



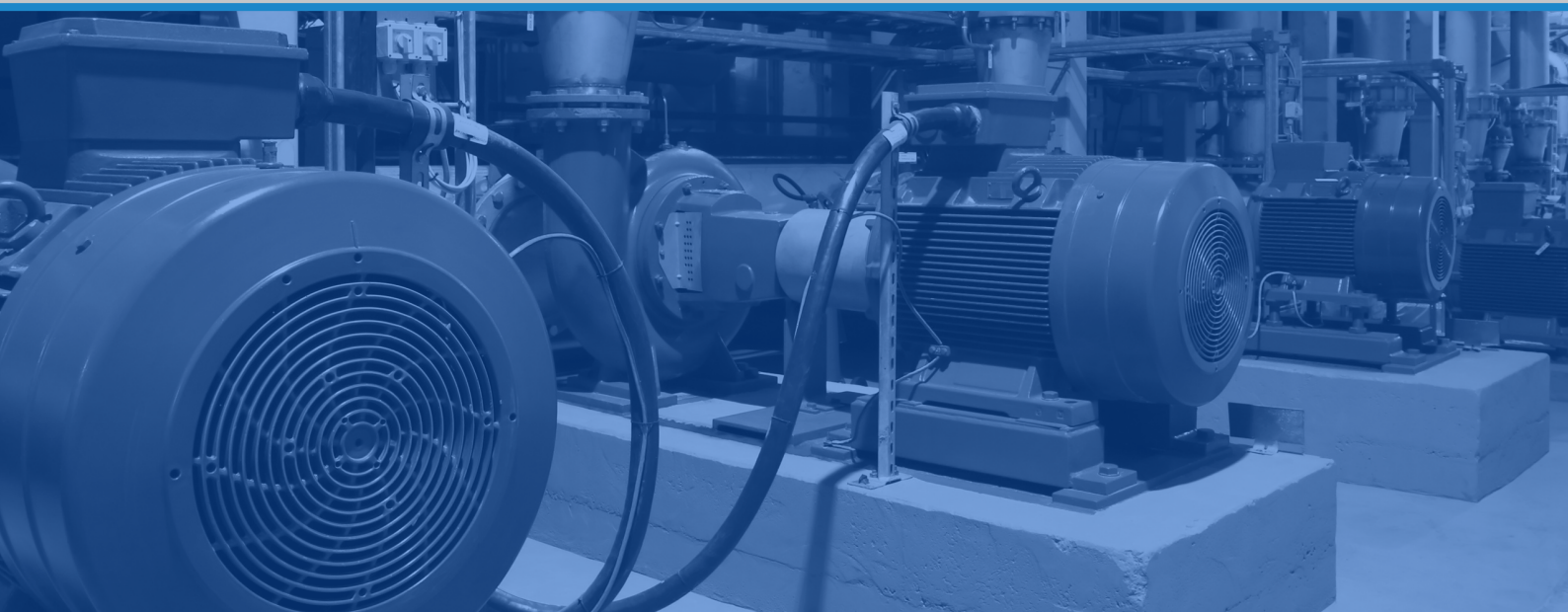
UNIVERSAL[®]
MOTORS

Range from

from

EHRCO
HYDRAULICS
— Quality from Stock

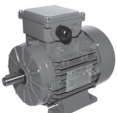
EHRCO





THREE PHASE ALUMINIUM FRAME MOTORS

Aluminium frame electric motors, with a light, robust and modern design. All mounting options are available. Multi-mount design allows the terminal box to be positioned on both sides of the frame as well on the top (standard option). Multi-voltage and frequency connection
 – 220-240 / 380-420V 50/60Hz
 254-277 / 440-480V 60Hz

Series	Model	Description
UM3A		Aluminium Frame 2, 4 and 6 poles IE3 Premium efficiency motors. Output range between 0.75kW and 18.5kW.
UMHA		Aluminium Frame 2, 4 and 6 poles IE2 High efficiency motors. Output range between 0.75kW and 37kW.
UMHA		Reduced frame 2, 4 and 6 poles IE2 High efficiency motors in aluminium frame. Output range between 0.75kW and 18.5kW.

