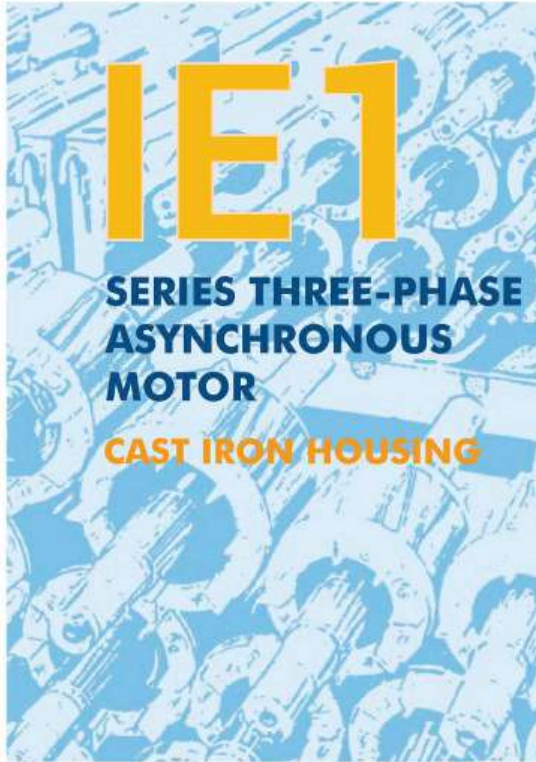


VORTEX PUMPS



VORTEX

ELECTRIC MOTOR



INTRODUCTION

The three phase motors conforms to IEC standards. They are reliable motors with excellent power factors, efficiencies and starting torques. These motors are widely used in the agricultural, pumping, manufacturing and building services industries.

BEARING SIZE

Frame Size	Poles	Drive End	Non - Drive End
56	2 - 8	6201	6201
63	2 - 8	6201	6201
71	2 - 8	6202	6202
80	2 - 8	6204	6204
90	2 - 8	6205	6205
100	2 - 8	6206	6206
112	2 - 8	6206	6206
132	2 - 8	6208	6208
160	2 - 8	6309	6309
180	2 - 8	6311	6311
200	2 - 8	6312	6312
225 (Horizontal)	2 - 8	6313	6313
225 (Vertical)	2 - 8	6313	QJ 313

Frame Size	Poles	Drive End	Non - Drive End
250 (Horizontal)	2 - 8	6314	6314
250 (Vertical)	2 - 8	6314	QJ 314
280 (Horizontal)	2	6314	6314
	4 - 8	6317	6317
280 (Vertical)	2	6314	QJ 314
	4 - 8	NU 317	QJ 317
315 (Horizontal)	2	6316	6316
	4 - 8	NU 319	6319
315 (Vertical)	2	6317	QJ 317
	4 - 8	NU 319	QJ 319
355 (Horizontal)	2	6319	6319
	4 - 8	NU 322	6322
355 (Vertical)	2	6319	QJ 319
	4 - 8	NU 322	QJ 322

• VORTEX Electric Motors are equipped with bearings from excellent manufacturers.

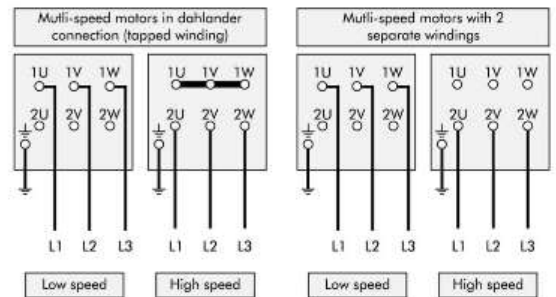
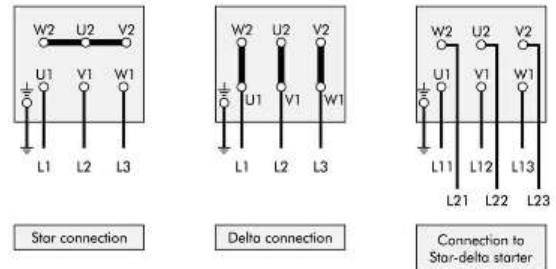
MOTOR FEATURES

