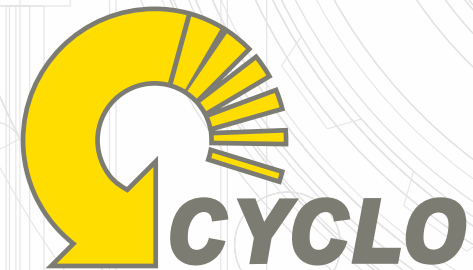


# PX SERIES PLANETARY GEARBOX



Cyclo Transmission Ltd. is a 100% owned subsidiary of  
**Rotomotive Powerdrives India Ltd.**



## OUR MANUFACTURING FACILITIES



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Gearbox machining



Assembly Line



Testing Line



Hardness Testing



CMM for mechanical inspection



Shop Floor

# FEATURES

FLANGE MOUNTING



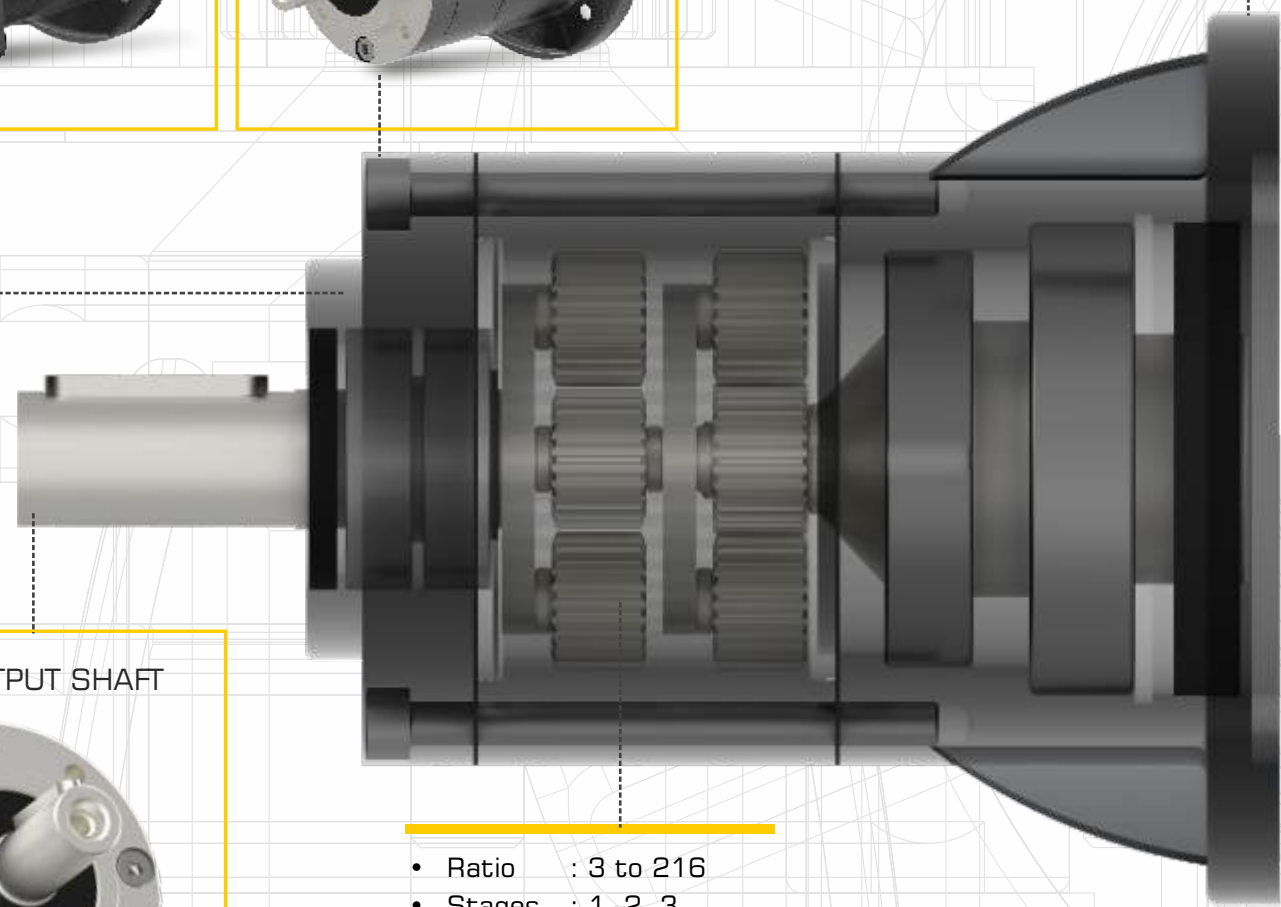
UNIVERSAL MOUNTING



IEC FLANGE & HOLLOW SHAFT



SOLID OUTPUT SHAFT



- Ratio : 3 to 216
- Stages : 1, 2, 3
- Backlash : 20 arc-min.

- Size : 70, 90, 110, 130, 150
- Torque : 70Nm to 1800Nm
- Power : 0.06kW to 5.5kW

## Rated output torque $M_{n2}$ [Nm]

Torque output transmissible under uniform loading and referred to the input speed  $n_1$  and the corresponding output speed  $n_2$ . The output torque can be calculated with the following formula:

$$M_{n2} = \frac{P_{n1} \text{ [kW]} \cdot 9550}{n_2} \cdot \eta$$

## Torque demand $M_{r2}$ [Nm]

Torque calculated based on application requirements. It must be  $< M_{n2}$ ; of the chosen PLANETARY unit.

## Input power $P_{n1}$ [kW]

This is the power value of the motor applied to the input shaft and corresponding to a certain input speed  $n_1$ , a service factor  $f_s = 1$  and a duty service  $S_1$ . It is even possible to calculate the motor size necessary by using the formula:

$$P_{n1} \text{ [kW]} = \frac{M_{r2} \cdot n_2}{9550 \cdot \eta}$$

Since the value calculated in this way could not really correspond to an input power actually available in the IEC standardised motors, it will be necessary to choose, among the input powers available, the one which is immediately higher, checking this in the Rotomotive catalogue of the Motors.

## Efficiency $\eta$ [%]

An inherent factor in the selection gear boxes is the efficiency  $\eta$ , defined as the ratio between the mechanical power coming out from the output shaft, and the power in the input shaft:

The efficiency in gearboxes is mainly determined by the gearing and bearing friction. The efficiency of PLANETARY varies with the nr of stages:

- 1 stage : 90%
- 2 stage : 85%
- 3 stage : 75%

## Gear ratio $i$

It is the relationship of the input speed  $n_1$  and the output speed  $n_2$

$$i = \frac{n_1}{n_2}$$

In the combined, the total ratio is the result of the product of the ratio of the two single gearboxes.

## Input speed $n_1$ [rpm]

It is the speed the PLANETARY unit is driven at.

## Output speed $n_2$ [rpm]

It is the rotation speed of the output shaft.

## Service factor $f_s$

It is a numeric value describing the PLANETARY unit service duty. With unavoidable approximation, it takes into consideration:

- The daily working hours h/d.
- The load classification and then the moment of inertia of the driven masses.
- The number of starts per hour s/h.

The presence of brake motors, for which it is necessary to multiply for 1.12 the service factor derived for application.

The significance of the application in terms of safety, for example lifting of Parts. If, after the selection of the right  $M_{r2}$  and  $n_2$  in the following performance tables, you don't find a PLANETARY unit whose service factor  $f_s$  is  $>$  of the requested one far, you can choose a PLANETARY unit in which  $M_{n2} > M_{r2}$ . In fact, in order to satisfy  $f_s$ , you can choose another PLANETARY unit whose output torque is  $> M_{c2}$  output torque, where:  $M_{c2} = M_{r2} \cdot f_{sr}$ .

