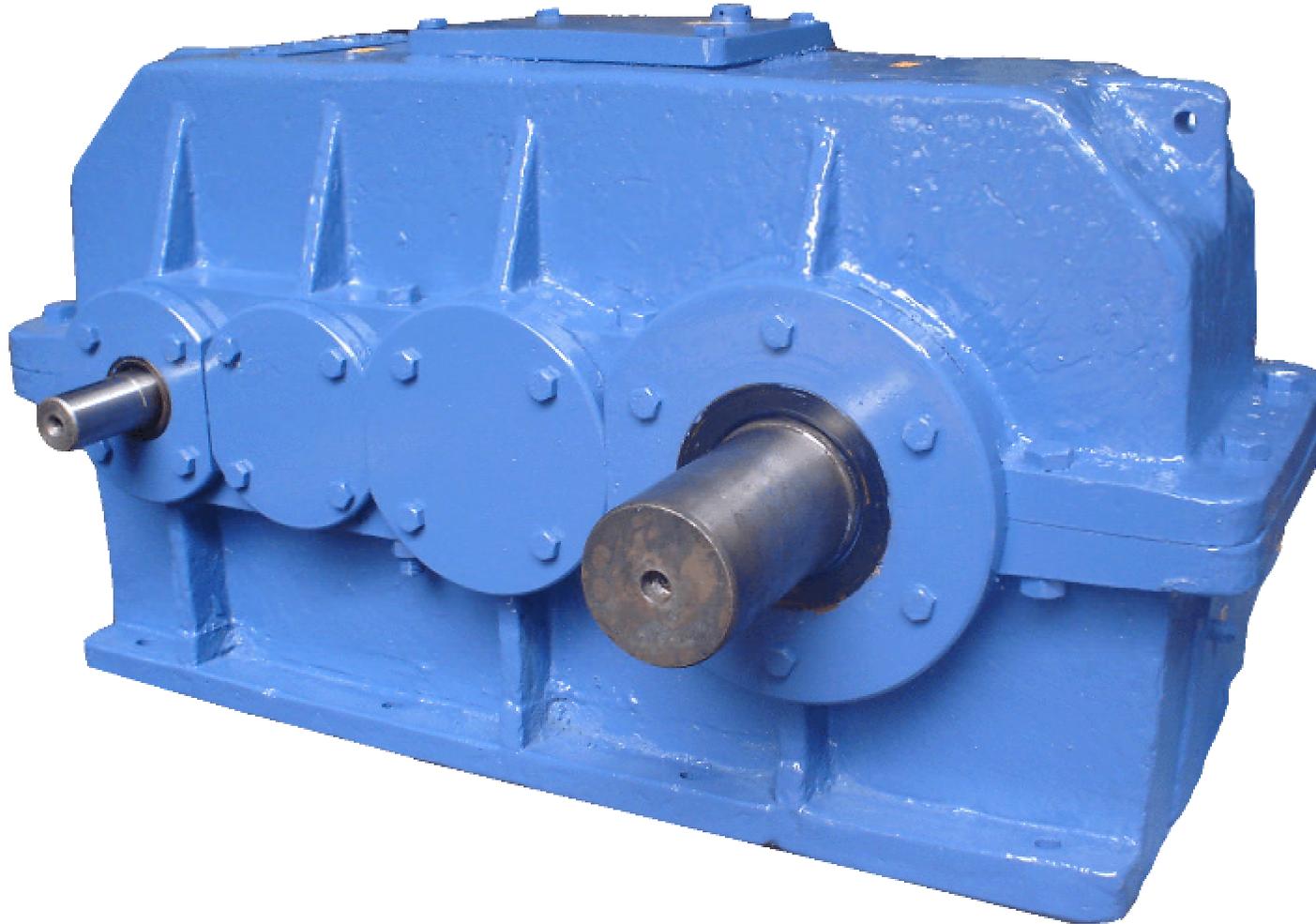




## AGNEE CRANE DUTY HELICAL GEAR BOX



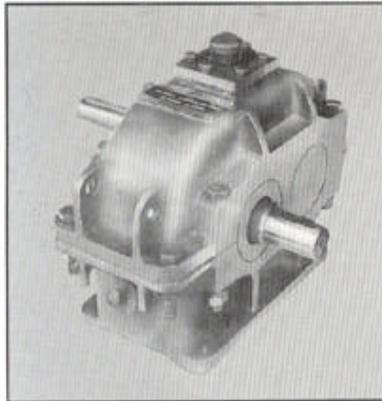
AGNEE CRANE & INDUSTRIAL DUTY GEAR BOXES



## AGNEE CRANE DUTY HELICAL GEAR BOX



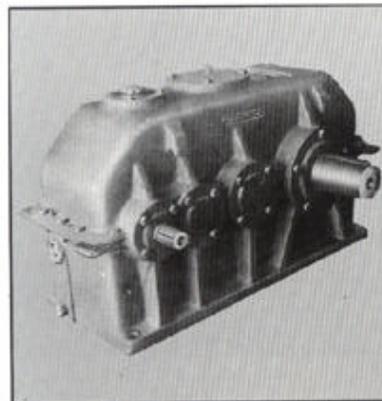
AGNEE make helical gear boxes one built on modular concept of construction conformation to is standards with respect to sizes, dimensions. This provides economics mass production, comprehensive maintenance of stocks, favorable delivery period and easy of servicing.



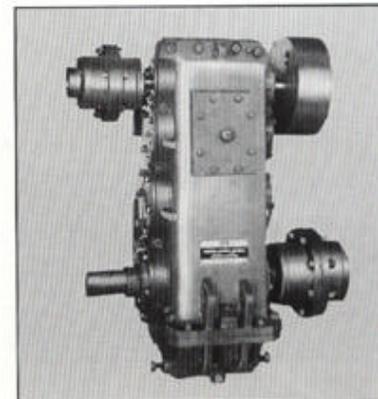
Horizontal Single Stage Type HA



Horizontal Double Stage Type HB



Horizontal Triple Stage Type HC



Vertical Triple Stage Type VC



# AGNEE CRANE DUTY HELICAL GEAR BOX



## GENERAL SPECIFICATION STANDARD INFORMATION

### HOUSING

Rigid, robust, torsion resistant housing in high quality close grained Grey Cast Iron generously proportioned to ensure proper radiation of any heat generated when Units are operated at their maximum capacity Suitable ribs are placed underneath the bearing seats for strength and the walls are of sufficient thickness to withstand the most severe stresses encountered during operation. On request the housing is manufactured of fabricated construction. Housing in cast steel or fabricated steel can be supplied if required.

### HELICAL GEARS & PINION SHAFTS

#### *i. FOR CASE HARDENED & GROUND GEARBOX*

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

### SHAFTS

The low speed shafts are made from medium carbon steel duly heat treated and are finished to high precision tolerance by grinding. The low and high speed shaft extensions are fitted with oil seals to prevent leakage of oil and entry of dust.

### BEARINGS

Antifriction bearings of ample size are used to ensure long service life. The use of antifriction bearings ensures high efficiency, correct centre distance and proper shaft alignment. In case of extra overhung load due to pulley, pinion etc. on shafts, reinforced extra heavy bearing is used.

### DIRECTION OF ROTATION

Even though the gearboxes are suitable for rotation in either direction, the running in and the functional test run is done in the direction of rotation specified. If the gearbox is required to be used in either direction, the same should be specified in the order.



# AGNEE CRANE DUTY HELICAL GEAR BOX



## LUBRICATION

For normal speeds, splash lubrication is provided by the gears dipping in oil. Oil reservoir is of ample size to ensure cool operation. The oil level indicator located in the housing is to ensure a proper amount of lubricant in all housing. Wherever splash lubrication is not effective to carry oil to gears and bearings, either due to low input speed or high peripheral speed a built-in or separately mounted lubrication oil pump is used for forced-feed lubrication.

## 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 a sufficiently large surface area of the housing. Additional cooling by use of fans, cooling coils inside the lower part of the housing or a separate oil cooler is provided where simple radiant heat dissipation is not adequate. Flow indicator, Pressure gauge are installed for checking oil circulation with provision to connect to audio-visual alarms.

## OVERHUNG LOADS

The bearings can withstand overhung loads arising due to mounting of flat and V-belt pulleys, gear wheels and chain sprockets of appropriate dimensions on the input and output shafts. In order to check bearing life or for recommendations of reinforcement of bearings, shaft, the type of component its' diameter and distance between the centre of the component and the shaft collar is requested.

**Painting :** Casting surfaces are painted with linear epoxy primer both internally and externally. External cast faces are finally finished with PU blue Coatings, which is resistant to dilute acids and alkalis, oils and solvents, sea water and temperatures upto 140°C.

## EFFICIENCY

The efficiency of the gearbox is primarily a function of reduction stages and type of gearing and is broadly as under when loaded to rated capacity.

| Type and reduction Ratio  | Effeciency | Center distance | Reduction Ratio   |
|---------------------------|------------|-----------------|-------------------|
| Horizontally signal stage | 98%        | 100-400 mm      | 1.83:1 to 8:1     |
| Horizontally double stage | 96%        | 250-1000 mm     | 8.23:1 to 48.57:1 |
| Horizontally triple stage | 94 %       | 400-1250 mm     | 31.5:1 to 160:1   |
| Vertically triple stage   | 93%        | 250-600 mm      | 14.85:1 to 33.4:1 |



# AGNEE CRANE DUTY HELICAL GEAR BOX



## **Optional Features:** - Non standard ratio

Housing in cast steel or fabricated steel  
Reinforced bearings for external loads,  
Shaft extension input/output  
Fan cooling or cooling coil  
Integrals tooth male clutch with output shaft

## **SELECTION PROCEDURE**

Satisfactory performance of the gearbox depends upon correct selection. The selection of a gear unit is influenced by the class of duty of the crane which should be determined and specified. Single, Double and Triple stage Horizontal gear units type HA, HB and HC are recommended for Hoist and Long Travel drive. Three stage vertical gear units type VC are recommended for cross travel drives of the EOT crane. Assembly arrangement must be specified while ordering the gear units.

1. Compute the required reduction ratio.
2. Determine the horsepower required for the prime mover.
3. Refer to the rating table, see in the ratio column and based on input rpm check the gear box rating horizontally for various class of duty of the crane.
4. The size should be selected such that the rated HP is equal or more than the consumed HP.

## **EXAMPLE**

1. Select a unit to transmit 9 HP from 720 rpm electric motor for hoist drive in a class II duty crane, the reduction ratio required is 31.50.

- For hoist drive a two stage horizontal gearbox type HB will be suitable.
- See the ratio column and in the size HB-350, for input rpm of 720 in class II duty the rated HP is 9.5
- As the consumed HP is 9, the unit HB-350 will be suitable.

2. Select a unit to transmit 3 HP from 960 rpm electric motor for cross travel drive in a class IV duty crane, the reduction ratio required is 14.26.



