

CYCLOIDAL DRIVES



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

Cyclo Motors Ltd.

Cyclo Transmissions Ltd has proven to be leaders in Power Transmission Products for last 25 years. Quality and trouble free performance of our products has been proved with their wide acceptance in the industries like Aluminum, Chemical, Cable Cars, Port Trusts, Steel Plants, Textile Machinery, Heavy Engineering, Power Plants, Sugar Plants, Flour Mills, etc.

Sensing the Market requirements CYCLO has always responded with a rigid product and created a simply unmatched range of speed reducers. Our Product Range includes Cycloidal Drives, Planetary Drives, Torque Limiters, Shaft Mounted Drives, Winches, Track Drives, Slew Drives, Pump Drives, Drum Motors and Custom Built Drives to the specific requirement of the customer. The entire Product range is produced indigenously with zero import contents.

The power transmission products are designed and manufactured with our own technology and practical experience of highly qualified technocrats. Products are manufactured with strict adherence to highest quality standards. This made us easy to be the part of world market. We have exported more than 6000 gearboxes in last 10 years to developed countries

We offer the best possible solution to the customer for his power transmission requirement through our Research and Development. In short, "We convert your Power Transmission Ideas into Applications"

The high quality components manufactured with the help of sophisticated machinery are indispensable both for trouble free operation and splitting of power transmission through multiple meshing. The multiple meshing allows power transmission through several paths and ultimately compact design. Our design experiences combined with extensive computer facility enable us to offer optimum solutions to any required application in a short time.



Our Factory at Satara, Maharashtra

With the customer orientation, in a very short span the small scale company grew to Public Limited Company with a capital outlay of Rs. 35 Million and having well equipped plant at Patkhal, (Dist. Satara, Maharashtra) and its Marketing offices in all metro cities of India.

We received ISO-9001 quality certificate from DNV in April 2001 and maintained till date.

Cyclo regularly participates in national as well as International Trade Fairs. We are a regular participant of Hannover Trade Fair – Hannover - GERMANY

CYCLO has been honored with several awards and prizes for this achievement. But the single most important award we are proud of is the smiling face of our satisfied Customer. Customer satisfaction is our motivation and strength. So truly we are **The Power Transmission People.**

We export to:

- Canada
- United States
- Norway
- Sweden
- United Kingdom
- Germany
- France
- Italy
- Middle East
- Australia
- New Zealand



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Cyclo Features

CYCLO is manufacturing and supplying Cycloidal Gear boxes for last 20 years. The Gearboxes are used successfully in a wide range of industries all over India and exported to developed countries. The Cycloidal Gear boxes are designed and manufactured with own technology and practical experience of highly qualified manpower.

- The series is available for a variety of Torque range and speeds. Cycloidal Drives are always coaxial, compact and sturdy.
- High shock capacity is seen because of many simultaneous contact points of the cycloidal disc. The shock loads are distributed to 2/3rds of the total no of teeth. It can withstand high momentary shock loads.
- Reduction ratios from 9: 1 to 71: 1 are available for the single stage and 81:1 to 2065 : 1 are available for the double stage. Ratios from 2145 : 1 to 43645 : 1 are available for three stages.
- Competitive initial cost, high reliability, long life and minimal maintenance give Cycloidal speed reducer superior overall economy when compared to conventional gearboxes.
- Since the inertia is very low the cycloidal gearbox is most suitable for frequent start-stop and reversing duties and the combination with a frequency inverter.
- When compared to the sliding tooth contact of conventional gearing and the rolling contact of the cycloidal system provides the reduced noise level.

General Information

Robust Construction :

CYCLO housings are made of grey cast iron. All the power transmitting components are made from alloy steel, which is hardened, tempered and ground. Standard units are provided with shaft oil seals of Nitrile-Butadiene-Rubber (NBR, DIN 3760).

Drive Ratings :

Standard CYCLO speed reducers are designed and built for long, maintenance-free, 8-hour daily service under conditions of uniform load. When your application involves more severe conditions, catalogue ratings, must be divided by the proper service factor, or the actual load must be multiplied by this factor.

Exceptional Overloads :

Correctly selected CYCLO speed reducers will handle momentary peak intermittent shock overloads. Even for severe duty applications the units are still guaranteed for 2 years from date of despatch, subject to our standard terms and conditions of sale.

Direction of Shaft Rotation :

For single and triple reduction units the slow speed shaft turns in the opposite direction to the high speed shaft. For double reduction units the slow speed and high speed shafts turn in the same direction. On all reductions the high and slow speed shafts are coaxial.

Efficiency :

The output torque and power stated in our selection sheets was calculated by taking into account the following efficiencies : 92 % for single, 84% for double and 80 % for Triple stage reduction units with the exception of some very high ratios where the input stage may be operating well below its rated capacity. In these instances a minimum recommended input power will be given in the table and this rating will then be limited by the rated output torque figure, not the input power, i.e. full catalogue power should not be applied.

Shaft Connections :

Pulley, sprocket or pinion should be mounted as close to the shaft bearing as possible and ideally not with the effective point of radial load beyond the midpoint of the protruding shaft to avoid undue bearing load and shaft deflection. Never over tighten belts or chains. Careful and accurate installation is essential for best results and trouble free operation. During installation the shafts should be checked to make sure that they are parallel and level. Accuracy of alignment after mounting can be checked with a string or straight edge held against the faces of the sprocket or pulley hubs. Couplings should be properly aligned to the limits specified by the manufacturer and carefully checked prior to initial start up. The coupling bore diameter and tolerance should be appropriate to the gearbox shaft diameter and tolerance to give the required fit.

Ambient Temperature

The speed reducers are suitable for use in an ambient temperature range of 10°C to 50°C. For higher or lower ambient temperatures please contact CYCLO.

Control of shaft load

When power is transmitted through spur gears, belts, pulleys or chains radial forces are applied to the shafts. The radial load capacities are calculated from load centring and compared with the allowable radial load. Before a reducer can be selected for any application, the

equivalent output torque or horse power must be computed by multiplying the actual or specified torque or horsepower by the service factor (SF) for the particular load classification for which the unit is to be used. It is necessary that the unit selected have a capacity equal to or in excess of the equivalent output torque in Nm or horsepower.

Reducer can be selected by service factor or load classification. Both service factors and load classification are a means of classifying different equipment and applications into a uniform guideline useful for reducer selection. Due to variations in application, service factors are used to adjust equipment ratings to accommodate differing load conditions. Applications involving unusual or severe load condition should be carefully reviewed before a service factor is applied. Care must be taken by the customer to isolate the reducer from unplanned transient load or vibrating conditions.

Material Construction

Ring Gear : Ring gears are manufactured from graded Cast Iron and machined with CNC machines.

Cycloidal Disc : These are manufactured from alloy steel and heat treated and machined with special purpose machines and CNC grinding machine to achieve desired accuracy.

Output / Input Shaft: Shafts are manufactured from high carbon steel and heat treated to achieve maximum strength to transmit power and absorb high shock loads.

Casing / Housing : Casing Foot or Flange type are designed to absorb vibration and support reaction loads. These are manufactured from graded Cast Iron or cast steel according to power transmission and designed to optimum power to weight ratio.

Broughtout parts : All standard parts such as bearings, Seals, hardware are procured directly from reputed manufacturers for genuineness and cost effectiveness.

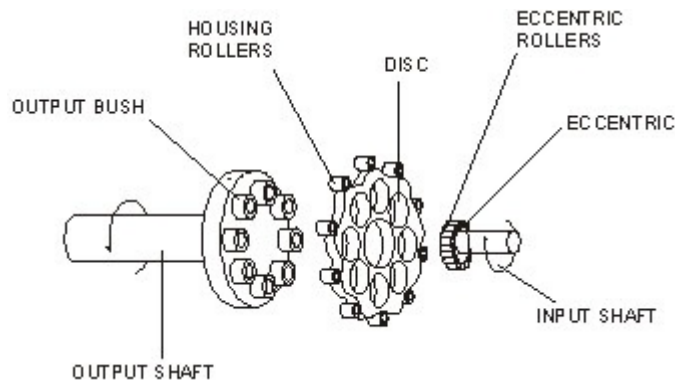
Eccentric : These are manufactured from bearing steel, heat treated for wear resistance and super finished for high surface finished quality and accuracy.

Working Principle

The unique Cycloidal speed reducing system is based on an ingeniously simple principle offering many benefits to the designer and user of power transmission drives. Basically, the reducer has three major moving parts.

- Input shaft with integrally mounted eccentric cam and roller assembly with Cycloid discs.
- Output speed shaft assembly with pins and bushes.
- Ring gear housing with pins and bushes.

As the eccentric cam rotates, it rolls the cycloid discs around the internal circumference of the stationary ring gear. The resulting action is similar to that of a wheel rolling around the inside of a ring. As the wheel (cycloid disc) travels in a clockwise path around the ring (ring gear housing), the wheel itself turns slowly on its own axis in a counter-clockwise direction.



In the **cyclo** system the cycloidal profile around the outer edge of the disc engages progressively with the rollers of the fixed ring gear housing to produce a reverse rotation at reduced speed. For each complete revolution of the high speed shaft the cycloidal disc turns one cycloidal tooth pitch in the opposite direction.

In general, there is one less cycloidal tooth around the disc than there are pins in the fixed ring gear housing, which results in reduction ratios being numerically equal to the number of cycloidal teeth on the disc. The reduced rotation of the cycloid discs is transmitted to the slow speed shaft by means of drive pins and rollers which engage with holes located around the middle of each disc. Normally a two disc system is used with a double eccentric cam which increases the torque capacity and offers an exceptionally smooth vibration-free drive.

The Product is designed with the help of computers for the optimum power to weight ratio. All components are designed in keeping stringent requirements.

Operating Temperature

It is important that the maximum oil temperature should not exceed 200 °F (93°C). If a continuous ambient temperature of 115 °F (46°C) or higher exists. Please contact the factory. Thermal limitations may exist for some units with low ratios. Heat exchangers are available for these applications that exceed the thermal capacity of reducers. For unusual application requirements such as those listed below, consult the factory for assistance.

- Ambient temperature less than 15°F (-9°C) or more than 120°F (50°C)
- Corrosive, chemical or explosive fumes.
- Inclined or azimuth mounting or rotating body or submerged requirements.
- Unusual atmosphere such as vacuum, high pressure, or high altitude.

A. Grease Lubrication :

Cyclo Speed Reducers, models **1001** to **1041** are lubricated with grease lubrication and ready for use immediately after installation. After the first 40 hours of operating the grease should be topped up. This is particularly important when speed reducers installed vertically to avoid the bearing running dry. After removing the control screw on the ring gear the grease can be introduced through the grease nipple provided on flange, while running the unit, till some grease comes out of the control hole. Further greasing intervals depends on operating conditions at least every 500 hours of operation. Please do not mix lubricant of different brands.

B. Oil Lubrication :

Determine minimum and maximum ambient temperatures the unit is to operate in. From the Ambient Temperature Table below, determine the proper **AGMA** or **ISO** grade lubricant for those temperature conditions and select an appropriate oil. **SAE** oil apply to gear lubricants only. Automotive oils are not recommended. All reducer are splash lubricated by gear rotation with even distribution to all gear meshes and bearings.

Viscosity in Centistokes @ 40 ° C

Ambient Temp.	Viscosity Grade	AGMA Grade	ISO Grade
-10° C to 15° C (15° F to 60° F)	90 – 110	3	100
10° C to 50° C (50° F to 125° F)	135 – 165	4	150

If the speed reducer operates under extreme conditions or exposed to large temperature fluctuations, the use of a synthetic oil is recommended.

Note : The synthetic lubrication should conform to the requirements of ANSI/AGMA 9005-D94

If the speed reducer operates in an environment where the temperature fluctuations are predictable, choose an oil viscosity that is recommended for that given temperature (i.e. for cold weather operation, use an oil that will circulate freely at all times.)The pour point of the oil should be 9°F (5°C) less than the minimum external temperature during reducer operation. During hot weather, use a higher viscosity oil that will not thin out and lose its lubricating quantities.

Special measure should be taken to protect drives operating in direct sunlight at ambient temperature over 100° F. This protection can consist of a canopy over the drive or reflective paint on the drive. If neither is possible, a heat exchanger or other cooling device may be required to prevent the reducer sump temperature from exceeding the allowable maximum oil temperature of 90° C or 80° C.

Cyclo Speed Reducers can be operated within oil temperatures from **20°C to 80°C**.

Lubrication Changes

Oil changes must be carried out after first 50/100 hours operation, and subsequently after every 2500 hours or at least every 12 months. If operating under abnormal conditions such as high temperature, sever duty, moisture or particle contamination, oil may need to be changed more frequently. Do not mix the oil of different types even of the same make.

Note :

1. Never mix mineral and synthetic oils.
2. Oil samples should be taken from the oil level hole, not from the drain hole for testing of Oil quality.

Installation

All Speed Reducers should be mounted on vibration-free, solid, level foundation. The normal method of mounting is Horizontal. When mounting the gear units, check that the breather, oil level and drain plugs are in the correct position. These will vary according to the mounting position.

Foundation - When mounting on structural steel, use of a rigid base plate is strongly recommended. The base plate should be designed to minimise bending and twisting. The base plate must be flat to prevent distortion of the unit. The base plate should extend the entire length of the unit. Bolt the unit securely to the structural steel support. When mounting on concrete base grout structural steel mounting pads into the mounting base, the reducer is then installed and shimmed off the structural pads, if shims are used to level or align the unit, they should be distributed evenly under all mounting pads to equalise the support load. Use a feeler gauge to determine thickness of required shims. All pads must be squarely supported to prevent the distortion of the housing when the unit is bolted down. In case of installation with shocks, long duration over loads or frequent stopping, it is necessary to install motor protections, such as hydraulic coupling or clutches.

Alignment - Align reducer with driven equipment by placing broad flat shims under all mounting pads of the reducer. Start at the low speed end and level across the length and width of the reducer. Check with feeler gauge to make certain that all pads are supported to prevent distortion of housing when reducer is bolted down. After reducer is aligned with driven equipment and bolted down, align prime mover to the reducer input shaft. The reliability and long life of the reducer requires careful installation of accessories and accurate alignment of the connecting shafts. After first week Check alignment of the total system and realign if necessary. Also tighten the bolts and plugs as required. Remember to remove the load from the system before attempting to service the reducer. This action reduces the possibility of unexpected motion in the system. Check coupling for alignment to make sure that setting or vibration has not caused excessive misalignment.

Load Connections - Mount sprocket, pulley and sheave as close as possible to the gear case in order to reduce the cantilever effect of overhang loads on the shaft bearings. Adjust belts or chains to manufacturer specification to prevent over tightening.

Preparation for Storage - If reducer is to be stored or is likely to be inactive after installation, drain oil from housing and spray all internal parts with a rust preventive oil that is soluble in lubricating oil. Seal the reducer completely, and replace the vent plug with a solid pipe plug to keep rust inhibiting atmosphere inside. Periodically inspect stored or inactive reducers and add rust inhibitor every six months or more often if necessary. Dry indoor storage is recommended. Rotate shafts every three months to prevent bearings from becoming lacquered.

Preparation for Start-Up - Fill reducer to proper oil level with the recommended lubricant. Remember reducers are supplied from the factory without oil. Rotate shaft until the bearings move freely. Now the unit is ready to start up.

Table 1 - Mechanical Service Factor - SF

	Power Source in hours per day	Duration of Working Uniform Shock	Load classification		
			Moderate Shock	Heavy	
Shock					
Electric motor, steam	Under - 3	0.80	1.00	1.50	
Turbine or hydraulic	3 to 10	1.00	1.25	1.75	
Motor	Over - 10	1.25	1.50	2.00	
Multi-cylinder internal	Under - 3	1.00	1.25	1.75	
Combustion engine	3 to 10	1.25	1.50	2.00	
	Over - 10	1.50	1.75	2.25	
Single cylinder internal	Under - 3	1.25	1.50	2.00	
Combustion engine	3 to 10	1.50	1.75	2.25	
	Over - 10	1.75	2.00	2.50	

Note - The starting torque should not exceed 2.0 times the nominal torque of the gearbox

Selection of reducer is based solely on the required output torque capacity of the application. The Service factor method is used to apply specific industry application standards based on the hours per day of operation. These application standards are given in **table-2** and have been developed based on practical application experience.

Information Required for selection

- The specific application
- Working hours per day of equipment.
- Input speed.
- Input Horsepower
- Desired output speed.
- Overhang load etc.

Determine Service Factor

Select the appropriate service factor for the industry and specific applications from table1. These service factors are designed for applications driven by various prime movers. Pre-selection tables are available for input speed of 1400, rpm. and service factors of 1.0, 1.4 and 2.0.

Calculate the desired reducer ratio -

Select nominal ratio , that is closest to the desired ratio calculated as above.

$$\text{Reduction ratio} = \frac{\text{Input speed rpm}}{\text{Output speed rpm}}$$

Calculate equivalent output torque -

A. When Input motor HP is known :

$$\text{Output Torque} = \frac{716.2 \times \text{HP} \times \text{SF} \times \text{Eff}}{\text{Output speed}}$$

Where HP = Power in horsepower S.F. = Service Factor from table 1 Eff = Drive Efficiency
 (Single = 92 % , double = 84 % , triple = 80%)

B. Where required output torque (To) is known - Output torque = TO X S. F.

Select reducer - Locate the nominal ratio determined as above. Locate the smallest model, that offers the output torque (Kg-m.) rating that is equal to or greater than the equivalent output torque determined as above for the nominal ratio

Check overhang load - When overhang load exists on either input or output shafts, check for the appropriate model to confirm the reducer selection. For units that have more than listed requirements of overhang or thrust load applied, contact factory with radial and thrust load information.

Check dimensions - Dimensions drawings for reducers are given in the catalogue for free input and hollow input with foot and flange mounting. For your specific requirement contact factory.

Ordering reducers - Specify the model, Reduction ratio, Mounting, Input type and Specific requirements if any.

Non-Motorised Selection

A. When motor horsepower is known

10 hp 1400-rpm electric motor is used to drive a heavy duty horizontal apron conveyor working 24 hrs day. The conveyor requires a reducer output speed of 50 rpm. A roller chain drive having a 240 B 25 tooth roller chain sprocket having 600 mm Pitch Diameter which is mounted at the shaft center. The chain pull is acting at 76 mm from the seal cage. Ambient temperature is 26°C.

Select reducer - Nominal ratio is 29 The smallest series listed for the Output torque calculated as above model is a 1071 having rating of 250 Kgm.

Overhung and thrust Loads - The overhung load exists on the output shaft. The input shaft is direct connected and does not encounter overhung load.

$$\text{Overhung load} = \frac{1444021 \times 10 \text{ hp} \times 1.0 \times 1.}{600 \text{ mm} \times 48.27} = 518.53 \text{ kg}$$

The overhung load capacity from rating table for a 1071 having an output speed approximately 50 rpm is 1750 Kg. The rated capacity is greater than the actual value, so the selection is approved. This application does not encounter thrust load.

Check dimensions.

Order Cycloidal Speed reducer.

Model Name	- 1071	Nominal Ratio	- 29
Output torque rating	- 250 Kgm	Input motor horsepower	- 10 hp.
Service Factor	- 1.5	Input Speed	- 1400
Desired Accessories	- none.		

B. When required output torque is known

A heavy-duty bucket elevator is operating at 24 hrs/day. The elevator requires a reducer with a 120 rpm output speed (1400 rpm input speed) and 274 Kgm output torque. Overhung and thrust loads are not a factor. Reducer will be driven with a 60-hp electric motor.

Select service factor. - The service factor for a heavy duty bucket elevator 24 - hrs / day operation is 1.5.

Calculate Required Reduction Ratio. - Ratio = $\frac{1400}{120 \text{ rpm}} = 11.67$.

Select closest nominal ratio i.e.11 - Ratio = $\frac{1400}{11} = 127.27$

Calculate equivalent output torque - Since O/P torque is known :

Design output torque = 274 Kgm. X 1.5 (SF) = 411 Kgm.

Select reducer. - Reducer selection for Nominal ratio 11 The smallest series listed for the design output torque as calculated as above is model 1091 having rating of 750 kgm.

Check for overhange and thrust loads. - Overhange and thrust loads are not a factor in this example.

Check dimensions. - Dimensions for model 1091.

Order Cycloidal speed Reducer.

Model Name	: 1091.	Nominal Ratio	: 11
O/P torque rating	: 750 kgm.	Input motor HP	: 60 .
Service factor	: 1.5	Input speed	: 1400 rpm.

With Standard Electric Motor

- (i) Calculate absorbed power (kW) to drive required driven machine.
- (ii) Determine the load classification from table 2 for required driven machine.
- (iii) Determine the required service factor from table 1 according to load classification and daily operations.
- (iv) Choose motor power nearest to the required absorbed power. Four pole or 1440 RPM motors will be available at the shortest delivery time and economical
- (v) With the knowledge of driven machine speed requirement (output speed of the geared motor) Select nearest available speed and check service factor is adequate.
- (vi) Actual service factor can be calculated as follows.

$$\text{Actual S. F.} = \frac{\text{Selected SF x Motor HP}}{\text{Absorbed power}}$$

Example : Motorised gear unit is required to drive a belt conveyor for handling uniformly loaded material. The conveyor has to operate at 24 hours per day continuously and the required power is 2.0 kW at an input speed of 50 rev / min. Further a standard output bore and mounting position are required with torque retaining arrangement.

Following the procedure specified above we have

- (i) The load classification for this is uniform.
- (ii) The drive requires a minimum service factor 1.25 from table 2.
- (iii) The next standard larger motor of above The absorbed power is 2.2 kW under 4 pole motors and at N2 50 rev/min, therefore the gear unit selection is with a service factor of 1.3 at full motor power

$$\text{Actual service factor} = \frac{2.2 \times 1.3 = 1.43}{2.0}$$

- (i) Calculate the required power (kW) for the driven machine and choose the appropriate motor.

$$\text{(ii) Calculate reduction ratio} = \frac{\text{Input speed}}{\text{Output speed}}$$

- (iii) Determine the number of reduction stages using exact gear ratio in ratio table.
- (iv) Calculate the required mechanical rating. - P (mech) = Absorbed Power x S.F.
- (v) Using rating table, select size of the unit with required mechanical rating.
- (vi) Check the motor is suitable for mounting on the selected gear unit.

Example : Gear unit is to fitted by the customer with a 1.5 kW, 1400 rev / min electric motor of frame size - 90 B5. The output shaft is to rotate at 50 rev / min. and is to be coupled to an industrial fan that operates 8 hours per day.

Selection Procedure

Following the procedure specified as above.

- (i) The load classification for this application is moderate shock load.
- (ii) The drive requires a minimum mechanical service factor of 1.25
- (iii) Required unit ratio 1400 / 50 i.e. 28 : 1 Check motor supplier's data for actual speed
- (iv) Referring to exact ratio table a single reduction nominal ratio 29 : 1 is required and Mechanical rating requirement of : P (mech.) = 26.8 kgm.
- (v) Referring to the unit mechanical rating table, the Model 1041 has a capacity of 30 kgM hence adequate.
- (vi) The unit designation for this application is

Model : 1041
 Input power : 2 HP
 Mounting : Foot
 Reduction : 29.

Thrust Load

Thrust loads applied to reducer shafts through coupling connections often are combined with radial shaft loads. Since this combined loading affects bearing thrust capacities, these values may be obtained by contacting the factory.

Overhung Load

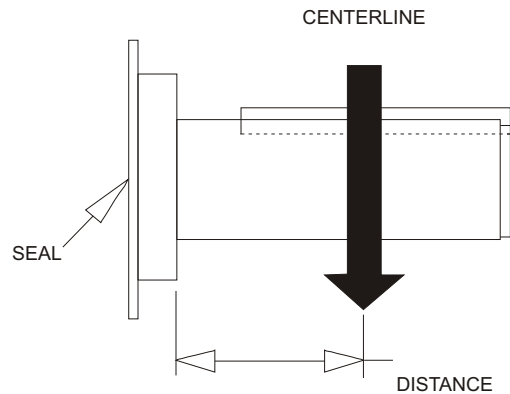
The centerline of the overhung load should be as close as possible to the seal cage to minimize bearing load and improve bearing life. The formula for determining overhung load in Kg. is as follows

$$1444021 \times HP \times F_c \times L_f$$

$$\text{Overhung load} = \frac{\text{-----}}{\text{PD} \times \text{RPM}}$$

Fc = Load Connection Factor

- Sprocket or Belt 1,00,
- Machined Pinion & Gear* (1.25)
- V-Belt (1.50)
- Flat Belt (2.50)
- Lf = Load Location Factor
- L.S.S. - Ref. Table 5
- H.S.S



Refer all multiple chain sprocket and pinion mounted applications to the factory.

