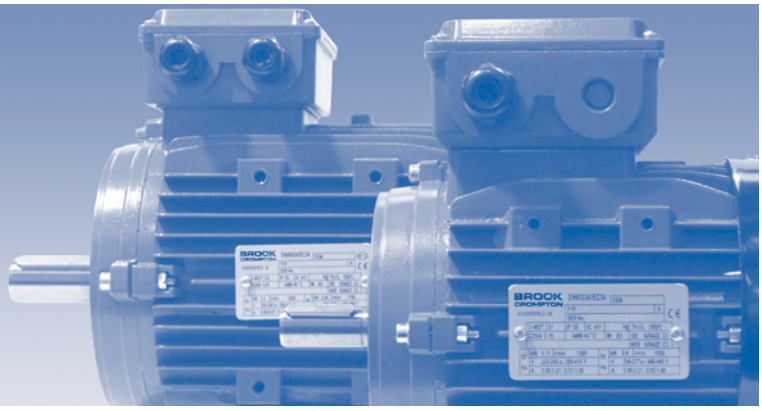
T range motors



Frames 56 to 355

2801E

BROOK CROMPTON

T range motors
56 to 355

Brook Crompton

Brook Crompton is a leading manufacturer of electric motors for the global industrial market.

Brook Crompton motors are used in almost every industrial activity including water treatment, building services, chemical/petrochemicals, general processing and manufacturing. They drive fans, pumps, compressors and conveyors.

Brook Crompton incorporates many well known names including Brook Motors, Crompton Parkinson, Electrodrives, Newman, Bull Electric and Hawker Siddeley Electric Motors.

There are extensive stocks of motors around the world, backed-up by a network of distributors, ensuring excellent local support wherever needed.

Quality assurance

Stringent quality procedures are observed from first design to finished product in accordance with the ISO9001 documented quality systems.

All factories have been assessed to meet these requirements.

T range

The Brook Crompton 'T' range is a high quality standard range of electric motors with a specification suitable for most industrial applications. It covers outputs from 0.06kW up to 250kW in frame sizes 56 to 355L.

Benefits include:

- Full output range to meet your requirements
- Efficiencies are within the EFF2 band (where applicable).
- Robust construction for long life
- Mountings: foot, flange, face or combination
- Multi-mount - aluminium range
- Multi-mount - cast iron 160 & 200 frame.
- Integrated feet 225 frame & above.
- Euro voltage: up to 3kW 230/400V; 4kW and above 400/690V
- Dual frequency (50 or 60Hz)
- IP55
- Metal fan cover
- Metric entries
- Thermistors fitted as standard
- NTN bearings
- Inverter duty

Standards and environment

Standards

Standards	
T range motors are manufactured to the international standards listed below:	
Performance	IEC 60034-1
Dimensions	IEC 60072-1
Mounting	IEC 60034-7
Enclosure protection	IEC 60034-5
Vibration	IEC 60034-14 (grade N)
Noise	IEC60034-9

Specification

Specification	Standard product		Option
Frame material	56- 160 aluminium		-
	160 - 355 cast iron		-
Fan cover	steel		-
Enclosure	IP55		-
Voltage	3 kW and below 220 - 240/380 - 415		-
	4 kW and above 380 - 415/660 - 720		-
Frequency	50 Hz		60 Hz
Lubrication	56 - 160 double-shielded bearings		-
	180 - 355 through greasing		-
Insulation	class F		-
Temperature rise	class B		-
Paint colour	water blue (RAL 5021)		-
Thermistor protection	56 - 355		-
Inverter Duty	Variable Torque:	10:1	-
	Constant Torque:	2:1	-

Environment Enclosure

All motors have degrees of IP protection as defined in IEC EN 60034-5.

European directives

The following European directives apply:

Motor cooling

Motors are cooled in accordance with IEC 60034-6. The normal arrangement is IC411 (Totally Enclosed Fan Ventilated) via a fan mounted at the non-drive end. Alternative methods of cooling available on request.

Directives

Compliance with European directives applying to AC induction motors

Directives	Low voltage (LV)	Machinery (MD)	Electromagnetic compatibility (EMC)
Reference numbers	73/23/EEC	2006/42/EC	89/336/EEC
	93/68/EEC	98/79/EC	92/31/EEC
	2006/95/EC	98/37/EC	93/68/EEC
		93/44/EEC	2004/108/EC
		89/392/EEC	
Motor CE marked	Yes	No	No
Standards	EN 60034	Not applicable	EN 60034-1
Documentation for customers' technical file	Declaration of conformity	Certificate of incorporation	Statement[1]
Safety instructions with every motor	Yes	Yes	Yes
Comment	Relevant electrical equipment operating between 50 to 1000 volts AC	Statement[2]	Component

[1] Motors operating from a correctly applied, sinusoidal (AC) supply meet the requirements of the EMC directive and are within the limits specified in standard EN 60034-1

[2] When installed in accordance with our customer safety and installation and maintenance instructions, they can be put into service only when the machinery into which they are being incorporated, has been declared to be in conformity with the machinery directive in accordance with Article 4(2) and Annex IIB of that Directive (98/37/EEC)

