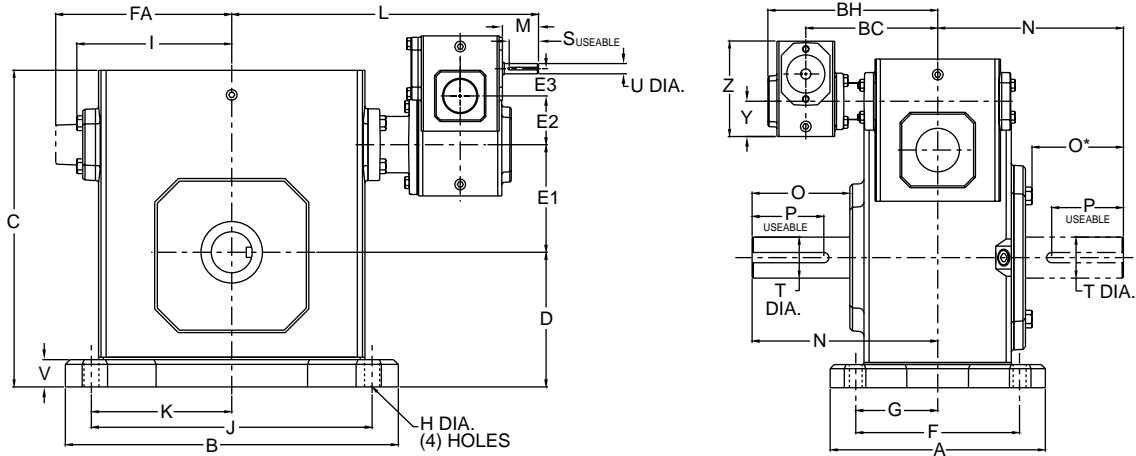


Triple Reduction

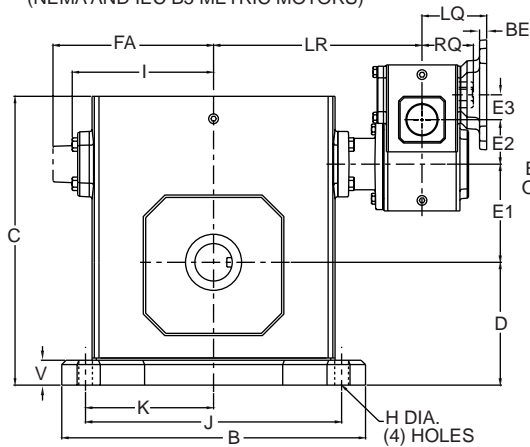
Worm / Worm / Worm Dimensions

Style TT

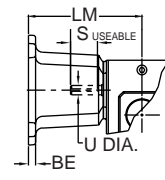
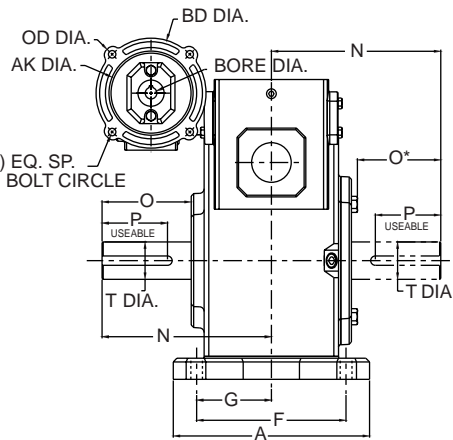


Styles TTMQ & TTM

STYLE TTMQ
(NEMA AND IEC B5 METRIC MOTORS)



STYLE TTM
(NEMA MOTORS ONLY)



Note: The input shaft may be rotated in either direction. Units are for mounting as shown. Contact factory for other mountings or assembly position options.

Triple Reduction Styles TT, TTMQ & TTM

UNIT	A	B	BC	BH	C	D	E1	E2	E3	F	FA	G	H Dia.	I	J	K	L	LR	M	N	O	O*
										4.38		2.19										
213	5.38	5.37	5.32	7.16	5.19	2.25	1.333	1.333	1.333	3.31	N/A	1.66	.34	2.61	4.37	2.19	9.14	5.32	1.76	4.00	2.16	1.94
215	5.56	6.50	5.32	7.16	5.97	2.50	1.540	1.333	1.333	4.31	N/A	2.16	.41	3.14	5.25	2.63	9.67	5.85	1.76	4.31	2.11	1.90
218	5.75	6.99	5.32	7.16	6.44	2.75	1.750	1.333	1.333	4.50	N/A	2.25	.41	3.24	5.75	2.88	9.77	5.94	1.76	4.31	2.05	1.84
220	6.00	7.69	5.32	7.16	7.09	3.00	2.063	1.333	1.333	4.69	N/A	2.34	.47	3.61	6.38	3.19	10.14	6.32	1.76	4.68	2.29	2.08
224	6.19	8.37	5.32	7.16	7.69	3.25	2.375	1.333	1.333	4.88	N/A	2.44	.47	3.77	7.06	3.53	10.27	6.44	1.76	5.14	2.66	2.44
226	6.50	9.25	5.32	7.16	8.75	3.69	2.625	1.333	1.333	5.25	N/A	2.63	.53	4.34	8.00	4.00	10.83	7.01	1.76	5.63	2.73	2.52
230	7.50	10.00	5.85	7.69	9.63	4.00	3.000	1.540	1.333	5.88	N/A	2.94	.53	4.84	8.44	4.22	11.69	7.86	1.76	6.75	3.60	3.36
232	7.75	11.12	5.85	7.69	10.25	4.38	3.250	1.540	1.333	6.13	N/A	3.06	.53	5.02	9.50	4.75	11.87	8.05	1.76	7.06	3.66	3.42
242	9.75	13.24	6.32	8.16	12.38	5.44	4.250	2.063	1.333	7.63	N/A	3.81	.66	6.10	11.12	5.56	13.00	9.18	1.76	8.12	4.50	4.21
252	10.50	16.24	7.01	8.85	15.13	6.25	5.250	2.625	1.333	8.38	N/A	4.19	.78	7.50	14.12	7.06	15.40	11.57	1.76	9.06	4.78	4.53
2600	12.00	18.99	8.05	10.25	17.75	7.75	6.000	3.250	1.540	9.50	10.24	4.75	.91	N/A	16.49	8.25	17.65	13.30	1.76	10.00	4.66	4.66
2700	13.38	15.38	8.05	10.25	20.33	9.00	7.000	3.250	1.540	11.25	10.63	5.63	1.13	N/A	13.00	6.50	17.31	12.96	1.76	11.76	5.69	5.69
2800	13.50	17.37	9.18	11.57	22.61	10.50	8.000	4.250	2.063	11.50	11.93	5.75	1.13	N/A	14.75	7.38	18.77	13.94	1.76	12.25	6.02	6.02
21000	16.88	21.24	11.57	14.47	27.12	12.00	10.000	5.250	2.625	14.00	14.34	7.00	1.44	N/A	17.00	8.50	23.13	17.05	2.38	14.75	6.80	6.80

