

# WEA Series

Three Phase High Efficiency  
TEFC Aluminum Induction Motors

**IE2**

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TEFC Aluminum Induction Motors



## General Information:

WEA Series three phase asynchronous motors are Wonder-designed high efficiency motors with aluminum housing. They are with product features as compact size, less weight and outstanding appearance. The efficiency indicators are in line with IE2.

Wonder three phase asynchronous motors are widely applied in general machinery and industries such as pumps & water treatment, road machinery, petroleum, chemical & metallurgy, cement and paper making.

## Technical Characteristics:

- IP55 protection, class F insulation, B-level temperature rise, S1 duty;
- Rated voltage 400V;
- Rated frequency 50Hz;
- Operation ambient temperature: -20°C~40°C;
- Operation altitude ≤1000m.
- Y-connection for motors up to 3kW,  
Δ-connection for 4kW and above.
- Cooling method: IC411/IC416.

## Mounting Arrangements:

Types	Basic Type of Construction	Derived Types of Construction				
WEA 80-180	IM B3 IM 1001	IM V5 IM 1011	IM V6 IM 1031	IM B6 IM 1051	IM B7 IM 1061	IM B8 IM 1071
	IM B35 IM 2001	IM V15 IM 2011	IM V36 IM 2031	* IM 2051	* IM 2061	* IM 2071
WEA 80-180	IM B34 IM 2101	* IM 2111	* IM 2131	* IM 2151	* IM 2161	* IM 2171
	IM B5 IM 3001	IM V1 IM 3011	IM V3 IM 3031			
WEA 80-180	IM B14 IM 3601	IM V18 IM 3611	IM V19 IM 3631			

Basic types of construction may be used in all derived types of construction.  
\*\* means not-defined mounting by IEC 60034-7.

1) for the types of construction IM V6, IM B6, IM B8 inquiry is necessary.

