W

hindustan ELECTRIC MOTORS

GEARED MOTOR - W SERIES

Gearing the Wheels of Success

INTRODUCTION

HINDUSTAN GEARED MOTORS

"Hindustan" a leading electric motor manufacturer in INDIA producing more than 250,000 3 phase motors at 4 different manufacturing locations.

As a forward integration, we are now introducing new "W" series, worm geared motors having range of 0.125 to 20.0 HP (upto 1,000 Nm). These geared motors have footprints similar to world renowned make.

GEAR CASE

The gear case and end covers are made of high quality aluminum alloy, light weight & non-rusting. The components are accurately machined so as to be fully oil tight and dust proof. The design of housings provides a great amount of torsional rigidity and noise absorption.

WORM SHAFT AND WORM WHEEL

Worm shaft is made from special alloy steels hardened and profile ground to the highest standard and checked to be free from all possible defects and errors. Worm wheel is made of phospore bronze

SHAFTS AND BEARINGS

Output shaft is made out of plain carbon steel and accurately machined to close limits. Bearings are adequately selected to ensure longer life, smooth operation and to withstand high fatigue and shock loads.

LUBRICATION

Size	Type of Lubricant	Ambient Temp. (°C)	ISO VG	Shell	Mobil	Esso	BP
25 - 90	Synthetic Oil	-25 to +50	VG 320	Tivela Oil WB	Glygoyle 30	S220	Energol SGXP 320
110 - 150	Mineral Oil	-5 to +40	VG 460	Omala Oil 460	Mobil Gear 634	Spartan EP 460	Energol GRXP 460

ELECTRICALS

"Hindustan" Geared Motors are fitted with "Hindustan" TEFC squirrel cage induction motors suitable for 415 volts, 3 phase, 50 Hz AC Supply having IP55 protection as per IS:325 with class F insulation.

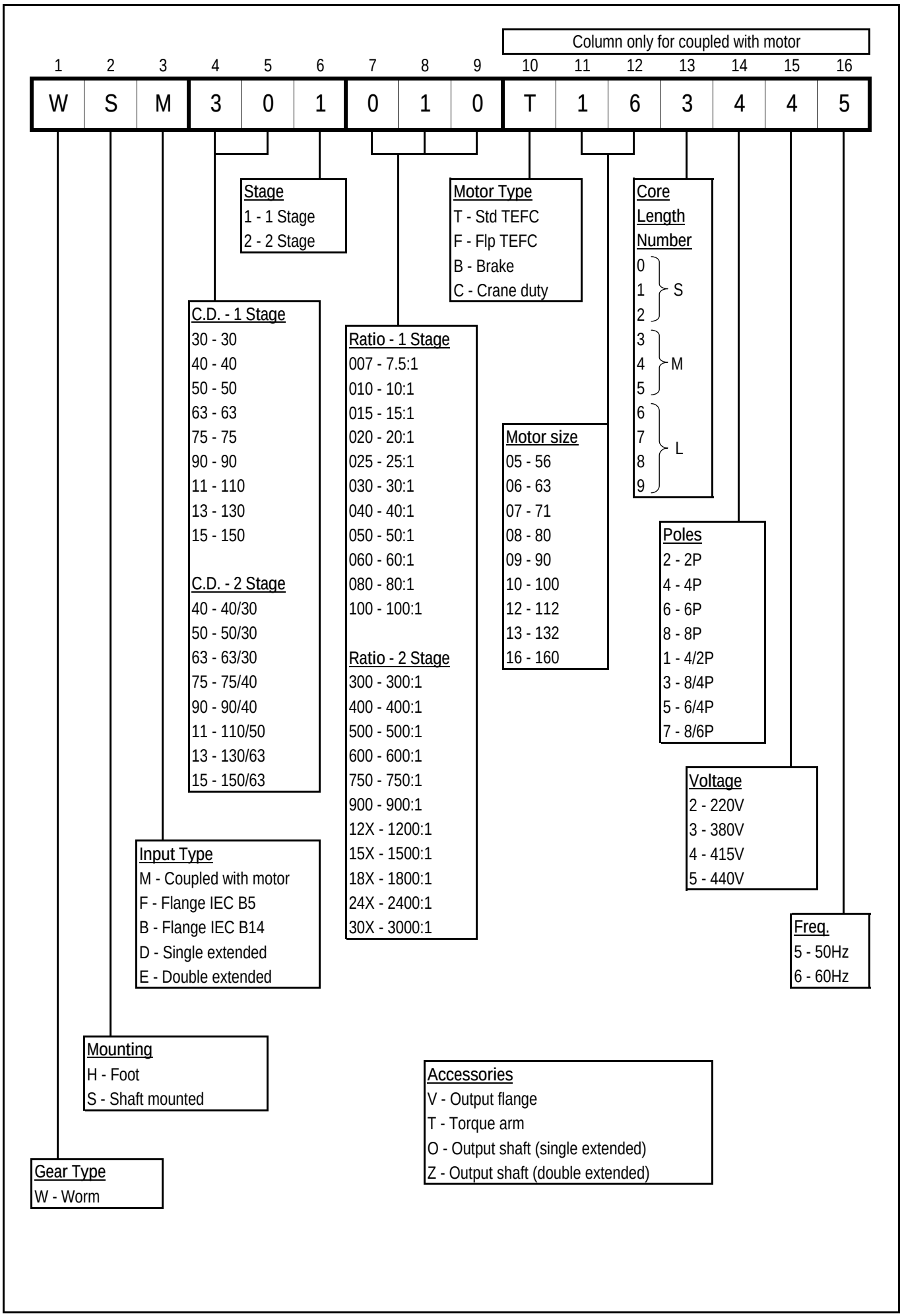
Special purpose motors such as brake motors, multispeed motors and motors with alternate protection and class of insulation can also be provided on request.

