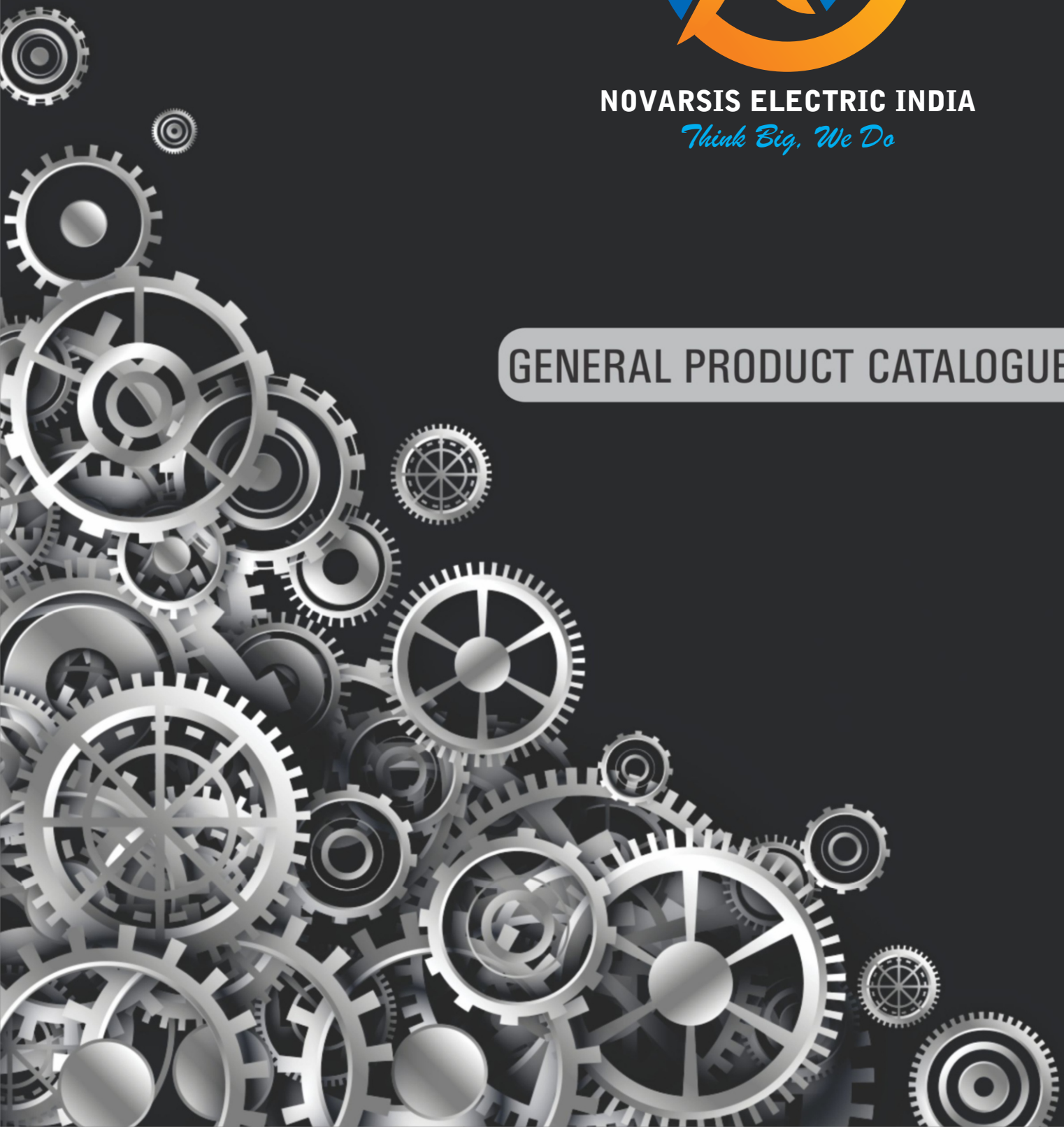
NOVARSIS ELECTRIC INDIA

Think Big, We Do

GENERAL PRODUCT CATALOGUE



NOVARSIS ELECTRIC INDIA

Think Big, We Do

NRV SERIES GENERAL CATALOGUE

NOVARSIS ELECTRIC INDIA
Think Big, We Do

Novarsis NRV SERIES Aluminium Casing Gearboxes are manufactured with high quality material in order to guarantee the maximum reliability and strength for long life of the gearbox. Worm shaft are made of steel which are case hardened to 58-60 HRC and profile ground. The thread grinding in the gear ratios that the module value permits is carried out with ZI- profile. This improves the contact between the toothed surface and therefore performance of the gearbox. This also reduces operating noise of the gearbox. The worm wheel has a G20 cast iron hub onto which a casting in AS 1 bronze RIM is fitted.

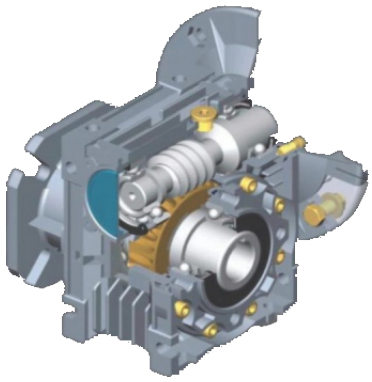
This series Gearbox Housing & flanges are made out to aluminium alloy up to sizes 90 and from size 110 & above cast iron are used. This series gearbox comes with universal mounting options in all sizes.

This series Gearbox are filled with synthetic oil grade ISO VG 320 up to sizes 90 which is virtually maintenance free and does not require oil change during their lifetime. From size 110 & above mineral oil is used in general and synthetic oil on request.

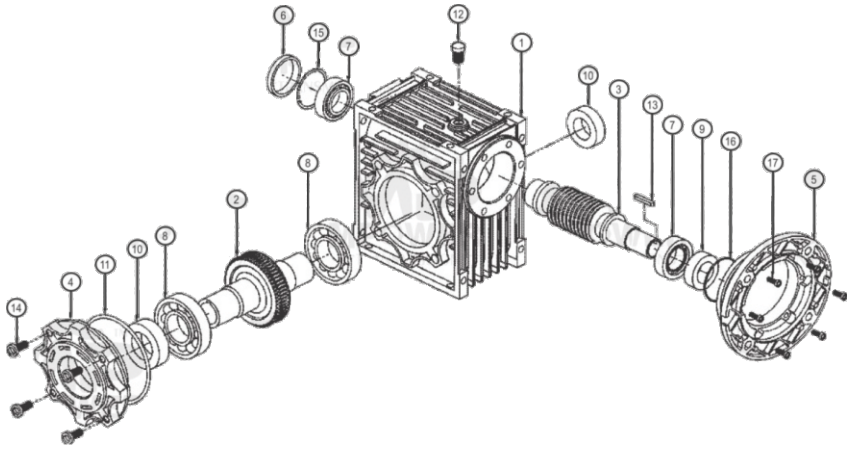
This series gearbox from box 63 & above ore mounted with 2 taper roller bearings on the worm shafts improving the mechanical resistance to the axial thrust generated by the worm wheel.

GEARBOX INTERNAL STRUCTURE

No.	Ports
1.	Frame
2.	Worm Wheel
3.	Worm Shaft
4.	Output Shaft Cover
5.	Flange
6.	Seal Cover
7.	Bearing
8.	Bearing
9.	Oil Seal



No.	Ports
10.	Oil Seal
11.	Oring
12.	Oil Plug
13.	Key
14.	Intl. Key Screw
15.	Snap Ring
16.	Oring
1 7.	Intl. Hex Screw



NOVARSIS ELECTRIC INDIA
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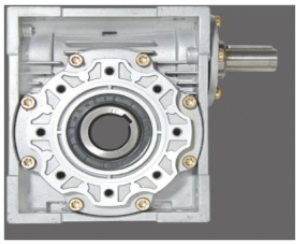
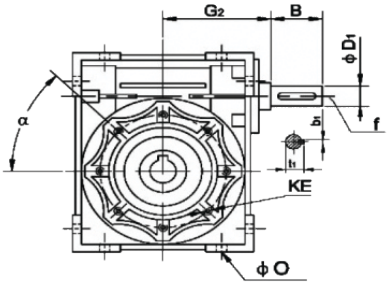
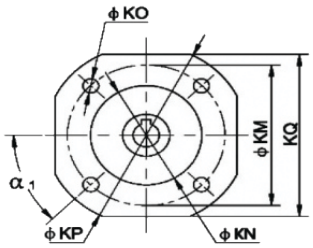
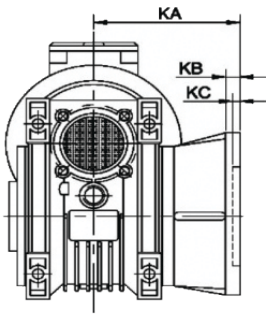
NRV SERIES INSTALLATION DIMENSIONS

