81)
18,5	18,5	180M	400	690	460	-	50/60Hz	01583906	(⇒ Page 82)
22	22	180L	400	690	460	-	50/60Hz	01583957	(⇒ Page 83)
30	30	200L	400	690	460	-	50/60Hz	01583958	(⇒ Page 84)
37	37	225S	400	690	460	-	50/60Hz	01583959	(⇒ Page 85)
45	45	225M	400	690	460	-	50/60Hz	01583960	(⇒ Page 86)
55	55	250M	400	690	460	-	50/60Hz	01583901	(⇒ Page 87)
75	75	280S	400	690	460	-	50/60Hz	01619758	(⇒ Page 88)

## B3 type of construction, 2-pin, 80M

Material: 2-0,75- 80M-BWH6F1NTHNWWWUWKWB<sup>1)</sup>

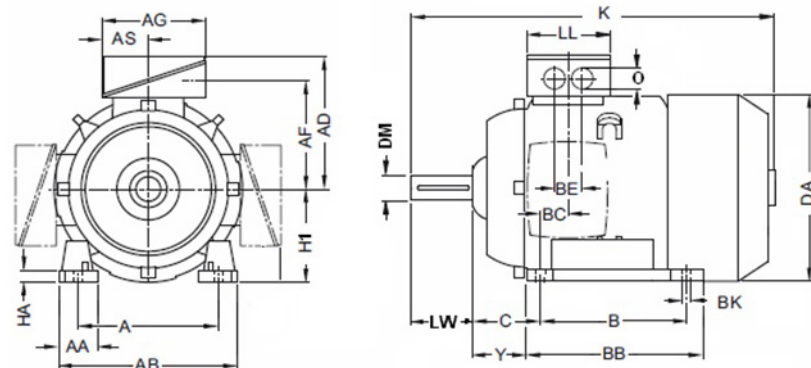
Material number: 01583941

**Table 7:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	80M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	13
Housing material <sup>2)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 8:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	80,7	77,5	73,6	77		
Power factor	min.	0,81			0,79		



**Fig. 1:** Envelope dimensions

**Table 14:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
125	41	155	163	131	126	58	100	124	26,5	32	10	50	159	-

**Table 15:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
19	80	8	-	292	-	-	83	40	-	-	-	-	38	-

**Table 9:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	230	400	-	460
Rated current [A]	-10 %	2,9	1,716	-	1,7
Rated power [kW]	-	0,75		0,75	
Rated speed [rpm]	min.	2825		3390	
Rated torque [Nm]	min.	2,45		2	
Starting current [IA/IN]	+20 %	7,9		8,4	

**Table 10:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	63	67
Moment of inertia [kgm <sup>2</sup> ]	max.	0,00116	0,00116
Motor canopy	-	No	

**Table 11:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 12:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 13:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>1)</sup> The name plate data may vary within the tolerances.

<sup>2)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 80M

Material: 2-1,10- 80M-BWH6F1NTHNWWWUWKWB<sup>3)</sup>

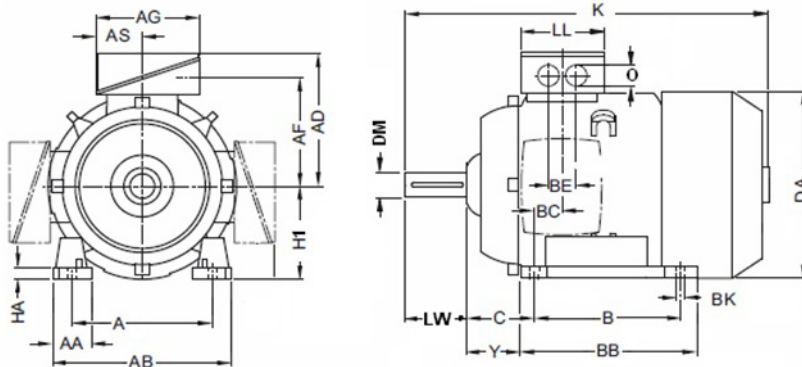
Material number: 01583942

**Table 16:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	80M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	14
Housing material <sup>4)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 17:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	82,7	81	78	84		
Power factor	min.	0,74			0,78		



**Fig. 2:** Envelope dimensions

**Table 23:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
125	41	155	163	131	126	58	100	124	26,5	32	10	50	159	-

**Table 24:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
19	80	8	-	327	-	-	83	40	-	-	-	-	38	-

**Table 18:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	230	400	-	460
Rated current [A]	-10 %	4,2	2,475	-	2,5
Rated power [kW]	-	1,1		1,1	
Rated speed [rpm]	min.	2830		3400	
Rated torque [Nm]	min.	3,53		3	
Starting current [IA/IN]	+20 %	7,8		8,4	

**Table 19:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	63	67
Moment of inertia [kgm <sup>2</sup> ]	max.	0,00137	0,00137
Motor canopy	-	No	

**Table 20:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 21:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 22:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>3)</sup> The name plate data may vary within the tolerances.

<sup>4)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 90S

Material: 2-1,50- 90S-BWH6F1NTHNWWUWKWB<sup>5)</sup>

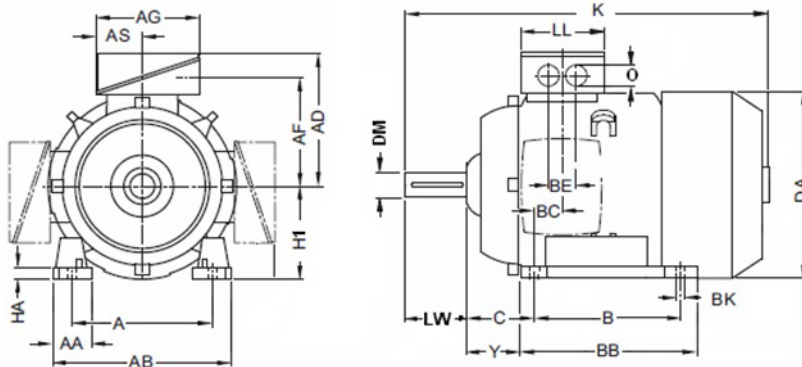
Material number: 01583943

**Table 25: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	90S
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	18
Housing material <sup>6)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 26: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	84,2	83,2	80,7	85,5		
Power factor	min.	0,76			0,78		



**Fig. 3: Envelope dimensions**

**Table 32: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
140	35	170	170	138	126	58	100	146	18,5	40	10	56	178	-

**Table 33: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
24	90	11	-	387	-	-	83	50	-	-	-	-	38	-

**Table 27: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	230	400	-	460
Rated current [A]	-10 %	5,6	3,3	-	3,3
Rated power [kW]	-	1,5		1,5	
Rated speed [rpm]	min.	2875		3430	
Rated torque [Nm]	min.	4,8		4	
Starting current [IA/IN]	+20 %	8,5		8,8	

**Table 28: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	68	72
Moment of inertia [kgm <sup>2</sup> ]	max.	0,00221	0,00221
Motor canopy	-	No	

**Table 29: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 30: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 31: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>5)</sup> The name plate data may vary within the tolerances.

<sup>6)</sup> 1800=grey cast iron, 4400=aluminium



## B3 type of construction, 2-pin, 90L

Material: 2-2,20- 90L-BWH6F1NTHNWWUWKWB<sup>7)</sup>

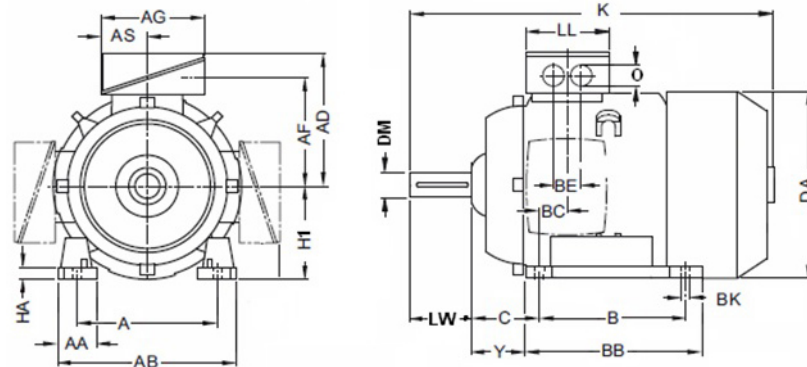
Material number: 01583944

**Table 34:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	90L
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	21
Housing material <sup>8)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 35:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	85,9	85,4	83,4	86,5		
Power factor	min.	0,78			0,8		



**Fig. 4:** Envelope dimensions

**Table 41:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
140	35	170	170	138	126	58	125	158	20,8	40	10	56	178	-

**Table 42:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
24	90	11	-	387	-	-	83	50	-	-	-	-	38	-

**Table 36:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	230	400	-	460
Rated current [A]	-10 %	8,1	4,62	-	4,7
Rated power [kW]	-	2,2		2,2	
Rated speed [rpm]	min.	2870		3405	
Rated torque [Nm]	min.	7,06		5,9	
Starting current [IA/IN]	+20 %	8,7		8,8	

**Table 37:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	68	72
Moment of inertia [kgm <sup>2</sup> ]	max.	0,00326	0,00326
Motor canopy	-	No	

**Table 38:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 39:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 40:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>7)</sup> The name plate data may vary within the tolerances.

<sup>8)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 100L

Material: 2-3,00-100L-BWEGF3NTHNWWUWKWB<sup>9)</sup>

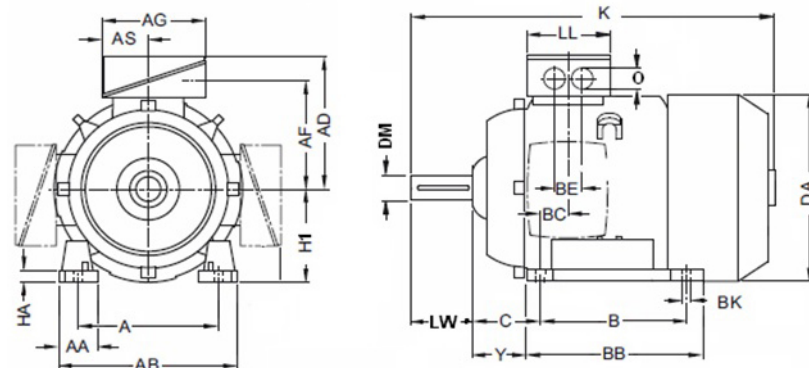
Material number: 01583927

**Table 43:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	100L
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	29
Housing material <sup>10)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 44:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	87,1	86,9	85,1	88,5		
Power factor	min.	0,84			0,83		



**Fig. 5:** Envelope dimensions

**Table 50:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
160	42	196	216	164	176	83	140	178	24,7	45	12	63	198	-

**Table 51:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
28	100	12	-	431	-	-	118	60	-	-	-	-	42	-

**Table 45:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	5,9	3,63	9,1	-
Rated power [kW]	-	3		3	
Rated speed [rpm]	min.	2910		3460	
Rated torque [Nm]	min.	9,6		8	
Starting current [IA/IN]	+20 %	8,9		10	

**Table 46:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	70	75
Moment of inertia [kgm <sup>2</sup> ]	max.	0,00673	0,00673
Motor canopy	-	No	

**Table 47:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 48:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 49:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>9)</sup> The name plate data may vary within the tolerances.

<sup>10)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 112M

Material: 2-4,00-112M-BWE6F3NTHNWWUWKWB<sup>11)</sup>

Material number: 01583928

**Table 52:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	112M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	38
Housing material <sup>12)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 53:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	88,1	88,1	86,4	88,5		
Power factor	min.	0,81			0,83		

**Table 54:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	8	4,675	7,6	-
Rated power [kW]	-	4		4	
Rated speed [rpm]	min.	2900		3465	
Rated torque [Nm]	min.	12,64		10,7	
Starting current [IA/IN]	+20 %	8,6		9	

**Table 55:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	72	77
Moment of inertia [kgm <sup>2</sup> ]	max.	0,0126	0,01179
Motor canopy	-	No	

**Table 56:** Explosion protection

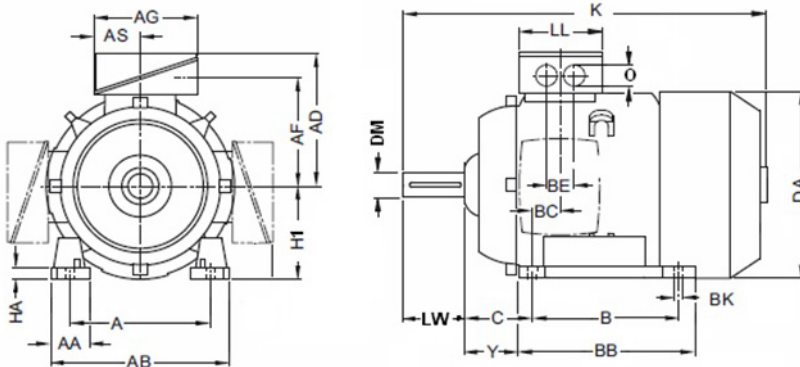
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 57:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 58:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 6:** Envelope dimensions

**Table 59:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
190	52	226	230	217	176	83	140	176	16,8	45	12	70	235	-

**Table 60:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
28	112	12	-	414	-	-	118	60	-	-	-	-	49	-

<sup>11)</sup> The name plate data may vary within the tolerances.

<sup>12)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 132S

Material: 2-5,50-132S-BWE6F3NTHNWWUWKWB<sup>13)</sup>

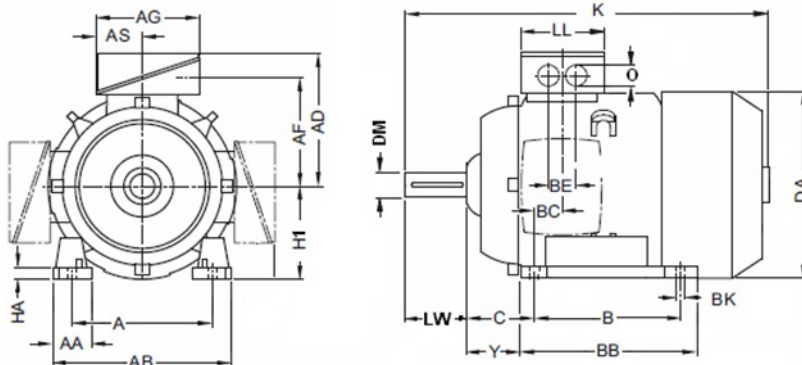
Material number: 01583929

**Table 61:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	132S
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	60
Housing material <sup>14)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 62:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	89,2	89,3	87,8	89,5		
Power factor	min.	0,82			0,84		



**Fig. 7:** Envelope dimensions

**Table 68:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
216	53	256	222	172	171	77	140	218	21,5	55	12	89	274	-

**Table 69:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
38	132	15	-	490	-	-	146	80	-	-	-	-	66	-

**Table 63:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	10,5	6,38	10	-
Rated power [kW]	-	5,5		5,5	
Rated speed [rpm]	min.	2930		3485	
Rated torque [Nm]	min.	17,44		14,6	
Starting current [IA/IN]	+20 %	8,7		9,1	

**Table 64:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	71	77
Moment of inertia [kgm <sup>2</sup> ]	max.	0,0252	0,0252
Motor canopy	-	No	

**Table 65:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 66:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 67:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>13)</sup> The name plate data may vary within the tolerances.

<sup>14)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 132S

 Material: 2-7,50-132S-BWE6F3NTHNWWUWKWB<sup>15)</sup>

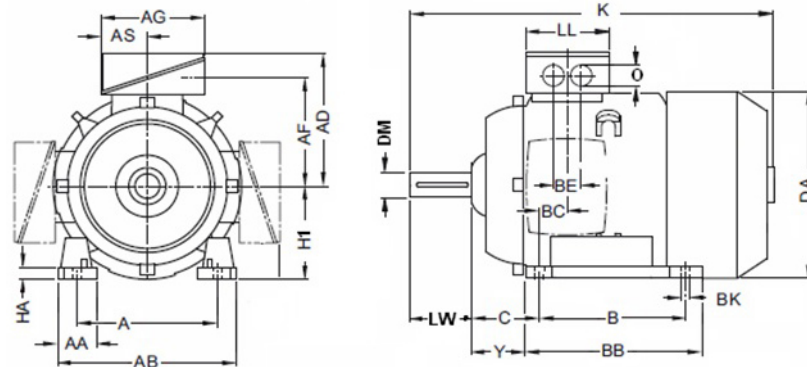
Material number: 01583930

**Table 70: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	132S
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	63
Housing material <sup>16)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 71: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	90,1	90,2	88,9	90,2		
Power factor	min.	0,83			0,83		


**Fig. 8: Envelope dimensions**
**Table 77: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
216	53	256	222	172	171	77	140	218	21,5	55	12	89	274	-

**Table 78: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
38	132	15	-	515	-	-	146	80	-	-	-	-	66	-

**Table 72: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	14,6	8,36	13,8	-
Rated power [kW]	-	7,5		7,5	
Rated speed [rpm]	min.	2935		3485	
Rated torque [Nm]	min.	23,81		19,9	
Starting current [IA/IN]	+20 %	8,9		9,6	

**Table 73: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	71	77
Moment of inertia [kgm <sup>2</sup> ]	max.	0,03255	0,03255
Motor canopy	-	No	

**Table 74: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 75: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 76: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>15)</sup> The name plate data may vary within the tolerances.

<sup>16)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 160M

Material: 2-11,0-160M-BWE6F3NTHNWWUWKWB<sup>17)</sup>

Material number: 01583931

**Table 79:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	160M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	75
Housing material <sup>18)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 80:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	91,2	91,3	90,1	91		
Power factor	min.	0,78			0,79		

**Table 81:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	22	12,54	19,5	-
Rated power [kW]	-	11		11	
Rated speed [rpm]	min.	2950		3495	
Rated torque [Nm]	min.	34,79		29	
Starting current [IA/IN]	+20 %	9		10	

**Table 82:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	74	81
Moment of inertia [kgm <sup>2</sup> ]	max.	0,05565	0,05565
Motor canopy	-	No	

**Table 83:** Explosion protection

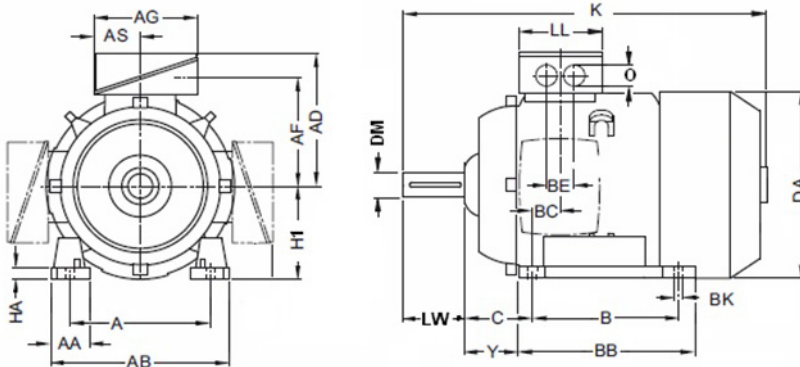
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 84:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 85:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 9:** Envelope dimensions

**Table 86:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
254	66	308	261	209	193	86	210	310	28	59,5	14,5	108	314	-

**Table 87:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
42	160	18	-	634	-	-	152	110	-	-	-	-	80	-

<sup>17)</sup> The name plate data may vary within the tolerances.

<sup>18)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 160M

Material: 2-15,0-160M-BWE6F3NTHNWWUWKWB<sup>19)</sup>

Material number: 01583932

**Table 88:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	160M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	88
Housing material <sup>20)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 89:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	91,9	92	90,8	91		
Power factor	min.	0,78			0,8		

**Table 90:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	29,4	17,27	26,3	-
Rated power [kW]	-	15		15	
Rated speed [rpm]	min.	2945		3500	
Rated torque [Nm]	min.	47,43		39,7	
Starting current [IA/IN]	+20 %	9,2		9,7	

**Table 91:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	74	81
Moment of inertia [kgm <sup>2</sup> ]	max.	0,06405	0,06405
Motor canopy	-	No	

**Table 92:** Explosion protection

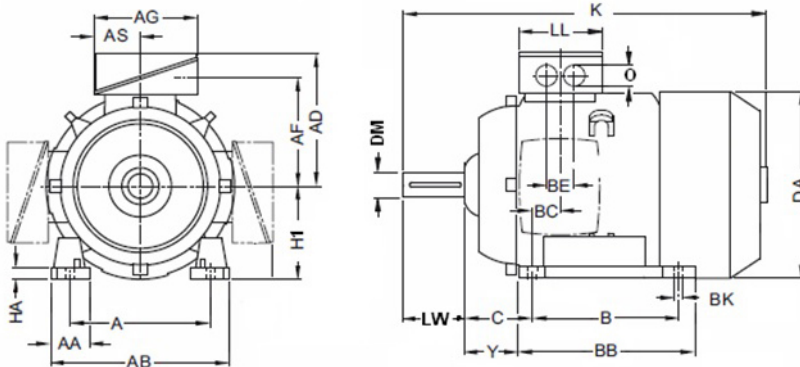
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 93:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 94:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 10:** Envelope dimensions

**Table 95:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
254	66	308	261	209	193	86	210	310	28	59,5	14,5	108	314	-

**Table 96:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
42	160	18	-	634	-	-	152	110	-	-	-	-	80	-

<sup>19)</sup> The name plate data may vary within the tolerances.

<sup>20)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 160L

 Material: 2-18,5-160L-BWEGF3NTHNWWUWKWB<sup>21)</sup>

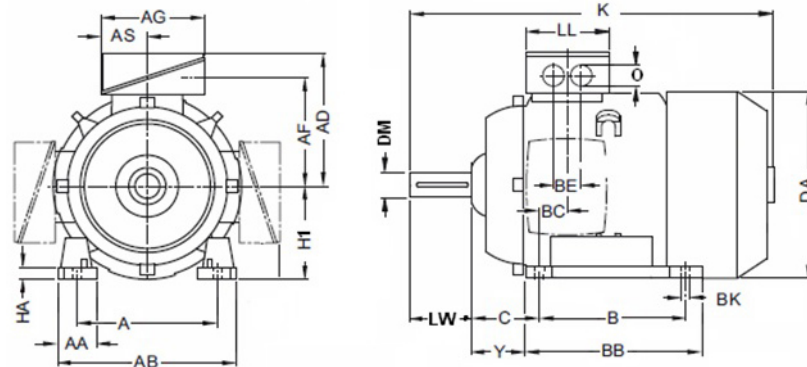
Material number: 01583933

**Table 97: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	160L
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	108
Housing material <sup>22)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 98: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	92,4	92,4	91,3	91,7		
Power factor	min.	0,77			0,81		


**Fig. 11: Envelope dimensions**
**Table 104: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
254	66	308	261	209	193	86	254	310	28	59,5	14,5	108	314	-

**Table 105: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
42	160	18	-	664	-	-	152	110	-	-	-	-	80	-

**Table 99: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	35,6	20,57	32,9	-
Rated power [kW]	-	18,5		18,5	
Rated speed [rpm]	min.	2945		3505	
Rated torque [Nm]	min.	58,79		48,9	
Starting current [IA/IN]	+20 %	9,5		10,5	

**Table 100: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	74	81
Moment of inertia [kgm <sup>2</sup> ]	max.	0,0714	0,0714
Motor canopy	-	No	

**Table 101: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 102: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 103: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>21)</sup> The name plate data may vary within the tolerances.

