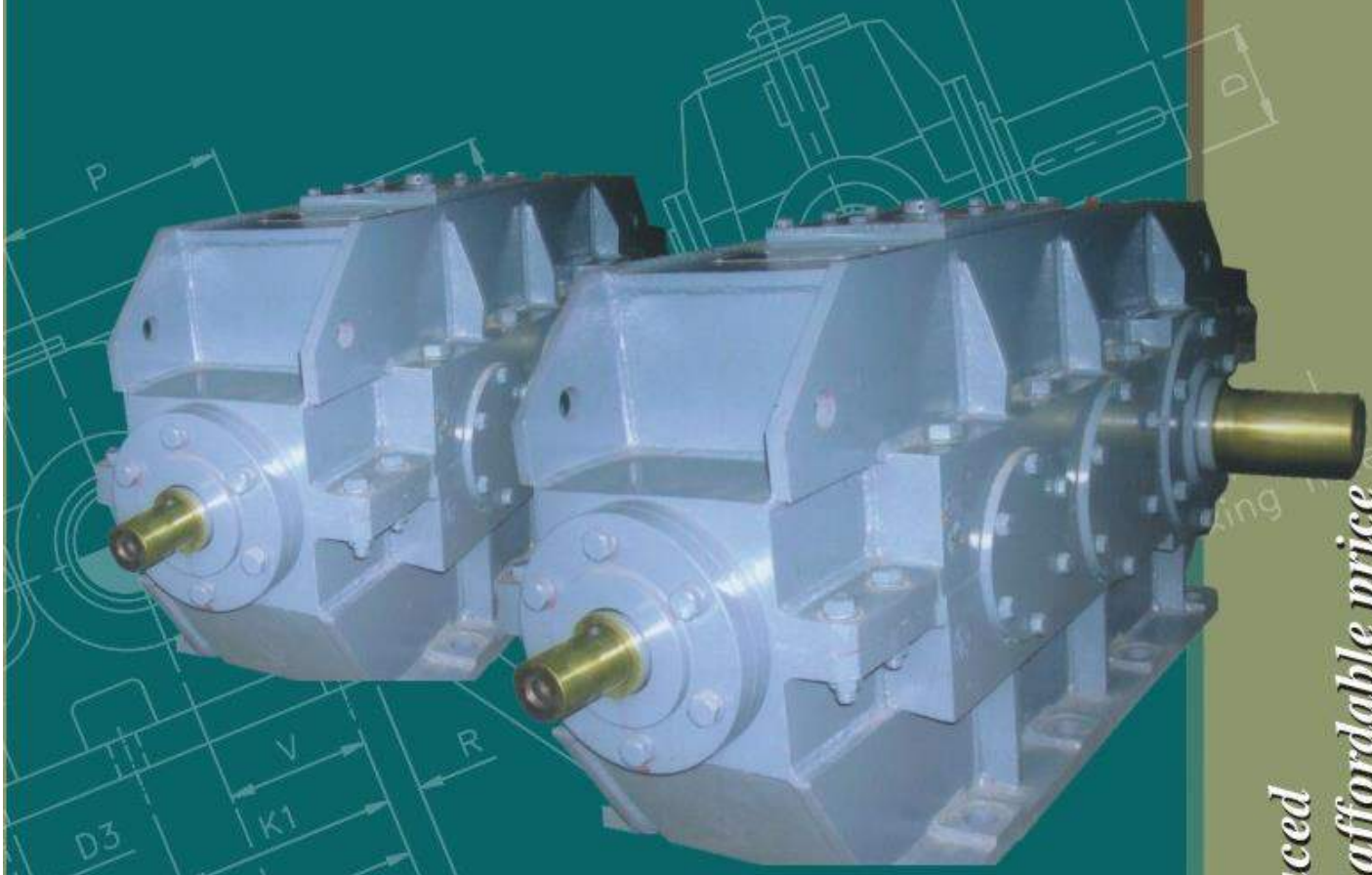
# SCHMIEDE AND MASCHINEN (Pvt.) LTD.

ISO 9001:2000 QUALITY MANAGEMENT SYSTEM



*Quality Gears, Produced In house, on time, at affordable price*


**SCHMIEDE AND MASCHINEN (Pvt.) LTD.**

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GENERAL INFORMATION

## Modular design principle

Gear sizes, transmission ratios and main dimensions according to standard series of numbers, economic mass production, comprehensive maintenance of stocks, favorable delivery periods, easy servicing, low weight, compact design with high efficiency due to casehardened steels of the highest strength, amply dimensioned bearings, very smooth running with low noise due to ground helical gears and lapped high precision spiral bevel gears, housing of vibration-damping design of gray cast iron, the use of the most up-to-date machining equipment with constant production control by means of the most recent measuring machines.

## Technical

The power tables apply to normal conditions, i. e., drive by an electric motor, smooth operation for eight hours per day, 2.5 - fold starting torque relative to catalogue performance $P_N$, 100% duration of operation, ambient temperature 20°C. Power for intermediate speeds can be interpolated linearly. Higher drive speeds than indicated and selection finite-fatigue strength gears on request.
Reinforced bearings are use for optional, heavy external forces

## Housing

The torsion ally rigid housing having robust internal ribs are made of high grade cast iron. The gearing can be checked through large inspection holes. Housings can also be supplied made of fabricated construction, if required.

## Bearing & Shafts

All shafts are mounted on amply dimensioned high precision roller bearings. The shaft extensions are fitted with seals to prevent out flow of oil and entry of dust. In case of highly polluted and dusty atmosphere, labyrinth sealing can be provided.

## Gears

Helical gear are manufactured from high alloy case hardening steel. After case hardening, gear teeth are profile ground to provide a highly efficient and quiet running drive. All gear teeth are with inviolate profile duly corrected as per the most modern methods which increase dedendum bearing capacity and reduce noise level.

The spiral bevel gears from high quality alloy steel are case hardened and lapped. these gears are made according to Klingelnberg process which ensures less noise and higher transmitting capacity.

## Lubrication

The gear and bearing are lubricated by splashing of oil . Shaft or motor driven pumps can be provided for forced lubrication at high peripheral speeds or where low input speeds make oil splash inadequate, being indicated by • in power rating chart.

In standard designs the lower half of the housing serves as oil sump.

## Efficiencies

The efficiency of various gearboxes is as follows:
99.0 % for single reduction helical gearboxes
98.0 % for double reduction helical gearboxes
97.5 % for triple reduction helical gearboxes
97.0 % for quadruple stage helical gearboxes
98.0 % for single reduction bevel gearboxes
97.5 % for double reduction bevel helical gearboxes
97.0 % for triple reduction bevel helical gearboxes
96.5 % for quadruple reduction bevel helical gearboxes

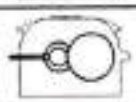
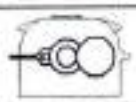
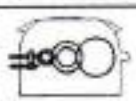
## Cooling

In most cases depending on the power to be transmitted and the ambient temperature, the heat generated in the gear units is dissipated through the housing. Additional cooling by use of fans, cooling coils inside the lower part of the housing or a separate oil cooler can be provided where simple radiant heat dissipation is not adequate. Flow indicator, pressure gauge are installed for checking oil circulation with provision to connect to audiovisual alarms.

## Hold back mechanisms

Gear boxes for application where reverse operation of the machine is not permissible are fitted with back stop gear units is dissipated through the housing. Additional device. Esquires or order should state the required direction of rotation and holding torque.

## Selection of gears

| | |
|---|---|
| Single reduction helical gear SF $i_N$ = 1.25 to 6.3 |  |
| Double reduction helical gear DF $i_N$ = 6.3 to 22.4 |  |
| Triple reduction helical gear TF $i_N$ = 25 to 112 |  |
| Quadruple reduction helical gear QF $i_N$ = 112 to 630 |  |
| Double reduction bevel helical gear DFK $i_N$ = 6.3 to 18 |  |
| Triple reduction bevel helical gear TFK $i_N$ = 18 to 100 |  |
| Quadruple reduction bevel helical gear QFK $i_N$ = 112 to 630 |  |

## Delivery

Gearboxes are delivered ready for operation but without oil filling. Shaft extension and hollow output shafts are protected with a rust inhibitor.



S

1 . Determination of the type of gear

1.1. Establish whether helical gear or bevel helical gear

1.1. Determine the transmission ratio

$$i_N = \frac{n1}{n2}$$

The type of gear is then determined

2 . Determination of the gear size

2.1. Finding out gear box size

$P_N \geqq P_e \times f$ 'f' from tables 1,2 and 4

2.2. Checking starting torque

$$\frac{M_K \times n1}{P_N \times 955} \leqq 2.5$$

3 Checking heating effects

3.1. Gear unit without additional cooling when

$P_e \leqq P_{G1} \times f_w$

3.2. Gear unit with fan possible when

$P_e \leqq P_{G2} \times f_w$

3.3. Gear unit with built-in cooling coil possible when

$P_e \leqq P_{G3} \times f_w$

3.4. Gear unit with built-in cooling coil and fan possible when

$P_e \leqq P_{G4} \times f_w$

3.5. Gear unit with built-in cooling coil necessary when

$P_e \leqq P_{G4} \times f_w$

$i_N$ = Nominal transmission ratio

$n_1$ = Input speed [ RPM]

$n_2$ = Output speed [ RPM]

$P_N$ = Nominal gear box rating [ kw ] - see power table

$P_e$ = Absorbed power of the connected machine [kw]

$f$ = Service factor

$f_w$ = Factor for amb. temperatures [ table-3 ]

$t$ = Ambient temperatures [ °C ]

$E_D$ = Running period [ % ], e.g. $E_D$ = 80%

$P_{G1}$ = Thermal capacity without additional cooling at t=20°C ; $E_D$ = 100 (see power table)

$P_{G2}$ = Thermal capacity with fan

$P_{G3}$ = Thermal capacity with built-in cooling coil

$P_{G4}$ = Thermal capacity with built-in cooling coil and fan

$M_K$ = Starting torque or max. input torque [ da Nm ]

# Example of calculation

## Given

Prime mover :

electric motor, $P_{motor}$ =160 [kw] ; n =1480 [rpm];

2 fold starting torque $M_K$ = 2788 [ da Nm ]

Working machine :

Heavy rubber-belt conveyor

Power demand : $P_e$ = 140 [ kw ]

Speed : $n_2$ = 36 [ rpm ];

Period of operation : 24 hours per day

Starts : 10 per hour

Running duration per hour : $E_D$ = 100 [ % ]

Ambient temperature : 50 [ ° C]

Design of gear :

Foot-mounted hollow output shaft gear unit

## Required :

Type and size of gear box

## Design :

1. Determination of the gear box type

1.1. Bevel helical gear is specified

$$i_N = \frac{n1}{n2} = \frac{1480}{36} = 41 : 1$$

Nominal ratio $i_N$ = 40

Selected : Gear box type FTH, triple reduction bevel helical gear box

2 . Determination of the gear size

2.1. Operating factor : f from tables 1 and 2 = 1.5

2.2. Required nominal gear box rating :

$P_N \geqq P_e \times f_1 \times f_2$ = 140 [ kw ] x 1.5 x 1.07 = 225 [kw]

2.3. From power table select FTH gear box size 355 with $P_N$ = 249 [kw]

2.4. Checking starting torque

$$\frac{M_K \times n1}{P_N \times 955} \leqq 2.5 = 2788 \ \frac{[\text{ da Nm }] \times 1480 \text{ [rpm]}}{249 \text{ [ kw]} \times 9550} = 1.735$$

3 . Checking for heating

3.1. From table 3

$f_w$ = 0.63 for gear unit without additional cooling

$P_e \geqq P_{G1} \times f_w$ = 140 [ kw ] $\geqq$ 213 [ kw ] x 0.63 = 134 [ kw ]

i.e., additional cooling is required

3.2. From table 3

$f_w$ = 0.70 for gear unit with fan cooling

$P_e \geqq P_{G2} \times f_w$ = 140 [ kw ] $\geqq$ 310 [ kw ] x 0.7 = 217 [ kw ]

i.e., fan cooling is sufficient.

3.3. From table 3

$f_w$ = 0.7 for gear unit with fan cooling

$P_e \geqq P_{G3} \times f_w$ = 140 [ kw ] $\geqq$ 236 [ kw ] x 0.7 = 162.5 [ kw ]

i.e., cooling is sufficient.

3.4. The FTH 355 gear unit, i = 40 : 1 requires fan cooling or cooling coil according to choice

# LOAD CLASSIFICATION SYMBOLS

Listed load classification symbols may be, modified after giving excat details of operating conditions

U = Uniform load
M = Moderate shock load
H = Heavy shock load

*24 hours / day service factor only

| Blowers, Ventilators | |
|---|---|
| Blowers (axial and radial) | U |
| Cooling tower fans | M |
| Induced draught fans | M |
| Rotary piston blower | M |
| Turbo blowers | U |
| Building Machinery | |
| Concrete mixers | M |
| Hoists | M |
| Road Construction machinery | M |
| Chemical Industry | |
| Agitators (liquid material) | U |
| Agitators (semi-liquid material) | M |
| Centrifuges (heavy) | M |
| Centrifuges (light) | U |
| Cooling drums | M* |
| Drying drums | M* |
| Mixer | M |
| Compressors | |
| Piston Compressors | H |
| Turbo Compressors | M |
| Conveyors | |
| Apron Conveyors | M |
| Bailset elevators | M |
| Band pocket conveyors | M |
| Belt conveyors (bulk material) | U |
| Belt conveyors (piece goods) | M |
| Bucket conveyors for flour | U |
| Chain conveyors | M |
| Circular conveyors | M |
| Goods lifts | M |
| Hoists | H* |
| Inclined Hoists | H* |
| Link conveyors | M |
| Passenger lifts | M |
| Screw conveyors | M |
| Steel belt conveyors | M |
| Trough chain conveyors | M |
| Winchess hauling | M |
| Cranes | |
| Derricking jib gear | M |
| Hoist gear | U |
| Luffing gear | U |
| Slewing gear | M |
| Travelling gear | H |
| Dredgers | |
| Bucket conveyors | H |
| Bucket wheels | H |
| Cutter heads | H |
| Manoeuvring winches | M |
| Pumps | M |
| Slewing gear | M |
| Travelling gear (caterpilar) | H |
| Travelling gear (rails) | M |

| Food Industry Machinery | |
|---|---|
| Bottling & container filling machines | U |
| Cane crushers | M |
| Cane knives | M |
| Cane mills | H |
| Kneading machines | M |
| Mash tubs | M |
| Packaging machines | U |
| Sugar beet cutter | M |
| Sugar beet washing machines | M |
| Generators, Transformers | |
| Frequency transformer | H |
| Generators | U |
| Welding generators | H |
| Laundries | |
| Tumblers | M |
| Washing machines | M |
| Metal Rolling Mills | |
| Billet shears | H* |
| Chain transfers | |
| Cold rolling mills | H* |
| Continuous casting plant | M* |
| Cooling beds | |
| Cropping shears | H* |
| Cross transfers | M* |
| Descaling machines | H* |
| Heavy & medium plate mills | M* |
| Ingot & blooming mills | H* |
| Ingot handling machinery | H* |
| Ingot pushers | H* |
| Manipulators | H* |
| Plate Shears | H* |
| Plate tilters | M* |
| Roller adjustment drives | M* |
| Roller straightners | M* |
| Roller tables (heavy) | H* |
| Roller tables (light) | M* |
| Sheets mills | H* |
| Trimming shears | M* |
| Tube welding machines | H |
| Winding machines (strip and wire) | M |
| Wire drawing benches | M |
| Metal Working machines | |
| Counter shafts line shafts | U |
| Forging presses | H |
| Hammers | H |
| Machine tools auxiliary drive | U |
| Machine tools main drives | M |
| Metal planning machines | H |
| Plate straightening machines | H |
| Presses | H |
| Punch Presses | H |
| Shears | M |
| Sheet metal bending machines | M |

| Oil Industry | |
|---|---|
| Pipeline pumps | M |
| Rotary drilling equipment | H |
| Paper Machines | |
| Calenders | M* |
| Couches | H* |
| Drying cylinders | H* |
| Glazing cylinders | H* |
| Pulpers | M* |
| Pulp grinders | H* |
| Suction rolls | H* |
| Suction Presses | H* |
| Wet presses | H* |
| Willows | H |
| Plastic Industry Machinery | |
| Calenders | M* |
| Crushers | M* |
| Extruders | M* |
| Mixers | M* |
| Pumps | |
| Centrifugal pumps (light liquids | U |
| Centrifugal pumps (semi-liquids) | M |
| Piston pumps | H |
| Plunger pumps | H* |
| Pressure pumps | H* |
| Rubber Machinery | |
| Calenders | M* |
| Extruders | H* |
| Mixers | M* |
| Pug mills | H* |
| Rolling mills | H* |
| Stone & Clay Working Machines | |
| Ball mills | H* |
| Beater Mills | H* |
| Breakers | H |
| Brick Presses | H |
| Hammer mills | H* |
| Rotary overs | H* |
| Tube mills | H* |
| Textile Machines | |
| Batchers | M |
| Looms | M |
| Printing & dyeing machines | M |
| Tanning vats | M |
| Willows | M |
| Water Treatment | |
| Aerators | M* |
| Screw pumps | M |
| Wood Working Machines | |
| Barkers | H |
| Planning machines | M |
| Saw frames | H* |
| Wood Working Machines | U |

| Table 2 | Mechanical Service Factor | | | $f_1$ |
|---|---|---|---|---|
| Prime mover | Hours of operation/day | Prime mover Load parameter | | |
| | | Uniform load U | Medium load M | Heavy load H |
| Electric motor turbine | up to 3 | 0.80 | 1.00 | 1.50 |
| | 3 to 10 | 1.00 | 1.25 | 1.75 |
| | Over 10 | 1.25 | 1.50 | 2.00 |
| Piston engines 4-6 cylinder U>1:100-1:200 | up to 3 | 1.00 | 1.25 | 1.75 |
| | 3 to 10 | 1.25 | 1.50 | 2.00 |
| | Over 10 | 1.50 | 1.75 | 2.25 |
| Piston engines 1-3 cylinder U<1:100 | up to 3 | 1.25 | 1.50 | 2.00 |
| | 3 to 10 | 1.50 | 1.75 | 2.25 |
| | Over 10 | 1.75 | 2.00 | 2.50 |

| Table 3 | Thermal Service Factor | | | | | $f_w$ |
|---|---|---|---|---|---|---|
| Type of Cooling | Ambient temperature | Duration of operation per hour | | | | |
| | | 100% | 80% | 60% | 40% | 20% |
| For gear boxes without additional cooling | 10°C | 1.13 | 1.36 | 1.58 | 1.81 | 2.03 |
| | 20°C | 1.00 | 1.20 | 1.40 | 1.60 | 1.80 |
| | 30°C | 0.88 | 1.06 | 1.23 | 1.41 | 1.58 |
| | 40°C | 0.75 | 0.90 | 1.05 | 1.20 | 1.35 |
| | 50°C | 0.63 | 0.76 | 0.88 | 1.00 | 1.13 |
| For gear boxes with fan | 10°C | 1.13 | 1.36 | 1.58 | 1.81 | 2.03 |
| | 20°C | 1.00 | 1.20 | 1.40 | 1.60 | 1.80 |
| | 30°C | 0.90 | 1.08 | 1.23 | 1.45 | 1.58 |
| | 40°C | 0.80 | 0.96 | 1.11 | 1.28 | 1.44 |
| | 50°C | 0.70 | 0.84 | 0.96 | 1.12 | 1.27 |
| For gear boxes with cooling coils | 10°C | 1.13 | 1.36 | 1.58 | 1.81 | 2.03 |
| | 20°C | 1.00 | 1.20 | 1.40 | 1.60 | 1.80 |
| | 30°C | 0.90 | 1.08 | 1.23 | 1.45 | 1.58 |
| | 40°C | 0.80 | 0.96 | 1.11 | 1.28 | 1.44 |
| | 50°C | 0.70 | 0.84 | 0.96 | 1.12 | 1.21 |
| For gear boxes with fan & cooling coils | 10°C | 1.10 | 1.35 | 1.55 | 1.80 | 2.0 |
| | 20°C | 1.00 | 1.20 | 1.40 | 1.60 | 1.80 |
| | 30°C | 0.90 | 1.10 | 1.30 | 1.45 | 1.65 |
| | 40°C | 0.80 | 0.95 | 1.15 | 1.30 | 1.50 |
| | 50°C | 0.70 | 0.85 | 1.05 | 1.15 | 1.35 |

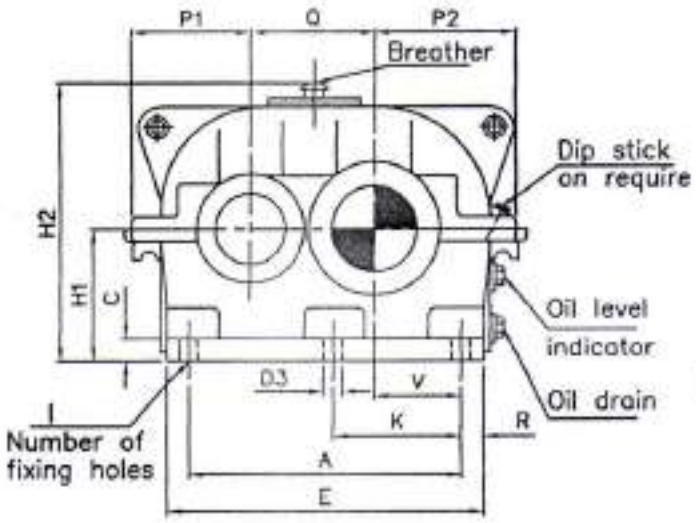
(1) Based on cooling water temperature, 20°C

| Table 4 | Starting-frequency factor | | | | | | $f_s$ |
|---|---|---|---|---|---|---|---|
| Starts per hour | Driven machine factor | | | | | | |
| | ≥ 1.0 | ≥ 1.2 | ≥ 1.4 | ≥ 1.6 | ≥ 1.8 | ≥ 2.0 | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| 2 to 20 | 1.2 | 1.1 | 1.08 | 1.07 | 1.07 | 1.06 | |
| 21 to 40 | 1.30 | 1.2 | 1.17 | 1.16 | 1.15 | 1.08 | |
| 41 to 80 | 1.5 | 1.4 | 1.3 | 1.23 | 1.18 | 1.10 | |
| 81 to 160 | 1.7 | 1.6 | 1.5 | 1.30 | 1.20 | 1.10 | |
| over 160 | 2.0 | 1.8 | 1.70 | 1.50 | 1.30 | 1.10 | |

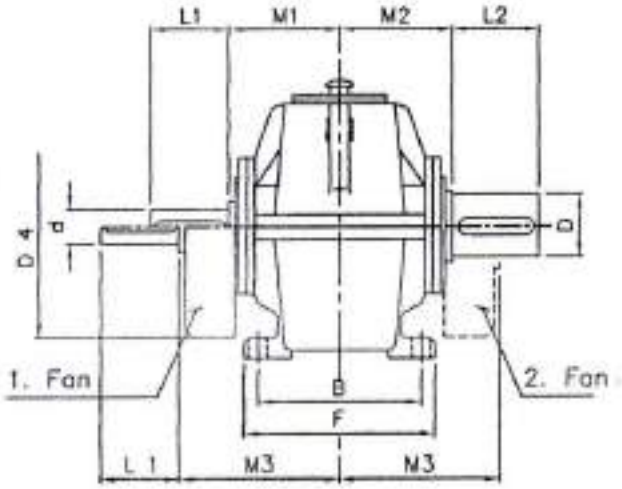
| Nominal Ratio | Nominal Speeds RPM | | SIZE OF GEAR UNIT | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 80 | 100 | 125 | 140 | 160 | 180 | 200 | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 |
| $i_N$ | $n_1$ | $n_2$ | Nominal gear box rating $P_N$ (kw) | | | | | | | | | | | | | | |
| 1.25 | 1500 | 1200 | 55 | 105 | 195 | 296 | 390 | 580 | 700 | 950* | 1350* | 2120* | 2650* | - | - | - | - |
| | 1000 | 800 | 38 | 71 | 135 | 205 | 260 | 400 | 470 | 640 | 910 | 1430 | 1790 | 2380* | 3640* | - | - |
| | 750 | 600 | 28.5 | 54 | 110 | 157 | 200 | 335 | 360 | 490 | 710 | 1110 | 1390 | 1860 | 2840 | 4250* | 5000* |
| 1.4 | 1500 | 1070 | 51 | 98 | 190 | 287 | 360 | 538 | 640 | 875* | 1300* | 1950* | 2430* | - | - | - | - |
| | 1000 | 715 | 36 | 66 | 130 | 198 | 245 | 372 | 430 | 585 | 880 | 1315 | 1840 | 2280* | 3180* | - | - |
| | 750 | 535 | 28 | 52 | 105 | 151 | 195 | 318 | 330 | 450 | 680 | 1020 | 1270 | 1700 | 2600 | 3950* | 4750* |
| 1.6 | 1500 | 940 | 51 | 97 | 185 | 254 | 330 | 463 | 590 | 814 | 1200* | 1850* | 2150* | 2650* | - | - | - |
| | 1000 | 625 | 36 | 71 | 130 | 181 | 230 | 343 | 400 | 605 | 810 | 1150 | 1450 | 2100 | 2930* | - | - |
| | 750 | 470 | 28 | 56 | 100 | 140 | 190 | 285 | 310 | 500 | 670 | 900 | 1200 | 1550 | 2394 | 3620* | 4560* |
| 1.8 | 1500 | 835 | 45 | 91 | 175 | 232 | 310 | 419 | 540 | 760 | 1100 | 1500* | 2050* | 2650* | - | - | - |
| | 1000 | 555 | 32 | 66 | 120 | 172 | 220 | 315 | 370 | 572 | 750 | 1100 | 1400 | 1850 | 2750* | 4050* | - |
| | 750 | 415 | 25 | 52 | 98 | 131 | 165 | 258 | 280 | 457 | 610 | 850 | 1150 | 1450 | 2247 | 3308 | 4230* |
| 2 | 1500 | 750 | 39 | 80 | 155 | 220 | 290 | 401 | 510 | 693 | 1000 | 1400 | 1900* | 2500* | 3920* | - | - |
| | 1000 | 500 | 27 | 57 | 110 | 162 | 200 | 295 | 360 | 523 | 700 | 960 | 1300 | 1700 | 2600* | 3700* | 4600* |
| | 750 | 375 | 21 | 44 | 89 | 123 | 165 | 247 | 270 | 429 | 580 | 770 | 1050 | 1350 | 2000 | 2950 | 3800 |
| 2.24 | 1500 | 670 | 37 | 70 | 140 | 200 | 275 | 375 | 450 | 660 | 950 | 1250 | 1750* | 2300* | 3620* | - | - |
| | 1000 | 445 | 26 | 48 | 100 | 114 | 190 | 285 | 300 | 495 | 660 | 910 | 1200 | 1600 | 2350 | 3400* | 4300* |
| | 750 | 335 | 20 | 37 | 82 | 110 | 155 | 230 | 240 | 407 | 530 | 740 | 980 | 1250 | 1850 | 2750 | 3500 |
| 2.5 | 1500 | 600 | 31 | 59 | 130 | 185 | 255 | 353 | 410 | 605 | 890 | 1150 | 1600 | 2150* | 3440* | - | - |
| | 1000 | 400 | 21 | 41 | 95 | 133 | 175 | 268 | 280 | 451 | 630 | 820 | 1150 | 1500 | 2200 | 3100* | 4100* |
| | 750 | 300 | 17 | 32 | 77 | 105 | 140 | 210 | 230 | 368 | 490 | 670 | 910 | 1150 | 1750 | 2500 | 3300 |
| 2.8 | 1500 | 535 | 27 | 53 | 115 | 179 | 230 | 319 | 380 | 545 | 820 | 1060 | 1450 | 1950 | 3080* | - | - |
| | 1000 | 360 | 19 | 37 | 80 | 121 | 160 | 240 | 260 | 412 | 560 | 750 | 1000 | 1350 | 1950 | 2900* | 3800* |
| | 750 | 270 | 15 | 27.5 | 62 | 93 | 130 | 196 | 210 | 336 | 460 | 610 | 830 | 1060 | 1550 | 2350 | 3100 |
| 3.15 | 1500 | 475 | 23 | 47 | 96 | 156 | 210 | 291 | 360 | 515 | 750 | 990 | 1350 | 1750 | 2500* | 3600* | 4700* |
| | 1000 | 315 | 16 | 34 | 67 | 110 | 145 | 218 | 240 | 389 | 510 | 690 | 930 | 1250 | 1750 | 2650 | 3400 |
| | 750 | 235 | 13 | 26 | 51 | 83 | 115 | 179 | 190 | 317 | 410 | 560 | 760 | 970 | 1400 | 2150 | 2750 |
| 3.55 | 1500 | 425 | 20 | 43 | 92 | 138 | 185 | 250 | 330 | 472 | 680 | 890 | 1250 | 1600 | 2300 | 3300* | 4200* |
| | 1000 | 280 | 14 | 31 | 63 | 97 | 130 | 187 | 225 | 357 | 460 | 620 | 860 | 1150 | 1650 | 2450 | 3100 |
| | 750 | 210 | 11 | 24 | 48 | 74 | 100 | 154 | 180 | 291 | 370 | 510 | 680 | 900 | 1350 | 2000 | 2500 |
| 4 | 1500 | 375 | 17 | 37 | 76 | 115 | 160 | 222 | 310 | 445 | 640 | 850 | 1150 | 1450 | 2100 | 3000 | 3800* |
| | 1000 | 250 | 11.5 | 25.5 | 53 | 83 | 110 | 154 | 220 | 336 | 430 | 590 | 790 | 1050 | 1500 | 2200 | 2750 |
| | 750 | 187 | 8.6 | 19.5 | 40 | 62 | 83 | 121 | 170 | 274 | 340 | 490 | 630 | 830 | 1200 | 1800 | 2260 |
| 4.5 | 1500 | 335 | 14.5 | 33 | 56 | 80 | 140 | 203 | 270 | 412 | 560 | 800 | 1100 | 1300 | 1850 | 2550 | 3300 |
| | 1000 | 220 | 10 | 23 | 39 | 57 | 97 | 140 | 185 | 281 | 380 | 570 | 740 | 980 | 1250 | 1800 | 2500 |
| | 750 | 166 | 7.5 | 17.5 | 29.5 | 44 | 76 | 105 | 150 | 215 | 300 | 480 | 590 | 770 | 960 | 1400 | 1950 |
| 5 | 1500 | 300 | 12 | 27.5 | 50 | 78 | 125 | 156 | 220 | 360 | 460 | 670 | 1000 | 1200 | 1700 | 2450 | 3100 |
| | 1000 | 200 | 8.1 | 19.5 | 35 | 56 | 86 | 108 | 145 | 265 | 340 | 470 | 700 | 850 | 1200 | 1750 | 2300 |
| | 750 | 150 | 6.2 | 15.5 | 26.5 | 42 | 65 | 85 | 110 | 200 | 260 | 370 | 540 | 690 | 900 | 1350 | 1750 |
| 5.6 | 1500 | 270 | 10.5 | 23 | 43 | 75 | 105 | 145 | 200 | 315 | 420 | 570 | 880 | 1050 | 1500 | 2050 | 2750 |
| | 1000 | 180 | 7.1 | 16.5 | 30 | 50 | 72 | 100 | 140 | 210 | 285 | 410 | 590 | 770 | 1050 | 1400 | 1850 |
| | 750 | 134 | 5.4 | 12.5 | 23 | 38 | 55 | 77 | 105 | 155 | 215 | 310 | 450 | 600 | 800 | 1050 | 1400 |
| 6.3 | 1500 | 240 | - | 17.5 | 41 | 59 | 84 | 132 | 160 | 269 | 340 | 500 | 720 | 940 | 1250 | 1850 | 2200 |
| | 1000 | 160 | - | 12 | 29 | 41 | 59 | 92 | 110 | 182 | 230 | 360 | 490 | 700 | 860 | 1250 | 1500 |
| | 750 | 120 | - | 9.2 | 22 | 32 | 45 | 70 | 88 | 138 | 175 | 275 | 360 | 500 | 650 | 950 | 1150 |

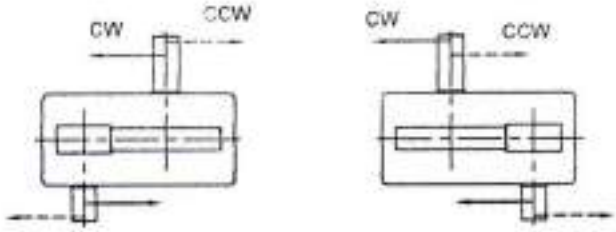
| Thermal Capacity (kw) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Without Cooling $PG_1$ (kw) | Input rpm $n_1$ | 21 | 34 | 51 | 64 | 80 | 101 | 128 | 160 | 200 | 248 | 312 | 389 | 480 | 600 | 760 |
| With Fan Cooling $PG_2$ (kw) | 1500 | 29 | 47 | 70 | 96 | 120 | 170 | 215 | 270 | 338 | 471 | 593 | 739 | 912 | 1575 | 1995 |
| | 1000 | 25 | 40 | 59 | 80 | 100 | 140 | 178 | 222 | 278 | 372 | 468 | 584 | 720 | 1245 | 1577 |
| | 750 | 23 | 36 | 54 | 71 | 89 | 121 | 154 | 192 | 240 | 332 | 418 | 520 | 642 | 1050 | 1330 |
| With two Fans | 1500 | | | | | | | | | | | | | 1344 | 2550 | 3230 |
| | 1000 | | | | | | | | | | | | | 980 | 1890 | 2394 |
| | 750 | | | | | | | | | | | | | 804 | 1600 | 1900 |
| With Cooling Coil $PG_3$ (kw) | | 61 | 144 | 201 | 234 | 275 | 324 | 388 | 440 | 500 | 588 | 722 | 849 | 1040 | 1200 | 1460 |
| With Fan and Cooling coil $PG_4$ (kw) | 1500 | 69 | 157 | 220 | 266 | 315 | 390 | 476 | 550 | 638 | 881 | 1003 | 1199 | 1472 | 2175 | 2695 |
| | 1000 | 65 | 150 | 209 | 250 | 295 | 360 | 438 | 502 | 578 | 712 | 878 | 1044 | 1280 | 1845 | 2277 |
| | 750 | 63 | 146 | 204 | 241 | 284 | 341 | 414 | 472 | 540 | 672 | 828 | 960 | 1202 | 1650 | 2030 |

• Pressure lubrication required




From size 355 up jacking screws in housing feet and alignment surface on front faces of lower housing part




Left hand assembly

Right hand assembly

Arrows show relative directions of rotation

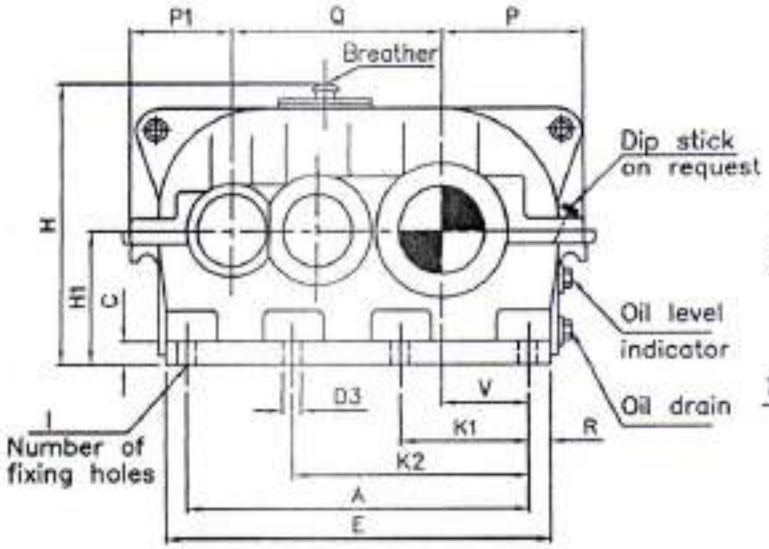
| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | BASE DETAILS | | | | | | | | | | GEAR CASE DETAILS | | | | | | | FAN DETAILS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $l_4 = 2.8$ | | Above $l_4 = 2.8$ to $l_4 = 4.5$ | | Above $l_4 = 4.5$ | | | | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | d | L1 | M1 | D | L2 | M2 | A | B | V | K | C | D3 | R | I | Q | H1 | E | F | H2 | P1 | P2 | D4 | M3 |
| 080 | 18 | 0.8 | 32 | 80 | 24 | 50 | | | 90 | 35 | 80 | 90 | 190 | 130 | 65 | | 20 | 14 | 20 | 4 | 080 | 100 | 230 | 160 | 230 | 95 | 115 | 186 | 140 |
| 100 | 36 | 1.5 | 40 | 110 | 32 | 80 | 24 | 50 | 100 | 45 | 110 | 100 | 240 | 145 | 80 | | 25 | 14 | 20 | 4 | 100 | 125 | 280 | 180 | 280 | 110 | 130 | 186 | 150 |
| 125 | 67 | 2.8 | 50 | 110 | 40 | 110 | 32 | 80 | 115 | 55 | 110 | 115 | 295 | 165 | 105 | | 25 | 14 | 25 | 4 | 125 | 160 | 345 | 200 | 335 | 120 | 160 | 231 | 165 |
| 140 | 90 | 4 | 55 | 110 | 45 | 110 | 35 | 80 | 125 | 60 | 140 | 125 | 340 | 180 | 120 | | 30 | 14 | 25 | 4 | 140 | 180 | 390 | 215 | 370 | 140 | 180 | 287 | 175 |
| 160 | 118 | 5.3 | 60 | 140 | 50 | 110 | 40 | 110 | 130 | 70 | 140 | 130 | 375 | 195 | 130 | | 35 | 18 | 30 | 4 | 160 | 200 | 435 | 240 | 405 | 155 | 200 | 287 | 180 |
| 180 | 170 | 7.5 | 70 | 140 | 55 | 110 | 45 | 110 | 145 | 80 | 170 | 145 | 420 | 205 | 150 | | 35 | 18 | 30 | 4 | 180 | 225 | 480 | 250 | 450 | 160 | 220 | 364 | 205 |
| 200 | 225 | 10 | 75 | 140 | 60 | 140 | 50 | 110 | 155 | 90 | 170 | 155 | 475 | 210 | 165 | | 40 | 22 | 35 | 4 | 200 | 250 | 545 | 260 | 500 | 185 | 240 | 364 | 215 |
| 225 | 300 | 14 | 90 | 170 | 70 | 140 | 55 | 110 | 170 | 100 | 210 | 170 | 535 | 250 | 185 | | 45 | 22 | 35 | 4 | 225 | 280 | 605 | 300 | 550 | 210 | 270 | 364 | 230 |
| 250 | 425 | 19 | 100 | 210 | 75 | 140 | 60 | 140 | 180 | 110 | 210 | 180 | 600 | 260 | 215 | | 50 | 26 | 40 | 4 | 250 | 315 | 680 | 320 | 615 | 220 | 300 | 364 | 240 |
| 280 | 560 | 27 | 110 | 210 | 80 | 170 | 70 | 140 | 200 | 120 | 210 | 200 | 660 | 290 | 235 | 330 | 55 | 26 | 45 | 6 | 280 | 355 | 750 | 380 | 695 | 240 | 330 | 459 | 260 |
| 315 | 780 | 36 | 120 | 210 | 100 | 210 | 75 | 140 | 220 | 140 | 250 | 220 | 740 | 340 | 260 | 370 | 60 | 33 | 50 | 6 | 315 | 400 | 840 | 410 | 775 | 275 | 370 | 459 | 280 |
| 355 | 1050 | 50 | 130 | 250 | 110 | 210 | 90 | 170 | 250 | 160 | 300 | 250 | 830 | 360 | 300 | 415 | 65 | 33 | 55 | 6 | 355 | 450 | 940 | 440 | 855 | 290 | 415 | 459 | 310 |
| 400 | 1400 | 70 | 150 | 250 | 120 | 210 | 100 | 210 | 265 | 170 | 300 | 265 | 930 | 400 | 335 | 465 | 70 | 33 | 55 | 6 | 400 | 500 | 1040 | 480 | 965 | 320 | 460 | 459 | 325 |
| 450 | 1950 | 98 | 170 | 300 | 130 | 250 | 110 | 210 | 310 | 190 | 350 | 310 | 1060 | 460 | 375 | 530 | 80 | 39 | 65 | 6 | 450 | 560 | 1190 | 550 | 1075 | 370 | 510 | 570 | 375 |
| 500 | 2550 | 135 | 190 | 350 | 150 | 250 | 120 | 210 | 335 | 210 | 350 | 335 | 1180 | 510 | 415 | 590 | 90 | 39 | 75 | 6 | 500 | 630 | 1330 | 620 | 1195 | 420 | 570 | 570 | 400 |

**Larger Sizes on Request**
**Centre Height** H1 as per DIN 747
**Tolerance** for Shaft ends as per DIN 748, Fit for d and D : n6
**Keys according** to DIN 6885, Part 1, Shape A
**Shaft end centres** according to DIN 332, Form DS

