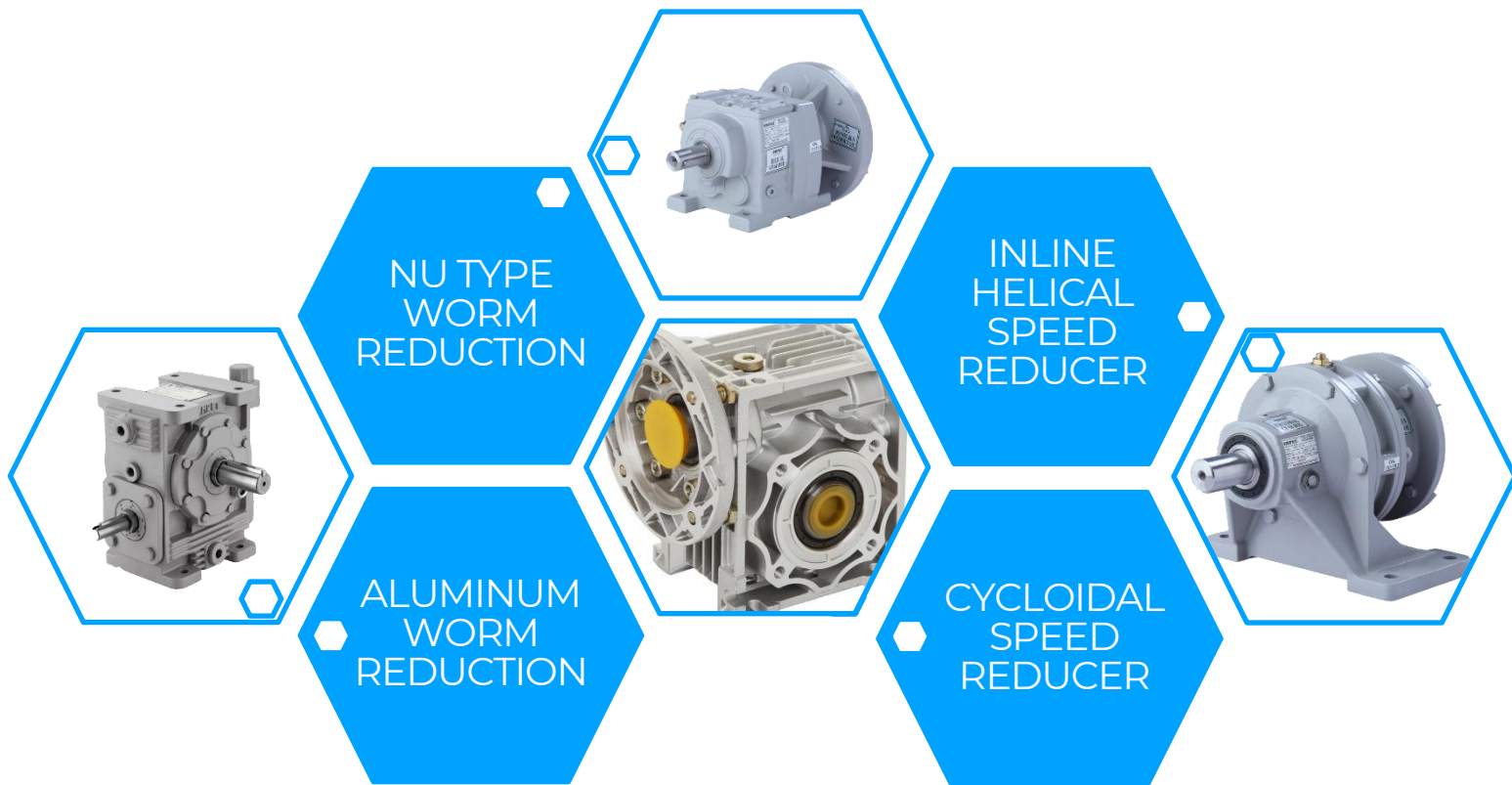


# IM – Series Gearbox

Low RPM with High Efficiency



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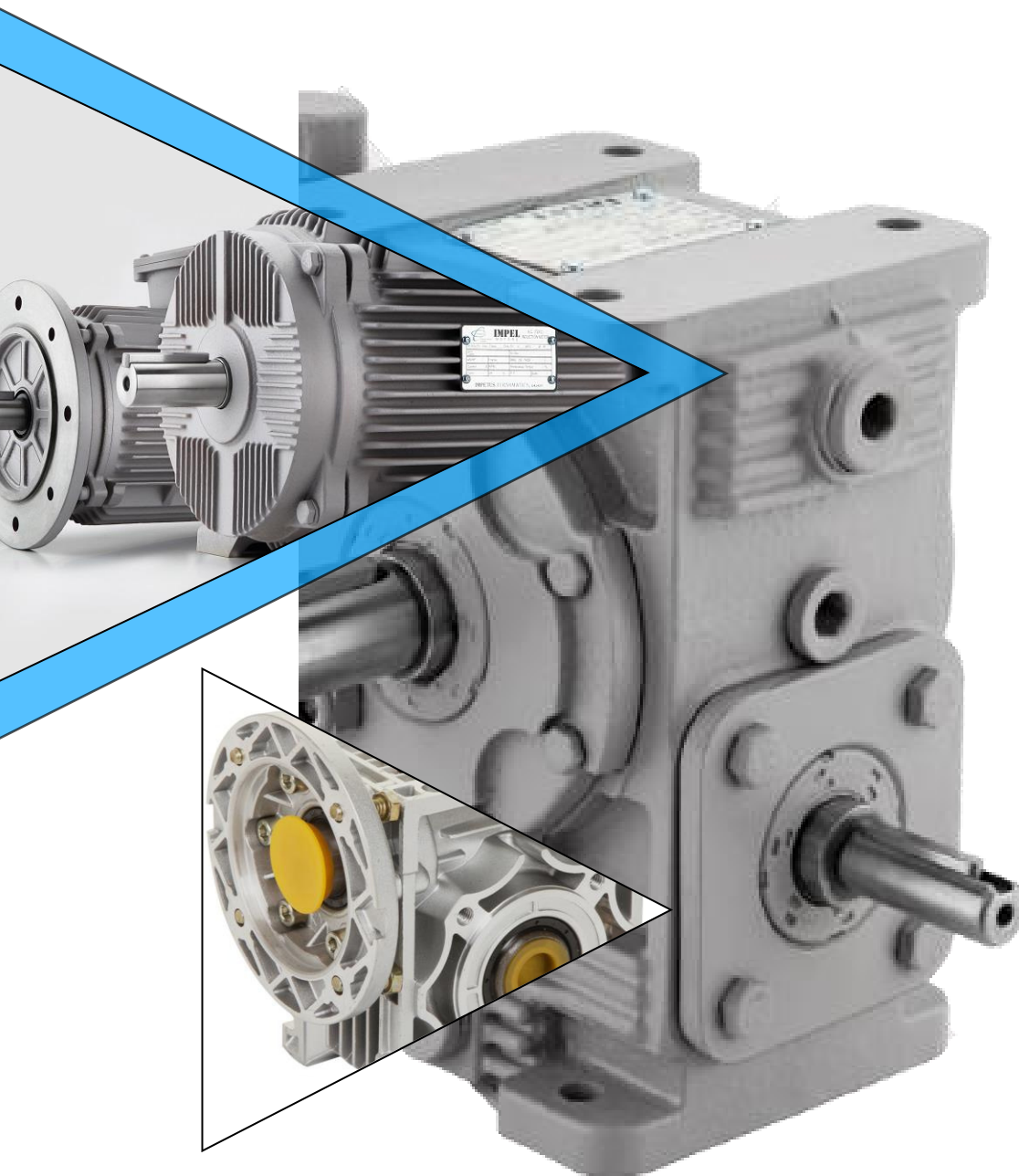


