



IMA/IMR/IMSR SERIES MOTORS

Cast aluminium frame
Single&threephaseunits

IMR SERIES



IMA SERIES



IMSR SERIES



Rich in features, Invertek's IMA/IMR/IMSR series of cast aluminium motors is one of the most commercially competitive in the market where cost is a key driver. Built to world's best practices and technologies, the IMA/IMR/IMSR series ranges from 0.06kW to 22kW. The IMA/IMR/IMSR series combines robustness and reliability with easy to use performance.

Invertek products are stocked and distributed through more than 200 centres Australia wide. With this extensive national sales and service network, we are dedicated to continuing our policy of supplying a comprehensive range of electrical and transmission equipment, supported by substantial stocks and first class service on a national basis. Our products will deliver reliable performance year after year with minimum maintenance and downtime.

Whether it is an electric motor, variable speed drive, soft starter or one of our many other products you can be assured of our total commitment to quality and service.

STANDARDS AND SPECIFICATIONS

The main dimensions and rated outputs of the IMA/IMR/IMSR series generally conform to Australian Standard AS1359 and International Standards IEC-34 and IEC-72.

LOW WEIGHT CONSTRUCTION

The IMA/IMR/IMSR series is manufactured in a high pressure die cast aluminium frame, with aluminium endshields for frames 63 to 90 and cast iron endshields for frames 100 to 180. This gives the ability to be used in areas where low weight is a significant factor.

OPERATING PARAMETERS

Standard IMA/IMR/IMSR series motors are designed with the following parameters:

- ① Continuous duty (S1)
- ① Three phase 240/415V, 415/720V
50/60Hz
- ① Single phase 220~240V
- ① Ambient temperatures up to 40°C
- ① Installation at altitudes up to 1000 metres

Performance data is based on these parameters and may need adjustment for different requirements.

Insulation class F, Temperature rise class B

Unless otherwise stated IMA/IMR/IMSR series motors have this characteristic, which gives them excellent service factor capabilities.

DEGREE OF PROTECTION

Standard level of enclosure protection for the IMA/IMR/IMSR is IP55, with increased ratings available upon request.

240 VOLT SINGLE PHASE OPTION

The IMR is available in 240 volt single phase permanent capacitor version in outputs from 0.18kW to 2.2kW. Motors are supplied standard with 2 metre flex and plug, connected for anti-clockwise rotation when viewed from drive end. This design is suitable for applications such as fans, centrifugal pumps and many geared motors where high starting torque is not required.

The IMSR is available in 240 volt single phase dual capacitor version in outputs from 0.25kW to 3.7kW. Motors are supplied standard with 2 metre flex and insulated plug, connected for anti-clockwise rotation when viewed from drive end. This design is suitable for applications such as conveyors, hoisting, positive displacement pumps and many geared motors where high starting torque is required.

TERMINAL BOX

The terminal box can be located on either side of motor or top due to removable feet. Fitted with IEC standard metric cable glands.

INTERNAL CONNECTIONS, VOLTAGES AND VF DRIVE SELECTION

IMR series is suitable for operation with 240V single phase variable frequency drives.

IMA standard terminal connections for sizes 56 to 100 =< 3kW is 240V▲/415Y. These motors are suitable for operation with 240V three phase variable frequency drives, 415V star/delta or 415V D.O.L. starting.