## Technical Specifications (1/2)

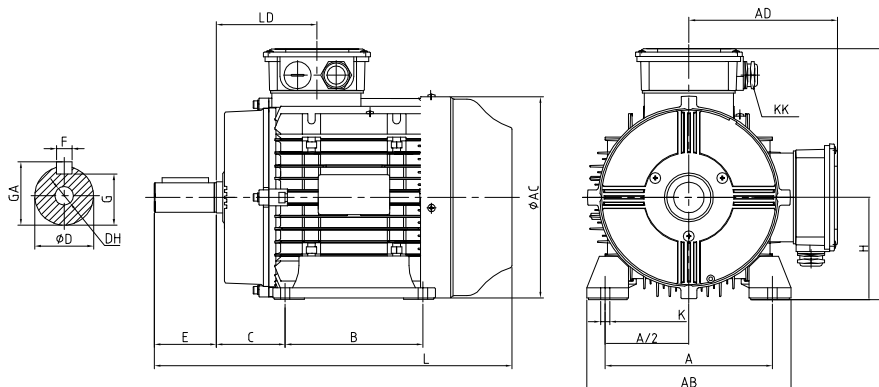
Rated Output		IEC Frame	Rated Speed r/m	Full Load Current $I_n$ (A)	Efficiency $\eta\%$			Power Factor $\cos\phi$			Locked Rotor Current $I_L/I_n$	Locked Rotor Torque $T_L/T_n$	Break-down Torque $T_b/T_n$	Sound LP dB(A)	Moment of Inertia J(kgm <sup>2</sup> )	Weight kg
					% of Full Load											
kW	HP			400V	100	75	50	100	75	50						
3000r/m (2 Pole) 50Hz																
0.75	1	80M1	2840	1.78	78.1	78	76.7	0.78	0.69	0.57	6.5	3.6	4	60	0.001	10
1.1	1.5	80M2	2930	2.48	81	80.8	79.3	0.79	0.72	0.68	6.6	3.7	3.9	60	0.001	12
1.5	2	90S	2890	3	82.1	81.8	81	0.88	0.83	0.75	6.6	2.1	2.1	60	0.002	14
2.2	3	90L	2890	4.24	84.2	84.7	83.4	0.89	0.86	0.79	7	2.3	2.3	59	0.003	16
3	4	100L	2915	5.63	85.4	86	85	0.9	0.84	0.75	9.6	3.5	3.5	63	0.004	24
4	5.5	112M	2895	7.52	86.3	87	86	0.89	0.85	0.78	6.9	2.2	2.2	63	0.013	26
5.5	7.5	132S1	2930	10.2	87.5	87.6	86	0.89	0.85	0.77	8.2	2.2	2.2	68	0.023	37
7.5	10	132S2	2930	13.8	88.4	88.8	87.6	0.89	0.87	0.81	8.3	2.3	2.3	68	0.025	41
9.2	12.5	132M	2930	16.7	89.6	89.6	89.1	0.89	0.87	0.81	8.2	2.4	2.4	68	0.035	63
11	15	160M1	2940	19.6	89.9	89.7	88.1	0.9	0.87	0.8	7.9	2.6	2.6	71	0.055	92
15	20	160M2	2940	26.5	90.7	90.7	89.5	0.9	0.88	0.81	8.1	2.8	2.8	68	0.064	103
18.5	25	160L	2940	32.2	91.2	91.2	90.1	0.91	0.89	0.84	7.8	2.7	2.7	68	0.073	118
22	30	180M	2950	38.1	91.5	91.2	89.6	0.91	0.88	0.82	8	2.4	2.4	68	0.103	149
1500r/m (4 Pole) 50Hz																
0.55	0.75	80M1	1365	1.14	77	76.5	73.3	0.73	0.66	0.52	2.8	2.1	2.4	46	0.004	12
0.75	1	80M2	1390	1.81	79.6	78.6	77.4	0.75	0.69	0.56	4.7	2.5	2.7	47	0.004	14
1.1	1.5	90S	1435	2.53	81.4	81.3	80.2	0.77	0.71	0.59	5.4	2.1	2.6	49	0.005	15
1.5	2	90L	1430	3.31	82.8	82.4	81.9	0.79	0.77	0.66	5.4	2.1	2.5	51	0.006	17
2.2	3	100L1	1440	4.65	84.3	84.4	83.2	0.81	0.75	0.64	6.8	3	3.2	51	0.007	25
3	4	100L2	1430	6.25	85.5	85.5	85	0.81	0.75	0.65	6.5	2.9	2.9	51	0.009	29
4	5.5	112M	1445	8.19	87	86.8	85.8	0.81	0.75	0.7	7.1	2.7	2.8	55	0.017	33
5.5	7.5	132S	1460	11	87.8	87.6	87.2	0.82	0.77	0.68	7.3	2.4	2.9	55	0.037	47
7.5	10	132M	1460	14.7	89	88.7	88.1	0.83	0.79	0.7	7.5	2.6	2.8	55	0.045	60
9.2	12.5	132M	1460	17.8	90	90	89.4	0.83	0.8	0.72	7.6	2.5	2.8	55	0.075	72
11	15	160M	1470	20.7	90.3	90.2	90	0.85	0.81	0.73	7.8	2.6	3.1	63	0.105	95
15	20	160L	1470	27.7	91	90.7	90.4	0.86	0.82	0.75	7.4	2.5	2.8	63	0.112	110
18.5	25	180M	1470	34	91.3	91	90.9	0.86	0.84	0.78	7.4	2.4	3.2	62	0.116	145
22	30	180L	1470	40.2	91.8	91.9	91.2	0.86	0.82	0.72	8	2.8	3.4	62	0.186	160