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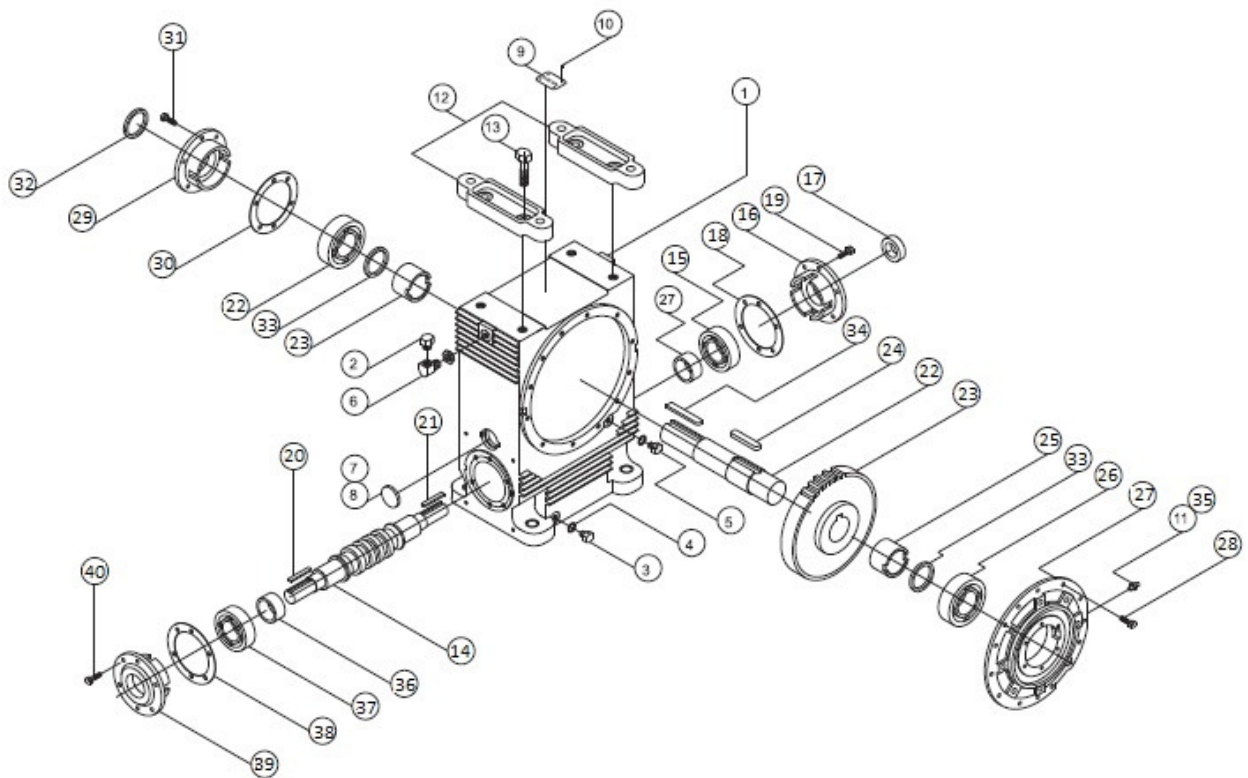
## NU – TYPE WORM (CI) Speed Reducing Gearbox



## PREFACE

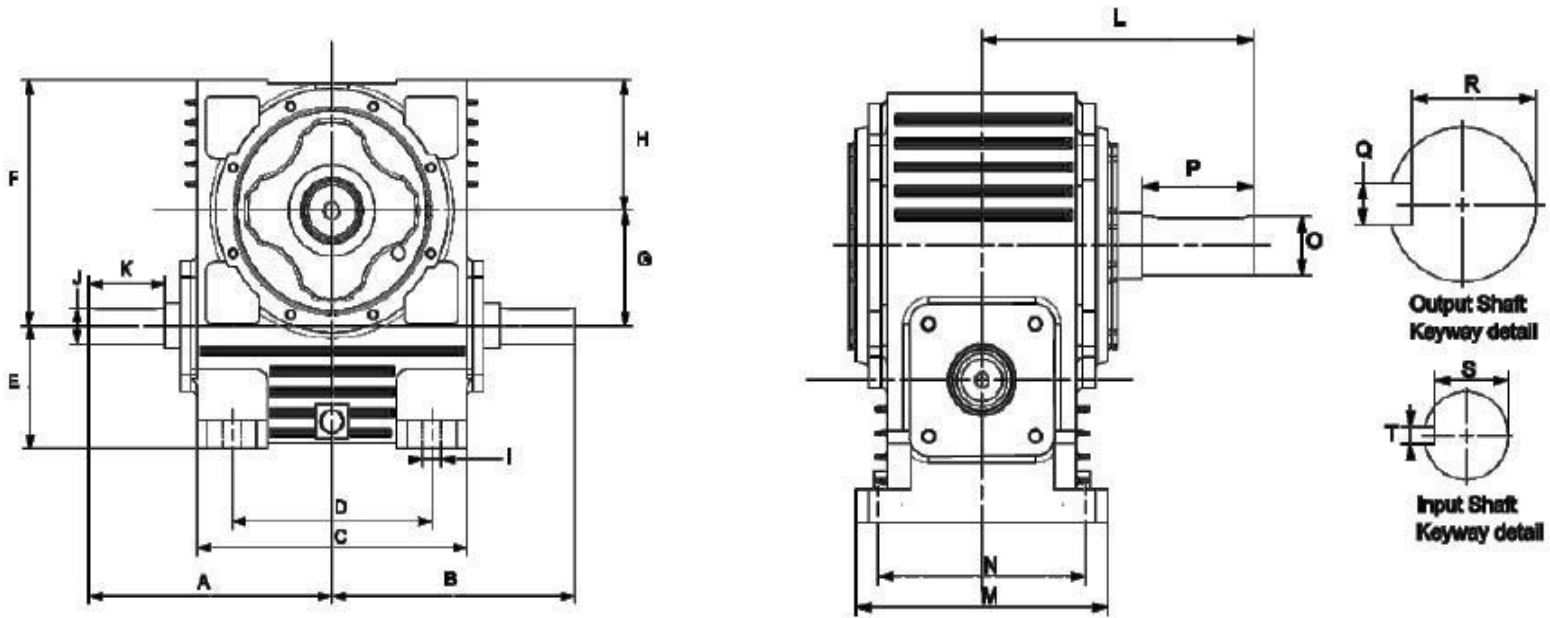
All types of industries are invariably required to install different types of electric motors as prime mover for driving process equipment participating in their respective production line up. The continuous process of technical development has resulted into availability of highly diversified types of electric motors. Having mastered the art of providing quality products, IMPETUS TURNOMATICS proudly introduces TEFC ENERGY EFFICIENT induction motors and **GEAR SPEED REDUCERS**, designed to meet diverse needs of future industry. Built from the motor industry's most successful modular platform, each module is designed to match a broad variety of demanding application requirements while having the flexibility to be adapted to highly specific configurations.

## ASSEMBLY DRAWING



1. Gear Case	11. Straight Greece Nipple	21. Key On Ext.	31. Hex Hed Screw
2. Breather Plug	12. Feet	22. Slow Speed Shaft	32. Oil Seal
3. Drain Plug	13. Hex	23. Worm Wheel	33. Baffle Plate
4. Nylon Washer	14. Worm Shaft	24. Key For Worm Wheel	34. Key On Ext.
5. Oil Level Indicator	15. Tapper Roller	25. Distance Piece	35. Plug
6. Elbow	16. Open cover	26. Taper Roller Bearing	36. Bearing House
7. Sealing Cap	17. Oil Seal	27. Bearing House	37. Bearing
8. Sealing Cap	18. Shims	28. Hex Head Screw	38. Oil Seal
9. Name Plate	19. Hex Hed Screw	29. Open Cover	39. Open Cover
10. Rivet	20. Key	30. Shims	40. Screw

## DIMENSIONS



Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
2"	133	133	142	95	70	133	50	83	11	16	47	128	125	100	25	57	8	21	13	5
3"	155	155	180	140	102	181	76	105	14	25	50	175	192	160	38	75	10	33	21	8
4"	225	225	250	185	108	216	101	115	18	32	70	215	200	160	42	88	14	39	27	10
5"	254	254	300	220	118	267	127	140	18	35	70	231	260	200	45	95	14	44	30	10
6"	279	279	350	266	127	323	152	171	23	38	75	276	300	241	50	122	16	47	32	10
7"	311	311	400	306	146	378	177	201	23	40	82	286	340	266	60	132	18	52	33	12
8"	348	348	440	343	146	428	203	225	27	45	88	312	340	266	70	140	20	57	44	14

Note:

Please Fill This Gearbox with 320 Graded Oil.

## WEIGHT, OIL CAPACITY & TORQUE

### INPUT RPM 1500

RATIO	O/P RPM	CAPACITY	SIZE OF UNIT								
			2"	3"	4"	5"	6"	7"	8"		
7.5	200	HP	2	7.5	12.5			25	30	50	70
		TORQUE	72	235	431	819	1177	1844	2531		
10	150	HP	2	7.5	10			20	30	40	60
		TORQUE	82.9	255	490	932	1393	1952	2805		
15	100	HP	1.5	5	7.5			15	25	30	40
		TORQUE	75.2	265	490	932	1530	1893	2854		
20	75	HP	1	3	7.5			12.5	20	25	30
		TORQUE	82	294	578	1030	1628	2178	2864		
25	60	HP	0.5	3	5			10	15	25	30
		TORQUE	81	314	549	1040	1707	2403	3316		
30	50	HP	0.5	3	5			7.5	12.5	15	25
		TORQUE	78.5	323	583	1040	1709	2462	3502		
40	37.5	HP	0.5	2	5			7.5	10	15	20
		TORQUE	79.4	333	623	1049	1746	2531	3384		
50	30	HP	0.5	2	3			5	7.5	15	20
		TORQUE	78.5	323	637	1079	1697	2737	3639		
60	25	HP	0.5	1.5	3			5	7.5	12.5	15
		TORQUE	80.5	328	647	1118	1795	2668	3502		