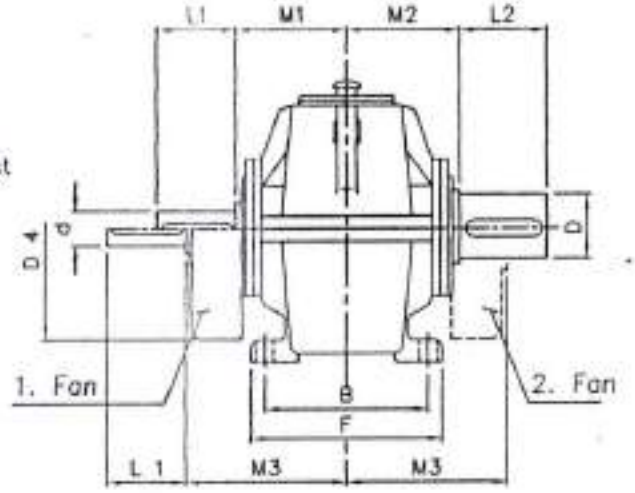
| Nominal Ratio | Nominal Speeds RPM | | SIZE OF GEAR UNIT | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 110 | 125 | 140 | 160 | 180 | 200 | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 | 630 | 710 | 800 |
| $i_N$ | $n_1$ | $n_2$ | Nominal gear box rating $P_N$ (kw) | | | | | | | | | | | | | | | | | |
| 7.1 | 1500 | 210 | 37 | 50 | 70 | 105 | 150 | 205 | 295 | 400 | 560 | 740 | 1150 | 1550* | 2200* | 3400* | 4800* | 7035* | - | - |
| | 1000 | 140 | 25 | 34 | 47 | 70 | 100 | 135 | 200 | 265 | 370 | 490 | 770 | 1050 | 1450 | 2350 | 3300 | 4500 | 6300* | 8500* |
| | 750 | 106 | 18.5 | 25.5 | 35 | 53 | 75 | 105 | 150 | 210 | 280 | 370 | 580 | 790 | 1100 | 1750 | 2450 | 3400 | 4700 | 6300* |
| 8 | 1500 | 185 | 33 | 46 | 66 | 97 | 135 | 185 | 270 | 360 | 510 | 700 | 1050 | 1400 | 1950* | 3100* | 4400* | 6195* | - | - |
| | 1000 | 125 | 22.5 | 31 | 44 | 65 | 90 | 125 | 180 | 250 | 340 | 470 | 700 | 950 | 1300 | 2100* | 3000 | 3900 | 5800* | 7900* |
| | 750 | 94 | 16.5 | 23 | 33 | 49 | 68 | 93 | 135 | 190 | 255 | 350 | 530 | 720 | 980 | 1600 | 2250 | 3000 | 4300 | 5800* |
| 9 | 1500 | 167 | 31 | 41 | 60 | 87 | 125 | 170 | 245 | 330 | 460 | 660 | 930 | 1250 | 1750* | 2850* | 3900* | 5460* | - | - |
| | 1000 | 111 | 21 | 27.5 | 40 | 58 | 83 | 115 | 165 | 220 | 310 | 440 | 620 | 840 | 1150 | 1900 | 2650 | 3500 | 5100* | 6900* |
| | 750 | 83 | 15.5 | 20.5 | 30 | 44 | 63 | 85 | 125 | 170 | 235 | 340 | 490 | 680 | 900 | 1500 | 2050 | 2750 | 4000 | 5400* |
| 10 | 1500 | 150 | 28 | 37 | 52 | 78 | 105 | 155 | 220 | 290 | 400 | 580 | 820 | 1150 | 1600 | 2500* | 3600* | 4935* | - | - |
| | 1000 | 100 | 19 | 25 | 35 | 52 | 70 | 105 | 145 | 195 | 265 | 390 | 550 | 770 | 1050 | 1700 | 2400 | 3200 | 4600 | 6300 |
| | 750 | 75 | 14 | 18.5 | 26 | 39 | 53 | 80 | 110 | 155 | 210 | 290 | 420 | 600 | 820 | 1350 | 1850 | 2450 | 3600 | 4900 |
| 11.2 | 1500 | 134 | 23 | 34 | 47 | 69 | 96 | 140 | 195 | 260 | 370 | 530 | 750 | 990 | 1400 | 2300 | 3200* | 4410* | - | - |
| | 1000 | 89 | 15.5 | 23 | 31 | 46 | 66 | 95 | 130 | 175 | 250 | 360 | 510 | 680 | 950 | 1550 | 2150 | 2850 | 4300 | 5900 |
| | 750 | 67 | 11.5 | 17 | 23.5 | 35 | 49 | 72 | 98 | 130 | 190 | 270 | 390 | 510 | 720 | 1200 | 1650 | 2200 | 3300 | 4500 |
| 12.5 | 1500 | 120 | 21 | 29.5 | 41 | 61 | 82 | 110 | 170 | 230 | 330 | 480 | 660 | 900 | 1250 | 2050 | 2900 | 3960* | 5660* | - |
| | 1000 | 80 | 14 | 20 | 27.5 | 41 | 54 | 77 | 115 | 165 | 220 | 310 | 450 | 610 | 850 | 1400 | 2000 | 2600 | 3800 | 5200 |
| | 750 | 60 | 11 | 15 | 20.5 | 31 | 42 | 58 | 88 | 125 | 165 | 230 | 340 | 460 | 640 | 1100 | 1500 | 1950 | 2900 | 3900 |
| 14 | 1500 | 107 | 18 | 26 | 37 | 50 | 74 | 105 | 155 | 205 | 285 | 400 | 590 | 800 | 1100 | 1800 | 2550 | 3400 | 4900* | - |
| | 1000 | 71 | 12 | 17.5 | 24.5 | 34 | 49 | 73 | 105 | 145 | 195 | 270 | 400 | 540 | 740 | 1250 | 1750 | 2300 | 3400 | 4600 |
| | 750 | 54 | 9 | 13 | 18.5 | 25.5 | 37 | 55 | 78 | 110 | 150 | 205 | 300 | 420 | 560 | 940 | 1350 | 1750 | 2560 | 3500 |
| 16 | 1500 | 94 | 16 | 22 | 31 | 47 | 66 | 97 | 135 | 185 | 255 | 360 | 520 | 710 | 1000 | 1600 | 2250 | 3000 | 4400 | - |
| | 1000 | 62 | 11 | 14.5 | 20.5 | 32 | 44 | 66 | 92 | 130 | 175 | 240 | 350 | 490 | 680 | 1100 | 1550 | 2050 | 3000 | 4100 |
| | 750 | 47 | 8 | 11 | 15.5 | 24 | 33 | 50 | 69 | 96 | 130 | 185 | 270 | 370 | 510 | 820 | 1200 | 1550 | 2250 | 3100 |
| 18 | 1500 | 83 | 14 | 19.5 | 28.5 | 41 | 60 | 87 | 120 | 160 | 230 | 340 | 470 | 640 | 890 | 1500 | 1950 | 2750 | 4000 | 5110* |
| | 1000 | 56 | 9.3 | 13.5 | 19 | 28 | 40 | 59 | 80 | 105 | 155 | 230 | 320 | 430 | 600 | 1000 | 1300 | 1850 | 2750 | 3700 |
| | 750 | 42 | 7 | 10.5 | 14.5 | 21 | 30 | 44 | 62 | 83 | 115 | 180 | 250 | 340 | 450 | 780 | 990 | 1450 | 2150 | 2950 |
| 20 | 1500 | 75 | 12.5 | 17.5 | 24.5 | 39 | 56 | 78 | 110 | 145 | 210 | 295 | 419 | 546 | 735 | 1111 | 1660 | 2543 | 3600 | 4790 |
| | 1000 | 50 | 8.3 | 12 | 17 | 26.5 | 37 | 53 | 74 | 99 | 145 | 200 | 285 | 392 | 525 | 760 | 1240 | 1772 | 2441 | 2323 |
| | 750 | 38 | 6.3 | 9.1 | 12.5 | 19.5 | 28 | 40 | 58 | 78 | 110 | 155 | 230 | 310 | 419 | 577 | 990 | 1335 | 1820 | 2780 |
| 22.4 | 1500 | 67 | | | 22 | 30 | 45 | 65 | 99 | 139 | 185 | 262 | 390 | 490 | 695 | 1002 | 1550 | 2121 | 3148 | 3812 |
| | 1000 | 45 | | | 15 | 20 | 30 | 44 | 66 | 94 | 125 | 178 | 260 | 350 | 483 | 684 | 1050 | 1428 | 2170 | 2638 |
| | 750 | 33.5 | | | 11 | 16 | 23 | 34 | 52 | 71 | 98 | 138 | 200 | 280 | 372 | 519 | 790 | 1092 | 1655 | 2370 |

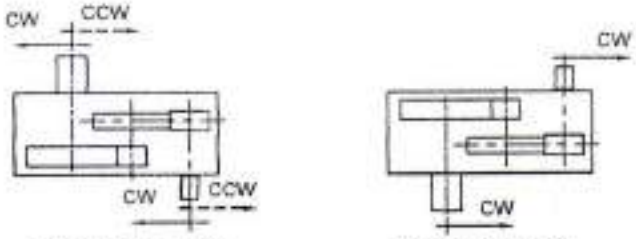
| Thermal Capacity (kw) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Without Cooling $PG_T$ (kw) | Input rpm $n_1$ | 26 | 33 | 42 | 52 | 65 | 84 | 106 | 136 | 168 | 210 | 260 | 332 | 418 | 529 | 672 | 857 | 1071 | 1358 |
| With Fan Cooling $PG_F$ (kw) | 1500 | 36 | 46 | 57 | 71 | 88 | 114 | 146 | 219 | 247 | 306 | 380 | 541 | 675 | 841 | 1034 | 1831 | | |
| | 1000 | 31 | 39 | 49 | 60 | 75 | 105 | 132 | 185 | 202 | 251 | 311 | 425 | 531 | 661 | 814 | 1444 | 1787 | |
| | 750 | 28 | 36 | 45 | 55 | 69 | 94 | 119 | 162 | 174 | 216 | 268 | 379 | 473 | 589 | 724 | 1215 | 1503 | 1878 |
| With two Fans | 1500 | 45 | 55 | 68 | 84 | 104 | 150 | 188 | 276 | 352 | 437 | 542 | 806 | 1008 | 1254 | 1546 | 2992 | | |
| | 1000 | 33 | 41 | 50 | 63 | 77 | 114 | 142 | 206 | 263 | 327 | 405 | 576 | 720 | 896 | 1104 | 2218 | 2747 | |
| | 750 | 30 | 36 | 48 | 59 | 73 | 104 | 130 | 185 | 207 | 258 | 319 | 482 | 603 | 750 | 925 | 1760 | 2180 | 2720 |
| With Cooling Coil $PG_K$ (kw) | | 124 | 140 | 157 | 176 | 197 | 222 | 240 | 280 | 301 | 335 | 377 | 454 | 522 | 626 | 774 | 943 | | |
| With Fan and Cooling coil $PG_K$ (kw) | 1500 | 134 | 153 | 172 | 195 | 220 | 262 | 290 | 343 | 407 | 466 | 540 | 721 | 856 | 1041 | 1284 | 2111 | | |
| | 1000 | 129 | 146 | 164 | 184 | 207 | 243 | 268 | 308 | 362 | 411 | 471 | 605 | 711 | 861 | 1064 | 1724 | | |
| | 750 | 126 | 143 | 160 | 179 | 201 | 232 | 253 | 286 | 334 | 376 | 428 | 559 | 653 | 789 | 974 | 1495 | | |

• Pressure lubrication required




From size 355 up jacking screws in housing feet and alignment surface on front faces of lower housing part



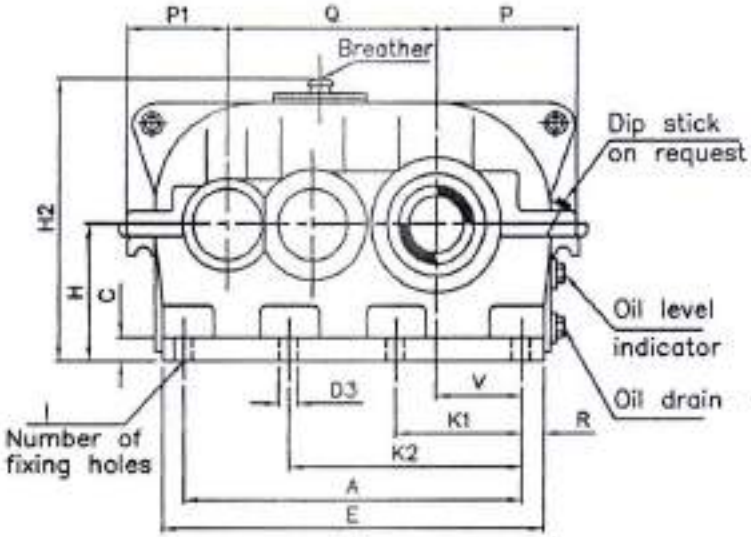

Right hand assembly

Left hand assembly

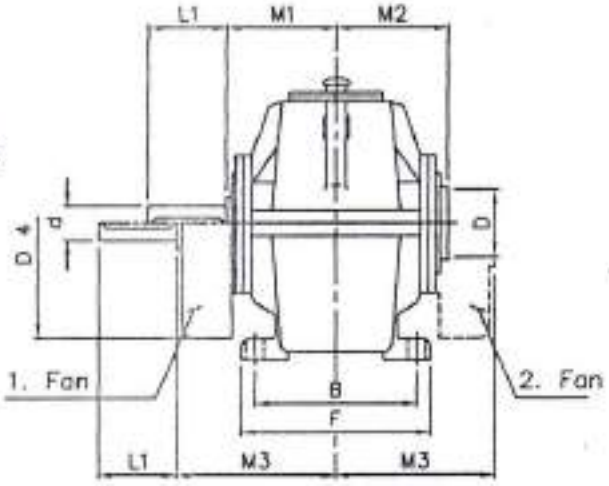
Arrows show relative directions of rotation

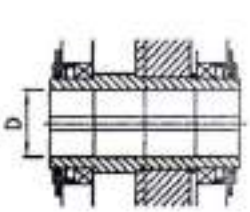
| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | BASE DETAILS | | | | | | | | | | | GEAR CASE DETAILS | | | | | | | FAN DETAILS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $i_N$ = 11.2 | | Above $i_N$ = 11.2 to $i_N$ = 18 | | Above $i_N$ = 18 | | | | | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | d | L1 | M1 | D | L2 | M2 | A | B | V | K1 | K2 | C | D3 | R | I | Q | H1 | E | F | H | P1 | P | D4 | M3 |
| 110 | 65 | 2.5 | 28 | 60 | 24 | 50 | | | 110 | 48 | 110 | 110 | 330 | 165 | 95 | 165 | | 25 | 14 | 20 | 8 | 190 | 125 | 370 | 200 | 285 | 95 | 145 | 186 | 160 |
| 125 | 88 | 3.5 | 32 | 80 | 28 | 60 | 24 | 50 | 120 | 55 | 110 | 120 | 390 | 185 | 110 | 185 | | 25 | 14 | 20 | 8 | 215 | 140 | 430 | 220 | 300 | 115 | 160 | 231 | 170 |
| 140 | 118 | 4.6 | 35 | 80 | 32 | 60 | 24 | 50 | 135 | 60 | 140 | 135 | 420 | 205 | 120 | 210 | | 30 | 14 | 25 | 6 | 240 | 160 | 470 | 240 | 345 | 120 | 180 | 231 | 185 |
| 160 | 160 | 6.5 | 40 | 110 | 35 | 80 | 28 | 80 | 140 | 70 | 140 | 140 | 470 | 215 | 130 | 235 | | 30 | 18 | 30 | 8 | 270 | 180 | 530 | 260 | 385 | 135 | 195 | 231 | 190 |
| 180 | 215 | 9.5 | 45 | 110 | 40 | 110 | 32 | 80 | 160 | 80 | 170 | 160 | 540 | 235 | 145 | 270 | | 35 | 18 | 30 | 8 | 305 | 200 | 600 | 280 | 435 | 160 | 215 | 231 | 210 |
| 200 | 280 | 13 | 50 | 110 | 45 | 110 | 35 | 80 | 175 | 90 | 170 | 175 | 580 | 270 | 160 | 290 | | 40 | 22 | 35 | 6 | 340 | 225 | 650 | 330 | 470 | 155 | 235 | 287 | 225 |
| 225 | 370 | 18 | 55 | 110 | 50 | 110 | 40 | 110 | 190 | 100 | 210 | 190 | 690 | 300 | 185 | 345 | | 45 | 22 | 35 | 6 | 385 | 250 | 760 | 360 | 525 | 200 | 265 | 287 | 240 |
| 250 | 500 | 25 | 60 | 140 | 55 | 110 | 45 | 110 | 215 | 110 | 210 | 215 | 760 | 340 | 195 | 380 | | 50 | 26 | 40 | 6 | 430 | 280 | 840 | 410 | 600 | 225 | 285 | 364 | 275 |
| 280 | 670 | 36 | 70 | 140 | 60 | 140 | 50 | 110 | 235 | 130 | 250 | 235 | 840 | 370 | 215 | 420 | | 55 | 26 | 45 | 6 | 480 | 315 | 930 | 440 | 670 | 240 | 310 | 364 | 295 |
| 315 | 930 | 50 | 75 | 140 | 70 | 140 | 55 | 110 | 260 | 140 | 250 | 260 | 930 | 410 | 240 | 465 | | 60 | 33 | 50 | 6 | 540 | 355 | 1030 | 500 | 740 | 260 | 350 | 364 | 320 |
| 355 | 1250 | 65 | 90 | 170 | 75 | 140 | 60 | 140 | 295 | 170 | 300 | 295 | 1070 | 465 | 265 | 535 | | 65 | 33 | 55 | 6 | 605 | 400 | 1180 | 555 | 825 | 315 | 380 | 364 | 355 |
| 400 | 1800 | 95 | 100 | 210 | 90 | 170 | 70 | 140 | 315 | 180 | 300 | 315 | 1190 | 490 | 305 | 595 | | 70 | 33 | 55 | 6 | 680 | 450 | 1300 | 600 | 915 | 325 | 425 | 459 | 375 |
| 450 | 2300 | 125 | 110 | 210 | 100 | 210 | 75 | 140 | 345 | 210 | 350 | 345 | 1350 | 540 | 340 | 540 | 945 | 80 | 39 | 65 | 8 | 765 | 500 | 1480 | 650 | 1010 | 370 | 465 | 459 | 405 |
| 500 | 3200 | 180 | 120 | 210 | 110 | 210 | 90 | 170 | 400 | 240 | 410 | 400 | 1515 | 650 | 375 | 595 | 1055 | 90 | 39 | 75 | 8 | 855 | 560 | 1665 | 760 | 1120 | 440 | 530 | 459 | 460 |
| 560 | 4500 | 250 | 130 | 250 | 120 | 210 | 100 | 210 | 440 | 270 | 470 | 440 | 1680 | 700 | 415 | 660 | 1170 | 100 | 45 | 85 | 8 | 960 | 630 | 1850 | 820 | 1270 | 470 | 560 | 459 | 500 |
| 630 | 6100 | 360 | 150 | 250 | 130 | 250 | 110 | 210 | 490 | 300 | 470 | 480 | 1880 | 780 | 475 | 740 | 1310 | 110 | 45 | 85 | 8 | 1080 | 710 | 2050 | 900 | 1390 | 485 | 640 | 570 | 555 |
| 710 | 8500 | 500 | 170 | 300 | 150 | 250 | 120 | 210 | 540 | 340 | 550 | 540 | 2090 | 870 | 540 | 820 | 1455 | 125 | 45 | 90 | 8 | 1210 | 800 | 2270 | 1010 | 1570 | 530 | 735 | 570 | 605 |
| 800 | 11400 | 670 | 190 | 350 | 170 | 300 | 130 | 250 | 600 | 380 | 650 | 600 | 2360 | 1020 | 610 | 900 | 1630 | 140 | 45 | 90 | 8 | 1360 | 900 | 2540 | 1160 | 1760 | 590 | 815 | 570 | 685 |

Larger Sizes on Request
**Centre Height H1** as per DIN 747
**Tolerance for Shaft ends** as per DIN 748, Fit for d and D : n6
**Keys according to** DIN 6885, Part 1, Shape A
**Shaft end centres** according to DIN 332, Form DS

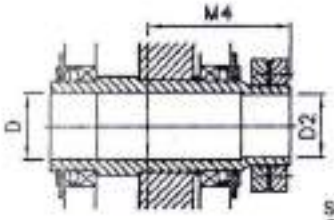



From size 355 up jacking screws in housing feet and alignment surface on front faces of lower housing part

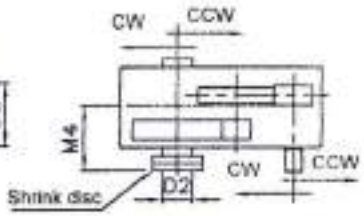


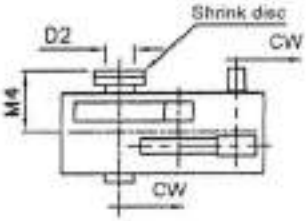

Hollow shaft with key




Hollow shaft with shrink disc




Right hand assembly

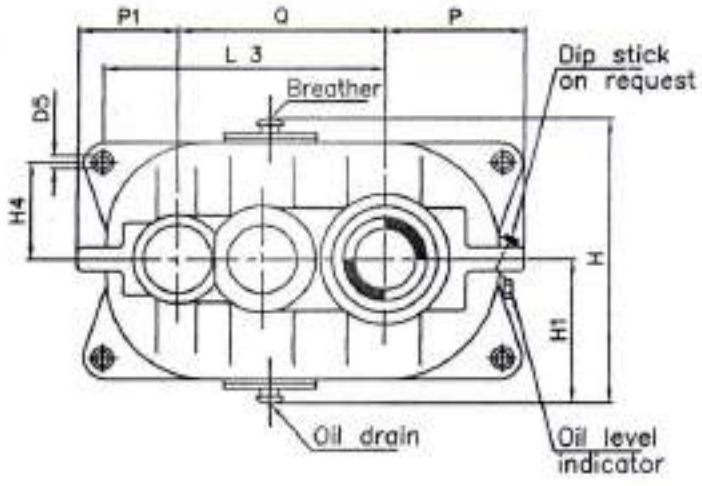


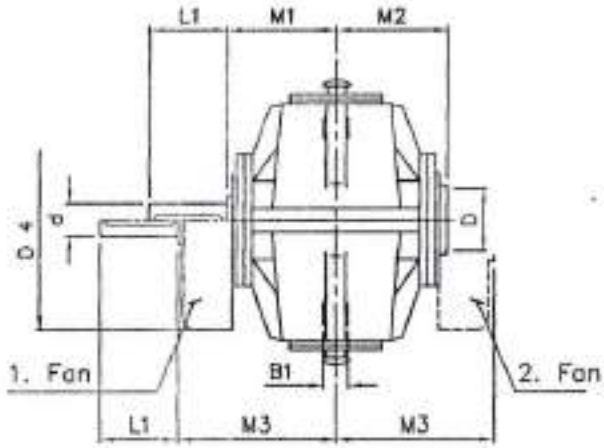

Left hand assembly

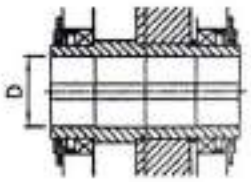
Arrows show relative directions of rotation

| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | BASE DETAILS | | | | | | | | | | | | | GEAR CASE DETAILS | | | | | | | FAN DETAILS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $l_a$ = 11.2 | | Above $l_a$ = 11.2 $l_b^{30}$ 18 | | Above $l_a$ = 18 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | d | L1 | M1 | D | D2 | M2 | M4 | A | B | V | K1 | K2 | C | D3 | R | T | Q | H | E | F | H2 | P1 | P | D4 | M3 |
| 110 | 65 | 2.5 | 28 | 60 | 24 | 50 | | | 110 | 55 | | 110 | | 330 | 165 | 95 | 165 | | 25 | 14 | 20 | 6 | 190 | 125 | 370 | 200 | 265 | 95 | 145 | 186 | 160 |
| 125 | 88 | 3.5 | 32 | 80 | 28 | 60 | 24 | 50 | 120 | 60 | | 120 | | 390 | 185 | 110 | 195 | | 25 | 14 | 20 | 6 | 215 | 140 | 430 | 220 | 300 | 115 | 160 | 231 | 170 |
| 140 | 118 | 4.8 | 35 | 80 | 32 | 80 | 24 | 50 | 135 | 70 | | 135 | | 420 | 205 | 120 | 210 | | 30 | 14 | 25 | 6 | 240 | 160 | 470 | 240 | 345 | 120 | 180 | 231 | 185 |
| 160 | 160 | 6.5 | 40 | 110 | 35 | 80 | 28 | 60 | 140 | 80 | 75 | 140 | 200 | 470 | 215 | 130 | 235 | | 30 | 18 | 30 | 6 | 270 | 180 | 530 | 260 | 385 | 135 | 195 | 231 | 190 |
| 180 | 215 | 9.5 | 45 | 110 | 40 | 110 | 32 | 80 | 160 | 90 | 85 | 160 | 230 | 540 | 235 | 145 | 270 | | 35 | 18 | 30 | 6 | 305 | 200 | 600 | 280 | 435 | 160 | 215 | 231 | 210 |
| 200 | 280 | 13 | 50 | 110 | 45 | 110 | 35 | 80 | 175 | 110 | 105 | 175 | 255 | 580 | 270 | 160 | 290 | | 40 | 22 | 35 | 6 | 340 | 225 | 650 | 330 | 470 | 180 | 235 | 287 | 225 |
| 225 | 370 | 18 | 55 | 110 | 50 | 110 | 40 | 110 | 190 | 120 | 115 | 190 | 270 | 690 | 300 | 185 | 345 | | 45 | 22 | 35 | 6 | 385 | 250 | 760 | 360 | 525 | 200 | 285 | 287 | 240 |
| 250 | 500 | 25 | 60 | 140 | 55 | 110 | 45 | 110 | 215 | 140 | 135 | 215 | 305 | 760 | 340 | 195 | 380 | | 50 | 26 | 40 | 6 | 430 | 280 | 840 | 410 | 600 | 225 | 285 | 364 | 270 |
| 280 | 670 | 38 | 70 | 140 | 60 | 140 | 50 | 110 | 235 | 150 | 140 | 235 | 340 | 840 | 370 | 215 | 420 | | 55 | 26 | 45 | 6 | 480 | 315 | 930 | 440 | 670 | 240 | 310 | 364 | 295 |
| 315 | 930 | 50 | 75 | 140 | 70 | 140 | 55 | 110 | 260 | 170 | 160 | 260 | 385 | 930 | 410 | 240 | 465 | | 60 | 33 | 50 | 6 | 540 | 355 | 1030 | 500 | 740 | 260 | 350 | 364 | 320 |
| 355 | 1250 | 65 | 90 | 170 | 75 | 140 | 60 | 140 | 295 | 180 | 170 | 295 | 430 | 1070 | 465 | 265 | 535 | | 65 | 33 | 55 | 6 | 605 | 400 | 1180 | 555 | 825 | 315 | 380 | 364 | 355 |
| 400 | 1800 | 95 | 100 | 210 | 90 | 170 | 70 | 140 | 315 | 200 | 190 | 315 | 465 | 1190 | 490 | 305 | 595 | | 70 | 33 | 55 | 6 | 660 | 450 | 1300 | 600 | 915 | 325 | 425 | 459 | 375 |
| 450 | 2300 | 125 | 110 | 210 | 100 | 210 | 75 | 140 | 345 | 230 | 220 | 345 | 515 | 1350 | 540 | 340 | 540 | 945 | 80 | 39 | 65 | 8 | 765 | 500 | 1480 | 650 | 1010 | 370 | 465 | 459 | 405 |
| 500 | 3200 | 180 | 120 | 210 | 110 | 210 | 90 | 170 | 400 | 260 | 245 | 400 | 580 | 1515 | 650 | 375 | 595 | 1055 | 90 | 39 | 75 | 8 | 855 | 560 | 1685 | 760 | 1120 | 440 | 530 | 459 | 460 |
| 560 | 4500 | 250 | 130 | 250 | 120 | 210 | 100 | 210 | 440 | 300 | 285 | 440 | 600 | 1680 | 700 | 415 | 660 | 1170 | 100 | 45 | 85 | 8 | 960 | 630 | 1850 | 820 | 1270 | 470 | 580 | 459 | 500 |
| 630 | 6100 | 360 | 150 | 250 | 130 | 250 | 110 | 210 | 490 | 340 | 325 | 490 | 700 | 1880 | 780 | 475 | 740 | 1310 | 110 | 45 | 85 | 8 | 1080 | 710 | 2050 | 900 | 1390 | 485 | 640 | 570 | 555 |

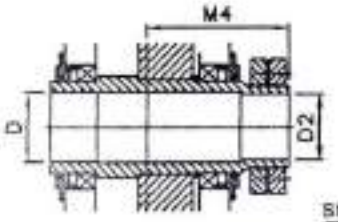
Larger Sizes on Request
Centre Height H1 as per DIN 747
Tolerance for Shaft ends as per DIN 748, Fit for d : n6 , D and D2 : H7
Keys according to DIN 6885, Part 1, Shape A
Shaft end centres according to DIN 332, Form DS



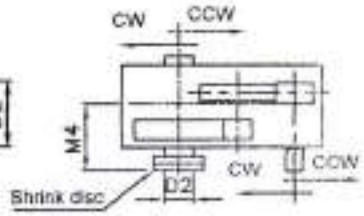



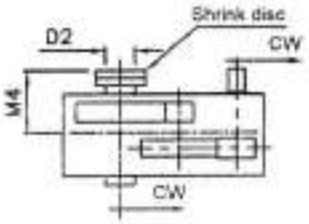

Hollow shaft
with key




Hollow shaft
with shrink disc




Right hand assembly




Left hand assembly

Arrows show relative directions of rotation

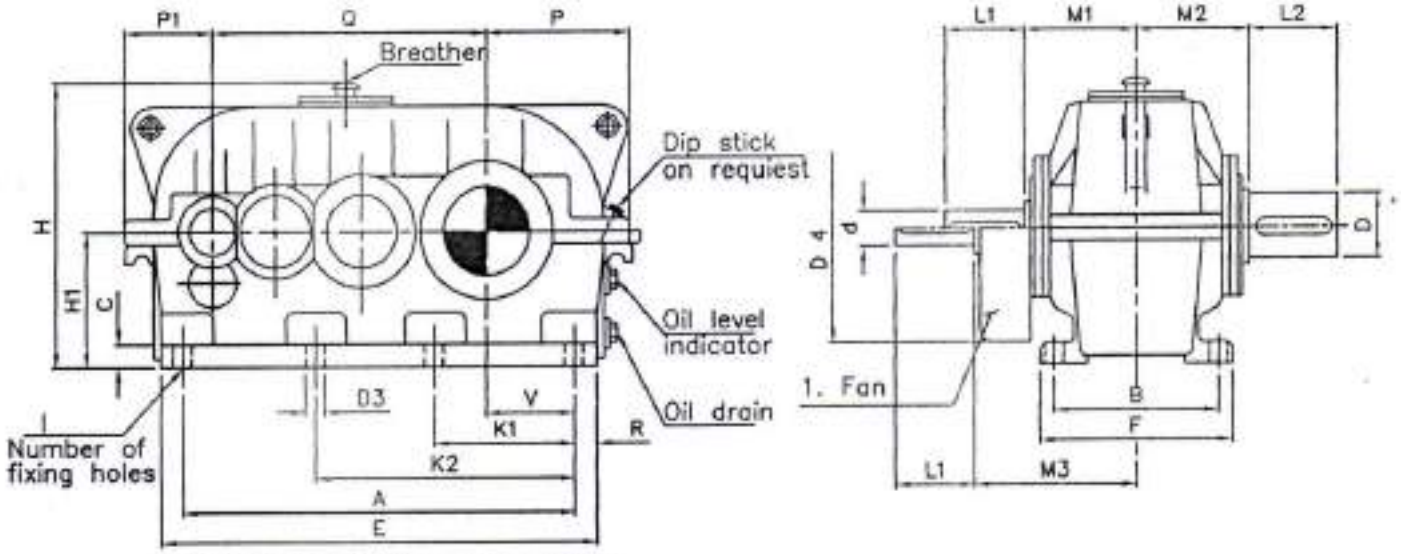
| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | GEAR CASE DETAILS | | | | | | | | | | | | | | FAN DETAILS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $i_N$ = 11.2 | | Above $i_N$ = 11.2 to $i_N$ = 18 | | Above $i_N$ = 18 | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | d | L1 | M1 | D | D2 | M2 | M4 | Q | H1 | D5H11 | L3 | H4 | B1 | H | P1 | P | D4 | M3 |
| 110 | 55 | 1.3 | 28 | 60 | 24 | 50 | | | 110 | 55 | | 110 | | 190 | 150 | 18 | 260 | 100 | 22 | 310 | 95 | 145 | 186 | 160 |
| 125 | 76 | 1.8 | 32 | 80 | 28 | 60 | | | 120 | 60 | | 120 | | 215 | 150 | 18 | 300 | 110 | 25 | 310 | 115 | 160 | 231 | 170 |
| 140 | 100 | 2.5 | 35 | 80 | 32 | 80 | 24 | 50 | 135 | 70 | | 135 | | 240 | 175 | 20 | 330 | 125 | 30 | 360 | 120 | 180 | 231 | 185 |
| 160 | 135 | 3.5 | 40 | 110 | 35 | 80 | 28 | 60 | 140 | 80 | 75 | 140 | 200 | 270 | 195 | 22 | 375 | 145 | 32 | 400 | 135 | 195 | 231 | 190 |
| 180 | 180 | 5 | 45 | 110 | 40 | 110 | 32 | 80 | 160 | 90 | 85 | 160 | 230 | 305 | 225 | 25 | 430 | 155 | 35 | 460 | 160 | 215 | 231 | 210 |
| 200 | 240 | 7 | 50 | 110 | 45 | 110 | 35 | 80 | 175 | 110 | 105 | 175 | 255 | 340 | 235 | 30 | 455 | 170 | 40 | 480 | 180 | 235 | 287 | 225 |
| 225 | 315 | 10 | 55 | 110 | 50 | 110 | 40 | 110 | 190 | 120 | 115 | 190 | 270 | 385 | 265 | 35 | 540 | 195 | 45 | 540 | 200 | 265 | 287 | 240 |
| 250 | 425 | 14 | 60 | 140 | 55 | 110 | 45 | 110 | 215 | 140 | 135 | 215 | 305 | 430 | 310 | 40 | 605 | 205 | 50 | 630 | 225 | 285 | 364 | 275 |
| 280 | 570 | 20 | 70 | 140 | 60 | 140 | 50 | 110 | 235 | 150 | 140 | 235 | 340 | 480 | 345 | 45 | 675 | 230 | 55 | 700 | 240 | 310 | 364 | 295 |
| 315 | 795 | 28 | 75 | 140 | 70 | 140 | 55 | 110 | 260 | 170 | 160 | 260 | 385 | 540 | 375 | 50 | 750 | 260 | 60 | 760 | 260 | 350 | 364 | 320 |
| 355 | 1080 | 38 | 90 | 170 | 75 | 140 | 60 | 140 | 295 | 180 | 170 | 295 | 430 | 605 | 415 | 55 | 850 | 290 | 70 | 840 | 315 | 380 | 364 | 355 |
| 400 | 1550 | 53 | 100 | 210 | 90 | 170 | 70 | 140 | 315 | 200 | 190 | 315 | 485 | 680 | 435 | 60 | 935 | 325 | 80 | 900 | 325 | 425 | 459 | 375 |
| 450 | 1950 | 70 | 110 | 210 | 100 | 210 | 75 | 140 | 345 | 230 | 220 | 345 | 515 | 765 | 480 | 65 | 1055 | 360 | 90 | 990 | 370 | 465 | 459 | 405 |
| 500 | 2650 | 100 | 120 | 210 | 110 | 210 | 90 | 170 | 400 | 260 | 245 | 400 | 580 | 855 | 530 | 70 | 1200 | 410 | 100 | 1090 | 440 | 530 | 459 | 460 |
| 560 | 3900 | 140 | 130 | 250 | 120 | 210 | 100 | 210 | 440 | 300 | 285 | 440 | 630 | 960 | 610 | 75 | 1330 | 460 | 110 | 1250 | 470 | 580 | 459 | 500 |
| 630 | 5350 | 200 | 150 | 250 | 130 | 250 | 110 | 210 | 490 | 340 | 325 | 490 | 700 | 1080 | 650 | 80 | 1450 | 510 | 120 | 1330 | 485 | 640 | 570 | 555 |