THREE PHASE PERFORMANCE DATA

IMA series Three phase 415V 50Hz

IP55 Insulation class F, Temperature rise class B

	Motor Frame	Speed	Voltage	Current		Eff.	Power Factor	Tstart/Tn	Tmax/Tn	Ist/In	Weight
kW		r/min	V	A		%	Cos Φ				Kg
3000 r/min = 2 poles											
0.18	563	2700	240▲/415Y	0.9	0.52	68	0.67		2.4	6	3
0.18	631	2700	240▲/415Y	1.10	0.59	69	0.75	2.2	2.5	6	4.7
0.12	562	2700	240▲/415Y	0.70	0.40	67	0.71	2.3	2.4	6	4.5
0.25	632	2712	240▲/415Y	1.30	0.75	72	0.75	2.2	2.4	6	5.0
0.37	633	2730	240▲/415Y	1.20	0.95	73	0.74	2.2	2.4	6	6.0
0.37	711	2730	240▲/415Y	1.60	0.95	73	0.74	2.2	2.4	6	6.5
0.55	712	2760	240▲/415Y	2.00	1.20	76	0.82	2.2	3.3	6	6.5
0.75	713	2800	240▲/415Y	2.98	1.72	76	0.80	2.2	2.7	6	6.5
0.75	801	2800	240▲/415Y	2.70	1.50	77	0.86	2.2	2.7	6	9.5
1.10	802	2745	240▲/415Y	3.80	2.10	77	0.86	2.2	2.4	6	11.5
1.50	90S	2800	240▲/415Y	5.60	3.10	79	0.86	2.2	2.9	6	14.5
2.20	90L	2815	240▲/415Y	7.60	4.20	81	0.88	2.2	2.7	6	17.0
3.00	90L2	2815	240▲/415Y	8.2	4.56	83	0.88	2.2	2.7	6	21.5
3.00	100L	2875	240▲/415Y	9.50	5.60	83	0.87	2.2	3.1	7	24.5
4.00	100L2	2875	415▲/720Y	10.15	5.86	84	0.83	2.2	2.5	7	26
4.00	112M	2830	415▲/720Y	7.30	3.80	86	0.86	2.2	2.4	7	30.0
5.50	112M	2850	415▲/720Y	10.35	5.98	86	0.88	2.0	2.8	7	41.0
5.50	132S1	2890	415▲/720Y	9.70	4.80	86	0.87	2.0	2.8	7	41.0

THREE PHASE PERFORMANCE DATA - CONTINUED

7.50	132S2	2895	415▲/720Y	13.20	6.50	87	0.87	2.0	3.6	7	50.0
9.00	132M	2895	415▲/720Y	18.95	9.48	87	0.88	2.0	3.4	7	68.0
11.00	160M1	2930	415▲/720Y	21.30	12.20	88	0.89	2.0	2.2	7	76.0
15.00	160M2	2930	415▲/720Y	28.70	16.40	89	0.89	2.0	2.2	7	90.0
18.50	160L	2930	415▲/720Y	34.60	19.80	90	0.90	2.0	2.2	7	105.0
22.00	180M	2935	415▲/720Y	40.90	23.40	90	0.90	2.0	2.2	7	114.0
1500 r/min = 4 poles											
0.09	562	1395	240▲/415Y	0.50	0.35	58	0.61	2.3	2.4	6	3
0.12	563	1400	240▲/415Y	0.83		59	0.57	2.2	2.4	6	3
0.12	631	1400	240▲/415Y	0.70	0.40	60	0.63	2.2	2.4	6	4
0.18	632	1400	240▲/415Y	1.10	0.59	64	0.67	2.2	2.4	6	4
0.25	633	1360	240▲/415Y	1.32	0.76	66	0.69	2.2	2.4	6	4
0.25	711	1395	240▲/415Y	1.30	0.70	67	0.68	2.2	2.4	6	6
0.37	712	1395	240▲/415Y	1.90	1.00	70	0.73	2.2	2.4	6	6
0.55	713	1402	240▲/415Y	2.69	1.55	74	0.74	2.2	2.4	6	6
0.55	801	1370	240▲/415Y	2.50	1.30	75	0.73	2.2	2.4	6	9
0.75	802	1400	240▲/415Y	3.60	1.90	76	0.76	2.2	2.4	6	11
1.1	803	1350	240▲/415Y	4.47	2.58	76	0.78	2.2	2.4	6	11
1.1	90S	1390	240▲/415Y	4.10	2.30	78	0.77	2.2	2.4	6	14
