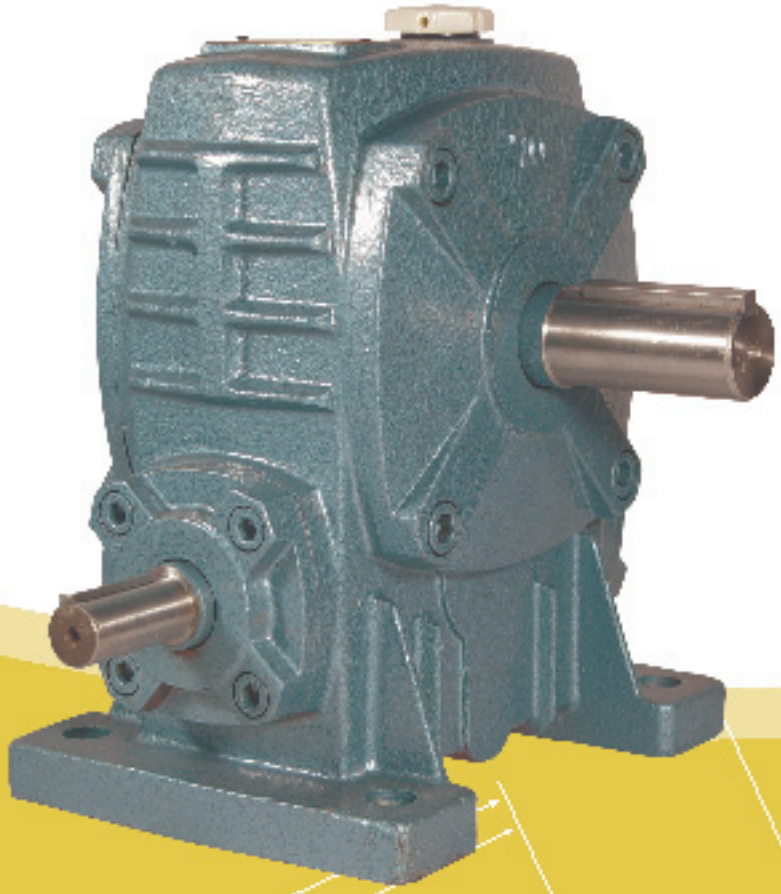
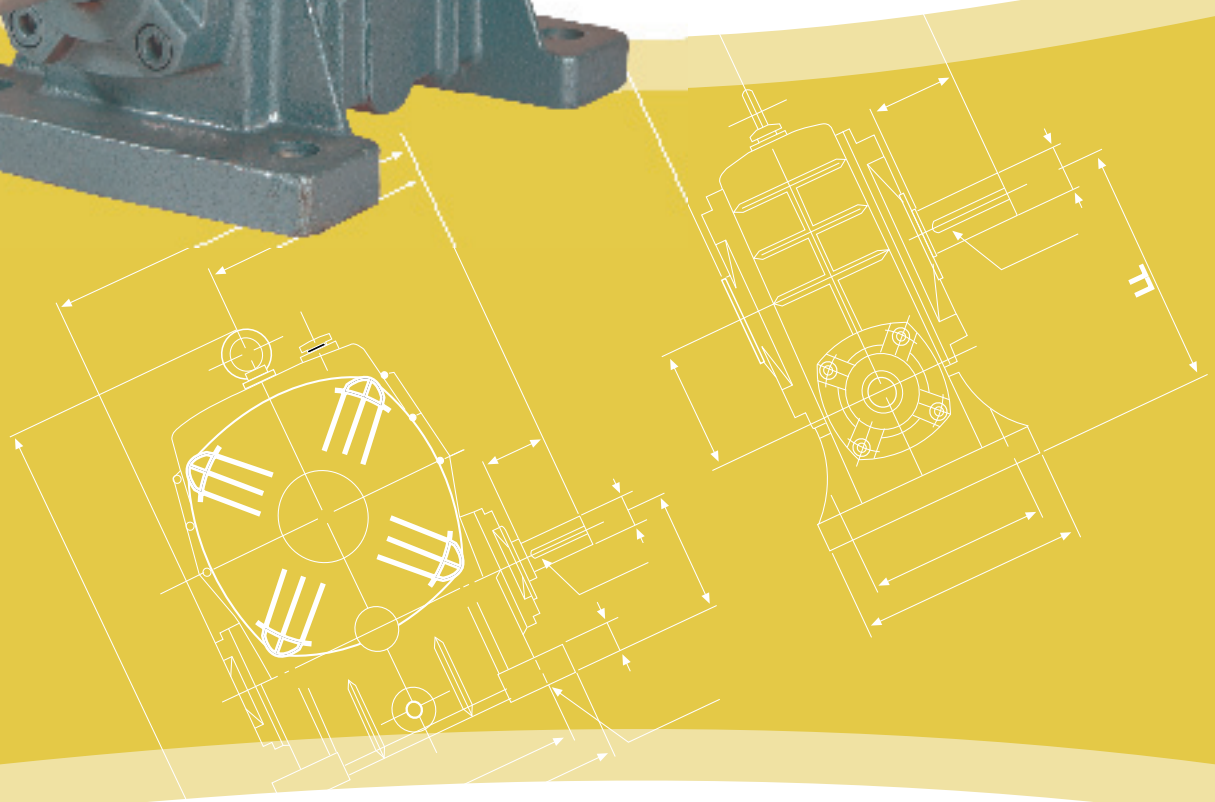
# REVCO
WORM REDUCER

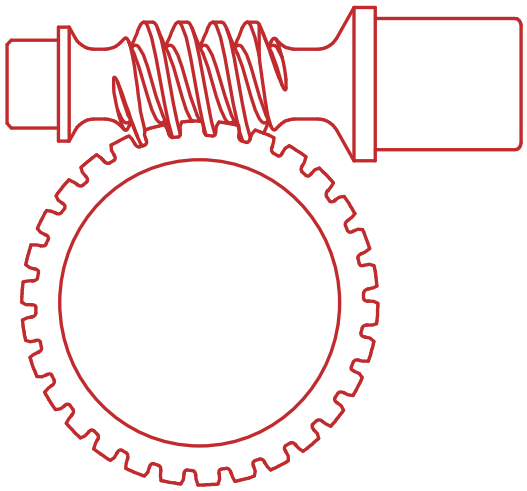
# WGM
WORM REDUCER

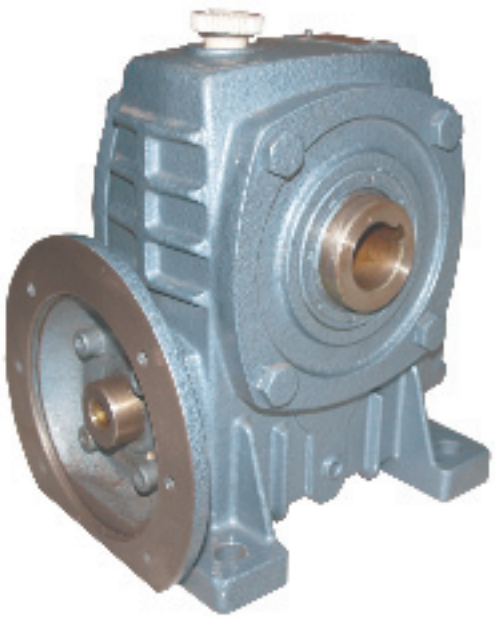
# G3
MINI HELICAL GEAR





## *Transmission Solution*

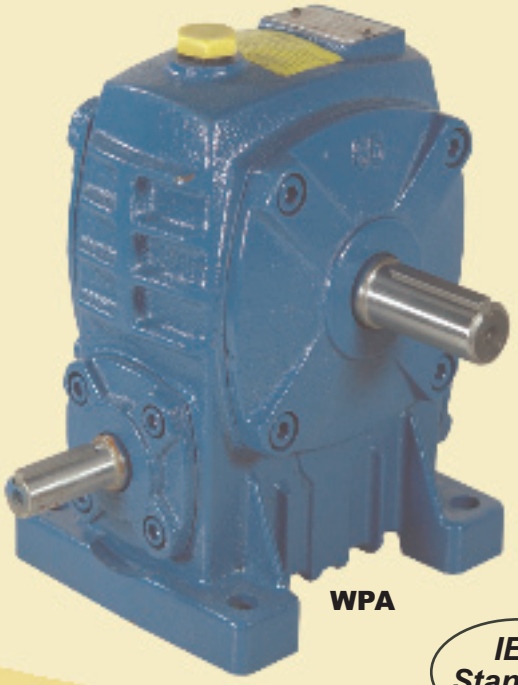




# Products Guide

## Single Reducer
## Ratio 1/5 ~ 1/60

## Double Reducer
## Ratio 1/80 ~ 1/3600



WPA

IEC Standard

NEMA Standard

EFF 2

WPS

WPX

WPO

WPDA

WPDX

WPDO

WPDS

WPW

WPWA

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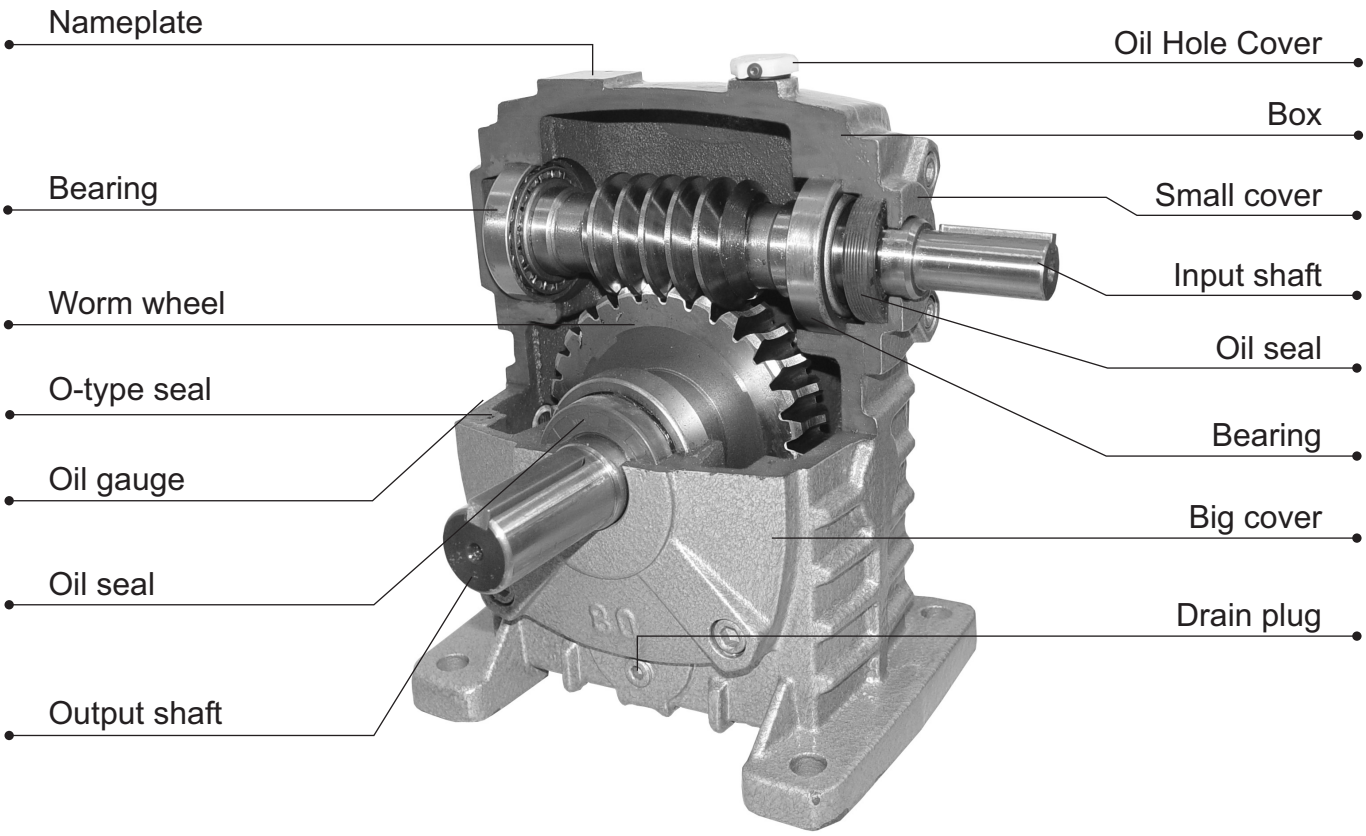
## *WP Worm Gear Reducer*



## *G3 Mini Helical Gear*

## 1. Product structure




## 2. Model Instructions

| W | P | D | K | S | - | 60 | - | 1/30 | - | B |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | | 6 | | 7 | | 8 |

**W =** Universal Code (1)

**P =** Box Structure (2)

**D =** Flange (3)

**K =** Output Shaft (4)

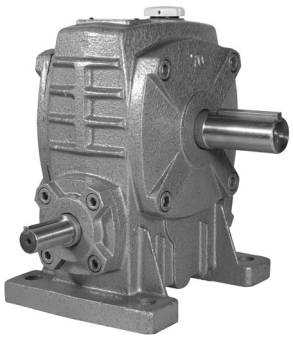
**S =** Upper Input Shaft (5)

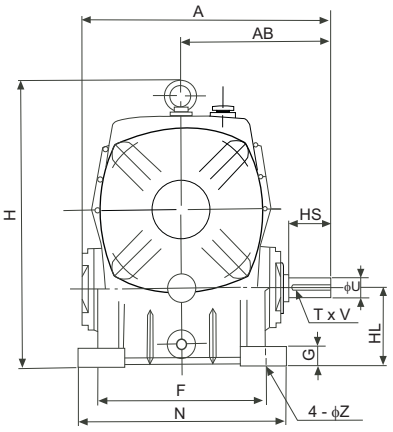
**60 =** Size & Central Distance (6)

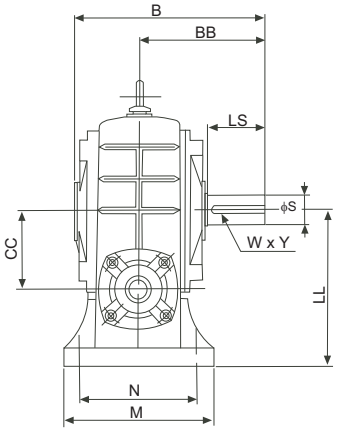
**1/30 =** Reduction Ratio (7)

**B =** Shaft Direction (8)

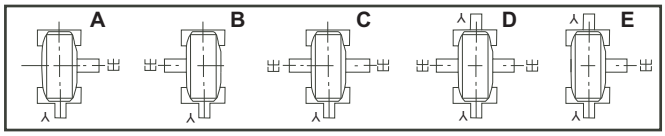
## WPA





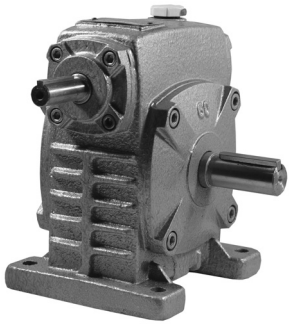



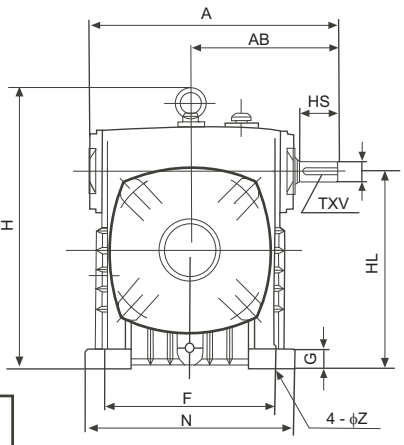

**WPA**
Shaft Direction

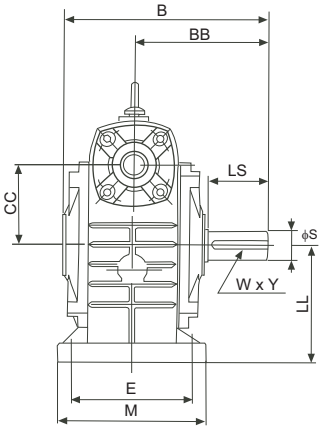



| Size | Ratio | A | AB | B | BB | CC | E | F | H | HL | LL | M | N | G | Z | Input Shaft | | | Output Shaft | | | kg | I |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | HS | U | T X V | LS | S | W X Y | | |
| **40** | | 142 | 85 | 112 | 74 | 40 | 70 | 80 | 135 | 40 | 80 | 90 | 100 | 12 | 10 | 25 | 12 | 4 x 2.5 | 28 | 14 | 5 x 3 | 3. 8 | |
| **50** | | 175 | 105 | 145 | 95 | 50 | 95 | 110 | 180 | 50 | 100 | 120 | 140 | 15 | 11 | 30 | 12 | 4 x 2.5 | 40 | 17 | 5 x 3 | 7 | 0.17 |
| **60** | | 195 | 120 | 165 | 110 | 60 | 105 | 120 | 210 | 60 | 120 | 130 | 150 | 20 | 11 | 40 | 15 | 5 x 3 | 50 | 22 | 7 x 4 | 10. 5 | 0. 23 |
| **70** | 1/10 | 234 | 140 | 195 | 130 | 70 | 115 | 150 | 243 | 70 | 140 | 150 | 190 | 20 | 15 | 40 | 18 | 5 x 3 | 60 | 28 | 7 x 4 | 14.5 | 0.5 |
| **80** | 1/20 | 264 | 160 | 210 | 140 | 80 | 135 | 180 | 273 | 80 | 160 | 170 | 220 | 20 | 15 | 50 | 22 | 7 x 4 | 65 | 32 | 10 x 4.5 | 22 | 0.7 |
| **100** | 1/30 | 322 | 190 | 260 | 170 | 100 | 155 | 220 | 340 | 100 | 200 | 190 | 270 | 25 | 15 | 50 | 25 | 7 x 4 | 75 | 38 | 10 x 4.5 | 36 | 1.6 |
| **120** | 1/40 | 385 | 230 | 290 | 190 | 120 | 180 | 260 | 405 | 120 | 240 | 230 | 320 | 30 | 18 | 65 | 30 | 7 x 4 | 85 | 45 | 12 x 4.5 | 63 | 3.0 |
| **135** | 1/50 | 435 | 260 | 320 | 210 | 135 | 200 | 290 | 455 | 135 | 270 | 250 | 350 | 30 | 18 | 75 | 35 | 10 x 4.5 | 95 | 55 | 15 x 5 | 80 | 3.5 |
| **155** | 1/60 | 507 | 302 | 387 | 252 | 155 | 220 | 320 | 490 | 135 | 290 | 280 | 390 | 38 | 20 | 85 | 40 | 10 x 4.5 | 110 | 60 | 15 x 5 | 114 | 3.6 |
| **175** | | 550 | 325 | 407 | 262 | 175 | 250 | 350 | 565 | 160 | 335 | 310 | 430 | 40 | 20 | 85 | 45 | 12 x 4.5 | 110 | 65 | 18 x 6 | 150 | 4.5 |
| **200** | | 670 | 350 | 480 | 305 | 200 | 290 | 390 | 625 | 175 | 375 | 360 | 480 | 42 | 22 | 95 | 50 | 12 x 4.5 | 125 | 70 | 20 x 7 | 218 | 6.4 |
| **250** | | 810 | 420 | 560 | 360 | 250 | 380 | 480 | 730 | 200 | 450 | 460 | 560 | 42 | 27 | 110 | 60 | 15 x 5 | 155 | 90 | 24 x 8 | 363 | 8.5 |

