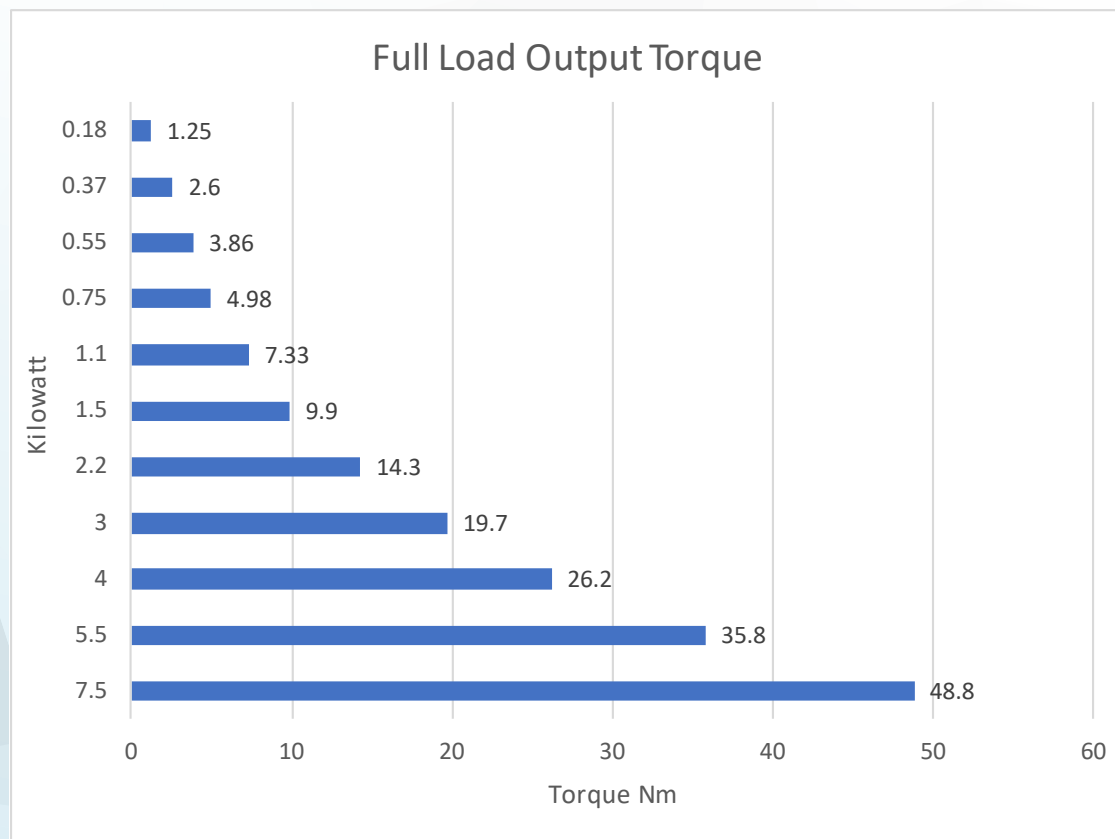


MONARCH ALLOY MOTORS

Max Alloy Three Phase Induction Motors from HMA Flow & Industrial are a range of high-quality, Totally Enclosed Fan Cooled (TEFC), Squirrel Cage Aluminium Induction motors designed, manufactured and tested to the latest International and Australian Standards.

Available in the following mountings: Foot-mounted, foot- and flange-mounted, flange-mounted, foot- and C Face-mounted (B34), and C Face mounted (B14). A multi-mount frame construction allows for the terminal box to be located in any position by repositioning the cast-alloy motor feet bolted to the frame.

Motors 0.75 kW and larger rated S1 continuous duty comply with MEPS Efficiency Standard AS1359.5-2004 table B2. Motors up to and including 3 kW are designed for 380~415 Volt STAR connected, 220~240 Volts DELTA connected, 3 Phase 50 Hz. Motors 4 kW and larger are designed for 380~415 Volt DELTA connected, 3 Phase 50 Hz.