Performance data

3000 min^{-1} (2 pole) aluminium and cast iron

Rated power		Full load speed in revolutions per minute	Frame reference and size	Full load current at rated voltage			Efficiency	Power factor	Full load torque	Direct on line starting torque ratio	Direct on line pull up torque	Direct on line pull out torque	Direct on line starting current ratio	Rotor inertia WK^2	Mean Sound pressure level @ 1m on no load
P_N				I_N											
kW	hp	n min^{-1}	Type	380 V A	400 V A	415 V A	η 1.0 P_N	Cos Ø 1.0 P_N	M_N Nm	$\frac{M_A}{M_N}$	$\frac{M_S}{M_N}$	$\frac{M_K}{M_N}$	$\frac{I_A}{I_N}$	J kgm^2	L_{PA} dB(A)
0.09	0.15	2670	**T-DA56MA**	0.37	0.35	0.34	57.0	0.65	0.3	2.2	1.6	2.4	6.0	0.00010	58
0.12	0.20	2730	**T-DA56MB**	0.43	0.40	0.39	62.0	0.69	0.4	2.2	1.6	2.4	6.0	0.00014	58
0.18	0.25	2710	**T-DA63MA**	0.58	0.55	0.53	63.0	0.75	0.6	2.2	1.6	2.4	6.0	0.00016	61
0.25	0.33	2710	**T-DA63MB**	0.75	0.71	0.69	65.0	0.78	0.9	2.2	1.6	2.4	6.0	0.00019	61
0.37	0.5	2730	**T-DA71MA**	1.02	0.97	0.93	70.0	0.79	1.3	2.2	1.6	2.4	6.0	0.00034	64
0.55	0.75	2760	**T-DA71MB**	1.49	1.42	1.36	71.0	0.79	1.9	2.2	1.6	2.4	6.0	0.00043	64
0.75	1.0	2770	**T-DA80MA**	1.86	1.77	1.70	73.0	0.84	2.6	2.2	1.5	2.4	6.0	0.00081	67
1.1	1.5	2770	**T-DA80MB**	2.64	2.51	2.42	76.2	0.83	3.8	2.2	1.5	2.4	6.0	0.00097	67
1.5	2.0	2840	**T-DA90SA**	3.46	3.28	3.16	78.5	0.84	5.0	2.2	1.5	2.4	6.0	0.0015	72
2.2	3.0	2840	**T-DA90LA**	4.85	4.61	4.45	81.0	0.85	7.4	2.2	1.4	2.4	6.0	0.0020	72
3.0	4.0	2840	**T-DA100LA**	6.34	6.03	5.81	82.6	0.87	10.1	2.2	1.4	2.3	7.0	0.0040	76
4.0	5.5	2880	**T-DA112MA**	8.30	7.88	7.6	84.2	0.87	13.3	2.2	1.4	2.3	7.5	0.0071	77
5.5	7.5	2900	**T-DA132SA**	11.1	10.5	10.2	85.7	0.88	18.2	2.0	1.2	2.2	7.5	0.014	80
7.5	10	2920	**T-DA132SB**	14.9	14.1	13.6	87.0	0.88	24.5	2.0	1.2	2.2	7.5	0.016	80
11.0	15	2940	**T-DA160MA**	21.0	20.0	19.2	88.4	0.90	35.7	2.0	1.2	2.2	7.5	0.049	86
15.0	20	2940	**T-DA160MB**	28.0	26.6	25.6	89.4	0.91	48.7	2.0	1.2	2.2	7.5	0.062	86
18.5	25	2940	**T-DA160LA**	34.3	32.6	31.4	90.0	0.91	60.1	2.0	1.1	2.2	7.5	0.075	86
22.0	30	2940	**T-DF180MA**	41.3	39.2	37.8	90.5	0.90	71.5	2.0	2.2	2.3	7.5	0.075	89
30.0	40	2950	**T-DF200LA**	55.5	52.8	50.9	91.4	0.90	97.1	2.0	1.5	2.3	7.5	0.124	92
37.0	50	2950	**T-DF200LB**	67.9	64.5	62.2	92.0	0.90	119.8	2.0	1.6	2.3	7.5	0.139	92
45.0	60	2970	**TU-DF225M**	82.3	78.2	75.4	92.5	0.90	144.7	2.0	1.6	2.3	7.5	0.233	92
55.0	75	2970	**TU-DF250M**	100.4	95.4	92.0	93.0	0.90	176.9	2.0	1.7	2.3	7.5	0.312	93
75.0	100	2970	**TU-DF280S**	136.1	129.3	124.6	93.6	0.90	241.2	2.0	1.9	2.3	7.5	0.597	94
90.0	125	2970	**TU-DF280MA**	160.2	152.2	146.7	93.9	0.91	289.4	2.0	1.5	2.3	7.5	0.675	94
110.0	150	2980	**TU-DF315SA**	195.4	185.6	178.9	94.0	0.91	352.5	1.8	-	2.2	7.1	1.18	96
132.0	175	2980	**TU-DF315MA**	233.2	221.6	213.6	94.5	0.91	423.0	1.8	-	2.2	7.1	1.55	96
160.0	215	2980	**TU-DF315LA**	279.3	265.4	255.8	94.6	0.92	512.8	1.8	1.2	2.2	7.1	1.76	99
200.0	270	2980	**TU-DF315LB**	348.4	331.0	319.0	94.8	0.92	640.9	1.8	1.4	2.2	7.1	2.02	99
250.0	335	2980	**TU-DF355M**	433.2	411.6	396.7	95.3	0.92	801.2	1.6	-	2.2	7.1	3.56	103