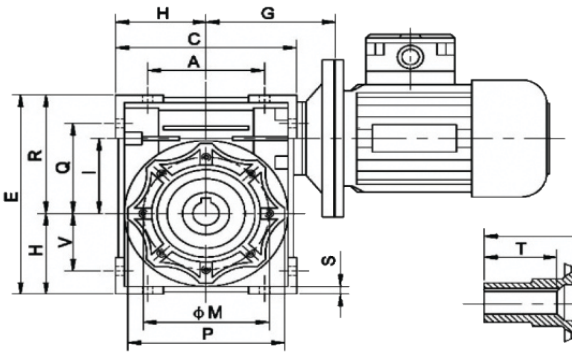


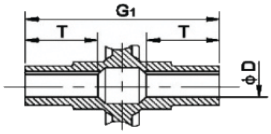


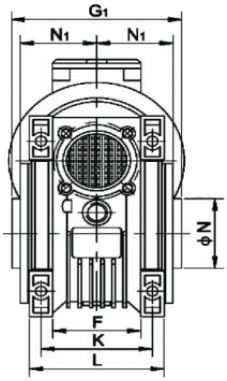
OUTPUT FLANGE











Size	A	B	C	D (H7)	D,1 (J6)	E	F	G	G1	G2	H	I	L	M	N (h8)	N	0	P	Q	R
30	54	20	80	14	9	97	32	55	63	51	40	30	56	65	55	29	6.5	75	44	57
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
50	80	30	120	25(24)	14	144	49	80	92	74	60	50	85	85	70	43.5	8.5	100	64	84
63	100	40	144	25(28)	19	174	67	95	112	90	72	63	103	95	80	53	8.5	110	80	102
75	120	50	172	28(35)	24	205	72	112.5	120	105	86	75	112	115	95	57	11	140	93	119
90	140	50	208	35(38)	24	238	74	129.5	140	125	103	90	130	130	110	67	13	160	102	135
110	170	60	252.5	42	?8	295	—	160	155	142	127.5	110	144	165	130	74	14	200	125	167.5
130	200	80	292.5	45	30	335	—	180	170	162	147.5	130	155	215	180	81	16	250	140	187.5
150	240	80	340	50	35	400	—	210	200	192	170	150	185	215	180	96	18	250	180	230

Size	S	T	V	K	KA			KA			KC			KE	a`	a`1	KM			KN (H8)			KO			KP			KQ			b	b1	f	t	t1	kg
					F	FB	FL	F	FB	FL	F	FB	FL				F	FB	FL	F	FB	FL	F	FB	FL	F	FB	FL	F	FB	FL						
30	5.5	21	27	44	54.5	—	—	6	—	—	4	—	—	M6x11 (n,4)	0°	45°	68	—	—	50	—	—	6.5 (n,4)	—	—	80	—	—	70	—	—	5	3	—	16.3	10.2	1.2
40	6.5	26	35	60	67	76.5	97	7	9	7	4	5	4	M6x8 (n,4)	45°	45°	87	115	87	60	95	60	9 (n,4)	9.5 (n, 4)	9 (n, 4)	110	140	110	95	—	95	6(6)	4	—	20.8 (21.8)	12.5	2.3
50	7	30	40	70	90	87.5	120	9	10	9	5	5	5	M8x10 (n,4)	45°	45°	90	130	90	70	110	70	11 (n,4)	9.5 (n, 4)	11 (n, 4)	125	160	125	110	—	115	8(8)	5	M6	28.3 (27.3)	16.0	3.5
63	8	36	50	85	82	99	112	10	11	10	6	5	6	M8x14 (n,4)	45°	45°	150	165	150	115	130	115	115 (n,4)	11 (n, 4)	11 (n, 4)	180	200	180	142	—	142	8(8)	6	M6	28.3 (31.3)	21.5	6.2
75	10	40	60	90	111	—	—	13	—	—	6	—	—	M8x14 (n,4)	45°	45°	165	—	—	130	—	—	14 (n,4)	—	—	200	—	—	170	—	—	8(10)	8	M8	31.3 (38.3)	27.0	9
90	11	45	70	100	111	—	—	13	—	—	6	—	—	M10x18 (n,4)	45°	45°	175	—	—	152	—	—	14 (n,4)	—	—	210	—	—	200	—	—	10(10)	8	M12	38.3 (41.3)	27.0	13
110	14	50	85	115	131	—	—	15	—	—	6	—	—	M10x18 (n,4)	45°	45°	230	—	—	170	—	—	14 (n,4)	—	—	280	—	—	260	—	—	12	8	M10	45.3	31.0	35
130	15	60	100	120	140	—	—	15	—	—	6	—	—	M12x21 (n,4)	45°	22.5°	255	—	—	180	—	—	16 (n,4)	—	—	320	—	—	290	—	—	14	8	M10	48.8	33.0	48
150	18	72.5	120	145	155	—	—	15	—	—	6	—	—	M12x21 (n,4)	45°	22.5°	255	—	—	180	—	—	16 (n,4)	—	—	320	—	—	290	—	—	17	10	M12	53.8	38.0	84

ML - Code for Aluminium Casing Reducer, M - With Motor Mounting Flange, Size - Centre Distance

NOVARSIS ELECTRIC INDIA
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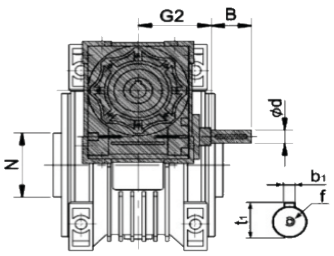
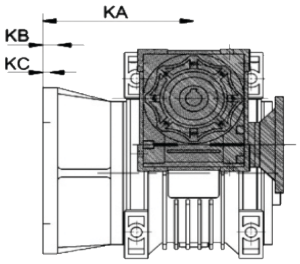
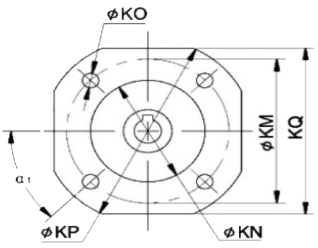
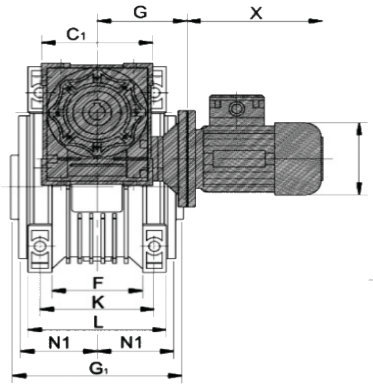
DOUBLE NML (WORM-GEAR) SERIES INSTALLATION DIMENSIONS