- IP 55 enclosures, others upon request
- Class F insulation, Class H available on request
- 380V-420V/440V-480V, 50/60Hz windings
- High quality magnet wire
- Vacuum varnish impregnation for tropic proof insulation
- Continuous S I operation
- Industrial type service factors
- Heavy duty ball bearings
- Strong cast iron housing
- Balanced rotors

CUSTOMER BENEFITS

- Water dust and vermin resistant
- Low noise
- Corrosion resistant
- Suitable for most environments
- Very low vibration
- Very low power consumption
- Reliable and longer motor life span

CONNECTION DIAGRAMS



MOUNTING ARRANGEMENTS

Fundamental arrangement	B3					
Mounting arrangement	B3	B6	B7	B8	V5	V6
Diagram						
Range of Manufacture (Frame Size)	63 - 355		63 - 160			
Fundamental arrangement	B5			B35		
Mounting arrangement	B5	V1	V3	B35	V15	V36
Diagram						
Range of Manufacture (Frame Size)	63 - 280	63 - 355	63 - 160	63 - 355	63 - 160	
Fundamental arrangement	B14					
Mounting arrangement	B14	B34	V18	V58	V19	V69
Diagram						
Range of Manufacture (Frame Size)	63 - 132					

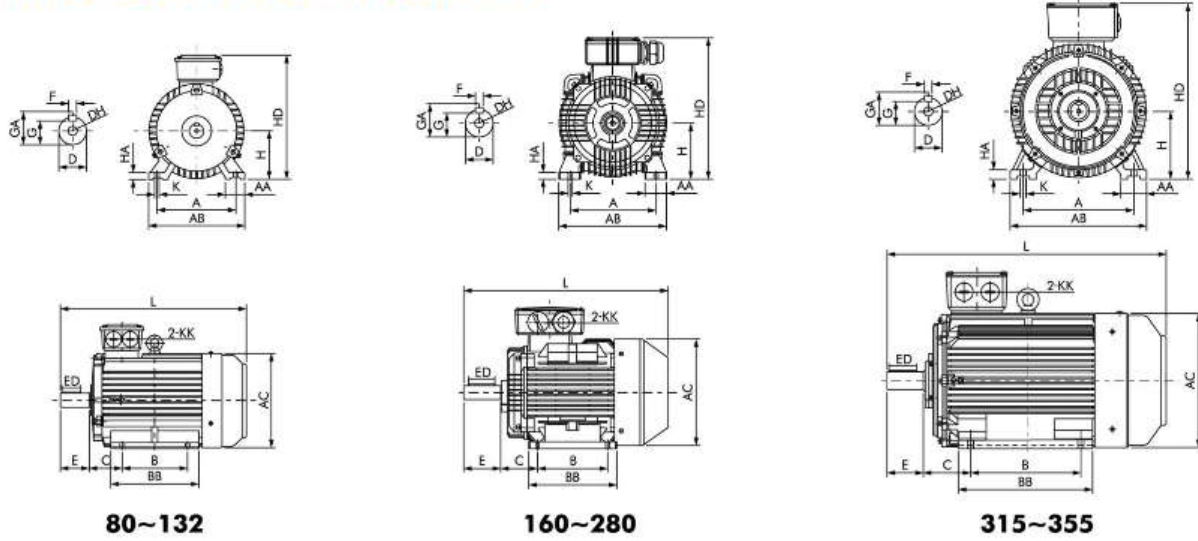
TECHNICAL DATA - 2 POLE (3000 RPM) ASYNCHRONOUS SPEED 50 HZ