**Larger Sizes on Request**
**Centre Height H1 as per DIN 747**
**Tolerance for Shaft ends as per DIN 748, Fit for d : n6, D and D : H7**
**Keys according to DIN 6885, Part 1, Shape A**
**Shaft end centres according to DIN 332, Form DS**

| Nominal Ratio | Nominal Speeds RPM | | SIZE OF GEAR UNIT | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 125 | 140 | 160 | 180 | 200 | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 | 630 | 710 | 800 |
| $i_N$ | $n_1$ | $n_2$ | Nominal gear box rating $P_N$ (kw) | | | | | | | | | | | | | | | | |
| 20 | 1500 | 75 | 17.2 | 27.5 | | | | | | | | 400 | 600 | 880 | 1350 | 1850 | 2500* | - | - |
| | 1000 | 50 | 11.5 | 18.3 | | | | | | | | 300 | 400 | 580 | 900 | 1250 | 1650 | 2400 | 3400 |
| | 750 | 38 | 8.6 | 13.7 | | | | | | | | 245 | 310 | 450 | 700 | 980 | 1300 | 1900 | 2750 |
| 22.4 | 1500 | 67 | 14.5 | 23.4 | 36 | 53 | 70 | 100 | 135 | 185 | 275 | 410 | 540 | 800 | 1200 | 1650 | 2200 | - | - |
| | 1000 | 44 | 9.7 | 15.7 | 24 | 35 | 50 | 67 | 92 | 130 | 190 | 270 | 360 | 530 | 800 | 1100 | 1450 | 2150 | 3000 |
| | 750 | 33 | 7.3 | 11.8 | 18 | 26.5 | 38 | 52 | 71 | 98 | 140 | 220 | 280 | 410 | 620 | 880 | 1150 | 1700 | 2450 |
| 25 | 1500 | 60 | 13.4 | 20.7 | 32 | 47 | 62 | 89 | 115 | 160 | 245 | 370 | 480 | 710 | 1050 | 1500 | 2000 | - | - |
| | 1000 | 40 | 8.9 | 13.8 | 21.5 | 31 | 42 | 59 | 80 | 110 | 165 | 265 | 320 | 470 | 730 | 1050 | 1350 | 2000 | 2900 |
| | 750 | 30 | 6.7 | 10.4 | 16 | 23.5 | 31 | 45 | 60 | 85 | 125 | 200 | 245 | 360 | 550 | 780 | 1050 | 1500 | 2200 |
| 28 | 1500 | 54 | 11.5 | 17.6 | 28.5 | 43 | 56 | 80 | 110 | 145 | 225 | 330 | 430 | 630 | 920 | 1300 | 1750 | - | - |
| | 1000 | 36 | 7.7 | 12 | 19 | 28.5 | 38 | 53 | 73 | 100 | 150 | 230 | 285 | 430 | 640 | 900 | 1150 | 1750 | 2550 |
| | 750 | 27 | 5.8 | 9 | 14.5 | 21.5 | 28 | 40 | 56 | 77 | 115 | 165 | 215 | 320 | 480 | 660 | 900 | 1350 | 1950 |
| 31.5 | 1500 | 48 | 10.9 | 16.9 | 25 | 38 | 49 | 70 | 95 | 130 | 200 | 295 | 400 | 570 | 840 | 1200 | 1600 | - | - |
| | 1000 | 32 | 7.3 | 11.3 | 16.5 | 25 | 33 | 47 | 63 | 88 | 135 | 200 | 275 | 380 | 580 | 820 | 1100 | 1600 | 2300 |
| | 750 | 24 | 5.5 | 8.5 | 13 | 19 | 25.5 | 36 | 49 | 66 | 100 | 150 | 205 | 290 | 440 | 630 | 820 | 1200 | 1750 |
| 35.5 | 1500 | 42 | 9.3 | 14.5 | 22.5 | 34 | 46 | 63 | 88 | 120 | 180 | 280 | 360 | 520 | 780 | 1100 | 1450 | - | - |
| | 1000 | 28 | 6.2 | 9.7 | 15 | 22.5 | 30 | 42 | 59 | 82 | 120 | 185 | 240 | 350 | 520 | 730 | 970 | 1450 | 2050 |
| | 750 | 21 | 4.7 | 7.3 | 11.5 | 17 | 23 | 32 | 44 | 62 | 91 | 145 | 180 | 265 | 400 | 560 | 730 | 1100 | 1550 |
| 40 | 1500 | 38 | | | 20 | 30 | 43 | 57 | 79 | 110 | 160 | 240 | 320 | 470 | 700 | 990 | 1300 | - | - |
| | 1000 | 25 | | | 14 | 21 | 28.5 | 38 | 53 | 73 | 110 | 165 | 215 | 320 | 470 | 660 | 870 | 1300 | 1850 |
| | 750 | 19 | | | 10 | 15 | 22 | 29 | 41 | 56 | 82 | 125 | 160 | 240 | 360 | 500 | 660 | 1000 | 1400 |
| 45 | 1500 | 33 | | | 16 | 26 | 36 | 50 | 70 | 98 | 145 | 220 | 285 | 420 | 630 | 880 | 1150 | - | - |
| | 1000 | 22 | | | 12 | 17.5 | 25 | 33 | 47 | 65 | 97 | 150 | 190 | 280 | 420 | 590 | 770 | 1200 | 1650 |
| | 750 | 17 | | | 9 | 13 | 18.5 | 26.5 | 36 | 51 | 75 | 115 | 145 | 215 | 320 | 455 | 600 | 890 | 1250 |
| 50 | 1500 | 30 | | | 15.5 | 23 | 32 | 46 | 63 | 87 | 130 | 200 | 250 | 370 | 560 | 780 | 1050 | 1550 | 2250 |
| | 1000 | 20 | | | 11 | 16 | 22 | 31 | 43 | 60 | 87 | 135 | 170 | 245 | 370 | 520 | 700 | 1050 | 1500 |
| | 750 | 15 | | | 8 | 12 | 16 | 23.5 | 32 | 44 | 66 | 100 | 130 | 190 | 290 | 410 | 540 | 800 | 1150 |
| 56 | 1500 | 27 | | | 14 | 20 | 28 | 41 | 56 | 78 | 115 | 175 | 225 | 320 | 500 | 700 | 920 | 1400 | 1950 |
| | 1000 | 19 | | | 9.5 | 14 | 19 | 27.5 | 38 | 53 | 78 | 120 | 150 | 215 | 340 | 480 | 620 | 940 | 1350 |
| | 750 | 13.4 | | | 7.1 | 10 | 15 | 21 | 28.5 | 40 | 59 | 92 | 115 | 165 | 265 | 360 | 480 | 710 | 990 |
| 63 | 1500 | 24 | | | 11.5 | 17 | 24 | 35 | 45 | 63 | 105 | 150 | 200 | 290 | 440 | 630 | 810 | 1250 | 1750 |
| | 1000 | 18 | | | 7.7 | 11 | 16 | 24 | 30 | 43 | 70 | 105 | 135 | 195 | 300 | 430 | 550 | 840 | 1150 |
| | 750 | 12 | | | 6 | 8.6 | 12 | 18 | 23 | 33 | 53 | 78 | 105 | 150 | 230 | 330 | 430 | 630 | 900 |
| 71 | 1500 | 21 | | | 10.5 | 15 | 21.5 | 31 | 40 | 57 | 91 | 135 | 180 | 250 | 400 | 560 | 740 | 1100 | 1550 |
| | 1000 | 14 | | | 7 | 10 | 14.5 | 22 | 27 | 39 | 61 | 93 | 120 | 170 | 270 | 380 | 500 | 740 | 1050 |
| | 750 | 10.6 | | | 5.3 | 7.6 | 11 | 16 | 21 | 29.5 | 46 | 70 | 94 | 130 | 205 | 285 | 380 | 560 | 790 |
| 80 | 1500 | 18.8 | | | 9.4 | 14 | 19.5 | 29 | 38 | 52 | 82 | 120 | 160 | 230 | 350 | 490 | 650 | 980 | 1400 |
| | 1000 | 12.5 | | | 6.3 | 9.2 | 13 | 19.5 | 24 | 35 | 55 | 82 | 105 | 155 | 240 | 340 | 450 | 650 | 940 |
| | 750 | 9.4 | | | 4.7 | 7.1 | 10 | 14.5 | 19 | 27 | 42 | 63 | 83 | 115 | 180 | 255 | 340 | 500 | 700 |
| 90 | 1500 | 16.7 | | | 8.4 | 12 | 17.5 | 26 | 33 | 47 | 75 | 110 | 145 | 210 | 320 | 460 | 600 | 880 | 1250 |
| | 1000 | 11.1 | | | 5.6 | 8 | 12 | 17.5 | 22 | 31 | 50 | 74 | 97 | 140 | 215 | 310 | 400 | 590 | 830 |
| | 750 | 8.3 | | | 4.2 | 6.5 | 9 | 13.5 | 17 | 24 | 38 | 57 | 73 | 106 | 165 | 230 | 300 | 440 | 630 |
| 100 | 1500 | 15 | | | 7.5 | 10.5 | 16 | 24 | 30 | 44 | 61 | 95 | 132 | 190 | 280 | 380 | 530 | 780 | 1090 |
| | 1000 | 10 | | | 5 | 7 | 11 | 16 | 21 | 30 | 41 | 62 | 87 | 123 | 182 | 247 | 345 | 506 | 710 |
| | 750 | 7.5 | | | 3.8 | 5.3 | 8.1 | 12.5 | 16 | 22.5 | 31 | 48 | 64 | 96 | 142 | 192 | 268 | 395 | 530 |
| 112 | 1500 | 13.2 | | | | | 14 | 21 | 28 | 41 | 53 | 82 | 120 | 170 | 250 | 340 | 475 | 680 | 925 |
| | 1000 | 9 | | | | | 9.2 | 14 | 19 | 27 | 34 | 55 | 80 | 110 | 163 | 221 | 309 | 449 | 602 |
| | 750 | 6.7 | | | | | 6.9 | 10 | 14 | 20 | 27 | 40 | 60 | 86 | 126 | 172 | 240 | 350 | 468 |

| Thermal Capacity (kw) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Without Cooling $PG_1$ (kw) | Input rpm $n_1$ | 22 | 32 | 42 | 53 | 66 | 83 | 105 | 131 | 166 | 213 | 267 | 337 | 431 | 548 | 676 | 840 | 1094 | |
| With Fan Cooling $PG_2$ (kw) | 1500 | 36 | 53 | 65 | 82 | 110 | 137 | 174 | 201 | 260 | 350 | 470 | 580 | 718 | 851 | 1064 | 1288 | 1568 | |
| | 1000 | 33 | 39 | 55 | 69 | 93 | 116 | 147 | 185 | 228 | 301 | 360 | 490 | 600 | 656 | 814 | 994 | 1210 | |
| | 750 | 30 | 45 | 49 | 64 | 84 | 105 | 132 | 150 | 202 | 250 | 312 | 425 | 528 | 577 | 722 | 874 | 1140 | |
| With Cooling Coil $PG_3$ (kw) | | | | 91 | 109 | 122 | 138 | 164 | 180 | 202 | 238 | 384 | 420 | 493 | 580 | 676 | | | |
| With Fan and Cooling coil $PG_4$ (kw) | 1500 | | | 114 | 138 | 166 | 192 | 233 | 263 | 306 | 405 | 599 | 682 | 820 | 1071 | 1314 | | | |
| | 1000 | | | 104 | 125 | 149 | 171 | 206 | 231 | 266 | 344 | 522 | 588 | 703 | 876 | 1071 | | | |
| | 750 | | | 100 | 120 | 140 | 160 | 191 | 213 | 243 | 307 | 474 | 530 | 630 | 797 | 972 | | | |

• Pressure lubrication required




From size 355 up jacking screws in housing feet and alignment surface on front faces of lower housing part

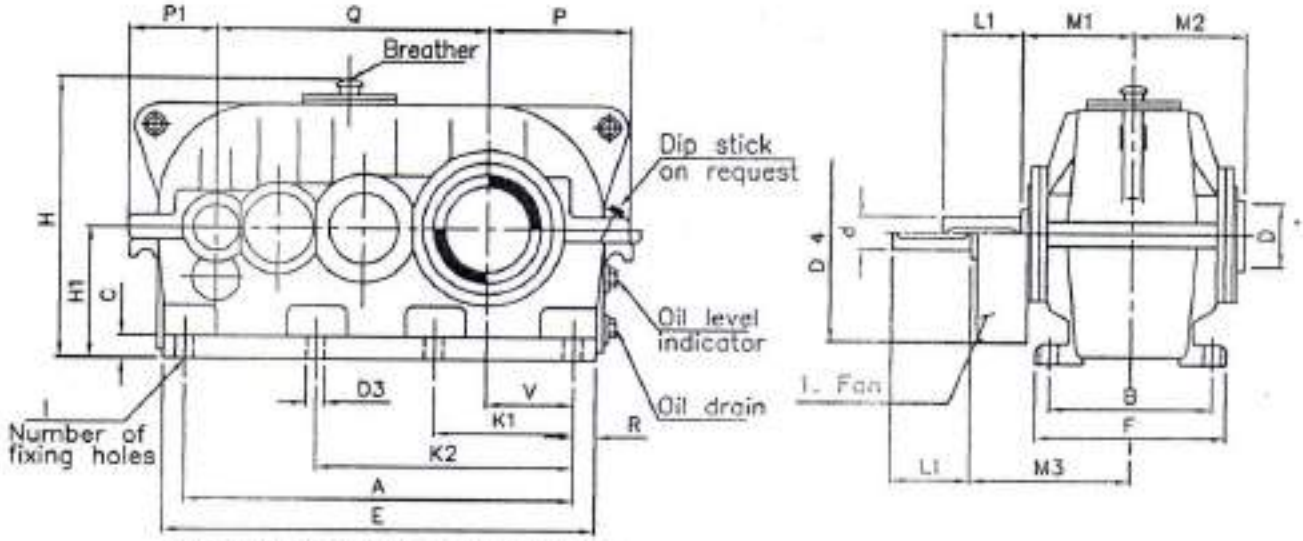

Right hand assembly

Left hand assembly

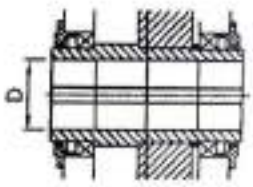
Arrows show relative directions of rotation

| Gear Box Size | Average Weight kg | Oil Quantity litres | SHAFT DETAILS | | | | | | BASE DETAILS | | | | | | | | | | | GEAR CASE DETAILS | | | | | | | FAN DETAILS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $l_a$ = 45 | | Above $l_a$ = 45 to $l_a$ = 80 | | Above $l_a$ = 80 | | | | | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | d | L1 | M1 | D | L2 | M2 | A | B | V | K1 | K2 | C | D3 | R | I | Q | H1 | E | F | H | P1 | P | D4 | M3 |
| 125 | 90 | 7 | 19 | 40 | 18 | 35 | | | 120 | 55 | 110 | 120 | 450 | 185 | 110 | 225 | | 25 | 14 | 20 | 6 | 278 | 140 | 490 | 220 | 300 | 105 | 160 | 231 | 170 |
| 140 | 160 | 9 | 22 | 40 | 18 | 40 | | | 135 | 60 | 140 | 135 | 470 | 205 | 120 | 235 | | 30 | 14 | 25 | 6 | 310 | 160 | 520 | 240 | 345 | 120 | 180 | 231 | 185 |
| 160 | 170 | 9 | 28 | 60 | 24 | 50 | 19 | 35 | 140 | 70 | 140 | 140 | 520 | 215 | 130 | 260 | | 30 | 18 | 30 | 6 | 350 | 180 | 580 | 260 | 385 | 105 | 195 | 231 | 190 |
| 180 | 225 | 11 | 32 | 80 | 28 | 60 | 22 | 35 | 160 | 80 | 170 | 160 | 590 | 235 | 145 | 295 | | 35 | 18 | 30 | 6 | 395 | 200 | 650 | 280 | 435 | 120 | 215 | 231 | 210 |
| 200 | 300 | 15 | 35 | 80 | 32 | 80 | 24 | 50 | 175 | 90 | 170 | 175 | 650 | 270 | 160 | 325 | | 40 | 22 | 35 | 6 | 440 | 225 | 720 | 330 | 470 | 125 | 235 | 287 | 225 |
| 225 | 410 | 22 | 40 | 110 | 35 | 80 | 28 | 60 | 190 | 100 | 210 | 190 | 750 | 300 | 185 | 375 | | 45 | 22 | 35 | 6 | 495 | 250 | 820 | 360 | 525 | 150 | 265 | 287 | 240 |
| 250 | 540 | 30 | 45 | 110 | 40 | 110 | 32 | 80 | 215 | 110 | 210 | 215 | 830 | 340 | 195 | 415 | | 50 | 26 | 40 | 6 | 555 | 280 | 910 | 410 | 600 | 170 | 285 | 287 | 265 |
| 280 | 750 | 45 | 50 | 110 | 45 | 110 | 35 | 80 | 235 | 130 | 250 | 235 | 910 | 370 | 215 | 455 | | 55 | 26 | 45 | 6 | 620 | 315 | 1000 | 440 | 670 | 170 | 310 | 287 | 285 |
| 315 | 1000 | 60 | 55 | 110 | 50 | 110 | 40 | 110 | 260 | 140 | 250 | 260 | 1050 | 410 | 240 | 400 | 725 | 60 | 33 | 50 | 8 | 700 | 355 | 1150 | 500 | 740 | 220 | 350 | 287 | 310 |
| 355 | 1320 | 85 | 60 | 140 | 55 | 110 | 45 | 110 | 295 | 170 | 300 | 295 | 1170 | 465 | 265 | 440 | 805 | 65 | 33 | 55 | 8 | 785 | 400 | 1280 | 555 | 825 | 235 | 380 | 364 | 355 |
| 400 | 1900 | 120 | 70 | 140 | 60 | 140 | 50 | 110 | 315 | 180 | 300 | 315 | 1320 | 490 | 305 | 490 | 905 | 70 | 33 | 55 | 8 | 880 | 450 | 1430 | 600 | 915 | 255 | 425 | 364 | 375 |
| 450 | 2500 | 170 | 75 | 140 | 70 | 140 | 55 | 110 | 345 | 210 | 350 | 345 | 1470 | 540 | 340 | 540 | 1005 | 80 | 39 | 65 | 8 | 990 | 500 | 1600 | 650 | 1010 | 270 | 465 | 364 | 405 |
| 500 | 3550 | 230 | 90 | 170 | 75 | 140 | 60 | 140 | 400 | 240 | 410 | 400 | 1665 | 650 | 375 | 595 | 1130 | 90 | 39 | 75 | 8 | 1005 | 560 | 1815 | 760 | 1120 | 340 | 530 | 364 | 460 |
| 560 | 4900 | 330 | 100 | 210 | 90 | 170 | 70 | 140 | 440 | 270 | 470 | 440 | 1830 | 700 | 415 | 660 | 1245 | 100 | 45 | 85 | 8 | 1240 | 630 | 2000 | 820 | 1270 | 340 | 580 | 459 | 500 |
| 630 | 6700 | 480 | 110 | 210 | 100 | 210 | 75 | 140 | 490 | 300 | 470 | 490 | 2100 | 780 | 475 | 740 | 1420 | 110 | 45 | 85 | 8 | 1395 | 710 | 2270 | 900 | 1390 | 395 | 640 | 459 | 550 |
| 710 | 9200 | 680 | 120 | 210 | 110 | 210 | 80 | 170 | 540 | 340 | 550 | 540 | 2370 | 870 | 540 | 820 | 1595 | 125 | 45 | 90 | 8 | 1585 | 800 | 2550 | 1010 | 1570 | 460 | 735 | 459 | 600 |
| 800 | 12500 | 925 | 130 | 250 | 120 | 210 | 100 | 210 | 600 | 390 | 650 | 600 | 2670 | 1020 | 610 | 900 | 1785 | 140 | 45 | 90 | 8 | 1760 | 900 | 2850 | 1160 | 1760 | 505 | 815 | 459 | 660 |

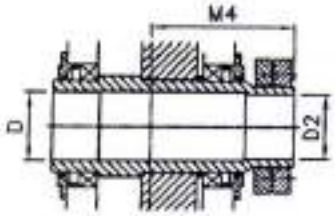
Larger Sizes on Request
Centre Height H1 as per DIN 747
Tolerance for Shaft ends as per DIN 748, Fit for d and D : n6
Keys according to DIN 6885, Part 1, Shape A
Shaft end centres according to DIN 332, Form DS



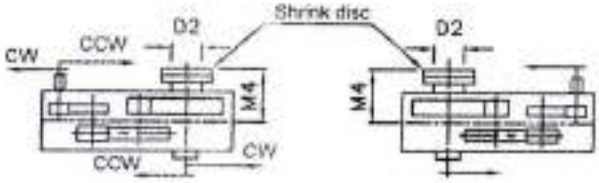

From size 355 up jacking screws in housing feet and alignment surface on front faces of lower housing part




Hollow shaft with key




Hollow shaft with shrink disc



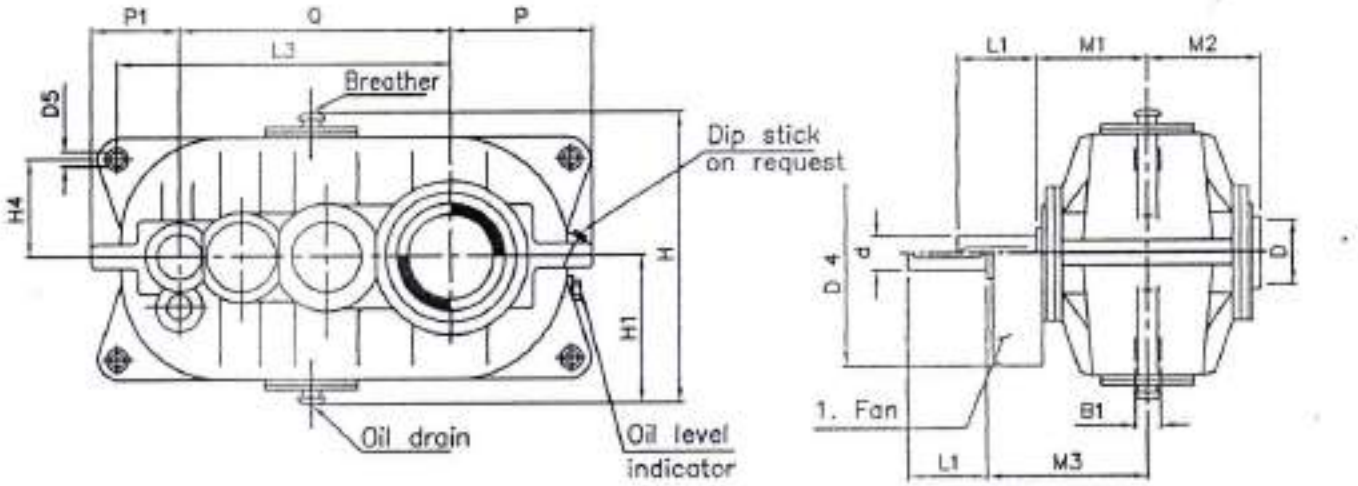

Right hand assembly

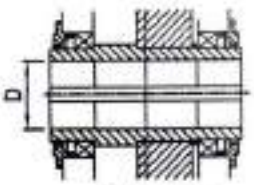
Left hand assembly

Arrows show relative directions of rotation

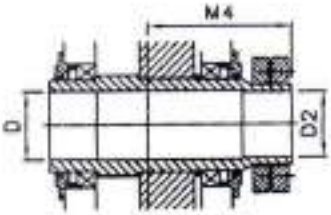
| Gear Box Size | Average Weight kg | Oil Quantity litres | SHAFT DETAILS: Up to $l_A$ = 45 d | L1 | Above $l_A$ = 45 to $l_A$ = 80 d | L1 | Above $l_A$ = 80 d | L1 | BASE DETAILS: M1 | D | D2 | M2 | M4 | A | B | V | K1 | K2 | C | D3 | R | I | GEAR CASE DETAILS: Q | H1 | E | F | H | P1 | P | FAN DETAILS: D4 | M3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 160 | 170 | 9 | 28 | 60 | 24 | 50 | 19 | 35 | 140 | 80 | 75 | 140 | 200 | 520 | 215 | 130 | 260 | | 30 | 18 | 30 | 8 | 350 | 180 | 580 | 280 | 385 | 105 | 195 | 231 | 190 |
| 180 | 225 | 11 | 32 | 80 | 28 | 60 | 22 | 35 | 160 | 90 | 85 | 160 | 230 | 590 | 235 | 145 | 285 | | 35 | 18 | 30 | 6 | 395 | 200 | 650 | 280 | 435 | 120 | 215 | 231 | 210 |
| 200 | 300 | 15 | 35 | 80 | 32 | 80 | 24 | 50 | 175 | 110 | 105 | 175 | 255 | 650 | 270 | 160 | 325 | | 40 | 22 | 35 | 6 | 440 | 225 | 720 | 330 | 470 | 125 | 235 | 287 | 225 |
| 225 | 410 | 22 | 40 | 110 | 35 | 80 | 28 | 60 | 190 | 120 | 115 | 190 | 270 | 750 | 300 | 185 | 375 | | 45 | 22 | 35 | 6 | 495 | 250 | 820 | 380 | 525 | 150 | 285 | 287 | 240 |
| 250 | 540 | 30 | 45 | 110 | 40 | 110 | 32 | 80 | 215 | 140 | 135 | 215 | 305 | 830 | 340 | 195 | 415 | | 50 | 26 | 40 | 8 | 555 | 280 | 910 | 410 | 600 | 170 | 285 | 287 | 265 |
| 280 | 750 | 45 | 50 | 110 | 45 | 110 | 35 | 80 | 235 | 150 | 140 | 235 | 340 | 910 | 370 | 215 | 455 | | 55 | 26 | 45 | 6 | 620 | 315 | 1000 | 440 | 670 | 170 | 310 | 287 | 285 |
| 315 | 1000 | 60 | 55 | 110 | 50 | 110 | 40 | 110 | 260 | 170 | 160 | 260 | 385 | 1050 | 410 | 240 | 400 | 725 | 60 | 33 | 50 | 8 | 700 | 355 | 1150 | 500 | 740 | 220 | 350 | 287 | 310 |
| 355 | 1320 | 85 | 60 | 140 | 55 | 110 | 45 | 110 | 295 | 180 | 170 | 295 | 430 | 1170 | 495 | 265 | 440 | 805 | 65 | 33 | 55 | 8 | 785 | 400 | 1280 | 555 | 825 | 235 | 380 | 304 | 355 |
| 400 | 1900 | 120 | 70 | 140 | 60 | 140 | 50 | 110 | 315 | 200 | 190 | 315 | 465 | 1320 | 490 | 305 | 490 | 905 | 70 | 33 | 55 | 8 | 880 | 450 | 1430 | 600 | 915 | 255 | 425 | 364 | 375 |
| 450 | 2500 | 170 | 75 | 140 | 70 | 140 | 55 | 110 | 345 | 230 | 220 | 345 | 515 | 1470 | 540 | 340 | 540 | 1005 | 80 | 39 | 65 | 8 | 990 | 500 | 1600 | 650 | 1010 | 270 | 465 | 364 | 405 |
| 500 | 3550 | 230 | 90 | 170 | 75 | 140 | 60 | 140 | 400 | 260 | 245 | 400 | 580 | 1665 | 650 | 375 | 595 | 1130 | 90 | 39 | 75 | 8 | 1005 | 560 | 1815 | 780 | 1120 | 340 | 530 | 384 | 460 |
| 560 | 4900 | 330 | 100 | 210 | 90 | 170 | 70 | 140 | 440 | 300 | 285 | 440 | 630 | 1930 | 700 | 415 | 660 | 1245 | 100 | 45 | 65 | 8 | 1240 | 630 | 2000 | 820 | 1270 | 340 | 580 | 459 | 500 |
| 630 | 6700 | 460 | 110 | 210 | 100 | 210 | 75 | 140 | 490 | 340 | 325 | 490 | 700 | 2100 | 780 | 475 | 740 | 1420 | 110 | 45 | 65 | 8 | 1395 | 710 | 2270 | 900 | 1390 | 395 | 640 | 459 | 550 |

**Larger Sizes on Request**
**Centre Height H1** as per DIN 747
**Tolerance for Shaft ends** as per DIN 748, Fit for d : n6, D and D2 : H7.
**Keys** according to DIN 6885, Part 1, Shape A
**Shaft end centres** according to DIN 332, Form DS

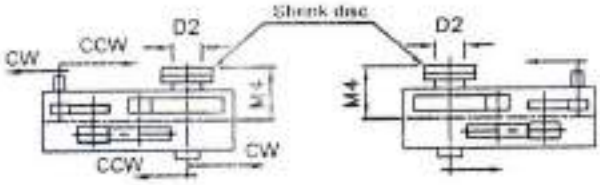



Hollow shaft
with key




Hollow shaft
with shrink disc




Right hand assembly

Left hand assembly

Arrows show relative directions of rotation

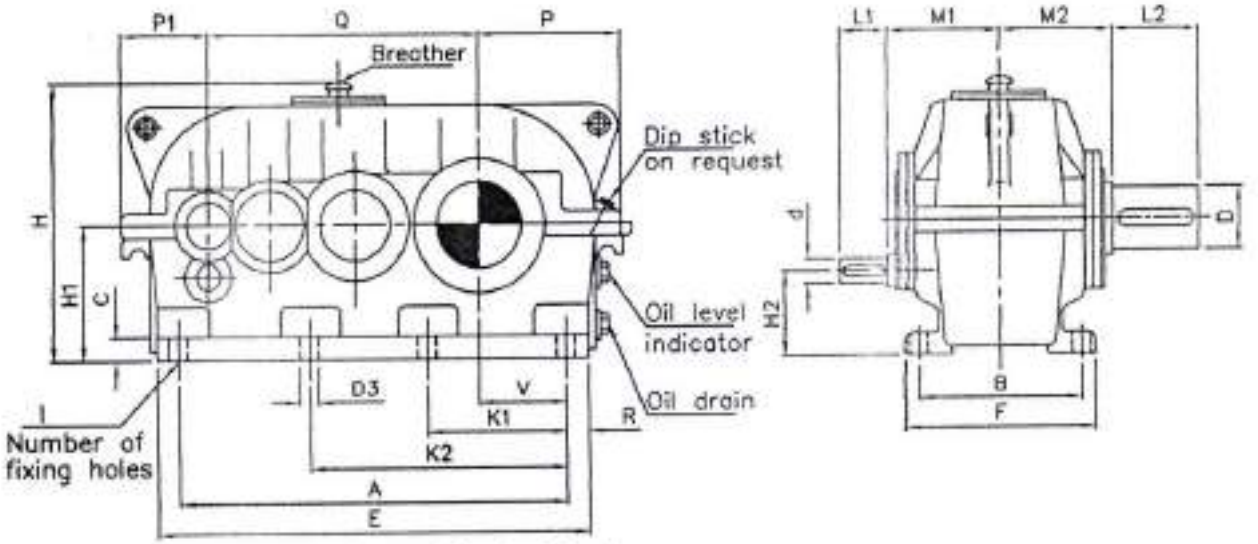
| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | GEAR CASE DETAILS | | | | | | | | | | | FAN DETAILS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $i_a$ = 45 | | Above $i_a$ = 45 to $i_a$ = 80 | | Above $i_a$ = 80 | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | d | L1 | M1 | D | D2 | M2 | M4 | Q | H1 | D6H11 | L3 | H4 | B1 | H | P1 | P | D4 | M3 |
| 160 | 142 | 5 | 28 | 60 | 24 | 50 | 19 | 35 | 140 | 80 | 75 | 140 | 200 | 350 | 195 | 22 | 425 | 145 | 32 | 400 | 105 | 195 | 231 | 190 |
| 180 | 190 | 8 | 32 | 80 | 28 | 60 | 22 | 35 | 160 | 90 | 85 | 160 | 230 | 395 | 225 | 25 | 480 | 155 | 35 | 460 | 120 | 215 | 231 | 210 |
| 200 | 250 | 10 | 35 | 80 | 32 | 80 | 24 | 50 | 175 | 110 | 105 | 175 | 255 | 440 | 235 | 30 | 525 | 170 | 40 | 480 | 125 | 235 | 287 | 225 |
| 225 | 340 | 16 | 40 | 110 | 35 | 80 | 28 | 60 | 190 | 120 | 115 | 190 | 270 | 495 | 265 | 35 | 600 | 195 | 45 | 540 | 150 | 265 | 287 | 240 |
| 250 | 450 | 21 | 45 | 110 | 40 | 110 | 32 | 80 | 215 | 140 | 135 | 215 | 305 | 555 | 310 | 40 | 675 | 205 | 50 | 630 | 170 | 285 | 287 | 265 |
| 280 | 625 | 29 | 50 | 110 | 45 | 110 | 35 | 80 | 235 | 150 | 140 | 235 | 340 | 620 | 345 | 45 | 745 | 230 | 55 | 700 | 170 | 310 | 287 | 285 |
| 315 | 840 | 40 | 55 | 110 | 50 | 110 | 40 | 110 | 260 | 170 | 160 | 260 | 385 | 700 | 375 | 50 | 860 | 260 | 60 | 760 | 220 | 350 | 287 | 310 |
| 355 | 1100 | 56 | 60 | 140 | 55 | 110 | 45 | 110 | 295 | 180 | 170 | 295 | 430 | 785 | 415 | 55 | 955 | 290 | 70 | 840 | 235 | 380 | 364 | 355 |
| 400 | 1580 | 80 | 70 | 140 | 60 | 140 | 50 | 110 | 315 | 200 | 190 | 315 | 465 | 880 | 435 | 60 | 1085 | 325 | 80 | 900 | 255 | 425 | 364 | 375 |
| 450 | 2100 | 110 | 75 | 140 | 70 | 140 | 55 | 110 | 345 | 230 | 220 | 345 | 515 | 990 | 480 | 65 | 1180 | 360 | 90 | 990 | 270 | 465 | 364 | 405 |
| 500 | 3000 | 150 | 90 | 170 | 75 | 140 | 60 | 140 | 400 | 260 | 245 | 400 | 580 | 1105 | 530 | 70 | 1355 | 410 | 100 | 1090 | 340 | 530 | 364 | 460 |
| 560 | 4150 | 205 | 100 | 210 | 90 | 170 | 70 | 140 | 440 | 300 | 285 | 440 | 630 | 1240 | 610 | 75 | 1485 | 460 | 110 | 1250 | 340 | 580 | 459 | 500 |
| 630 | 5750 | 280 | 110 | 210 | 100 | 210 | 75 | 140 | 490 | 340 | 325 | 490 | 700 | 1395 | 650 | 80 | 1680 | 510 | 120 | 1330 | 395 | 640 | 459 | 550 |

Larger Sizes on Request
Centre Height H1 as per DIN 747
Tolerance for Shaft ends as per DIN 748, Fit for d : n6, D and D2 : H7
Keys according to DIN 6885, Part 1, Shape A
Shaft end centres according to DIN 332, Form DS

| Nominal Ratio | Nominal Speeds RPM | | SIZE OF GEAR UNIT | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 | 630 | 710 | 800 |
| $i_N$ | $n_1$ | $n_2$ | Nominal gear box rating P (kw) | | | | | | | | | | | |
| 100 | 1500 | 15 | | | | | 99 | 130 | 190 | 290 | 400 | 540 | 780 | 1100 |
| | 1000 | 10 | | | | | 66 | 87 | 125 | 195 | 265 | 360 | 520 | 750 |
| | 750 | 7.5 | | | | | 50 | 65 | 95 | 145 | 205 | 270 | 400 | 560 |
| 112 | 1500 | 13.4 | 21 | 29 | 40 | 59 | 88 | 115 | 170 | 255 | 360 | 480 | 690 | 990 |
| | 1000 | 8.9 | 14 | 20 | 27 | 40 | 59 | 78 | 115 | 170 | 240 | 320 | 470 | 670 |
| | 750 | 6.7 | 11 | 15 | 20 | 29 | 44 | 59 | 85 | 130 | 185 | 245 | 355 | 510 |
| 125 | 1500 | 12 | 18.5 | 26 | 36 | 52 | 81 | 105 | 150 | 230 | 320 | 430 | 610 | 880 |
| | 1000 | 8 | 12.5 | 17.5 | 24 | 35 | 54 | 70 | 100 | 155 | 215 | 285 | 410 | 590 |
| | 750 | 6 | 9.3 | 13 | 18 | 26.5 | 41 | 53 | 75 | 115 | 165 | 215 | 310 | 440 |
| 140 | 1500 | 10.7 | 16.5 | 23 | 32 | 46 | 72 | 92 | 135 | 205 | 290 | 380 | 550 | 800 |
| | 1000 | 7.1 | 11 | 16 | 21.5 | 31 | 48 | 61 | 90 | 135 | 195 | 255 | 370 | 530 |
| | 750 | 5.4 | 8.3 | 12 | 16 | 23 | 36 | 46 | 68 | 105 | 145 | 190 | 280 | 400 |
| 160 | 1500 | 9.4 | 14.5 | 20 | 28 | 41 | 64 | 81 | 120 | 180 | 255 | 340 | 490 | 710 |
| | 1000 | 6.3 | 9.7 | 14 | 18.5 | 27.5 | 43 | 54 | 80 | 120 | 170 | 225 | 330 | 470 |
| | 750 | 4.7 | 7.6 | 10 | 14 | 21 | 32 | 41 | 60 | 92 | 130 | 170 | 250 | 360 |
| 180 | 1500 | 8.3 | 13 | 19 | 25 | 37 | 57 | 70 | 105 | 160 | 225 | 300 | 440 | 630 |
| | 1000 | 5.6 | 8.7 | 12.5 | 17 | 25 | 38 | 47 | 70 | 105 | 150 | 200 | 295 | 420 |
| | 750 | 4.2 | 6.5 | 9.5 | 13 | 18.5 | 29 | 35 | 53 | 82 | 115 | 155 | 220 | 320 |
| 200 | 1500 | 7.5 | 12 | 15.5 | 22 | 33 | 51 | 64 | 95 | 145 | 205 | 270 | 390 | 560 |
| | 1000 | 5 | 8 | 10.5 | 14.5 | 22 | 34 | 43 | 63 | 97 | 135 | 180 | 260 | 370 |
| | 750 | 3.8 | 6 | 8 | 11.5 | 17 | 26 | 32 | 48 | 73 | 105 | 135 | 200 | 280 |
| 224 | 1500 | 6.7 | 10.5 | 14 | 20 | 29 | 45 | 57 | 83 | 130 | 185 | 240 | 360 | 510 |
| | 1000 | 4.5 | 7 | 9.3 | 13.5 | 20 | 30 | 38 | 55 | 87 | 125 | 160 | 240 | 340 |
| | 750 | 3.3 | 5.3 | 7 | 10.5 | 15 | 23 | 28.5 | 42 | 66 | 94 | 120 | 180 | 265 |
| 250 | 1500 | 6 | 9.5 | 12.5 | 17.5 | 26 | 41 | 51 | 73 | 115 | 165 | 215 | 320 | 450 |
| | 1000 | 4 | 6.3 | 8.5 | 12 | 17.5 | 27.5 | 34 | 49 | 77 | 110 | 145 | 215 | 300 |
| | 750 | 3 | 4.8 | 6.5 | 9 | 13 | 20.5 | 25.5 | 37 | 58 | 83 | 110 | 160 | 225 |
| 280 | 1500 | 5.4 | 8.2 | 11 | 15.5 | 23 | 37 | 46 | 66 | 100 | 145 | 195 | 280 | 400 |
| | 1000 | 3.6 | 5.6 | 7.5 | 10.5 | 15.5 | 24.5 | 31 | 44 | 67 | 97 | 130 | 185 | 265 |
| | 750 | 2.7 | 4.2 | 5.6 | 8 | 12 | 19 | 23 | 34 | 51 | 73 | 96 | 140 | 200 |
| 315 | 1500 | 4.8 | 7.5 | 9.5 | 13.5 | 21 | 32 | 42 | 59 | 92 | 130 | 175 | 250 | 360 |
| | 1000 | 3.2 | 5.1 | 6.5 | 9 | 14 | 21.5 | 28 | 39 | 61 | 87 | 115 | 165 | 240 |
| | 750 | 2.4 | 3.8 | 5 | 7 | 10.5 | 16.5 | 21 | 30 | 47 | 66 | 88 | 125 | 180 |
| 355 | 1500 | 4.2 | 6.5 | 8.5 | 12 | 18 | 29 | 37 | 52 | 83 | 115 | 155 | 225 | 320 |
| | 1000 | 2.8 | 4.5 | 6 | 8.5 | 12 | 19.5 | 24.5 | 35 | 55 | 77 | 105 | 150 | 215 |
| | 750 | 2.1 | 3.3 | 4.5 | 6.5 | 9.5 | 14.5 | 18.5 | 26.5 | 42 | 59 | 78 | 115 | 160 |
| 400 | 1500 | 3.8 | 6 | 8 | 11 | 16.5 | 26 | 33 | 46 | 72 | 100 | 135 | 195 | 270 |
| | 1000 | 2.5 | 4 | 5.3 | 7.5 | 11 | 17.5 | 22 | 31 | 48 | 68 | 90 | 130 | 180 |
| | 750 | 1.9 | 3 | 4 | 5.6 | 8.3 | 13.5 | 16.5 | 23.5 | 37 | 52 | 68 | 99 | 135 |
| 450 | 1500 | 3.3 | 5 | 7 | 10 | 13.5 | 21.5 | 29 | 40 | 65 | 93 | 125 | 175 | 250 |
| | 1000 | 2.2 | 3.5 | 4.7 | 6.5 | 9 | 14.5 | 19.5 | 26.5 | 44 | 62 | 83 | 115 | 170 |
| | 750 | 1.7 | 2.6 | 3.5 | 5.1 | 6.8 | 11 | 14.5 | 20 | 33 | 47 | 63 | 89 | 125 |
| 500 | 1500 | 3 | 4.2 | 6 | 9.1 | 12 | 19.5 | 26 | 36 | 59 | 82 | 110 | 155 | 225 |
| | 1000 | 2 | 2.8 | 4 | 6.1 | 8 | 13 | 17.5 | 24 | 39 | 55 | 73 | 105 | 150 |
| | 750 | 1.5 | 2.1 | 3 | 4.6 | 6 | 9.6 | 13 | 18 | 30 | 42 | 55 | 79 | 115 |
| 560 | 1500 | 2.65 | | | 8.3 | 11.5 | 17.4 | 24 | 32 | 52 | 71 | 100 | 142 | 205 |
| | 1000 | 1.8 | | | 5.5 | 7.4 | 11.6 | 17 | 22 | 35 | 49 | 66 | 94 | 142 |
| | 750 | 1.32 | | | 4.1 | 5.6 | 8.7 | 12.6 | 17 | 26 | 37 | 50 | 71 | 106 |
| 630 | 1500 | 2.36 | | | | 10 | 15 | 21 | 30 | 46 | 65 | 89 | 125 | 180 |
| | 1000 | 1.6 | | | | 6.8 | 10 | 14.2 | 19 | 30 | 43 | 59 | 79 | 120 |
| | 750 | 1.18 | | | | 5.3 | 7.5 | 10.6 | 15 | 23 | 33 | 44 | 59 | 90 |

| Thermal Capacity (kw) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Without Cooling $P_{G1}$ (kw) | Input rpm $n_1$ | 60 | 78 | 97 | 122 | 158 | 198 | 247 | 318 | 405 | 503 | 629 | 820 |

• Pressure lubrication required




From size 355 up jacking screws in housing feet and alignment surface on front faces of lower housing part

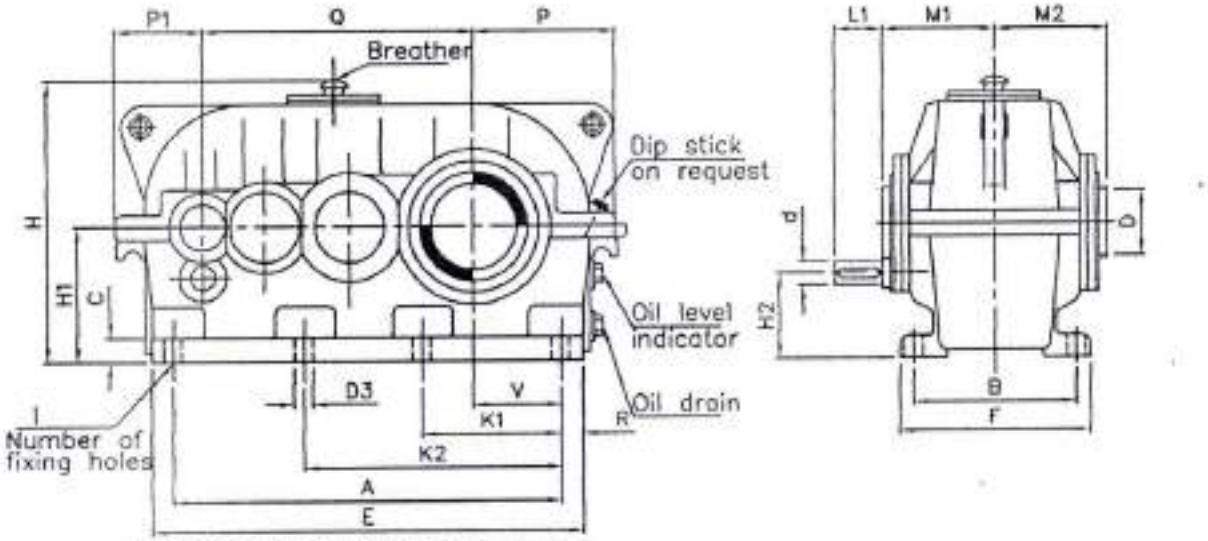

Right hand assembly

Left hand assembly

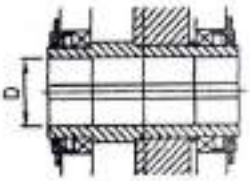
Arrows show relative directions of rotation

| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | | | BASE DETAILS | | | | | | | | | GEAR CASE DETAILS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $i_N$ = 280 | | Above $i_N$ = 280 | | | | | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | M1 | D | L2 | M2 | A | B | V | K1 | K2 | C | D3 | R | I | Q | H1 | H2 | E | F | H | P1 | P2 |
| 225 | 410 | 22 | 24 | 50 | 20 | 50 | 190 | 100 | 210 | 190 | 750 | 300 | 185 | 375 | | 45 | 22 | 35 | 6 | 495 | 250 | 170 | 820 | 360 | 525 | 150 | 265 |
| 250 | 550 | 30 | 28 | 60 | 22 | 50 | 215 | 110 | 210 | 215 | 830 | 340 | 195 | 415 | | 50 | 26 | 40 | 6 | 555 | 280 | 190 | 910 | 410 | 600 | 170 | 285 |
| 280 | 760 | 45 | 32 | 80 | 24 | 50 | 235 | 130 | 250 | 235 | 910 | 370 | 215 | 455 | | 55 | 26 | 45 | 8 | 620 | 315 | 215 | 1000 | 440 | 670 | 170 | 310 |
| 315 | 1050 | 60 | 35 | 80 | 28 | 60 | 260 | 140 | 250 | 260 | 1050 | 410 | 240 | 400 | 725 | 60 | 33 | 50 | 8 | 700 | 355 | 245 | 1150 | 500 | 740 | 220 | 350 |
| 355 | 1370 | 85 | 40 | 110 | 32 | 80 | 295 | 170 | 300 | 295 | 1170 | 465 | 265 | 440 | 805 | 65 | 33 | 55 | 8 | 785 | 400 | 275 | 1280 | 555 | 825 | 235 | 380 |
| 400 | 1950 | 120 | 45 | 110 | 35 | 80 | 315 | 180 | 300 | 315 | 1320 | 490 | 305 | 490 | 905 | 70 | 33 | 55 | 8 | 880 | 450 | 310 | 1430 | 600 | 915 | 255 | 425 |
| 450 | 2550 | 170 | 50 | 110 | 40 | 110 | 345 | 210 | 350 | 345 | 1470 | 540 | 340 | 540 | 1005 | 80 | 39 | 65 | 8 | 990 | 500 | 340 | 1600 | 650 | 1010 | 270 | 465 |
| 500 | 3650 | 230 | 55 | 110 | 45 | 110 | 400 | 240 | 410 | 400 | 1665 | 650 | 375 | 595 | 1130 | 90 | 39 | 75 | 8 | 1105 | 560 | 380 | 1815 | 760 | 1120 | 340 | 530 |
| 560 | 5000 | 330 | 60 | 140 | 50 | 110 | 440 | 270 | 470 | 440 | 1830 | 700 | 415 | 660 | 1245 | 100 | 45 | 85 | 8 | 1240 | 630 | 430 | 2000 | 820 | 1270 | 340 | 580 |
| 630 | 6800 | 480 | 70 | 140 | 55 | 110 | 490 | 300 | 470 | 490 | 2100 | 780 | 475 | 740 | 1420 | 110 | 45 | 85 | 8 | 1395 | 710 | 485 | 2270 | 900 | 1390 | 395 | 640 |
| 710 | 9300 | 680 | 75 | 140 | 60 | 140 | 540 | 340 | 550 | 540 | 2370 | 870 | 540 | 820 | 1595 | 125 | 45 | 90 | 8 | 1565 | 800 | 550 | 2550 | 1010 | 1570 | 460 | 735 |
| 800 | 12600 | 925 | 90 | 170 | 70 | 140 | 600 | 390 | 650 | 600 | 2670 | 1020 | 610 | 900 | 1785 | 140 | 45 | 90 | 8 | 1760 | 900 | 620 | 2850 | 1160 | 1760 | 505 | 815 |