## AGNEE CRANE DUTY HELICAL GEAR BOX



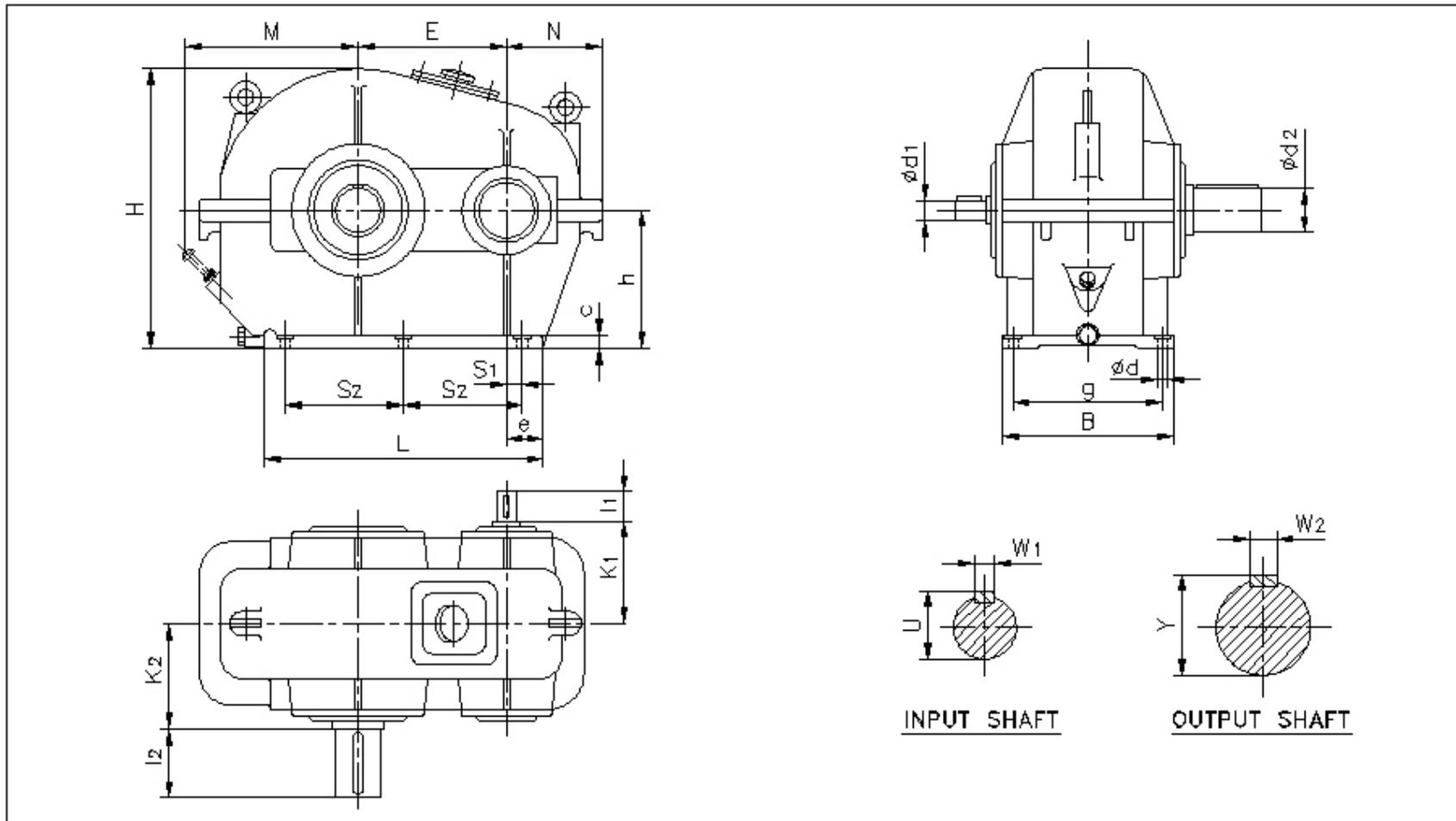
- For cross travel drive, a vertical gearbox type VC will be suitable.
- See the ratio column and in the size VC - 320, for input rpm of 960 in class IV duty the rated HP is 3
- As the consumed HP is 3, the unit VC - 320 will be suitable.



# AGNEE CRANE DUTY HELICAL GEAR BOX



## Single Stage Horizontal Type "HA"





# AGNEE CRANE DUTY HELICAL GEAR BOX



## Dimension details of Single Stage Horizontal Type “HA”

| Size | Housing dimensions |     |     |     |     |     |     |     | Foundation hole details |                |     |    |    |     | Weight approx. kg |
|------|--------------------|-----|-----|-----|-----|-----|-----|-----|-------------------------|----------------|-----|----|----|-----|-------------------|
| HA   | E                  | e   | L   | B   | H   | h   | N   | M   | S <sub>1</sub>          | S <sub>2</sub> | g   | d  | c  | No. |                   |
| 100  | 100                | 52  | 260 | 154 | 233 | 125 | 95  | -   | 30                      | 170            | 115 | 15 | 18 | 4   | 39                |
| 150  | 150                | 60  | 330 | 190 | 323 | 170 | 115 | 225 | 35                      | 230            | 150 | 17 | 22 | 4   | 80                |
| 200  | 200                | 70  | 410 | 225 | 423 | 225 | 142 | 275 | 45                      | 300            | 180 | 17 | 25 | 4   | 136               |
| 250  | 250                | 75  | 505 | 300 | 515 | 265 | 165 | 330 | 45                      | 190            | 230 | 25 | 25 | 6   | 250               |
| 300  | 300                | 75  | 580 | 330 | 610 | 315 | 190 | 420 | 45                      | 230            | 260 | 25 | 30 | 6   | 327               |
| 350  | 350                | 95  | 695 | 385 | 697 | 355 | 220 | 465 | 55                      | 280            | 315 | 32 | 35 | 6   | 610               |
| 400  | 400                | 150 | 870 | 400 | 792 | 400 | 253 | 500 | 110                     | 350            | 320 | 32 | 35 | 6   | 820               |

| Size | INPUT SHAFT    |                |                | OUTPUT SHAFT   |                |                | INPUT KEY      |      | OUTPUT KEY     |     |
|------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|----------------|-----|
| HA   | d <sub>1</sub> | l <sub>1</sub> | K <sub>1</sub> | d <sub>2</sub> | l <sub>2</sub> | K <sub>2</sub> | W <sub>1</sub> | U    | W <sub>2</sub> | Y   |
| 100  | 30             | 60             | 82             | 35             | 55             | 92             | 8              | 33   | 10             | 38  |
| 150  | 40             | 85             | 100            | 55             | 85             | 115            | 12             | 43   | 16             | 59  |
| 200  | 50             | 85             | 155            | 80             | 120            | 125            | 14             | 53.5 | 22             | 85  |
| 250  | 60             | 108            | 205            | 80             | 120            | 160            | 18             | 64   | 22             | 85  |
| 300  | 60             | 108            | 220            | 80             | 120            | 175            | 18             | 64   | 22             | 85  |
| 350  | 90             | 135            | 242            | 110            | 145            | 228            | 25             | 95   | 28             | 116 |
| 400  | 90             | 135            | 250            | 110            | 145            | 235            | 25             | 95   | 28             | 116 |



# AGNEE CRANE DUTY HELICAL GEAR BOX



## Transmission Ratio, Speed & Power Capacity for Single Stage Horizontal Gear Boxes Type HA

| SIZE                             |       | HA-100 |      |      |      |      |      |      |      | HA-150 |      |      |      |      |      |      |      |
|----------------------------------|-------|--------|------|------|------|------|------|------|------|--------|------|------|------|------|------|------|------|
| RPM                              |       | 960    |      |      |      | 720  |      |      |      | 960    |      |      |      | 720  |      |      |      |
| Duty                             |       | I      | II   | III  | IV   | I    | II   | III  | IV   | I      | II   | III  | IV   | I    | II   | III  | IV   |
| <b>R<br/>A<br/>T<br/>I<br/>O</b> | 1.83  | 24.6   | 17.6 | 13.5 | 10.8 | 19.2 | 13.6 | 10.6 | 8.45 | 81.8   | 59   | 45.5 | 36.4 | 64.8 | 46   | 36.6 | 28.5 |
|                                  | 2.3   | 21.3   | 15.1 | 11.7 | 9.35 | 17.0 | 12.1 | 9.35 | 7.5  | 71.5   | 50.7 | 39.4 | 31.4 | 56.7 | 40.5 | 31.2 | 25   |
|                                  | 2.81  | 18     | 12.8 | 9.9  | 7.9  | 14.5 | 10.8 | 8.2  | 6.8  | 60.5   | 43   | 33.3 | 26.6 | 48.8 | 36   | 27.3 | 22.9 |
|                                  | 3.5   | 15.6   | 11.1 | 8.6  | 6.85 | 12.8 | 9.1  | 7.05 | 5.6  | 52.7   | 37.4 | 29   | 23.2 | 43.2 | 30.6 | 23.7 | 19   |
|                                  | 3.95  | 14.2   | 9.9  | 7.82 | 6.25 | 11.2 | 8    | 6.15 | 4.9  | 46.5   | 32.2 | 25.6 | 20.4 | 36.2 | 26   | 20   | 16   |
|                                  | 4.5   | 12.6   | 9.15 | 7.05 | 5.5  | 9.9  | 7.2  | 5.5  | 4.35 | 42.2   | 30.6 | 23.6 | 18.3 | 33   | 24   | 18.5 | 14.6 |
|                                  | 5.6   | 10.2   | 7.1  | 5.4  | 4.44 | 8.4  | 5.95 | 4.6  | 3.8  | 34.4   | 23.9 | 18.3 | 15.3 | 28.2 | 20   | 15.4 | 12.7 |
|                                  | 6.615 | 8.26   | 5.75 | 4.4  | 3.6  | 6.7  | 4.7  | 3.66 | 3.02 | 27.9   | 19.4 | 14.8 | 12.4 | 22.8 | 16.2 | 12.5 | 10.3 |
|                                  | 8.0   | 6.7    | 4.65 | 3.56 | 2.92 | 5.4  | 3.84 | 2.95 | 2.44 | 22.4   | 15   | 11.9 | 10   | 18.4 | 13.1 | 10.1 | 8.3  |



# AGNEE CRANE DUTY HELICAL GEAR BOX



## Transmission Ratio, Speed & Power Capacity for Single Stage Horizontal Gear Boxes Type HA

| SIZE                  |       | HA-200 |      |      |      |      |      |      |      | HA-250 |      |      |      |      |      |      |      |
|-----------------------|-------|--------|------|------|------|------|------|------|------|--------|------|------|------|------|------|------|------|
| RPM                   |       | 960    |      |      |      | 720  |      |      |      | 960    |      |      |      | 720  |      |      |      |
| Duty                  |       | I      | II   | III  | IV   | I    | II   | III  | IV   | I      | II   | III  | IV   | I    | II   | III  | IV   |
| R<br>A<br>T<br>I<br>O | 1.83  | 178    | 126  | 98   | 78   | 139  | 100  | 76.5 | 61   | 346    | 246  | 190  | 152  | 270  | 192  | 151  | 119  |
|                       | 2.3   | 158    | 112  | 87   | 69.5 | 125  | 89   | 69   | 55   | 308    | 218  | 169  | 135  | 244  | 173  | 134  | 107  |
|                       | 2.81  | 135    | 96   | 74   | 59.5 | 109  | 79.5 | 62   | 50   | 260    | 184  | 143  | 114  | 210  | 153  | 120  | 98.5 |
|                       | 3.5   | 120    | 85   | 66   | 52.5 | 98   | 70   | 54   | 43   | 235    | 167  | 130  | 104  | 192  | 136  | 105  | 84   |
|                       | 3.95  | 110    | 76.5 | 60.7 | 48.5 | 86   | 61   | 47.5 | 38   | 218    | 153  | 120  | 96   | 170  | 121  | 93.5 | 75   |
|                       | 4.5   | 99     | 71.5 | 55.5 | 43   | 78   | 57   | 43.7 | 35.4 | 193    | 140  | 108  | 84   | 150  | 109  | 84   | 69   |
|                       | 5.6   | 81.5   | 56.6 | 43.3 | 36.2 | 67   | 47.5 | 36.6 | 30.2 | 159    | 111  | 85.5 | 69   | 130  | 92.2 | 70.8 | 58.5 |
|                       | 6.615 | 66.1   | 47   | 35.2 | 29.4 | 54   | 38.4 | 29.5 | 24.3 | 129    | 89.6 | 69.5 | 56   | 105  | 74.5 | 57.2 | 47.2 |
|                       | 8.0   | 53     | 35.4 | 28.2 | 23.6 | 43.5 | 30.8 | 23.8 | 19.6 | 102    | 71   | 54.2 | 44.4 | 83.5 | 58.5 | 45.5 | 37.5 |