UNIT	P**	S**	T Dia.	U Dia.	V	Y	Z
213	3/16 x 1.50	1/8 x 1.44	.625	.500	.53	1.72	4.66
215	3/16 x 1.50	1/8 x 1.44	.750	.500	.59	1.72	4.66
218	3/16 x 1.38	1/8 x 1.44	.875	.500	.69	1.72	4.66
220	1/4 x 1.44	1/8 x 1.44	1.000	.500	.72	1.72	4.66
224	1/4 x 1.75	1/8 x 1.44	1.125	.500	.75	1.72	4.66
226	1/4 x 2.00	1/8 x 1.44	1.250	.500	.75	1.72	4.66
230	1/4 X 2.25	1/8 x 1.44	1.250	.500	.75	1.72	4.66
232	3/8 X 2.62	1/8 x 1.44	1.500	.500	.88	1.72	4.66
242	1/2 X 3.06	1/8 x 1.44	1.875	.500	1.00	1.72	4.66
252	1/2 x 3.50	1/8 x 1.44	2.000	.500	1.13	1.72	4.66
2600	5/8 x 4.00	3/16 x 1.50	2.500	.625	1.25	1.91	5.38
2700	5/8 x 4.00	3/16 x 1.50	2.750	.625	1.42	1.91	5.38
2800	3/4 x 4.50	3/16 x 1.50	3.000	.625	1.65	2.28	6.38
21000	7/8 x 5.00	3/16 x 1.75	3.750	.750	1.65	2.94	8.00

*applies to double output shaft
**keyway width by length

Note: All dimensions listed are for reference only.
Contact factory for certified dimensions.

⚠WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

IEC B5 & B3/B5 Metric Motor Flange Face Locations

UNIT	D63D		D71D		D80D		D90D		D100LD D112MD	
	LQ	RQ	LQ	RQ	LQ	RQ	LQ	RQ	LQ	RQ
213	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
215	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
218	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
220	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
224	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
226	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
230	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
232	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
242	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
252	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
2600	3.15	2.98	3.18	3.00	3.42	3.24	N/A	N/A	N/A	N/A
2700	3.15	2.98	3.18	3.00	3.42	3.24	N/A	N/A	N/A	N/A
2800	3.62	3.43	3.65	3.44	3.89	3.68	N/A	N/A	N/A	N/A
21000	N/A	N/A	4.28	4.09	4.90	4.72	4.90	4.72	5.30	5.07

Note: Metric motor flanges are available in quill-style (TTMQ) only.

NEMA Motor Data

NEMA Motor Mounting Dimensions

Frame	AJ	AK	BD	OD	BE	BORE	KWY.**	BF
48CZ	3.75	3.00	3.88	4.36	.38	.500	1/8 x 1/16	.28
56C	5.88	4.50	5.88	6.64	.38	.625	3/16 x 3/32	.41
140TC	5.88	4.50	5.88	6.64	.38	.875	3/16 x 3/32	.41
180TC	7.25	8.50	9.00	N/A	N/A	1.125	1/4 x 1/8	.53
210TC	7.25	8.50	9.00	N/A	N/A	1.375	5/16 x 5/32	.53

**keyway width by depth

NEMA Motor Flange Face Locations

UNIT	48CZ			56C/140TC			180TC			210TC		
	LM	RQ	LQ	LM	RQ	LQ	LM	RQ	LQ	LM	RQ	LQ
213	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
215	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
218	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
220	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
224	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
226	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
230	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
232	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
242	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
252	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
2600	6.16	3.62	3.99	6.60	3.62	3.99	N/A	N/A	N/A	N/A	N/A	N/A
2700	6.16	3.62	3.99	6.60	3.62	3.99	N/A	N/A	N/A	N/A	N/A	N/A
2800	6.63	4.06	4.46	7.07	4.06	4.46	N/A	N/A	N/A	N/A	N/A	N/A
21000	N/A	N/A	N/A	8.32	4.82	5.19	9.32	5.13	5.62	9.32	N/A	N/A

Metric Motor Data

IEC B5 & B3/B5 Metric Motor Mounting Dimensions

(All dimensions given in millimeters)

Frame	AJ	AK	BD	OD	BE	BORE	KWY.**	BFTAP
D63D	115	95	117	131	10	11	4 x 2	M8 x 1.25
D71D	130	110	132	146	11	14	5 x 2.5	M8 x 1.25
D80D	165	130	165	184	15	19	6 x 3	M10 x 1.50
D90D	165	130	165	184	15	24	8 x 3.5	M10 x 1.50
D100LD*	215	180	216	237	18	28	8 x 3.5	M12 x 1.75

