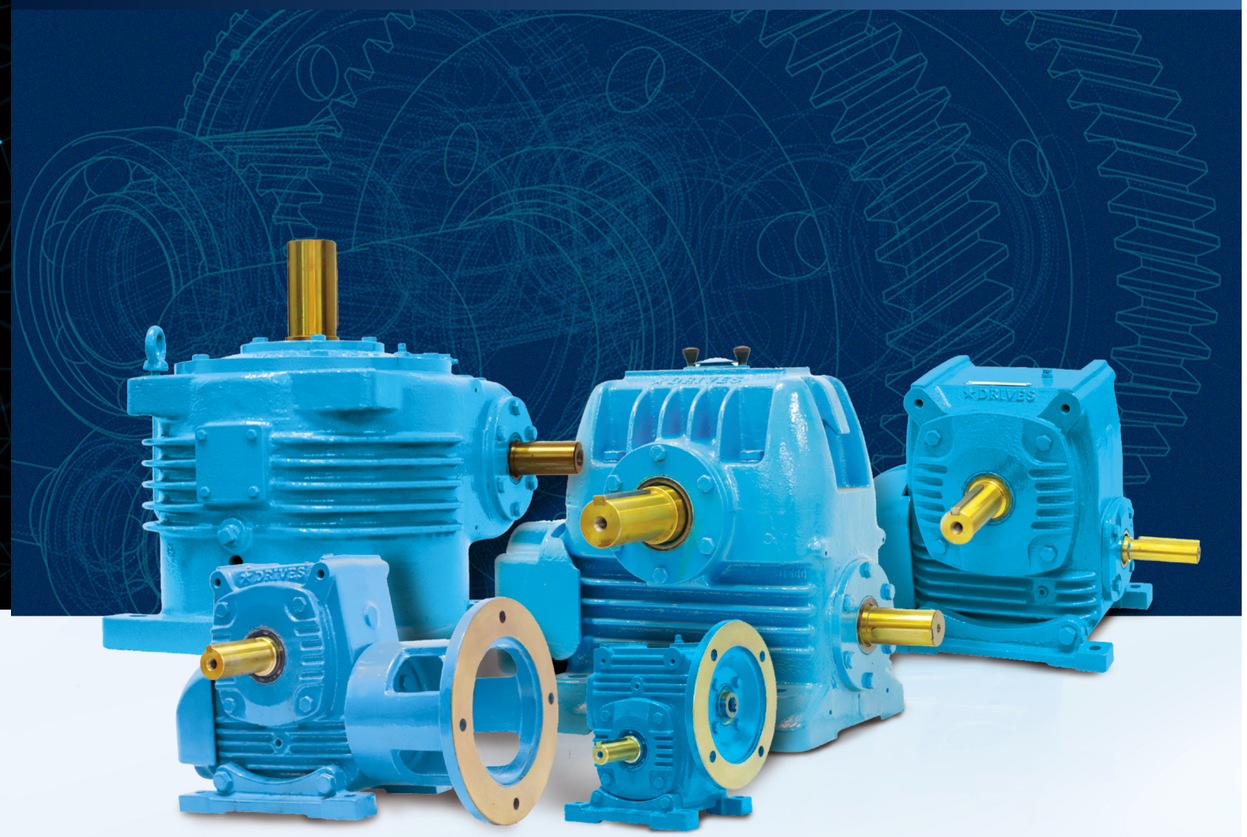
STAR DRIVES

WORM REDUCTION GEAR BOX

size : 1.625” C.D to 12” C.D.



STAR DRIVES

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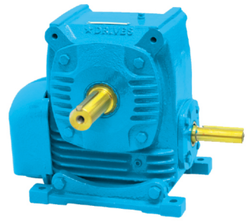
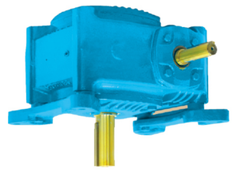
STAR DRIVES

WORM GEAR BOXES
Adaptable

Input Hollow Overdriven

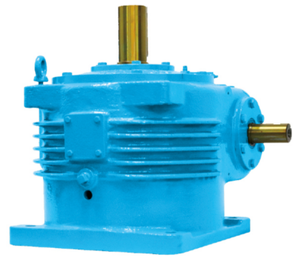


SOU Horizontal



SDV Vertical Downward

SDO Overdriven



Worm Gear Box Vertical Upward

Motor Mounted

Adaptable Worm reduction gear boxes from

1.625" (41.288 mm) upto
3-3/8" (85.7 mm) CD.
in single and double reduction models.

RATIO:

5:1 to 70:1 in standard steps
(single reduction)

and

Upto 4900:1 in standard steps
(Double reduction).

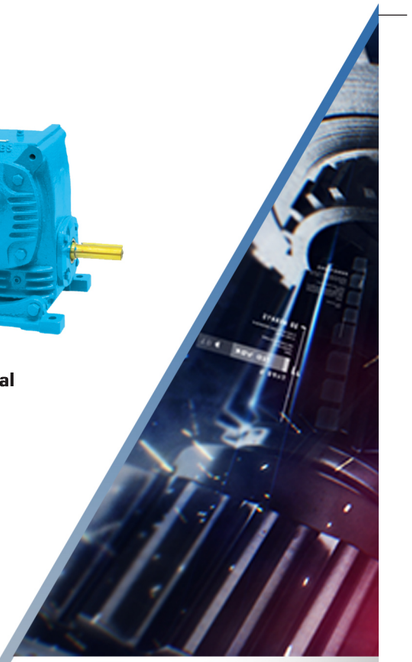
TYPES:

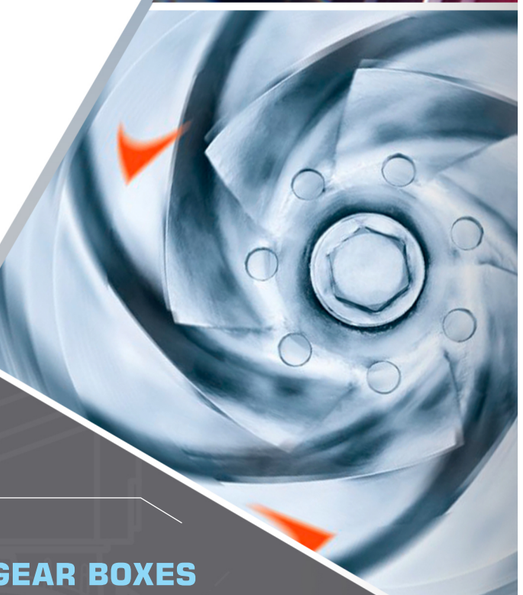
Under Driven / Over Driven

Vertical Upward / Vertical Downward,

Motor Mounted / Input Hollow,
Output Hollow.