# AGNEE CRANE DUTY HELICAL GEAR BOX



Transmission Ratio, Speed & Power Capacity for Single Stage Horizontal Gear Boxes Type HA

| SIZE                  | HA-300 |     |     |       |      |     |     |     | HA-350 |      |     |     |     |     |     |     |     |
|-----------------------|--------|-----|-----|-------|------|-----|-----|-----|--------|------|-----|-----|-----|-----|-----|-----|-----|
|                       | 960    |     |     |       | 720  |     |     |     | 960    |      |     |     | 720 |     |     |     |     |
| Duty                  | I      | II  | III | IV    | I    | II  | III | IV  | I      | II   | III | IV  | I   | II  | III | IV  |     |
| R<br>A<br>T<br>I<br>O | 1.83   | 664 | 470 | 364   | 292  | 520 | 370 | 286 | 229    | 1050 | 735 | 575 | 460 | 820 | 580 | 450 | 360 |
|                       | 2.3    | 572 | 405 | 314   | 252  | 453 | 322 | 250 | 199    | 910  | 645 | 500 | 400 | 720 | 512 | 396 | 317 |
|                       | 2.81   | 485 | 344 | 266   | 214  | 392 | 286 | 223 | 172    | 768  | 545 | 423 | 337 | 620 | 452 | 352 | 272 |
|                       | 3.5    | 420 | 300 | 231   | 185  | 344 | 244 | 189 | 151    | 667  | 465 | 367 | 294 | 545 | 386 | 300 | 240 |
|                       | 3.95   | 374 | 260 | 207   | 165  | 290 | 206 | 160 | 130    | 605  | 420 | 334 | 266 | 470 | 334 | 260 | 206 |
|                       | 4.5    | 336 | 243 | 188   | 146  | 262 | 191 | 145 | 118    | 530  | 384 | 297 | 231 | 414 | 302 | 232 | 186 |
|                       | 5.6    | 275 | 191 | 146   | 120  | 226 | 160 | 123 | 102    | 437  | 304 | 232 | 190 | 358 | 254 | 195 | 161 |
|                       | 6.615  | 223 | 155 | 118.5 | 97   | 182 | 129 | 99  | 82     | 354  | 246 | 188 | 154 | 290 | 206 | 158 | 131 |
|                       | 8.0    | 179 | 124 | 95.5  | 77.7 | 147 | 104 | 80  | 66     | 262  | 182 | 139 | 114 | 214 | 152 | 117 | 96  |



# AGNEE CRANE DUTY HELICAL GEAR BOX



Transmission Ratio, Speed & Power Capacity for Single Stage Horizontal Gear Boxes Type HA

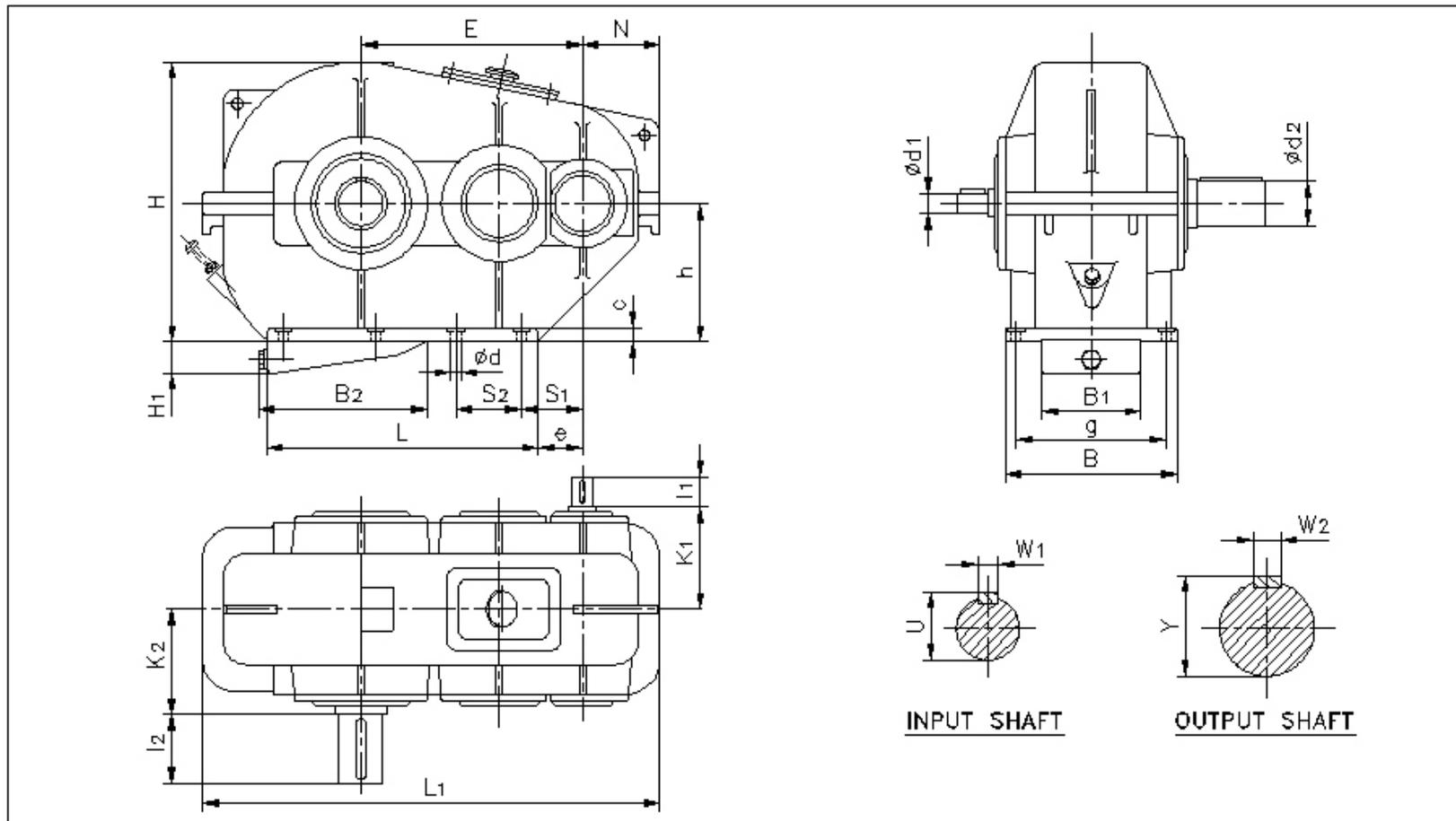
| SIZE                  |       | HA-400 |      |     |     |      |     |     |     |
|-----------------------|-------|--------|------|-----|-----|------|-----|-----|-----|
| RPM                   |       | 960    |      |     |     | 720  |     |     |     |
| Duty                  |       | I      | II   | III | IV  | I    | II  | III | IV  |
| R<br>A<br>T<br>I<br>O | 1.83  | 1570   | 1020 | 865 | 690 | 1225 | 870 | 673 | 538 |
|                       | 2.3   | 1360   | 965  | 745 | 597 | 1080 | 765 | 595 | 475 |
|                       | 2.81  | 1142   | 810  | 628 | 502 | 920  | 670 | 523 | 405 |
|                       | 3.5   | 1000   | 715  | 552 | 440 | 818  | 580 | 450 | 360 |
|                       | 3.95  | 909    | 630  | 502 | 400 | 710  | 505 | 390 | 312 |
|                       | 4.5   | 810    | 585  | 455 | 352 | 630  | 460 | 352 | 277 |
|                       | 5.6   | 652    | 454  | 346 | 283 | 535  | 380 | 292 | 240 |
|                       | 6.615 | 528    | 368  | 280 | 230 | 433  | 308 | 236 | 195 |
|                       | 8.0   | 390    | 271  | 207 | 170 | 320  | 227 | 174 | 144 |



# AGNEE CRANE DUTY HELICAL GEAR BOX



Double Stage Horizontal Type "HB"





# AGNEE CRANE DUTY HELICAL GEAR BOX



## Dimension details of Double Stage Horizontal Type “HB”

| Size | Housing dimensions |     |      |     |     |     |     |                |                |                |                | Foundation hole details |                |     |    |    | Weight (approx.kg.) |      |
|------|--------------------|-----|------|-----|-----|-----|-----|----------------|----------------|----------------|----------------|-------------------------|----------------|-----|----|----|---------------------|------|
| HB   | E                  | e   | L    | B   | H   | h   | N   | L <sub>1</sub> | B <sub>1</sub> | B <sub>2</sub> | H <sub>1</sub> | S <sub>1</sub>          | S <sub>2</sub> | g   | d  | c  |                     | No.  |
| 250  | 250                | 28  | 300  | 230 | 320 | 160 | 111 | 555            | -              | -              | -              | 60                      | 236            | 190 | 18 | 20 | 4                   | 115  |
| 280  | 350                | 44  | 432  | 285 | 385 | 200 | 113 | 697            | -              | -              | -              | 81                      | 362            | 242 | 16 | 20 | 6                   | 180  |
| 350  | 350                | 60  | 415  | 290 | 393 | 200 | 123 | 710            | -              | -              | -              | 100                     | 310            | 250 | 18 | 20 | 4                   | 200  |
| 400  | 400                | 66  | 490  | 300 | 510 | 245 | 130 | 815            | -              | -              | -              | 110                     | 386            | 255 | 16 | 27 | 4                   | 275  |
| 500  | 500                | 80  | 620  | 360 | 591 | 300 | 150 | 985            | -              | -              | -              | 130                     | 240            | 310 | 18 | 25 | 6                   | 400  |
| 650  | 650                | 75  | 840  | 470 | 716 | 320 | 200 | 1300           | 326            | 500            | 99             | 160                     | 215            | 410 | 28 | 33 | 8                   | 1200 |
| 750  | 750                | 55  | 1025 | 510 | 745 | 320 | 207 | 1410           | 352            | 620            | 130            | 155                     | 275            | 450 | 28 | 35 | 8                   | 1400 |
| 850  | 850                | 75  | 1105 | 570 | 880 | 400 | 240 | 1640           | 416            | 640            | 105            | 155                     | 300            | 510 | 33 | 38 | 8                   | 2080 |
| 1000 | 1000               | 100 | 1350 | 660 | 972 | 400 | 257 | 1896           | 486            | 870            | 200            | 200                     | 350            | 590 | 33 | 38 | 8                   | 3550 |

| Size | Input Shaft    |                |                | Output Shaft   |                |                | Input Key      |      | Output Key     |     |
|------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|----------------|-----|
| HB   | d <sub>1</sub> | l <sub>1</sub> | K <sub>1</sub> | d <sub>2</sub> | l <sub>2</sub> | K <sub>2</sub> | W <sub>1</sub> | U    | W <sub>2</sub> | Y   |
| 250  | 30             | 60             | 145            | 55             | 85             | 150            | 8              | 33   | 16             | 59  |
| 280  | 30             | 90             | 145            | 55             | 100            | 150            | 8              | 33   | 16             | 59  |
| 350  | 38             | 90             | 155            | 55             | 100            | 160            | 10             | 41   | 16             | 59  |
| 400  | 38             | 100            | 165            | 80             | 125            | 170            | 10             | 41   | 22             | 85  |
| 500  | 48             | 85             | 210            | 80             | 125            | 215            | 14             | 51.5 | 22             | 85  |
| 650  | 55             | 110            | 275            | 110            | 165            | 285            | 16             | 59   | 28             | 116 |
| 750  | 60             | 110            | 310            | 120            | 165            | 335            | 18             | 64   | 32             | 127 |
| 850  | 85             | 130            | 325            | 130            | 200            | 335            | 22             | 90   | 32             | 137 |
| 1000 | 85             | 140            | 380            | 170            | 240            | 390            | 22             | 90   | 40             | 179 |