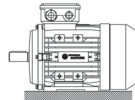
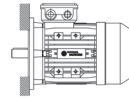
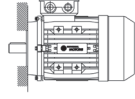
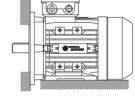
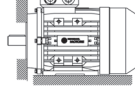


REFERENCE STANDARDS

Characteristics	IEC 60034-1
Power and dimensions	IEC 60072
Protection degree	IEC 60034-5
Cooling method	IEC 60034-6
Mounting	IEC 60034-7
Insulation	IEC 60085
Terminal marking	IEC 60034-8
Noise limits	IEC 60034-9
Mechanical vibrations	IEC 60034-14



MOUNTING ARRANGEMENTS

Foot	
	B3 IM1001
Flange FF	
	B5 IM3001
Flange FT	
	B14 IM3601
Foot+Flange FF	
	B35 IM2001
Foot+Flange FT	
	B34 IM2101



SYNCHRONOUS SPEED

POLES	50Hz(RPM)	60Hz(RPM)
2	3000	3600
4	1500	1800
6	1000	1200
8	750	900
10	600	720
12	500	600

VOLTAGE AND FREQUENCY

PHASES	<=3 kW	>3 kW
3~	Δ 220-240V 50Hz Δ 250-280V 60Hz	Δ 380-415V 50Hz Δ 440-480V 60Hz
	Y 380-415V 50Hz Y 440-480V 60Hz	Y 660-690V 50Hz
1~	220-230V 50Hz	-

Other voltages and/or frequencies are available on request.

THERMAL PROTECTION

PTC	Standard in all cast iron motors ≥ 160.
PTO	Available to order
PT100	Available to order

EFFECTS OF AMBIENT TEMPERATURE AND ALTITUDE

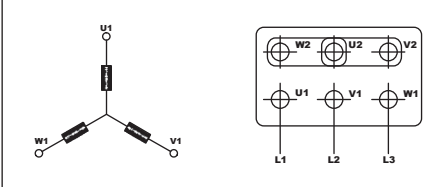
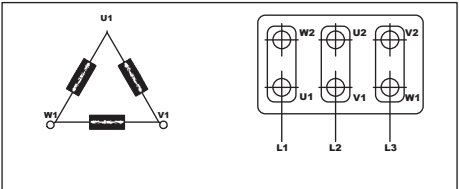
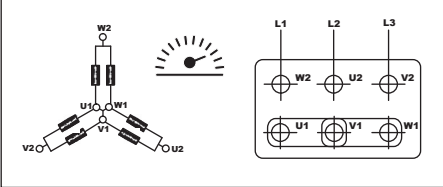
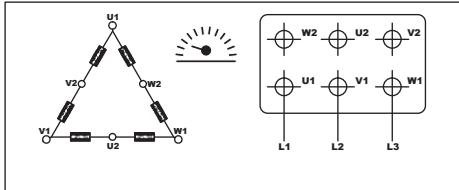
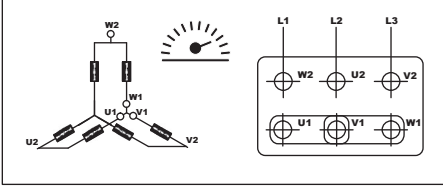
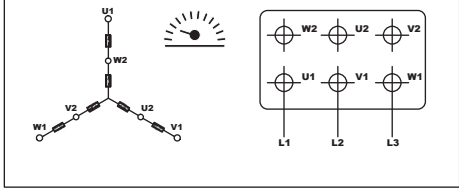
P/PN % (OF NAME PLATE POWER)

	0-40°C	45°C	50°C	55°C	60°C
1000	100	96	92	87	82
1500	97	93	89	84	79
2000	94	90	86	82	77
2500	90	86	83	78	74
3000	86	83	79	75	70



REGREASING

	GREASE	HOURS			
		3000 RPM	1500 RPM	1000 RPM	750 RPM
6309 C3	15 g	4000	6600	8600	9600
6311 C3	18 g	3800	6400	8500	9400
6312 C3	20 g	2900	6200	8200	9200
6313 C3	25 g	2800	6000	8000	9000
6314 C3	28 g	1900	5700	7800	8700
6317 C3	36 g	1800	5500	7600	8500
6319 C3	45 g	1200	5200	7200	7600
NU 319	45 g	–	5200	7200	7600
6322 C3	60 g	–	4500	6500	7300
NU 322	60 g	–	4500	6500	7300

MOTOR CONNECTIONS	THREE-PHASE MOTOR	
Y/Δ		
DAHLANDER CONSTANT TORQUE YY/Δ		
DAHLANDER VARIABLE TORQUE YY/Y		



INSTRUCTIONS MANUAL

INCOMING INSPECTION

On reception of the motors check for any signs of damage during transport. Check also that the motor nameplate data complies with your order specification. In the unlikely event of a claim, please contact our sales office.