TESTING

All components undergo strict quality control checks at various stages of production. The assembled units are finally tested for noise, oil level and temperature rise.

The result leads to a robust, compact & smooth running unit which has a longer life and requires minimum maintenance.

TYPE DESIGNATION



Performance Parameters of Single Reduction Series

Input (kW)	Size	i	n2 (rpm)	M2 (Nm)
0.06	30	7.5	187	2.6
	30	10	140	3.4
	30	15	93	4.7
	30	20	70	6.0
	30	25	56	7.0
	30	30	47	8.0
	30	40	35	9.7
	30	50	28	11.3
	40	50	28	12.7
	30	60	23	12.5
	40	60	23	14.2
	30	80	18	12.5
	40	80	18	17.0
	40	100	14	19.2
0.09	30	7.5	187	3.9
	30	10	140	5.0
	30	15	93	7.1
	30	20	70	9.0
	30	25	56	10.4
	30	30	47	12.0
	30	40	35	14.5
	30	50	28	16.9
	40	50	28	19.0
	30	60	23	16.9
	40	60	23	21.4
	40	80	18	25.5
	40	100	14	28.9
0.12	30	7.5	187	5.2
	40	7.5	187	5.3
	30	10	140	6.7
	40	10	140	7.0
	30	15	93	9.5
	40	15	93	10.1
	30	20	70	12.0
	40	20	70	12.8
	30	25	56	13.9
	40	25	56	15.3
	30	30	47	16.0
	40	30	47	17.2
	30	40	35	17.0
	40	40	35	21.3
	50	40	35	21.9
	40	50	28	25.4
	50	50	28	25.8
	40	60	23	28.5
	50	60	23	29.0
	40	80	18	34.1
	50	80	18	34.7
	50	100	14	40.1
0.18	30	7.5	187	8.0
	40	7.5	187	8.0
	30	10	140	10.0
	40	10	140	10.0
	30	15	93	14.0
	40	15	93	15.0
	30	20	70	18.0
	40	20	70	19.0
	30	25	56	20.0
	40	25	56	23.0
	40	30	47	26.0
	40	40	35	32.0
	50	40	35	32.0

Input (kW)	Size	i	n2 (rpm)	M2 (Nm)
0.18	40	50	28	38.0
	50	50	28	38.0
	50	60	23	34.0
	50	80	18	53.0
	50	100	14	55.0
0.25	40	7.5	187	11.0
	50	7.5	187	11.0
	40	10	140	14.0
	50	10	140	14.0
	40	15	93	20.0
	50	15	93	21.0
	40	20	70	26.0
	50	20	70	26.0
	40	25	56	31.0
	50	25	56	32.0
	40	30	47	36.0
	50	30	47	36.0
	40	40	35	44.0
	50	40	35	45.0
	50	50	28	53.0
	50	60	23	60.0
	50	80	18	65.0
	63	80	18	77.0
	63	100	14	85.0
0.37	40	7.5	187	16.0
	50	7.5	187	16.0
	40	10	140	21.0
	50	10	140	21.0
	40	15	93	30.0
	50	15	93	31.0
	40	20	70	39.0
	50	20	70	39.0
	50	25	56	47.0
	50	30	47	54.0
	50	40	35	66.0
	63	40	35	70.0
	50	50	28	73.0
	63	50	28	83.0
	63	60	23	95.0
	63	80	18	114.0
	63	100	14	118.0
0.55	40	7.5	187	24.5
	50	7.5	187	25.0
	40	10	140	32.0
	50	10	140	32.0
	50	15	93	46.0
	63	15	93	46.0
	50	20	70	59.0
	63	20	70	60.0
	63	25	56	72.0
	63	30	47	80.0
	63	40	35	104.0
	75	40	35	108.0
	63	50	28	123.0
	75	50	28	129.0
	75	60	23	146.0
	75	80	18	180.0
	75	100	14	180.0
0.75	50	7.5	187	34.0
	63	7.5	187	33.0
	50	10	140	44.0
	63	10	140	44.0