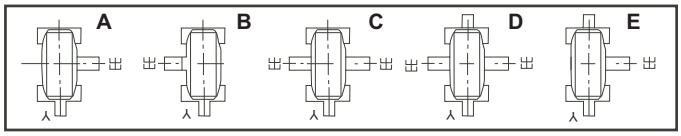
## WPS





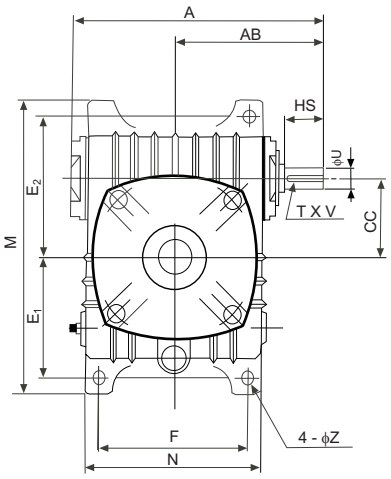

**WPS**
Shaft Direction

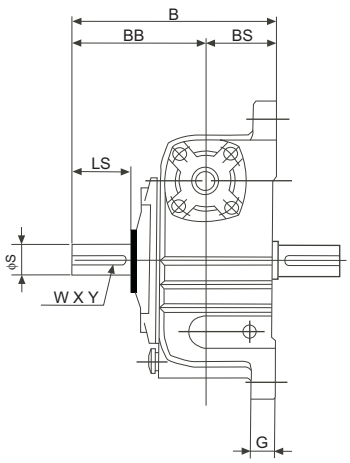



| Size | Ratio | A | AB | B | BB | CC | E | F | H | HL | LL | M | N | G | Z | Input Shaft | | | Output Shaft | | | kg | I |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | HS | U | T X V | LS | S | W X Y | | |
| **40** | | 142 | 85 | 112 | 74 | 40 | 70 | 80 | 135 | 100 | 60 | 90 | 100 | 12 | 10 | 25 | 12 | 4 x 2.5 | 28 | 14 | 5 x 3 | 3. 8 | |
| **50** | | 175 | 105 | 145 | 95 | 50 | 95 | 110 | 180 | 130 | 80 | 120 | 140 | 18 | 11 | 30 | 12 | 4 x 2.5 | 40 | 17 | 5 x 3 | 7 | 0. 4 |
| **60** | | 195 | 120 | 165 | 110 | 60 | 105 | 120 | 205 | 150 | 90 | 130 | 150 | 20 | 11 | 40 | 15 | 5 x 3 | 50 | 22 | 7 x 4 | 10.5 | 0.5 |
| **70** | 1/10 | 234 | 140 | 195 | 130 | 70 | 115 | 150 | 235 | 175 | 105 | 150 | 190 | 25 | 15 | 40 | 18 | 5 x 3 | 60 | 28 | 7 x 4 | 14.5 | 0.7 |
| **80** | 1/20 | 264 | 160 | 210 | 140 | 80 | 135 | 180 | 265 | 200 | 120 | 170 | 220 | 25 | 15 | 50 | 22 | 7 x 4 | 65 | 32 | 10 x 4.5 | 22 | 1.1 |
| **100** | 1/30 | 322 | 190 | 260 | 170 | 100 | 155 | 220 | 327 | 250 | 150 | 190 | 270 | 25 | 15 | 50 | 25 | 7 x 4 | 75 | 38 | 10 x 4.5 | 36 | 2.3 |
| **120** | 1/40 | 385 | 230 | 290 | 190 | 120 | 180 | 260 | 388 | 300 | 180 | 230 | 320 | 30 | 18 | 65 | 30 | 7 x 4 | 85 | 45 | 12 x 4.5 | 63 | 4.5 |
| **135** | 1/50 | 435 | 260 | 320 | 210 | 135 | 200 | 290 | 445 | 350 | 215 | 250 | 350 | 30 | 18 | 75 | 35 | 10 x 4.5 | 95 | 55 | 15 x 5 | 80 | 6.0 |
| **155** | 1/60 | 507 | 302 | 387 | 252 | 155 | 220 | 320 | 483 | 390 | 235 | 280 | 390 | 38 | 20 | 85 | 40 | 10 x 4.5 | 110 | 60 | 15 x 5 | 114 | 6.2 |
| **175** | | 550 | 325 | 407 | 262 | 175 | 250 | 350 | 540 | 435 | 260 | 310 | 430 | 40 | 20 | 85 | 45 | 12 x 4.5 | 110 | 65 | 18 x 6 | 150 | 8.0 |
| **200** | | 670 | 350 | 480 | 305 | 200 | 290 | 390 | 610 | 490 | 290 | 360 | 480 | 42 | 22 | 95 | 50 | 12 x 4.5 | 125 | 70 | 20 x 7 | 218 | 9. 0 |
| **250** | | 810 | 420 | 560 | 360 | 250 | 380 | 480 | 755 | 600 | 350 | 460 | 560 | 48 | 27 | 110 | 60 | 15 x 5 | 155 | 90 | 24 x 8 | 363 | 17.0 |

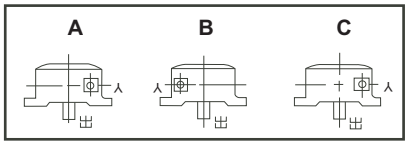
## WPX

## WPO

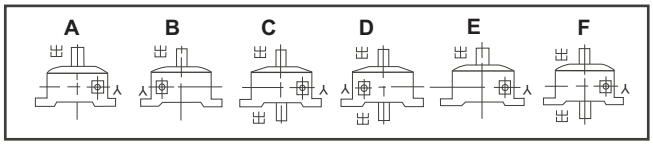



## WPX
Shaft Direction

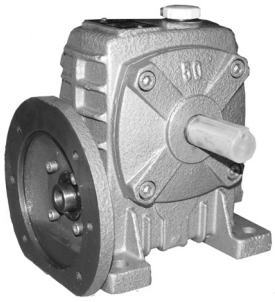


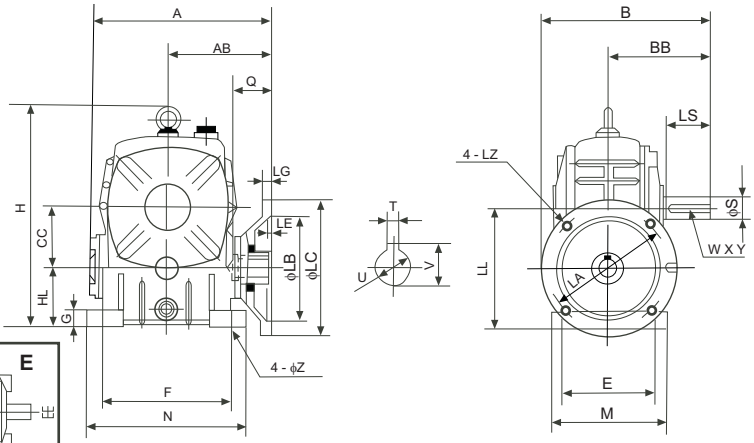

## WPO
Shaft Direction



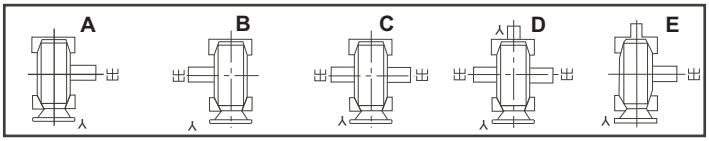

| Size | Ratio | A | AB | B | BB | BC | CC | E1 | E2 | F | M | N | G | Z | Input Shaft | | | Output Shaft | | | kg | I |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | HS | U | T X V | LS | S | W X Y | | |
| **50** | | 175 | 105 | 145 | 95 | 50 | 50 | 93 | 102 | 90 | 220 | 116 | 14 | 11 | 30 | 12 | 4 x 2.5 | 40 | 17 | 5 x 3 | 6.5 | 0.5 |
| **60** | | 195 | 120 | 165 | 110 | 55 | 60 | 105 | 120 | 100 | 260 | 126 | 15 | 11 | 40 | 15 | 5 x 3 | 50 | 22 | 7 x 4 | 9 | 0.6 |
| **70** | 1/10 | 234 | 140 | 195 | 130 | 65 | 70 | 120 | 135 | 120 | 295 | 156 | 20 | 15 | 40 | 18 | 5 x 3 | 60 | 28 | 7 x 4 | 14 | 1.1 |
| **80** | 1/20 | 264 | 160 | 210 | 140 | 70 | 80 | 130 | 150 | 140 | 320 | 176 | 20 | 15 | 50 | 22 | 7 x 4 | 65 | 32 | 10 x 4.5 | 21 | 1.44 |
| **100** | 1/30 | 322 | 190 | 260 | 170 | 90 | 100 | 155 | 180 | 190 | 375 | 226 | 30 | 15 | 50 | 25 | 7 x 4 | 75 | 38 | 10 x 4.5 | 33 | 3.0 |
| **120** | 1/40 | 385 | 230 | 290 | 190 | 100 | 120 | 185 | 215 | 220 | 450 | 266 | 30 | 18 | 65 | 30 | 7 x 4 | 85 | 45 | 12 x 4.5 | 51 | 5.1 |
| **135** | 1/50 | 435 | 260 | 320 | 210 | 110 | 135 | 210 | 235 | 260 | 495 | 306 | 35 | 18 | 75 | 35 | 10 x 4.5 | 95 | 55 | 15 x 5 | 75 | 7.2 |
| **155** | 1/60 | 507 | 302 | 392 | 252 | 140 | 155 | 245 | 295 | 290 | 590 | 350 | 45 | 20 | 85 | 40 | 10 x 4.5 | 110 | 60 | 15 x 5 | 115 | 9.0 |
| **175** | | 550 | 325 | 412 | 262 | 150 | 175 | 267 | 323 | 320 | 640 | 394 | 45 | 20 | 85 | 45 | 12 x 4.5 | 110 | 65 | 18 x 6 | 143 | 10 |
| **200** | | 590 | 350 | 480 | 305 | 175 | 200 | 290 | 360 | 370 | 710 | 440 | 42 | 22 | 95 | 50 | 12 x 4.5 | 125 | 70 | 20 x 7 | 200 | 12 |
| **250** | | 710 | 420 | 560 | 360 | 200 | 250 | 350 | 440 | 440 | 860 | 510 | 46 | 27 | 110 | 60 | 15 x 5 | 155 | 90 | 24 x 8 | 345 | 22 |

## WPDA



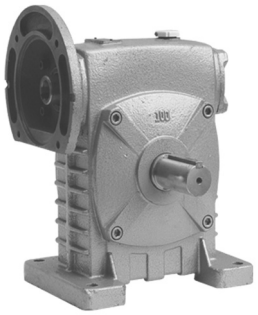


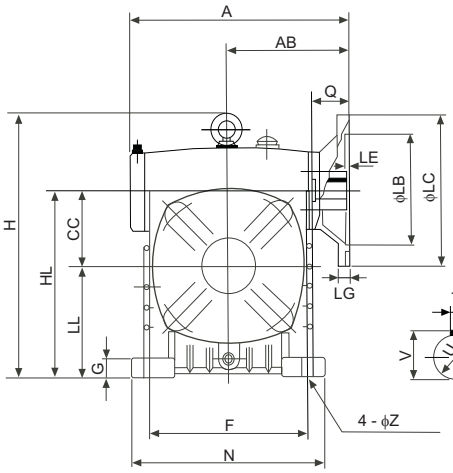

## WPDA
Shaft Direction

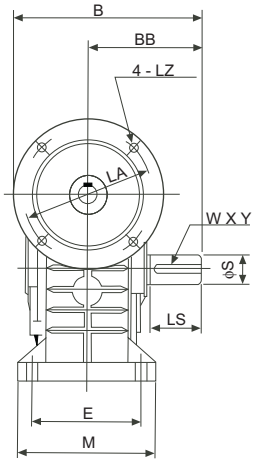



| Size | kw | Ratio | A | AB | B | BB | CC | E | F | G | H | HL | LL | M | N | Z | Flange | | | | | | Input Hole | | | Output Shaft | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | LA | LB | LC | LE | LG | LZ | Q | U | T X V | LS | S | W X Y | |
| **50** | 0.18 | | 165 | 95 | 175 | 95 | 50 | 95 | 110 | 15 | 180 | 50 | 100 | 120 | 140 | 11 | 115 | 95 | 140 | 5 | 10 | M8 | 25 | 11 | 4 x 12.5 | 40 | 17 | 5 x 3 | 7 |
| **60** | 0.37 | | 185 | 105 | 190 | 110 | 60 | 105 | 120 | 20 | 205 | 60 | 120 | 130 | 150 | 11 | 130 | 110 | 160 | 5 | 12 | M8 | 35 | 14 | 5 x 16.3 | 50 | 22 | 7 x 4 | 11 |
| **70** | 0.37 | | 209 | 115 | 210 | 130 | 70 | 115 | 150 | 20 | 235 | 70 | 140 | 150 | 190 | 15 | 130 | 110 | 160 | | 12 | M8 | 35 | 14 | 5 x 16.3 | 60 | 28 | 7 x 4 | 15 |
| | 0.75 | 1/10 | | | 230 | | | | | | | | | | | | 165 | 130 | 200 | 5 | 15 | M10 | 45 | 19 | 6 x 21.8 | | | | |
| **80** | 0.75 | 1/20 | 242 | 135 | 240 | 140 | 80 | 135 | 180 | 20 | 265 | 80 | 160 | 170 | 220 | 15 | 165 | 130 | 200 | 5 | 15 | M10 | 45 | 19 | 6 x 21.8 | 65 | 32 | 10 x 4.5 | 23 |
| | 1.5 | 1/30 | | | | | | | | | | | | | | | | | | | | | 55 | 24 | 8 x 27.3 | | | | |
| **100** | 1.5 | 1/40 | 310 | 175 | 270 | 170 | 100 | 155 | 220 | 25 | 363 | 100 | 200 | 190 | 270 | 15 | 165 | 130 | 200 | 5 | 15 | M10 | 55 | 24 | 8 x 27.3 | 75 | 38 | 10 x 4.5 | 38 |
| **120** | 2.2 | 1/50 | 361 | 205 | 315 | 190 | 120 | 180 | 260 | 30 | 424 | 120 | 240 | 230 | 320 | 18 | 215 | 180 | 250 | 5 | 18 | M12 | 65 | 28 | 8 x 31.3 | 85 | 45 | 12 x 4.5 | 65 |
| | 3.0 | 1/60 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **135** | 3.0 | | 412 | 235 | 335 | 210 | 135 | 200 | 290 | 30 | 481 | 135 | 270 | 250 | 350 | 18 | 215 | 180 | 250 | 5 | 18 | M12 | 65 | 28 | 8 x 31. 3 | 95 | 55 | 15 x 5 | 84 |
| | 4.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **155** | 5.5 | | 442 | 250 | 402 | 252 | 155 | 220 | 320 | 32 | 536 | 135 | 290 | 280 | 380 | 20 | 265 | 230 | 300 | 5 | 22 | M12 | 85 | 38 | 10 x 41.3 | 110 | 60 | 15 x 5 | 120 |

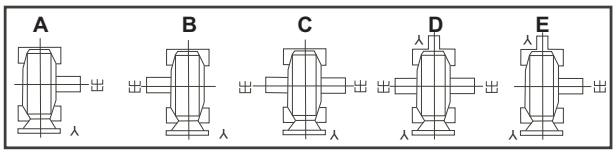
## WPDS





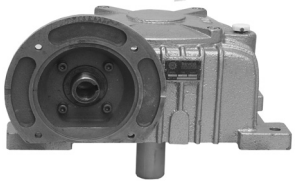




### WPDS
Shaft Direction

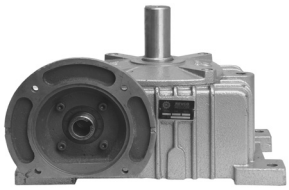


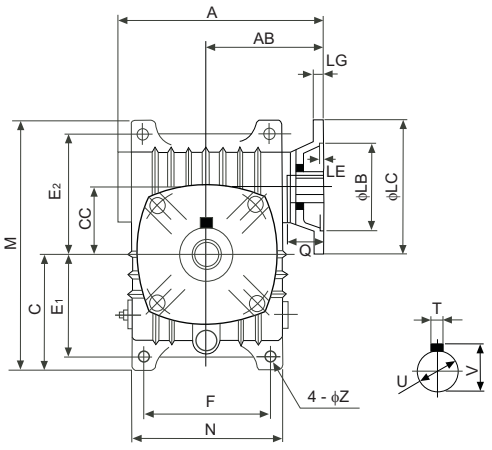

| Size | Kw | Ratio | A | AB | B | BB | CC | E | F | G | H | HL | LL | M | N | Z | Input Flange | | | | | | Input Hole | | | Output Shaft | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | LA | LB | LC | LE | LG | LZ | Q | U | TXV | LS | S | WXY | |
| **50** | 0.18 | | 165 | 95 | 175 | 95 | 50 | 95 | 110 | 15 | 180 | 130 | 80 | 120 | 140 | 11 | 115 | 95 | 140 | 5 | 10 | M8 | 25 | 11 | 4 x 12.5 | 40 | 17 | 5 x 3 | 7 |
| **60** | 0.37 | | 185 | 105 | 190 | 110 | 60 | 105 | 120 | 20 | 205 | 150 | 90 | 130 | 150 | 11 | 130 | 110 | 160 | 5 | 12 | M8 | 35 | 14 | 5 x 16.3 | 50 | 22 | 7 x 4 | 11 |
| **70** | 0.37 | | 209 | 115 | 210 | 130 | 70 | 115 | 150 | 20 | 235 | 175 | 105 | 150 | 190 | 15 | 130 | 110 | 160 | 5 | 12 | M8 | 35 | 14 | 5 x 16.3 | 60 | 28 | 7 x 4 | 14 |
| | 0.75 | 1/10 | | | 230 | | | | | | | | | | | | 165 | 130 | 200 | | 15 | M10 | 45 | 19 | 6 x 21.8 | | | | |
| **80** | 0.75 | 1/20 | 242 | 135 | 240 | 140 | 80 | 135 | 180 | 20 | 265 | 200 | 120 | 170 | 220 | 15 | 165 | 130 | 200 | 5 | 15 | M10 | 45 | 19 | 6 x 21.8 | 65 | 32 | 10 x 4.5 | 23 |
| | 1.5 | 1/30 | | | | | | | | | | | | | | | | | | | | | 55 | 24 | 8 x 27.3 | | | | |
| **100** | 1.5 | 1/40 | 310 | 175 | 270 | 170 | 100 | 155 | 220 | 25 | 363 | 250 | 150 | 190 | 270 | 15 | 165 | 130 | 200 | 5 | 15 | M10 | 55 | 24 | 8 x 27.3 | 75 | 38 | 10 x 4.5 | 38 |
| **120** | 2.2 | 1/50 | 361 | 205 | 315 | 190 | 120 | 180 | 260 | 30 | 424 | 300 | 180 | 230 | 320 | 18 | 215 | 180 | 250 | 5 | 18 | M12 | 65 | 28 | 8 x 31.3 | 85 | 45 | 12 x 4.5 | 65 |
| | 3.0 | 1/60 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **135** | 3. 0 | | 412 | 235 | 335 | 210 | 135 | 200 | 290 | 30 | 481 | 350 | 215 | 250 | 350 | 18 | 215 | 180 | 250 | 5 | 18 | M12 | 65 | 28 | 8 x 31.3 | 95 | 55 | 15 x 5 | 84 |
| | 4. 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **155** | 5 5 | | 442 | 250 | 402 | 252 | 155 | 220 | 320 | 32 | 536 | 390 | 235 | 280 | 380 | 20 | 265 | 230 | 300 | 5 | 22 | M12 | 85 | 38 | 10 x 41.3 | 110 | 60 | 15 x 5 | 120 |

