



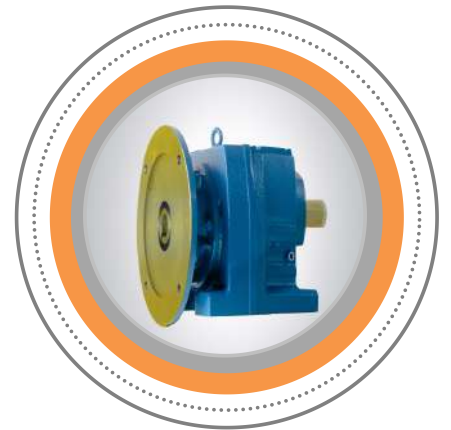
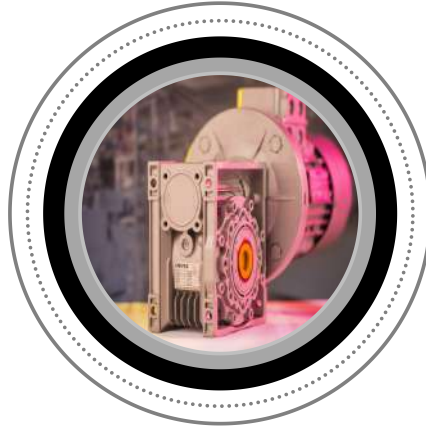
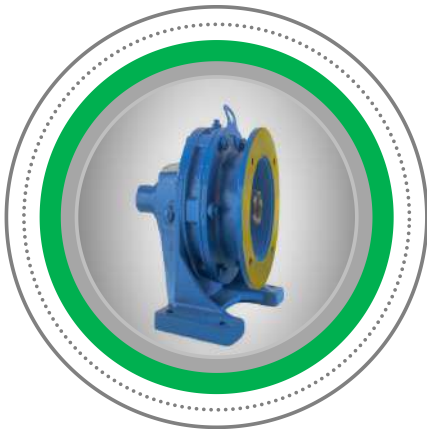
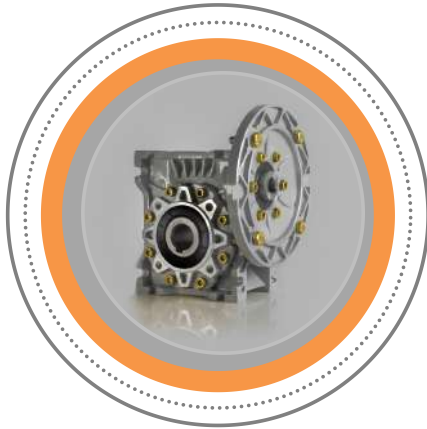
Shared value in action...

**IMPETUS PROLIFIC**  
PVT. LTD.

**IMPEL**<sup>®</sup>  
MOTORS *Shared value in action...*

# IM – Series Gearbox

Low RPM with High Efficiency



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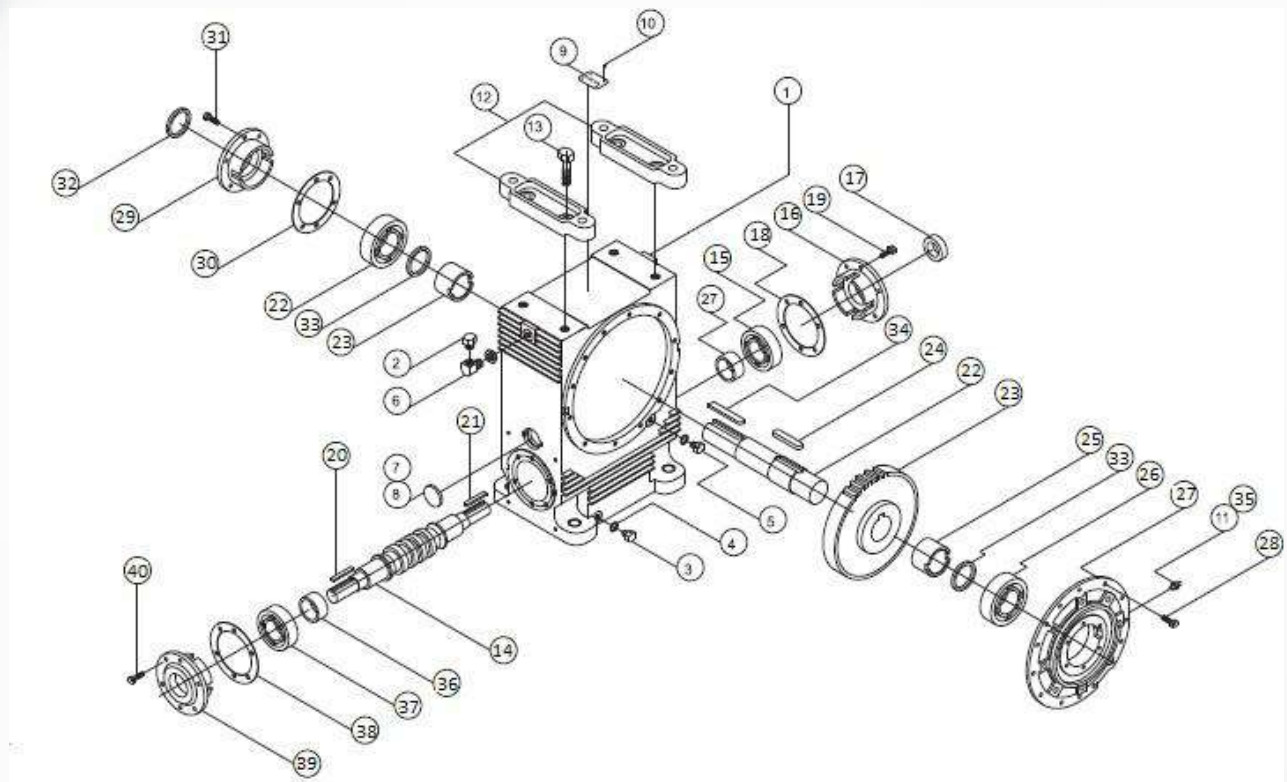
**NU – TYPE WORM (CI)**  
**Speed Reducing Gearbox**