Worm Gear Box Under Driven





WORM GEAR BOXES

Worm Reduction Gear Boxes
upto 12" CD in Single and
Double Reduction Models.

RATIO:

5:1 to 70:1 in single reduction and
Upto 4900:1 double reduction.

TYPES:

Under driven / Over driven,
Vertical Upward / Vertical Downward.

GENERAL
This catalogue gives you a detailed insight of the worm reduction gear box design, material, selection procedure, load classification, lubrication and product safety information.

DESIGN STANDARDS
Wherever applicable, British as well as Indian standards are used. Worm conforms to case hardening alloy steel, worm wheel conforms to phospher bronze PB2-C as per British Standards B.S. 1400, while gear case conforms to C.I. grade FG 220 and for heavy duty FG250, Indian Standard I.S. 210.

GEAR CASE
Gear case of streamlined design, rugged in construction, made of close-grain cast iron with liberal ribbing increases heat dissipating area, streamlined sump carrying more oil and larger capacity of fan enhance the thermal rating of the gear box. The faces and bores are accurately machined to ensure perfect alignment and interchangeability.

WORM
The worm is made of case-hardened alloy steel, carburised, ground and polished and is integral with the shaft.

WORM WHEEL
Worm wheel is made of centrifugally cast phosphor-bronze rims, shrink fitted with C.I. centers and is keyed to the output shaft. Right hand threads are provided, unless otherwise specified.

BEARINGS
The worms and worm wheels are supported on tapper roller anti-friction bearings to allow adequate journal as thrust loads.

POWER RATINGS
The ratings indicated in the catalogue holds good for 12 hours of continuous running under uniform load being driven by electric motor. They give minimum gear life of 26,000 hours, subject to limitation of maximum oil temperature of 100° C under full load, 20° C ambient.

WHEEL SHAFT
The wheel shaft is made of high tensile carbon steel. It is of large diameter to carry the torsional as well as bending loads, which may be induced by over hung drives.

OVERLOADS
All the components of the reduction gears are so designed that they can withstand
- 100 % overload for 15 seconds
- 50 % overload for 1minute
- 40 % overload for 30 minutes and
- 25 % overload for 2 hours

OPTIONS
Star Drives reduction gear units can be supplied along with a variety of modifications and accessories for special applications as per customer's requirements.

1. Holdback can be fitted on all sizes of gears to prevent reverse rotation. In case where holdback is required, the direction of rotation of the shaft should be mentioned.
2. Units can be supplied with an integral motor adaptor to accommodate standard flange mounting AC motor and the connecting coupling.
3. Units can be supplied with double extended input or / and output shafts. Units with double extended input shaft are normally supplied without fan and fan-cover. Fan cover will be supplied on request.
4. Unit's shaft extension details can be supplied to suit well as customer's own requirements on request.

SELECTION

1. Determine the service factor for the given application from table 1 and 2.
2. Calculate the unit ratio.
   Unit ratio= Input speed / Output speed
3. Referring to quick selection table 3 or 4, from which the unit should be selected, based on required power and output speed (or ratio).
4. If an overhung load is present on output shaft, calculate the overhung load as per instructions on page No. 8 and compare the value with the table. If the applied overhung load exceeds the tabulated value, a larger gearbox with adequate capacity must be selected.

EXAMPLE

Application : Conveyor.

Duty cycle : 14 hours per day

Prime mover : 2 H.P. electric motor at 1440 rpm.

Output speed : 50 rpm

1. Service factor 1.25 is obtained from table 1 and 2.
2. Ratio= Input speed/Output speed i.e. 30:1.
3. By referring Quick selection table of 1500 rpm service factor 1.25,Gearbox type 300 is considered suitable for the given application.

Service factors

Prime mover	Duration of service Hours/day	Service factors: Nature of load on gear unit from driven machine		
		Uniform	Moderate shock	Heavy shock
Electric motor Steam turbine or Hydraulic motor	2	0.75	0.90	1.25
	4	0.80	1.00	1.30
	8	0.90	1.10	1.45
	12	1.00	1.25	1.55
	24	1.25	1.50	1.75
Multi - cylinder Internal combustion engine	2	0.90	1.10	1.25
	4	1.00	1.25	1.40
	8	1.10	1.35	1.60
	12	1.25	1.50	1.75
	24	1.50	1.75	2.00
Single - cylinder Internal combustion engine	2	1.10	1.35	1.75
	4	1.25	1.50	1.85
	8	1.35	1.65	1.85
	12	1.50	1.75	2.05
	24	1.75	2.00	2.25