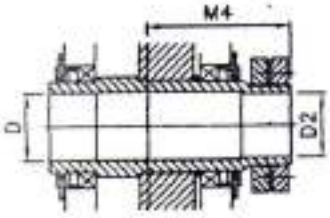
Larger Sizes on Request
Centre Height H1 as per DIN 747
Tolerance for Shaft ends as per DIN 748, Fit for d and D : m6.
Keys according to DIN 6885, Part 1, Shape A
Shaft end centres according to DIN 332, Form DS



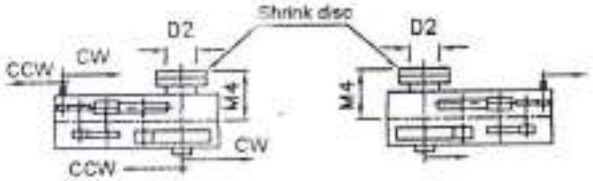

From size 355 up jacking screws in housing feet and alignment surface on front faces of lower housing part




Hollow shaft with key




Hollow shaft with shrink disc




Right hand assembly

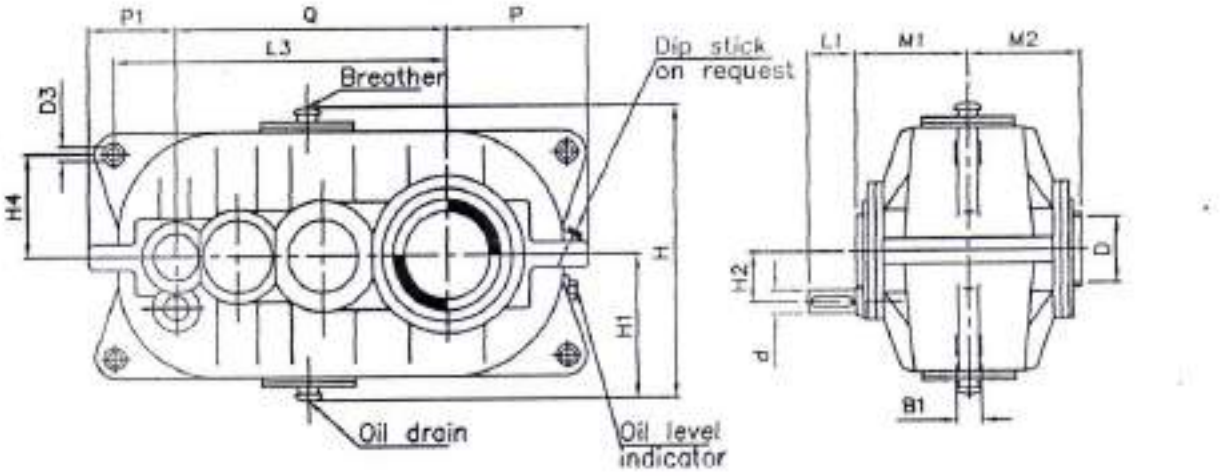
Left hand assembly

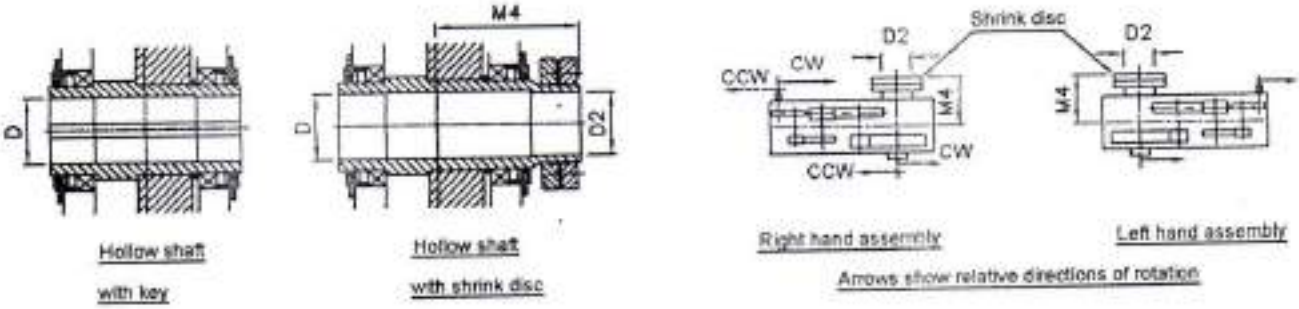
Arrows show relative directions of rotation

Dimensions in mm

| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | BASE DETAILS | | | | | | | | | | | | | | GEAR CASE DETAILS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $i_a$ = 280 | | Above $i_a$ = 280 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | M1 | D | D2 | M2 | M4 | A | B | V | K1 | K2 | C | D3 | R | I | Q | H1 | H2 | E | F | H | P1 | P |
| 225 | 410 | 22 | 24 | 50 | 20 | 50 | 190 | 120 | 115 | 190 | 270 | 750 | 300 | 185 | 375 | | 45 | 22 | 35 | 6 | 495 | 250 | 170 | 820 | 300 | 525 | 150 | 265 |
| 250 | 550 | 30 | 28 | 60 | 22 | 50 | 215 | 140 | 135 | 215 | 305 | 830 | 340 | 195 | 415 | | 50 | 26 | 40 | 6 | 555 | 280 | 190 | 910 | 410 | 600 | 170 | 285 |
| 280 | 760 | 45 | 32 | 80 | 24 | 60 | 235 | 150 | 140 | 235 | 340 | 910 | 370 | 215 | 455 | | 55 | 26 | 45 | 6 | 620 | 315 | 215 | 1000 | 440 | 670 | 170 | 310 |
| 315 | 1050 | 60 | 35 | 80 | 28 | 60 | 260 | 170 | 160 | 260 | 385 | 1050 | 410 | 240 | 400 | 725 | 60 | 33 | 50 | 8 | 700 | 355 | 245 | 1150 | 500 | 740 | 220 | 350 |
| 355 | 1370 | 85 | 40 | 110 | 32 | 80 | 295 | 180 | 170 | 295 | 430 | 1170 | 465 | 265 | 440 | 805 | 65 | 33 | 55 | 8 | 785 | 400 | 275 | 1280 | 555 | 825 | 235 | 380 |
| 400 | 1950 | 120 | 45 | 110 | 35 | 80 | 315 | 200 | 190 | 315 | 465 | 1320 | 490 | 305 | 490 | 905 | 70 | 33 | 55 | 8 | 880 | 450 | 310 | 1430 | 600 | 915 | 255 | 425 |
| 450 | 2550 | 170 | 50 | 110 | 40 | 110 | 345 | 230 | 220 | 345 | 515 | 1470 | 540 | 340 | 540 | 1005 | 80 | 39 | 65 | 8 | 990 | 500 | 340 | 1600 | 650 | 1010 | 270 | 465 |
| 500 | 3650 | 230 | 55 | 110 | 45 | 110 | 400 | 260 | 245 | 400 | 580 | 1685 | 650 | 375 | 595 | 1130 | 90 | 39 | 75 | 8 | 1105 | 560 | 380 | 1815 | 760 | 1120 | 340 | 530 |
| 560 | 5000 | 330 | 60 | 140 | 50 | 110 | 440 | 300 | 285 | 440 | 630 | 1830 | 700 | 415 | 660 | 1245 | 100 | 45 | 85 | 8 | 1240 | 630 | 430 | 2000 | 820 | 1270 | 340 | 580 |
| 630 | 6800 | 480 | 70 | 140 | 55 | 110 | 490 | 340 | 325 | 490 | 700 | 2100 | 780 | 475 | 740 | 1420 | 110 | 45 | 85 | 8 | 1395 | 710 | 485 | 2270 | 900 | 1390 | 395 | 640 |

**Larger Sizes on Request**
**Centre Height** H1 as per DIN 747
**Tolerance for Shaft ends** as per DIN 748, Fit for d : n6, D and D2 : H7.
**Keys according to** DIN 6885, Part 1, Shape A
**Shaft end centres according to** DIN 332, Form DS




Dimensions in mm

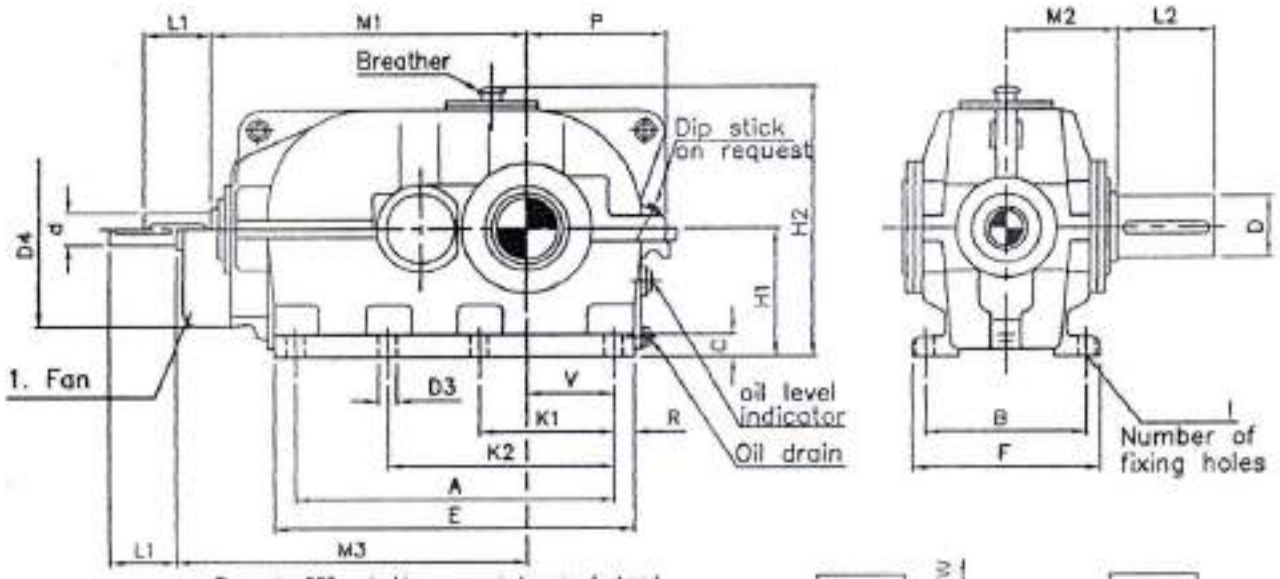
| Gear Box Size | Average Weight kg | Oil Quantity litres | SHAFT DETAILS | | | | | | | | | GEAR CASE DETAILS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $i_s$ = 280 | | Above $i_s$ = 280 | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | M1 | D | D2 | M2 | M4 | Q | H1 | H2 | D3h11 | L3 | H4 | B1 | H | P1 | P |
| 225 | 350 | 16 | 24 | 50 | 20 | 50 | 190 | 120 | 115 | 190 | 270 | 495 | 265 | 80 | 35 | 600 | 195 | 45 | 540 | 150 | 265 |
| 250 | 470 | 21 | 28 | 60 | 22 | 50 | 215 | 140 | 135 | 215 | 305 | 555 | 310 | 90 | 40 | 675 | 205 | 50 | 630 | 170 | 285 |
| 280 | 640 | 29 | 32 | 80 | 24 | 50 | 235 | 150 | 140 | 235 | 340 | 620 | 345 | 100 | 45 | 745 | 230 | 55 | 700 | 170 | 310 |
| 315 | 890 | 40 | 35 | 80 | 28 | 60 | 260 | 170 | 160 | 260 | 385 | 700 | 375 | 110 | 50 | 860 | 260 | 60 | 760 | 220 | 350 |
| 355 | 1180 | 56 | 40 | 110 | 32 | 80 | 295 | 180 | 170 | 295 | 430 | 785 | 415 | 125 | 55 | 955 | 290 | 70 | 840 | 235 | 380 |
| 400 | 1600 | 80 | 45 | 110 | 36 | 80 | 315 | 200 | 190 | 315 | 465 | 880 | 435 | 140 | 60 | 1065 | 325 | 80 | 900 | 255 | 425 |
| 450 | 2200 | 110 | 50 | 110 | 40 | 110 | 345 | 230 | 220 | 345 | 515 | 990 | 480 | 160 | 65 | 1180 | 360 | 90 | 990 | 270 | 465 |
| 500 | 3100 | 150 | 55 | 110 | 45 | 110 | 400 | 260 | 245 | 400 | 580 | 1105 | 530 | 180 | 70 | 1355 | 410 | 100 | 1090 | 340 | 530 |
| 560 | 4400 | 205 | 60 | 140 | 50 | 110 | 440 | 300 | 285 | 440 | 630 | 1240 | 610 | 200 | 75 | 1485 | 460 | 110 | 1250 | 340 | 580 |
| 630 | 6000 | 280 | 70 | 140 | 55 | 110 | 490 | 340 | 325 | 490 | 700 | 1395 | 650 | 225 | 80 | 1680 | 510 | 120 | 1330 | 395 | 640 |

Larger Sizes on Request
Centre Height H1 as per DIN 747
Tolerance for Shaft ends as per DIN 748, Fit for d : n6, D and D2 : H7
Keys according to DIN 6885, Part 1, Shape A
Shaft end centres according to DIN 332, Form DS

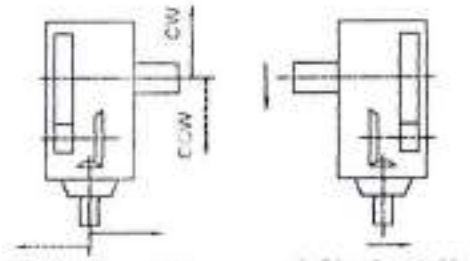
| Nominal Ratio | Nominal Speeds RPM | | SIZE OF GEAR UNIT | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 110 | 125 | 140 | 160 | 180 | 200 | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 |
| $i_N$ | $n_1$ | $n_2$ | Nominal gear box rating $P_N$ (kw) | | | | | | | | | | | | | | |
| 5 | 1500 | 300 | | 46 | | 98 | | 175 | | 360 | 460 | 620 | 850* | 1300* | 1850* | - | |
| | 1000 | 200 | | 34 | | 72 | | 130 | | 275 | 350 | 470 | 630 | 980 | 1400 | 1800 | |
| | 750 | 150 | | 24.5 | | 56 | | 105 | | 215 | 280 | 380 | 500 | 790 | 1050 | 1450 | |
| 5.6 | 1500 | 270 | | 46 | | 98 | | 175 | | 360 | 460 | 620 | 850* | 1300* | 1850* | - | |
| | 1000 | 180 | | 34 | | 72 | | 130 | | 275 | 350 | 470 | 630 | 980 | 1400 | 1800 | |
| | 750 | 134 | | 24.5 | | 56 | | 105 | | 215 | 280 | 380 | 500 | 790 | 1050 | 1450 | |
| 6.3 | 1500 | 240 | 29 | 46 | 65 | 98 | 115 | 175 | 240 | 360 | 460 | 620 | 850* | 1300* | 1850* | - | 2520* |
| | 1000 | 160 | 23 | 34 | 49 | 72 | 93 | 130 | 180 | 275 | 350 | 470 | 630 | 980 | 1400 | 1800 | 2310* |
| | 750 | 120 | 18.7 | 24.5 | 40 | 56 | 78 | 105 | 145 | 215 | 280 | 380 | 500 | 790 | 1050 | 1450 | 1943 |
| 7.1 | 1500 | 210 | 29 | 46 | 65 | 98 | 115 | 175 | 225 | 360 | 460 | 620 | 850* | 1300* | 1850* | - | 2520* |
| | 1000 | 140 | 23 | 34 | 49 | 72 | 93 | 130 | 170 | 275 | 350 | 470 | 630 | 980 | 1400 | 1800 | 2310* |
| | 750 | 106 | 17.9 | 24.5 | 37 | 56 | 78 | 105 | 138 | 215 | 280 | 380 | 500 | 790 | 1050 | 1450 | 1943 |
| 8 | 1500 | 185 | 29 | 41 | 58 | 82 | 116 | 155 | 205 | 320 | 440 | 610 | 770 | 1150* | 1700* | - | 2520* |
| | 1000 | 125 | 19 | 29 | 42 | 56 | 83 | 116 | 161 | 245 | 330 | 470 | 590 | 860 | 1300 | 1700 | 2310* |
| | 750 | 94 | 14 | 22 | 31 | 43 | 75 | 90 | 135 | 185 | 250 | 340 | 470 | 670 | 960 | 1400 | 1890 |
| 9 | 1500 | 167 | 25 | 37 | 51 | 74 | 110 | 140 | 190 | 290 | 400 | 540 | 690 | 1050* | 1550* | - | 2310* |
| | 1000 | 111 | 16 | 25.5 | 36 | 51 | 84 | 106 | 151 | 225 | 300 | 420 | 520 | 780 | 1150 | 1500 | 2048 |
| | 750 | 83 | 13 | 20 | 28 | 39 | 56 | 80 | 128 | 175 | 230 | 320 | 420 | 610 | 860 | 1200 | 1575 |
| 10 | 1500 | 150 | 22 | 32 | 46 | 67 | 92 | 130 | 165 | 260 | 350 | 480 | 620 | 930 | 1400 | - | 2310* |
| | 1000 | 100 | 15 | 22.5 | 32 | 45 | 73 | 95 | 135 | 195 | 260 | 360 | 470 | 690 | 1030 | 1350 | 1785 |
| | 750 | 75 | 11 | 17.5 | 25 | 34 | 51 | 74 | 113 | 155 | 215 | 300 | 380 | 530 | 770 | 1050 | 1365 |
| 11.2 | 1500 | 134 | 21 | 29.5 | 41 | 59 | 86 | 120 | 150 | 235 | 330 | 450 | 570 | 850 | 1200 | - | 2100* |
| | 1000 | 89 | 13.2 | 20 | 29 | 41 | 67 | 85 | 130 | 175 | 245 | 330 | 430 | 640 | 890 | 1150 | 1449 |
| | 750 | 67 | 10 | 15.5 | 22 | 31 | 45 | 66 | 101 | 135 | 190 | 250 | 350 | 480 | 680 | 880 | 1092 |
| 12.5 | 1500 | 120 | 18 | 26.5 | 38 | 53 | 75 | 105 | 140 | 210 | 290 | 360 | 500 | 690 | 950 | - | 1628* |
| | 1000 | 80 | 12 | 18 | 26 | 37 | 56 | 75 | 105 | 145 | 215 | 270 | 380 | 500 | 690 | 1050 | 1166 |
| | 750 | 60 | 9 | 13.5 | 20 | 27.5 | 40 | 57 | 82 | 110 | 160 | 195 | 280 | 380 | 530 | 800 | 882 |
| 14 | 1500 | 107 | 14.2 | 22 | 32 | 48 | 68 | 89 | 125 | 190 | 260 | 366 | 488 | 609 | 819 | 1050 | 1208 |
| | 1000 | 71 | 10.2 | 15 | 21 | 31 | 46 | 59 | 91 | 119 | 175 | 217 | 326 | 436 | 546 | 714 | 945 |
| | 750 | 54 | 7.4 | 11.5 | 16.2 | 24 | 34 | 42 | 65 | 86 | 122 | 154 | 247 | 328 | 420 | 536 | 725 |
| 16 | 1500 | 94 | 12.1 | 18 | 24 | 37 | 54 | 66 | 105 | 135 | 205 | 276 | 414 | 504 | 630 | 882 | 1050 |
| | 1000 | 62 | 8.3 | 11.5 | 16.5 | 25 | 31 | 41 | 68 | 87 | 133 | 159 | 263 | 368 | 431 | 588 | 756 |
| | 750 | 47 | 6.1 | 9 | 12 | 20 | 25 | 30 | 50 | 64 | 93 | 117 | 189 | 273 | 320 | 448 | 630 |
| 18 | 1500 | 85 | 9.4 | 14.4 | 20 | 29 | 40 | 56 | 79 | 114 | 148 | 221 | 319 | 442 | 568 | 774 | 950 |
| | 1000 | 56 | 6.1 | 10.7 | 15 | 22 | 30 | 42 | 61 | 87 | 116 | 159 | 257 | 360 | 431 | 588 | 690 |
| | 750 | 42.5 | 4.6 | 7.8 | 12 | 18 | 25 | 35 | 49 | 64 | 93 | 117 | 189 | 273 | 320 | 446 | 560 |

| Thermal Capacity (kw) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Without Cooling $PG_1$ (kw) | Input rpm $n_1$ | 24 | 31 | 38 | 48 | 61 | 76 | 96 | 126 | 161 | 195 | 245 | 312 | 390 | 480 | 621 | |
| With Fan Cooling $PG_2$ (kw) | 1500 | 38 | 47 | 59 | 77 | 92 | 117 | 165 | 232 | 291 | 350 | 507 | 645 | 766 | 1442 | 1816 | |
| | 1000 | 30 | 37 | 47 | 60 | 71 | 90 | 126 | 178 | 223 | 269 | 372 | 473 | 563 | 1085 | 1367 | |
| | 750 | 26 | 33 | 41 | 50 | 59 | 75 | 102 | 144 | 181 | 218 | 317 | 403 | 480 | 875 | 1102 | |
| With Cooling Coil $PG_3$ (kw) | | 32 | 42 | 63 | 77 | 90 | 108 | 131 | 176 | 244 | 272 | 370 | 536 | 584 | 685 | 984 | |
| With Fan and Cooling coil $PG_4$ (kw) | 1500 | 46 | 58 | 84 | 112 | 132 | 162 | 220 | 302 | 401 | 480 | 677 | 925 | 1048 | 1742 | 2316 | |
| | 1000 | 38 | 48 | 72 | 95 | 111 | 135 | 181 | 248 | 333 | 379 | 542 | 753 | 843 | 1385 | 1667 | |
| | 750 | 34 | 44 | 66 | 85 | 99 | 120 | 157 | 216 | 281 | 328 | 487 | 683 | 760 | 1175 | 1602 | |

• Pressure lubrication required



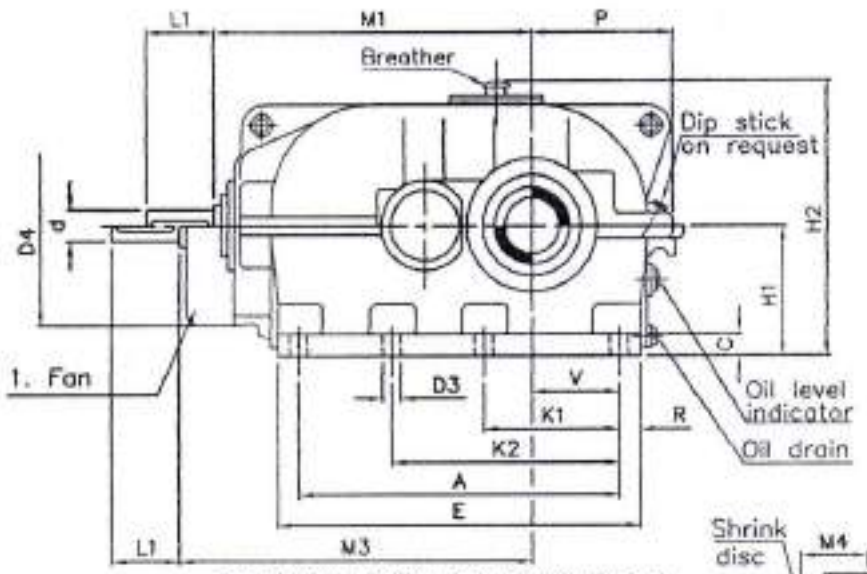

From size 355 up jacking screws in housing feet and alignment surface on front faces of lower housing part



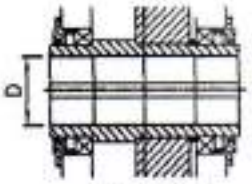

Arrows show relative directions of rotation

| Gear Box Size | Average Weight kg. | Oil Quantity litres ~ | SHAFT DETAILS | | | | BASE DETAILS | | | | | | | | | | | | | GEAR CASE DETAILS | | | | | FAN DETAILS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $i_N$ = 10 | | Above $i_N$ = 10 | | | | | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | M1 | D | L2 | M2 | A | B | V | K1 | K2 | C | D3 | R | I | H1 | E | F | H2 | P | D4 | M3 |
| 110 | 70 | 2.5 | 28 | 60 | 24 | 50 | 370 | 48 | 110 | 110 | 330 | 165 | 95 | 165 | | 25 | 14 | 20 | 6 | 125 | 370 | 200 | 285 | 145 | 186 | 420 |
| 125 | 95 | 3.5 | 32 | 80 | 28 | 60 | 410 | 55 | 110 | 120 | 380 | 185 | 110 | 195 | | 25 | 14 | 20 | 8 | 140 | 430 | 220 | 300 | 160 | 231 | 460 |
| 140 | 125 | 5 | 35 | 80 | 32 | 80 | 440 | 60 | 140 | 135 | 420 | 205 | 120 | 210 | | 30 | 14 | 25 | 8 | 160 | 470 | 240 | 345 | 180 | 231 | 490 |
| 160 | 170 | 7 | 40 | 110 | 35 | 80 | 505 | 70 | 140 | 140 | 470 | 215 | 130 | 235 | | 30 | 16 | 30 | 8 | 180 | 530 | 260 | 385 | 196 | 231 | 555 |
| 180 | 225 | 10 | 45 | 110 | 40 | 110 | 545 | 80 | 170 | 160 | 540 | 235 | 145 | 270 | | 35 | 18 | 30 | 8 | 200 | 600 | 280 | 435 | 215 | 287 | 595 |
| | | | Up to $i_N$ = 12.5 | | Above $i_N$ = 12.5 | | | | | | | | | | | | | | | | | | | | | |
| 200 | 300 | 14 | 50 | 110 | 45 | 110 | 620 | 90 | 170 | 175 | 580 | 270 | 160 | 290 | | 40 | 22 | 35 | 8 | 225 | 650 | 330 | 470 | 235 | 287 | 670 |
| 225 | 410 | 19 | 55 | 110 | 50 | 110 | 715 | 100 | 210 | 190 | 690 | 300 | 185 | 345 | | 45 | 22 | 35 | 8 | 250 | 760 | 380 | 525 | 265 | 364 | 775 |
| 250 | 540 | 27 | 60 | 140 | 55 | 110 | 775 | 110 | 210 | 215 | 760 | 340 | 195 | 380 | | 50 | 26 | 40 | 8 | 280 | 840 | 410 | 600 | 285 | 364 | 835 |
| 280 | 750 | 38 | 70 | 140 | 60 | 140 | 880 | 130 | 250 | 235 | 840 | 370 | 215 | 420 | | 55 | 26 | 45 | 8 | 315 | 930 | 440 | 670 | 310 | 364 | 920 |
| 315 | 1000 | 55 | 75 | 140 | 70 | 140 | 985 | 140 | 250 | 260 | 930 | 410 | 240 | 465 | | 60 | 33 | 50 | 8 | 355 | 1030 | 500 | 740 | 360 | 364 | 1045 |
| 355 | 1320 | 75 | 90 | 170 | 75 | 140 | 1070 | 170 | 300 | 295 | 1070 | 465 | 265 | 535 | | 65 | 33 | 55 | 8 | 400 | 1180 | 555 | 825 | 380 | 459 | 1130 |
| 400 | 1900 | 100 | 100 | 210 | 90 | 170 | 1190 | 180 | 300 | 315 | 1190 | 460 | 305 | 595 | | 70 | 33 | 55 | 8 | 450 | 1300 | 600 | 915 | 425 | 459 | 1250 |
| 450 | 2500 | 140 | 110 | 210 | 100 | 210 | 1360 | 210 | 350 | 345 | 1350 | 540 | 340 | 540 | 945 | 80 | 39 | 65 | 8 | 500 | 1480 | 650 | 1010 | 465 | 459 | 1420 |
| 500 | 3550 | 200 | 120 | 210 | 110 | 210 | 1510 | 240 | 410 | 400 | 1515 | 660 | 375 | 595 | 1055 | 90 | 39 | 75 | 8 | 560 | 1665 | 760 | 1120 | 530 | 570 | 1575 |
| 560 | 4900 | 280 | 130 | 250 | 120 | 210 | 1700 | 270 | 470 | 440 | 1680 | 700 | 415 | 660 | 1170 | 100 | 45 | 85 | 8 | 630 | 1850 | 820 | 1270 | 580 | 570 | 1765 |

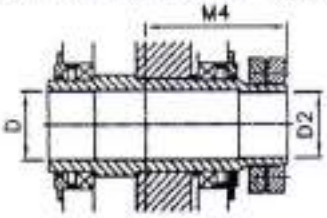
Larger Sizes on Request
Centre Height H1 as per DIN 747
Tolerance for Shaft ends as per DIN 748, Fit for d and D : n6.
Keys according to DIN 6885, Part 1, Shape A
Shaft end centres according to DIN 332, Form DS



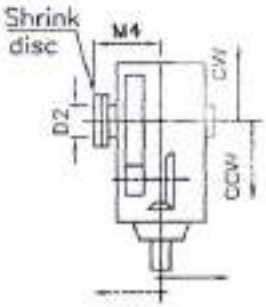

From size 355 up jacking screws in housing feet and alignment surface on front faces of lower housing part



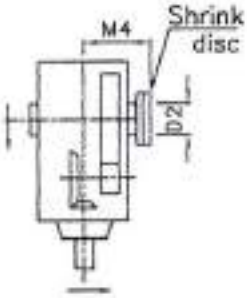

Hollow shaft with key




Hollow shaft with shrink disc




Right hand assembly

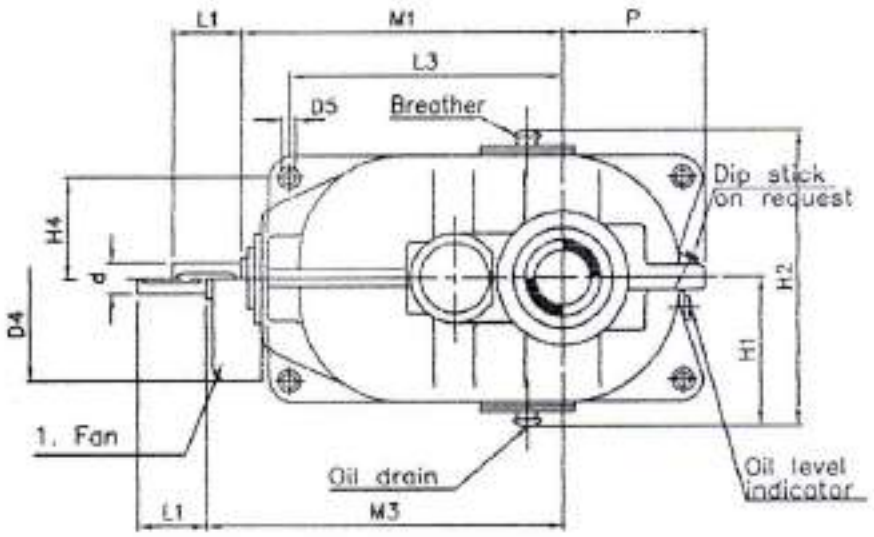


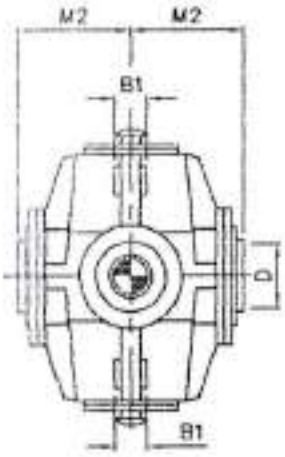

Left hand assembly

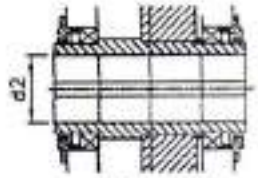
Arrows show relative directions of rotation

| Gear Box Size | Average Weight kg. | Oil Quantity litres - | SHAFT DETAILS | | | | BASE DETAILS | | | | | | | | | | | | | GEAR CASE DETAILS | | | | | FAN DETAILS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $i_N$ = 10 | | Above $i_N$ = 10 | | | | | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | M1 | D | D2 | M2 | M4 | A | B | V | K1 | K2 | C | D3 | R | I | H1 | E | F | H2 | P | D4 | M3 |
| 110 | 70 | 2.2 | 28 | 60 | 24 | 50 | 370 | 55 | | 110 | | 330 | 165 | 95 | 165 | | 25 | 14 | 20 | 6 | 125 | 370 | 200 | 285 | 145 | 186 | 420 |
| 125 | 95 | 3.2 | 32 | 80 | 28 | 60 | 410 | 60 | | 120 | | 390 | 185 | 110 | 195 | | 25 | 14 | 20 | 6 | 140 | 430 | 220 | 300 | 160 | 231 | 460 |
| 140 | 125 | 4.5 | 35 | 80 | 32 | 80 | 440 | 70 | | 135 | | 420 | 205 | 120 | 210 | | 30 | 14 | 25 | 6 | 160 | 470 | 240 | 345 | 180 | 231 | 490 |
| 160 | 170 | 6 | 40 | 110 | 35 | 80 | 505 | 80 | 75 | 140 | 200 | 470 | 215 | 130 | 235 | | 30 | 18 | 30 | 6 | 180 | 530 | 260 | 385 | 195 | 231 | 555 |
| 180 | 225 | 8.5 | 45 | 110 | 40 | 110 | 545 | 90 | 65 | 160 | 230 | 540 | 235 | 145 | 270 | | 35 | 18 | 30 | 6 | 200 | 600 | 280 | 435 | 215 | 287 | 595 |
| | | | Up to $i_N$ = 12.5 | | Above $i_N$ = 12.5 | | | | | | | | | | | | | | | | | | | | | |
| 200 | 300 | 12 | 50 | 110 | 45 | 110 | 620 | 110 | 105 | 175 | 255 | 580 | 270 | 160 | 290 | | 40 | 22 | 35 | 6 | 225 | 650 | 330 | 470 | 235 | 287 | 670 |
| 225 | 410 | 17 | 55 | 110 | 50 | 110 | 715 | 120 | 115 | 190 | 270 | 690 | 300 | 185 | 345 | | 45 | 22 | 35 | 6 | 250 | 760 | 380 | 525 | 265 | 364 | 775 |
| 250 | 540 | 24 | 60 | 140 | 55 | 110 | 775 | 140 | 135 | 215 | 305 | 760 | 340 | 195 | 380 | | 50 | 26 | 40 | 6 | 280 | 840 | 410 | 600 | 285 | 364 | 835 |
| 280 | 750 | 33 | 70 | 140 | 60 | 140 | 860 | 150 | 140 | 235 | 340 | 840 | 370 | 215 | 420 | | 55 | 26 | 45 | 6 | 315 | 930 | 440 | 670 | 310 | 364 | 920 |
| 315 | 1000 | 46 | 75 | 140 | 70 | 140 | 985 | 170 | 160 | 260 | 385 | 930 | 410 | 240 | 465 | | 60 | 33 | 50 | 6 | 355 | 1030 | 500 | 740 | 350 | 364 | 1045 |
| 355 | 1320 | 63 | 90 | 170 | 75 | 140 | 1070 | 180 | 170 | 295 | 430 | 1070 | 465 | 265 | 535 | | 65 | 33 | 55 | 6 | 400 | 1180 | 555 | 825 | 380 | 459 | 1130 |
| 400 | 1900 | 90 | 100 | 210 | 90 | 170 | 1190 | 200 | 190 | 315 | 465 | 1190 | 490 | 305 | 595 | | 70 | 33 | 55 | 6 | 450 | 1300 | 600 | 915 | 425 | 459 | 1250 |
| 450 | 2500 | 125 | 110 | 210 | 100 | 210 | 1360 | 230 | 220 | 345 | 515 | 1350 | 540 | 340 | 540 | 945 | 80 | 38 | 65 | 8 | 500 | 1480 | 660 | 1010 | 465 | 459 | 1420 |
| 500 | 3550 | 180 | 120 | 210 | 110 | 210 | 1510 | 260 | 245 | 400 | 580 | 1515 | 650 | 375 | 595 | 1055 | 90 | 38 | 75 | 8 | 560 | 1685 | 760 | 1120 | 530 | 570 | 1575 |
| 560 | 4900 | 250 | 130 | 250 | 120 | 210 | 1700 | 300 | 285 | 440 | 630 | 1680 | 700 | 415 | 660 | 1170 | 100 | 45 | 85 | 8 | 630 | 1850 | 820 | 1270 | 580 | 570 | 1765 |

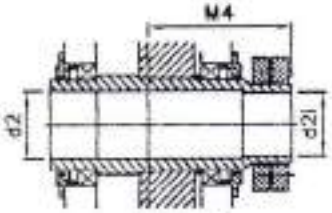
Larger Sizes on Request
**Centre Height** H1 as per DIN 747
**Tolerance for Shaft ends** as per DIN 748, Fit for d : n8, D and D2 : H7.
**Keys according** to DIN 6885, Part 1, Shape A
**Shaft end centres** according to DIN 332, Form DS