- Where : HP - Horsepower without service factor.
- Lf - Load location factor.
- RPM - Shaft revolutions per minute.

- Fc - Load connection factor.
- PD - Pitch Diameter in mm

If the actual overhung load exceeds the specified capacity, the following may assist to reduce the overhung load on the shaft bearings.

1. Increase the pitch diameter of gear, Pulley or sprocket.
2. Locate the sprocket or belt closer to the Seal cage.
3. Go to the next larger reducer series

Input Shaft

Example : A 10 HP. 1400 RPM motor with 220 mm Pitch diameter pulley is V-belt connected to an 140 mm sheave mounted on an 1091 Model reducer having a ratio of 51 and output torque capacity of 750 Kgm. and a 27.45 RPM output speed. The centerline of the pulley on the reducer is mounted 40mm from the seal cage. Calculate the high-speed shaft overhung load.

Solution :

$$\text{Reducer Input RPM} = \frac{1400 \times 220}{140} = 2200 \text{ RPM}$$

$$\text{O.H.L.} = \frac{1444021 \times 10 \times 1.5 \times 0.58}{140 \times 2200} = 40.78 \text{ Kg.}$$

RPM yields an overhung load capacity of 800 Kg for the 1091 Model reducer. The actual load of 40.78 Kg. is less than the capacity rating and is acceptable for this selection.

Output Shaft

The overhung capacity ratings for low speed shafts.

Example : A 5 HP, 1400 RPM motor is directly connected to a 1061 reducer having a ratio of 21 (66.67 RPM output). A 120 B21 10.064" PD roller chain sprocket is mounted so that the centerline of the load is 72 mm from the seal cage. Calculate the low speed shaft overhung load.

Solution :
$$\text{O.H.L.} = \frac{1444021 \times 5 \times 1.0 \times 1.04}{255.62 \times 66.67} = 440.60 \text{ Kg.}$$

The overhung load rating listed in Table for the 1061 reducer at a ratio of 21 is 1300 Kg. The actual load of 440.60 Kg. is less than the rated capacity and is acceptable for this application. Specified values of overhung loads are based on the load being applied at midpoint of shaft length.

Model Codification

1. Mounting Position	(1 Digit)	H - Horizontal V - Vertical shaft down. W - Vertical shaft upward. X - Inclined.
2. Input Type	(4 Digit)	F - Free J - Hollow - Frame size M - Geared motor - Power in HP
3. Mounting Type	(3 Digit)	H - Foot F - Flange A - Agitator C - C Flange
4. Model Number	(3 Digit)	
5. Stage Number	(1 Digit)	1 - Single 2 - Double 3 - Triple
6. Reduction Ratio	(2 to 5 Digit)	
7. Special	(1 Digit)	X - Indicates model to which any specialised or modified specification is adopted. O - Indicates standard Model

Example - 1

- H - Horizontal
- F - Input free
- C - C Flange mounting
- 103 - Standard model
- 2 - Double stage
- 377 : 1 - Reduction ratio.

H F C 103 - 2 - 377-O

Example - 2

- V - Vertical down
- J - Input hollow
- A - Agitator mounting
- 105 - Agitator model
- 2 - Double stage.
- 625 :1 - Reduction ratio

V J A 105 - 2 - 625- O

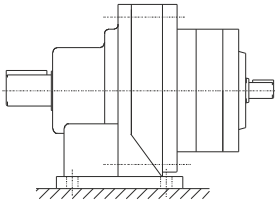
Example - 3

- W - Vertical up
- M - Geared Motor
- F - Flange mounting
- 109 - Standard
- 1 - Single stage.
- 59 :1 - Reduction ratio

W M F 109 -1 - 59- X

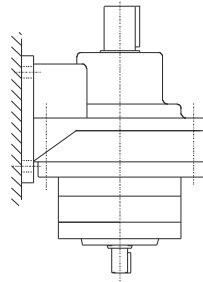
Mounting Positions

HFH



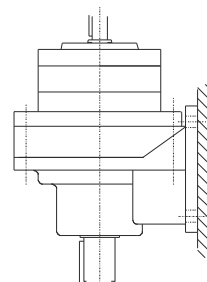
H - HORIZONTAL
F - FREE INPUT
H - FOOT MOUNTED

WFH



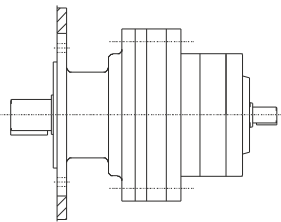
W - VERTICAL SHAFT UPWARD
F - FREE INPUT
H - FOOT MOUNTED

VFH



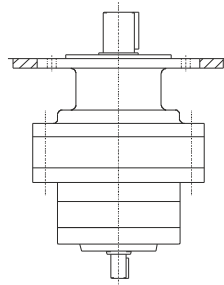
V - VERTICAL SHAFT DOWNWARD
F - FREE INPUT
H - FOOT MOUNTED

HFF



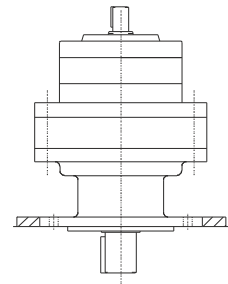
H - HORIZONTAL
F - FREE INPUT
F - FLANGE MOUNTED

WFF



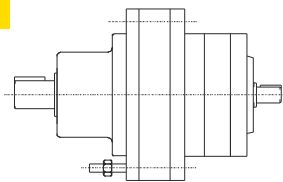
W - VERTICAL SHAFT UPWARD
F - FREE INPUT
F - FLANGE MOUNTED

VFF



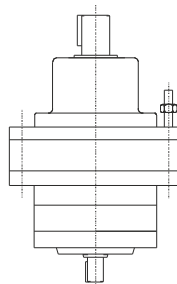
V - VERTICAL SHAFT DOWNWARD
F - FREE INPUT
F - FLANGE MOUNTED

HFC



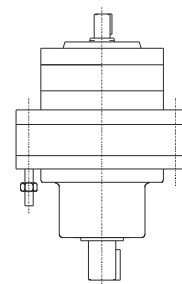
H - HORIZONTAL
F - FREE INPUT
C - C FLANGE MOUNTED

WFC



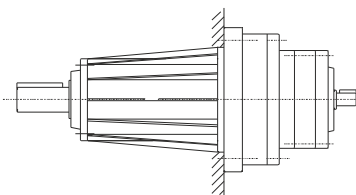
W - VERTICAL SHAFT UPWARD
F - FREE INPUT
C - C FLANGE MOUNTED

VFC



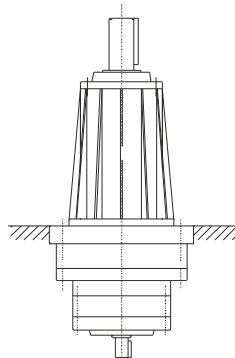
V - VERTICAL SHAFT DOWNWARD
F - FREE INPUT
C - C FLANGE MOUNTED

HFA



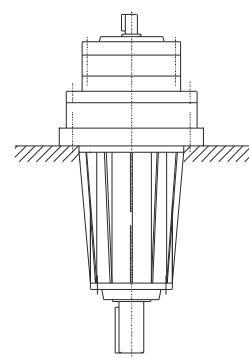
H - HORIZONTAL
F - FREE INPUT
A - AGITATOR MOUNTED

WFA



W - VERTICAL SHAFT UPWARD
F - FREE INPUT
A - AGITATOR MOUNTED

VFA



V - VERTICAL SHAFT DOWNWARD
F - FREE INPUT
A - AGITATOR MOUNTED



TECHNICAL DATA



Load Classification

U = Uniform load

H = Heavy shock load

M = Moderate shock load

T = Refer to Cyclo

Driven Machine Type	Load Type	Driven Machine	Load Type	Driven Machine	Load Type	Driven Machine	Load
Agitators		Dry dock cranes		Merry-go-round conveyor	M	felt stretcher	
Pure liquids	U	main hoist	T	roll cases	H	felt whipper	
Liquids & solids	M	auxiliary hoist	T	slab conveyor	H	jordans	
Agitators		Dry dock cranes		Merry-go-round conveyor	M	felt stretcher	M
Pure liquids	U	main hoist	T	roll cases	H	felt whipper	H
Liquids & solids	M	auxiliary hoist	T	slab conveyor	H	jordans	M
Liquids-variable density	M	boom, luffing	T	small waste conveyor-belt	U	log haul	H
		rotating swing or slew	T	small waste conveyor-chain	M	presses	M
		tracking ,drive wheels	T	sorting table	M	pulp machine reel	M
Blowers				tipple hoist conveyor	M	suction roll	M
Centrifugal	U	Elevators		tipple hoist drive	M	washers & thickeners	M
Lobe	M	bucket-uniform load	U	transfer conveyor	M	winders	M
Vane	U	bucket-heavy load	M	transfer rolls	M		
		bucket-continuous	U	tray drive	M	Printing presses	
Brewing and distilling		centrifugal discharge	U	trimmer feed	M	Pullers T	
Bottling Machinery	U	escalators	U	waste conveyor	M	barge haul	H
Brew kettles cont. duty	U	freight	M			Pumps centrifugal	U
Cookers cont. duty	U	gravity discharge	U	Machine tools		proportioning	M
Mash tubs cont. duty	U	man lifts	T	bending roll	M	reciprocating single acting	
Scale hopper-fre. starts	M	passenger	T	punch press-gear driven	H	3 or more cylinders	M
				notching press-belt driven	T	reciprocating double acting	
Can filling M/C	U	Fans		plate planers	H	2 or more cylinders	M
Cane knives	M	centrifugal	U	tapping machine	H	single acting 1or 2 cylinders	T
Car dumpers	H	cooling towers				double acting; single cylinder	T
Car pulleys	M	induced draft	T	Other machine tools		rotary - gear type	U
Clarifiers	U	forced draft	T	Main drives	M	rotary - lobe, vane	U
Classifiers	M	induced draft	M	Auxiliary drives	U		
Clay working machinery		large, mine, etc.	M			Rubber and plastics industries	
Brick press	H	large, industrial	M	Metal mills		crackers	H
Briquette machine	H	light, small diameter	U	Draw bench carriage	M	laboratory, equipment	M
Clay working machinery	M			Main drive	M	mixed minds	H
Pug mill	M	Feeders		pinch, dryer and scrubber		refiners	M
		apron	M	rolls-reversing	T	rubber calenders	M
Compressors		belt	M	slitters	M	rubber mill-2 on line	M
Centrifugal	U	disc	U			rubber mill-3 on line	M
Lobe	M	reciprocating	H	Table conveyors -		sheeter	M
Reciprocating - Multi-cyl.	M	screw	M	non-reversing		tire building machines	T
Single cyl.	H			group drives	M	tire and tube press openers	T
		Food industry		individual drives	H	tubers and strainers	M
Conveyor - uniformly loaded		beef slicer	M	Reversing -		warming mills	M
Apron	U	cereal cooker	U	wire drawing	M		
Assembly	U	dough mixer	M	flattening machine	M	Sewage disposal equipment	
Belt	U	meat grinders	M	wire winging machine	M	bar screens	U
Bucket	U	Generators-not welding	U	Mill-rotary type ball	H	chemical feeders	U
Chain	U	Hammer mills	H	cement kilns	H	collectors	U
Flight	U			dryers and coolers	H	de watering screws	M
Oven	U	Hoists		kilns, other than - cement	H	scum breakers	M
Screw	U	heavy duty	H	pebble	H	slow or rapid mixers	M
		medium duty	M	rod plain	H	thickeners	M
Conveyor - heavy duty		skip hoist	M	wedge bar	H	vacuum filters	M
Apron	M			tumbling barrels	H		
Assembly	M	Laundry machines		Mixers		Screens	
Belt	M	Laundry washers reverse	M	concrete mixers - cont.	M	air washing	U
Bucket	M	Laundry tumblers	M	concrete mixers -int.	M	rotary-stone or gravel	M
Chain	M			constant density	U	travelling water intake	U
Flight	M	Line shafts		variable density	M	Slab pushers	M
Live roll	H	processing equipment	M			Steering gear Stokers	U
Oven	M	light applications	U	Oil industry			
Reciprocating	H	other line shafts	U	chillers	M	Sugar industry	
Screw	M			oil well pumping	T	cane knives	M
Shaker	H	Lumber industry		paraffin filter press	M	crushers	M
		barkers- Hydraulic	M	rotary kilns	M	mills	M
Cranes		barkers- mechanical	M				
Main hoists	U	burner conveyor	M	Paper mills		Textile industry	
Bridge travel	H	chain saw and drag saw	H	agitators, (Mixers)	M	batchers	M
Trolley travel	H	chain transfer	H	barker-auxiliaries hydraulic	M	calenders	M
		craneway transfer	H	barker-mechanical	H	cards	M
Crusher		de-barking drum	H	barking drum	H	dry cans	M
Ore	H	edger feeder	M	beater and pulper	M	dryers	M
Stone	H	gang feeder	M	bleacher	U	dyeing machinery	M
Sugar	H	green chain	M	calenders	M	knitting machines looms	M
		live rolls	H	calenders-super	H	mangles	M
Dredges		log deck	H			nappers	M
Cable reels	M	log haul-incline	H	Converting machine,		pad	M
Conveyors	M	log haul-well type	H	except cutters, platers	M	range drives slashers	M
Cutter head drives	H	log turning device	H	conveyors	U	soapers	M
Jig drives	H	main log conveyor	H	couch	M	spinners	M
Manoeuvring Winches	M	off bearing rolls	M	cutters-plates	H	tenter frames	M
Pumps	M	planer feed chains	M	cylinders	M	washers	M
Screen drive	H	planer floor chains	M	dyers	M	winders	M
Stackers	M	planer tilting hoist	M				
Utility winches	M						

Output Shaft

Model	Single Stage		Double Stage		Triple Stage	
	Overhang in Nm	Thrust in Nm	Overhang in Nm	Thrust in Nm	Overhang in Nm	Thrust in Nm
100	600	300	600	300	660	330
101	600	300	600	300	660	330
102	2000	1000	2000	1000	2200	1100
103	2000	1000	2000	1000	2200	1100
104	6000	3000	7000	3000	7700	3300
105	9000	4000	12000	4000	13200	4400
106	13000	7000	18000	7000	19800	7700
107	17500	10000	24000	10000	26400	11000
108	24000	7000	34000	7000	37400	7700
109	35000	20000	48000	20000	52800	22000
110	51000	25000	72000	25000	79200	27500
111	84000	30000	84000	30000	92400	33000
112	100000	40000	100000	40000	110000	44000

Input Shaft (Speed at 1440 rpm)

Model	Single Stage		Double Stage		Triple Stage	
	Overhang in Nm	Thrust in Nm	Overhang in Nm	Thrust in Nm	Overhang in Nm	Thrust in Nm
100	450	200	450	200	450	200
101	450	200	450	200	450	200
102	130	600	450	200	450	200
103	130	600	450	200	450	200
104	3000	1000	130	600	450	200
105	5500	1600	130	600	450	200
106	6000	2800	3000	1000	130	600
107	7500	3300	3000	1000	130	600
108	7500	3700	5500	1600	130	600
109	8000	4000	6000	2800	3000	1000
110	8500	4300	7500	3300	3000	1000
111	9000	4700	7500	3300	3000	1000
112	9500	5000	7500	3700	5500	1600

Mechanical Rating

Reduction Ratio and Rating

Model	Single Stage		Double Stage		Triple Stage	
	Reduction Ratio	Mechanical rating in Nm	Reduction Ratio	Mechanical rating in Nm	Reduction Ratio	Mechanical rating in Nm
100	9 - 71	10	81 - 2065	10	2145-43645	10
101	9 - 71	30	81 -2065	30	2145-43645	30
102	9 - 71	80	81 -2065	80	2145-43645	80
103	9 - 71	150	81 -2065	150	2145-43645	150
104	9 - 71	300	81 -2065	300	2145-43645	300
105	9 - 71	500	81 -2065	500	2145-43645	500
106	9 - 71	1000	81 -2065	1000	2145-43645	1000
107	9 - 71	2500	81 -2065	2500	2145-43645	2500
108	9 - 71	3500	81 -2065	3500	2145-43645	3500
109	9 - 71	7500	81 -2065	7500	2145-43645	7500
110	9 - 71	12000	81 -2065	12000	2145-43645	12000
111	9 - 71	18000	81 -2065	18000	2145-43645	18000
112	9 - 71	30000	81 -2065	30000	2145-43645	30000

Equivalent Models

Single Stage		Double Stage		Triple Stage	
New Model	Old Model	New Model	Old Model	New Model	Old Model
1001	SP - 0	1002	SP - 0 0	1003	SP - 0 0 0
1011	SP - 1	1012	SP - 0 1	1013	SP - 0 0 1
1021	SP - 2	1022	SP - 0 2	1023	SP - 0 0 2
1031	SP - 3	1032	SP - 1 3	1033	SP - 1 1 3
1041	SP - 4	1042	SP - 2 4	1043	SP - 0 2 4
1051	SP - 5	1052	SP - 3 5	1053	SP - 1 3 5
1061	SP - 6	1062	SP - 4 6	1063	SP - 2 4 6
1071	SP - 7	1072	SP - 4 7	1073	SP - 2 4 7
1081	SP - 8	1082	SP - 5 8	1083	SP - 3 5 8
1091	SP - 9	1092	SP - 6 9	1093	SP - 4 6 9
1101	SP -10	1102	SP - 7 10	1103	SP - 4 7 10
1111	SP -11	1112	SP - 7 11	1113	SP - 4 7 11
1121	SP - 12	1122	SP - 8 12	1123	SP - 5 8 12

Standard Reduction Ratios

Input speed 1440 rpm

First	Stage No. Second	Output	Total Ratio	Output Speed	First	Stage No. Second	Output	Total Ratio	Output Speed
		9	9	160	25	13	13	4,225	0.34
		11	11	130.9	15	17	17	4,335	0.33
		13	13	110.8	9	17	29	4,437	0.32
		15	15	96	13	17	21	4,641	0.31
		17	17	84.7	11	15	29	4,785	0.3
		21	21	68.6	13	13	29	4,901	0.294
		25	25	57.6	11	13	35	5,005	0.288
		29	29	49.7	11	11	43	5,203	0.277
		35	35	41.1	15	17	21	5,355	0.269
		43	43	33.5	11	17	29	5,423	0.266
		51	51	28.2	25	13	17	5,525	0.261
		59	59	24.4	15	15	25	5,625	0.256
		71	71	20.3	11	15	35	5,775	0.249
	9	9	81	17.8	13	13	35	5,915	0.243
	9	11	99	14.5	17	17	21	6,069	0.237
	11	13	143	10.1	11	13	43	6,149	0.234
	9	17	153	9.41	25	15	17	6,375	0.226
	13	13	169	8.52	15	15	29	6,525	0.221
	11	17	187	7.7	11	21	29	6,699	0.215
	13	15	195	7.38	11	25	25	6,875	0.209
	13	17	221	6.52	11	15	43	7,095	0.203
	11	21	231	6.23	17	17	25	7,225	0.199
	15	17	255	5.65	29	15	17	7,395	0.195
	11	25	275	5.24	9	29	29	7,569	0.19
	17	17	289	4.98	35	13	17	7,735	0.186
	13	25	325	4.43	35	15	15	7,875	0.183
	17	21	357	4.03	11	25	29	7,975	0.181
	15	25	375	3.84	13	25	25	8,125	0.177
	17	25	425	3.39	17	17	29	8,381	0.172
	13	35	455	3.16	15	17	35	8,925	0.161
	17	29	493	2.92	15	21	29	9,135	0.158
	21	25	525	2.74	11	29	29	9,251	0.156
	13	43	559	2.58	15	25	25	9,375	0.154
	17	35	595	2.42	13	17	43	9,503	0.152
	25	25	625	2.3	15	15	43	9,675	0.149
	15	43	645	2.23	11	21	43	9,933	0.145
	13	51	663	2.17	17	17	35	10,115	0.142
	25	29	725	1.99	17	21	29	10,353	0.139
	21	35	735	1.96	17	25	25	10,625	0.136
	15	51	765	1.88	15	25	29	10,875	0.132
	29	29	841	1.71	11	29	35	11,165	0.129
	25	35	875	1.65	13	25	35	11,375	0.127
	21	43	903	1.59	13	21	43	11,739	0.123
	29	35	1,015	1.42	17	25	29	12,325	0.117
	25	43	1,075	1.34	15	29	29	12,615	0.114
	35	35	1,225	1.18	15	25	35	13,125	0.11
	25	51	1,275	11.13	11	35	35	13,475	0.107
	29	51	1,479	0.97	11	29	43	13,717	0.105
	35	43	1,505	0.96	13	25	43	13,975	0.103
	29	59	1,711	0.84	17	29	29	14,297	0.101
	35	51	1,785	0.81	17	25	35	14,875	0.097
	43	43	1,849	0.78	25	25	25	15,625	0.092
	35	59	2,065	0.7	13	35	35	15,925	0.09
11	13	15	2,145	0.67	11	35	43	16,555	0.087
13	13	13	2,197	0.66	17	29	35	17,255	0.083
9	15	17	2,295	0.63	21	29	29	17,661	0.082
11	13	17	2,431	0.59	15	29	43	18,705	0.077
13	13	15	2,535	0.57	13	35	43	19,565	0.074
11	15	17	2,805	0.51	11	43	43	20,339	0.071
9	11	29	2,871	0.5	21	29	35	21,315	0.068
11	13	21	3,003	0.48	21	25	43	22,575	0.064
11	11	25	3,025	0.48	13	43	43	24,037	0.06
11	17	17	3,179	0.45	25	29	35	25,375	0.057
9	17	21	3,213	0.45	21	29	43	26,187	0.055
13	15	17	3,315	0.43	15	43	43	27,735	0.052
15	15	15	3,375	0.43	29	29	35	29,435	0.049
11	15	21	3,465	0.42	25	35	35	30,625	0.047
11	11	29	3,509	0.41	17	43	43	31,433	0.046
11	13	25	3,575	0.40	15	43	51	32,895	0.044
13	17	17	3,757	0.38	29	35	35	35,525	0.041
15	15	17	3,825	0.38	25	35	43	37,625	0.038
11	17	21	3,927	0.37	21	43	43	38,829	0.037
13	15	21	4,095	0.35	29	35	43	43,645	0.033