Performance Parameters of Single Reduction Series

Input (kW)	Size	i	n2 (rpm)	M_2 (Nm)
0.75	50	15	93.3	63
	63	15	93.3	63
	63	20	70	82
	63	25	56	99
	63	30	46.7	109
	75	30	46.7	116
	63	40	35	143
	75	40	35	147
	75	50	28	176
	90	50	28	184
	75	60	23.3	200
	90	60	23.3	212
	90	80	17.5	257
	90	100	14	270
1.1	63	7.5	186.7	49
	75	7.5	186.7	49
	63	10	140	65
	75	10	140	66
	63	15	93.3	93
	75	15	93.3	95
	63	20	70	121
	75	20	70	122
	75	25	56	149
	75	30	46.7	170
	75	40	35	216
	90	40	35	225
	90	50	28	271
	90	60	23.3	311
	110	60	23.3	324
	110	80	17.5	410
	110	100	14	460
1.5	75	7.5	186.7	67
	75	10	140	90
	75	15	93.3	130
	75	20	70	167
	75	25	56	200
	90	25	56	209
	75	30	46.7	230
	90	30	46.7	236
	90	40	35	306
	90	50	28	369
	110	50	28	375
	110	60	23.3	442
	110	80	17.5	49
	130	80	17.5	547
	130	100	14	652
2.2	90	7.5	186.7	101
	110	7.5	186.7	101
	90	10	140	133
	110	10	140	133
	90	15	93.3	193
	110	15	93.3	193
	90	20	70	251
	110	20	70	256
	90	25	56	307
	110	25	56	316
	90	30	46.7	346
	110	30	46.7	355
	110	40	35	462
	110	50	28	550
	130	50	28	566
	150	50	28	570

Input (kW)	Size	i	n2 (rpm)	M_2 (Nm)
2.2	130	60	23.3	650
	150	60	23.3	657
	130	80	17.5	803
	150	80	17.5	816
	150	100	14	960
3.0	110	7.5	186.7	138
	110	10	140	182
	110	15	93.3	263
	110	20	70	348
	110	25	56	430
	110	30	46.7	484
	110	40	35	631
	130	40	35	638
	130	50	28	767
	150	50	28	778
	130	60	23.3	884
	150	60	23.3	896
	150	80	17.5	1110
4.0	110	7.5	186.7	184
	130	7.5	186.7	186
	110	10	140	243
	130	10	140	243
	110	15	93.3	352
	130	15	93.3	357
	110	20	70	464
	130	20	70	466
	110	25	56	573
	130	25	56	573
	110	30	46.7	646
	130	30	46.7	655
	130	40	35	850
	130	50	28	1023
	150	50	28	1037
	150	60	23.3	1195
5.5	110	7.5	186.7	253
	130	7.5	186.7	256
	110	10	140	334
	130	10	140	334
	110	15	93.3	484
	130	15	93.3	490
	130	20	70	645
	150	20	70	645
	130	25	56	788
	150	25	56	788
	130	30	46.7	900
	150	30	46.7	934
	150	40	35	1171
7.5	110	7.5	186.7	345
	130	7.5	186.7	349
	110	10	140	455
	130	10	140	455
	130	15	93.3	667
	150	20	70	880
	150	25	56	1074
11.0	150	7.5	186.7	512
	150	10	140	675
	150	15	93.3	990
15.0	150	7.5	186.7	698
	150	10	140	921

Input speed considered (n1) = 1400rpm.