### *Average weight of gear box: -*

GEAR BOX SIZE	WEIGHT (WITHOUT OIL)
2"	11
3"	29
4"	66
5"	95
6"	155
7"	225
8"	285

### *Oil capacity of gear box: -*

GEAR BOX SIZE	OIL CAPACITY (LTR)
2"	1
3"	2
4"	3.5
5"	5
6"	7
7"	12
8"	14



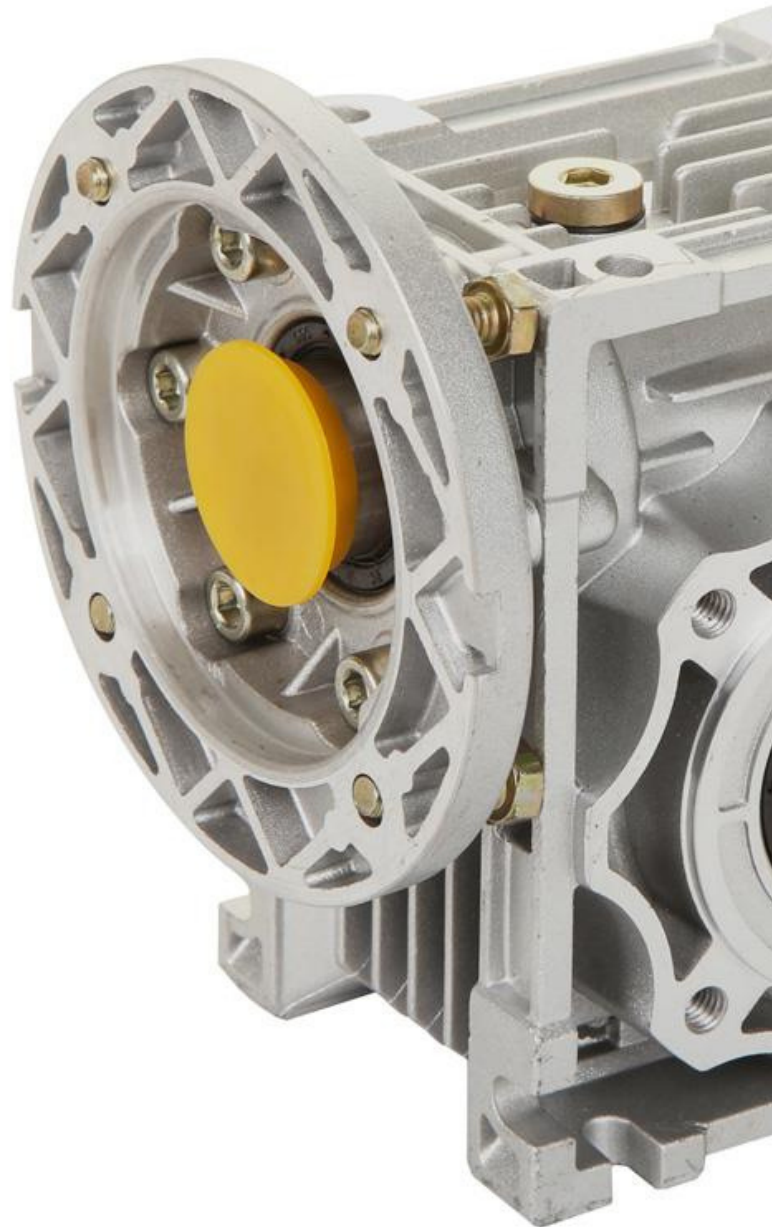
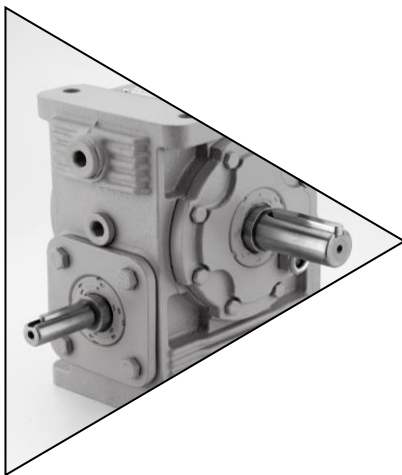
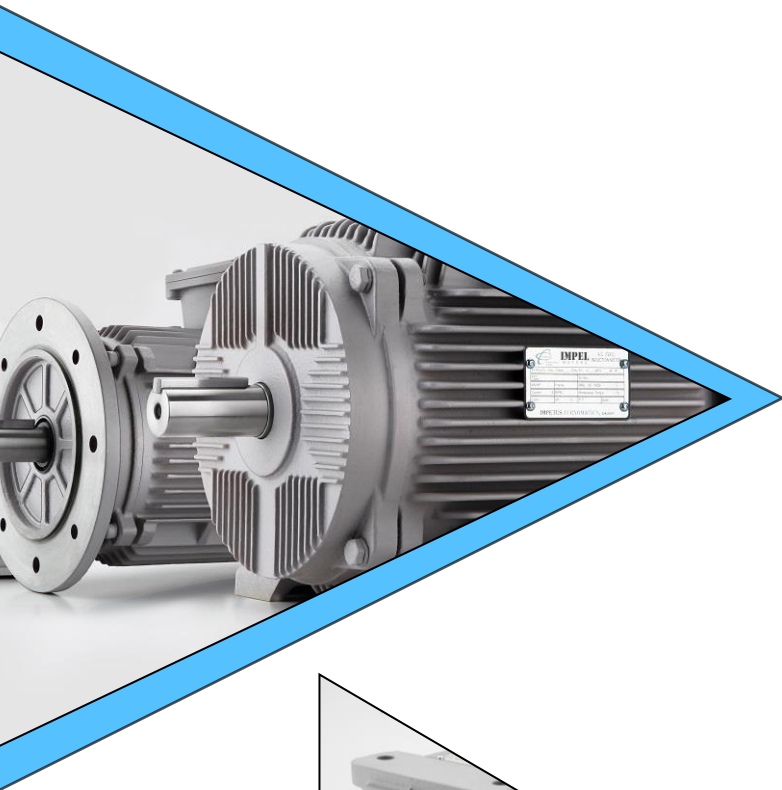


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MOTORS

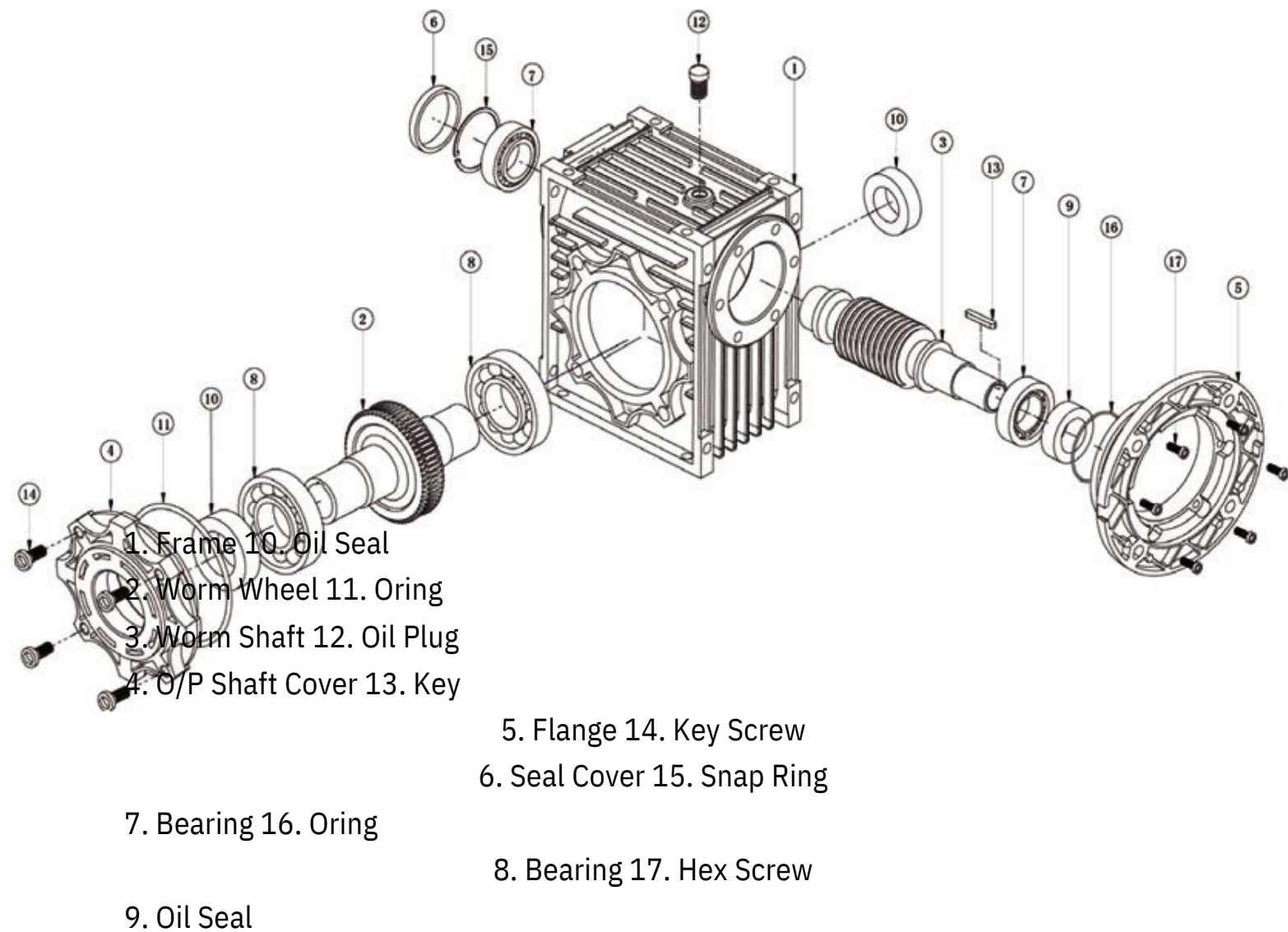
## NMRV TYPE WORM (AL) Speed Reducing Gearbox