MODEL	Rated Output		Rated Speed (rpm)	IFL	IFL	IFL	EFF %	Power Factor	Rated Torque (Nm)	T _S TN	T _{MAX} TN	I _S IN	Net Weight (kg)
	kW	HP		380V (Amp)	400V (Amp)	415V (Amp)							
IE1-71M1-2	0.37	0.50	2800	0.99	0.94	0.91	70.0	0.81	1.3	2.2	2.2	6.0	9.7
IE1-71M2-2	0.55	0.75	2800	1.40	1.33	1.28	73.0	0.82	1.9	2.2	2.2	6.0	10.7
IE1-80M1-2	0.75	1	2890	1.90	1.81	1.74	72.1	0.83	2.5	2.2	2.2	6.0	16
IE1-80M2-2	1.1	1.5	2900	2.65	2.52	2.43	75.0	0.84	3.7	2.2	2.2	7.0	17
IE1-90S-2	1.5	2	2900	3.51	3.34	3.22	77.2	0.84	5	2.2	2.2	7.0	21
IE1-90L-2	2.2	3	2930	4.93	4.69	4.52	79.7	0.85	7.4	2.2	2.2	7.0	25
IE1-100L-2	3	4	2930	6.43	6.11	5.89	81.5	0.87	10	2.2	2.2	7.0	33
IE1-112M-2	4	5.5	2930	8.31	7.90	7.61	83.1	0.88	13.3	2.2	2.2	8.0	42
IE1-132S1-2	5.5	7.5	2940	11.21	10.65	10.27	84.7	0.88	18.1	2.2	2.2	8.0	64
IE1-132S2-2	7.5	10	2950	15.06	14.30	13.79	86.0	0.88	24.5	2.2	2.2	8.0	68
IE1-160M1-2	11	15	2950	21.44	20.36	19.63	87.6	0.89	35.8	2.0	2.2	8.0	106
IE1-160M2-2	15	20	2970	28.87	27.43	26.43	88.7	0.89	48.8	2.0	2.2	8.0	107
IE1-160L-2	18.5	25	2970	34.97	33.22	32.02	89.3	0.90	60.4	2.0	2.2	8.0	130
IE1-180M-2	22	30	2970	41.31	39.25	37.83	89.3	0.90	71.4	2.0	2.2	8.0	152
IE1-200L1-2	30	40	2970	55.84	53.05	51.13	90.7	0.90	97.2	2.0	2.2	8.0	220
IE1-200L2-2	37	50	2980	68.49	65.06	62.71	91.2	0.90	119.8	2.0	2.2	8.0	230
IE1-225M-2	45	60	2980	82.84	78.70	75.86	91.7	0.90	144.8	1.8	2.2	8.0	280
IE1-250M-2	55	75	2980	100.81	95.77	92.31	92.1	0.90	177	1.8	2.2	7.0	366
IE1-280S-2	75	100	2980	136.58	129.75	125.06	92.7	0.90	241.3	1.8	2.2	7.0	475
IE1-280M-2	90	125	2980	161.57	153.50	147.95	93.0	0.91	289.5	1.8	2.2	7.0	530
IE1-280M2-2	110	150	2980	196.85	187.00	180.24	93.3	0.91	353.9	1.8	2.2	7.0	600
IE1-315S-2	110	150	2980	196.85	187.00	180.24	93.3	0.91	353.9	1.8	2.2	6.8	850
IE1-315M-2	132	175	2980	235.71	223.92	215.83	93.5	0.91	423.2	1.8	2.2	6.8	930
IE1-315L1-2	160	220	2980	281.70	267.61	257.94	93.8	0.92	513	1.8	2.2	6.8	990
IE1-315L2-2	200	270	2980	351.37	333.81	321.74	94.0	0.92	641.2	1.8	2.2	6.8	1030
IE1-355M-2	250	340	2980	439.22	417.26	402.18	94.0	0.92	801.5	1.6	2.2	7.0	1650
IE1-355L-2	315	430	2980	545.29	518.03	499.30	95.4	0.92	1010	1.6	2.2	7.0	1750