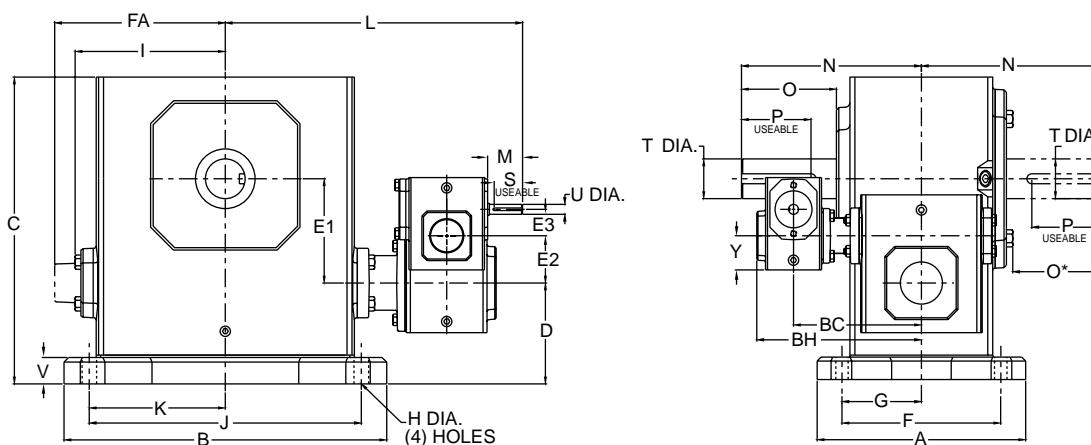
*also applies to D112MD

**keyway width by depth

Triple Reduction

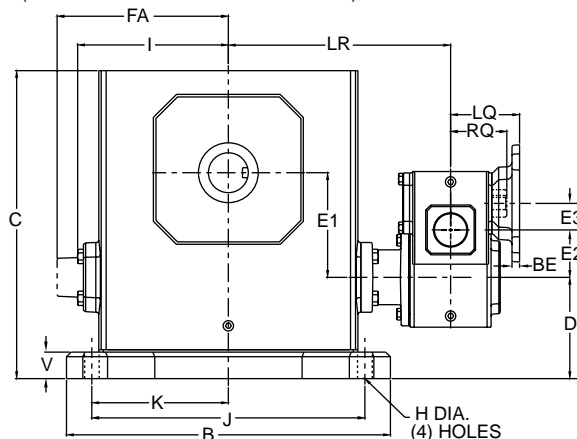
Worm / Worm / Worm Dimensions

Style TU

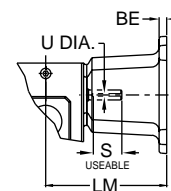
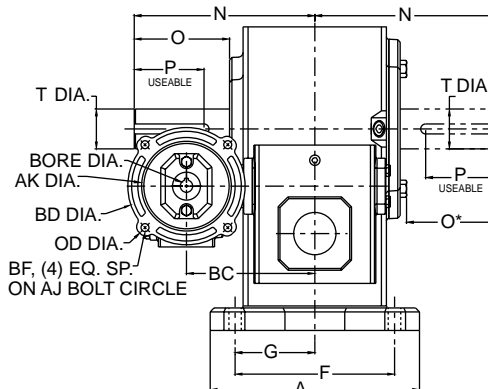


Styles TUMQ & TUM

STYLE TUMQ
(NEMA AND IEC B5 METRIC MOTORS)



STYLE TUM
(NEMA MOTORS ONLY)



Note: The input shaft may be rotated in either direction. Units are for mounting as shown. Contact factory for other mountings or assembly position options.

Triple Reduction

Styles TU, TUMQ & TUM

UNIT	A	B	BC	BH	C	D	E1	E2	E3	F	FA	G	H Dia.	I	J	K	L	LR	M	N	O	O*
213	5.38	5.37	5.32	7.16	5.19	2.14	1.333	1.333	1.333	4.38	N/A	2.19	.34	2.61	4.37	2.19	9.14	5.32	1.76	4.00	2.16	1.94
215	5.56	6.50	5.32	7.16	5.97	2.52	1.540	1.333	1.333	4.31	N/A	2.16	.41	3.14	5.25	2.63	9.67	5.85	1.76	4.31	2.11	1.90
218	5.75	6.99	5.32	7.16	6.44	2.63	1.750	1.333	1.333	4.50	N/A	2.25	.41	3.24	5.75	2.88	9.77	5.94	1.76	4.31	2.05	1.84
220	6.00	7.69	5.32	7.16	7.09	2.75	2.063	1.333	1.333	4.69	N/A	2.34	.47	3.61	6.38	3.19	10.14	6.32	1.76	4.68	2.29	2.08
224	6.19	8.37	5.32	7.16	7.69	2.81	2.375	1.333	1.333	4.88	N/A	2.44	.47	3.77	7.06	3.53	10.27	6.44	1.76	5.14	2.66	2.44
226	6.50	9.25	5.32	7.16	8.75	3.19	2.625	1.333	1.333	5.25	N/A	2.63	.53	4.34	8.00	4.00	10.83	7.01	1.76	5.63	2.73	2.52
230	7.50	10.00	5.85	7.69	9.63	3.38	3.000	1.540	1.333	5.88	N/A	2.94	.53	4.84	8.44	4.22	11.69	7.86	1.76	6.75	3.60	3.36
232	7.75	11.12	5.85	7.69	10.25	3.50	3.250	1.540	1.333	6.13	N/A	3.06	.53	5.02	9.50	4.75	11.87	8.05	1.76	7.06	3.66	3.42
242	9.75	13.24	6.32	8.16	12.38	3.69	4.250	2.063	1.333	7.63	N/A	3.81	.66	6.10	11.12	5.56	13.00	9.18	1.76	8.12	4.50	4.21
252	10.50	16.24	7.01	8.85	15.13	4.76	5.250	2.625	1.333	8.38	N/A	4.19	.78	7.50	14.12	7.06	15.40	11.57	1.76	9.06	4.78	4.53
2600	12.00	18.99	8.05	10.25	17.75	5.25	6.000	3.250	1.540	9.50	10.24	4.75	.91	N/A	16.49	8.25	17.65	13.30	1.76	10.00	4.66	4.66
2700	13.38	15.38	8.05	10.25	20.33	5.74	7.000	3.250	1.540	11.25	10.63	5.63	1.13	N/A	13.00	6.50	17.31	12.96	1.76	11.76	5.69	5.69
2800	13.50	17.37	9.18	11.57	22.61	5.75	8.000	4.250	2.063	11.50	11.93	5.75	1.13	N/A	14.75	7.38	18.77	13.94	1.76	12.25	6.02	6.02
21000	16.88	21.24	11.57	14.47	27.12	6.76	10.000	5.250	2.625	14.00	14.34	7.00	1.44	N/A	17.00	8.50	23.13	17.05	2.38	14.75	6.80	6.80