Driven Machine	Type of Load
AGITATORS	
Pure Liquids	U
Liquids And Solids	M
Liquids-variable Density	U
BLOWERS	
Centrifugal	U
Lobe	M
Vane	U
BREWING AND DISTILLING	
Bottling Machinery	U
Brew Kettles-continuous Duty	U
Cookers-continuous Duty	U
Mash Tubs-continuous Duty	U
Scale Hopper-frequent Starts	M
Can Filling Machines	U
Cane Knives	M
Clarifiers	U
Classifiers	M
CLAY WORKING MACHINERY	
Brick Press	H
Briquette Machine	H
Clay Working Machinery	M
Pug Mill	M
COMPRESSORS	
Centrifugal	U
Lobe	M
RECIPROCATING	
Multi-cylinder	M
Single-cylinder	H
CONVEYORS-UNIFORMILY	
Loaded or Fed-Assembly	U
Belt	U
Bucket	U
Chain	U
Flight	U
Oven	U
Screw	U
CONVEYORS-HEAVY DUTY	
NOT UNIFORMILY LED	
Apron	M
Assembly	M
Belt	M
Bucket	M

Driven Machine	Type of Load
Chain	M
Flight	M
Live Roll	*
Oven	M
Reciprocating	H
Screw	M
Shaker	H
CRANES	
Main Hoists	U
Bridge Travel	*
Trolley Travel	*
CRUSHER	
Ore	H
Stone	H
Sugar	M
ELEVATORS	
Bucket-Uniform Load	U
Bucket-heavy Load	M
Bucket-Continuous	U
Centrifugal Discharge	U
Escalators	U
Freight	M
Gravity Discharge	U
Man Lifts	*
Passenger	*
FANS	
Centrifugal	U
COOLING TOWERS	
Induced Draft	*
Forced Draft	*
Induced Draft	M
Large, Mine, Etc.	M
Large, Industrial	M
Light, Small Diameter	U
FEEDERS	
Apron	M
Belt	M
Disc	U
Reciprocating	H
Screw	M
FOOD INDUSTRY	
Beef Slicer	M
Cereal Cooker	U

Driven Machine	Type of Load
Dough, Mixer	M
Meat Grinders	M
GENERATORS-HOT WELDING	U
Hammer Mills	H
HOISTS	
Heavy Duty	M
Medium Duty	M
Skip Hoist	M
LINE SHAFTS	
Driving Processing Equipment	M
light	U
Other Line Shafts	U
LUMBER INDUSTRY BARKERS - HYDRAULIC	
Mechanical	M
Burner Conveyor	M
Chain Saw and Drag Saw	H
Chain Transfer	H
Craneway Transfer	H
De-barking Drum	H
Edger Feed	M
Gang Feed	M
Green Chain	M
Live Rolls	H
Log Deck	H
Log Haul-incline	H
Log Haul-well Type	H
Log Turning Device	H
Main Log Conveyor	H
Off Bearing Rolls	M
Planer Feed Chains	M
Planer Floor Chains	M
Planer Tilting Hoist	M
RE - SAW MERRY - GO - ROUND	
Conveyor	M
Roll Cases	H
Slab Conveyor	H
Small Waste Conveyor-belt	U
Small Waste Conveyor-chain	M
Sorting Table	M
Tipple Hoist Conveyor	M
Tipple Hoist Drive	M
Transfer Conveyors	M
Transfer Rolls	M

U = Uniform Load | M = Moderate Shock Load | H = Heavy Shock Load | * = Consult Manufacturer

Driven Machine	Type of Load
Tray Drive	M
Trimmer Feed	M
Waste Conveyor	M
MACHINE TOOLS	
Bending Roll	M
Punch Press-Gear Driven	H
Notching Press Belt Driven	*
Plate Planers	H
Tapping Machine	H
OTHER MACHINE TOOLS	
Main Drives	M
Auxiliary Drives	U
METAL MILLS	
Draw Bench Carriage and Main Drive	M
Pinch, Dryer And Scrubber Rolls Reversing	*
Slitters	M
TABLE CONVEYORS NON-REVERSING	
Group Drives	H
Individual Drives	H
Reversing	*
Wire Drawing and Flattening Machine	M
Wire Winding Machine	M
MILLS-ROTARY TYPE	
Ball	M
Cement Kilns	M
Dryers And Coolers	M
Kilns-other Than Cement	M
Pebble	M
ROD	-
Plain	M
Wedge Bar	M
Tumbling Barrels	H
MIXERS	
Concrete Mixers continuous	M
Concrete Mixers intermittent	M
Constant Density	U
Variable Density	M

Driven Machine	Type of Load
OIL INDUSTRY	
Chillers	M
Oil Well Pumping	*
Paraffin Filter Press	M
Rotary Kilns	M
PAPER MILLS	
Agitators, (mixers)	M
Barker - Auxiliaries Hydraulic	M
Barker - Mechanical	H
Barker - Drum	H
Beater And Pulper	M
Bleacher	U
Calenders	M
Calenders - Super	H
CONVERTING MACHINE	
Except Cutters, Platers	M
Conveyors	U
Couch	H
Cutters-platers	H
Cylinders	M
Dryers	M
Felt Stretcher	M
Felt Whipper	H
Jordans	M
Log Haul	H
Presses	M
Pulp Machine Reel	M
Stock Chest	M
Suction Roll	M
Washers And Thickeners	M
Winders	M
Printing Presses	*
Pullers Barge Haul	H
PUMPS	
Centrifugal	U
Proportioning	M
Reciprocating	
Single Acting : 3 or More Cylinders	M
Double Acting : 2 or More Cylinders	M
Single Acting : 1 Or 2 Cylinders	*
Double Acting : Single Cylinder	*
Rotary	U
Gear Type	U
Lobe, Vane	U

Driven Machine	Type of Load
RUBBER AND PLASTICS INDUSTRIES	
Crackers	H
Laboratory Equipment	M
Mixed Mills	H
Refiners	M
Rubber Calenders	M
Rubber Mill 2 On Line	M
Rubber Mill 3 On Line	U
Sheeter	M
Tyre Building Machines	*
Tyre And Tube Press Openers	*
Tubers And Strainers	M
Warming Mills	M
Sand Muller	M
SCREENS	
Air Washing	U
Rotary-stibe Or Gravel	M
Travailing Water Intake	U
Slab Pushers	M
Steering Gear	*
Stokers	U
SUGAR INDUSTRY	
Cane Knives	M
Crushers	M
Mills	M
TEXTILE INDUSTRY	
Batchers	M
Calenders	M
Cards	M
Dry Cans	M
Dryers	M
Dyeing Machinery	M
Knitting Machines	*
Looms	M
Mangles	M
Nappers	M
Pads	M
Range Drives	*
Slashers	M
Soapers	M
Spinners	M
Tenter Frames	M
Washers	M
Winders	M