# PERFORMANCE TABLE

## 0.06 kW

Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P70	18	1	6	240.0	2.1	56A-4P
	18	1	7.8	184.6	2.8	56A-4P
	22	2	9	160.0	3.0	56A-4P
	22	2	12	120.0	4.1	56A-4P
	22	2	15	96.0	5.1	56A-4P
	22	2	16	90.0	5.4	56A-4P
	22	2	20	72.0	6.8	56A-4P
	22	2	24	60.0	8.1	56A-4P
	22	2	25	57.6	8.5	56A-4P
	22	2	36	40.0	12.2	56A-4P
	30	3	64	22.5	19.1	56A-4P
	30	3	96	15.0	28.7	56A-4P

## 0.09 kW

Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P70	22	2	12	240.0	3.0	56A-2P
	22	2	15	192.0	3.8	56A-2P
	22	2	16	180.0	4.1	56A-2P
	22	2	20	144.0	5.1	56A-2P
	22	2	24	120.0	6.1	56A-2P
	22	2	25	115.2	6.3	56A-2P
	22	2	36	80.0	9.1	56A-2P
	30	3	64	45.0	14.3	56A-2P
	30	3	96	30.0	21.5	56A-2P
	30	3	125	23.0	28.0	56A-2P
	18	1	4	360.0	2.1	56B-4P
	18	1	5	288.0	2.7	56B-4P
	18	1	6	240.0	3.2	56B-4P
	18	1	7.8	184.6	4.2	56B-4P
	22	2	9	160.0	4.6	56B-4P
	22	2	12	120.0	6.1	56B-4P
	22	2	15	96.0	7.6	56B-4P
	22	2	16	90.0	8.1	56B-4P
	22	2	20	72.0	10.1	56B-4P
	22	2	24	60.0	12.2	56B-4P
	22	2	25	57.6	12.7	56B-4P
	22	2	36	40.0	18.3	56B-4P
	30	3	64	22.5	28.7	56B-4P

## 0.12 kW

Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P70	18	1	6	480.0	2.1	56B-2P
	18	1	7.8	369.2	2.8	56B-2P
	22	2	9	320.0	3.0	56B-2P
	22	2	12	240.0	4.1	56B-2P
	22	2	15	192.0	5.1	56B-2P
	22	2	16	180.0	5.4	56B-2P
	22	2	20	144.0	6.8	56B-2P
	22	2	24	120.0	8.1	56B-2P
	22	2	25	115.2	8.5	56B-2P
	22	2	36	80.0	12.2	56B-2P
	30	3	64	45.0	19.1	56B-2P
	30	3	96	30.0	28.7	56B-2P
	18	1	3	480.0	2.1	63A-4P
	18	1	4	360.0	2.9	63A-4P
	18	1	5	288.0	3.6	63A-4P
	18	1	6	240.0	4.3	63A-4P
	18	1	7.8	184.6	5.6	63A-4P
	22	2	9	160.0	6.1	63A-4P
	22	2	12	120.0	8.1	63A-4P
	22	2	15	96.0	10.1	63A-4P
	22	2	16	90.0	10.8	63A-4P
	22	2	20	72.0	13.5	63A-4P
	22	2	24	60.0	16.2	63A-4P
	22	2	25	57.6	16.9	63A-4P
P90	23	1	4	360.0	2.9	63A-4P
	23	1	5	288.0	3.6	63A-4P
	23	1	6	240.0	4.3	63A-4P
	23	1	7.8	184.6	5.6	63A-4P
	35	2	9	160.0	6.1	63A-4P
	35	2	12	120.0	8.1	63A-4P
	35	2	15	96.0	10.1	63A-4P
	35	2	16	90.0	10.8	63A-4P
	35	2	20	72.0	13.5	63A-4P
	35	2	24	60.0	16.2	63A-4P
	35	2	25	57.6	16.9	63A-4P

## 0.18 kW

Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P70	18	1	4	720.0	2.1	63A-2P
	18	1	5	576.0	2.7	63A-2P
	18	1	6	480.0	3.2	63A-2P
	18	1	7.8	369.2	4.2	63A-2P
	22	2	9	320.0	4.6	63A-2P
	22	2	12	240.0	6.1	63A-2P
	22	2	15	192.0	7.6	63A-2P
	22	2	16	180.0	8.1	63A-2P
	22	2	20	144.0	10.1	63A-2P
	22	2	24	120.0	12.2	63A-2P
	22	2	25	115.2	12.7	63A-2P
	22	2	36	80.0	18.3	63A-2P
	30	3	64	45.0	28.7	63A-2P
	18	1	3	480.0	3.2	63B-4P
	18	1	4	360.0	4.3	63B-4P
	18	1	5	288.0	5.4	63B-4P
	18	1	6	240.0	6.4	63B-4P
	18	1	7.8	184.6	8.4	63B-4P
	22	2	9	160.0	9.1	63B-4P
	22	2	12	120.0	12.2	63B-4P
	22	2	15	96.0	15.2	63B-4P
	22	2	16	90.0	16.2	63B-4P
	22	2	20	72.0	20.3	63B-4P
	P90	23	1	5	576.0	2.7
23		1	6	480.0	3.2	63A-2P
23		1	7.8	369.2	4.2	63A-2P
35		2	9	320.0	4.6	63A-2P
35		2	12	240.0	6.1	63A-2P
35		2	15	192.0	7.6	63A-2P
35		2	16	180.0	8.1	63A-2P
35		2	20	144.0	10.1	63A-2P
35		2	24	120.0	12.2	63A-2P
35		2	25	115.2	12.7	63A-2P
35		2	36	80.0	18.3	63A-2P
42		3	64	45.0	28.7	63A-2P
23		1	3	480.0	3.2	63B-4P
23		1	4	360.0	4.3	63B-4P
23		1	5	288.0	5.4	63B-4P
23		1	6	240.0	6.4	63B-4P
23		1	7.8	184.6	8.4	63B-4P

# PERFORMANCE TABLE

0.18 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P90	35	2	9	160.0	9.1	63B-4P
	35	2	12	120.0	12.2	63B-4P
	35	2	15	96.0	15.2	63B-4P
	35	2	16	90.0	16.2	63B-4P
	35	2	20	72.0	20.3	63B-4P
	23	1	3	320.0	4.8	71A-6P
	23	1	4	240.0	6.4	71A-6P
	23	1	5	192.0	8.1	71A-6P
	23	1	6	160.0	9.7	71A-6P
	23	1	7.8	123.1	12.6	71A-6P
	35	2	9	106.7	13.7	71A-6P
	35	2	12	80.0	18.3	71A-6P
	35	2	15	64.0	22.8	71A-6P
	35	2	16	60.0	24.4	71A-6P
35	2	20	48.0	30.4	71A-6P	
P110	125	1	7.8	123.1	12.6	71A-6P
	132	2	9	106.7	13.7	71A-6P
	132	2	12	80.0	18.3	71A-6P
	132	2	15	64.0	22.8	71A-6P
	132	2	16	60.0	24.4	71A-6P
	132	2	20	48.0	30.4	71A-6P
	132	2	24	40.0	36.5	71A-6P
	132	2	25	38.4	38.1	71A-6P
	132	2	36	26.7	54.8	71A-6P
	140	3	64	15.0	86.0	71A-6P
140	3	96	10.0	128.9	71A-6P	

0.25 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P70	18	1	3	960.0	2.2	63B-2P
	18	1	4	720.0	3.0	63B-2P
	18	1	5	576.0	3.7	63B-2P
	18	1	6	480.0	4.5	63B-2P
	18	1	7.8	369.2	5.8	63B-2P
	22	2	9	320.0	6.3	63B-2P
	22	2	12	240.0	8.5	63B-2P
	22	2	15	192.0	10.6	63B-2P
	22	2	16	180.0	11.3	63B-2P
	22	2	20	144.0	14.1	63B-2P
	22	2	24	120.0	16.9	63B-2P
	22	2	25	115.2	17.6	63B-2P
	23	1	4	720.0	3.0	63B-2P
	23	1	5	576.0	3.7	63B-2P
	23	1	6	480.0	4.5	63B-2P
	23	1	7.8	369.2	5.8	63B-2P
	35	2	9	320.0	6.3	63B-2P
	35	2	12	240.0	8.5	63B-2P
35	2	15	192.0	10.6	63B-2P	
35	2	16	180.0	11.3	63B-2P	
35	2	20	144.0	14.1	63B-2P	
35	2	24	120.0	16.9	63B-2P	
35	2	25	115.2	17.6	63B-2P	
35	2	36	80.0	25.4	63B-2P	
42	3	64	45.0	39.8	63B-2P	
P90	23	1	3	480.0	4.5	71A-4P
	23	1	4	360.0	6.0	71A-4P
	23	1	5	288.0	7.5	71A-4P
	23	1	6	240.0	9.0	71A-4P
	23	1	7.8	184.6	11.6	71A-4P
	35	2	9	160.0	12.7	71A-4P
	35	2	12	120.0	16.9	71A-4P
	35	2	15	96.0	21.1	71A-4P
	35	2	16	90.0	22.5	71A-4P
	35	2	20	72.0	28.2	71A-4P
	35	2	24	60.0	33.8	71A-4P
	23	1	3	320.0	6.7	71B-6P
	23	1	4	240.0	9.0	71B-6P
	23	1	5	192.0	11.2	71B-6P
23	1	6	160.0	13.4	71B-6P	