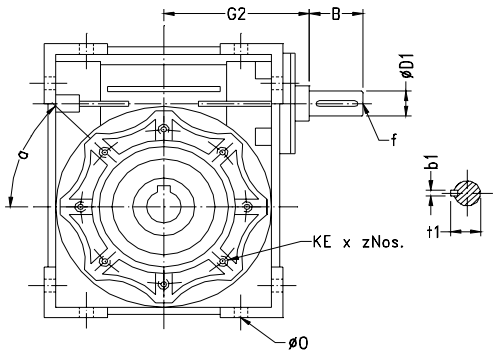
Performance Parameters of Double Reduction Series

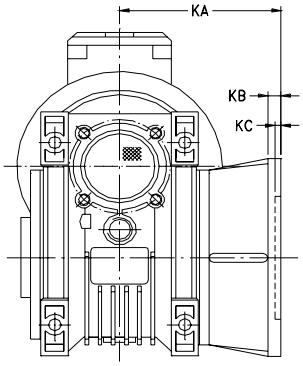
Size	I	n2 (rpm)	kW1	M2 (Nm)	i1	i2
40/30	300	4.7	0.09	70	10	30
	400	3.5	0.06	63	10	40
	500	2.8	0.06	57	20	25
	600	2.3	0.06	72	20	30
	750	1.9	0.06	72	25	30
	900	1.6	0.06	73	30	30
	1200	1.2	0.06	65	30	40
	1500	0.9	0.06	73	50	30
	1800	0.8	0.06	73	60	30
	2400	0.6	0.06	65	60	40
	3000	0.4	0.06	65	80	40
50/30	300	4.7	0.18	142	10	30
	400	3.5	0.12	127	10	40
	500	2.8	0.09	123	10	50
	600	2.3	0.09	143	20	30
	750	1.9	0.09	148	25	30
	900	1.6	0.06	141	30	30
	1200	1.2	0.06	118	30	40
	1500	0.9	0.06	139	50	30
	1800	0.8	0.06	155	60	30
	2400	0.6	0.06	124	60	40
	3000	0.5	0.06	120	60	50
63/30	300	4.7	0.22	210	7.5	40
	400	3.5	0.18	222	10	40
	500	2.8	0.18	205	10	50
	600	2.3	0.12	208	15	40
	750	1.9	0.12	216	15	50
	900	1.6	0.09	200	15	60
	1200	1.2	0.09	236	30	40
	1500	0.9	0.06	204	30	50
	1800	0.8	0.06	202	30	60
	2400	0.6	0.06	220	60	40
	3000	0.5	0.06	223	60	50
75/40	300	4.7	0.37	405	10	30
	400	3.5	0.25	336	10	40
	500	2.8	0.25	307	10	50
	600	2.3	0.18	362	20	30
	750	1.9	0.18	391	25	30
	900	1.6	0.12	325	30	30
	1200	1.2	0.12	359	30	40
	1500	0.9	0.09	360	50	30
	1800	0.8	0.09	404	60	30
	2400	0.6	0.06	330	60	40
	3000	0.5	0.06	301	60	50

Size	I	n2 (rpm)	kW1	M2 (Nm)	i1	i2
90/40	300	4.7	0.37	402	7.5	40
	400	3.5	0.37	523	10	40
	500	2.8	0.37	550	10	50
	600	2.3	0.37	605	15	40
	750	1.9	0.25	538	15	50
	900	1.6	0.25	533	15	60
	1200	1.2	0.18	629	30	40
	1500	0.9	0.18	588	30	50
	1800	0.8	0.12	492	30	60
	2400	0.6	0.12	625	60	40
	3000	0.5	0.09	548	60	50
110/50	300	4.7	0.75	817	10	30
	400	3.7	0.75	1013	10	40
	500	2.8	0.55	984	10	50
	600	2.3	0.55	1062	15	40
	750	1.9	0.55	1128	25	30
	900	1.6	0.37	1079	30	30
	1200	1.2	0.25	943	30	40
	1500	0.9	0.25	1064	50	30
	1800	0.8	0.25	1075	60	30
	2400	0.6	0.18	1001	60	40
	3000	0.5	0.12	884	60	50
130/63	300	4.7	1.5	1789	10	30
	400	3.5	1.0	1519	10	40
	500	2.8	1.0	1629	10	50
	600	2.3	0.75	1631	15	40
	750	1.9	0.75	1804	25	30
	900	1.6	0.75	1826	30	30
	1200	1.2	0.55	1705	30	40
	1500	0.9	0.37	1674	50	30
	1800	0.8	0.37	1698	60	30
	2400	0.6	0.25	1624	60	40
	3000	0.5	0.25	1548	60	50
150/63	300	4.7	1.5	1860	10	30
	400	3.5	1.5	2208	10	40
	500	2.8	1.1	1893	20	25
	600	2.3	1.1	2242	20	30
	750	1.9	0.75	1783	25	30
	900	1.6	0.75	1994	30	30
	1200	1.2	0.75	2680	30	40
	1500	0.9	0.75	2700	50	30
	1800	0.8	0.37	1775	60	30
	2400	0.6	0.37	2141	60	40
	3000	0.5	0.25	1713	60	50