Monarch Alloy Motors



MONARCH - Alloy FRAME TEFC THREE PHASE SQUIRREL CAGE INDUCTION MOTORS FRAME SIZES 56 - 160L (415V 50Hz)

OUTPUT kW	FULL LOAD RPM	FRAME NO.	EFFICIENCY			POWER FACTOR			CURRENT		TORQUE				INERTIA ROTOR J = GD ² /4 kg-m ²	NOISE LEVEL dB(A)	WEIGHT foot- mount KGS
			FULL LOAD [%]	3/4 LOAD [%]	1/2 LOAD [%]	FULL LOAD [%]	3/4 LOAD [%]	1/2 LOAD [%]	FULL LOAD (A)	LOCKED ROTOR [%]	FULL LOAD N.m	LOCKED ROTOR %FLT	PULL UP %FLT	BREAK- DOWN %FLT			
0.09	2740	56	62.0	59.4	54.4	68.0	59.0	46.3	0.30	350	0.314	320	260	310	0.000170	70	3.2
	1350	56	58.0	54.5	50.0	61.0	55.0	43.7	0.35	320	0.637	290	280	280	0.000496	65	3.3
0.12	2740	56	67.0	63.3	59.7	71.0	64.2	50.6	0.35	490	0.418	350	330	370	0.000219	70	3.8
	1370	63	60.0	55.8	50.0	63.0	53.6	42.5	0.44	370	0.836	235	310	310	0.000537	65	4.3
0.18	2740	63	69.0	68.5	66.1	75.0	71.3	56.6	0.53	370	0.627	225	210	250	0.000250	70	4.1
	1370	63	64.0	59.0	52.6	66.0	48.6	37.8	0.62	380	1.25	280	290	280	0.001	65	4.7
	920	71	59.0	55.0	46.0	54.4	45.6	36.6	0.78	320	1.87	250	220	380	0.00151	61	6.5
0.25	2740	63	72.0	71.5	69.9	78.0	73.6	59.0	0.62	320	0.871	270	270	350	0.000312	70	4.8
	1370	71	67.0	65.5	64.0	68.0	62.1	48.2	0.76	280	1.74	225	200	220	0.001	65	5.8
	910	71	65.0	63.4	56.3	60.0	49.6	38.5	0.89	330	2.62	260	250	245	0.00186	61	7
0.37	2740	71	73.5	70.7	66.1	80.0	69.8	56.4	0.91	445	1.29	335	280	240	0.001	75	6.1
	1370	71	69.5	66.9	62.1	72.0	61.4	48.3	1.07	380	2.60	245	205	230	0.001	70	7
	930	80	70.0	69.3	64.0	65.5	55.1	42.5	1.12	370	3.80	225	215	255	0.00381	63	9.4
0.55	2780	71	75.5	73.0	70.8	82.0	70.0	56.8	1.29	570	1.89	345	340	325	0.001	75	7.2
	1390	80	73.5	75.2	72.6	73.0	62.6	47.7	1.49	435	3.86	245	215	240	0.002	70	9.5
	930	80	71.0	70.5	66.1	67.1	56.5	43.0	1.61	400	5.65	240	230	265	0.00411	65	10.4
0.75	2960	80	80.5	80.2	77.6	77.3	68.5	55.8	1.68	516	2.50	477	464	491	0.001	71	11.5
	1447	80	82.2	81.4	77.8	62.4	52.7	40.1	2.03	604	4.98	366	369	414	0.004	67	13.5
	930	90S	77.7	77.5	74.0	57.0	46.0	37.0	2.02	495	7.51	225	221	288	0.004	67	19
1.1	2818	80	81.3	82.2	80.8	81.0	73.6	63.8	2.32	731	3.73	470	389	393	0.002	71	13