TRANSPORT AND STORAGE

Should the motors need to be transported to another destination, care must be taken to prevent the motors from being exposed to harmful effects. The motors should be stored in a clean, dry and vibration free place.

MOUNTING

Assembly and installation must be carried out by qualified personnel in accordance current legislation. Rotors are dynamically balanced with half key, so therefore the coupling to be fitted on the shaft should also be balanced with half key. The coupling should be heated to approximately 80°C prior to fitting on the shaft. The shaft end is provided with axially tapped hole to aid the assembling of the coupling if required.

NOTE: Never assemble the coupling with shock impact, as this causes damage to the bearings.

If the motor is to be directly coupled to the driven machine, care must be taken to correctly align the motor, in accordance with the coupling manufacturer's instructions to prevent undue bearing wear. The bearing life will be at its optimum the more precise the alignment.

For belt transmission, the pulley should not be too small on diameter or longer than the shaft end. Belt tensioning should not exceed the maximum recommended radial loads for the bearings. These recommendations should be adhered to prevent

START UP

If the motor have been out of service or stored for a long period of time, it is recommended that the winding resistance is measured before installation.

The insulation resistance should be measured using equipment rated for 500VDC for motor voltages up to 1000V. These measurements should be made before connecting the supply cables.

The minimum insulation resistance values should be higher as follows:

TEMPERATURE	VOLTAGE SERVICE
OF WINDING	<600v
20°C	11mΩ
30°C	9mΩ
40°C	6mΩ

Should the insulation resistance values be lower than the above, check if terminals are affected by humidity or dust and clean them as necessary.

In the event of this not being the case the motors will need to be oven dried at a temperature less than 100°C degrees.

Ensure that the motor nameplate voltage is the same as the mains supply.



Check also that the connection is made according to the required voltage supply and/or speeds connections diagrams are enclosed in the motor terminal box.

Motor Protection

We recommend motor protection using overloads and short-circuit relays.

Motors must be earthed, using either the earth screw in terminal box or fixed to the motor frame.

Maintenance

Any work carried out on the motor must be done with the motor disconnected from the supply and by qualified personnel.

Motors not equipped with lubricating nipples are fitted with sealed for life bearings which allow 20.000 hours service under normal working conditions.

Motors equipped with grease nipples are lubricated with lithium grease and must be relubricated according to the table.

WORK HOURS					
	Grease	3000	1500	1000	750
6309 C3	15 g	4000	6600	8600	9600
6311 C3	18g	3800	6400	8500	9400
6312 C3	20g	2900	6200	8200	9200
6313 C3	25g	2800	6000	8000	9000
6314 C3	28g	1900	5700	7800	8700
6317 C3	36g	1800	5500	7600	8500
6319 C3	45g	1200	5200	7200	7600
6322 C3	60g	-	5200	7200	7600
NU319	45g	-	4500	6500	7300
NU322	60g	-	4500	6500	7300

Relubrication should be carried out with the motor running, with care being taken by the personnel carrying out the service. It is recommended that the lubrication periods should be shortened if the motor is to operate under arduous conditions, high humidity or pollution, high bearing loading, excessive vibration, high ambient temperatures, etc.

The bearings should be examined every two years and replaced if necessary. Again, if motor is operating under arduous conditions the examination should be made sooner.

Care should also be taken to ensure that cooling air entries and surfaces are kept clean, the cleaning periods depend on the contaminants in the environment.

Whilst the bearings inspection maintenance is being carried out, a general cleaning of all active parts is suggested and, if necessary, a drying out of windings.