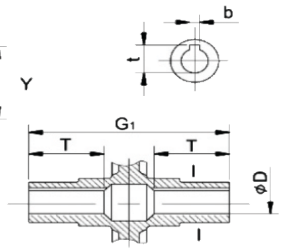


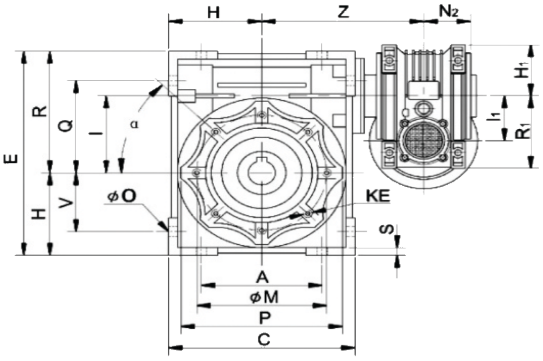


OUTPUT FLANGE







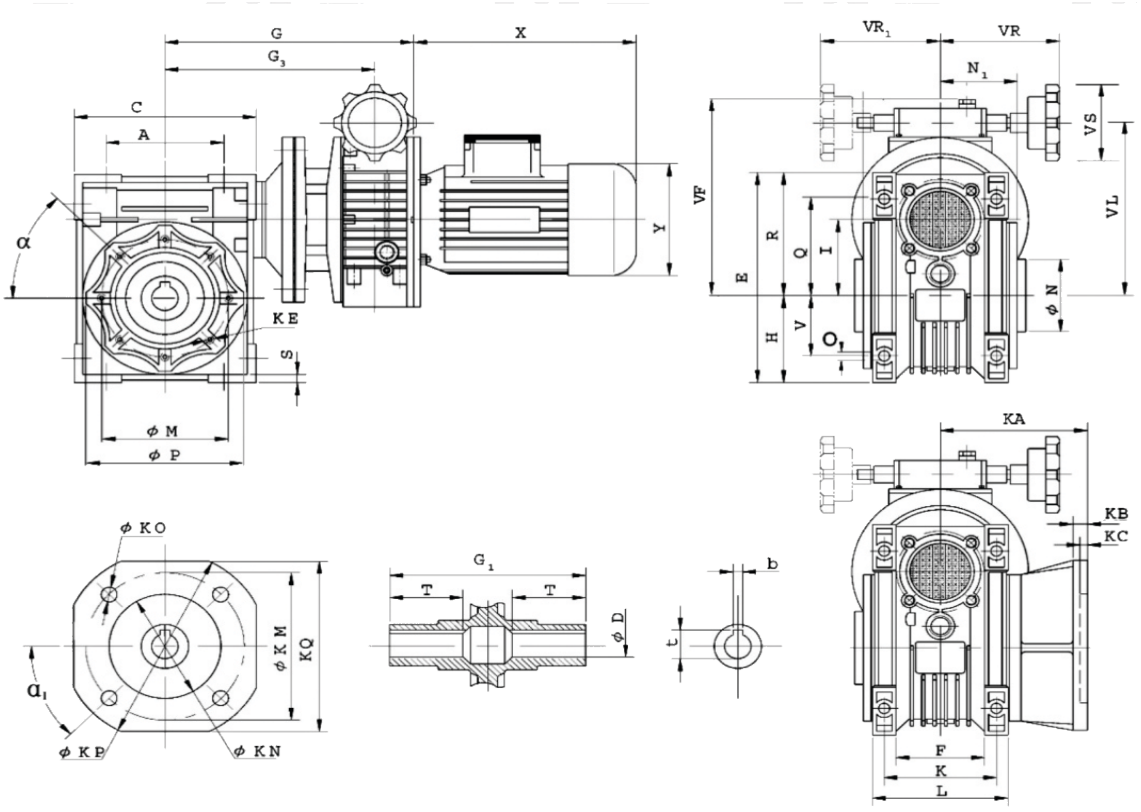


Size	A	B	C	C_1	D (H7)	d (j6)	E	F	G	G_1	G_2	H	H_1	I	I_1	L	M	N (h8)	M_1	N_1	O	P	Q	R	R_1	S	T	V	Z	K	KA		
																														F	FB	FL
25/40	54	–	80	70	14	–	97	32	45	63	–	40	35	30	25	55	65	55	29	22.5	6.5	7.5	44	57	48	5.5	21	27	100	44	54.5	76.5	97
25/40	70	–	100	70	18(19)	–	121.5	43	45	78	–	50	35	40	25	71	75	60	36.5	22.5	6.5	87	55	71.5	48	6.5	26	35	115	60	67	76.5	97
30/40	70	20	100	80	18(19)	9	121.5	43	55	78	51	50	40	40	30	71	75	60	36.5	29	6.5	87	55	71.5	57	6.5	26	35	120	60	67	87.5	120
30/05	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	30	40	130	70	90	99	112
30/6 3	100	20	144	80	25(28)	9	174	67	55	112	51	72	40	63	30	103	95	80	53	29	8.5	110	80	102	57	8	36	50	145	85	82	–	–
40175	120	2	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	40	60	165	90	111	–	–
40/90	140	23	208	100	28(35)	11	238	74	70	140	60	103	50	90	40	130	130	110	67	36.5	13	160	102	135	71.5	11	45	70	182	100	111	–	–
50/110	170	30	252.5	120	42	14	295	–	80	155	74	127.5	60	110	50	144	165	130	74	43.5	14	200	125	167.5	84	14	50	85	225	115	131	–	–
63/130	200	40	292.5	144	45	19	335	–	95	170	90	147.5	72	130	63	155	215	180	81	53	16	250	140	187.5	102	15	60	100	245	120	140	–	–
63/150	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	72.5	120	275	145	155	–	–

KB			KC	KE	a'	a'_1	KM			KN (H8)			KO			KP			KQ			b	b_1	f	t	t_1	Kg
F	FB	FL					F	FB	FL	F	FB	FL	F	FB	FL	F	FB	FL	F	FB	FL						
6	–	–	4	M6x11 (n,4)	0°	90°	68	–	–	50	–	–	6.5 (n, 4	–	9 (n,4)	80	–	–	70	–	–	5	–	–	16.3	–	2.1
7	9	7	4(5)	M6x8 (n,4)	45°	90°	87	115	87	60	95	60	9 (n,4)	9.5 (n,4)	9 (n,4)	110	140	110	95	–	95	6 (6)	95	–	20.8 (21.8)	–	3.2
7	9	7	4(5)	M6x8 (n,4)	45°	90°	87	115	87	60	95	60	9 (n,4)	9.5 (n,4)	11 (n,4)	110	140	110	110	–	110	6 (6)	110	–	20.8 (21.8)	10.2	3.9
9	10	9	5(5)	M8x10 (n,4)	45°	90°	90	130	90	70	110	70	11 (n,4)	9.5 (n,4)	11 (n,4)	125	160	125	110	–	110	8 (8)	110	–	82.3 (27.3)	10.2	5.0
10	11	10	6(5)	M8x14 (n,8)	45°	90°	150	165	150	115	130	115	11 (n,4)	11 (n,4)	–	180	200	180	142	–	142	8 (8)	142	–	28.3 (31.3)	10.2	7.8
13	–	–	6	M8x14 (n,8)	45°	90°	165	–	–	130	–	–	14 (n,4)	–	–	200	–	–	170	–	–	8 (10)	–	–	31.3 (38.3)	12.5	12.0
13	–	–	6	M10x18 (n,8)	45°	90°	175	–	–	152	–	–	14 (n,4)	–	–	210	–	–	200	–	–	10 (10)	–	–	38.3 (41.3)	12.5	16.0
15	–	–	6	M10x18 (n,8)	45°	45°	230	–	–	170	–	–	14 (n,8)	–	–	280	–	–	260	–	–	12	–	M6	45.3	16.0	39.2
15	–	–	6	M12x21 (n,8)	45°	22.5°	255	–	–	180	–	–	16 (n,8)	–	–	320	–	–	290	–	–	14	–	M6	48.8	21.5	55.0
15	–	–	6	M12x21 (n,8)	45°	22.5°	255	–	–	180	–	–	16 (n,8)	–	–	320	–	–	290	–	–	14	–	M6	53.8	21.5	93

NOVARSIS ELECTRIC INDIA
Think Big, We Do

NRV (WORM-VARIATOR) SERIES INSTALLATION DIMENSIONS



Size	A	C	D(H7)	E	F	G	G_1	H	I_1	I	I	M	N(h7)	N_1	O	P	Q	R	S	T	V	K	KA			KB			KC	KE	a'	a'1
																							F	FB	FL	F	FB	FL				
40/63	70	100	18(19)	121.5	43	123	12	50	40	40	71	75	60	36.5	6.5	87	55	71.5	6.5	25	30	60	67	76.5	97	7	9	7	4 (5)	M6 x8 (n, 4)	45°	45°
50/63	80	120	25(24)	144	49	133	133	60	50	40	85	85	70	43.5	8.5	100	64	84	7	30	40	70	90	87.5	120	9	10	9	5 (5)	M8 x10 (n, 4)	45°	45°
50/71	80	120	25(24)	144	49	143	143	60	50	50	85	85	70	43.5	8.5	100	64	84	7	30	40	70	90	87.5	120	9	10	9	5 (5)	M8 x10 (n, 4)	45°	45°
63/63	100	144	25(28)	174	67	148	184	72	63	40	103	95	80	53	8.5	110	80	102	8	36	50	85	82	99	112	10	11	10	6 (5)	M8 x14 (n, 4)	45°	45°
63/71	100	144	25(28)	174	67	158	158	72	63	50	103	95	80	53	8.5	110	80	102	8	40	50	85	82	99	112	10	11	10	6 (5)	M8 x14 (n, 4)	45°	45°
75/71	120	172	28(35)	205	72	176	176	86	75	50	112	115	95	57	11	140	93	119	10	40	60	90	111	–	–	13	–	–	6	M8 x14 (n, 4)	45°	45°
75/80	120	172	28(35)	205	72	186	186	86	75	63	112	115	95	57	11	140	93	119	10	40	60	90	111	–	–	13	–	–	6	M8 x14 (n, 4)	45°	45°
90/71	140	208	35(38)	238	74	193	193	103	90	50	130	130	110	67	13	160	102	135	11	45	70	100	111	–	–	13	–	–	6	M10 x18 (n, 4)	45°	45°
90/80	140	208	35(38)	238	74	203	203	103	90	63	130	130	110	67	13	160	102	135	11	45	70	100	111	–	–	13	–	–	6	M10 x18 (n, 4)	45°	45°
110/80(90)	170	252.5	42	295	–	233	233	127.5	110	63	144	165	130	74	14	200	125	167.5	14	50	85	115	131	–	–	15	–	–	6	M10 x18 (n, 4)	45°	45°
130/80(90)	200	292.5	45	335	–	253	253	147.5	130	63	155	215	180	81	16	250	140	187.5	15	60	100	120	140	–	–	15	–	–	6	M12 x21 (n, 4)	45°	45°

Size	KM			KN (H8)			KO			KP			KQ			b	t	Kg
	A	FB	FL	F	FB	FL	F	FB	FL	F	FB	FL	F	FB	FL			
40/63	87	115	87	60	95	60	9(n,4)	9.5(n,4)	9(n,4)	110	140	110	95	–	95	6(6)	20.8(21.8)	3.9
50/63	90	130	90	70	110	70	11(n,4)	9.5(n,4)	11(n,4)	125	160	125	110	–	110	8(8)	28.3(27.3)	5.2
50/71	90	130	90	70	110	70	11(n,4)	9.5(n,4)	11(n,4)	125	160	125	110	–	110	8(8)	28.3(27.3)	5.8
63/63	150	165	150	115	130	115	11(n,4)	11(n,4)	11(n,4)	180	200	180	142	–	142	8(8)	28.3(31.3)	7.9
63/71	150	165	150	115	130	115	11(n,4)	11(n,4)	11(n,4)	180	200	180	142	–	142	8(8)	28.3(31.3)	8.5
75/71	165	–	–	130	–	–	14(n,4)	–	–	200	–	–	170	–	–	8(10)	31.3(38.3)	11.3
75/80	165	–	–	130	–	–	14(n,4)	—	–	200	–	–	170	–	–	8(10)	31.3(38.3)	13.1
90/71	175	–	–	152	–	–	14(n,4)	–	–	210	–	–	200	–	–	10(10)	38.3(41.3)	15.3
90/80	175	–	–	152	–	–	14(n,4)	–	–	210	–	–	200	–	–	10(10)	38.3(41.3)	17.2
110/80(90)	230	–	–	170	–	–	14(n,8)	–	–	280	–	–	260	–	–	12	45.3	39
130/80(90)	235	–	–	180	–	–	16(n,8)	–	–	320	–	–	290	–	–	14	48.8	52.2