Cyclo Drive Selection Table

Input Speed 1440 rpm

Input Power in Kw.		0.18			0.25			0.37		
Ratio	O/P RPM	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III
9	160	1001	1011	1011	1011	1011	1011	1011	1011	1021
11	131	1011	1011	1011	1011	1011	1021	1011	1021	1021
13	111	1011	1011	1011	1011	1011	1021	1011	1021	1021
15	96	1011	1011	1021	1011	1021	1021	1021	1021	1021
17	85	1011	1011	1021	1011	1021	1021	1021	1021	1021
21	69	1011	1021	1021	1021	1021	1021	1021	1021	1031
25	58	1011	1021	1021	1021	1021	1021	1021	1031	1031
29	50	1021	1021	1021	1021	1021	1031	1021	1031	1031
35	41	1021	1021	1021	1021	1021	1031	1021	1031	1041
43	33	1021	1021	1031	1021	1031	1031	1031	1031	1041
51	28	1021	1031	1031	1021	1031	1041	1031	1041	1041
59	24	1021	1031	1031	1031	1031	1041	1031	1041	1041
71	20	1021	1031	1041	1031	1041	1041	1041	1041	1051
81	18	1032	1032	1042	1032	1042	1042	1042	1042	1052
99	15	1032	1032	1042	1032	1042	1042	1042	1042	1052
117	12	1032	1042	1042	1042	1042	1052	1042	1052	1052
121	12	1032	1042	1042	1042	1042	1052	1042	1052	1052
135	11	1032	1042	1042	1042	1042	1052	1042	1052	1062
143	10	1032	1042	1042	1042	1042	1052	1042	1052	1062
153	9.4	1042	1042	1052	1042	1052	1052	1052	1052	1062
169	8.5	1042	1042	1052	1042	1052	1052	1052	1052	1062
187	7.7	1042	1042	1052	1042	1052	1062	1052	1062	1062
195	7.4	1042	1042	1052	1042	1052	1062	1052	1062	1062
221	6.5	1042	1052	1052	1052	1052	1062	1052	1062	1062
231	6.2	1042	1052	1052	1052	1052	1062	1052	1062	1062
255	5.6	1042	1052	1062	1052	1062	1062	1062	1062	1072
275	5.2	1042	1052	1062	1052	1062	1062	1062	1062	1072
289	5.0	1042	1052	1062	1052	1062	1062	1062	1062	1072
325	4.43	1052	1052	1062	1052	1062	1062	1062	1062	1072
357	4.03	1052	1062	1062	1052	1062	1062	1062	1072	1072
375	3.84	1052	1062	1062	1062	1062	1072	1062	1072	1072
425	3.39	1052	1062	1062	1062	1062	1072	1062	1072	1072
455	3.16	1052	1062	1062	1062	1062	1072	1062	1072	1072
493	2.92	1052	1062	1062	1062	1062	1072	1072	1072	1072
525	2.74	1062	1062	1072	1062	1072	1072	1072	1072	1072
559	2.58	1062	1062	1072	1062	1072	1072	1072	1072	1072
595	2.42	1062	1062	1072	1062	1072	1072	1072	1072	1072
625	2.30	1062	1062	1072	1062	1072	1072	1072	1072	1082
645	2.23	1062	1062	1072	1062	1072	1072	1072	1072	1082
663	2.17	1062	1062	1072	1062	1072	1072	1072	1072	1082
725	1.99	1062	1072	1072	1072	1072	1072	1072	1072	1082
735	1.96	1062	1072	1072	1072	1072	1072	1072	1072	1082
765	1.88	1062	1072	1072	1072	1072	1072	1072	1072	1082
841	1.71	1062	1072	1072	1072	1072	1072	1072	1072	1082
875	1.65	1062	1072	1072	1072	1072	1072	1072	1082	1092
903	1.59	1062	1072	1072	1072	1072	1082	1072	1082	1092
1015	1.42	1072	1072	1072	1072	1072	1082	1072	1082	1092
1075	1.34	1072	1072	1072	1072	1072	1082	1072	1082	1092
1225	1.18	1072	1072	1072	1072	1072	1082	1082	1092	1092
1275	1.13	1072	1072	1082	1072	1082	1092	1082	1092	1092
1479	0.97	1072	1072	1082	1072	1082	1092	1082	1092	1092
1505	0.96	1072	1072	1082	1072	1082	1092	1082	1092	1092
1711	0.84	1072	1072	1082	1072	1082	1092	1092	1092	1092
1785	0.81	1072	1082	1092	1072	1092	1092	1092	1092	1092
1849	0.78	1072	1082	1092	1082	1092	1092	1092	1092	1102
2065	0.70	1072	1082	1092	1082	1092	1092	1092	1092	1102
2145	0.67	1073	1083	1093	1083	1093	1093	1093	1093	1103
2197	0.66	1073	1083	1093	1083	1093	1093	1093	1093	1103

Input Power in Kw.		0.18			0.25			0.37		
Ratio	O/P RPM	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III
2295	0.63	1073	1083	1093	1083	1093	1093	1093	1093	1103
2431	0.59	1073	1083	1093	1083	1093	1093	1093	1093	1103
2535	0.57	1073	1093	1093	1083	1093	1093	1093	1093	1103
2805	0.51	1083	1093	1093	1093	1093	1103	1093	1103	1103
2871	0.50	1083	1093	1093	1093	1093	1103	1093	1103	1103
3003	0.480	1083	1093	1093	1093	1093	1103	1093	1103	1113
3025	0.476	1083	1093	1093	1093	1093	1103	1093	1103	1113
3179	0.453	1083	1093	1093	1093	1093	1103	1093	1103	1113
3213	0.448	1083	1093	1093	1093	1093	1103	1093	1103	1113
3315	0.434	1083	1093	1093	1093	1093	1103	1093	1103	1113
3375	0.427	1083	1093	1093	1093	1093	1103	1093	1103	1113
3465	0.416	1083	1093	1093	1093	1093	1103	1093	1103	1113
3509	0.410	1083	1093	1093	1093	1093	1103	1093	1103	1113
3575	0.403	1083	1093	1093	1093	1093	1103	1093	1103	1113
3757	0.383	1093	1093	1093	1093	1093	1103	1103	1103	1113
3825	0.376	1093	1093	1093	1093	1093	1103	1103	1103	1113
3927	0.367	1093	1093	1103	1093	1103	1103	1103	1103	1113
4095	0.352	1093	1093	1103	1093	1103	1103	1103	1103	1113
4225	0.341	1093	1093	1103	1093	1103	1103	1103	1113	1113
4335	0.332	1093	1093	1103	1093	1103	1103	1103	1113	1113
4437	0.325	1093	1093	1103	1093	1103	1113	1103	1113	1113
4641	0.310	1093	1093	1103	1093	1103	1113	1103	1113	1123
4785	0.301	1093	1093	1103	1093	1103	1113	1103	1113	1123
4901	0.294	1093	1093	1103	1093	1103	1113	1103	1113	1123
5005	0.288	1093	1093	1103	1093	1103	1113	1103	1113	1123
5203	0.277	1093	1093	1103	1093	1103	1113	1103	1113	1123
5355	0.269	1093	1103	1103	1093	1103	1113	1103	1113	1123
5423	0.266	1093	1103	1103	1093	1103	1113	1103	1113	1123
5525	0.261	1093	1103	1103	1093	1103	1113	1103	1113	1123
5625	0.256	1093	1103	1103	1103	1103	1113	1103	1113	1123
5775	0.249	1093	1103	1103	1103	1103	1113	1103	1113	1123
5915	0.243	1093	1103	1103	1103	1103	1113	1103	1113	1123
6069	0.237	1093	1103	1103	1103	1103	1113	1113	1113	1123
6149	0.234	1093	1103	1103	1103	1103	1113	1113	1113	1123
6375	0.226	1093	1103	1113	1103	1113	1113	1113	1123	1123
6525	0.221	1093	1103	1113	1103	1113	1113	1113	1123	1123
6699	0.215	1093	1103	1113	1103	1113	1123	1113	1123	1123
6875	0.209	1093	1103	1113	1103	1113	1123	1113	1123	1123
7095	0.203	1093	1103	1113	1103	1113	1123	1113	1123	1123
7225	0.199	1093	1103	1113	1103	1113	1123	1113	1123	1123
7395	0.195	1093	1103	1113	1103	1113	1123	1113	1123	1123
7569	0.190	1093	1103	1113	1103	1113	1123	1113	1123	-
7735	0.186	1103	1103	1113	1103	1113	1123	1113	1123	-
7875	0.183	1103	1103	1113	1103	1113	1123	1113	1123	-
7975	0.181	1103	1103	1113	1103	1113	1123	1113	1123	-
8125	0.177	1103	1103	1113	1103	1113	1123	1113	1123	-
8381	0.172	1103	1103	1113	1103	1113	1123	1113	1123	-
8925	0.161	1103	1113	1113	1113	1113	1123	1113	1123	-
9135	0.158	1103	1113	1113	1113	1113	1123	1123	1123	-
9251	0.156	1103	1113	1123	1113	1123	1123	1123	1123	-
9375	0.154	1103	1113	1123	1113	1123	1123	1123	1123	-
9503	0.152	1103	1113	1123	1113	1123	1123	1123	1123	-
9675	0.149	1103	1113	1123	1113	1123	1123	1123	1123	-
9933	0.145	1103	1113	1123	1113	1123	1123	1123	1123	-
10115	0.142	1103	1113	1123	1113	1123	1123	1123	1123	-
10353	0.139	1103	1113	1123	1113	1123	1123	1123	1123	-
10625	0.136	1103	1113	1123	1113	1123	1123	1123	-	-
10875	0.132	1103	1113	1123	1113	1123	1123	1123	-	-

Cyclo Drive Selection Table

Input Speed 1440 rpm

Input Power in Kw.		0.18			0.25			0.37		
Ratio	O/P RPM	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III
11165	0.129	1103	1113	1123	1113	1123	-	1123	-	-
11375	0.127	1103	1113	1123	1113	1123	-	1123	-	-
11739	0.123	1103	1113	1123	1113	1123	-	1123	-	-
12325	0.117	1113	1113	1123	1113	1123	-	1123	-	-
12615	0.114	1113	1113	1123	1113	1123	-	1123	-	-
13125	0.110	1113	1123	1123	1113	1123	-	1123	-	-
13475	0.107	1113	1123	1123	1123	1123	-	1123	-	-
13717	0.105	1113	1123	1123	1123	1123	-	1123	-	-
13975	0.103	1113	1123	1123	1123	1123	-	1123	-	-
14297	0.101	1113	1123	1123	1123	1123	-	1123	-	-
14875	0.097	1113	1123	1123	1123	1123	-	1123	-	-
15625	0.092	1113	1123	-	1123	-	-	-	-	-
15925	0.090	1113	1123	-	1123	-	-	-	-	-
16555	0.087	1113	1123	-	1123	-	-	-	-	-
17255	0.083	1113	1123	-	1123	-	-	-	-	-
17661	0.082	1113	1123	-	1123	-	-	-	-	-
18705	0.077	1123	1123	-	1123	-	-	-	-	-
19565	0.074	1123	1123	-	1123	-	-	-	-	-
20339	0.071	1123	1123	-	1123	-	-	-	-	-
21315	0.068	1123	1123	-	1123	-	-	-	-	-
22575	0.064	1123	-	-	-	-	-	-	-	-
24037	0.060	1123	-	-	-	-	-	-	-	-
25375	0.057	1123	-	-	-	-	-	-	-	-
26187	0.055	1123	-	-	-	-	-	-	-	-
27735	0.052	1123	-	-	-	-	-	-	-	-
29435	0.049	1123	-	-	-	-	-	-	-	-
30625	0.047	1123	-	-	-	-	-	-	-	-

Input Power in Kw.		0.55			0.75			1.1		
Ratio	O/P RPM	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III
9	160	1021	1021	1021	1021	1021	1031	1021	1031	1031
11	131	1021	1021	1021	1021	1021	1031	1021	1031	1031
13	111	1021	1021	1031	1021	1031	1031	1031	1031	1041
15	96	1021	1021	1031	1021	1031	1031	1031	1031	1041
17	85	1021	1031	1031	1021	1031	1041	1031	1041	1041
21	69	1021	1031	1031	1031	1031	1041	1031	1041	1041
25	58	1031	1031	1041	1031	1041	1041	1041	1041	1051
29	50	1031	1031	1041	1031	1041	1041	1041	1041	1051
35	41	1031	1041	1041	1041	1041	1051	1041	1051	1051
43	33	1031	1041	1041	1041	1041	1051	1041	1051	1061
51	28	1041	1041	1051	1041	1051	1051	1051	1051	1061
59	24	1041	1041	1051	1041	1051	1061	1051	1061	1061
71	20	1041	1051	1051	1051	1051	1061	1051	1061	1061
81	18	1042	1052	1052	1052	1052	1062	1052	1062	1062
99	15	1052	1052	1062	1052	1062	1062	1062	1062	1072
117	12	1052	1062	1062	1052	1062	1062	1062	1072	1072
121	12	1052	1062	1062	1062	1062	1072	1062	1072	1072
135	11	1052	1062	1062	1062	1062	1072	1062	1072	1072
143	10	1052	1062	1062	1062	1062	1072	1062	1072	1072
153	9.4	1052	1062	1062	1062	1062	1072	1062	1072	1072
169	8.5	1062	1062	1072	1062	1072	1072	1072	1072	1072
187	7.7	1062	1062	1072	1062	1072	1072	1072	1072	1072
195	7.4	1062	1062	1072	1062	1072	1072	1072	1072	1072
221	6.5	1062	1062	1072	1062	1072	1072	1072	1072	1082
231	6.2	1062	1072	1072	1062	1072	1072	1072	1072	1082
255	5.6	1062	1072	1072	1072	1072	1072	1072	1072	1082
275	5.2	1062	1072	1072	1072	1072	1072	1072	1072	1082
289	5.0	1062	1072	1072	1072	1072	1072	1072	1082	1092
325	4.43	1062	1072	1072	1072	1072	1082	1072	1082	1092

Input Power in Kw.		0.55			0.75			1.1		
Ratio	O/P RPM	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III
357	4.03	1072	1072	1072	1072	1072	1082	1072	1082	1092
375	3.84	1072	1072	1072	1072	1072	1082	1072	1082	1092
425	3.39	1072	1072	1082	1072	1082	1092	1082	1092	1092
455	3.16	1072	1072	1082	1072	1082	1092	1082	1092	1092
493	2.92	1072	1072	1082	1072	1082	1092	1082	1092	1092
525	2.74	1072	1072	1082	1072	1082	1092	1082	1092	1092
559	2.58	1072	1072	1082	1072	1082	1092	1082	1092	1092
595	2.42	1072	1082	1092	1072	1092	1092	1092	1092	1092
625	2.30	1072	1082	1092	1082	1092	1092	1092	1092	1102
645	2.23	1072	1082	1092	1082	1092	1092	1092	1092	1102
663	2.17	1072	1082	1092	1082	1092	1092	1092	1092	1102
725	1.99	1072	1082	1092	1082	1092	1092	1092	1092	1102
735	1.96	1072	1082	1092	1082	1092	1092	1092	1092	1102
765	1.88	1072	1082	1092	1082	1092	1092	1092	1092	1102
841	1.71	1082	1092	1092	1082	1092	1092	1092	1092	1102
875	1.65	1082	1092	1092	1092	1092	1092	1092	1102	1102
903	1.59	1082	1092	1092	1092	1092	1102	1092	1102	1102
1015	1.42	1082	1092	1092	1092	1092	1102	1092	1102	1112
1075	1.34	1082	1092	1092	1092	1092	1102	1092	1102	1112
1225	1.18	1092	1092	1092	1092	1092	1102	1092	1102	1112
1275	1.13	1092	1092	1102	1092	1102	1102	1102	1102	1112
1479	0.97	1092	1092	1102	1092	1102	1112	1102	1112	1122
1505	0.96	1092	1092	1102	1092	1102	1112	1102	1112	1122
1711	0.84	1092	1102	1102	1092	1102	1112	1102	1112	1122
1785	0.81	1092	1102	1102	1092	1102	1112	1102	1112	1122
1849	0.78	1092	1102	1102	1102	1102	1112	1102	1112	1122
2065	0.70	1092	1102	1112	1102	1112	1112	1112	1122	1122
2145	0.67	1093	1103	1113	1103	1113	1113	1113	1123	1123
2197	0.66	1093	1103	1113	1103	1113	1113	1113	1123	1123
2295	0.63	1093	1103	1113	1103	1113	1123	1113	1123	1123
2431	0.59	1093	1103	1113	1103	1113	1123	1113	1123	1123
2535	0.57	1103	1103	1113	1103	1113	1123	1113	1123	-
2805	0.51	1103	1113	1113	1103	1113	1123	1113	1123	-
2871	0.50	1103	1113	1113	1103	1113	1123	1113	1123	-
3003	0.480	1103	1113	1113	1113	1113	1123	1113	1123	-
3025	0.476	1103	1113	1123	1113	1113	1123	1123	1123	-
3179	0.453	1103	1113	1123	1113	1123	1123	1123	1123	-
3213	0.448	1103	1113	1123	1113	1123	1123	1123	1123	-
3315	0.434	1103	1113	1123	1113	1123	1123	1123	1123	-
3375	0.427	1103	1113	1123	1113	1123	1123	1123	1123	-
3465	0.416	1103	1113	1123	1113	1123	1123	1123	1123	-
3509	0.410	1103	1113	1123	1113	1123	1123	1123	-	-
3575	0.403	1103	1113	1123	1113	1123	1123	1123	-	-
3757	0.383	1103	1113	1123	1113	1123	-	1123	-	-
3825	0.376	1103	1113	1123	1113	1123	-	1123	-	-
3927	0.367	1103	1113	1123	1113	1123	-	1123	-	-
4095	0.352	1113	1113	1123	1113	1123	-	1123	-	-
4225	0.341	1113	1123	1123	1113	1123	-	1123	-	-
4335	0.332	1113	1123	1123	1113	1123	-	1123	-	-
4437	0.325	1113	1123	1123	1123	1123	-	1123	-	-
4641	0.310	1113	1123	1123	1123	1123	-	1123	-	-
4785	0.301	1113	1123	1123	1123	1123	-	1123	-	-
4901	0.294	1113	1123	1123	1123	1123	-	1123	-	-
5005	0.288	1113	1123	1123	1123	1123	-	1123	-	-
5203	0.277	1113	1123	-	1123	-	-	-	-	-
5355	0.269	1113	1123	-	1123	-	-	-	-	-
5423	0.266	1113	1123	-	1123	-	-	-	-	-
5525	0.261	1113	1123	-	1123	-	-	-	-	-

Cyclo Drive Selection Table

Input Speed 1440 rpm

Input Power in Kw.		0.55			0.75			1.1		
Ratio	O/P RPM	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III
5625	0.256	1113	1123	-	1123	-	-	-	-	-
5775	0.249	1113	1123	-	1123	-	-	-	-	-
5915	0.243	1113	1123	-	1123	-	-	-	-	-
6069	0.237	1123	1123	-	1123	-	-	-	-	-
6149	0.234	113	1123	-	1123	-	-	-	-	-
6375	0.226	1123	1123	-	1123	-	-	-	-	-
6525	0.221	1123	1123	-	1123	-	-	-	-	-
6699	0.215	1123	1123	-	1123	-	-	-	-	-
6875	0.209	1123	1123	-	1123	-	-	-	-	-
7095	0.203	1123	-	-	1123	-	-	-	-	-
7225	0.199	1123	-	-	1123	-	-	-	-	-
7395	0.195	1123	-	-	-	-	-	-	-	-
7569	0.190	1123	-	-	-	-	-	-	-	-
7735	0.186	1123	-	-	-	-	-	-	-	-
7875	0.183	1123	-	-	-	-	-	-	-	-
7975	0.181	1123	-	-	-	-	-	-	-	-
8125	0.177	1123	-	-	-	-	-	-	-	-
8381	0.172	1123	-	-	-	-	-	-	-	-
8925	0.161	1123	-	-	-	-	-	-	-	-
9135	0.158	1123	-	-	-	-	-	-	-	-
9251	0.156	1123	-	-	-	-	-	-	-	-
9375	0.154	1123	-	-	-	-	-	-	-	-
9503	0.152	1123	-	-	-	-	-	-	-	-
9675	0.149	1123	-	-	-	-	-	-	-	-
9933	0.145	1123	-	-	-	-	-	-	-	-

Input Power in Kw.		1.5			2.2			3.0		
Ratio	O/P RPM	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III
9	160	1031	1031	1041	1031	1041	1041	1041	1041	1051
11	131	10311031	1041	1031	1041	1041	1041	1041	1051	
13	111	1031	1041	1041	1041	1041	1051	1041	1051	1051
15	96	1031	1041	1041	1041	1041	1051	1041	1051	1061
17	85	1041	1041	1051	1041	1051	1051	1051	1051	1061
21	69	1041	1041	1051	1041	1051	1061	1051	1061	1061
25	58	1041	1051	1051	1051	1051	1061	1051	1061	1061
29	50	1041	1051	1061	1051	1061	1061	1061	1061	1071
35	41	1051	1051	1061	1051	1061	1061	1061	1061	1071
43	33	1051	1061	1061	1061	1061	1071	1061	1071	1071
51	28	1051	1061	1061	1061	1061	1071	1061	1071	1071
59	24	1061	1061	1071	1061	1071	1071	1071	1071	1071
71	20	1061	1061	1071	1061	1071	1071	1071	1071	1081
81	18	1062	1062	1072	1062	1072	1072	1072	1072	1082
99	15	1062	1072	1072	1072	1072	1072	1072	1072	1082
117	12	1062	1072	1072	1072	1072	1082	1072	1082	1092
121	12	1072	1072	1072	1072	1072	1082	1072	1082	1092
135	11	1072	1072	1072	1072	1072	1082	1072	1082	1092
143	10	1072	1072	1072	1072	1082	1082	1072	1082	1092
153	9.4	1072	1072	1082	1072	1082	1092	1082	1092	1092
169	8.5	1072	1072	1082	1072	1082	1092	1082	1092	1092
187	7.7	1072	1072	1082	1072	1082	1092	1082	1092	1092
195	7.4	1072	1072	1082	1072	1082	1092	1082	1092	1092
221	6.5	1072	1082	1092	1082	1092	1092	1092	1092	1092
231	6.2	1072	1082	1092	1082	1092	1092	1092	1092	110
255	5.6	1072	1082	1092	1082	1092	1092	1092	1092	1102
275	5.2	1072	1082	1092	1082	1092	1092	1092	1092	1102
289	5.0	1072	1082	1092	1092	1092	1092	1092	1092	1102
325	4.43	1082	1092	1092	1092	1092	1102	1092	1102	1102
357	4.03	1082	1092	1092	1092	1092	1102	1092	1102	1102
375	3.84	1082	1092	1092	1092	1092	1102	1092	1102	1112

Input Power in Kw.		1.5			2.2			3		
Ratio	O/P RPM	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III
425	3.39	1092	1092	1092	1092	1092	1102	1092	1102	1112
455	3.16	1092	1092	1102	1092	1102	1102	1102	1102	1112
493	2.92	1092	1092	1102	1092	1102	1112	1102	1102	1112
525	2.74	1092	1092	1102	1092	1102	1112	1102	1112	1112
559	2.58	1092	1092	1102	1092	1102	1112	1102	1112	1122
595	2.42	1092	1092	1102	1092	1102	1112	1102	1112	1122
625	2.30	1092	1092	1102	1102	1102	1112	1102	1112	1122
645	2.23	1092	1102	1102	1102	1102	1112	1102	1112	1122
663	2.17	1092	1102	1102	1102	1102	1112	1102	1112	1122
725	1.99	1092	1102	1112	1102	1112	1112	1112	1112	1122
735	1.96	1092	1102	1112	1102	1112	1112	1112	1112	1122
765	1.88	1092	1102	1112	1102	1112	1122	1112	1122	1122
841	1.71	1092	1102	1112	1102	1112	1122	1112	1122	1122
875	1.65	1092	1102	1112	1102	1112	1122	1112	1122	1122
903	1.59	1102	1102	1112	1102	1112	1122	1112	1122	-
1015	1.42	1102	1112	1112	1112	1112	1122	1112	1122	-
1075	1.34	1102	1112	1112	1112	1122	1122	1112	1122	-
1225	1.18	1102	1112	1122	1112	1122	1122	1122	1122	-
1275	1.13	1102	1112	1122	1112	1122	-	1122	-	-
1479	0.97	1112	1112	1122	1122	1122	-	1122	-	-
1505	0.96	1112	1122	1122	1122	1122	-	1122	-	-
1711	0.84	1112	1122	1122	1122	-	-	1122	-	-
1785	0.81	1112	1122	1122	1122	-	-	1122	-	-
1849	0.78	1112	1122	-	1122	-	-	-	-	-
2065	0.70	1112	1122	-	1122	-	-	-	-	-
2145	0.67	1113	1123	-	1123	-	-	-	-	-
2197	0.66	1113	1123	-	1123	-	-	-	-	-
2295	0.63	1123	1123	-	1123	-	-	-	-	-
2431	0.59	1123	1123	-	1123	-	-	-	-	-
2535	0.57	1123	1123	-	-	-	-	-	-	-
2805	0.51	1123	-	-	-	-	-	-	-	-
2871	0.50	1123	-	-	-	-	-	-	-	-
3003	0.480	1123	-	-	-	-	-	-	-	-
3025	0.476	1123	-	-	-	-	-	-	-	-
3179	0.453	1123	-	-	-	-	-	-	-	-
3213	0.448	1123	-	-	-	-	-	-	-	-
3315	0.434	1123	-	-	-	-	-	-	-	-
3375	0.427	1123	-	-	-	-	-	-	-	-
3465	0.416	1123	-	-	-	-	-	-	-	-
3509	0.410	1123	-	-	-	-	-	-	-	-
3575	0.403	1123	-	-	-	-	-	-	-	-