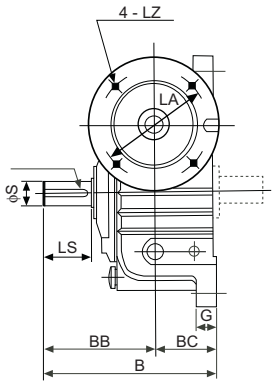
## WPDX



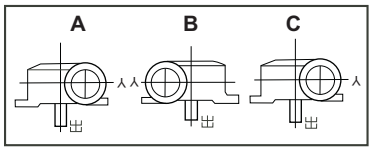
## WPDO



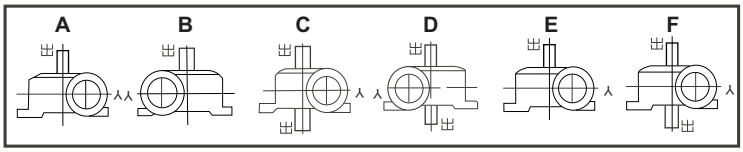



### WPDX
Shaft Direction

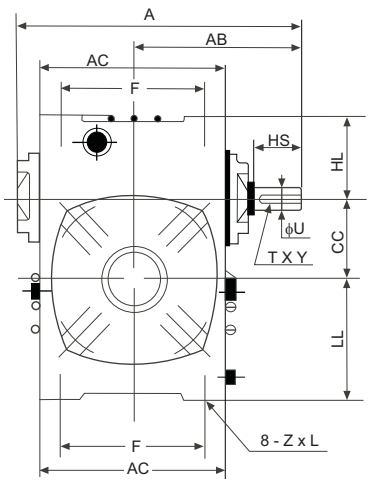


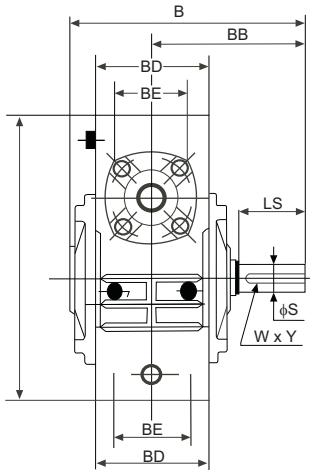

### WPDO
Shaft Direction




| Size | kw | Ratio | A | AB | B | BB | BC | C | CC | $E_1$ | $E_2$ | F | G | M | N | Z | Input Flange | | | | | | Input-Hole | | | Output Shaft | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | LA | LB | LC | LE | LG | LZ | Q | U | T X V | LS | S | WXY | |
| **50** | 0.18 | | 165 | 95 | 145 | 95 | 50 | 106 | 50 | 93 | 102 | 90 | 14 | 220 | 116 | 11 | 115 | 95 | 140 | 5 | 10 | M8 | 25 | 11 | 4 x 12.5 | 40 | 17 | 5 x 3 | 7 |
| **60** | 0.37 | | 185 | 105 | 165 | 110 | 55 | 123 | 60 | 105 | 120 | 100 | 15 | 260 | 126 | 11 | 130 | 110 | 160 | 5 | 12 | M8 | 35 | 14 | 5 x 16.3 | 50 | 22 | 7 x 4 | 10 |
| **70** | 0.37 | | 209 | 115 | 195 | 130 | 65 | 140 | 70 | 120 | 135 | 120 | 20 | 295 | 156 | 15 | 130 | 110 | 160 | 5 | 12 | M8 | 35 | 14 | 5 x 16.3 | 60 | 28 | 7 x 4 | 15 |
| | 0.75 | 1/10 | | | | | | | | | | | | | | | 165 | 130 | 200 | | 15 | M10 | 45 | 19 | 6 x 21.8 | | | | |
| **80** | 0.75 | 1/20 | 242 | 135 | 210 | 140 | 70 | 150 | 80 | 130 | 150 | 140 | 20 | 320 | 176 | 15 | 165 | 130 | 200 | 5 | 15 | M10 | 45 | 19 | 6 x 21.8 | 65 | 32 | 10 x 4.5 | 23 |
| | 1.5 | 1/30 | | | | | | | | | | | | | | | | | | | | | 55 | 24 | 8 x 27.3 | | | | |
| **100** | 1. 5 | 1/40 | 310 | 175 | 260 | 170 | 90 | 175 | 100 | 155 | 180 | 190 | 30 | 375 | 226 | 15 | 165 | 130 | 200 | 5 | 15 | M10 | 55 | 24 | 8 x 27.3 | 75 | 38 | 10 x 4.5 | 36 |
| **120** | 2.2 | 1/50 | 361 | 205 | 290 | 190 | 100 | 210 | 120 | 185 | 215 | 220 | 30 | 450 | 266 | 18 | 215 | 180 | 250 | 5 | 18 | M12 | 65 | 28 | 8 x 31.3 | 85 | 45 | 12 x 4.5 | 55 |
| | 3.0 | 1/60 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **135** | 3. 0 | | 412 | 235 | 320 | 210 | 110 | 235 | 135 | 210 | 235 | 260 | 35 | 495 | 306 | 18 | 215 | 180 | 250 | 5 | 18 | M12 | 65 | 28 | 8 x 31.3 | 95 | 55 | 15 x 5 | 80 |
| | 4.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

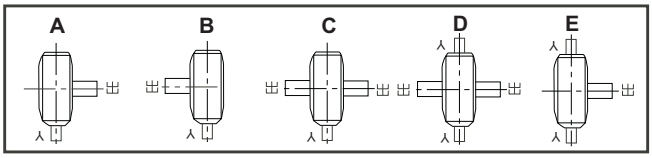
## WPW




**WPW**
Shaft Direction

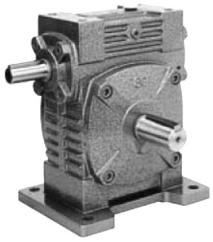
***Input Shaft is upper output shaft***

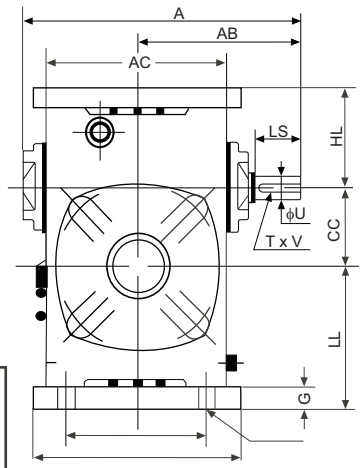


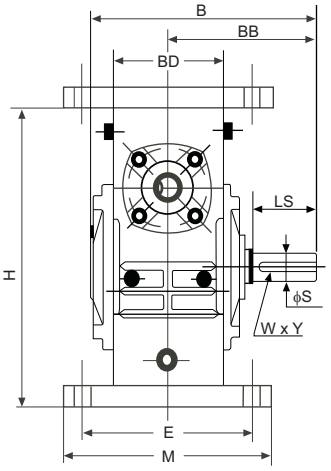

| Size | Ratio | A | AB | AC | B | BB | BD | BE | CC | F | H | HL | LL | Z XL | Input Shaft | | | Output Shaft | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | HS | U | T X V | LS | S | W X Y | |
| **40** | | 148 | 91 | 96 | 122 | 78 | 60 | 42 | 40 | 78 | 125 | 35 | 50 | M6 x 15 | 25 | 12 | 4 x 2.5 | 28 | 14 | 5 x 3 | 3.5 |
| **50** | | 175 | 105 | 115 | 145 | 95 | 70 | 50 | 50 | 85 | 150 | 35 | 65 | M6 x 18 | 30 | 12 | 4 x 2.5 | 40 | 17 | 5 x 3 | 6.0 |
| **60** | 1/10 | 195 | 120 | 126 | 165 | 110 | 80 | 55 | 60 | 105 | 177 | 42 | 75 | M8 x 20 | 40 | 15 | 5 x 3 | 50 | 22 | 7 x 4 | 8.5 |
| **70** | 1/20 | 234 | 140 | 155 | 195 | 130 | 90 | 65 | 70 | 125 | 215 | 55 | 90 | M10 x 25 | 40 | 18 | 5 x 3 | 60 | 28 | 7 x 4 | 12.5 |
| **80** | 1/30 | 264 | 160 | 174 | 210 | 140 | 100 | 70 | 80 | 140 | 250 | 65 | 105 | M12 x 28 | 50 | 22 | 7 x 4 | 65 | 32 | 10 x 4.5 | 20 |
| **100** | 1/40 | 322 | 190 | 224 | 260 | 170 | 120 | 90 | 100 | 180 | 310 | 80 | 130 | M12 x 30 | 50 | 25 | 7 x 4 | 75 | 38 | 10 x 4.5 | 33 |
| **120** | 1/50 | 385 | 230 | 264 | 290 | 190 | 140 | 100 | 120 | 220 | 370 | 95 | 155 | M14 x 32 | 65 | 30 | 7 x 4 | 85 | 45 | 12 x 4.5 | 50 |
| **135** | 1/60 | 435 | 260 | 304 | 320 | 210 | 150 | 110 | 135 | 260 | 425 | 105 | 185 | M16 x 35 | 75 | 35 | 10 x 4.5 | 95 | 55 | 15 x 5 | 77 |
| **155** | | 494 | 302 | 330 | 387 | 252 | 160 | 120 | 155 | 280 | 461 | 103 | 203 | M16 x 35 | 85 | 40 | 10 x 4.5 | 110 | 60 | 15 x 5 | 100 |
| **175** | | 548 | 325 | 370 | 407 | 262 | 186 | 140 | 175 | 320 | 521 | 123 | 223 | M16 x 35 | 85 | 45 | 12 x 4.5 | 110 | 65 | 18 x 6 | 140 |
| **200** | | 688 | 350 | 420 | 480 | 305 | 200 | 150 | 200 | 360 | 575 | 130 | 245 | M18 x 35 | 95 | 50 | 12 x 4.5 | 125 | 70 | 20 x 7 | 200 |

## WPWA

## WPWS

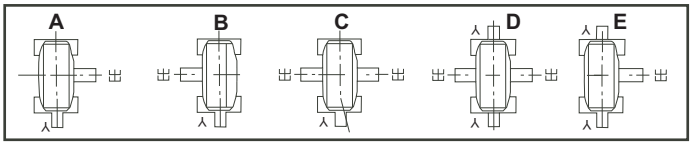





**WPWA**
Shaft Direction

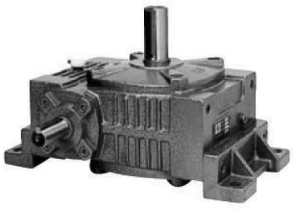
**WPWS**
Shaft Direction

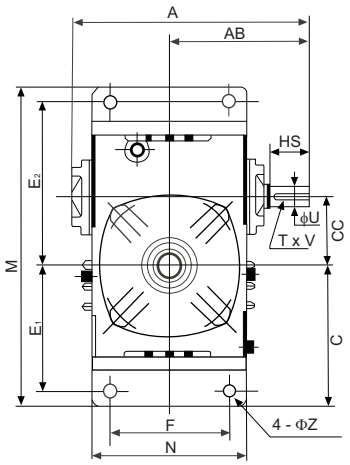


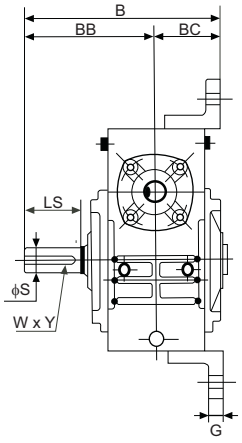

| Size | Ratio | A | AB | AC | B | BB | BD | CC | E | F | H | HL | LL | M | N | G | Z | Input Shaft | | | Output Shaft | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | HS | U | T X V | LS | S | W X Y | |
| **40** | | 148 | 91 | 96 | 122 | 78 | 60 | 40 | 80 | 110 | 135 | 45 | 60 | 100 | 130 | 10 | 9 | 25 | 12 | 4 x 2.5 | 28 | 14 | 5 x 3 | 4 |
| **50** | | 175 | 105 | 115 | 145 | 95 | 70 | 50 | 95 | 110 | 165 | 50 | 80 | 120 | 140 | 15 | 11 | 30 | 12 | 4 x 2.5 | 40 | 17 | 5 x 3 | 7 |
| **60** | 1/10 | 195 | 120 | 126 | 165 | 110 | 80 | 60 | 105 | 120 | 195 | 60 | 93 | 130 | 150 | 18 | 11 | 40 | 15 | 5 x 3 | 50 | 22 | 7 x 4 | 11 |
| **70** | 1/20 | 234 | 140 | 155 | 195 | 130 | 90 | 70 | 115 | 150 | 233 | 70 | 105 | 150 | 190 | 18 | 15 | 40 | 18 | 5 x 3 | 60 | 28 | 7 x 4 | 15 |
| **80** | 1/30 | 264 | 160 | 174 | 210 | 140 | 100 | 80 | 135 | 180 | 268 | 80 | 120 | 170 | 220 | 18 | 15 | 50 | 22 | 7 x 4 | 65 | 32 | 10 x 4.5 | 23 |
| **100** | 1/40 | 322 | 190 | 224 | 260 | 170 | 120 | 100 | 155 | 220 | 330 | 100 | 150 | 190 | 270 | 20 | 15 | 50 | 25 | 7 x 4 | 75 | 38 | 10 x 4.5 | 38 |
| **120** | 1/50 | 385 | 230 | 264 | 290 | 190 | 140 | 120 | 180 | 260 | 395 | 120 | 180 | 230 | 320 | 25 | 18 | 65 | 30 | 7 x 4 | 85 | 45 | 12 x 4.5 | 65 |
| **135** | 1/60 | 435 | 260 | 304 | 320 | 210 | 150 | 135 | 200 | 290 | 455 | 135 | 215 | 250 | 350 | 30 | 18 | 75 | 35 | 10 x 4.5 | 95 | 55 | 15 x 5 | 84 |
| **155** | | 494 | 302 | 330 | 387 | 252 | 160 | 155 | 220 | 320 | 493 | 135 | 203 | 280 | 380 | 32 | 20 | 85 | 40 | 10 x 4.5 | 110 | 60 | 15 x 5 | 114 |
| **175** | | 548 | 325 | 370 | 407 | 262 | 186 | 175 | 250 | 350 | 558 | 160 | 223 | 310 | 410 | 37 | 20 | 85 | 45 | 12 x 4.5 | 110 | 65 | 18 x 6 | 150 |
| **200** | | 688 | 350 | 420 | 480 | 305 | 200 | 200 | 290 | 350 | 620 | 175 | 245 | 360 | 435 | 45 | 22 | 95 | 50 | 12 x 4.5 | 125 | 70 | 20 x 7 | 218 |