U = Uniform Load | M = Moderate Shock Load | H = Heavy Shock Load | * = Consult Manufacturer

QUICK SELECTION TABLE
1500 RPM INPUT

Nominal Ratio	Nominal Output Speed rpm	Motor HP																				
		1/6	1/4	1/3	1/2	3/4	1	1.5	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100
		Unit Size																				
1.00 SERVICE FACTOR																						
5	300	112	112	112	112	112	162	162	200	200	287	287	337	400	500	500	600	600	700	700	700	1000
7.5	203	112	112	112	112	162	162	200	200	237	287	337	400	500	500	600	600	700	700	800	900	1000
10	150	112	112	112	162	162	162	200	200	237	300	400	400	500	500	600	600	700	800	900	900	1200
15	100	112	112	162	162	162	162	200	237	287	337	400	500	500	600	700	700	800	900	900	1200	1200
20	75	112	112	162	162	162	200	200	237	287	400	500	500	600	700	700	800	900	1000	1200	1200	
25	60	112	162	162	162	200	200	237	237	300	400	500	500	600	700	800	800	1000	1200	1200		
30	50	112	162	162	162	200	200	237	287	337	400	500	600	600	700	800	900	1000	1200	1200		
40	38	162	162	162	162	200	237	287	287	337	500	600	600	700	800	900	1000	1200	1200			
50	30	162	162	162	200	237	287	287	337	400	500	600	700	800	800	1000	1000	1200				
60	25	162	162	200	200	287	287	300	400	500	500	600	700	800	1000	1000	1200	1200				
70	21	162	162	200	237	287	287	400	400	500	600	700	800	900	1000	1200	1200					
1.25 SERVICE FACTOR																						
5	300	112	112	112	112	162	162	200	200	237	287	337	337	500	500	600	700	700	800	900	1200	1200
7.5	203	112	112	112	162	162	162	200	237	300	400	400	500	600	600	700	700	800	900	1000	1200	1200
10	150	112	112	162	162	162	200	237	287	337	400	500	500	600	700	700	800	800	900	1000	1200	1200
15	100	112	112	162	162	162	200	237	287	287	337	500	500	600	700	800	800	900	1000	1200	1200	
20	75	112	162	162	200	200	200	237	287	300	400	500	600	600	700	800	800	1000	1200	1200		
25	60	112	162	162	200	200	200	237	287	337	500	500	600	700	800	800	900	1000	1200			
30	50	162	162	162	200	200	237	287	300	337	500	600	600	700	800	900	1000	1200	1200			
40	38	162	162	162	200	237	287	287	337	400	600	600	700	800	900	1000	1000	1200				
50	30	162	162	200	200	287	287	300	400	500	600	600	700	800	1000	1000	1200					
60	25	162	200	200	237	287	300	400	400	500	600	700	800	900	1000	1200	1200					
70	21	162	200	237	237	287	300	400	400	500	600	700	800	1000	1200	1200						
1.50 SERVICE FACTOR																						
5	300	112	112	112	112	162	162	200	200	237	287	337	400	500	600	600	600	700	800	900	1200	1200
7.5	203	112	112	112	162	162	200	200	237	287	337	400	500	500	600	700	700	800	900	1000	1200	1200
10	150	112	112	162	162	162	200	200	237	287	400	500	500	600	600	700	800	900	900	1200	1200	
15	100	112	162	162	162	200	200	237	287	300	400	500	500	600	700	800	800	900	1200	1200		
20	75	112	162	162	162	200	200	287	287	337	500	500	600	700	800	800	900	1200	1200			
25	60	162	162	162	200	200	237	287	300	337	500	600	600	700	800	900	1000	1200				
30	50	162	162	162	200	237	237	287	337	400	500	600	700	800	900	1000	1200	1200				
40	38	162	162	162	200	237	287	337	337	500	600	600	700	800	1000	1000	1200					
50	30	162	162	200	237	287	287	400	400	500	600	700	800	1000	1000	1200	1200					
60	25	162	200	200	287	287	300	400	500	500	600	700	800	1000	1200	1200						
70	21	162	200	237	287	300	400	400	500	500	700	800	900	1200	1200							
1.75 SERVICE FACTOR																						
5	300	112	112	112	162	162	200	200	237	287	337	400	500	500	600	600	700	800	900	1000	1200	1200
7.5	203	112	112	162	162	200	200	237	237	287	400	500	500	600	600	700	700	800	1000	1000	1200	
10	150	112	112	162	162	200	200	237	287	300	400	500	500	600	700	800	800	900	1200	1200		
15	100	112	162	162	162	200	237	287	287	337	500	500	600	700	800	800	900	1000	1200	1200		
20	75	162	162	162	200	200	237	287	300	400	500	600	600	700	800	900	1000	1200	1200			
25	60	162	162	162	200	237	237	287	337	400	500	600	700	800	900	1000	1200	1200				
30	50	162	162	162	200	237	287	300	337	400	600	600	700	800	1000	1200	1200					
40	38	162	162	200	237	287	287	337	400	500	600	700	800	900	1200	1200	1200					
50	30	162	200	200	237	287	300	400	500	500	600	700	800	1000	1200	1200						
60	25	162	200	237	287	300	337	400	500	500	700	800	900	1200	1200							
70	21	200	237	237	287	300	400	500	500	600	700	800	1000	1200								