<sup>22)</sup> 1800=grey cast iron, 4400=aluminium



## B3 type of construction, 2-pin, 180M

Material: 2-22,0-180M-BWE6F3NTHNWWUWKWB<sup>23)</sup>

Material number: 01583896

**Table 106:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	180M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	164
Housing material <sup>24)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	Yes

**Table 107:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	92,7	92,7	91,6	91,7		
Power factor	min.	0,85			0,84		

**Table 108:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	41,2	24,75	38	-
Rated power [kW]	-	22		22	
Rated speed [rpm]	min.	2950		3515	
Rated torque [Nm]	min.	69,58		58	
Starting current [IA/IN]	+20 %	9		8,2	

**Table 109:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	77	84
Moment of inertia [kgm <sup>2</sup> ]	max.	0,12515	0,13412
Motor canopy	-	No	

**Table 110:** Explosion protection

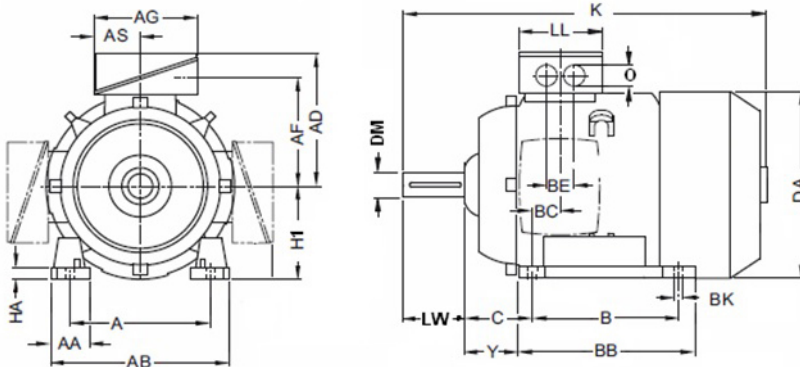
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 111:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 112:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 12:** Envelope dimensions

**Table 113:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
279	68	350	285	234	193	86	241	343	39,3	75,5	14,5	121	356	-

**Table 114:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
48	180	22	-	698	-	-	152	110	-	-	-	-	85	-

<sup>23)</sup> The name plate data may vary within the tolerances.

<sup>24)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 200L

 Material: 2-30,0-200L-BWEGF3NTHNWWUWKWB<sup>25)</sup>

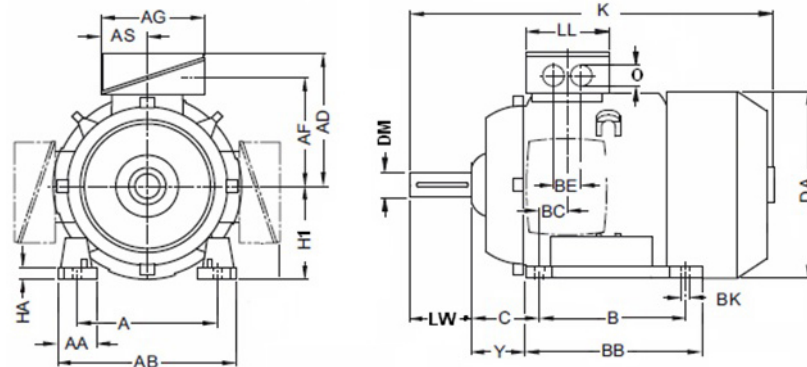
Material number: 01583917

**Table 115: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	200L
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	225
Housing material <sup>26)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	Yes

**Table 116: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	93,3	93,2	92,2	92,4		
Power factor	min.	0,86			0,81		


**Fig. 13: Envelope dimensions**
**Table 122: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
318	85	388	326	262	248	113	305	375	43,5	83	18,5	133	396	-

**Table 123: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
55	200	25	-	758	-	-	194	110	-	-	-	-	93	-

**Table 117: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	56,5	34,1	55,7	-
Rated power [kW]	-	30		30	
Rated speed [rpm]	min.	2955		3520	
Rated torque [Nm]	min.	95,01		78,8	
Starting current [IA/IN]	+20 %	8		9,3	

**Table 118: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	78	87
Moment of inertia [kgm <sup>2</sup> ]	max.	0,21662	0,21662
Motor canopy	-	No	

**Table 119: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 120: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 121: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>25)</sup> The name plate data may vary within the tolerances.

<sup>26)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 200L

 Material: 2-37,0-200L-BWE6F3NTHNWWUWKWB<sup>27)</sup>

Material number: 01583918

**Table 124: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	200L
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	250
Housing material <sup>28)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	Yes

**Table 125: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	93,7	93,5	92,5	93		
Power factor	min.	0,8			0,84		

**Table 126: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	68,7	41,8	65,2	-
Rated power [kW]	-	37		37	
Rated speed [rpm]	min.	2955		3515	
Rated torque [Nm]	min.	116,98		97,5	
Starting current [IA/IN]	+20 %	8,8		9,9	

**Table 127: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	78	87
Moment of inertia [kgm <sup>2</sup> ]	max.	0,22201	0,22201
Motor canopy	-	No	

**Table 128: Explosion protection**

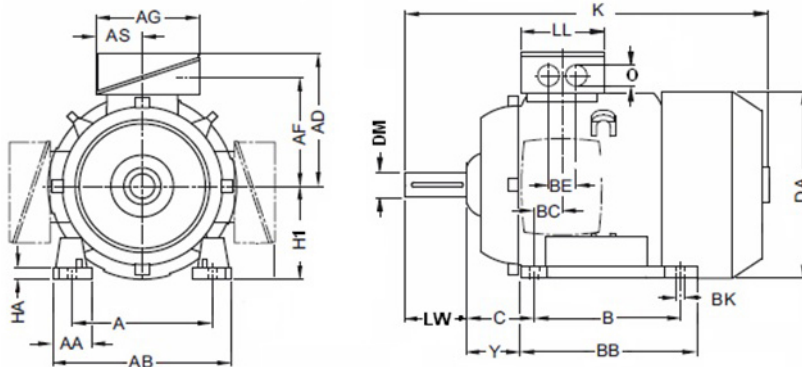
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 129: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 130: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	


**Fig. 14: Envelope dimensions**
**Table 131: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
318	85	388	326	262	248	113	305	375	43,5	83	18,5	133	396	-

**Table 132: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
55	200	25	-	758	-	-	194	110	-	-	-	-	93	-

<sup>27)</sup> The name plate data may vary within the tolerances.

<sup>28)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 225M

Material: 2-45,0-225M-BWE6F3NTHNWWUWKWB<sup>29)</sup>

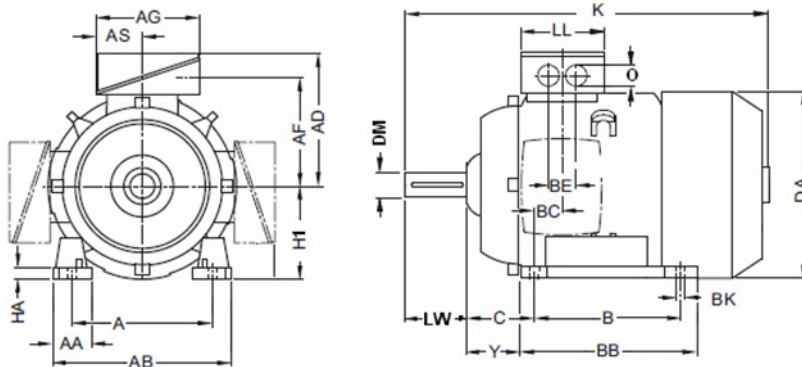
Material number: 01583919

**Table 133:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	225M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	416
Housing material <sup>30)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to KSB)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 134:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	94	93,7	92,8	93,6		
Power factor	min.	0,81			0,83		



**Fig. 15:** Envelope dimensions

**Table 140:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
356	90	442	372	310	293	123	311	412	8	88	18,5	149	453	-

**Table 141:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
55	225	34	-	856	-	-	207	110	-	-	-	-	107	-

**Table 135:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	81,9	50,05	80,6	-
Rated power [kW]	-	45		45	
Rated speed [rpm]	min.	2960		3520	
Rated torque [Nm]	min.	142,1		118,1	
Starting current [IA/IN]	+20 %	8,1		8,8	

**Table 136:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	78	88
Moment of inertia [kgm <sup>2</sup> ]	max.	0,30039	0,30039
Motor canopy	-	No	

**Table 137:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 138:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 139:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>29)</sup> The name plate data may vary within the tolerances.

<sup>30)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 250M

Material: 2-55,0-250M-BWE6F3NTHNWWUWKWB<sup>31)</sup>

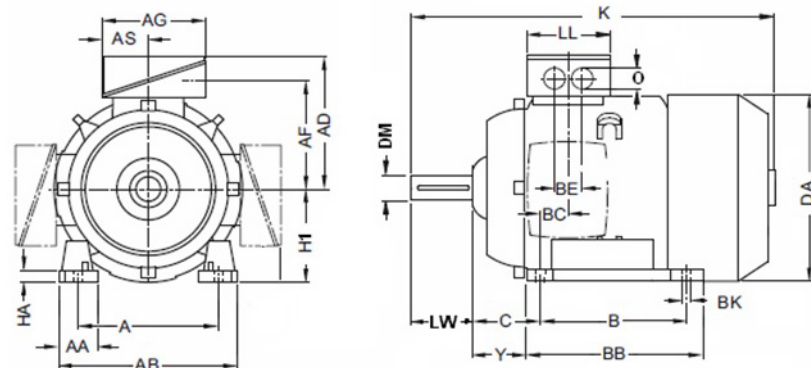
Material number: 01583920

**Table 142:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	250M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	485
Housing material <sup>32)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to KSB)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 143:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	94,3	93,9	93	93,6		
Power factor	min.	0,8			0,86		



**Fig. 16:** Envelope dimensions

**Table 149:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
406	100	506	451	354	351	160	349	467	62	100,5	24	168	497	-

**Table 150:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
60	250	43	-	965	-	-	245	140	-	-	-	-	131	-

**Table 144:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	100,3	60,5	98,2	-
Rated power [kW]	-	55		55	
Rated speed [rpm]	min.	2960		3530	
Rated torque [Nm]	min.	173,46		144,4	
Starting current [IA/IN]	+20 %	8,2		9,2	

**Table 145:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	78	89
Moment of inertia [kgm <sup>2</sup> ]	max.	0,483	0,52192
Motor canopy	-	No	

**Table 146:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 147:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 148:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>31)</sup> The name plate data may vary within the tolerances.

<sup>32)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 280S

 Material: 2-75,0-280S-BWEGF3NTHNWWNWKWB<sup>33)</sup>

Material number: 01583786

**Table 151: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	280S
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	727
Housing material <sup>34)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 152: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	94,7	94,1	93,2	94,1		
Power factor	min.	0,84			0,86		

**Table 153: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	136,1	82,5	119,4	-
Rated power [kW]	-	75		75	
Rated speed [rpm]	min.	2975		3545	
Rated torque [Nm]	min.	235,92		196,1	
Starting current [IA/IN]	+20 %	7,9		8,4	

**Table 154: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	81	85
Moment of inertia [kgm <sup>2</sup> ]	max.	0,9855	0,9855
Motor canopy	-	No	

**Table 155: Explosion protection**

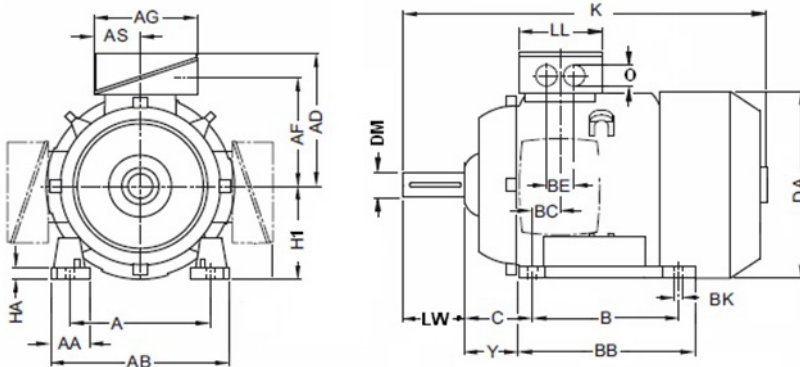
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 156: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 157: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	


**Fig. 17: Envelope dimensions**
**Table 158: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
457	100	557	476	380	351	160	368	517	20	110	24	190	580	-

**Table 159: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
65	280	42	-	1071	-	-	245	140	-	-	-	-	152	-

<sup>33)</sup> The name plate data may vary within the tolerances.

<sup>34)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 280M

Material: 2-90,0-280M-BWE6F3NTHNWWNWKWB<sup>35)</sup>

Material number: 01583855

**Table 160:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	280M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	762
Housing material <sup>36)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 161:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	95	94,3	93,4	95		
Power factor	min.	0,86			0,87		

**Table 162:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	159,6	97,9	140,3	-
Rated power [kW]	-	90		90	
Rated speed [rpm]	min.	2975		3545	
Rated torque [Nm]	min.	283,11		235,3	
Starting current [IA/IN]	+20 %	8		8,6	

**Table 163:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	81	85
Moment of inertia [kgm <sup>2</sup> ]	max.	1,17321	1,17321
Motor canopy	-	No	

**Table 164:** Explosion protection

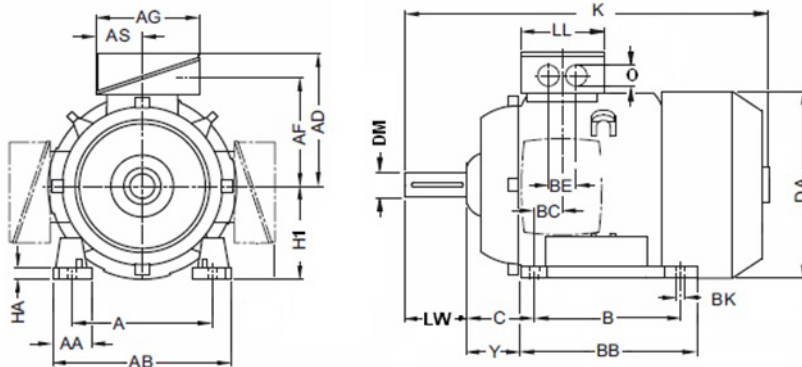
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 165:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 166:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 18:** Envelope dimensions

**Table 167:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
457	100	557	476	380	351	160	419	517	20	110	24	190	580	-

**Table 168:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
65	280	42	-	1071	-	-	245	140	-	-	-	-	152	-

<sup>35)</sup> The name plate data may vary within the tolerances.

<sup>36)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 2-pin, 315S

 Material: 2-110 -315S-BWEGF3NTHNWWNWKWB<sup>37)</sup>

Material number: 01583858

**Table 169:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	315S
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	962
Housing material <sup>38)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 170:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	95,2	94,4	93,5	95		
Power factor	min.	0,84			0,86		

**Table 171:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	198,6	118,8	173,4	-
Rated power [kW]	-	110		110	
Rated speed [rpm]	min.	2980		3545	
Rated torque [Nm]	min.	344,96		287,5	
Starting current [IA/IN]	+20 %	7,9		8,4	

**Table 172:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	81	85
Moment of inertia [kgm <sup>2</sup> ]	max.	1,74602	1,74602
Motor canopy	-	No	

**Table 173:** Explosion protection

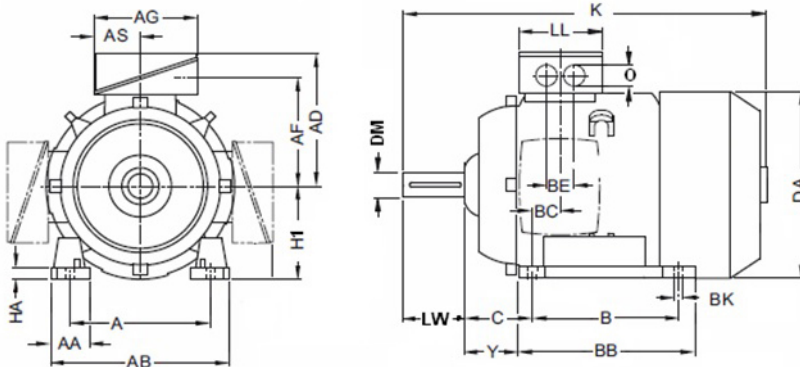
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 174:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 175:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	


**Fig. 19:** Envelope dimensions

**Table 176:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
508	120	630	567	444	411	180	406	621	22	110	28	216	664	-

**Table 177:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
65	315	50	-	1244	-	-	314	140	-	-	-	-	172	-

<sup>37)</sup> The name plate data may vary within the tolerances.

<sup>38)</sup> 1800=grey cast iron, 4400=aluminium



## B3 type of construction, 2-pin, 315M

Material: 2-132 -315M-BWE6F3NTHNWWNWKWB<sup>39)</sup>

Material number: 01583859

**Table 178:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	315M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	1048
Housing material <sup>40)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 179:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	95,4	94,4	93,6	95,4		
Power factor	min.	0,85			0,86		

**Table 180:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	235,1	140,8	207,2	-
Rated power [kW]	-	132		132	
Rated speed [rpm]	min.	2980		3545	
Rated torque [Nm]	min.	414,53		345,1	
Starting current [IA/IN]	+20 %	8		8,9	

**Table 181:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	81	85
Moment of inertia [kgm <sup>2</sup> ]	max.	2,05303	2,05303
Motor canopy	-	No	

**Table 182:** Explosion protection

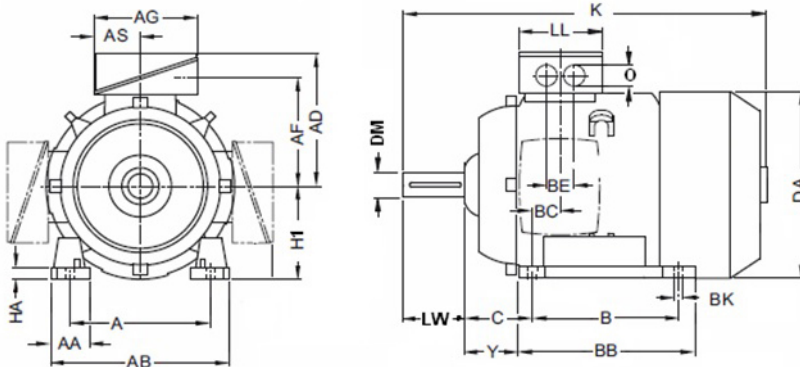
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 183:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 184:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 20:** Envelope dimensions

**Table 185:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
508	120	630	567	444	411	180	457	621	22	110	28	216	664	-

**Table 186:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
65	315	50	-	1244	-	-	314	140	-	-	-	-	172	-

<sup>39)</sup> The name plate data may vary within the tolerances.

<sup>40)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 80M

Material: 4-0,75- 80M-BWA6F1NTHNWWWUWKWB<sup>41)</sup>

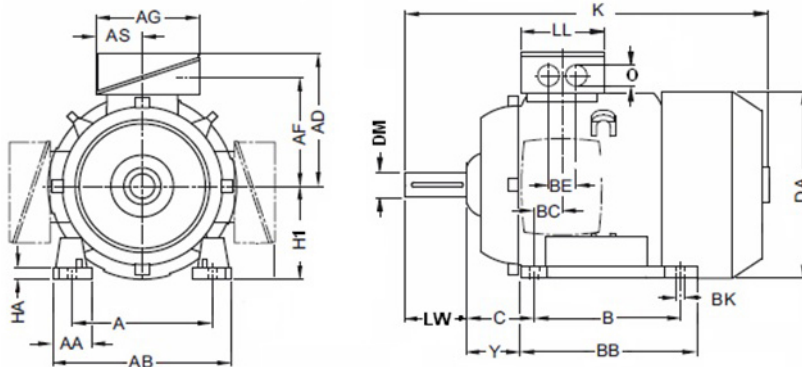
Material number: 01583945

**Table 187:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	80M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	15
Housing material <sup>42)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 188:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	82,5	80,4	77			
Power factor	min.	0,81					



**Fig. 21:** Envelope dimensions

**Table 194:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
125	41	155	163	131	126	58	100	124	26,5	32	10	50	159	-

**Table 195:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
19	80	8	-	327	-	-	83	40	-	-	-	-	38	-

**Table 189:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	230	400	-	-
Rated current [A]	-10 %	3,2	1,925	-	-
Rated power [kW]	-	0,75		-	
Rated speed [rpm]	min.	1420			
Rated torque [Nm]	min.	4,8			
Starting current [I <sub>A</sub> /I <sub>N</sub> ]	+20 %	7,5			

**Table 190:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	56	
Moment of inertia [kgm <sup>2</sup> ]	max.	0,00339	
Motor canopy	-	No	

**Table 191:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 192:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 193:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>41)</sup> The name plate data may vary within the tolerances.