0.25 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P90	23	1	7.8	123.1	17.5	71B-6P
	35	2	9	106.7	19.0	71B-6P
	35	2	12	80.0	25.4	71B-6P
	35	2	15	64.0	31.7	71B-6P
	35	2	16	60.0	33.8	71B-6P
	35	2	20	48.0	42.3	71B-6P
P110	132	2	12	120.0	16.9	71A-4P
	132	2	15	96.0	21.1	71A-4P
	132	2	16	90.0	22.5	71A-4P
	132	2	20	72.0	28.2	71A-4P
	132	2	24	60.0	33.8	71A-4P
	132	2	25	57.6	35.2	71A-4P
	132	2	36	40.0	50.7	71A-4P
	140	3	64	22.5	79.6	71A-4P
	140	3	96	15.0	119.4	71A-4P
	125	1	6	160.0	13.4	71B-6P
	125	1	7.8	123.1	17.5	71B-6P
	132	2	9	106.7	19.0	71B-6P
	132	2	12	80.0	25.4	71B-6P
	132	2	15	64.0	31.7	71B-6P
	132	2	16	60.0	33.8	71B-6P
	132	2	20	48.0	42.3	71B-6P
	132	2	24	40.0	50.7	71B-6P
	132	2	25	38.4	52.8	71B-6P
132	2	36	26.7	76.1	71B-6P	
140	3	64	15.0	119.4	71B-6P	

# PERFORMANCE TABLE

0.37 kW							
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input	
P90	23	1	3	960.0	3.3	71A-2P	
	23	1	4	720.0	4.4	71A-2P	
	23	1	5	576.0	5.5	71A-2P	
	23	1	6	480.0	6.6	71A-2P	
	23	1	7.8	369.2	8.6	71A-2P	
	35	2	9	320.0	9.4	71A-2P	
	35	2	12	240.0	12.5	71A-2P	
	35	2	15	192.0	15.6	71A-2P	
	35	2	16	180.0	16.7	71A-2P	
	35	2	20	144.0	20.9	71A-2P	
	35	2	24	120.0	25.0	71A-2P	
	35	2	25	115.2	26.1	71A-2P	
	23	1	3	480.0	6.6	71B-4P	
	23	1	4	360.0	8.8	71B-4P	
	23	1	5	288.0	11.0	71B-4P	
	23	1	6	240.0	13.3	71B-4P	
	23	1	7.8	184.6	17.2	71B-4P	
	35	2	9	160.0	18.8	71B-4P	
	35	2	12	120.0	25.0	71B-4P	
	35	2	15	96.0	31.3	71B-4P	
	35	2	16	90.0	33.4	71B-4P	
	23	1	3	320.0	9.9	80A-6P	
	23	1	4	240.0	13.3	80A-6P	
	23	1	5	192.0	16.6	80A-6P	
	23	1	6	160.0	19.9	80A-6P	
	35	2	9	106.7	28.2	80A-6P	
	P110	132	2	15	192.0	15.6	71A-2P
		132	2	16	180.0	16.7	71A-2P
132		2	20	144.0	20.9	71A-2P	
132		2	24	120.0	25.0	71A-2P	
132		2	25	115.2	26.1	71A-2P	
132		2	36	80.0	37.5	71A-2P	
140		3	64	45.0	58.9	71A-2P	
140		3	96	30.0	88.3	71A-2P	
140		3	125	23.0	115.0	71A-2P	
140		3	144	20.0	132.5	71A-2P	
125		1	6	240.0	13.3	71B-4P	
125		1	7.8	184.6	17.2	71B-4P	
132		2	9	160.0	18.8	71B-4P	
132		2	12	120.0	25.0	71B-4P	

0.37 kW							
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input	
P110	132	2	15	96.0	31.3	71B-4P	
	132	2	16	90.0	33.4	71B-4P	
	132	2	20	72.0	41.7	71B-4P	
	132	2	24	60.0	50.1	71B-4P	
	132	2	25	57.6	52.1	71B-4P	
	132	2	36	40.0	75.1	71B-4P	
	140	3	64	22.5	117.8	71B-4P	
	125	1	4	240.0	13.3	80A-6P	
	125	1	5	192.0	16.6	80A-6P	
	125	1	6	160.0	19.9	80A-6P	
	125	1	7.8	123.1	25.8	80A-6P	
	132	2	9	106.7	28.2	80A-6P	
	132	2	12	80.0	37.5	80A-6P	
	132	2	15	64.0	46.9	80A-6P	
	132	2	16	60.0	50.1	80A-6P	
	132	2	20	48.0	62.6	80A-6P	
	132	2	24	40.0	75.1	80A-6P	
	132	2	25	38.4	78.2	80A-6P	
	132	2	36	26.7	112.6	80A-6P	
	P130	127	1	4	240.0	13.3	80A-6P
		127	1	5	192.0	16.6	80A-6P
		127	1	6	160.0	19.9	80A-6P
		127	1	7.8	123.1	25.8	80A-6P
		137	2	9	106.7	28.2	80A-6P
		137	2	12	80.0	37.5	80A-6P
		137	2	15	64.0	46.9	80A-6P
		137	2	16	60.0	50.1	80A-6P
		137	2	20	48.0	62.6	80A-6P
		137	2	24	40.0	75.1	80A-6P
		137	2	25	38.4	78.2	80A-6P
		137	2	36	26.7	112.6	80A-6P
		230	1	7.8	123.1	25.8	80A-6P
242		2	9	106.7	28.2	80A-6P	
242		2	12	80.0	37.5	80A-6P	
242		2	15	64.0	46.9	80A-6P	
242		2	16	60.0	50.1	80A-6P	
242		2	20	48.0	62.6	80A-6P	
242		2	24	40.0	75.1	80A-6P	
242		2	25	38.4	78.2	80A-6P	
242	2	36	26.7	112.6	80A-6P		
251	3	64	15.0	176.7	80A-6P		

0.55 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P90	23	1	3	960.0	4.9	71B-2P
	23	1	4	720.0	6.6	71B-2P
	23	1	5	576.0	8.2	71B-2P
	23	1	6	480.0	9.8	71B-2P
	23	1	7.8	369.2	12.8	71B-2P
	35	2	9	320.0	14.0	71B-2P
	35	2	12	240.0	18.6	71B-2P
	35	2	15	192.0	23.3	71B-2P
	35	2	16	180.0	24.8	71B-2P
	35	2	20	144.0	31.0	71B-2P
	35	2	24	120.0	37.2	71B-2P
	35	2	25	115.2	38.8	71B-2P
	35	2	36	80.0	55.8	71B-2P
	42	3	64	45.0	87.5	71B-2P
	42	3	96	30.0	131.3	71B-2P
	23	1	3	480.0	9.8	80A-4P
	23	1	4	360.0	13.1	80A-4P
	23	1	5	288.0	16.4	80A-4P
	23	1	6	240.0	19.7	80A-4P
	23	1	7.8	184.6	25.6	80A-4P
	35	2	9	160.0	27.9	80A-4P
	35	2	12	120.0	37.2	80A-4P
	35	2	15	96.0	46.5	80A-4P
	35	2	16	90.0	49.6	80A-4P
	35	2	20	72.0	62.0	80A-4P
	35	2	24	60.0	74.4	80A-4P
	35	2	25	57.6	77.5	80A-4P
	35	2	36	40.0	111.6	80A-4P
	42	3	64	22.5	175.1	80A-4P
	23	1	3	320.0	14.8	80B-6P
	23	1	4	240.0	19.7	80B-6P
	23	1	5	192.0	24.6	80B-6P
23	1	6	160.0	29.5	80B-6P	
23	1	7.8	123.1	38.4	80B-6P	
35	2	9	106.7	41.9	80B-6P	
35	2	12	80.0	55.8	80B-6P	
35	2	15	64.0	69.8	80B-6P	
35	2	16	60.0	74.4	80B-6P	
35	2	20	48.0	93.0	80B-6P	
35	2	24	40.0	111.6	80B-6P	
35	2	25	38.4	116.3	80B-6P	