## Technical Specifications (2/2)

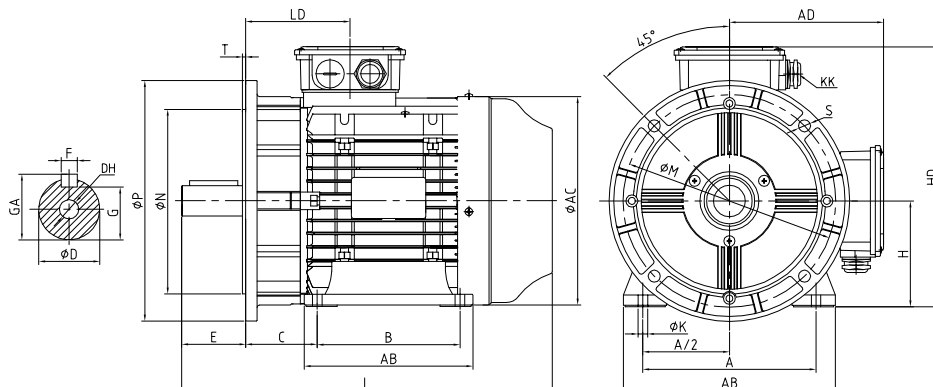
Rated Output		IEC Frame	Rated Speed r/m	Full Load Current I <sub>n</sub> (A)	Efficiency η%			Power Factor cosφ			Locked Rotor Current I <sub>L</sub> /I <sub>n</sub>	Locked Rotor Torque T <sub>L</sub> /T <sub>n</sub>	Break-down Torque T <sub>b</sub> /T <sub>n</sub>	Sound LP dB(A)	Moment of Inertia J(kgm <sup>2</sup> )	Weight kg
					% of Full Load											
kW	HP			400V	100	75	50	100	75	50						
1000r/m (6 Pole) 50Hz																
0.37	0.5	80M1	915	1.09	70.9	69.4	68.8	0.69	0.61	0.51	3.8	2.1	2.2	44	0.002	12
0.55	0.75	80M2	925	1.55	74.1	72.8	68.7	0.69	0.6	0.52	4.4	2.1	2.3	46	0.003	13
0.75	1	90S	945	2.03	76	75.5	73.8	0.7	0.62	0.5	3.8	1.6	2.2	45	0.004	15
1.1	1.5	90L	945	2.9	78.3	77.5	75.9	0.7	0.63	0.51	4	1.7	2.2	45	0.005	17
1.5	2	100L	930	3.82	79.8	78.1	77.8	0.71	0.64	0.55	3.6	1.6	2.1	47	0.008	22
2.2	3	112M	950	5.39	81.8	81.7	80.4	0.72	0.7	0.6	4.9	2	2.3	46	0.013	25
3	4	132S	970	6.93	83.3	83.2	82.2	0.75	0.71	0.56	6.8	2.7	3	50	0.003	34
4	5.5	132M1	970	8.86	84.6	84.1	83.6	0.77	0.7	0.58	7.1	2.8	3	50	0.04	43
5.5	7.5	132M2	970	11.8	86	86	85.4	0.78	0.71	0.6	7.6	3.1	3.1	53	0.05	52
7.5	10	160M	970	16.1	87.4	87.1	85.8	0.77	0.74	0.63	6.2	2.5	2.6	53	0.12	75
9.2	12.5	160L	970	19.5	88.5	88.2	86.1	0.77	0.74	0.62	6.2	2.2	2.7	57	0.15	90
11	15	160L	970	22.9	88.9	88.5	87.6	0.78	0.74	0.63	6.4	2.7	2.6	57	0.23	95
15	20	180L	980	29.7	89.9	90	88.5	0.81	0.74	0.62	7.6	2.8	3.3	57	0.34	130
750r/m (8 Pole) 50Hz																
0.37	0.5	90S	680	1.3	70.8	68.9	66.7	0.58	0.53	0.48	3.6	2.3	2.9	46	0.005	12
0.55	0.75	90L	695	1.89	71.3	69.5	67.8	0.59	0.54	0.5	3.6	2.3	2.8	45	0.005	15
0.75	1	100L1	700	2.42	73.3	72.1	71.7	0.61	0.57	0.53	4.3	2.6	2.6	47	0.007	20
1.1	1.5	100L2	700	3.39	75.5	75.1	74.6	0.62	0.58	0.57	4.2	2.8	2.9	47	0.022	22
1.5	2	112M	700	4.24	77.3	77	75.3	0.66	0.62	0.58	3.7	2	2.4	49	0.028	25
2.2	3	132S	710	5.9	80.3	80	79.5	0.67	0.63	0.6	4.5	2	2.6	50	0.04	33
3	4	132M	715	7.78	81.9	81.6	80.8	0.68	0.66	0.64	4.8	2.2	2.7	50	0.05	41
4	5.5	160M1	715	9.55	82.8	82.6	81.6	0.73	0.71	0.67	4.6	1.9	2.5	53	0.09	63
5.5	7.5	160M2	720	12.7	84.5	84.3	82.3	0.74	0.7	0.68	4.8	1.9	2.5	53	0.1	75
7.5	10	160L	720	17	86	86.1	85.2	0.74	0.71	0.67	5.4	2.3	2.7	50	0.11	95
9.2	12.5	180M	720	20.6	87.2	87	86.1	0.74	0.72	0.69	5.7	2.3	2.6	55	0.18	102
11	15	180L	725	24.5	87.7	87.5	86.8	0.74	0.72	0.7	5.9	2.3	2.7	55	0.22	107