UNIT	P**	S**	T Dia.	U Dia.	V	Y
213	3/16 x 1.50	1/8 x 1.44	.625	.500	.53	1.72
215	3/16 x 1.50	1/8 x 1.44	.750	.500	.59	1.72
218	3/16 x 1.38	1/8 x 1.44	.875	.500	.69	1.72
220	1/4 x 1.44	1/8 x 1.44	1.000	.500	.72	1.72
224	1/4 x 1.75	1/8 x 1.44	1.125	.500	.75	1.72
226	1/4 x 2.00	1/8 x 1.44	1.250	.500	.75	1.72
230	1/4 X 2.25	1/8 x 1.44	1.250	.500	.75	1.72
232	3/8 X 2.62	1/8 x 1.44	1.500	.500	.88	1.72
242	1/2 X 3.06	1/8 x 1.44	1.875	.500	1.00	1.72
252	1/2 x 3.50	1/8 x 1.44	2.000	.500	1.13	1.72
2600	5/8 x 4.00	3/16 x 1.50	2.500	.625	1.25	1.91
2700	5/8 x 4.00	3/16 x 1.50	2.750	.625	1.42	1.91
2800	3/4 x 4.50	3/16 x 1.50	3.000	.625	1.65	2.28
21000	7/8 x 5.00	3/16 x 1.75	3.750	.750	1.65	2.94

*applies to double output shaft
 **keyway width by length

Note: All dimensions listed are for reference only.
 Contact factory for certified dimensions.

WARNING: For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

IEC B5 & B3/B5 Metric Motor Flange Face Locations

UNIT	D63D		D71D		D80D		D90D		D100LD D112MD	
	LQ	RQ	LQ	RQ	LQ	RQ	LQ	RQ	LQ	RQ
213	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
215	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
218	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
220	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
224	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
226	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
230	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
232	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
242	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
252	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
2600	3.15	2.98	3.18	3.00	3.42	3.24	N/A	N/A	N/A	N/A
2700	3.15	2.98	3.18	3.00	3.42	3.24	N/A	N/A	N/A	N/A
2800	3.62	3.43	3.65	3.44	3.89	3.68	N/A	N/A	N/A	N/A
21000	N/A	N/A	4.28	4.09	4.90	4.72	4.90	4.72	5.30	5.07

Note: Metric motor flanges are available in quill-style (TUMQ) only.

NEMA Motor Data

NEMA Motor Mounting Dimensions

Frame	AJ	AK	BD	OD	BE	BORE	KWY.**	BF
48CZ	3.75	3.00	3.88	4.36	.38	.500	1/8 x 1/16	.28
56C	5.88	4.50	5.88	6.64	.38	.625	3/16 x 3/32	.41
140TC	5.88	4.50	5.88	6.64	.38	.875	3/16 x 3/32	.41
180TC	7.25	8.50	9.00	N/A	N/A	1.125	1/4 x 1/8	.53
210TC	7.25	8.50	9.00	N/A	N/A	1.375	5/16 x 5/32	.53

**keyway width by depth

NEMA Motor Flange Face Locations

UNIT	48CZ			56C/140TC			180TC			210TC		
	LM	RQ	LQ	LM	RQ	LQ	LM	RQ	LQ	LM	RQ	LQ
213	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
215	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
218	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
220	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
224	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
226	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
230	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
232	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
242	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
252	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
2600	6.16	3.62	3.99	6.60	3.62	3.99	N/A	N/A	N/A	N/A	N/A	N/A
2700	6.16	3.62	3.99	6.60	3.62	3.99	N/A	N/A	N/A	N/A	N/A	N/A
2800	6.63	4.06	4.46	7.07	4.06	4.46	N/A	N/A	N/A	N/A	N/A	N/A
21000	N/A	N/A	N/A	8.32	4.82	5.19	9.32	5.13	5.62	9.32	N/A	N/A

Metric Motor Data

IEC B5 & B3/B5 Metric Motor Mounting Dimensions

(All dimensions given in millimeters)

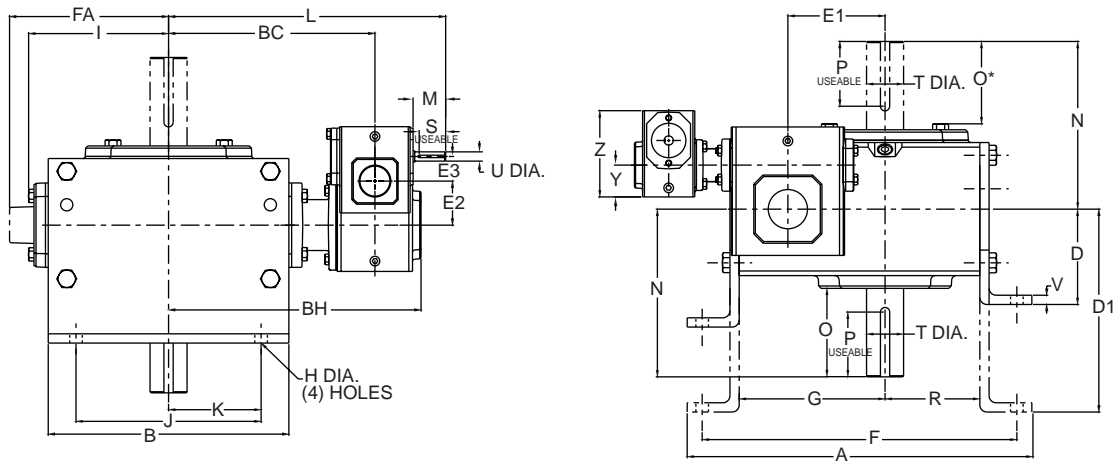
Frame	AJ	AK	BD	OD	BE	BORE	KWY.**	BF TAP
D63D	115	95	117	131	10	11	4 x 2	M8 x 1.25
D71D	130	110	132	146	11	14	5 x 2.5	M8 x 1.25
D80D	165	130	165	184	15	19	6 x 3	M10 x 1.50
D90D	165	130	165	184	15	24	8 x 3.5	M10 x 1.50
D100LD*	215	180	216	237	18	28	8 x 3.5	M12 x 1.75