# PERFORMANCE TABLE

0.55 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P90	35	2	36	26.7	167.4	80B-6P
P110	125	1	3	960.0	4.9	71B-2P
	125	1	4	720.0	6.6	71B-2P
	125	1	5	576.0	8.2	71B-2P
	125	1	6	480.0	9.8	71B-2P
	125	1	7.8	369.2	12.8	71B-2P
	132	2	9	320.0	14.0	71B-2P
	132	2	12	240.0	18.6	71B-2P
	132	2	15	192.0	23.3	71B-2P
	132	2	16	180.0	24.8	71B-2P
	132	2	20	144.0	31.0	71B-2P
	132	2	24	120.0	37.2	71B-2P
	132	2	25	115.2	38.8	71B-2P
	132	2	36	80.0	55.8	71B-2P
	140	3	64	45.0	87.5	71B-2P
	140	3	96	30.0	131.3	71B-2P
	125	1	3	480.0	9.8	80A-4P
	125	1	4	360.0	13.1	80A-4P
	125	1	5	288.0	16.4	80A-4P
	125	1	6	240.0	19.7	80A-4P
	125	1	7.8	184.6	25.6	80A-4P
	132	2	9	160.0	27.9	80A-4P
	132	2	12	120.0	37.2	80A-4P
	132	2	15	96.0	46.5	80A-4P
	132	2	16	90.0	49.6	80A-4P
	132	2	20	72.0	62.0	80A-4P
	132	2	24	60.0	74.4	80A-4P
	132	2	25	57.6	77.5	80A-4P
	132	2	36	40.0	111.6	80A-4P
	140	3	64	22.5	175.1	80A-4P
	125	1	3	320.0	14.8	80B-6P
	125	1	4	240.0	19.7	80B-6P
	125	1	5	192.0	24.6	80B-6P
125	1	6	160.0	29.5	80B-6P	
125	1	7.8	123.1	38.4	80B-6P	
132	2	9	106.7	41.9	80B-6P	
132	2	12	80.0	55.8	80B-6P	
132	2	15	64.0	69.8	80B-6P	
132	2	16	60.0	74.4	80B-6P	
132	2	20	48.0	93.0	80B-6P	
132	2	24	40.0	111.6	80B-6P	
132	2	25	38.4	116.3	80B-6P	
132	2	36	26.7	167.4	80B-6P	

0.55 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P110	132	2	24	40.0	111.6	80B-6P
	132	2	25	38.4	116.3	80B-6P
	132	2	36	26.7	167.4	80B-6P
P130	127	1	3	480.0	9.8	80A-4P
	127	1	4	360.0	13.1	80A-4P
	127	1	5	288.0	16.4	80A-4P
	127	1	6	240.0	19.7	80A-4P
	127	1	7.8	184.6	25.6	80A-4P
	137	2	9	160.0	27.9	80A-4P
	137	2	12	120.0	37.2	80A-4P
	137	2	15	96.0	46.5	80A-4P
	137	2	16	90.0	49.6	80A-4P
	137	2	20	72.0	62.0	80A-4P
	137	2	24	60.0	74.4	80A-4P
	137	2	25	57.6	77.5	80A-4P
	137	2	36	40.0	111.6	80A-4P
	145	3	64	22.5	175.1	80A-4P
	127	1	3	320.0	14.8	80B-6P
	127	1	4	240.0	19.7	80B-6P
	127	1	5	192.0	24.6	80B-6P
	127	1	6	160.0	29.5	80B-6P
	127	1	7.8	123.1	38.4	80B-6P
	137	2	9	106.7	41.9	80B-6P
	137	2	12	80.0	55.8	80B-6P
137	2	15	64.0	69.8	80B-6P	
137	2	16	60.0	74.4	80B-6P	
137	2	20	48.0	93.0	80B-6P	
137	2	24	40.0	111.6	80B-6P	
137	2	25	38.4	116.3	80B-6P	
137	2	36	26.7	167.4	80B-6P	
P150	230	1	3	480.0	9.8	80A-4P
	230	1	4	360.0	13.1	80A-4P
	230	1	5	288.0	16.4	80A-4P
	230	1	6	240.0	19.7	80A-4P
	230	1	7.8	184.6	25.6	80A-4P
	242	2	9	160.0	27.9	80A-4P
	242	2	12	120.0	37.2	80A-4P
	242	2	15	96.0	46.5	80A-4P
	242	2	16	90.0	49.6	80A-4P
	242	2	20	72.0	62.0	80A-4P
	242	2	24	60.0	74.4	80A-4P
	242	2	25	57.6	77.5	80A-4P

0.55 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P150	242	2	24	40.0	111.6	80A-4P
	242	2	25	38.4	116.3	80A-4P
	242	2	36	26.7	167.4	80A-4P
	251	3	64	22.5	175.1	80A-4P
	230	1	3	320.0	14.8	80B-6P
	230	1	4	240.0	19.7	80B-6P
	230	1	5	192.0	24.6	80B-6P
	230	1	6	160.0	29.5	80B-6P
	230	1	7.8	123.1	38.4	80B-6P
	242	2	9	106.7	41.9	80B-6P
	242	2	12	80.0	55.8	80B-6P
	242	2	15	64.0	69.8	80B-6P
	242	2	16	60.0	74.4	80B-6P
	242	2	20	48.0	93.0	80B-6P
	242	2	24	40.0	111.6	80B-6P
	242	2	25	38.4	116.3	80B-6P
	242	2	36	26.7	167.4	80B-6P

# PERFORMANCE TABLE

0.75 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P90	23	1	3	960.0	6.7	80A-2P
	23	1	4	720.0	9.0	80A-2P
	23	1	5	576.0	11.2	80A-2P
	23	1	6	480.0	13.4	80A-2P
	23	1	7.8	369.2	17.5	80A-2P
	35	2	9	320.0	19.0	80A-2P
	35	2	12	240.0	25.4	80A-2P
	35	2	15	192.0	31.7	80A-2P
	35	2	16	180.0	33.8	80A-2P
	23	1	3	480.0	13.4	80B-4P
	23	1	4	360.0	17.9	80B-4P
	23	1	5	288.0	22.4	80B-4P
P110	125	1	6	480.0	13.4	80A-2P
	125	1	7.8	369.2	17.5	80A-2P
	132	2	9	320.0	19.0	80A-2P
	132	2	12	240.0	25.4	80A-2P
	132	2	15	192.0	31.7	80A-2P
	132	2	16	180.0	33.8	80A-2P
	132	2	20	144.0	42.3	80A-2P
	132	2	24	120.0	50.7	80A-2P
	132	2	25	115.2	52.8	80A-2P
	132	2	36	80.0	76.1	80A-2P
	140	3	64	45.0	119.4	80A-2P
	125	1	3	480.0	13.4	80B-4P
	125	1	4	360.0	17.9	80B-4P
	125	1	5	288.0	22.4	80B-4P
	125	1	6	240.0	26.9	80B-4P
	125	1	7.8	184.6	34.9	80B-4P
	132	2	9	160.0	38.1	80B-4P
	132	2	12	120.0	50.7	80B-4P
	132	2	15	96.0	63.4	80B-4P
	132	2	16	90.0	67.6	80B-4P
	132	2	20	72.0	84.6	80B-4P
	132	2	24	60.0	101.5	80B-4P
	132	2	25	57.6	105.7	80B-4P
	125	1	3	320.0	20.1	90S-6P
	125	1	4	240.0	26.9	90S-6P
	125	1	5	192.0	33.6	90S-6P
	125	1	6	160.0	40.3	90S-6P
	125	1	7.8	123.1	52.4	90S-6P