## WPWX

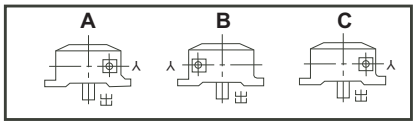
## WPWO



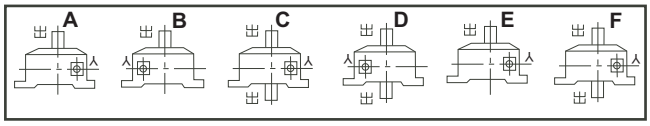



## WPWX
Shaft Direction

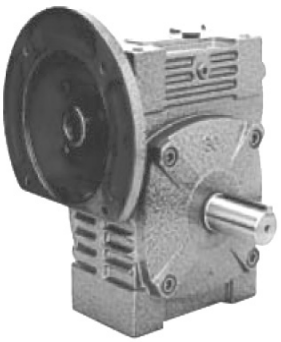


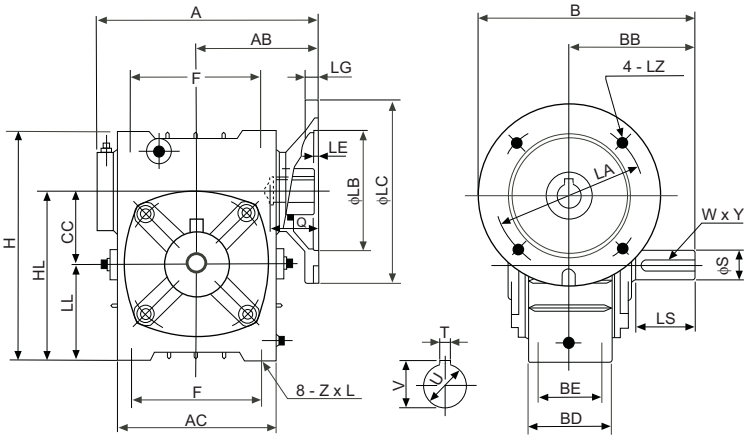

## WPWO
Shaft Direction



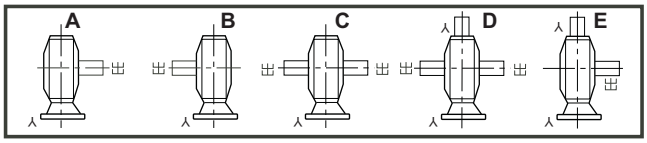

| Size | Ratio | A | AB | B | BB | BC | C | CC | $E_1$ | $E_2$ | F | M | N | G | Z | Input Shaft | | | Output Shaft | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | HS | U | T x V | LS | S | W x Y | |
| **40** | | 148 | 91 | 123 | 78 | 45 | 85 | 40 | 72 | 97 | 70 | 195 | 96 | 10 | 9 | 25 | 12 | 4 x 2.5 | 28 | 14 | 5 x 3 | 4.2 |
| **50** | 1/10 | 175 | 105 | 145 | 95 | 50 | 110 | 50 | 90 | 110 | 90 | 225 | 115 | 14 | 11 | 30 | 12 | 4 x 2.5 | 40 | 17 | 5 x 3 | 6.5 |
| **60** | 1/20 | 195 | 120 | 165 | 110 | 55 | 120 | 60 | 102 | 129 | 100 | 257 | 126 | 15 | 11 | 40 | 15 | 5 x 3 | 50 | 22 | 7 x 4 | 9 |
| **70** | 1/30 | 234 | 140 | 195 | 130 | 65 | 135 | 70 | 120 | 155 | 120 | 305 | 155 | 20 | 15 | 40 | 18 | 5 x 3 | 60 | 28 | 7 x 4 | 14 |
| **80** | 1/40 | 264 | 160 | 210 | 140 | 70 | 155 | 480 | 140 | 180 | 140 | 350 | 174 | 20 | 15 | 50 | 22 | 7 x 4 | 65 | 32 | 10 x 4.5 | 21 |
| **100** | 1/50 | 322 | 190 | 260 | 170 | 90 | 180 | 100 | 165 | 215 | 190 | 410 | 224 | 20 | 15 | 50 | 25 | 7 x 4 | 75 | 38 | 10 x 4.5 | 33 |
| **120** | 1/60 | 385 | 230 | 290 | 190 | 100 | 217.5 | 120 | 195 | 255 | 220 | 495 | 264 | 25 | 18 | 65 | 30 | 7 x 4 | 85 | 45 | 12 x 4.5 | 51 |
| **135** | | 435 | 260 | 320 | 210 | 110 | 252.5 | 135 | 230 | 285 | 260 | 560 | 304 | 30 | 18 | 75 | 35 | 10 x 4.5 | 95 | 55 | 15 x 5 | 75 |

## WPWD





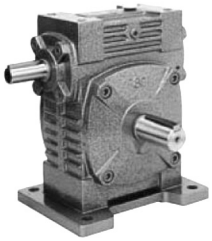

## WPWD
Shaft Direction

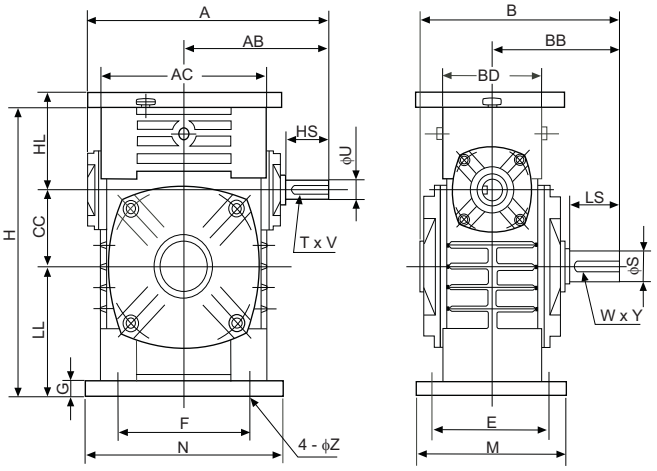



| Size | kw | Ratio | A | AB | AC | B | BB | BD | BE | CC | F | H | HL | LL | Z X L | Flange | | | | | | Input Hole | | | Output shaft | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | LA | LB | LC | LE | LG | LZ | O | U | T x V | LS | S | W x Y | |
| **50** | 0.18 | | 165 | 95 | 115 | 175 | 95 | 64 | 50 | 50 | 85 | 150 | 115 | 65 | M6 x 20 | 115 | 95 | 140 | 5 | 10 | M8 | 25 | 11 | 4 x 12.5 | 40 | 17 | 5 x 3 | 7 |
| **60** | 0.37 | | 185 | 105 | 126 | 190 | 110 | 74 | 55 | 60 | 105 | 177 | 135 | 75 | M8 x 20 | 130 | 110 | 160 | 5 | 12 | M8 | 35 | 14 | 5 x 16.3 | 50 | 22 | 7 x 4 | 11 |
| **70** | 0.37 | | 209 | 115 | 155 | 210 | 130 | 84 | 65 | 70 | 125 | 215 | 160 | 90 | M10 x 25 | 130 | 110 | 160 | 5 | 12 | M8 | 35 | 14 | 5 x 16.3 | 60 | 28 | 7 x 4 | 14 |
| | 0.75 | 1/10 | | | | 230 | | | | | | | | | | 165 | 130 | 200 | | 15 | M10 | 45 | 19 | 6 x 21.8 | | | | |
| **80** | 0.75 | 1/20 | 242 | 135 | 174 | 240 | 140 | 94 | 70 | 80 | 140 | 250 | 185 | 105 | M12 x 28 | 165 | 130 | 200 | 5 | 15 | M10 | 45 | 19 | 6 x 21.8 | 65 | 32 | 10 x 4.5 | 22 |
| | 1. 5 | 1/30 | | | | | | | | | | | | | | | | | | | | 55 | 24 | 8 x 27.3 | | | | |
| **100** | 1. 5 | 1/40 | 310 | 175 | 224 | 270 | 170 | 114 | 90 | 100 | 180 | 310 | 230 | 130 | M12 x 30 | 165 | 130 | 200 | 5 | 15 | M10 | 55 | 24 | 8 x 27.3 | 75 | 38 | 10 x 4.5 | 36 |
| **120** | 2. 2 | 1/50 | 361 | 205 | 264 | 315 | 190 | 134 | 100 | 120 | 220 | 370 | 275 | 155 | M14 x 32 | 215 | 180 | 250 | 5 | 18 | M12 | 65 | 28 | 8 x 31.5 | 85 | 45 | 12 x 4.5 | 63 |
| | 3 0 | 1/60 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **135** | 3. 0 | | 412 | 235 | 304 | 335 | 210 | 144 | 110 | 135 | 260 | 425 | 320 | 185 | M16 x 35 | 215 | 180 | 250 | 5 | 18 | M12 | 65 | 28 | 8 x 31.5 | 95 | 55 | 15 x 5 | 80 |
| | 4. 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **155** | 5.5 | | 442 | 250 | 330 | 402 | 252 | 160 | 120 | 155 | 280 | 461 | 358 | 203 | M16 x 35 | 265 | 230 | 300 | 5 | 22 | M12 | 85 | 38 | 10 x 41.30 | 110 | 60 | 15 x 5 | 114 |

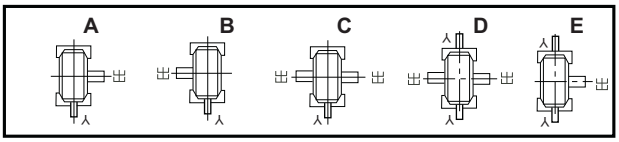
## WPWA - Y

## WPWS - Y





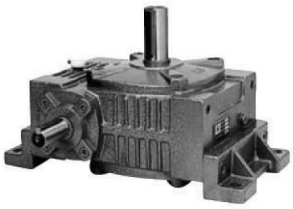

## WPWA - Y / WPWS - Y
Shaft Direction

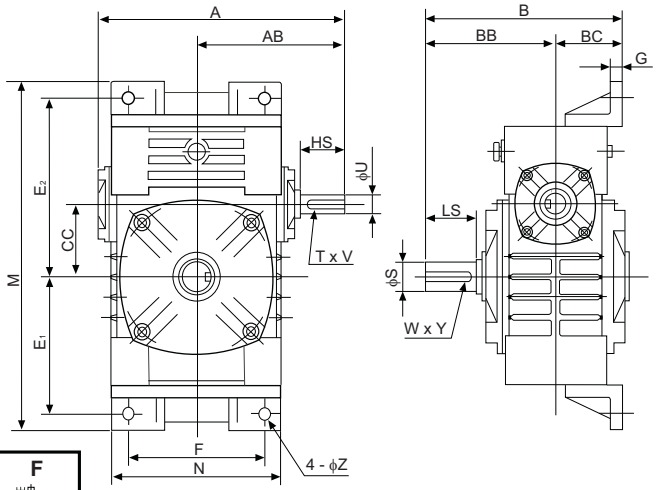



| Size | Ratio | A | AB | AC | B | BB | BD | CC | E | F | H | HL | LL | M | N | G | Z | Input shaft | | | Output shaft | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | HS | U | T x V | LS | S | N x Y | |
| **40** | | 152 | 90 | 96 | 122 | 78 | 60 | 40 | 80 | 110 | 135 | 45 | 60 | 100 | 130 | 10 | 9 | 25 | 12 | 4 x 2.5 | 28 | 14 | 5 x 3 | 4 |
| **50** | 1/5 | 175 | 105 | 115 | 145 | 95 | 70 | 50 | 95 | 110 | 165 | 50 | 80 | 120 | 140 | 15 | 11 | 30 | 12 | 4 x 2.5 | 40 | 17 | 5 x 3 | 7 |
| **60** | 1/10 | 195 | 120 | 126 | 165 | 110 | 76 | 60 | 105 | 120 | 195 | 60 | 93 | 130 | 150 | 18 | 11 | 40 | 15 | 5 x 3 | 50 | 22 | 7 x 4 | 11 |
| **70** | 1/15 | 234 | 140 | 155 | 195 | 130 | 84 | 70 | 115 | 150 | 233 | 73 | 108 | 150 | 190 | 18 | 15 | 40 | 18 | 5 x 3 | 60 | 28 | 7 x 4 | 15 |
| **80** | 1/20 | 264 | 160 | 170 | 210 | 140 | 100 | 80 | 135 | 180 | 268 | 83 | 123 | 170 | 220 | 18 | 15 | 50 | 22 | 7 x 4 | 65 | 32 | 10 x 4.5 | 23 |
| **100** | 1/25 | 300 | 178 | 204 | 245 | 163 | 114 | 100 | 155 | 220 | 330 | 100 | 150 | 190 | 270 | 20 | 15 | 50 | 25 | 7 x 4 | 75 | 38 | 10 x 4.5 | 38 |
| **120** | 1/30 | 385 | 230 | 260 | 285 | 185 | 128 | 120 | 180 | 260 | 395 | 120 | 180 | 230 | 320 | 25 | 18 | 65 | 30 | 7 x 4 | 85 | 45 | 12 x 4.5 | 65 |
| **135** | 1/40 | 435 | 260 | 296 | 320 | 210 | 150 | 135 | 200 | 290 | 455 | 135 | 215 | 250 | 350 | 30 | 18 | 75 | 35 | 10 x 4.5 | 95 | 55 | 15 x 5 | 84 |
| **155** | 1/50 | 494 | 300 | 330 | 387 | 252 | 170 | 155 | 220 | 320 | 493 | 135 | 235 | 280 | 380 | 32 | 20 | 85 | 40 | 10 x 4.5 | 110 | 60 | 15 x 5 | 114 |
| **175** | 1/60 | 548 | 325 | 370 | 407 | 262 | 186 | 175 | 250 | 350 | 558 | 160 | 260 | 310 | 410 | 37 | 20 | 85 | 45 | 12 X 4.5 | 110 | 65 | 18 x 6 | 150 |
| **200** | | 594 | 350 | 420 | 480 | 305 | 230 | 200 | 290 | 350 | 620 | 175 | 290 | 360 | 435 | 45 | 22 | 95 | 50 | 12 X 4.5 | 125 | 70 | 20 x 7 | 218 |

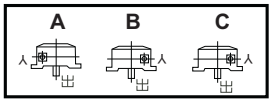
## WPWX - Y

## WPWO - Y

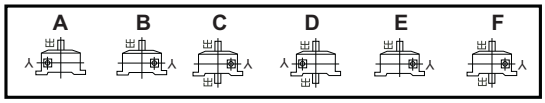





## WPWX - Y
Shaft Direction



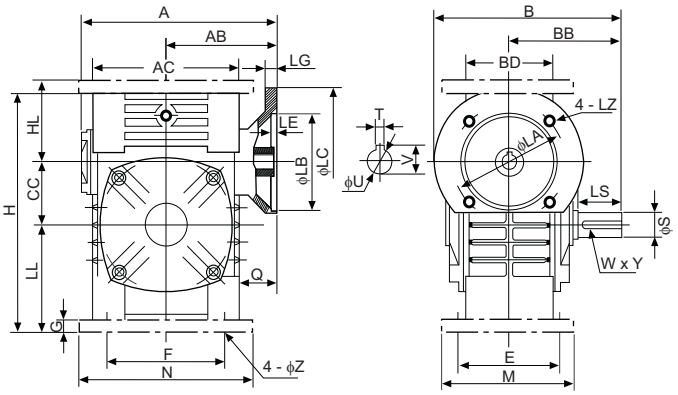

## WPWO - Y
Shaft Direction




| Size | Ratio | A | AB | B | BB | BC | CC | $E_1$ | $E_2$ | F | M | N | G | Z | Input Shaft | | | Output Shaft | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | HS | U | T x V | LS | S | W x Y | |
| **40** | | 152 | 90 | 123 | 78 | 45 | 40 | 72 | 97 | 70 | 195 | 96 | 10 | 9 | 25 | 12 | 4 x 2.5 | 28 | 14 | 5 x 3 | 4.2 |
| **50** | 1/5 | 175 | 105 | 145 | 95 | 50 | 50 | 90 | 110 | 90 | 225 | 115 | 14 | 11 | 30 | 12 | 4 x 2.5 | 40 | 17 | 5 x 3 | 6.5 |
| **60** | 1/10 | 195 | 120 | 165 | 110 | 55 | 60 | 102 | 129 | 100 | 257 | 126 | 15 | 11 | 40 | 15 | 5 x 3 | 50 | 22 | 7 x 4 | 9 |
| **70** | 1/15 | 234 | 140 | 195 | 130 | 65 | 70 | 120 | 155 | 120 | 305 | 155 | 20 | 15 | 40 | 18 | 5 x 3 | 60 | 28 | 7 x 4 | 14 |
| **80** | 1/20 | 214 | 160 | 210 | 140 | 70 | 80 | 140 | 180 | 140 | 350 | 174 | 20 | 15 | 50 | 22 | 7 x 4 | 65 | 32 | 10 x 4.5 | 21 |
| **100** | 1/25 | 300 | 178 | 253 | 163 | 90 | 100 | 165 | 215 | 190 | 410 | 224 | 20 | 15 | 50 | 25 | 7 x 4 | 75 | 38 | 10 x 4.5 | 33 |
| **120** | 1/30 | 385 | 230 | 285 | 185 | 100 | 120 | 195 | 255 | 220 | 495 | 264 | 25 | 18 | 65 | 30 | 7 x 4 | 85 | 45 | 12 x 4.5 | 51 |
| **135** | 1/40 | 435 | 260 | 320 | 210 | 110 | 135 | 230 | 285 | 260 | 560 | 304 | 30 | 18 | 75 | 35 | 10 x 4.5 | 95 | 55 | 15 x 5 | 75 |
| **155** | 1/50 | 494 | 300 | 392 | 252 | 140 | 155 | 250 | 305 | 280 | 605 | 330 | 35 | 20 | 85 | 40 | 10 x 4.5 | 110 | 60 | 15 x 5 | 115 |
| **175** | 1/60 | 548 | 325 | 412 | 262 | 150 | 175 | 273 | 348 | 320 | 675 | 370 | 40 | 20 | 85 | 45 | 12 x 4.5 | 110 | 65 | 18 x 6 | 152 |
| **200** | | 594 | 350 | 480 | 305 | 175 | 200 | 305 | 390 | 370 | 749 | 424 | 42 | 22 | 95 | 50 | 12 x 4.5 | 125 | 70 | 20 x 7 | 226 |