1.5	90L	1406	240▲/415Y	5.90	3.10	79	0.8	2.2	2.4	6	18
2.2	90L2	1420	240▲/415Y	8.48	4.9	8.	0.77	2.2	2.4	6	15
2.2	100L1	1380	240▲/415Y	7.90	4.30	81	0.83	2.2	2.3	6	24
3	100L2	1400	240▲/415Y	11.50	6.00	83	0.8	2.2	2.3	7	28
4	100L3	1420	415▲/720Y	8.24	4.76	81	0.77	2.2	2.3	7	35
4	112M	1420	415▲/720Y	7.90	4.00	84.5	0.84	2.2	2.2	7	41
5.5	112M	1430	415▲/720Y	11.25	6.50	85	0.81	2.2	2.2	7	41
5.5	132S	1420	415▲/720Y	10.80	6.24	86	0.84	2.2	2.2	7	57
7.5	132M1	1430	415▲/720Y	14.10	8.14	87	0.85	2.2	2.2	7	65
11	132M2	1420	415▲/720Y	20.30	11.60	87	0.85	2.2	2.2	7	58
11	160M	1460	415▲/720Y	22.30	12.70	88	0.85	2.2	2.2	7	80
15	160L	1460	415▲/720Y	30.00	17.10	89	0.85	2.2	2.2	7	97
18.5	180M	1470	415▲/720Y	36.40	20.80	90.5	0.85	2.2	2.2	7	113
22	180L	1470	415▲/720Y	43.10	24.60	91	0.85	2.2	2.2	7	135
1000 r/min = 6 poles											
0.25	712	930	240▲/415Y	1.51	0.87	59	0.68	1.9	2.0	4	7
0.37	801	920	240▲/415Y	2.06	1.19	62	0.70	1.9	2.0	4	8
0.55	802	932	240▲/415Y	2.84	1.64	65	0.72	1.9	2.0	4	10
0.75	803	910	240▲/415Y	4.30	2.40	69	0.72	1.9	2.0	4	13
0.75	90S	910	240▲/415Y	3.90	2.10	73	0.70	2.2	2.2	6	16
1.1	90L	914	240▲/415Y	5.60	3.00	79	0.73	2.2	2.2	6	18
1.5	100L	942	240▲/415Y	6.50	3.80	78	0.75	2.2	2.2	6	23
1000 r/min = 6 poles (con'd)											
2.2	112M	940	240▲/415Y	9.40	5.30	81	0.74	2.2	2.2	6	28
3	112M2	930	240▲/415Y	0.00	7.10	81	0.76	2.2	2.2	6	36
3	132S	930	240▲/415Y	11.80	6.90	81	0.76	2.2	2.2	6	50
3	112M2	940	240▲/415Y	12.10	8.99	80	0.70	2.0	2.1	6	43
4	132M1	960	415▲/720Y	9.40	5.40	84	0.77	2.0	2.0	7	58
5.5	132M2	960	415▲/720Y	12.50	7.22	84	0.78	2.0	2.0	7	60
7.5	160M	970	415▲/720Y	16.50	9.43	86	0.80	2.0	2.0	7	81
11	160L	970	415▲/720Y	22.40	12.87	87.5	0.80	2.0	2.0	7	105
15	180L	980	415▲/720Y	24.10	13.80	88.6	0.81	2.0	2.0	7	135
750 r/min = 8 poles											
0.09	712	670	240▲/415Y	0.73	0.50	50	0.60	2.0	2.0	5.5	8.5
0.18	801	670	240▲/415Y	0.00	0.70	58.6	0.62	2.0	2.0	5.5	9.5
0.25	802	680	240▲/415Y	1.74	1.01	60.5	0.65	1.6	2.0	6	9.5
0.37	90S	680	240▲/415Y	2.32	1.30	64.9	0.63	1.2	2.0	6	15
0.55	90L	680	240▲/415Y	3.24	1.90	68	0.64	1.7	2.0	6	17
0.75	100S	700	240▲/415Y	3.92	2.20	70.2	0.69	1.9	1.9	6	21
1.1	100L	700	240▲/415Y	5.50	3.18	72.8	0.69	1.7	1.9	6	24
1.5	112M	720	240▲/415Y	7.09	4.09	76.7	0.68	1.7	1.9	6	35
2.2	132S	710	240▲/415Y	9.60	5.40	79.6	0.71	2.0	2.0	6	60
3	132M	720	240▲/415Y	12.90	9.80	80.7	0.72	2.0	2.3	6	70
4	160M	720	415▲/720Y	20.40	11.80	81.5		2.0	2.3	6	80