## B3, B35, B5 Mounting and Overall Dimensions

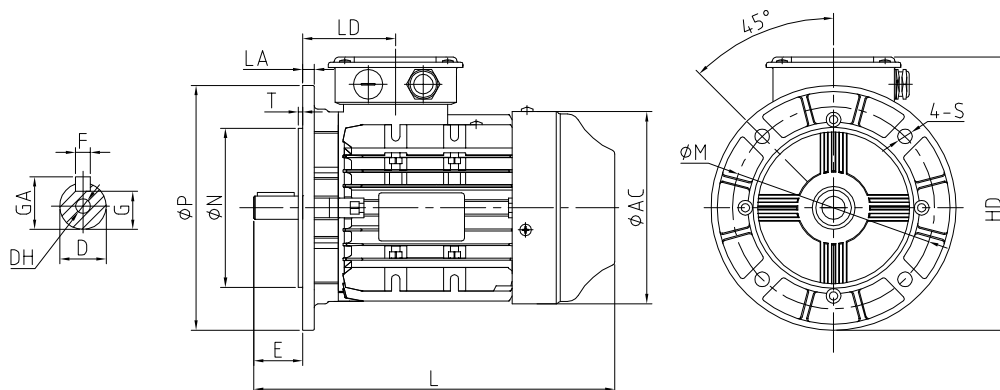
B3



B35



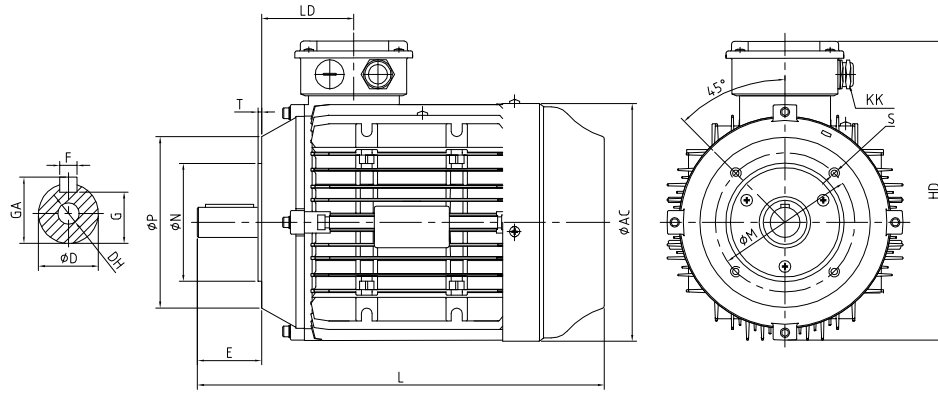
B5



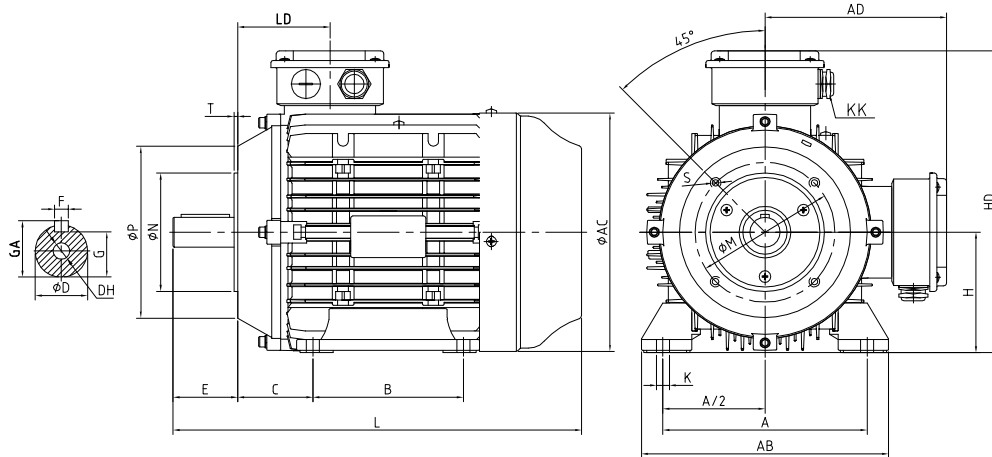
Frame Size	Mounting and Overall Dimensions (mm)																									
	A	A/2	B	C	D	DH	E	F	G	H	K	KK	M	N	P	R	S	T	AB	GA	AC	AD	HD	LA	LD	L
80M	125	62.5	100	50	19	M6×16	40	6	15.5	80	4-Φ10	M20×1.5	165	130	200	0	4-Φ12	3.5	165	21.5	160	123	203	9.5	76	295
90S	140	70	100	56	24	M8×20	50	8	20	90	4-Φ10	M25×1.5	165	130	200	0	4-Φ12	3.5	190	27	185	146	236	10	81	305
90L	140	70	125	56	24	M8×20	50	8	20	90	4-Φ10	M25×1.5	165	130	200	0	4-Φ12	3.5	190	27	185	147	236	10	86	330
100L	160	80	140	63	28	M10×22	60	8	24	100	4-Φ12	M25×1.5	215	180	250	0	4-Φ15	4	210	31	205	159	259	12	79	373