*also applies to D112MD
 **keyway width by depth

Triple Reduction

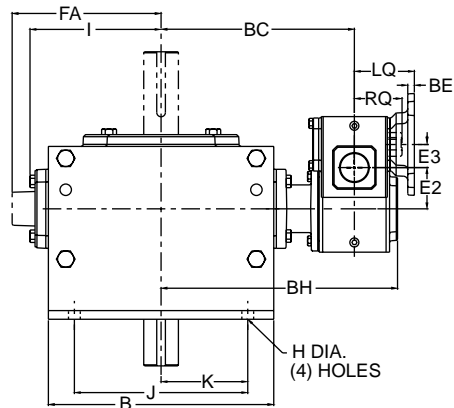
Worm / Worm / Worm Dimensions

Style TV(L or H)

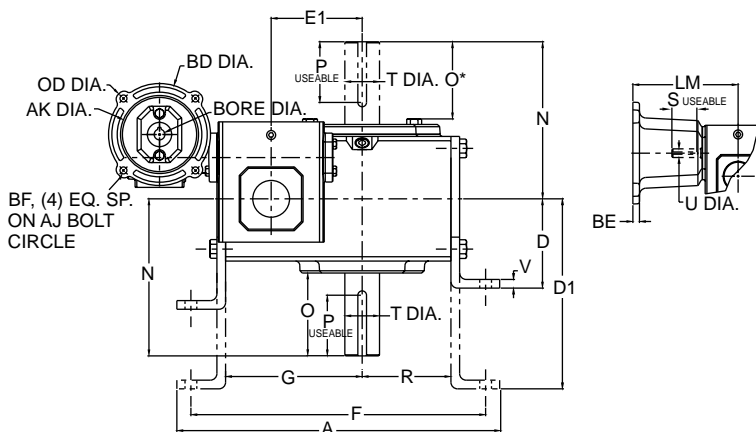


Styles TV(L or H)MQ & TV(L or H)M

STYLE TV(L or H)MQ
(NEMA AND IEC B5 METRIC MOTORS)



STYLE TV(L or H)M
(NEMA MOTORS ONLY)



Note: The input shaft may be rotated in either direction. Units are for mounting as shown. Contact factory for other mountings or assembly position options.

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Davis Industries, Inc. Phone & Fax: 800-577-0559 E-mail: sales@davis-ohio.com

Triple Reduction

Styles TV(L or H), TV(L or H)MQ & TV(L or H)M

UNIT	A	B	BC	BH	D	D1	E1	E2	E3	F	FA	G	H	I	J	K	L	M	N	O	O*
213	7.26	4.00	5.32	7.16	2.63	3.56	1.333	1.333	1.333	6.50	N/A	3.86	.38	2.61	3.00	1.50	9.14	1.76	4.00	2.16	1.94
215	7.88	5.00	5.85	7.69	3.00	4.38	1.540	1.333	1.333	7.00	N/A	4.28	.44	3.14	4.00	2.00	9.67	1.76	4.31	2.11	1.90
218	8.25	5.00	5.94	7.79	3.00	4.38	1.750	1.333	1.333	7.37	N/A	4.50	.44	3.24	4.00	2.00	9.77	1.76	4.31	2.05	1.84
220	9.38	6.00	6.32	8.16	3.13	4.88	2.063	1.333	1.333	8.38	N/A	5.09	.50	3.61	4.88	2.44	10.14	1.76	4.68	2.29	2.08
224	9.94	6.00	6.44	8.29	3.38	5.25	2.375	1.333	1.333	8.81	N/A	5.38	.50	3.77	4.88	2.44	10.27	1.76	5.14	2.66	2.44
226	11.24	7.00	7.01	8.85	3.63	5.56	2.625	1.333	1.333	10.12	N/A	6.12	.56	4.34	5.75	2.88	10.83	1.76	5.63	2.73	2.52
230	12.50	8.00	7.86	10.06	3.94	5.88	3.000	1.540	1.333	11.13	N/A	6.75	.56	4.84	6.00	3.00	11.69	1.76	6.75	3.60	3.36
232	13.00	8.50	8.05	10.25	4.69	6.25	3.250	1.540	1.333	11.88	N/A	7.13	.56	5.02	6.13	3.06	11.87	1.76	7.06	3.66	3.42
242	16.26	10.00	9.18	11.57	5.00	7.50	4.250	2.063	1.333	14.88	N/A	8.69	.69	6.10	7.88	3.94	13.00	1.76	8.12	4.50	4.21
252	19.62	13.00	11.57	14.47	5.16	9.16	5.250	2.625	1.333	18.00	N/A	10.88	.78	7.50	10.00	5.00	15.40	1.76	9.06	4.78	4.53
2600	23.26	14.75	13.30	16.70	7.31	9.63	6.000	3.250	1.540	20.88	10.24	12.19	.91	N/A	11.76	5.88	17.65	1.76	10.00	4.66	4.66
2700	26.91	14.88	12.96	16.90	7.00	N/A	7.000	3.250	1.540	23.99	10.63	13.87	1.13	N/A	12.50	6.25	17.31	1.76	11.76	5.69	5.69
2800	28.96	17.00	13.94	18.19	8.00	N/A	8.000	4.250	2.063	25.50	11.93	14.38	1.13	N/A	14.00	7.00	18.77	1.76	12.25	6.02	6.02
21000	37.47	20.88	17.05	22.30	9.00	N/A	10.000	5.250	2.625	30.75	14.34	17.76	1.44	N/A	17.75	8.88	23.13	2.38	14.75	6.80	6.80