EFF2 efficiency 1.1 to 90kW

For tolerance details and notes - see pages 14 & 15

Performance data

1500 min^{-1} (4 pole) aluminium and cast iron

Rated power		Full load speed in revolutions per minute	Frame reference and size	Full load current at rated voltage			Efficiency	Power factor	Full load torque	Direct on line starting torque ratio	Direct on line pull up torque	Direct on line pull out torque	Direct on line starting current ratio	Rotor inertia WK^2	Mean Sound pressure level @ 1m on no load
P_N				I_N											
kW	hp	n min^{-1}	Type	380 V A	400 V A	415 V A	η 1.0 P_N	Cos Ø 1.0 P_N	M_N Nm	$\frac{M_A}{M_N}$	$\frac{M_S}{M_N}$	$\frac{M_K}{M_N}$	$\frac{I_A}{I_N}$	J kgm^2	L_{PA} dB(A)
0.06	0.08	1320	**T-DA56MA**	0.32	0.30	0.29	48.5	0.59	0.4	2.3	1.7	2.4	6.0	0.00022	50
0.09	0.12	1320	**T-DA56MB**	0.45	0.43	0.41	50.0	0.61	0.7	2.3	1.7	2.4	6.0	0.00027	50
0.12	0.16	1350	**T-DA63MA**	0.50	0.47	0.46	57.0	0.64	0.8	2.2	1.7	2.4	6.0	0.00031	52
0.18	0.25	1350	**T-DA63MB**	0.71	0.68	0.65	59.0	0.65	1.3	2.2	1.7	2.4	6.0	0.00037	52
0.25	0.33	1350	**T-DA71MA**	0.88	0.84	0.81	60.0	0.72	1.8	2.2	1.7	2.4	6.0	0.00062	55
0.37	0.5	1370	**T-DA71MB**	1.17	1.11	1.07	65.0	0.74	2.6	2.2	1.7	2.4	6.0	0.00082	55
0.55	0.75	1370	**T-DA80MA**	1.66	1.58	1.52	67.0	0.75	3.8	2.2	1.7	2.4	6.0	0.0014	58
0.75	1.0	1380	**T-DA80MB**	2.03	1.93	1.86	72.0	0.78	5.2	2.2	1.5	2.4	6.0	0.0017	58
1.1	1.5	1400	**T-DA90SA**	2.78	2.64	2.54	76.2	0.79	7.5	2.2	1.5	2.4	6.0	0.0026	61
1.5	2.0	1400	**T-DA90LA**	3.63	3.45	3.32	78.5	0.80	10.2	2.2	1.5	2.4	6.0	0.0035	61
2.2	3.0	1420	**T-DA100LA**	5.09	4.84	4.66	81.0	0.81	14.8	2.2	1.5	2.3	7.0	0.0072	64
3.0	4.0	1420	**T-DA100LB**	6.81	6.47	6.24	82.6	0.81	20.2	2.2	1.5	2.3	7.0	0.0092	64
4.0	5.5	1430	**T-DA112MA**	8.7	8.26	7.96	84.2	0.83	26.7	2.2	1.5	2.2	7.0	0.0147	65
5.5	7.5	1450	**T-DA132SA**	11.6	11.0	10.6	85.7	0.84	36.2	2.2	1.4	2.2	7.0	0.029	71
7.5	10	1450	**T-DA132MA**	15.4	14.6	14.1	87.0	0.85	49.4	2.2	1.4	2.2	7.0	0.039	71
11.0	15	1460	**T-DA160MA**	21.7	20.6	19.9	88.4	0.87	72.0	2.2	1.4	2.2	7.0	0.093	75
15.0	20	1460	**T-DA160LA**	29.6	28.2	27.1	89.4	0.87	98.1	2.2	1.4	2.2	7.5	0.129	75
18.5	25	1470	**T-DF180MA**	36.1	34.3	33.1	90.5	0.86	120.2	2.2	1.9	2.3	7.5	0.139	76
22.0	30	1470	**T-DF180LA**	42.7	40.6	39.1	91.0	0.86	142.9	2.2	1.8	2.3	7.5	0.158	76
30.0	40	1470	**T-DF200L**	57.6	54.7	52.8	92.0	0.86	194.9	2.2	1.8	2.3	7.2	0.262	79
37.0	50	1480	**T-DF255S**	69.9	66.4	64.0	92.5	0.87	238.8	2.2	1.6	2.3	7.2	0.406	81
45.0	60	1480	**TU-DF225M**	84.7	80.5	77.6	92.8	0.87	290.4	2.2	1.5	2.3	7.2	0.469	81
55.0	75	1480	**TU-DF250MA**	103.3	98.1	94.6	93.0	0.87	354.9	2.2	1.7	2.3	7.2	0.66	83
75.0	100	1480	**TU-DF280S**	139.6	132.7	127.9	93.8	0.87	484.0	2.2	1.4	2.3	7.2	1.12	86
90.0	125	1480	**TU-DF280MA**	166.9	158.5	152.8	94.2	0.87	580.7	2.2	1.6	2.3	7.2	1.46	86
110.0	150	1490	**TU-DF315S**	201.0	191.0	184.1	94.5	0.88	705.0	2.1	-	2.2	6.9	3.11	93
132.0	175	1490	**TU-DF315M**	240.4	228.4	220.1	94.8	0.88	846.0	2.1	-	2.2	6.9	3.29	93
160.0	215	1490	**TU-DF315LA**	287.8	273.0	263.1	94.9	0.89	1025.5	2.1	1.8	2.2	6.9	3.79	97
200.0	270	1490	**TU-DF315LB**	359.4	334.4	322.3	95.0	0.89	1281.9	2.1	1.5	2.2	6.9	4.49	97
250.0	335	1490	**TU-DF355M**	442.9	420.7	405.5	95.3	0.90	1602.3	2.1	-	2.2	6.9	5.67	101

EFF2 efficiency 1.1 to 90kW

For tolerance details and notes - see pages 14 & 15

Performance data

1000 min^{-1} (6 pole) aluminium and cast iron

Rated power		Full load speed in revolutions per minute	Frame reference and size	Full load current at rated voltage			Efficiency	Power factor	Full load torque	Direct on line starting torque ratio	Direct on line pull up torque	Direct on line pull out torque	Direct on line starting current ratio	Rotor inertia WK^2	Mean Sound pressure level @ 1m on no load
P_N				I_N											
kW	hp	n min^{-1}	Type	380 V A	400 V A	415 V A	η 1.0 P_N	Cos Ø 1.0 P_N	M_N Nm	$\frac{M_A}{M_N}$	$\frac{M_S}{M_N}$	$\frac{M_K}{M_N}$	$\frac{I_A}{I_N}$	J kgm^2	$\frac{L_{PA}}{dB(A)}$
0.09	0.15	840	**T-DA63MA**	0.53	0.51	0.49	42.0	0.61	1.0	2.0	1.5	2.0	3.5	-	50
0.12	0.20	850	**T-DA63MB**	0.65	0.62	0.60	45.0	0.62	1.3	2.0	1.5	2.0	3.5	-	50
0.18	0.25	880	**T-DA71MA**	0.74	0.70	0.68	56.0	0.66	2.0	1.6	1.5	1.7	4.0	0.00102	52
0.25	0.33	900	**T-DA71MB**	0.92	0.87	0.84	59.0	0.70	2.7	2.1	1.5	2.2	4.0	0.00118	52
0.37	0.5	900	**T-DA80MA**	1.30	1.23	1.19	62.0	0.70	3.9	1.9	1.5	1.9	4.0	0.00194	56
0.55	0.75	900	**T-DA80MB**	1.73	1.65	1.59	67.0	0.72	5.8	2.0	1.5	2.3	4.0	0.00263	56
0.75	1.0	920	**T-DA90SA**	2.29	2.18	2.10	69.0	0.72	7.8	2.2	1.5	2.2	5.5	0.00376	59
1.1	1.5	925	**T-DA90LA**	3.18	3.02	2.91	72.0	0.73	11.4	2.2	1.3	2.2	5.5	0.00504	59
1.5	2.0	945	**T-DA100LA**	4.05	3.85	3.71	74.0	0.76	15.2	2.2	1.3	2.2	6.0	0.00884	61
2.2	3.0	955	**T-DA112MA**	5.64	5.36	5.16	78.0	0.76	22.0	2.2	1.3	2.2	6.0	0.016	64
3.0	4.0	960	**T-DA132SA**	7.59	7.21	6.95	79.0	0.76	29.8	2.0	1.3	2.0	6.5	0.035	64
4.0	5.5	960	**T-DA132MA**	9.93	9.44	9.10	80.5	0.76	39.8	2.0	1.3	2.0	6.5	0.041	68
5.5	7.5	960	**T-DA132MB**	13.1	12.4	12.0	83.0	0.77	54.7	2.0	1.3	2.0	6.5	0.058	68
7.5	10	960	**T-DA160MA**	16.6	15.7	15.2	86.0	0.80	74.6	2.0	1.3	2.2	6.5	-	68
11.0	15	960	**T-DA160LA**	24.2	23.0	22.1	87.5	0.79	109.4	2.0	1.3	2.2	6.5	-	68
15.0	20	970	**T-DF180LA**	31.6	30.0	28.9	89.0	0.81	147.7	2.0	-	2.1	7.0	0.207	73
18.5	25	970	**T-DF200LA**	38.6	36.6	35.3	90.0	0.81	182.1	2.1	-	2.1	7.0	0.315	76
22.0	30	970	**T-DF200LB**	44.8	42.5	41.0	90.0	0.83	216.6	2.1	-	2.1	7.0	0.350	76
30.0	40	980	**TU-DF225M**	59.3	56.3	54.3	91.5	0.84	292.3	2.0	-	2.1	7.0	0.547	76
37.0	50	980	**TU-DF250M**	71.1	67.5	65.1	92.0	0.86	360.6	2.1	-	2.1	7.0	0.835	78
45.0	60	980	**TU-DF280S**	86.0	81.7	78.7	92.5	0.86	438.5	2.1	-	2.0	7.0	1.40	80
55.0	75	980	**TU-DF280MA**	104.7	99.5	95.9	92.8	0.86	536.0	2.1	-	2.0	7.0	1.65	80
75.0	100	990	**TU-DF315SA**	141.7	134.6	129.7	93.5	0.86	723.5	2.0	-	2.0	7.0	4.10	85
90.0	125	990	**TU-DF315MA**	169.5	161.1	155.3	93.8	0.86	868.2	2.0	-	2.0	7.0	4.28	85
110.0	150	990	**TU-DF315LA**	206.7	196.1	189.0	94.0	0.86	1061.1	2.0	-	2.0	6.7	5.45	85
132.0	175	990	**TU-DF315LB**	244.7	232.5	224.1	94.2	0.87	1273.3	2.0	-	2.0	6.7	6.12	85
160.0	215	990	**TU-DF355MA**	292.3	227.7	219.5	94.5	0.88	1543.4	1.9	-	2.0	6.7	8.85	92
200.0	270	990	**TU-DF355MB**	364.6	346.4	333.9	94.7	0.88	1929.3	1.9	-	2.0	6.7	9.55	92
250.0	335	990	**TU-DF355L**	454.8	432.1	416.5	94.9	0.88	2411.6	1.9	-	2.0	6.7	10.63	92