112M	190	95	140	70	28	M10×22	60	8	24	112	4-Φ12	M25×1.5	215	180	250	0	4-Φ15	4	240	31	230	169	281	12	86	380
132S	216	108	140	89	38	M12×28	80	10	33	132	4-Φ12	M32×1.5	265	230	300	0	4-Φ15	4	275	41	265	194	324	14	129	424
132M	216	108	178	89	38	M12×28	80	10	33	132	4-Φ12	M32×1.5	265	230	300	0	4-Φ15	4	275	41	265	192	324	14	130	462
160M	254	127	210	108	42	M16×36	110	12	37	160	4-Φ15	M40×1.5	300	250	350	0	4-Φ19	5	315	45	315	240	400	15	154	612
160L	254	127	254	108	42	M16×36	110	12	37	160	4-Φ15	M40×1.5	300	250	350	0	4-Φ19	5	315	45	315	240	398	15	154	656
180M	279	139.5	241	121	48	M16×36	110	14	42.5	180	4-Φ15	M40×1.5	300	250	350	0	4-Φ19	5	350	51.5	355	258	438	15	159	685
180L	279	139.5	279	121	48	M16×36	110	14	42.5	180	4-Φ15	M40×1.5	300	250	350	0	4-Φ19	5	350	51.5	355	256	438	15	161	723