QUICK SELECTION TABLE
1000 RPM INPUT

Nominal Ratio	Nominal Output Speed rpm	Motor HP																				
		1/6	1/4	1/3	1/2	3/4	1	1.5	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100
		Unit Size																				
1.00 SERVICE FACTOR																						
5	200	112	112	112	112	162	162	200	200	237	287	337	400	500	600	600	600	700	800	900	1000	1200
7.5	113	112	112	112	162	162	200	200	237	287	337	400	500	500	600	700	700	800	900	1000	1000	1200
10	100	112	112	162	162	162	200	200	237	287	400	500	500	600	600	700	800	900	900	1000	1200	1200
15	67	112	162	162	162	200	200	237	287	300	400	500	500	600	700	800	800	900	1000	1200	1200	
20	50	112	162	162	162	200	200	287	287	337	500	500	600	700	800	800	900	1000	1200	1200		
25	40	162	162	162	200	200	237	287	300	337	500	600	600	700	800	900	1000	1200	1200			
30	33	162	162	162	200	237	237	287	337	400	500	600	700	800	900	1000	1000	1200	1200			
40	25	162	162	162	200	237	287	337	337	500	600	600	700	800	1000	1000	1200	1200				
50	20	162	162	200	237	287	287	400	400	500	600	700	800	1000	1000	1200	1200					
60	17	162	200	200	287	287	300	400	500	500	600	700	800	1000	1200	1200						
70	14	162	200	237	287	300	400	400	500	500	700	800	900	1000	1200	1200						
1.25 SERVICE FACTOR																						
5	200	112	112	112	162	162	162	200	200	237	300	337	400	500	600	600	700	800	800	1000	1200	1200
7.5	113	112	112	162	162	162	200	200	237	287	337	400	500	500	600	700	700	800	1000	1000	1200	
10	100	112	112	162	162	162	200	200	287	287	400	500	500	600	700	700	800	900	1000	1200	1200	
15	67	112	162	162	162	200	200	287	287	337	400	500	600	700	800	800	900	1000	1200	1200		
20	50	162	162	162	200	200	200	287	300	337	500	600	600	700	800	900	1000	1200	1200			
25	40	162	162	162	200	200	237	287	300	400	500	600	700	800	900	1000	1200	1200				
30	33	162	162	162	200	237	287	287	337	400	500	600	700	800	900	1000	1200	1200				
40	25	162	162	200	237	237	287	337	337	500	600	700	800	900	1000	1200	1200					
50	20	162	200	200	237	287	300	400	400	500	600	700	800	1000	1200	1200						
60	17	200	200	237	287	300	300	400	500	500	700	800	900	1200	1200							
70	14	200	237	237	300	300	400	500	500	700	800	1000	1000	1200	1200							
1.50 SERVICE FACTOR																						
5	200	112	112	112	162	162	200	200	237	287	300	400	500	600	600	700	700	800	1000	1200	1200	
7.5	113	112	162	162	162	200	200	237	287	287	400	500	500	600	700	700	800	1000	1000	1200	1200	
10	100	112	162	162	162	200	200	237	287	300	400	500	500	600	700	800	900	1000	1200	1200		
15	67	162	162	162	162	200	237	287	287	337	500	600	600	700	800	900	1000	1200	1200			
20	50	162	162	162	200	200	237	287	300	400	500	600	600	800	900	1000	1000	1200				
25	40	162	162	162	200	237	237	287	337	500	500	600	700	800	1000	1200	1200					
30	33	162	162	162	200	237	287	300	337	500	600	700	700	900	1000	1200	1200					
40	25	200	200	200	237	287	287	337	400	500	600	700	800	1000	1200	1200						
50	20	200	200	200	287	287	300	400	500	500	700	800	800	1000	1200							
60	17	200	237	237	287	300	300	400	500	600	700	800	1000	1200	1200							
70	14	200	237	237	287	300	400	500	500	600	700	1000	1000	1200								
1.75 SERVICE FACTOR																						
5	200	112	112	162	162	162	200	200	237	287	337	500	500	600	700	700	1000	1000	1200	1200	1200	
7.5	113	112	162	162	162	200	200	237	287	337	400	500	500	600	700	800	800	1000	1200	1200		
10	100	112	162	162	162	200	200	287	287	400	400	500	600	700	800	900	900	1200	1200	1200		
15	67	162	162	162	200	237	237	287	300	400	500	600	600	800	900	1000	1000	1200				
20	50	162	162	162	200	237	237	300	337	500	500	600	700	800	1000	1200	1200					
25	40	162	162	200	200	237	287	337	337	500	600	700	700	900	1000	1200	1200					
30	33	162	162	200	237	287	287	337	400	500	600	700	800	1000	1200	1200	1200					
40	25	162	200	200	237	287	300	400	500	600	600	800	900	1000	1200							
50	20	162	200	237	287	300	400	400	500	600	700	800	1000	1200	1200							
60	17	200	237	237	287	300	400	500	500	700	700	900	1000	1200								
70	14	200	237	287	300	400	400	500	500	700	800	1000	1200	1200								