<sup>42)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 90S

Material: 4-1,10- 90S-BWA6F1NTHNWWUWKWB<sup>43)</sup>

Material number: 01583946

**Table 196:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	90S
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	23
Housing material <sup>44)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 197:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency	[%] min.	84,1	83,3	80,7			
Power factor	min.	0,8					

**Table 198:** Electrical data

Electrical data	+/-	50 Hz		60 Hz		
		Δ	Y	Δ	Y	
Rated voltage	[V]	-	230	400	-	-
Rated current	[A]	-10 %	4,5	2,64	-	-
Rated power	[kW]	-	1,1		-	
Rated speed	[rpm]	min.	1440			
Rated torque	[Nm]	min.	7,08			
Starting current	[IA/IN]	+20 %	8			

**Table 199:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level	[dB]	max.	59
Moment of inertia	[kgm <sup>2</sup> ]	max.	0,00576
Motor canopy	-		No

**Table 200:** Explosion protection

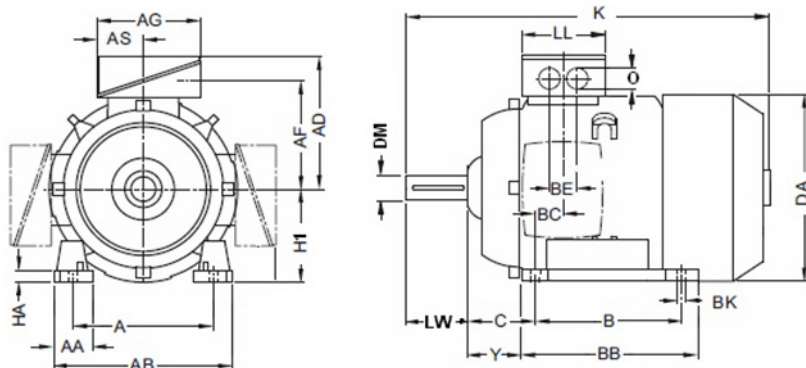
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 201:** Environment

Environment	+/-	Values
Ambient temperature	[°C] max.	40

**Table 202:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 22:** Envelope dimensions

**Table 203:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
140	35	170	170	138	126	58	100	146	18,5	40	10	56	178	-

**Table 204:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
24	90	11	-	387	-	-	83	50	-	-	-	-	38	-

<sup>43)</sup> The name plate data may vary within the tolerances.

<sup>44)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 90L

Material: 4-1,50- 90L-BWH6F1NTHNWWUWKWB<sup>45)</sup>

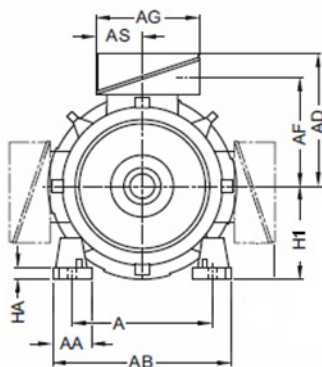
Material number: 01583947

**Table 205:** General data [50 Hz]

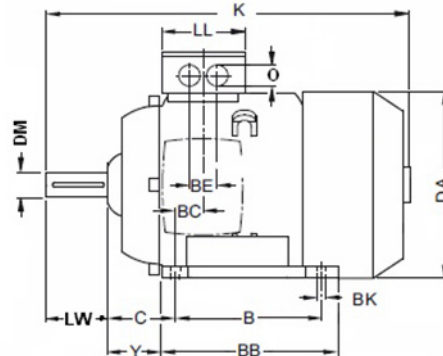
General data	+/-	Values
Motor size	max.	90L
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	22
Housing material <sup>46)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 206:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	85,3	85,1	82,9	86,5		
Power factor	min.	0,83			0,7		



**Fig. 23:** Envelope dimensions



**Table 212:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
140	35	170	170	138	126	58	125	158	20,8	40	10	56	178	-

**Table 213:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
24	90	11	-	387	-	-	83	50	-	-	-	-	38	-

**Table 207:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	230	400	-	460
Rated current [A]	-10 %	5,9	3,465	-	3,5
Rated power [kW]	-	1,5		1,5	
Rated speed [rpm]	min.	1445		1700	
Rated torque [Nm]	min.	9,68		8	
Starting current [IA/IN]	+20 %	7,8		8,7	

**Table 208:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	59	61
Moment of inertia [kgm <sup>2</sup> ]	max.	0,00688	0,00688
Motor canopy	-	No	

**Table 209:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 210:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 211:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>45)</sup> The name plate data may vary within the tolerances.

<sup>46)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 100L

 Material: 4-2,20-100L-BWA6F3NTHNWWWUWKWB<sup>47)</sup>

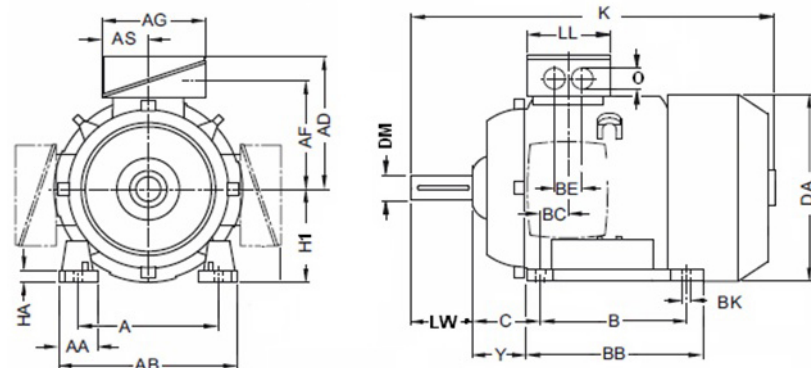
Material number: 01583934

**Table 214:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	100L
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	34
Housing material <sup>48)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 215:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency	[%] min.	86,7	86,9	85,1			
Power factor	min.	0,82					


**Fig. 24:** Envelope dimensions

**Table 221:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
160	42	196	216	164	176	83	140	178	24,7	45	12	63	198	-

**Table 222:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
28	100	12	-	431	-	-	118	60	-	-	-	-	42	-

**Table 216:** Electrical data

Electrical data	+/-	50 Hz		60 Hz		
		Δ	Y	Δ	Y	
Rated voltage	[V]	-	230	400	-	-
Rated current	[A]	-10 %	8,1	4,84	-	-
Rated power	[kW]	-	2,2		-	
Rated speed	[rpm]	min.	1435			
Rated torque	[Nm]	min.	14,01			
Starting current	[IA/IN]	+20 %	8			

**Table 217:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level	[dB]	max.	63
Moment of inertia	[kgm <sup>2</sup> ]	max.	0,0147
Motor canopy	-		No

**Table 218:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 219:** Environment

Environment	+/-	Values
Ambient temperature	[°C] max.	40

**Table 220:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>47)</sup> The name plate data may vary within the tolerances.

<sup>48)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 100L

Material: 4-3,00-100L-BWEGF3NTHNWWUWKWB<sup>49)</sup>

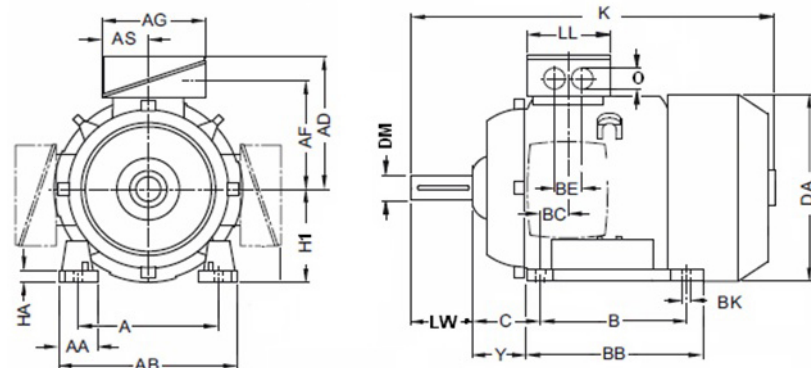
Material number: 01583935

**Table 223:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	100L
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	34
Housing material <sup>50)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 224:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	87,7	88,2	86,6	89,5		
Power factor	min.	0,82			0,74		



**Fig. 25:** Envelope dimensions

**Table 230:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
160	42	196	216	164	176	83	140	178	24,7	45	12	63	198	-

**Table 231:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
28	100	12	-	431	-	-	118	60	-	-	-	-	42	-

**Table 225:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	6,2	3,795	9,7	-
Rated power [kW]	-	3		3	
Rated speed [rpm]	min.	1440		1720	
Rated torque [Nm]	min.	19,21		9,6	
Starting current [IA/IN]	+20 %	8,2		9	

**Table 226:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	63	65
Moment of inertia [kgm <sup>2</sup> ]	max.	0,0147	0,0147
Motor canopy	-	No	

**Table 227:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 228:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 229:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>49)</sup> The name plate data may vary within the tolerances.

<sup>50)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 112M

Material: 4-4,00-112M-BWE6F3NTHNWWUWKWB<sup>51)</sup>

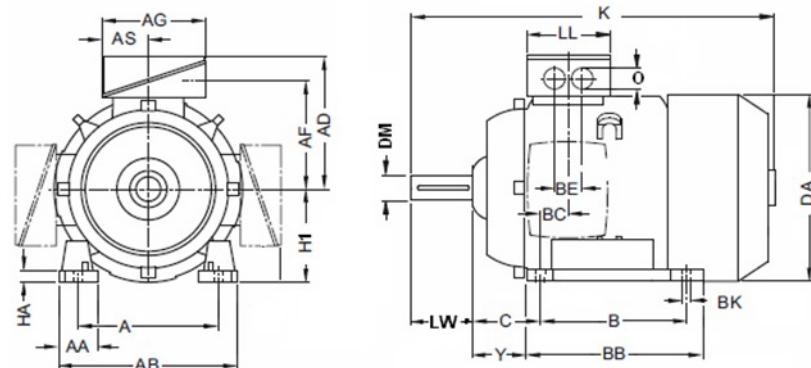
Material number: 01583936

**Table 232:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	112M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	43
Housing material <sup>52)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 233:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	88,6	89,2	87,7	89,5		
Power factor	min.	0,78			0,75		



**Fig. 26:** Envelope dimensions

**Table 239:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
190	52	226	230	217	176	83	140	176	16,8	45	12	70	235	-

**Table 240:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
28	112	12	-	414	-	-	118	60	-	-	-	-	49	-

**Table 234:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	8,6	5,115	8,5	-
Rated power [kW]	-	4		4	
Rated speed [rpm]	min.	1450		1725	
Rated torque [Nm]	min.	25,48		21,3	
Starting current [IA/IN]	+20 %	7,5		9,2	

**Table 235:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	61	74
Moment of inertia [kgm <sup>2</sup> ]	max.	0,01908	0,01908
Motor canopy	-	No	

**Table 236:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 237:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 238:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>51)</sup> The name plate data may vary within the tolerances.

<sup>52)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 132S

 Material: 4-5,50-132S-BWB6F3NTHNWWUWKWB<sup>53)</sup>

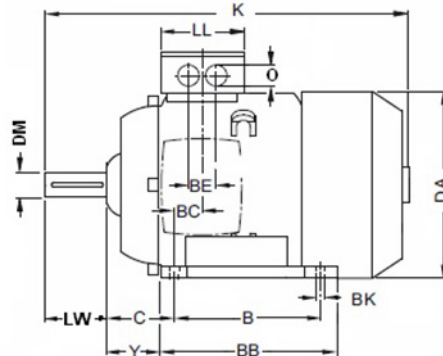
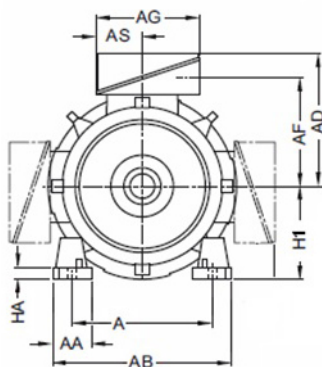
Material number: 01583937

**Table 241: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	132S
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	67
Housing material <sup>54)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 242: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	89,6	90,3	89			
Power factor	min.	0,8					


**Fig. 27: Envelope dimensions**
**Table 248: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
216	53	256	222	172	171	77	140	218	21,5	55	12	89	274	-

**Table 249: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
38	132	15	-	515	-	-	146	80	-	-	-	-	66	-

**Table 243: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	-	-
Rated current [A]	-10 %	11	6,82	-	-
Rated power [kW]	-	5,5		-	
Rated speed [rpm]	min.	1465			
Rated torque [Nm]	min.	34,99			
Starting current [IA/IN]	+20 %	8,9			

**Table 244: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	67	
Moment of inertia [kgm <sup>2</sup> ]	max.	0,05548	
Motor canopy	-	No	

**Table 245: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 246: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 247: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>53)</sup> The name plate data may vary within the tolerances.

<sup>54)</sup> 1800=grey cast iron, 4400=aluminium



## B3 type of construction, 4-pin, 132M

Material: 4-7,50-132M-BWB6F3NTHNWWWUWKWB<sup>55)</sup>

Material number: 01583938

**Table 250:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	132M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	68
Housing material <sup>56)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 251:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	90,4	91,1	89,9			
Power factor	min.	0,8					

**Table 252:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	-	-
Rated current [A]	-10 %	15	9,13	-	-
Rated power [kW]	-	7,5		-	
Rated speed [rpm]	min.	1465			
Rated torque [Nm]	min.	47,73			
Starting current [IA/IN]	+20 %	8,9			

**Table 253:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	67	
Moment of inertia [kgm <sup>2</sup> ]	max.	0,06737	
Motor canopy	-	No	

**Table 254:** Explosion protection

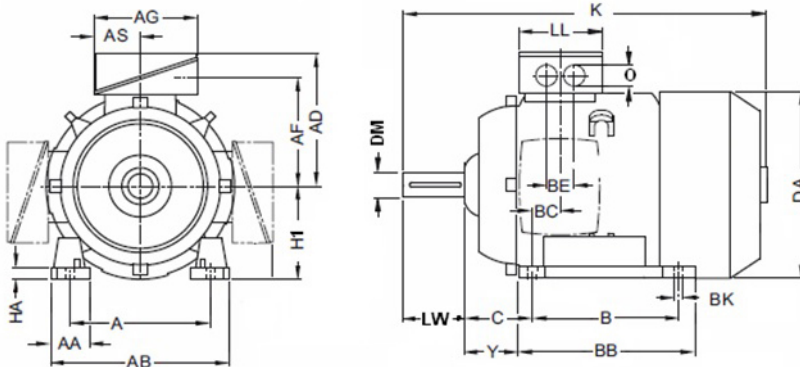
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 255:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 256:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 28:** Envelope dimensions

**Table 257:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
216	53	256	222	172	171	77	178	218	21,5	55	12	89	274	-

**Table 258:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
38	132	15	-	515	-	-	146	80	-	-	-	-	66	-

<sup>55)</sup> The name plate data may vary within the tolerances.

<sup>56)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 160M

Material: 4-11,0-160M-BWE6F3NTHNWWUWKWB<sup>57)</sup>

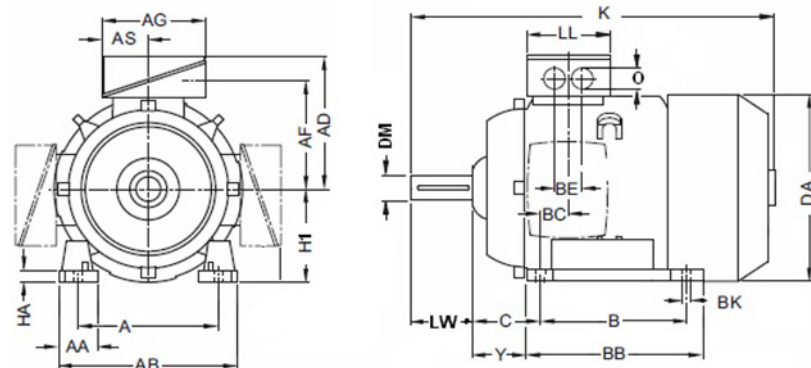
Material number: 01583939

**Table 259:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	160M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	88
Housing material <sup>58)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 260:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	91,4	92,1	91	92,4		
Power factor	min.	0,8			0,75		



**Fig. 29:** Envelope dimensions

**Table 266:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
254	66	308	261	209	193	86	210	310	28	59,5	14,5	108	314	-

**Table 267:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
42	160	18	-	634	-	-	152	110	-	-	-	-	80	-

**Table 261:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	22,8	13,2	22,6	-
Rated power [kW]	-	11		11	
Rated speed [rpm]	min.	1470		1740	
Rated torque [Nm]	min.	69,58		58	
Starting current [IA/IN]	+20 %	7,9		8,6	

**Table 262:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	68	72
Moment of inertia [kgm <sup>2</sup> ]	max.	0,11249	0,11249
Motor canopy	-	No	

**Table 263:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 264:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 265:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>57)</sup> The name plate data may vary within the tolerances.

<sup>58)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 160L

Material: 4-15,0-160L-BWEGF3NTHNWWUWKWB<sup>59)</sup>

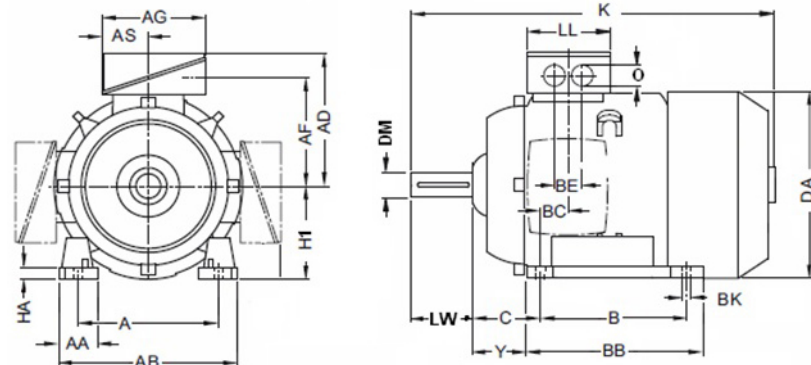
Material number: 01583940

**Table 268:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	160L
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	118
Housing material <sup>60)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 269:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	92,1	92,7	91,7	93		
Power factor	min.	0,81			0,78		



**Fig. 30:** Envelope dimensions

**Table 275:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
254	66	308	261	209	193	86	254	310	28	59,5	14,5	108	314	-

**Table 276:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
42	160	18	-	664	-	-	152	110	-	-	-	-	80	-

**Table 270:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	30,1	18,37	30,8	-
Rated power [kW]	-	15		15	
Rated speed [rpm]	min.	1465		1740	
Rated torque [Nm]	min.	95,06		79,8	
Starting current [IA/IN]	+20 %	8,9		8,4	

**Table 271:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	68	72
Moment of inertia [kgm <sup>2</sup> ]	max.	0,1326	0,1326
Motor canopy	-	No	

**Table 272:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 273:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 274:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>59)</sup> The name plate data may vary within the tolerances.

<sup>60)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 180M

Material: 4-18,5-180M-BWE6F3NTHNWWUWKWB<sup>61)</sup>

Material number: 01583921

**Table 277:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	180M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	169
Housing material <sup>62)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	Yes

**Table 278:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	92,6	93,2	92,2	93,6		
Power factor	min.	0,83			0,82		

**Table 279:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	36,8	22,55	35	-
Rated power [kW]	-	18,5		18,5	
Rated speed [rpm]	min.	1470		1735	
Rated torque [Nm]	min.	117,6		98,9	
Starting current [IA/IN]	+20 %	8,7		9,7	

**Table 280:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	69	76
Moment of inertia [kgm <sup>2</sup> ]	max.	0,21927	0,21927
Motor canopy	-	No	

**Table 281:** Explosion protection

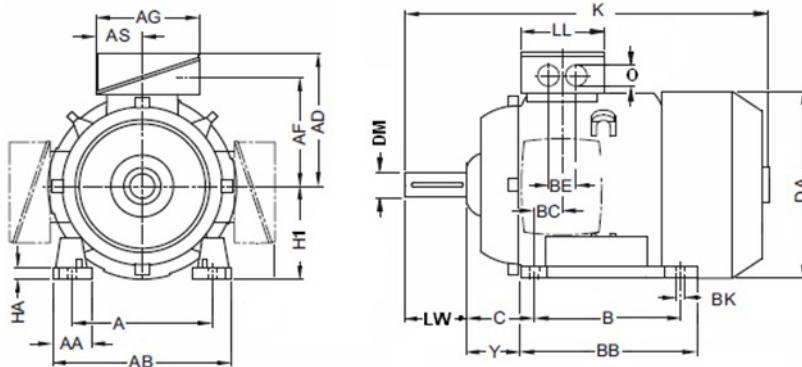
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 282:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 283:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 31:** Envelope dimensions

**Table 284:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
279	68	350	285	234	193	86	241	343	39,3	75,5	14,5	121	356	-

**Table 285:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
48	180	22	-	698	-	-	152	110	-	-	-	-	85	-

<sup>61)</sup> The name plate data may vary within the tolerances.

<sup>62)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 180L

 Material: 4-22,0-180L-BWEGF3NTHNWWUWKWB<sup>63)</sup>

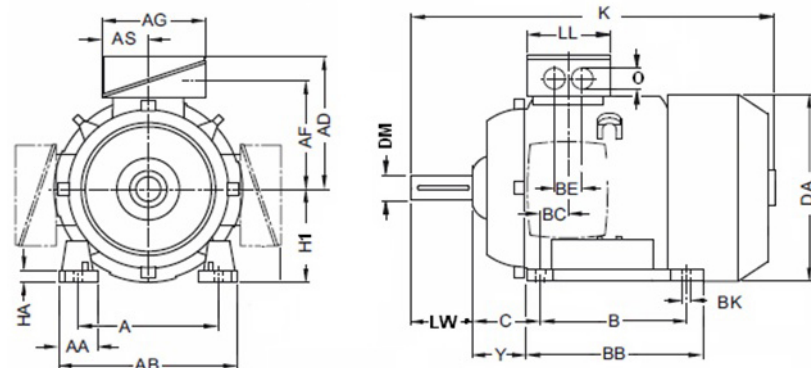
Material number: 01583922

**Table 286:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	180L
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	179
Housing material <sup>64)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	Yes

**Table 287:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	93	93,5	92,6	93,6		
Power factor	min.	0,83			0,8		


**Fig. 32:** Envelope dimensions

**Table 293:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
279	68	350	285	234	193	86	279	355	39,3	75,5	14,5	121	356	-

**Table 294:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
48	180	22	-	698	-	-	152	110	-	-	-	-	85	-

**Table 288:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	43,1	26,4	41,3	-
Rated power [kW]	-	22		22	
Rated speed [rpm]	min.	1470		1735	
Rated torque [Nm]	min.	140,06		117,6	
Starting current [IA/IN]	+20 %	9		10,1	

**Table 289:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	71	77
Moment of inertia [kgm <sup>2</sup> ]	max.	0,25125	0,2777
Motor canopy	-	No	

**Table 290:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 291:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 292:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>63)</sup> The name plate data may vary within the tolerances.