## PREFACE

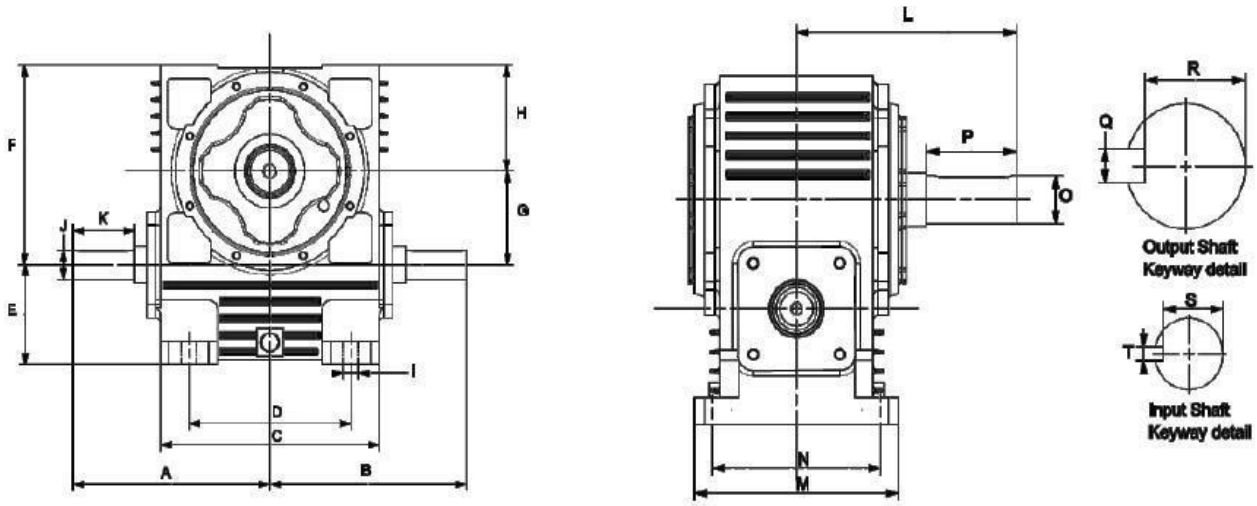
All types of industries are invariably required to install different types of electric motors as prime mover for driving process equipment participating in their respective production line up. The continuous process of technical development has resulted into availability of highly diversified types of electric motors. Having mastered the art of providing quality products, **IMPETUS PROLIFIC PVT. LTD.** proudly introduces **TEFC ENERGY EFFICIENT INDUCITION 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 Had 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.**

## SELECTION TABLE

### INPUT RPM 1500

Size	Ratio	Motor Selection	Size	Ratio	Motor Selection
2"	10:1	1hp	3"	10:1	1.5/2hp
	15:1			15:1	
	20:1			20:1	
	30:1			30:1	
	40:1	0.5hp		40:1	1hp
	50:1			50:1	
	60:1			60:1	
4"	10:1	3hp	5"	10:1	5hp
	15:1			15:1	
	20:1			20:1	
	30:1			30:1	
	40:1	2hp		40:1	3hp
	50:1			50:1	
	60:1			60:1	
6"	10:1	7.5hp	8"	10:1	10hp
	15:1			15:1	
	20:1			20:1	
	30:1			30:1	
	40:1	5hp		40:1	7.5hp
	50:1			50:1	
	60:1			60:1	

### 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

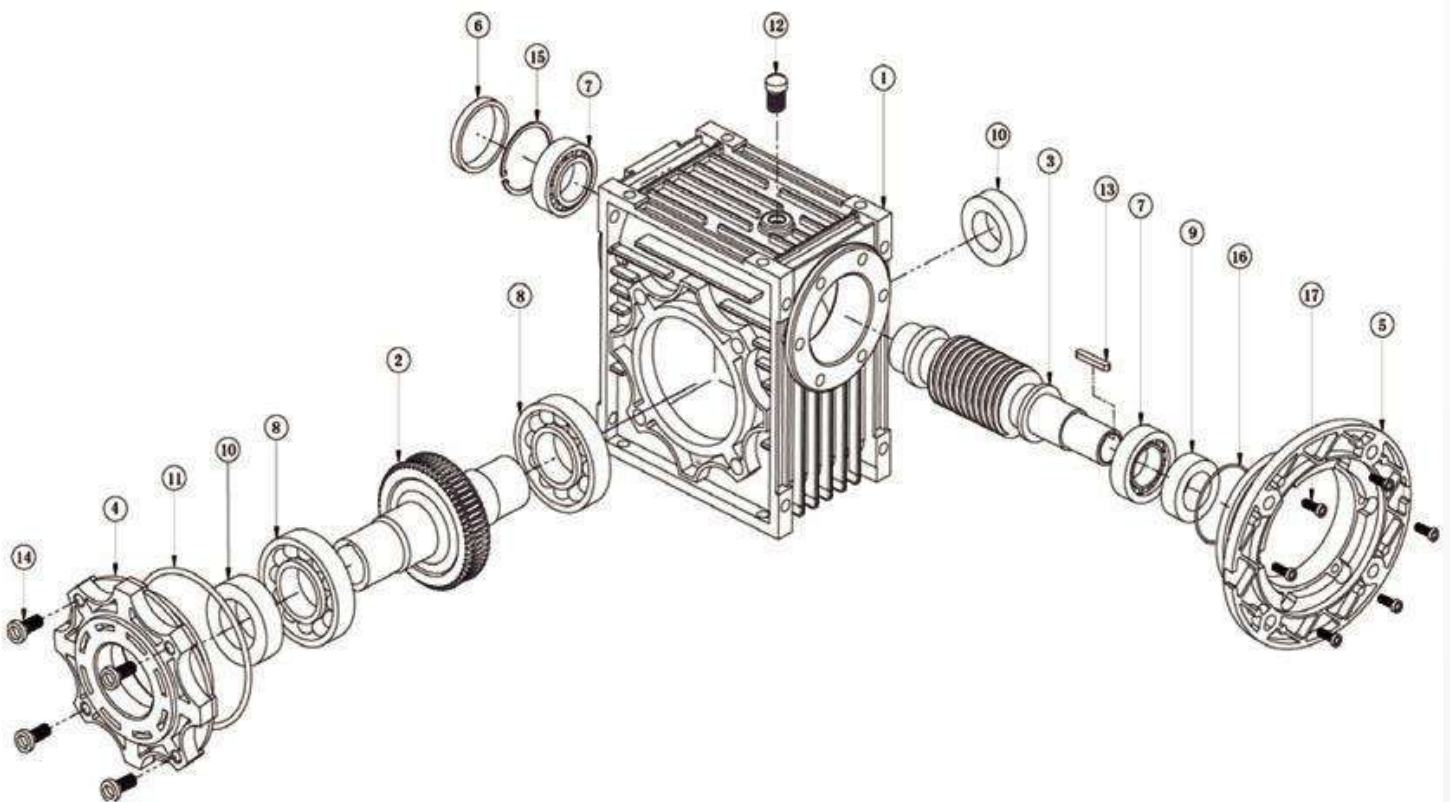
## NMRV TYPE WORM (AL) Speed Reducing Gearbox