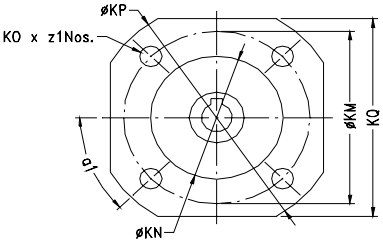
Mounting Dimensions - W (Single reduction)

WSD

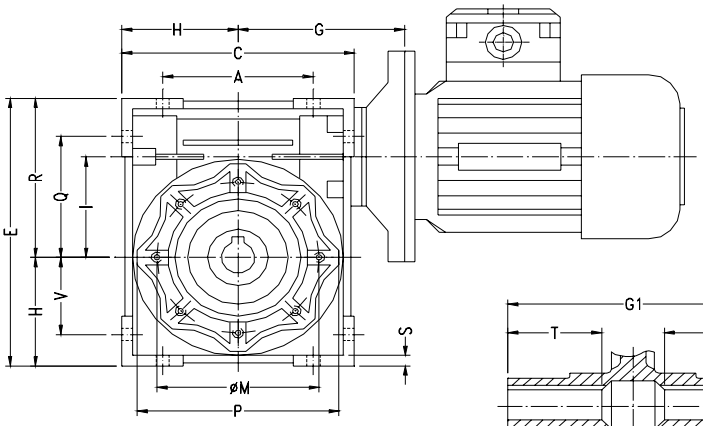


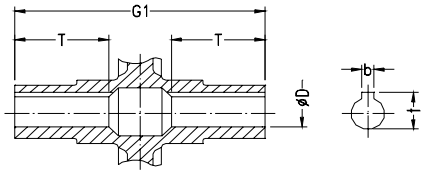


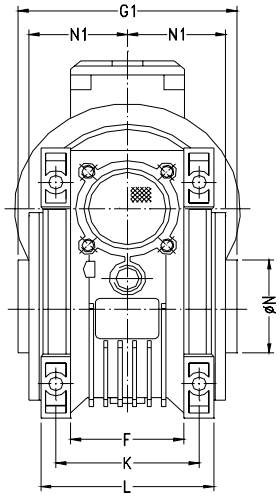
WSM with Output Flange (V)



WSM





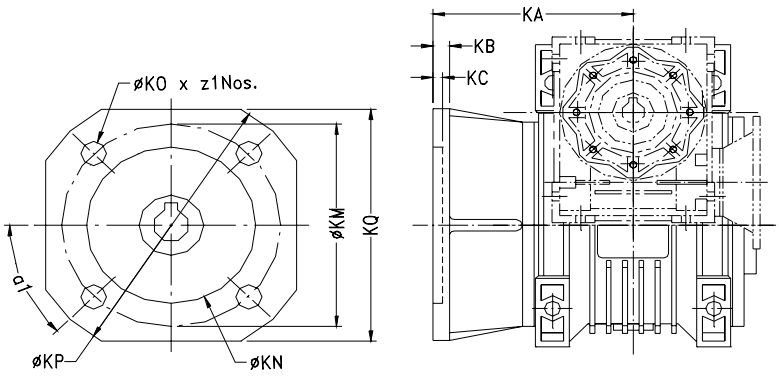


Size	A	B	C	D (H7)	D1 (J6)	E	F	G	G1	G2	H	I	L	M	N (h8)	N1	øO	P	Q	R	S	T	V
30	54	20	80	14	9	97	32	55	63	51	40	30	56	65	55	29	6.5	75	44	57	5.5	21	27
40	70	23	100	18(19)	11	121.5	43	70	78	60	50	40	71	75	60	36.5	6.5	87	55	71.5	6.5	26	35
50	80	30	120	25(24)	14	144	49	80	92	74	60	50	85	85	70	43.5	8.5	100	64	84	7	30	40
63	100	40	144	25(28)	19	174	67	95	112	90	72	63	103	95	80	53	8.5	110	80	102	8	36	50
75	120	50	172	28(35)	24	205	72	112.5	120	105	86	75	112	115	95	57	11	140	93	119	10	40	60
90	140	50	208	35(38)	24	238	74	129.5	140	125	103	90	130	130	110	67	13	160	102	135	11	45	70
110	170	60	252.5	42	28	295	-	160	155	142	127.5	110	144	165	130	74	14	200	125	167.5	14	50	85
130	200	80	292.5	45	30	335	-	180	170	162	147.5	130	155	215	180	81	16	250	140	187.5	15	60	100
150	240	80	340	50	35	400	-	210	200	192	170	150	185	215	180	96	18	250	180	230	18	72.5	120