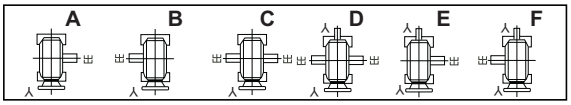
## WPWDA

## WPWDS




## WPWDA/WPWDS

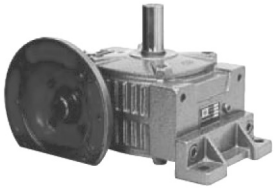
Shaft Direction

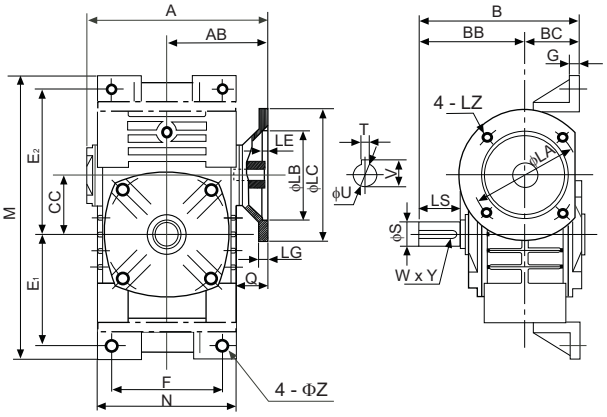



| Size | kw | Ratio | A | AB | AC | B | BB | BD | CC | E | F | G | H | HL | LL | M | N | Z | Flange | | | | | | Input Hole | | | Output Shaft | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | LA | LB | LC | LE | LG | LZ | Q | U | T X V | LS | S | W X Y | |
| **40** | 0.12 | | 138 | 76 | 96 | 148 | 78 | 60 | 40 | 80 | 110 | 10 | 135 | 45 | 60 | 100 | 130 | 9 | 115 | 95 | 140 | 5 | 10 | M8 | 25 | 11 | 4 X 12.8 | 28 | 14 | 5 X 3 | 4.4 |
| **50** | 0.18 | | 155 | 84 | 115 | 165 | 95 | 70 | 50 | 95 | 110 | 15 | 165 | 50 | 80 | 120 | 140 | 11 | 115 | 95 | 140 | 5 | 10 | M8 | 25 | 11 | 4 X 12.8 | 40 | 17 | 5 X 3 | 7 |
| **60** | 0.37 | | 170 | 92 | 126 | 190 | 110 | 76 | 60 | 105 | 120 | 18 | 195 | 60 | 93 | 130 | 150 | 11 | 130 | 110 | 160 | 5 | 12 | M8 | 35 | 14 | 5 X 16.3 | 50 | 22 | 7 X 4 | 11 |
| **70** | 0.37 | | 206 | 110 | 155 | 210 | 130 | 84 | 70 | 115 | 150 | 18 | 233 | 73 | 108 | 150 | 190 | 15 | 130 | 110 | 160 | 5 | 12 | M8 | 35 | 14 | 5 X 16.3 | 60 | 28 | 7 X 4 | 15 |
| | 0.75 | 1/5 | | | | 230 | | | | | | | | | | | | | 165 | 130 | 200 | | 15 | M10 | 45 | 19 | 6 X 21.8 | | | | |
| **80** | 0.75 | 1/10 | 232 | 128 | 170 | 240 | 140 | 100 | 80 | 135 | 180 | 18 | 268 | 83 | 123 | 170 | 220 | 15 | 165 | 130 | 200 | 5 | 15 | M10 | 45 | 19 | 6 X 21.8 | 65 | 32 | 10 X 4.5 | 23 |
| | 1.5 | 1/15 | | | | | | | | | | | | | | | | | | | | | | | 55 | 24 | 8 X 27.3 | | | | |
| **100** | 1.5 | 1/20 | 266 | 145 | 204 | 263 | 163 | 114 | 100 | 155 | 220 | 20 | 330 | 100 | 150 | 190 | 270 | 15 | 165 | 130 | 200 | 5 | 12 | M10 | 52 | 24 | 8 X 27.3 | 75 | 38 | 10 X 4.5 | 38 |
| | 2.2 | 1/25 | 270 | 149 | | | | | | | | | | | | | | | 215 | 180 | 250 | | 15 | M12 | 62 | 28 | 8 X 31.3 | | | | |
| **120** | 2.2 | 1/30 | 340 | 182 | 260 | 310 | 185 | 128 | 120 | 180 | 260 | 25 | 395 | 120 | 180 | 230 | 320 | 18 | 215 | 180 | 250 | 5 | 18 | M12 | 65 | 28 | 8 X 31.3 | 85 | 45 | 12 X 4.5 | 65 |
| | 3.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **135** | 3.0 | 1/40 | 375 | 200 | 296 | 335 | 210 | 150 | 135 | 200 | 290 | 30 | 455 | 135 | 215 | 250 | 350 | 18 | 215 | 180 | 250 | 5 | 18 | M12 | 65 | 28 | 8 X 31.3 | 95 | 55 | 15X5 | 8 |
| | 4.0 | 1/50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **155** | 5.5 | 1/60 | 442 | 236 | 330 | 402 | 252 | 170 | 155 | 220 | 320 | 32 | 493 | 135 | 235 | 280 | 380 | 20 | 265 | 230 | 300 | 5 | 20 | M12 | 85 | 38 | 10 X 41.3 | 110 | 60 | 15 X 5 | 120 |
| **175** | 7.5 | | 465 | 240 | 370 | 412 | 262 | 186 | 175 | 250 | 350 | 37 | 558 | 160 | 260 | 310 | 410 | 20 | 265 | 230 | 300 | 6 | 18 | M12 | 85 | 38 | 10 X 41.3 | 110 | 65 | 18 X 6 | 160 |
| **200** | 7.5 | | 508 | 270 | 420 | 455 | 305 | 230 | 200 | 290 | 350 | 45 | 620 | 175 | 290 | 360 | 435 | 22 | 265 | 230 | 300 | 6 | 18 | M12 | 85 | 38 | 10 X 41.3 | 125 | 70 | 20 X 7 | 236 |
| | 11 | | | | | 480 | | | | | | | | | | | | | 300 | 250 | 350 | | | MI6 | 115 | 42 | 12 X 45.3 | | | | |

## WPWDX

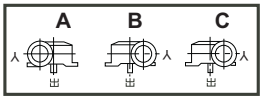
## WPWDO





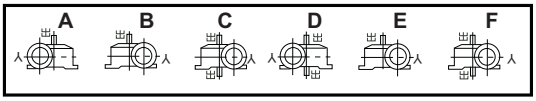

## WPWDX

Shaft Direction



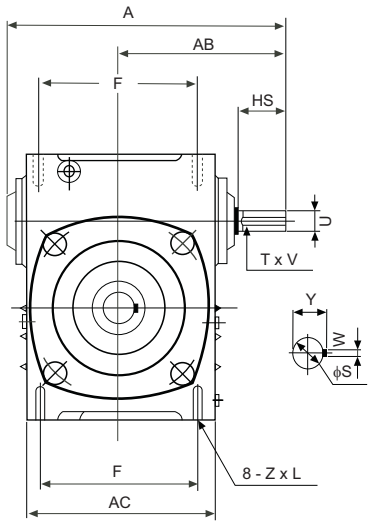

## WPWDO

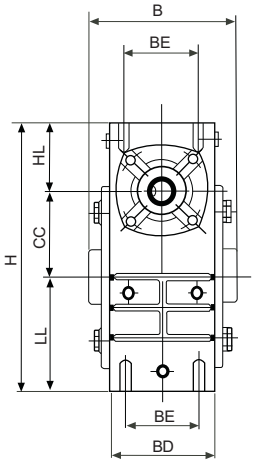
Shaft Direction



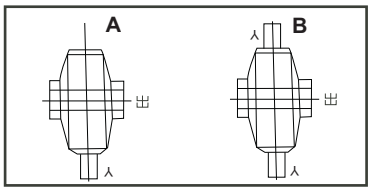

| Size | kw | Ratio | A | AB | B | BB | BC | CC | E₁ | E₂ | F | G | M | N | Z | Flange | | | | | | Input Hole | | | Output Shaft | | | KG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | LA | LB | LC | LE | LG | LZ | Q | U | T x V | LS | S | W x Y | |
| **40** | 0.12 | | 138 | 76 | 123 | 78 | 45 | 40 | 72 | 97 | 70 | 10 | 195 | 96 | 9 | 115 | 95 | 140 | 5 | 10 | M8 | 25 | 11 | 4 x 12.8 | 28 | 14 | 5 x 3 | 4.6 |
| **50** | 0.18 | | 155 | 84 | 145 | 95 | 50 | 50 | 90 | 110 | 90 | 14 | 225 | 115 | 11 | 115 | 95 | 140 | 5 | 10 | M8 | 25 | 11 | 4 x 12.8 | 40 | 17 | 5 x 3 | 7 |
| **60** | 0.37 | | 170 | 92 | 165 | 110 | 55 | 60 | 102 | 129 | 100 | 15 | 257 | 126 | 11 | 130 | 110 | 160 | 5 | 12 | M8 | 35 | 14 | 5 x 16.3 | 50 | 22 | 7 x 4 | 10 |
| **70** | 0.37 | | 206 | 110 | 195 | 130 | 65 | 70 | 120 | 155 | 120 | 20 | 305 | 155 | 15 | 130 | 110 | 160 | 5 | 12 | M8 | 35 | 14 | 5 x 16.3 | 60 | 28 | 7 x 4 | 15 |
| | 0.75 | 1/5 | | | | | | | | | | | | | | 165 | 130 | 200 | | 15 | M10 | 45 | 19 | 6 x 21.8 | | | | |
| **80** | 0.75 | 1/10 | 232 | 128 | 210 | 140 | 70 | 80 | 140 | 180 | 140 | 20 | 350 | 174 | 15 | 165 | 130 | 200 | 5 | 15 | M10 | 45 | 19 | 6 x 21.8 | 65 | 32 | 10 x 4.5 | 23 |
| | 1.5 | 1/15 | | | | | | | | | | | | | | | | | | | | 55 | 19 | 6 x 21.8 | | | | |
| **100** | 1.5 | 1/20 | 266 | 145 | 253 | 163 | 90 | 100 | 165 | 215 | 190 | 20 | 410 | 224 | 15 | 165 | 130 | 200 | 5 | 12 | M10 | 52 | 24 | 8 x 27.3 | 75 | 38 | 10 x 4.5 | 36 |
| | 2.2 | 1/25 | 270 | 149 | | | | | | | | | | | | 215 | 180 | 250 | | 15 | M12 | 62 | 28 | 8 x 31.3 | | | | |
| **120** | 2.2 | 1/30 | 340 | 182 | 285 | 185 | 100 | 120 | 195 | 255 | 220 | 25 | 495 | 264 | 18 | 215 | 180 | 250 | 5 | 18 | M12 | 65 | 28 | 8 x 31.3 | 85 | 45 | 12 x 4.5 | 55 |
| | 3.0 | 1/40 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **135** | 3.0 | 1/50 | 375 | 200 | 320 | 210 | 110 | 135 | 230 | 285 | 260 | 30 | 560 | 304 | 18 | 215 | 180 | 250 | 5 | 18 | M12 | 65 | 28 | 8 x 31.3 | 95 | 55 | 15 x 5 | 80 |
| | 4.0 | 1/60 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **155** | 5.5 | | 442 | 236 | 392 | 252 | 140 | 155 | 250 | 305 | 280 | 35 | 560 | 330 | 20 | 265 | 230 | 300 | 5 | 20 | M12 | 85 | 38 | 10 x 41.3 | 110 | 60 | 15 x 5 | 120 |
| **175** | 7.5 | | 465 | 240 | 412 | 262 | 150 | 175 | 273 | 348 | 320 | 40 | 675 | 370 | 20 | 265 | 230 | 300 | 6 | 18 | M12 | 85 | 38 | 10 x 41.3 | 110 | 65 | 18 x 6 | 158 |
| **200** | 7.5 | | 508 | 270 | 480 | 305 | 175 | 200 | 305 | 390 | 370 | 42 | 749 | 424 | 22 | 265 | 230 | 300 | 6 | 18 | M12 | 85 | 38 | 10 x 41.3 | 125 | 70 | 20 x 7 | 230 |
| | 11 | | | | | | | | | | | | | | | 300 | 250 | 350 | | | M16 | 115 | 42 | 12 x 45.3 | | | | |

## WPWK



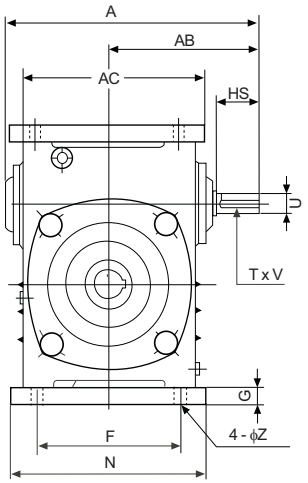

## WPWK
Shaft Direction

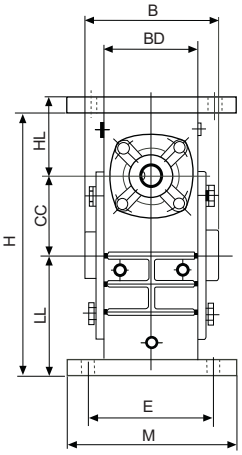



| Size | Ratio | A | AB | B | AC | F | BD | BE | CC | LL | HL | H | Z x L | Input Shaft | | | Output Shaft | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | HS | U | T x V | S | W | Y | |
| 50 | | 175 | 105 | 107 | 115 | 85 | 70 | 50 | 50 | 65 | 35 | 150 | M6 x 18 | 30 | 12 | 4 x 2.5 | 20 | 6 | 22.8 | 6 |
| 60 | | 195 | 120 | 117 | 126 | 105 | 80 | 55 | 60 | 75 | 42 | 177 | M8 x 20 | 40 | 15 | 5 x 3 | 25 | 8 | 28.3 | 85 |
| 70 | 1/10 | 234 | 140 | 131 | 155 | 125 | 90 | 65 | 70 | 90 | 55 | 215 | M10 x 25 | 40 | 18 | 5 x 3 | 30 | 8 | 33.3 | 12.5 |
| 80 | 1/20 | 264 | 160 | 144 | 174 | 140 | 100 | 70 | 80 | 105 | 65 | 250 | M12 x 28 | 50 | 22 | 7 x 4 | 35 | 10 | 38.3 | 20 |
| 100 | 1/30 | 322 | 190 | 175 | 224 | 180 | 120 | 90 | 100 | 130 | 80 | 310 | M12 x 30 | 50 | 25 | 7 x 4 | 40 | 12 | 43.3 | 33 |
| 120 | 1/40 | 385 | 230 | 200 | 264 | 220 | 140 | 100 | 120 | 155 | 95 | 370 | M14 x 32 | 65 | 30 | 7 x 4 | 45 | 14 | 48.8 | 50 |
| 135 | 1/50 | 435 | 260 | 212 | 304 | 260 | 150 | 110 | 135 | 185 | 105 | 425 | M16 x 35 | 75 | 35 | 10 x 4.5 | 60 | 18 | 64.4 | 77 |
| 155 | 1/60 | 494 | 302 | 312 | 330 | 280 | 160 | 120 | 155 | 203 | 103 | 461 | M16 x 35 | 85 | 40 | 10 x 4.5 | 70 | 20 | 74.9 | 100 |
| 175 | | 548 | 325 | 334 | 370 | 320 | 186 | 140 | 175 | 223 | 123 | 521 | M16 x 35 | 85 | 45 | 12 x 4.5 | 80 | 22 | 85.4 | 140 |
| 200 | | 688 | 350 | 346 | 420 | 360 | 200 | 150 | 200 | 245 | 130 | 575 | M18 x 35 | 95 | 50 | 12 x 4. 5 | 85 | 22 | 90. 4 | 200 |

## WPWKA

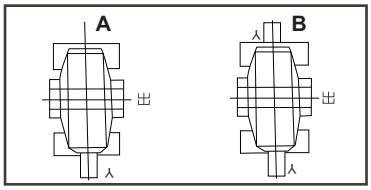
## WPWKS



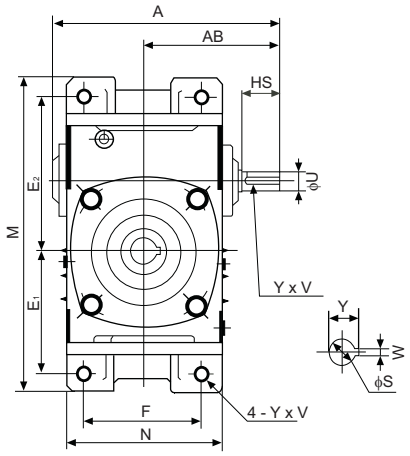

## WPWK
Shaft Direction

## WPWKS
Shaft Direction

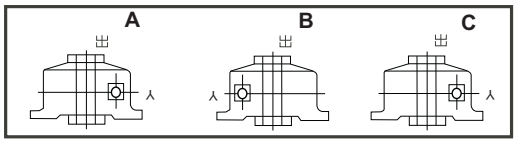



| Size | Ratio | A | AB | AC | B | BD | CC | E | F | H | HL | LL | M | N | G | Z | Input Shaft | | | Output Shaft | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | HS | U | T x V | S | W | Y | |
| 50 | | 175 | 105 | 115 | 107 | 70 | 50 | 95 | 110 | 165 | 50 | 80 | 120 | 140 | 15 | 11 | 30 | 12 | 4 x 2.5 | 20 | 6 | 22.8 | 7 |
| 60 | | 195 | 120 | 126 | 117 | 80 | 60 | 105 | 120 | 195 | 60 | 93 | 130 | 150 | 18 | 11 | 40 | 15 | 5 x 3 | 25 | 8 | 28.3 | 11 |
| 70 | 1/10 | 234 | 140 | 155 | 131 | 90 | 70 | 115 | 150 | 233 | 70 | 105 | 150 | 190 | 18 | 15 | 40 | 18 | 5 x 3 | 30 | 8 | 33.3 | 14 |
| 80 | 1/20 | 264 | 160 | 174 | 144 | 100 | 80 | 135 | 180 | 268 | 80 | 120 | 170 | 220 | 18 | 15 | 50 | 22 | 7 x 4 | 35 | 10 | 38.3 | 22 |
| 100 | 1/30 | 322 | 190 | 224 | 175 | 120 | 100 | 155 | 220 | 330 | 100 | 150 | 190 | 270 | 20 | 15 | 50 | 25 | 7 x 4 | 40 | 12 | 43.3 | 36 |
| 120 | 1/40 | 385 | 230 | 264 | 200 | 140 | 120 | 180 | 260 | 395 | 120 | 180 | 230 | 320 | 25 | 18 | 65 | 30 | 7 x 4 | 45 | 14 | 48.8 | 63 |
| 135 | 1/50 | 435 | 260 | 304 | 212 | 150 | 135 | 200 | 290 | 455 | 135 | 215 | 250 | 350 | 30 | 18 | 75 | 35 | 10 x 4.5 | 60 | 18 | 64.4 | 80 |
| 155 | 1/60 | 494 | 302 | 330 | 312 | 160 | 155 | 220 | 320 | 495 | 135 | 203 | 280 | 380 | 32 | 20 | 85 | 40 | 10 x 4.5 | 70 | 20 | 74.9 | 114 |
| 175 | | 548 | 325 | 370 | 334 | 186 | 175 | 250 | 350 | 558 | 160 | 223 | 310 | 410 | 37 | 20 | 85 | 45 | 12 x 4.5 | 80 | 22 | 85.4 | 150 |
| 200 | | 688 | 350 | 420 | 346 | 200 | 200 | 290 | 350 | 620 | 175 | 245 | 360 | 435 | 45 | 22 | 95 | 50 | 12 x 4.5 | 85 | 22 | 90.4 | 218 |