NOVARSIS ELECTRIC INDIA
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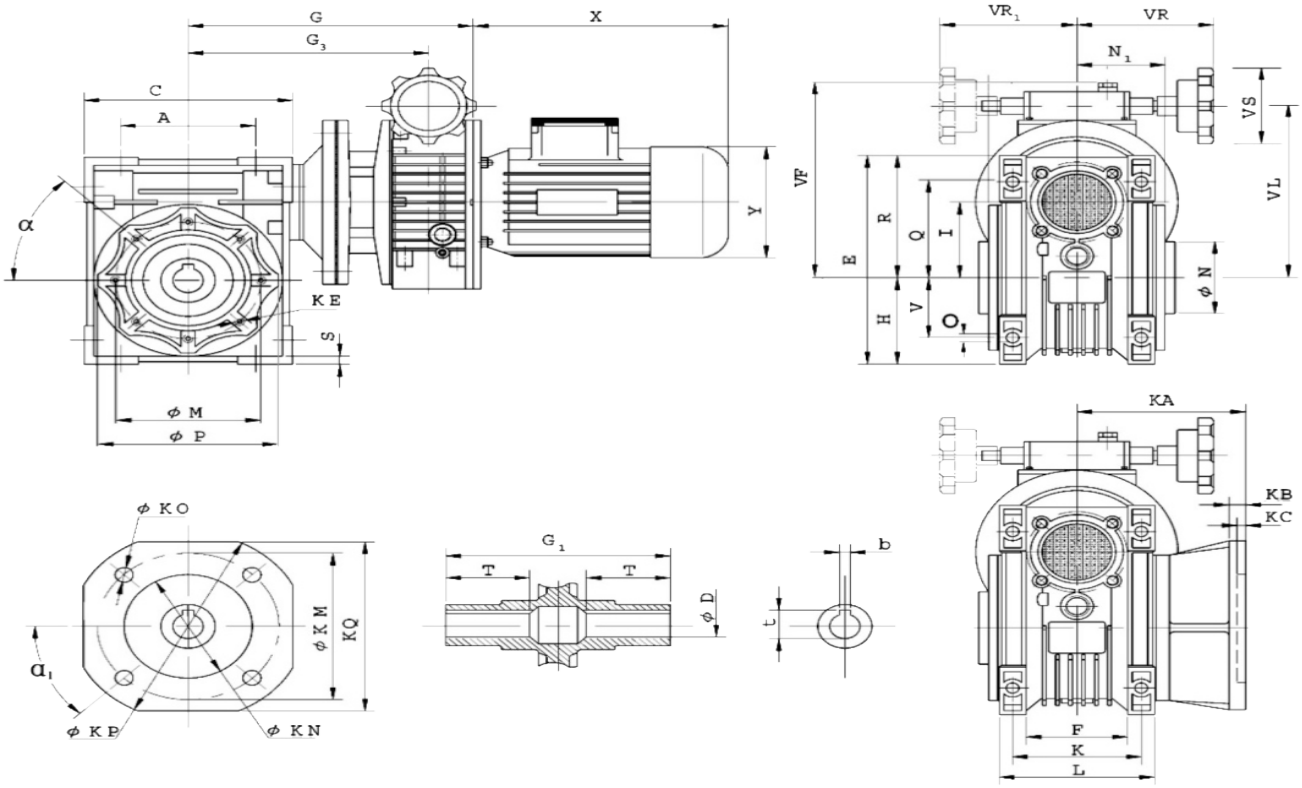
NRV (WORM-VARIATOR) SERIES INSTALLATION DIMENSIONS



Size	a'	a'1	A	K	KC			KE	KM			KN (H8)			KO			M	Nh(8)	N1	O	Q	S	V	b	D (H7)	t	T
					F	FB	FL		F	FB	FL	F	FB	FL	F	FB	FL											
40/0.18	45°	45°	70	60	4	5	4	M6 X8 (n, 4)	87	115	87	60	95	60	9 (n, 4)	9.5 (n, 4)	9 (n, 4)	75	60	36.5	6.5	55		6.5	6(6)	18 (19)	20.8 (21.8)	26
50/0.18 50/0.37	45°	45°	80	70	5	5	5	M6 X10 (n, 4)	90	130	90	70	110	70	11 (n, 4)	9.5 (n, 4)	11 (n, 4)	85	70	43.5		64		7	8(8)	25 (24)	28.3 (27.3)	30
63/0.37 63/0.55 63/0.75	45°	45°	100	85	6	5	6	M8 X14 (n, 4)	150	165	150	115	130	115	11 (n, 4)	11 (n, 4)	11 (n, 4)	95	80	53	8.5	80		8	8(8)	25 (28)	28.3 (31.3)	36
75/0.37 75/0.55 75/0.75 75/1.1 75/1.5	45°	45°	120	90	6	–	–	M8 X14 (n, 4)	165	–	–	130	–	–	14 (n, 4)	–	–	115	95	57	11	93		10	8(10)	28 (35)	31.3 (38.3)	40
90/0.55 90/0.75 90/1.1 90/1.5	45°	45°	140	110	6	–	–	M10 X18 (n, 4)	175	–	–	152	–	–	14 (n, 4)	–	–	130	110	67	13	102		11	10 (10)	35 (38)	38.3 (41.3)	45
110/1.1 110/1.5 110/2.2 110/3.0 110/4.0	45°	45°	170	115	6	–	–	M10 X18 (n, 4)	230	–	–	170	–	–	14 (n, 8)	–	–	165	130	74	14	125		14	12	42	45.3	50
130/1.5 130/2.2 130/3.0 130/4.0	45°	22.5°	200	120	6	–	–	M12 X21 (n, 4)	255	–	–	180	–	–	16 (n, 8)	–	–	215	180	81	16	15		15	14	45	48.8	60

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CONTINUOUS

Size	C	E	F	G	G_1	G_3	H	I	KA			FB			KP			KQ			L	P	R	VF	VL	VS	VR	VR_1
									F	FB	FL	F	FB	FL	F	FB	FL	F	FB	FL								
40/0.18	100	121.5	43	183	78	134	50	40	67	76.5	97	7	9	7	110	140	110	95	–	95	71	87	71.5	151	115	85	110	110
50/0.18				193		145																		161	128	85	110	110
50/0.37	120	144	49	190	92	154	60	50	90	87.5	120	9	10	9	125	160	125	110	–	110	85	100	84	173	140	85	110	110
63/0.37				205		169																		186	153	85	110	110
63/0.55	144	174	67	234	112	181	72	63	82	99	112	10	11	10	180	200	180	142	–	142	103	110	102	203	170	110	120	120
63/0.75				234		181																		203	170	110	120	120
75/0.37				223		187																		198	165	85	110	110
75/0.55				252		198																		215	182	110	120	120
75/0.75	172	205	72	252	120	198	86	75	111	–	–	13	–	–	200	–	–	170	–	–	112	140	119	215	182	110	120	120
75/1.1				259.5		207.5																		199	177	110	150	–
75/1.5				300.5		227.5																		219	197	110	150	–
90/0.55				269		215																		230	197	110	120	120
90/0.75				269		215																		230	197	110	170	120
90/1.1	208	238	74	276.5	140	224.5	103	90	111	–	–	13	–	–	210	–	–	200	–	–	130	160	135	214	192	110	150	–
90/1.5				317.5		244.5																		234	212	110	150	–
110/1.1				307		255																		234	212	110	120	–
110/1.5				348		275																		254	232	110	150	–
110/2.2	252.5	295	–	368	155	291	128	110	131	–	–	15	–	–	280	–	–	260	–	–	144	200	168	298	260	110	160	–
110/3.0				368		291																		298	260	110	160	–
110/4.0				368		291																		298	260	110	160	–
130/1.5				368		295																		274	252	110	150	–
130/2.2				388		311																		318	280	110	160	–
130/3.0	292.5	335	–	388	170	311	148	130	140	–	–	15	–	–	320	–	–	290	–	–	155	250	188	318	280	110	160	–
130/4.0				388		311																		318		110	160	–

Accessories Dimensions

Accessories Dimensions

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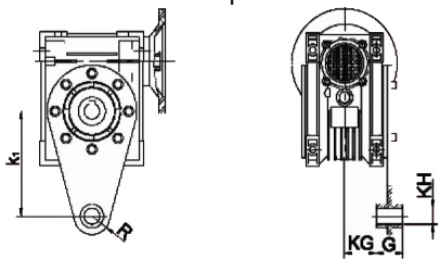
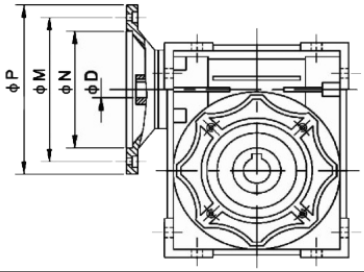
Torqure Arm