	1433	90S	83.8	83.4	80.7	70.8	61.0	46.8	2.58	709	7.33	460	405	452	0.006	67	17.5
	930	90L	79.9	79.3	75.3	58.0	47.0	37.0	3.08	511	11.03	241	185	254	0.005	65	21
1.5	2873	90S	84.1	83.8	82.3	79.8	71.5	57.8	3.11	845	4.99	475	424	449	0.003	75	16
	1447	90L	85.0	83.8	80.1	64.0	53.8	40.6	3.84	779	9.90	517	463	520	0.008	67	20.5
	950	100L	81.5	81.7	79.5	74.0	66.0	52.0	3.46	590	14.91	260	224	310	0.007	67	29
2.2	2888	90L	85.6	85.5	84.0	79.4	71.1	57.6	4.50	962	7.28	486	422	485	0.003	75	19
	1468	100L	86.4	84.4	79.7	61.9	52.4	40.0	5.72	863	14.3	404	303	528	0.017	70	29.5
	960	112M	83.4	82.9	80.1	66.0	59.0	46.0	5.56	599	21.9	294	266	346	0.014	67	35
3	2891	100L	86.7	86.3	83.9	83.6	77.8	65.8	5.75	982	9.91	477	401	482	0.008	79	28
	1456	100L	87.4	87.0	85.6	76.3	68.1	54.0	6.26	794	19.7	794	203	403	0.026	70	33.2
	960	132S	84.9	86.6	86.2	77.0	70.0	56.0	6.44	616	29.8	210	180	275	0.024	71	49
4	2937	112M	87.6	86.6	83.7	80.9	74.3	61.7	7.86	1,022	13.0	391	337	462	0.013	79	36.5
	1460	112M	88.3	87.5	84.6	71.1	61.5	47.5	8.85	897	26.2	399	318	484	0.030	74	40.5
	970	132M	86.1	86.8	85.9	77.0	70.0	56.0	8.28	764	39.4	280	169	325	0.031	71	60
5.5	2951	132S	88.5	87.7	85.4	84.3	81.0	66.5	10.25	1,130	17.8	385	294	540	0.021	83	51
	1466	132S	89.2	88.9	87.0	75.7	67.3	53.4	11.34	810	35.8	262	244	405	0.051	78	51
	965	132M	87.4	88.6	86.1	74.0	67.0	54.0	12.04	713	54.3	231	155	302	0.040	71	62
7.5	2953	132S	89.5	88.7	86.4	85.5	80.0	68.7	13.63	1,148	24.3	374	224	550	0.028	83	56
	1466	132M	90.0	90.1	88.3	75.3	66.4	52.4	15.33	750	48.8	279	218	425	0.064	78	60.5
	970	160M	88.5	88.2	83.3	77.0	70.0	57.0	15.65	640	73.8	260	195	335	0.103	75	92
11	2950	160M	90.6	90.6	89.0	89.0	86.0	80.0	19.00	787	35.6	223	120	356	0.045	79	91
	1475	160M	91.0	90.6	88.8	77.0	70.0	57.0	21.89	921	71.2	370	302	508	0.082	78	93
	975	160M	89.8	89.7	87.8	71.0	63.0	49.0	24.20	695	107.7	316	230	399	0.115	75	109
15	2945	160M	91.3	91.1	89.7	89.0	87.0	83.0	25.60	743	48.6	212	120	326	0.049	87	102
	1470	160L	91.8	92.1	91.5	85.0	83.0	75.0	27.10	710	97.6	223	140	248	0.096	82	110
18.5	2940	160L	91.8	91.9	90.2	84.3	81.0	66.5	31.21	919	60.1	320	110	335	0.052	87	112