# AGNEE CRANE DUTY HELICAL GEAR BOX



## Transmission Ratio, Speed & Power Capacity for Double Stage Horizontal Gear Boxes Type HB

| SIZE                  |       | HB-250 |      |      |     |      |      |      |      | HB-280 |      |      |      |      |      |      |      |
|-----------------------|-------|--------|------|------|-----|------|------|------|------|--------|------|------|------|------|------|------|------|
| RPM                   |       | 960    |      |      |     | 720  |      |      |      | 960    |      |      |      | 720  |      |      |      |
| Duty                  |       | I      | II   | III  | IV  | I    | II   | III  | IV   | I      | II   | III  | IV   | I    | II   | III  | IV   |
| R<br>A<br>T<br>I<br>O | 8.23  | 24.4   | 17   | 12.7 | 9.5 | 19   | 12.7 | 10.6 | 7.4  | 40.0   | 28.0 | 21.6 | 15.3 | 31.0 | 21.6 | 17.4 | 12.1 |
|                       | 10.35 | 20.1   | 13.8 | 10.6 | 7.4 | 16   | 10.6 | 8.5  | 6.35 | 33.1   | 23.2 | 17.9 | 12.1 | 26.5 | 17.9 | 14.3 | 10.0 |
|                       | 12.64 | 17     | 11.7 | 9.6  | 6.4 | 13.8 | 9.5  | 7.4  | 5.3  | 28.0   | 19.6 | 15.3 | 10.6 | 22.7 | 15.8 | 12.1 | 8.5  |
|                       | 15.74 | 14.9   | 9.5  | 8.5  | 5.3 | 10.6 | 7.4  | 6.4  | 4.3  | 24.3   | 16.3 | 13.2 | 9.0  | 17.9 | 12.7 | 10.1 | 6.9  |
|                       | 20.49 | 11.7   | 8.5  | 6.4  | 4.3 | 8.5  | 6.4  | 4.3  | 3.2  | 19.0   | 13.7 | 10.1 | 6.9  | 14.8 | 10.6 | 7.4  | 5.3  |
|                       | 23.34 | 9.6    | 7.4  | 5.3  | 3.2 | 7.4  | 5.3  | 4.3  | 3.2  | 16.4   | 12.1 | 9.0  | 5.8  | 13.2 | 9.0  | 6.9  | 4.8  |
|                       | 31.50 | 7.4    | 5.3  | 4.3  | 3.2 | 6.4  | 4.3  | 3.2  | 2.1  | 12.6   | 9.0  | 6.9  | 4.8  | 10.1 | 6.9  | 5.3  | 3.7  |
|                       | 40.17 | 6.4    | 4.3  | 3.2  | 2.1 | 4.3  | 3.2  | 2.1  | 2.1  | 10.6   | 7.4  | 5.3  | 3.7  | 7.4  | 5.3  | 3.7  | 3.2  |
|                       | 48.57 | 5.3    | 3.2  | 2.1  | 2.1 | 4.3  | 2.1  | 2.1  | 1.1  | 9.0    | 5.8  | 4.2  | 3.2  | 6.9  | 4.2  | 3.2  | 2.2  |



# AGNEE CRANE DUTY HELICAL GEAR BOX



Transmission Ratio, Speed & Power Capacity for Double Stage Horizontal Gear Boxes Type HB

| SIZE                  |       | HB-350 |      |      |      |      |      |      |      |
|-----------------------|-------|--------|------|------|------|------|------|------|------|
| RPM                   |       | 960    |      |      |      | 720  |      |      |      |
| Duty                  |       | I      | II   | III  | IV   | I    | II   | III  | IV   |
| R<br>A<br>T<br>I<br>O | 8.23  | 55.5   | 39   | 30.4 | 21   | 43   | 30.4 | 24.2 | 16.8 |
|                       | 10.35 | 46     | 32.6 | 25.2 | 16.8 | 37   | 25.2 | 20   | 13.7 |
|                       | 12.64 | 39     | 27.4 | 21   | 14.7 | 31.5 | 22   | 16.8 | 11.6 |
|                       | 15.74 | 33.6   | 23.1 | 17.9 | 12.6 | 25.2 | 17.9 | 13.7 | 9.5  |
|                       | 20.49 | 26.3   | 18.9 | 13.7 | 9.5  | 21   | 14.7 | 10.5 | 7.4  |
|                       | 23.34 | 23.1   | 16.8 | 12.6 | 8.4  | 18.9 | 12.6 | 9.5  | 6.3  |
|                       | 31.50 | 17.8   | 12.6 | 9.5  | 6.3  | 13.7 | 9.5  | 7.4  | 5.3  |
|                       | 40.17 | 14.7   | 10.5 | 7.4  | 5.3  | 10.5 | 7.4  | 5.3  | 4.3  |
|                       | 48.57 | 12.6   | 8.4  | 6.3  | 4.3  | 9.5  | 6.3  | 4.3  | 3.2  |



# AGNEE CRANE DUTY HELICAL GEAR BOX



Transmission Ratio, Speed & Power Capacity for Double Stage Horizontal Gear Boxes Type HB

| SIZE                  | HB-400 |      |      |      |      |      |      |      | HB-500 |     |      |      |      |      |     |      |      |
|-----------------------|--------|------|------|------|------|------|------|------|--------|-----|------|------|------|------|-----|------|------|
|                       | 960    |      |      |      | 720  |      |      |      | 960    |     |      |      | 720  |      |     |      |      |
| Duty                  | I      | II   | III  | IV   | I    | II   | III  | IV   | I      | II  | III  | IV   | I    | II   | III | IV   |      |
| R<br>A<br>T<br>I<br>O | 8.23   | 75   | 54   | 41.5 | 33   | 60.5 | 42.5 | 34   | 26.5   | 184 | 126  | 96   | 65   | 147  | 102 | 75.5 | 52   |
|                       | 10.35  | 66   | 45.5 | 37   | 28.6 | 53   | 37   | 29.6 | 22.2   | 153 | 107  | 76.5 | 52.5 | 124  | 86  | 62   | 41   |
|                       | 12.64  | 57.2 | 39.2 | 31.8 | 24.4 | 46.5 | 31.8 | 25.4 | 19.1   | 129 | 92   | 64   | 43.5 | 104  | 71  | 51   | 35   |
|                       | 15.74  | 49.8 | 34   | 26.5 | 19.1 | 39.2 | 26.5 | 21.2 | 14.8   | 111 | 76   | 49   | 34   | 84   | 59  | 42   | 29   |
|                       | 20.49  | 44.5 | 30.8 | 24.4 | 17   | 35   | 24.4 | 19.1 | 12.7   | 78  | 55   | 37   | 25   | 62   | 43  | 29   | 20   |
|                       | 23.34  | 39   | 27   | 21.2 | 14.8 | 32   | 21.2 | 17   | 11.7   | 72  | 50   | 34   | 23.5 | 57   | 40  | 27   | 18.5 |
|                       | 31.50  | 30.4 | 22   | 14.7 | 10.6 | 23.2 | 17   | 11.7 | 8.5    | 61  | 42   | 29   | 20   | 47   | 34  | 23   | 16   |
|                       | 40.17  | 25.5 | 18   | 12.7 | 8.5  | 21.2 | 14.7 | 9.5  | 7.4    | 48  | 34   | 22   | 15   | 37   | 25  | 17   | 11.6 |
|                       | 48.57  | 23.4 | 15.9 | 10.6 | 7.4  | 18   | 11.7 | 8.5  | 5.3    | 41  | 28.5 | 18   | 13   | 31.5 | 22  | 14   | 9.5  |



# AGNEE CRANE DUTY HELICAL GEAR BOX



Transmission Ratio, Speed & Power Capacity for Double Stage Horizontal Gear Boxes Type HB

| SIZE                  |       | HB-650 |     |     |      |     |     |      |     | HB-750 |     |     |     |     |     |     |     |
|-----------------------|-------|--------|-----|-----|------|-----|-----|------|-----|--------|-----|-----|-----|-----|-----|-----|-----|
|                       |       | 960    |     |     |      | 720 |     |      |     | 960    |     |     |     | 720 |     |     |     |
| Duty                  |       | I      | II  | III | IV   | I   | II  | III  | IV  | I      | II  | III | IV  | I   | II  | III | IV  |
| R<br>A<br>T<br>I<br>O | 8.23  | 358    | 252 | 196 | 143  | 274 | 201 | 160  | 113 | 610    | 435 | 302 | 204 | 485 | 340 | 250 | 161 |
|                       | 10.35 | 306    | 210 | 171 | 118  | 244 | 170 | 135  | 92  | 510    | 356 | 238 | 165 | 410 | 284 | 193 | 152 |
|                       | 12.64 | 263    | 181 | 144 | 96   | 208 | 145 | 114  | 77  | 432    | 306 | 203 | 136 | 342 | 238 | 159 | 109 |
|                       | 15.74 | 221    | 150 | 118 | 78   | 175 | 120 | 93   | 62  | 370    | 255 | 167 | 116 | 279 | 197 | 134 | 93  |
|                       | 20.49 | 199    | 136 | 90  | 60   | 156 | 108 | 71   | 49  | 292    | 195 | 129 | 85  | 228 | 155 | 100 | 69  |
|                       | 23.34 | 181    | 123 | 81  | 54   | 142 | 97  | 63   | 44  | 264    | 176 | 119 | 78  | 208 | 140 | 90  | 63  |
|                       | 31.50 | 138    | 95  | 62  | 42   | 108 | 77  | 49   | 34  | 206    | 142 | 92  | 63  | 159 | 111 | 74  | 51  |
|                       | 40.17 | 113    | 78  | 48  | 34   | 88  | 61  | 38   | 26  | 163    | 109 | 68  | 48  | 125 | 86  | 53  | 38  |
|                       | 48.57 | 95     | 65  | 41  | 28.5 | 73  | 49  | 31.5 | 22  | 135    | 92  | 58  | 41  | 104 | 74  | 44  | 32  |