For tolerance details and notes - see pages 14 & 15

Performance data

750 min^{-1} (8 pole) aluminium and cast iron

Rated power		Full load speed in revolutions per minute	Frame reference and size	Full load current at rated voltage			Efficiency	Power factor	Full load torque	Direct on line starting torque ratio	Direct on line pull up torque	Direct on line pull out torque	Direct on line starting current ratio	Rotor inertia WK^2	Mean Sound pressure level @ 1m on no load
P_N				I_N											
kW	hp	n min^{-1}	Type	380 V A	400 V A	415 V A	η 1.0 P_N	Cos Ø 1.0 P_N	M_N Nm	$\frac{M_A}{M_N}$	$\frac{M_S}{M_N}$	$\frac{M_K}{M_N}$	$\frac{I_A}{I_N}$	J kgm^2	L_{PA} dB(A)
0.09	0.15	680	**T-DA71MA**	0.51	0.48	0.47	48.0	0.56	1.3	1.5	1.3	1.7	3.0	0.00102	50
0.12	0.20	690	**T-DA71MB**	0.61	0.58	0.55	51.0	0.59	1.7	1.6	1.3	1.7	2.7	0.00125	50
0.18	0.25	680	**T-DA80MA**	0.88	0.84	0.80	51.0	0.61	2.5	1.5	1.3	1.7	2.8	0.0026	52
0.25	0.33	680	**T-DA80MB**	0.75	0.71	0.69	65.0	0.78	0.9	2.2	1.6	2.4	6.0	0.0035	52
0.55	0.75	680	**T-DA90LA**	1.95	1.85	1.78	66.0	0.65	7.7	1.6	1.3	1.8	3.0	0.0055	56
0.75	1.0	710	**T-DA100LA**	2.58	2.45	2.36	66.0	0.67	10.1	1.7	1.3	2.1	3.5	-	59
1.1	1.5	710	**T-DA100LB**	3.36	3.20	3.08	72.0	0.69	14.8	1.7	1.2	2.1	3.5	-	59
1.5	2.0	710	**T-DA112MA**	4.53	4.30	4.15	74.0	0.68	20.2	1.8	1.2	2.1	4.2	0.0164	61
2.2	3.0	720	**T-DA132S**	6.28	5.96	5.75	75.0	0.71	29.2	2.0	1.2	2.0	5.5	0.0336	64
3.0	4.0	720	**T-DA132M**	8.11	7.70	7.43	77.0	0.73	39.8	2.0	1.2	2.0	5.5	0.0441	64
4.0	5.5	730	**T-DA160MA**	10.4	9.89	9.53	80.0	0.73	52.3	1.9	1.2	2.1	6.0	-	68
5.5	7.5	720	**T-DA160MB**	13.5	12.9	12.4	83.5	0.74	73.0	2.0	1.2	2.2	6.0	-	68
7.5	10	720	**T-DA160L**	17.9	17.0	16.4	85.0	0.75	99.5	1.9	1.2	2.2	6.0	-	68
11.0	15	730	**T-DF180L**	25.1	23.9	23.0	87.5	0.76	143.9	2.0	-	2.0	6.6	0.203	78
15.0	20	730	**T-DF200L**	34.1	32.4	31.2	88.0	0.76	196.2	2.0	-	2.0	6.6	0.34	80
18.5	25	730	**TU-DF225S**	41.1	39.1	37.7	90.0	0.76	242.0	1.9	-	2.0	6.6	0.49	80
22.0	30	740	**TU-DF225M**	47.4	45.0	43.4	90.5	0.78	283.9	1.9	-	2.0	6.6	0.547	80
30.0	40	740	**TU-DF250M**	63.4	63.4	61.1	91.0	0.79	387.2	1.9	-	2.0	6.6	0.83	82
37.0	50	740	**TU-DF280S**	77.8	73.9	71.2	91.5	0.79	477.5	1.9	-	2.0	6.6	1.40	83
45.0	60	740	**TU-DF280M**	94.1	89.4	86.2	92.0	0.79	580.7	1.9	-	2.0	6.6	1.65	82
55.0	75	740	**TU-DF315SA**	111.2	105.6	101.8	92.8	0.81	709.8	1.8	-	2.0	6.6	4.50	88
75.0	100	740	**TU-DF315MA**	151.3	143.7	138.5	93.0	0.81	967.9	1.8	-	2.0	6.6	5.58	88
90.0	125	740	**TU-DF315LA**	177.8	168.9	162.8	93.8	0.82	1161.5	1.8	-	2.0	6.6	6.37	88
110.0	150	740	**TU-DF315LB**	216.8	206.0	198.6	94.0	0.82	1419.6	1.8	-	2.0	6.4	7.23	88
132.0	175	740	**TU-DF355MA**	261.0	248.0	239.0	93.7	0.82	1703.5	1.8	-	2.0	6.4	10.55	95
160.0	215	740	**TU-DF355MB**	314.7	299.0	288.2	94.2	0.82	2064.9	1.8	-	2.0	6.4	11.73	95