## PREFACE

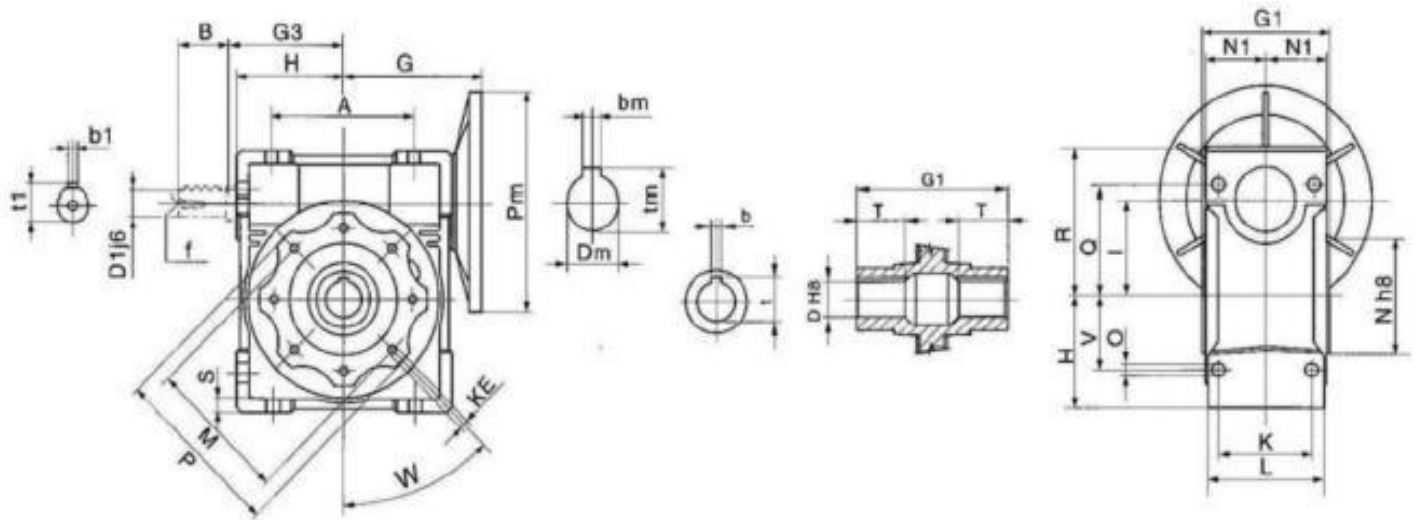
One-piece gear case, with external ribs, is made of close-grained cast iron and provides for rigid gear and bearing support. It also offers excellent heat dissipation. Double lip, spring-loaded seals guard against oil leakage and prevent dirt from entering. Stepped shafts with oversized ball and tapered 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



1.	Frame	10.	Oil Seal
2.	Worm Wheel	11.	O-ring
3.	Worm Shaft	12.	Oil Plug
4.	O/P Shaft Cover	13.	Key
5.	Flange	14.	Key Screw
6.	Seal Cover	15.	Snap Ring
7.	Bearing	16.	O-ring
8.	Bearing	17.	Hex Screw
9.	Oil Seal		