0.75 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P110	132	2	9	106.7	57.1	90S-6P
	132	2	12	80.0	76.1	90S-6P
	132	2	15	64.0	95.1	90S-6P
	132	2	16	60.0	101.5	90S-6P
	132	2	20	48.0	126.8	90S-6P
	P130	127	1	6	480.0	13.4
127		1	7.8	369.2	17.5	80A-2P
137		2	9	320.0	19.0	80A-2P
137		2	12	240.0	25.4	80A-2P
137		2	15	192.0	31.7	80A-2P
137		2	16	180.0	33.8	80A-2P
137		2	20	144.0	42.3	80A-2P
137		2	24	120.0	50.7	80A-2P
137		2	25	115.2	52.8	80A-2P
137		2	36	80.0	76.1	80A-2P
127		1	3	480.0	13.4	80B-4P
127		1	4	360.0	17.9	80B-4P
127		1	5	288.0	22.4	80B-4P
127		1	6	240.0	26.9	80B-4P
127		1	7.8	184.6	34.9	80B-4P
137		2	9	160.0	38.1	80B-4P
137		2	12	120.0	50.7	80B-4P
137		2	15	96.0	63.4	80B-4P
137		2	16	90.0	67.6	80B-4P
137		2	20	72.0	84.6	80B-4P
137		2	24	60.0	101.5	80B-4P
137		2	25	57.6	105.7	80B-4P
127		1	3	320.0	20.1	90S-6P
127		1	4	240.0	26.9	90S-6P
127	1	5	192.0	33.6	90S-6P	
127	1	6	160.0	40.3	90S-6P	
127	1	7.8	123.1	52.4	90S-6P	
137	2	9	106.7	57.1	90S-6P	
137	2	12	80.0	76.1	90S-6P	
137	2	15	64.0	95.1	90S-6P	
137	2	16	60.0	101.5	90S-6P	
137	2	20	48.0	126.8	90S-6P	

0.75 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P150	230	1	6	240.0	26.9	80B-4P
	230	1	7.8	184.6	34.9	80B-4P
	242	2	9	160.0	38.1	80B-4P
	242	2	12	120.0	50.7	80B-4P
	242	2	15	96.0	63.4	80B-4P
	242	2	16	90.0	67.6	80B-4P
	242	2	20	72.0	84.6	80B-4P
	242	2	24	60.0	101.5	80B-4P
	242	2	25	57.6	105.7	80B-4P
	242	2	36	40.0	152.2	80B-4P
	251	3	64	22.5	238.8	80B-4P
	230	1	4	240.0	26.9	90S-6P
	230	1	5	192.0	33.6	90S-6P
	230	1	6	160.0	40.3	90S-6P
	230	1	7.8	123.1	52.4	90S-6P
	242	2	9	106.7	57.1	90S-6P
	242	2	12	80.0	76.1	90S-6P
	242	2	15	64.0	95.1	90S-6P
242	2	16	60.0	101.5	90S-6P	
242	2	20	48.0	126.8	90S-6P	
242	2	24	40.0	152.2	90S-6P	
242	2	25	38.4	158.5	90S-6P	
242	2	36	26.7	228.3	90S-6P	

# PERFORMANCE TABLE

1.10 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P90	23	1	3	960.0	9.8	80B-2P
	23	1	4	720.0	13.1	80B-2P
	23	1	5	576.0	16.4	80B-2P
	23	1	6	480.0	19.7	80B-2P
	35	2	9	320.0	27.9	80B-2P
P110	125	1	4	720.0	13.1	80B-2P
	125	1	5	576.0	16.4	80B-2P
	125	1	6	480.0	19.7	80B-2P
	125	1	7.8	369.2	25.6	80B-2P
	132	2	9	320.0	27.9	80B-2P
	132	2	12	240.0	37.2	80B-2P
	132	2	15	192.0	46.5	80B-2P
	132	2	16	180.0	49.6	80B-2P
	132	2	20	144.0	62.0	80B-2P
	132	2	24	120.0	74.4	80B-2P
	132	2	25	115.2	77.5	80B-2P
	132	2	36	80.0	111.6	80B-2P
	125	1	3	480.0	19.7	90S-4P
	125	1	4	360.0	26.3	90S-4P
	125	1	5	288.0	32.8	90S-4P
	125	1	6	240.0	39.4	90S-4P
	125	1	7.8	184.6	51.2	90S-4P
	132	2	9	160.0	55.8	90S-4P
	132	2	12	120.0	74.4	90S-4P
	132	2	15	96.0	93.0	90S-4P
	132	2	16	90.0	99.2	90S-4P
	132	2	20	72.0	124.0	90S-4P
	125	1	3	320.0	29.5	90L-6P
	125	1	4	240.0	39.4	90L-6P
	125	1	5	192.0	49.2	90L-6P
	125	1	6	160.0	59.1	90L-6P
	125	1	7.8	123.1	76.8	90L-6P
132	2	9	106.7	83.7	90L-6P	
132	2	12	80.0	111.6	90L-6P	

1.10 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P130	127	1	4	720.0	13.1	80B-2P
	127	1	5	576.0	16.4	80B-2P
	127	1	6	480.0	19.7	80B-2P
	127	1	7.8	369.2	25.6	80B-2P
	137	2	9	320.0	27.9	80B-2P
	137	2	12	240.0	37.2	80B-2P
	137	2	15	192.0	46.5	80B-2P
	137	2	16	180.0	49.6	80B-2P
	137	2	20	144.0	62.0	80B-2P
	137	2	24	120.0	74.4	80B-2P
	137	2	25	115.2	77.5	80B-2P
	137	2	36	80.0	111.6	80B-2P
	127	1	3	480.0	19.7	90S-4P
	127	1	4	360.0	26.3	90S-4P
	127	1	5	288.0	32.8	90S-4P
	127	1	6	240.0	39.4	90S-4P
	127	1	7.8	184.6	51.2	90S-4P
	137	2	9	160.0	55.8	90S-4P
	137	2	12	120.0	74.4	90S-4P
	137	2	15	96.0	93.0	90S-4P
	137	2	16	90.0	99.2	90S-4P
	137	2	20	72.0	124.0	90S-4P
	127	1	3	320.0	29.5	90L-6P
	127	1	4	240.0	39.4	90L-6P
	127	1	5	192.0	49.2	90L-6P
	127	1	6	160.0	59.1	90L-6P
	127	1	7.8	123.1	76.8	90L-6P
137	2	9	106.7	83.7	90L-6P	
137	2	12	80.0	111.6	90L-6P	

1.10 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P150	230	1	7.8	369.2	25.6	80B-2P
	242	2	9	320.0	27.9	80B-2P
	242	2	12	240.0	37.2	80B-2P
	242	2	15	192.0	46.5	80B-2P
	242	2	16	180.0	49.6	80B-2P
	242	2	20	144.0	62.0	80B-2P
	242	2	24	120.0	74.4	80B-2P
	242	2	25	115.2	77.5	80B-2P
	242	2	36	80.0	111.6	80B-2P
	251	3	64	45.0	175.1	80B-2P
	230	1	4	360.0	26.3	90S-4P
	230	1	5	288.0	32.8	90S-4P
	230	1	6	240.0	39.4	90S-4P
	230	1	7.8	184.6	51.2	90S-4P
	242	2	9	160.0	55.8	90S-4P
	242	2	12	120.0	74.4	90S-4P
	242	2	15	96.0	93.0	90S-4P
	242	2	20	72.0	124.0	90S-4P
	242	2	24	60.0	148.8	90S-4P
	242	2	25	57.6	155.0	90S-4P
	242	2	36	40.0	223.2	90S-4P
	230	1	3	320.0	29.5	90L-6P
	230	1	4	240.0	39.4	90L-6P
	230	1	5	192.0	49.2	90L-6P
	230	1	6	160.0	59.1	90L-6P
	230	1	7.8	123.1	76.8	90L-6P
	242	2	9	106.7	83.7	90L-6P
242	2	12	80.0	111.6	90L-6P	
242	2	15	64.0	139.5	90L-6P	
242	2	16	60.0	148.8	90L-6P	
242	2	20	48.0	186.0	90L-6P	
242	2	24	40.0	223.2	90L-6P	
242	2	25	38.4	232.5	90L-6P	