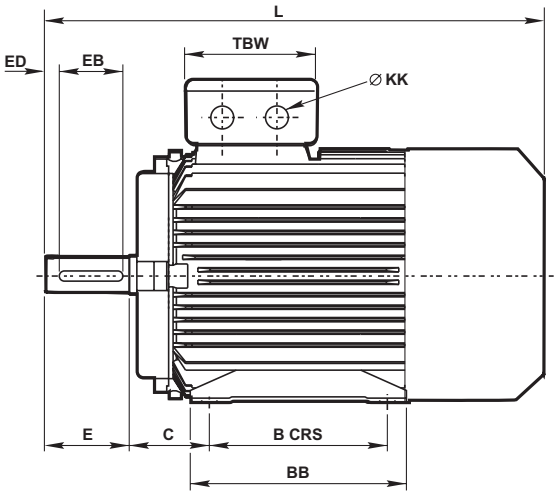
For tolerance details and notes - see pages 14 & 15

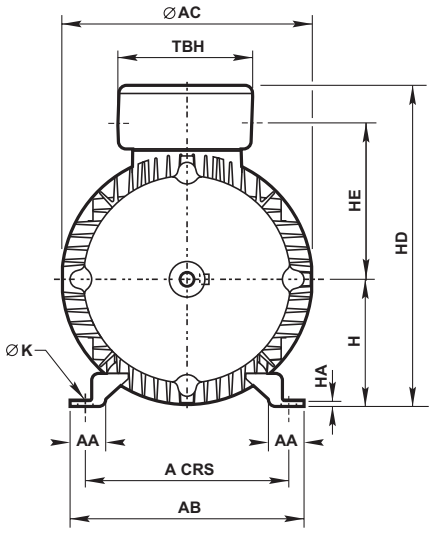
Dimensions

Foot, flange and face mounting - frame sizes 56 to 160 aluminium

IM B3
IM 1001

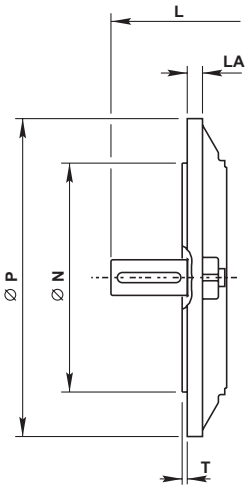
Mounting options

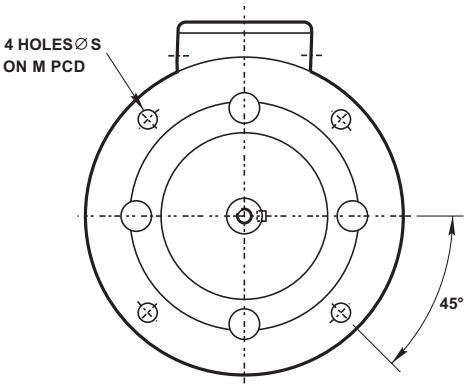




IM B5/IM B35
IM 3001/IM 2001

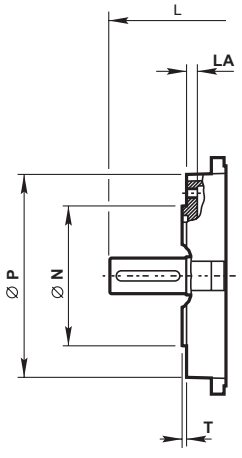
Mounting options

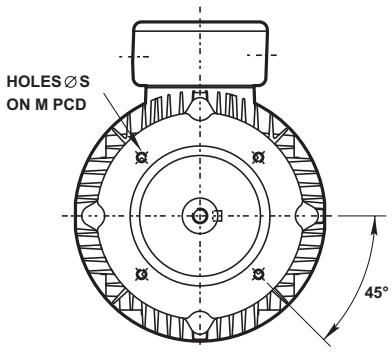




IM B14/IM B34
IM 3601/IM 2101

Mounting options



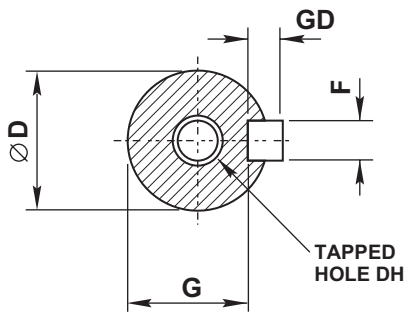


Foot, flange and face mounting - frame sizes 56 to 160 aluminium

Aluminium	General												Terminal box		
	A	B	C	H	K	L	AA	AB	AC	BB	HA	HD	TBW	TBH	KK
T-DA56M	90	71	36	56	5.8 x 8.8	195	-	110	120	-	-	156	88/63	88/63	1 x M16
T-DA63M	100	80	40	63	7 x 10	215	26	120	130	100	7	173	94/80	94/80	1 x M16
T-DA71M	112	90	45	71	7 x 10	255	31	132	145	110	8	188	94/80	94/80	1 x M20
T-DA80M	125	100	50	80	10 x 13	290	35	160	165	124	10	217	105	105	1 x M20
T-DA90S	140	100	56	90	10 x 13	310	40	175	185	128	10	235	105	105	1 x M20
T-DA90L	140	125	56	90	10 x 13	335	40	175	185	153	10	235	105	105	1 x M20
T-DA100L	160	140	63	100	12 x 15	386	40	196	205	172	12	252	105	105	1 x M20
T-DA112M	190	140	70	112	12 x 15	395	45	220	230	180	12	292	112	119	2 x M25
T-DA132S	216	140	89	132	12 x 16	436	50	252	270	180	15	325	112	119	2 x M25
T-DA132M	216	178	89	132	12 x 16	475	50	252	270	218	15	325	112	119	2 x M32
T-DA160M	254	210	108	160	12 x 16	640	62	290	320	260	16	390	143	146	2 x M32
T-DA160L	254	254	108	160	15 x 19	640	62	290	320	304	16	390	143	146	2 x M32