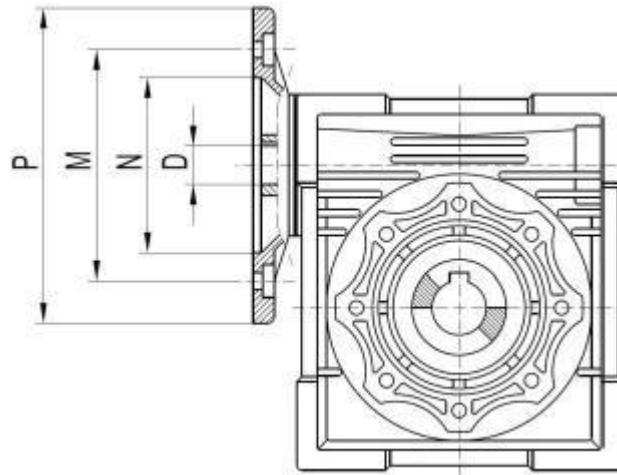
## DIMENSIONS



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



## Input flange and shaft:

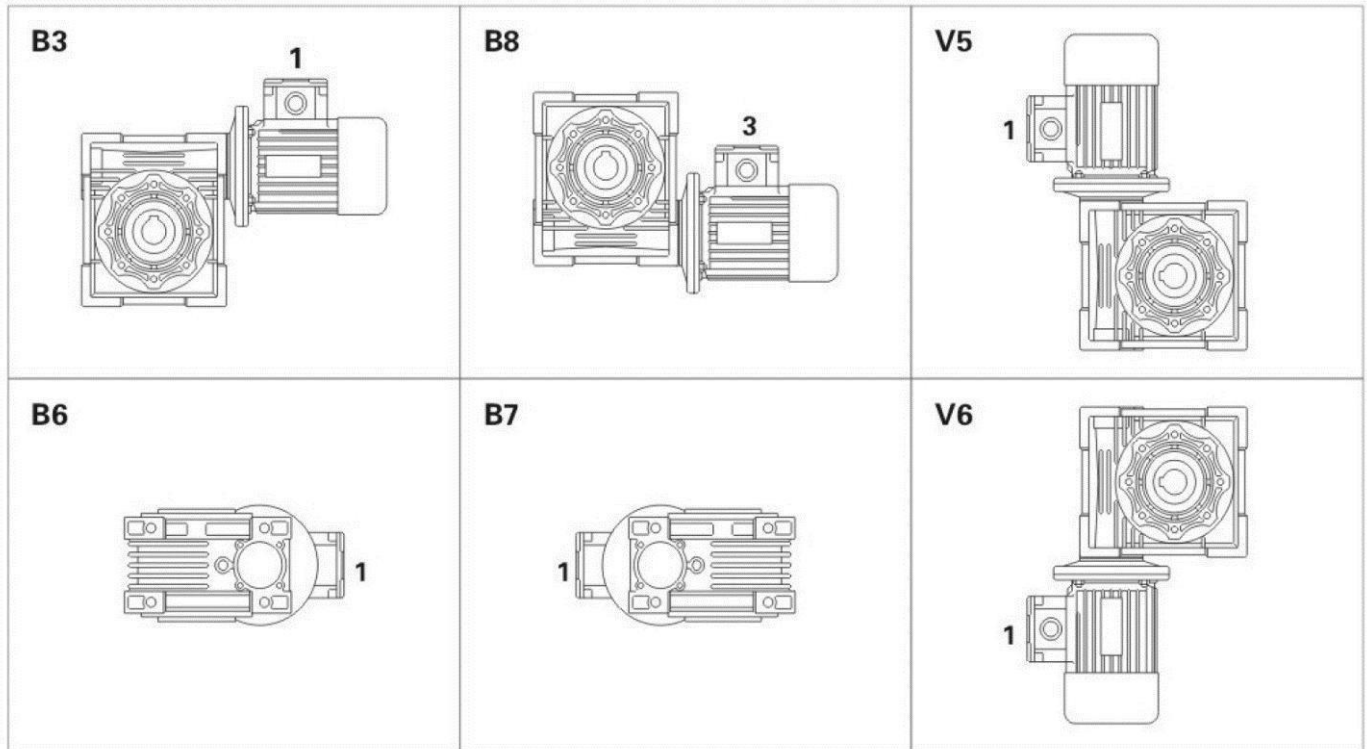


Box	HP	N	M	P	D										
					7.5	10	15	20	25	30	40	50	60	80	100
40	0.5	110	130	160	14	14	14	14	14	14	14	-	-	-	-
	0.25	95	115	140	11	11	11	11	11	11	11	11	11	11	11
	0.17	80	100	120	-	-	-	-	-	-	-	9	9	9	9
50	1	130	165	200	19	19	19	19	19	19	-	-	-	-	-
	0.5	110	130	160	14	14	14	14	14	14	14	14	14	14	-
	0.25	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
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

Size	Ratio	Motor Selection	Size	Ratio	Motor Selection
40mm	7.5:1	0.25hp 4p	50mm	7.5:1	0.5hp 4p
	10:1			10:1	
	15:1			15:1	
	20:1			20:1	
	25:1			25:1	
	30:1			30:1	
	40:1	0.17hp 4p		40:1	0.25hp 4p
	50:1			50:1	
	60:1			60:1	
	80:1			80:1	
100:1		100:1			
63mm	7.5:1	1hp 4p	75mm	7.5:1	2hp 4p / 1.5hp 4p
	10:1			10:1	
	15:1			15:1	
	20:1			20:1	
	25:1			25:1	
	30:1			30:1	
	40:1	0.5hp 4p		40:1	1hp 4p
	50:1			50:1	
	60:1			60:1	
	80:1			80:1	
100:1		100:1			
90mm	7.5:1	3hp 4p	110mm	7.5:1	5hp 4p
	10:1			10:1	
	15:1			15:1	
	20:1			20:1	
	25:1			25:1	
	30:1			30:1	
	40:1	2hp 4p / 1.5hp 4p		40:1	3hp 4p
	50:1			50:1	
	60:1			60:1	
	80:1			80:1	
100:1		100:1			
130mm	7.5:1	7.5hp 4p / 10hp 4p	150mm	7.5:1	15hp 4p
	10:1			10:1	
	15:1			15:1	
	20:1			20:1	
	25:1			25:1	
	30:1			30:1	
	40:1	5hp 4p		40:1	7.5hp 4p / 10hp 4p
	50:1			50:1	
	60:1			60:1	
	80:1			80:1	
100:1		100:1			