<sup>64)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 200L

Material: 4-30,0-200L-BWEGF3NTHNWWUWKWB<sup>65)</sup>

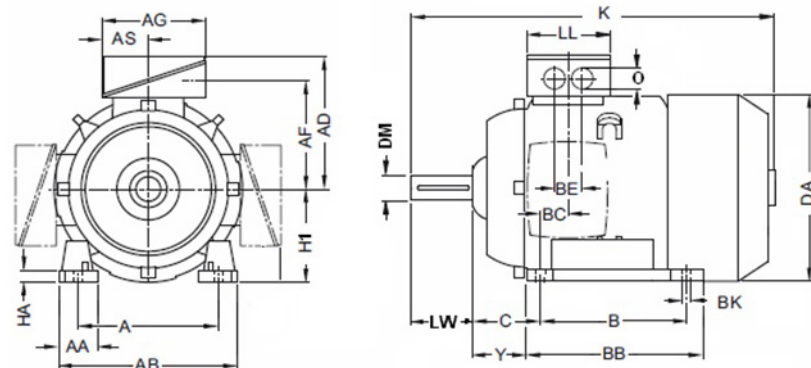
Material number: 01583923

**Table 295:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	200L
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	240
Housing material <sup>66)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	Yes

**Table 296:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	93,6	94	93,1	94,1		
Power factor	min.	0,83			0,76		



**Fig. 33:** Envelope dimensions

**Table 302:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
318	85	388	326	262	248	113	305	375	43,5	83	18,5	133	396	-

**Table 303:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
55	200	25	-	758	-	-	194	110	-	-	-	-	93	-

**Table 297:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	59,2	35,2	55,8	-
Rated power [kW]	-	30		30	
Rated speed [rpm]	min.	1470		1730	
Rated torque [Nm]	min.	189,7		159,5	
Starting current [IA/IN]	+20 %	7,7		8,8	

**Table 298:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	70	75
Moment of inertia [kgm <sup>2</sup> ]	max.	0,39297	0,39297
Motor canopy	-	No	

**Table 299:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 300:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 301:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>65)</sup> The name plate data may vary within the tolerances.

<sup>66)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 225S

 Material: 4-37,0-225S-BWE6F3NTHNWWUWKWB<sup>67)</sup>

Material number: 01583924

**Table 304: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	225S
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	392
Housing material <sup>68)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to KSB)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 305: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	93,9	94,2	93,3	94,5		
Power factor	min.	0,84			0,81		

**Table 306: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	70,1	42,35	69,3	-
Rated power [kW]	-	37		37	
Rated speed [rpm]	min.	1478		1760	
Rated torque [Nm]	min.	233,96		194,5	
Starting current [IA/IN]	+20 %	8,1		9	

**Table 307: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	68	78
Moment of inertia [kgm <sup>2</sup> ]	max.	0,54359	0,54359
Motor canopy	-	No	

**Table 308: Explosion protection**

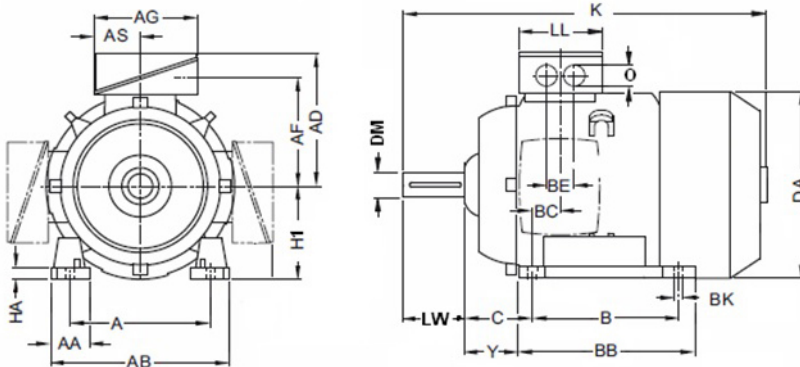
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 309: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 310: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	


**Fig. 34: Envelope dimensions**
**Table 311: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
356	90	442	372	310	293	123	311	412	8	88	18,5	149	453	-

**Table 312: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
60	225	34	-	886	-	-	207	140	-	-	-	-	107	-

<sup>67)</sup> The name plate data may vary within the tolerances.

<sup>68)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 225M

Material: 4-45,0-225M-BWE6F3NTHNWWUWKWB<sup>69)</sup>

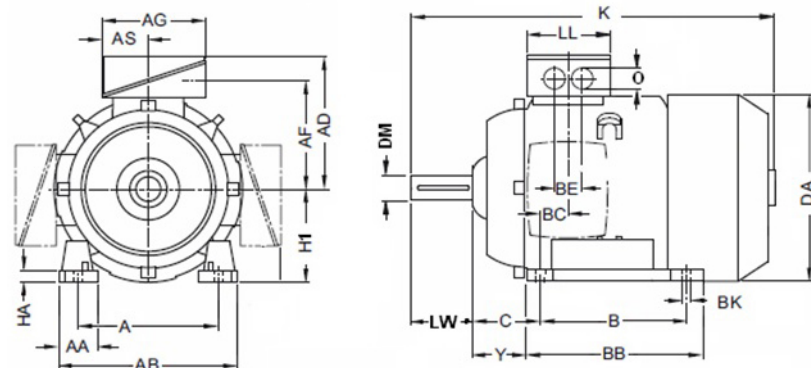
Material number: 01583925

**Table 313:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	225M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	420
Housing material <sup>70)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to KSB)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 314:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	94,2	94,4	93,6	95		
Power factor	min.	0,84			0,82		



**Fig. 35:** Envelope dimensions

**Table 320:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
356	90	442	372	310	293	123	311	412	8	88	18,5	149	453	-

**Table 321:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
60	225	34	-	886	-	-	207	140	-	-	-	-	107	-

**Table 315:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	85	51,15	86,9	-
Rated power [kW]	-	45		45	
Rated speed [rpm]	min.	1475		1750	
Rated torque [Nm]	min.	285,18		236,6	
Starting current [IA/IN]	+20 %	7,9		9	

**Table 316:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	68	78
Moment of inertia [kgm <sup>2</sup> ]	max.	0,70692	0,70692
Motor canopy	-	No	

**Table 317:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 318:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 319:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>69)</sup> The name plate data may vary within the tolerances.

<sup>70)</sup> 1800=grey cast iron, 4400=aluminium



## B3 type of construction, 4-pin, 250M

Material: 4-55,0-250M-BWE6F3NTHNWWUWKWB<sup>71)</sup>

Material number: 01583926

**Table 322:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	250M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	507
Housing material <sup>72)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to KSB)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 323:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	94,6	94,7	93,9	95,4		
Power factor	min.	0,86			0,81		

**Table 324:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	103,6	61,6	102	-
Rated power [kW]	-	55		55	
Rated speed [rpm]	min.	1480		1766	
Rated torque [Nm]	min.	346,92		288,4	
Starting current [IA/IN]	+20 %	7,9		8,7	

**Table 325:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	69	79
Moment of inertia [kgm <sup>2</sup> ]	max.	1,1023	1,1023
Motor canopy	-	No	

**Table 326:** Explosion protection

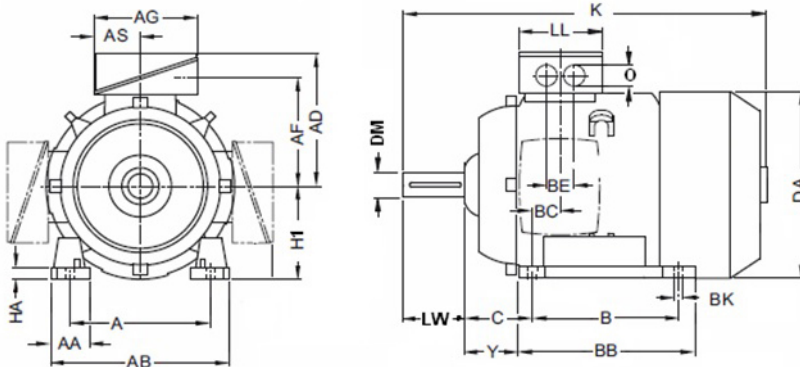
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 327:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 328:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 36:** Envelope dimensions

**Table 329:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
406	100	506	451	354	351	160	349	467	62	100,5	24	168	497	-

**Table 330:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
65	250	43	-	965	-	-	245	140	-	-	-	-	131	-

<sup>71)</sup> The name plate data may vary within the tolerances.

<sup>72)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 280S

Material: 4-75,0-280S-BWE6F3NTHNWWNWKWB<sup>73)</sup>

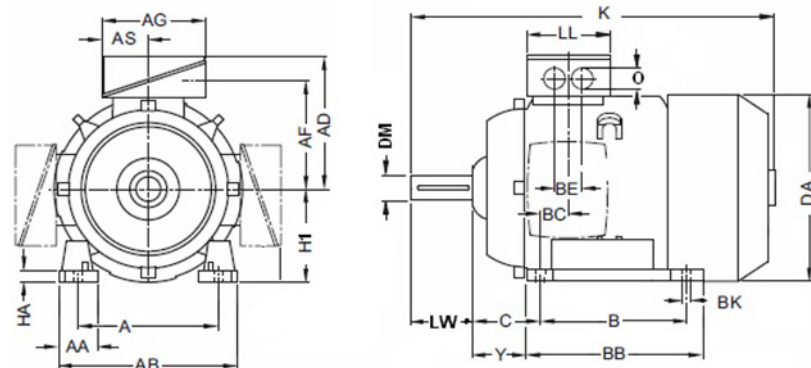
Material number: 01583856

**Table 331:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	280S
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	729
Housing material <sup>74)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 332:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency	[%] min.	95	94,9	94,1	95,4		
Power factor	min.	0,87			0,82		



**Fig. 37:** Envelope dimensions

**Table 338:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
457	100	540	433	345	319	145	368	479	20	110	24	190	551	-

**Table 339:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
75	280	40	-	960	-	-	233	140	-	-	-	-	160	-

**Table 333:** Electrical data

Electrical data	+/-	50 Hz		60 Hz		
		Δ	Y	Δ	Y	
Rated voltage	[V]	-	400	690	460	-
Rated current	[A]	-10 %	140,5	84,7	123,3	-
Rated power	[kW]	-	75		75	
Rated speed	[rpm]	min.	1485		1770	
Rated torque	[Nm]	min.	472,36		392,1	
Starting current	[IA/IN]	+20 %	7,9		7,8	

**Table 334:** Mechanical data

Mechanical data	+/-	Values		
		50 Hz	60 Hz	
Sound pressure level	[dB]	max.	72	81
Moment of inertia	[kgm <sup>2</sup> ]	max.	2,19209	2,19209
Motor canopy	-		No	

**Table 335:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 336:** Environment

Environment	+/-	Values
Ambient temperature	[°C] max.	40

**Table 337:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	2XM63X1,5

<sup>73)</sup> The name plate data may vary within the tolerances.

<sup>74)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 280M

Material: 4-90,0-280M-BWE6F3NTHNWWNWKWB<sup>75)</sup>

Material number: 01583857

**Table 340:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	280M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	777
Housing material <sup>76)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 341:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	95,2	95	94,2	95,4		
Power factor	min.	0,84			0,83		

**Table 342:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	166,3	100,1	146,3	-
Rated power [kW]	-	90		90	
Rated speed [rpm]	min.	1485		1765	
Rated torque [Nm]	min.	567,17		471,8	
Starting current [IA/IN]	+20 %	7,6		7,8	

**Table 343:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	74	83
Moment of inertia [kgm <sup>2</sup> ]	max.	2,27342	2,27342
Motor canopy	-	No	

**Table 344:** Explosion protection

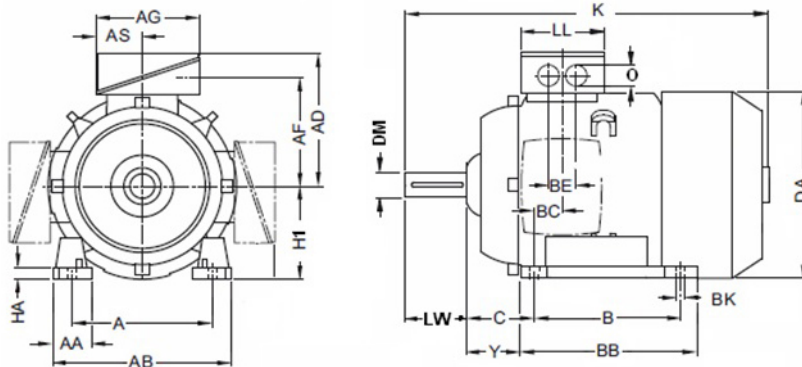
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 345:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 346:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 38:** Envelope dimensions

**Table 347:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
457	100	557	476	380	351	160	419	517	20	110	24	190	580	-

**Table 348:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
75	280	42	-	1071	-	-	245	140	-	-	-	-	152	-

<sup>75)</sup> The name plate data may vary within the tolerances.

<sup>76)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 315S

Material: 4-110 -315S-BWEGF3NTHNWWNWKWB<sup>77)</sup>

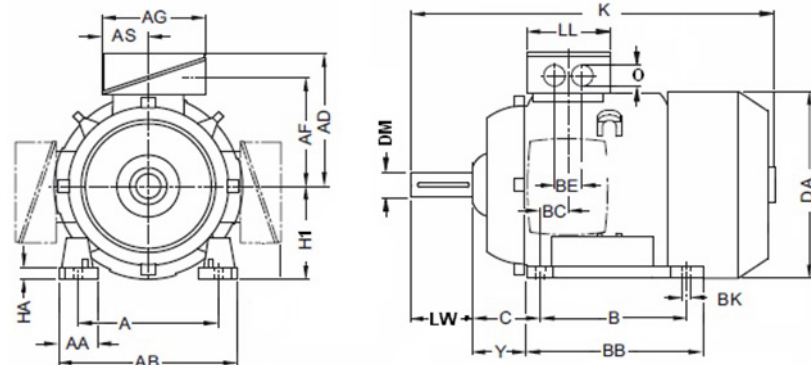
Material number: 01583860

**Table 349:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	315S
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	1010
Housing material <sup>78)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 350:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency	[%] min.	95,4	95,1	94,3	95,8		
Power factor	min.	0,86			0,83		



**Fig. 39:** Envelope dimensions

**Table 356:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
508	120	610	515	404	374	164	406	527	22	110	28	216	616	-

**Table 357:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
80	315	50	-	1082	-	-	299	170	-	-	-	-	181	-

**Table 351:** Electrical data

Electrical data	+/-	50 Hz		60 Hz		
		Δ	Y	Δ	Y	
Rated voltage	[V]	-	400	690	460	-
Rated current	[A]	-10 %	202,8	123,2	178	-
Rated power	[kW]	-	110		110	
Rated speed	[rpm]	min.	1488		1775	
Rated torque	[Nm]	min.	690,88		573,5	
Starting current	[IA/IN]	+20 %	7,8		8,2	

**Table 352:** Mechanical data

Mechanical data	+/-	Values		
		50 Hz	60 Hz	
Sound pressure level	[dB]	max.	75	79
Moment of inertia	[kgm <sup>2</sup> ]	max.	3,03791	3,03791
Motor canopy	-		No	

**Table 353:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 354:** Environment

Environment	+/-	Values
Ambient temperature	[°C] max.	40

**Table 355:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	2XM63X1,5

<sup>77)</sup> The name plate data may vary within the tolerances.

<sup>78)</sup> 1800=grey cast iron, 4400=aluminium

## B3 type of construction, 4-pin, 315M

Material: 4-132 -315M-BWE6F3NTHNWWNWKWB<sup>79)</sup>

Material number: 01583862

**Table 358:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	315M
Type of construction	max.	IM B3 (IM1001) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	Without
Weight without attachments	[kg] max.	1095
Housing material <sup>80)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Non drive side
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	No
Bolted feet	-	No

**Table 359:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	95,6	95,2	94,4	96,2		
Power factor	min.	0,83			0,83		

**Table 360:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	242,8	147,4	212,7	-
Rated power [kW]	-	132		132	
Rated speed [rpm]	min.	1490		1770	
Rated torque [Nm]	min.	829,06		690,1	
Starting current [IA/IN]	+20 %	7,9		8,4	

**Table 361:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	77	82
Moment of inertia [kgm <sup>2</sup> ]	max.	3,98172	3,98172
Motor canopy	-	No	

**Table 362:** Explosion protection

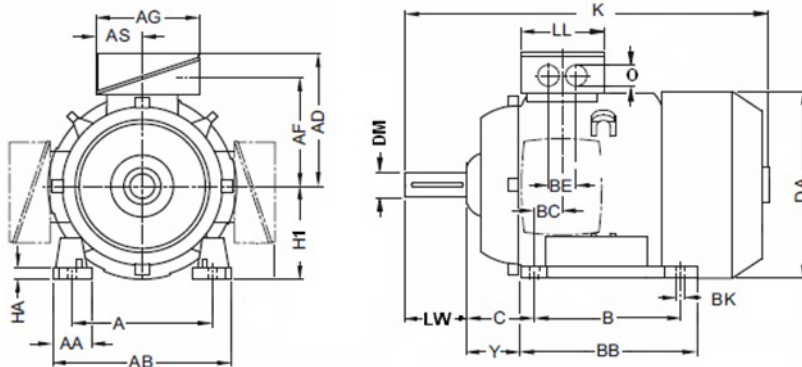
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 363:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 364:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 40:** Envelope dimensions

**Table 365:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
508	120	630	567	444	411	180	457	621	22	110	28	216	664	-

**Table 366:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
80	315	50	-	1274	-	-	314	170	-	-	-	-	172	-

<sup>79)</sup> The name plate data may vary within the tolerances.

<sup>80)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 2-pin, 80M

 Material: 2-0,75- 80M-BWH6F1NNWDWFUWKWB<sup>81)</sup>

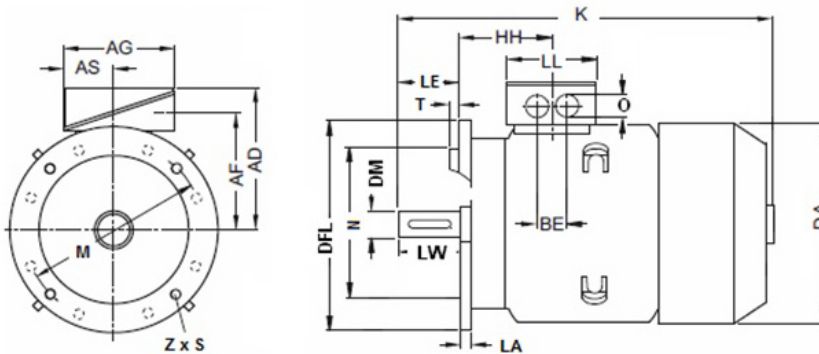
Material number: 01583975

**Table 367:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	80M
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	13
Housing material <sup>82)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 368:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	80,7	77,5	73,6	77		
Power factor	min.	0,74			0,79		


**Fig. 41:** Envelope dimensions

**Table 374:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	163	131	126	58	-	-	-	32	-	-	159	200

**Table 375:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
19	-	-	74	292	10	252	83	40	165	130	12	4	-	4

**Table 369:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	230	400	-	460
Rated current [A]	-10 %	2,9	1,716	-	1,7
Rated power [kW]	-	0,75		0,75	
Rated speed [rpm]	min.	2825		3390	
Rated torque [Nm]	min.	2,45		2	
Starting current [I <sub>A</sub> /I <sub>N</sub> ]	+20 %	7,9		8,4	

**Table 370:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	63	67
Moment of inertia [kgm <sup>2</sup> ]	max.	0,00116	0,00116
Motor canopy	-	No	

**Table 371:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 372:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 373:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>81)</sup> The name plate data may vary within the tolerances.

<sup>82)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 2-pin, 80M

 Material: 2-1,10- 80M-BWH6F1NNWDWFUWKWB<sup>83)</sup>

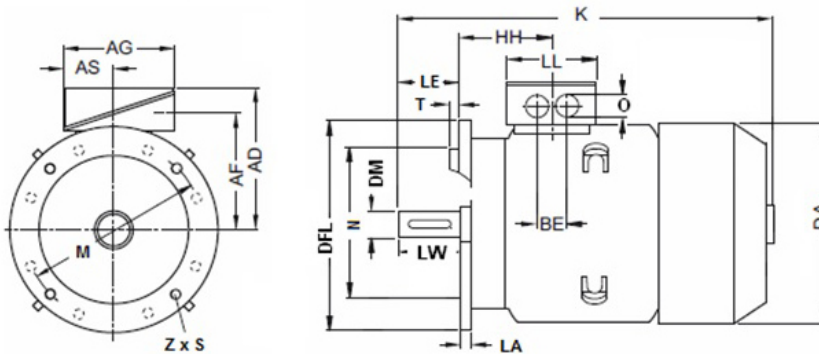
Material number: 01583976

**Table 376:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	80M
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	14
Housing material <sup>84)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 377:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	82,7	81	78	84		
Power factor	min.	0,76			0,78		


**Fig. 42:** Envelope dimensions

**Table 383:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	163	131	126	58	-	-	-	32	-	-	159	200

**Table 384:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
19	-	-	74	327	10	287	83	40	165	130	12	4	-	4

**Table 378:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	230	400	-	460
Rated current [A]	-10 %	4,2	2,475	-	2,5
Rated power [kW]	-	1,1		1,1	
Rated speed [rpm]	min.	2830		3400	
Rated torque [Nm]	min.	3,53		3	
Starting current [I <sub>A</sub> /I <sub>N</sub> ]	+20 %	7,8		8,4	

**Table 379:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	63	67
Moment of inertia [kgm <sup>2</sup> ]	max.	0,00137	0,00137
Motor canopy	-	No	

**Table 380:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 381:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 382:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>83)</sup> The name plate data may vary within the tolerances.