Aluminium	IM B5 mounting						IM B14 mounting					
	M	N	P	S	T	LA	M	N	P	S	T	LA
T-DA56M	98	80	120	7	3	-	65	50	80	M5	2.5	-
T-DA63M	115	95	140	10	3	8	75	60	90	M5	2.5	-
T-DA71M	130	110	160	10	3.5	9	85	70	105	M6	2.5	-
T-DA80M	165	130	200	12	3.5	10	100	80	120	M6	3.0	-
T-DA90S	165	130	200	12	3.5	12	115	95	140	M8	3.0	-
T-DA90L	165	130	200	12	3.5	12	115	95	140	M6	3.0	-
T-DA100L	215	180	250	15	4.0	15	130	110	160	M8	3.5	-
T-DA112M	215	180	250	15	4.0	15	130	110	160	M8	3.5	-
T-DA132S	265	230	300	15	4.0	15	165	130	200	M10	3.5	-
T-DA132M	265	230	300	15	4.0	15	165	130	200	M10	3.5	-
T-DA160M	300	250	350	19	5.0	16	–	–	–	–	–	-
T-DA160L	300	250	350	19	5.0	16	–	–	–	–	–	-

Type	Shaft							
Aluminium	D	E	F	G	GD	EB	ED	DH
T-DA53	9	20	3	7.2	3	-	-	M3
T-DA63	11	23	4	8.5	4	16	3	M4
T-DA71	14	30	5	11	5	20	5	M5
T-DA80	19	40	6	15.5	6	25	5	M6
T-DA90	24	50	8	20	7	40	5	M8
T-DA100	28	60	8	24	7	45	5	M10
T-DA112M	28	60	8	24	7	45	5	M10
T-DA132	38	80	10	33	8	63	5	M12
T-DA160	42	110	12	37	8	90	10	M16



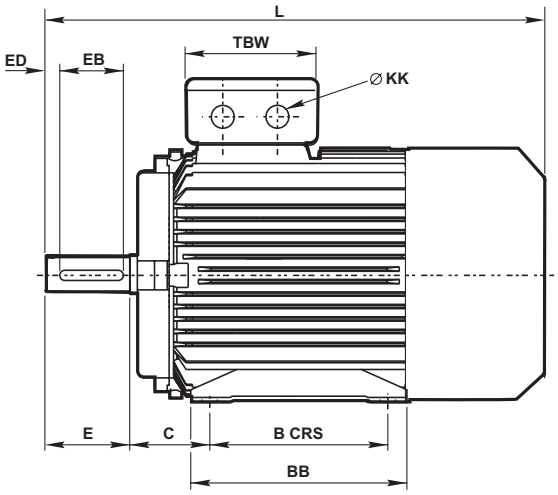
For tolerance details and notes - see page 15

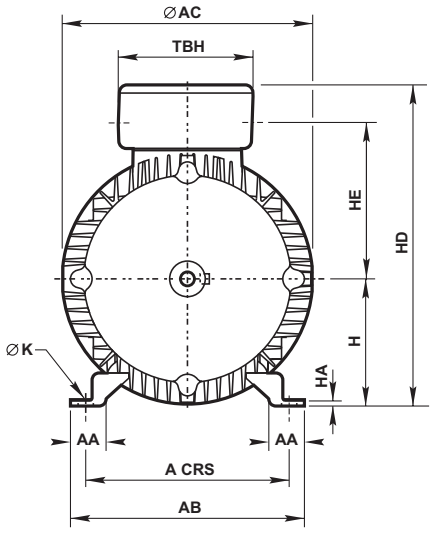
Dimensions

Foot and flange mounting - frame sizes 180 to 355 cast iron

IM B3
IM 1001

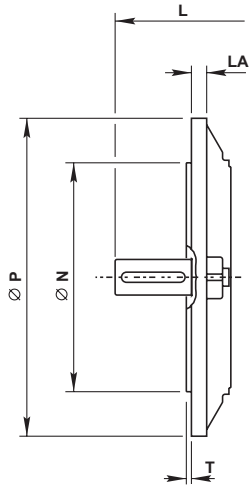
Mounting options

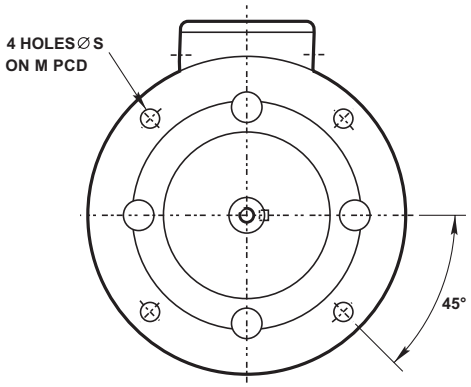




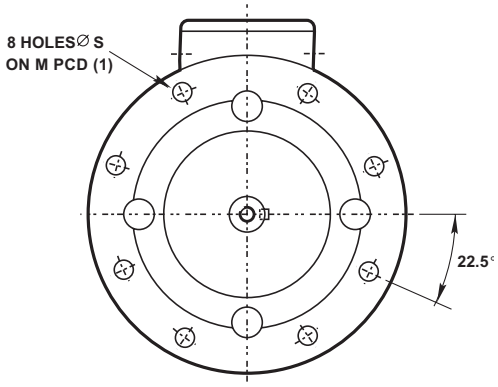
IM B5/IM B35
IM 3001/IM 2001

Mounting options





Up to 200 frame



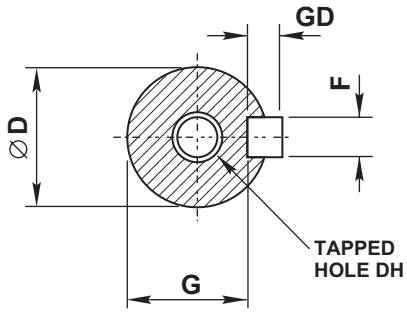
8 holes at 22.5° for flanges to suit 225 frames and above to European specification