THREE PHASE PERFORMANCE DATA - CONTINUED

4	160M1	720	415▲/720Y	11.60	6.66	81.5	0.76	2.0	2.1	6	72
5.5	160M2	720	415▲/720Y	14.50	8.33	85.7	0.73	1.7	2.1	6	84
7.5	160L	720	415▲/720Y	19.20	11.03	86.8	0.75	1.6	1.8	6	105
11	180L	720	415▲/720Y	27.00	15.51	86.6	0.76	1.4	2.1	6	140

SINGLE PHASE PERFORMANCE DATA

IMR series Single phase capacitor run 220~240V 50Hz
IP55 Insulation class F, Temperature rise class B

kW	Motor Frame	Speed r/min	Voltage	Current (A)		Eff. %	Power Factor Cos Φ	Tstart Tn	Tmax Tn	Weight Kg	Capacitor μF/Volts
				220V	240V						
3000 r/min = 2 poles											
0.12	562	2800	220~240	1.10	0.82	57	0.90	0.4	1.7	4.2	8/450
0.18	631	2800	220~240	1.48	1.10	60	0.92	0.40	1.7	5.0	8/450
0.25	632	2800	220~240	1.96	1.60	63	0.92	0.40	1.7	5.2	12/450
0.37	711	2800	220~240	2.73	2.30	67	0.92	0.35	1.7	6.2	16/450
0.55	712	2800	220~240	3.88	3.40	70	0.92	0.35	1.7	6.5	20/450
0.75	801	2800	220~240	5.15	4.80	72	0.92	0.35	1.7	8.3	25/450
1.1	802	2800	220~240	7.02	6.00	75	0.95	0.33	1.7	9.0	30/450
1.5	90S	2800	220~240	9.44	8.40	76	0.95	0.33	1.7	13.0	40/450
2.2	90L	2800	220~240	13.67	12.20	77	0.95	0.30	1.7	15.0	60/450
1500 r/min = 4 poles											
0.09	562	1400	220~240	0.90	0.80	60	0.95	0.35	1.7	4.0	8/450
0.12	631	1400	220~240	1.10	1.10	55	0.90	0.40	1.7	4.0	8/450
0.18	632	1400	220~240	1.62	1.30	56	0.90	0.40	1.7	4.5	10/450
0.25	711	1400	220~240	2.02	1.50	61	0.92	0.35	1.7	6.1	10/450
0.37	712	1400	220~240	2.95	2.40	62	0.92	0.35	1.7	7.0	14/450
0.55	801	1400	220~240	4.25	2.40	64	0.92	0.35	1.7	7.0	14/450
0.75	802	1400	220~240	5.45	3.60	68	0.92	0.35	1.7	9.5	20/450
1.1	90S	1400	220~240	7.45	4.80	71	0.92	0.32	1.7	10.0	25/450
1.5	90L	1400	220~240	9.83	6.60	73	0.95	0.32	1.7	13.0	30/450
1000 r/min = 6 poles											
0.37	802	900	220~240	3.15	2.88	60	0.99	0.30	1.7	10.0	14/450
0.75	90S	900	220~240	5.73	5.16	60	0.99	0.30	1.7	17.0	25/450
1.1	90L	900	220~240	7.84	7.06	60	0.99	0.30	1.7	19.0	30/450

SINGLE PHASE PERFORMANCE DATA

IMSR series Single phase capacitor start, capacitor run 220~240V 50Hz
IP55 Insulation class F, Temperature rise class B

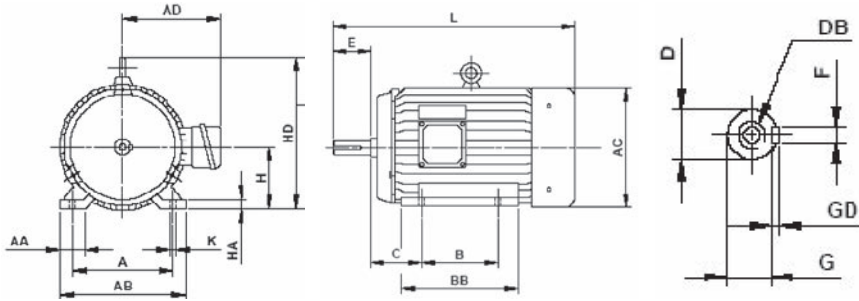
kW	Motor Frame	Speed r/min	Voltage	Current (A)		Eff. %	Power Factor Cos Φ	Tstart Tn	Tmax Tn	Weight Kg	Capacitor μF/Volts	
				220V	240V						start	run
3000 r/min = 2 poles												
0.37	711	2800	220~240	2.73	2.3	67	0.92	2.3	1.8	7.0	75/300	12/450
0.55	712	2800	220~240	3.88	3.4	70	0.92	2.5	1.8	8.0	100/300	16/450
0.75	801	2800	220~240	5.15	4.8	72	0.92	2.5	1.8	8.5	100/300	20/450
1.1	802	2800	220~240	7.02	6.0	75	0.95	2.5	1.8	9.5	150/300	25/450
1.5	90S	2800	220~240	9.44	8.4	76	0.95	2.5	1.8	12.5	250/300	40/450
2.2	90L	2800	220~240	13.67	12.2	77	0.95	2.5	1.8	14.0	300/300	60/450
3	100L	2800	220~240	18.20	17.1	79	0.95	2.5	1.8	20.5	400/300	60/450
1500 r/min = 4 poles												
0.25	711	1400	220~240	1.99	1.50	62	0.92	2.5	1.8	6.9	50/300	10/450
0.37	712	1400	220~240	2.81	2.58	65	0.92	2.5	1.8	8.1	75/300	10/450
0.55	801	1400	220~240	4.00	3.67	68	0.92	2.5	1.8	8.9	100/300	16/450
0.75	802	1400	220~240	5.22	4.80	71	0.92	2.5	1.8	9.6	100/300	20/450
1.1	90S	1400	220~240	7.20	6.60	73	0.95	2.5	1.8	13.0	150/300	30/450