## Different mounting positions



## Kilo Gram & Oil Capacity

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

**IN – LINE HELICAL &  
CYCLOIDAL  
Speed Reducing Gearbox**

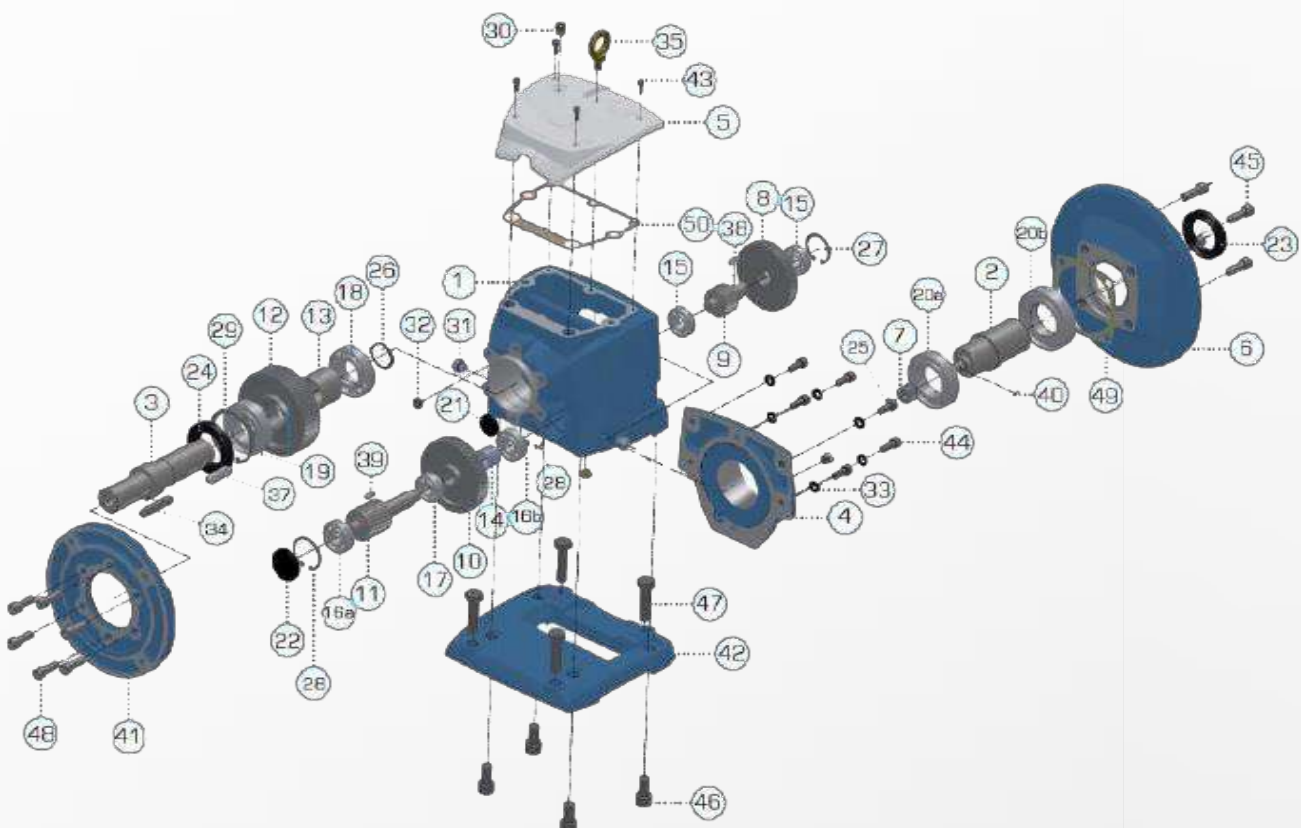


## PREFACE

IMPEL ITH - 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 ratings 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		



## SELECTION TABLE

ITH-102	
Ratio	HP
6:1	0.5 / 1
11:1	0.5 / 1
14:1	0.5 / 1
18:1	0.5 / 1
26:1	0.5
30:1	0.5
36:1	0.5

ITH-128	
Ratio	HP
6:1	0.5 / 1 / 1.5 / 2
11:1	0.5 / 1 / 1.5 / 2
14:1	0.5 / 1 / 1.5 / 2
19:1	0.5 / 1 / 1.5 / 2
22:1	0.5 / 1 / 1.5 / 2
26:1	0.5 / 1
34:1	0.5 / 1
45:1	0.5 / 1

ITH-162	
Ratio	HP
11:1	1.5 / 2 / 3 / 5
14:1	1.5 / 2 / 3 / 5
19:1	1.5 / 2 / 3 / 5
24:1	1.5 / 2 / 3
28:1	1.5 / 2 / 3
34:1	1.5 / 2 / 3
45:1	1.5 / 2 / 3
55:1	1.5 / 2

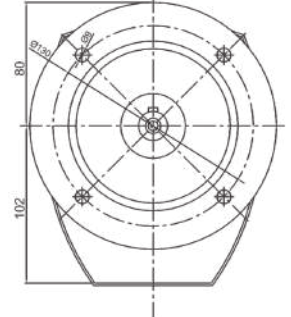
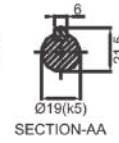
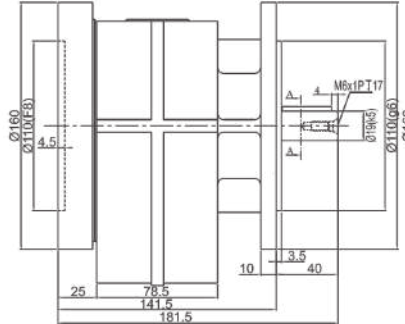
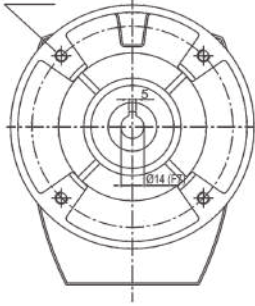
ITH-142	
Ratio	HP
6:1	1 / 1.5 / 2 / 3
11:1	1 / 1.5 / 2 / 3
15:1	1 / 1.5 / 2
19:1	1 / 1.5 / 2
22:1	1 / 1.5 / 2
26:1	1 / 1.5 / 2
36:1	1 / 1.5 / 2
45:1	1 / 1.5
54:1	1

ITH-182	
Ratio	HP
6:1	3 / 5 / 7.5
10:1	3 / 5 / 7.5
15:1	3 / 5 / 7.5
19:1	3 / 5 / 7.5
24:1	3 / 5
28:1	3 / 5
32:1	3 / 5

# DIMENSIONS

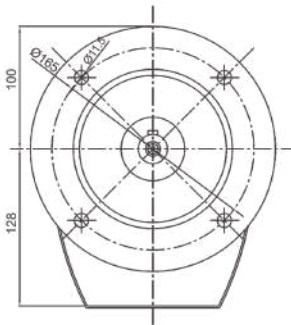
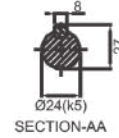
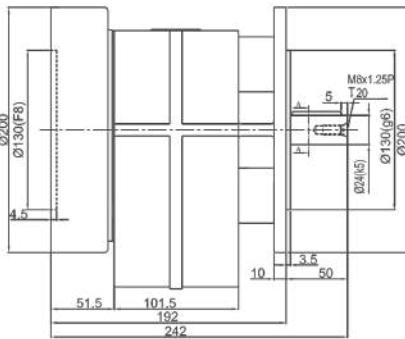
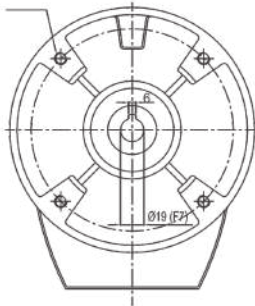
4 Holes of M8 x 1.25 P x 18 Deep  
 Equispaced on 130±0.1 PCD  
 for motor mounting