<sup>84)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 2-pin, 90S

 Material: 2-1,50- 90S-BWH6F1NNWDFUWKWB<sup>85)</sup>

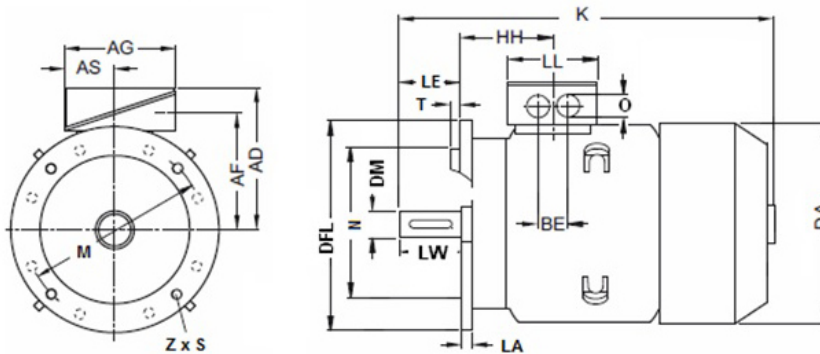
Material number: 01583977

**Table 385: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	90S
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	18
Housing material <sup>86)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 386: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	84,2	83,2	80,7	85,5		
Power factor	min.	0,78			0,78		


**Fig. 43: Envelope dimensions**
**Table 392: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	170	138	126	58	-	-	-	40	-	-	178	200

**Table 393: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
24	-	-	79	387	10	337	83	50	165	130	12	4	-	4

**Table 387: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	230	400	-	460
Rated current [A]	-10 %	5,6	3,3	-	3,3
Rated power [kW]	-	1,5		1,5	
Rated speed [rpm]	min.	2875		3430	
Rated torque [Nm]	min.	4,8		4	
Starting current [I <sub>A</sub> /I <sub>N</sub> ]	+20 %	8,5		8,8	

**Table 388: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	68	72
Moment of inertia [kgm <sup>2</sup> ]	max.	0,00221	0,00221
Motor canopy	-	No	

**Table 389: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 390: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 391: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>85)</sup> The name plate data may vary within the tolerances.

<sup>86)</sup> 1800=grey cast iron, 4400=aluminium



## V1 type of construction, 2-pin, 90L

 Material: 2-2,20- 90L-BWH6F1NNWDFUWKWB<sup>87)</sup>

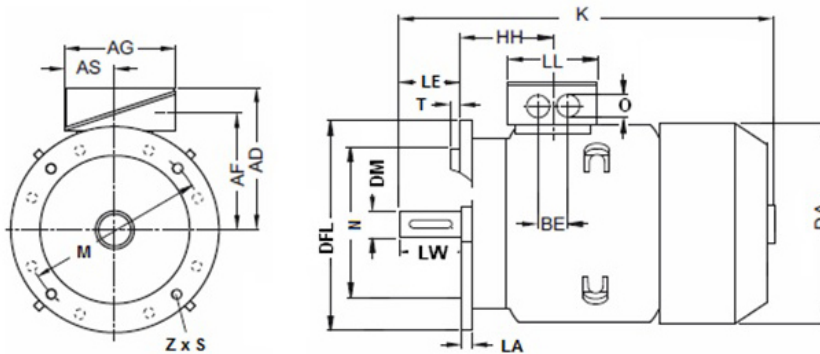
Material number: 01583981

**Table 394: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	90L
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	21
Housing material <sup>88)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 395: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	85,9	85,4	83,4	86,5		
Power factor	min.	0,86			0,81		


**Fig. 44: Envelope dimensions**
**Table 401: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	170	138	126	58	-	-	-	40	-	-	178	200

**Table 402: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
24	-	-	79	387	10	337	83	50	165	130	12	4	-	4

**Table 396: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	230	400	-	460
Rated current [A]	-10 %	8,1	4,62	-	4,7
Rated power [kW]	-	2,2		2,2	
Rated speed [rpm]	min.	2870		3405	
Rated torque [Nm]	min.	7,06		5,9	
Starting current [IA/IN]	+20 %	8,7		8,8	

**Table 397: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	68	72
Moment of inertia [kgm <sup>2</sup> ]	max.	0,00326	0,00326
Motor canopy	-	No	

**Table 398: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 399: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 400: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>87)</sup> The name plate data may vary within the tolerances.

<sup>88)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 2-pin, 100L

 Material: 2-3,00-100L-BWE6F3NNWDFUWKWB<sup>89)</sup>

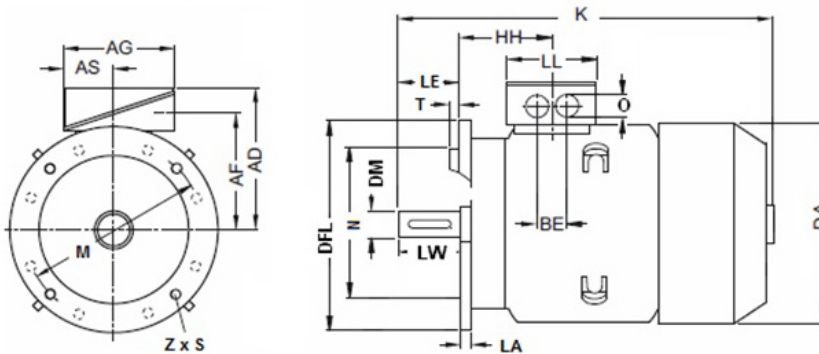
Material number: 01583961

**Table 403: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	100L
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	29
Housing material <sup>90)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufacture)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 404: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	87,1	86,9	85,1	88,5		
Power factor	min.	0,84			0,83		


**Fig. 45: Envelope dimensions**
**Table 410: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	216	164	176	83	-	-	-	45	-	-	198	250

**Table 411: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
28	-	-	97	431	11	371	118	60	215	180	15	4	-	8

**Table 405: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	5,9	3,63	9,1	-
Rated power [kW]	-	3		3	
Rated speed [rpm]	min.	2910		3460	
Rated torque [Nm]	min.	9,6		8	
Starting current [IA/IN]	+20 %	8,9		9,7	

**Table 406: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	70	75
Moment of inertia [kgm <sup>2</sup> ]	max.	0,00673	0,00673
Motor canopy	-	No	

**Table 407: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 408: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 409: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>89)</sup> The name plate data may vary within the tolerances.

<sup>90)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 2-pin, 112M

Material: 2-4,00-112M-BWE6F3NNWDWFUWKWB<sup>91)</sup>

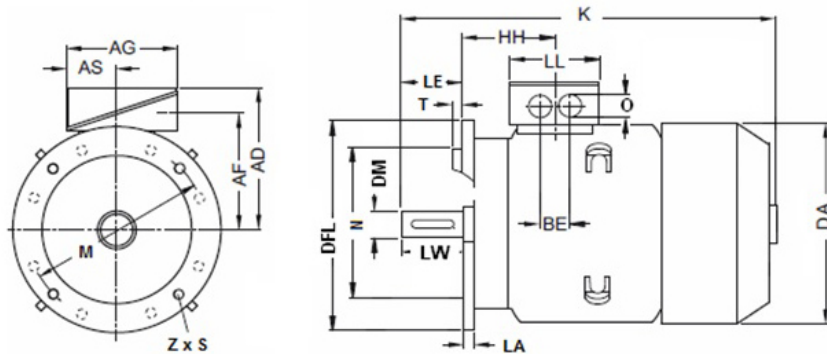
Material number: 01583962

**Table 412:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	112M
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	38
Housing material <sup>92)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufacture)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 413:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	88,1	88,1	86,4	88,5		
Power factor	min.	0,81			0,83		



**Fig. 46:** Envelope dimensions

**Table 419:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	230	217	176	83	-	-	-	45	-	-	235	250

**Table 420:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
28	-	-	96	414	12	354	118	60	215	180	15	4	-	4

**Table 414:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	8	4,675	7,6	-
Rated power [kW]	-	4		4	
Rated speed [rpm]	min.	2900		3465	
Rated torque [Nm]	min.	12,64		10,7	
Starting current [IA/IN]	+20 %	8,6		9	

**Table 415:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	72	77
Moment of inertia [kgm <sup>2</sup> ]	max.	0,0126	0,01179
Motor canopy	-	No	

**Table 416:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 417:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 418:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>91)</sup> The name plate data may vary within the tolerances.

<sup>92)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 2-pin, 280M

 Material: 2-90,0-280M-BWE6F3NNWDWFFNWKWB<sup>93)</sup>

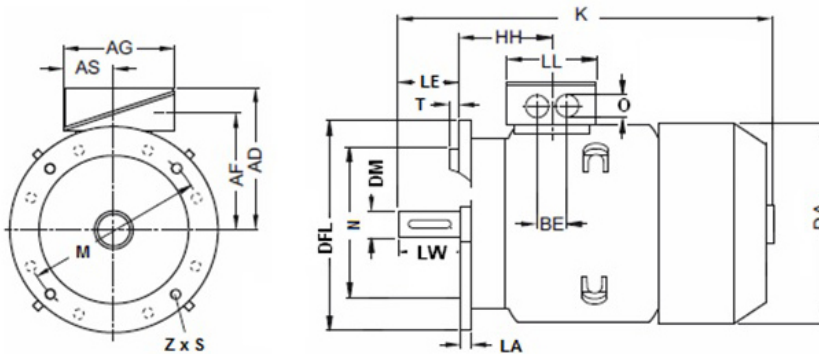
Material number: 01619779

**Table 421: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	280M
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	762
Housing material <sup>94)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 422: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	95	94,3	93,4	95		
Power factor	min.	0,84			0,87		


**Fig. 47: Envelope dimensions**
**Table 428: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	476	380	351	160	-	-	-	110	-	-	580	550

**Table 429: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
65	-	-	210	1071	18	931	245	140	500	450	19	5	-	4

**Table 423: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	159,6	97,9	140,3	-
Rated power [kW]	-	90		90	
Rated speed [rpm]	min.	2975		3545	
Rated torque [Nm]	min.	283,11		235,3	
Starting current [IA/IN]	+20 %	8		8,6	

**Table 424: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	81	85
Moment of inertia [kgm <sup>2</sup> ]	max.	1,17321	1,17321
Motor canopy	-	No	

**Table 425: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 426: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 427: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>93)</sup> The name plate data may vary within the tolerances.

<sup>94)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 2-pin, 315S

 Material: 2-110 -315S-BWE6F3NNWDWFWNKWB<sup>95)</sup>

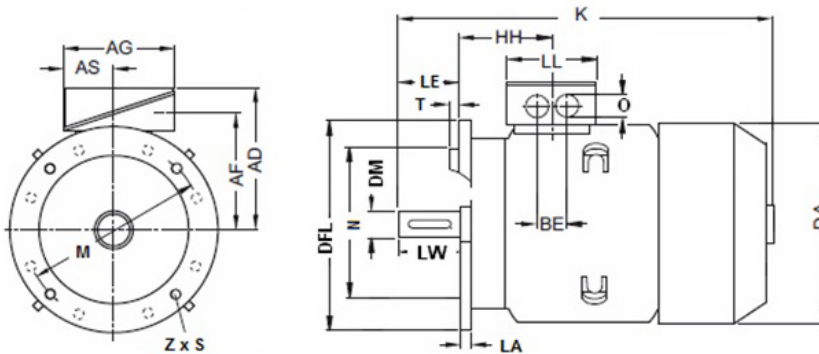
Material number: 01619792

**Table 430: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	315S
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	962
Housing material <sup>96)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 431: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	95,2	94,4	93,5	95		
Power factor	min.	0,84			0,86		


**Fig. 48: Envelope dimensions**
**Table 437: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	567	444	411	180	-	-	-	110	-	-	664	660

**Table 438: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
65	-	-	238	1244	22	1104	314	140	600	550	24	6	-	4

**Table 432: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	198,6	118,8	173,4	-
Rated power [kW]	-	110		110	
Rated speed [rpm]	min.	2980		3545	
Rated torque [Nm]	min.	344,96		287,5	
Starting current [IA/IN]	+20 %	7,9		8,4	

**Table 433: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	81	85
Moment of inertia [kgm <sup>2</sup> ]	max.	1,74602	1,74602
Motor canopy	-	No	

**Table 434: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 435: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 436: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>95)</sup> The name plate data may vary within the tolerances.

<sup>96)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 2-pin, 315M

 Material: 2-132 -315M-BWE6F3NNWDWFFNWKWB<sup>97)</sup>

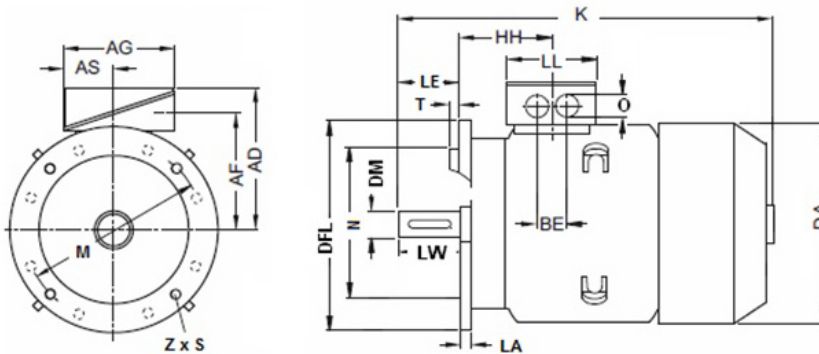
Material number: 01619793

**Table 439: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	315M
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	1048
Housing material <sup>98)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 440: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	95,4	94,4	93,6	95,4		
Power factor	min.	0,91			0,86		


**Fig. 49: Envelope dimensions**
**Table 446: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	567	444	411	180	-	-	-	110	-	-	664	660

**Table 447: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
65	-	-	238	1244	22	1104	314	140	600	550	24	6	-	4

**Table 441: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	235,1	140,8	207,2	-
Rated power [kW]	-	132		132	
Rated speed [rpm]	min.	2980		3545	
Rated torque [Nm]	min.	414,53		345,1	
Starting current [IA/IN]	+20 %	8		8,9	

**Table 442: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	81	85
Moment of inertia [kgm <sup>2</sup> ]	max.	2,05303	2,05303
Motor canopy	-	No	

**Table 443: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 444: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 445: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>97)</sup> The name plate data may vary within the tolerances.

<sup>98)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 4-pin, 71M

 Material: 4-0,25- 71M-BWH4F1NNWDWFUWKWE<sup>99)</sup>

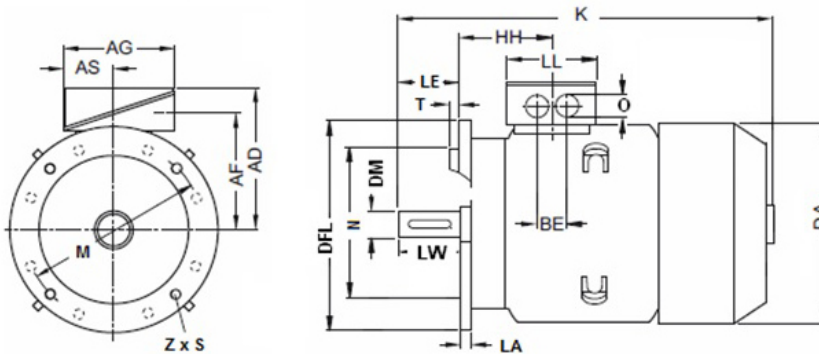
Material number: 01831210

**Table 448:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	71M
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	5
Housing material <sup>100)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE1 (Standard)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 449:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency	[%] min.	61,5	61,4	56,1	68	67,8	62,6
Power factor	min.	0,73	0,63	0,49	0,71	0,61	0,48


**Fig. 50:** Envelope dimensions

**Table 455:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	111	88	75	37,5	-	-	-	18	-	-	145	160

**Table 456:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
14	-	-	63,5	240	9		75	30	130	110	10	3,5	-	8

**Table 450:** Electrical data

Electrical data	+/-	50 Hz		60 Hz		
		Δ	Y	Δ	Y	
Rated voltage	[V]	-	230	400	-	460
Rated current	[A]	-10 %	1,4	0,8	-	0,75
Rated power	[kW]	-	0,25			0,29
Rated speed	[rpm]	min.	1365			1665
Rated torque	[Nm]	min.	1,75			1,66
Starting current	[I <sub>A</sub> /I <sub>N</sub> ]	+20 %	3			3,4

**Table 451:** Mechanical data

Mechanical data	+/-	Values		
		50 Hz	60 Hz	
Sound pressure level	[dB]	max.	51	51
Moment of inertia	[kgm <sup>2</sup> ]	max.	0,00052	0,00052
Motor canopy	-			No

**Table 452:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 453:** Environment

Environment	+/-	Values
Ambient temperature	[°C] max.	40

**Table 454:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	1XM16X1,5 X 1,5

<sup>99)</sup> The name plate data may vary within the tolerances.

<sup>100)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 4-pin, 71M

 Material: 4-0,37- 71M-BWH4F1NNWDWFUWKWE<sup>101)</sup>

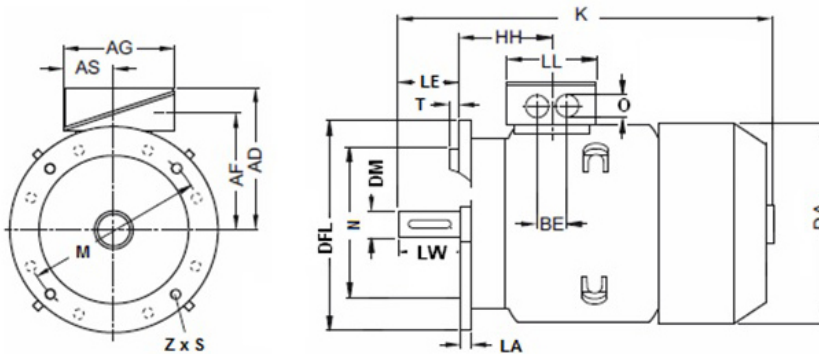
Material number: 01676413

**Table 457:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	71M
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	6
Housing material <sup>102)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE1 (Standard)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufacture)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 458:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency	[%] min.	66	67,7	65	70	71,3	68,9
Power factor	min.	0,75	0,66	0,52	0,75	0,66	0,53


**Fig. 51:** Envelope dimensions

**Table 464:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	111	88	75	37,5	-	-	-	18	-	-	145	160

**Table 465:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
14	-	-	63,5	240	9	210	75	30	130	110	10	3,5	-	4

**Table 459:** Electrical data

Electrical data	+/-	50 Hz		60 Hz		
		Δ	Y	Δ	Y	
Rated voltage	[V]	-	230	400	-	460
Rated current	[A]	-10 %	1,88	1,08	-	1,03
Rated power	[kW]	-	0,37			0,43
Rated speed	[rpm]	min.	1350			1650
Rated torque	[Nm]	min.	2,65			2,5
Starting current	[I <sub>A</sub> /I <sub>N</sub> ]	+20 %	3,2			3,6

**Table 460:** Mechanical data

Mechanical data	+/-	Values		
		50 Hz	60 Hz	
Sound pressure level	[dB]	max.	50	50
Moment of inertia	[kgm <sup>2</sup> ]	max.	0,00077	0,00077
Motor canopy	-			No

**Table 461:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 462:** Environment

Environment	+/-	Values
Ambient temperature	[°C] max.	40

**Table 463:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	1XM16X1,5 X 1,5

<sup>101)</sup> The name plate data may vary within the tolerances.

<sup>102)</sup> 1800=grey cast iron, 4400=aluminium



## V1 type of construction, 4-pin, 80M

 Material: 4-0,55- 80M-BWH4F1NNWDWFUWKWE<sup>103)</sup>

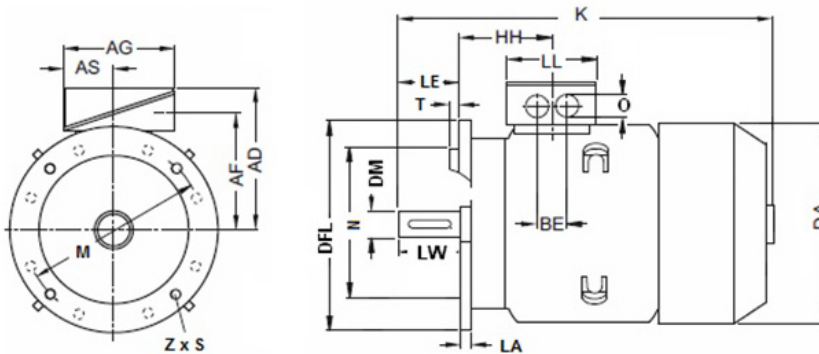
Material number: 01676414

**Table 466:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	80M
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	9
Housing material <sup>104)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufacture)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 467:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency	[%] min.	70	70,7	67,7	74	74,2	71,4
Power factor	min.	0,79	0,69	0,55	0,78	0,69	0,56


**Fig. 52:** Envelope dimensions

**Table 473:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	121,5	96,5	93	43	-	-	-	18	-	-	159	200

**Table 474:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
19	-	-	73	327	10	287	79	40	165	130	12	3,5	-	4

**Table 468:** Electrical data

Electrical data	+/-	50 Hz		60 Hz		
		Δ	Y	Δ	Y	
Rated voltage	[V]	-	230	400	-	460
Rated current	[A]	-10 %	2,5	1,44	-	1,37
Rated power	[kW]	-	0,55			0,63
Rated speed	[rpm]	min.	1385			1685
Rated torque	[Nm]	min.	3,8			3,6
Starting current	[IA/IN]	+20 %	3,7			4,3

**Table 469:** Mechanical data

Mechanical data	+/-	Values		
		50 Hz	60 Hz	
Sound pressure level	[dB]	max.	55	55
Moment of inertia	[kgm <sup>2</sup> ]	max.	0,00284	0,00284
Motor canopy	-			No

**Table 470:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 471:** Environment

Environment	+/-	Values
Ambient temperature	[°C] max.	40

**Table 472:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	1XM16X1,5 X 1,5

<sup>103)</sup> The name plate data may vary within the tolerances.

<sup>104)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 4-pin, 80M

 Material: 4-0,75- 80M-BWA6F1NNWDWFUWKWB<sup>105)</sup>

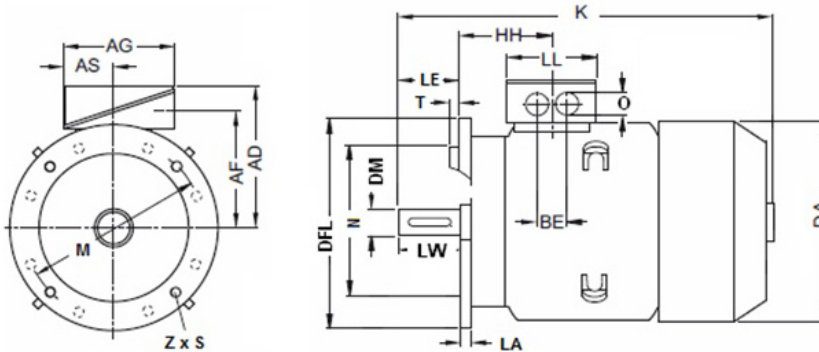
Material number: 01583978

**Table 475:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	80M
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	15
Housing material <sup>106)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufacture)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 476:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency	[%] min.	82,5	80,4	77			
Power factor	min.	0,81					


**Fig. 53:** Envelope dimensions

**Table 482:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	163	131	126	58	-	-	-	32	-	-	159	200

**Table 483:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
19	-	-	74	327	10	287	83	40	165	130	12	4	-	4

**Table 477:** Electrical data

Electrical data	+/-	50 Hz		60 Hz		
		Δ	Y	Δ	Y	
Rated voltage	[V]	-	230	400	-	-
Rated current	[A]	-10 %	3,2	1,925	-	-
Rated power	[kW]	-	0,75		-	
Rated speed	[rpm]	min.	1420		-	
Rated torque	[Nm]	min.	4,8			
Starting current	[I <sub>A</sub> /I <sub>N</sub> ]	+20 %	7,5			

**Table 478:** Mechanical data

Mechanical data	+/-	Values		
		50 Hz	60 Hz	
Sound pressure level	[dB]	max.	56	55
Moment of inertia	[kgm <sup>2</sup> ]	max.	0,00339	
Motor canopy	-		No	

**Table 479:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 480:** Environment

Environment	+/-	Values
Ambient temperature	[°C] max.	40

**Table 481:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>105)</sup> The name plate data may vary within the tolerances.