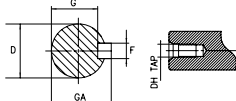
Notes: 1. Data Subject to AS tolerances, refer to page 11.
2. Efficiency Test Method to AS/NZS 1359.5 Test Method B.
3. dB(A) Mean Sound Pressure Level on no load at 1 metre.

4. Data subject to change without notice.
5. Eight pole motor data, where motors are available, on request.

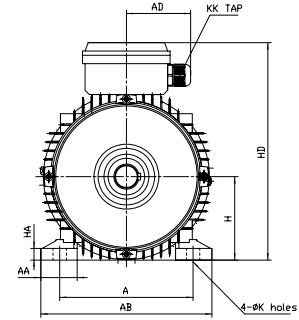
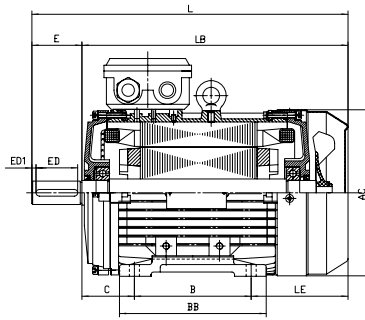
Monarch Alloy Motors



FOOT MOUNT



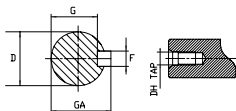
SHAFT DETAIL



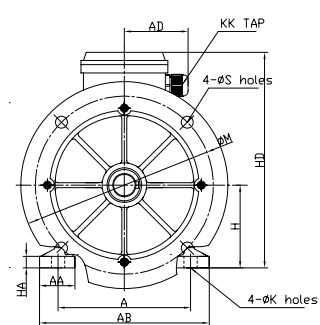
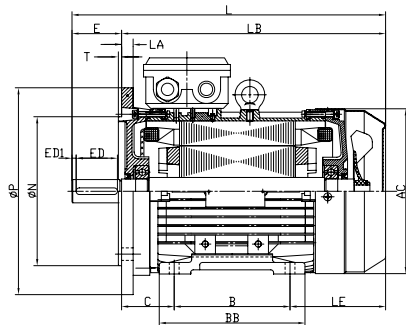
OUTPUT (kW)			FRAME SIZE	DIMENSIONS (MM)													
2P	4P	6P		A	AA	AB	AC	AD	B	BB	C	H	HA	HD	K	KK	
—	0.09	—	56	90	20	110	115	70	71	89	36	56	6.5	155	5.8	M18X1.5	
0.18/0.25	0.18	—	63	100	28	130	125	76	80	103	40	63	7	165	7	M20X1.5	
0.37	0.37	0.18/0.25	71	112	28	145	142	76	90	103	45	71	10	185	7	M20X1.5	
0.75/1.1	0.55/0.75	0.37/0.55	80	125	35	162	160	82	100	130	50	80	10	215	10	M20X1.5	
1.5	1.1	0.75	90S	140	35	176	178	82	100	155	56	90	12	235	10	M20X1.5	
2.2	1.5	1.1	90L	140	35	176	178	82	125	155	56	90	12	235	10	M20X1.5	
3	2.2/3	1.5	100L	160	50	205	204	82	140	176	63	100	14	255	10	M20X1.5	
4	4	2.2	112M	190	55	220	224	96	140	180	70	112	14	287	12	M25X1.5	
5.5/7.5	5.5	3	132S	216	58	255	260	96	140	214	89	132	16	325	12	M25X1.5	
—	7.5	4/5.5	132M	216	58	255	260	96	178	224	89	132	16	325	12	M25X1.5	
11/15	11	7.5	160M	210	65	295	315	118	210	294	108	160	16	395	15	M32X1.5	
18.5	15	11	160L	254	65	295	315	118	254	294	108	160	16	395	15	M32X1.5	

FRAME SIZE	SHAFT EXTENSION											BEARINGS	
	L	LB	LE	D	E	ED	ED1	F	G	GA	DH	DE	NDE
56	197	177	70	9	20	15	2.5	3	7.2	10.2	M3	6201ZZ	6201ZZ
63	222	199	79	11	23	18	2.5	4	8.5	12.5	M4	6202ZZ	6202ZZ
71	262	232	97	14	30	20	5	5	11	16	M5	6202ZZ	6202ZZ
80	320	280	130	19	40	25	7.5	6	15.5	21.5	M6	6204ZZ	6204ZZ
90S	370	320	164	24	50	40	4	8	20	27	M8	6205ZZ	6205ZZ
90L	390	340	159	24	50	40	4	8	20	27	M8	6205ZZ	6205ZZ
100L	400	340	137	28	60	50	5	8	24	31	M10	6206ZZ	6206ZZ
112M	440	380	170	28	60	50	5	8	24	31	M10	6306ZZ	6306ZZ
132S	490	410	181	38	80	65	10	10	33	41	M12	6308ZZ	6308ZZ
132M	510	430	163	38	80	65	10	10	33	41	M12	6308ZZ	6308ZZ
160M	640	530	212	42	110	90	10	12	37	45	M16	6309ZZ	6309ZZ
160L	640	530	168	42	110	90	10	12	37	45	M16	6309ZZ	6309ZZ