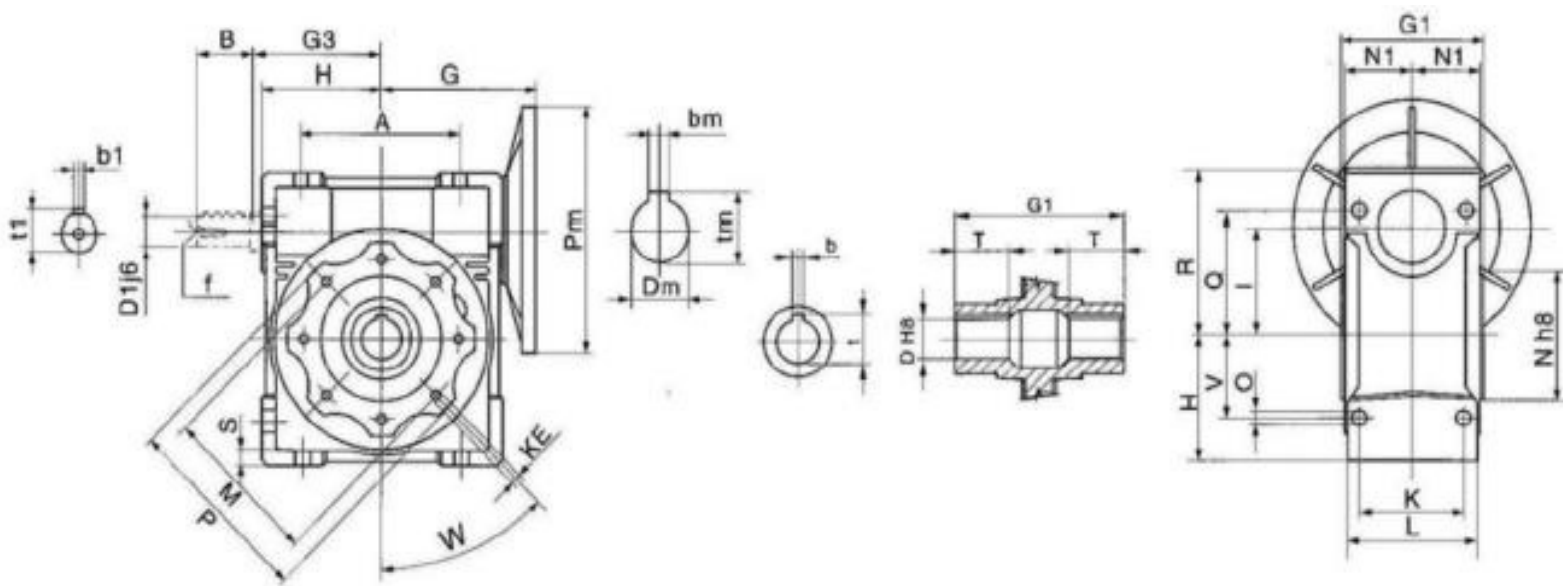
## PREFACE

One-piece gear case, with external ribs, is made of close-grained cast iron and provides for rigid gear and bearing support. It also offers excellent heat dissipation. Double lip, spring-loaded seals guard against oil leakage and prevent dirt from entering. Stepped shafts with oversized ball and tapered roller bearings. Carbon steel shafts for greater strength. High tensile strength cast bronze worm wheel and hardened and ground alloy steel worm made integral with the shaft for - long and trouble-free life. Every unit test run prior to shipment. Universal mounting with bolt-on feet. Highly modifiable design. All this at substantially lower prices than you have been accustomed to paying for reducers of lesser quality.

## ASSEMBLY DRAWING



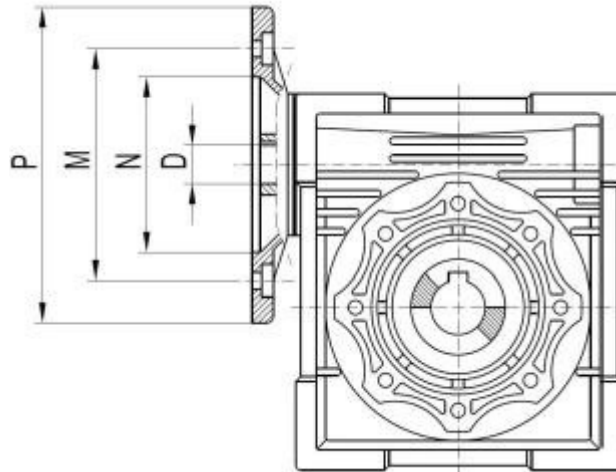
# DIMENSION



Details	Gear Box Size							
	40	50	63	75	90	110	130	150
A	70	80	100	120	140	170	200	240
B	23	30	40	50	50	60	80	80
D	18	25	25	28	35	42	45	50
D1	14	14	19	24	24	28	30	35
G	70	80	95	112.5	129.5	160	180	210
G1	78	92	112	120	140	155	170	200
G3	53	64	75	90	108	135	155	192
H	50	60	72	86	103	127.5	147	170
I	40	50	63	75	90	110	130	150
K	60	70	85	90	100	115	120	145
KE	M6*10	M8*10	M8*14	M8*14	M10*18	M10*20	M12*21	M12*21
L	71	85	103	112	130	144	155	185
M	75	85	95	115	130	165	215	215
N	60	70	80	95	110	130	180	180
N1	73	87	106	114	134	148	162	192
O	6.5	8.5	8.5	11.5	13	14	16	18
P	87	100	110	140	160	200	250	250
Q	55	64	80	93	102	125	140	180
R	71.5	84	102	119	135	167.5	187.5	230
S	6.5	7	8	10	11	12	15.5	18
T1	26	30	36	40	45	49	57.5	70
V	35	40	50	60	70	85	100	120
W	45	45	45	45	45	45	45	45
s	6	8	8	8	10	12	14	14
T2	20.8	28.3	28.3	31.3	38.3	45.3	48.8	53.8
b1	4	5	6	8	8	8	8	10
t1	12.5	16	21.5	27	27	31	33	38
F	-	M16	M6	M8	M8	M10	M10	M12



## Input flange and shaft:



Box	HP	N	M	P	D										
					7.5	10	15	20	25	30	40	50	60	80	100
40	0.5	110	130	160	14	14	14	14	14	14	14	-	-	-	-
	0.25	95	115	140	11	11	11	11	11	11	11	11	11	11	11
	0.17	80	100	120	-	-	-	-	-	-	-	9	9	9	9
50	1	130	165	200	19	19	19	19	19	19	-	-	-	-	-
	0.5	110	130	160	14	14	14	14	14	14	14	14	14	14	-
	0.25	95	115	140	-	-	-	-	-	-	-	11	11	11	11
63	1.5/2	130	168	200	24	24	24	24	24	24	-	-	-	-	-
	1	130	168	200	19	19	19	19	19	19	19	19	19	-	-
	0.5	110	130	160	-	-	-	-	-	-	14	14	14	14	14
75	3/5	180	215	250	28	28	28	-	-	-	-	-	-	-	-
	1.5/2	130	165	200	24	24	24	24	24	24	24	-	-	-	-
	1	130	165	200	-	-	-	19	19	19	19	19	19	19	19
	0.5	110	130	160	-	-	-	-	-	-	-	14	14	14	14
90	3/5	180	215	250	28	28	28	28	28	28	-	-	-	-	-
	1.5/2	130	165	200	24	24	24	24	24	24	24	24	24	24	-
	1	130	165	200	-	-	-	-	-	-	-	19	19	19	19
110	7.5/10	230	265	300	38	38	38	38	-	-	-	-	-	-	-
	3/5	180	215	250	28	28	28	28	28	28	28	28	28	-	-
	1.5/2	130	165	200	-	-	-	-	24	24	24	24	24	24	24
	1	130	165	200	-	-	-	-	-	-	-	-	-	19	19
130	7.5/10	230	265	300	38	38	38	38	38	38	38	-	-	-	-
	3/5	180	215	250	-	-	-	-	28	28	28	28	28	28	28
	1.5/2	130	165	200	-	-	-	-	-	-	-	-	-	24	24
150	15/20	250	300	350	42	42	42	42	-	-	-	-	-	-	-
	7.5/10	230	265	300	-	-	-	38	38	38	38	38	-	-	-
	3/5	180	215	250	-	-	-	-	-	-	-	28	28	28	28