Input Power in Kw.		3.7			5.5			7.5		
Ratio	O/P RPM	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III
9	160	1041	1041	1051	1051	1051	1061	1051	1061	1061
11	131	1041	1051	1061	1051	1061	1061	1061	1061	1071
13	111	1041	1051	1061	1051	1061	1061	1061	1061	1071
15	96	1051	1051	1061	1061	1061	1071	1061	1061	1071
17	85	1051	1061	1061	1061	1061	1071	1061	1071	1071
21	69	1051	1061	1061	1061	1071	1071	1061	1071	1071
25	58	1061	1061	1071	1061	1071	1071	1071	1071	1071
29	50	1061	1061	1071	1061	1071	1071	1071	1071	1081
35	41	1061	1071	1071	1071	1071	1071	1071	1071	1081
43	33	1061	1071	1071	1071	1071	1081	1071	1081	1091
51	28	1071	1071	1071	1071	1071	1081	1071	1081	1091
59	24	1071	1071	1081	1071	1081	1091	1081	1091	1091
71	20	1071	1071	1081	1071	1081	1091	1081	1091	1091
81	18	1072	1072	1082	1072	1092	1092	1082	1092	1092
99	15	1072	1082	1092	1082	1092	1092	1092	1092	1102

Cyclo Drive Selection Table

Input Speed 1440 rpm

Input Power in Kw.		3.7			5.5			7.5		
Ratio	O/P RPM	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III
117	12	1072	1082	1092	1092	1092	1092	1092	1092	1102
121	12	1072	1092	1092	1092	1092	1092	1092	1092	1102
135	11	1082	1092	1092	1092	1092	1102	1092	1102	1102
143	10	1082	1092	1092	1092	1092	1102	1092	1102	1102
153	9.4	1082	1092	1092	1092	1092	1102	1092	1102	1112
169	8.5	1082	1092	1092	1092	1092	1102	1092	1102	1112
187	7.7	1092	1092	1102	1092	1102	1102	1102	1102	1112
195	7.4	1092	1092	1102	1092	1102	1102	1102	1102	1112
221	6.5	1092	1092	1102	1092	1102	1112	1102	1112	1122
231	6.2	1092	1092	1102	1092	1102	1112	1102	1112	1122
255	5.6	1092	1102	1102	1102	1102	1112	1102	1112	1122
275	5.2	1092	1102	1102	1102	1112	1112	1102	1112	1122
289	5.0	1092	1102	1102	1102	1112	1112	1112	1112	1122
325	4.43	1092	1102	1112	1102	1112	1122	1112	1122	1122
357	4.03	1092	1102	1112	1102	1112	1122	1112	1122	1122
375	3.84	1102	1102	1112	1102	1112	1122	1112	1122	-
425	3.39	1102	1112	1112	1112	1122	1122	1112	1122	-
455	3.16	1102	1112	1122	1112	1122	1122	1122	1122	-
493	2.92	1102	1112	1122	1112	1122	-	1122	1122	-
525	2.74	1102	1112	1122	1112	1122	-	1122	-	-
559	2.58	1102	1112	1122	1112	1122	-	1122	-	-
595	2.42	1112	1112	1122	1122	1122	-	1122	-	-
625	2.30	1112	1122	1122	1122	1122	-	1122	-	-
645	2.23	1112	1122	1122	1122	1122	-	1122	-	-
663	2.17	1112	1122	1122	1122	1122	-	1122	-	-
725	1.99	1112	1122	1122	1122	-	-	-	-	-
735	1.96	1112	1122	-	1122	-	-	-	-	-
765	1.88	1112	1122	-	1122	-	-	-	-	-
841	1.71	1112	1122	-	1122	-	-	-	-	-
875	1.65	1112	1122	-	1122	-	-	-	-	-
903	1.59	1122	1122	-	1122	-	-	-	-	-
1015	1.42	1122	-	-	-	-	-	-	-	-
1075	1.34	1122	-	-	-	-	-	-	-	-
1225	1.18	1122	-	-	-	-	-	-	-	-
1275	1.13	1122	-	-	-	-	-	-	-	-

Input Power in Kw.		11.0			15.0			18.5		
Ratio	O/P RPM	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III
9	160	1061	1061	1071	1061	1071	1071	1071	1071	1071
11	131	1061	1071	1071	1071	1071	1071	1071	1071	1081
13	111	1061	1071	1071	1071	1071	1071	1071	1071	1081
15	96	1071	1071	1071	1071	1071	1081	1071	1071	1081
17	85	1071	1071	1071	1071	1071	1081	1071	1081	1091
21	69	1071	1071	1081	1071	1081	1091	1071	1081	1091
25	58	1071	1071	1081	1071	1081	1091	1081	1091	1091
29	50	1071	1081	1091	1081	1091	1091	1081	1091	1091
35	41	1071	1081	1091	1081	1091	1091	1091	1091	1101
43	33	1081	1091	1091	1091	1091	1101	1091	1091	1101
51	28	1081	1091	1091	1091	1091	1101	1091	1101	1101
59	24	1091	1091	1101	1091	1101	1101	1091	1101	1111
71	20	1091	1091	1101	1091	1101	1111	1101	1101	1111
81	18	1092	1092	1102	1092	1102	1112	1102	1102	1112
99	15	1092	1102	1112	1102	1102	1112	1102	1112	1122
117	12	1092	1102	1112	1102	1112	1122	1112	1112	1122
121	12	1092	1102	1112	1102	1112	1122	1112	1112	1122
135	11	1102	1102	1112	1102	1112	1122	1112	1122	1122
143	10	1102	1112	1112	1102	1112	1122	1112	1122	1122
153	9.4	1102	1112	1122	1112	1122	1122	1112	1122	-
169	8.5	1102	1112	1122	1112	1122	1122	1112	1122	-

Input Power in Kw.		11.0			15.0			18.5		
Ratio	O/P RPM	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III
187	7.7	1102	1112	1122	1112	1122	-	1122	1122	-
195	7.4	1102	1112	1122	1112	1122	-	1122	1122	-
221	6.5	1112	1122	1122	1122	1122	-	1122	-	-
231	6.2	1112	1122	1122	1122	1122	-	1122	-	-
255	5.6	1112	1122	-	1122	-	-	1122	-	-
275	5.2	1112	1122	-	1122	-	-	1122	-	-
289	5.0	1112	1122	-	1122	-	-	1122	-	-
325	4.43	1122	1122	-	1122	-	-	-	-	-
357	4.03	1122	-	-	1122	-	-	-	-	-
375	3.84	1122	-	-	-	-	-	-	-	-
425	3.39	1122	-	-	-	-	-	-	-	-
455	3.16	1122	-	-	-	-	-	-	-	-

Input Power in Kw.		22			30			37		
Ratio	O/P RPM	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III
9	160	1071	1071	1071	1071	1071	1081	1071	1081	1091
11	131	1071	1071	1081	1071	1081	1091	1081	1091	1091
13	111	1071	1081	1091	1071	1081	1091	1081	1091	1091
15	96	1071	1081	1091	1081	1091	1091	1081	1091	1091
17	85	1071	1081	1091	1081	1091	1091	1091	1091	1101
21	69	1081	1091	1091	1091	1091	1101	1091	109	1101
25	58	1081	1091	1091	1091	1091	1101	1091	1101	1101
29	50	1091	1091	1101	1091	1101	1101	1091	1101	1111
35	41	1091	1091	1101	1091	1101	1111	1101	1101	1111
43	33	1091	1101	1101	1101	1101	1111	1101	1111	1121
51	28	1091	1101	1111	1101	1111	1121	1101	1111	1121
59	24	1101	1101	1111	1101	1111	1121	1111	1121	1121
71	20	1101	1111	1121	1111	1121	1121	1111	1121	-
81	18	1102	1112	1122	1112	1122	1122	1112	1122	-
99	15	1112	1112	1122	1112	1122	-	1122	1122	-
117	12	1112	1122	1122	1122	1122	-	1122	-	-
121	12	1112	1122	1122	1122	1122	-	1122	-	-
135	11	1112	1122	-	1122	-	-	1122	-	-
143	10	1112	1122	-	1122	-	-	1122	-	-
153	9.4	1122	1122	-	1122	-	-	-	-	-
169	8.5	1122	1122	-	1122	-	-	-	-	-
187	7.7	1122	-	-	-	-	-	-	-	-
195	7.4	1122	-	-	-	-	-	-	-	-
221	6.5	1122	-	-	-	-	-	-	-	-
231	6.2	1122	-	-	-	-	-	-	-	-

Input Power in Kw.		45			55			75		
Ratio	O/P RPM	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III	AGMA I	AGMA II	AGMA III
9	160	1071	1091	1091	1081	1091	1091	1091	1091	1101
11	131	1081	1091	1091	1091	1091	1091	1091	1091	1101
13	111	1091	1091	1091	1091	1091	1101	1091	1101	1111
15	96	1091	1091	1101	1091	1091	1101	1091	1101	1111
17	85	1091	1091	1101	1091	1101	1101	1101	1101	1111
21	69	1091	1101	1101	1091	1101	1111	1101	1111	1121
25	58	1091	1101	1111	1101	1111	1111	1101	1111	1121
29	50	1101	1101	1111	1101	1111	1121	1111	1121	1121
35	41	1101	1111	1121	1101	1111	1121	1111	1121	-
43	33	1101	1111	1121	1111	1121	1121	1121	1121	-
51	28	1111	1121	1121	1111	1121	-	1121	-	-
59	24	1111	1121	-	1121	1121	-	1121	-	-
71	20	1121	1121	-	1121	-	-	-	-	-
81	18	1122	1122	-	1122	-	-	-	-	-
99	15	1122	-	-	-	-	-	-	-	-
117	12	1122	-	-	-	-	-	-	-	-

Maximum Output Torque Available in Nm

Service Factor - 1

Rating at Input Speed (in RPM) - 1400

Red. Ratio	Eff. in %	Output Speed	Input power in k.w.												
			0.18	0.37	0.75	1.1	1.5	2.2	3.7	7.5	15	18.5	37	55	75
9	0.92	156	10	21	42	62	83	125	208	416	831	1247	2078	3116	4155
11	0.92	127	13	25	51	76	102	152	254	508	1016	1524	2539	3809	5079
13	0.92	108	15	30	60	90	120	180	300	600	1200	1801	3001	4502	6002
15	0.92	93	17	35	69	104	139	208	346	693	1385	2078	3463	5194	6926
17	0.92	82	20	39	78	118	157	235	392	785	1570	2355	3924	5887	7849
21	0.92	67	24	48	97	145	194	291	485	970	1939	2909	4848	7272	9696
25	0.92	56	29	58	115	173	231	346	577	1154	2309	3463	5771	8657	11543
29	0.92	48	33	67	134	201	268	402	669	1339	2678	4017	6695	10042	13389
35	0.92	40	40	81	162	242	323	485	808	1616	3232	4848	8080	12120	16160
43	0.92	33	50	99	199	298	397	596	993	1985	3971	5956	9927	14890	19853
51	0.92	27	59	118	235	353	471	706	1177	2355	4709	7064	11773	17660	23547
59	0.92	24	68	136	272	409	545	817	1362	2724	5448	8172	13620	20430	27240
71	0.92	20	82	164	328	492	656	983	1639	3278	6556	9834	16390	24586	32781
81	0.84	17	85	171	341	512	683	1024	1707	3415	6829	10244	17073	25609	34146
99	0.84	14	104	209	417	626	835	1252	2087	4173	8347	12520	20867	31300	41734
117	0.84	12	123	247	493	740	986	1480	2466	4932	9864	14797	24661	36991	49322
121	0.84	12	128	255	510	765	1020	1530	2550	5101	10202	15302	25504	38256	51008
135	0.84	10	142	285	569	854	1138	1707	2845	5691	11382	17073	28455	42682	56910
143	0.84	10	151	301	603	904	1206	1808	3014	6028	12056	18085	30141	45212	60282
153	0.84	9.2	161	322	645	967	1290	1935	3225	6450	12900	19349	32249	48373	64498
169	0.84	8.3	178	356	712	1069	1425	2137	3562	7124	14249	21373	35621	53432	71243
187	0.84	7.5	197	394	788	1182	1577	2365	3942	7883	15766	23649	39415	59123	78831
195	0.84	7.2	206	411	822	1233	1644	2466	4110	8220	16441	24661	41101	61652	82203
221	0.84	6.3	233	466	932	1397	1863	2795	4658	9316	18633	27949	46582	69873	93163
231	0.84	6.1	243	487	974	1461	1948	2921	4869	9738	19476	29214	48689	73034	97379
255	0.84	5.5	269	537	1075	1612	2150	3225	5375	10750	21499	32249	53748	80622	107496
275	0.84	5.1	290	580	1159	1739	2319	3478	5796	11593	23185	34778	57964	86945	115927
289	0.84	4.84	305	609	1218	1827	2437	3655	6091	12183	24366	36549	60915	91372	121829
325	0.84	4.31	343	685	1370	2055	2740	4110	6850	13700	27401	41101	68502	102754	137005
357	0.84	3.92	376	752	1505	2257	3010	4515	7525	15049	30099	45148	75247	112871	150495
375	0.84	3.73	395	790	1581	2371	3162	4742	7904	15808	31617	47425	79041	118562	158083
425	0.84	3.29	448	896	1792	2687	3583	5375	8958	17916	35832	53748	89580	134370	179160
455	0.84	3.08	480	959	1918	2877	3836	5754	9590	19181	38361	57542	95903	143855	191807
493	0.84	2.84	520	1039	2078	3117	4157	6235	10391	20783	41565	62348	103913	155869	207826
525	0.84	2.67	553	1107	2213	3320	4426	6639	11066	22132	44263	66395	110658	165987	221316
559	0.84	2.50	589	1178	2356	3535	4713	7069	11782	23565	47130	70695	117824	176736	235649
595	0.84	2.35	627	1254	2508	3762	5016	7525	12541	25082	50165	75247	125412	188118	250824
625	0.84	2.24	659	1317	2635	3952	5269	7904	13174	26347	52694	79041	131736	197603	263471
645	0.84	2.17	680	1360	2719	4079	5438	8157	13595	27190	54380	81571	135951	203927	271902
663	0.84	2.11	699	1397	2795	4192	5590	8385	13975	27949	55898	83847	139745	209618	279490
725	0.84	1.93	764	1528	3056	4584	6113	9169	15281	30563	61125	91688	152813	229220	305626
735	0.84	1.90	775	1549	3098	4648	6197	9295	15492	30984	61968	92953	154921	232381	309842
765	0.84	1.83	806	1612	3225	4837	6450	9675	16124	32249	64498	96747	161244	241866	322489
841	0.84	1.66	886	1773	3545	5318	7091	10636	17726	35453	70905	106358	177263	265895	354527
875	0.84	1.60	922	1844	3689	5533	7377	11066	18443	36886	73772	110658	184430	276645	368859
903	0.84	1.55	952	1903	3807	5710	7613	11420	19033	38066	76133	114199	190331	285497	380663
1015	0.84	1.38	1070	2139	4279	6418	8558	12836	21394	42788	85575	128363	213939	320908	427877
1075	0.84	1.30	1133	2266	4532	6798	9063	13595	22659	45317	90634	135951	226585	339878	453170
1225	0.84	1.14	1291	2582	5164	7746	10328	15492	25820	51640	103281	154921	258202	387302	516403
1275	0.84	1.10	1344	2687	5375	8062	10750	16124	26874	53748	107496	161244	268740	403111	537481

Service Factor - 1

Maximum Output Torque Available in Nm

Rating at Input Speed (in RPM) - 1400

Red. Ratio	Eff. in %	Output Speed	Input power in k.w.												
			0.18	0.37	0.75	1.1	1.5	2.2	3.7	7.5	15	18.5	37	55	75
1479	0.84	0.95	1559	3117	6235	9352	12470	18704	31174	62348	124696	187043	311739	467608	623478
1505	0.84	0.93	1586	3172	6344	9517	12689	19033	31722	63444	126888	190331	317219	475829	634438
1711	0.84	0.82	1803	3606	7213	10819	14426	21638	36064	72128	144256	216384	360639	540959	721278
1785	0.84	a0.78	1881	3762	7525	11287	15049	22574	37624	75247	150495	225742	376237	564355	752473
1849	0.84	0.76	1949	3897	7795	11692	15589	23384	38973	77945	155891	233836	389726	584590	779453
2065	0.84	0.68	2176	4353	8705	13058	17410	26115	43525	87051	174102	261153	435254	652881	870508
2145	0.80	0.65	2153	4306	8612	12918	17223	25835	43059	86117	172235	258352	430587	645880	861174
2197	0.80	0.64	2205	4410	8821	13231	17641	26462	44103	88205	176410	264615	441025	661538	882051
2295	0.80	0.61	2303	4607	9214	13821	18428	27642	46070	92140	184279	276419	460698	691047	921396
2431	0.80	0.58	2440	4880	9760	14640	19520	29280	48800	97600	195199	292799	487999	731998	975997
2535	0.80	0.55	2544	5089	10178	15266	20355	30533	50888	101775	203550	305325	508876	763313	1017751
2805	0.80	0.50	2815	5631	11262	16892	22523	33785	56308	112615	225230	337845	563075	844613	1126151
2871	0.80	0.488	2882	5763	11526	17290	23053	34579	57632	115265	230530	345794	576324	864486	1152648
3003	0.80	0.466	3014	6028	12056	18085	24113	36169	60282	120564	241129	361693	602822	904233	1205644
3025	0.80	0.463	3036	6072	12145	18217	24290	36434	60724	121448	242895	364343	607238	910857	1214476
3179	0.80	0.440	3191	6382	12763	19145	25526	38289	63815	127630	255261	382891	638152	957228	1276304
3213	0.80	0.436	3225	6450	12900	19349	25799	38699	64498	128995	257991	386986	644977	967466	1289954
3315	0.80	0.422	3327	6655	13309	19964	26618	39927	66545	133091	266181	399272	665453	998179	1330905
3375	0.80	0.415	3387	6775	13550	20325	27100	40650	67750	135499	270999	406498	677497	1016246	1354994
3465	0.80	0.404	3478	6956	13911	20867	27823	41734	69556	139113	278225	417338	695564	1043345	1391127
3509	0.80	0.399	3522	7044	14088	21132	28176	42264	70440	140879	281758	422638	704396	1056594	1408792
3575	0.80	0.392	3588	7176	14353	21529	28706	43059	71764	143529	287058	430587	717645	1076467	1435290
3757	0.80	0.373	3771	7542	15084	22625	30167	45251	75418	150836	301672	452508	754180	1131269	1508359
3825	0.80	0.366	3839	7678	15357	23035	30713	46070	76783	153566	307132	460698	767830	1151745	1535660
3927	0.80	0.357	3942	7883	15766	23649	31532	47298	78831	157661	315322	472983	788305	1182458	1576611
4095	0.80	0.342	4110	8220	16441	24661	32881	49322	82203	164406	328812	493218	822030	1233045	1644059
4225	0.80	0.331	4241	8481	16963	25444	33925	50888	84813	169625	339250	508876	848126	1272189	1696252
4335	0.80	0.323	4351	8702	17404	26106	34808	52212	87021	174041	348083	522124	870207	1305311	1740415
4437	0.80	0.316	4453	8907	17814	26720	35627	53441	89068	178137	356273	534410	890683	1336024	1781365
4641	0.80	0.302	4658	9316	18633	27949	37265	55898	93163	186327	372653	558980	931634	1397451	1863267
4785	0.80	0.293	4803	9605	19211	28816	38422	57632	96054	192108	384216	576324	960540	1440810	1921080
4901	0.80	0.286	4919	9838	19677	29515	39353	59030	98383	196765	393530	590296	983826	1475739	1967652
5005	0.80	0.280	5024	10047	20094	30141	40188	60282	100470	200941	401881	602822	1004703	1507054	2009406
5203	0.80	0.269	5222	10444	20889	31333	41778	62667	104445	208890	417780	626670	1044449	1566674	2088899
5355	0.80	0.261	5375	10750	21499	32249	42998	64498	107496	214992	429985	644977	1074962	1612443	2149924
5423	0.80	0.258	5443	10886	21772	32658	43544	65317	108861	217722	435445	653167	1088612	1632918	2177224
5525	0.80	0.253	5545	11091	22182	33273	44364	66545	110909	221818	443635	665453	1109088	1663632	2218175
5625	0.80	0.249	5646	11292	22583	33875	45166	67750	112916	225832	451665	677497	1129162	1693743	2258323
5775	0.80	0.242	5796	11593	23185	34778	46371	69556	115927	231855	463709	695564	1159273	1738909	2318545
5915	0.80	0.237	5937	11874	23748	35621	47495	71243	118738	237475	474950	712426	1187376	1781064	2374752
6069	0.80	0.231	6091	12183	24366	36549	48732	73097	121829	243658	487316	730974	1218290	1827435	2436580
6149	0.80	0.228	6172	12343	24687	37030	49374	74061	123435	246870	493740	740610	1234349	1851524	2468699
6375	0.80	0.220	6399	12797	25594	38391	51189	76783	127972	255943	511887	767830	1279717	1919575	2559433
6525	0.80	0.215	6549	13098	26197	39295	52393	78590	130983	261966	523931	785897	1309828	1964741	2619655
6699	0.80	0.209	6724	13448	26895	40343	53790	80685	134476	268951	537903	806854	1344756	2017134	2689513
6875	0.80	0.204	6900	13801	27602	41403	55203	82805	138009	276017	552035	828052	1380087	2070130	2760173
7095	0.80	0.197	7121	14242	28485	42727	56970	85455	142425	284850	569700	854550	1424249	2136374	2848499
7225	0.80	0.194	7252	14503	29007	43510	58014	87021	145035	290069	580138	870207	1450345	2175518	2900691
7395	0.80	0.189	7422	14845	29689	44534	59379	89068	148447	296894	593788	890683	1484471	2226707	2968942
7569	0.80	0.185	7597	15194	30388	45582	60776	91164	151940	303880	607760	911640	1519400	2279100	3038800