FOOT AND FLANGE MOUNT



SHAFT DETAIL



OUTPUT (kW)			FRAME SIZE	DIMENSIONS (MM)													
2P	4P	6P		A	AA	AB	AC	AD	B	BB	C	H	HA	HD	K	KK	
—	0.09	—	56	90	20	110	115	70	71	89	36	56	6.5	155	5.8	M18X1.5	
0.18/0.25	0.18	—	63	100	28	130	125	76	80	103	40	63	7	165	7	M20X1.5	
0.37	0.37	0.18/0.25	71	112	28	145	142	76	90	103	45	71	10	185	7	M20X1.5	
0.75/1.1	0.55/0.75	0.37/0.55	80	125	35	162	160	82	100	130	50	80	10	215	10	M20X1.5	
1.5	1.1	0.75	90S	140	35	176	178	82	100	155	56	90	12	235	10	M20X1.5	
2.2	1.5	1.1	90L	140	35	176	178	82	125	155	56	90	12	235	10	M20X1.5	
3	2.2/3	1.5	100L	160	50	205	204	82	140	176	63	100	14	255	10	M20X1.5	
4	4	2.2	112M	190	55	220	224	96	140	180	70	112	14	287	12	M25X1.5	
5.5/7.5	5.5	3	132S	216	58	255	260	96	140	214	89	132	16	325	12	M25X1.5	
—	7.5	4/5.5	132M	216	58	255	260	96	178	224	89	132	16	325	12	M25X1.5	
11/15	11	7.5	160M	210	65	295	315	118	210	294	108	160	16	395	15	M32X1.5	
18.5	15	11	160L	254	65	295	315	118	254	294	108	160	16	395	15	M32X1.5	

FRAME SIZE	FLANGE					SHAFT EXTENSION						BEARINGS	
	M	N	P	S	T	D	E	ED	ED1	F	G	DE	NDE
56	98	80	120	7	3	9	20	15	2.5	3	7.2	6201ZZ	6201ZZ
63	115	95	140	10	3.5	11	23	18	2.5	4	8.5	6202ZZ	6202ZZ
71	130	110	160	10	3.5	14	30	20	5	5	11	6202ZZ	6202ZZ
80	165	130	200	12	3.5	19	40	25	7.5	6	15.5	6204ZZ	6204ZZ
90S	165	130	200	12	3.5	24	50	40	4	8	20	6205ZZ	6205ZZ
90L	165	130	200	12	3.5	24	50	40	4	8	20	6205ZZ	6205ZZ
100L	215	180	250	14.5	4	28	60	50	5	8	24	6206ZZ	6206ZZ
112M	215	180	250	14.5	4	28	60	50	5	8	24	6306ZZ	6306ZZ
132S	265	230	300	14.5	4	38	80	65	10	10	33	6308ZZ	6308ZZ
132M	265	230	300	14.5	4	38	80	65	10	10	33	6308ZZ	6308ZZ
160M	300	250	350	18.5	5	42	110	90	10	12	37	6309ZZ	6309ZZ
160L	300	250	350	18.5	5	42	110	90	10	12	37	6309ZZ	6309ZZ

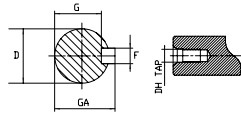
Notes: 1. Dimensional data subject to change without notice.
2. Lifting facilities provided on motors frame size D112 and larger.
3. For tolerances see page 11.