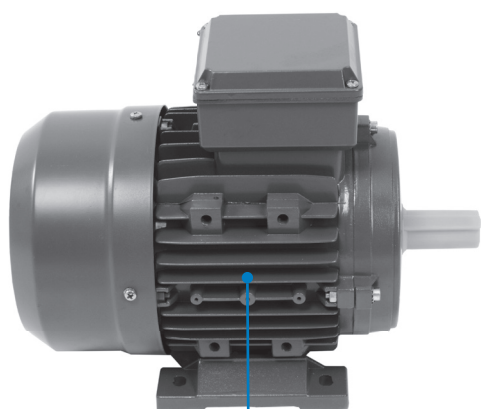
Spare Parts

To order spare parts it is necessary to indicate motor type and serial number stamped on the nameplate.

ALUMINUM FRAME MOTORS

● BEARINGS / DIMENSIONS

H	UMA/UMHA/UM3A		
	DE	NDE	BUCINS
56	6201 2Z	6201 2Z	M16
63	6201 2Z	6201 2Z	M16
71	6202 2Z	6202 2Z	M20
80	6204 2Z	6204 2Z	M20
90	6205 2Z	6205 2Z	M20
100	6206 2Z	6206 2Z	2xM20
112	6306 2Z	6206 2Z	2xM25
132	6308 2Z	6208 2Z	2xM25
160	6309 2Z	6209 2Z	2xM32
180	6311 2Z	6211 2Z	2xM40
200	6312 2Z	6212 2Z	2xM40



Three Phase



Light weight
Competitive Price
Multi-Mount Design



3~400 V, 50Hz

IE 3

Motor Type	Output		rpm	In	Efficiency			Cos Ø	Starting		Tm/Tn	Tn	Noise	Weight
	kW	HP	min ⁻¹	A	50%	75%	100%	100%	Ta/ Tn	Ia/In		N.m	Db(A)	kg
2 - Poles 3000rpm														
UM3A 80K-2	0,75	1	2805	1,60	78,7	79,5	80,7	0,83	2,3	6,8	2,3	2,6	74	10,0
UM3A 80G-2	1,1	1,5	2840	2,30	80,6	81,5	82,7	0,83	2,3	7,3	2,3	3,7	74	11,0
UM3A 90S-2	1,5	2	2855	3,10	82,1	82,9	84,2	0,84	2,3	7,6	2,3	5,0	78	14,0
UM3A 90L-2	2,2	3	2845	4,40	83,8	84,6	85,9	0,85	2,3	7,8	2,3	7,4	78	16,0
UM3A 100L-2	3	4	2880	5,70	84,9	85,8	87,1	0,87	2,3	8,1	2,3	10	82	26,0
UM3A 112M-2	4	5,5	2895	7,40	86,3	87,2	88,1	0,88	2,3	8,3	2,3	13	83	34,0
UM3A 132S-2	5,5	7,5	2920	10,10	87,4	88,3	89,2	0,88	2,2	8,0	2,3	18	85	45
UM3A 132SX-2	7,5	10	2915	13,50	88,3	89,2	90,1	0,89	2,2	7,8	2,3	25	85	52
UM3A 160M-2	11	15	2940	19,60	89,4	90,3	91,2	0,89	2,2	7,9	2,3	36	87	90
UM3A 160MX-2	15	20	2935	26,50	90,1	91,0	91,9	0,89	2,2	8,0	2,3	49	87	102
UM3A 160L-2	18,5	25	2940	32,50	90,6	91,5	92,4	0,89	2,2	8,1	2,3	60	87	115
4 - Poles 1500rpm														
UM3A 80G-4	0,75	1	1410	1,80	80,4	81,3	82,5	0,75	2,3	6,5	2,3	5,1	71	12,0
UM3A 90S-4	1,1	1,5	1435	2,50	82,0	82,8	84,1	0,75	2,3	6,6	2,3	7,3	66	15,0
UM3A 90L-4	1,5	2	1430	3,40	83,2	84,0	85,3	0,75	2,3	6,9	2,3	10	66	17,0
UM3A 100L-4	2,2	3	1450	4,50	84,5	85,4	86,7	0,81	2,3	7,5	2,3	15	70	25,0
UM3A 100LX-4	3	4	1450	6,00	85,5	86,4	87,7	0,82	2,3	7,6	2,3	20	70	30,0
UM3A 112M-4	4	5,5	1450	8,00	86,8	87,7	88,6	0,82	2,3	7,7	2,3	26	72	39,0
UM3A 132S-4	5,5	7,5	1455	10,80	87,8	88,7	89,6	0,82	2,0	7,5	2,3	36	75	51
UM3A 132M-4	7,5	10	1455	14,40	88,6	89,5	90,4	0,83	2,0	7,4	2,3	49	75	61
UM3A 160M-4	11	15	1460	20,70	89,6	90,5	91,4	0,84	2,2	7,5	2,3	72	77	92
UM3A 160L-4	15	20	1460	27,70	90,3	91,2	92,1	0,85	2,2	7,5	2,3	98	77	110