<sup>106)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 4-pin, 90S

 Material: 4-1,10- 90S-BWA6F1NNWDFUWKWB<sup>107)</sup>

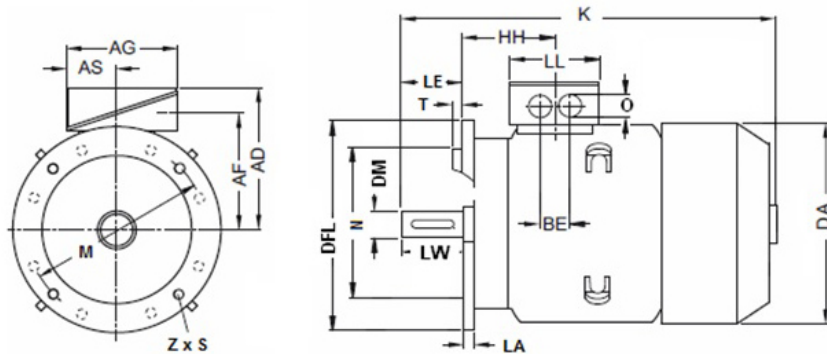
Material number: 01583979

**Table 484: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	90S
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	23
Housing material <sup>108)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 485: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	84,1	83,3	80,7			
Power factor	min.	0,83					


**Fig. 54: Envelope dimensions**
**Table 491: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	170	138	126	58	-	-	-	40	-	-	178	200

**Table 492: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
24	-	-	79	387	10	337	83	50	165	130	12	4	-	4

**Table 486: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	230	400	-	-
Rated current [A]	-10 %	4,5	2,64	-	-
Rated power [kW]	-	1,1		-	
Rated speed [rpm]	min.	1440			
Rated torque [Nm]	min.	7,08			
Starting current [IA/IN]	+20 %	8			

**Table 487: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	59	
Moment of inertia [kgm <sup>2</sup> ]	max.	0,00576	
Motor canopy	-	No	

**Table 488: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 489: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 490: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>107</sup> The name plate data may vary within the tolerances.

<sup>108</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 4-pin, 90L

Material: 4-1,50- 90L-BWH6F1NNWDFUWKWB<sup>109)</sup>

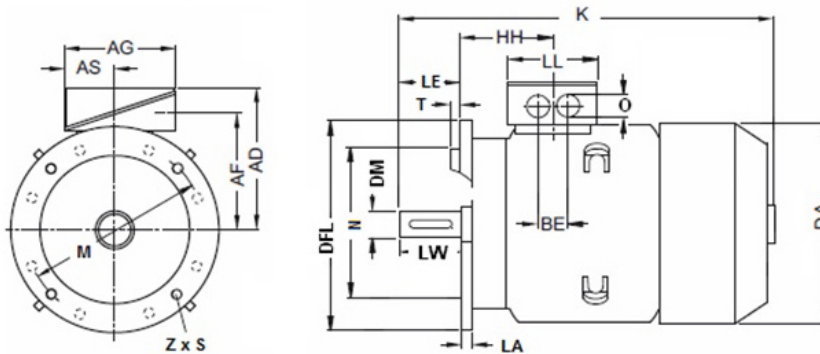
Material number: 01583980

**Table 493:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	90L
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	22
Housing material <sup>110)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	1 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufacture)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 494:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	85,3	85,1	82,9	86,5		
Power factor	min.	0,84			0,7		



**Fig. 55:** Envelope dimensions

**Table 500:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	170	138	126	58	-	-	-	40	-	-	178	200

**Table 501:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
24	-	-	79	387	10	337	83	50	165	130	12	4	-	4

**Table 495:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	230	400	-	460
Rated current [A]	-10 %	5,9	3,465	-	3,5
Rated power [kW]	-	1,5	1,5		
Rated speed [rpm]	min.	1445	1700		
Rated torque [Nm]	min.	9,68	8		
Starting current [IA/IN]	+20 %	7,8	8,7		

**Table 496:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	59	61
Moment of inertia [kgm <sup>2</sup> ]	max.	0,00688	0,00688
Motor canopy	-	No	

**Table 497:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 498:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 499:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>109)</sup> The name plate data may vary within the tolerances.

<sup>110)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 4-pin, 100L

 Material: 4-2,20-100L-BWA6F3NNWDFUWKWB<sup>111)</sup>

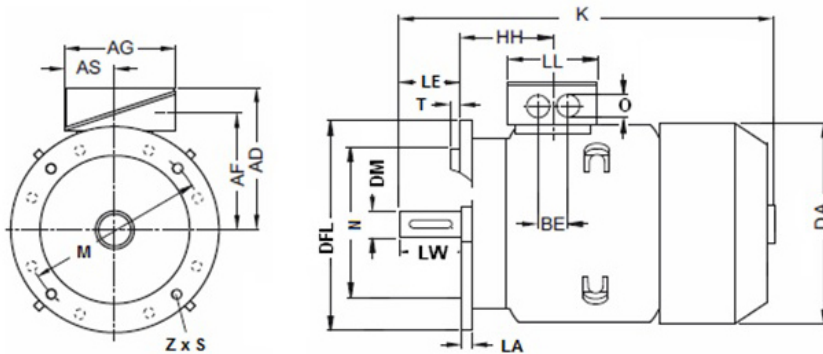
Material number: 01583968

**Table 502: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	100L
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	34
Housing material <sup>112)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 503: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	86,7	86,9	85,1			
Power factor	min.	0,82					


**Fig. 56: Envelope dimensions**
**Table 509: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	216	164	176	83	-	-	-	45	-	-	198	250

**Table 510: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
28	-	-	97	431	11	371	118	60	215	180	15	4	-	8

**Table 504: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	230	400	-	-
Rated current [A]	-10 %	8,1	4,84	-	-
Rated power [kW]	-	2,2		-	
Rated speed [rpm]	min.	1435			
Rated torque [Nm]	min.	14,01			
Starting current [IA/IN]	+20 %	8			

**Table 505: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	63	
Moment of inertia [kgm <sup>2</sup> ]	max.	0,0147	
Motor canopy	-	No	

**Table 506: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 507: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 508: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>111</sup> The name plate data may vary within the tolerances.

<sup>112</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 4-pin, 100L

 Material: 4-3,00-100L-BWE6F3NNWDWFUWKWB<sup>113)</sup>

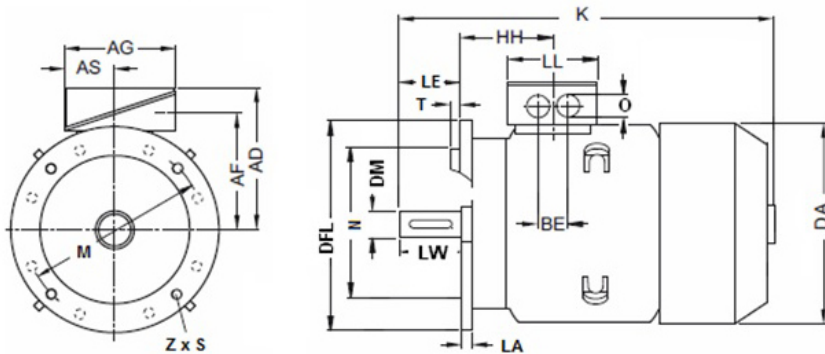
Material number: 01583969

**Table 511:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	100L
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	34
Housing material <sup>114)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 512:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	87,7	88,2	86,6	89,5		
Power factor	min.	0,82			0,74		


**Fig. 57:** Envelope dimensions

**Table 518:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	216	164	176	83	-	-	-	45	-	-	198	250

**Table 519:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
28	-	-	97	431	11	371	118	60	215	180	15	4	-	8

**Table 513:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	6,2	3,795	9,7	-
Rated power [kW]	-	3		3	
Rated speed [rpm]	min.	1440		1720	
Rated torque [Nm]	min.	19,21		9,6	
Starting current [IA/IN]	+20 %	8,2		9	

**Table 514:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	63	65
Moment of inertia [kgm <sup>2</sup> ]	max.	0,0147	0,0147
Motor canopy	-	No	

**Table 515:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 516:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 517:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>113</sup> The name plate data may vary within the tolerances.

<sup>114</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 4-pin, 112M

 Material: 4-4,00-112M-BWE6F3NNWDWFWKWB<sup>115)</sup>

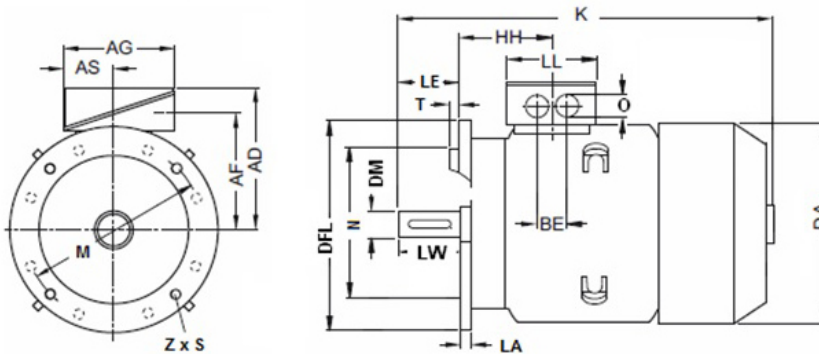
Material number: 01583970

**Table 520: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	112M
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	43
Housing material <sup>116)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 521: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	88,6	89,2	87,7	89,5		
Power factor	min.	0,78			0,75		


**Fig. 58: Envelope dimensions**
**Table 527: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	230	217	176	83	-	-	-	45	-	-	235	250

**Table 528: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
28	-	-	96	414	12	354	118	60	215	180	15	4	-	8

**Table 522: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	8,6	5,115	8,5	-
Rated power [kW]	-	4		4	
Rated speed [rpm]	min.	1450		1725	
Rated torque [Nm]	min.	25,48		21,3	
Starting current [IA/IN]	+20 %	7,5		9,1	

**Table 523: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	61	74
Moment of inertia [kgm <sup>2</sup> ]	max.	0,01908	0,01908
Motor canopy	-	No	

**Table 524: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 525: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 526: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>115)</sup> The name plate data may vary within the tolerances.

<sup>116)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 4-pin, 280M

 Material: 4-90,0-280M-BWE6F3NNWDWFFNWKWB<sup>117)</sup>

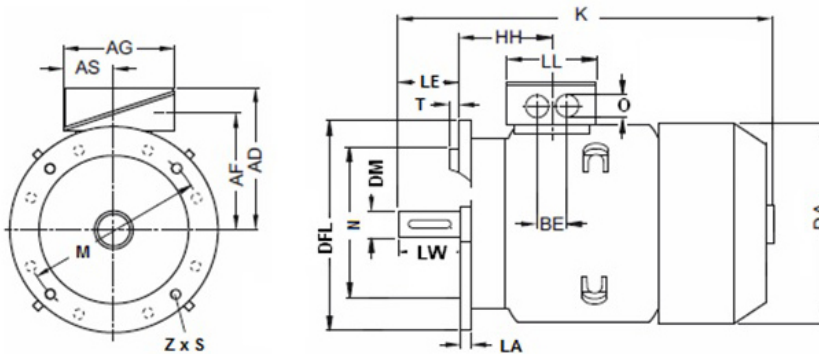
Material number: 01619759

**Table 529:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	280M
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	777
Housing material <sup>118)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 530:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	95,2	95	94,2	95,4		
Power factor	min.	0,86			0,83		


**Fig. 59:** Envelope dimensions

**Table 536:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	476	380	351	160	-	-	-	110	-	-	580	550

**Table 537:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
75	-	-	210	1071	18	931	245	140	500	450	19	5	-	4

**Table 531:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	166,3	100,1	146,3	-
Rated power [kW]	-	90		90	
Rated speed [rpm]	min.	1485		1765	
Rated torque [Nm]	min.	567,17		471,8	
Starting current [IA/IN]	+20 %	7,6		7,8	

**Table 532:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	74	83
Moment of inertia [kgm <sup>2</sup> ]	max.	2,27342	2,27342
Motor canopy	-		No

**Table 533:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 534:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 535:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>117</sup> The name plate data may vary within the tolerances.

<sup>118</sup> 1800=grey cast iron, 4400=aluminium



## V1 type of construction, 4-pin, 315S

 Material: 4-110 -315S-BWE6F3NNWDWFWNKWB<sup>119)</sup>

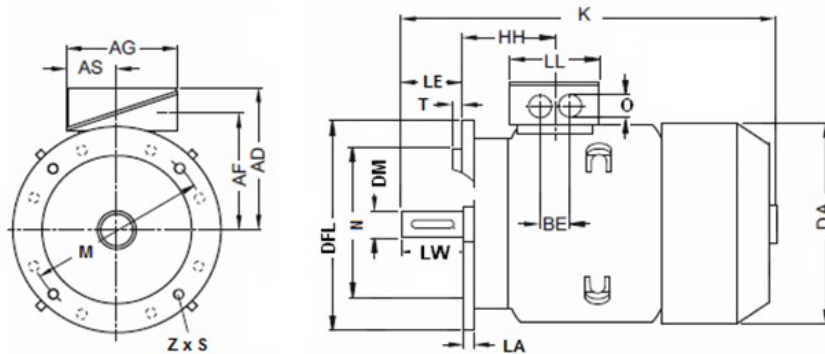
Material number: 01619795

**Table 538: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	315S
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	1010
Housing material <sup>120)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 539: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	95,4	95,1	94,3	95,8		
Power factor	min.	0,87			0,83		


**Fig. 60: Envelope dimensions**
**Table 545: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	567	444	411	180	-	-	-	110	-	-	664	660

**Table 546: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
80	-	-	238	1274	22	1104	314	170	600	550	24	6	-	4

**Table 540: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	202,8	123,2	178	-
Rated power [kW]	-	110		110	
Rated speed [rpm]	min.	1488		1775	
Rated torque [Nm]	min.	690,88		573,5	
Starting current [IA/IN]	+20 %	7,8		8,2	

**Table 541: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	75	79
Moment of inertia [kgm <sup>2</sup> ]	max.	3,03791	3,03791
Motor canopy	-	No	

**Table 542: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 543: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 544: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>119)</sup> The name plate data may vary within the tolerances.

<sup>120)</sup> 1800=grey cast iron, 4400=aluminium

## V1 type of construction, 4-pin, 315M

 Material: 4-132 -315M-BWE6F3NNWDWFFNWKWB<sup>121)</sup>

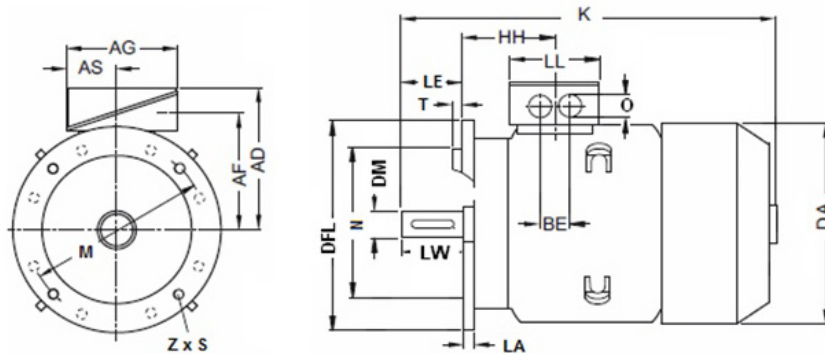
Material number: 01619796

**Table 547:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	315M
Type of construction	max.	IM V1 (IM3011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	1095
Housing material <sup>122)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	No

**Table 548:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	95,6	95,2	94,4	96,2		
Power factor	min.	0,87			0,83		


**Fig. 61:** Envelope dimensions

**Table 554:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
-	-	-	567	444	411	180	-	-	-	110	-	-	664	660

**Table 555:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
80	-	-	238	1274	22	1104	314	170	600	550	24	6	-	4

**Table 549:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	242,8	147,4	212,7	-
Rated power [kW]	-	132		132	
Rated speed [rpm]	min.	1490		1770	
Rated torque [Nm]	min.	829,06		690,1	
Starting current [IA/IN]	+20 %	7,9		8,4	

**Table 550:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	77	82
Moment of inertia [kgm <sup>2</sup> ]	max.	3,98172	3,98172
Motor canopy	-	No	

**Table 551:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 552:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 553:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>121</sup> The name plate data may vary within the tolerances.

<sup>122</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 2-pin, 132S

 Material: 2-5,50-132S-BWE6F3NTSDWFUWKWB<sup>123)</sup>

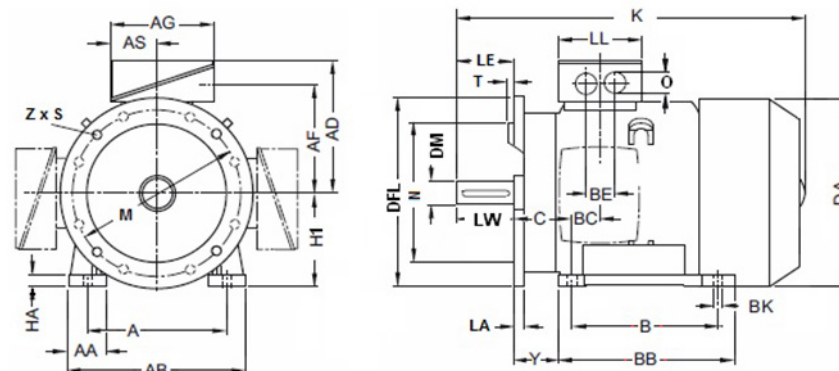
Material number: 01583963

**Table 556: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	132S
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	60
Housing material <sup>124)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 557: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	89,2	89,3	87,8	89,5		
Power factor	min.	0,82			0,84		


**Fig. 62: Envelope dimensions**
**Table 563: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
216	53	269	222	172	171	77	140	218	21,5	55	12	89	274	300

**Table 564: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
38	132	15	116	490	12	410	146	80	265	230	15	4	66	4

**Table 558: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	10,5	6,38	10	-
Rated power [kW]	-	5,5		5,5	
Rated speed [rpm]	min.	2930		3485	
Rated torque [Nm]	min.	17,44		14,6	
Starting current [IA/IN]	+20 %	8,7		9,2	

**Table 559: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	71	77
Moment of inertia [kgm <sup>2</sup> ]	max.	0,0252	0,0252
Motor canopy	-	No	

**Table 560: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 561: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 562: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>123</sup> The name plate data may vary within the tolerances.

<sup>124</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 2-pin, 132S

Material: 2-7,50-132S-BWE6F3NTSDWFUWKWB<sup>125)</sup>

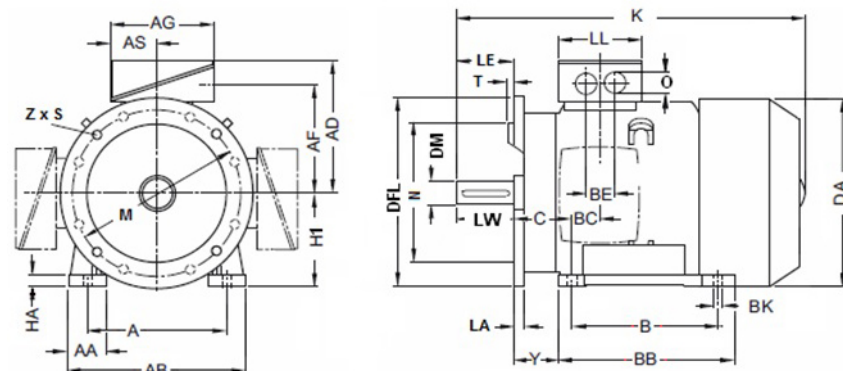
Material number: 01583964

**Table 565:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	132S
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	63
Housing material <sup>126)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 566:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	90,1	90,2	88,9	90,2		
Power factor	min.	0,83			0,83		



**Fig. 63:** Envelope dimensions

**Table 572:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
216	53	269	222	172	171	77	140	218	21,5	55	12	89	274	300

**Table 573:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
38	132	15	116	515	12	435	146	80	265	230	15	4	66	4

**Table 567:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	14,6	8,36	13,8	-
Rated power [kW]	-	7,5		7,5	
Rated speed [rpm]	min.	2935		3485	
Rated torque [Nm]	min.	23,81		19,9	
Starting current [IA/IN]	+20 %	8,9		9,6	

**Table 568:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	71	77
Moment of inertia [kgm <sup>2</sup> ]	max.	0,03255	0,03255
Motor canopy	-	No	

**Table 569:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 570:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 571:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>125)</sup> The name plate data may vary within the tolerances.