# B14, B34, V18 Mounting and Overall Dimensions

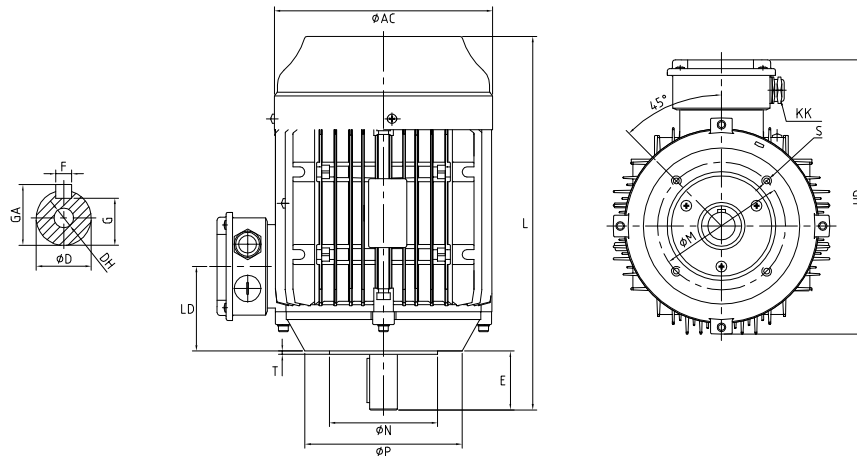
**B14**



**B34**

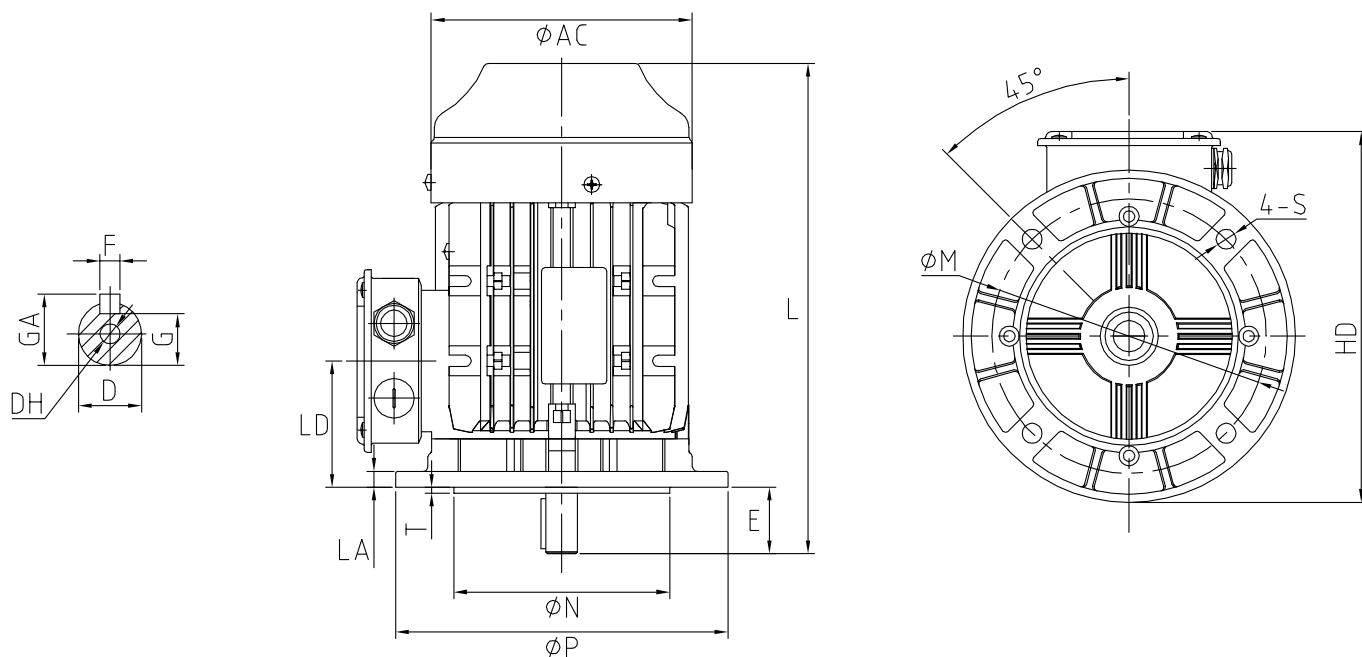


**V18**



Frame Size	Mounting and Overall Dimensions (mm)																								
	A	A/2	B	C	D	DH	E	F	G	H	K	KK	M	N	P	R	S	T	AB	GA	AC	AD	HD	LD	L
80M	125	62.5	100	50	19	M6×16	40	6	15.5	80	4-Φ10	M20×1.5	100	80	80	0	4-M6	3	165	21.5	160	141	201	76	295
90S	140	70	100	56	24	M8×20	50	8	20	90	4-Φ10	M25×1.5	115	95	140	0	4-M8	3	190	27	185	165	235	86	305
90L	140	70	125	56	24	M8×20	50	8	20	90	4-Φ10	M25×1.5	115	95	140	0	4-M8	3	190	27	185	165	235	81	330
100L	160	80	140	63	28	M10×22	60	8	24	100	4-Φ12	M25×1.5	130	110	160	0	4-M8	3.5	210	31	205	177.5	257.5	79	373
112M	190	95	140	70	28	M10×22	60	8	24	112	4-Φ12	M25×1.5	130	110	160	0	4-M8	3.5	240	31	230	199	279	86	380
132S	216	108	140	89	38	M12×28	80	10	33	132	4-Φ12	M32×1.5	165	130	200	0	4-M10	4	275	41	265	221	321	129	424
132M	216	108	178	89	38	M12×28	80	10	33	132	4-Φ12	M32×1.5	165	130	200	0	4-M10	4	275	41	265	221	321	130	463

## V1 Mounting and Overall Dimensions



Frame Size	Mounting and Overall Dimensions (mm)																									
	A	A/2	B	C	D	DH	E	F	G	H	K	KK	M	N	P	R	S	T	AB	GA	AC	AD	HD	LA	LD	L
80M	125	62.5	100	50	19	M6×16	40	6	15.5	80	4- $\phi$ 10	M20×1.5	165	130	200	0	4- $\phi$ 12	3.5	165	21.5	160	123	203	9.5	76	295
90S	140	70	100	56	24	M8×20	50	8	20	90	4- $\phi$ 10	M25×1.5	165	130	200	0	4- $\phi$ 12	3.5	190	27	185	146	236	10	81	305