# PERFORMANCE TABLE

1.50 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P110	125	1	3	960.0	13.4	90S-2P
	125	1	4	720.0	17.9	90S-2P
	125	1	5	576.0	22.4	90S-2P
	125	1	6	480.0	26.9	90S-2P
	125	1	7.8	369.2	34.9	90S-2P
	132	2	9	320.0	38.1	90S-2P
	132	2	12	240.0	50.7	90S-2P
	132	2	15	192.0	63.4	90S-2P
	132	2	16	180.0	67.6	90S-2P
	132	2	20	144.0	84.6	90S-2P
	132	2	24	120.0	101.5	90S-2P
	132	2	25	115.2	105.7	90S-2P
	125	1	3	480.0	26.9	90L-4P
	125	1	4	360.0	35.8	90L-4P
	125	1	5	288.0	44.8	90L-4P
	125	1	6	240.0	53.7	90L-4P
	125	1	7.8	184.6	69.8	90L-4P
	132	2	9	160.0	76.1	90L-4P
	132	2	12	120.0	101.5	90L-4P
	132	2	15	96.0	126.8	90L-4P
125	1	3	320.0	40.3	100L-6P	
125	1	4	240.0	53.7	100L-6P	
125	1	5	192.0	67.1	100L-6P	
125	1	6	160.0	80.6	100L-6P	
125	1	7.8	123.1	104.8	100L-6P	
132	2	9	106.7	114.2	100L-6P	
P130	127	1	3	960.0	13.4	90S-2P
	127	1	4	720.0	17.9	90S-2P
	127	1	5	576.0	22.4	90S-2P
	127	1	6	480.0	26.9	90S-2P
	127	1	7.8	369.2	34.9	90S-2P
	137	2	9	320.0	38.1	90S-2P
	137	2	12	240.0	50.7	90S-2P
	137	2	15	192.0	63.4	90S-2P
	137	2	16	180.0	67.6	90S-2P
	137	2	20	144.0	84.6	90S-2P
	137	2	24	120.0	101.5	90S-2P
	137	2	25	115.2	105.7	90S-2P
	127	1	3	480.0	26.9	90L-4P
	127	1	4	360.0	35.8	90L-4P
	127	1	5	288.0	44.8	90L-4P
	127	1	6	240.0	53.7	90L-4P
	127	1	7.8	184.6	69.8	90L-4P
	137	2	9	160.0	76.1	90L-4P
	137	2	12	120.0	101.5	90L-4P
	137	2	15	96.0	126.8	90L-4P
127	1	3	320.0	40.3	100L-6P	
127	1	4	240.0	53.7	100L-6P	
127	1	5	192.0	67.1	100L-6P	
127	1	6	160.0	80.6	100L-6P	
127	1	7.8	123.1	104.8	100L-6P	
137	2	9	106.7	114.2	100L-6P	

1.50 kW							
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input	
P130	127	1	5	288.0	44.8	90L-4P	
	127	1	6	240.0	53.7	90L-4P	
	127	1	7.8	184.6	69.8	90L-4P	
	137	2	9	160.0	76.1	90L-4P	
	137	2	12	120.0	101.5	90L-4P	
	137	2	15	96.0	126.8	90L-4P	
	137	2	16	90.0	135.3	90L-4P	
	127	1	3	320.0	40.3	100L-6P	
	127	1	4	240.0	53.7	100L-6P	
	127	1	5	192.0	67.1	100L-6P	
	127	1	6	160.0	80.6	100L-6P	
	127	1	7.8	123.1	104.8	100L-6P	
	137	2	9	106.7	114.2	100L-6P	
	P150	230	1	6	480.0	26.9	90S-2P
		230	2	7.8	369.2	34.9	90S-2P
242		2	9	320.0	38.1	90S-2P	
242		2	12	240.0	50.7	90S-2P	
242		2	15	192.0	63.4	90S-2P	
242		2	16	180.0	67.6	90S-2P	
242		2	20	144.0	84.6	90S-2P	
242		2	24	120.0	101.5	90S-2P	
242		2	25	115.2	105.7	90S-2P	
242		3	36	80.0	152.2	90S-2P	
251		3	64	45.0	238.8	90S-2P	
230		1	3	480.0	26.9	90L-4P	
230		1	4	360.0	35.8	90L-4P	
230		1	5	288.0	44.8	90L-4P	
230		1	6	240.0	53.7	90L-4P	
230		2	7.8	184.6	69.8	90L-4P	
242		2	9	160.0	76.1	90L-4P	
242		2	12	120.0	101.5	90L-4P	
242		2	15	96.0	126.8	90L-4P	
242		2	16	90.0	135.3	90L-4P	
242	2	20	72.0	169.1	90L-4P		
242	2	24	60.0	202.9	90L-4P		
242	2	25	57.6	211.4	90L-4P		
230	1	3	320.0	40.3	100L-6P		
230	1	4	240.0	53.7	100L-6P		
230	1	5	192.0	67.1	100L-6P		
230	1	6	160.0	80.6	100L-6P		

1.50 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P150	230	2	7.8	123.1	104.8	100L-6P
	242	2	9	106.7	114.2	100L-6P
	242	2	12	80.0	152.2	100L-6P
	242	2	15	64.0	190.3	100L-6P
	242	2	16	60.0	202.9	100L-6P

2.20 kW						
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P110	125	1	3	960.0	19.7	90L-2P
	125	1	4	720.0	26.3	90L-2P
	125	1	5	576.0	32.8	90L-2P
	125	1	6	480.0	39.4	90L-2P
	125	1	7.8	369.2	51.2	90L-2P
	132	2	9	320.0	55.8	90L-2P
	132	2	12	240.0	74.4	90L-2P
	132	2	15	192.0	93.0	90L-2P
	132	2	16	180.0	99.2	90L-2P
	132	2	20	144.0	124.0	90L-2P
	125	1	3	480.0	39.4	100L-4P
	125	1	4	360.0	52.5	100L-4P
	125	1	5	288.0	65.7	100L-4P
	125	1	6	240.0	78.8	100L-4P
	125	1	7.8	184.6	102.4	100L-4P
	132	2	9	160.0	111.6	100L-4P
	125	1	3	320.0	59.1	112M-6P
	125	1	4	240.0	78.8	112M-6P
	125	1	5	192.0	98.5	112M-6P
	125	1	6	160.0	118.2	112M-6P
P130	127	1	3	960.0	19.7	90L-2P
	127	1	4	720.0	26.3	90L-2P
	127	1	5	576.0	32.8	90L-2P
	127	1	6	480.0	39.4	90L-2P
	127	1	7.8	369.2	51.2	90L-2P
	137	2	9	320.0	55.8	90L-2P
	137	2	12	240.0	74.4	90L-2P
	137	2	15	192.0	93.0	90L-2P
	137	2	16	180.0	99.2	90L-2P
	137	2	20	144.0	124.0	90L-2P
	127	1	3	480.0	39.4	100L-4P
	127	1	4	360.0	52.5	100L-4P
	127	1	5	288.0	65.7	100L-4P
	127	1	6	240.0	78.8	100L-4P
	127	1	7.8	184.6	102.4	100L-4P

# PERFORMANCE TABLE

## 2.20 kW

Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P130	127	1	3	480.0	39.4	100L-4P
	127	1	4	360.0	52.5	100L-4P
	127	1	5	288.0	65.7	100L-4P
	127	1	6	240.0	78.8	100L-4P
	127	1	7.8	184.6	102.4	100L-4P
	137	2	9	160.0	111.6	100L-4P
	127	1	3	320.0	59.1	112M-6P
	127	1	4	240.0	78.8	112M-6P
	127	1	5	192.0	98.5	112M-6P
	127	1	6	160.0	118.2	112M-6P
P150	230	1	4	720.0	26.3	90L-2P
	230	1	5	576.0	32.8	90L-2P
	230	1	6	480.0	39.4	90L-2P
	230	2	7.8	369.2	51.2	90L-2P
	242	2	9	320.0	55.8	90L-2P
	242	2	12	240.0	74.4	90L-2P
	242	2	15	192.0	93.0	90L-2P
	242	2	16	180.0	99.2	90L-2P
	242	2	20	144.0	124.0	90L-2P
	242	2	24	120.0	148.8	90L-2P
	242	2	25	115.2	155.0	90L-2P
	242	3	36	80.0	223.2	90L-2P
	230	1	3	480.0	39.4	100L-4P
	230	1	4	360.0	52.5	100L-4P
	230	1	5	288.0	65.7	100L-4P
	230	1	6	240.0	78.8	100L-4P
	230	2	7.8	184.6	102.4	100L-4P
	242	2	9	160.0	111.6	100L-4P
	242	2	12	120.0	148.8	100L-4P
	242	2	15	96.0	186.0	100L-4P
	242	2	16	90.0	198.4	100L-4P
	230	1	3	320.0	59.1	112M-6P
	230	1	4	240.0	78.8	112M-6P
	230	1	5	192.0	98.5	112M-6P
	230	1	6	160.0	118.2	112M-6P
	230	2	7.8	123.1	153.6	112M-6P
	242	2	9	106.7	167.4	112M-6P
	242	2	12	80.0	223.2	112M-6P