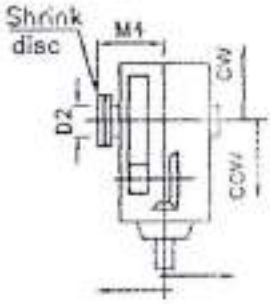



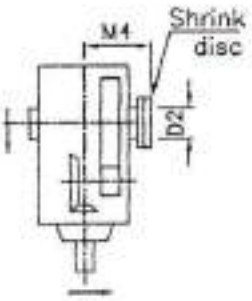

Hollow shaft with key




Hollow shaft with shrink disc




Right hand assembly




Left hand assembly

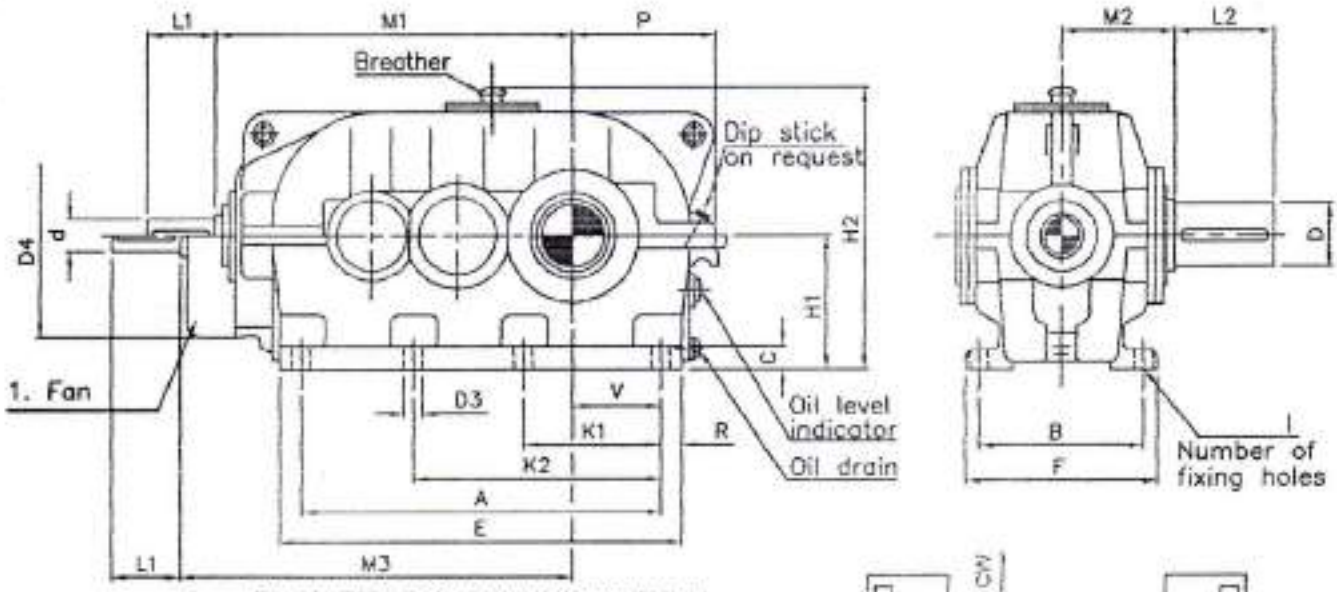
Arrows show relative directions of rotation

| Gear Box Size | Average Weight kg. | Oil Quantity litres ~ | SHAFT DETAILS | | | | GEAR CASE DETAILS | | | | | | | | | | | | FAN DETAILS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $i_N$ = 10 | | Above $i_N$ = 10 | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | M1 | D | D2 | M2 | M4 | H1 | D5 h11 | L3 | H4 | B1 | H2 | P | D4 | M3 |
| 110 | 57 | 1.6 | 28 | 60 | 24 | 50 | 370 | 55 | | 110 | | 150 | 18 | 310 | 100 | 22 | 310 | 145 | 186 | 420 |
| 125 | 78 | 2.2 | 32 | 80 | 28 | 60 | 410 | 60 | | 120 | | 150 | 18 | 340 | 110 | 25 | 310 | 160 | 231 | 460 |
| 140 | 102 | 2.8 | 35 | 80 | 32 | 80 | 440 | 70 | | 135 | | 175 | 20 | 385 | 125 | 30 | 360 | 180 | 231 | 490 |
| 160 | 140 | 4.2 | 40 | 110 | 35 | 80 | 500 | 80 | 75 | 140 | 200 | 195 | 22 | 425 | 145 | 32 | 400 | 195 | 231 | 555 |
| 180 | 185 | 6.0 | 45 | 110 | 40 | 110 | 545 | 90 | 85 | 160 | 230 | 225 | 25 | 470 | 155 | 35 | 460 | 215 | 287 | 590 |
| | | | Up to $i_N$ = 12.5 | | Above $i_N$ = 12.5 | | | | | | | | | | | | | | | |
| 200 | 245 | 8.5 | 50 | 110 | 45 | 110 | 620 | 110 | 105 | 175 | 255 | 235 | 30 | 540 | 170 | 40 | 480 | 235 | 287 | 670 |
| 225 | 335 | 12 | 55 | 110 | 50 | 110 | 715 | 120 | 115 | 190 | 270 | 265 | 35 | 625 | 195 | 45 | 540 | 265 | 364 | 775 |
| 250 | 445 | 17 | 60 | 140 | 55 | 110 | 775 | 140 | 135 | 215 | 305 | 310 | 40 | 680 | 205 | 50 | 630 | 285 | 364 | 830 |
| 280 | 615 | 24 | 70 | 140 | 60 | 140 | 860 | 150 | 140 | 235 | 340 | 345 | 45 | 755 | 230 | 55 | 700 | 310 | 364 | 920 |
| 315 | 820 | 32 | 75 | 140 | 70 | 140 | 985 | 170 | 160 | 260 | 385 | 375 | 50 | 870 | 260 | 60 | 760 | 350 | 364 | 1045 |
| 355 | 1100 | 45 | 90 | 170 | 75 | 140 | 1070 | 180 | 170 | 295 | 430 | 415 | 55 | 940 | 290 | 70 | 840 | 380 | 459 | 1130 |
| 400 | 1580 | 63 | 100 | 210 | 90 | 170 | 1190 | 200 | 190 | 315 | 465 | 435 | 60 | 1045 | 325 | 80 | 900 | 425 | 459 | 1250 |
| 450 | 2100 | 90 | 110 | 210 | 100 | 210 | 1360 | 230 | 220 | 345 | 515 | 480 | 65 | 1205 | 360 | 90 | 990 | 465 | 459 | 1420 |
| 500 | 2950 | 125 | 120 | 210 | 110 | 210 | 1510 | 260 | 245 | 400 | 580 | 530 | 70 | 1340 | 410 | 100 | 1090 | 530 | 570 | 1575 |
| 560 | 4100 | 180 | 130 | 260 | 120 | 210 | 1700 | 300 | 285 | 440 | 630 | 610 | 75 | 1520 | 460 | 110 | 1250 | 580 | 570 | 1765 |

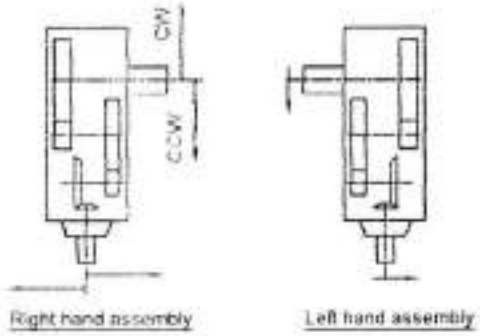
Larger Sizes on Request
Centre Height H1 as per DIN 747
Tolerance for Shaft ends as per DIN 748, Fit for d : s6, D and D2 : H7.
Keys according to DIN 6885, Part 1, Shape A
Shaft end centres according to DIN 332, Form DS

| Nominal Ratio | Nominal Speeds RPM | | SIZE OF GEAR UNIT | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 160 | 180 | 200 | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 | 630 | 710 | 800 | |
| $i_w$ | $n_1$ | $n_2$ | Nominal gear box rating $P_n$ (kw) | | | | | | | | | | | | | | | |
| 11.2 | | 134 | | | | | | | | | | | | 1900 * | - | - | - | |
| | | 89 | | | | | | | | | | | | 1450 | 2200 * | 2550 * | 2850 * | |
| | | 67 | | | | | | | | | | | | 1200 | 1750 | 2300 | 2700 * | |
| | 1500 | 120 | | | | | | | | 480 | 680 | 910 * | 1350 * | 1900 * | - | - | - | |
| 12.5 | 1000 | 80 | | | | | | | | 350 | 500 | 680 | 1050 | 1450 | 2200 * | 2550 * | 2850 * | |
| | 750 | 60 | | | | | | | | 275 | 380 | 520 | 840 | 1200 | 1750 | 2300 | 2700 * | |
| | 1500 | 107 | 46 | 65 | 87 | 130 | 175 | 250 | 330 | 480 | 640 | 890 | 1350 * | 1900 * | - | - | - | |
| 14 | 1000 | 71 | 31 | 47 | 62 | 88 | 125 | 180 | 240 | 350 | 490 | 670 | 1050 | 1450 | 2200 * | 2550 * | 2850 * | |
| | 750 | 54 | 24 | 36 | 46 | 71 | 95 | 145 | 195 | 275 | 370 | 510 | 840 | 1200 | 1750 | 2300 | 2700 * | |
| | 1500 | 94 | 46 | 65 | 87 | 125 | 165 | 235 | 310 | 470 | 610 | 840 | 1350 * | 1900 * | - | - | - | |
| 16 | 1000 | 62 | 31 | 47 | 62 | 88 | 115 | 170 | 235 | 340 | 490 | 640 | 1050 | 1450 | 2200 | 2550 * | 2850 * | |
| | 750 | 47 | 24 | 36 | 46 | 70 | 87 | 140 | 190 | 270 | 360 | 520 | 830 | 1200 | 1750 | 2300 | 2650 | |
| | 1500 | 83 | 43 | 59 | 76 | 115 | 155 | 215 | 295 | 460 | 570 | 810 | 1350 * | 1850 * | - | - | - | |
| 18 | 1000 | 56 | 30 | 41 | 54 | 77 | 105 | 155 | 220 | 340 | 430 | 600 | 1000 | 1400 | 1850 | 2550 | 2850 * | |
| | 750 | 42 | 23 | 33 | 42 | 63 | 81 | 120 | 175 | 260 | 350 | 490 | 790 | 1150 | 1450 | 2200 | 2550 * | |
| | 1500 | 75 | 40 | 54 | 69 | 105 | 140 | 200 | 260 | 440 | 560 | 750 | 1350 * | 1800 * | - | - | - | |
| 20 | 1000 | 50 | 27.5 | 37 | 49 | 71 | 96 | 145 | 205 | 320 | 390 | 550 | 880 | 1250 | 1650 | 2400 | 2850 * | |
| | 750 | 38 | 20.5 | 29 | 38 | 56 | 75 | 110 | 160 | 245 | 310 | 450 | 700 | 1000 | 1300 | 1950 | 2500 | |
| | 1500 | 67 | 35 | 50 | 66 | 95 | 135 | 180 | 255 | 400 | 520 | 750 | 1200 | 1550 * | - | - | - | |
| 22.4 | 1000 | 44 | 23.5 | 34 | 45 | 66 | 91 | 130 | 190 | 290 | 360 | 520 | 790 | 1100 | 1450 | 2100 | 2600 * | |
| | 750 | 33 | 17.5 | 26 | 36 | 50 | 70 | 96 | 145 | 220 | 280 | 400 | 620 | 880 | 1150 | 1700 | 2400 | |
| | 1500 | 60 | 31 | 45 | 62 | 85 | 120 | 165 | 230 | 360 | 470 | 670 | 1050 | 1450 | - | - | - | |
| 25 | 1000 | 40 | 20.5 | 30 | 42 | 58 | 81 | 115 | 170 | 255 | 320 | 460 | 730 | 1050 | 1350 | 2050 | 2600 * | |
| | 750 | 30 | 16 | 23 | 33 | 44 | 61 | 86 | 130 | 195 | 240 | 350 | 550 | 780 | 1050 | 1500 | 2200 | |
| | 1500 | 54 | 25.5 | 38 | 52 | 78 | 100 | 145 | 220 | 330 | 410 | 600 | 930 | 1300 | - | - | - | |
| 28 | 1000 | 34 | 17 | 25.5 | 35 | 53 | 68 | 97 | 150 | 230 | 290 | 420 | 640 | 910 | 1200 | 1750 | 2500 | |
| | 750 | 27 | 13 | 19.5 | 26.5 | 40 | 51 | 73 | 115 | 175 | 220 | 320 | 490 | 690 | 890 | 1350 | 1900 | |
| | 1500 | 48 | 23 | 34 | 46 | 69 | 91 | 130 | 200 | 295 | 390 | 560 | 840 | 1200 | - | - | - | |
| 31.5 | 1000 | 32 | 15.5 | 22.5 | 31 | 46 | 62 | 90 | 135 | 205 | 285 | 390 | 580 | 830 | 1100 | 1600 | 2050 | |
| | 750 | 24 | 12 | 17 | 23.5 | 35 | 46 | 66 | 105 | 155 | 195 | 265 | 440 | 620 | 810 | 1200 | 1750 | |
| | 1500 | 42 | 19 | 31 | 41 | 62 | 81 | 110 | 180 | 265 | 350 | 510 | 780 | 1100 | - | - | - | |
| 35.5 | 1000 | 28 | 13 | 20.5 | 28 | 42 | 54 | 74 | 120 | 185 | 235 | 340 | 530 | 720 | 980 | 1450 | 2050 | |
| | 750 | 21 | 9.8 | 15.5 | 21.5 | 32 | 41 | 56 | 91 | 140 | 180 | 255 | 390 | 550 | 730 | 1100 | 1550 | |
| | 1500 | 36 | 17.5 | 27.5 | 37 | 55 | 71 | 98 | 160 | 240 | 310 | 480 | 690 | 950 | - | - | - | |
| 40 | 1000 | 25 | 11.5 | 18.5 | 25.5 | 38 | 48 | 66 | 110 | 165 | 225 | 310 | 470 | 660 | 980 | 1300 | 1800 | |
| | 750 | 18 | 8.6 | 14.5 | 19 | 29.5 | 36 | 50 | 83 | 125 | 160 | 235 | 350 | 500 | 650 | 980 | 1400 | |
| | 1500 | 33 | 15.5 | 24 | 33 | 50 | 65 | 91 | 145 | 215 | 280 | 410 | 620 | 880 | - | - | - | |
| 45 | 1000 | 22 | 10.5 | 16 | 22 | 33 | 44 | 61 | 96 | 145 | 185 | 270 | 460 | 610 | 800 | 1200 | 1600 | |
| | 750 | 17 | 7.8 | 12 | 17 | 26 | 33 | 46 | 75 | 110 | 145 | 210 | 320 | 460 | 600 | 870 | 1260 | |
| | 1500 | 30 | 13.5 | 21.5 | 30 | 44 | 58 | 81 | 130 | 185 | 245 | 360 | 550 | 780 | 1050 | - | - | |
| 50 | 1000 | 20 | 9.1 | 14.5 | 20.5 | 33 | 39 | 55 | 87 | 125 | 165 | 240 | 370 | 520 | 840 | 1050 | 1500 | |
| | 750 | 15 | 7 | 11 | 15.5 | 23 | 30 | 42 | 66 | 95 | 125 | 185 | 290 | 410 | 550 | 780 | 1150 | |
| | 1500 | 27 | 12 | 19.5 | 27 | 40 | 51 | 72 | 115 | 165 | 225 | 320 | 500 | 700 | 920 | - | - | |
| 56 | 1000 | 18 | 8.1 | 13 | 18 | 27 | 35 | 50 | 78 | 115 | 150 | 215 | 340 | 490 | 840 | 840 | 1350 | |
| | 750 | 13.4 | 6.1 | 10 | 14 | 21 | 26 | 37 | 59 | 88 | 115 | 165 | 255 | 360 | 480 | 690 | 990 | |
| | 1500 | 24 | 11 | 17 | 23.5 | 35 | 45 | 64 | 100 | 150 | 200 | 285 | 440 | 620 | 810 | - | - | |
| 63 | 1000 | 16 | 7.4 | 12 | 16 | 24 | 31 | 44 | 69 | 105 | 135 | 190 | 300 | 430 | 560 | 830 | 1100 | |
| | 750 | 12 | 5.6 | 8.6 | 12 | 18 | 23 | 33 | 52 | 78 | 99 | 145 | 230 | 320 | 430 | 630 | 840 | |
| | 1500 | 21 | 9.5 | 15 | 21.5 | 31 | 41 | 57 | 91 | 130 | 180 | 235 | 400 | 580 | 730 | - | - | |
| 71 | 1000 | 14 | 6.5 | 10 | 14.5 | 21 | 27.5 | 38 | 62 | 88 | 125 | 160 | 265 | 380 | 500 | 690 | 900 | |
| | 750 | 10.6 | 4.8 | 7.6 | 11 | 16 | 21 | 29 | 47 | 65 | 92 | 120 | 200 | 285 | 380 | 520 | 690 | |
| | 1500 | 18.8 | 9 | 12 | 19.5 | 26 | 36 | 51 | 74 | 115 | 160 | 215 | 350 | 480 | 610 | - | - | |
| 80 | 1000 | 12.5 | 6 | 8.1 | 13.5 | 19 | 26 | 35 | 50 | 79 | 110 | 145 | 240 | 340 | 420 | 570 | 730 | |
| | 750 | 9.4 | 4.6 | 6.1 | 10 | 14 | 19.5 | 26 | 36 | 56 | 81 | 110 | 180 | 250 | 310 | 430 | 560 | |
| | 1500 | 16.7 | 8 | 10 | 18 | 26 | 35 | 44 | 66 | 110 | 145 | 200 | 310 | 404 | 527 | 800 | 958 | |
| 90 | 1000 | 11.1 | 5.5 | 6.7 | 12 | 17 | 24 | 30 | 44 | 68 | 100 | 121 | 189 | 273 | 373 | 556 | 683 | |
| | 750 | 8.3 | 4.1 | 5.2 | 9 | 13 | 17.5 | 22 | 33 | 50 | 71 | 90 | 137 | 205 | 284 | 417 | 536 | |
| | 1500 | 15 | 7.2 | 10 | 16 | 22 | 31 | 38 | 53 | 86 | 120 | 147 | 241 | 336 | 452 | 650 | 850 | |
| 100 | 1000 | 10 | 4.6 | 6.8 | 10.4 | 13.7 | 20 | 23 | 33 | 53 | 67 | 89 | 142 | 215 | 310 | 525 | 578 | |
| | 750 | 7.5 | 3.5 | 5.1 | 7.8 | 10 | 15 | 17 | 24 | 39 | 48 | 65 | 102 | 152 | 236 | 347 | 462 | |
| Thermal Capacity (kw) | | | | | | | | | | | | | | | | | | |
| Without Cooling $PG_1$(kw) | Input rpm $n_1$ | | | | | 38 | 49 | 61 | 77 | 98 | 122 | 152 | 195 | 248 | 306 | 388 | 489 | 615 | 767 | 994 |
| With Fan Cooling $PG_2$(kw) | 1500 | | | | | 70 | 88 | 102 | 124 | 165 | 239 | 291 | 358 | 544 | 670 | 850 | 1603 | 2008 | 2483 | 3201 |
| | 1000 | | | | | 56 | 71 | 78 | 96 | 149 | 183 | 223 | 274 | 398 | 490 | 621 | 1205 | 1500 | 1851 | 2405 |
| | 750 | | | | | 50 | 64 | 65 | 79 | 121 | 148 | 180 | 221 | 339 | 417 | 529 | 969 | 1214 | 1849 | 1935 |
| With Cooling Coil $PG_3$(kw) | | | | | | 97 | 113 | 141 | 170 | 207 | 232 | 250 | 283 | 390 | 427 | 500 | 567 | 677 | | |
| With Fan and Cooling coil $PG_4$(kw) | 1500 | | | | | 129 | 152 | 202 | 244 | 335 | 389 | 441 | 518 | 774 | 900 | 1100 | 1853 | 2288 | | |
| | 1000 | | | | | 115 | 135 | 178 | 216 | 289 | 333 | 373 | 434 | 628 | 720 | 871 | 1455 | 1789 | | |
| | 750 | | | | | 109 | 128 | 165 | 199 | 281 | 298 | 330 | 381 | 568 | 647 | 779 | 1219 | 1494 | | |

• Pressure lubrication required




From size 355 up jacking screws in housing feet and alignment surface on front faces of lower housing part



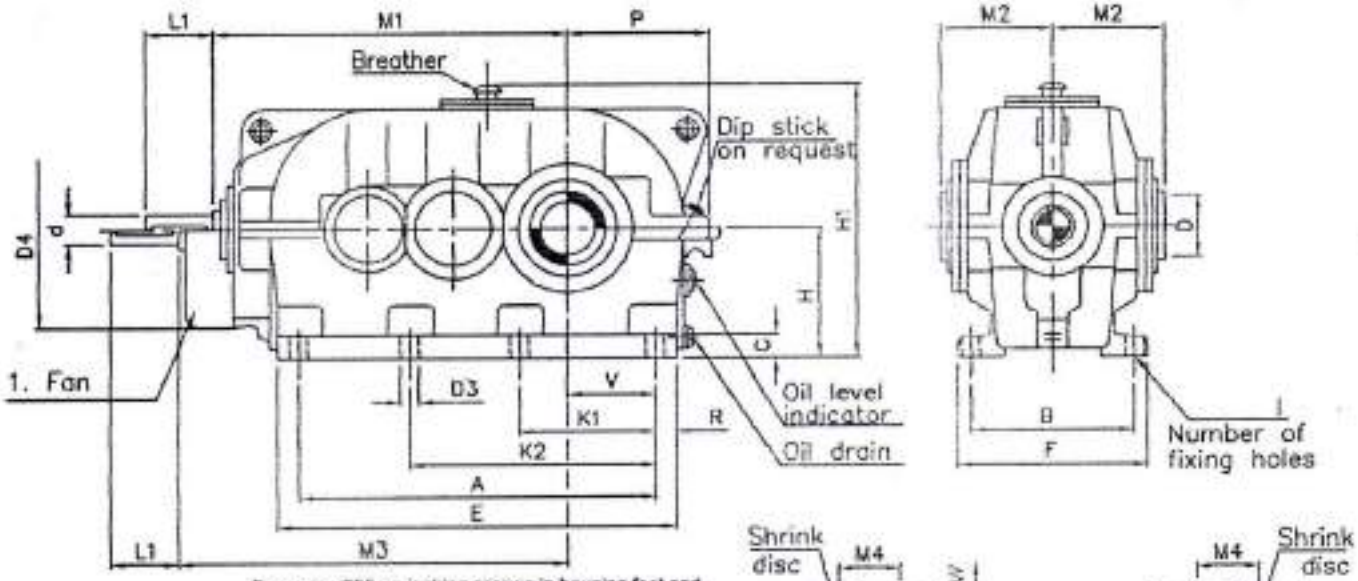

Right hand assembly

Left hand assembly

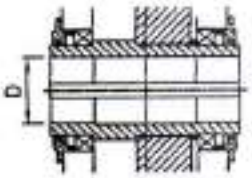
Arrows show relative directions of rotation

| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | BASE DETAILS | | | | | | | | | | | GEAR CASE DETAILS | | | | | FAN DETAILS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $l_a$ = 28 | | Above $l_a$ = 28 to $l_a$ = 80 | | Above $l_a$ = 80 | | | | | | | | | | | | | | | | | | | |
| | | | d1 | L1 | d1 | L1 | d1 | L1 | M1 | d2 | L2 | M2 | A | B | V | K1 | K2 | C | D3 | R | I | H1 | E | F | H2 | P | D4 | M3 |
| 160 | 180 | 9.5 | 28 | 60 | 24 | 50 | 20 | 50 | 530 | 70 | 140 | 140 | 520 | 215 | 130 | 260 | | 30 | 18 | 30 | 6 | 180 | 580 | 260 | 385 | 195 | 231 | 580 |
| 180 | 230 | 13 | 32 | 80 | 28 | 60 | 22 | 50 | 560 | 80 | 170 | 160 | 590 | 235 | 145 | 285 | | 35 | 18 | 30 | 6 | 200 | 650 | 280 | 435 | 215 | 231 | 640 |
| 200 | 315 | 18.5 | 35 | 80 | 32 | 80 | 24 | 50 | 640 | 90 | 170 | 175 | 650 | 270 | 160 | 325 | | 40 | 22 | 35 | 6 | 225 | 720 | 330 | 470 | 235 | 287 | 690 |
| 225 | 425 | 25 | 40 | 110 | 36 | 80 | 28 | 60 | 730 | 100 | 210 | 190 | 750 | 300 | 185 | 375 | | 45 | 22 | 35 | 6 | 250 | 820 | 360 | 525 | 265 | 287 | 780 |
| 250 | 560 | 36 | 45 | 110 | 40 | 110 | 32 | 80 | 795 | 110 | 210 | 215 | 830 | 340 | 195 | 415 | | 50 | 26 | 40 | 6 | 280 | 910 | 410 | 600 | 285 | 364 | 855 |
| | | | Up to $l_a$ = 45 | | Above $l_a$ = 45 to $l_a$ = 80 | | Above $l_a$ = 80 | | | | | | | | | | | | | | | | | | | |
| 280 | 780 | 50 | 50 | 110 | 45 | 110 | 35 | 80 | 900 | 130 | 250 | 235 | 910 | 370 | 215 | 455 | | 55 | 26 | 45 | 6 | 315 | 1000 | 440 | 670 | 310 | 364 | 960 |
| 315 | 1060 | 68 | 55 | 110 | 50 | 110 | 40 | 110 | 1030 | 140 | 250 | 260 | 1050 | 410 | 240 | 400 | 725 | 60 | 33 | 50 | 8 | 355 | 1150 | 500 | 740 | 350 | 364 | 1090 |
| 355 | 1500 | 95 | 60 | 140 | 55 | 110 | 45 | 110 | 1130 | 170 | 300 | 295 | 1170 | 465 | 265 | 440 | 805 | 65 | 33 | 55 | 8 | 400 | 1280 | 555 | 825 | 380 | 364 | 1190 |
| 400 | 2000 | 130 | 70 | 140 | 60 | 140 | 50 | 110 | 1260 | 180 | 300 | 315 | 1320 | 490 | 305 | 490 | 905 | 70 | 33 | 55 | 8 | 450 | 1430 | 600 | 915 | 425 | 459 | 1320 |
| 450 | 2700 | 185 | 75 | 140 | 70 | 140 | 55 | 110 | 1435 | 210 | 350 | 345 | 1470 | 540 | 340 | 540 | 1005 | 80 | 39 | 65 | 8 | 500 | 1600 | 650 | 1010 | 485 | 459 | 1495 |
| 500 | 3800 | 250 | 90 | 170 | 75 | 140 | 60 | 140 | 1570 | 240 | 410 | 400 | 1665 | 650 | 375 | 595 | 1130 | 90 | 39 | 75 | 8 | 560 | 1815 | 760 | 1120 | 530 | 459 | 1630 |
| 560 | 5100 | 355 | 100 | 210 | 90 | 170 | 70 | 140 | 1750 | 270 | 470 | 440 | 1830 | 700 | 415 | 660 | 1245 | 100 | 45 | 85 | 8 | 630 | 2000 | 820 | 1270 | 580 | 570 | 1815 |
| 630 | 7100 | 500 | 110 | 210 | 100 | 210 | 75 | 140 | 1990 | 300 | 470 | 490 | 2100 | 780 | 475 | 740 | 1420 | 110 | 45 | 85 | 8 | 710 | 2270 | 900 | 1390 | 640 | 570 | 2055 |
| 710 | 10000 | 700 | 120 | 210 | 110 | 210 | 90 | 170 | 2220 | 340 | 550 | 540 | 2370 | 870 | 540 | 820 | 1595 | 125 | 45 | 90 | 8 | 800 | 2550 | 1010 | 1570 | 735 | 570 | 2280 |
| 800 | 13400 | 965 | 130 | 250 | 120 | 210 | 100 | 210 | 2500 | 390 | 650 | 600 | 2670 | 1020 | 610 | 900 | 1785 | 140 | 45 | 90 | 8 | 900 | 2850 | 1160 | 1760 | 815 | 570 | 2565 |

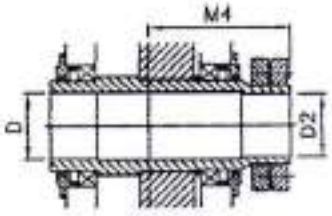
Larger Sizes on Request
Centre Height H1 as per DIN 747
Tolerance for Shaft ends as per DIN 748, Fit for d and D : m6
Keys according to DIN 6885, Part 1, Shape A
Shaft end centres according to DIN 332, Form DS



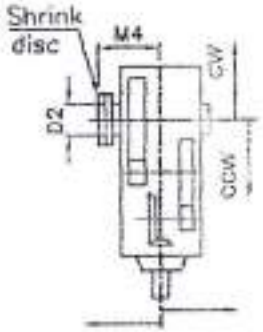

From size 355 up jacking screws in housing feet and alignment surface on front faces of lower housing part



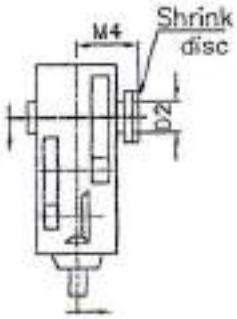

Hollow shaft with key




Hollow shaft with shrink disc




Right hand assembly

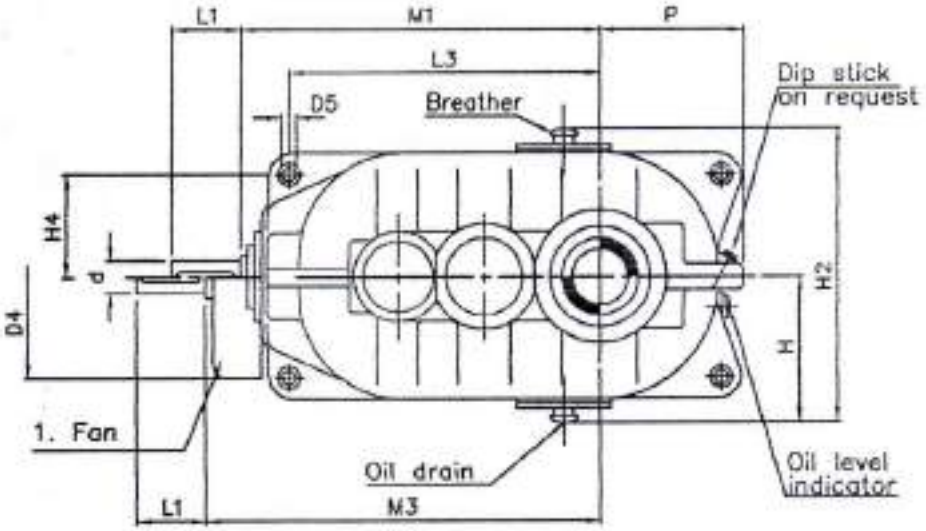


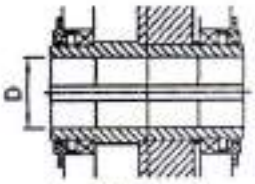

Left hand assembly

Arrows show relative directions of rotation

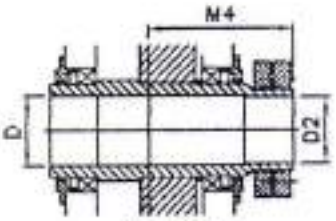
| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | BASE DETAILS | | | | | | | | | | | | | | GEAR CASE DETAILS | | | | | FAN DETAILS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $l_a$ = 28 | | Above $l_a$ = 28 to 60 | | Above $l_a$ = 60 | | | | | | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | d | L1 | M1 | D | D2 | M2 | M4 | A | B | V | K1 | K2 | C | D3 | R | I | H | E | F | H1 | P | D4 | M3 |
| 160 | 180 | 9 | 28 | 60 | 24 | 50 | 20 | 50 | 530 | 80 | 75 | 140 | 200 | 520 | 215 | 130 | 260 | | 30 | 18 | 30 | 8 | 180 | 580 | 260 | 385 | 195 | 231 | 580 |
| 180 | 230 | 12 | 32 | 80 | 28 | 60 | 22 | 50 | 590 | 90 | 85 | 160 | 230 | 590 | 235 | 145 | 285 | | 35 | 18 | 30 | 8 | 200 | 650 | 280 | 435 | 215 | 231 | 640 |
| 200 | 315 | 18 | 35 | 80 | 32 | 80 | 24 | 50 | 640 | 110 | 105 | 175 | 255 | 650 | 270 | 180 | 325 | | 40 | 22 | 35 | 8 | 225 | 720 | 330 | 470 | 235 | 287 | 690 |
| 225 | 425 | 23 | 40 | 110 | 35 | 80 | 28 | 60 | 730 | 120 | 115 | 180 | 270 | 750 | 300 | 185 | 375 | | 45 | 22 | 35 | 8 | 250 | 820 | 360 | 525 | 265 | 287 | 780 |
| 250 | 560 | 33 | 45 | 110 | 40 | 110 | 32 | 80 | 795 | 140 | 135 | 215 | 305 | 830 | 340 | 195 | 415 | | 50 | 28 | 40 | 8 | 280 | 910 | 410 | 600 | 295 | 364 | 855 |
| | | | Up to $l_a$ = 45 | | Above $l_a$ = 45 to 90 | | Above $l_a$ = 90 | | | | | | | | | | | | | | | | | | | | | | |
| 280 | 780 | 47 | 50 | 110 | 45 | 110 | 36 | 80 | 900 | 150 | 140 | 235 | 340 | 910 | 370 | 215 | 455 | | 55 | 28 | 45 | 8 | 315 | 1000 | 440 | 670 | 310 | 364 | 900 |
| 315 | 1060 | 64 | 55 | 110 | 50 | 110 | 40 | 110 | 1030 | 170 | 160 | 260 | 385 | 1050 | 410 | 240 | 400 | 725 | 60 | 33 | 50 | 8 | 355 | 1150 | 500 | 740 | 350 | 364 | 1090 |
| 355 | 1500 | 90 | 60 | 140 | 55 | 110 | 45 | 110 | 1130 | 180 | 170 | 295 | 430 | 1170 | 465 | 265 | 440 | 805 | 65 | 33 | 55 | 8 | 400 | 1280 | 555 | 825 | 380 | 364 | 1190 |
| 400 | 2000 | 125 | 70 | 140 | 60 | 140 | 50 | 110 | 1260 | 200 | 190 | 315 | 465 | 1320 | 490 | 305 | 490 | 905 | 70 | 33 | 55 | 8 | 450 | 1430 | 600 | 915 | 425 | 459 | 1320 |
| 450 | 2700 | 180 | 75 | 140 | 70 | 140 | 55 | 110 | 1435 | 230 | 220 | 345 | 515 | 1470 | 540 | 340 | 540 | 1005 | 80 | 39 | 65 | 8 | 500 | 1600 | 650 | 1010 | 465 | 459 | 1495 |
| 500 | 3800 | 230 | 90 | 170 | 75 | 140 | 60 | 140 | 1570 | 260 | 245 | 400 | 580 | 1665 | 650 | 375 | 595 | 1130 | 90 | 39 | 75 | 8 | 560 | 1815 | 760 | 1120 | 530 | 459 | 1830 |
| 560 | 5100 | 335 | 100 | 210 | 90 | 170 | 70 | 140 | 1750 | 300 | 285 | 440 | 630 | 1830 | 700 | 415 | 660 | 1245 | 100 | 45 | 85 | 8 | 630 | 2000 | 820 | 1270 | 580 | 570 | 1815 |
| 630 | 7100 | 460 | 110 | 210 | 100 | 210 | 75 | 140 | 1990 | 340 | 325 | 490 | 700 | 2100 | 780 | 475 | 740 | 1420 | 110 | 45 | 85 | 8 | 710 | 2270 | 900 | 1390 | 640 | 570 | 2065 |

Larger Sizes on Request
Centre Height H1 as per DIN 747
Tolerance for Shaft ends as per DIN 748, Fit for d : n6, D and D2 : H7.
Keys according to DIN 6885, Part 1, Shape A
Shaft end centres according to DIN 332, Form DS

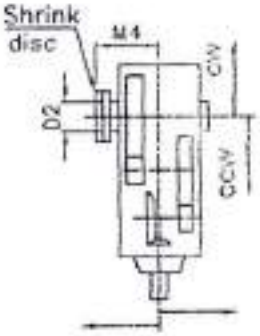


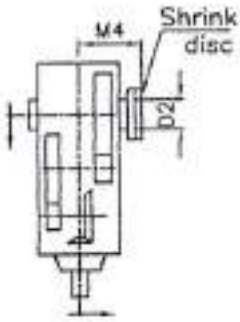

Hollow shaft
with key




Hollow shaft
with shrink disc




Right hand assembly




Left hand assembly

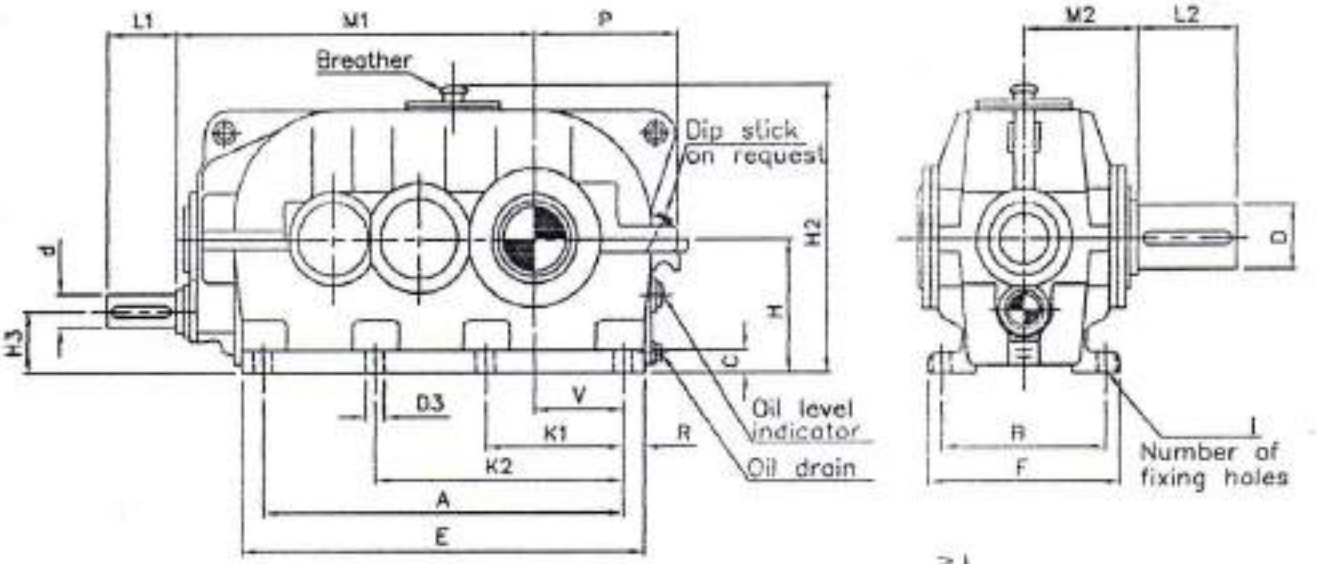
Arrows show relative directions of rotation

| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | GEAR CASE DETAILS | | | | | | | | | | | FAN DETAILS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $i_a$ = 28 | | Above $i_a$ = 28 to $i_a$ = 80 | | Above $i_a$ = 80 | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | d | L1 | M1 | D | D2 | M2 | M4 | H1 | D5 h11 | L3 | H4 | B1 | H2 | P | D4 | M3 |
| 180 | 140 | 7 | 28 | 80 | 24 | 50 | 20 | 50 | 530 | 80 | 75 | 140 | 200 | 105 | 22 | 465 | 145 | 32 | 400 | 195 | 231 | 590 |
| 180 | 190 | 10 | 32 | 80 | 28 | 60 | 22 | 50 | 590 | 90 | 85 | 160 | 230 | 225 | 25 | 515 | 150 | 35 | 460 | 215 | 231 | 640 |
| 200 | 250 | 14 | 35 | 80 | 32 | 80 | 24 | 50 | 640 | 110 | 105 | 175 | 255 | 235 | 30 | 580 | 170 | 40 | 480 | 235 | 267 | 690 |
| 225 | 325 | 19 | 40 | 110 | 35 | 80 | 28 | 60 | 730 | 120 | 115 | 190 | 270 | 265 | 35 | 645 | 195 | 45 | 540 | 265 | 267 | 780 |
| 250 | 450 | 27 | 45 | 110 | 40 | 110 | 32 | 80 | 795 | 140 | 135 | 215 | 305 | 310 | 40 | 710 | 205 | 50 | 630 | 285 | 364 | 855 |
| | | | Up to $i_a$ = 45 | | Above $i_a$ = 45 to $i_a$ = 80 | | Above $i_a$ = 80 | | | | | | | | | | | | | | |
| 280 | 625 | 36 | 50 | 110 | 45 | 110 | 35 | 80 | 900 | 150 | 140 | 235 | 340 | 345 | 45 | 800 | 230 | 55 | 700 | 310 | 364 | 900 |
| 315 | 850 | 50 | 55 | 110 | 50 | 110 | 40 | 110 | 1030 | 170 | 160 | 260 | 385 | 375 | 50 | 920 | 260 | 60 | 760 | 350 | 364 | 1090 |
| 355 | 1170 | 70 | 60 | 140 | 55 | 110 | 45 | 110 | 1130 | 180 | 170 | 295 | 430 | 415 | 55 | 1000 | 290 | 70 | 840 | 380 | 364 | 1190 |
| 400 | 1600 | 95 | 70 | 140 | 60 | 140 | 50 | 110 | 1260 | 200 | 190 | 315 | 465 | 435 | 60 | 1130 | 325 | 80 | 900 | 425 | 459 | 1320 |
| 450 | 2200 | 130 | 75 | 140 | 70 | 140 | 55 | 110 | 1435 | 230 | 220 | 345 | 515 | 480 | 65 | 1280 | 360 | 90 | 990 | 465 | 459 | 1495 |
| 500 | 3000 | 185 | 90 | 170 | 75 | 140 | 60 | 140 | 1570 | 260 | 245 | 400 | 580 | 530 | 70 | 1400 | 410 | 100 | 1090 | 530 | 459 | 1630 |
| 560 | 4100 | 250 | 100 | 210 | 90 | 170 | 70 | 140 | 1750 | 300 | 285 | 440 | 630 | 610 | 75 | 1580 | 460 | 110 | 1250 | 580 | 570 | 1815 |
| 630 | 5600 | 350 | 110 | 210 | 100 | 210 | 75 | 140 | 1990 | 340 | 325 | 490 | 700 | 650 | 80 | 1790 | 510 | 120 | 1330 | 640 | 570 | 2055 |