4. Flange only dimensions identical to relevant dimensions here for foot & flange.

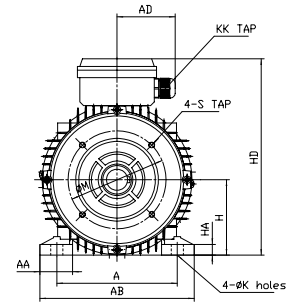
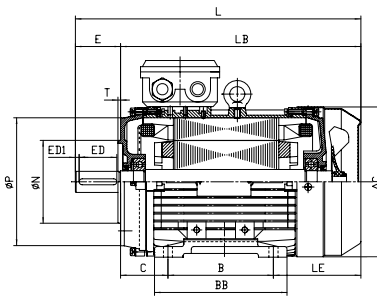
Monarch Alloy Motors



FOOT AND C FACE MOUNT



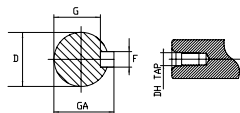
SHAFT DETAIL



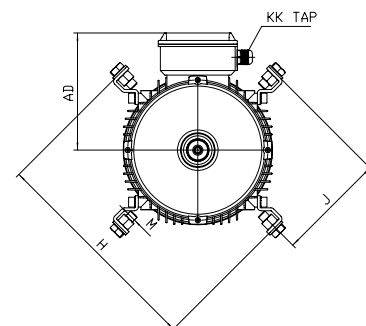
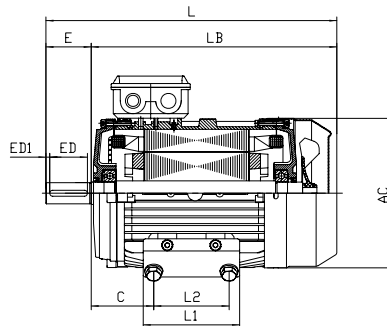
OUTPUT (KW)			FRAME SIZE	DIMENSIONS (MM)															
2P	4P	6P		A	AA	AB	AC	AD	B	BB	C	H	HA	HD	K	KK	L	LB	LE
—	0.09	—	56	90	20	110	115	70	71	89	36	56	6.5	155	5.8	M18X1.5	197	177	70
0.18/0.25	0.18	—	63	100	28	130	125	76	80	103	40	63	7	165	7	M20X1.5	222	199	79
0.37	0.37	0.18/0.25	71	112	28	145	142	76	90	103	45	71	10	185	7	M20X1.5	262	232	97
0.75/1.1	0.55/0.75	0.37/0.55	80	125	35	162	160	82	100	130	50	80	10	215	10	M20X1.5	320	280	130
1.5	1.1	0.75	90S	140	35	176	178	82	100	155	56	90	12	235	10	M20X1.5	370	320	164
2.2	1.5	1.1	90L	140	35	176	178	82	125	155	56	90	12	235	10	M20X1.5	390	340	159
3	2.2/3	1.5	100L	160	50	205	204	82	140	176	63	100	14	255	10	M20X1.5	400	340	137
4	4	2.2	112M	190	55	220	224	96	140	180	70	112	14	287	12	M25X1.5	440	380	170
5.5/7.5	5.5	3	132S	216	58	255	260	96	140	214	89	132	16	325	12	M25X1.5	490	410	181
—	7.5	4/5.5	132M	216	58	255	260	96	178	224	89	132	16	325	12	M25X1.5	510	430	163
11/15	11	7.5	160M	210	65	295	315	118	210	294	108	160	16	395	15	M32X1.5	640	530	212
18.5	15	11	160L	254	65	295	315	118	254	294	108	160	16	395	15	M32X1.5	640	530	168