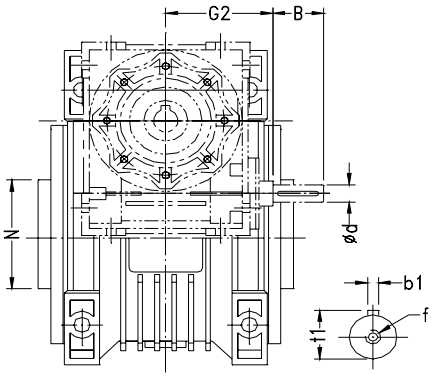
Size	K	KA	KB	KC	KE	z Nos.	a	KM	KN (H8)	KO	z1 Nos.	a1	KP	KQ	b	b1	f	t	t1	kg
30	44	54.5	6	4	M6x11	4	0°	68	50	6.5	4	45°	80	70	5	3	-	16.3	10.2	1.2
40	60	67	7	4	M6x8	4	45°	87	60	9	4	45°	110	95	6(6)	4	-	20.8(21.8)	12.5	2.3
50	70	90	9	5	M8x10	4	45°	90	70	11	4	45°	125	110	8(8)	5	M6	28.3(27.3)	16.0	3.5
63	85	82	10	6	M8x14	8	45°	150	115	11	4	45°	180	142	8(8)	6	M6	28.3(31.3)	21.5	6.2
75	90	111	13	6	M8x14	8	45°	165	130	14	4	45°	200	170	8(10)	8	M8	31.3(38.3)	27.0	9
90	100	111	13	6	M10x18	8	45°	175	152	14	4	45°	210	200	10(10)	8	M8	38.3(41.3)	27.0	13
110	115	131	15	6	M10x18	8	45°	230	170	14	8	45°	280	260	12	8	M10	45.3	31.0	35
130	120	140	15	6	M12x21	8	45°	255	180	16	8	22.5°	320	290	14	8	M10	48.8	33.0	48
150	145	155	15	6	M12x21	8	45°	255	180	16	8	22.5°	320	290	14	10	M12	53.8	38.0	84

Mounting Dimensions - W (Double reduction)

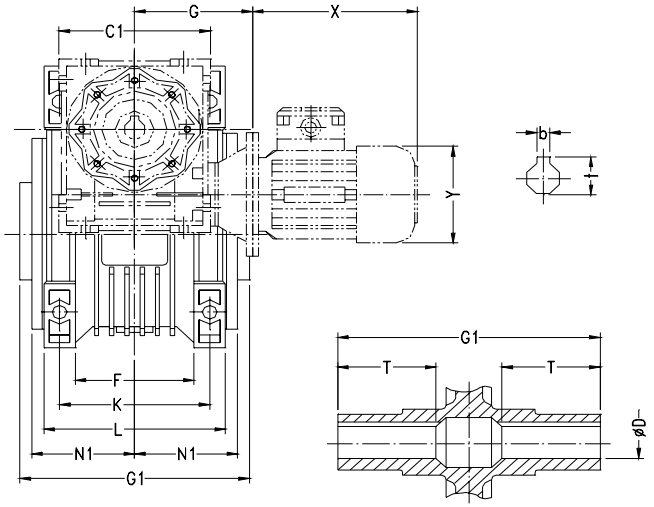
WSF with Output Flange (V) - Double reduction