# AGNEE CRANE DUTY HELICAL GEAR BOX



Transmission Ratio, Speed & Power Capacity for Double Stage Horizontal Gear Boxes Type HB

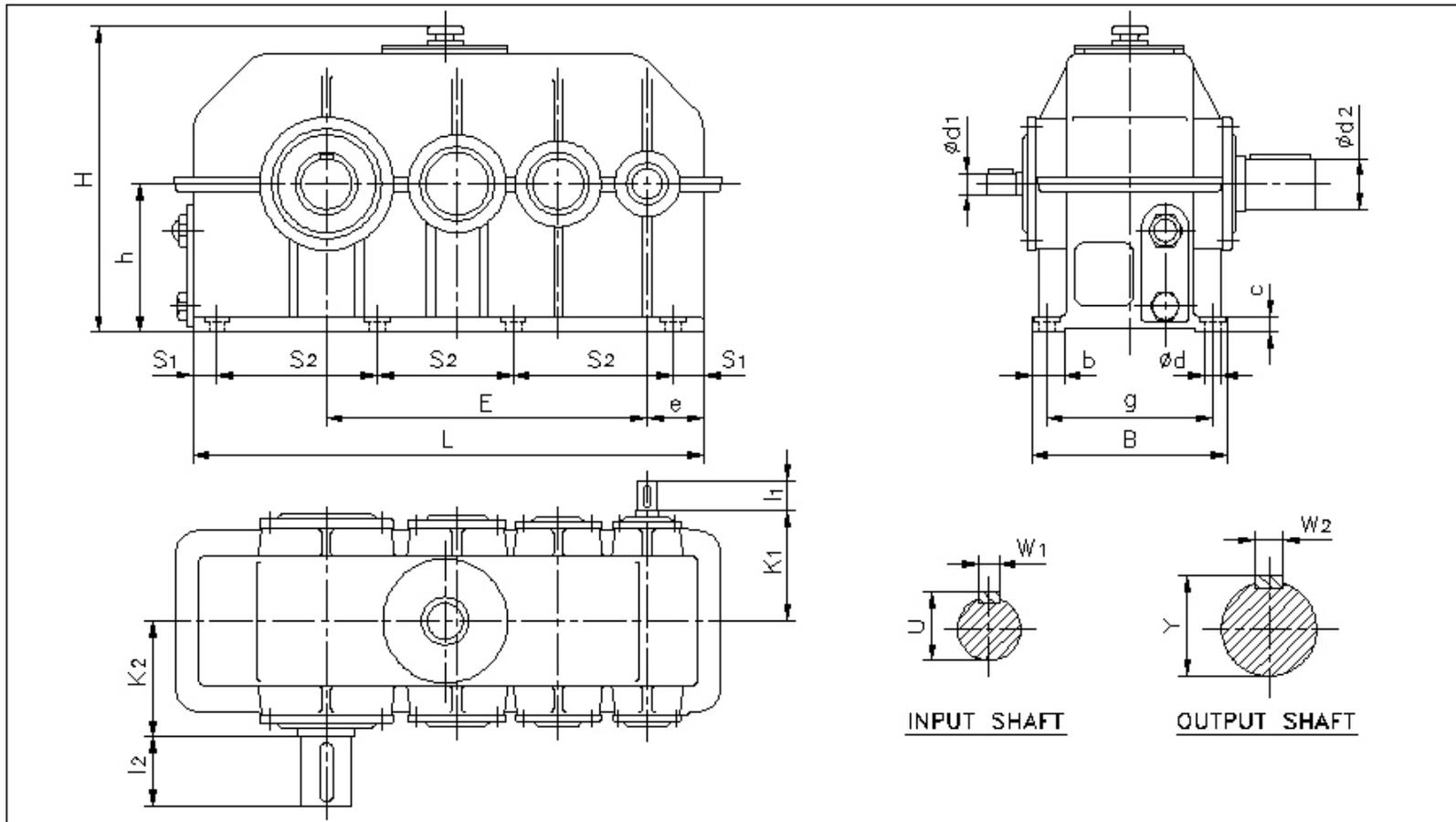
| SIZE                  |       | HB-850 |     |     |     |     |     |     |     | HB-1000 |      |      |     |      |      |     |     |
|-----------------------|-------|--------|-----|-----|-----|-----|-----|-----|-----|---------|------|------|-----|------|------|-----|-----|
| RPM                   |       | 960    |     |     |     | 720 |     |     |     | 960     |      |      |     | 720  |      |     |     |
| Duty                  |       | I      | II  | III | IV  | I   | II  | III | IV  | I       | II   | III  | IV  | I    | II   | III | IV  |
| R<br>A<br>T<br>I<br>O | 8.23  | 1025   | 702 | 468 | 330 | 815 | 570 | 413 | 285 | 2050    | 1367 | 1050 | 739 | 1630 | 1086 | 835 | 588 |
|                       | 10.35 | 857    | 587 | 391 | 270 | 689 | 478 | 319 | 220 | 1714    | 1142 | 878  | 622 | 1378 | 918  | 706 | 493 |
|                       | 12.64 | 726    | 497 | 331 | 233 | 574 | 395 | 255 | 180 | 1452    | 968  | 691  | 490 | 1148 | 765  | 546 | 382 |
|                       | 15.74 | 622    | 426 | 284 | 200 | 469 | 323 | 215 | 153 | 1244    | 802  | 572  | 402 | 938  | 625  | 446 | 314 |
|                       | 20.49 | 426    | 292 | 195 | 139 | 333 | 228 | 152 | 108 | 852     | 591  | 422  | 297 | 666  | 475  | 339 | 240 |
|                       | 23.34 | 385    | 269 | 179 | 128 | 304 | 211 | 136 | 97  | 770     | 531  | 379  | 267 | 608  | 419  | 299 | 210 |
|                       | 31.50 | 301    | 206 | 137 | 98  | 232 | 159 | 106 | 76  | 602     | 415  | 296  | 208 | 462  | 318  | 220 | 155 |
|                       | 40.17 | 238    | 163 | 109 | 79  | 182 | 125 | 83  | 60  | 476     | 328  | 234  | 165 | 366  | 250  | 173 | 119 |
|                       | 48.57 | 197    | 135 | 90  | 65  | 152 | 104 | 69  | 50  | 394     | 271  | 193  | 136 | 307  | 211  | 146 | 102 |



# AGNEE CRANE DUTY HELICAL GEAR BOX



## Triple Stage Horizontal Type "HC"





## AGNEE CRANE DUTY HELICAL GEAR BOX



Dimension details of Triple Stage Horizontal Type “HC”

| Size | Housing dimensions |     |      |     |      |      |     | Foundation hole details |                |     |    |    |     | Weight<br>(approx<br>kg.) |
|------|--------------------|-----|------|-----|------|------|-----|-------------------------|----------------|-----|----|----|-----|---------------------------|
| HC   | E                  | e   | L    | B   | b    | H    | h   | S <sub>1</sub>          | S <sub>2</sub> | g   | d  | c  | No. |                           |
| 400  | 400                | 70  | 650  | 270 | 50   | 415  | 200 | 45                      | 280            | 225 | 16 | 23 | 6   | 260                       |
| 450  | 450                | 80  | 730  | 300 | 52.5 | 460  | 225 | 50                      | 315            | 250 | 16 | 25 | 6   | 360                       |
| 500  | 500                | 95  | 820  | 330 | 55   | 510  | 250 | 55                      | 355            | 280 | 18 | 27 | 6   | 470                       |
| 560  | 560                | 110 | 920  | 370 | 60   | 565  | 280 | 40                      | 280            | 315 | 20 | 30 | 8   | 620                       |
| 630  | 630                | 120 | 1030 | 415 | 70   | 630  | 315 | 42.5                    | 315            | 355 | 23 | 34 | 8   | 850                       |
| 710  | 710                | 130 | 1160 | 470 | 80   | 705  | 355 | 47.5                    | 355            | 400 | 25 | 37 | 8   | 1150                      |
| 800  | 800                | 140 | 1300 | 530 | 90   | 800  | 400 | 50                      | 400            | 450 | 27 | 40 | 8   | 1580                      |
| 900  | 900                | 160 | 1460 | 590 | 100  | 895  | 450 | 55                      | 450            | 500 | 30 | 42 | 8   | 2050                      |
| 1000 | 1000               | 180 | 1620 | 650 | 110  | 995  | 500 | 60                      | 500            | 560 | 33 | 45 | 8   | 2650                      |
| 1120 | 1120               | 200 | 1820 | 730 | 120  | 1105 | 560 | 70                      | 560            | 630 | 36 | 48 | 8   | 3500                      |
| 1250 | 1250               | 230 | 2040 | 830 | 140  | 1235 | 630 | 75                      | 630            | 710 | 39 | 52 | 8   | 4700                      |



## AGNEE CRANE DUTY HELICAL GEAR BOX



Dimension details of Triple Stage Horizontal Type “HC”

| Size | Input Shaft |       |       | Output Shaft |       |       | Input Key |      | Output Key |      |
|------|-------------|-------|-------|--------------|-------|-------|-----------|------|------------|------|
| HC   | $d_1$       | $I_1$ | $K_1$ | $d_2$        | $I_2$ | $K_2$ | $W_1$     | U    | $W_2$      | Y    |
| 400  | 28          | 40    | 155   | 70           | 105   | 160   | 8         | 31   | 20         | 74.5 |
| 450  | 32          | 45    | 170   | 70           | 115   | 180   | 10        | 35   | 20         | 74.5 |
| 500  | 38          | 50    | 185   | 85           | 130   | 195   | 10        | 41   | 22         | 90   |
| 560  | 45          | 60    | 210   | 95           | 145   | 215   | 14        | 48.5 | 25         | 100  |
| 630  | 50          | 65    | 225   | 105          | 160   | 235   | 14        | 53.5 | 28         | 111  |
| 710  | 55          | 75    | 260   | 120          | 180   | 270   | 16        | 59   | 32         | 127  |
| 800  | 55          | 80    | 290   | 125          | 200   | 300   | 16        | 59   | 32         | 132  |
| 900  | 65          | 100   | 320   | 140          | 225   | 330   | 18        | 69   | 36         | 148  |
| 1000 | 70          | 105   | 350   | 170          | 250   | 365   | 20        | 74.5 | 40         | 179  |
| 1120 | 75          | 115   | 400   | 190          | 280   | 440   | 20        | 79.5 | 45         | 200  |
| 1250 | 80          | 120   | 415   | 200          | 300   | 460   | 22        | 85   | 45         | 210  |