Maximum Output Torque Available in Nm

Service Factor - 1

Rating at Input Speed (in RPM) - 1400

RRed. Ratio	Eff. in %	Output Speed	Input power in k.w.												
			0.18	0.37	0.75	1.1	1.5	2.2	3.7	7.5	15	18.5	37	55	75
7735	0.80	0.181	7764	15527	31054	46582	62109	93163	155272	310545	621089	931634	1552723	2329084	3105446
7875	0.80	0.178	7904	15808	31617	47425	63233	94850	158083	316165	632331	948496	1580826	2371240	3161653
7975	0.80	0.176	8005	16009	32018	48027	64036	96054	160090	320180	640360	960540	1600900	2401351	3201801
8125	0.80	0.172	8155	16310	32620	48930	65240	97861	163101	326202	652405	978607	1631011	2446517	3262023
8381	0.80	0.167	8412	16824	33648	50472	67296	100944	168240	336480	672960	1009440	1682401	2523601	3364801
8925	0.80	0.157	8958	17916	35832	53748	71664	107496	179160	358321	716641	1074962	1791603	2687405	3583206
9135	0.80	0.153	9169	18338	36675	55013	73350	110026	183376	366752	733503	1100255	1833759	2750638	3667517
9251	0.80	0.151	9285	18570	37141	55711	74282	111423	185704	371409	742818	1114227	1857044	2785567	3714089
9375	0.80	0.149	9410	18819	37639	56458	75277	112916	188194	376387	752774	1129162	1881936	2822904	3763872
9503	0.80	0.147	9538	19076	38153	57229	76305	114458	190763	381526	763052	1144579	1907631	2861446	3815262
9675	0.80	0.145	9711	19422	38843	58265	77686	116529	194216	388432	776863	1165295	1942158	2913237	3884316
9933	0.80	0.141	9970	19939	39879	59818	79758	119637	199395	398790	797580	1196369	1993949	2990923	3987898
10115	0.80	0.138	10152	20305	40610	60915	81219	121829	203048	406097	812193	1218290	2030484	3045725	4060967
10353	0.80	0.135	10391	20783	41565	62348	83130	124696	207826	415652	831304	1246956	2078260	3117390	4156519
10625	0.80	0.132	10664	21329	42657	63986	85314	127972	213286	426572	853144	1279717	2132861	3199291	4265722
10875	0.80	0.129	10915	21830	43661	65491	87322	130983	218305	436609	873218	1309828	2183046	3274569	4366092
11165	0.80	0.125	11206	22413	44825	67238	89650	134476	224126	448252	896504	1344756	2241260	3361891	4482521
11375	0.80	0.123	11417	22834	45668	68502	91337	137005	228342	456683	913366	1370050	2283416	3425124	4566832
11739	0.80	0.119	11782	23565	47130	70695	94259	141389	235649	471297	942594	1413891	2356485	3534728	4712970
12325	0.80	0.114	12371	24741	49482	74224	98965	148447	247412	494824	989647	1484471	2474119	3711178	4948237
12615	0.80	0.111	12662	25323	50647	75970	101293	151940	253233	506467	1012933	1519400	2532333	3798500	5064667
13125	0.80	0.107	13174	26347	52694	79041	105388	158083	263471	526942	1053884	1580826	2634711	3952066	5269421
13475	0.80	0.104	13525	27050	54099	81149	108199	162298	270497	540994	1081988	1622982	2704970	4057454	5409939
13717	0.80	0.102	13768	27535	55071	82606	110142	165213	275355	550710	1101419	1652129	2753549	4130323	5507097
13975	0.80	0.100	14027	28053	56107	84160	112214	168320	280534	561068	1122136	1683204	2805339	4208009	5610679
14297	0.80	0.098	14350	28700	57400	86099	114799	172199	286998	573996	1147991	1721987	2869978	4304967	5739955
14875	0.80	0.094	14930	29860	59720	89580	119440	179160	298601	597201	1194402	1791603	2986005	4479008	5972011
15625	0.80	0.090	15683	31366	62731	94097	125462	188194	313656	627312	1254624	1881936	3136560	4704840	6273121
15925	0.80	0.088	15984	31968	63936	95903	127871	191807	319678	639356	1278713	1918069	3196782	4795173	6393564
16555	0.80	0.085	16616	33232	66465	99697	132930	199395	332325	664650	1329299	1993949	3323248	4984872	6646497
17255	0.80	0.081	17319	34638	69275	103913	138551	207826	346377	692753	1385506	2078260	3463766	5195649	6927532
17661	0.80	0.079	17726	35453	70905	106358	141811	212716	354527	709053	1418107	2127160	3545267	5317900	7090533
18705	0.80	0.075	18774	37548	75097	112645	150194	225290	375484	750968	1501936	2252903	3754839	5632259	7509678
19565	0.80	0.072	19637	39275	78550	117824	157099	235649	392748	785495	1570990	2356485	3927475	5891213	7854951
20339	0.80	0.069	20414	40828	81657	122485	163314	244971	408285	816570	1633139	2449709	4082848	6124272	8165696
21315	0.80	0.066	21394	42788	85575	128363	171151	256726	427877	855754	1711508	2567262	4278770	6418155	8557540
22575	0.80	0.062	22659	45317	90634	135951	181268	271902	453170	906340	1812681	2719021	4531702	6797553	9063405
24037	0.80	0.058	24126	48252	96504	144756	193007	289511	482518	965037	1930074	2895110	4825184	7237776	9650368
25375	0.80	0.055	25469	50938	101875	152813	203751	305626	509377	1018755	2037510	3056264	5093774	7640661	10187548
26187	0.80	0.053	26284	52568	105135	157703	210271	315406	525677	1051355	2102710	3154065	5256775	7885162	10513549
27735	0.80	0.050	27838	55675	111350	167026	222701	334051	556752	1113504	2227008	3340512	5567520	8351280	11135040
29435	0.80	0.048	29544	59088	118176	177263	236351	354527	590878	1181756	2363511	3545267	5908778	8863166	11817555
30625	0.80	0.046	30738	61477	122953	184430	245906	368859	614766	1229532	2459063	3688595	6147658	9221487	12295316
31433	0.80	0.045	31549	63099	126197	189296	252394	378591	630986	1261971	2523942	3785914	6309856	9464784	12619712
32895	0.80	0.043	33017	66033	132067	198100	264134	396200	660334	1320668	2641335	3962003	6603338	9905006	13206675
35525	0.80	0.039	35656	71313	142626	213939	285251	427877	713128	1426257	2852513	4278770	7131283	10696925	1426256
37625	0.80	0.037	37764	75528	151057	226585	302113	453170	755284	1510567	3021135	4531702	7552837	11329256	15105674
38829	0.80	0.036	38973	77945	155891	233836	311781	467672	779453	1558906	3117811	4676717	7794528	11691792	15589056
43645	0.80	0.032	43806	87613	175226	262839	350452	525677	876129	1752258	3504516	5256775	8761291	13141937	17522582



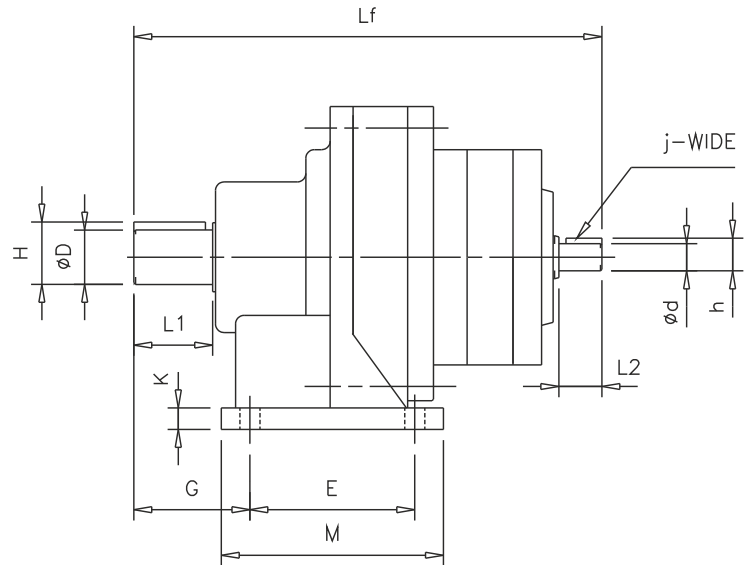
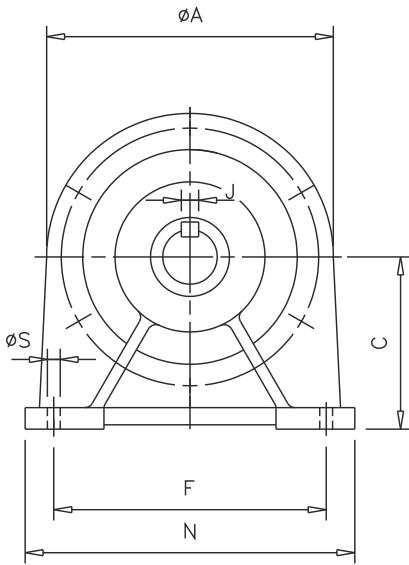
DIMENSION SHEET



Dimension Sheet

Foot- Free Input

Models - 1001 to 1043



Single Stage

All dimensions in mm

Model	Output				Input				Mounting					Others				
	Dj6	H	Jp9	L1	d j6	h	j p9	L2	C	E	F	M	N	G	S	K	A	Lf
1001	14	16	5	30	14	16	5	25	80	60	120	84	144	47	9	10	112	159
1011	14	16	5	30	14	16	5	25	80	60	120	84	144	47	9	10	112	159
1021	28	31	8	40	19	21.5	6	30	100	90	150	135	180	64	14	12	150	211
1031	28	31	8	40	19	21.5	6	30	100	90	150	135	180	64	14	12	150	211
1041	38	41	10	55	24	27	8	35	120	115	190	155	230	80.5	14	15	210	261

Double Stage

1002	14	16	5	30	14	16	5	25	80	60	120	84	144	47	9	10	112	213
1012	14	16	5	30	14	16	5	25	80	60	120	84	144	47	9	10	112	213
1022	28	31	8	40	14	16	5	25	100	90	150	135	180	64	14	12	150	254
1032	28	31	8	40	14	16	5	25	100	90	150	135	180	64	14	12	150	254
1042	38	41	10	55	19	21.5	6	30	120	115	190	155	230	80.5	14	15	210	326

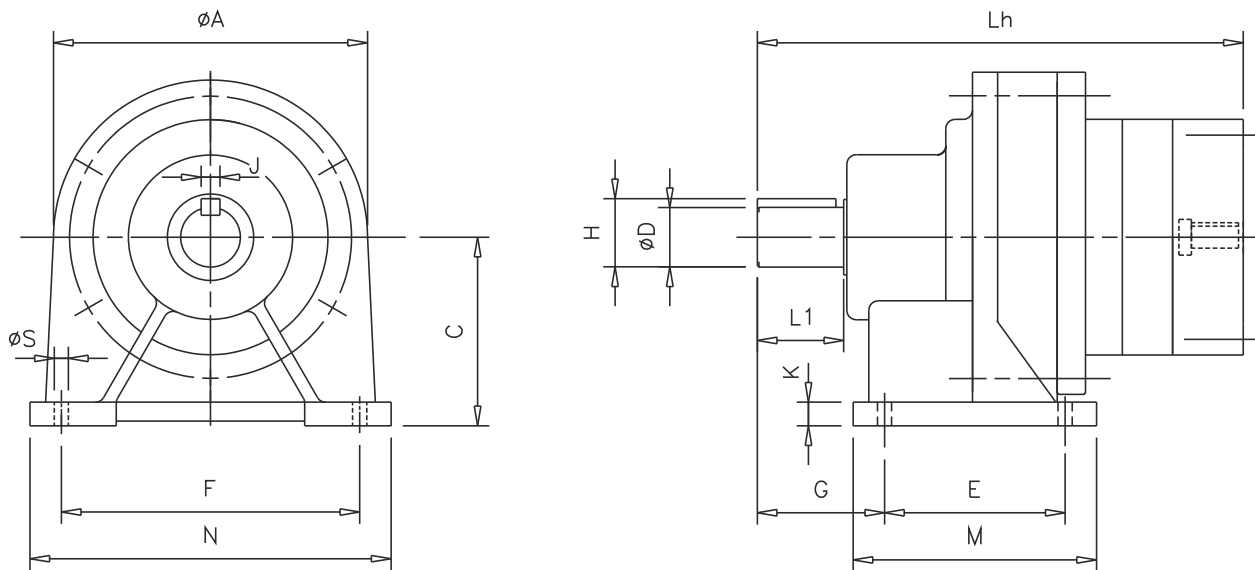
Triple Stage

1003	14	16	5	30	14	16	5	25	80	60	120	84	144	47	9	10	112	267
1013	14	16	5	30	14	16	5	25	80	60	120	84	144	47	9	10	112	267
1023	28	31	8	40	14	16	5	25	100	90	150	135	180	64	14	12	150	308
1033	28	31	8	40	14	16	5	25	100	90	150	135	180	64	14	12	150	308
1043	38	41	10	55	14	16	5	25	120	115	190	155	230	80.5	14	15	210	380

Dimension Sheet

Foot - Hollow Input

Models - 1001 to 1043



Single Stage

All dimensions in mm

Model	Output				Mounting							Other		Motor	
	Dj6	H	Jp9	L1	C	E	F	M	N	G	S	K	A	Lh	Frame
1001	14	16	5	30	80	60	120	84	144	47	9	10	112	159	63-71
1011	14	16	5	30	80	60	120	84	144	47	9	10	112	159	63-71
1021	28	31	8	40	100	90	150	135	180	64	14	12	150	210	71-80
1031	28	31	8	40	100	90	150	135	180	64	14	12	150	210	71-100
1041	38	41	10	55	120	115	190	155	230	80.5	14	15	210	228	71-112

Double Stage

1002	14	16	5	30	80	60	120	84	144	47	9	10	112	213	63-71
1012	14	16	5	30	80	60	120	84	144	47	9	10	112	213	63-71
1022	28	31	8	40	100	90	150	135	180	64	14	12	150	254	63-71
1032	28	31	8	40	100	90	150	135	180	64	14	12	150	254	63-71
1042	38	41	10	55	120	115	190	155	230	80.5	14	15	210	325	71-80

Triple Stage

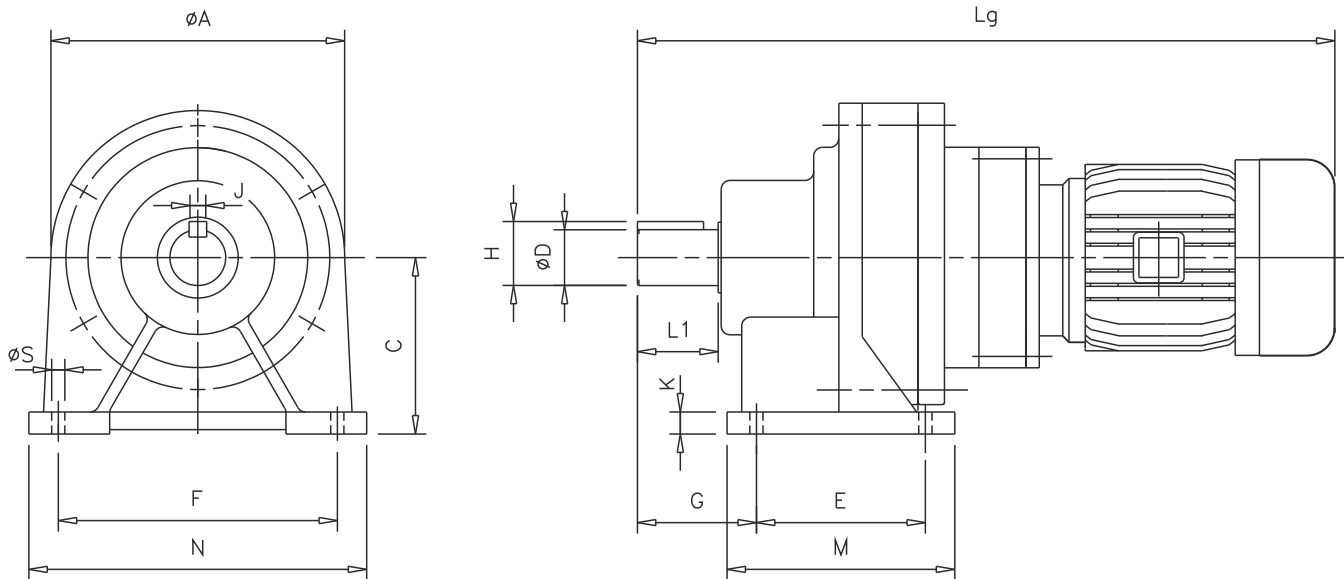
1003	14	16	5	30	80	60	120	84	144	47	9	10	112	267	63-71
1013	14	16	5	30	80	60	120	84	144	47	9	10	112	267	63-71
1023	28	31	8	40	100	90	150	135	180	64	14	12	150	308	63-71
1033	28	31	8	40	100	90	150	135	180	64	14	12	150	308	63-71
1043	38	41	10	55	120	115	190	155	230	80.5	14	15	210	380	63-71

For Input dimensions refer page 53 according to motor frame size.

Dimension Sheet

Foot- Geared Motor

Models - 1001 to 1043



Single Stage

All dimensions in mm

Model	Output			Mounting							Others		Motor		
	Dj6	H	Jp9	L1	C	E	F	M	N	G	S	K	A	Lh	Frame
1001	14	16	5	30	80	60	120	84	144	47	9	10	112	371	63-71
1011	14	16	5	30	80	60	120	84	144	47	9	10	112	371	63-71
1021	28	31	8	40	100	90	150	135	180	64	14	12	150	523	71-80
1031	28	31	8	40	100	90	150	135	180	64	14	12	150	523	71-100
1041	38	41	10	55	120	115	190	155	230	80.5	14	15	210	560	71-112

Double Stage

1002	14	16	5	30	80	60	120	84	144	47	9	10	112	425	63-71
1012	14	16	5	30	80	60	120	84	144	47	9	10	112	425	63-71
1022	28	31	8	40	100	90	150	135	180	64	14	12	150	503	63-71
1032	28	31	8	40	100	90	150	135	180	64	14	12	150	503	63-71
1042	38	41	10	55	120	115	190	155	230	80.5	14	15	210	638	71-80

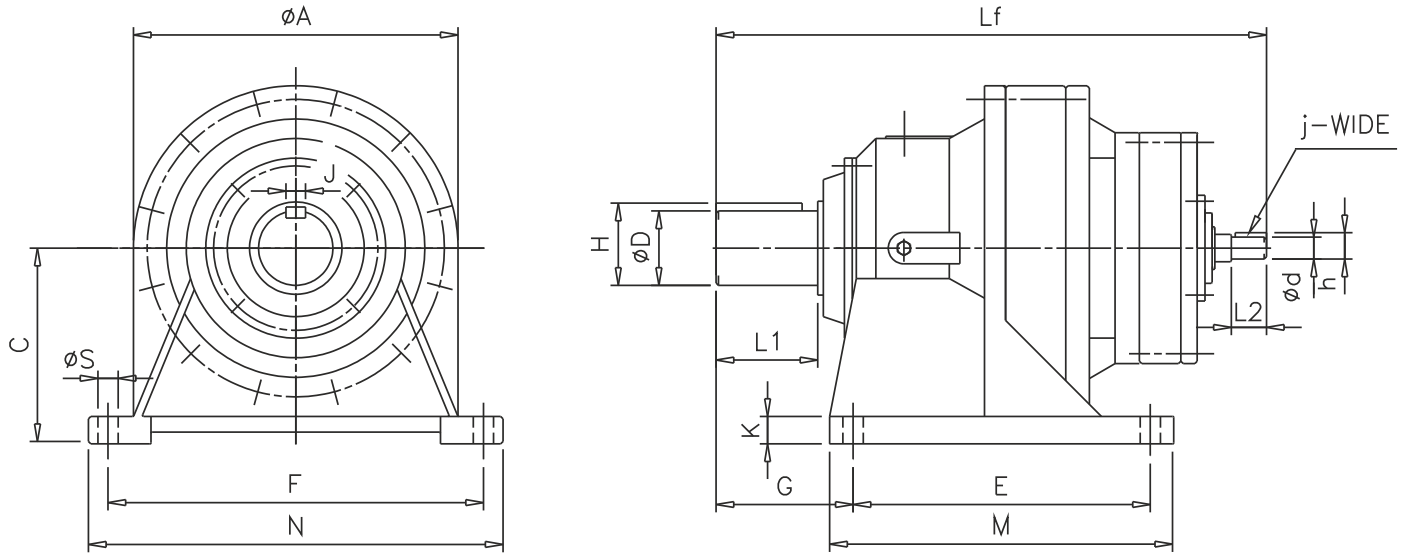
Triple Stage

1003	14	16	5	30	80	60	120	84	144	47	9	10	112	479	63-71
1013	14	16	5	30	80	60	120	84	144	47	9	10	112	479	63-71
1023	28	31	8	40	100	90	150	135	180	64	14	12	150	520	63-71
1033	28	31	8	40	100	90	150	135	180	64	14	12	150	520	63-71
1043	38	41	10	55	120	115	190	155	230	80.5	14	15	210	592	63-71

Dimension Sheet

Foot - Free Input

Models - 1051 to 1123



Single Stage

All dimensions in mm

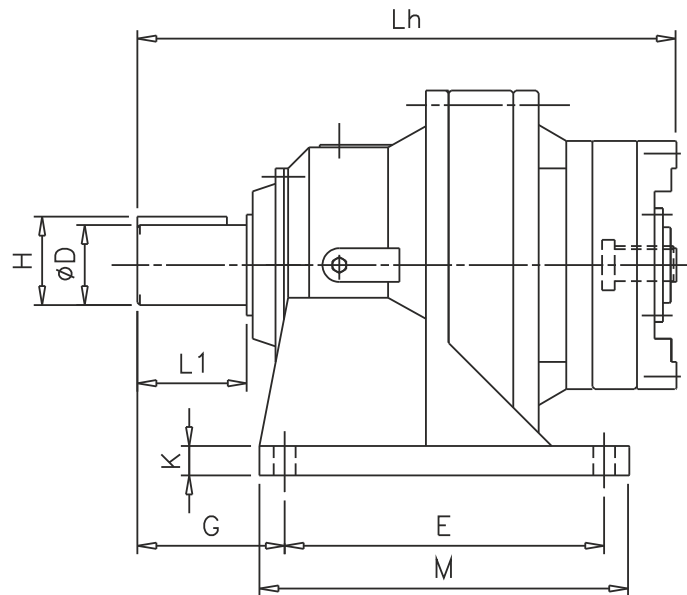
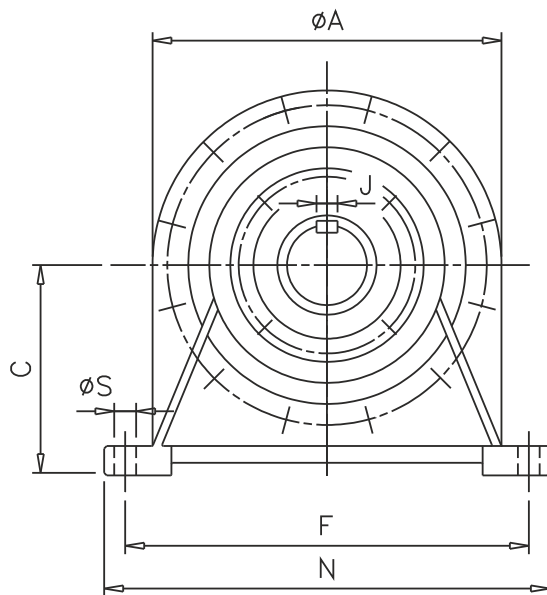
Model	Output				Input					Mounting					Others			
	D j6	H	J p9	L1	d j6	h	j p9	L2	C	E	F	M	N	G	S	K	A	L f
1051	50	53.5	14	90	28	31	8	40	150	145	290	195	330	118	18	15	230	338
1061	60	64	18	90	28	31	8	45	160	150	350	220	390	127	18	25	305	407
1071	70	74.5	20	90	38	41	10	55	200	275	380	325	430	131	22	30	330	474
1081	80	85.5	22	110	42	45	12	65	220	320	420	380	470	155	22	30	360	517
1091	95	100	25	135	50	53.5	14	80	250	380	480	440	530	175	26	35	415	611
1101	110	116	28	165	50	53.5	14	80	290	480	560	560	620	244	26	40	500	738
1111	120	127	32	202	55	59	16	90	325	500	630	600	690	298	26	40	570	891
1121	140	148	36	245	70	74.5	20	120	420	660	800	810	880	351	39	50	700	1113
Double Stage																		
1052	50	53.5	14	90	19	21.5	6	30	150	145	290	195	330	118	18	15	230	396
1062	60	64	18	90	24	27	8	35	160	150	350	220	390	127	18	25	305	448
1072	70	74.5	20	90	24	27	8	35	200	275	380	325	430	131	22	30	330	513
1082	80	85.5	22	110	28	31	8	40	220	320	420	380	470	155	22	30	360	594
1092	95	100	25	135	28	31	8	45	250	380	480	440	530	175	26	35	415	702
1102	110	116	28	165	38	41	10	55	290	480	560	560	620	244	26	40	500	855
1112	120	127	32	202	38	41	10	55	325	500	630	600	690	298	26	40	570	946
1122	140	148	36	245	42	45	12	65	420	660	800	810	880	351	39	50	700	1170
Triple Stage																		
1053	50	53.5	14	90	14	16	5	25	150	145	290	195	330	118	18	15	230	450
1063	60	64	18	90	19	21.5	6	30	160	150	350	220	390	127	18	25	305	522
1073	70	74.5	20	90	19	21.5	6	30	200	275	380	325	430	131	22	30	330	587
1083	80	85.5	22	110	19	21.5	6	30	220	320	420	380	470	155	22	30	360	668
1093	95	100	25	135	24	27	8	35	250	380	480	440	530	175	26	35	415	783
1103	110	116	28	165	24	27	8	35	290	480	560	560	620	244	26	40	500	945
1113	120	127	32	202	24	27	8	35	325	500	630	600	690	298	26	40	570	1036
1123	140	148	36	245	28	31	8	40	420	660	800	810	880	351	39	50	700	1308

For Input dimensions refer page 53 according to motor frame size.