**ITH 102**



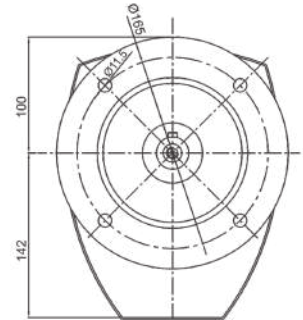
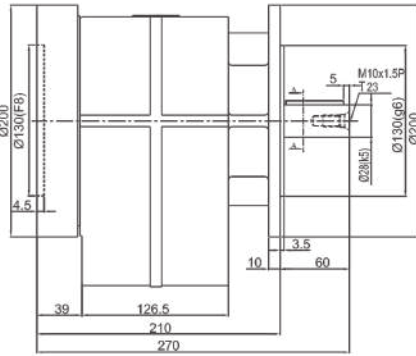
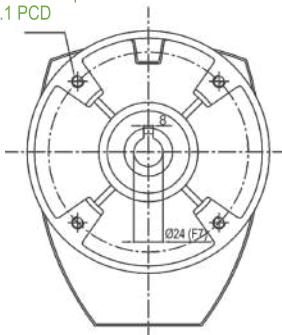
4 Holes of M10 x 1.5 P x 21 Deep  
 Equispaced on 165±0.1 PCD  
 for motor mounting

**ITH 128**



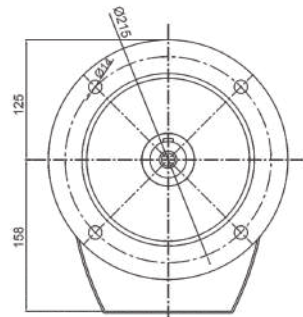
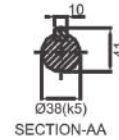
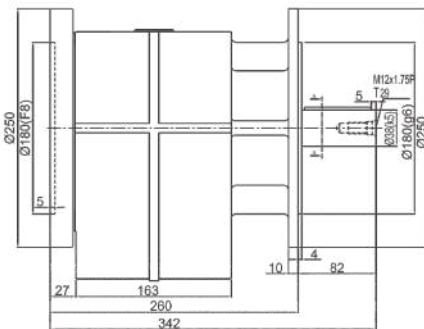
4 Holes of M10 x 1.5 P x 21 Deep  
 Equispaced on 165±0.1 PCD  
 for motor mounting

**ITH 142**



4 Holes of M12 x 1.75 P x 15 Deep  
 Equispaced on 215±0.1 PCD  
 for Motor Mounting

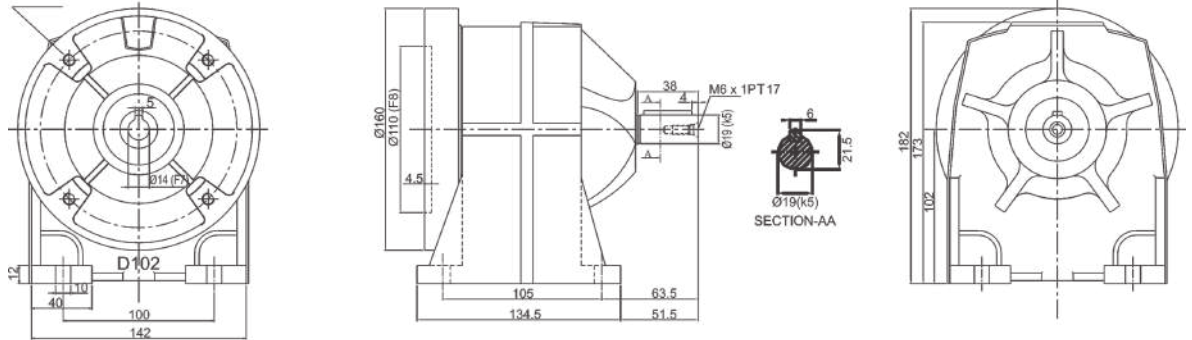
**ITH 162**



## DIMENSIONS

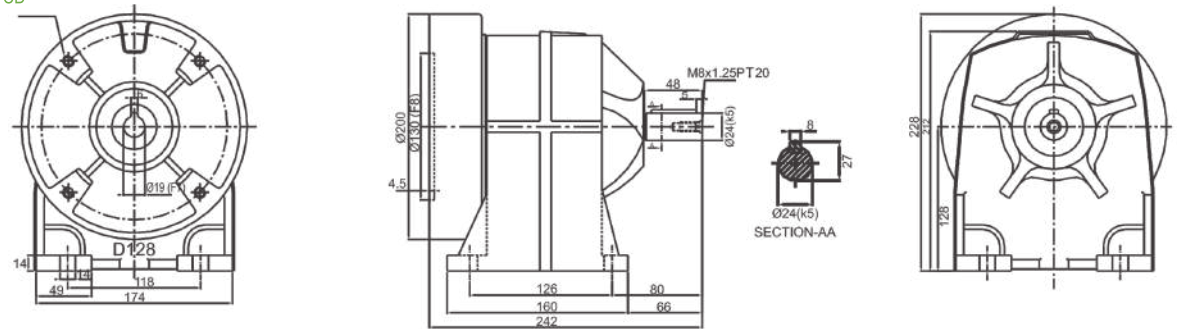
4 Holes of M8 x 1.25 P x 18 Deep  
 Equispaced on 130±0.1 PCD  
 for motor mounting

**ITH 102**



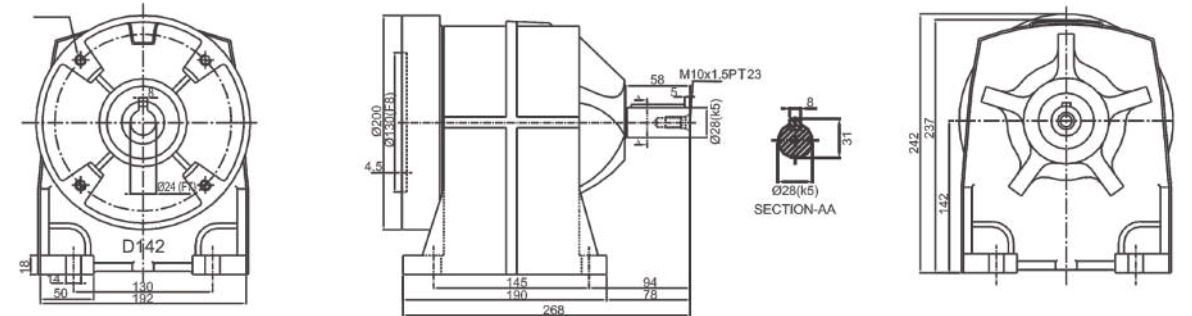
4 Holes of M10 x 1.5 P x 21 Deep  
 Equispaced on 165 ± 01 PCD  
 for Motor Mounting