UNIT	P**	R	S**	T Dia.	U Dia.	V	Y	Z
213	3/16 x 1.50	1.72	1/8 x 1.44	.625	.500	.25	1.72	4.66
215	3/16 x 1.50	1.91	1/8 x 1.44	.750	.500	.25	1.72	4.66
218	3/16 x 1.38	2.06	1/8 x 1.44	.875	.500	.25	1.72	4.66
220	1/4 x 1.44	2.28	1/8 x 1.44	1.000	.500	.38	1.72	4.66
224	1/4 x 1.75	2.50	1/8 x 1.44	1.125	.500	.38	1.72	4.66
226	1/4 x 2.00	2.94	1/8 x 1.44	1.250	.500	.38	1.72	4.66
230	1/4 X 2.25	3.25	1/8 x 1.44	1.250	.500	.38	1.72	4.66
232	3/8 X 2.62	3.50	1/8 x 1.44	1.500	.500	.38	1.72	4.66
242	1/2 X 3.06	4.44	1/8 x 1.44	1.875	.500	.50	1.72	4.66
252	1/2 x 3.50	5.12	1/8 x 1.44	2.000	.500	.50	1.72	4.66
2600	5/8 x 4.00	6.50	3/16 x 1.50	2.500	.625	.50	1.91	5.38
2700	5/8 x 4.00	7.59	3/16 x 1.50	2.750	.625	.75	1.91	5.38
2800	3/4 x 4.50	8.86	3/16 x 1.50	3.000	.625	.75	2.28	6.38
21000	7/8 x 5.00	10.36	3/16 x 1.75	3.750	.750	1.00	2.94	8.00

*applies to double output shaft - all sizes, and single output shaft - sizes 242 & larger

**keyway width by length

Note: All dimensions listed are for reference only. Contact factory for certified dimensions.

⚠️WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

IEC B5 & B3/B5 Metric Motor Flange Face Locations

UNIT	D63D		D71D		D80D		D90D		D100LD D112MD	
	LQ	RQ	LQ	RQ	LQ	RQ	LQ	RQ	LQ	RQ
213	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
215	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
218	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
220	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
224	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
226	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
230	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
232	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
242	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
252	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
2600	3.15	2.98	3.18	3.00	3.42	3.24	N/A	N/A	N/A	N/A
2700	3.15	2.98	3.18	3.00	3.42	3.24	N/A	N/A	N/A	N/A
2800	3.62	3.43	3.65	3.44	3.89	3.68	N/A	N/A	N/A	N/A
21000	N/A	N/A	4.28	4.09	4.90	4.72	4.90	4.72	5.30	5.07

Note: Metric motor flanges are available in quill-style (TVMQ) only.

NEMA Motor Data

NEMA Motor Mounting Dimensions

Frame	AJ	AK	BD	OD	BE	BORE	KWY.**	BF
48CZ	3.75	3.00	3.88	4.36	.38	.500	1/8 x 1/16	.28
56C	5.88	4.50	5.88	6.64	.38	.625	3/16 x 3/32	.41
140TC	5.88	4.50	5.88	6.64	.38	.875	3/16 x 3/32	.41
180TC	7.25	8.50	9.00	N/A	N/A	1.125	1/4 x 1/8	.53
210TC	7.25	8.50	9.00	N/A	N/A	1.375	5/16 x 5/32	.53

**keyway width by depth

NEMA Motor Flange Face Locations

UNIT	48CZ			56C/140TC			180TC			210TC		
	LM	RQ	LQ	LM	RQ	LQ	LM	RQ	LQ	LM	RQ	LQ
213	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
215	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
218	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
220	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
224	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
226	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
230	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
232	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
242	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
252	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
2600	6.16	3.62	3.99	6.60	3.62	3.99	N/A	N/A	N/A	N/A	N/A	N/A
2700	6.16	3.62	3.99	6.60	3.62	3.99	N/A	N/A	N/A	N/A	N/A	N/A
2800	6.63	4.06	4.46	7.07	4.06	4.46	N/A	N/A	N/A	N/A	N/A	N/A
21000	N/A	N/A	N/A	8.32	4.82	5.19	9.32	5.13	5.62	9.32	N/A	N/A

Metric Motor Data

IEC B5 & B3/B5 Metric Motor Mounting Dimensions

(All dimensions given in millimeters)

Frame	AJ	AK	BD	OD	BE	BORE	KWY.**	BFTAP
D63D	115	95	117	131	10	11	4 x 2	M8 x 1.25
D71D	130	110	132	146	11	14	5 x 2.5	M8 x 1.25
D80D	165	130	165	184	15	19	6 x 3	M10 x 1.50
D90D	165	130	165	184	15	24	8 x 3.5	M10 x 1.50
D100LD*	215	180	216	237	18	28	8 x 3.5	M12 x 1.75