## WPWKO

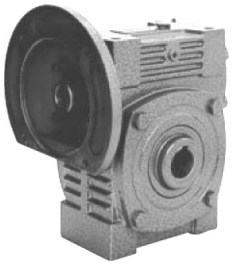


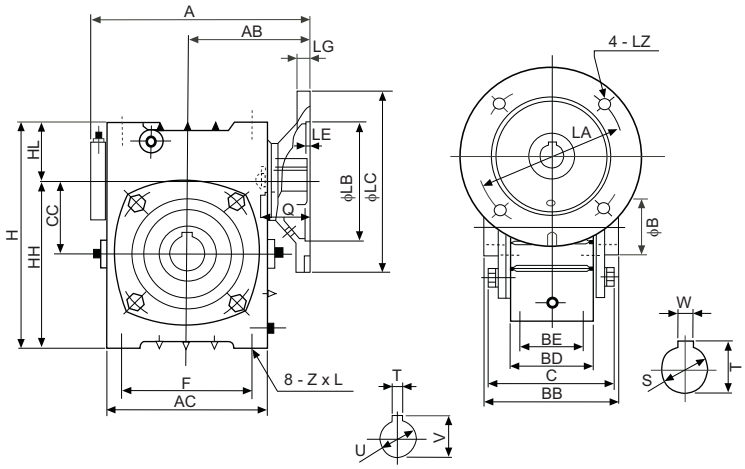

### WPWKO
Shaft Direction



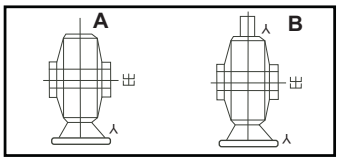

| Size | Ratio | A | AB | B | BB | BC | C | CC | $E_1$ | $E_2$ | F | M | N | G | Z | Input Shaft | | | Output Shaft | | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | HS | U | T x V | S | W | Y | |
| **50** | | 175 | 105 | 107 | 53.5 | 50 | 110 | 50 | 90 | 110 | 90 | 225 | 115 | 14 | 11 | 30 | 12 | 4 x 2.5 | 20 | 6 | 22.8 | 6.5 |
| **60** | 1/10 | 195 | 120 | 117 | 58.5 | 55 | 120 | 60 | 102 | 129 | 100 | 259 | 126 | 15 | 11 | 40 | 15 | 5 x 3 | 25 | 8 | 28.3 | 9 |
| **70** | 1/20 | 234 | 140 | 131 | 65.5 | 65 | 135 | 70 | 120 | 155 | 120 | 305 | 155 | 20 | 15 | 40 | 18 | 5,3 | 30 | 8 | 33.3 | 14 |
| **80** | 1/30 | 264 | 160 | 144 | 72.0 | 70 | 155 | 80 | 140 | 180 | 140 | 350 | 174 | 20 | 15 | 50 | 22 | 7x4 | 35 | 10 | 38.3 | 21 |
| **100** | 1/40 | 322 | 190 | 175 | 87.5 | 90 | 180 | 100 | 165 | 215 | 190 | 410 | 224 | 20 | 15 | 50 | 25 | 7 x 4 | 40 | 12 | 43.3 | 33 |
| **120** | 1/50 | 385 | 230 | 200 | 100 | 100 | 217.5 | 120 | 195 | 255 | 220 | 495 | 264 | 25 | 18 | 65 | 30 | 7 x4 | 45 | 14 | 48.8 | 51 |
| **135** | 1/60 | 435 | 260 | 212 | 106 | 110 | 252.5 | 135 | 230 | 285 | 260 | 560 | 304 | 30 | 18 | 75 | 35 | 10,4.5 | 60 | 18 | 64.4 | 75 |

## WPWDK



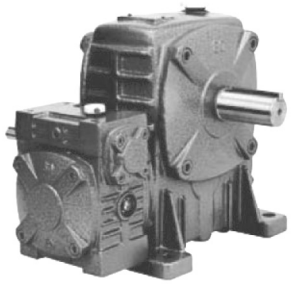


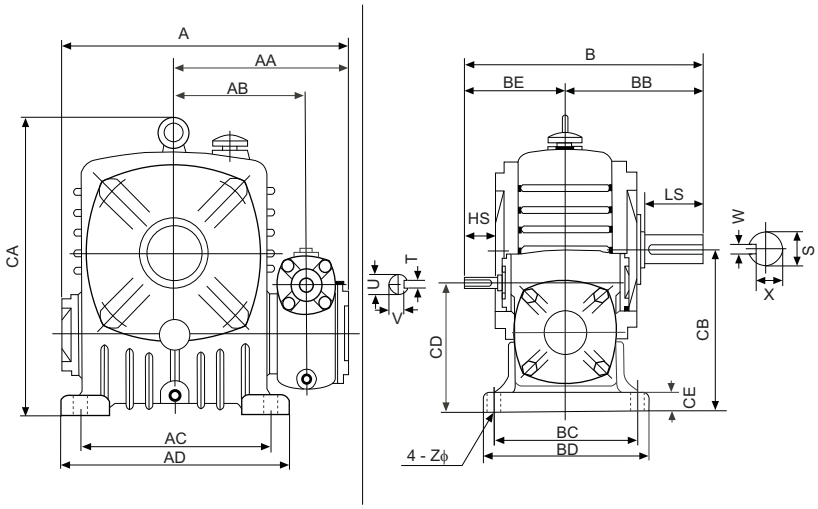

### WPWDK
Shaft Direction



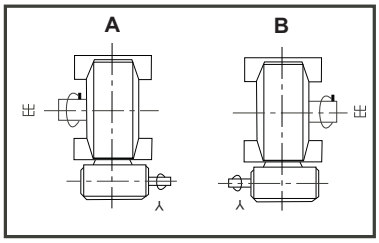

| Size | kw | Ratio | A | AB | AC | B | BB | BD | BE | C | CC | F | H | HH | HL | Z x L | Flange | | | | | | Input Hole | | | Output Shaft | | kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | LA | LB | LC | LE | LG | LZ | Q | U | T x V | S | W x Y | |
| **50** | 0.18 | | 165 | 95 | 115 | 40 | 107 | 64 | 50 | 101 | 50 | 85 | 150 | 115 | 35 | M6 x 20 | 115 | 95 | 140 | 5 | 10 | M8 | 25 | 11 | 4 x 12.5 | 20 | 6 x 22.8 | 7 |
| **60** | 0.37 | | 185 | 105 | 126 | 45 | 117 | 74 | 55 | 111 | 60 | 105 | 177 | 135 | 42 | M8 x 20 | 130 | 110 | 160 | 5 | 12 | M8 | 35 | 14 | 5 x 16.3 | 25 | 8 x 28.3 | 11 |
| **70** | 0.37 | | 209 | 115 | 155 | 50 | 131 | 84 | 65 | 125 | 70 | 125 | 215 | 160 | 55 | M10 x 25 | 130 | 110 | 160 | 5 | 12 | M8 | 35 | 14 | 5 x 16.3 | 30 | 8 x 33.3 | 14 |
| | 0.75 | 1/10 | | | | | | | | | | | | | | | 165 | 130 | 200 | | 15 | M10 | 45 | 19 | 6 x 21.8 | | | |
| **80** | 0.75 | 1/20 | 242 | 135 | 174 | 60 | 144 | 94 | 70 | 138 | 80 | 140 | 250 | 185 | 65 | M12 x 28 | 165 | 130 | 200 | 5 | 15 | M10 | 45 | 19 | 6 x 21.8 | 35 | 10 x 38.3 | 22 |
| | 1.5 | 1/30 | | | | | | | | | | | | | | | | | | | | | 55 | 24 | 8 x 27.3 | | | |
| **100** | 1.5 | 1/40 | 310 | 175 | 224 | 70 | 175 | 114 | 90 | 165 | 100 | 180 | 310 | 230 | 80 | M12 x 30 | 165 | 130 | 200 | 5 | 15 | M10 | 55 | 24 | 8 x 27.3 | 40 | 12 x 43.3 | 36 |
| **120** | 2.2 | 1/50 | 361 | 205 | 264 | 75 | 200 | 134 | 100 | 190 | 120 | 220 | 370 | 275 | 95 | M14 x 32 | 215 | 180 | 250 | 5 | 18 | M12 | 65 | 28 | 8 x 31.3 | 45 | 14 x 48.8 | 63 |
| | 3.0 | 1/60 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **135** | 3.0 | | 412 | 235 | 304 | 95 | 212 | 144 | 110 | 202 | 135 | 260 | 425 | 320 | 105 | M16 x 35 | 215 | 180 | 250 | 5 | 18 | M12 | 65 | 28 | 8 x 31.3 | 60 | 18 x 64.4 | 80 |
| | 4.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **155** | 5.5 | | 442 | 250 | 330 | 110 | 312 | 160 | 120 | 285 | 155 | 280 | 461 | 358 | 103 | M16 x 35 | 265 | 230 | 300 | 5 | 22 | M12 | 85 | 38 | 10 x 41.3 | 70 | 20 x 74.9 | 114 |

# WPEA



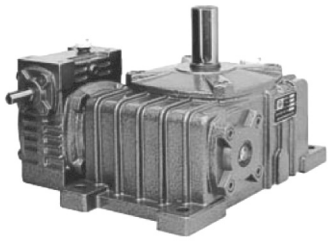


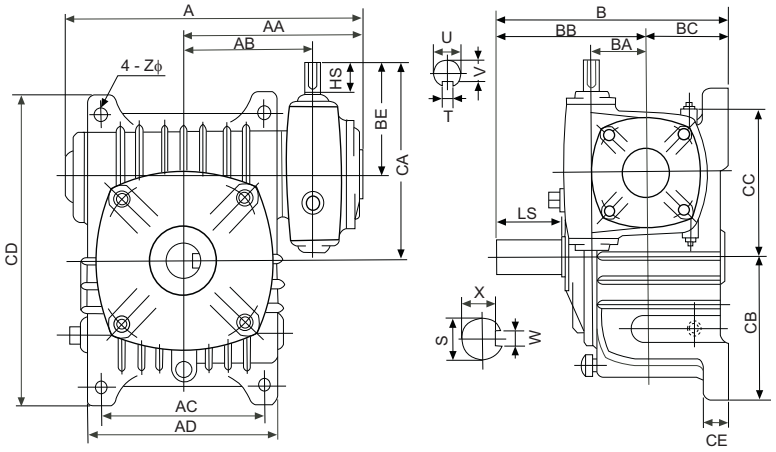

## WPEA
Shaft Direction



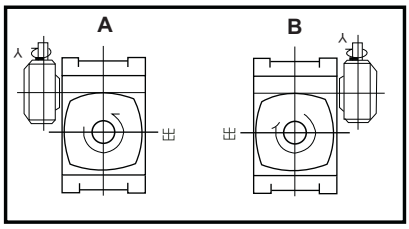

| Size | Ratio | A | AA | AB | AC | AD | B | BB | BC | BD | BE | CA | CB | CD | CE | Z | Input Shaft | | | | Output Shaft | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | HS | U | T | V | LS | S | W | X |
| 50 - 80 | 1/200 | 289 | 184 | 132 | 180 | 220 | 247 | 140 | 135 | 170 | 105 | 278 | 160 | 130 | 20 | 15 | 30 | 12 | 4 | 9.5 | 65 | 32 | 10 | 27.5 |
| 60 - 100 | 1/300 | 352 | 219 | 161 | 220 | 270 | 294 | 170 | 155 | 190 | 120 | 372 | 200 | 160 | 25 | 15 | 40 | 15 | 5 | 12 | 75 | 38 | 10 | 33.5 |
| 70 - 120 | 1/400 | 417 | 258 | 192 | 260 | 320 | 330 | 190 | 180 | 230 | 140 | 430 | 240 | 190 | 30 | 18 | 40 | 18 | 5 | 15 | 85 | 45 | 12 | 40.5 |
| 80 - 135 | 1/500 1/600 | 462 | 287 | 211 | 290 | 350 | 370 | 210 | 200 | 250 | 160 | 491 | 270 | 215 | 30 | 18 | 50 | 22 | 7 | 18 | 95 | 55 | 15 | 50 |
| 100 - 155 | 1/800 | 542 | 349 | 257 | 320 | 390 | 442 | 252 | 220 | 280 | 190 | 526 | 290 | 235 | 38 | 20 | 50 | 25 | 7 | 21 | 110 | 60 | 15 | 55 |
| 120 - 175 | 1/900 | 585 | 376 | 275 | 350 | 430 | 492 | 262 | 250 | 310 | 230 | 536 | 335 | 280 | 40 | 20 | 65 | 30 | 7 | 26 | 110 | 65 | 18 | 59 |

# WPEO






## WPEO
Shaft Direction




| Size | Ratio | A | AA | AB | AC | AD | B | BA | BB | BC | BE | CA | CB | CC | CD | CE | Z | Input Shaft | | | | Output Shaft | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | HS | U | T | V | LS | S | W | X |
| 50 - 80 | 1/200 | 289 | 184 | 132 | 140 | 176 | 210 | 50 | 140 | 70 | 105 | 185 | 130 | 150 | 320 | 20 | 15 | 30 | 12 | 4 | 9.5 | 65 | 32 | 10 | 27.5 |
| 60 - 100 | 1/300 | 352 | 219 | 161 | 190 | 226 | 260 | 60 | 170 | 90 | 120 | 220 | 155 | 180 | 375 | 30 | 15 | 40 | 15 | 5 | 12 | 75 | 38 | 10 | 33.5 |
| 70 - 120 | 1/400 | 417 | 258 | 192 | 220 | 266 | 290 | 70 | 190 | 100 | 140 | 260 | 185 | 215 | 450 | 30 | 18 | 40 | 18 | 5 | 15 | 85 | 45 | 12 | 40.5 |
| 80 - 135 | 1/500 1/600 | 462 | 287 | 211 | 260 | 306 | 320 | 80 | 210 | 110 | 160 | 295 | 210 | 235 | 495 | 35 | 18 | 50 | 22 | 7 | 18 | 95 | 55 | 15 | 50 |
| 100 - 155 | 1/800 | 542 | 349 | 257 | 290 | 350 | 392 | 100 | 252 | 140 | 190 | 345 | 245 | 295 | 590 | 40 | 20 | 50 | 25 | 7 | 21 | 110 | 60 | 15 | 55 |
| 120 - 175 | 1/900 | 585 | 376 | 275 | 320 | 394 | 412 | 120 | 262 | 150 | 230 | 405 | 267 | 323 | 640 | 45 | 20 | 65 | 30 | 7 | 26 | 110 | 65 | 18 | 59 |

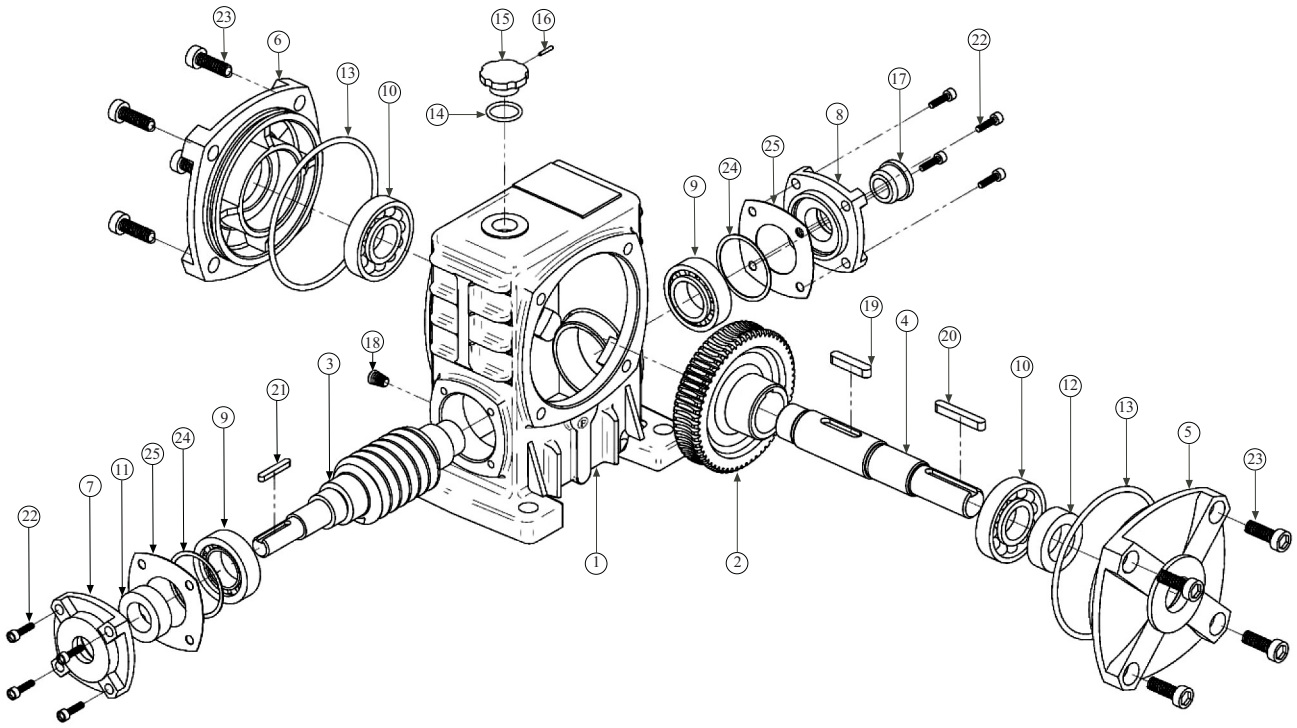
## Single Standard Series

| Main specification | | | | | |
|---|---|---|---|---|---|
| Shaft center distance(mm) | | | | | |
| 40<br>120 | 50<br>135 | 60<br>155 | 70<br>175 | 80<br>200 | 100<br>250 |
| Gear ratio range | | | | | |
| 1/5<br>1/40 | 1/10<br>1/50 | 1/15<br>1/60 | 1/20 | 1/25 | 1/30 |

| NO. | Parts |
|---|---|
| 1. | Frame |
| 2. | Worm wheel |
| 3. | Worm shaft |
| 4. | Output shaft |
| 5. | Output shaft cover |
| 6. | Output shaft cover |
| 7. | Input shaft cover |
| 8. | Input shaft cover |
| 9. | Bearing |
| 10. | Bearing |
| 11. | Oil seal |
| 12. | Oil seal |
| 13. | O ring |

| NO. | Parts |
|---|---|
| 14. | O ring |
| 15. | Oil hole cover |
| 16. | Pin |
| 17. | Oil gauge |
| 18. | Oil plug |
| 19. | Key |
| 20. | Key |
| 21. | Key |
| 22. | Intl.hex screw |
| 23. | Intl.hex screw |
| 24. | Shim |
| 25. | Gasket |