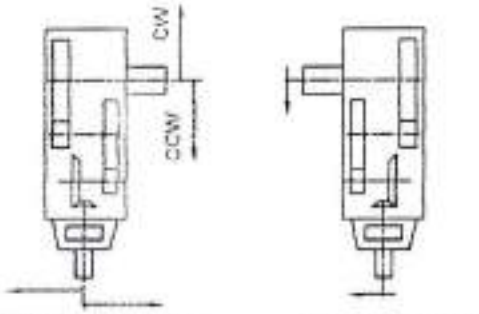
**Larger Sizes** on Request
**Centre Height** H1 as per DIN 747
**Tolerance for Shaft ends** as per DIN 748, Fit for d : n6, D and D2 : H7.
**Keys according to** DIN 6885, Part 1, Shape A
**Shaft end centres** according to DIN 332, Form DS

| Nominal Ratio | Nominal Speeds RPM | | SIZE OF GEAR UNIT | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 | 630 | 710 | 800 |
| $i_w$ | $n_1$ | $n_2$ | Nominal gear box rating $P_N$ (kw) | | | | | | | | | | | |
| 90 | 1500 | 16.7 | | | | | 105 | 145 | 205 | 300 | 420 | 560 | 800 | 1150 |
| | 1000 | 11.1 | | | | | 71 | 98 | 140 | 205 | 285 | 370 | 530 | 770 |
| | 750 | 8.3 | | | | | 53 | 73 | 105 | 155 | 210 | 280 | 400 | 580 |
| 100 | 1500 | 15 | 22 | 29.5 | 42 | 66 | 99 | 130 | 185 | 290 | 400 | 540 | 780 | 1100 |
| | 1000 | 10 | 15 | 10 | 28 | 45 | 66 | 88 | 125 | 195 | 270 | 360 | 520 | 750 |
| | 750 | 7.5 | 11.5 | 15 | 21 | 34 | 51 | 66 | 93 | 145 | 205 | 270 | 390 | 560 |
| 112 | 1500 | 13.4 | 21 | 27.5 | 38 | 59 | 87 | 115 | 170 | 255 | 360 | 480 | 690 | 940 |
| | 1000 | 8.9 | 14.5 | 18.5 | 25.5 | 39 | 60 | 78 | 115 | 170 | 240 | 320 | 470 | 670 |
| | 750 | 6.7 | 10.5 | 14 | 19.5 | 30 | 45 | 58 | 86 | 130 | 185 | 240 | 355 | 500 |
| 125 | 1500 | 12 | 18.5 | 24.5 | 34 | 52 | 79 | 100 | 150 | 230 | 320 | 430 | 610 | 880 |
| | 1000 | 8 | 12.5 | 16.5 | 23 | 35 | 54 | 68 | 100 | 155 | 215 | 285 | 410 | 590 |
| | 750 | 6 | 9.1 | 12.5 | 17.5 | 26.5 | 41 | 51 | 75 | 115 | 165 | 215 | 310 | 440 |
| 140 | 1500 | 10.7 | 16.5 | 22.5 | 30 | 47 | 71 | 89 | 135 | 205 | 295 | 380 | 550 | 800 |
| | 1000 | 7.1 | 11.5 | 15.5 | 21 | 32 | 49 | 60 | 91 | 140 | 195 | 255 | 365 | 530 |
| | 750 | 5.4 | 8.1 | 11.5 | 16 | 24 | 36 | 45 | 68 | 105 | 150 | 195 | 275 | 400 |
| 160 | 1500 | 9.4 | 14.5 | 20 | 27.5 | 42 | 63 | 81 | 115 | 180 | 260 | 340 | 490 | 710 |
| | 1000 | 6.3 | 9.5 | 13.5 | 18.5 | 27.5 | 42 | 55 | 77 | 120 | 175 | 225 | 330 | 470 |
| | 750 | 4.7 | 7.4 | 10.5 | 14 | 21.5 | 32 | 41 | 58 | 92 | 135 | 170 | 250 | 360 |
| 180 | 1500 | 8.3 | 13 | 17.5 | 24.5 | 38 | 57 | 72 | 100 | 160 | 225 | 295 | 440 | 630 |
| | 1000 | 5.6 | 8.8 | 12 | 16.5 | 25.5 | 38 | 48 | 69 | 105 | 150 | 200 | 295 | 420 |
| | 750 | 4.2 | 6.6 | 9 | 12.5 | 19.5 | 29 | 36 | 52 | 82 | 115 | 150 | 220 | 320 |
| 200 | 1500 | 7.5 | 12 | 15.5 | 22.5 | 33 | 51 | 64 | 92 | 145 | 205 | 270 | 390 | 560 |
| | 1000 | 5 | 8.1 | 10.5 | 14.5 | 22.5 | 34 | 43 | 61 | 97 | 135 | 180 | 260 | 380 |
| | 750 | 3.8 | 6.1 | 8 | 11.5 | 17 | 26.5 | 32 | 48 | 73 | 105 | 135 | 200 | 280 |
| 224 | 1500 | 6.7 | 10.5 | 14 | 19.5 | 30 | 46 | 57 | 83 | 130 | 185 | 240 | 360 | 500 |
| | 1000 | 4.5 | 7.1 | 9.3 | 13.5 | 20.5 | 31 | 38 | 55 | 87 | 125 | 160 | 240 | 340 |
| | 750 | 3.3 | 5.3 | 7.1 | 10 | 15.5 | 23.5 | 29 | 42 | 66 | 94 | 120 | 180 | 255 |
| 250 | 1500 | 6 | 9.2 | 12.5 | 17.5 | 26.5 | 40 | 51 | 72 | 115 | 165 | 215 | 320 | 450 |
| | 1000 | 4 | 6.1 | 8.5 | 12 | 17.5 | 27 | 34 | 49 | 77 | 110 | 145 | 215 | 300 |
| | 750 | 3 | 4.6 | 6.5 | 9 | 13.5 | 20.5 | 26 | 37 | 58 | 83 | 110 | 160 | 225 |
| 280 | 1500 | 5.4 | 9.1 | 11.5 | 16 | 23.5 | 36 | 46 | 66 | 100 | 145 | 195 | 280 | 390 |
| | 1000 | 3.6 | 5.6 | 7.6 | 11 | 16 | 24 | 31 | 47 | 67 | 97 | 130 | 195 | 265 |
| | 750 | 2.7 | 4.2 | 5.6 | 8.1 | 12 | 18.5 | 23 | 33 | 51 | 73 | 98 | 140 | 195 |
| 315 | 1500 | 4.8 | 7.5 | 9.6 | 14 | 21 | 33 | 40 | 58 | 92 | 130 | 170 | 260 | 340 |
| | 1000 | 3.2 | 4.9 | 6.6 | 9.1 | 14 | 21.5 | 27 | 39 | 61 | 87 | 115 | 165 | 230 |
| | 750 | 2.4 | 3.9 | 5 | 7.1 | 11 | 16.5 | 20.5 | 29.5 | 47 | 66 | 88 | 125 | 175 |
| 355 | 1500 | 4.2 | 6.6 | 8.6 | 12 | 18 | 24 | 36 | 46 | 83 | 115 | 155 | 210 | 275 |
| | 1000 | 2.8 | 4.4 | 6.1 | 8.1 | 12 | 16.5 | 24 | 31 | 54 | 77 | 105 | 140 | 185 |
| | 750 | 2.1 | 3.3 | 4.4 | 6.1 | 9.1 | 12.5 | 18 | 23.5 | 42 | 58 | 76 | 105 | 140 |
| 400 | 1500 | 3.8 | 5.7 | 7.5 | 10 | 15.5 | 22 | 30 | 41 | 72 | 100 | 125 | 175 | 245 |
| | 1000 | 2.5 | 3.9 | 5.1 | 6.8 | 10.5 | 14.5 | 20 | 27.5 | 48 | 68 | 84 | 115 | 165 |
| | 750 | 1.9 | 2.9 | 3.8 | 5.1 | 7.8 | 11.5 | 15.5 | 20.5 | 37 | 52 | 63 | 88 | 125 |
| 450 | 1500 | 3.3 | 5 | 6.8 | 9 | 13.5 | 19.5 | 28 | 37 | 56 | 88 | 110 | 155 | 220 |
| | 1000 | 2.2 | 3.3 | 4.8 | 6.1 | 9.1 | 13.5 | 19 | 25 | 39 | 59 | 74 | 105 | 150 |
| | 750 | 1.7 | 2.5 | 3.5 | 4.6 | 6.8 | 10 | 14 | 18.5 | 29.5 | 45 | 56 | 78 | 110 |
| 500 | 1500 | 3 | 3.9 | 6.1 | 7.3 | 10.3 | 17 | 24 | 33 | 50 | 71 | 97 | 150 | 190 |
| | 1000 | 2 | 2.6 | 4.1 | 4.9 | 7.1 | 11.5 | 16 | 22.5 | 34 | 47 | 65 | 100 | 130 |
| | 750 | 1.5 | 2 | 3.1 | 3.7 | 5.3 | 8.6 | 12 | 16.5 | 25.5 | 36 | 49 | 76 | 95 |
| 560 | 1500 | 2.68 | | 5.6 | 6.3 | 8.9 | 14.7 | 21 | 23 | 40 | 65 | 89 | 137 | 173 |
| | 1000 | 1.8 | | 3.8 | 4.2 | 5.8 | 10 | 13.7 | 15.8 | 27 | 44 | 60 | 91 | 116 |
| | 750 | 1.32 | | 2.8 | 3.2 | 4.4 | 7.4 | 10.5 | 11.8 | 20 | 33 | 45 | 67 | 86 |
| 630 | 1500 | 2.38 | | | 5 | 7.4 | 11.8 | 14.7 | 17.9 | 30 | 45 | 74 | 110 | 147 |
| | 1000 | 1.6 | | | 3.4 | 4.8 | 7.9 | 10 | 11.8 | 20 | 30 | 48 | 72 | 98 |
| | 750 | 1.18 | | | 2.5 | 3.6 | 5.8 | 7. | 8.9 | 15 | 22 | 37 | 55 | 74 |

| Thermal Capacity (kw) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Without Cooling $P_{G1}$ (kw) | Input rpm $n_1$ | 58 | 73 | 91 | 114 | 148 | 188 | 232 | 296 | 373 | 472 | 593 | 773 |




From size 355 up jacking screws in housing feet and alignment surface on front faces of lower housing part



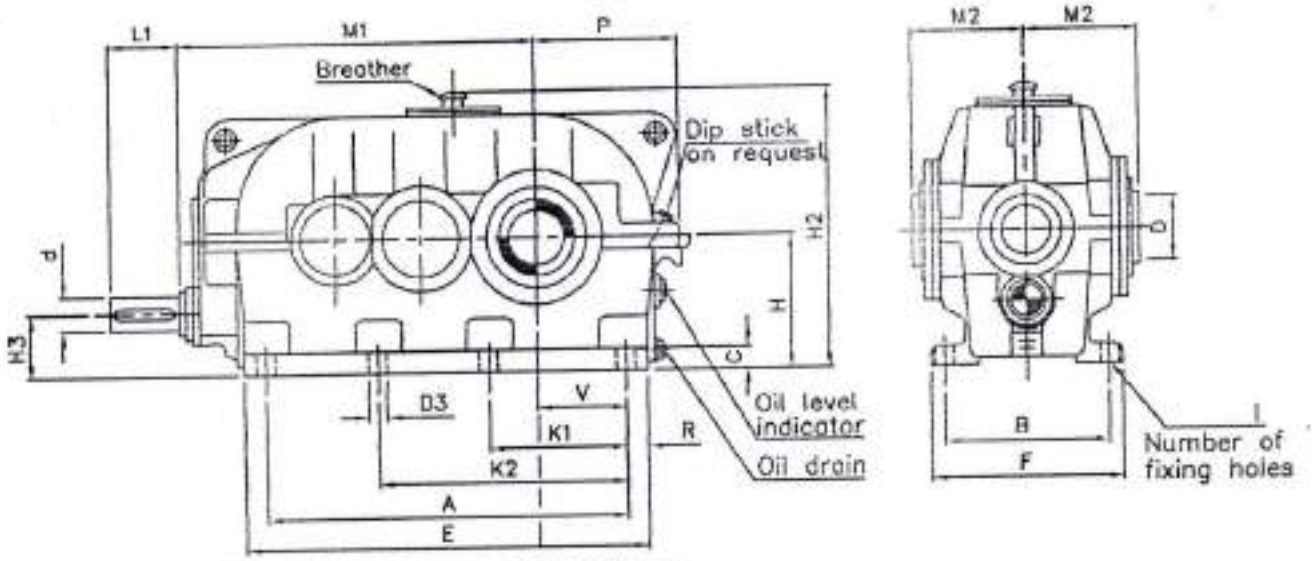

Right hand assembly

Left hand assembly

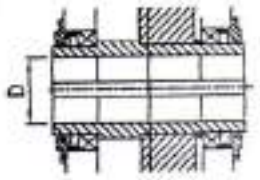
Arrows show relative directions of rotation

| Gear Box Size | Average Weight kg | Oil Quantity litres | SHAFT DETAILS | | | | | | | BASE DETAILS | | | | | | | | | GEAR CASE DETAILS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $i_N$ = 280 | | Above $i_N$ = 280 | | | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | M1 | D | L2 | M2 | A | B | V | K1 | K2 | C | D3 | R | I | H | H3 | E | F | H2 | P |
| 225 | 440 | 25 | 24 | 50 | 20 | 50 | 730 | 100 | 210 | 190 | 750 | 300 | 185 | 375 | | 45 | 22 | 35 | 6 | 250 | 160 | 820 | 360 | 525 | 265 |
| 250 | 580 | 36 | 28 | 60 | 22 | 50 | 795 | 110 | 210 | 215 | 830 | 340 | 195 | 415 | | 50 | 26 | 40 | 6 | 280 | 180 | 910 | 410 | 600 | 285 |
| 280 | 800 | 50 | 32 | 80 | 24 | 50 | 900 | 130 | 250 | 235 | 910 | 370 | 215 | 455 | | 55 | 26 | 45 | 6 | 315 | 205 | 1000 | 440 | 670 | 310 |
| 315 | 1110 | 68 | 35 | 80 | 28 | 60 | 1030 | 140 | 250 | 260 | 1050 | 410 | 240 | 400 | 725 | 60 | 33 | 50 | 8 | 355 | 230 | 1150 | 500 | 740 | 350 |
| 355 | 1550 | 95 | 40 | 110 | 32 | 80 | 1130 | 170 | 300 | 295 | 1170 | 465 | 265 | 440 | 805 | 65 | 33 | 55 | 8 | 400 | 260 | 1260 | 555 | 825 | 380 |
| 400 | 2050 | 130 | 45 | 110 | 35 | 80 | 1260 | 180 | 300 | 315 | 1320 | 490 | 305 | 490 | 905 | 70 | 33 | 55 | 8 | 450 | 290 | 1430 | 600 | 915 | 425 |
| 450 | 2750 | 185 | 50 | 110 | 40 | 110 | 1435 | 210 | 350 | 345 | 1470 | 540 | 340 | 540 | 1005 | 80 | 39 | 65 | 8 | 500 | 320 | 1600 | 650 | 1010 | 465 |
| 500 | 3900 | 250 | 55 | 110 | 45 | 110 | 1570 | 240 | 410 | 400 | 1665 | 650 | 375 | 595 | 1130 | 90 | 39 | 75 | 8 | 560 | 360 | 1815 | 760 | 1120 | 530 |
| 560 | 5200 | 355 | 60 | 140 | 50 | 110 | 1750 | 270 | 470 | 440 | 1830 | 700 | 415 | 660 | 1245 | 100 | 45 | 85 | 8 | 630 | 405 | 2000 | 820 | 1270 | 560 |
| 630 | 7200 | 500 | 70 | 140 | 55 | 110 | 1990 | 300 | 470 | 490 | 2100 | 780 | 475 | 740 | 1420 | 110 | 45 | 85 | 8 | 710 | 460 | 2270 | 900 | 1390 | 640 |
| 710 | 10100 | 700 | 75 | 140 | 60 | 140 | 2220 | 340 | 550 | 540 | 2370 | 870 | 540 | 820 | 1595 | 125 | 45 | 90 | 8 | 800 | 520 | 2550 | 1010 | 1570 | 735 |
| 800 | 13500 | 965 | 90 | 170 | 70 | 140 | 2500 | 390 | 550 | 600 | 2670 | 1020 | 610 | 900 | 1785 | 140 | 45 | 90 | 8 | 900 | 585 | 2850 | 1160 | 1760 | 815 |

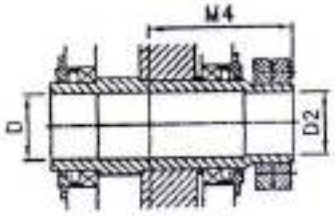
Larger Sizes on Request
Centre Height H1 as per DIN 747
Tolerance for Shaft ends as per DIN 748, Fit for d and D : m6
Keys according to DIN 6885, Part 1, Shape A
Shaft end centres according to DIN 332, Form DS



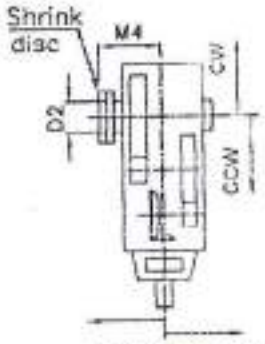

From size 355 up jacking screws in housing feet and alignment surface on front faces of lower housing part



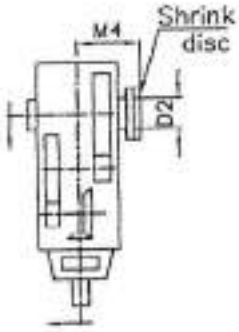

Hollow shaft with key




Hollow shaft with shrink disc




Right hand assembly

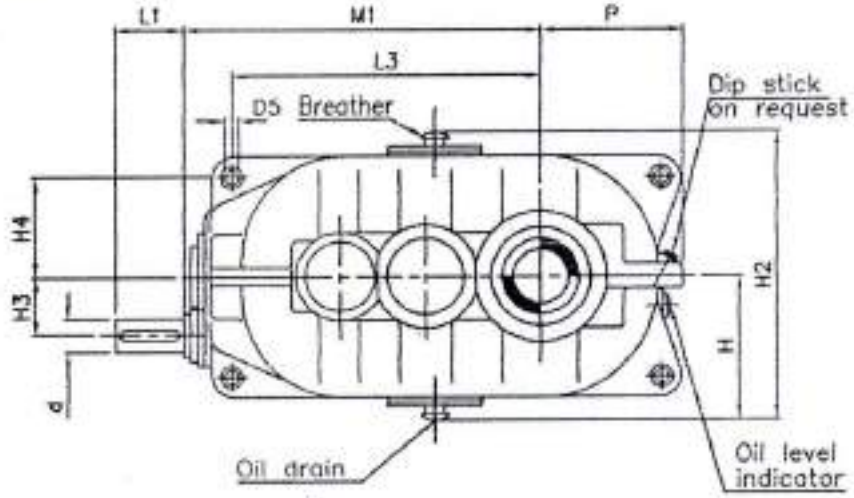


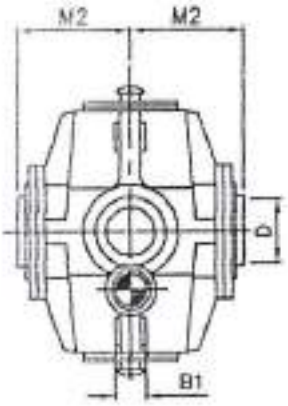

Left hand assembly

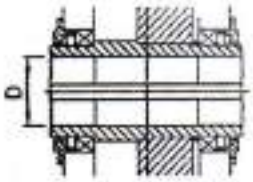
Arrows show relative directions of rotation

| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | | | | | BASE DETAILS | | | | | | | | | GEAR CASE DETAILS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $l_w$ = 280 | | Above $l_w$ = 280 | | | | | | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | M1 | D | D2 | L2 | M2 | M4 | A | B | V | K1 | K2 | C | D3 | R | I | H | H3 | E | F | H2 | P |
| 225 | 440 | 25 | 24 | 50 | 20 | 50 | 730 | 120 | 115 | 210 | 190 | 270 | 750 | 300 | 185 | 375 | | 45 | 22 | 35 | 6 | 250 | 160 | 820 | 360 | 525 | 285 |
| 250 | 560 | 35 | 28 | 60 | 22 | 50 | 795 | 140 | 135 | 210 | 215 | 305 | 830 | 340 | 195 | 415 | | 50 | 26 | 40 | 6 | 280 | 180 | 910 | 410 | 600 | 285 |
| 280 | 800 | 50 | 32 | 80 | 24 | 50 | 900 | 150 | 140 | 235 | 235 | 340 | 910 | 370 | 215 | 455 | | 55 | 26 | 45 | 6 | 315 | 205 | 1000 | 440 | 670 | 310 |
| 315 | 1110 | 68 | 35 | 80 | 28 | 60 | 1030 | 170 | 160 | 260 | 260 | 385 | 1060 | 410 | 240 | 400 | 725 | 60 | 33 | 50 | 8 | 355 | 230 | 1150 | 500 | 740 | 350 |
| 355 | 1550 | 95 | 40 | 110 | 32 | 80 | 1130 | 180 | 170 | 295 | 295 | 430 | 1170 | 465 | 265 | 440 | 805 | 65 | 33 | 55 | 8 | 400 | 260 | 1280 | 555 | 825 | 380 |
| 400 | 2050 | 130 | 45 | 110 | 35 | 80 | 1260 | 200 | 190 | 315 | 315 | 465 | 1320 | 490 | 305 | 490 | 905 | 70 | 33 | 55 | 8 | 450 | 290 | 1430 | 600 | 915 | 425 |
| 450 | 2750 | 185 | 50 | 110 | 40 | 110 | 1435 | 230 | 220 | 345 | 345 | 515 | 1470 | 540 | 340 | 540 | 1005 | 80 | 39 | 65 | 8 | 500 | 320 | 1600 | 650 | 1010 | 465 |
| 500 | 3900 | 250 | 55 | 110 | 45 | 110 | 1570 | 260 | 245 | 400 | 400 | 580 | 1665 | 650 | 375 | 585 | 1130 | 90 | 39 | 75 | 8 | 560 | 360 | 1815 | 760 | 1120 | 530 |
| 560 | 5200 | 355 | 60 | 140 | 50 | 110 | 1750 | 300 | 285 | 440 | 440 | 630 | 1830 | 700 | 415 | 660 | 1245 | 100 | 45 | 85 | 8 | 630 | 405 | 2000 | 820 | 1270 | 580 |
| 630 | 7200 | 500 | 70 | 140 | 55 | 110 | 1990 | 340 | 325 | 490 | 490 | 700 | 2100 | 780 | 475 | 740 | 1420 | 110 | 45 | 85 | 8 | 710 | 460 | 2270 | 900 | 1390 | 640 |

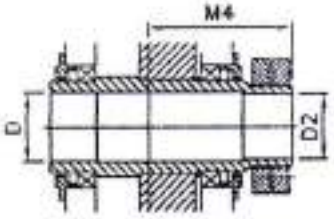
Larger Sizes on Request
**Centre Height** H1 as per DIN 747
**Tolerance** for Shaft ends as per DIN 748, Fit for d : n6, D and D2 : H7
**Keys** according to DIN 6885, Part 1, Shape A
**Shaft end centres** according to DIN 332, Form DS



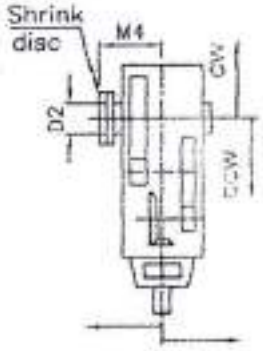



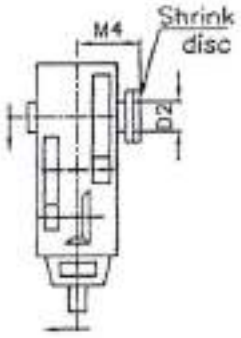

Hollow shaft with key




Hollow shaft with shrink disc




Right hand assembly




Left hand assembly

Arrows show relative directions of rotation

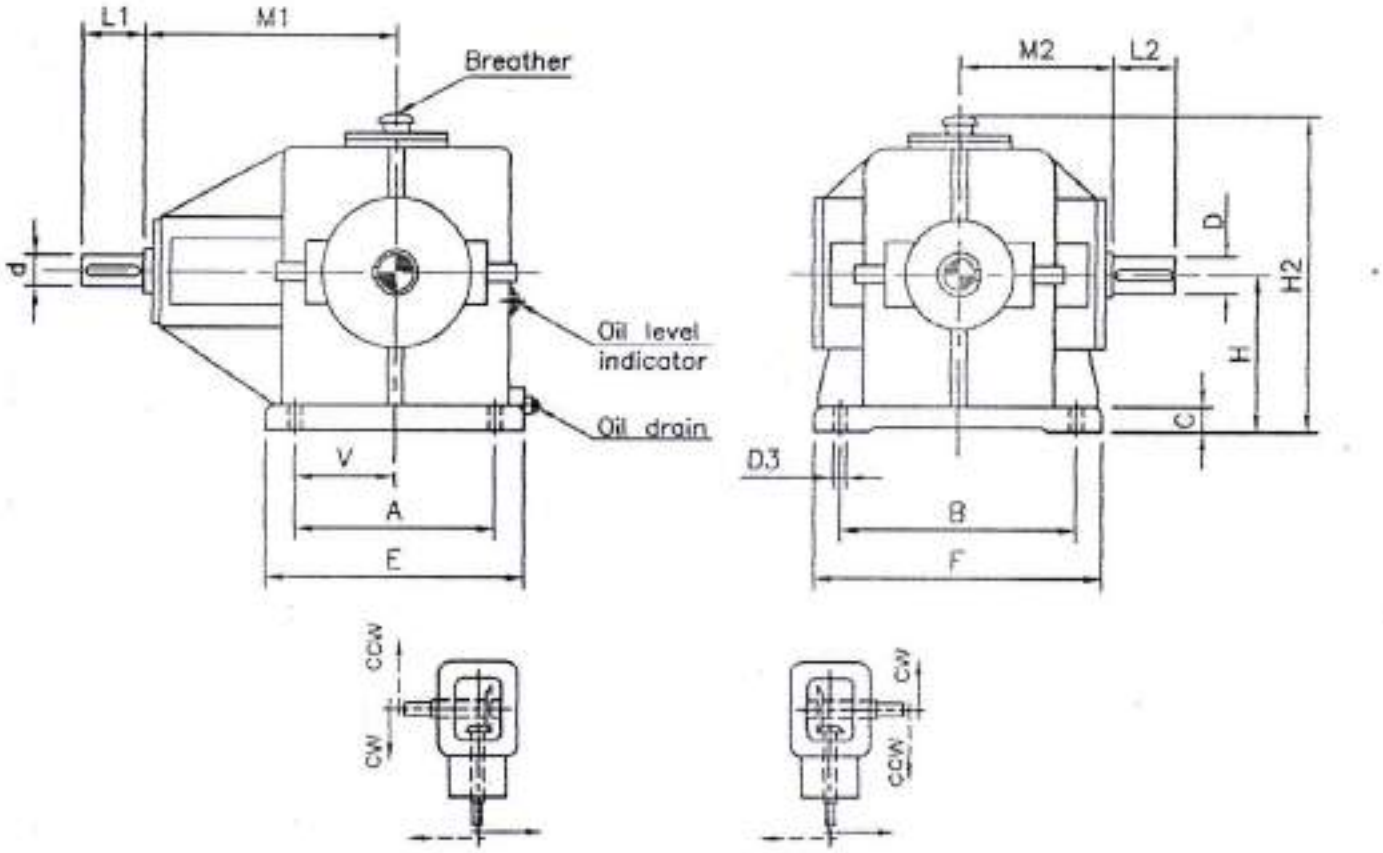
| Gear Box Size | Average Weight Kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | | | | GEAR CASE DETAILS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $l_a$ = 280 | | Above $l_a$ = 280 | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | M1 | D | D2 | M2 | M4 | H | H3 | D5 h11 | L3 | H4 | B1 | H2 | P |
| 225 | 340 | 19 | 24 | 50 | 20 | 50 | 730 | 120 | 115 | 190 | 270 | 265 | 90 | 35 | 645 | 155 | 45 | 540 | 265 |
| 250 | 470 | 27 | 28 | 60 | 22 | 50 | 795 | 140 | 135 | 215 | 305 | 310 | 100 | 40 | 710 | 205 | 50 | 630 | 285 |
| 280 | 645 | 36 | 32 | 80 | 24 | 50 | 900 | 150 | 140 | 235 | 340 | 345 | 110 | 45 | 800 | 230 | 55 | 700 | 310 |
| 315 | 900 | 50 | 35 | 80 | 28 | 60 | 1030 | 170 | 160 | 260 | 385 | 375 | 125 | 50 | 920 | 260 | 60 | 760 | 350 |
| 355 | 1220 | 70 | 40 | 110 | 32 | 80 | 1130 | 180 | 170 | 295 | 430 | 415 | 140 | 55 | 1000 | 290 | 70 | 840 | 380 |
| 400 | 1650 | 95 | 45 | 110 | 35 | 80 | 1260 | 200 | 190 | 315 | 465 | 435 | 160 | 60 | 1130 | 325 | 80 | 900 | 425 |
| 450 | 2250 | 130 | 50 | 110 | 40 | 110 | 1435 | 230 | 220 | 345 | 515 | 480 | 180 | 65 | 1280 | 360 | 90 | 990 | 485 |
| 500 | 3100 | 185 | 55 | 110 | 45 | 110 | 1570 | 260 | 245 | 400 | 580 | 530 | 200 | 70 | 1400 | 410 | 100 | 1090 | 530 |
| 560 | 4200 | 250 | 60 | 140 | 50 | 110 | 1750 | 300 | 285 | 440 | 630 | 610 | 225 | 75 | 1580 | 460 | 110 | 1250 | 580 |
| 630 | 5700 | 350 | 70 | 140 | 55 | 110 | 1990 | 340 | 325 | 490 | 700 | 660 | 250 | 80 | 1790 | 510 | 120 | 1330 | 640 |

Larger Sizes on Request
**Centre Height H1** as per DIN 747
**Tolerance** for Shaft ends as per DIN 748, Fit for d : n6, D and D2 : H7.
**Keys** according to DIN 6885, Part 1, Shape A
**Shaft end centres** according to DIN 332, Form DS

| Nominal Ratio | Nominal Speeds RPM | | SIZE OF GEAR UNIT | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 90 | 110 | 125 | 140 | 160 | 180 | 200 | 225 | 250 | 280 |
| $i_N$ | $n_1$ | $n_2$ | Nominal gear box rating $P_N$ (kw) | | | | | | | | | |
| 1 | 1500 | 1500 | 40 | 70 | 91 * | 130 * | 184 * | 243 * | 362 * | 515 * | 765 * | 993 * |
| | 1000 | 1000 | 30 | 53 | 65 | 99 | 144 | 189 | 301 | 428 * | 551 * | 860 * |
| | 750 | 750 | 26 | 45 | 57 | 85 | 114 | 151 | 222 | 327 | 449 * | 566 * |
| 1.12 | 1500 | 1340 | 38 | 68 | 88 * | 125 * | 176 * | 235 * | 352 * | 493 * | 728 * | 958 * |
| | 1000 | 890 | 29 | 51 | 63 | 95 | 139 | 191 | 279 | 404 * | 537 * | 809 * |
| | 750 | 670 | 25 | 44 | 56 | 82 | 111 | 147 | 213 | 316 | 438 * | 529 * |
| 1.25 | 1500 | 1200 | 36 | 64 | 85 | 120 * | 170 * | 226 * | 330 * | 478 * | 700 * | 920 * |
| | 1000 | 800 | 28 | 49 | 60 | 90 | 132 | 184 | 261 | 375 * | 515 * | 757 * |
| | 750 | 600 | 24 | 42 | 54 | 79 | 108 | 141 | 206 | 305 | 419 * | 500 * |
| 1.4 | 1500 | 1070 | 34 | 61 | 80 | 114 * | 160 * | 213 * | 309 * | 455 * | 662 * | 882 * |
| | 1000 | 715 | 26 | 46 | 57 | 85 | 125 | 175 | 243 | 349 * | 485 * | 698 * |
| | 750 | 535 | 23 | 40 | 52 | 76 | 107 | 135 | 196 | 290 | 397 | 471 * |
| 1.6 | 1500 | 940 | 32 | 57 | 76 | 105 | 149 * | 199 * | 283 * | 423 * | 610 * | 824 * |
| | 1000 | 625 | 25 | 43 | 54 | 79 | 115 | 162 | 221 | 320 * | 456 * | 632 * |
| | 750 | 470 | 21 | 38 | 49 | 71 | 97 | 126 | 182 | 272 | 368 | 434 |
| 1.8 | 1500 | 835 | 29 | 52 | 70 | 96 | 136 | 185 * | 257 * | 393 * | 566 * | 757 * |
| | 1000 | 555 | 22 | 40 | 50 | 74 | 107 | 151 | 204 | 294 | 419 * | 573 * |
| | 750 | 415 | 19 | 35 | 46 | 66 | 90 | 116 | 169 | 250 | 346 | 404 |
| 2 | 1500 | 750 | 27 | 48 | 66 | 91 | 127 | 169 | 239 * | 368 * | 522 * | 706 * |
| | 1000 | 500 | 21 | 37 | 47 | 68 | 99 | 140 | 190 | 272 | 393 | 529 * |
| | 750 | 375 | 17 | 32 | 43 | 61 | 85 | 110 | 158 | 235 | 320 | 379 |
| 2.24 | 1500 | 670 | 25 | 44 | 60 | 83 | 115 | 158 | 217 | 335 * | 478 * | 647 * |
| | 1000 | 445 | 19 | 33 | 43 | 63 | 91 | 129 | 169 | 246 | 300 | 471 |
| | 750 | 335 | 16 | 29 | 40 | 57 | 77 | 101 | 115 | 217 | 294 | 353 |
| 2.5 | 1500 | 600 | 22 | 40 | 55 | 76 | 107 | 138 | 199 | 309 | 434 * | 588 |
| | 1000 | 400 | 17 | 31 | 39 | 57 | 80 | 116 | 154 | 228 | 331 | 426 |
| | 750 | 300 | 15 | 27 | 36 | 51 | 71 | 93 | 132 | 199 | 272 | 331 |
| 2.8 | 1500 | 535 | 20 | 36 | 50 | 69 | 96 | 132 | 178 | 279 | 390 | 537 |
| | 1000 | 360 | 15 | 26 | 36 | 51 | 75 | 105 | 138 | 206 | 294 | 382 |
| | 750 | 270 | 13 | 24 | 33 | 46 | 64 | 85 | 119 | 180 | 246 | 309 |
| 3.15 | 1500 | 475 | 18 | 31 | 44 | 62 | 85 | 118 | 160 | 250 | 349 | 476 |
| | 1000 | 315 | 13 | 24 | 33 | 46 | 66 | 94 | 123 | 184 | 265 | 338 |
| | 750 | 235 | 11 | 21 | 29 | 41 | 57 | 78 | 107 | 160 | 221 | 283 |
| 3.55 | 1500 | 425 | 15 | 28 | 40 | 54 | 77 | 105 | 143 | 221 | 305 | 419 |
| | 1000 | 280 | 12 | 22 | 29 | 40 | 58 | 85 | 110 | 165 | 232 | 294 |
| | 750 | 210 | 10 | 18 | 26 | 36 | 50 | 68 | 101 | 143 | 196 | 257 |
| 4 | 1500 | 375 | 14 | 24 | 35 | 48 | 66 | 92 | 125 | 199 | 268 | 368 |
| | 1000 | 250 | 10 | 19 | 26 | 36 | 51 | 74 | 104 | 143 | 206 | 281 |
| | 750 | 187 | 8 | 16 | 23 | 32 | 43 | 60 | 84 | 125 | 174 | 232 |
| 4.5 | 1500 | 335 | 12 | 21 | 31 | 42 | 59 | 81 | 110 | 169 | 232 | 320 |
| | 1000 | 220 | 9 | 16 | 23 | 31 | 44 | 64 | 85 | 129 | 176 | 228 |
| | 750 | 166 | 7 | 14 | 20 | 27 | 38 | 53 | 74 | 110 | 151 | 206 |
| 5 | 1500 | 300 | 10 | 18 | 27 | 37 | 51 | 71 | 99 | 151 | 202 | 279 |
| | 1000 | 200 | 7 | 14 | 21 | 27 | 39 | 57 | 76 | 97 | 154 | 199 |
| | 750 | 150 | 6 | 12 | 17 | 24 | 33 | 46 | 64 | 85 | 134 | 184 |
| 5.6 | 1500 | 270 | 8 | 16 | 24 | 32 | 44 | 62 | 88 | 130 | 176 | 243 |
| | 1000 | 180 | 6 | 12 | 16 | 24 | 33 | 49 | 66 | 103 | 136 | 173 |
| | 750 | 135 | 5 | 10 | 15 | 20 | 28 | 40 | 56 | 85 | 116 | 162 |

| Thermal Capacity (kw) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Without Cooling $PG_1$ (kw) | 20 | 23 | 41 | 51 | 63 | 80 | 96 | 121 | 141 | 172 |

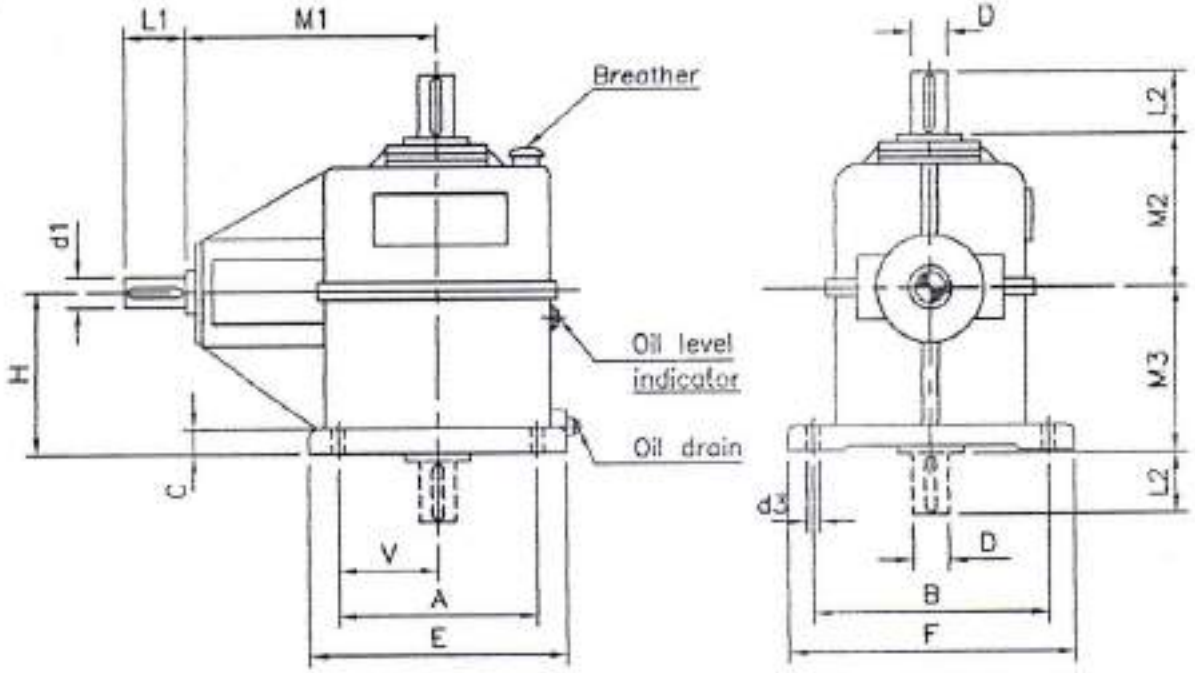
* Pressure lubrication required

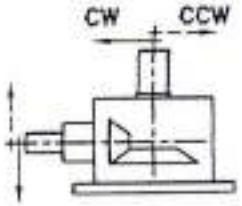



ASSEMBLY NO.1 ASSEMBLY NO. 2

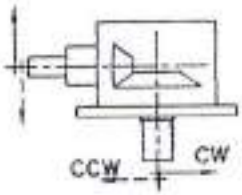
| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | | | BASE & GEAR CASE DETAILS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $i_N \leq 1.8$ | | Above $i_N > 1.8$ Up to $i_N \leq 2.5$ | | Above $i_N > 2.5$ | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | d | L1 | D | L2 | M1 | E | F | B | H | H2 | M2 | D3 | A | C | V |
| 90 | 50 | 2.5 | 32 | 80 | 30 | 80 | 25 | 80 | 40 | 110 | 230 | 230 | 220 | 185 | 125 | 235 | 130 | 14 | 170 | 30 | 85 |
| 110 | 80 | 3.5 | 42 | 110 | 40 | 110 | 35 | 80 | 48 | 110 | 265 | 280 | 250 | 215 | 150 | 285 | 145 | 18 | 200 | 30 | 100 |
| 125 | 120 | 5 | 48 | 110 | 42 | 110 | 40 | 110 | 55 | 110 | 325 | 350 | 290 | 245 | 180 | 345 | 175 | 18 | 270 | 35 | 135 |
| 140 | 155 | 7 | 55 | 110 | 50 | 110 | 45 | 110 | 60 | 140 | 360 | 390 | 340 | 290 | 200 | 385 | 200 | 18 | 290 | 40 | 145 |
| 160 | 220 | 10 | 60 | 140 | 55 | 110 | 50 | 110 | 70 | 140 | 415 | 470 | 380 | 330 | 240 | 465 | 225 | 23 | 370 | 40 | 185 |
| 180 | 290 | 14 | 65 | 140 | 60 | 140 | 55 | 110 | 80 | 170 | 450 | 500 | 420 | 365 | 260 | 500 | 245 | 23 | 400 | 45 | 200 |
| 200 | 390 | 20 | 70 | 140 | 65 | 140 | 60 | 140 | 90 | 170 | 500 | 560 | 450 | 390 | 300 | 560 | 260 | 23 | 460 | 50 | 230 |
| 225 | 510 | 26 | 80 | 170 | 75 | 140 | 70 | 140 | 100 | 210 | 550 | 630 | 480 | 420 | 320 | 620 | 280 | 27 | 510 | 55 | 255 |
| 250 | 650 | 35 | 100 | 210 | 90 | 170 | 80 | 170 | 110 | 210 | 580 | 670 | 550 | 480 | 350 | 670 | 315 | 27 | 530 | 60 | 265 |
| 280 | 800 | 50 | 110 | 210 | 100 | 210 | 90 | 170 | 120 | 210 | 640 | 760 | 610 | 530 | 380 | 730 | 345 | 27 | 620 | 65 | 310 |