# AGNEE CRANE DUTY HELICAL GEAR BOX



## Transmission Ratio, Speed & Power Capacity for Triple Stage Horizontal Gear Boxes Type HC

| SIZE                  | HC-400 |      |      |     |     |      |     |     | HC-450 |      |      |      |      |      |      |     | HC-500 |      |      |      |      |      |      |      |      |
|-----------------------|--------|------|------|-----|-----|------|-----|-----|--------|------|------|------|------|------|------|-----|--------|------|------|------|------|------|------|------|------|
| RPM                   | 960    |      |      |     | 720 |      |     |     | 960    |      |      |      | 720  |      |      |     | 960    |      |      |      | 720  |      |      |      |      |
| Duty                  | I      | II   | III  | IV  | I   | II   | III | IV  | I      | II   | III  | IV   | I    | II   | III  | IV  | I      | II   | III  | IV   | I    | II   | III  | IV   |      |
| R<br>A<br>T<br>I<br>O | 31.5   | 16.8 | 12.1 | 9.9 | 7.2 | 13.1 | 9.4 | 7.7 | 5.6    | 24   | 17.2 | 14.2 | 10.3 | 18.7 | 13.4 | 11  | 8      | 33   | 23.7 | 19.5 | 14.2 | 25.7 | 18.5 | 15.2 | 11.1 |
|                       | 40     | 13.9 | 10   | 8.2 | 6   | 10.8 | 7.8 | 6.4 | 4.6    | 19.7 | 14.1 | 11.6 | 8.5  | 15.4 | 11.1 | 9.1 | 6.6    | 27.6 | 19.8 | 16.3 | 11.9 | 21.5 | 15.4 | 12.7 | 9.2  |
|                       | 50     | 11.5 | 8.3  | 6.8 | 4.9 | 9    | 6.5 | 5.3 | 3.9    | 16.3 | 11.7 | 9.6  | 7    | 12.7 | 9.1  | 7.5 | 5.5    | 22.8 | 16.4 | 13.5 | 9.8  | 17.8 | 12.8 | 10.6 | 7.7  |
|                       | 63     | 9.6  | 6.9  | 5.7 | 4.1 | 7.5  | 5.4 | 4.4 | 3.2    | 13.7 | 9.8  | 8.1  | 5.9  | 10.7 | 7.7  | 6.3 | 4.6    | 18.4 | 13.2 | 10.9 | 7.8  | 14.4 | 10.3 | 8.5  | 6.2  |
|                       | 80     | 7.7  | 5.5  | 4.5 | 3.3 | 6    | 4.3 | 3.5 | 2.6    | 11   | 7.9  | 6.5  | 4.7  | 8.6  | 6.2  | 5.1 | 3.7    | 15.2 | 10.9 | 9    | 6.5  | 11.9 | 8.5  | 7    | 5.1  |
|                       | 90     | 7    | 5    | 4.1 | 3   | 5.5  | 3.9 | 3.2 | 2.3    | 9.8  | 7    | 5.8  | 4.2  | 7.6  | 5.5  | 4.5 | 3.3    | 13.8 | 9.9  | 8.1  | 5.9  | 10.8 | 7.8  | 6.4  | 4.6  |
|                       | 100    | 6.2  | 4.4  | 3.7 | 2.7 | 4.8  | 3.4 | 2.8 | 2.1    | 8.9  | 6.4  | 5.3  | 3.8  | 6.9  | 5    | 4.1 | 3      | 12.3 | 8.8  | 7.3  | 5.3  | 9.6  | 6.9  | 5.7  | 4.1  |
|                       | 125    | 5.1  | 3.7  | 3   | 2.2 | 4    | 2.9 | 2.4 | 1.7    | 7.2  | 5.2  | 4.2  | 3.1  | 5.7  | 4.1  | 3.4 | 2.5    | 10.2 | 7.3  | 6    | 4.4  | 8    | 5.7  | 4.7  | 3.4  |
|                       | 160    | 4.1  | 2.9  | 2.4 | 1.8 | 3.2  | 2.3 | 1.9 | 1.4    | 5.8  | 4.2  | 3.4  | 2.5  | 4.5  | 3.2  | 2.7 | 1.9    | 8    | 5.7  | 4.7  | 3.4  | 6.3  | 4.5  | 3.7  | 2.7  |



# AGNEE CRANE DUTY HELICAL GEAR BOX



## Transmission Ratio, Speed & Power Capacity for Triple Stage Horizontal Gear Boxes Type HC

| SIZE                  | HC-560 |      |      |      |      |      |      |      | HC-630 |      |      |      |      |      |      |      | HC-710 |      |      |      |      |      |      |      |      |
|-----------------------|--------|------|------|------|------|------|------|------|--------|------|------|------|------|------|------|------|--------|------|------|------|------|------|------|------|------|
|                       | 960    |      |      |      | 720  |      |      |      | 960    |      |      |      | 720  |      |      |      | 960    |      |      |      | 720  |      |      |      |      |
| Duty                  | I      | II   | III  | IV   | I    | II   | III  | IV   | I      | II   | III  | IV   | I    | II   | III  | IV   | I      | II   | III  | IV   | I    | II   | III  | IV   |      |
| R<br>A<br>T<br>I<br>O | 31.5   | 46.8 | 33.6 | 27.6 | 20.1 | 37   | 26.6 | 21.8 | 15.9   | 66   | 47.4 | 38.9 | 28.4 | 52   | 37.3 | 30   | 22.4   | 95   | 68.2 | 56   | 40.9 | 74   | 53.1 | 43.7 | 31.8 |
|                       | 40     | 39   | 28   | 23   | 16.8 | 30.8 | 22.1 | 18.2 | 13.2   | 56   | 40.2 | 33   | 24.1 | 44.2 | 31.7 | 26   | 19     | 78   | 56   | 46   | 33.5 | 60.5 | 43.4 | 35.7 | 26   |
|                       | 50     | 32.2 | 23.1 | 19   | 13.8 | 25.4 | 18.2 | 15   | 10.9   | 46   | 33   | 27.1 | 19.8 | 36.3 | 26.1 | 21.4 | 15.6   | 65   | 46.7 | 38.4 | 28   | 50.4 | 36.2 | 29.7 | 21.7 |
|                       | 63     | 26.4 | 19   | 15.6 | 11.4 | 20.9 | 15   | 12.3 | 9      | 38   | 27.3 | 22.4 | 16.3 | 30   | 21.5 | 17.7 | 12.9   | 54   | 38.8 | 31.9 | 23.2 | 42   | 30.2 | 24.8 | 18.1 |
|                       | 80     | 21.4 | 15.4 | 12.6 | 9.2  | 16.9 | 12.1 | 10   | 7.3    | 31   | 22.3 | 18.2 | 13.3 | 24.5 | 17.6 | 14.4 | 10.5   | 44   | 31.6 | 26   | 18.9 | 34.1 | 24.5 | 20.1 | 14.7 |
|                       | 90     | 19.5 | 14   | 11.5 | 8.4  | 15.4 | 11.1 | 9.1  | 6.6    | 27   | 19.4 | 15.9 | 11.6 | 21.3 | 15.3 | 12.6 | 9.2    | 39   | 28   | 23   | 16.8 | 30.3 | 21.8 | 17.9 | 13   |
|                       | 100    | 17.6 | 12.6 | 10.4 | 7.6  | 13.9 | 10   | 8.2  | 6      | 25   | 18   | 14.8 | 10.8 | 19.8 | 14.2 | 11.7 | 8.5    | 35   | 25.1 | 20.7 | 15.1 | 27.2 | 19.5 | 16   | 11.7 |
|                       | 125    | 14.2 | 10.2 | 8.4  | 6.1  | 11.2 | 8    | 6.6  | 4.8    | 20.5 | 14.7 | 12.7 | 8.8  | 16.2 | 11.6 | 9.6  | 7      | 28.5 | 20.5 | 16.8 | 12.2 | 22.1 | 15.9 | 13   | 9.5  |
|                       | 160    | 11.5 | 8.3  | 6.8  | 4.9  | 9.1  | 6.6  | 5.4  | 3.9    | 16.3 | 11.7 | 9.6  | 7    | 13   | 9.3  | 7.7  | 5.6    | 23.2 | 16.7 | 13.7 | 10   | 18   | 12.9 | 10.6 | 7.7  |



# AGNEE CRANE DUTY HELICAL GEAR BOX



## Transmission Ratio, Speed & Power Capacity for Triple Stage Horizontal Gear Boxes Type HC

| SIZE                  |      | HC-800 |      |      |      |      |      |      |      | HC-900 |      |      |      |      |      |      |      | HC-1000 |      |      |      |      |      |      |      |
|-----------------------|------|--------|------|------|------|------|------|------|------|--------|------|------|------|------|------|------|------|---------|------|------|------|------|------|------|------|
| RPM                   |      | 960    |      |      |      | 720  |      |      |      | 960    |      |      |      | 720  |      |      |      | 960     |      |      |      | 720  |      |      |      |
| Duty                  |      | I      | II   | III  | IV   | I    | II   | III  | IV   | I      | II   | III  | IV   | I    | II   | III  | IV   | I       | II   | III  | IV   | I    | II   | III  | IV   |
| R<br>A<br>T<br>I<br>O | 31.5 | 137    | 98.4 | 80.8 | 59   | 107  | 76.8 | 63.1 | 46   | 196    | 141  | 116  | 84.3 | 153  | 110  | 90.3 | 65.8 | 270     | 194  | 159  | 116  | 211  | 151  | 124  | 90.7 |
|                       | 40   | 112    | 80.4 | 66.1 | 48.2 | 87.4 | 62.8 | 51.6 | 37.6 | 162    | 116  | 95.6 | 69.7 | 126  | 90.5 | 74.3 | 54.2 | 221     | 159  | 130  | 95   | 172  | 123  | 101  | 74   |
|                       | 50   | 93     | 66.8 | 54.9 | 40   | 72.5 | 52.1 | 42.8 | 31.2 | 135    | 97   | 79.7 | 58.1 | 105  | 75.4 | 62   | 45.2 | 184     | 132  | 109  | 79.1 | 144  | 103  | 85   | 62   |
|                       | 63   | 78     | 56   | 46   | 33.5 | 61   | 43.8 | 36   | 26.2 | 110    | 79   | 65   | 47.3 | 86   | 61.7 | 50.7 | 37   | 152     | 109  | 89.7 | 65.4 | 119  | 85.4 | 70.2 | 51.2 |
|                       | 80   | 63     | 45.2 | 37.2 | 27.1 | 49   | 35.2 | 29   | 21.1 | 88     | 63.2 | 51.9 | 37.8 | 68.6 | 49.3 | 40.5 | 29.5 | 123     | 88.3 | 72.6 | 38   | 96   | 69   | 56.6 | 41.3 |
|                       | 90   | 56     | 40.2 | 33   | 24.1 | 43.7 | 31.4 | 25.8 | 18.8 | 81     | 58.2 | 47.8 | 34.8 | 63.2 | 45.4 | 37.3 | 27.2 | 110     | 79   | 65   | 47.3 | 86   | 61.7 | 50.7 | 37   |
|                       | 100  | 51     | 36.6 | 30.1 | 22   | 40   | 28.7 | 23.6 | 17.2 | 74     | 53.1 | 43.7 | 31.8 | 57.7 | 41.4 | 34   | 24.7 | 100     | 71.8 | 59   | 43   | 78   | 56   | 46   | 33.5 |
|                       | 125  | 42     | 30.2 | 24.8 | 18.1 | 32.8 | 23.6 | 19.4 | 14.1 | 59     | 42.4 | 34.8 | 25.4 | 46   | 33   | 27.1 | 19.8 | 83      | 59.6 | 49   | 35.7 | 64.7 | 46.5 | 38.2 | 27.8 |
|                       | 160  | 33     | 23.7 | 19.5 | 14.2 | 25.7 | 18.5 | 15.2 | 11.1 | 48     | 34.5 | 28.3 | 20.6 | 37.4 | 26.9 | 22.1 | 16.1 | 66      | 47.4 | 39   | 28.4 | 51.5 | 37   | 30.4 | 22.1 |