# WPA

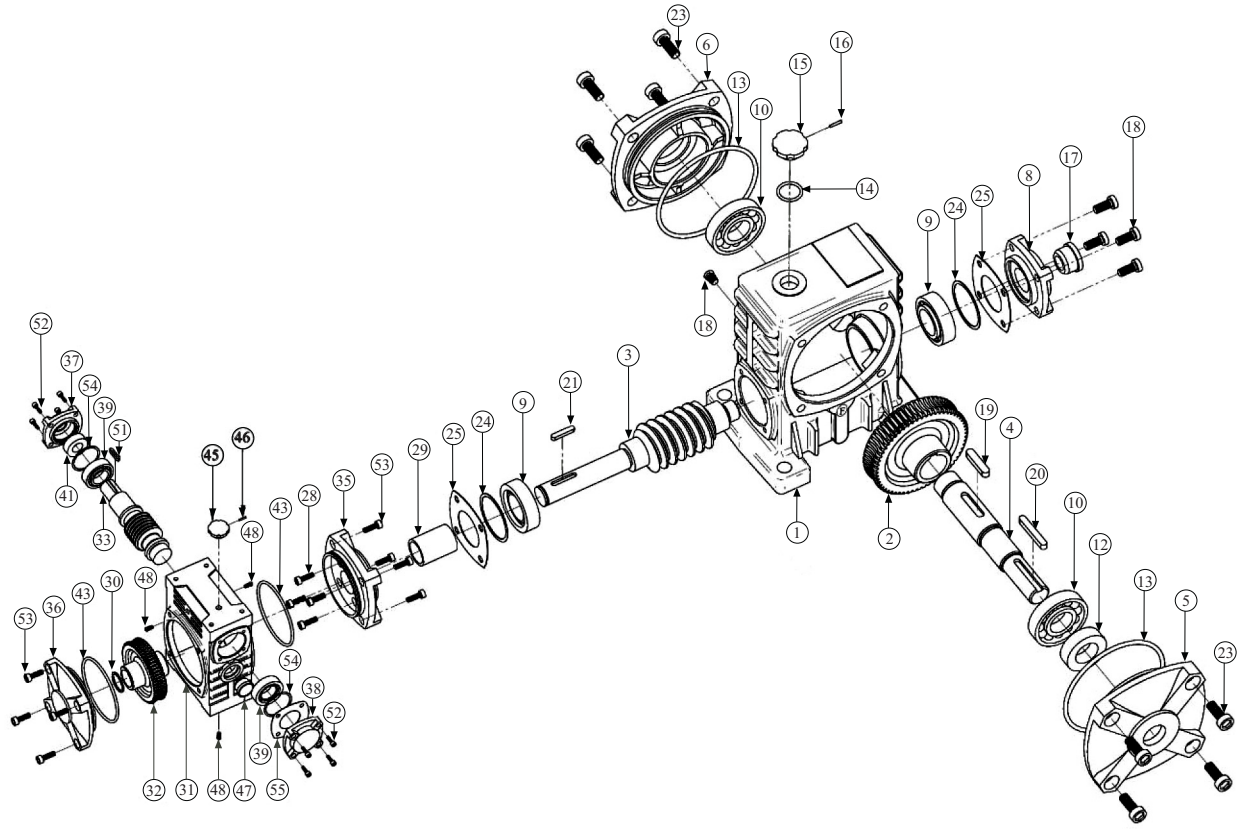


# Double Standard Series

| Main specification | | | | | |
|---|---|---|---|---|---|
| ***Shaft center distance(mm)*** | | | | | |
| 40-60 | 50-80 | 60-100 | 70-120 | 80-135 | 100-155 |
| 120-175 | 135-200 | | | | |
| ***Gear ratio range*** | | | | | |
| 1/100 | 1/150 | 1/200 | 1/250 | 1/300 | 1/400 |
| 1/500 | 1/600 | 1/800 | 1/900 | 1/1000 | 1/1200 |
| 1/1500 | 1/1600 | 1/1800 | 1/2000 | 1/2400 | 1/2500 |
| 1/3000 | 1/3600 | | | | |

| *NO.* | *Parts* |
|---|---|
| 1. | Frame |
| 2. | Worm wheel |
| 3. | Worm shaft |
| 4. | Output shaft |
| 5. | Output shaft cover |
| 6. | Output shaft cover |
| 8. | Input shaft cover |
| 9. | Bearing |
| 10. | Bearing |
| 12. | Oil seal |
| 13. | O ring |
| 14. | O ring |
| 15. | Oil hole cover |
| 16. | Pin |
| 17. | Oil gauge |
| 18. | Oil plug |

| *NO.* | *Parts* |
|---|---|
| 19. | Key |
| 20. | Key |
| 21. | Key |
| 22. | Intl.hex screw |
| 23. | Intl.hex screw |
| 24. | Shim |
| 25. | Gasket |
| 28. | Intl.hex screw |
| 29. | Shaft sleeve |
| 30. | Snap ring |
| 31. | Frame |
| 32. | Worm wheel |
| 33. | Worm shaft |
| 35. | Connecting cover |
| 36. | Output shaft cover |
| 37. | Input shaft cover |
| 38. | Input shaft cover |
| 39. | Bearing |
| 41. | Oil seal |
| 43. | O ring |
| 45. | Oil hole cover |
| 46. | Pin |
| 47. | Oil gauge |
| 48. | Oil plug |
| 51. | Key |
| 52. | Intl. hex screw |
| 53. | Intl.hex screw |
| 54. | Shim |
| 55. | Gasket |



# *Type WP Without Flange* Input Power & Output Torque

| Size | Ratio | (r/min) | 1800 | 1500 | 1200 | 900 |
|---|---|---|---|---|---|---|
| 40 | 1/10 | Input Shaft power (kw) | 0.62 | 0.58 | 0.50 | 0.42 |
| | | Output Shaft Torque (N.m) | 26 | 28 | 31 | 34 |
| | 1/20 | Input Shaft power (kw) | 0.29 | 0.26 | 0.23 | 0.20 |
| | | Output Shaft Torque (N.m) | 21 | 23 | 25 | 28 |
| | 1/30 | Input Shaft power (kw) | 0.32 | 0.30 | 0.26 | 0.20 |
| | | Output Shaft Torque (N.m) | 33 | 35 | 38 | 38 |
| | 1/40 | Input Shaft power (kw) | 0.20 | 0.18 | 0.16 | 0.14 |
| | | Output Shaft Torque (N.m) | 25 | 26 | 28 | 31 |
| | 1/50 | Input Shaft power (kw) | 0.19 | 0.17 | 0.15 | 0.13 |
| | | Output Shaft Torque (N.m) | 28 | 30 | 32 | 35 |
| | 1/60 | Input Shaft power (kw) | 0.15 | 0.14 | 0.12 | 0.11 |
| | | Output Shaft Torque (N.m) | 24 | 26 | 27 | 30 |
| 50 | 1/5 | Input Shaft power (kw) | 1.62 | 1.47 | 1.30 | 1.00 |
| | | Output Shaft Torque (N.m) | 31 | 32 | 35 | 36 |
| | 1/10 | Input Shaft power (kw) | 1.08 | 0.98 | 0.87 | 0.67 |
| | | Output Shaft Torque (N.m) | 45 | 48 | 53 | 53 |
| | 1/15 | Input Shaft power (kw) | 0.80 | 0.73 | 0.62 | 0.47 |
| | | Output Shaft Torque (N.m) | 47 | 51 | 53 | 53 |
| | 1/20 | Input Shaft power (kw) | 0.49 | 0.44 | 0.38 | 0.32 |
| | | Output Shaft Torque (N.m) | 38 | 41 | 44 | 48 |
| | 1/30 | Input Shaft power (kw) | 0.51 | 0.44 | 0.36 | 0.28 |
| | | Output Shaft Torque (N.m) | 53 | 53 | 53 | 53 |
| | 1/40 | Input Shaft power (kw) | 0.33 | 0.30 | 0.26 | 0.21 |
| | | Output Shaft Torque (N.m) | 44 | 47 | 50 | 53 |
| | 1/50 | Input Shaft power (kw) | 0.29 | 0.26 | 0.23 | 0.18 |
| | | Output Shaft Torque (N.m) | 45 | 48 | 51 | 53 |
| | 1/60 | Input Shaft power (kw) | 0.23 | 0.21 | 0.18 | 0.16 |
| | | Output Shaft Torque (N.m) | 43 | 45 | 47 | 53 |
| 60 | 1/5 | Input Shaft power (kw) | 2.60 | 2.34 | 2.10 | 1.77 |
| | | Output Shaft Torque (N.m) | 51 | 55 | 60 | 67 |
| | 1/10 | Input Shaft power (kw) | 1.74 | 1.56 | 1.41 | 1.18 |
| | | Output Shaft Torque (N.m) | 73 | 78 | 86 | 94 |
| | 1/15 | Input Shaft power (kw) | 1.29 | 1.16 | 1.02 | 0.88 |
| | | Output Shaft Torque (N.m) | 77 | 82 | 88 | 99 |
| | 1/20 | Input Shaft power (kw) | 0.91 | 0.83 | 0.74 | 0.62 |
| | | Output Shaft Torque (N.m) | 70 | 75 | 81 | 90 |
| | 1/30 | Input Shaft power (kw) | 0.86 | 0.79 | 0.69 | 0.59 |
| | | Output Shaft Torque (N.m) | 91 | 98 | 104 | 114 |
| | 1/40 | Input Shaft power (kw) | 0.62 | 0.56 | 0.50 | 0.44 |
| | | Output Shaft Torque (N.m) | 80 | 86 | 92 | 102 |
| | 1/50 | Input Shaft power (kw) | 0.58 | 0.53 | 0.47 | 0.30 |
| | | Output Shaft Torque (N.m) | 95 | 100 | 108 | 90 |
| | 1/60 | Input Shaft power (kw) | 0.48 | 0.44 | 0.38 | 0.32 |
| | | Output Shaft Torque (N.m) | 90 | 95 | 102 | 111 |
| 70 | 1/5 | Input Shaft power (kw) | 3.91 | 3.49 | 3.12 | 2.35 |
| | | Output Shaft Torque (N.m) | 78 | 82 | 90 | 90 |
| | 1/10 | Input Shaft power (kw) | 2.61 | 2.33 | 2.08 | 1.57 |
| | | Output Shaft Torque (N.m) | 110 | 117 | 128 | 141 |
| | 1/15 | Input Shaft power (kw) | 1.89 | 1.72 | 1.52 | 1.30 |
| | | Output Shaft Torque (N.m) | 114 | 123 | 133 | 148 |
| | 1/20 | Input Shaft power (kw) | 1.45 | 1.31 | 1.16 | 0.98 |
| | | Output Shaft Torque (N.m) | 115 | 123 | 134 | 14/1 |
| | 1/30 | Input Shaft power (kw) | 1.27 | 1.16 | 1.02 | 0.89 |
| | | Output Shaft Torque (N.m) | 136 | 147 | 158 | 173 |
| | 1/40 | Input Shaft power (kw) | 0.93 | 0.85 | 0.76 | 0.65 |
| | | Output Shaft Torque (N.m) | 128 | 137 | 147 | 162 |
| | 1/50 | Input Shaft power (kw) | 0.84 | 0.77 | 0.68 | 0.58 |
| | | Output Shaft Torque (N.m) | 140 | 149 | 160 | 174 |
| | 1/60 | Input Shaft power (kw) | 0.71 | 0.65 | 0.57 | 0.49 |
| | | Output Shaft Torque (N.m) | 137 | 143 | 153 | 166 |

## *Type WP Without Flange* Input Power & Output Torque

| Size | Ratio | (r/min) | 1800 | 1500 | 1200 | 900 |
|---|---|---|---|---|---|---|
| 80 | 1/5 | Input Shaft power (kw) | 5.50 | 4.98 | 4.38 | 3.72 |
| | | Output Shaft Torque (N.m) | 113 | 118 | 128 | 145 |
| | 1/10 | Input Shaft power (kw) | 3.70 | 3.32 | 2.92 | 2.48 |
| | | Output Shaft Torque (N.m) | 156 | 167 | 182 | 202 |
| | 1/15 | Input Shaft power (kw) | 2.68 | 2.41 | 2.12 | 1.83 |
| | | Output Shaft Torque (N.m) | 163 | 174 | 190 | 212 |
| | 1/20 | Input Shaft power (kw) | 1.90 | 1.73 | 1.53 | 1.28 |
| | | Output Shaft Torque (N.m) | 148 | 160 | 174 | 191 |
| | 1/30 | Input Shaft power (kw) | 1.79 | 1.61 | 1.43 | 1.24 |
| | | Output Shaft Torque (N.m) | 194 | 207 | 225 | 248 |
| | 1/40 | Input Shaft power (kw) | 1.28 | 1.16 | 1.04 | 0.89 |
| | | Output Shaft Torque (N.m) | 172 | 184 | 200 | 218 |
| | 1/50 | Input Shaft power (kw) | 1.18 | 1.07 | 0.96 | 0.82 |
| | | Output Shaft Torque (N.m) | 197 | 212 | 227 | 247 |
| | 1/60 | Input Shaft power (kw) | 0.97 | 0.89 | 0.79 | 0.68 |
| | | Output Shaft Torque (N.m) | 185 | 200 | 212 | 233 |
| 100 | 1/5 | Input Shaft power (kw) | 9.80 | 8.90 | 7.80 | 6.60 |
| | | Output Shaft Torque (N.m) | 202 | 218 | 235 | 265 |
| | 1/10 | Input Shaft power (kw) | 6.55 | 5.95 | 5.20 | 4.40 |
| | | Output Shaft Torque (N.m) | 280 | 302 | 328 | 370 |
| | 1/15 | Input Shaft power (kw) | 4.75 | 4.25 | 3.82 | 3.25 |
| | | Output Shaft Torque (N.m) | 292 | 310 | 345 | 385 |
| | 1/20 | Input Shaft power (kw) | 3.77 | 3.43 | 3.02 | 2.55 |
| | | Output Shaft Torque (N.m) | 306 | 332 | 362 | 395 |
| | 1/30 | Input Shaft power (kw) | 3.15 | 2.86 | 2.51 | 2.17 |
| | | Output Shaft Torque (N.m) | 351 | 375 | 403 | 451 |
| | 1/40 | Input Shaft power (kw) | 2.38 | 2.15 | 1.91 | 1.52 |
| | | Output Shaft Torque (N.m) | 334 | 368 | 401 | 451 |
| | 1/50 | Input Shaft power (kw) | 1.79 | 1.63 | 1.45 | 1.25 |
| | | Output Shaft Torque (N.m) | 312 | 334 | 363 | 398 |
| | 1/60 | Input Shaft power (kw) | 1.47 | 1.34 | 1.19 | 1.03 |
| | | Output Shaft Torque (N.m) | 298 | 323 | 343 | 374 |
| 120 | 1/5 | Input Shaft power (kw) | 15.6 | 14.10 | 12.37 | 10.56 |
| | | Output Shaft Torque (N.m) | 326 | 350 | 378 | 425 |
| | 1/10 | Input Shaft power (kw) | 10.4 | 9.45 | 8.25 | 7.04 |
| | | Output Shaft Torque (N.m) | 448 | 491 | 528 | 588 |
| | 1/15 | Input Shaft power (kw) | 7.50 | 6.77 | 6.06 | 5.12 |
| | | Output Shaft Torque (N.m) | 470 | 501 | 553 | 615 |
| | 1/20 | Input Shaft power (kw) | 5.37 | 4.87 | 4.29 | 3.64 |
| | | Output Shaft Torque (N.m) | 432 | 470 | 503 | 568 |
| | 1/30 | Input Shaft power (kw) | 5.00 | 4.50 | 3.98 | 3.41 |
| | | Output Shaft Torque (N.m) | 561 | 601 | 650 | 725 |
| | 1/40 | Input Shaft power (kw) | 3.51 | 3.14 | 2.83 | 2.43 |
| | | Output Shaft Torque (N.m) | 497 | 526 | 573 | 636 |
| | 1/50 | Input Shaft power (kw) | 2.95 | 2.66 | 2.36 | 2.02 |
| | | Output Shaft Torque (N.m) | 534 | 567 | 622 | 673 |
| | 1/60 | Input Shaft power (kw) | 2.36 | 2.13 | 1.89 | 1.63 |
| | | Output Shaft Torque (N.m) | 480 | 509 | 550 | 600 |
| 135 | 1/5 | Input Shaft power (kw) | 22.2 | 20.2 | 17.8 | 14.9 |
| | | Output Shaft Torque (N.m) | 476 | 514 | 559 | 616 |
| | 1/10 | Input Shaft power (kw) | 14.8 | 13.5 | 11.9 | 9.98 |
| | | Output Shaft Torque (N.m) | 648 | 713 | 762 | 851 |
| | 1/15 | Input Shaft power (kw) | 11.0 | 9.83 | 8.85 | 7.46 |
| | | Output Shaft Torque (N.m) | 699 | 745 | 823 | 914 |
| | 1/20 | Input Shaft power (kw) | 8.48 | 7.73 | 6.73 | 5.77 |
| | | Output Shaft Torque (N.m) | 710 | 768 | 822 | 924 |
| | 1/30 | Input Shaft power (kw) | 7.26 | 6.53 | 5.78 | 4.94 |
| | | Output Shaft Torque (N.m) | 843 | 900 | 970 | 1078 |
| | 1/40 | Input Shaft power (kw) | 5.24 | 4.78 | 4.20 | 3.60 |
| | | Output Shaft Torque (N.m) | 792 | 851 | 918 | 1020 |
| | 1/50 | Input Shaft power (kw) | 3.96 | 3.57 | 3.17 | 2.70 |
| | | Output Shaft Torque (N.m) | 728 | 771 | 841 | 918 |
| | 1/60 | Input Shaft power (kw) | 3.11 | 2.81 | 2.48 | 2.13 |
| | | Output Shaft Torque (N.m) | 658 | 698 | 755 | 825 |