Dimension Sheet

Foot- Hollow Input

Models - 1051 to 1123



Single Stage

All dimensions in mm

Model	Output				Mounting							Others		Motor	
	Dj6	H	Jp9	L1	C	E	F	M	N	G	S	K	A	Lh	Frame
1051	50	53.5	14	90	150	145	290	195	330	118	18	15	230	301	80-112
1061	60	64	18	90	160	150	350	220	390	127	18	25	305	344	100-132
1071	70	74.5	20	90	200	275	380	325	430	131	22	30	330	429	100-160
1081	80	85.5	22	110	220	320	420	380	470	155	22	30	360	447	132-180
1091	95	100	25	135	250	380	480	440	530	175	26	35	415	530	132-180

Double Stage

1052	50	53.5	14	90	150	145	290	195	330	118	18	15	230	395	71-100
1062	60	64	18	90	160	150	350	220	390	127	18	25	305	416	71-112
1072	70	74.5	20	90	200	275	380	325	430	131	22	30	330	481	71-112
1082	80	85.5	22	110	220	320	420	380	470	155	22	30	360	558	80-112
1092	95	100	25	135	250	380	480	440	530	175	26	35	415	639	100-160
1102	110	116	28	165	290	480	560	560	620	244	26	40	500	810	100-160
1112	120	127	32	202	325	500	630	600	690	298	26	40	570	901	100-160
1122	140	148	36	245	420	660	800	810	880	351	39	50	700	1100	132-180

Triple Stage

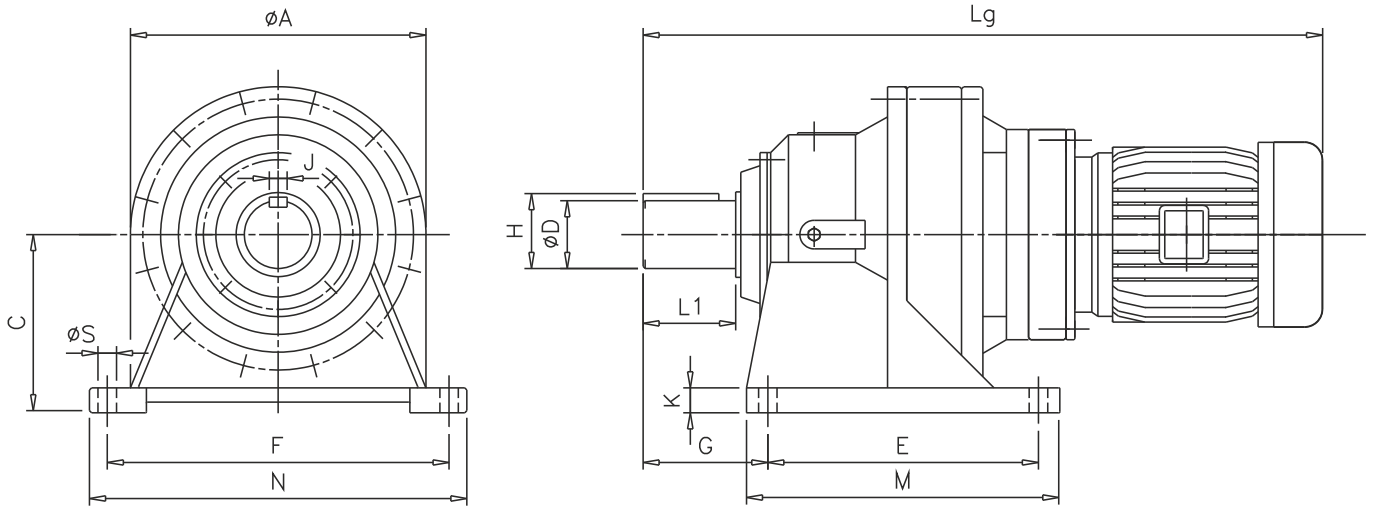
1053	50	53.5	14	90	150	145	290	195	330	118	18	15	230	449	63-71
1063	60	64	18	90	160	150	350	220	390	127	18	25	305	490	71-80
1073	70	74.5	20	90	200	275	380	325	430	131	22	30	330	555	71-80
1083	80	85.5	22	110	220	320	420	380	470	155	22	30	360	632	71-100
1093	95	100	25	135	250	380	480	440	530	175	26	35	415	720	71-112
1103	110	116	28	165	290	480	560	560	620	244	26	40	500	900	71-112
1113	120	127	32	202	325	500	630	600	690	298	26	40	570	991	71-112
1123	140	148	36	245	420	660	800	810	880	351	39	50	700	1238	80-112

For Input dimensions refer page 53 according to motor frame size.

Dimension Sheet

Foot - Geared Motor

Models - 1051 to 1123



Single Stage

All dimensions in mm

Model	Output			Mounting							Others		Motor		
	Dj6	H	Jp9	L1	C	E	F	M	N	G	S	K	A	Lg	Frame
1051	50	53.5	14	90	150	145	290	195	330	118	18	15	230	633	80-112
1061	60	64	18	90	160	150	350	220	390	127	18	25	305	737	100-130
1071	70	74.5	20	90	200	275	380	325	430	131	22	30	330	824	100-160
1081	80	85.5	22	110	220	320	420	380	470	155	22	30	360	842	132-180
1091	95	100	25	135	250	380	480	440	530	175	26	35	415	933	132-180

Double Stage

1052	50	53.5	14	90	150	145	290	195	330	118	18	15	230	708	71-100
1062	60	64	18	90	160	150	350	220	390	127	18	25	305	748	71-112
1072	70	74.5	20	90	200	275	380	325	430	131	22	30	330	812	71-112
1082	80	85.5	22	110	220	320	420	380	470	155	22	30	360	890	80-112
1092	95	100	25	135	250	380	480	440	530	175	26	35	415	1032	100-112
1102	110	116	28	165	290	480	560	560	620	244	26	40	500	1205	100-160
1112	120	127	32	202	325	500	630	600	690	298	26	40	570	1296	100-160
1122	140	148	36	245	420	660	800	810	880	351	39	50	700	1485	132-180

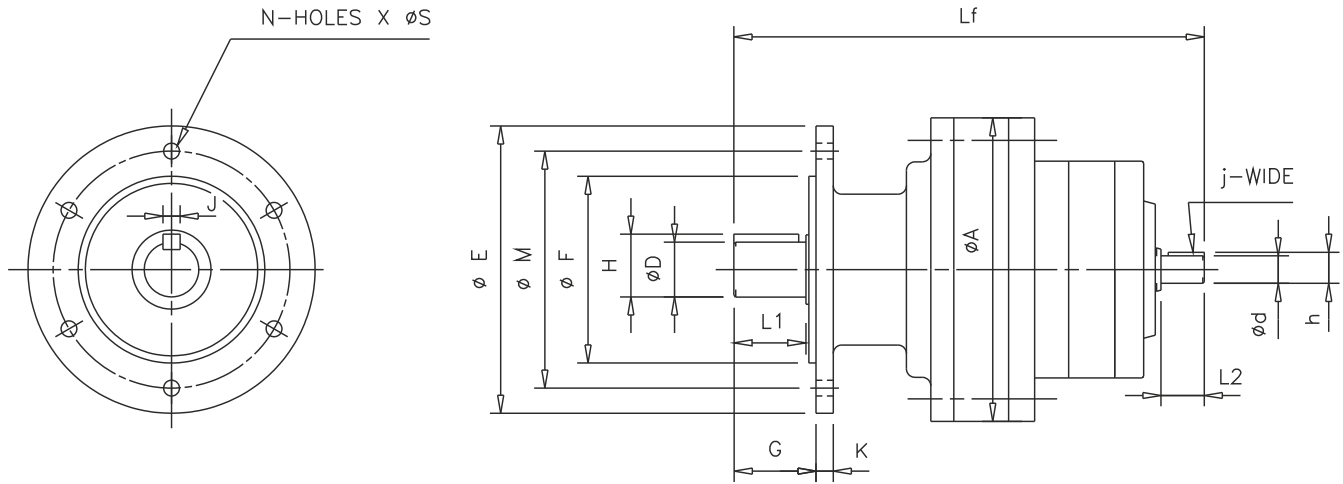
Triple Stage

1053	50	53.5	14	90	150	145	290	195	330	118	18	15	230	661	63-71
1063	60	64	18	90	160	150	350	220	390	127	18	25	305	739	71-80
1073	70	74.5	20	90	200	275	380	325	430	131	22	30	330	804	71-80
1083	80	85.5	22	110	220	320	420	380	470	155	22	30	360	945	71-100
1093	95	100	25	135	250	380	480	440	530	175	26	35	415	1052	71-112
1103	110	116	28	165	290	480	560	560	620	244	26	40	500	1232	71-112
1113	120	127	32	202	325	500	630	600	690	298	26	40	570	1323	71-112
1123	140	148	36	245	420	660	800	810	880	351	39	50	700	1570	80-112

Dimension Sheet

Flange - Free Input

Models - 1001 to 1043



Single Stage

All dimensions in mm

Model	Output				Input				Mounting					Others			
	D j6	H	J p9	L1	d j6	h	j p9	L2	E	M	F h8	N	S	K	G	A	Lf
1001	14	16	5	30	14	16	5	25	120	102	80	4	10.5	10	30	112	159
1011	14	16	5	30	14	16	5	25	120	102	80	4	10.5	10	30	112	159
1021	28	31	8	40	19	21.5	6	30	140	115	95	4	10.5	10	39	150	211
1031	28	31	8	40	19	21.5	6	30	140	115	95	4	10.5	10	39	150	211
1041	38	41	10	55	24	27	8	35	200	165	130	6	11	12	55	200	261

Double Stage

1002	14	16	5	30	14	16	5	25	120	102	80	4	10.5	10	30	112	213
1012	14	16	5	30	14	16	5	25	120	102	80	4	10.5	10	30	112	213
1022	28	31	8	40	14	16	5	25	140	115	95	4	10.5	10	39	150	254
1032	28	31	8	40	14	16	5	25	140	115	95	4	10.5	10	39	150	254
1042	38	41	10	55	19	21.5	6	30	200	165	130	6	11	12	55	200	326

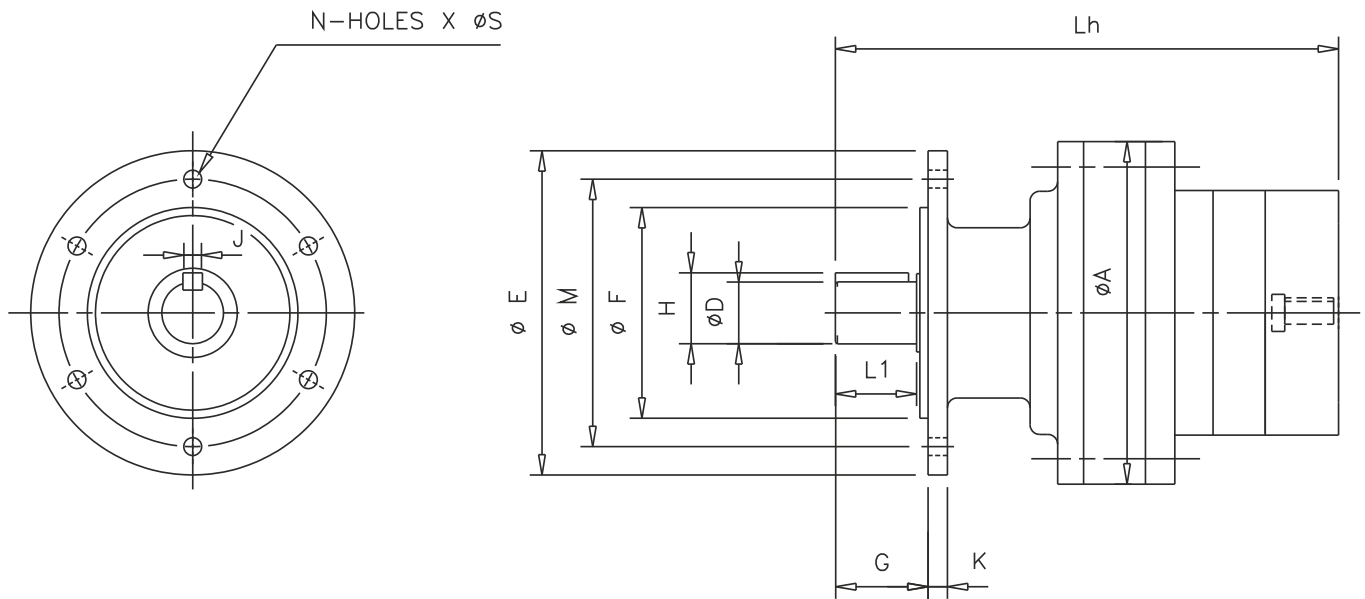
Triple Stage

1003	14	16	5	30	14	16	5	25	120	102	80	4	10.5	10	30	112	267
1013	14	16	5	30	14	16	5	25	120	102	80	4	10.5	10	30	112	267
1023	28	31	8	40	14	16	5	25	140	115	95	4	10.5	10	39	150	308
1033	28	31	8	40	14	16	5	25	140	115	95	4	10.5	10	39	150	308
1043	38	41	10	55	14	16	5	25	200	165	130	6	11	12	55	200	380

Dimension Sheet

Flange - Hollow Input

Models - 1001 to 1043



Single Stage

All dimensions in mm

Model	Output			Mounting							Others		Motor	
	Dj6	H	Jp9	L1	E	M	Fh8	N	S	k	G	A	Lh	Frame
1001	14	16	5	30	120	102	80	4	10.5	10	30	112	159	63-71
1011	14	16	5	30	120	102	80	4	10.5	10	30	112	159	63-71
1021	28	31	8	40	140	115	95	4	10.5	10	39	150	210	71-80
1031	28	31	8	40	140	115	95	4	10.5	10	39	150	210	71-100
1041	38	41	10	55	200	165	130	6	11	12	55	200	228	71-112

Double Stage

1002	14	16	5	30	120	102	80	4	10.5	10	30	112	213	63-71
1012	14	16	5	30	120	102	80	4	10.5	10	30	112	213	63-71
1022	28	31	8	40	140	115	95	4	10.5	10	39	150	254	63-71
1032	28	31	8	40	140	115	95	4	10.5	10	39	150	254	63-71
1042	38	41	10	55	200	165	130	6	11	12	55	200	325	71-80

Triple Stage

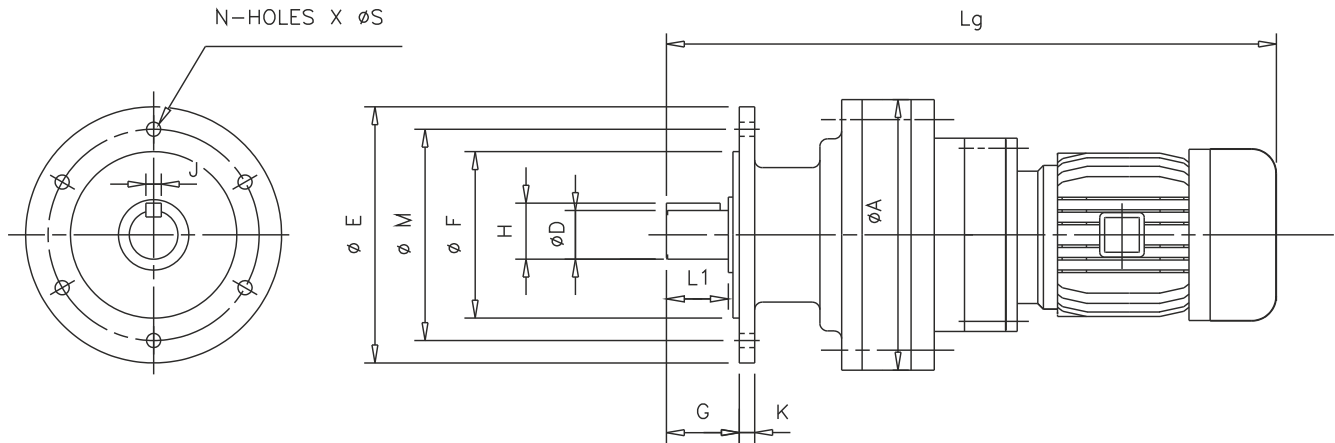
1003	14	16	5	30	120	102	80	4	10.5	10	30	112	267	63-71
1013	14	16	5	30	120	102	80	4	10.5	10	30	112	267	63-71
1023	28	31	8	40	140	115	95	4	10.5	10	39	150	308	63-71
1033	28	31	8	40	140	115	95	4	10.5	10	39	150	308	63-71
1043	38	41	10	55	200	165	130	6	11	12	55	200	380	63-71

For Input dimensions refer page 53 according to motor frame size.

Dimension Sheet

Flange - Geared Motor

Models - 1001 to 1043



Single Stage

All dimensions in mm

Model	Output			Mounting						Others		Motor		
	Dj6	H	Jp9	L1	E	M	Fh8	N	S	K	G	A	Lh	Frame
1001	14	16	5	30	120	102	80	4	10.5	10	30	112	371	63-71
1011	14	16	5	30	120	102	80	4	10.5	10	30	112	371	63-71
1021	28	31	8	40	140	115	95	4	10.5	10	39	150	523	71-80
1031	28	31	8	40	140	115	95	4	10.5	10	39	150	523	71-100
1041	38	41	10	55	200	165	130	6	11	12	55	200	560	71-112

Double Stage

1002	14	16	5	30	120	102	80	4	10.5	10	30	112	425	63-71
1012	14	16	5	30	120	102	80	4	10.5	10	30	112	425	63-71
1022	28	31	8	40	140	115	95	4	10.5	10	39	150	503	63-71
1032	28	31	8	40	140	115	95	4	10.5	10	39	150	503	63-71
1042	38	41	10	55	200	165	130	6	11	12	55	200	638	71-80

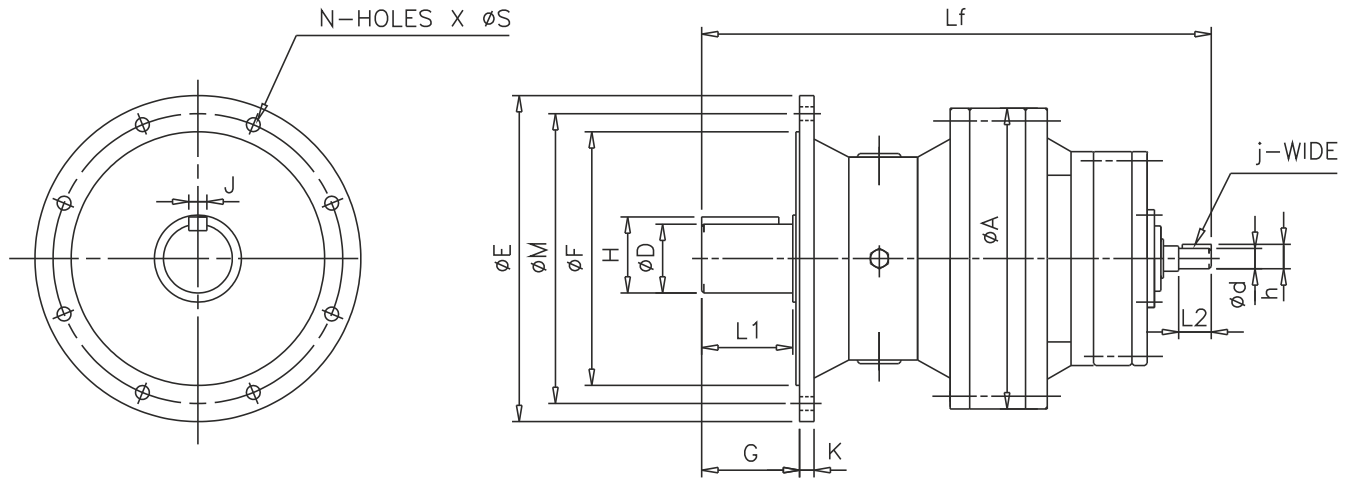
Triple Stage

1003	14	16	5	30	120	102	80	4	10.5	10	30	112	479	63-71
1013	14	16	5	30	120	102	80	4	10.5	10	30	112	479	63-71
1023	28	31	8	40	140	115	95	4	10.5	10	39	150	520	63-71
1033	28	31	8	40	140	115	95	4	10.5	10	39	150	520	63-71
1043	38	41	10	55	200	165	130	6	11	12	55	200	592	63-71

Dimension Sheet

Flange - Free Input

Models - 1051 to 1123



Single Stage

All dimensions in mm

Model	Output			L1	Input			L2	E	M	Mounting			K	G	Others	
	D j6	H	J p9		d j6	h	j p9				F h8	N	S			A	Lf
1051	50	53.5	14	90	28	31	8	40	260	230	200	6	14	15	90	230	338
1061	60	64	18	90	28	31	8	45	310	280	250	8	14	15	90	295	407
1071	70	74.5	20	90	38	41	10	55	350	320	280	8	14	15	90	330	474
1081	80	85.5	22	110	42	45	12	65	400	360	320	8	14	20	109	360	517
1091	95	100	25	135	50	53.5	14	80	450	400	350	8	19	20	135	415	611
1101	110	116	28	165	50	53.5	14	80	580	520	455	12	22	35	190	500	738
1111	120	127	32	202	55	59	16	90	650	590	520	12	21	40	242	57	891
1121	140	148	36	245	70	74.5	20	120	880	800	680	12	33	50	252	700	1113

Double Stage

1052	50	53.5	14	90	19	21.5	6	30	260	230	200	6	14	15	90	230	396
1062	60	64	18	90	24	27	8	35	310	280	250	8	14	15	90	295	448
1072	70	74.5	20	90	24	27	8	35	350	320	280	8	14	15	90	330	513
1082	80	85.5	22	110	28	31	8	40	400	360	320	8	14	20	109	360	594
1092	95	100	25	135	28	31	8	45	450	400	350	8	19	20	135	415	702
1102	110	116	28	165	38	41	10	55	580	520	455	12	22	35	190	500	855
1112	120	127	32	202	38	41	10	55	650	590	520	12	21	40	242	570	946
1122	140	148	36	245	42	45	12	65	880	800	680	12	33	50	252	700	1170

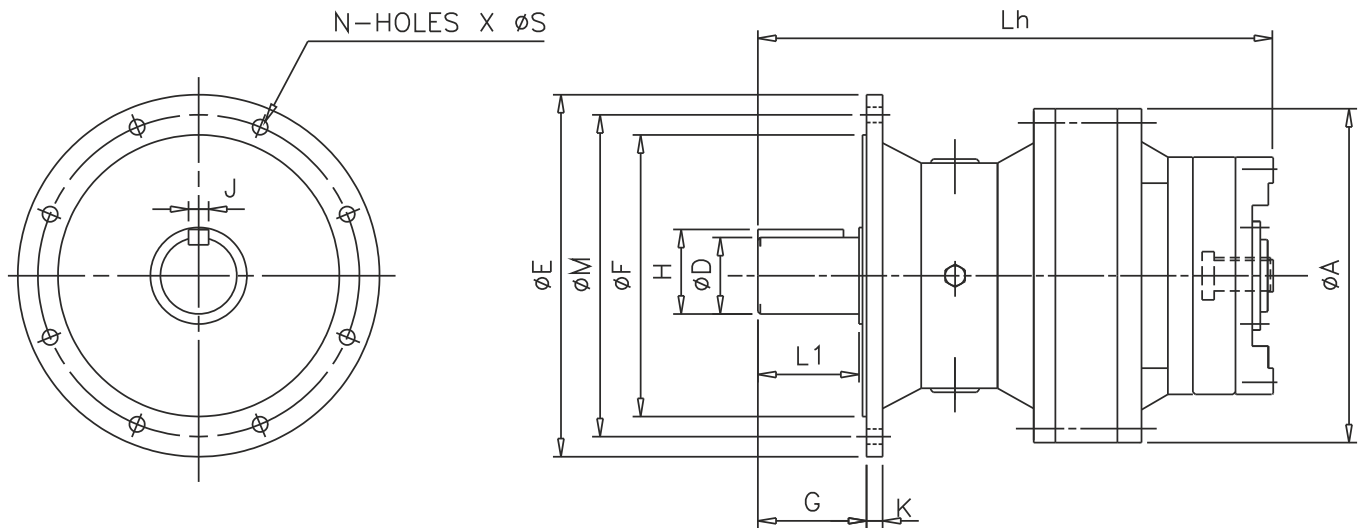
Triple Stage

1053	50	53.5	14	90	14	16	5	25	260	230	200	6	14	15	90	230	450
1063	60	64	18	90	19	21.5	6	30	310	280	250	8	14	15	90	295	522
1073	70	74.5	20	90	19	21.5	6	30	350	320	280	8	14	15	90	330	587
1083	80	85.5	22	110	19	21.5	6	30	400	360	320	8	14	20	109	360	668
1093	95	100	25	135	24	27	8	35	450	400	350	8	19	20	135	415	783
1103	110	116	28	165	24	27	8	35	580	520	455	12	22	35	190	500	945
1113	120	127	32	202	24	27	8	35	650	590	520	12	21	40	242	570	1036
1123	140	148	36	245	28	31	8	40	880	800	680	12	33	50	252	700	1308