FRAME SIZE	C FACE						SHAFT EXTENSION						BEARINGS			
	M	N	P	S	T	D	E	ED	ED1	F	G	GA	DH	DE	NDE	
56	65	50	80	M5	2.5	9	20	15	2.5	3	7.2	10.2	M3	6201ZZ	6201ZZ	
63	75	60	90	M5	2.5	11	23	18	2.5	4	8.5	12.5	M4	6202ZZ	6202ZZ	
71	85	70	105	M6	2.5	14	30	20	5	5	11	16	M5	6202ZZ	6202ZZ	
80	100	80	120	M6	3	19	40	25	7.5	6	15.5	21.5	M6	6204ZZ	6204ZZ	
90S	115	95	140	M8	3	24	50	40	4	8	20	27	M8	6205ZZ	6205ZZ	
90L	115	95	140	M8	3	24	50	40	4	8	20	27	M8	6205ZZ	6205ZZ	
100L	130	110	160	M8	3.5	28	60	50	5	8	24	31	M10	6206ZZ	6206ZZ	
112M	130	110	160	M8	3.5	28	60	50	5	8	24	31	M10	6306ZZ	6306ZZ	
132S	165	130	200	M10	4	38	80	65	10	10	33	41	M12	6308ZZ	6308ZZ	
132M	165	130	200	M10	4	38	80	65	10	10	33	41	M12	6308ZZ	6308ZZ	
160M	—	—	—	—	—	42	110	90	10	12	37	45	M16	6309ZZ	6309ZZ	
160L	—	—	—	—	—	42	110	90	10	12	37	45	M16	6309ZZ	6309ZZ	

PAD MOUNT



SHAFT DETAIL



OUTPUT (kW)			FRAME SIZE	DIMENSIONS (MM)											
2P	4P	6P		AC	AD	L2	C	KK	L	LB	L1	J	H	M	
0.37	0.37	0.18/0.25	71	142	76	90	45	M20X1.5	262	232	115	100	200	M12	
0.75/1.1	0.55/0.75	0.37/0.55	80	160	82	90	55	M20X1.5	320	280	115	110	220	M12	
1.5	1.1	0.75	90S	178	82	90	—	M20X1.5	370	320	115	110	220	M12	
2.2	1.5	1.1	90L	178	82	90	—	M20X1.5	390	340	115	110	220	M12	
3	2.2	—	100L	204	82	100	83	M20X1.5	400	340	128	125	250	M12	
—	3	—	100L2-4	204	82	100	83	M20X1.5	400	340	128	145	290	M12	
—	—	1.5	100L-6	204	82	100	83	M20X1.5	400	340	128	145	290	M12	
4	4	2.2	112M	224	96	100	90	M25X1.5	440	380	125	135	270	M12	
5.5/7.5	5.5	3	132S	260	96	140	—	M25X1.5	490	410	170	165	330	M16	
—	7.5	4/5.5	132M	260	96	140	—	M25X1.5	510	430	170	165	330	M16	
11/15	11	7.5	160M	315	118	200	135	M32X1.5	640	530	240	195	390	M20	
18.5	15	11	160L	315	118	200	135	M32X1.5	640	530	240	195	390	M20	

FRAME SIZE	SHAFT EXTENSION						BEARINGS			
	D	E	ED	ED1	F	G	DE	NDE		
71	14	30	20	5	5	11	6202ZZ	6202ZZ		
80	19	40	25	7.5	6	15.5	6204ZZ	6204ZZ		
90S	24	50	40	4	8	20	6205ZZ	6205ZZ		
90L	24	50	40	4	8	20	6205ZZ	6205ZZ		
100L	28	60	50	5	8	24	6206ZZ	6206ZZ		
112M	28	60	50	5	8	24	6306ZZ	6306ZZ		
132S	38	80	65	10	10	33	6308ZZ	6308ZZ		
132M	38	80	65	10	10	33	6308ZZ	6308ZZ		
160M	42	110	90	10	12	37	6309ZZ	6309ZZ		
160L	42	110	90	10	12	37	6309ZZ	6309ZZ		

FLO-DS-0122. OCT 2019



Email: flowandindustrial@hmagrp.com

Tel: +61 (0)3 8720 6770

Fax: +61 (0)3 8720 6779

- Notes:**
1. Dimensional data subject to change without notice.
 2. Lifting facilities provided on motors frame size D112 and larger.
 3. For tolerances see page 11.
 4. C Face only dimensions identical to relevant dimensions here for foot & C Face.