Ta/Tn - Starting torque
Ia/In - Starting current
Tm/Tn - Maximum torque



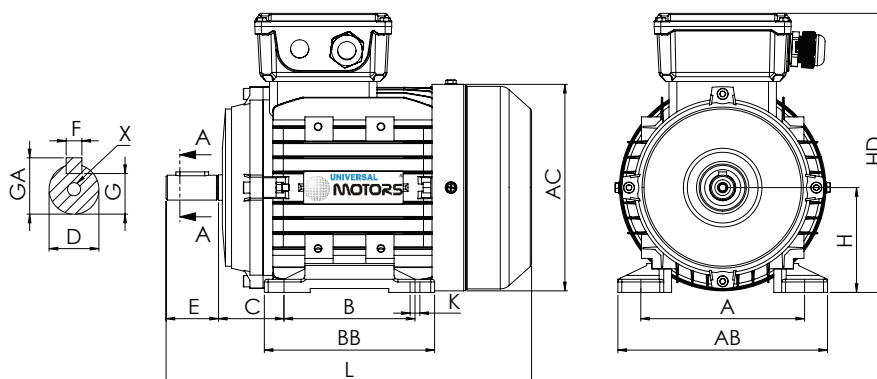
3~400 V, 50Hz

IE 3

Motor Type	Output		rpm	In	Efficiency			Cos Ø	Starting		Tm/Tn	Tn	Noise	Weight
	kW	HP	min ⁻¹	A	50%	75%	100%	100%	Ta/Tn	Ia/In		N.m	Db(A)	kg
6 - Poles 1000rpm														
UM3A 90S-6	0,75	1	945	1,90	76,9	77,7	78,9	0,72	2,1	5,8	2,1	7,6	63	13,0
UM3A 90L-6	1,1	1,5	945	2,70	79,0	79,8	81,0	0,73	2,1	5,9	2,1	11	63	16,0
UM3A 100L-6	1,5	2	955	3,60	80,4	81,3	82,5	0,74	2,1	6,0	2,1	15	64	27,0
UM3A 112M-6	2,2	3	950	5,10	82,2	83,0	84,3	0,74	2,1	6,0	2,1	22	70	28,0
UM3A 132S-6	3	4	955	6,80	83,5	84,3	85,6	0,74	2,0	6,2	2,1	30	73	43
UM3A 132M-6	4	5,5	965	9,00	84,6	85,5	86,8	0,74	2,0	6,8	2,1	40	73	51
UM3A 132MX-6	5,5	7,5	965	12,00	86,2	87,1	88,0	0,75	2,0	7,1	2,1	54	73	65
UM3A 160M-6	7,5	10	970	15,80	87,3	88,2	89,1	0,77	2,1	6,7	2,1	74	73	89
UM3A 160L-6	11	15	970	22,50	88,5	89,4	90,3	0,78	2,1	7,2	2,1	108	73	109

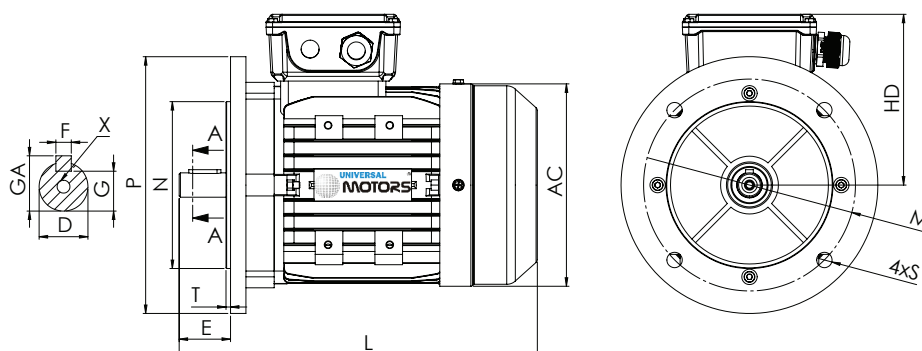
Ta/Tn - Starting torque
Ia/In - Starting current
Tm/Tn - Maximum torque