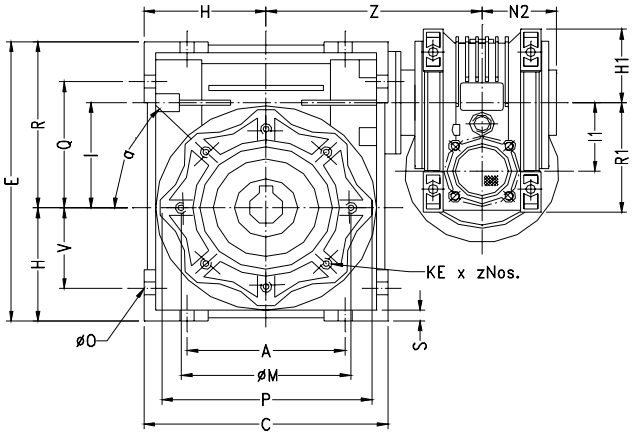


WSD - Double reduction



WSM - Double reduction



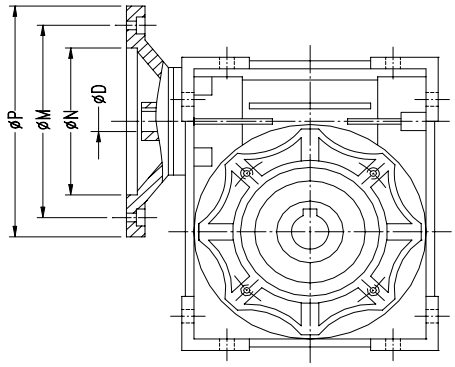


Size	A	B	C	C1	D (H7)	D1 (J6)	E	F	G	G1	G2	H	H1	I	I1	L	M	N (h8)	N1	N2	O	P	Q	R	R1	S
40/30	70	20	100	80	18(19)	9	122	43	55	78	51	50	40	40	30	71	75	60	36.5	29	6.5	87	55	71.5	57	6.5
50/30	80	20	120	80	25(24)	9	144	49	55	92	51	60	40	50	30	85	85	70	43.5	29	8.5	100	64	84	57	7
63/30	100	20	144	80	25(28)	9	174	67	5	112	51	72	40	63	30	103	95	80	53	29	8.5	110	80	102	57	8
75/40	120	23	172	100	28(35)	11	205	72	70	120	60	86	50	75	40	112	115	95	57	36.5	11	140	93	119	71.5	10
90/40	140	23	208	100	35(38)	11	238	74	70	140	60	103	50	90	40	130	130	110	67	36.5	13	160	102	135	71.5	11
110/50	170	30	252.5	120	42	14	295	-	80	155	74	128	60	110	50	144	165	130	74	43.5	14	200	125	168	84	14
130/63	200	40	292.5	144	45	19	335	-	95	170	90	148	72	130	63	155	215	180	81	53	16	250	140	188	102	15
150/63	240	40	340	144	50	19	400	-	95	200	90	170	72	150	63	185	215	180	96	53	18	250	180	230	102	18

Size	T	V	Z	K	KA	KB	KC	KE	z Nos.	a	KM	KN (H8)	KO	z1 Nos.	a1	KP	KQ	b	b1	f	t	t1	kg
40/30	26	35	120	60	67	7	4(5)	M6x8	4	45°	87	60	9	4	90°	110	110	6(6)	3	-	20.8(21.8)	10.2	3.9
50/30	30	40	130	70	90	9	5(5)	M8x10	4	45°	90	70	11	4	90°	125	110	8(8)	3	-	28.3(27.3)	10.2	5.0
63/30	36	50	145	850	82	10	6(5)	M8x14	8	45°	150	115	11	4	90°	180	142	8(8)	3	-	28.3(31.3)	10.2	7.8
75/40	40	60	165	90	111	13	6	M8x14	8	45°	165	130	14	4	90°	200	170	8(10)	4	-	31.3(38.3)	12.5	12.0
90/40	45	70	182	100	111	13	6	M10x18	8	45°	175	152	14	4	90°	210	200	10(10)	4	-	38.3(41.3)	12.5	16.0
110/50	50	85	225	115	131	15	6	M10x18	8	45°	230	170	14	8	45°	280	260	12	5	M6	45.3	16.0	39.2
130/63	60	100	245	120	140	15	6	M12x21	8	45°	230	180	16	8	22.5°	320	290	14	6	M6	48.8	21.5	55.0
150/63	72.5	120	275	145	155	15	6	M12x21	8	45°	255	180	16	8	22.5°	320	290	14	6	M6	53.8	21.5	93