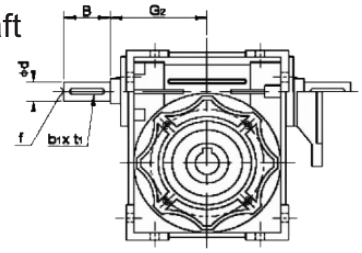
Size	K_1	G	KG	KH	R
25	70	14	17.5	8	15
	85	14	24	8	15
40	100	14	31.5	10	18
	100	14	38.5	10	18
63	150	14	49	10	18
	200	25	47.5	20	30
90	200	25	57.5	20	30
	250	30	62	25	35
130	250	30	69	25	35
	250	30	84	25	35

Motor Mounting Facility



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

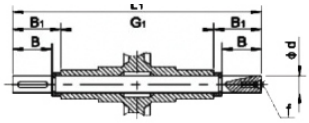
Double Worm Shaft



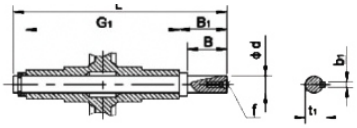
Size	G	d (j6)	B	f	b_1	t_1
30	45	9	20	–	3	10.2
40	53	11	23	–	4	12.5
50	64	14	30	M	5	16
63	75	19	40	M6	6	21.5
75	90	24	50	M8	8	27
90	108	24	50	M10	8	27
110	135	28	60	M10	8	31
130	155	30	80	M12	8	33
150	175	35	80		10	38

Sizes of Single (DZ) & Double (SZ) Output Shaft

SZ



DZ



Size	D (h6)	B	B_1	G_1	L	L_1	f	b_1	t_1
25	11	23	25.5	50	81	101	–	4	12.5
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	M12	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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SELECTION & PERFORMANCE TABLE

Selection example: (For type NRV and NML)
To select a worm gear box for the following application:
Load torque =27 N.m. Out-put RPM = 70.
Duty conditions : (a) Light loading, (b) 60 Starts/Hour, (c) 20 Hrs/Day

1. Refer Table I and get the Duty factor "K" = 1.38 for the specified duty conditions.
2. Calculate permissible out put torque of the gear box.
   M2 = K x Load torque = 1.38 x 27 = 37.3 N.m.
3. To select the gear box model and the power of the drive motor refer Table No. 2.
   Under the vertical column for N2 = 70 RPM (Ratio i = 20: 1) read various torque values, Select the row which gives a figure nearest to the calculated torque which is M2 = 37.3 N.m.
4. The nearest torque value is 39 N-rn. has two options of gear boxes. One is with gear box model NRV 40 20 ... and second is with NML 50 20...

Table 1

DUTY CONDITIONS				
LOADING	STARTS / HOURS	HOURS / DAY		
		2	8	20
Light Duty	Up to <30	0.83	1.08	1.25
	Between 30 to 60	0.92	1.15	1.38
	100 or more	1.03	1.25	1.45
Medium Duty	Up to <30	1.08	1.28	1.48
	Between 30 to 60	1.18	1.38	1.58
	100 or more	1.28	1.48	1.68
Heavy Duty	Up to <30	1.28	1.48	1.68
	Between 30 to 60	1.38	1.62	1.82
	100 or more	1.55	1.75	1.95

Table 2

GEAR BOX												
			7.5	10	15	20	25	30	40	50	60	80	100
Box Size	Fr. Sz.	Hp	187	140	93	70	56	47	35	28	23	17.5	14
30	63 B5	0.25	8	10	14	1.8	20						
40			8	10	15	19	23	26	32	38			
50									32	38	44	53	55
40	71 B5	0.35	11	14	20	26	31	36	44				
50			11	14	21	26	32	36	45	53	60	65	55
63												77	85
40			16	21	30	39							
50	71 B5	0.50	16	21	31	39	47	54	66	73			
63									70	83	95	114	118
40	80 B5	0.75	24.5	32									
50			25	32	46	59							
63					46	60	72	80	104	123			
75									108	129	146	180	180
50	80 B5	1.00	34	44	63								
63			33	44	63	82	99	109	143				
75								116	147	176	200		
90										184	212	257	270
63	90S B5	1.50	49	65	93	121							
75			49	66	95	122	149	170	216				
90									225	271	311		
110											324	410	460
75	90L B5	2.00	67	90	130	167	200	230					
90							209	236	306	369			
110										375	442	490	
130												547	652
90	100L B5	3.00	101	133	193	251	307	346					
110			101	133	192	256	316	355	462	550			
130										567	660	803	
110	112M B5	5.00	170	225	326	429	530	597					
130			172	223	330	431	529	606	793	907			

SELECTION & PERFORMANCE TABLE OF DOUBLE NML (WORK-WORM) SERIES

Size	I	n_2 (r/min)	KW_1	M_2 (N-M)	i_1	i_2
25/30	100	14.0	0.09	30	10	10
	150	9.3	0.06	28	7.5	20
	200	7.0	0.06	28	10	20
	250	5.6	0.06	35	10	25
	300	4.7	0.06	31	10	30
	400	3.5	0.06	28	20	20
	500	2.8	0.06	34	20	25
	600	2.3	0.06	31	20	30
	750	1.9	0.06	34	30	25
	900	1.6	0.06	31	30	30
	1200	1.2	0.06	28	30	40
	1500	0.9	0.06	26	30	50
	1800	0.8	0.06	31	60	30
	2400	0.6	0.06	28	60	40
	3000	0.5	0.06	26	60	50
25/40	300	4.7	0.06	59	10	30
	400	3.5	0.06	63	10	40
	500	2.8	0.06	57	10	50
	600	2.3	0.06	65	15	40
	750	1.9	0.06	60	15	50
	900	1.6	0.06	73	30	30
	1200	1.2	0.06	65	30	40
	1500	0.9	0.06	60	30	50
	1800	0.8	0.06	56	30	60
	2400	0.6	0.06	56	40	60
	3000	0.5	0.06	60	60	50
30/40	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
	3200	0.4	0.06	65	80	40
30/50	300	4.7	1.18	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
30/63	300	4.7	0.22	210	7.5	40
	400	3.5	0.18	222	10	40
	500	2.8	0.18	205	15	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

Size	I	n_2 (r/min)	KW_1	M_2 (N-M)	i_1	i_2
40/75	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
40/90	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	60	60
	2400	0.6	0.12	625	60	40
	3000	0.5	0.09	548	60	50
	300	4.7	0.75	817	10	30
	400	3.5	0.75	1013	10	40
	500	2.8	0.55	984	10	50
30/110	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
33/130	300	4.7	1.50	1759	10	30
	400	3.5	1.00	1519	10	40
	500	2.8	1.00	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
63/150	200	7	1.5	1317	10	20
	250	5.6	1.5	1602	10	25
	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

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SELECTION & PERFORMANCE TABLE OF DOUBLE NML (WORK-WORM) SERIES

Size		Ratio	Input Power	Output	
				N_2 (r/min)	M_2 (N.m)
40 / 63		75 (3x25)	0.12	18.7	42
			0.18		49
		90 (3x30)	0.12	15.6	45
			0.18		61
		120 (3x40)	0.12	11.7	50
			0.18		52
		150 (3x50)	0.12	9.3	
		180 (3x60)		7.8	46
		240 (3x80)		5.8	40
		300 (3x100)		4.7	36
50/	63	75 (3x25)	0.18	18.7	62
	71	79.3 (3.17x25)	0.25	17.7	91
	63	90 (3x30)	018	15.6	69
	71	95.1 (3.17x30)	0.25	14.7	102
	63	120 (3x40)	0.18	11.7	85
	71	126.8 (3.17x40)	0.25	11	100
	63	150 (3x50)	0.12	9.3	66
			0.18		89
		180 (3x60)	0.12	7.8	74
			0.18		88
		240 (3x80)	0.12	5.8	78
			0.18		76
		300 (3x100)	0.12	4.7	65
			0.18		
63/	71	79.3 (3.17x25)	0.25	17.7	94
			0.37		139
		95.1 (3.17x30)	0.25	14.7	103
			0.37		153
		126.8 (3.17x40)	0.25	11	129
			0.37	11	191
	63	150(3x50)	0.18	9.3.	101
	71	158.5 (3.17x50)	0.25	8.8	148
			0.37		176
	63	180 (3x60)	0.18	7.8	115
	71	190.2 (3.17x60)	0.25	7.4	151
	63	240 (3.80)	0.12	5.8	90
			0.18		136
	71	253.6 (3.17x80)	0.25	5.5	139
	63	300 (3x100)	0.12	4.7	101
			0.18		121
	71	317 (3.17x100)	0.25	4.4	128
75/	80	75 (3x25)	0.55	18.7	201
			0.75		247
			0.92		269
	71	79.3 (3.17x25)	0.37	17.7	143
	80	90 (3x30)	0.55	15.6	225
			0.75		307
			0.92		300
	71	95.1 (3.17x30)	0.37	14.7	160
	80	120 (3x40)	0.55	11.7	278
	71	126.8 (3.17x40)	0.37	11	198
	80	150 (3x50)	0.55	9.3	260
	71	158.5 (3.17x50)	0.25	8.8	156
			0.37		231