**Larger Sizes on Request**
**Centre Height H1 as per DIN 747**
**Tolerance for Shaft ends as per DIN 748, Fit for d and D : n6.**
**Keys according to DIN 6885, Part 1, Shape A**
**Shaft end centres according to DIN 332, Form DS**




ASSEMBLY – 1




ASSEMBLY – 2

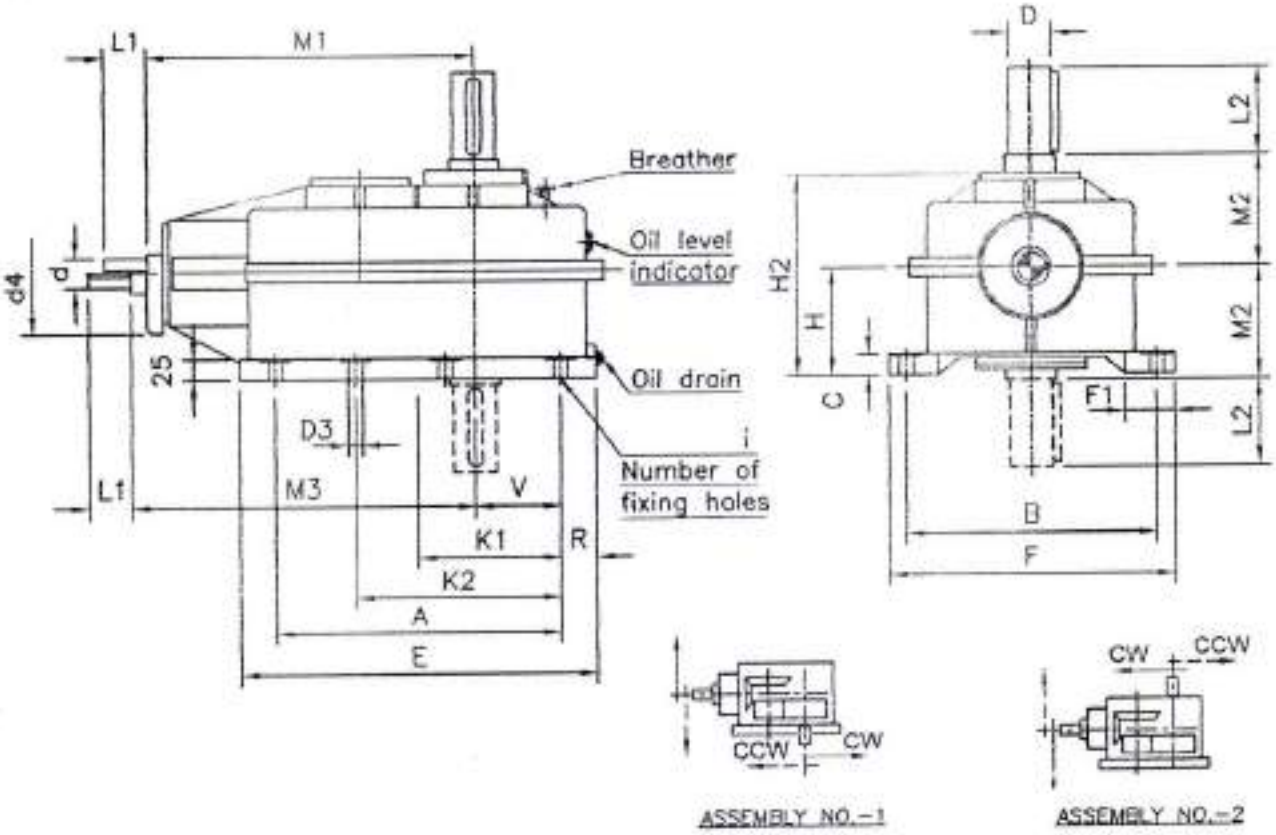
| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | | | BASE & GEAR CASE DETAILS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $i_n \leq 1.8$ | | $i_n > 1.8$ Up to $i_n = 2.5$ | | $i_n > 2.5$ Above | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | d | L1 | D | L2 | M1 | E | F | B | H | M2 | M3 | d3 | A | C | V |
| 90 | 60 | 2.5 | 32 | 80 | 30 | 80 | 25 | 60 | 40 | 110 | 230 | 200 | 260 | 220 | 160 | 140 | 155 | 14 | 160 | 30 | 80 |
| 110 | 90 | 3.5 | 42 | 110 | 40 | 110 | 35 | 80 | 48 | 110 | 265 | 250 | 300 | 260 | 180 | 170 | 185 | 18 | 210 | 30 | 105 |
| 125 | 130 | 5 | 48 | 110 | 42 | 110 | 40 | 110 | 55 | 110 | 325 | 300 | 340 | 300 | 190 | 180 | 195 | 18 | 260 | 35 | 130 |
| 140 | 170 | 7 | 55 | 110 | 50 | 110 | 45 | 110 | 60 | 140 | 360 | 350 | 410 | 360 | 200 | 190 | 200 | 18 | 300 | 40 | 150 |
| 160 | 250 | 10 | 60 | 140 | 55 | 110 | 50 | 110 | 70 | 140 | 415 | 380 | 440 | 390 | 230 | 220 | 230 | 23 | 330 | 40 | 165 |
| 180 | 360 | 14 | 65 | 140 | 60 | 140 | 55 | 110 | 80 | 170 | 450 | 460 | 510 | 460 | 250 | 260 | 270 | 23 | 410 | 45 | 205 |
| 200 | 440 | 20 | 70 | 140 | 65 | 140 | 60 | 140 | 90 | 170 | 500 | 510 | 580 | 520 | 300 | 280 | 295 | 23 | 450 | 50 | 225 |
| 225 | 600 | 26 | 80 | 170 | 75 | 140 | 70 | 140 | 100 | 210 | 550 | 580 | 650 | 580 | 320 | 300 | 335 | 27 | 520 | 55 | 260 |
| 250 | 780 | 35 | 100 | 210 | 90 | 170 | 80 | 170 | 110 | 210 | 580 | 620 | 670 | 610 | 340 | 325 | 355 | 27 | 560 | 60 | 280 |
| 280 | 900 | 50 | 110 | 210 | 100 | 210 | 90 | 170 | 120 | 210 | 640 | 640 | 700 | 635 | 360 | 350 | 380 | 27 | 580 | 65 | 290 |

Larger Sizes on Request
Centre Height H as per DIN 747
Tolerance for Shaft ends as per DIN 748, Fit for d and D : n6
Keys according to DIN 6885, Part 1, Shape A
Shaft end centres according to DIN 332, Form DS

| Nominal Ratio | Nominal Speeds RPM | | SIZE OF GEAR UNIT | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 110 | 125 | 140 | 160 | 180 | 200 | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 |
| $i_N$ | $n_1$ | $n_2$ | Nominal gear box rating $P_N$ (kw) | | | | | | | | | | | | | |
| 6.3 | 1500 | 230 | 29 | 46 | 65 | 96 | 115 | 175 | 240 | 386 | 486 | 657 | 893 * | 1300 * | 1850 * | 2250 * |
| | 1000 | 160 | 23 | 36 | 49 | 72 | 93 | 130 | 180 | 275 | 350 | 470 | 662 | 1029 | 1411 | 1876 |
| | 750 | 118 | 18.7 | 27 | 40 | 56 | 78 | 105 | 145 | 215 | 297 | 392 | 525 | 790 | 1050 | 1523 |
| 7.1 | 1500 | 212 | 29 | 40 | 65 | 96 | 115 | 175 | 225 | 386 | 486 | 657 | 893 * | 1300 * | 1850 * | 2250 * |
| | 1000 | 140 | 23 | 34 | 49 | 72 | 93 | 130 | 170 | 275 | 350 | 470 | 662 | 1029 | 1411 | 1876 |
| | 750 | 106 | 17.9 | 25 | 37 | 56 | 78 | 105 | 138 | 215 | 297 | 392 | 525 | 790 | 1050 | 1523 |
| 8 | 1500 | 190 | 29 | 41 | 56 | 82 | 115 | 155 | 205 | 346 | 466 | 647 | 822 * | 1208 * | 1700 * | 2176 * |
| | 1000 | 125 | 19 | 29 | 42 | 59 | 93 | 116 | 161 | 245 | 346 | 470 | 620 | 903 | 1385 | 1785 |
| | 750 | 95 | 14 | 22 | 31 | 44 | 75 | 99 | 135 | 200 | 265 | 360 | 494 | 686 | 960 | 1470 |
| 9 | 1500 | 170 | 25 | 37 | 51 | 79 | 110 | 140 | 190 | 290 | 424 | 572 | 724 | 1103 * | 1628 * | 2153 * |
| | 1000 | 112 | 16 | 26 | 36 | 53 | 84 | 113 | 151 | 238 | 310 | 445 | 540 | 806 | 1206 | 1638 |
| | 750 | 85 | 13 | 20 | 28 | 40 | 56 | 88 | 128 | 179 | 244 | 339 | 441 | 641 | 903 | 1260 |
| 10 | 1500 | 150 | 22 | 32 | 46 | 67 | 92 | 130 | 185 | 260 | 350 | 509 | 851 | 977 | 1437 | 1901 * |
| | 1000 | 100 | 15 | 23 | 32 | 47 | 73 | 95 | 135 | 195 | 276 | 375 | 494 | 690 | 1000 | 1418 |
| | 750 | 75 | 11 | 17.5 | 25 | 36 | 51 | 79 | 113 | 161 | 228 | 318 | 398 | 557 | 796 | 1059 |
| 11.2 | 1500 | 132 | 20 | 30 | 41 | 61 | 86 | 120 | 150 | 235 | 300 | 450 | 589 | 893 | 1260 | 1628 * |
| | 1000 | 90 | 13.2 | 20 | 29 | 42 | 67 | 86 | 130 | 182 | 260 | 350 | 452 | 640 | 890 | 1150 |
| | 750 | 67 | 10 | 15.5 | 22 | 32 | 45 | 72 | 101 | 144 | 201 | 265 | 308 | 504 | 714 | 924 |
| 12.5 | 1500 | 118 | 16 | 27 | 36 | 53 | 75 | 105 | 140 | 210 | 290 | 390 | 500 | 798 | 1029 | 1470 |
| | 1000 | 80 | 12 | 18 | 26 | 37 | 56 | 75 | 105 | 145 | 215 | 286 | 399 | 525 | 724 | 1050 |
| | 750 | 60 | 9 | 13.5 | 20 | 28 | 40 | 62 | 82 | 110 | 170 | 207 | 294 | 399 | 557 | 839 |
| 14 | 1500 | 106 | 14.2 | 23 | 32 | 48 | 68 | 89 | 125 | 190 | 260 | 366 | 488 | 609 | 819 | 1050 |
| | 1000 | 71 | 10.2 | 15 | 21 | 31 | 46 | 59 | 91 | 119 | 175 | 217 | 326 | 436 | 546 | 714 |
| | 750 | 53 | 7.4 | 11.5 | 16.2 | 24 | 34 | 42 | 65 | 86 | 122 | 154 | 247 | 326 | 420 | 536 |
| 16 | 1500 | 95 | 12.1 | 18.5 | 24 | 37 | 54 | 68 | 105 | 135 | 205 | 276 | 414 | 504 | 630 | 882 |
| | 1000 | 63 | 8.3 | 12.1 | 16.5 | 25 | 35 | 41 | 68 | 87 | 133 | 159 | 263 | 368 | 431 | 588 |
| | 750 | 47.5 | 6.1 | 9 | 12 | 20 | 25 | 30 | 50 | 64 | 93 | 117 | 189 | 273 | 320 | 446 |
| 18 | 1500 | 85 | 9.4 | 14.4 | 20 | 29 | 40 | 56 | 79 | 114 | 148 | 221 | 319 | 442 | 568 | 774 |
| | 1000 | 56 | 6.1 | 10.7 | 15 | 22 | 30 | 42 | 61 | 87 | 110 | 159 | 257 | 360 | 431 | 588 |
| | 750 | 42.5 | 4.6 | 7.6 | 12 | 18 | 25 | 35 | 49 | 64 | 93 | 117 | 189 | 273 | 320 | 446 |

| Thermal Capacity (kw) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Without Cooling $P_{G1}$ (kw) | Input rpm $n_1$ | 24 | 31 | 38 | 48 | 61 | 76 | 96 | 126 | 161 | 195 | 245 | 312 | 390 | 480 |
| With Fan Cooling $P_{G1}$ (kw) | 1500 | 36 | 47 | 60 | 77 | 98 | 122 | 165 | 232 | 291 | 350 | 507 | 645 | 768 | 1442 |
| | 1000 | 30 | 36 | 47 | 60 | 76 | 94 | 120 | 178 | 223 | 269 | 372 | 473 | 563 | 1085 |
| | 750 | 25 | 32 | 40 | 50 | 63 | 78 | 102 | 144 | 181 | 218 | 317 | 403 | 480 | 875 |

* Pressure lubrication required




ASSEMBLY NO.–1

ASSEMBLY NO.–2

| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | BASE & GEAR CASE DETAILS | | | | | | | | | | | | | | | FAN DETAILS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $l_a$ =10 | | Above $l_a$ 10 | | | | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | D | L2 | M1 | E | F | B | F1 | H | H2 | K2 | M2 | R | D3 | i | V | K1 | C | A | M3 | d4 |
| 110 | 55 | 3 | 20 | 50 | 20 | 50 | 45 | 110 | 370 | 330 | 300 | 270 | 50 | 95 | 190 | - | 100 | 30 | 14 | 6 | 65 | 120 | 20 | 270 | 420 | 186 |
| 125 | 95 | 5 | 30 | 80 | 25 | 60 | 55 | 110 | 410 | 425 | 370 | 335 | 60 | 115 | 230 | - | 120 | 35 | 14 | 6 | 95 | 170 | 25 | 355 | 460 | 230 |
| 140 | 130 | 7 | 35 | 80 | 32 | 80 | 60 | 140 | 440 | 470 | 420 | 380 | 65 | 130 | 260 | - | 135 | 35 | 14 | 6 | 110 | 210 | 30 | 400 | 490 | 230 |
| 160 | 175 | 9 | 40 | 110 | 35 | 80 | 70 | 140 | 505 | 540 | 460 | 415 | 70 | 140 | 280 | - | 145 | 50 | 18 | 6 | 115 | 210 | 35 | 440 | 555 | 230 |
| 180 | 235 | 15 | 45 | 110 | 40 | 110 | 80 | 170 | 545 | 640 | 505 | 455 | 80 | 155 | 310 | - | 160 | 50 | 18 | 6 | 130 | 250 | 35 | 540 | 595 | 287 |
| 200 | 310 | 17 | 50 | 110 | 45 | 110 | 90 | 170 | 620 | 665 | 540 | 490 | 80 | 165 | 330 | - | 175 | 55 | 23 | 6 | 145 | 255 | 40 | 555 | 670 | 287 |
| 225 | 425 | 20 | 55 | 110 | 50 | 110 | 100 | 210 | 715 | 800 | 590 | 530 | 90 | 180 | 360 | - | 190 | 55 | 23 | 6 | 170 | 300 | 45 | 690 | 775 | 287 |
| 250 | 580 | 35 | 60 | 140 | 55 | 110 | 110 | 210 | 775 | 825 | 645 | 585 | 90 | 200 | 400 | - | 210 | 60 | 27 | 6 | 180 | 315 | 50 | 705 | 835 | 364 |
| 280 | 780 | 45 | 65 | 140 | 60 | 140 | 120 | 210 | 880 | 915 | 710 | 650 | 100 | 220 | 440 | - | 230 | 65 | 27 | 6 | 200 | 355 | 55 | 785 | 920 | 364 |
| 315 | 1050 | 65 | 75 | 140 | 70 | 140 | 140 | 250 | 985 | 1025 | 805 | 755 | 110 | 250 | 500 | - | 260 | 75 | 33 | 6 | 220 | 405 | 60 | 875 | 1045 | 364 |
| 355 | 1400 | 80 | 90 | 170 | 80 | 170 | 160 | 300 | 1070 | 1145 | 885 | 815 | 120 | 270 | 540 | - | 285 | 85 | 33 | 6 | 245 | 450 | 65 | 975 | 1130 | 459 |
| 400 | 1850 | 110 | 100 | 210 | 90 | 170 | 170 | 300 | 1190 | 1275 | 980 | 910 | 130 | 290 | 580 | - | 305 | 85 | 33 | 6 | 280 | 510 | 70 | 1105 | 1250 | 459 |
| 450 | 2650 | 160 | 110 | 210 | 95 | 170 | 190 | 350 | 1360 | 1445 | 1075 | 995 | 140 | 330 | 660 | 940 | 345 | 100 | 39 | 8 | 315 | 575 | 80 | 1245 | 1420 | 459 |
| 500 | 3650 | 220 | 120 | 210 | 110 | 210 | 220 | 350 | 1510 | 1595 | 1195 | 1115 | 150 | 370 | 700 | 1050 | 400 | 100 | 39 | 8 | 350 | 640 | 90 | 1385 | 1570 | 570 |

Larger Sizes on Request
Centre Height H as per DIN 747
Tolerance for Shaft ends as per DIN 748, Fit for d and D : n6
Keys according to DIN 6885, Part 1, Shape A
Shaft end centres according to DIN 332, Form DS

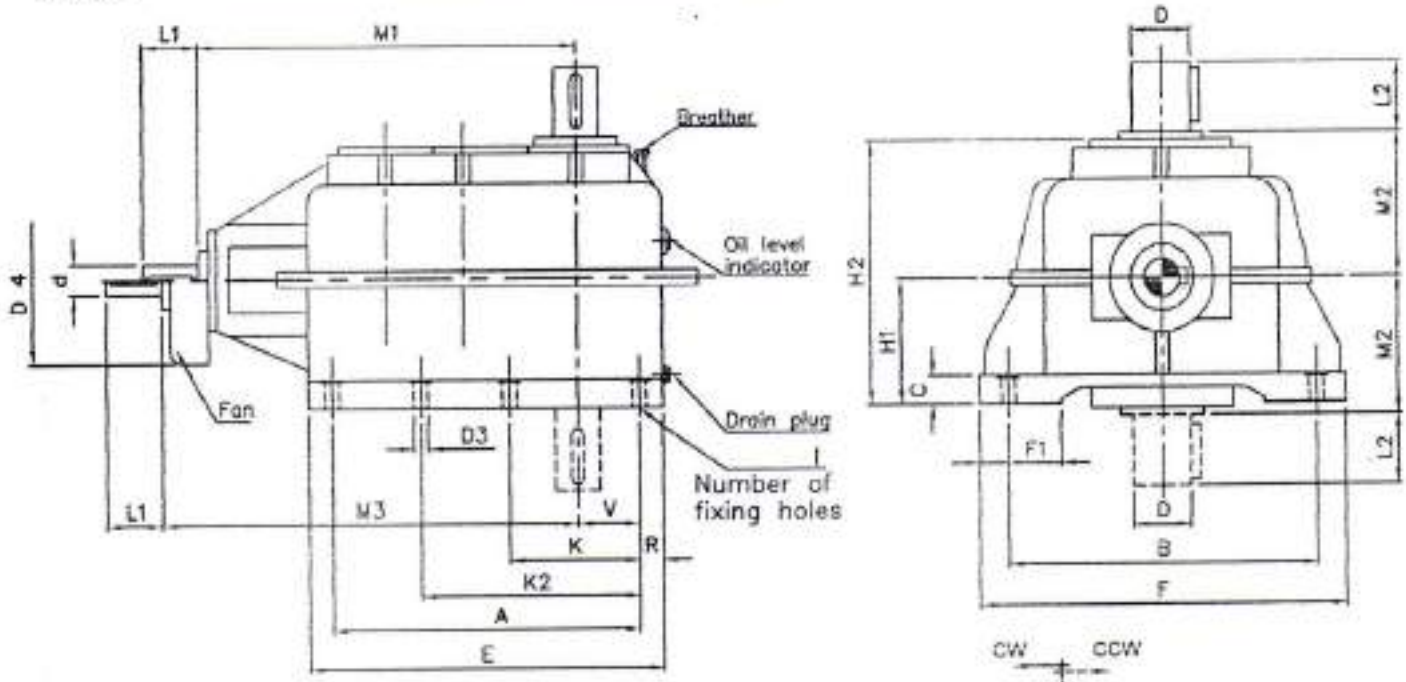
| Nominal Ratio | Nominal Speeds RPM | | SIZE OF GEAR UNIT | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 160 | 180 | 200 | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 | 630 | 710 | 800 |
| $i_N$ | $n_1$ | $n_2$ | Nominal gear box rating $P_n$ (kw) | | | | | | | | | | | | | | |
| 14 | 1500 | 107 | 46 | 65 | 87 | 130 | 175 | 250 | 330 | 480 | 640 | 880 | 1350 * | 1900 * | 2550 * | | |
| | 1000 | 51 | 31 | 47 | 62 | 88 | 125 | 180 | 240 | 350 | 480 | 670 | 1050 | 1450 | 2200 * | 2560 * | 2950 * |
| | 750 | 54 | 24 | 36 | 46 | 71 | 95 | 145 | 195 | 275 | 370 | 510 | 840 | 1200 | 1750 | 2300 * | 2700 * |
| 16 | 1500 | 107 | 46 | 65 | 87 | 125 | 165 | 235 | 310 | 470 | 610 | 840 | 1350 * | 1900 * | 2550 * | | |
| | 1000 | 62 | 31 | 47 | 62 | 86 | 115 | 170 | 235 | 340 | 460 | 640 | 1050 | 1450 | 2200 * | 2550 * | 2960 * |
| | 750 | 47 | 24 | 36 | 46 | 70 | 87 | 140 | 190 | 270 | 360 | 520 | 830 | 1200 | 1750 | 2300 * | 2650 * |
| 18 | 1500 | 83.3 | 43 | 59 | 80 | 115 | 155 | 226 | 310 | 483 | 599 | 851 * | 1350 * | 1850 * | 2500 * | 2800 * | |
| | 1000 | 55.6 | 30 | 42 | 57 | 81 | 110 | 155 | 220 | 340 | 430 | 600 | 1013 | 1400 | 1860 * | 2550 * | 2960 * |
| | 750 | 41.5 | 23 | 34 | 44 | 68 | 85 | 126 | 175 | 273 | 368 | 495 | 790 | 1150 | 1486 | 2200 | 2550 * |
| 20 | 1500 | 75 | 40 | 54 | 72 | 105 | 140 | 210 | 294 | 462 | 566 | 830 * | 1350 * | 1800 * | 2460 * | 2800 * | |
| | 1000 | 50 | 28 | 39 | 51 | 75 | 101 | 152 | 205 | 320 | 410 | 578 | 924 | 1284 | 1682 * | 2400 * | 2850 * |
| | 750 | 37.5 | 21 | 30 | 41 | 59 | 79 | 118 | 168 | 249 | 326 | 473 | 700 | 1000 | 1365 | 2019 | 2500 * |
| 22.4 | 1500 | 67 | 35 | 50 | 69 | 100 | 139 | 189 | 268 | 420 | 548 | 798 * | 1200 * | 1550 * | 2200 * | 2700 * | 3400 * |
| | 1000 | 45 | 24 | 34 | 50 | 69 | 96 | 137 | 197 | 297 | 376 | 540 | 830 | 1147 | 1623 * | 2220 * | 2730 * |
| | 750 | 33.5 | 17.5 | 26 | 38 | 53 | 74 | 101 | 152 | 222 | 294 | 420 | 651 | 880 | 1208 | 1796 | 2470 * |
| 25 | 1500 | 60 | 31 | 47 | 65 | 89 | 126 | 173 | 242 | 378 | 494 | 704 * | 1103 * | 1506 * | 1960 * | 2614 * | 3300 * |
| | 1000 | 40 | 21 | 31 | 44 | 61 | 85 | 121 | 179 | 255 | 338 | 483 | 764 | 1050 | 1418 * | 2050 * | 2730 * |
| | 750 | 30 | 16 | 23 | 33 | 46 | 64 | 90 | 137 | 195 | 252 | 368 | 574 | 780 | 1103 | 1586 | 2216 * |
| 28 | 1500 | 53 | 26 | 40 | 55 | 80 | 105 | 152 | 231 | 237 | 431 | 630 * | 977 * | 1350 * | 1838 * | 2573 * | 3094 * |
| | 1000 | 35.5 | 17 | 27 | 37 | 56 | 71 | 102 | 156 | 230 | 305 | 441 | 672 | 916 | 1260 * | 1814 * | 2625 * |
| | 750 | 26.5 | 13 | 20 | 28 | 42 | 54 | 77 | 121 | 175 | 231 | 336 | 512 | 690 | 935 | 1357 | 1977 * |
| 31.5 | 1500 | 47.5 | 23 | 36 | 48 | 72 | 96 | 137 | 210 | 299 | 410 | 586 * | 882 * | 1206 * | 1628 * | 2300 * | 2774 * |
| | 1000 | 31.5 | 15.5 | 24 | 33 | 48 | 65 | 95 | 142 | 205 | 278 | 399 | 608 | 830 | 1155 * | 1611 * | 2340 * |
| | 750 | 23.6 | 12 | 18 | 25 | 37 | 48 | 69 | 110 | 155 | 205 | 299 | 454 | 620 | 851 | 1204 | 1755 |
| 35.5 | 1500 | 42.5 | 20 | 33 | 43 | 65 | 85 | 118 | 189 | 265 | 368 | 536 | 805 * | 1100 * | 1523 * | 2150 * | 2520 * |
| | 1000 | 28 | 13.5 | 22 | 29 | 44 | 57 | 79 | 126 | 185 | 247 | 357 | 539 | 721 | 1029 * | 1450 * | 2080 * |
| | 750 | 21.2 | 10.1 | 15.9 | 23 | 34 | 43 | 59 | 96 | 140 | 189 | 268 | 403 | 550 | 767 | 1100 | 1555 |
| 40 | 1500 | 37.5 | 18 | 29 | 39 | 59 | 75 | 103 | 168 | 240 | 326 | 483 | 719 | 990 * | 1365 * | 1950 * | 2310 * |
| | 1000 | 25 | 12 | 19 | 27 | 41 | 50 | 70 | 120 | 165 | 227 | 346 | 476 | 660 | 903 | 1300 | 1850 |
| | 750 | 19 | 9 | 14.5 | 20 | 30 | 38 | 55 | 87 | 125 | 168 | 247 | 357 | 500 | 683 | 980 | 1400 |
| 45 | 1500 | 33.5 | 16 | 25 | 35 | 53 | 68 | 96 | 152 | 215 | 294 | 431 | 639 | 880 | 1208 | 1750 | 2205 * |
| | 1000 | 22.4 | 10.6 | 17 | 23 | 35 | 46 | 64 | 101 | 145 | 194 | 284 | 460 | 640 | 841 | 1250 | 1810 |
| | 750 | 17 | 8 | 12.3 | 18 | 27 | 35 | 48 | 77 | 110 | 152 | 221 | 320 | 460 | 628 | 870 | 1260 |
| 50 | 1500 | 30 | 14.2 | 23 | 32 | 46 | 61 | 85 | 137 | 195 | 257 | 378 | 574 | 780 | 1103 | 1550 | 2153 * |
| | 1000 | 20 | 9.6 | 15 | 22 | 33 | 41 | 58 | 91 | 130 | 173 | 252 | 381 | 520 | 725 | 1050 | 1500 |
| | 750 | 15 | 7.2 | 11 | 16 | 24 | 32 | 44 | 69 | 99 | 131 | 194 | 290 | 410 | 564 | 780 | 1150 |
| 56 | 1500 | 26.5 | 12.6 | 20 | 28 | 42 | 54 | 76 | 121 | 170 | 236 | 336 | 500 | 700 | 986 | 1370 | 1980 * |
| | 1000 | 18 | 8.5 | 13.2 | 19 | 28 | 37 | 53 | 82 | 115 | 158 | 226 | 340 | 490* | 672 | 940 | 1350 |
| | 750 | 13.2 | 6.4 | 10 | 14 | 21 | 27 | 39 | 62 | 88 | 120 | 173 | 255 | 360 | 502 | 690 | 990 |
| 63 | 1500 | 23.8 | 11.4 | 18 | 25 | 37 | 47 | 67 | 105 | 150 | 210 | 299 | 454 | 620 | 851 | 1250 | 1626 |
| | 1000 | 16 | 7.6 | 12 | 16.8 | 25 | 33 | 46 | 72 | 105 | 142 | 200 | 301 | 430 | 588 | 830 | 1163 |
| | 750 | 11.8 | 5.7 | 8.6 | 12.3 | 19 | 24 | 35 | 54 | 78 | 104 | 152 | 230 | 325 | 446 | 630 | 886 |
| 71 | 1500 | 21.2 | 10 | 15.8 | 23 | 33 | 43 | 60 | 96 | 135 | 189 | 283 | 403 | 580 | 730 | 1050 | 1290 |
| | 1000 | 14 | 6.7 | 10.2 | 14.8 | 23 | 29 | 40 | 64 | 87 | 131 | 188 | 287 | 380 | 525 | 707 | 945 |
| | 750 | 10.6 | 5 | 7.8 | 11 | 17 | 22 | 30 | 48 | 65 | 95 | 126 | 200 | 285 | 395 | 529 | 725 |
| 80 | 1500 | 19 | 9 | 13 | 20 | 29 | 41 | 58 | 78 | 115 | 160 | 226 | 350 | 460 | 610 | 880 | 1155 |
| | 1000 | 12.5 | 6 | 8.5 | 14 | 20 | 27 | 39 | 53 | 79 | 112 | 152 | 240 | 340 | 441 | 599 | 787 |
| | 750 | 9.5 | 4.6 | 6.4 | 10 | 15 | 20 | 28 | 40 | 59 | 84 | 116 | 180 | 255 | 326 | 452 | 630 |
| 90 | 1500 | 17 | 8 | 12 | 18 | 26 | 36 | 48 | 70 | 110 | 145 | 200 | 310 | 404 | 527 | 800 | 956 |
| | 1000 | 11.2 | 5.5 | 8 | 12 | 17.1 | 24 | 32 | 46 | 66 | 100 | 121 | 169 | 273 | 373 | 556 | 663 |
| | 750 | 8.5 | 4.1 | 6 | 9 | 13.3 | 18 | 23 | 35 | 50 | 71 | 90 | 137 | 205 | 284 | 417 | 536 |
| 100 | 1500 | 15 | 7.2 | 10 | 10 | 22 | 31 | 36 | 53 | 80 | 120 | 147 | 241 | 330 | 452 | 650 | 650 |
| | 1000 | 10 | 4.8 | 6.6 | 10.4 | 13.7 | 20 | 23 | 33 | 53 | 67 | 69 | 142 | 215 | 310 | 525 | 578 |
| | 750 | 7.5 | 3.5 | 5.1 | 7.8 | 10 | 15 | 17 | 24 | 39 | 48 | 65 | 102 | 152 | 236 | 347 | 462 |

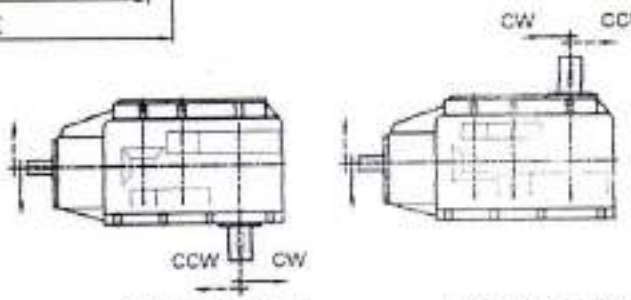
| Thermal Capacity (kw) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Without Cooling $P_{G1}$(kw) | Input rpm $n_1$ | 44 | 53 | 66 | 84 | 105 | 135 | 170 | 205 | 250 | 310 | 390 | 490 | 618 | 770 | 999 |
| With Fan Cooling $P_{G2}$(kw) | 1500 | 100 | 120 | 150 | 195 | 225 | 290 | 360 | 485 | 550 | 715 | 900 | 1160 | 1450 | 1) | 1) |
| | 1000 | 85 | 115 | 135 | 175 | 210 | 260 | 345 | 410 | 470 | 595 | 770 | 1000 | 1300 | 1) | 1) |
| | 750 | 90 | 110 | 125 | 160 | 190 | 230 | 300 | 360 | 420 | 530 | 665 | 920 | 1190 | 1) | 1) |

1) Details of cooling on request
* Pressure lubrication required

# Foot Mounted, Vertical
# Triple Reduction, Bevel Helical Gear Unit

# TFKV




Right hand assembly

Left hand assembly

Arrows show relative directions of rotation

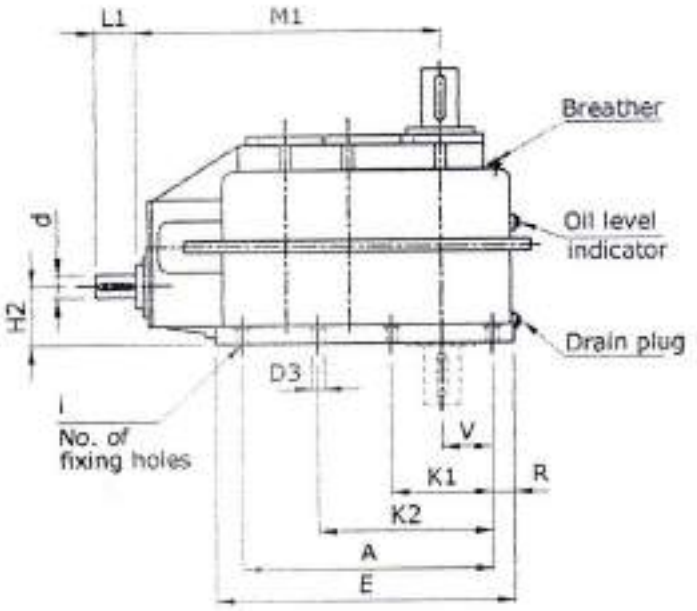
| Gear Box Size | Average Weight Kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | GEAR CASE DETAILS | | | | | | | | | | | | | | | | | | FAN DETAILS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $l_a$ = 28 | | Above $l_a$ = 28 to $l_a$ = 80 | | Above $l_a$ = 80 | | | | | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | d | L1 | M1 | D | L2 | M2 | A | B | V | K1 | K2 | F1 | C | D3 | R | I | H1 | E | F | H2 | P | M3 | D4 |
| 160 | 195 | 12 | 28 | 60 | 24 | 50 | 20 | 50 | 530 | 70 | 140 | 145 | 495 | 420 | 115 | 210 | | 75 | 35 | 18 | 50 | 6 | 140 | 595 | 470 | 270 | 195 | - | - |
| 180 | 255 | 18 | 32 | 80 | 28 | 60 | 22 | 50 | 590 | 80 | 170 | 160 | 565 | 455 | 135 | 240 | | 80 | 35 | 18 | 50 | 8 | 155 | 665 | 505 | 295 | 215 | 675 | 300 |
| 200 | 340 | 25 | 35 | 80 | 32 | 80 | 24 | 50 | 640 | 90 | 170 | 175 | 615 | 505 | 145 | 255 | | 85 | 40 | 23 | 65 | 8 | 185 | 745 | 550 | 325 | 235 | 780 | 380 |
| 225 | 460 | 35 | 40 | 110 | 35 | 80 | 28 | 60 | 730 | 100 | 210 | 190 | 705 | 530 | 165 | 290 | | 90 | 45 | 23 | 65 | 8 | 180 | 835 | 590 | 355 | 265 | 845 | 380 |
| 250 | 600 | 45 | 45 | 110 | 40 | 110 | 32 | 80 | 795 | 110 | 210 | 210 | 780 | 605 | 180 | 315 | | 95 | 50 | 27 | 75 | 6 | 200 | 930 | 665 | 395 | 285 | 945 | 530 |
| | | | Up to $l_a$ = 45 | | Above $l_a$ = 45 to $l_a$ = 80 | | Above $l_a$ = 80 | | | | | | | | | | | | | | | | | | | | | |
| 280 | 820 | 65 | 50 | 110 | 45 | 110 | 35 | 80 | 900 | 130 | 250 | 230 | 880 | 670 | 200 | 355 | | 105 | 55 | 27 | 75 | 6 | 220 | 1030 | 730 | 435 | 310 | 1035 | 530 |
| 315 | 1150 | 85 | 55 | 110 | 50 | 110 | 40 | 110 | 1030 | 140 | 250 | 260 | 985 | 765 | 220 | 405 | 655 | 115 | 60 | 33 | 85 | 8 | 250 | 1155 | 825 | 490 | 350 | 1155 | 650 |
| 355 | 1500 | 110 | 60 | 140 | 55 | 110 | 45 | 110 | 1130 | 170 | 300 | 285 | 1110 | 835 | 245 | 450 | 740 | 125 | 65 | 33 | 85 | 8 | 270 | 1280 | 905 | 540 | 380 | 1275 | 650 |
| 400 | 2050 | 140 | 70 | 140 | 60 | 140 | 50 | 110 | 1260 | 180 | 300 | 305 | 1245 | 920 | 280 | 510 | 840 | 130 | 70 | 39 | 85 | 8 | 290 | 1415 | 1000 | 580 | 425 | 1420 | 850 |
| 450 | 2700 | 200 | 75 | 140 | 70 | 140 | 55 | 110 | 1435 | 210 | 350 | 345 | 1400 | 1025 | 310 | 575 | 940 | 140 | 80 | 39 | 100 | 8 | 330 | 1600 | 1115 | 660 | 465 | 1570 | 850 |
| 500 | 3650 | 265 | 90 | 170 | 75 | 140 | 60 | 140 | 1570 | 240 | 410 | 385 | 1550 | 1145 | 350 | 645 | 1050 | 150 | 90 | 39 | 120 | 8 | 370 | 1790 | 1235 | 740 | 530 | 1730 | 850 |
| 560 | 5100 | 360 | 100 | 210 | 90 | 170 | 70 | 140 | 1750 | 270 | 470 | 415 | 1735 | 1285 | 390 | 715 | 1165 | 160 | 100 | 45 | 120 | 8 | 400 | 1975 | 1375 | 800 | 580 | 1920 | 850 |
| 630 | 6900 | 400 | 110 | 210 | 100 | 210 | 75 | 140 | 1990 | 300 | 470 | 455 | 1985 | 1410 | 445 | 800 | 1320 | 170 | 110 | 45 | 135 | 8 | 440 | 2255 | 1510 | 880 | 640 | - | - |
| 710 | 9200 | 700 | 120 | 210 | 110 | 210 | 80 | 170 | 2220 | 340 | 550 | 480 | 2220 | 1615 | 500 | 900 | 1490 | 180 | 125 | 45 | 160 | 6 | 460 | 2540 | 1715 | 930 | 735 | - | - |
| 800 | 12700 | 950 | 130 | 250 | 120 | 210 | 100 | 210 | 2500 | 390 | 650 | 510 | 2520 | 1820 | 560 | 1100 | 1680 | 200 | 140 | 45 | 160 | 8 | 490 | 2840 | 1920 | 990 | 815 | - | - |

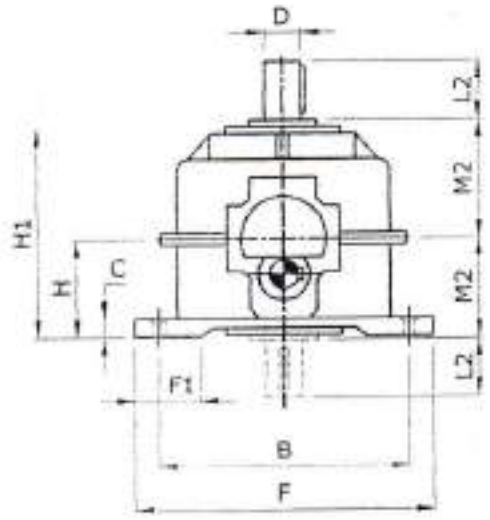
Larger Sizes on Request
Centre Height H1 as per DIN 747
Tolerance for Shaft ends as per DIN 748, Fit for d and D : m6.
Keys according to DIN 6885, Part 1, Shape A
Shaft end centres according to DIN 332, Form DS