90L	140	70	125	56	24	M8×20	50	8	20	90	4- $\phi$ 10	M25×1.5	165	130	200	0	4- $\phi$ 12	3.5	190	27	185	147	236	10	86	330
100L	160	80	140	63	28	M10×22	60	8	24	100	4- $\phi$ 12	M25×1.5	215	180	250	0	4- $\phi$ 15	4	210	31	205	159	259	12	79	373
112M	190	95	140	70	28	M10×22	60	8	24	112	4- $\phi$ 12	M25×1.5	215	180	250	0	4- $\phi$ 15	4	240	31	230	169	281	12	86	380
132S	216	108	140	89	38	M12×28	80	10	33	132	4- $\phi$ 12	M32×1.5	265	230	300	0	4- $\phi$ 15	4	275	41	265	194	324	14	129	424
132M	216	108	178	89	38	M12×28	80	10	33	132	4- $\phi$ 12	M32×1.5	265	230	300	0	4- $\phi$ 15	4	275	41	265	192	324	14	130	462
160M	254	127	210	108	42	M16×36	110	12	37	160	4- $\phi$ 15	M40×1.5	300	250	350	0	4- $\phi$ 19	5	315	45	315	240	400	15	154	612
160L	254	127	254	108	42	M16×36	110	12	37	160	4- $\phi$ 15	M40×1.5	300	250	350	0	4- $\phi$ 19	5	315	45	315	240	398	15	154	656
180M	279	139.5	241	121	48	M16×36	110	14	42.5	180	4- $\phi$ 15	M40×1.5	300	250	350	0	4- $\phi$ 19	5	350	51.5	355	258	438	15	159	685
180L	279	139.5	279	121	48	M16×36	110	14	42.5	180	4- $\phi$ 15	M40×1.5	300	250	350	0	4- $\phi$ 19	5	350	51.5	355	256	438	15	161	723

## Vibration

Frame Size	Speed (rpm)	Vibration (mm/s)
80-132	600-3600	0.71
132-180	600-3600	1.21

## Bearings

Frame Size	Driving End	Non-driving End
80	6204-2Z/C3	6203-2Z/C3
90	6205-2Z/C3	6204-2Z/C3
100	6306-2Z/C3	6205-2Z/C3
112	6306-2Z/C3	6205-2Z/C3
132	6208-2Z/C3	6206-2Z/C3
160	6209-2Z/C3	6209-2Z/C3
180-2P	6211/C3	6211/C3
180-4-8P	6311/C3	6211/C3





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