Size		Ratio	Input Power	Output	
				N_2 (r/min)	M_2 (N.m)
75/71		190.2 (3.17x60)	0.25	7.4	178
			0.37		236
		253.6 (3.17x80)	0.25	5.5	208
		317 (3.17x100)		4.4	214
90	80	90 (3x30)	0.55	15.6	235
			0.75		230
		12 (3x40)	0.55	11.7	291
			0.75		397
		150 (3x50)	0.55	9.3	348
			0.75		426
		180 (3x60)	0.55	7.8	390
			0.75		425
	71	190.2 (3.17x60)	0.37	7.4	278
	80	240 (3x80)	0.55	5.8	374
	71	253.6 (3.17x80)	0.37	5.5	332
		317 (3.17c100)	0.37	4.4	345
110/	90	72.6 (2.42c30)	1.1	19.3	384
			1.5		524
			1.8		629
	80	74 (3x25)	0.75		293
	90	96.8 (2.42x40)	1.1	14.5	498
			1.5		697
			1.8		815
	80	120 (3x40)	0.75		421
	90	121 (2.42x50)	1.1	11.6	587
			1.5		801
			1.8		768
		145.2 (2.42x60)	1.1	9.6	673
			1.5		733
	80	150 (3x50)	0.75	9.3	496
		180 (3x60)	0.55	7.8	417
			0.75		569
	90	193.6 (2.42x80)	1.1	7.2	648
	80	240 (3x60)	0.55	5.8	503
			0.75		617
		300 (3x100)	0.55	4.7	585
130/	90	72.6 (2.42x30)	1.1	19.3	390
			1.5		531
			1.8		638
		96.8 (2.42x40)	1.1	14.5	498
			1.5		679
			1.8		815
		121 (2.42x50)	1.1	11.6	596
			1.5		813
			1.8		976
		145.2 (2.42x60)	1.1	9.6	673
			1.5		917
			1.5		1101
		193.6 (2.42x80)	1.1	7.2	826
			1.5		1013
	80	240 (3x80)	0.75	5.8	698
	90	242 (2.42x100)	1.1		848
	80	300 (3x100)	0.55	4.7	585
			0.75		797

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SELECTION & PERFORMANCE TABLE OF DOUBLE NML (WORK-WORM) SERIES

Input	Size	Ratio	Output	
			n_2 (r/min)	M_2 (N.m)
P_1=0.18kw 4p n1=1400r/min	40/0.18	7.5	117~22.7	9~18
	40/0.18	10	88~17	12~23
	40/0.18	15	58.7~11.3	17~32
	40/0.18	20	44~8.5	22~40
	40/0.18	25	35.2~6.8	27~47
	40/0.18	30	29.3~5.7	30~51
	40/0.18	40	22~4.3	37~62
	50/0.18	40	22~4.3	38~63
	50/0.18	50	17.6~3.4	43~60
	50/0.18	50	17.6~3.4	44~73
	50/0.18	60	14.7~2.8	50~80
	50/0.18	80	11~21	59~82
	50/0.18	100	8.8~1.7	66~79
P_1=0.37kw 4p n_1=1400r/min	50/0.37	7.5	133~26.7	19~36
	50/0.37	10	100~20	25~47
	50/0.37	15	66.7~13.3	36~65
	50/0.37	20	50~10	46~82
	50/0.37	25	40~8	55~97
	50/0.37	30	33.3~6.7	61~107
	50/0.37	40	25~5	76~124
	63/0.37	40	25~5	79~134
	50/0.37	50	20~4	89~120
	63/0.37	50	20~4	92~155
	63/0.37	60	16.7~3.3	104~173
	63/0.37	80	12.5~2.5	125~173
	63/0.37	100	10~2	139~150
P_1=0.55kw 4p n_1=1400r/min	63/0.55	7.5	133~26.7	26~49
	63/0.55	10	100~20	34~63
	63/0.55	15	66.7~13.3	48~88
	63/0.55	20	50~10	62~112
	63/0.55	25	40~8	75~133
	63/0.55	30	33.3~6.7	81~146
	63/0.55	40	25~5	105~179
	63/0.55	50	20~4	123~207
	75/0.55	50	20~4	129~216
	75/0.55	60	16.7~3.3	146~242
	75/0.55	80	12.5~2.5	176~250
	90/0.55	80	12.5~2.5	189~309
	75/0.55	100	10~2	218~350
P_1=0.75kw 4p n_1=1400r/min	63/0.75	7.5	133~26.7	39~73
	63/0.75	10	100~20	51~94
	63/0.75	15	66.7~13.3	72~132
	63/0.75	20	50~10	92~168
	63/0.75	25	40~8	112~199
	63/0.75	30	33.3~6.7	126~219
	63/0.75	40	25~5	156~232
	63/0.75	50	20~4	185~310
	75/0.75	50	20~4	192~230
	75/0.75	60	16.7~3.3	219~300
	90/0.75	60	16.7~3.3	230~289
	90/0.75	80	12.5~2.5	265~428
	110/0.75	80	12.5~2.5	302~503
	90/0.75	100	10~2	303~410
	110/0.75	100	10~2	348~575
P_1=1.1kw 4p n_1=1400r/min	75/1.1	7.5	133~26.7	59~111
	75/1.1	10	100~20	77~144
	90/1.1	10	100~20	78~146
	75/1.1	15	66.7~13.3	110~203
	90/1.1	15	66.7~13.3	113~208
	75/1.1	20	50~10	142~258
	90/1.1	20	50~10	146~266
	75/1.1	25	40~8	172~308
	90/1.1	25	40~8	177~320
	75/1.1	30	33.3~6.7	195~340
	90/1.1	30	33.3~6.7	202~356
	75/1.1	40	25~5	245~360
	90/1.1	40	25~5	256~442

Input	Size	Ratio	Output	
			n_2 (r/min)	M_2 (N.m)
P_1=1.1kw 4p n1=1400r/min	90/1.1	50	20~4	304~517
	110/1.1	50	20~4	320~550
	110/1.1	60	16.7~3.3	368~625
	130/1.1	60	16.7~3.3	373~623
	110/1.1	80	12.5~2.5	455~754
	130/1.1	80	12.5~2.5	460~749
	110/1.1	100	10~2	522~710
	130/1.1	100	10~2	531~868
P_1=1.5kw 4p n_1=1400r/min	75/1.5	7.5	133~26.7	78~148
	90/1.5	7.5	133~26.7	77~150
	75/1.5	10	100~20	102~192
	90/1.5	10	100~20	104~195
	75/1.5	15	66.7~13.3	147~270
	90/1.5	15	66.7~13.3	150~277
	75/1.5	20	50~10	190~344
	90/1.5	20	50~10	194~355
	75/1.5	25	40~8	229~330
	90/1.5	25	40~8	236~427
	75/1.5	30	33.3~6.7	260~390
	90/1.5	30	33.3~6.7	270~474
	75/1.5	40	25~5	327~360
	90/1.5	40	25~5	341~589
	90/1.5	50	20~4	406~560
	110/1.5	50	20~4	426~733
	110/1.5	60	16.7~3.3	490~833
	130/1.5	60	16.7~3.3	498~831
	130/1.5	80	12.5~2.5	614~999
	130/1.5	100	10~2	696~1100
P_1=2.2kw 4p n_1=1400r/min	110/2.2	7.5	133~26.7	120~226
	110/2.2	10	100~20	157~294
	110/2.2	15	66.7~13.3	228~418
	110/2.2	20	50~10	298~549
	110/2.2	25	40~8	364~664
	112/2.2	30	33.3~6.7	413~717
	110/2.2	40	25~5	533~931
	130/2.2	40	25~5	542~932
	130/2.2	50	20~4	648~1097
	130/2.2	60	16.7~3.3	746~1246
	130/2.2	80	12.5~2.5	921~1499
	130/2.2	100	10~2	1040~1100
P_1=3.0kw 4p n_1=1400r/min	110/3.5	7.5	133~26.7	160~302
	130/3.0	7.5	133~26.7	160~301
	110/3.0	10	100~20	210~392
	130/3.0	10	100~20	211~395
	110/3.0	15	66.7~13.3	304~558
	130/3.0	15	66.7~13.3	307~563
	110/3.0	20	50~10	398~732
	130/3.4	20	50~10	402~733
	110/3.0	25	40~8	485~885
	130/3.0	25	40~8	490~885
	110/3.0	30	33.3~6.7	547~956
	130/3.0	30	33.3~6.7	562~973
	110/3.0	40	25~5	711~1030
	130/3.0	40	25~5	720~1242
P_1=1.1kw 4p n_1=1400r/min	130/3.0	50	20~4	864~1463
	110/4.0	7.5	133~26.7	213~402
	130/4.0	7.5	133~26.7	214~401
	110/4.0	10	100~20	279~523
	130/4.0	10	100~20	281~527
	110/4.0	15	66.7~13.3	405~744
	130/4.0	15	66.7~13.3	410~751
	110/4.0	20	50~10	530~975
	130/4.0	20	50~10	536~978
	110/4.0	25	40~8	647~1020
	130/4.0	25	40~8	653~1180
	130/4.0	30	33.3~6.7	749~1298
	130/4.0	40	25~5	960~1650