IM1001(B3)



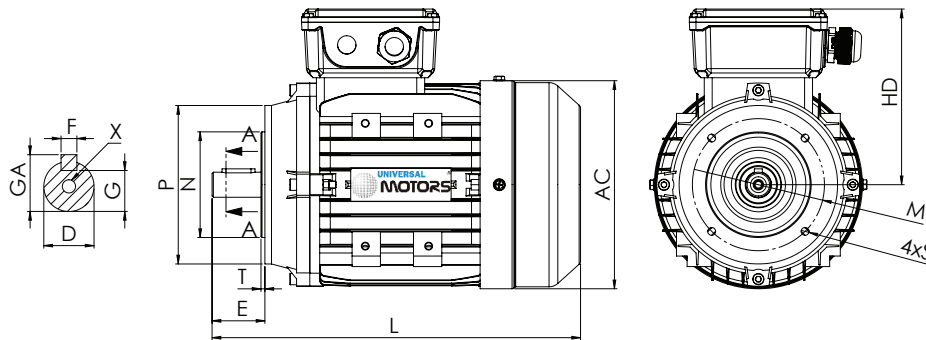
Motor Type	Foot					Shaft						Frame					
	H	A	B	C	K	D	E	F	G	GA	X	AB	BB	AC	HD	L	
UMA 56	56	90	71	36	5,8	9 j6	20	3	7,2	10,2	M3x9	110	89	117	158	198	
UMA 63	63	100	80	40	7	11 j6	23	4	8,5	12,5	M4x10	120	103	128	175	218	
UMA 71	71	112	90	45	7	14 j6	30	5	11	16	M5x12	132	105	147	190	250	
UMA 80 / UMHA 80	80	125	100	50	10	19 j6	40	6	15,5	21,5	M6x16	160	130	165	217	278	
UM3A 80																293	
UMA / UMHA 90S-2	90	140	100	56	10	24 j6	50	8	20	27	M8x19	175	130	182	235	296	
UMHA 90S-4+ / UM3A																313	
UMHA 90L-2			125													322	
UMHA 90L-4+ / UM3A																313	
UMA / UMHA 100L	100	160	140	63	12	28 j6	60	8	24	31	M10x22	198	176	205	252	368	
UMHA 100LX4 / UM3A																384	
UMA / UMHA 112M	112	190	140	70	12	28 j6	60	8	24	31	M10x22	220	180	230	286	390	
UMA 112M-2PX / UM3A 112M-4																400	
UMA / UMHA / UM3A 132S-2 / 132S-6	132	216	140	89	12	38 k6	80	10	33	41	M12x28	252	176	265	324	439	
UM3A 132SX-2 / 132S-4																477	
UMA / UMHA / UM3A 132M-6	132	216	178	89	12	38 k6	80	10	33	41	M12x28	252	214	265	324	477	
UM3A 132M-4 / 132MX-6																503	
UMA 160M/L / UMHA 160M/L / UM3A 160M / 160L-6	160	254	210	108	15	42 k6	110	12	37	45	M16x36	290	294	326	390	610	
UM3A 160L-2 / 160L-4			254													636	
UMHA 180M	180	279	241	121	15	48 k6	110	14	42,5	52	M16x36	340	331	368	440	730	
UMHA 180L			279														
UMHA 200	200	318	305	133	19	55m6	110	16	49	59	M20x42	390	377	368	458	745	

IM3001(B5)