**ITH 128**



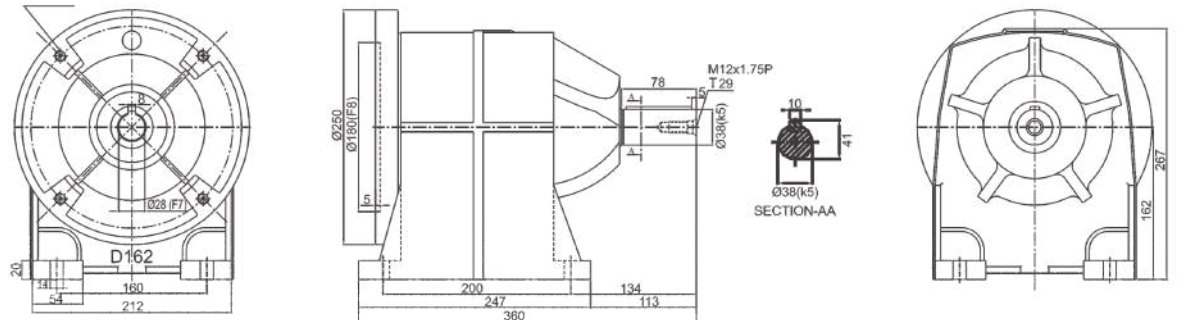
4 Holes of M10x1.5 Px21 Deep  
 Equispaced on 165±0.1 PCD  
 for Motor Mounting