<sup>126)</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 2-pin, 160M

Material: 2-11,0-160M-BWE6F3NTSDWFUWKWB<sup>127)</sup>

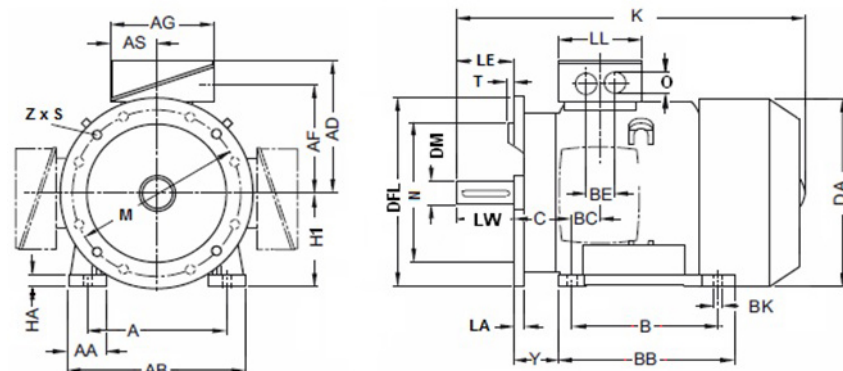
Material number: 01583965

**Table 574:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	160M
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	75
Housing material <sup>128)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 575:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	91,2	91,3	90,1	91		
Power factor	min.	0,78			0,79		



**Fig. 64:** Envelope dimensions

**Table 581:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
254	66	323	261	209	193	86	210	310	28	59,5	14,5	108	314	350

**Table 582:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
42	160	18	155	634	18	524	152	110	300	250	19	5	80	4

**Table 576:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	22	12,54	19,5	-
Rated power [kW]	-	11		11	
Rated speed [rpm]	min.	2950		3495	
Rated torque [Nm]	min.	34,79		29	
Starting current [IA/IN]	+20 %	9		10	

**Table 577:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	74	81
Moment of inertia [kgm <sup>2</sup> ]	max.	0,05565	0,05565
Motor canopy	-	No	

**Table 578:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 579:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 580:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>127</sup> The name plate data may vary within the tolerances.

<sup>128</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 2-pin, 160M

 Material: 2-15,0-160M-BWE6F3NTSDWFUWKWB<sup>129)</sup>

Material number: 01583966

**Table 583: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	160M
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	88
Housing material <sup>130)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 584: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	91,9	92	90,8	91		
Power factor	min.	0,78			0,8		

**Table 585: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	29,4	17,27	26,3	-
Rated power [kW]	-	15		15	
Rated speed [rpm]	min.	2945		3500	
Rated torque [Nm]	min.	47,43		39,7	
Starting current [IA/IN]	+20 %	9,2		9,7	

**Table 586: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	74	81
Moment of inertia [kgm <sup>2</sup> ]	max.	0,06405	0,06405
Motor canopy	-	No	

**Table 587: Explosion protection**

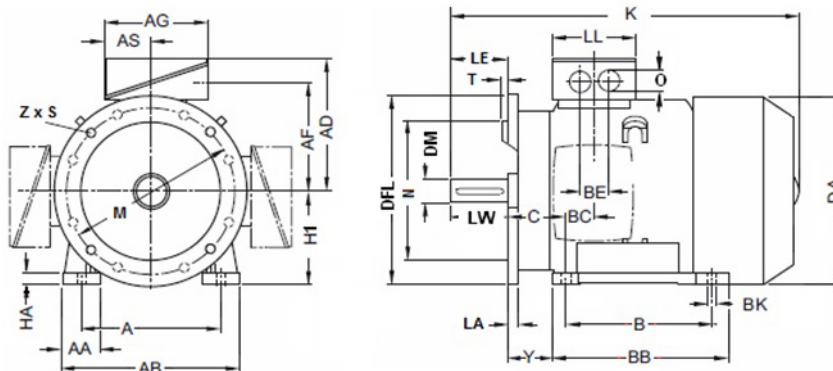
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 588: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 589: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	


**Fig. 65: Envelope dimensions**
**Table 590: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
254	66	323	261	209	193	86	210	310	28	59,5	14,5	108	314	350

**Table 591: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
42	160	18	155	634	18	524	152	110	300	250	19	5	80	4

<sup>129)</sup> The name plate data may vary within the tolerances.

<sup>130)</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 2-pin, 160L

 Material: 2-18,5-160L-BWE6F3NTSDWFUWKWB<sup>131)</sup>

Material number: 01583967

**Table 592: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	160L
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	108
Housing material <sup>132)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 593: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	92,4	92,4	91,3	91,7		
Power factor	min.	0,77			0,81		

**Table 594: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	35,6	20,57	32,9	-
Rated power [kW]	-	18,5		18,5	
Rated speed [rpm]	min.	2945		3505	
Rated torque [Nm]	min.	58,79		48,9	
Starting current [IA/IN]	+20 %	9,5		10,5	

**Table 595: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	74	81
Moment of inertia [kgm <sup>2</sup> ]	max.	0,0714	0,0714
Motor canopy	-	No	

**Table 596: Explosion protection**

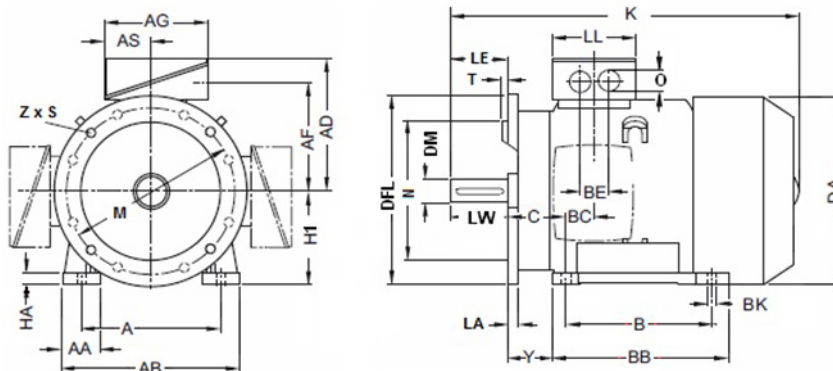
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 597: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 598: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	


**Fig. 66: Envelope dimensions**
**Table 599: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
254	66	323	261	209	193	86	254	310	28	59,5	14,5	108	314	350

**Table 600: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
42	160	18	155	664	18	554	152	110	300	250	19	5	80	4

<sup>131</sup> The name plate data may vary within the tolerances.

<sup>132</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 2-pin, 180M

Material: 2-22,0-180M-BWE6F3NTSDWFUWKWB<sup>133)</sup>

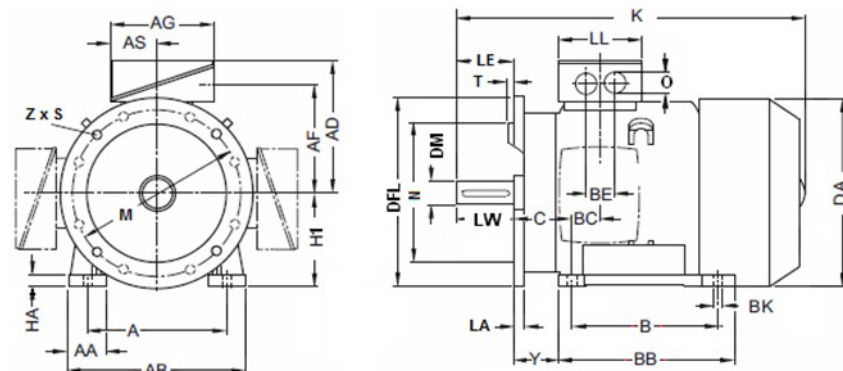
Material number: 01583902

**Table 601:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	180M
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	164
Housing material <sup>134)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 602:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	92,7	92,7	91,6	91,7		
Power factor	min.	0,87			0,84		



**Fig. 67:** Envelope dimensions

**Table 608:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
279	68	368	285	234	193	86	241	343	39,3	75,5	14,5	121	356	350

**Table 609:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
48	180	22	155	698	18	588	152	110	300	250	19	5	85	8

**Table 603:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	41,2	24,75	38	-
Rated power [kW]	-	22		22	
Rated speed [rpm]	min.	2950		3515	
Rated torque [Nm]	min.	69,58		58	
Starting current [IA/IN]	+20 %	9		8,2	

**Table 604:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	77	84
Moment of inertia [kgm <sup>2</sup> ]	max.	0,12515	0,13412
Motor canopy	-	No	

**Table 605:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 606:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 607:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>133</sup> The name plate data may vary within the tolerances.

<sup>134</sup> 1800=grey cast iron, 4400=aluminium



## V15 type of construction, 2-pin, 200L

 Material: 2-30,0-200L-BWEGF3NTSDWFUWKWB<sup>135)</sup>

Material number: 01583903

**Table 610: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	200L
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	225
Housing material <sup>136)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 611: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	93,3	93,2	92,2	92,4		
Power factor	min.	0,8			0,81		

**Table 612: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	56,5	34,1	55,7	-
Rated power [kW]	-	30		30	
Rated speed [rpm]	min.	2955		3520	
Rated torque [Nm]	min.	95,01		78,8	
Starting current [IA/IN]	+20 %	8		9,3	

**Table 613: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	78	87
Moment of inertia [kgm <sup>2</sup> ]	max.	0,21662	0,21662
Motor canopy	-	No	

**Table 614: Explosion protection**

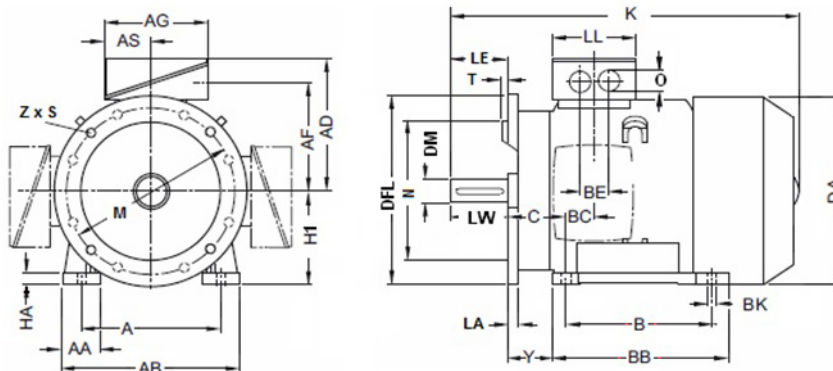
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 615: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 616: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	


**Fig. 68: Envelope dimensions**
**Table 617: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
318	85	404	326	262	248	113	305	375	43,5	83	18,5	133	396	400

**Table 618: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
55	200	25	164	758	18	648	194	110	350	300	19	5	93	8

<sup>135)</sup> The name plate data may vary within the tolerances.

<sup>136)</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 2-pin, 200L

 Material: 2-37,0-200L-BWE6F3NTSDWFUWKWB<sup>137)</sup>

Material number: 01583904

**Table 619:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	200L
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	250
Housing material <sup>138)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 620:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency	[%] min.	93,7	93,5	92,5	93		
Power factor	min.	0,84			0,84		

**Table 621:** Electrical data

Electrical data	+/-	50 Hz		60 Hz		
		Δ	Y	Δ	Y	
Rated voltage	[V]	-	400	690	460	-
Rated current	[A]	-10 %	68,7	41,8	65,2	-
Rated power	[kW]	-	37		37	
Rated speed	[rpm]	min.	2955		3515	
Rated torque	[Nm]	min.	116,98		97,5	
Starting current	[IA/IN]	+20 %	8,8		9,9	

**Table 622:** Mechanical data

Mechanical data	+/-	Values		
		50 Hz	60 Hz	
Sound pressure level	[dB]	max.	78	87
Moment of inertia	[kgm <sup>2</sup> ]	max.	0,22201	0,22201
Motor canopy	-	No		

**Table 623:** Explosion protection

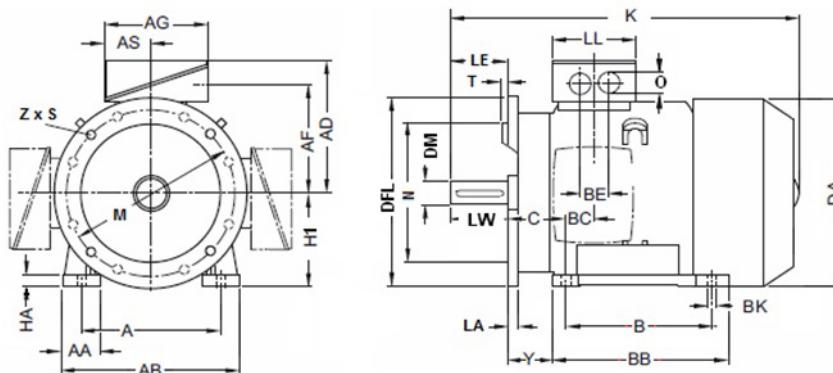
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 624:** Environment

Environment	+/-	Values
Ambient temperature	[°C] max.	40

**Table 625:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	


**Fig. 69:** Envelope dimensions

**Table 626:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
318	85	404	326	262	248	113	305	375	43,5	83	18,5	133	396	400

**Table 627:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
55	200	25	164	758	18	648	194	110	350	300	19	5	93	4

<sup>137</sup> The name plate data may vary within the tolerances.

<sup>138</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 2-pin, 225M

 Material: 2-45,0-225M-BWE6F3NTSDWFUWKWB<sup>139)</sup>

Material number: 01583905

**Table 628:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	225M
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	416
Housing material <sup>140)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to KSB)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 629:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency	[%] min.	94	93,7	92,8	93,6		
Power factor	min.	0,85			0,83		

**Table 630:** Electrical data

Electrical data	+/-	50 Hz		60 Hz		
		Δ	Y	Δ	Y	
Rated voltage	[V]	-	400	690	460	-
Rated current	[A]	-10 %	81,9	50,05	80,6	-
Rated power	[kW]	-	45		45	
Rated speed	[rpm]	min.	2960		3520	
Rated torque	[Nm]	min.	142,1		118,1	
Starting current	[IA/IN]	+20 %	8,1		8,8	

**Table 631:** Mechanical data

Mechanical data	+/-	Values		
		50 Hz	60 Hz	
Sound pressure level	[dB]	max.	78	88
Moment of inertia	[kgm <sup>2</sup> ]	max.	0,30039	0,30039
Motor canopy	-		No	

**Table 632:** Explosion protection

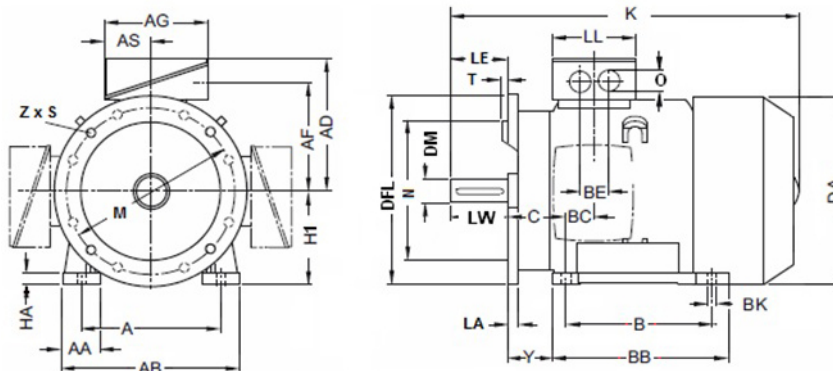
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 633:** Environment

Environment	+/-	Values
Ambient temperature	[°C] max.	40

**Table 634:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	


**Fig. 70:** Envelope dimensions

**Table 635:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
356	90	458	372	310	293	123	311	412	8	88	18,5	149	453	450

**Table 636:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
55	225	34	164	856	18	746	207	110	400	350	19	5	107	4

<sup>139)</sup> The name plate data may vary within the tolerances.

<sup>140)</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 2-pin, 250M

Material: 2-55,0-250M-BWE6F3NTSDWFUWKWB<sup>141)</sup>

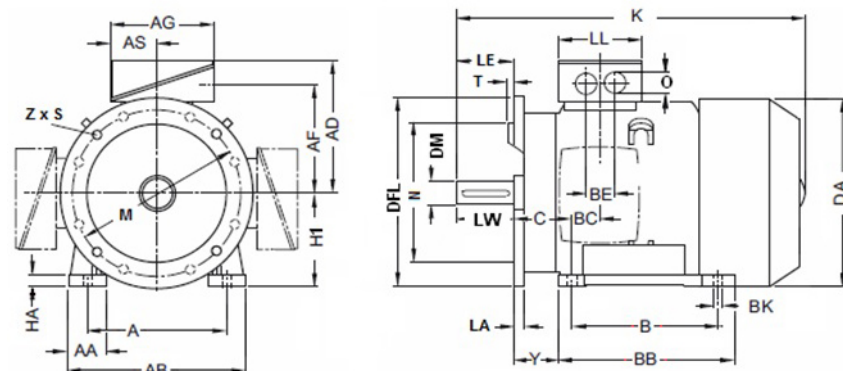
Material number: 01583900

**Table 637:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	250M
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	485
Housing material <sup>142)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to KSB)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 638:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	94,3	93,9	93	93,6		
Power factor	min.	0,84			0,86		



**Fig. 71:** Envelope dimensions

**Table 644:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
406	100	531	451	354	351	160	349	467	62	100,5	24	168	497	550

**Table 645:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
60	250	43	192	965	18	825	245	140	500	450	19	5	131	8

**Table 639:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	100,3	60,5	98,2	-
Rated power [kW]	-	55		55	
Rated speed [rpm]	min.	2960		3530	
Rated torque [Nm]	min.	173,46		144,4	
Starting current [IA/IN]	+20 %	8,2		9,2	

**Table 640:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	78	89
Moment of inertia [kgm <sup>2</sup> ]	max.	0,483	0,52192
Motor canopy	-	No	

**Table 641:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 642:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 643:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>141</sup> The name plate data may vary within the tolerances.

<sup>142</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 2-pin, 280S

 Material: 2-75,0-280S-BWE6F3NTSDWFNWKWB<sup>143)</sup>

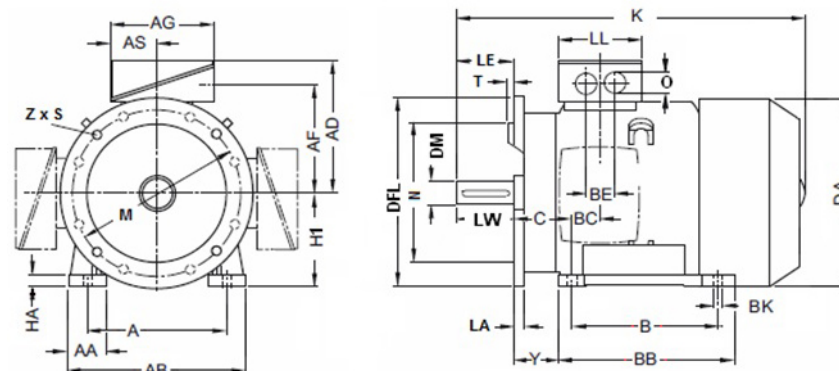
Material number: 01619778

**Table 646:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	280S
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	727
Housing material <sup>144)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 647:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	94,7	94,1	93,2	94,1		
Power factor	min.	0,87			0,86		


**Fig. 72:** Envelope dimensions

**Table 653:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
457	100	585	476	380	351	160	368	517	20	110	24	190	580	550

**Table 654:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
65	280	42	210	1071	18	931	245	140	500	450	19	5	103	4

**Table 648:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	136,1	82,5	119,4	-
Rated power [kW]	-	75		75	
Rated speed [rpm]	min.	2975		3545	
Rated torque [Nm]	min.	235,92		196,1	
Starting current [IA/IN]	+20 %	7,9		8,4	

**Table 649:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	81	85
Moment of inertia [kgm <sup>2</sup> ]	max.	0,9855	0,9855
Motor canopy	-	No	

**Table 650:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 651:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 652:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>143</sup> The name plate data may vary within the tolerances.

<sup>144</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 4-pin, 132S

 Material: 4-5,50-132S-BWB6F3NTSDWUFUWKWB<sup>145)</sup>

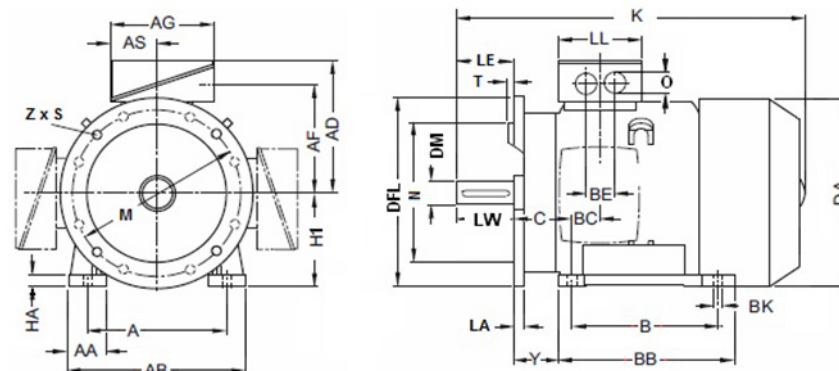
Material number: 01583971

**Table 655: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	132S
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	67
Housing material <sup>146)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 656: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	89,6	90,3	89			
Power factor	min.	0,8					


**Fig. 73: Envelope dimensions**
**Table 662: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
216	53	269	222	172	171	77	140	218	21,5	55	12	89	274	300

**Table 663: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
38	132	15	116	515	12	435	146	80	265	230	15	4	66	8

**Table 657: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	-	-
Rated current [A]	-10 %	11	6,82	-	-
Rated power [kW]	-	5,5		-	
Rated speed [rpm]	min.	1465			
Rated torque [Nm]	min.	34,99			
Starting current [IA/IN]	+20 %	8,9			

**Table 658: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	67	
Moment of inertia [kgm <sup>2</sup> ]	max.	0,05548	
Motor canopy	-	No	

**Table 659: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 660: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 661: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>145</sup> The name plate data may vary within the tolerances.

<sup>146</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 4-pin, 132M

Material: 4-7,50-132M-BWB6F3NTSDWFUWKWB<sup>147)</sup>

Material number: 01583972

**Table 664:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	132M
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	68
Housing material <sup>148)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 665:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	90,4	91,1	89,9			
Power factor	min.	0,8					

**Table 666:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	-	-
Rated current [A]	-10 %	15	9,13	-	-
Rated power [kW]	-	7,5		-	
Rated speed [rpm]	min.	1465			
Rated torque [Nm]	min.	47,73			
Starting current [IA/IN]	+20 %	8,9			

**Table 667:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	67	
Moment of inertia [kgm <sup>2</sup> ]	max.	0,06737	
Motor canopy	-	No	

**Table 668:** Explosion protection

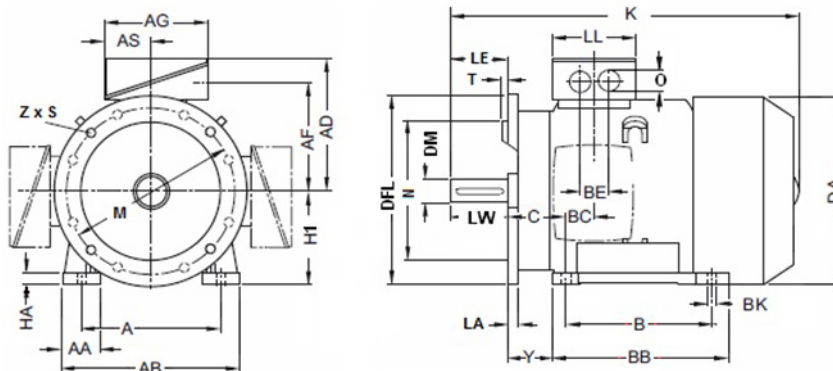
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 669:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 670:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 74:** Envelope dimensions

**Table 671:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
216	53	269	222	172	171	77	178	218	21,5	55	12	89	274	300

**Table 672:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
38	132	15	116	515	12	435	146	80	265	230	15	4	66	4

<sup>147</sup> The name plate data may vary within the tolerances.