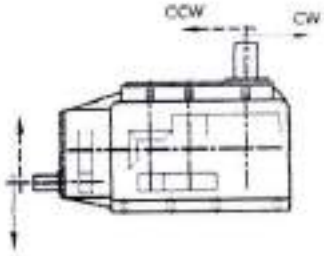
| Nominal Ratio | Nominal Speeds RPM | | SIZE OF GEAR UNIT | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 | 630 | 710 | 800 |
| $i_N$ | $n_1$ | $n_2$ | Nominal gear box rating $P_N$ (kw) | | | | | | | | | | | |
| 90 | 1500 | 16.7 | | | | | 105 | 145 | 205 | 300 | 420 | 560 | 800 | 1150 |
| | 1000 | 11.1 | | | | | 71 | 96 | 140 | 205 | 285 | 374 | 534 | 770 |
| | 750 | 8.3 | | | | | 53 | 73 | 105 | 155 | 210 | 280 | 400 | 580 |
| 100 | 1500 | 15 | 22 | 29.5 | 42 | 60 | 99 | 130 | 185 | 290 | 400 | 540 | 780 | 1100 |
| | 1000 | 10 | 15 | 20 | 28 | 45 | 66 | 88 | 125 | 195 | 270 | 360 | 520 | 750 |
| | 750 | 7.5 | 11.5 | 15 | 21 | 34 | 51 | 66 | 93 | 145 | 205 | 270 | 390 | 560 |
| 112 | 1500 | 13.2 | 22 | 29 | 40 | 62 | 87 | 121 | 179 | 283 | 360 | 500 | 712 | 985 |
| | 1000 | 9 | 14.5 | 19.4 | 27 | 41 | 60 | 82 | 121 | 175 | 240 | 333 | 474 | 704 |
| | 750 | 6.7 | 10.8 | 14 | 20 | 31 | 45 | 61 | 90 | 131 | 185 | 250 | 356 | 525 |
| 125 | 1500 | 11.8 | 18.4 | 26 | 36 | 55 | 79 | 105 | 158 | 236 | 320 | 448 | 638 | 924 |
| | 1000 | 8 | 12 | 17.3 | 24 | 37 | 54 | 71 | 105 | 157 | 215 | 298 | 425 | 600 |
| | 750 | 6 | 9.6 | 13.1 | 18.4 | 28 | 41 | 54 | 79 | 118 | 165 | 224 | 319 | 462 |
| 140 | 1500 | 10.6 | 17.3 | 24 | 32 | 49 | 71 | 93 | 142 | 210 | 295 | 399 | 569 | 840 |
| | 1000 | 7.1 | 11.6 | 16.3 | 22 | 33 | 49 | 63 | 96 | 140 | 195 | 266 | 379 | 557 |
| | 750 | 5.3 | 8.5 | 12.1 | 16.7 | 25 | 36 | 47 | 71 | 105 | 150 | 200 | 284 | 420 |
| 160 | 1500 | 8.5 | 15.2 | 21 | 29 | 43 | 57 | 85 | 121 | 184 | 260 | 350 | 498 | 746 |
| | 1000 | 6.3 | 10 | 14.2 | 19.4 | 29 | 42 | 58 | 81 | 122 | 175 | 233 | 332 | 494 |
| | 750 | 4.75 | 7.6 | 11 | 14.6 | 22 | 32 | 43 | 61 | 92 | 115 | 175 | 250 | 374 |
| 180 | 1500 | 8.5 | 13.6 | 18.4 | 26 | 38 | 57 | 76 | 105 | 163 | 225 | 310 | 443 | 662 |
| | 1000 | 5.6 | 9 | 12.6 | 17.3 | 26 | 38 | 50 | 72 | 109 | 150 | 207 | 295 | 441 |
| | 750 | 4.25 | 6.8 | 9.5 | 13 | 19.5 | 29 | 38 | 55 | 82 | 115 | 155 | 221 | 336 |
| 200 | 1500 | 7.5 | 12 | 16.3 | 23.4 | 35 | 51 | 67 | 97 | 147 | 205 | 280 | 398 | 588 |
| | 1000 | 5 | 8.1 | 11 | 15.2 | 23 | 34 | 45 | 64 | 98 | 135 | 186 | 265 | 399 |
| | 750 | 3.75 | 6.1 | 8.3 | 11.7 | 17 | 27 | 34 | 48 | 73 | 105 | 140 | 200 | 294 |
| 224 | 1500 | 6.7 | 10.5 | 14.7 | 21 | 31 | 46 | 60 | 87 | 131 | 185 | 250 | 360 | 525 |
| | 1000 | 4.5 | 7.1 | 9.8 | 13.9 | 21 | 31 | 40 | 58 | 87 | 125 | 166 | 240 | 356 |
| | 750 | 3.35 | 5.3 | 7.4 | 10.4 | 15.5 | 24 | 30 | 44 | 66 | 94 | 125 | 180 | 267 |
| 250 | 1500 | 6 | 9.2 | 13.1 | 18.4 | 28 | 40 | 54 | 76 | 118 | 165 | 224 | 320 | 473 |
| | 1000 | 4 | 6.1 | 8.9 | 12.5 | 18.4 | 27 | 36 | 51 | 78 | 110 | 149 | 215 | 315 |
| | 750 | 3 | 4.8 | 6.7 | 9.3 | 13.8 | 21 | 27 | 39 | 59 | 83 | 112 | 160 | 236 |
| 280 | 1500 | 5.3 | 8.1 | 11.9 | 16.7 | 25 | 36 | 48 | 69 | 105 | 145 | 200 | 284 | 415 |
| | 1000 | 3.55 | 5.6 | 7.8 | 11.1 | 16.4 | 24 | 33 | 49 | 70 | 97 | 133 | 189 | 278 |
| | 750 | 2.65 | 4.2 | 5.9 | 8.3 | 12.3 | 18.5 | 24 | 35 | 52 | 73 | 100 | 142 | 206 |
| 315 | 1500 | 4.75 | 7.5 | 10.1 | 14.7 | 22 | 33 | 42 | 61 | 93 | 130 | 177 | 253 | 357 |
| | 1000 | 3.15 | 4.9 | 6.9 | 9.6 | 14.6 | 22 | 28 | 41 | 62 | 87 | 118 | 169 | 242 |
| | 750 | 2.36 | 3.8 | 5.3 | 7.4 | 11 | 16.5 | 22 | 31 | 47 | 66 | 88 | 126 | 184 |
| 355 | 1500 | 4.25 | 6.6 | 9 | 12.6 | 18.9 | 25 | 36 | 48 | 83 | 115 | 157 | 224 | 289 |
| | 1000 | 2.8 | 4.4 | 6.3 | 8.5 | 12.6 | 17.3 | 25 | 33 | 55 | 77 | 105 | 147 | 194 |
| | 750 | 2.12 | 3.3 | 4.6 | 6.4 | 9.6 | 13.1 | 19 | 25 | 42 | 59 | 78 | 110 | 147 |
| 400 | 1500 | 3.75 | 5.7 | 7.9 | 10.5 | 16.3 | 23 | 32 | 43 | 73 | 100 | 131 | 184 | 257 |
| | 1000 | 2.5 | 3.8 | 5.4 | 7.1 | 11 | 15.2 | 21 | 29 | 49 | 68 | 88 | 121 | 173 |
| | 750 | 1.9 | 2.9 | 4 | 5.4 | 8.2 | 12.1 | 16.3 | 22 | 37 | 52 | 66 | 92 | 131 |
| 450 | 1500 | 3.35 | 5 | 7.4 | 9.5 | 14.2 | 20 | 29 | 39 | 61 | 88 | 116 | 163 | 231 |
| | 1000 | 2.24 | 3.3 | 5 | 6.4 | 9.6 | 14.2 | 20 | 26 | 41 | 61 | 78 | 110 | 158 |
| | 750 | 1.7 | 2.5 | 3.7 | 4.8 | 7.4 | 10.5 | 14.7 | 19.4 | 31 | 43 | 59 | 82 | 116 |
| 500 | 1500 | 3 | 3.9 | 6.4 | 7.7 | 11 | 17.9 | 25 | 36 | 53 | 75 | 102 | 158 | 200 |
| | 1000 | 2 | 2.6 | 4.3 | 5.1 | 7.5 | 12.1 | 16.8 | 24 | 36 | 49 | 68 | 105 | 137 |
| | 750 | 1.5 | 2 | 3.3 | 3.9 | 5.6 | 9 | 12 | 17.3 | 27 | 38 | 51 | 79 | 100 |
| 560 | 1500 | 2.65 | | 5.8 | 6.3 | 8.9 | 14.7 | 21 | 23 | 40 | 65 | 89 | 137 | 173 |
| | 1000 | 1.8 | | 3.8 | 4.2 | 5.8 | 10 | 13.7 | 15.8 | 27 | 44 | 60 | 91 | 116 |
| | 750 | 1.32 | | 2.8 | 3.2 | 4.4 | 7.4 | 10.5 | 11.6 | 20 | 33 | 45 | 67 | 86 |
| 630 | 1500 | 2.36 | | | 5 | 7.4 | 11.6 | 14.7 | 17.9 | 30 | 45 | 74 | 110 | 147 |
| | 1000 | 1.6 | | | 3.4 | 4.8 | 7.9 | 10 | 11.6 | 20 | 30 | 46 | 72 | 98 |
| | 750 | 1.18 | | | 2.5 | 3.6 | 5.8 | 7.4 | 8.9 | 15 | 22 | 37 | 55 | 74 |

| Thermal Capacity (kw) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Without Cooling $PG_1$ (kw) | 38 | 48 | 59 | 78 | 99 | 125 | 155 | 195 | 245 | 310 | 390 | 500 |

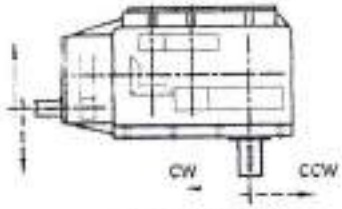
* Pressure lubrication required




Left hand assembly




Left hand assembly

Arrows show relative directions of rotation

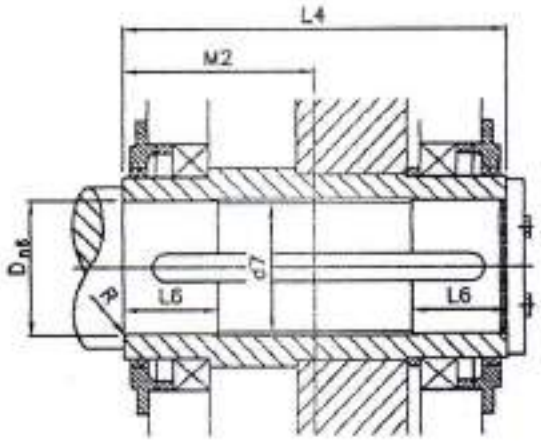
| Gear Box Size | Average Weight kg. | Oil Quantity litres | SHAFT DETAILS | | | | | | | | BASE DETAILS | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Up to $l_N$ = 280 | | Above $l_N$ = 280 | | | | | | | | | | | | | | | | | | | |
| | | | d | L1 | d | L1 | M1 | D | L2 | M2 | E | F | B | F1 | H | H2 | H1 | K2 | R | D3 | I | V | K1 | C | A |
| 225 | 460 | 37 | 24 | 50 | 20 | 50 | 730 | 100 | 210 | 190 | 835 | 590 | 530 | 90 | 180 | 90 | 355 | | 65 | 23 | 6 | 165 | 290 | 45 | 705 |
| 250 | 610 | 48 | 28 | 60 | 22 | 50 | 795 | 110 | 210 | 210 | 930 | 665 | 605 | 95 | 200 | 100 | 385 | | 75 | 27 | 6 | 180 | 315 | 50 | 780 |
| 280 | 840 | 68 | 32 | 80 | 24 | 50 | 900 | 130 | 250 | 230 | 1030 | 730 | 670 | 105 | 220 | 110 | 435 | | 75 | 27 | 6 | 200 | 355 | 55 | 880 |
| 315 | 1200 | 90 | 36 | 80 | 28 | 60 | 1030 | 140 | 250 | 260 | 1155 | 825 | 765 | 115 | 250 | 125 | 490 | 655 | 85 | 33 | 8 | 220 | 405 | 60 | 985 |
| 355 | 1550 | 115 | 40 | 110 | 32 | 80 | 1130 | 170 | 300 | 285 | 1280 | 905 | 835 | 125 | 270 | 130 | 540 | 740 | 85 | 33 | 8 | 245 | 450 | 65 | 1110 |
| 400 | 2100 | 145 | 45 | 110 | 35 | 80 | 1260 | 180 | 300 | 305 | 1415 | 1000 | 920 | 130 | 280 | 130 | 580 | 840 | 95 | 33 | 8 | 280 | 510 | 70 | 1245 |
| 450 | 2750 | 205 | 50 | 110 | 40 | 110 | 1435 | 210 | 350 | 345 | 1600 | 1115 | 1025 | 140 | 330 | 150 | 660 | 940 | 100 | 39 | 8 | 315 | 575 | 80 | 1400 |
| 500 | 3900 | 270 | 55 | 110 | 45 | 110 | 1570 | 240 | 410 | 385 | 1790 | 1235 | 1145 | 150 | 370 | 170 | 740 | 1050 | 120 | 39 | 8 | 350 | 645 | 90 | 1550 |
| 560 | 5200 | 365 | 60 | 140 | 50 | 110 | 1750 | 270 | 470 | 415 | 1975 | 1375 | 1285 | 160 | 400 | 175 | 800 | 1165 | 120 | 45 | 8 | 390 | 715 | 100 | 1735 |
| 630 | 7000 | 495 | 70 | 140 | 55 | 110 | 1990 | 300 | 470 | 455 | 2255 | 1510 | 1410 | 170 | 440 | 190 | 880 | 1320 | 135 | 45 | 8 | 445 | 800 | 110 | 1985 |
| 710 | 9200 | 710 | 75 | 140 | 60 | 140 | 2220 | 340 | 550 | 480 | 2540 | 1715 | 1615 | 190 | 480 | 180 | 930 | 1400 | 160 | 45 | 8 | 500 | 900 | 125 | 2220 |
| 800 | 12700 | 960 | 90 | 170 | 70 | 140 | 2500 | 390 | 650 | 510 | 2840 | 1920 | 1820 | 200 | 490 | 175 | 990 | 1680 | 160 | 45 | 8 | 560 | 1100 | 140 | 2520 |

Larger Sizes on Request
Centre Height H1 as per DIN 747
Tolerance for Shaft ends as per DIN 748, Fit for d and D : n6
Keys according to DIN 6885, Part 1, Shape A
Shaft end centres according to DIN 332, Form DS

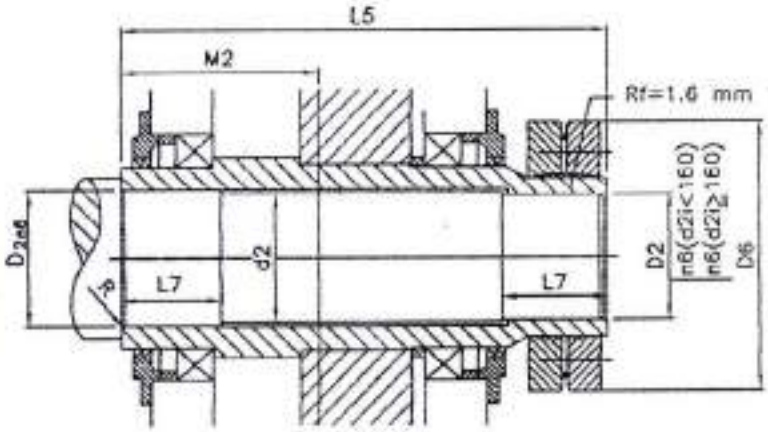
## Sizes

**DFH, DS, TFH, TS, QFH, QS,**
**DFKH, DSK, TFKH, TSK, QFKH, QSK**

With key way




With shrink disc




| Gear Box Size | BASE DETAILS | | | | | | | | | | | SHRINK DISC SIZE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | d2 | D2 | D6 | d7 | L4 | L5 | L6 | L7 | M2 | R | |
| 110 | 55 | | | | 54.5 | 215 | | 25 | | 110 | 2.5 | |
| 125 | 60 | | | | 59.5 | 235 | | 30 | | 120 | 2.5 | |
| 140 | 70 | | | | 69.5 | 265 | | 35 | | 135 | 2.5 | |
| 160 | 80 | 78 | 75 | 170 | 79.5 | 275 | 340 | 40 | 75 | 140 | 2.5 | 100-92 |
| 180 | 90 | 88 | 85 | 215 | 89.5 | 315 | 390 | 45 | 85 | 160 | 4 | 125-92 |
| 200 | 110 | 108 | 105 | 230 | 109.5 | 345 | 430 | 55 | 95 | 175 | 4 | 140-91 |
| 225 | 120 | 118 | 115 | 265 | 119.5 | 375 | 460 | 60 | 95 | 190 | 4 | 150-91 |
| 250 | 140 | 138 | 135 | 300 | 139.5 | 425 | 520 | 70 | 110 | 215 | 4 | 175-91 |
| 280 | 150 | 145 | 140 | 350 | 149.5 | 465 | 575 | 75 | 125 | 235 | 6 | 195-91 |
| 315 | 170 | 165 | 160 | 370 | 169.5 | 515 | 645 | 85 | 145 | 260 | 6 | 220-91 |
| 355 | 180 | 175 | 170 | 405 | 179.5 | 585 | 725 | 90 | 155 | 295 | 6 | 240-91 |
| 400 | 200 | 195 | 190 | 430 | 199.5 | 625 | 780 | 100 | 175 | 315 | 6 | 260-91 |
| 450 | 230 | 225 | 220 | 485 | 229.5 | 685 | 860 | 115 | 195 | 345 | 8 | 300-91 |
| 500 | 260 | 255 | 245 | 570 | 259.5 | 790 | 980 | 130 | 205 | 400 | 8 | 340-91 |
| 560 | 300 | 295 | 285 | 645 | 299.5 | 875 | 1070 | 150 | 215 | 440 | 8 | 380-91 |
| 630 | 340 | 335 | 325 | 630 | 339.5 | 975 | 1190 | 170 | 235 | 490 | 8 | 420-91 |

**Larger Sizes on Request**
**Fit for D H7/m6 and D2 H7/m6 or H7/g6**
**Keys according to DIN 6885, Part 1, Shape A**
**Shaft end centres according to DIN 332, Form D6**

TYPE: SF

| Nominal ratio | SIZE | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 80 | 100 | 125 | 140 | 160 | 180 | 200 | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 | 630 |
| 1.25 | 1.250 | 1.263 | 1.250 | 1.275 | 1.250 | 1.250 | 1.263 | 1.250 | 1.250 | 1.275 | 1.250 | 1.263 | 1.263 | 1.250 | 1.250 | | |
| 1.4 | 1.406 | 1.417 | 1.417 | 1.405 | 1.405 | 1.417 | 1.417 | 1.417 | 1.417 | 1.405 | 1.417 | 1.417 | 1.417 | 1.417 | 1.417 | | |
| 1.6 | 1.588 | 1.575 | 1.588 | 1.600 | 1.586 | 1.588 | 1.575 | 1.588 | 1.588 | 1.600 | 1.588 | 1.606 | 1.575 | 1.588 | 1.588 | | |
| 1.8 | 1.781 | 1.774 | 1.781 | 1.781 | 1.781 | 1.774 | 1.774 | 1.774 | 1.781 | 1.781 | 1.774 | 1.774 | 1.774 | 1.774 | 1.806 | | |
| 2.0 | 1.967 | 1.966 | 1.967 | 1.967 | 1.967 | 1.966 | 1.966 | 1.966 | 1.967 | 1.967 | 1.966 | 1.966 | 1.966 | 1.966 | 2.034 | 1.967 | 1.966 |
| 2.24 | 2.259 | 2.222 | 2.259 | 2.250 | 2.259 | 2.259 | 2.222 | 2.222 | 2.259 | 2.250 | 2.259 | 2.222 | 2.222 | 2.222 | 2.259 | 2.259 | 2.222 |
| 2.5 | 2.520 | 2.480 | 2.520 | 2.500 | 2.520 | 2.520 | 2.480 | 2.480 | 2.520 | 2.500 | 2.520 | 2.542 | 2.480 | 2.480 | 2.520 | 2.500 | 2.480 |
| 2.8 | 2.826 | 2.783 | 2.826 | 2.792 | 2.826 | 2.826 | 2.783 | 2.783 | 2.826 | 2.792 | 2.826 | 2.783 | 2.783 | 2.783 | 2.826 | 2.792 | 2.783 |
| 3.15 | 3.190 | 3.143 | 3.190 | 3.136 | 3.190 | 3.190 | 3.143 | 3.143 | 3.190 | 3.136 | 3.190 | 3.143 | 3.143 | 3.143 | 3.190 | 3.136 | 3.143 |
| 3.55 | 3.500 | 3.571 | 3.571 | 3.550 | 3.500 | 3.545 | 3.571 | 3.571 | 3.571 | 3.550 | 3.591 | 3.500 | 3.571 | 3.571 | 3.571 | 3.550 | 3.591 |
| 4.0 | 3.952 | 4.045 | 3.955 | 3.950 | 3.952 | 3.950 | 4.045 | 3.955 | 3.955 | 3.950 | 4.050 | 3.950 | 4.045 | 3.955 | 4.048 | 3.950 | 4.050 |
| 4.5 | 4.474 | 4.500 | 4.450 | 4.450 | 4.429 | 4.476 | 4.500 | 4.450 | 4.450 | 4.450 | 4.500 | 4.476 | 4.500 | 4.450 | 4.500 | 4.450 | 4.500 |
| 5.0 | 5.059 | 4.955 | 5.050 | 5.050 | 4.952 | 5.053 | 4.955 | 4.952 | 5.050 | 5.050 | 5.050 | 5.048 | 4.955 | 4.952 | 5.050 | 5.050 | 5.050 |
| 5.6 | 5.593 | 5.550 | 5.607 | 5.607 | 5.579 | 5.556 | 5.550 | 5.579 | 5.607 | 5.607 | 5.722 | 5.632 | 5.550 | 5.579 | 5.607 | 5.607 | 5.722 |
| 6.3 | 6.357 | 6.278 | 6.235 | 6.235 | 6.294 | 6.313 | 6.278 | 6.294 | 6.235 | 6.235 | 6.235 | 6.333 | 6.278 | 6.294 | 6.176 | 6.176 | 6.235 |

TYPE: DF / DFH / DS

| Nominal ratio | SIZE | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 110 | 125 | 140 | 160 | 180 | 200 | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 | 630 | 710 | 800 |
| 7.1 | 6.930 | 7.000 | 6.978 | 6.879 | 6.973 | 7.024 | 7.024 | 7.020 | 6.978 | 7.056 | 6.883 | 7.024 | 7.020 | 7.020 | 6.978 | 7.056 | 7.121 | 7.024 |
| 8.0 | 7.961 | 8.069 | 7.889 | 7.942 | 8.010 | 8.036 | 8.069 | 8.069 | 7.889 | 7.960 | 7.907 | 8.036 | 8.069 | 7.937 | 7.889 | 7.960 | 7.907 | 8.036 |
| 9.0 | 8.880 | 9.000 | 8.804 | 8.856 | 8.935 | 8.829 | 9.000 | 9.000 | 8.804 | 8.905 | 8.820 | 8.929 | 9.000 | 9.077 | 8.804 | 8.905 | 8.820 | 8.929 |
| 10.0 | 9.956 | 10.093 | 9.878 | 9.804 | 10.020 | 9.970 | 10.093 | 10.093 | 9.878 | 9.992 | 9.891 | 9.970 | 10.093 | 9.938 | 9.878 | 9.992 | 9.891 | 9.970 |
| 11.2 | 11.243 | 11.395 | 11.157 | 11.200 | 11.312 | 11.201 | 11.395 | 11.395 | 11.157 | 11.286 | 11.167 | 11.201 | 11.395 | 11.224 | 11.157 | 11.286 | 11.167 | 11.201 |
| 12.5 | 12.333 | 12.662 | 12.679 | 12.333 | 12.662 | 12.678 | 12.500 | 12.662 | 12.679 | 12.825 | 12.500 | 12.679 | 12.825 | 12.500 | 12.679 | 12.825 | 12.500 | 12.679 |
| 14 | 13.927 | 14.107 | 14.361 | 14.167 | 14.021 | 14.107 | 14.116 | 14.107 | 14.361 | 14.200 | 13.841 | 14.107 | 14.464 | 14.107 | 14.361 | 14.200 | 14.167 | 14.107 |
| 16 | 15.764 | 15.986 | 15.975 | 15.750 | 15.777 | 15.893 | 15.816 | 15.986 | 15.975 | 15.960 | 15.575 | 15.893 | 16.071 | 15.960 | 15.975 | 15.960 | 15.750 | 15.893 |
| 18 | 17.626 | 18.045 | 17.589 | 17.675 | 17.905 | 18.036 | 17.687 | 18.045 | 17.589 | 17.784 | 17.675 | 18.036 | 18.036 | 18.027 | 17.589 | 17.784 | 17.675 | 18.036 |
| 20 | 19.601 | 19.841 | 19.703 | 19.342 | 20.091 | 20.238 | 19.925 | 19.841 | 19.703 | 20.033 | 19.833 | 20.238 | 20.437 | 20.113 | 19.703 | 20.033 | 19.833 | 20.238 |
| 22.4 | 22.401 | 22.545 | 22.286 | 22.029 | 22.107 | 22.269 | 22.479 | 22.545 | 22.286 | 22.602 | 21.824 | 22.269 | 22.269 | 22.689 | 22.286 | 22.602 | 21.618 | 22.059 |

TYPE: TF / TFH / TS

| Nominal ratio | SIZE | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 160 | 180 | 200 | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 | 630 | 710 | 800 |
| 25 | 24.858 | 25.250 | 24.728 | 25.653 | 25.435 | 24.898 | 25.180 | 24.928 | 24.726 | 25.031 | 25.043 | 24.696 | 25.100 | 25.140 | 24.726 |
| 28 | 27.875 | 28.317 | 27.743 | 28.444 | 28.524 | 27.577 | 28.239 | 27.954 | 27.743 | 28.085 | 28.085 | 27.577 | 28.293 | 27.524 | 27.743 |
| 31.5 | 31.470 | 31.968 | 31.335 | 32.298 | 32.202 | 30.982 | 31.880 | 31.558 | 31.335 | 31.721 | 31.707 | 30.982 | 31.890 | 31.087 | 31.335 |
| 35.5 | 34.523 | 35.525 | 35.608 | 35.568 | 36.047 | 35.068 | 34.972 | 35.069 | 35.608 | 36.047 | 35.492 | 35.068 | 35.881 | 34.620 | 35.608 |
| 40 | 39.349 | 40.399 | 39.847 | 40.000 | 40.399 | 39.765 | 40.971 | 39.881 | 39.847 | 40.306 | 39.881 | 39.765 | 40.917 | 39.280 | 39.847 |
| 45 | 43.167 | 44.894 | 45.281 | 44.048 | 45.223 | 45.009 | 44.886 | 44.318 | 45.281 | 45.802 | 44.643 | 45.009 | 46.052 | 43.750 | 45.281 |
| 50 | 48.746 | 50.016 | 51.291 | 50.595 | 50.074 | 50.080 | 50.688 | 49.375 | 51.291 | 50.716 | 49.432 | 50.080 | 51.940 | 49.375 | 51.291 |
| 56 | 55.175 | 56.679 | 57.054 | 56.250 | 56.347 | 56.420 | 56.795 | 55.952 | 57.054 | 57.070 | 55.825 | 56.420 | 57.711 | 55.952 | 57.054 |
| 63 | 62.392 | 63.978 | 62.817 | 63.125 | 63.945 | 64.027 | 63.513 | 63.156 | 62.817 | 63.513 | 63.125 | 64.027 | 64.765 | 63.095 | 62.817 |
| 71 | 70.481 | 70.022 | 71.518 | 71.173 | 71.139 | 71.089 | 70.767 | 69.717 | 71.518 | 71.518 | 71.139 | 71.089 | 71.908 | 70.500 | 71.518 |
| 80 | 79.676 | 79.717 | 78.742 | 79.872 | 80.731 | 80.674 | 79.137 | 78.606 | 78.742 | 79.592 | 80.731 | 80.674 | 80.607 | 79.500 | 78.742 |
| 90 | 87.609 | 87.652 | 88.205 | 87.406 | 90.590 | 90.525 | 89.149 | 88.528 | 88.205 | 89.652 | 90.590 | 90.525 | 91.439 | 88.697 | 88.205 |
| 100 | 100.125 | 99.594 | 99.772 | 99.550 | 99.680 | 99.609 | 100.577 | 98.317 | 99.772 | 101.155 | 99.680 | 99.609 | 100.757 | 100.059 | 99.772 |
| 112 | 113.098 | 110.958 | 113.014 | 111.325 | 112.517 | 109.670 | 111.932 | 111.573 | 113.224 | 113.519 | 112.405 | 109.670 | 110.886 | 112.288 | 113.224 |

# EXACT RATIO

| TYPE: QF / QFH / QS | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nominal ratio | SIZE | | | | | | | | | | | |
| | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 | 630 | 710 | 800 |
| 112 | 112.392 | 114.171 | 111.239 | 115.980 | 112.707 | 110.649 | 113.656 | 110.973 | 111.239 | 113.909 | 110.973 | 110.649 |
| 125 | 123.295 | 126.874 | 126.406 | 127.716 | 126.165 | 125.242 | 124.901 | 125.247 | 126.406 | 129.442 | 124.224 | 125.242 |
| 140 | 139.232 | 141.350 | 143.188 | 148.700 | 139.899 | 139.354 | 141.845 | 139.539 | 140.188 | 143.327 | 137.550 | 139.354 |
| 160 | 157.596 | 160.180 | 159.275 | 163.096 | 157.201 | 156.994 | 158.038 | 158.126 | 159.275 | 161.284 | 154.782 | 156.994 |
| 180 | 178.209 | 180.909 | 175.363 | 183.030 | 178.397 | 178.161 | 176.731 | 178.490 | 175.363 | 179.492 | 175.652 | 178.161 |
| 200 | 195.068 | 202.425 | 202.540 | 197.081 | 197.218 | 201.499 | 200.893 | 202.425 | 202.540 | 204.932 | 196.875 | 201.499 |
| 224 | 220.281 | 225.522 | 229.423 | 226.377 | 218.372 | 224.203 | 226.859 | 225.522 | 229.423 | 226.916 | 217.994 | 224.203 |
| 250 | 249.335 | 255.565 | 255.201 | 251.678 | 245.731 | 252.563 | 254.191 | 255.565 | 255.201 | 255.346 | 245.306 | 252.563 |
| 280 | 281.947 | 288.476 | 280.978 | 282.438 | 278.863 | 286.639 | 284.257 | 288.476 | 280.978 | 284.173 | 278.381 | 286.639 |
| 315 | 306.136 | 316.434 | 319.899 | 318.450 | 310.239 | 316.254 | 316.722 | 316.434 | 319.899 | 319.960 | 313.725 | 316.254 |
| 355 | 360.054 | 359.441 | 352.212 | 357.371 | 352.068 | 361.165 | 354.184 | 359.441 | 352.212 | 356.116 | 350.025 | 361.165 |
| 400 | 396.902 | 396.219 | 394.543 | 391.078 | 396.061 | 406.288 | 398.994 | 396.219 | 394.543 | 401.171 | 399.500 | 405.288 |
| 450 | 442.172 | 457.716 | 448.510 | 450.203 | 436.965 | 445.437 | 444.039 | 457.716 | 448.510 | 452.638 | 447.922 | 445.437 |
| 500 | 486.196 | 503.275 | 502.414 | 492.666 | 490.324 | 505.446 | 500.281 | 503.275 | 502.414 | 510.131 | 502.618 | 499.630 |
| 560 | 556.653 | 562.694 | 568.296 | 561.115 | 539.526 | 549.986 | 564.341 | 571.847 | 568.296 | 575.525 | 553.054 | 549.986 |
| 630 | 615.259 | 603.388 | 632.329 | 632.242 | 608.894 | 622.965 | 634.879 | 648.003 | 632.329 | 649.104 | 624.161 | 624.090 |

| TYPE: DFK / DFKH / DSK / DFKV | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nominal ratio | SIZE | | | | | | | | | | | | | | |
| | 110 | 125 | 140 | 160 | 180 | 200 | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 |
| 6.3 | 6.200 | 6.182 | 6.077 | 6.182 | 6.182 | 6.089 | 6.089 | 6.182 | 6.077 | 6.182 | 6.089 | 6.089 | 6.089 | 6.182 | 6.089 |
| 7.1 | 7.153 | 7.179 | 7.109 | 7.117 | 7.117 | 7.011 | 7.011 | 7.117 | 6.997 | 7.117 | 7.011 | 7.011 | 7.011 | 7.117 | 6.997 |
| 8.0 | 7.877 | 8.036 | 8.047 | 7.808 | 7.907 | 7.907 | 7.907 | 7.907 | 7.919 | 8.010 | 7.808 | 7.907 | 7.907 | 7.907 | 7.919 |
| 9.0 | 9.048 | 8.998 | 8.953 | 8.817 | 8.812 | 9.024 | 8.822 | 8.822 | 8.812 | 9.035 | 8.812 | 9.024 | 8.822 | 9.029 | 8.812 |
| 10 | 10.059 | 10.013 | 10.087 | 9.879 | 9.985 | 10.038 | 9.927 | 9.927 | 9.927 | 10.038 | 9.985 | 10.038 | 9.927 | 10.038 | 9.927 |
| 11.2 | 11.520 | 10.951 | 11.192 | 11.139 | 11.132 | 11.401 | 11.145 | 11.145 | 11.132 | 11.414 | 11.132 | 11.401 | 11.145 | 11.466 | 11.192 |
| 12.5 | 12.808 | 12.323 | 12.608 | 12.481 | 12.615 | 12.682 | 12.541 | 12.541 | 12.541 | 12.682 | 12.615 | 12.682 | 12.541 | 12.750 | 12.608 |
| 14 | 13.983 | 14.236 | 14.364 | 13.654 | 14.044 | 14.384 | 14.061 | 14.061 | 14.044 | 14.400 | 14.044 | 14.384 | 14.061 | 14.392 | 14.044 |
| 16 | 15.545 | 16.020 | 16.182 | 15.299 | 15.915 | 16.000 | 15.822 | 15.822 | 15.822 | 16.000 | 15.915 | 16.000 | 15.822 | 16.000 | 15.822 |
| 18 | 18.619 | 17.400 | 17.558 | 17.568 | 17.775 | 18.429 | 18.015 | 18.015 | 17.994 | 18.450 | 17.994 | 18.429 | 18.015 | 18.439 | 17.994 |

| TYPE: TFK / TFKH / TSK / TFKV | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nominal ratio | | | | | | | | | | | | | | | |
| | 160 | 180 | 200 | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 | 630 | 710 | 800 |
| 16 | 17.987 | 17.982 | 17.585 | 18.405 | 18.405 | 18.013 | 18.221 | 18.037 | 18.181 | 18.405 | 18.122 | 18.013 | 18.221 | 18.037 | 18.181 |
| 20 | 20.424 | 19.902 | 19.767 | 20.778 | 20.778 | 20.345 | 20.580 | 20.363 | 20.426 | 20.778 | 20.486 | 20.345 | 20.580 | 20.303 | 20.426 |
| 22.4 | 22.490 | 22.345 | 22.374 | 22.794 | 23.000 | 23.120 | 23.514 | 22.794 | 23.120 | 23.388 | 22.794 | 23.120 | 22.388 | 22.794 | 23.120 |
| 25 | 25.833 | 24.742 | 24.895 | 25.740 | 25.725 | 26.188 | 26.520 | 25.239 | 25.725 | 26.326 | 25.725 | 26.188 | 25.896 | 25.833 | 25.725 |
| 28 | 28.721 | 27.542 | 28.046 | 28.642 | 29.152 | 29.131 | 29.407 | 28.401 | 28.981 | 29.307 | 29.152 | 29.131 | 29.139 | 28.721 | 28.981 |
| 31.5 | 31.877 | 31.325 | 31.737 | 32.112 | 32.112 | 31.443 | 32.287 | 31.470 | 31.567 | 32.112 | 31.833 | 31.443 | 31.978 | 31.839 | 31.737 |
| 35.5 | 35.103 | 35.085 | 35.923 | 35.227 | 35.685 | 35.731 | 36.339 | 35.227 | 35.731 | 36.142 | 35.227 | 35.731 | 36.337 | 35.417 | 35.923 |
| 40 | 40.321 | 38.828 | 39.970 | 39.780 | 39.756 | 40.473 | 40.985 | 39.006 | 39.756 | 40.763 | 39.756 | 40.473 | 40.235 | 40.139 | 39.970 |
| 45 | 44.827 | 43.691 | 45.030 | 44.573 | 45.053 | 45.020 | 45.033 | 43.893 | 44.789 | 45.262 | 45.053 | 45.020 | 45.275 | 44.625 | 45.030 |
| 50 | 48.939 | 50.474 | 51.299 | 48.763 | 50.159 | 51.063 | 50.490 | 49.212 | 50.159 | 51.429 | 50.159 | 51.063 | 50.490 | 50.370 | 50.159 |
| 56 | 54.409 | 55.799 | 57.792 | 54.638 | 56.841 | 56.800 | 56.816 | 55.378 | 56.506 | 57.143 | 56.841 | 56.800 | 56.816 | 56.000 | 56.506 |
| 63 | 61.059 | 64.456 | 65.584 | 61.101 | 64.160 | 62.537 | 63.230 | 62.844 | 64.127 | 64.127 | 64.097 | 62.537 | 63.230 | 62.844 | 64.127 |
| 71 | 72.450 | 69.420 | 70.695 | 70.295 | 71.939 | 72.775 | 72.766 | 70.953 | 72.401 | 73.214 | 72.827 | 72.772 | 72.796 | 71.750 | 72.401 |
| 80 | 81.305 | 78.700 | 80.159 | 78.609 | 81.203 | 80.126 | 81.014 | 80.519 | 82.163 | 82.163 | 82.124 | 80.126 | 81.014 | 80.519 | 82.163 |
| 90 | 90.563 | 86.775 | 88.294 | 88.067 | 87.025 | 87.863 | 87.888 | 85.663 | 87.411 | 88.303 | 87.025 | 87.863 | 77.888 | 86.625 | 87.411 |
| 100 | 101.631 | 96.475 | 100.196 | 99.490 | 99.428 | 96.738 | 97.810 | 97.213 | 99.196 | 99.150 | 99.150 | 96.738 | 97.810 | 97.213 | 99.196 |

# EXACT RATIOS

| TYPE QFK / QFKH / QSK / QFKV | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nominal ratio | SIZE | | | | | | | | | | | |
| | 225 | 250 | 280 | 315 | 355 | 400 | 450 | 500 | 560 | 630 | 710 | 800 |
| 112 | 112.392 | 112.152 | 114.336 | 115.311 | 110.488 | 113.997 | 115.311 | 110.714 | 112.296 | 115.311 | 111.080 | 114.810 |
| 125 | 124.097 | 127.440 | 125.908 | 129.080 | 125.057 | 125.057 | 128.141 | 125.812 | 127.609 | 129.080 | 125.729 | 120.985 |
| 140 | 139.148 | 144.361 | 144.624 | 142.926 | 139.148 | 141.221 | 142.762 | 142.510 | 141.298 | 142.926 | 139.898 | 145.487 |
| 160 | 157.884 | 160.581 | 160.787 | 160.833 | 156.761 | 158.235 | 161.780 | 158.523 | 159.001 | 160.833 | 157.004 | 161.652 |
| 180 | 177.990 | 176.802 | 180.439 | 182.518 | 177.898 | 176.951 | 182.614 | 174.535 | 176.951 | 182.518 | 178.854 | 181.409 |
| 200 | 193.717 | 203.002 | 200.152 | 202.915 | 196.591 | 197.778 | 202.597 | 203.002 | 202.857 | 202.915 | 198.990 | 202.915 |
| 224 | 216.821 | 228.846 | 229.905 | 224.682 | 218.743 | 223.341 | 225.714 | 229.946 | 224.618 | 224.682 | 221.200 | 228.857 |
| 250 | 244.571 | 255.782 | 255.600 | 252.832 | 246.431 | 250.249 | 255.782 | 255.782 | 252.760 | 252.832 | 249.200 | 254.266 |
| 280 | 276.067 | 281.619 | 286.840 | 286.922 | 279.659 | 279.849 | 286.722 | 281.619 | 281.295 | 286.022 | 282.800 | 285.365 |
| 315 | 314.663 | 323.724 | 327.487 | 323.941 | 315.740 | 320.832 | 327.721 | 327.721 | 323.849 | 323.941 | 319.287 | 325.804 |
| 355 | 355.174 | 356.424 | 367.514 | 367.618 | 359.312 | 358.556 | 369.952 | 360.824 | 360.410 | 367.618 | 362.337 | 365.642 |
| 400 | 390.527 | 399.260 | 402.178 | 412.509 | 402.066 | 403.920 | 406.746 | 404.189 | 406.008 | 412.509 | 406.583 | 414.293 |
| 450 | 448.517 | 435.629 | 443.706 | 443.832 | 432.596 | 432.891 | 446.617 | 435.629 | 435.129 | 443.832 | 437.456 | 441.424 |
| 500 | 494.260 | 487.985 | 485.556 | 503.696 | 485.421 | 487.660 | 491.071 | 487.985 | 490.180 | 498.029 | 490.675 | 500.184 |
| 560 | 561.803 | 551.975 | 553.017 | 554.240 | 534.131 | 550.173 | 557.980 | 551.975 | 553.107 | 548.004 | 540.132 | 545.032 |
| 630 | 621.848 | 611.187 | 615.329 | 618.066 | 602.805 | 623.146 | 617.836 | 625.571 | 615.329 | 618.066 | 609.578 | 616.467 |

## SAM PRODUCTS RANGE

1. Helical Gear Boxes (Custom & Standard)
2. Double Helical Gear Boxes (Custom & Standard)
3. Right Angle (Spiral Bevel) Gear Boxes (Custom & Standard)
4. Worm Reducer (Custom & Standard)
5. Gear Couplings (Custom & Standard)
6. Girth Gear
7. Loose Gear and Pinion
8. Drive Boggie
9. Spindle Assembly
10. Cardon Shaft Assembly
11. Universal Joint Assembly
12. Pinch Roll Assembly
13. Rolls Assembly (Special Hardness)
14. Wobblers
15. Gear Racks
16. Wheel Pair Assembly
17. Sprocket Assembly
18. Vibrator Gear Box
19. Long Screw & other equipments
20. Technological Structures as per Customer Specification.