# AGNEE CRANE DUTY HELICAL GEAR BOX



Transmission Ratio, Speed & Power Capacity for Triple Stage Horizontal Gear Boxes Type HC

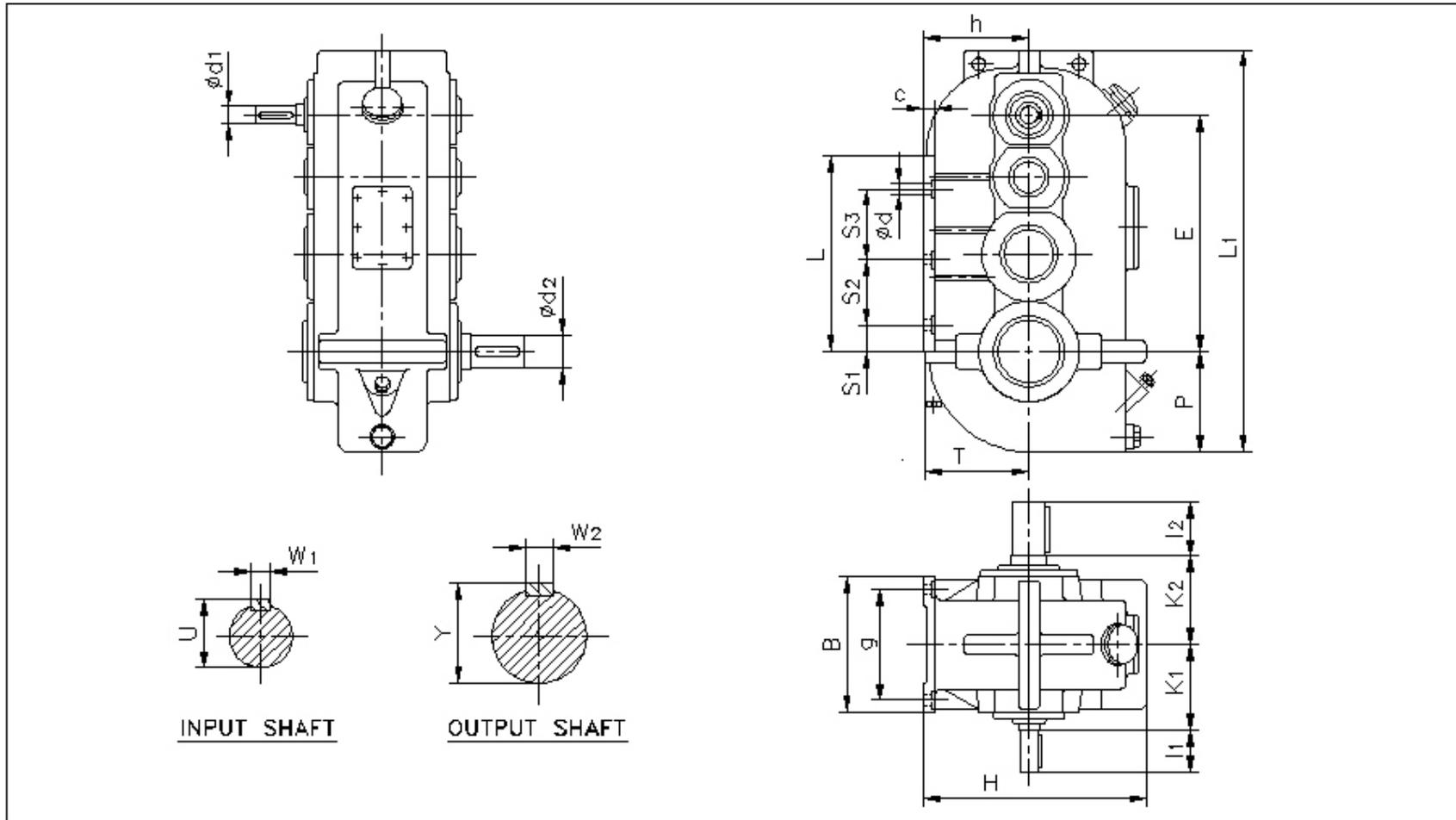
| SIZE                             |             | HC-1120 |      |      |      |      |      |      |      | HC-1250 |      |      |      |     |     |      |      |
|----------------------------------|-------------|---------|------|------|------|------|------|------|------|---------|------|------|------|-----|-----|------|------|
| RPM                              |             | 960     |      |      |      | 720  |      |      |      | 960     |      |      |      | 720 |     |      |      |
| Duty                             |             | I       | II   | III  | IV   | I    | II   | III  | IV   | I       | II   | III  | IV   | I   | II  | III  | IV   |
| <b>R<br/>A<br/>T<br/>I<br/>O</b> | <b>31.5</b> | 380     | 273  | 224  | 163  | 300  | 215  | 177  | 129  | 529     | 380  | 312  | 227  | 418 | 300 | 247  | 180  |
|                                  | <b>40</b>   | 311     | 223  | 183  | 134  | 246  | 177  | 145  | 106  | 431     | 309  | 254  | 185  | 340 | 244 | 201  | 146  |
|                                  | <b>50</b>   | 260     | 187  | 153  | 112  | 205  | 147  | 121  | 88.2 | 364     | 261  | 215  | 157  | 288 | 207 | 170  | 124  |
|                                  | <b>63</b>   | 213     | 153  | 126  | 91.6 | 168  | 121  | 99   | 72.2 | 300     | 215  | 177  | 129  | 237 | 170 | 140  | 102  |
|                                  | <b>80</b>   | 172     | 123  | 101  | 74   | 136  | 97.6 | 80   | 58.5 | 246     | 177  | 145  | 106  | 194 | 139 | 114  | 83.4 |
|                                  | <b>90</b>   | 157     | 113  | 92.6 | 67.5 | 124  | 89   | 73.2 | 53.3 | 221     | 159  | 130  | 95   | 175 | 126 | 103  | 75.3 |
|                                  | <b>100</b>  | 142     | 102  | 83.8 | 61.1 | 112  | 80.4 | 66.1 | 48.2 | 197     | 141  | 116  | 84.7 | 156 | 112 | 92   | 67.1 |
|                                  | <b>125</b>  | 115     | 82.6 | 67.9 | 49.5 | 91   | 65.3 | 53.7 | 39.1 | 162     | 116  | 95.6 | 69.7 | 128 | 92  | 75.5 | 55   |
|                                  | <b>160</b>  | 93      | 66.8 | 54.9 | 40   | 73.5 | 52.8 | 43.4 | 31.6 | 130     | 93.3 | 76.7 | 56   | 103 | 74  | 60.8 | 44.3 |



# AGNEE CRANE DUTY HELICAL GEAR BOX



## Triple Stage Vertical Type "VC"





# AGNEE CRANE DUTY HELICAL GEAR BOX



Dimension details of Triple Stage Vertical Type “VC”

| Size | Housing dimensions |     |     |     |     |                |     |     | Foundation hole details |                |                |     |    |    |     | Weight (approx. kg.) |
|------|--------------------|-----|-----|-----|-----|----------------|-----|-----|-------------------------|----------------|----------------|-----|----|----|-----|----------------------|
| VC   | E                  | L   | B   | H   | h   | L <sub>1</sub> | P   | T   | S <sub>1</sub>          | S <sub>2</sub> | S <sub>3</sub> | g   | d  | c  | No. |                      |
| 280  | 280                | 240 | 176 | 272 | 130 | 483            | 113 | 128 | 50                      | -              | 140            | 140 | 14 | 20 | 4   | 130                  |
| 320  | 320                | 270 | 190 | 295 | 140 | 543            | 123 | 138 | 60                      | -              | 150            | 150 | 17 | 20 | 4   | 160                  |
| 350  | 350                | 280 | 225 | 320 | 150 | 595            | 135 | 148 | 60                      | -              | 160            | 185 | 17 | 20 | 4   | 180                  |
| 400  | 400                | 330 | 230 | 376 | 178 | 680            | 170 | 176 | 45                      | 110            | 120            | 188 | 18 | 20 | 6   | 220                  |
| 475  | 475                | 382 | 270 | 475 | 200 | 815            | 205 | 221 | 50                      | 80             | 200            | 215 | 18 | 25 | 8   | 240                  |
| 550  | 550                | 560 | 285 | 488 | 235 | 880            | 215 | 230 | 50                      | 70             | 320            | 245 | 18 | 30 | 8   | 310                  |
| 600  | 600                | 625 | 350 | 570 | 250 | 975            | 240 | -   | 50                      | 70             | 375            | 305 | 18 | 35 | 8   | 350                  |

| Size | Input Shaft    |                |                | Output Shaft   |                |                | Input Key      |    | Output Key     |      |
|------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----|----------------|------|
| VC   | d <sub>1</sub> | l <sub>1</sub> | K <sub>1</sub> | d <sub>2</sub> | l <sub>2</sub> | K <sub>2</sub> | W <sub>1</sub> | U  | W <sub>2</sub> | Y    |
| 280  | 24             | 50             | 110            | 40             | 55             | 115            | 8              | 27 | 12             | 43   |
| 320  | 28             | 65             | 120            | 48             | 70             | 125            | 8              | 31 | 14             | 51.5 |
| 350  | 28             | 65             | 140            | 48             | 70             | 145            | 8              | 31 | 14             | 51.5 |
| 400  | 30             | 70             | 145            | 55             | 90             | 150            | 8              | 33 | 16             | 59   |
| 475  | 38             | 105            | 160            | 65             | 105            | 175            | 10             | 41 | 18             | 69   |
| 550  | 38             | 105            | 195            | 80             | 105            | 187            | 10             | 41 | 22             | 85   |
| 600  | 38             | 105            | 210            | 80             | 120            | 215            | 10             | 41 | 22             | 85   |