<sup>148</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 4-pin, 160M

 Material: 4-11,0-160M-BWE6F3NTSDWFUWKWB<sup>149)</sup>

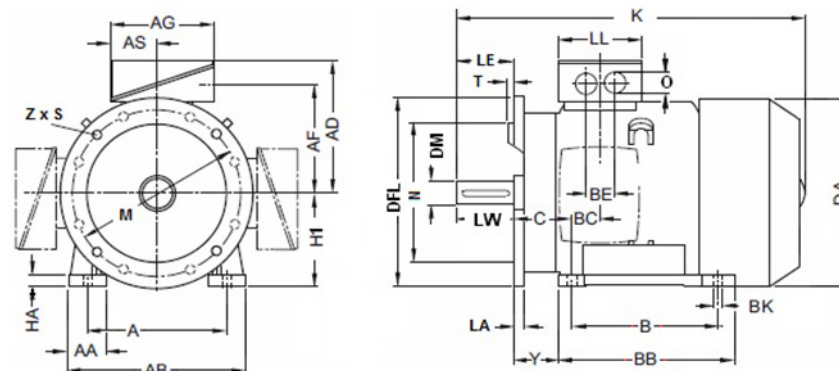
Material number: 01583973

**Table 673: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	160M
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	88
Housing material <sup>150)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 674: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	91,4	92,1	91	92,4		
Power factor	min.	0,8			0,75		


**Fig. 75: Envelope dimensions**
**Table 680: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
254	66	323	261	209	193	86	210	310	28	59,5	14,5	108	314	350

**Table 681: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
42	160	18	155	634	18	524	152	110	300	250	19	5	80	4

**Table 675: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	22,8	13,2	22,6	-
Rated power [kW]	-	11		11	
Rated speed [rpm]	min.	1470		1740	
Rated torque [Nm]	min.	69,58		58	
Starting current [IA/IN]	+20 %	7,9		8,6	

**Table 676: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	68	72
Moment of inertia [kgm <sup>2</sup> ]	max.	0,11249	0,11249
Motor canopy	-	No	

**Table 677: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 678: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 679: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>149)</sup> The name plate data may vary within the tolerances.

<sup>150)</sup> 1800=grey cast iron, 4400=aluminium



## V15 type of construction, 4-pin, 160L

 Material: 4-15,0-160L-BWE6F3NTSDWUFUWKWB<sup>151)</sup>

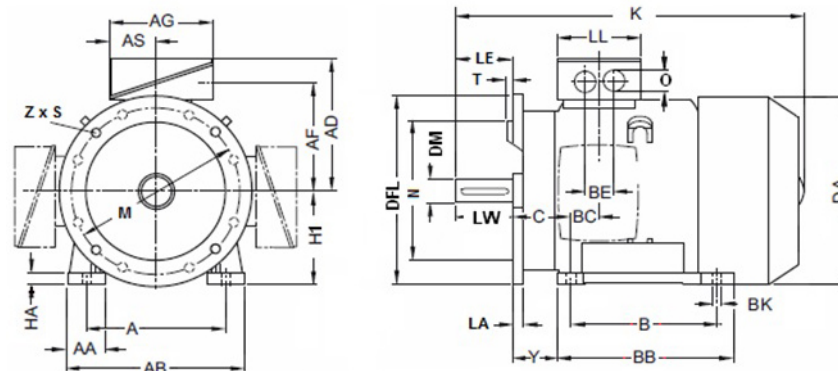
Material number: 01583974

**Table 682:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	160L
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	118
Housing material <sup>152)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 683:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency	[%] min.	92,1	92,7	91,7	93		
Power factor	min.	0,81			0,78	0	0


**Fig. 76:** Envelope dimensions

**Table 689:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
254	66	323	261	209	193	86	254	310	28	59,5	14,5	108	314	350

**Table 690:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
42	160	18	155	664	18	554	152	110	300	250	19	5	80	4

**Table 684:** Electrical data

Electrical data	+/-	50 Hz		60 Hz		
		Δ	Y	Δ	Y	
Rated voltage	[V]	-	400	690	460	-
Rated current	[A]	-10 %	30,1	18,37	30,8	-
Rated power	[kW]	-	15		15	
Rated speed	[rpm]	min.	1465		1740	
Rated torque	[Nm]	min.	95,06		79,8	
Starting current	[IA/IN]	+20 %	8,9		0	

**Table 685:** Mechanical data

Mechanical data	+/-	Values		
		50 Hz	60 Hz	
Sound pressure level	[dB]	max.	68	72
Moment of inertia	[kgm <sup>2</sup> ]	max.	0,1326	0,1326
Motor canopy	-		No	

**Table 686:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 687:** Environment

Environment	+/-	Values
Ambient temperature	[°C] max.	40

**Table 688:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>151</sup> The name plate data may vary within the tolerances.

<sup>152</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 4-pin, 180M

Material: 4-18,5-180M-BWE6F3NTSDWFUWKWB<sup>153)</sup>

Material number: 01583906

**Table 691:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	180M
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	169
Housing material <sup>154)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 692:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	92,6	93,2	92,2	93,6		
Power factor	min.	0,87			0,82		

**Table 693:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	36,8	22,55	35	-
Rated power [kW]	-	18,5		18,5	
Rated speed [rpm]	min.	1470		1735	
Rated torque [Nm]	min.	117,6		98,9	
Starting current [IA/IN]	+20 %	8,7		9,7	

**Table 694:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	69	76
Moment of inertia [kgm <sup>2</sup> ]	max.	0,21927	0,21927
Motor canopy	-	No	

**Table 695:** Explosion protection

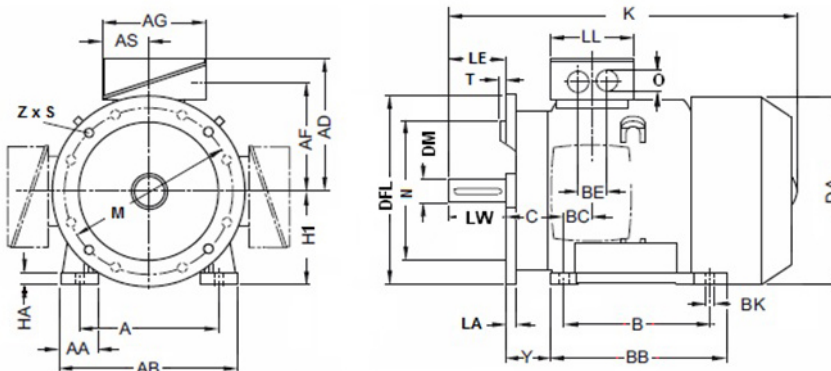
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 696:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 697:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 77:** Envelope dimensions

**Table 698:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
279	68	368	285	234	193	86	241	343	39,3	75,5	14,5	121	356	350

**Table 699:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
48	180	22	155	698	18	588	152	110	300	250	19	5	85	4

<sup>153</sup> The name plate data may vary within the tolerances.

<sup>154</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 4-pin, 180L

Material: 4-22,0-180L-BWEGF3NTSDWUFUWKWB<sup>155)</sup>

Material number: 01583957

**Table 700:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	180L
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	179
Housing material <sup>156)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 701:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	93	93,5	92,6	93,6		
Power factor	min.	0,83			0,8		

**Table 702:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	43,1	26,4	41,3	-
Rated power [kW]	-	22		22	
Rated speed [rpm]	min.	1470		1735	
Rated torque [Nm]	min.	140,06		117,6	
Starting current [IA/IN]	+20 %	9		10,1	

**Table 703:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	71	77
Moment of inertia [kgm <sup>2</sup> ]	max.	0,25125	0,2777
Motor canopy	-	No	

**Table 704:** Explosion protection

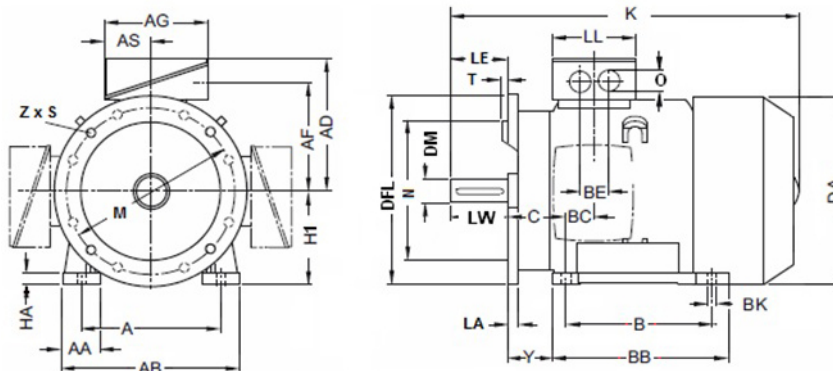
Explosion protection	+/-	Values
Type of protection	-	Without

**Table 705:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 706:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	



**Fig. 78:** Envelope dimensions

**Table 707:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
279	68	368	285	234	193	86	279	355	39,3	75,5	14,5	121	356	350

**Table 708:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
48	180	22	155	698	18	588	152	110	300	250	19	5	85	4

<sup>155</sup> The name plate data may vary within the tolerances.

<sup>156</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 4-pin, 200L

Material: 4-30,0-200L-BWEGF3NTSDWUFUWKWB<sup>157)</sup>

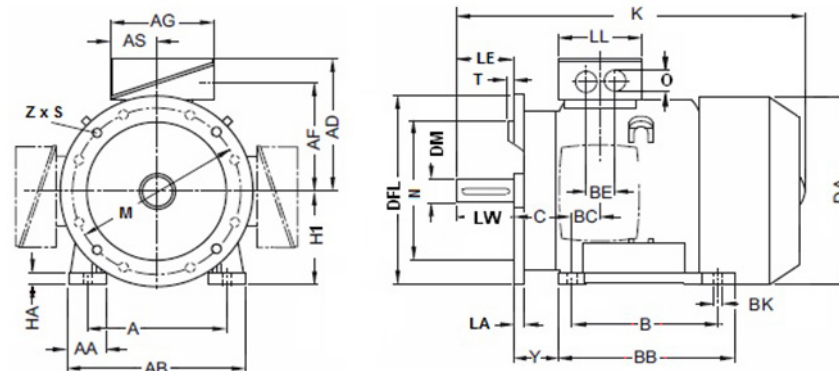
Material number: 01583958

**Table 709:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	200L
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	240
Housing material <sup>158)</sup>	-	4400
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to motor manufact)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 710:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	93,6	94	93,1	94,1		
Power factor	min.	0,84			0,76		



**Fig. 79:** Envelope dimensions

**Table 716:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
318	85	404	326	262	248	113	305	375	43,5	83	18,5	133	396	400

**Table 717:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
55	200	25	164	758	18	648	194	110	350	300	19	5	93	4

**Table 711:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	59,2	35,2	55,8	-
Rated power [kW]	-	30		30	
Rated speed [rpm]	min.	1470		1730	
Rated torque [Nm]	min.	189,7		159,5	
Starting current [IA/IN]	+20 %	7,7		8,8	

**Table 712:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	70	75
Moment of inertia [kgm <sup>2</sup> ]	max.	0,39297	0,39297
Motor canopy	-	No	

**Table 713:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 714:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 715:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>157</sup> The name plate data may vary within the tolerances.

<sup>158</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 4-pin, 225S

Material: 4-37,0-225S-BWE6F3NTSDWUFUWKWB<sup>159)</sup>

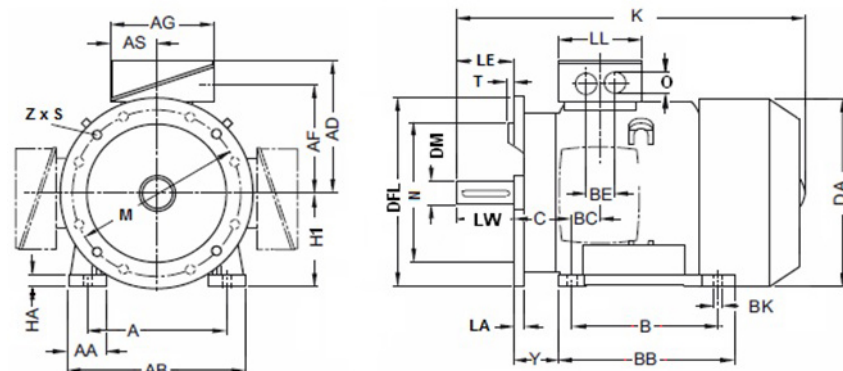
Material number: 01583959

**Table 718:** General data [50 Hz]

General data	+/-	Values
Motor size	max.	225S
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	392
Housing material <sup>160)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to KSB)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 719:** Efficiency

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	93,9	94,2	93,3	94,5		
Power factor	min.	0,84			0,81		



**Fig. 80:** Envelope dimensions

**Table 725:** Envelope dimensions A-DFL

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
356	90	458	372	310	293	123	311	412	8	88	18,5	149	453	450

**Table 726:** Envelope dimensions DM-Z

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
60	225	34	164	886	18	746	207	140	400	350	19	5	107	4

**Table 720:** Electrical data

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	70,1	42,35	69,3	-
Rated power [kW]	-	37		37	
Rated speed [rpm]	min.	1478		1760	
Rated torque [Nm]	min.	233,96		194,5	
Starting current [IA/IN]	+20 %	8,1		9	

**Table 721:** Mechanical data

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	68	78
Moment of inertia [kgm <sup>2</sup> ]	max.	0,54359	0,54359
Motor canopy	-	No	

**Table 722:** Explosion protection

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 723:** Environment

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 724:** Terminal box

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>159)</sup> The name plate data may vary within the tolerances.

<sup>160)</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 4-pin, 225M

 Material: 4-45,0-225M-BWE6F3NTSDWFUWKWB<sup>161)</sup>

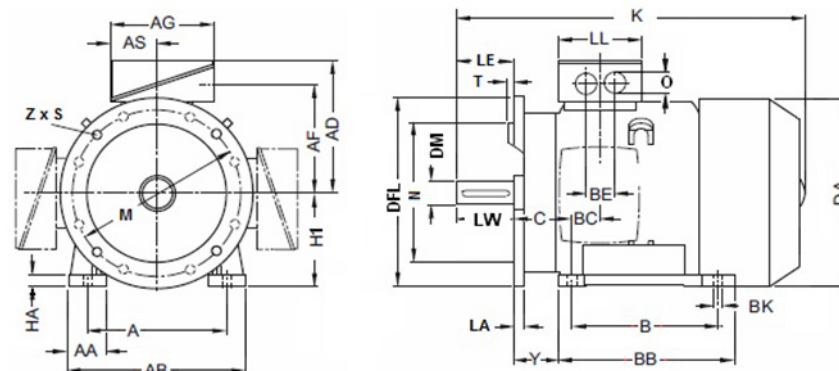
Material number: 01583960

**Table 727: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	225M
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	420
Housing material <sup>162)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to KSB)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 728: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	94,2	94,4	93,6	95		
Power factor	min.	0,81			0,82		


**Fig. 81: Envelope dimensions**
**Table 734: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
356	90	458	372	310	293	123	311	412	8	88	18,5	149	453	450

**Table 735: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
60	225	34	164	886	18	746	207	140	400	350	19	5	107	8

**Table 729: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	85	51,15	86,9	-
Rated power [kW]	-	45		45	
Rated speed [rpm]	min.	1475		1750	
Rated torque [Nm]	min.	285,18		236,6	
Starting current [IA/IN]	+20 %	7,9		9	

**Table 730: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	68	78
Moment of inertia [kgm <sup>2</sup> ]	max.	0,70692	0,70692
Motor canopy	-	No	

**Table 731: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 732: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 733: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>161</sup> The name plate data may vary within the tolerances.

<sup>162</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 4-pin, 250M

 Material: 4-55,0-250M-BWE6F3NTSDWFUWKWB<sup>163)</sup>

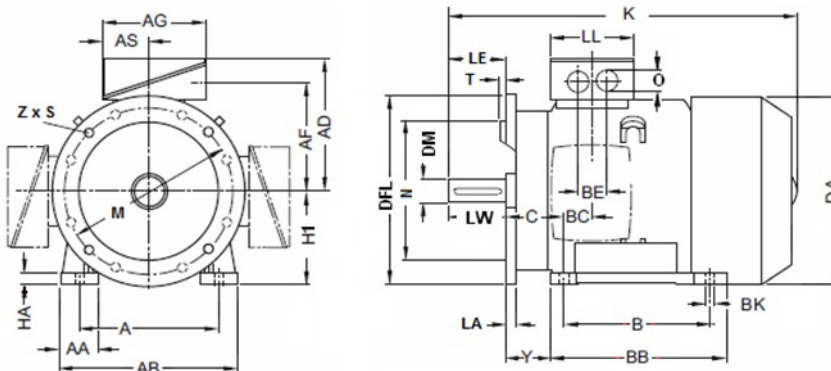
Material number: 01583901

**Table 736: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	250M
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	507
Housing material <sup>164)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	Yes (acc to KSB)
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 737: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	94,6	94,7	93,9	95,4		
Power factor	min.	0,85			0,81		


**Fig. 82: Envelope dimensions**
**Table 743: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
406	100	531	451	354	351	160	349	467	62	100,5	24	168	497	550

**Table 744: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
65	250	43	192	965	18	825	245	140	500	450	19	5	131	8

**Table 738: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	103,6	61,6	102	-
Rated power [kW]	-	55		55	
Rated speed [rpm]	min.	1480		1730	
Rated torque [Nm]	min.	346,92		288,4	
Starting current [IA/IN]	+20 %	7,9		8,7	

**Table 739: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	69	79
Moment of inertia [kgm <sup>2</sup> ]	max.	1,1023	1,1023
Motor canopy	-	No	

**Table 740: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 741: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 742: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>163</sup> The name plate data may vary within the tolerances.

<sup>164</sup> 1800=grey cast iron, 4400=aluminium

## V15 type of construction, 4-pin, 280S

 Material: 4-75,0-280S-BWE6F3NTSDWFNWKWB<sup>165)</sup>

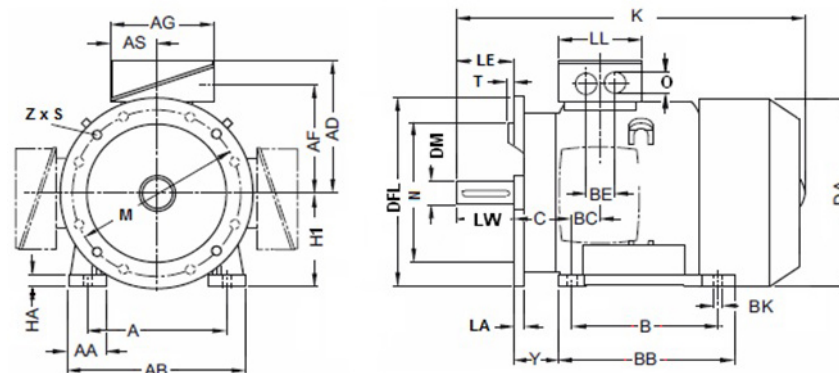
Material number: 01619758

**Table 745: General data [50 Hz]**

General data	+/-	Values
Motor size	max.	280S
Type of construction	max.	IM V15 (IM2011) IEC 60034-7
Starting method	-	Star a. Delta
Motor flange	-	EN 50347 Type FF
Weight without attachments	[kg] max.	729
Housing material <sup>166)</sup>	-	1800
Enclosure	-	IP55
Nominal frequency	[Hz]	50/60Hz
Efficiency class	-	IE3 (Premium)
Thermal class F to B	-	Yes
Temperature sensor	-	3 PTC thermistors
Operation on frequency inverter permitted	-	No
Operating mode	-	Continuous running duty (S1)
Direction of rotation	-	Bi-directional
Motor bearings insulated	-	No
Position of fixed motor bearing	-	Drive end
Fixed motor bearing reinforced	-	Without
Radial motor bearing reinforced	-	No
Condensate drain	-	Yes
Bolted feet	-	Yes

**Table 746: Efficiency**

Electrical data	+/-	50 Hz			60 Hz		
		4/4	3/4	2/4	4/4	3/4	2/4
Efficiency [%]	min.	95	94,9	94,1	95,4		
Power factor	min.	0,88			0,82		


**Fig. 83: Envelope dimensions**
**Table 752: Envelope dimensions A-DFL**

A	AA	AB	AD	AF	AG	AS	B	BB	BC	BE	BK	C	DA	DFL
457	100	585	476	380	351	160	368	517	20	110	24	190	580	550

**Table 753: Envelope dimensions DM-Z**

DM	H1	HA	HH	K	LA	LB	LL	LW	M	N	S	T	Y	Z
75	280	42	210	1071	18	931	245	140	500	450	19	5	103	4

**Table 747: Electrical data**

Electrical data	+/-	50 Hz		60 Hz	
		Δ	Y	Δ	Y
Rated voltage [V]	-	400	690	460	-
Rated current [A]	-10 %	140,5	84,7	123,3	-
Rated power [kW]	-	75		75	
Rated speed [rpm]	min.	1485		1770	
Rated torque [Nm]	min.	472,36		392,1	
Starting current [IA/IN]	+20 %	7,9		7,8	

**Table 748: Mechanical data**

Mechanical data	+/-	Values	
		50 Hz	60 Hz
Sound pressure level [dB]	max.	72	81
Moment of inertia [kgm <sup>2</sup> ]	max.	2,19209	2,19209
Motor canopy	-	No	

**Table 749: Explosion protection**

Explosion protection	+/-	Values
Type of protection	-	Without

**Table 750: Environment**

Environment	+/-	Values
Ambient temperature [°C]	max.	40

**Table 751: Terminal box**

Explosion protection	+/-	Values
Enclosure of terminal box	-	IP55
Cable entry (O)	-	

<sup>165)</sup> The name plate data may vary within the tolerances.

<sup>166)</sup> 1800=grey cast iron, 4400=aluminium







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