Foot and flange mounting - frame sizes 180 to 355 cast iron

Type	General					4 Pole +	2 Pole							Terminal box		
	A	B	C	H	K	L	L	AA	AB	AC	BB	HA	HD	HE	TBW	TBH	KK
T-DF180M	279	241	121	180	15	700	700	70	345	380	300	22	455	228	160	168	2 x M32
T-DF180L	279	279	121	180	15	740	740	70	345	380	338	22	455	228	160	168	2 x M32
T-DF200L	318	305	133	200	19	780	780	70	390	420	368	25	505	250	197	212	2 x M40
TU-DF225S	356	286	149	225	19	815	-	75	431	470	375	28	560	275	197	212	2 x M50
TU-DF225M	356	311	149	225	19	845	820	75	431	470	400	28	560	275	197	212	2 x M50
TU-DF250M	406	349	168	250	24	910	910	80	490	510	445	30	615	305	200	200	2 x M50
TU-DF280S	457	368	190	280	24	985	985	85	550	580	505	35	680	332	200	200	2 x M50
TU-DF280M	457	419	190	280	24	1035	1035	85	550	580	556	35	680	332	200	200	2 x M50
TU-DF315S	508	406	216	315	28	1215	1185	120	635	645	570	45	845	445	224	243	2 x M63
TU-DF315M	508	457	216	315	28	1325	1295	120	635	645	680	45	845	445	224	243	2 x M63
TU-DF315L	508	508	216	315	28	1325	1295	120	635	645	680	45	845	445	224	243	2 x M63
TU-DF355M	610	560	254	355	28	1570	1530	120	730	710	750	52	1010	550	330	380	2 x M63
TU-DF355L	610	630	254	355	28	1570	1530	120	730	710	750	52	1010	550	330	380	2 x M63

Type	IM B5, IM B35 mounting					
	M	N	P	S	T	LA
T-DF180M/L	300	250	350	19	5	15
T-DF200L	350	300	400	19	5	17
TU-DF225S/M	400	350	450	19	5	20
TU-DF250	500	450	550	19	5	22
TU-DF280	500	450	550	19	5	22
TU-DF315S/M/L(1)	600	550	660	24	6	22
TU-DF355M(1)	740	680	800	24	6	25
TU-DF355L(1)	740	680	800	24	6	25

(1) IMB35 only.

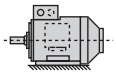


Shaft Type	4 pole +								2 pole							
	D	E	F	G	GD	EB	ED	DH	D	E	F	G	GD	EB	ED	DH
T-DF180M/L	48	110	14	42.5	9	90	10	M16	48	110	14	42.5	9	90	15	M20
TU-DF200L	55	110	16	49	10	90	10	M20	55	110	16	49	10	90	10	M20
TU-DF225S	60	140	18	53	11	110	15	M20	–	–	–	–	–	–	-	-
TU-DF225M	60	140	18	53	11	110	15	M20	55	110	16	49	10	90	10	M20
TU-DF250M	65	140	18	58	11	110	15	M20	60	140	18	53	10	90	10	M20
TU-DF280S/M	75	140	20	67.5	12	110	15	M20	65	140	18	58	11	110	15	M20
TU-DF315S/M/L	80	170	22	71	14	140	15	M20	65	140	18	58	11	110	15	M20
TU-DF355M	100	210	28	90	16	170	25	M24	80	170	22	71	12	140	15	M20
TU-DF355L	100	210	28	90	16	170	25	M24	80	170	22	71	12	140	15	M20

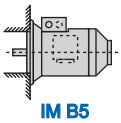
For tolerance details and notes - see page 15

Mounting codes

Horizontal shaft:



IM B3
IM 1001
foot mounted

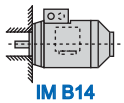


IM B5
IM 3001
flange at DE
no feet

IM B6
IM 1051
foot wall mounted with feet on left-hand side when viewed from DE

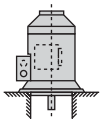
IM B7
IM 1061
foot wall mounted with feet on right-hand side when viewed from DE

IM B8
IM 1071
ceiling mounted with feet above motor

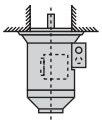


IM B14
IM 3601
face at DE
no feet

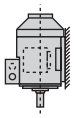
Vertical shaft:



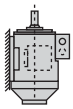
IM V1
IM 3011
flange at DE
shaft down
no feet



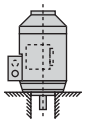
IM V3
IM 3031
flange at DE
shaft up
no feet



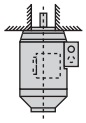
IM V5
IM 1011
vertical foot wall mounted
shaft down



IM V6
IM 1031
vertical foot wall mounted
shaft up



IM V18
IM 3611
face at DE
shaft down
no feet



IM V19
IM 3631
face at DE
shaft up
no feet

Approximate shipping specifications

Aluminium			Cast iron		
Frame	Net weight kg	Gross weight kg	**Frame**	Net weight kg	Gross weight kg
T-DA56M	4.0	4.0	**T-DF180MA**	180	188
T-DA63M	4.5	4.5	**T-DF200LA**	240	249
T-DA71M	6.0	6.0	**T-DF200LB**	255	264
T-DA80M	10.0	10.0	**TU-DF225M**	309	320
T-DA90S	12.0	12.0	**TU-DF250M**	403	414
T-DA90L	15.0	15.0	**TU-DF280S**	544	557
T-DA100L	24.0	24.0	**TU-DF280MA**	620	634
T-DA112M	28.0	28.0	**TU-DF315SA**	980	996
T-DA132S	46.0	46.0	**TU-DF315MA**	1080	1097
T-DF132M	56.0	56.0	**TU-DF315LA**	1160	1178
T-DA160MA	83.0	83.0	**TU-DF315LB**	1190	1208
T-DA160MB	103.0	103.0	**TU-DF355MA**	1710	1730
T-DA160LA	123.0	123.0	**TU-DF355MB**	1760	1780
			TU-DF355L	1800	1821

Technical information: Mechanical

Bearing and greasing arrangements

Bearing references and oilseals for horizontally mounted motors only

Type			Bearings[1]		Oilseals[2]	
Aluminium	Cast iron	Poles	Drive end	Non-drive end	Drive end	Non-drive end
T-DA56	_	All	6201ZZ	6201ZZ	12 x 22 x 5	12 x 22 x 5
T-DA63M	_	All	6201ZZ	6201ZZ	12 x 24 x 7	12 x 24 x 7
T-DA71M	_	All	6202ZZ	6202ZZ	15 x 25 x 7	15 x 25 x 7
T-DA80M	_	All	6204ZZ	6204ZZ	20 x 34 x 7	20 x 34 x 7
T-DA90S/L	_	All	6205ZZ	6205ZZ	25 x 37 x 7	25 x 37 x 7
T-DA100L	_	All	6206ZZ	6206ZZ	30 x 42 x 7	30 x 42 x 7
T-DA112M	_	All	6306ZZ	6306ZZ	30 x 42 x 7	30 x 42 x 7
T-DA132S/M	_	All	6308ZZ	6308ZZ	40 x 58 x 8	40 x 58 x 8
T-DA160M/L	_	All	6309ZZ	6309ZZ	45 x 65 x 8	45 x 65 x 8
_	**T-DF180M/L**	All	6311	6311	55 x 72 x 8	55 x 72 x 8
_	**T-DF200L**	All	6312	6312	60 x 80 x 8	60 x 80 x 8
_	**TU-DF225S/M**	All	6313	6312	65 x 90 x 10	60 x 80 x 8
_	**TU-DF250S/M**	All	6314	6313	70 x 95 x 10	65 x 90 x 10
_	**TU-DF280S/M**	2	6314	6314	70 x 95 x 10	70 x 95 x 10
_	**TU-DF280S/M**	4 up	6317	6314	85 x 110 x 12	70 x 95 x 10
_	**TU-DF315S/M/L**	2	6317	6317	85 x 110 x 12	85 x 110 x 12
_	**TU-DF315S/M/L**	4 up	NU319	6319	95 x 120 x 12	95 x 120 x 12
_	**TU-DF355M/L**	2	6319	6319	95 x 120 x 12	95 x 120 x 12
	TU-DF355M/L	4 up	NU322	6322	110 x 140 x 12	110 x 140 x 12