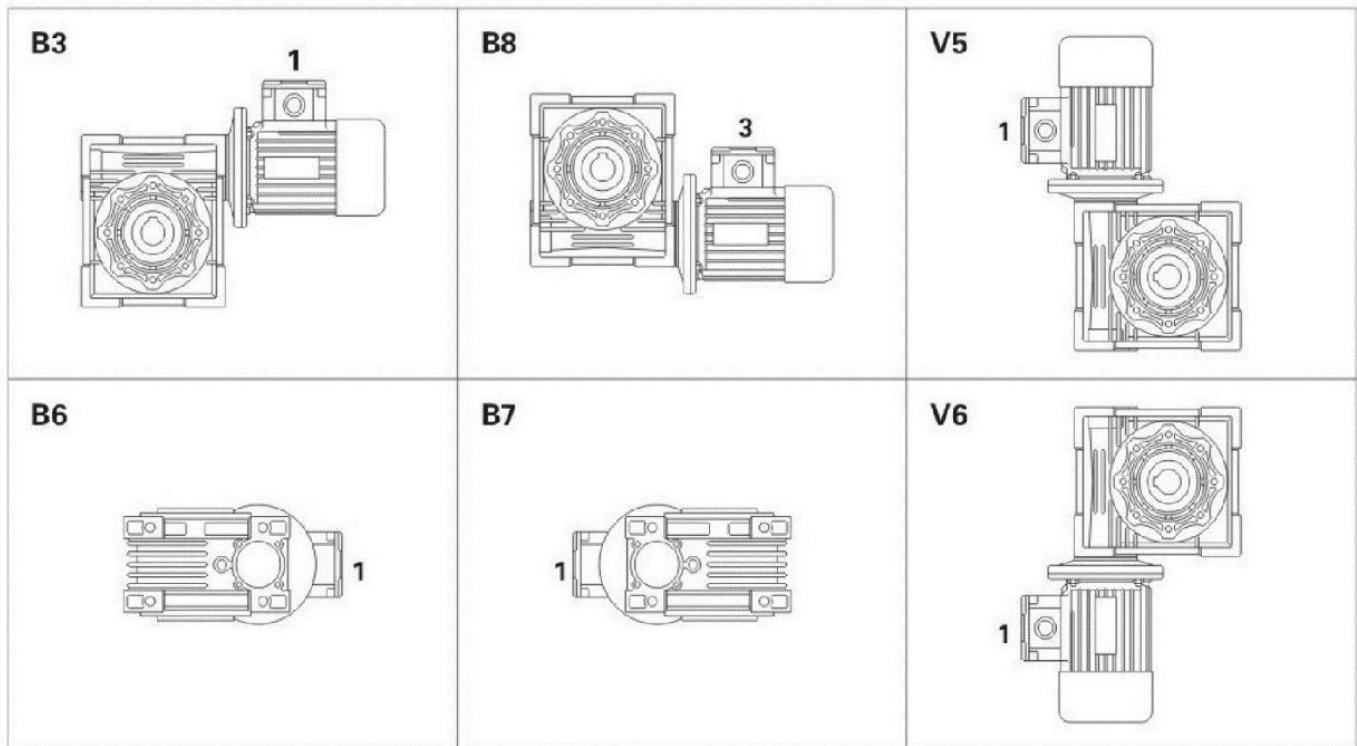
## Selection guide

Gearbox Size	Ratio	O/P RPM	O/P Torque	HP
Box 40	7.5	192	16	0.5
	10	144	20	
	15	96	28	
	20	72	39	
	30	48	23	
	40	36	53	0.25
	50	29	44	
	60	24	39	
	80	18	36	0.17
	100	15	34	
Box 50	7.5	192	34	1
	10	144	42	
	15	96	58	
	20	72	73	
	30	48	81	
	40	36	76	0.5
	50	29	75	
	60	24	74	
	80	18	72	0.25
	100	15	60	
Box 63	7.5	192	64	1
	10	144	89	
	15	96	93	
	20	72	122	
	30	48	114	
	40	36	143	
	50	29	124	
	60	24	140	
	80	18	122	
	100	15	118	0.5

Box 75	7.5	192	180	3
	10	144	191	
	15	96	216	
	20	72	233	
	30	48	245	2
	40	36	180	
	50	29	210	
	60	24	246	
	80	18	220	1
	100	15	210	
Box 90	7.5	192	182	5
	10	144	236	
	15	96	342	
	20	72	344	
	30	48	479	3
	40	36	390	
	50	29	368	2
	60	24	365	
	80	18	350	
	100	15	338	
Box 110	7.5	192	345	10
	10	144	334	
	15	96	484	7.5/5/3
	20	72	638	
	30	48	647	
	40	36	468	3
	50	29	563	
	60	24	648	
	80	18	548	
	100	15	473	3/2
Box 130	7.5	192	349	10/7.5
	10	144	455	
	15	96	668	
	20	72	880	
	30	48	1228	
	40	36	1596	
	50	29	1023	
	60	24	1179	
	80	18	816	
	100	15	932	3

Box 150	7.5	192	424	15
	10	144	675	
	15	96	990	
	20	72	1291	
	30	48	1563	7.5/10/12.5
	40	36	1958	
	50	29	1426	
	60	24	1643	

### Different mounting positions



### Kilo Gram & Oil Capacity

Size	40	50	63	75	90	110	130
Ltr	0.08	0.15	0.3	0.55	1	3	4.5
Size	40	50	63	75	90	110	130
Weight	2.3	3.5	6.2	9	13	35	48