1500 RPM INPUT

Nominal Ratio	Nominal Output Speed rpm	Capacity	Unit Size														
			112	162	200	237	287	337	300	400	500	600	700	800	900	1000	1200
5:1	300	Input h.p.	0.65	1.70	3.40	4.90	7.8	13.0	8.1	17.0	28.0	45.0	64.0	85.0	97.0	112.0	186.0
		* in Kgf.m	1.48	3.73	7.40	10.90	17.5	28.8	18.4	37.5	64.0	102.0	146.0	195.0	229.0	258.0	430.0
7.5:1	200	Input h.p.	0.50	1.30	2.40	3.60	5.9	8.7	7.0	13.0	23.0	36.0	56.0	73.0	85.0	106.0	152.0
		* in Kgf.m	1.68	4.20	7.70	11.80	19.3	29.0	24.5	42.0	78.0	122.0	190.0	250.0	304.0	361.0	520.0
10:1	150	Input h.p.	0.45	1.30	2.40	3.10	4.9	7.4	6.0	11.0	21.0	31.0	42.0	54.0	76.0	86.0	130.0
		* in Kgf.m	1.63	5.40	10.20	13.30	21.2	32.5	26.5	48.0	94.0	137.0	189.0	245.0	347.0	390.0	590.0
15:1	100	Input h.p.	0.31	1.00	1.70	2.30	4.1	6.4	4.5	8.2	15.0	24.0	31.0	48.0	62.0	73.0	105.0
		* in Kgf.m	1.84	6.30	10.40	14.50	25.8	40.5	27.5	53.0	95.0	159.0	202.0	317.0	408.0	489.0	700.0
20:1	75	Input h.p.	0.25	0.80	1.80	2.20	3.0	4.8	3.8	7.0	12.0	19.0	28.0	38.0	45.0	58.0	88.8
		* in Kgf.m	1.94	5.70	12.00	17.20	24.5	38.0	30.6	59.0	102.0	164.0	241.0	326.0	398.0	506.0	780.0
25:1	60	Input h.p.	0.23	0.70	1.30	2.00	2.8	4.5	3.2	6.0	10.0	16.0	23.0	32.0	39.0	49.0	74.2
		* in Kgf.m	2.09	6.20	12.20	18.50	27.5	44.0	32.6	61.0	108.0	172.0	245.0	338.0	429.0	524.0	797.0
30:1	50	Input h.p.	0.18	0.64	1.10	1.50	2.4	4.0	2.8	5.4	8.0	15.0	21.0	28.0	32.0	44.0	69.5
		* in Kgf.m	1.94	6.40	11.60	17.00	27.4	47.0	32.6	64.0	107.0	183.0	266.0	356.0	418.0	553.0	882.0
40:1	37.5	Input h.p.	0.13	0.50	0.80	1.20	2.0	3.0	2.2	4.4	6.0	12.0	17.0	23.0	27.0	39.0	58.8
		* in Kgf.m	1.73	6.30	10.70	17.20	28.4	44.0	33.7	65.0	103.0	179.0	266.0	361.0	469.0	630.0	955.0
50:1	30	Input h.p.	0.11	0.40	0.63	0.93	1.5	2.2	1.9	3.4	5.9	9.4	14.0	20.0	22.0	31.0	47.4
		* in Kgf.m	1.63	5.50	10.20	15.50	25.5	38.0	33.7	61.5	110.0	177.0	260.0	377.0	449.0	600.0	945.0
60:1	25	Input h.p.	0.09	0.30	0.52	0.74	1.2	1.8	1.7	2.9	5.3	8.0	12.0	16.0	19.0	26.0	41.8
		* in Kgf.m	1.53	4.50	8.90	13.00	23.0	37.0	33.7	60.4	114.0	176.0	265.0	359.0	439.0	596.0	970.0
70:1	21.5	Input h.p.	0.08	0.26	0.41	0.70	1.1	1.4	1.4	2.5	4.7	6.8	9.8	14.0	15.0	22.0	33.9
		* in Kgf.m	1.43	4.50	7.70	12.50	20.9	32.6	31.7	58.0	112.0	168.0	245.0	347.0	408.0	560.0	900.0

* Output Torque

PRODUCT SAFETY INFORMATION

1. To lift the gear unit, eye bolt or lifting point (on larger units) should be used.
2. Read and carry out all instructions on lubricant plate and in installation and maintenance manual literature.
3. Ensure the proper maintenance of gear box in operation.
4. The oil level should be examined periodically, if required oil should be filled again.
5. The operation speed, transmitting powers, generated torques or the external load must not exceed the design values.

1000 RPM INPUT

Nominal Ratio	Nominal Output Speed rpm	Capacity	Unit Size														
			112	162	200	237	287	337	300	400	500	600	700	800	900	1000	1200
5:1	200.0	Input h.p.	0.52	1.4	2.7	3.9	6.0	10.0	6.1	13.0	22.0	33.0	49.0	64.0	69.0	88.0	146.0
		* in Kgf.m	1.73	4.4	8.7	12.9	20.4	33.4	20.8	44.0	75.0	113.0	166.0	220.0	247.0	302.0	501.0
7.5:1	133.3	Input h.p.	0.40	1.1	1.9	2.9	4.5	7.2	5.0	9.9	19.0	27.0	41.0	55.0	58.0	78.0	117.0
		* in Kgf.m	1.94	5.1	9.0	13.9	22.0	35.0	26.5	49.0	93.0	138.0	209.0	280.0	308.0	398.0	600
10:1	100.0	Input h.p.	0.34	1.0	1.9	2.4	3.9	5.7	4.5	8.6	17.0	24.0	33.0	43.0	53.0	68.0	106.0
		* in Kgf.m	2.14	6.2	11.8	15.3	25.0	37.0	29.6	56.1	111.0	159.0	222.0	287.0	367.0	461.0	718.0
15:1	66.7	Input h.p.	0.23	0.8	1.3	1.8	3.2	5.0	3.5	6.4	11.0	18.1	24.0	34.0	40.0	54.0	79.0
		* in Kgf.m	2.14	7.0	11.8	16.5	30.0	46.6	32.6	60.2	110.0	177.0	229.0	335.0	423.0	536.0	788.0
20:1	50.0	Input h.p.	0.20	0.6	1.3	1.8	2.4	3.8	3.0	5.5	9.0	15.0	21.0	27.0	33.0	45.0	68.4
		* in Kgf.m	2.19	6.5	13.8	19.9	29.0	45.0	35.7	67.3	112.0	184.0	266.0	341.0	439.0	583.0	896.0
25:1	40.0	Input h.p.	0.18	0.5	1.0	1.6	2.3	3.5	2.6	4.3	8.0	12.3	17.6	24.0	28.0	37.0	56.8
		* in Kgf.m	2.35	7.0	13.7	21.5	31.8	50.2	38.8	64.0	121.0	191.0	276.0	378.0	459.0	585.0	910.0
30:1	33.3	Input h.p.	0.14	0.5	0.8	1.2	2.0	3.2	2.3	4.2	6.8	11.0	16.0	22.0	25.0	33.0	53.0
		* in Kgf.m	2.14	7.3	13.0	19.4	31.7	53.0	38.8	71.0	118.0	196.0	290.0	397.0	490.0	621.0	1000.0
40:1	25.0	Input h.p.	0.10	0.4	0.6	1.0	1.6	2.5	1.8	3.3	5.3	8.6	12.0	17.0	21.0	30.0	43.0
		* in Kgf.m	1.90	7.2	12.2	20.2	34.0	52.0	39.8	71.0	115.0	196.0	285.0	395.0	510.0	700.0	1040.0
50:1	20.0	Input h.p.	0.09	0.3	0.5	0.7	1.2	1.7	1.6	2.7	4.5	7.2	10.0	15.0	17.0	23.0	36.8
		* in Kgf.m	1.84	6.1	11.2	17.3	29.0	43.0	39.8	70.0	121.0	195.0	285.0	410.0	500.0	673.0	1080.0
60:1	16.7	Input h.p.	0.07	0.2	0.4	0.6	0.9	1.5	1.5	2.3	4.1	6.2	9.0	12.0	14.0	20.0	31.7
		* in Kgf.m	1.73	5.1	10.2	14.0	25.7	41.5	40.8	69.0	125.0	195.0	293.0	394.0	490.0	670.0	1080.0
70:1	14.3	Input h.p.	0.06	0.2	0.3	0.5	0.8	1.1	1.3	2.0	3.8	5.1	7.6	9.7	11.0	16.0	26.4
		* in Kgf.m	1.63	4.9	9.3	13.8	23.5	35.7	38.8	67.0	122.0	182.0	276.0	363.0	439.0	620.0	1040.0