**ITH 142**



4 Holes of M12x1.75 Px15 Deep  
 Equispaced on 215±0.1 PCD  
 for Motor Mounting

**ITH 162**

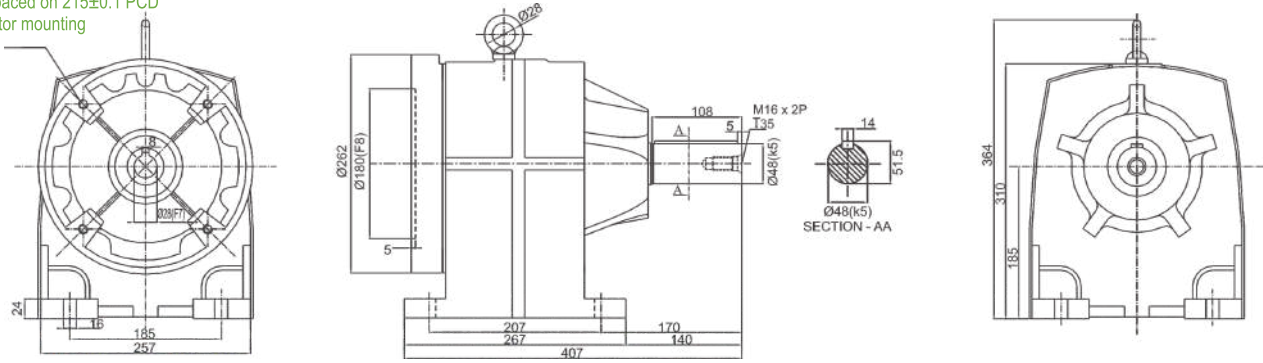




## DIMENSIONS

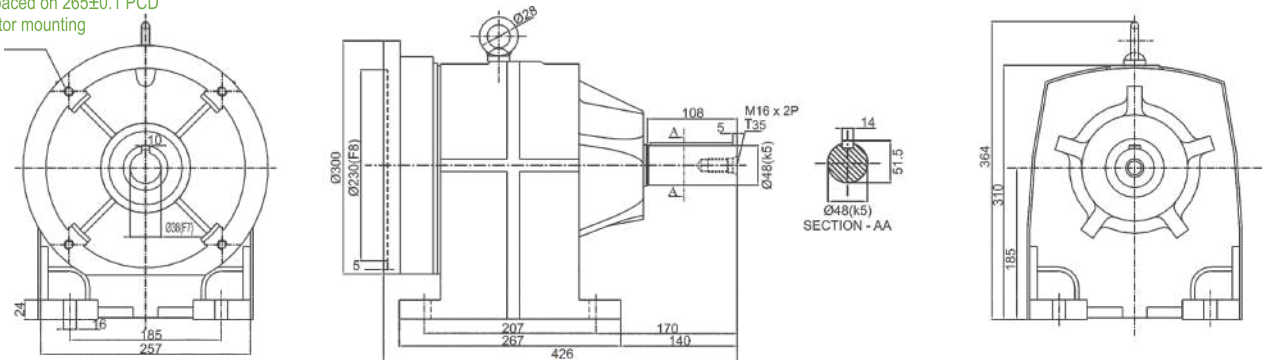
### INPUT POWER 4 kW

4 Holes of M12 x 1.75 P x 14 Deep  
 Equispaced on 215±0.1 PCD  
 for motor mounting

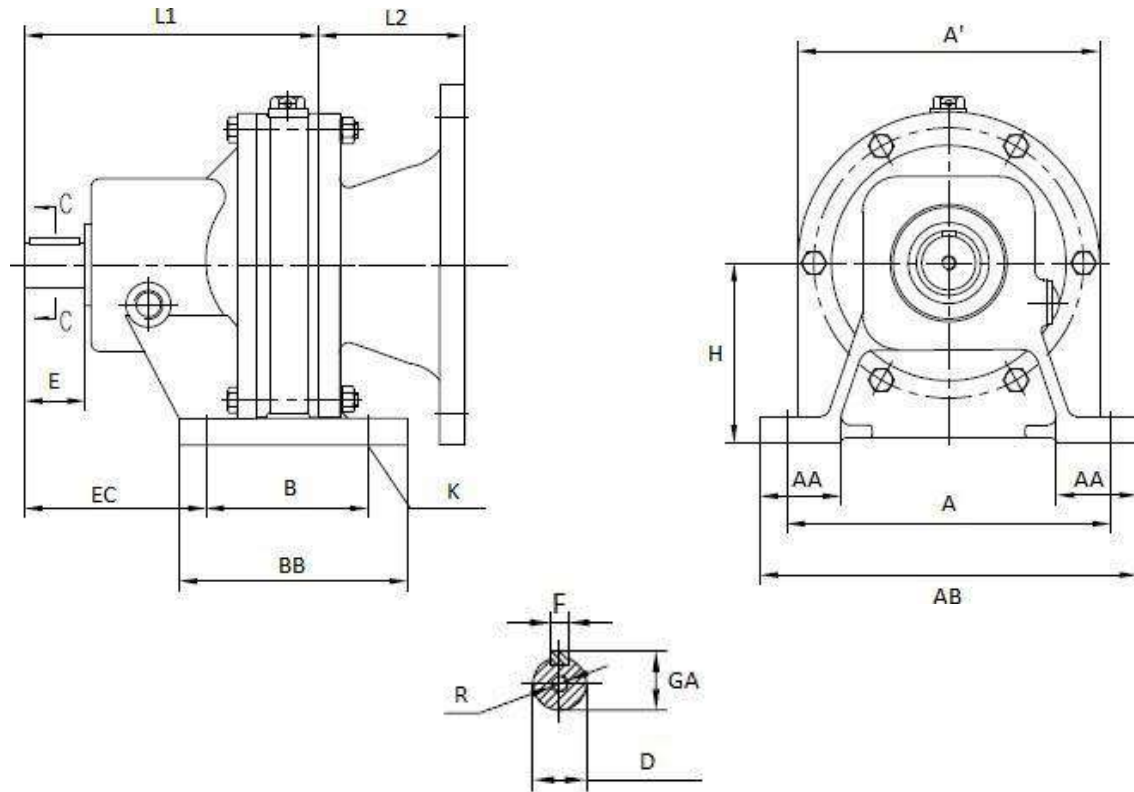


### INPUT POWER 5.5 kW

4 Holes of M12 x 1.75 P x 25 Deep  
 Equispaced on 265±0.1 PCD  
 for motor mounting



## DIMENSIONS

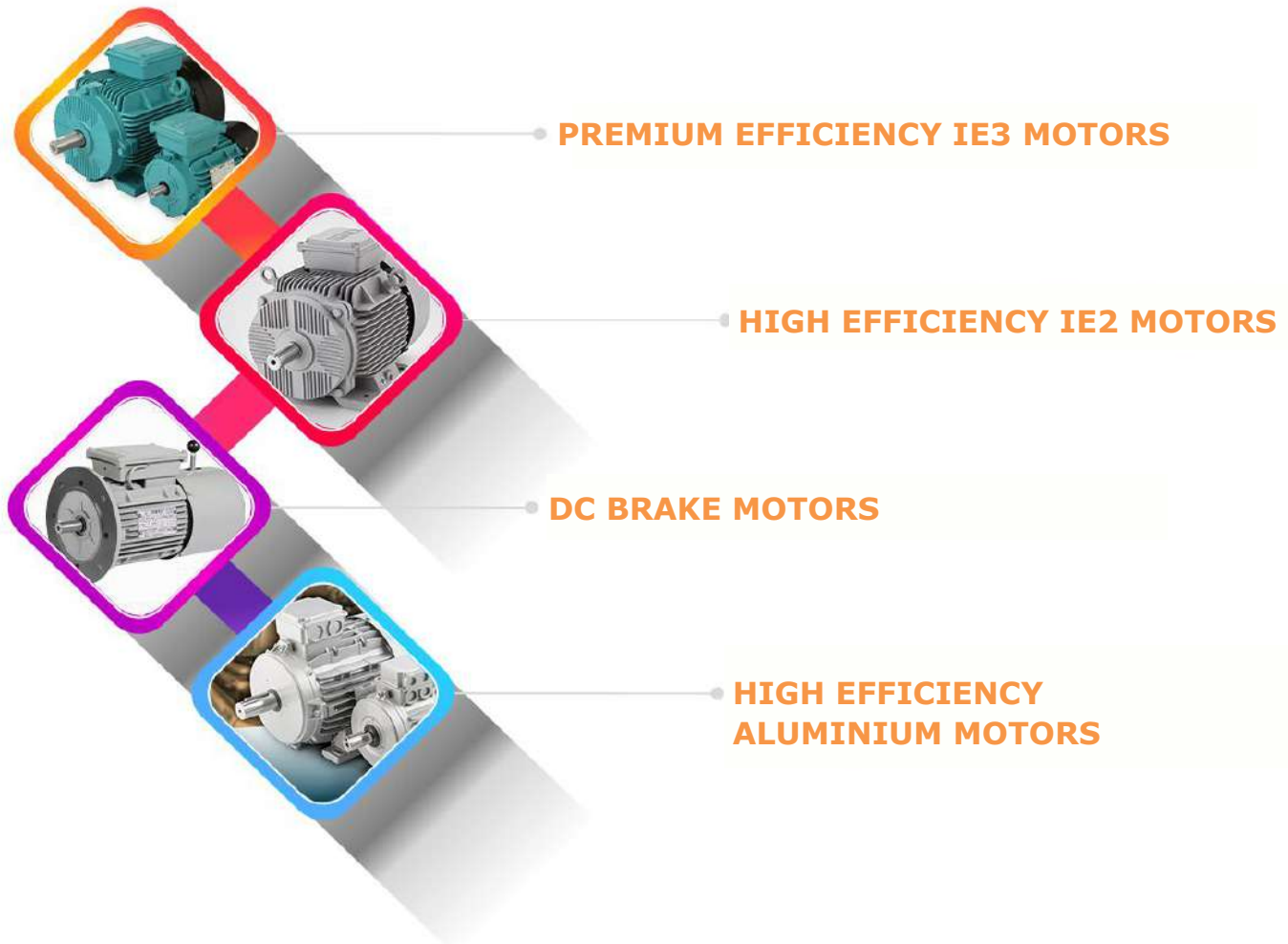


Series	J0		J1		J2		J3	
<b>HP/ Mounting</b>	0.5/7 1B5	1/80 B5	1/80 B5	2/90L B5	3/100L B5	5/112M B5	7.5/132S B5	10/132M B5
<b>L1</b>	164	164	164	199	253	253	354	354
<b>E</b>	33	33	33	56	70	70	110	110
<b>EC</b>	101	101	101	151	135	135	180	180
<b>B</b>	90	90	90	100	180	180	220	220
<b>BB</b>	127	127	127	150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

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*Shared value in action...*

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