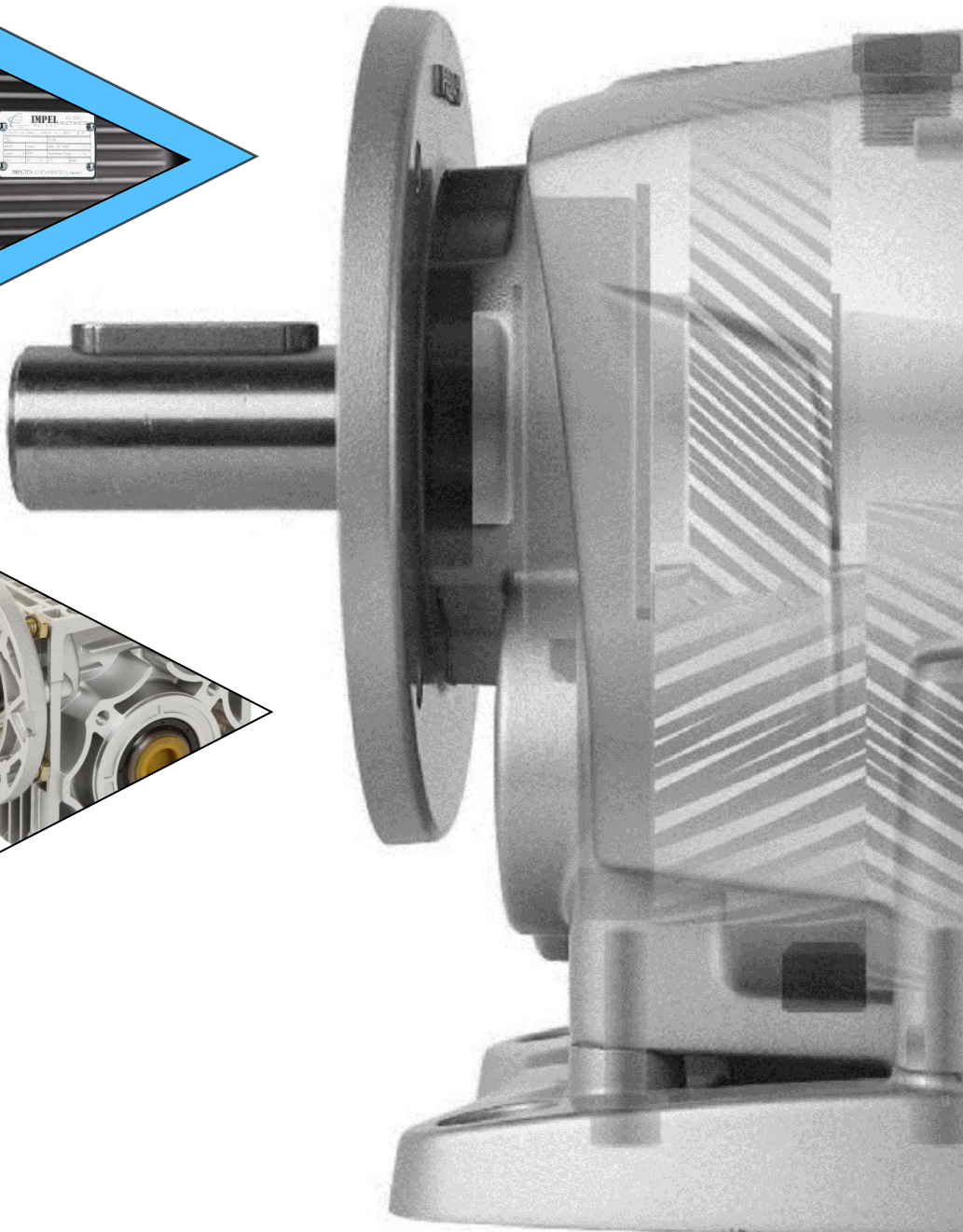
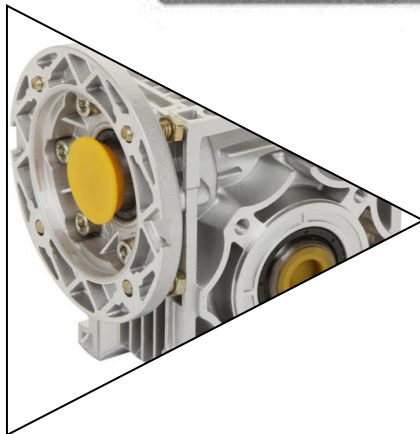
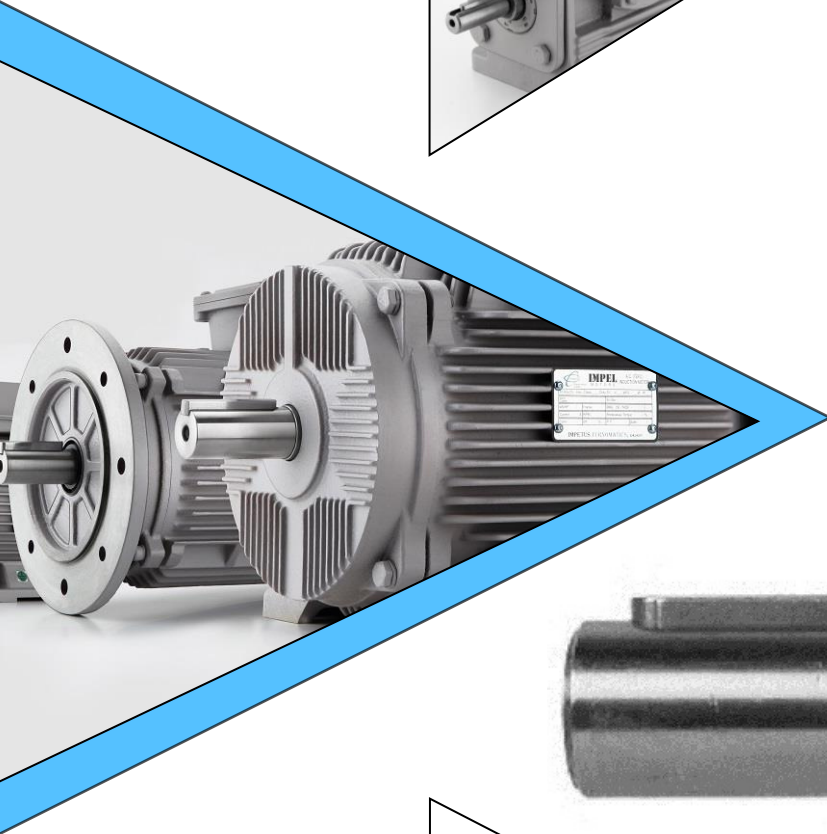
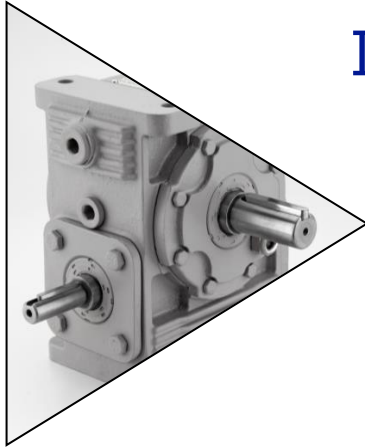
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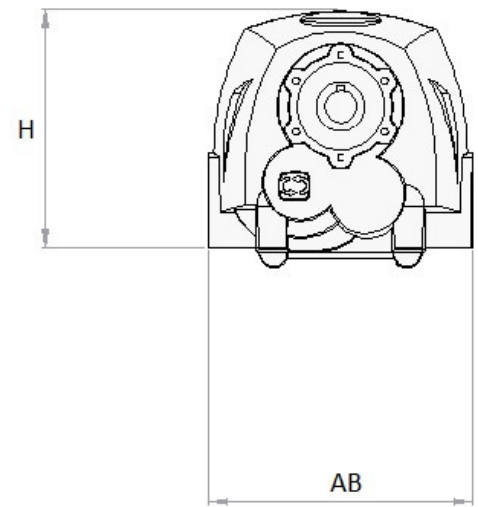
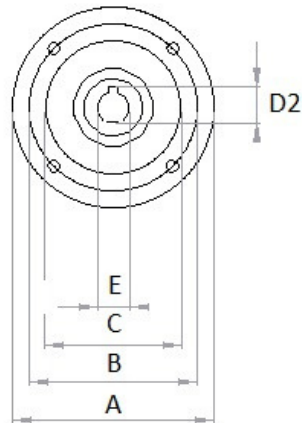
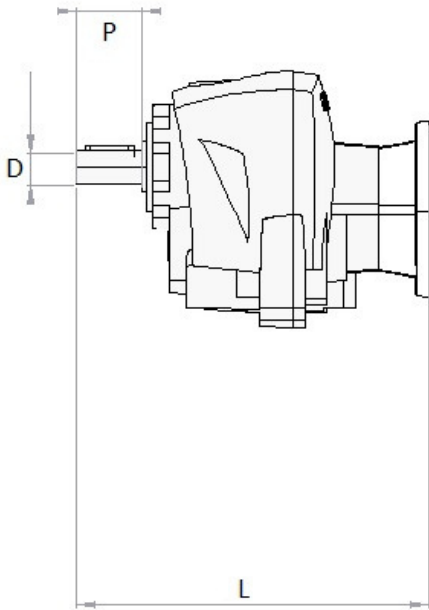
## IN – LINE HELICAL

Speed Reducing Gearbox





## DIMENSIONS & SELECTION TABLE

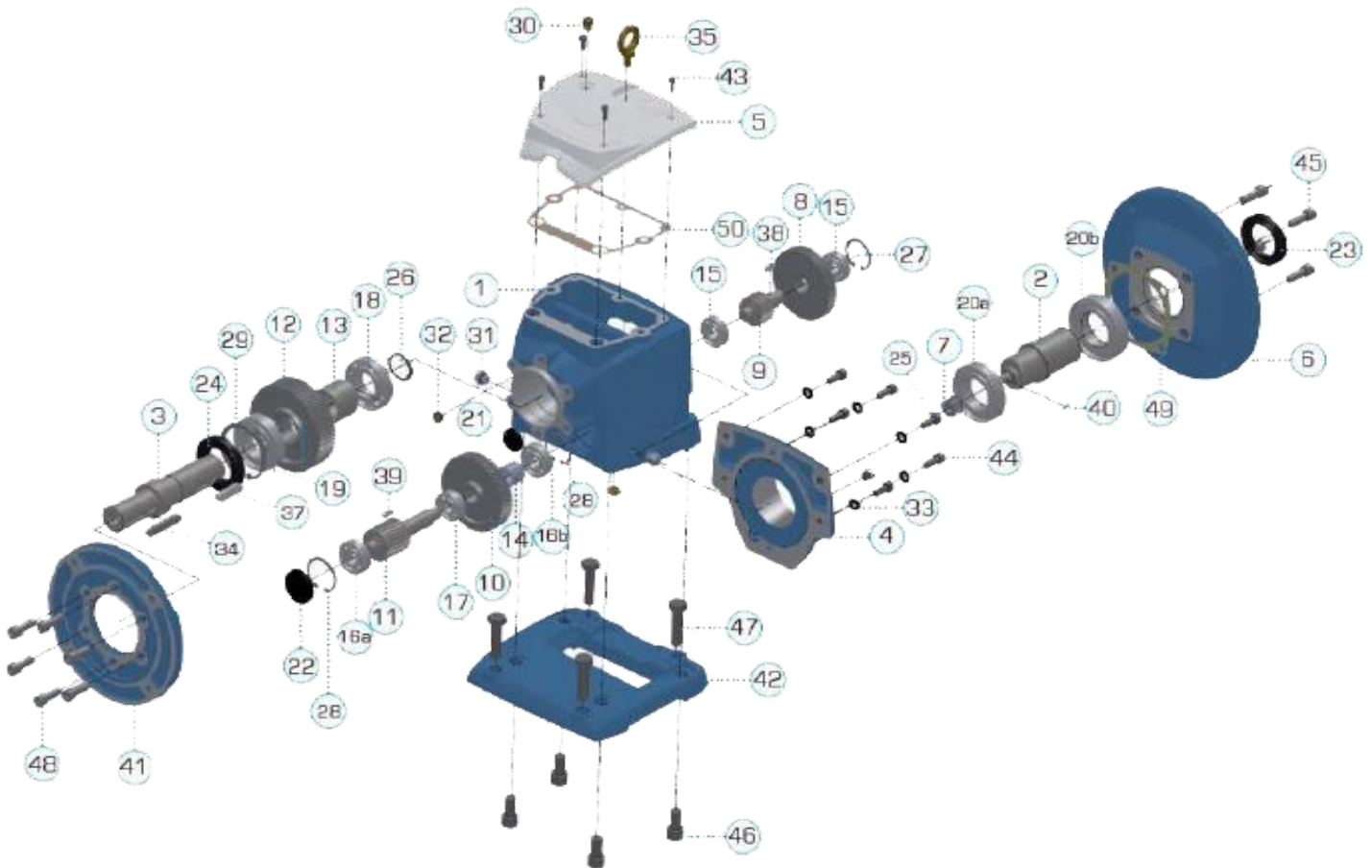


Series	I12	I21	I30	I60
L	231.5	244	326.6	367
P	40	50	60	70
D	20	25	30	35
A	120	200	200	250
B	100	165	165	215
C	80	130	130	180
E	14	19	24	28
D2	16	21.5	27.3	31.3
AB	160	160	205	230
H	162	193.6	238.6	264

## PREFACE

IMPEL IMH - Series Inline Helical Geared motors in Double/ Triple reduction models having motorized /solid inputs are intended to satisfy all the requirements of a reliable drive for slow-speed high-torque application. Standard range of IMPEL helical geared motors, available in foot-mounted and flange -mounted versions, offer un-parallel performance covering output speed graduated from 5 to 329 rpm with motor power rating ranging from 0.37 kW to 3.7 kW.