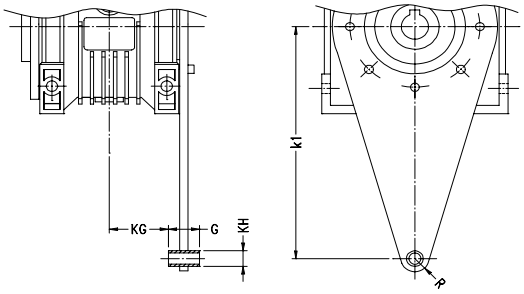
Accessories Dimensions

Motor Mounting Facility



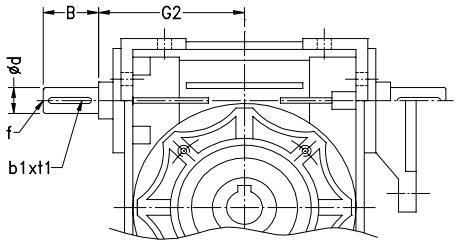
Size	IEC	P	M	N	D										
					7.5	10	15	20	25	30	40	50	60	80	100
30	63B5	140	115	95	11	11	11	11	11	11	11	11	-	-	-
	63B14	90	75	60											
	56B5	120	100	80	9	9	9	9	9	9	9	9	9	9	-
	56B14	80	65	50											
40	71B5	160	130	110	14	14	14	14	14	14	14	-	-	-	-
	71B14	105	85	70											
	63B5	140	115	95	11	11	11	11	11	11	11	11	11	11	11
	63B14	90	75	60											
	56B5	120	100	80	-	-	-	-	-	-	-	9	9	9	9
50	80B5	200	165	130	19	19	19	19	19	19	-	-	-	-	-
	80B14	120	100	80											
	71B5	160	130	110	14	14	14	14	14	14	14	14	14	14	-
	71B14	105	85	70											
	63B5	140	115	95	-	-	-	-	-	-	11	11	11	11	11
63	90B5	200	165	130	24	24	24	24	24	24	-	-	-	-	-
	90B14	140	115	95											
	80B5	200	165	130	19	19	19	19	19	19	19	19	19	-	-
	80B14	120	100	80											
	71B5	160	130	110	-	-	-	-	-	-	14	14	14	14	14
	71B14	105	85	70											
75	100/112B5	250	215	180	28	28	28	-	-	-	-	-	-	-	-
	100/112B14	160	130	110											
	90B5	200	165	130	24	24	24	24	24	24	24	24	24	-	-
	90B14	140	115	95											
	80B5	200	165	130	-	-	-	19	19	19	19	19	19	19	19
	80B14	120	100	80											
	71B5	160	130	110	-	-	-	-	-	-	-	14	14	14	14
90	100/112B5	250	215	180	28	28	28	28	28	28	-	-	-	-	-
	100/112B14	160	130	110											
	90B5	200	165	130	24	24	24	24	24	24	24	24	24	-	-
	90B14	140	115	95											
	80B5	200	165	130	-	-	-	-	-	-	19	19	19	19	19
	80B14	120	100	80											
110	132B5	300	265	230	38	38	38	38	-	-	-	-	-	-	-
	100/112B5	250	215	180	28	28	28	28	28	28	28	28	28	-	-
	90B5	200	165	130	-	-	-	-	24	24	24	24	24	24	24
	80B5	200	165	130	-	-	-	-	-	-	-	-	-	19	19
130	132B5	300	265	230	38	38	38	38	38	38	38	-	-	-	-
	100/112B5	250	215	180	-	-	-	-	-	28	28	28	28	28	28
	90B5	200	165	130	-	-	-	-	-	-	-	-	-	24	24
150	160B5	350	300	250	42	42	42	42	-	-	-	-	-	-	-
	132B5	300	265	230	-	-	-	38	38	38	38	38	-	-	-
	100/112B5	250	215	180	-	-	-	-	-	-	-	28	28	28	28

Torque arm



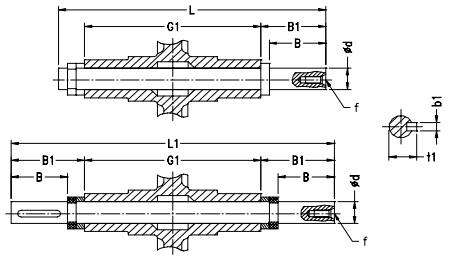
Size	K1	G	KG	KH	R
30	85	14	24	8	15
40	100	14	31.5	10	18
50	100	14	38.5	10	18
63	150	14	49	10	18
75	200	25	47.5	20	30
90	200	25	57.5	20	30
110	250	30	62	25	35
130	250	30	69	25	35
150	250	30	84	25	35

Double Worm Shaft



Size	G2	d (j6)	B	f	b1	t1
30	45	9	20	-	3	10.2
40	53	11	23	-	4	12.5
50	64	14	30	M6	5	16
63	75	19	40	M6	6	21.5
75	90	24	50	M8	8	27
90	108	24	50	M8	8	27
110	135	28	60	M10	8	31
130	155	30	80	M10	8	33
150	175	35	80	M12	10	38

Sizes of Single (O) and Double (Z) Output Shaft



Size	d(h6)	B	B1	G1	L	L1	f	b1	t1
30	14	30	32.5	63	102	128	M6	5	16
40	18	40	43	78	128	164	M6	6	20.5
50	25	50	53.5	92	153	199	M10	8	28
63	25	50	53.5	112	173	219	M10	8	28
75	28	60	63.5	120	192	247	M10	8	31
90	35	80	84.5	140	234	309	M12	10	38
110	42	80	84.5	155	249	324	M16	12	45
130	45	80	85	170	265	340	M16	14	48.5
150	50	82	87	200	297	374	M16	14	53.5

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