* Output Torque

RECOMMENDED LUBRICANTS :

Brands	Grade
Bharat Petroleum	Cabol320
Castrol	Alpha ZN 320 (or) Alpha SP 320 (or) Tribol 1100/320 TGQA
Hindustan Petroleum	Enklo 320 (or) Parthan EP 320
Indian Oil	Servomesh SP 320 (or) Servo System 320

RECOMMENDED GREASE :
(For low speed operation.)

Brands	Grade
Castrol	EPL2
Indian Oil	Servogem EP2

Check the grade and quantity of lubrication before commissioning.

Read and carry out all instructions on lubricants plate in the supplied gear unit.

Overhung member	load Load factor (L)
Sprocket	1.00
Pinion	1.25
V belt pulley	1.50
Flat belt pulley	2.00

The calculated overhung load must be less than or equal to the permissible values shown in the table below. Incase where overhung loads exceeds the tabulated values, Output shaft of

high tensile material can be fitted on request, without any alteration to standard units.

Overhung loads can be reduced by increasing the diameter of the sprocket, pinion etc., and by positioning them as close as possible to the gear unit. This also will reduce the bearing loads and shaft stress.

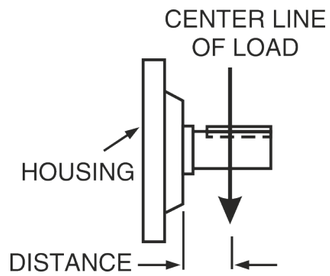
The tabulated values are based on an input speed of 1500 rpm, with the transmitting for rated power and direction of overhung load in the most in unfavourable direction and the load OHL applied at the center of the shaft attention

Overhung load is imposed on the output shaft when a pinion,sprocket, or sheave is mounted on the shaft.The magnitude of the load varies with the type of the mounting and its distance from the shaft bearing.

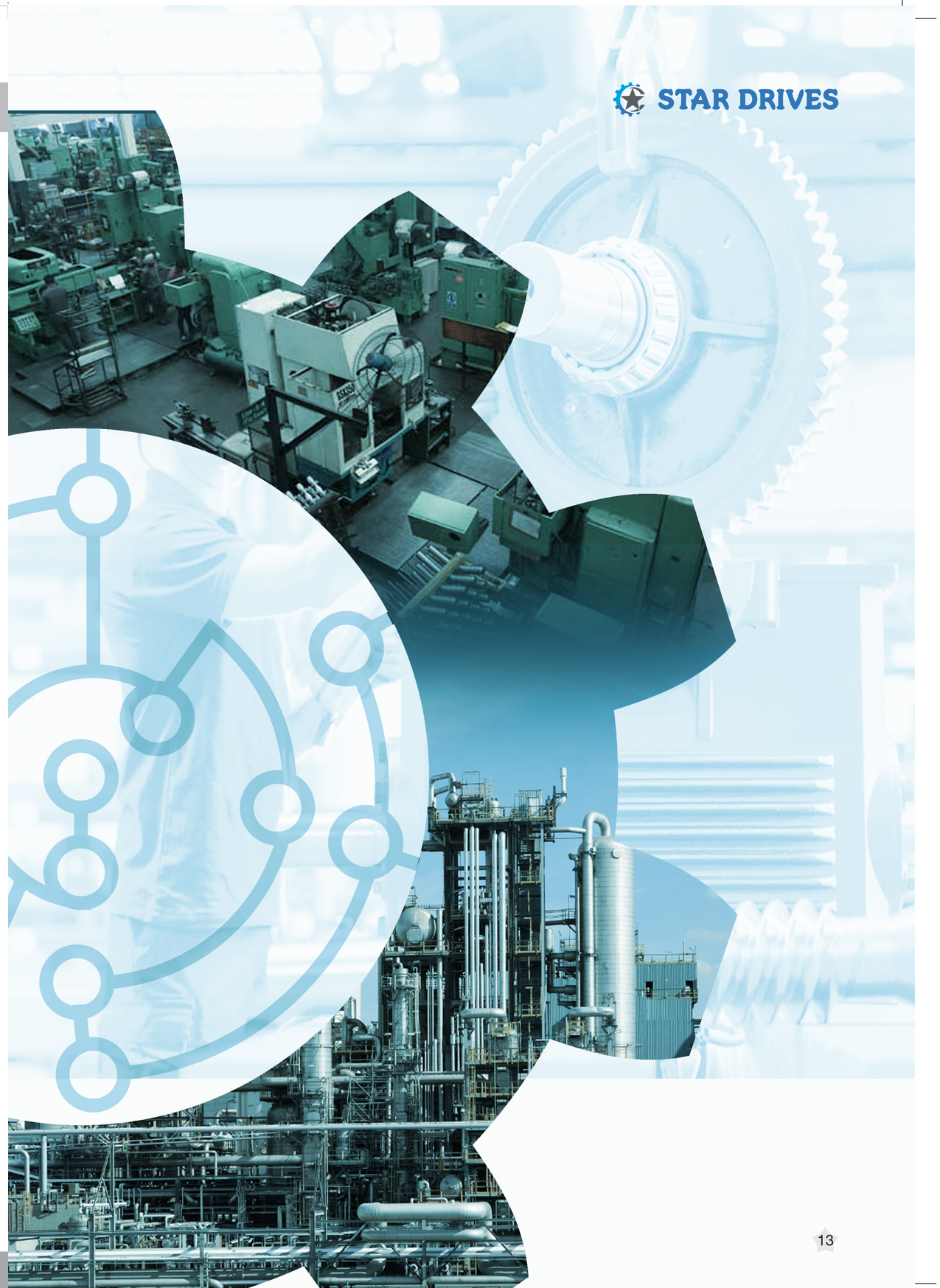
Overhung loads can be calculated by the following formula :