## ASSEMBLY DRAWING



1.	Housing	11.	Pinion	21.	Plug Seal	31.	Filler Plug	43.	Screw
2.	I/P Shaft	12.	Gear	22.	Plug Seal	32.	Level Plug	44.	Screw
3.	O/P Shaft	13.	Snap Ring	23.	Oil Seal	34.	Key	45.	Screw
4.	Input Cover	14.	Spacer	24.	Oil Seal	35.	Eye Bolt	48.	Screw
5.	Top Cover	15.	Bearing	25.	Snap Ring	36.	Gasket	49.	Gasket
6.	I/P Flange	16.	Bearing	26.	Snap Ring	37.	Key	50.	Gasket
7.	Pinion	17.	Bearing	27.	Snap Ring	38.	Key		
8.	Gear	18.	Bearing	28.	Snap Ring	39.	Key		
9.	Pinion	19.	Bearing	29.	Snap Ring	40.	Key		
10.	Gear	20.	Bearing	30.	Breather Plug	41.	O/P Flange		

# Ratio & Torque

## IMPEL I12 Model

Ratio	5	10	15	20	25	30	35	40	45	50	55	60	70	80	90	100
I12 With 4 Pole / 1440 RPM																
HP Frame TORQUE(NM)																
Speed	288	144	96	72	57	48	41	39	32	28	26	24	20	18	16	14
0.5	71	11.6	22.9	34.5	45.6	56.7	65	76	75	100	I21 Model				I30 Model	
1	80	23.4	46.4	70	92	I21 Model			I30 Model			I60 Model				

## IMPEL I21 Model

Ratio	5	10	15	20	25	30	35	40	45	50	55	60	70	80	90	100
I21 With 4 Pole / 1440 RPM																
HP Frame TORQUE(NM)																
Speed	288	144	96	72	57	48	41	39	32	28	26	24	20	18	16	14
0.5	71	I12 Model				107	124	130	151	170	I30 Model					
1	80	I12 Model		114	133	143	173	I30 Model			I60 Model					
1.5	90S	33	71	108	136	167	I30 Model		I60 Model		NA					
2	90L	45	97	147	I30 Model		I60 Model		NA							

## IMPEL I30 Model

Ratio	5	10	15	20	25	30	35	40	45	50	55	60	70	80	90	100
I30 With 4 Pole / 1440 RPM																
HP Frame TORQUE(NM)																
Speed	288	144	96	72	57	48	41	39	32	28	26	24	20	18	16	14
0.5	71	I12 Model		I21 Model						199		232				
1	80	I12 Model		I21 Model		210	218	245	265					I60 Model		
1.5	90S	I21 Model		197	229	254	I60 Model			NA						
2	90L	I21 Model		162	180	203	224	I60 Model			NA					
3	100L	79	139	199	I60 Model		NA									
5	112M	116	204	I60 Model		NA										

## IMPEL I60 Model

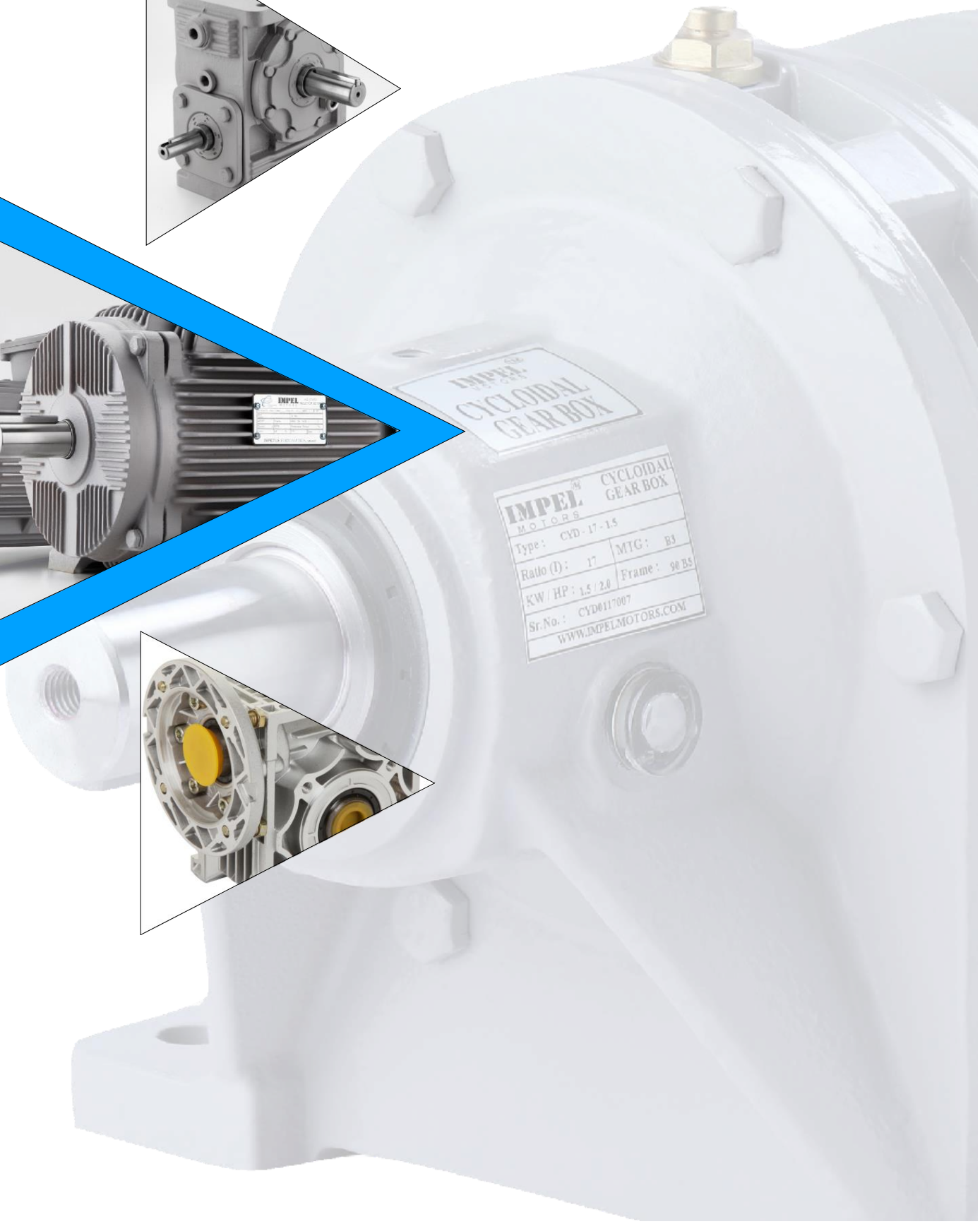
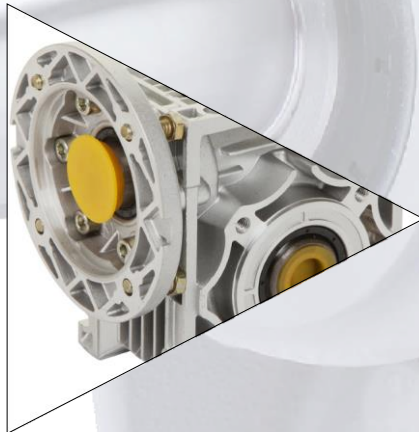
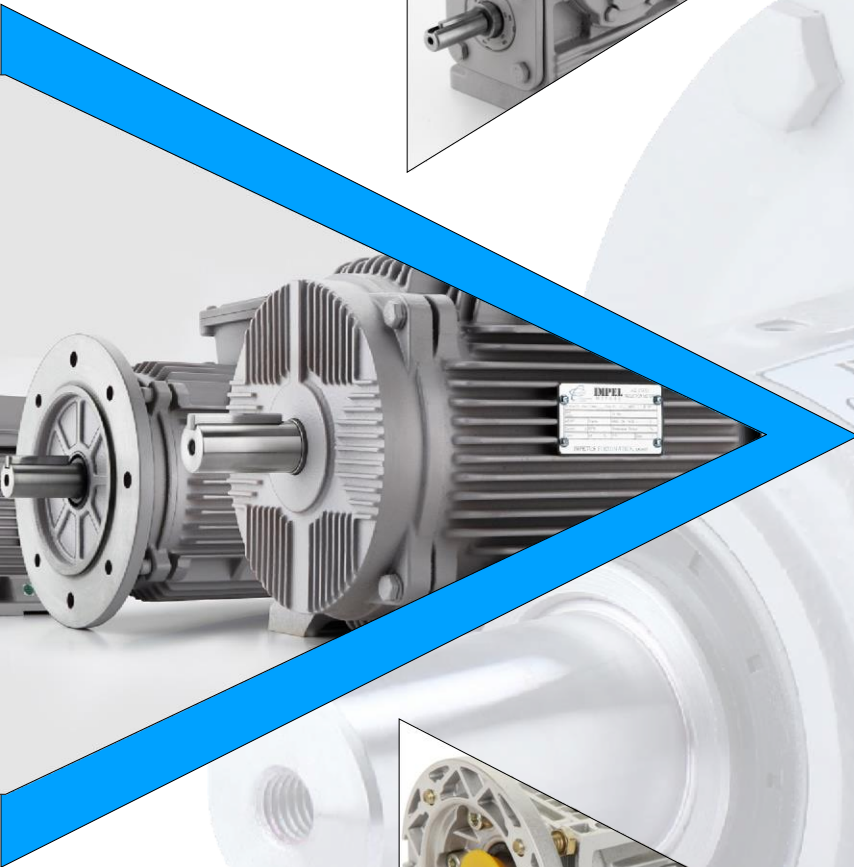
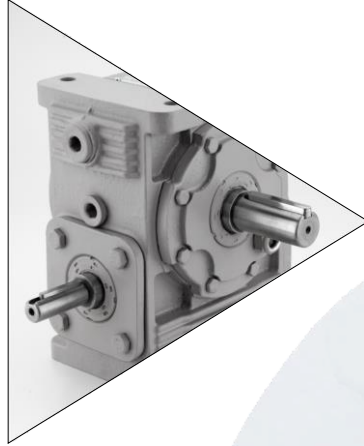
Ratio	5	10	15	20	25	30	35	40	45	50	55	60	70	80	90	100
I60 With 4 Pole / 1440 RPM																
HP Frame TORQUE (NM)																
Speed	288	144	96	72	57	48	41	39	32	28	26	24	20	18	16	14
1	80	I12 Model		I21 Model		I30 Model		302				352		374	436	
1.5	90S	I21 Model		I30 Model		298	330	360	283	443	516				NA	
2	90L	I21 Model		I30		266	302	364	407	448	491	523	NA			
3	100L	I30 Model		275	NA	390	443	NA								
5	132M	I30		288	346	432	NA									