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LUBRICANTS

Reducer type	BV Series Variator	BL gear box				BVF gear box	
		25 ~ 90	110 ~ 130			30 ~ 63A	85 ~ 110
Type of Lubricant	Synthetic Oil	Synthetic Oil	Synthetic Oil	Mineral Lubrication Oil		Gease	Synthetic Oil
Ambient Temperature	-25°C ~ +40°C	-25°C ~ +50°C	-25°C ~ +50°C	-5°C ~ +40°C	-15°C ~ +40°C	-5°C ~ +50°C	-15°C ~ +25°C
ISO VG	VG 320	VG 320	VG 320	VG 460	VG 220		VG 220
Shell	A.T.F. Dexron	Tivela Oil WB	Tivela Oil WB	Omala Oil 460	Omala Oil 220	Tivela Compund A	Tivela Oil WB
Mobil	A.T.F. 220	Glygoyle 30		Mobile gear 634	Mobile gear 630	Glyoyle Grease 00	Glygoyle 30 SHC 630
Esso	A.T.f. Dexron	S220	S220	Spartan EP 460	Spartan EP 220	Grease S420	
BP	Autran Dx	Energol SGXP 320		Energol GRXP 460	Energol GRXP 220		Energol GRXP 220

Oil Capacities

Size	25	30	40	50	63	75	90	110	130
(1)	0.02	0.04	0.08	0.15	0.3	0.55	1	3	4.5

Size	30	45	50	63	63A	85	110
(Kg)	0.065	0.09	0.16	0.38	0.38		
(1)						1.2	2.8/1.8

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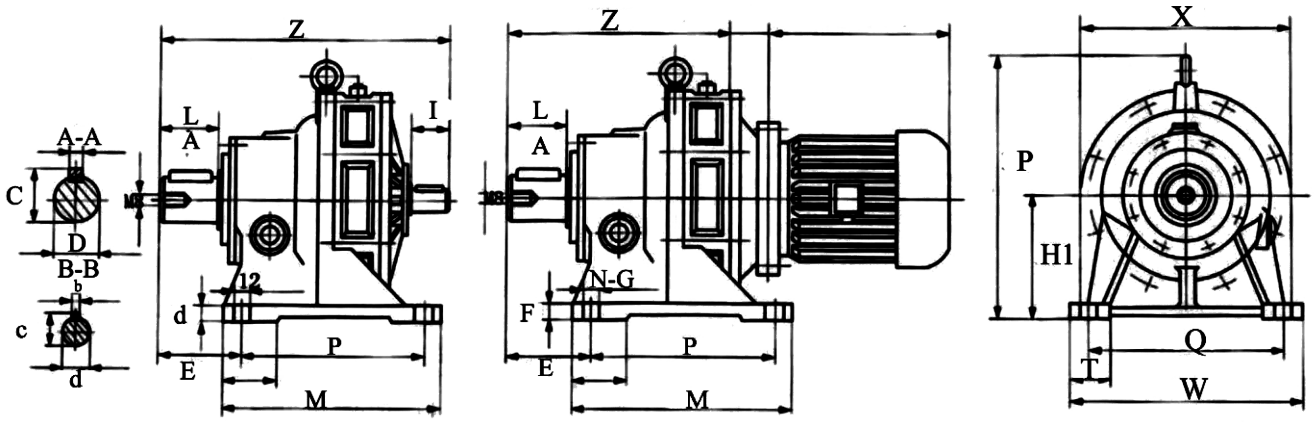
CYCLOIDAL GEARBOX

NW, NWY, NWD, NXW, NXWD



NW, NWD (09-19) NXW, NXWD (2 - 12)

Reducer / Model	Z1	M	W	H	X	H1	E	F	P	Q	S	T	N-G	B	C	D	L	b	c	d	I	Z	BW
B09	142	100	144	160	140	80	47	12	76	120	M6	35	4.11	6	24.5	22	30	5	17	15	25	192	9
B 10	165	120	185	190	168	100	93	15	90	150	M8	35	4.11	8	33	30	35	5	17	15	25	214	15
X2X	165	120	210	190	168	100	101	15	90	180	M8	45	4.12	8	28	25	35	5	17	15	25	210	15
B 11	192	160	280	250	200	120	125	15	110	240	M8	55	4.13	10	38	35	55	6	20.5	18	35	263	22
X3	192	150	290	270	200	140	151	20	100	250	M8	55	4.16	14	38	35	55	6	20.5	18	35	263	30
B12	246	200	320	296	240	140	144	20	150	280	M8	60	4.13	14	48.5	45	71	6	24.5	22	40	330	40
X4	246	195	330	306	240	150	169	22	145	290	M8	65	4.16	16	48.5	45	72	8	24.5	22	40	320	43
B13	294	250	390	356	200	160	159	25	200	340	M12	75	4.17	16	59	55	80	8	33	30	55	390	73
X5	305	260	420	356	300	160	206	25	150	370	M12	75	4.16	16	59	55	89	8	33	30	55	400	85
B14	369	380	400	425	340	200	156	25	320	340	M12	80	4.22	20	74.5	70	102	10	38	35	62	478	120
X6	359	335	430	425	340	200	125	30	275	380	M12	75	4.22	18	69	65	91	10	38	35	62	468	125
X7	378	380	470	445	340	220	145	30	320	420	M12	75	4.22	22	85	80	109	12	45	40	65	487	165
B15	435	440	470	513	400	240	155	32	380	420	M16	80	4.22	25	95	90	119	14	48.5	45	81	565	185
X8	435	440	530	524	400	250	155	35	380	480	M16	90	4.22	25	95	90	119	14	48.5	45	81	565	240
B16	528	520	560	605	500	280	200	35	440	500	M20	90	4.26	28	106	100	139	14	53.5	50	80	668	280
X9	548	560	620	614	500	290	186	40	480	560	M20	120	4.26	28	106	100	141	14	53.5	50	80	723	390
B17	588	600	690	706	575	325	230	40	500	630	M20	105	6.26	28	116	110	150	16	59	55	90	791	580
X10	588	600	690	706	575	325	230	40	500	630	M20	105	6.26	28	116	110	150	16	59	55	90	791	580
B18	809	810	880	880	740	420	324	50	660	800	M30	160	6.32	32	137	130	202	20	74.5	70	120	880	1200
X11	814	310	880	880	740	420	324	50	660	800	M30	150	6.32	32	137	130	202	20	74.5	70	120	880	1200
B19	1152	1040	1160	1160	1000	540	485	60	840	1050	M42	200	6.45	45	190	180	330	25	95	90	150	1160	2500
X12	1152	1040	1160	1160	1000	540	485	60	840	1050	M42	200	6.45	45	190	180	330	25	95	90	150	1160	2500

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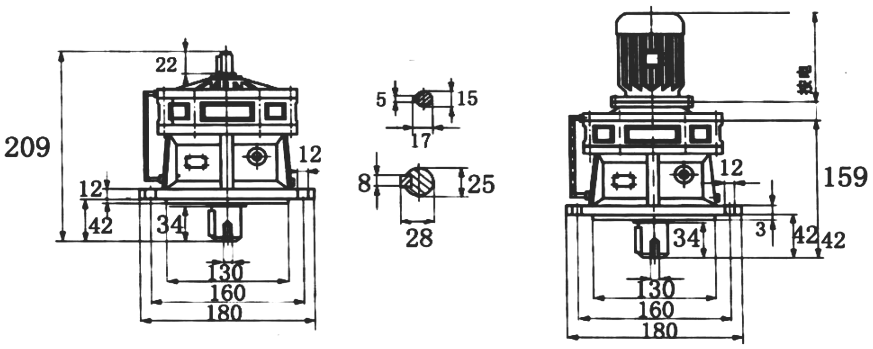
CYCLOIDAL GEARBOX DRAWING

X2



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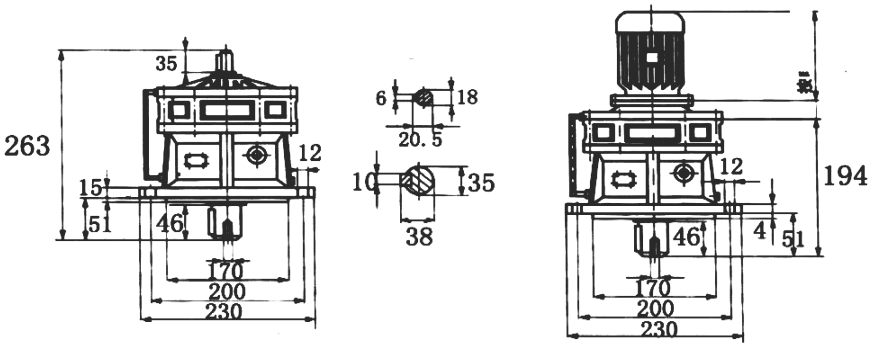

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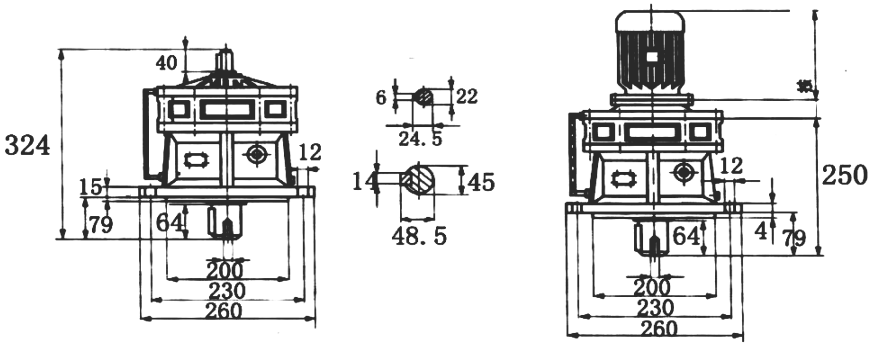