TECHNICAL DATA - 4 POLE (1500 RPM) ASYNCHRONOUS SPEED 50 HZ

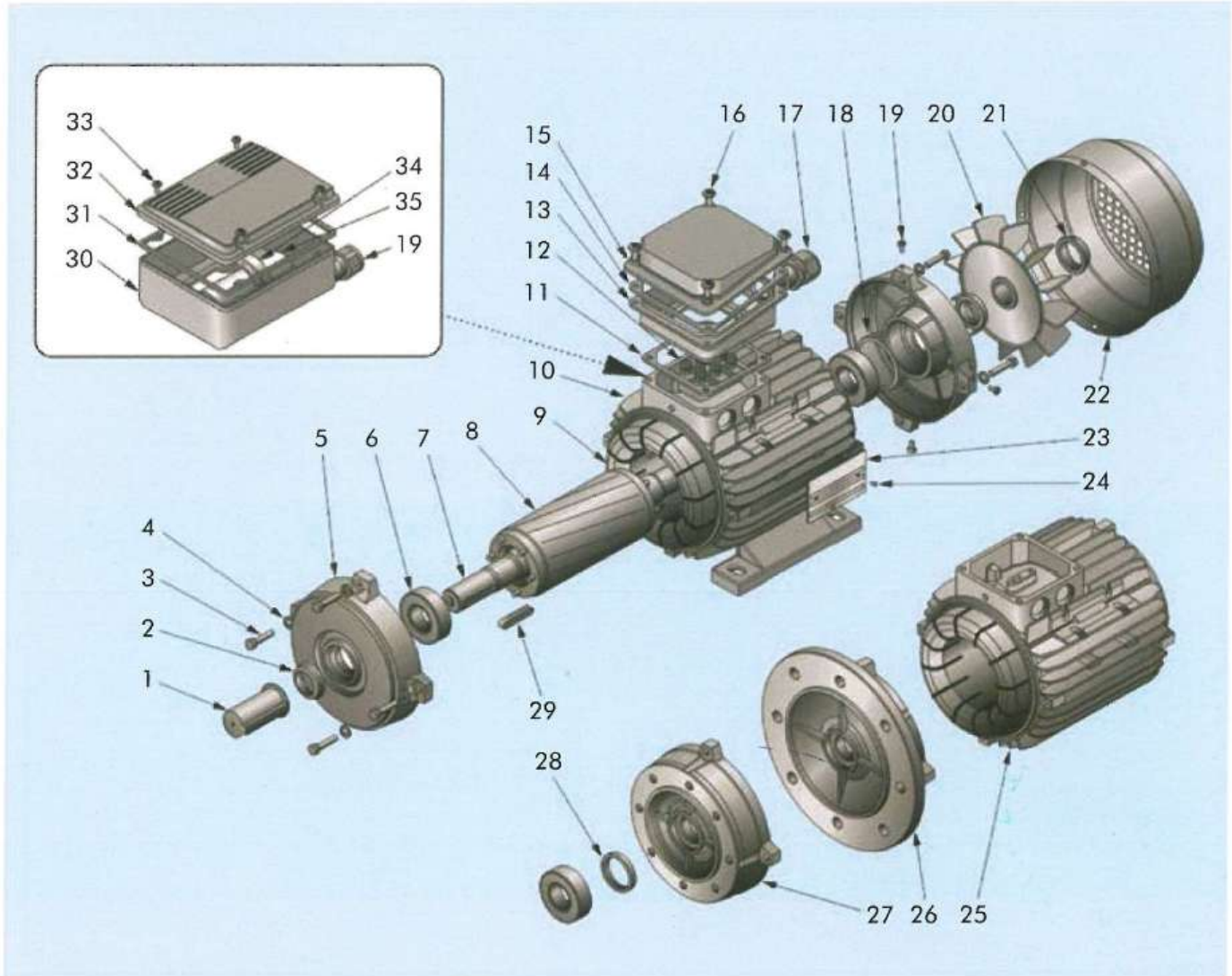
MODEL	Rated Output		Rated Speed (rpm)	IFL	IFL	IFL	EFF %	Power Factor	Rated Torque (Nm)	T _S TN	T _{MAX} TN	I _S IN	Net Weight (kg)
	kW	HP		380V (Amp)	400V (Amp)	415V (Amp)							
IE1-71M2-4	0.37	0.5	1370	1.12	1.06	1.02	67.0	0.75	2.6	2.2	2.2	5.5	9.7
IE1-80M1-4	0.55	0.75	1400	1.57	1.49	1.44	71.0	0.75	3.8	2.2	2.2	5.5	16
IE1-80M2-4	0.75	1	1400	2.08	1.98	1.90	72.1	0.76	5.2	2.2	2.2	5.5	17
IE1-90S-4	1.1	1.5	1400	2.89	2.75	2.65	75.0	0.77	7.5	2.2	2.2	6.0	22
IE1-90L-4	1.5	2	1400	3.74	3.55	3.42	77.2	0.79	10.2	2.2	2.2	6.0	26
IE1-100L1-4	2.2	3	1420	5.18	4.92	4.74	79.7	0.81	14.8	2.2	2.2	6.0	33
IE1-100L2-4	3	4	1420	6.82	6.48	6.25	81.5	0.82	20.2	2.2	2.2	7.0	36
IE1-112M-4	4	5.5	1440	8.92	8.47	8.17	83.1	0.82	26.5	2.2	2.2	7.0	46
IE1-132S-4	5.5	7.5	1440	11.89	11.29	10.88	84.7	0.83	36.5	2.2	2.2	7.0	64
IE1-132M-4	7.5	10	1440	15.77	14.99	14.44	86.0	0.84	49.8	2.0	2.2	7.0	77
IE1-160M-4	11	15	1460	22.71	21.58	20.80	87.6	0.84	72	2.0	2.2	7.0	106
IE1-160L-4	15	20	1460	30.23	28.72	27.68	88.7	0.85	98.2	2.0	2.2	7.0	126