$$OHL = \frac{1000\ TL}{p}$$

Where OHL	=	Overhung load in kgs
T	=	Output torque in Kgm
p	=	Pitch radius of sprocket, pinion,or pulley in mm
L	=	Load factor



Size		162	200	237	287	337	300	400	500	600	700	800	900	1000	1200
Distance (D)		24	28.5	35	41	49	37.5	44.5	51	57	63.5	70	73	76	85
Nominal Ratio	**5:1**	283	449	574	513	930	645	1172	1478	1529	1774	1774	1881	1988	2507
	7.5:1	280	447	572	492	970	673	1284	1692	1896	2120	2171	2345	2518	3028
	10:1	269	426	563	473	951	659	1254	1815	1978	2467	2620	2844	3068	3690
	15:1	258	420	539	397	889	616	1223	1815	1774	2529	2926	3140	3354	4047
	20:1	264	398	502	407	898	623	1183	1713	1713	2569	2875	2972	3068	3568
	25:1	249	397	504	316	853	594	1183	1743	1794	2396	2569	2860	3150	3517
	30:1	248	404	518	323	833	578	1162	1682	1651	2436	2732	2906	3079	3231
	40:1	256	411	531	369	863	599	1142	1723	1580	2304	2548	2793	3038	3293
	50:1	266	423	542	397	899	623	1193	1723	1631	2192	2375	2671	2966	3262
	60:1	277	440	559	439	920	638	1193	1720	1743	2375	2436	2691	2946	3527
	70:1	282	452	573	488	958	664	1203	1764	1794	2508	2701	2650	2599	2630

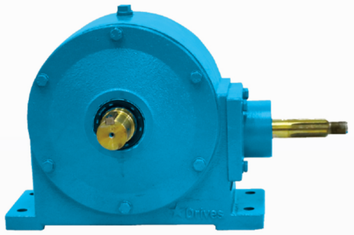


STAR DRIVES

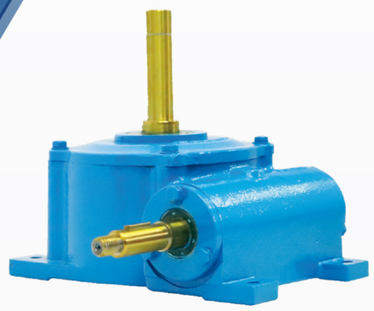
OTHER PRODUCTS RANGE

- WORM REDUCTION GEAR BOX
- INLINE HELICAL GEARED MOTOR
- HELICAL EXTRUDER GEAR BOX
- WORM & WORM WHEEL
- HELICAL GEAR & PINION
- SHAFT MOUNTED SPEED REDUCER
- CUSTOM BUILT GEARBOXES

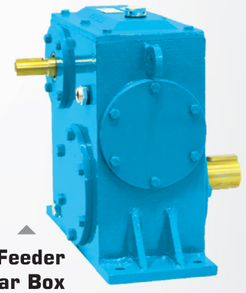
Inline Helical Geared Head



Coir Conveyor Gear Box



Commercial Grinder Gear Box

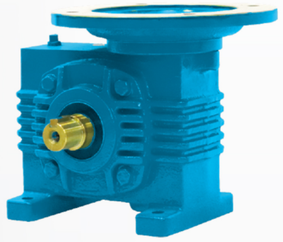


Auto Feeder Gear Box

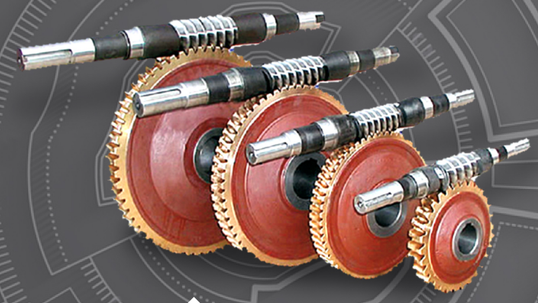
Shaft Mounted Speed Reducer

Helical Extruder

Oribtal Motor Gear Box



Machine Traverse Gear Box



Worm and Worm Wheel