Dimension Sheet

Flange - Hollow Input

Models - 1051 to 1123



Single Stage

All dimensions in mm

Model	Output			L1	E	M	Fh8	Mounting			G	Others		Motor Frame
	Dj6	H	Jp9					N	S	K		A	Lh	
1051	50	53.5	14	90	260	230	200	6	14	15	90	230	301	80-112
1061	60	64	18	90	310	280	250	8	14	15	90	295	344	100-132
1071	70	74.5	20	90	350	320	280	8	14	15	90	330	429	100-160
1081	80	85.5	22	110	400	360	320	8	14	20	109	360	447	132-180
1091	95	100	25	135	450	400	350	8	19	20	135	415	530	132-180

Double Stage

1052	50	53.5	14	90	260	230	200	6	14	15	90	230	395	71-100
1062	60	64	18	90	310	280	250	8	14	15	90	295	416	71-112
1072	70	74.5	20	90	350	320	280	8	14	15	90	330	481	71-112
1082	80	85.5	22	110	400	360	320	8	14	20	109	360	558	80-112
1092	95	100	25	135	450	400	350	8	19	20	135	415	639	100-132
1102	110	116	28	165	580	520	455	12	22	35	190	500	810	100-160
1112	120	127	32	202	650	590	520	12	21	40	242	570	901	100-160
1122	140	148	36	245	880	800	680	12	33	50	252	700	1100	132-180

Triple Stage

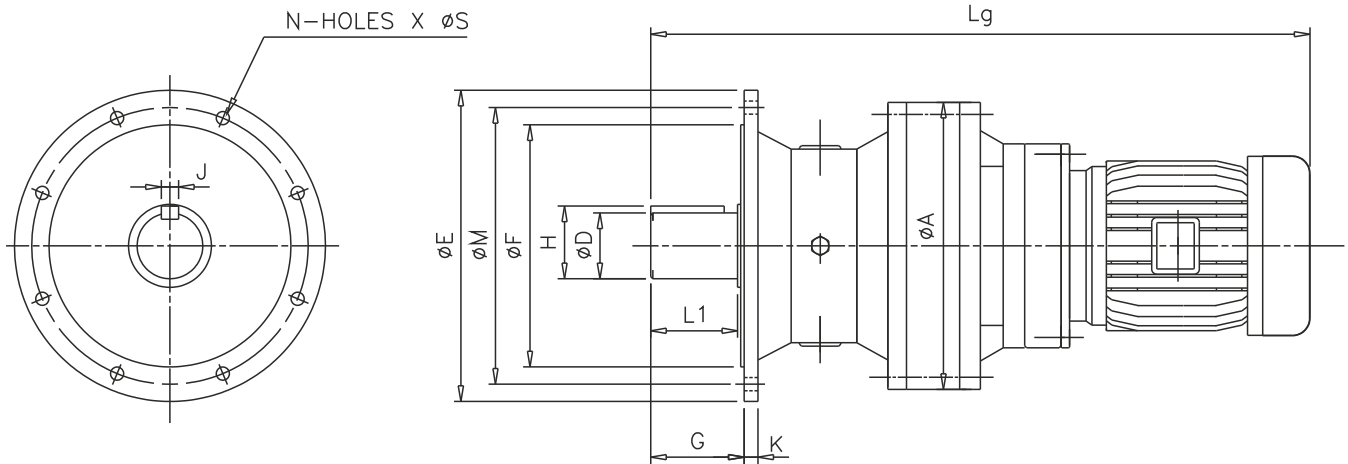
1053	50	53.5	14	90	260	230	200	6	14	15	90	230	449	63-71
1063	60	64	18	90	310	280	250	8	14	15	90	295	490	71-80
1073	70	74.5	20	90	350	320	280	8	14	15	90	330	555	71-80
1083	80	85.5	22	110	400	360	320	8	14	20	109	360	632	71-100
1093	95	100	25	135	450	400	350	8	19	20	135	415	720	71-112
1103	110	116	28	165	580	520	455	12	22	35	190	500	900	71-112
1113	120	127	32	202	650	590	520	12	21	40	242	570	991	71-112
1123	140	148	36	245	880	800	680	12	33	50	252	700	1238	80-112

For Input dimensions refer page 53 according to motor frame size.

Dimension Sheet

Flange - Geared Motor

Models - 1051 to 1123



Single Stage

All dimensions in mm

Model	Output		L1	E	M	Fh8	Mounting		K	G	Others		Motor Frame	
	Dj6	H					Jp9	N			S	A		Lh
1051	50	53.5	14	90	260	230	200	6	14	15	90	230	633	80-112
1061	60	64	18	90	310	280	250	8	14	15	90	295	737	100-132
1071	70	74.5	20	90	350	320	280	8	14	15	90	330	824	100-160
1081	80	85.5	22	110	400	360	320	8	14	20	109	360	842	132-180
1091	95	100	25	135	450	400	350	8	19	20	135	415	933	132-180

Double Stage

1052	50	53.5	14	90	260	230	200	6	14	15	90	230	708	71-100
1062	60	64	18	90	310	280	250	8	14	15	90	295	748	71-112
1072	70	74.5	20	90	350	320	280	8	14	15	90	330	812	71-112
1082	80	85.5	22	110	400	360	320	8	14	20	109	360	890	80-112
1092	95	100	25	135	450	400	350	8	19	20	135	415	1032	100-132
1102	110	116	28	165	580	520	455	12	22	35	190	500	1205	100-160
1112	120	127	32	202	650	590	520	12	21	40	242	570	1296	100-160
1122	140	148	36	245	880	800	680	12	33	50	252	700	1485	132-180

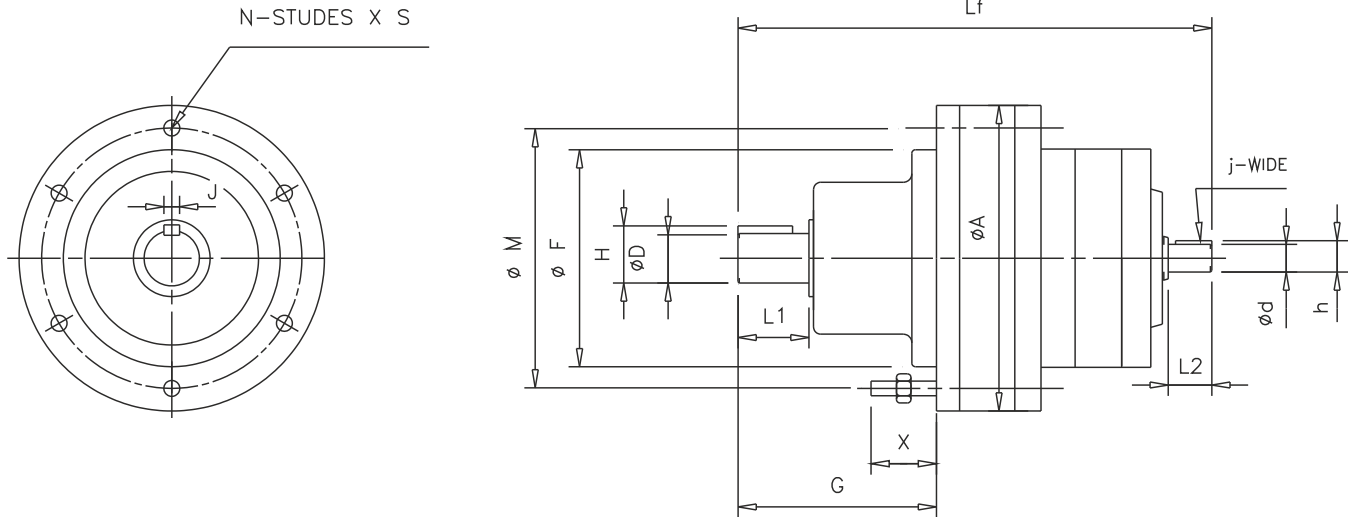
Triple Stage

1053	50	53.5	14	90	260	230	200	6	14	15	90	230	661	80-71
1063	60	64	18	90	310	280	250	8	14	15	90	295	739	71-80
1073	70	74.5	20	90	350	320	280	8	14	15	90	330	804	71-80
1083	80	85.5	22	110	400	360	320	8	14	20	109	360	945	71-100
1093	95	100	25	135	450	400	350	8	19	20	135	415	1052	71-112
1103	110	116	28	165	580	520	455	12	22	35	190	500	1232	71-112
1113	120	127	32	202	650	590	520	12	21	40	242	570	1323	71-112
1123	140	148	36	245	880	800	680	12	33	50	252	700	1570	80-112

Dimension Sheet

C Flange - Free Input

Models - 1001 to 1043



Single Stage

All dimensions in mm

Model	Output				Input				Mounting			Others				
	D j6	H	J p9	L1	d j6	h	j p9	L2	M	F h8	N	S	X	G	A	Lf
1001	14	16	5	30	14	16	5	25	102	80	6	M 6	24	73	112	159
1011	14	16	5	30	14	16	5	25	102	80	6	M 6	24	73	112	159
1021	28	31	8	40	19	21.5	6	30	115	95	8	M 8	33	100	150	211
1031	28	31	8	40	19	21.5	6	30	115	95	8	M 8	33	100	150	211
1041	38	41	10	55	24	27	8	35	165	130	6	M 10	50	135	200	261

Double Stage

1002	14	16	5	30	14	16	5	25	102	80	6	M 6	24	73	112	213
1012	14	16	5	30	14	16	5	25	102	80	6	M 6	24	73	112	213
1022	28	31	8	40	14	16	5	25	115	95	8	M 8	33	100	150	254
1032	28	31	8	40	14	16	5	25	115	95	8	M 8	33	100	150	254
1042	38	41	10	55	19	21.5	6	30	165	130	6	M 10	50	135	200	326

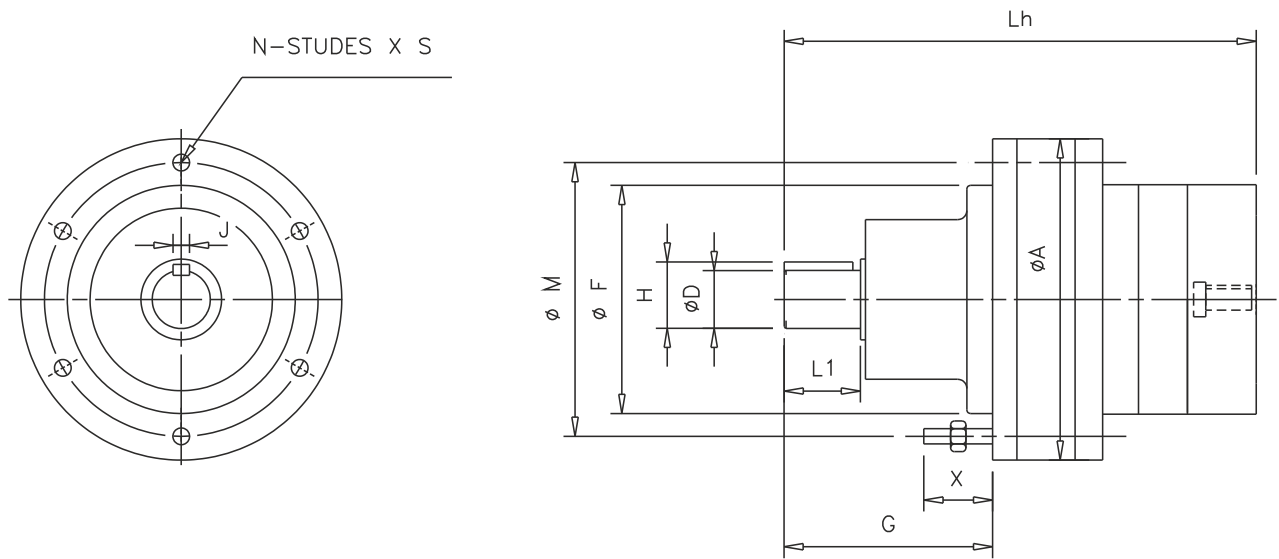
Triple Stage

1003	14	16	5	30	14	16	5	25	102	80	6	M 6	24	73	112	267
1013	14	16	5	30	14	16	5	25	102	80	6	M 6	24	73	112	267
1023	28	31	8	40	14	16	5	25	115	95	8	M 8	33	100	150	308
1033	28	31	8	40	14	16	5	25	115	95	8	M 8	33	100	150	308
1043	38	41	10	55	14	16	5	25	165	130	6	M 10	50	135	200	380

Dimension Sheet

C Flange - Hollow Input

Models - 1001 to 1043



Single Stage

All dimensions in mm

Model	Output							Mounting			Others Motor		
	Dj6	H	Jp9	L1	M	Fh8	N	S	X	G	A	Lh	Frame
1001	14	16	5	30	102	80	6	M 6	24	73	112	159	63-71
1011	14	16	5	30	102	80	6	M 6	24	73	112	159	63-71
1021	28	31	8	40	115	95	8	M 8	33	100	150	210	71-80
1031	28	31	8	40	115	95	8	M 8	33	100	150	210	71-100
1041	38	41	10	55	165	130	6	M 10	50	135	200	228	71-112

Double Stage

1002	14	16	5	30	102	80	6	M 6	24	73	112	213	63-71
1012	14	16	5	30	102	80	6	M 6	24	73	112	213	63-71
1022	28	31	8	40	115	95	8	M 8	33	100	150	254	63-71
1032	28	31	8	40	115	95	8	M 8	33	100	150	254	63-71
1042	38	41	10	55	165	130	6	M10	50	135	200	325	71-80

Triple Stage

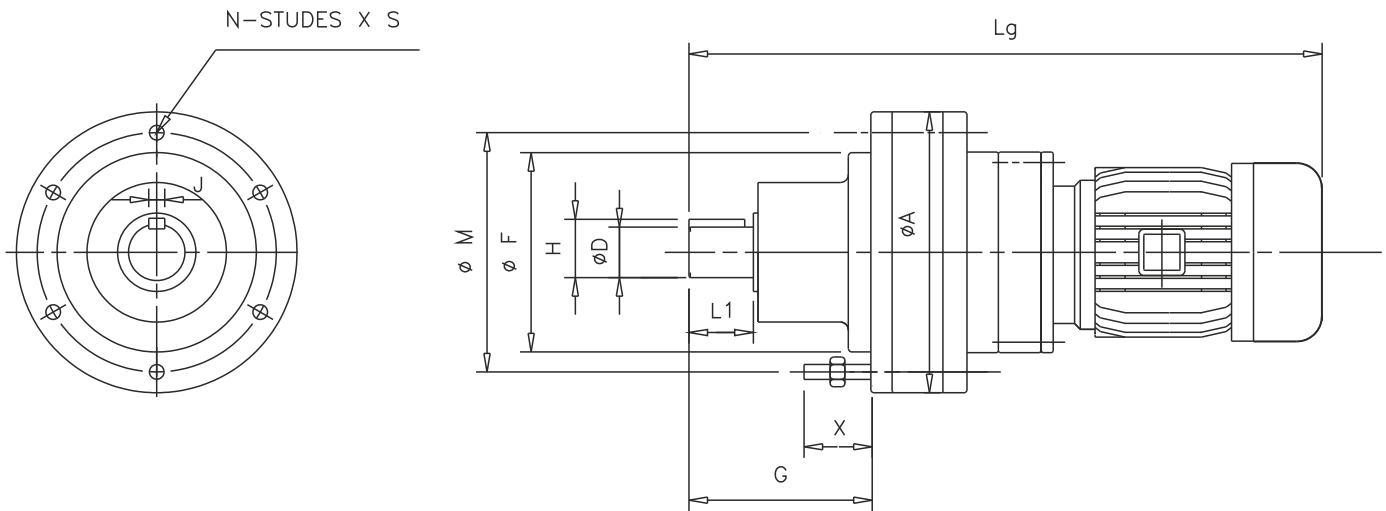
1003	14	16	5	30	102	80	6	M 6	24	73	112	267	63-71
1013	14	16	5	30	102	80	6	M 6	24	73	112	267	63-71
1023	28	31	8	40	115	95	8	M 8	33	100	150	308	63-71
1033	28	31	8	40	115	95	8	M 8	33	100	150	308	63-71
1043	38	41	10	55	165	130	6	M 10	50	135	200	380	63-71

For Input dimensions refer page 53 according to motor frame size.

Dimension Sheet

C Flange - Geared Motor

Models - 1001 to 1043



Single Stage

All dimensions in mm

Model	Output						Mounting				Others		Motor
	Dj6	H	Jp9	L1	M	Fh8	N	S	X	G	A	Lh	Frame
1001	14	16	5	30	102	80	6	M 6	24	73	112	371	63-71
1011	14	16	5	30	102	80	6	M 6	24	73	112	371	63-71
1021	28	31	8	40	115	95	8	M 8	33	100	150	523	71-80
1031	28	31	8	40	115	95	8	M 8	33	100	150	523	71-100
1041	38	41	10	55	165	130	6	M 10	50	135	200	560	71-112

Double Stage

1002	14	16	5	30	102	80	6	M 6	24	73	112	425	63-71
1012	14	16	5	30	102	80	6	M 6	24	73	112	425	63-71
1022	28	31	8	40	115	95	8	M 8	33	100	150	503	63-71
1032	28	31	8	40	115	95	8	M 8	33	100	150	503	63-71
1042	38	41	10	55	165	130	6	M 10	50	135	200	638	71-80

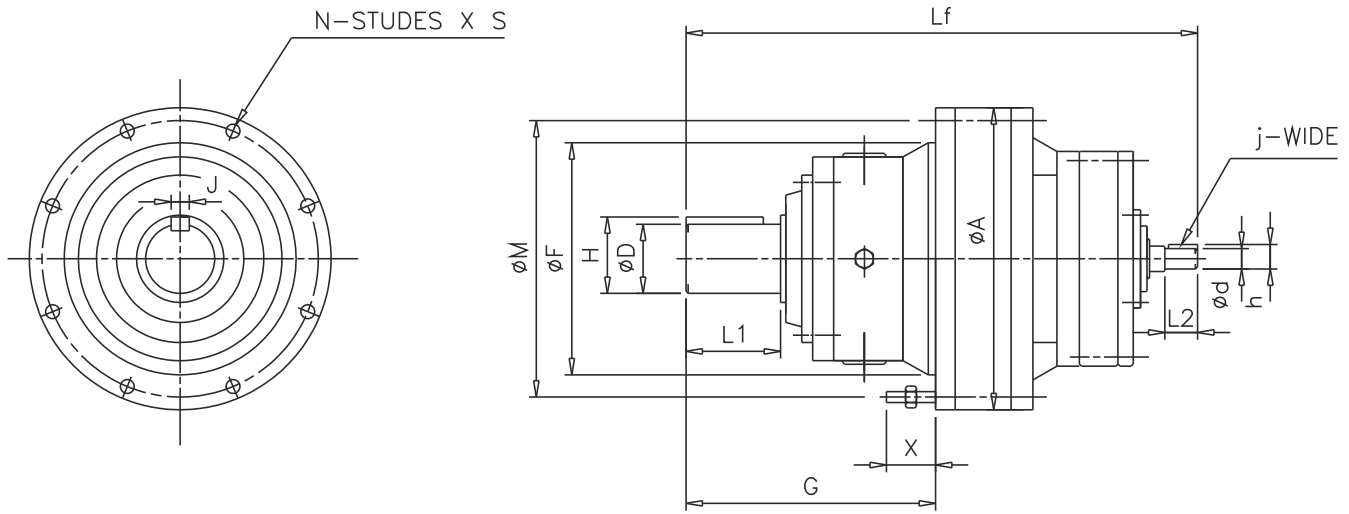
Triple Stage

1003	14	16	5	30	102	80	6	M 6	24	73	112	479	63-71
1013	14	16	5	30	102	80	6	M 6	24	73	112	479	63-71
1023	28	31	8	40	115	95	8	M 8	33	100	150	520	63-71
1033	28	31	8	40	115	95	8	M 8	33	100	150	520	63-71
1043	38	41	10	55	165	130	6	M 10	50	135	200	592	63-71

Dimension Sheet

C Flange - Free Input

Models - 1051 to 1123



Single Stage

All dimensions in mm

Model	Output				Input				Mounting				Others			
	D j6	H	J p9	L1	d j6	h	j p9	L2	M	F h8	N	S	X	G	A	Lf
1051	50	53.5	14	90	28	31	8	40	230	200	6	M 10	50	195	230	338
1061	60	64	18	90	28	31	8	45	280	250	6	M 12	56	220	295	407
1071	70	74.5	20	90	38	41	10	55	320	280	8	M 12	56	270	330	474
1081	80	85.5	22	110	42	45	12	65	360	320	8	M 12	56	290	360	517
1091	95	100	25	135	50	53.5	14	80	400	350	8	M 12	56	343	415	611
1101	110	116	28	165	50	53.5	14	80	520	455	12	M 18	75	455	500	738
1111	120	127	32	202	55	59	16	90	590	520	12	M 20	105	515	570	891
1121	140	148	36	245	70	74.5	20	120	800	680	12	M 24	116	670	700	1113

Double Stage

1052	50	53.5	14	90	19	21.5	6	30	230	200	6	M 10	50	195	230	396
1062	60	64	18	90	24	27	8	35	280	250	6	M 12	56	220	295	448
1072	70	74.5	20	90	24	27	8	35	320	280	8	M 12	56	270	330	513
1082	80	85.5	22	110	28	31	8	40	360	320	8	M 12	56	290	360	594
1092	95	100	25	135	28	31	8	45	400	350	8	M 12	56	343	415	702
1102	110	116	28	165	38	41	10	55	520	455	12	M 18	75	455	500	855
1112	120	127	32	202	38	41	10	55	590	520	12	M 20	105	515	570	946
1122	140	148	36	245	42	45	12	65	800	680	12	M 24	116	670	700	1170

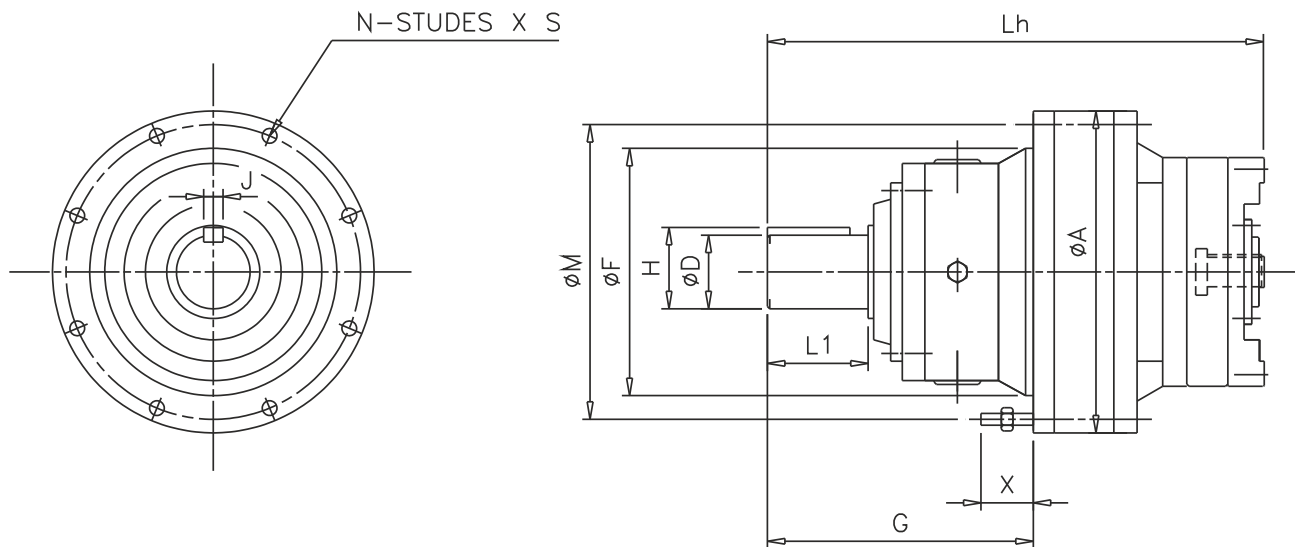
Triple Stage

1053	50	53.5	14	90	14	16	5	25	230	200	6	M 10	50	195	230	450
1063	60	64	18	90	19	21.5	6	30	280	250	6	M 12	56	220	295	522
1073	70	74.5	20	90	19	21.5	6	30	320	280	8	M 12	56	270	330	587
1083	80	85.5	22	110	19	21.5	6	30	360	320	8	M 12	56	290	360	668
1093	95	100	25	135	24	27	8	35	400	350	8	M 12	56	343	415	783
1103	110	116	28	165	24	27	8	35	520	455	12	M 18	75	455	500	945
1113	120	127	32	202	24	27	8	35	590	520	12	M 20	105	515	570	1036
1123	140	148	36	245	28	31	8	40	800	680	12	M 24	116	670	700	1308