IE1-180M-4	18.5	25	1470	36.60	34.77	33.51	89.3	0.86	120.2	2.2	2.2	7.5	154
IE1-180L-4	22	30	1470	43.23	41.07	39.59	89.9	0.86	143	2.2	2.2	7.5	175
IE1-200L-4	30	40	1470	58.43	55.51	53.51	90.7	0.86	195	2.2	2.2	7.5	235
IE1-225S-4	37	50	1480	70.85	67.31	64.88	91.2	0.87	238.9	2.2	2.2	7.5	295
IE1-225M-4	45	60	1480	85.70	81.41	78.47	91.7	0.87	290.5	2.2	2.2	7.5	306
IE1-250M-4	55	75	1480	104.29	99.07	95.49	92.1	0.87	355.1	2.2	2.2	7.0	375
IE1-280S-4	75	100	1480	141.29	134.23	129.38	92.7	0.87	483.9	2.2	2.2	7.0	533
IE1-280M-4	90	125	1480	169.00	160.55	154.75	93.0	0.87	580.7	2.2	2.2	7.0	575
IE1-280M2-4	110	150	1490	203.56	193.38	186.39	93.3	0.88	709.8	2.1	2.2	6.9	685
IE1-315S-4	110	150	1490	203.56	193.38	186.39	93.3	0.88	709.8	2.1	2.2	6.9	820
IE1-315M-4	132	175	1490	243.74	231.56	223.19	93.5	0.88	851.8	2.1	2.2	6.9	960
IE1-315L1-4	160	220	1490	291.19	276.63	266.64	93.8	0.89	1032	2.1	2.2	6.9	1000
IE1-315L2-4	200	270	1490	363.22	345.06	332.59	94.0	0.89	1290	2.3	2.2	6.9	1080
IE1-355M-4	250	340	1485	448.98	426.53	411.11	94.0	0.90	1603	2.3	2.2	6.8	1580
IE1-355L-4	315	430	1485	558.58	530.65	511.47	95.2	0.90	2020	2.2	2.2	6.9	1730