SINGLE PHASE PERFORMANCE DATA - CONTINUED

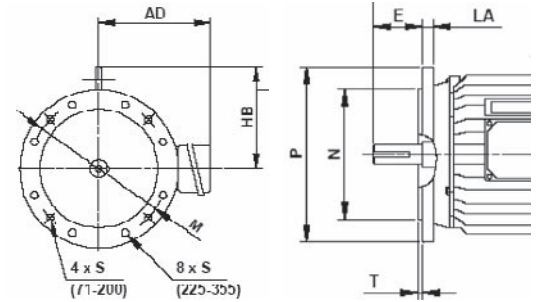
1.5	90L	1400	220~240	9.57	8.80	75	0.95	2.5	1.8	16.0	200/300	35/450
2.2	100L1	1400	220~240	13.90	12.70	76	0.95	2.5	1.8	23.0	300/300	40/450
3	100L2	1400	220~240	18.60	17.10	77	0.95	2.5	1.8	27.0	400/300	60/450
3.7	112M	1400	220~240	19.78	18.00	78	0.95	2.5	1.8	41.0	300/300	40/450

DIMENSIONAL DRAWINGS

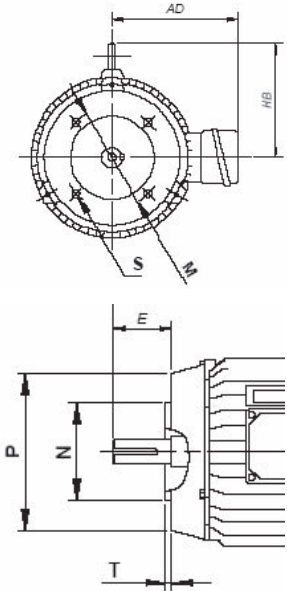
FOOT MOUNT B3



LARGE FLANGE MOUNT B5



SMALL FLANGE (FACE) MOUNT B14



Motor frame	A	AB	AC	AD	B	C	D	DB	E	F	G	H	HD	K	L
56	90	110	120	110	71	36	9	M3	20	3	7.2	56	155	5.8	195
63	100	130	130	115	80	40	11	M4	23	4	8.5	63	165	7	230
71	112	145	145	125	90	45	14	M5	30	5	11	71	185	7	255
80	125	160	165	135	100	50	19	M6	40	6	15.5	80	215	10	295
90S	140	180	185	145	100	56	24	M8	50	8	20	90	235	10	335
90L	140	180	215	145	125	56	24	M8	50	8	20	90	235	10	360
100L	160	205	215	170	140	63	28	M10	60	8	24	100	255	12	380
112M	190	245	240	180	140	70	28	M10	60	8	24	112	285	12	400
132S	216	280	275	195	140	89	38	M12	80	10	33	132	325	12	475
132M	216	280	275	195	140	89	38	M12	80	10	33	132	325	12	515
160M	254	320	330	255	210	108	42	M16	110	12	37	160	420	15	615
160L	254	320	330	255	254	108	42	M16	110	12	37	160	420	15	670
180M	279	355	380	280	241	121	48	M16	110	14	42.5	180	455	15	700
180L	279	355	380	280	279	121	48	M16	110	14	42.5	180	455	15	740

B5

Motor frame	M	N	P	S	T
56	100	80	120	7	3.00
63	115	95	140	10	3.00
71	130	110	160	10	3.50
80	165	130	200	12	3.50
90S	165	130	200	12	3.50
90L	165	130	200	12	3.50
100L	215	180	250	15	4.00
112M	215	180	250	15	4.00
132S	265	230	300	15	4.00
132M	265	230	300	15	4.00
160M	300	250	350	15	5.00
160L	300	250	350	15	5.00
180M	300	250	350	19	5.00
180L	300	250	350	19	5.00

B14

Motor frame	M	N	P	S	T
56	65	50	80	M5	2.50
63	75	60	90	M5	2.50
71	85	70	105	M6	2.50
80	100	80	120	M6	3.00
90S	115	95	140	M8	3.00
90L	115	95	140	M8	3.00
100L	130	110	160	M8	3.50
112M	130	110	160	M8	3.50
132S	165	130	200	M10	4.00
132M	165	130	200	M10	4.00
160M	215	180	250	M12	4.00
160L	215	180	250	M12	4.00
180M	265	230	300	M15	4.00
180L	265	230	300	M15	4.00