Dimension Sheet

C Flange - Hollow Input

Models - 1051 to 1123



Single Stage

All dimensions in mm

Model	Output					Mounting					Others		Motor
	Dj6	H	Jp9	L1	M	Fh8	N	S	X	G	A	Lh	Frame
1051	50	53.5	14	90	230	200	6	M 10	50	195	230	301	80-112
1061	60	64	18	90	280	250	6	M 12	56	220	295	344	100-132
1071	70	74.5	20	90	320	280	8	M 12	56	270	330	429	100-160
1081	80	85.5	22	110	360	320	8	M 12	56	290	360	447	132-180
1091	95	100	25	135	400	350	8	M 12	56	343	415	530	132-180

Double Stage

1052	50	53.5	14	90	230	200	6	M 10	50	195	230	395	71-100
1062	60	64	18	90	280	250	6	M 12	56	220	295	416	71-112
1072	70	74.5	20	90	320	280	8	M 12	56	270	330	481	71-112
1082	80	85.5	22	110	360	320	8	M 12	56	290	360	558	80-112
1092	95	100	25	135	400	350	8	M 12	56	343	415	639	100-132
1102	110	116	28	165	520	455	12	M 18	75	455	500	810	100-160
1112	120	127	32	202	590	520	12	M 20	105	515	570	901	100-160
1122	140	148	36	245	800	680	12	M 24	116	670	700	1100	132-180

Triple Stage

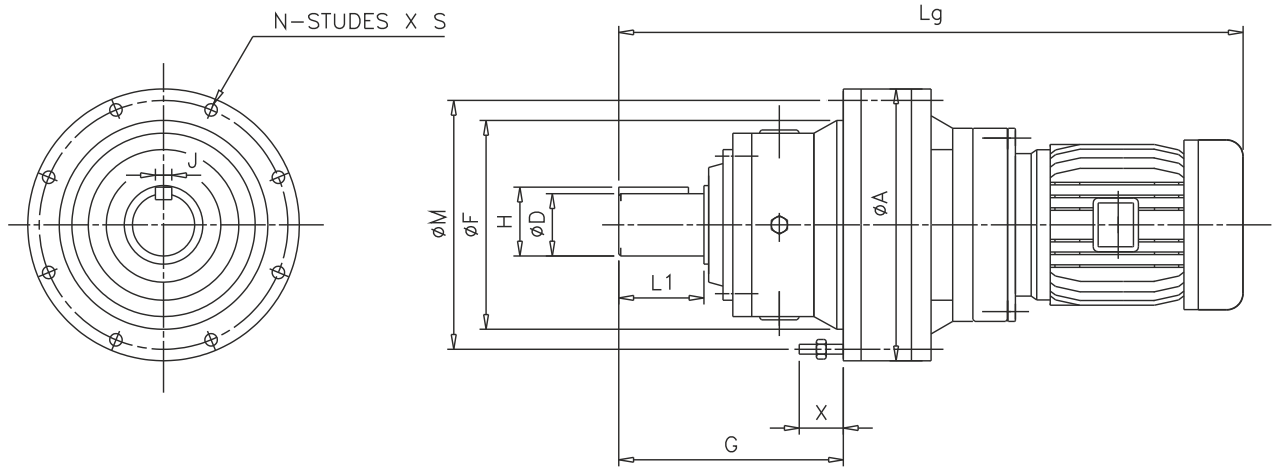
1053	50	53.5	14	90	230	200	6	M 10	50	195	230	449	63-71
1063	60	64	18	90	280	250	6	M 12	56	220	295	490	71-80
1073	70	74.5	20	90	320	280	8	M 12	56	270	330	555	71-80
1083	80	85.5	22	110	360	320	8	M 12	56	290	360	632	71-100
1093	95	100	25	135	400	350	8	M 12	56	343	415	720	71-112
1103	110	116	28	165	520	455	12	M 18	75	455	500	900	71-112
1113	120	127	32	202	590	520	12	M 20	105	515	570	991	71-112
1123	140	148	36	245	800	680	12	M 24	116	670	700	1238	80-112

For Input dimensions refer page 53 according to motor frame size.

Dimension Sheet

C Flange - Geared Motor

Models - 1051 to 1123



Single Stage

All dimensions in mm

Model	Output			L1	M	Fh8	N	Mounting		G	Others		Motor Frame
	Dj6	H	Jp9					S	X		A	Lh	
1051	50	53.5	14	90	230	200	6	M 10	50	195	230	633	80-112
1061	60	64	18	90	280	250	6	M 12	56	220	295	737	100-132
1071	70	74.5	20	90	320	280	8	M 12	56	270	330	824	100-160
1081	80	85.5	22	110	360	320	8	M 12	56	290	360	842	132-180
1091	95	100	25	135	400	350	8	M 12	56	343	415	933	132-180

Double Stage

1052	50	53.5	14	90	230	200	6	M 10	50	195	230	708	71-100
1062	60	64	18	90	280	250	6	M 12	56	220	295	748	71-112
1072	70	74.5	20	90	320	280	8	M 12	56	270	330	812	71-112
1082	80	85.5	22	110	360	320	8	M 12	56	290	360	890	80-112
1092	95	100	25	135	400	350	8	M 12	56	343	415	1032	100-132
1102	110	116	28	165	520	455	12	M 18	75	455	500	1205	100-160
1112	120	127	32	202	590	520	12	M 20	105	515	570	1296	100-160
1122	140	148	36	245	800	680	12	M 24	116	670	700	1485	132-180

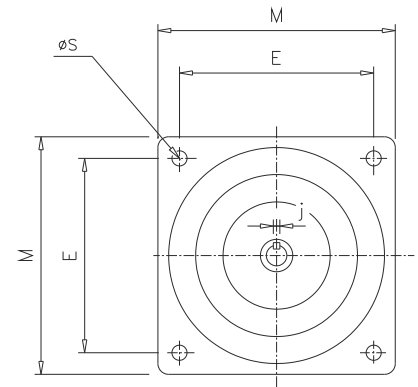
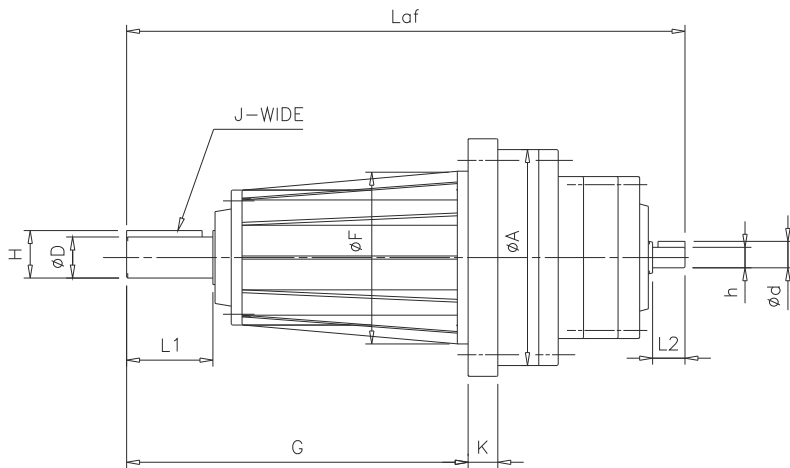
Triple Stage

1053	50	53.5	14	90	230	200	6	M 10	50	195	230	661	63-71
1063	60	64	18	90	280	250	6	M 12	56	220	295	739	71-80
1073	70	74.5	20	90	320	280	8	M 12	56	270	330	804	71-80
1083	80	85.5	22	110	360	320	8	M 12	56	290	360	945	71-100
1093	95	100	25	135	400	350	8	M 12	56	343	415	1052	71-112
1103	110	116	28	165	520	455	12	M 18	75	455	500	1232	71-112
1113	120	127	32	202	590	520	12	M 20	105	515	570	1323	71-112
1123	140	148	36	245	800	680	12	M 24	116	670	700	1570	80-112

Dimension Sheet

Agitator - Free Input

Models - 1001 to 1092



Single Stage

All dimensions in mm

Model	Output			Input				Mounting				Others				
	D j6	H	J p9	L1	d j 6	h	j p9	L2	E	M	F h8	S	K	G	A	Lf
1001	14	16	5	40	14	16	5	25	100	130	85	14	17	186	112	278
1011	14	16	5	40	14	16	5	25	100	130	85	14	17	186	112	278
1021	28	31	8	60	19	21.5	6	30	130	165	115	14	20	256	150	370
1031	28	31	8	60	19	21.5	6	30	130	165	115	14	20	256	150	370
1041	38	41	10	80	24	27	8	35	180	220	160	14	27.5	313	200	449
1051	50	53.5	14	110	28	31	8	40	210	250	180	18	25	369	230	516
1061	60	64	18	110	28	31	8	45	260	310	220	18	25	394	295	582
1071	70	74.5	20	140	38	41	10	55	300	350	250	22	26	484	330	692
1081	80	85.5	22	160	42	45	12	65	300	370	280	25	27	507	360	737
1091	95	100	25	170	50	53.5	14	80	360	430	320	25	26	568	415	835

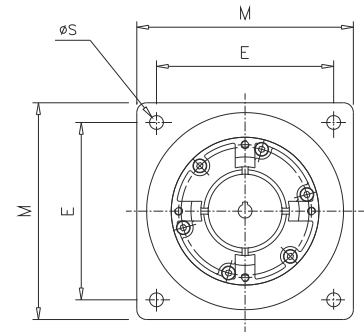
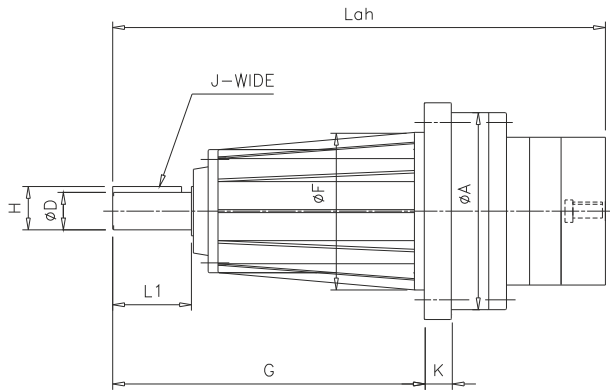
Double Stage

1002	14	16	5	40	14	16	5	25	100	130	85	14	17	186	112	332
1012	14	16	5	40	14	16	5	25	100	130	85	14	17	186	112	332
1022	28	31	8	60	14	16	5	25	130	165	115	14	20	256	150	412
1032	28	31	8	60	14	16	5	25	130	165	115	14	20	256	150	412
1042	38	41	10	80	19	21.5	6	30	180	220	160	14	27.5	313	200	515
1052	50	53.5	14	110	19	21.5	6	30	210	250	180	18	25	369	230	575
1062	60	64	18	110	24	27	8	35	260	310	220	18	25	394	295	623
1072	70	74.5	20	140	24	27	8	35	300	350	250	22	26	484	330	731
1082	80	85.5	22	160	28	31	8	40	300	370	280	25	27	507	360	814
1092	95	100	25	170	28	31	8	45	360	430	320	25	26	568	415	926

Dimension Sheet

Agitator - Hollow Input

Models - 1001 to 1092



Single Stage

All dimensions in mm

Model	Output			Mounting					Others		Motor		
	Dj6	H	Jp9	L1	E	M	Fh8	S	K	G	A	Lh	Frame
1001	14	16	5	40	100	130	85	14	17	186	112	278	63-71
1011	14	16	5	40	100	130	85	14	17	186	112	278	63-71
1021	28	31	8	60	130	165	115	14	20	256	150	368	71-80
1031	28	31	8	60	130	165	115	14	20	256	150	368	71-100
1041	38	41	10	80	180	220	160	14	27.5	313	200	417	71-112
1051	50	53.5	14	110	210	250	180	18	25	369	230	480	80-112
1061	60	64	18	110	260	310	220	18	25	394	295	597	100-132
1071	70	74.5	20	140	300	350	250	22	26	484	330	647	100-160
1081	80	85.5	22	160	300	370	280	25	27	507	360	667	132-180
1091	95	100	25	170	360	430	320	25	26	568	415	754	132-180

Double Stage

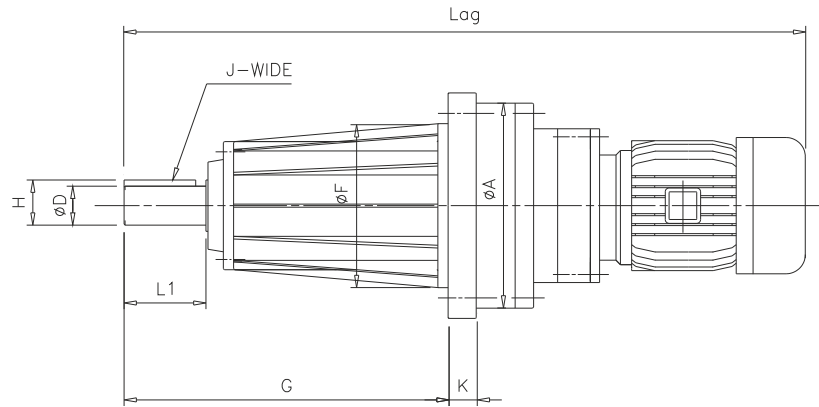
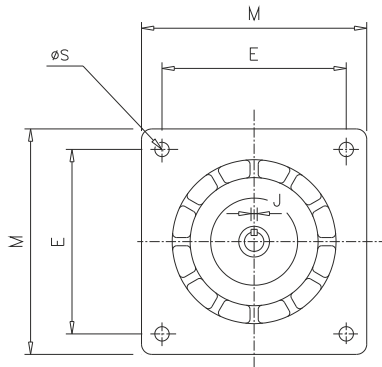
1002	14	16	5	40	100	130	85	14	17	186	112	332	63-71
1012	14	16	5	40	100	130	85	14	17	186	112	332	63-71
1022	28	31	8	60	130	165	115	14	20	256	150	412	63-71
1032	28	31	8	60	130	165	115	14	20	256	150	412	63-71
1042	38	41	10	80	180	220	160	14	27.5	313	200	497	71-80
1052	50	53.5	14	110	210	250	180	18	25	369	230	558	71-100
1062	60	64	18	110	260	310	220	18	25	394	295	591	71-112
1072	70	74.5	20	140	300	350	250	22	26	484	330	699	71-112
1082	80	85.5	22	160	300	370	280	25	27	507	360	778	80-112
1092	95	100	25	170	360	430	320	25	26	568	415	863	100-132

For Input dimensions refer page 53 according to motor frame size.

Dimension Sheet

Agitator - Geared Motor

Models - 1001 to 1092



Single Stage

All dimensions in mm

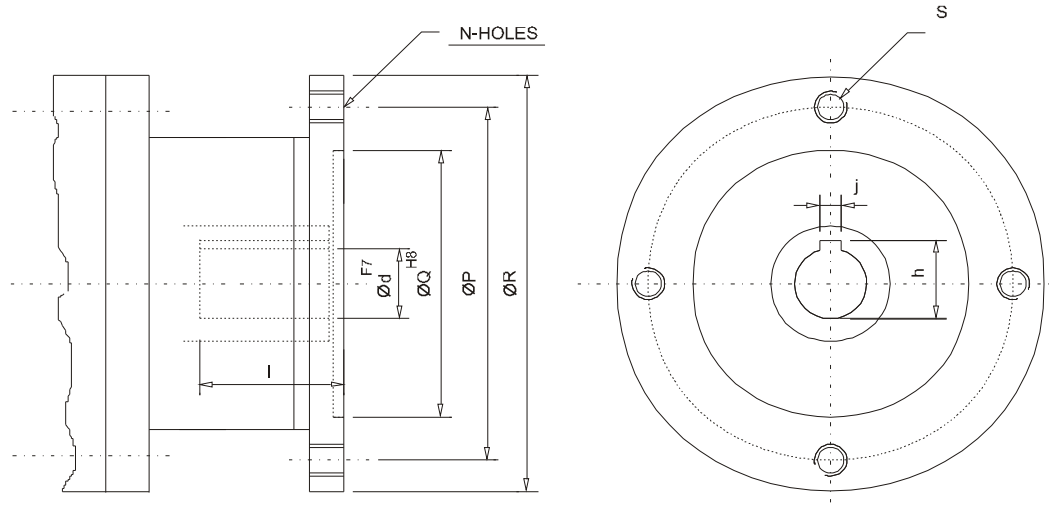
Model	Output			Mounting						Others		Motor	
	Dj6	H	Jp9	L1	E	M	Fh8	S	K	G	A	Lg	Frame
1001	14	16	5	40	100	130	85	14	17	186	112	492	63-71
1011	14	16	5	40	100	130	85	14	17	186	112	492	63-71
1021	28	31	8	60	130	165	115	14	20	256	150	617	71-80
1031	28	31	8	60	130	165	115	14	20	256	150	617	71-100
1041	38	41	10	80	180	220	160	14	27.5	313	200	730	71-112
1051	50	53.5	14	110	210	250	180	18	25	369	230	798	80-112
1061	60	64	18	110	260	310	220	18	25	394	295	519	100-132
1071	70	74.5	20	140	300	350	250	22	26	484	330	647	100-160
1081	80	85.5	22	160	300	370	280	25	27	507	360	667	132-180
1091	95	100	25	170	360	430	320	25	26	568	415	754	132-180

Double Stage

1002	14	16	5	40	100	130	85	14	17	186	112	546	63-71
1012	14	16	5	40	100	130	85	14	17	186	112	546	63-71
1022	28	31	8	60	130	165	115	14	20	256	150	626	63-71
1032	28	31	8	60	130	165	115	14	20	256	150	626	63-71
1042	38	41	10	80	180	220	160	14	27.5	313	200	746	71-80
1052	50	53.5	14	110	210	250	180	18	25	369	230	807	71-100
1062	60	64	18	110	260	310	220	18	25	394	295	904	71-112
1072	70	74.5	20	140	300	350	250	22	26	484	330	1012	71-112
1082	80	85.5	22	160	300	370	280	25	27	507	360	1110	80-112
1092	95	100	25	170	360	430	320	25	26	568	415	1195	100-132

Dimension Sheet

Motor Mounting Details



All dimensions in mm

Motor	Hollow Shaft				Mounting					Available Standard B 5 type Motors with speed and power			
Frame	d F7	h	j	l	R	P	QH8	N	S	3000 RPM	1440 RPM	960 RPM	720 RPM
63	11	13	4	25	140	115	95	4	M8	0.25	0.25	-	-
71	14	16	5	32	160	130	110	4	M8	0.33 / 0.50	0.33 / 0.50	0.33 / 0.50	0.1 / 0.12
80	19	22	6	42	200	165	130	4	M10	0.75 / 1 / 1.5	0.75 / 1	0.5 / 0.75	0.25 / 0.33
90	24	27	8	52	200	165	130	4	M10	2.00	1.5 / 2	1.0 / 1.5	0.5 / 0.75
100	28	31	8	62	250	215	180	4	M12	3.0 / 4.0	3.0 / 4.0	2.00	1.0 / 1.5
112	28	31	8	62	250	215	180	4	M12	5.0 / 5.5	5.00	3.00	2.00
132	38	41	10	82	300	265	230	4	M12	7.5 / 10	7.5 / 10	5.0 / 7.5	3.0 / 4.0
160	42	45	12	112	350	300	250	4	M16	12.5 / 15 / 20	12.5 / 15 / 20	10 / 12.5 / 15	5 / 7.5 / 10.0
180	48	52	14	112	350	300	250	4	M16	25 / 30	25 / 30	20	12.5 / 15.0
200	55	59	16	112	400	350	300	4	M16	40 / 50	40	25 / 30	25.00
225	60	64	18	145	450	400	350	8	M16	60	50 / 60	40	25 / 30
250	65	69	18	145	550	500	450	8	M16	75	75 / 100	50 / 60	40 / 50
280	75	80	20	145	550	500	450	8	M16	100 / 125	100 / 125 / 150	60 / 75	50 / 60
315	80	86	22	175	660	600	550	8	M20	150 to 220	150 to 220	100 to 170	75 to 150
355	100	106	28	215	800	740	680	8	M20	245 to 380	245 to 380	220 to 300	170 to 250

Modelwise suitable motor frame sizes

Frame size	Single Stage	Double Stage	Triple Stage
63	1001 to 1011	1002 to 1032	1003 to 1053
71	1001 to 1041	1002 to 1072	1003 to 1113
80	1021 to 1051	1042 to 1082	1063 to 1123
90	1031 to 1051	1052 to 1082	1083 to 1123
100	1031 to 1071	1052 to 1112	1083 to 1123
112	1041 to 1071	1062 to 1112	1093 to 1123
132	1061 to 1091	1092 to 1122	-
160	1071 to 1091	1092 to 1122	-
180	1081 to 1091	1122	-

Enquiry Data Sheet Sheet

Complied by : _____ Date : _____

Customer Details

Company Name : _____
 Address : _____
 Phone No. : _____ Fax No. : _____
 Contact person : _____ Designation : _____

Application

Application Type : _____ New design / Existing design
 Application Name : _____
 Application Details : _____
 Yearly required quantity : _____
 Expt. delivery shedule : _____
 Date of first delivery : _____
 Expected life in hours : _____

Operating conditions

Environment	: Normal	Dusty	Humid
Ambient temperature	: Maximum -	Minimum -	Regular -
Load nature	: Shock free	Medium shock	Heavy shocks
Duty cycle per day	: Upto 8 hours	Upto 16 hours	Continuos 24 hours
Start stop per hour	: Upto 30 per hour	Upto 60 per hour	Above 60 per hour
Output shaft Load	: Axial Load in N.	: _____	Thrust Load in N. : _____
Output torque in Nm	: Nominal	: _____	Maximum : _____
Input power in KW.	: _____		Input speed in RPM : _____
Required Ratio	: _____		Output speed in RPM : _____
Load Moment of Inertia	: _____		
nput shaft Load	: Axial Load in N. -	: _____	Thrust Load in N. : _____
Mounting position	: Horizontal	Vertical - up	Vertical – down Others - _____
Output Type	: Cylindrical	Male Spline	Female Spline Shrink Disc
Input Type	: Free	Hollow – Electric	Hollow – Hydraulic Geared Motor
Mounting type	: Foot	Flange	Agitator Other - _____
Required orientation	: Right angle	Inline	Parallel shaft Skew Shaft
Drive type	: Cycloidal	Planetary	Right angle - Worm
	: Spur or Helical	Shaft Mounted	Right angle - Bevel
Type of prime mover	: Electric motor	Hydraulic motor	Air motor
	: Diesel engine	Petrol engine	Others - _____
Input Connection	: Rigid coupling	Flexible coupling	Belt drive Others - _____
Output Connection	: Rigid coupling	Flexible coupling	Shrink disc Others - _____
Enclosed drawing	: Yes / No	If yes details : _____	
Special requirements	: _____		

Note - Use photocopy of this sheet for your enquiry.

The Power Transmission People

Cyclo Features.

- | Coaxial input and output.
- | Higher efficiency than conventional.
- | Compact in construction.
- | Power Transmission through rolling action.
- | Flanged and Foot mounted versions.
- | Well balanced mechanism.
- | Sturdy in construction.
- | Positive power transmission.
- | Variety of reduction ratios.
- | Longer life.
- | Less maintenance.

Applications.

- | Special Purpose machines.
- | Chemical machinery.
- | Machine tools
- | Packaging machines.
- | Construction machinery.
- | Textile machinery.
- | Paper machinery.
- | Food processing.
- | Cable processing machinery.
- | Sugar Plants
- | Steel Plants

Prestigious Clients.

Crompton Greaves.
SAIL Steel Plants.
Humboldt Wedag.
Kirloskar Group.
L & T, Mumbai.
Maruti Udyog.
DGP Windsor.
Thermax Ltd.
Nestle India.
TELCO Ltd.
Byer India.
ECIL, Ltd.
SPIC Ltd.
IPCL Ltd.
and **countless more.**

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Cyclo Products are marketed by Rotomotive Powerdrives India Ltd.