Motor Type	Flange					Flange B5R					Shaft						Frame		
	M	N	P	S	T	M	N	P	S	T	D	E	F	G	GA	X	AC	HD	L
UMA 56	98	80	120	7	3	-	-	-	-	-	9 j6	20	3	7,2	10,2	M3x9	117	102	198
UMA 63	115	95	140	10	3	-	-	-	-	-	11 j6	23	4	8,5	12,5	M4x10	128	112	218
UMA 71	130	110	160	10	3,5	115	95	140	10	3	14 j6	30	5	11	16	M5x12	147	119	250
UMA 80 / UMHA 80	165	130	200	12	3,5	130	110	160	10	3,5	19 j6	40	6	15,5	21,5	M6x16	165	137	278
UM3A 80																			293
UMA / UMHA 90S-2	165	130	200	12	3,5	130	110	160	12	3,5	24 j6	50	8	20	27	M8x19	182	145	296
UMHA 90S-4+ / UM3A																			313
UMHA 90L-2																			322
UMHA 90L-4+ / UM3A																			313
UMA / UMHA 100L	215	180	250	15	4	165	130	200	12	3,5	28 j6	60	8	24	31	M10x22	205	152	368
UMHA 100LX4 / UM3A																			384
UMA / UMHA 112M	215	180	250	15	4	165	130	200	12	3,5	28 j6	60	8	24	31	M10x22	230	174	390
UMA 112M-2PX / UM3A 112M-4																			400
UMA / UMHA / UM3A 132S-2 / 132S-6	265	230	300	15	4	215	180	250	15	4	38 k6	80	10	33	41	M12x28	265	192	439
UM3A 132SX-2 / 132S-4																			477
UMA / UMHA / UM3A 132M-6	265	230	300	15	4	215	180	250	15	4	38 k6	80	10	33	41	M12x28	265	192	477
UM3A 132M-4 / 132MX-6																			503
UMA 160M/L / UMHA 160M/L / UM3A 160M / 160L-6	300	250	350	4x19	5	-	-	-	-	-	42 k6	110	12	37	45	M16x36	326	230	610
UM3A 160L-2 / 160L-4																			636
UMHA 180M/L	300	250	350	4x19	5	-	-	-	-	-	48 k6	110	14	42,5	52	M16x36	368	280	730
UMHA 200	350	300	400	4x19	5	-	-	-	-	-	55 m6	110	16	49	59	M20x42	368	298	745

IM3601(B14)



Motor Type	Flange					Flange B14B					Shaft						Frame		
	M	N	P	S	T	M	N	P	S	T	D	E	F	G	GA	X	AC	HD	L
UMA 56	65	50	80	M5	2,5	-	-	-	-	-	9 j6	20	3	7,2	10,2	M3x9	117	102	198
UMA 63	75	60	90	M5	2,5	100	80	120	M6	3	11 j6	23	4	8,5	12,5	M4x10	128	112	218
UMA 71	85	70	105	M6	2,5	115	95	140	M8	3	14 j6	30	5	11	16	M5x12	147	119	250
UMA 80 / UMHA 80	100	80	120	M6	3	130	110	160	M8	3,5	19 j6	40	6	15,5	21,5	M6x16	165	137	278
UM3A 80																			293
UMA / UMHA 90S-2	115	95	140	M8	3	130	110	160	M8	3,5	24 j6	50	8	20	27	M8x19	182	145	296
UMHA 90S-4+ / UM3A																			313
UMHA 90L-2																			322
UMHA 90L-4+ / UM3A																			313
UMA / UMHA 100L	130	110	160	M8	3,5	165	130	200	M10	3,5	28 j6	60	8	24	31	M10x22	205	152	368
UMHA 100LX4 / UM3A																			384
UMA / UMHA 112M	130	110	160	M8	3,5	165	130	200	M10	3,5	28 j6	60	8	24	31	M10x22	230	174	390
UMA 112M-2PX / UM3A 112M-4																			400
UMA / UMHA / UM3A 132S-2 / 132S-6	165	130	200	M10	3,5	215	180	250	M12	4	38 k6	80	10	33	41	M12x28	265	192	439
UM3A 132SX-2 / 132S-4																			477
UMA / UMHA / UM3A 132M-6																	265	192	477
UM3A 132M-4 / 132MX-6																			503
UMA 160M/L / UMHA 160M/L / UM3A 160M / 160L-6	215	180	250	M12	5	-	-	-	-	-	42 k6	110	12	37	45	M16x36	326	230	610
UM3A 160L-2 / 160L-4																			636



Unit H, Peartree Business Park, Crackley Way, Peartree Lane, Dudley DY2 0UW

T: 01384 245000 F: 01384 245 001 e: sales@ehrco.ltd.uk