# SELECTION TABLE

SELECTION TABLE						
HP	0.5	1	1.5	2	3	5
RATIO	MODELS					
5	I12	I12	I12 I21		I30	I30
10						I60
15						
20						
25				I21	I30	I60
30		I21				
35				I30	I60	NA
40						
45				I30	I60	
50						
55	I21			I60	NA	NA
60						
70		I60			NA	
80						
90						
100	I30			NA		

# CYCLOIDAL GEARBOX

Inline Speed Reducing Gearbox

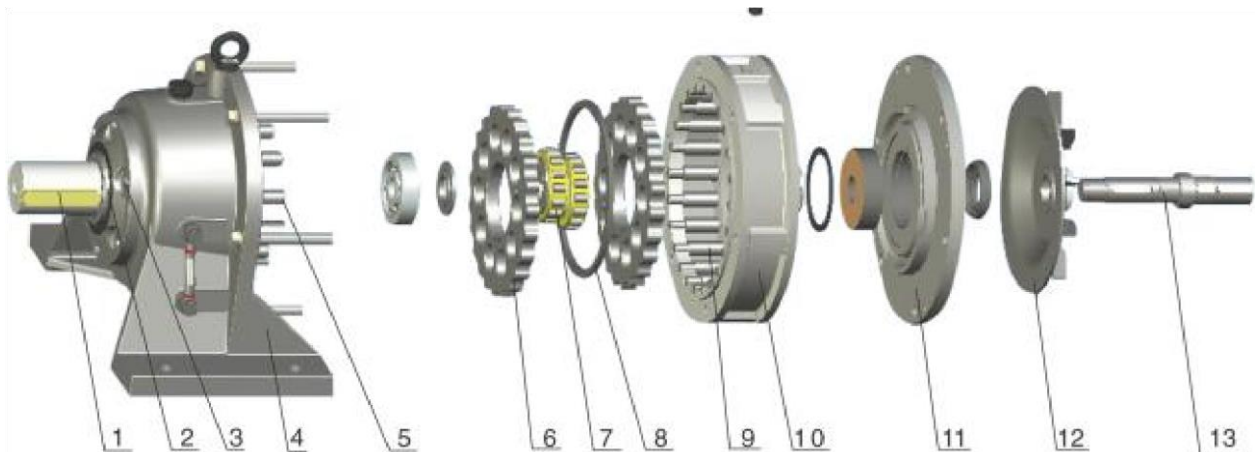




## PREFACE

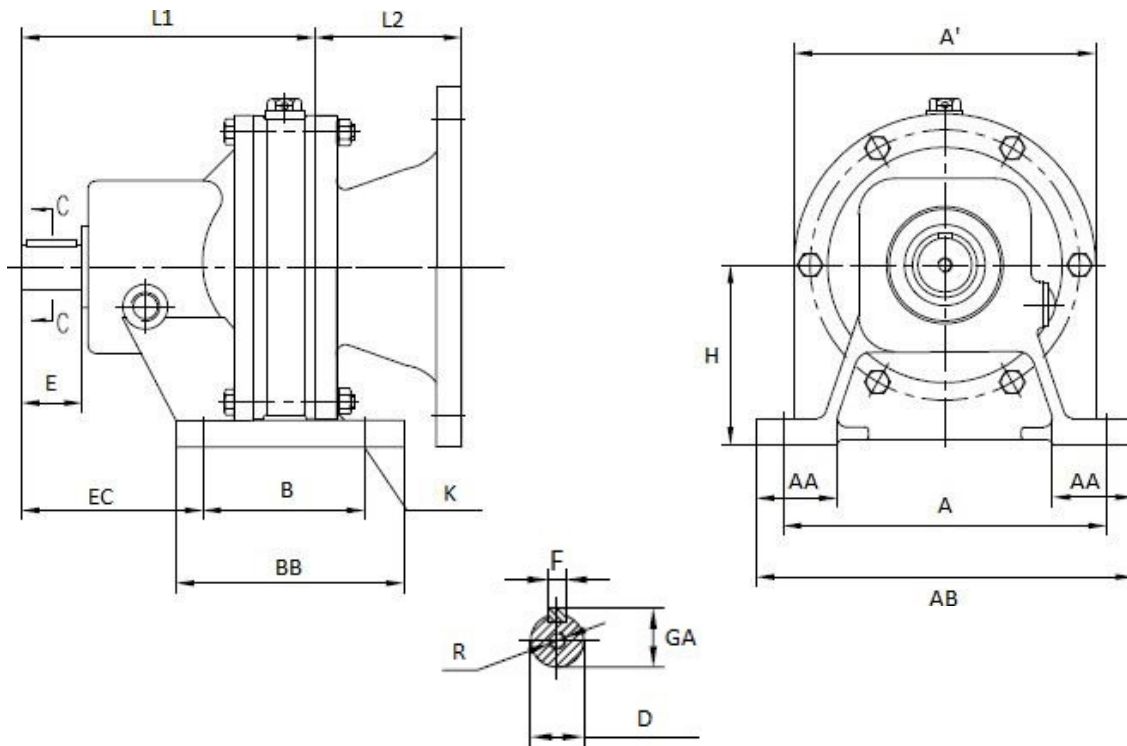
IMPEL cycloidal reducer, adopting the principle of planetary drive with small teeth difference as well as engagement of cycloid pin gear, is a kind of novelty transmission machinery and drive reducer widely used in the field of textile printing, light and food industry, metallurgy mine, petrochemical industry, lifting and transport, and engineering machinery and so on.

## ASSEMBLY DRAWING



- |                               |                      |                       |
|-------------------------------|----------------------|-----------------------|
| 1. output shaft               | 6. cycloidal wheel   | 10. shell of pin gear |
| 2. tight ring of output shaft | 7. eccentric bearing | 11. big end cap       |
| 3. small end cap              | 8. spacer ring       | 12. fan cover         |
| 4. engine base                | 9. set of pin gear   | 13. input shaft       |
| 5. pin bush of pin roll       |                      |                       |

# Dimensions



Series J0 J1				J2 J3							
	HP/	0.5/7	1/80	1/80	2/90L	3/100L	5/112M	7.5/132S	10/132M		
Mounting	1B5	B5	B5	B5		B5	B5	B5	B5		
L1	164	164	164	199		253	253	354	354		
E	33	33	33	56				70	70	110	110
EC	101	101	101	151		135	135	180	180		
B	90	90	90	100		180	180	220	220		
BB	127	127	127	150		230	230	280	280		
	K	4-D11	4-D11	4-D11	4-D16	4-D16	4-D16	4-D20	4-D20		
H	100	100	100	140		140	140	160	160		
A	180	180	180	250		285	285	350	350		
A'	168	168	168	200		240	240	300	300		
AB	210	210	210	290		335	335	410	410		
F	8	8	8	10		16	16	18	18		
R	M8	M8	M8	M10		M12	M12	M12	M12		
D	30	30	35	35		45	45	55	55		

## SELECTION TABLE: RATIO AND TORQUE

Model	J0			J1		J2		J3	
H.P.	0.5 HP	1 HP	1 HP	2 HP 3 HP		5 HP		7.5 HP	10 HP
Ratio	TORQUE								
11	26 NM	53 NM	53 NM	109 NM 160 NM		270 NM		401 NM	547 NM
17	42 NM	84 NM	84 NM	170 NM 238 NM		417 NM		620 NM	845 NM
23	114 NM	114 NM	101 NM	228 NM 335 NM		564 NM		838 NM	1143 NM
29	71 NM	144 NM	144 NM	288 NM 423 NM		711 NM		1057 NM	1442 NM
43	105 NM	213 NM	213 NM	427 NM 627 NM		1054 NM		1567 NM	2137 NM
59	144 NM	293 NM	293 NM	586 NM 860 NM		1446 NM		2150 NM	2932 NM