## 3.70 kW

Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input	
P110	125	1	3	960.0	33.1	100L-2P	
	125	1	4	720.0	44.2	100L-2P	
	125	1	5	576.0	55.2	100L-2P	
	125	1	6	480.0	66.3	100L-2P	
	125	1	7.8	369.2	86.1	100L-2P	
	132	2	9	320.0	93.9	100L-2P	
	132	2	12	240.0	125.1	100L-2P	
	125	1	3	480.0	66.3	112M-4P	
	125	1	4	360.0	88.3	112M-4P	
	125	1	5	288.0	110.4	112M-4P	
	P130	127	1	3	960.0	33.1	100L-2P
		127	1	4	720.0	44.2	100L-2P
		127	1	5	576.0	55.2	100L-2P
		127	1	6	480.0	66.3	100L-2P
127		1	7.8	369.2	86.1	100L-2P	
137		2	9	320.0	93.9	100L-2P	
137		2	12	240.0	125.1	100L-2P	
127		1	3	480.0	66.3	112M-4P	
127		1	4	360.0	88.3	112M-4P	
127		1	5	288.0	110.4	112M-4P	
P150	230	1	3	960.0	33.1	100L-2P	
	230	1	4	720.0	44.2	100L-2P	
	230	1	5	576.0	55.2	100L-2P	
	230	1	6	480.0	66.3	100L-2P	
	230	1	7.8	369.2	86.1	100L-2P	
	230	2	9	320.0	93.9	100L-2P	
	242	2	12	240.0	125.1	100L-2P	
	127	1	3	480.0	66.3	112M-4P	
	127	1	4	360.0	88.3	112M-4P	
	127	1	5	288.0	110.4	112M-4P	
	230	1	3	960.0	33.1	100L-2P	
	230	1	4	720.0	44.2	100L-2P	
	230	1	5	576.0	55.2	100L-2P	
	230	1	6	480.0	66.3	100L-2P	
	230	2	7.8	369.2	86.1	100L-2P	
	242	2	9	320.0	93.9	100L-2P	
	242	2	12	240.0	125.1	100L-2P	
	242	2	15	192.0	156.4	100L-2P	
	242	2	16	180.0	166.9	100L-2P	
	242	2	20	144.0	208.6	100L-2P	
	230	1	3	480.0	66.3	112M-4P	
	230	1	4	360.0	88.3	112M-4P	
230	1	5	288.0	110.4	112M-4P		
230	1	6	240.0	132.5	112M-4P		
230	2	7.8	184.6	172.3	112M-4P		
242	2	9	160.0	187.7	112M-4P		
230	1	3	320.0	99.4	132S-6P		
230	1	4	240.0	132.5	132S-6P		
230	1	5	192.0	165.6	132S-6P		
230	1	6	160.0	198.8	132S-6P		

## 5.50 kW

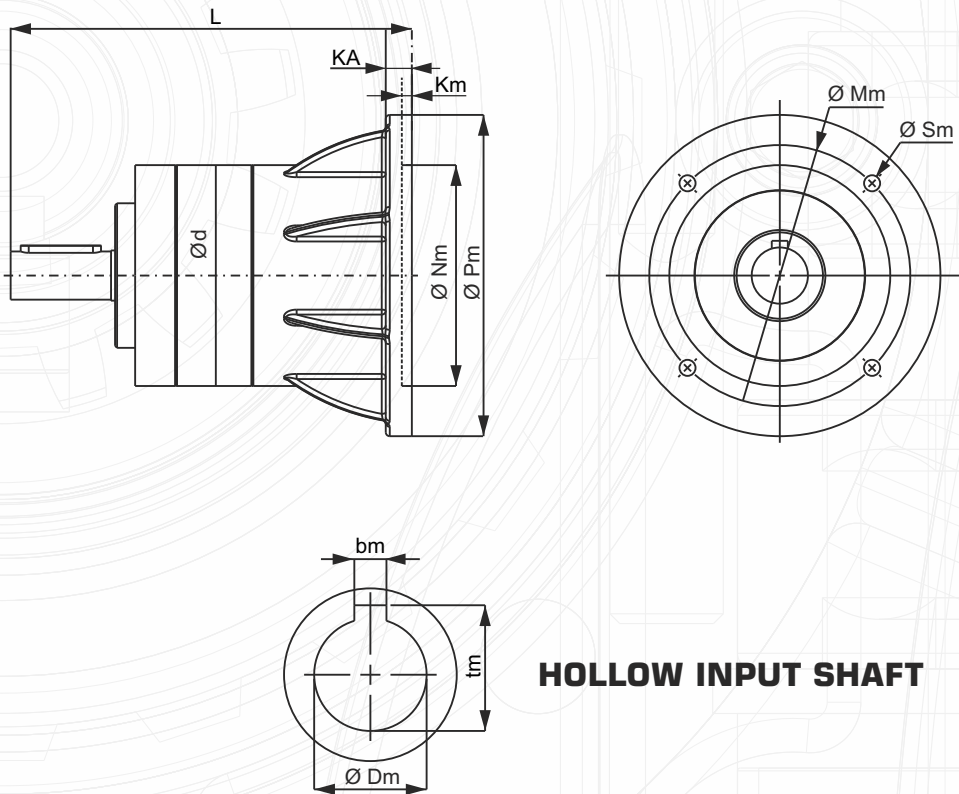
Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P150	230	1	3	960.0	49.2	132S-2P
	230	1	4	720.0	65.7	132S-2P
	230	1	5	576.0	82.1	132S-2P
	230	1	6	480.0	98.5	132S-2P
	230	1	7.8	369.2	128.0	132S-2P
	242	2	9	320.0	139.5	132S-2P
	242	2	12	240.0	186.0	132S-2P
	242	2	15	192.0	232.5	132S-2P
	230	1	3	480.0	98.5	132S-4P
	230	1	4	360.0	131.3	132S-4P
	230	1	5	288.0	164.1	132S-4P
	230	1	6	240.0	197.0	132S-4P
	230	1	3	320.0	147.7	132M-6P
	230	1	4	240.0	197.0	132M-6P

## 7.50 kW

Model	Cont. Torque Nm	Stg.	i	n2, rpm	Mn2, Nm	Input
P150	230	1	3	960.0	67.1	132S-2P
	230	1	4	720.0	89.5	132S-2P
	230	1	5	576.0	111.9	132S-2P
	230	1	6	480.0	134.3	132S-2P
	230	1	7.8	369.2	174.6	132S-2P
	242	2	9	320.0	190.3	132S-2P
	230	1	3	480.0	134.3	132M-4P
	230	1	4	360.0	179.1	132M-4P
	230	1	5	288.0	223.8	132M-4P