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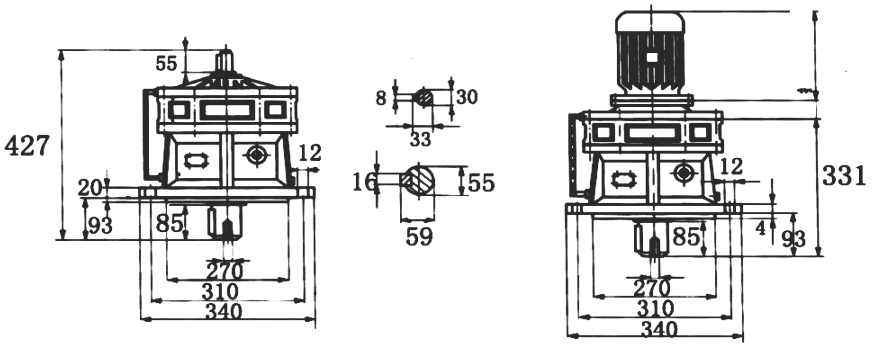

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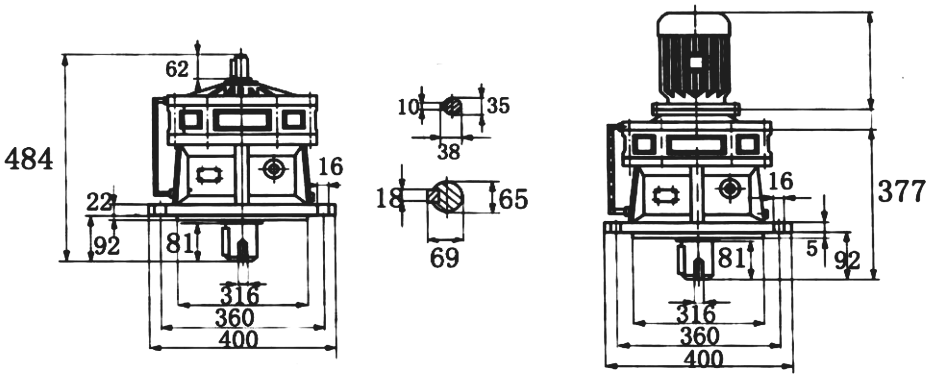
X6



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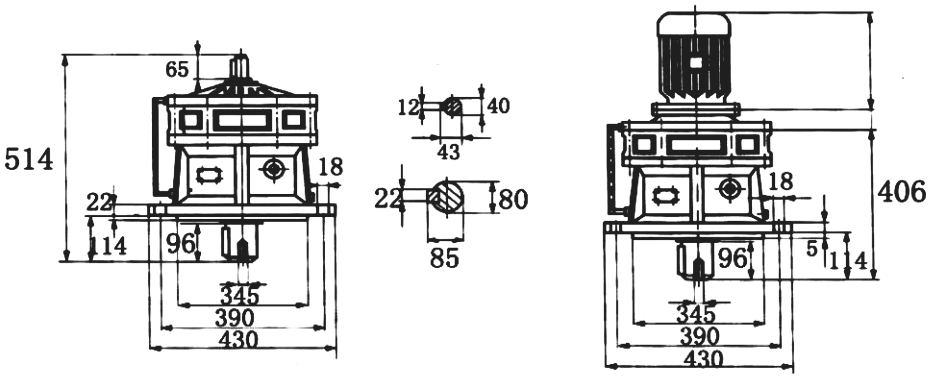

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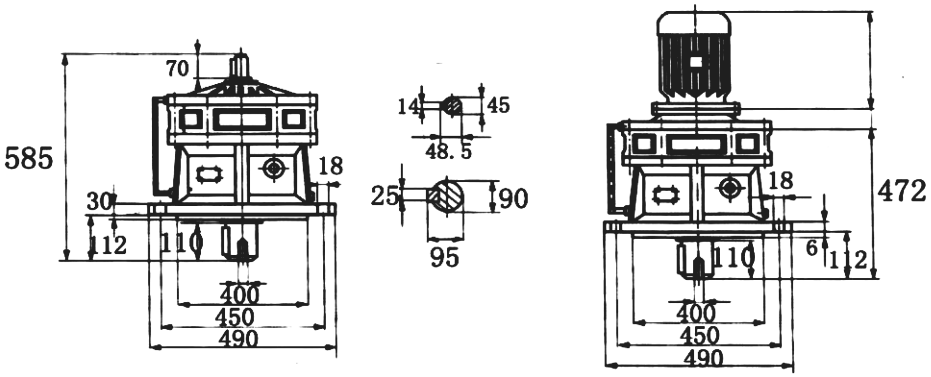

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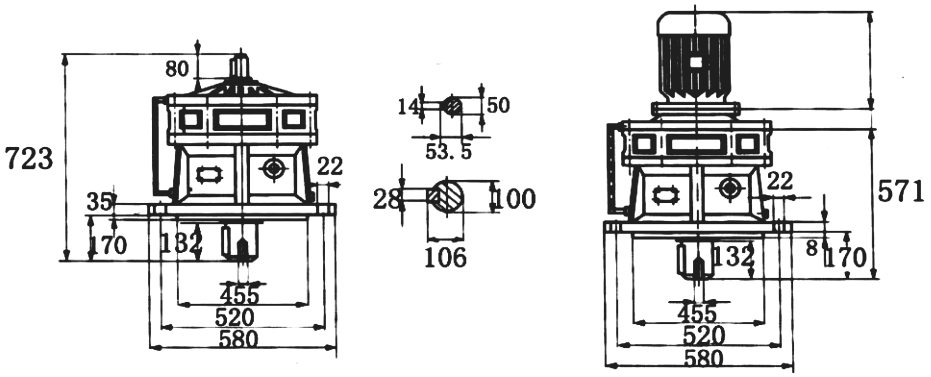

NOVARSIS ELECTRIC INDIA
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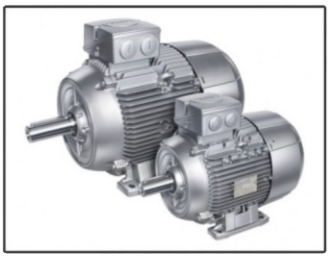
CYCLOIDAL NEEDLE WHEEL REDUCER

First speed reduction shaft and output shaft radial force

Machine No.	Transmission Ratio	9	11	17	23	29	35	43	59	71	87
x2	N.M.	96	118	147	147	147	147	147	147		
	K.G.	150	166	190	204	239	239	250	250		
x3	N.M.	196	196	245	245	245	245	245	245	245	
	K.G.	202	223	255	275	321	321	563	405	436	
x4	N.M.	392	490	490	490	490	490	490	490	490	490
	K.G.	314	346	396	426	498	498	563	625	680	680
x5	N.M.	785	785	981	981	981	981	981	981	981	981
	K.G.	449	494	566	610	713	713	805	899	899	969
x6	N.M.	1569	1569	1961	1961	1961	1961	1961	1961	1961	1961
	K.G.	608	668	765	824	963	963	1087	1214	1308	1308
x7	N.M.		2157	2648	2648	2648	2648	2648	2648	2648	2648
	K.G.		898	1028	1294	1294	1294	1395	1632	1759	1759
x8	N.M.		3530	4217	4413	4413	4413	4413	4413	4413	4413
	K.G.		1285	1746	2090	2090	2200	2200	2340	2520	2760
x9	N.M.		5786	6962	7845	7845	8825	8825	8825	7845	7845
	K.G.		2720	2910	3730	3730	3910	4130	4130	4410	4410
x10	N.M.			9218	10296	10296	11767	11767	11767	11767	11767
	K.G.			3960	3960	4680	4910	5180	5540	5540	5540
x11	N.M.			13728	16670	16670	19612	196212	16612	19612	19612
	K.G.			5040	5370	5930	6210	6560	7010	7640	7640
x12	N.M.			20593				29418	29418		
	K.G.			10100				12500	13200		

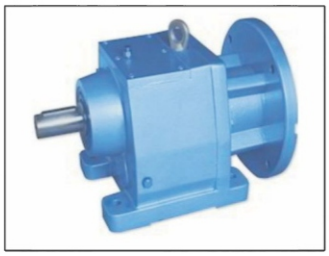


IEC Frame Aluminum Body - Foot

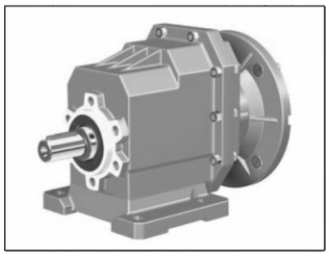
Speed Variator

Foot Cum Flange Motor

Worm Gear Box WPA Series



Cast Iron Housing - Foot



Aluminum Housing - Foot

Cast Iron / Alu. Housing - Flange

Parallel Shaft Helical Gear Box

Planetary Gear Box

Cycloidal Gear Box

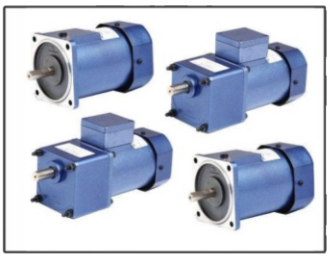
Heli Worm Gear Box

Parallel Shaft Gear Box

Helical Gear Motor

Helical Flange Gear Motor

PC Adapter



AC Gear Motor

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