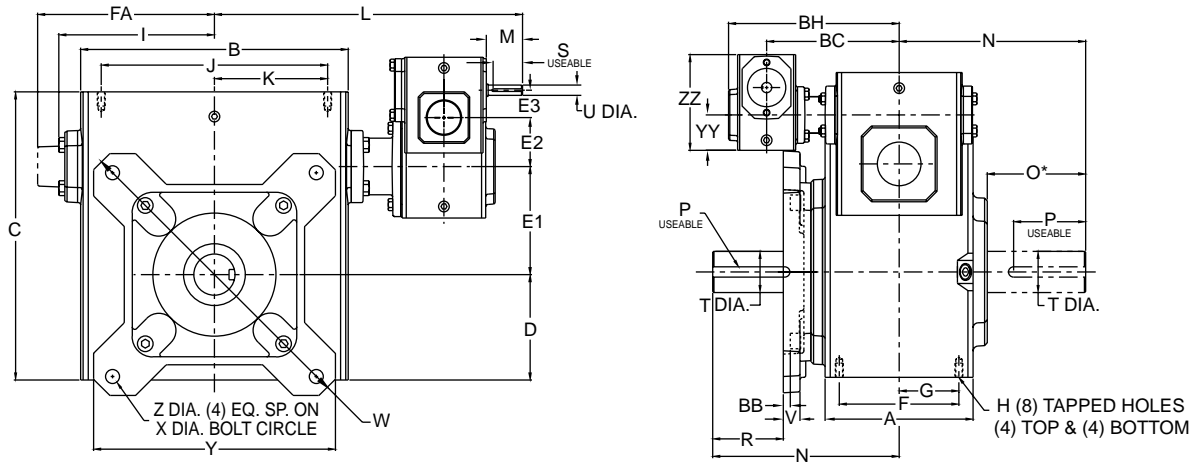
*also applies to D112MD

**keyway width by depth

Triple Reduction

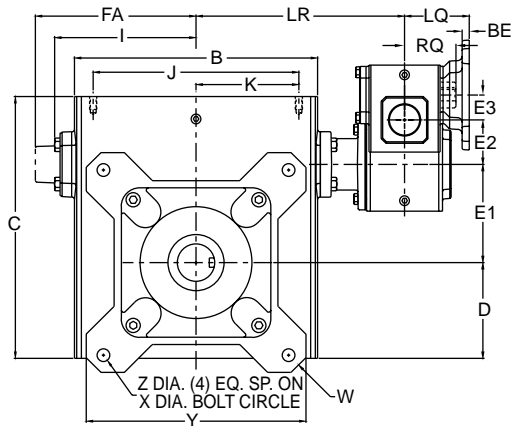
Worm / Worm / Worm Dimensions

Style TF

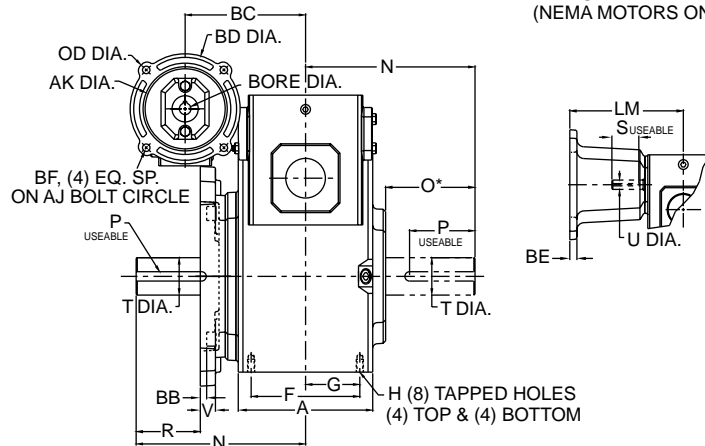


Styles TFMQ & TFM

STYLE TFMQ
(NEMA AND IEC B5 METRIC MOTORS)



STYLE TFM
(NEMA MOTORS ONLY)



Note: The input shaft may be rotated in either direction. Units are for mounting as shown. Contact factory for other mountings or assembly position options.

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Triple Reduction

Styles TF, TFMQ & TFM

UNIT	A	B	BB	BC	BH	C	D	E1	E2	E3	F	FA	G	H	H Depth	I	J	K	L	LR	M	N	O*
213	2.82	3.80	.08	5.32	7.16	4.66	1.72	1.333	1.333	1.333	2.00	N/A	1.00	5/16-18	.50	2.61	3.25	1.63	9.14	5.32	1.76	4.00	2.16
215	3.44	4.88	.08	5.32	7.16	5.38	1.91	1.540	1.333	1.333	2.75	N/A	1.38	5/16-18	.63	3.14	4.19	2.09	9.67	5.85	1.76	4.31	2.11
218	3.56	5.06	.11	5.32	7.16	5.75	2.06	1.750	1.333	1.333	2.75	N/A	1.38	5/16-18	.63	3.24	4.19	2.09	9.77	5.94	1.76	4.31	2.05
220	3.81	5.80	.55	5.32	7.16	6.38	2.28	2.063	1.333	1.333	3.00	N/A	1.50	5/16-18	.63	3.61	4.75	2.38	10.14	6.32	1.76	4.68	2.29
224	4.06	6.12	.51	5.32	7.16	6.94	2.50	2.375	1.333	1.333	2.88	N/A	1.44	3/8-16	.69	3.77	5.00	2.50	10.27	6.44	1.76	5.14	2.66
226	4.84	7.12	.04	5.32	7.16	8.00	2.94	2.625	1.333	1.333	3.38	N/A	1.69	3/8-16	.69	4.34	6.38	3.19	10.83	7.01	1.76	5.63	2.73
230	5.25	8.12	.07	5.85	7.69	8.88	3.25	3.000	1.540	1.333	4.00	N/A	2.00	7/16-14	.88	4.84	7.00	3.50	11.69	7.86	1.76	6.75	3.60
232	5.75	8.50	.07	5.85	7.69	9.38	3.50	3.250	1.540	1.333	4.00	N/A	2.00	7/16-14	.88	5.02	7.50	3.75	11.87	8.05	1.76	7.06	3.66
242	6.13	10.25	.06	6.32	8.16	11.38	4.44	4.250	2.063	1.333	5.00	N/A	2.50	5/8-11	1.00	6.10	8.50	4.25	13.00	9.18	1.76	8.12	4.50
252	7.19	13.00	.34	7.01	8.85	14.00	5.12	5.250	2.625	1.333	5.81	N/A	2.91	5/8-11	1.25	7.50	11.00	5.50	15.40	11.57	1.76	9.06	4.78
2600	8.13	14.25	1.38	8.05	10.25	16.50	6.50	6.000	3.250	1.540	6.38	10.24	3.19	5/8-11	1.00	N/A	12.75	6.38	17.65	13.30	1.76	10.00	4.65
2700	7.63	14.88	1.57	8.05	10.25	18.91	7.59	7.000	3.250	1.540	5.50	10.63	2.75	1-8	1.56	N/A	12.50	6.25	17.31	12.96	1.76	11.76	5.65
2800	8.63	17.00	1.89	9.18	11.57	20.96	8.86	8.000	4.250	2.063	6.50	11.93	3.25	1-8	1.66	N/A	14.25	7.13	18.77	13.94	1.76	12.25	5.98
21000	9.53	20.88	1.85	11.57	14.47	25.47	10.36	10.000	5.250	2.625	6.88	14.34	3.44	1 1/4-7	2.04	N/A	17.75	8.88	23.13	17.05	2.38	14.75	6.76