# DIMENSIONAL TABLE

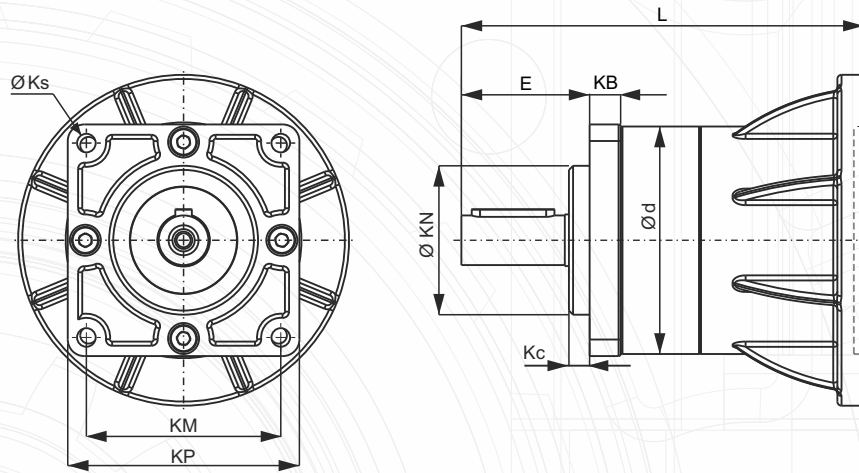
Planetary gearbox		Peak Torque = 2xRated Torque																	
Size	Rated ratio	3	4	5	6	7.8	9	12	15	16	20	24	25	36	64	96	125	144	216
	Stages	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3
PX070	Rated Torque in NM At Continuous Duty	18	18	18	18	18	22	22	22	22	22	22	22	22	30	30	30	30	30
PX090		23	23	23	23	23	35	35	35	35	35	35	35	35	42	42	42	42	42
PX110		125	125	125	125	125	132	132	132	132	132	132	132	132	140	140	140	140	140
PX130		127	127	127	127	127	137	137	137	137	137	137	137	137	145	145	145	145	145
PX150		230	230	230	230	230	242	242	242	242	242	242	242	242	251	251	251	251	251



**HOLLOW INPUT SHAFT**

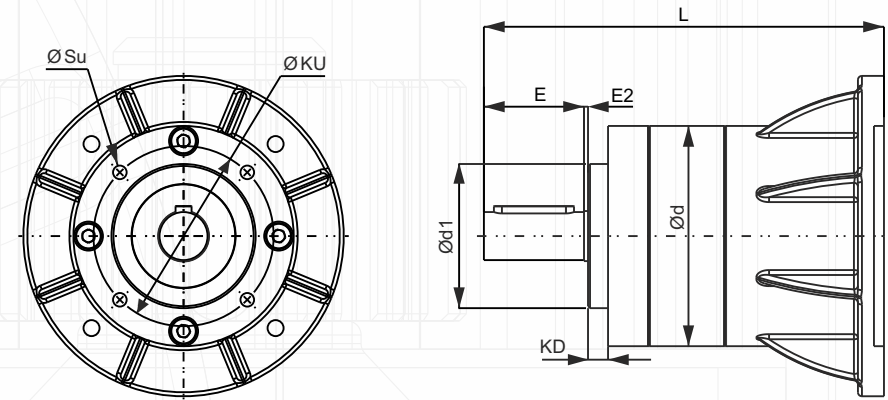
Size	Input flange	Pm	Nm	Mm	Sm	KA	Km	Dm	bm	tm
70	56B5	120	80	100	7	8	4	9	3	10.4
	63B4	90	60	75	6	-	4	11	4	12.8
	63B5	140	95	115	10	10	4	11	4	12.8
90	63B5	140	95	115	10	10	4	11	4	12.8
	71B5	160	110	130	10	10	4.5	14	5	16.3
	80B5	200	130	165	12	12	4.5	19	6	21.8
110	71B5	160	110	130	10	10	4.5	14	5	16.3
	80B5	200	130	165	12	12	4.5	19	6	21.8
	90B5	200	130	165	12	12	4.5	24	8	27.3
	100/112B5	250	180	215	13	13	5	28	8	31.3
130	80B5	200	130	165	12	12	4.5	19	6	21.8
	90B5	200	130	165	12	12	4.5	24	8	27.3
	100/112B5	250	180	215	14	13	5	28	8	31.3
150	80B5	200	130	165	12	12	4.5	19	6	21.8
	90B5	200	130	165	12	12	4.5	24	8	27.3
	100/112B5	250	180	215	14	13	5	28	8	31.3
	132B5	300	230	265	14	14	5	38	12	41.3

# DIMENSIONAL TABLE



## FLANGE MOUNTING

GBX Size	KP	KN	KM	Kc	KB	Ks
70	70X70	55	58	5	8	M6
90	90X90	70	78	5	8	M6
110	112X112	72	94	10	15	Ø9
130	134X134	82	110	10	15	Ø11
150	154X154	100	130	10	15	Ø11

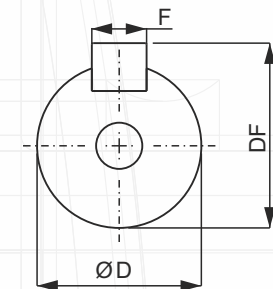


## UNIVERSAL MOUNTING



GBX Size	d1	KD	KU	E2	Su
70	55	5	58	0	4 – M6X15
90	70	5	78	0	4 – M6X15
110	72	10	90	2	4 – M8X20
130	82	10	105	2	4 – M10X20
150	100	10	130	2	4 – M10X20

## SOLID OUTPUT SHAFT

Size	Ød	Output shaft dimensions					Total Length 'L'			
		D	E	F	DF	C	1-stage	2-stage	3-stage	4-stage
70	70	14	30	5	16	22	145	159	173	187
90	90	19	40	6	21.5	26	162	176	190	204
110	110	24	50	8	27	30	229	254	279	304
130	130	28	60	8	31	36	253	285	317	349
150	150	32	70	10	35	40	292	327	362	397



# WEIGHT

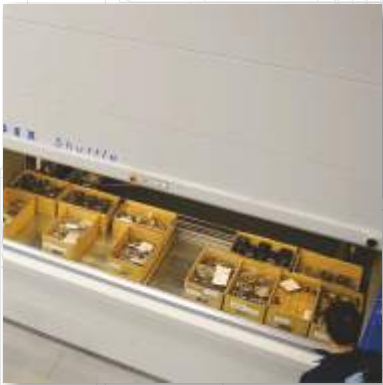
		Weight in Kg																			
		70				90				110				130				150			
Input flange	Mounting	1-stg	2-stg	3-stg	4-stg	1-stg	2-stg	3-stg	4-stg	1-stg	2-stg	3-stg	4-stg	1-stg	2-stg	3-stg	4-stg	1-stg	2-stg	3-stg	4-stg
56B5	<b>Flange</b> 	2.2	2.5	3.0	3.8																
63B4		2.0	2.3	2.8	3.6																
63B5		2.3	2.6	3.1	3.9	3.9	4.4	5.0	5.7												
71B5						4.0	4.5	5.1	5.8	7.7	9.5	11.5	13.5								
80B5						4.3	4.8	5.4	6.1	8.1	9.9	11.9	13.9	13.0	15.0	17.0	19.0	21.0	24.0	27.0	30.0
90B5										8.1	9.9	11.9	13.9	13.0	15.0	17.0	19.0	21.0	24.0	27.0	30.0
100/112B4										7.7	9.5	11.5	13.5								
100/112B5										8.6	10.4	12.4	14.4	14.7	16.7	18.7	20.7	22.5	25.5	28.5	31.5
132B5																		24.5	27.5	30.5	33.5
56B5		<b>Universal</b> 	2.0	2.3	2.8	3.6															
63B4	1.8		2.1	2.6	3.4																
63B5	2.1		2.4	2.9	3.7	3.7	4.2	4.8	5.5												
71B5						3.8	4.3	4.9	5.6	6.8	8.6	10.6	12.6								
80B5						4.1	4.6	5.2	5.9	7.2	9.0	11.0	13.0	11.3	13.3	15.3	17.3	17.2	20.2	23.2	26.2
90B5										7.2	9.0	11.0	13.0	11.3	13.3	15.3	17.3	17.2	20.2	23.2	26.2
100/112B4										6.8	8.6	10.6	12.6								
100/112B5										7.7	9.5	11.5	13.5	13.0	15.0	17.0	19.0	18.7	21.7	24.7	27.7
132B5																		20.7	23.7	26.7	29.7



CMM for Mechanical Inspection



Gear Lead & Profile Tester



KARDEX for Gear Storage



Gear Profile Grinding



Magnifying Glass to Check Gear



Gearbox Machining



All information and data presented in this catalogue have been checked with greatest care. We however do not assume responsible for any unintended errors and omissions. Our designs are being continuously improved, so please reconfirm specifications and dimensions prior to ordering.



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