# AGNEE CRANE DUTY HELICAL GEAR BOX



Transmission Ratio, Speed & Power Capacity of Triple Stage Vertical Gear Boxes Type VC in Horse Power

| VC-280                |       |     |     |     |     |     |     |     |     | VC-320                |       |     |     |     |     |     |     |     |     | VC-350                |       |      |     |     |     |     |     |     |     |
|-----------------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----------------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----------------------|-------|------|-----|-----|-----|-----|-----|-----|-----|
| RPM                   |       | 960 |     |     |     | 720 |     |     |     | RPM                   |       | 960 |     |     |     | 720 |     |     |     | RPM                   |       | 960  |     |     |     | 720 |     |     |     |
| Duty                  |       | I   | II  | III | IV  | I   | II  | III | IV  | Duty                  |       | I   | II  | III | IV  | I   | II  | III | IV  | Duty                  |       | I    | II  | III | IV  | I   | II  | III | IV  |
| R<br>A<br>T<br>I<br>O | 14.85 | 5.8 | 4.2 | 3.4 | 2.5 | 4.5 | 3.2 | 2.7 | 1.9 | R<br>A<br>T<br>I<br>O | 14.26 | 7   | 5   | 3.9 | 3   | 5.7 | 4   | 3.3 | 2.5 | R<br>A<br>T<br>I<br>O | 10.69 | 10.7 | 7.5 | 5.9 | 4.7 | 9.2 | 6.4 | 5.1 | 4   |
|                       | 20.62 | 4.7 | 3.4 | 2.8 | 2   | 3.6 | 2.6 | 2.1 | 1.5 |                       | 17.0  | 5.9 | 4.2 | 3.3 | 2.5 | 4.8 | 3.4 | 2.7 | 2   |                       | 14.67 | 8.1  | 5.7 | 4.5 | 3.6 | 6.9 | 4.8 | 3.8 | 3   |
|                       | 24.0  | 4   | 2.9 | 2.4 | 1.7 | 3.1 | 2.2 | 1.8 | 1.3 |                       | 25.28 | 4   | 2.8 | 2.2 | 1.7 | 3.2 | 2.2 | 1.8 | 1.4 |                       | 30.56 | 4.1  | 2.9 | 2.3 | 1.8 | 3.4 | 2.4 | 1.9 | 1.5 |
|                       | 33.4  | 3.4 | 2.1 | 2   | 1.5 | 2.6 | 1.9 | 1.5 | 1.1 |                       | 52.36 | 1.9 | 1.4 | 1   | 0.8 | 1.5 | 1   | 0.9 | 0.7 |                       | 49.49 | 2.6  | 1.8 | 1.4 | 1.1 | 2.2 | 1.5 | 1.2 | 1   |

| VC-400                |       |      |      |      |     |      |      |     |     | VC-475                |        |      |      |      |     |      |      |     |     |
|-----------------------|-------|------|------|------|-----|------|------|-----|-----|-----------------------|--------|------|------|------|-----|------|------|-----|-----|
| RPM                   |       | 960  |      |      |     | 720  |      |     |     | RPM                   |        | 960  |      |      |     | 720  |      |     |     |
| Duty                  |       | I    | II   | III  | IV  | I    | II   | III | IV  | Duty                  |        | I    | II   | III  | IV  | I    | II   | III | IV  |
| R<br>A<br>T<br>I<br>O | 15.95 | 18.8 | 13.2 | 10.3 | 8.3 | 16.6 | 11.6 | 9.1 | 7.3 | R<br>A<br>T<br>I<br>O | 19.68  | 19.3 | 13.5 | 10.6 | 8.5 | 17.2 | 12.1 | 9.5 | 7.8 |
|                       | 21.0  | 16.7 | 11.7 | 9.2  | 7.3 | 14.1 | 9.9  | 7.8 | 6.2 |                       | 29.06  | 16.4 | 11.5 | 9    | 7.2 | 14.4 | 10.1 | 7.9 | 6.3 |
|                       | 41.23 | 9    | 6.3  | 5    | 4   | 7.5  | 5.3  | 4.1 | 3.3 |                       | 52.92  | 10.8 | 7.6  | 5.9  | 4.8 | 9.2  | 6.4  | 5.1 | 4   |
|                       | 85.39 | 4.4  | 3.1  | 2.4  | 1.9 | 3.6  | 2.5  | 2   | 1.6 |                       | 109.61 | 5.6  | 3.9  | 3.1  | 2.5 | 4.7  | 3.3  | 2.6 | 2.1 |



# AGNEE CRANE DUTY HELICAL GEAR BOX



Transmission Ratio, Speed & Power Capacity of Triple Stage Vertical Gear Boxes Type VC in Horse Power

| VC-550                |        |      |      |      |      |      |      |      |     | VC-600                |        |      |      |       |       |       |       |      |      |
|-----------------------|--------|------|------|------|------|------|------|------|-----|-----------------------|--------|------|------|-------|-------|-------|-------|------|------|
| RPM                   |        | 960  |      |      |      | 720  |      |      |     | RPM                   |        | 960  |      |       |       | 720   |       |      |      |
| Duty                  |        | I    | II   | III  | IV   | I    | II   | III  | IV  | Duty                  |        | I    | II   | III   | IV    | I     | II    | III  | IV   |
| R<br>A<br>T<br>I<br>O | 17.72  | 35.1 | 24.7 | 19.3 | 15.4 | 31.9 | 22.5 | 17.5 | 14  | R<br>A<br>T<br>I<br>O | 17.74  | 40   | 30.9 | 22.6  | 16.05 | 35.5  | 25.8  | 18.3 | 15   |
|                       | 32.90  | 25.6 | 18   | 14.1 | 11.3 | 21.6 | 15.2 | 11.9 | 9.5 |                       | 32.93  | 30.5 | 21   | 14.32 | 12    | 23.39 | 16.07 | 12.1 | 10.5 |
|                       | 68.28  | 12.9 | 9.1  | 7.1  | 5.7  | 10.8 | 7.6  | 5.9  | 4.8 |                       | 68.02  | 14.5 | 11.5 | 7.7   | 6.5   | 13.3  | 8.75  | 6.17 | 5.5  |
|                       | 126.78 | 7.1  | 5    | 3.9  | 3.1  | 5.9  | 4.2  | 3.2  | 2.6 |                       | 126.29 | 8.75 | 6    | 5.1   | 3.69  | 6     | 4.5   | 3.5  | 2.9  |



# AGNEE CRANE DUTY HELICAL GEAR BOX



## LUBRICANT

The lubricant should consist of conventional mineral oils containing extreme pressure additives (generally on sulphur phosphorous basis). The lubricant should also contain anti foam additives, resist oxidization at high temperature and be non corrosive.

The oil viscosity recommended is given below :

| Ambient temperature       |                        |                           |
|---------------------------|------------------------|---------------------------|
| -10 to +15 <sup>0</sup> C | 0 to 30 <sup>0</sup> C | +10 to +50 <sup>0</sup> C |
| ISO VG 100                | ISO VG 220             | ISO VG 320                |

ISO VG; mm<sub>2</sub> /S (cSt) at 40<sup>0</sup> C as per ISO

## RECOMMENDED LUBRICANTS

| MAKER'S NAME         | R. P. M OF HIGH SPEED SHAFT |                           |                           |
|----------------------|-----------------------------|---------------------------|---------------------------|
|                      | WITHOUT OIL PUMP            | WITH OIL PUMP             |                           |
|                      | Upto 1500                   | Upto 1500                 | Above 1500                |
| INDIAN OIL           | Servomesh SP/EE 320         | Servomesh SP/EE 220       | Servomesh SP/EE 150       |
| CASTROL              | Alpha SP/EE 320             | Alpha SP/EE 220           | Alpha SP/EE 150           |
| BHARAT PETROLEUM     | Bharat Amocam 320           | Bharat Amocam 220         | Bharat Amocam 150         |
| .HINDUSTAN PERTOLEUM | Parthan EP 320              | Parthan EP 220            | Parthan EP 150            |
| BALMER LAWRIE        | Balmerol Gear Flux BM 320   | Balmerol Gear Flux BM 220 | Balmerol Gear Flux BM 150 |
| ESSO                 | SPARTAN EP 320              | SPARTAN EP 220            | SPARTAN EP 150            |
| MOBIL                | MOBILE GEAR 632             | MOBILE GEAR 630           | MOBILE GEAR 629           |
| SHELL                | OMLA-OEL 320                | OMLA-OEL 220              | OMLA-OEL 150              |
| TAXACO               | MERO PA 320                 | MERO PA 220               | MERO PA 150               |



# AGNEE CRANE DUTY HELICAL GEAR BOX



## AMBIENT TEMPERATURE & VENTILATION

Abnormal conditions of ambient temperature and/or ventilation status to be indicated for recommendation of suitable lubricant.

## OIL CHANGE

After mounting the Gear Unit it should be filled in with recommended lubricating oil through the inspection port. The first oil change should be made after 1,000 hours' running or two months whichever is earlier. The subsequent changing should be done every 2,500 hours of running or one year, whichever is earlier. Oil should be drained off when it is still warm. The residues should be washed out by flushing oil and fresh oil should then be poured into the gear box. From time to time the oil level inside the Gear Box should be checked and this should be maintained upon the recommended level. The operating temperature should not be excessive. Temperature up to 90°C is harmless to any component.

## NAME PLATE

The gearbox is fitted with a name plate giving details of power rating of the gearbox. Gearbox will withstand momentarily overload. The reference number of the gearbox given on nameplate is required whenever any communication is to be made.

## DELIVERY

The gearboxes are delivered ready for operation but without oil filling.

Shaft extension and hollow output shafts are protected with a rust inhibitor. Before putting the gearbox into service, it should be filled in with recommended lubricating oil.

## OPERATIONAL INSTRUCTION/MANUAL

In order to get optimum performance, please follow operational manual for respective type of gearbox, supplied along with the gearbox.

### AGNEE TRANSMISSIONS (INDIA) PRIVATE LIMITED

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Alternative Email : [agneetransmissions@hotmail.com](mailto:agneetransmissions@hotmail.com)

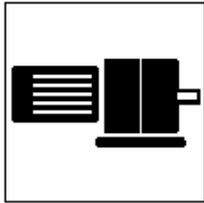
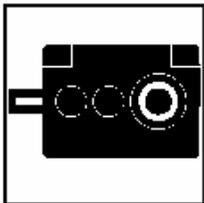
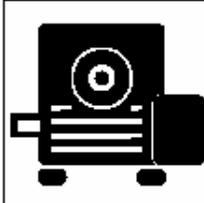
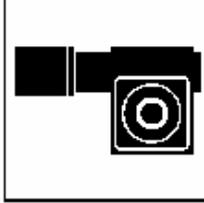
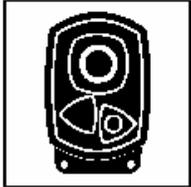
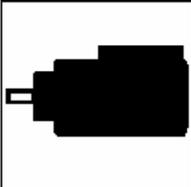
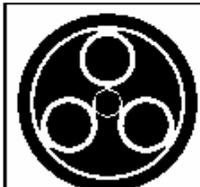
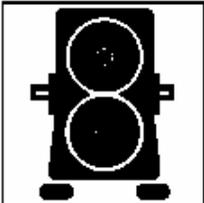
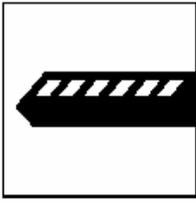
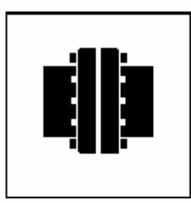
Website : [www.agneetransmissions.com](http://www.agneetransmissions.com)

Dealer / Local Representative



# AGNEE CRANE DUTY HELICAL GEAR BOX



|   |   |   |   |
|---|---|---|---|
| AGRICULTURE   | AUTOMOTIVE  | CEMENT  |   |
| CHEMICAL  | CONSTRUCTION  | DEFENCE   |   |
| ENERGY  | FOOD & BEVERAGE   | FORESTRY  |   |
| MARINE  | METALS  | MINING  |   |
| PULP & PAPER  | QUARRYING   | RUBBER & PLASTICS   |   |
| TEXTILES  | TRANSPORTATION  | WATER   |   |
| DREDGING  | SUGAR MILLS   | STONE PROCESSING  |   |
|    |    |    |    |
| Geared Motors   | Industrial Reducers   | Worm  | Precision Products  |
|   |   |   |   |
| Shaft mount   | Horizontal Mill Drives  | Vertical Mill Drives  | Planetary units   |
|  |  |  |  |
| Special Drives  | Defence Systems   | Rail  | Couplings   |



# AGNEE CRANE DUTY HELICAL GEAR BOX



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