DIMENSIONS FOOT MOUNT B3



Frame Size	A	AA	AB	AC	B	BB	C	D	E	F	G	H	HA	HD	K	L	KK	ED	DH	GA
63	100	-	135	130	80	-	40	11	23	4	8.5	63	-	180	7	230	M20X1.5	20	M4X10	16
71	112	-	150	145	90	-	45	14	30	5	11	71	-	195	7	255	M20X1.5	20	M4X10	16
80	125	34	165	175	100	130	50	19	40	6	15.5	80	10	220	10	295	M25X1.5	25	M6X16	21.5
90S	140	36	180	195	100	135	56	24	50	8	20	90	12.5	250	10	320	M25X1.5	40	M8X19	27
90L	140	36	180	195	125	160	56	24	50	8	20	90	12.5	250	10	345	M25X1.5	40	M8X19	27
100L	160	40	205	215	140	182	63	28	60	8	24	100	14	270	12	385	M25X1.5	45	M10X22	31
112M	190	45	230	240	140	195	70	28	60	8	24	112	14	300	12	400	M32X1.5	45	M10X22	31
132S	216	52	270	275	140	205	89	38	80	10	33	132	16	345	12	470	M32X1.5	63	M12X28	41
132M	216	52	270	275	178	245	89	38	80	10	33	132	16	345	12	510	M32X1.5	63	M12X28	41
160M	254	65	315	330	210	260	108	42	110	12	37	160	19	400	15	605	M40X1.5	90	M16X36	45
160L	254	65	315	330	254	305	108	42	110	12	37	160	19	400	15	660	M40X1.5	90	M16X36	45
180M	279	74	355	380	241	297	121	48	110	14	42.5	180	22	440	15	690	M40X1.5	90	M16X36	51.5
180L	279	74	355	380	279	327	121	48	110	14	42.5	180	22	440	15	725	M40X1.5	90	M16X36	51.5
200L	318	75	395	420	305	370	133	55	110	16	49	200	25	500	19	765	M50X1.5	90	M20X42	59
225S (4-8P)	356	75	436	465	286	355	149	60	140	18	53	225	28	555	19	810	M50X1.5	110	M20X42	64
225M (2P)	356	75	436	465	311	380	149	55	110	16	49	225	28	550	19	805	M50X1.5	90	M20X42	59
225M (4-8P)	356	75	436	465	311	380	149	60	140	18	53	225	28	550	19	835	M50X1.5	110	M20X42	64
250M (2P)	406	88	495	520	349	440	168	60	140	18	53	250	33	615	24	910	M63X1.5	110	M20X42	64
250M (4-8P)	406	88	495	520	349	440	168	65	140	18	58	250	33	615	24	910	M63X1.5	110	M20X42	69
280S (2P)	457	103	550	570	368	495	190	65	140	18	58	280	35	660	24	980	M63X1.5	110	M20X42	69
280S (4-8P)	457	103	550	570	368	495	190	75	140	20	67.5	280	35	660	24	980	M63X1.5	110	M20X42	79.5
280M (2P)	457	103	550	570	419	535	190	65	140	18	58	280	35	660	24	1030	M63X1.5	110	M20X42	69
280M (4-8P)	457	103	550	570	419	535	190	75	140	20	67.5	280	35	660	24	1030	M63X1.5	110	M20X42	79.5
315S (2P)	508	120	630	650	406	515	216	65	140	18	58	315	45	825	28	1180	M63X1.5	110	M20X42	69
315S (4-8P)	508	120	630	650	406	515	216	80	170	22	71	315	45	825	28	1275	M63X1.5	140	M20X42	85
315M (2P)	508	120	630	650	457	625	216	65	140	18	58	315	45	830	28	1290	M63X1.5	110	M20X42	69
315M (4-8P)	508	120	630	650	457	625	216	80	170	22	71	315	45	830	28	1320	M63X1.5	140	M20X42	85
315L (2P)	508	120	630	650	508	625	216	65	140	18	58	315	45	830	28	1290	M63X1.5	110	M20X42	69
315L (4-8P)	508	120	630	650	508	625	216	80	170	22	71	315	45	830	28	1320	M63X1.5	140	M20X42	85
355M (2P)	610	125	735	735	560	775	254	75	140	20	67.5	355	49	1010	28	1510	M63X1.5	110	M24X50	79.5
355M (4-8P)	610	125	735	735	560	775	254	95	170	25	86	355	49	1010	28	1540	M63X1.5	140	M24X50	100
355L (2P)	610	125	735	735	630	775	254	75	140	20	67.5	355	49	1010	28	1510	M63X1.5	110	M24X50	79.5
355L (4-8P)	610	125	735	735	630	775	254	95	170	25	86	355	49	1010	28	1540	M63X1.5	140	M24X50	100

MOTOR SPARE PART LIST / DRAWING



No.	Description	No.	Description	No.	Description
1	Shaft cover	13	Terminal block box - base	25	B5 motor casing
2	V-ring	14	IP 65 gasket	26	B5 flange
3	Motor clamping screws	15	Terminal block box - cover	27	B14 flange
4	Spring ring	16	Terminal block box tightening screws	28	Sealing ring
5	Shield	17	Cable inlet bush	29	Shaft key
6	Bearing	18	Compensation ring	30	Capacitor-holder-base vers. MM
7	Motor shaft	19	Fan cover lightening screws	31	IP 55 gasket vers. MM
8	Rotor	20	PVC fan	32	Capacitor-holder-cover vers. MM
9	Wound stator	21	Ring for fan tightening	33	Capacitor-holder tightening screws vers. MM
10	Motor casing B3-B5	22	Fan cover	34	Capacitor clamp vers. MM
11	IP 55 gasket	23	Motor identification plate	35	Capacitor
12	Mains power connection terminal block	24	Motor identification plate tightening screws		





VORTEX[®] PUMPS



THT

CÔNG TY TNHH THUẬN HIỆP THÀNH

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