UNIT	P**	R	S**	T Dia.	U Dia.	V	W	X Dia.	Y	YY	Z Dia.	ZZ
213	3/16 x 1.50	1.48	1/8 x 1.44	.625	.500	.38	5.92	5.00	4.50	1.72	.34	4.66
215	3/16 x 1.50	1.44	1/8 x 1.44	.750	.500	.38	5.92	5.00	4.50	1.72	.34	4.66
218	3/16 x 1.38	1.13	1/8 x 1.44	.875	.500	.38	6.64	5.88	5.00	1.72	.34	4.66
220	1/4 x 1.44	.99	1/8 x 1.44	1.000	.500	.44	7.88	7.00	5.99	1.72	.41	4.66
224	1/4 x 1.75	1.47	1/8 x 1.44	1.125	.500	.44	8.39	7.50	6.27	1.72	.41	4.66
226	1/4 x 2.00	1.99	1/8 x 1.44	1.250	.500	.50	8.88	8.00	6.67	1.72	.41	4.66
230	1/4 X 2.25	3.03	1/8 x 1.44	1.250	.500	.50	9.89	9.00	7.37	1.91	.41	5.38
232	3/8 X 2.62	3.08	1/8 x 1.44	1.500	.500	.50	9.89	9.00	7.37	1.91	.41	5.38
242	1/2 X 3.06	3.62	1/8 x 1.44	1.875	.500	.62	12.95	11.50	9.65	2.28	.56	6.38
252	1/2 x 3.50	3.50	1/8 x 1.44	2.000	.500	.75	15.50	14.00	11.75	2.94	.69	8.00
2600	5/8 x 4.00	2.78	3/16 x 1.50	2.500	.625	.75	18.00	15.63	14.00	3.50	.69	9.38
2700	5/8 x 4.00	4.32	3/16 x 1.50	2.750	.625	.75	21.00	18.38	15.63	3.50	.78	9.38
2800	3/4 x 4.50	3.92	3/16 x 1.50	3.000	.625	.75	24.00	21.00	17.88	4.44	1.03	11.38
21000	7/8 x 5.00	5.70	3/16 x 1.75	3.750	.750	.75	29.00	25.00	21.19	5.12	1.03	14.00

*applies to double output shaft
**keyway width by length

Note: All dimensions listed are for reference only. Contact factory for certified dimensions.

⚠WARNING For safety, purchaser or user should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc., mounted thereon.

IEC B5 & B3/B5 Metric Motor Flange Face Locations

UNIT	D63D		D71D		D80D		D90D		D100LD D112MD	
	LQ	RQ	LQ	RQ	LQ	RQ	LQ	RQ	LQ	RQ
213	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
215	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
218	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
220	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
224	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
226	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
230	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
232	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
242	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
252	2.62	2.45	2.65	2.47	2.89	2.71	N/A	N/A	N/A	N/A
2600	3.15	2.98	3.18	3.00	3.42	3.24	N/A	N/A	N/A	N/A
2700	3.15	2.98	3.18	3.00	3.42	3.24	N/A	N/A	N/A	N/A
2800	3.62	3.43	3.65	3.44	3.89	3.68	N/A	N/A	N/A	N/A
21000	N/A	N/A	4.28	4.09	4.90	4.72	4.90	4.72	5.30	5.07

Note: Metric motor flanges are available in quill-style (TFMQ) only.

NEMA Motor Data

NEMA Motor Mounting Dimensions

Frame	AJ	AK	BD	OD	BE	BORE	KWY.**	BF
48CZ	3.75	3.00	3.88	4.36	.38	.500	1/8 x 1/16	.28
56C	5.88	4.50	5.88	6.64	.38	.625	3/16 x 3/32	.41
140TC	5.88	4.50	5.88	6.64	.38	.875	3/16 x 3/32	.41
180TC	7.25	8.50	9.00	N/A	N/A	1.125	1/4 x 1/8	.53
210TC	7.25	8.50	9.00	N/A	N/A	1.375	5/16 x 5/32	.53

**keyway width by depth

NEMA Motor Flange Face Locations

UNIT	48CZ			56C/140TC			180TC			210TC		
	LM	RQ	LQ	LM	RQ	LQ	LM	RQ	LQ	LM	RQ	LQ
213	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
215	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
218	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
220	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
224	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
226	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
230	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
232	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
242	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
252	5.63	3.09	3.46	6.07	3.09	3.46	N/A	N/A	N/A	N/A	N/A	N/A
2600	6.16	3.62	3.99	6.60	3.62	3.99	N/A	N/A	N/A	N/A	N/A	N/A
2700	6.16	3.62	3.99	6.60	3.62	3.99	N/A	N/A	N/A	N/A	N/A	N/A
2800	6.63	4.06	4.46	7.07	4.06	4.46	N/A	N/A	N/A	N/A	N/A	N/A
21000	N/A	N/A	N/A	8.32	4.82	5.19	9.32	5.13	5.62	9.32	N/A	N/A

Metric Motor Data

IEC B5 & B3/B5 Metric Motor Mounting Dimensions

(All dimensions given in millimeters)

Frame	AJ	AK	BD	OD	BE	BORE	KWY.**	BF TAP
D63D	115	95	117	131	10	11	4 x 2	M8 x 1.25
D71D	130	110	132	146	11	14	5 x 2.5	M8 x 1.25
D80D	165	130	165	184	15	19	6 x 3	M10 x 1.50
D90D	165	130	165	184	15	24	8 x 3.5	M10 x 1.50
D100LD*	215	180	216	237	18	28	8 x 3.5	M12 x 1.75

*also applies to D112MD

**keyway width by depth