[1] Frame sizes 56-160 have sealed for life bearings with C3 clearances. Frame sizes 180-355 have bearings with C3 clearance.
[2] Sizes given are in mm and represent bore x outside diameter x width. The seal material used on all frame sizes and all polaritie, is nitrile rubber (NBR).

Relubrication intervals for operating temperature up to 70°C x 10^3 hours

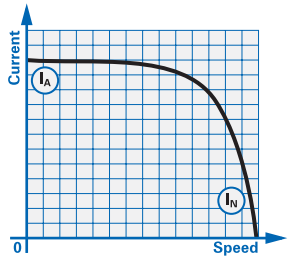
Type	3000 min^{-1}		1500 min^{-1}		1000 min^{-1}		750 min^{-1}	
	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
T-DF180M/L	3	1.75	8	4.25	12	6	12	6
T-DF200L	3	1.75	8	4.25	12	6	12	6
TU-DF225S	3	1.5	8	4	11	5.5	11	5.5
TU-DF225M	3	1.5	8	4	11	5.5	11	5.5
TU-DF250M	2	1	7.5	3.75	10.5	5.25	10.5	5.25
TU-DF280S	1.5	0.75	7	3.5	10	5	10	5
TU-DF280M	1.5	0.75	7	3.5	10	5	10	5
TU-DF315S	1	0.5	3.8	1.9	7.5	3.75	7.5	3.75
TU-DF315M	1	0.5	3.8	1.9	7.5	3.75	7.5	3.75
TU-DF315L	1	0.5	3.8	1.9	7.5	3.75	7.5	3.75
TU-DF355M	1	0.5	2.5	1.25	2	1	2	1
TU-DF355L	1	0.5	2.5	1.25	2	1	2	1

Sealed for life bearings are fitted with a premium quality grease to ensure exceptional reliability under a wide range of operating conditions. Under normal operating conditions, a grease life of more than 25,000 hours can be achieved.
The regreasing time should be reduced if the bearing operating temperature is in excess of 70˚C.

Performance data – page notes

DOL starting

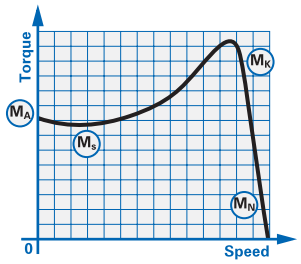
Typical speed/current curve



(I_A)	Starting current
(I_N)	Full load current
(M_A)	Starting torque or locked rotor torque
(M_S)	Pull up torque or run up torque
(M_K)	Pull out torque or breakdown torque
(M_N)	Full load torque

Torque/speed curves for specific motors can be supplied on request.

Typical speed/torque curve



During the run up period in Star, there must be an adequate excess of motor torque over the load torque. The change to Delta must not occur until the motor is near the operating speed. Refer to Brook Crompton for running up against a load in excess of 70% full load during Star Delta starting.

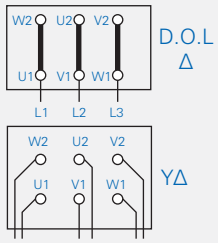
Performance figures are subject to IEC tolerances. Performance figures are based on a 400 volt winding.

$$J\ (WK^2 \text{ OR } WR^2) = \frac{GD^2}{4}$$

$$J \text{ in lb ft}^2 = \frac{kgm^2}{0.042}$$

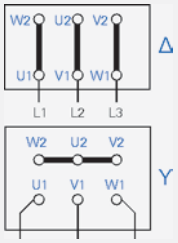
Connection Diagrams

Star Delta

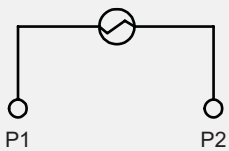


Motors => 4kW

Dual voltage



Thermistors

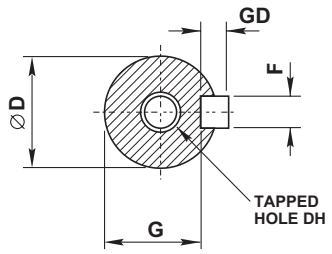


Connect to thermistor control unit.

Dimensions – page notes

Shaft

Dim D	Tol	Limits
11 to 14	j6	+0.008
		–0.003
19 to 28	j6	+0.009
		–0.004
38 to 48	k6	+0.018
		+0.002
55 to 80	m6	+0.030
		+0.011
85 to 110	m6	+0.035
		+0.013



Flange

	IEC 60072	
Dim N	Tol	Limits
110	j6	+0.013
		–0.009
130	j6	+0.014
		–0.011
230 to 250	j6	+0.016
		–0.013
300	j6	+0.016
		-0.016
350	j6	+0.018
		-0.018
450	j6	+0.020
		-0.020
550	j6	+0.022
		-0.022
680	js6	+0.025
		-0.025

Face

	IEC 60072	
Dim N	Tol	Limits
70 and 80	j6	+0.012
		–0.007
95 and 110	j6	+0.013
		–0.009
130	j6	+0.014
		–0.011
230	j6	+0.016
		–0.013

All dimensions in millimetres

Cable entry can be arranged in any one of four positions at 90° intervals

Dimensions should not be used for installation purposes unless specially endorsed

B5 mounted motors have suffix '-D' in the frame reference, eg T-DA132MA-D and B3/B5 mounted motors have suffix '-H' in the frame reference, eg T-DA132MA-H

B14 mounted motors have suffix 'C' in the frame reference, eg T-DA132MA-C and B3/B14 mounted motors have suffix '-H' in the frame reference, eg T-DA132MA-H

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