## *Type WP Without Flange*

# Input Power & Output Torque

| Size | Ratio | (r/min) | 1800 | 1500 | 1200 | 900 |
|---|---|---|---|---|---|---|
| 155 | 1/5 | Input Shaft power (kw) | 29.6 | 26.88 | 23.76 | 20.00 |
| | | Output Shaft Torque (N.m) | 592 | 748 | 702 | 760 |
| | 1/10 | Input Shaft power (kw) | 19.74 | 17.92 | 15.84 | 13.36 |
| | | Output Shaft Torque (N.m) | 823 | 893 | 980 | 1100 |
| | 1/15 | Input Shaft power (kw) | 15.48 | 13.86 | 12.24 | 10.44 |
| | | Output Shaft Torque (N.m) | 935 | 1005 | 1095 | 1090 |
| | 1/20 | Input Shaft power (kw) | 11.2 | 10.1 | 8.93 | 7.50 |
| | | Output Shaft Torque (N.m) | 926 | 1000 | 1078 | 1196 |
| | 1/30 | Input Shaft power (kw) | 9.98 | 9.08 | 7.80 | 6.81 |
| | | Output Shaft Torque (N.m) | 1098 | 1196 | 1274 | 1431 |
| | 1/40 | Input Shaft power (kw) | 6.99 | 6.20 | 5.55 | 4.71 |
| | | Output Shaft Torque (N.m) | 1039 | 1098 | 1196 | 1315 |
| | 1/50 | Input Shaft power (kw) | 5.35 | 4.82 | 4.32 | 3.67 |
| | | Output Shaft Torque (N.m) | 969 | 1029 | 1118 | 1235 |
| | 1/60 | Input Shaft power (kw) | 4.39 | 4.03 | 3.54 | 2.96 |
| | | Output Shaft Torque (N.m) | 934 | 1000 | 1068 | 1156 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 175 | 1/10 | Input Shaft power (kw) | 26.32 | 23.92 | 22.64 | 19.04 |
| | | Output Shaft Torque (N.m) | 1105 | 1248 | 1412 | 1568 |
| | 1/15 | Input Shaft power (kw) | 19.84 | 17,76 | 15.52 | 13.28 |
| | | Output Shaft Torque (N.m) | 1210 | 1294 | 1412 | 1585 |
| | 1/20 | Input Shaft power (kw) | 15.39 | 13.76 | 12.15 | 11.4 |
| | | Output Shaft Torque (N.m) | 1245 | 1332 | 1455 | 1784 |
| | 1/30 | Input Shaft power (kw) | 12.87 | 11.61 | 11.3 | 9.68 |
| | | Output Shaft Torque (N.m) | 1440 | 1552 | 1862 | 2078 |
| | 1/40 | Input Shaft power (kw) | 8.91 | 8.04 | 7.80 | 6.72 |
| | | Output Shaft Torque (N.m) | 1314 | 1410 | 1676 | 1862 |
| | 1/50 | Input Shaft power (kw) | 7.34 | 6.56 | 5.99 | 4.98 |
| | | Output Shaft Torque (N.m) | 1324 | 1412 | 1568 | 1676 |
| | 1/60 | Input Shaft power (kw) | 6.17 | 5.81 | 4.97 | 4.17 |
| | | Output Shaft Torque (N.m) | 1294 | 1440 | 1490 | 1622 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 200 | 1/10 | Input Shaft power (kw) | 31.60 | 28.60 | 25.12 | 21.36 |
| | | Output Shaft Torque (N.m)) | 1420 | 1536 | 1686 | 2368 |
| | 1/20 | Input Shaft power (kw) | 20.43 | 18.27 | 17.9 | 15.1 |
| | | Output Shaft Torque (N.m) | 1703 | 1818 | 2215 | 2450 |
| | 1/30 | Input Shaft power (kw) | 16.92 | 15.29 | 13.41 | 12.7 |
| | | Output Shaft Torque (N.m) | 2050 | 2196 | 2646 | 2940 |
| | 1/40 | Input Shaft power (kw) | 12.33 | 11.16 | 10.7 | 9.23 |
| | | Output Shaft Torque (N.m) | 1878 | 2030 | 2420 | 2686 |
| | 1/50 | Input Shaft power (kw) | 10.4 | 9.23 | 8.40 | 6.97 |
| | | Output Shaft Torque (N.m) | 1911 | 2030 | 2264 | 2420 |
| | 1/60 | Input Shaft power (kw)) | 8.63 | 7.73 | 7.23 | 5.82 |
| | | Output Shaft Torque (N.m) | 1842 | 1960 | 2234 | 2322 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 250 | 1/10 | Input Shaft power (kw) | 54.38 | 49.65 | 44.10 | 36.82 |
| | | Output Shaft Torque (N.m) | 2530 | 2602 | 3074 | 3325 |
| | 1/20 | Input Shaft power (kw) | 33.22 | 29.50 | 26.00 | 21.84 |
| | | Output Shaft Torque (N.m) | 2880 | 3066 | 3320 | 3715 |
| | 1/30 | Input Shaft power (kw) | 26.55 | 23.77 | 22.24 | 18.64 |
| | | Output Shaft Torque (N.m) | 3138 | 3360 | 3912 | 4320 |
| | 1/40 | Input Shaft power (kw) | 19.76 | 17.92 | 15.52 | 13.68 |
| | | Output Shaft Torque (N.m) | 3144 | 3410 | 3670 | 4215 |
| | 1/50 | Input Shaft power (kw) | 14.24 | 12.72 | 11.9 | 10.12 |
| | | Output Shaft Torque (N.m) | 2865 | 3008 | 3482 | 3815 |
| | 1/60 | Input Shaft power (kw) | 12.16 | 10.8 | 10.71 | 8.58 |
| | | Output Shaft Torque (N.m) | 2744 | 2910 | 3550 | 3660 |

## *Type WP With Flange*

# Input Power & Output Torque

| Size | (r/min) | Ratio | 1/5 | 1/10 | 1/15 | 1/20 | 1/25 | 1/30 | 1/40 | 1/50 | 1/60 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | 1500 | Input Shaft power (kw) | 0.18 | 0.18 | | 0.18 | | 0.18 | 0.12 | 0.12 | 0.12 |
| | | Output Shaft Torque (N.m) | 5 | 8 | | 15 | | 19 | 16 | 21 | 23 |
| 50 | 1500 | Input Shaft power (kw) | 0.18 | 0.18 | | 0.18 | | 0.18 | 0.18 | 0.18 | 0.18 |
| | | Output Shaft Torque (N.m) | 5 | 8 | | 16 | | 20 | 24 | 31 | 35 |
| 60 | 1500 | Input Shaft power (kw) | 0.37 | 0.37 | 0.37 | 0.37 | 0.37 | 0.37 | 0.37 | 0.37 | 0.37 |
| | | Output Shaft Torque (N.m) | 9.5 | 18 | 26 | 34 | 40 | 42 | 50 | 61 | 73 |
| | 1000 | Input Shaft power (kw) | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| | | Output Shaft Torque (N.m) | 9.5 | 18 | 25 | 33 | 40 | 40 | 48 | 60 | 72 |
| 70 | 1500 | Input Shaft power (kw) | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.37 | 0.37 |
| | | Output Shaft Torque (N.m) | 20 | 38 | 56 | 70 | 80 | 95 | 122 | 59 | 70 |
| | 1000 | Input Shaft power (kw) | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.25 | 0.25 |
| | | Output Shaft Torque (N.m) | 22 | 40 | 60 | 75 | 88 | 100 | 130 | 58 | 70 |
| 80 | 1500 | Input Shaft power (kw) | 1.5 | .5 | 1.5 | 1.5 | 1.5 | 1.5 | 0.75 | 0.75 | 0.75 |
| | | Output Shaft Torque (N.m) | 40 | 76 | 110 | 142 | 176 | 188 | 137 | 150 | 154 |
| | 1000 | Input Shaft power (kw) | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 0.55 | 0.55 | 0.55 |
| | | Output Shaft Torque (N.m) | 42 | 80 | 120 | 150 | 188 | 200 | 148 | 160 | 160 |
| 100 | 1500 | Input Shaft power (kw) | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 1.5 |
| | | Output Shaft Torque (N.m) | 58 | 110 | 162 | 205 | 256 | 290 | 256 | 307 | 320 |
| | 1000 | Input Shaft power (kw) | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.1 | 1.1 | 1.1 |
| | | Output Shaft Torque (N.m) | 57 | 109 | 166 | 205 | 253 | 286 | 275 | 330 | 340 |
| 120 | 1500 | Input Shaft power (kw) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | | | 2.2 |
| | | Output Shaft Torque (N.m) | 78 | 149 | 226 | 278 | 360 | 403 | 376 | 480 | 509 |
| | 1000 | Input Shaft power (kw) | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| | | Output Shaft Torque (N.m) | 58 | 110 | 70 | 205 | 270 | 300 | 380 | 485 | 520 |
| 135 | 1500 | Input Shaft power (kw) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 3.0 | 3.0 |
| | | Output Shaft Torque (N.m) | 105 | 195 | 290 | 375 | 480 | 529 | 510 | 625 | 650 |
| | 1000 | Input Shaft power (kw) | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 1.5 |
| | | Output Shaft Torque (N.m) | 88 | 162 | 240 | 310 | 390 | 435 | 380 | 460 | 485 |
| 155 | 1500 | Input Shaft power (kw) | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| | | Output Shaft Torque (N.m) | 128 | 240 | 385 | 480 | 620 | 670 | 997 | 1029 | 1098 |
| | 1000 | Input Shaft power (kw) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.0 | 3.0 | 3.0 |
| | | Output Shaft Torque (N.m) | 145 | 270 | 420 | 520 | 670 | 720 | 1050 | 1100 | 1180 |
| 175 | 1500 | Input Shaft power (kw) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 5.5 | 5.5 | 5.5 |
| | | Output Shaft Torque (N.m) | 200 | 380 | 570 | 720 | 845 | 1070 | 1010 | 1150 | 1100 |
| | 1000 | Input Shaft power (kw) | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 4.0 | 4.0 | 4.0 |
| | | Output Shaft Torque (N.m) | 220 | 418 | 620 | 790 | 930 | 1150 | 1100 | 1230 | 1180 |
| 200 | 1500 | Input Shaft power (kw) | | 11 | 11 | 11 | 11 | 11 | 7.5 | 7.5 | 7.5 |
| | | Output Shaft Torque (N.m) | | 570 | 860 | 1100 | 1260 | 1600 | 1400 | 1650 | 1600 |
| | 1000 | Input Shaft power (kw) | | 11 | 11 | 11 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| | | Output Shaft Torque (N.m) | | 850 | 1250 | 1600 | 1250 | 1550 | 2050 | 2400 | 2300 |

## *Double Type WPE*

# Input Power & Output Torque

| Size | Ratio | (r/min) | 1800 | 1500 | 1200 | 900 |
|---|---|---|---|---|---|---|
| 40-60 | 1/200 | Input Shaft power (kw) | 0.24 | 0.20 | 0.16 | 0.12 |
| | | Output Shaft Torque (N.m) | 112 | 112 | 112 | 112 |
| | 1/300 | Input Shaft power (kw) | 0.17 | 0.15 | 0.12 | 0.09 |
| | | Output Shaft Torque (N.m) | 112 | 112 | 112 | 112 |
| | 1/400 | Input Shaft power (kw) | 0.14 | 0.12 | 0.09 | 0.07 |
| | | Output Shaft Torque (N.m) | 112 | 112 | 112 | 112 |
| | 1/500 | Input Shaft power (kw) | 0.12 | 0.10 | 0.09 | 0.07 |
| | | Output Shaft Torque (N.m) | 112 | 112 | 112 | 112 |
| | 1/600 | Input Shaft power (kw) | 0.10 | 0.09 | 0.08 | 0.06 |
| | | Output Shaft Torque (N.m) | 112 | 112 | 112 | 112 |
| | 1/800 | Input Shaft power (kw) | 0.09 | 0.08 | 0.08 | 0.06 |
| | | Output Shaft Torque (N.m) | 112 | 112 | 112 | 112 |
| | 1/900 | Input Shaft power (kw) | 0.08 | 0.07 | 0.07 | 0.05 |
| | | Output Shaft Torque (N.m) | 112 | 112 | 112 | 112 |
| 50-80 | 1/200 | Input Shaft power (kw) | 0.68 | 0.66 | 0.57 | 0.46 |
| | | Output Shaft Torque (N.m) | 350 | 350 | 350 | 350 |
| | 1/300 | Input Shaft power (kw) | 0.59 | 0.52 | 0.42 | 0.32 |
| | | Output Shaft Torque (N.m) | 350 | 350 | 350 | 350 |
| | 1/400 | Input Shaft power (kw) | 0.52 | 0.43 | 0.35 | 0.29 |
| | | Output Shaft Torque (N.m) | 350 | 350 | 350 | 350 |
| | 1/500 | Input Shaft power (kw) | 0.43 | 0.37 | 0.33 | 0.25 |
| | | Output Shaft Torque (N.m) | 350 | 350 | 350 | 350 |
| | 1/600 | Input Shaft power (kw) | 0.35 | 0.30 | 0.27 | 0.20 |
| | | Output Shaft Torque (N.m) | 350 | 350 | 350 | 350 |
| | 1/800 | Input Shaft power (kw) | 0.32 | 0.28 | 0.21 | 0.16 |
| | | Output Shaft Torque (N.m) | 350 | 350 | 350 | 350 |
| | 1/900 | Input Shaft power (kw) | 0.29 | 0.24 | 0.18 | 0.16 |
| | | Output Shaft Torque (N.m) | 350 | 350 | 350 | 350 |
| 60-100 | 1/200 | Input Shaft power (kw) | 1.13 | 0.96 | 0.79 | 0.59 |
| | | Output Shaft Torque (N.m) | 500 | 500 | 500 | 500 |
| | 1/300 | Input Shaft power (kw) | 0.76 | 0.68 | 0.56 | 0.43 |
| | | Output Shaft Torque (N.m) | 500 | 500 | 500 | 500 |
| | 1/400 | Input Shaft power (kw) | 0.62 | 0.53 | 0.44 | 0.35 |
| | | Output Shaft Torque (N.m) | 500 | 500 | 500 | 500 |
| | 1/500 | Input Shaft power (kw) | 0.53 | 0.45 | 0.38 | 0.28 |
| | | Output Shaft Torque (N.m) | 500 | 500 | 500 | 500 |
| | 1/600 | Input Shaft power (kw) | 0.46 | 0.39 | 0.34 | 0.25 |
| | | Output Shaft Torque (N.m) | 500 | 500 | 500 | 500 |
| | 1/800 | Input Shaft power (kw) | 0.39 | 0.34 | 0.28 | 0.22 |
| | | Output Shaft Torque (N.m) | 500 | 500 | 500 | 500 |
| | 1/900 | Input Shaft power (kw) | 0.38 | 0.32 | 0.26 | 0.21 |
| | | Output Shaft Torque (N.m) | 500 | 500 | 500 | 500 |
| 70-120 | 1/200 | Input Shaft power (kw) | 1.94 | 1.66 | 1.37 | 1.06 |
| | | Output Shaft Torque (N.m) | 840 | 840 | 840 | 840 |
| | 1/300 | Input Shaft power (kw) | 1.40 | 1.20 | 1.00 | 0.76 |
| | | Output Shaft Torque (N.m) | 840 | 840 | 840 | 840 |
| | 1/400 | Input Shaft power (kw) | 1.10 | 0.93 | 0.76 | 0.59 |
| | | Output Shaft Torque (N.m) | 840 | 840 | 840 | 840 |
| | 1/500 | Input Shaft power (kw) | 0.97 | 0.83 | 0.70 | 0.53 |
| | | Output Shaft Torque (N.m) | 840 | 840 | 840 | 840 |
| | 1/600 | Input Shaft power (kw) | 0.81 | 0.69 | 0.57 | 0.44 |
| | | Output Shaft Torque (N.m) | 840 | 840 | 840 | 840 |
| | 1/800 | Input Shaft power (kw) | 0.63 | 0.56 | 0.44 | 0.36 |
| | | Output Shaft Torque (N.m) | 040 | 840 | 840 | 840 |
| | 1/900 | Input Shaft power (kw) | 0.62 | 0.52 | 0.44 | 0.36 |
| | | Output Shaft Torque (N.m) | 840 | 840 | 840 | 840 |

## *Double Type WPE*

# Input Power & Output Torque

| Size | Ratio | (r/min) | 1800 | 1500 | 1200 | 900 |
|---|---|---|---|---|---|---|
| 80-135 | 1/200 | Input Shaft power (kw) | 2.98 | 2.52 | 2.05 | 1.58 |
| | | Output Shaft Torque (N.m) | 1400 | 1400 | 1401) | 1400 |
| | 1/300 | Input Shaft power (kw) | 2.09 | 1.77 | 1.48 | 1.16 |
| | | Output Shaft Torque (N.m) | 1400 | 1400 | 1400 | 1400 |
| | 1/400 | Input Shaft power (kw) | 1.64 | 1.41 | 1.16 | 0.89 |
| | | Output Shaft Torque (N.m) | 1400 | 1400 | 1400 | 1400 |
| | 1/500 | Input Shaft power (kw) | 1.40 | 1.20 | 0.97 | 0.79 |
| | | Output Shaft Torque (N.m) | 1400 | 1400 | 1400 | 1400 |
| | 1/600 | Input Shaft power (kw) | 1.20 | 1.06 | 0.34 | 0.67 |
| | | Output Shaft Torque (N.m) | 1400 | 1400 | 1400 | 1400 |
| | 1/800 | Input Shaft power (kw) | 1.10 | 0.96 | 0.81 | 0.66 |
| | | Output Shaft Torque (N.m) | 1400 | 1400 | 1400 | 1400 |
| | 1/900 | Input Shaft power (kw) | 0.95 | 0.83 | 0.70 | 0.55 |
| | | Output Shaft Torque (N.m) | 1400 | 1400 | 1400 | 1400 |
| 100-155 | 1/200 | Input Shaft power (kw) | 4.25 | 3.72 | 3.25 | 2.67 |
| | | Output Shaft Torque (N.m) | 2100 | 2100 | 2100 | 2100 |
| | 1/300 | Input Shaft power (kw) | 3.32 | 2.95 | 2.58 | 2.10 |
| | | Output Shaft Torque (N.m) | 2100 | 2100 | 2100 | 2100 |
| | 1/400 | Input Shaft power (kw) | 2.71 | 2.44 | 2.06 | 1.58 |
| | | Output Shaft Torque (N.m) | 2100 | 2100 | 2100 | 2100 |
| | 1/500 | Input Shaft power (kw) | 2.36 | 2.06 | 1.68 | 1.32 |
| | | .Output Shaft Torque (N.m) | 2100 | 2100 | 2100 | 2100 |
| | 1/600 | Input Shaft power (kw) | 2.19 | 1.86 | 1.55 | 1.19 |
| | | Output Shaft Torque (N.m) | 2100 | 2100 | 2100 | 2100 |
| | 1/800 | Input Shaft power (kw) | 2.13 | 1.86 | 1.50 | 1.13 |
| | | Output Shaft Torque (N.m) | 2100 | 2100 | 2100 | 2100 |
| | 1/900 | Input Shaft power (kw) | 1.63 | 146 | 1.21 | 0.95 |
| | | Output Shaft Torque (N.m) | 2100 | 2100 | 2100 | 2100 |
| 120-175 | 1/200 | Input Shaft power (kw) | 5.66 | 5.12 | 4.35 | 3.56 |
| | | Output Shaft Torque (N.m) | 3050 | 3050 | 3050 | 3050 |
| | 1/300 | Input Shaft power (kw) | 4.44 | 3.94 | 3.43 | 2.76 |
| | | Output Shaft Torque (N.m) | 3050 | 3050 | 3050 | 3050 |
| | 1/400 | Input Shaft power (kw) | 3.73 | 3.30 | 2.80 | 2.18 |
| | | Output Shaft Torque (N.m) | 3050 | 3050 | 3050 | 3050 |
| | 1/500 | Input Shaft power (kw) | 3,14 | 2.73 | 2.26 | 1.75 |
| | | Output Shaft Torque (N.m) | 3050 | 3050 | 3050 | 3050 |
| | 1/600 | Input Shaft power (kw) | 2.91 | 2.50 | 2.05 | 1.60 |
| | | Output Shaft Torque (N.m) | 3050 | 3050 | 3050 | 3050 |
| | 1/800 | Input Shaft power (kw) | 2.89 | 2.46 | 2.03 | 1.60 |
| | | Output Shaft Torque (N.m) | 3050 | 3050 | 3050 | 3050 |
| | 1/900 | Input Shaft power (kw) | 2.35 | 2.01 | 1.67 | 1.31 |
| | | Output Shaft Torque (N.m) | 3050 | 3050 | 3050 | 3050 |
| 135-200 | 1/200 | Input Shaft power (kw) | 8.18 | 7.26 | 6.29 | 5.17 |
| | | Output Shaft Torque (N.m) | 3950 | 3950 | 3950 | 3950 |
| | 1/300 | Input Shaft power (kw) | 6.16 | 5.45 | 4.74 | 3.84 |
| | | Output Shaft Torque (N.m) | 3950 | 3950 | 3950 | 3950 |
| | 1/400 | Input Shaft power (kw) | 5.06 | 4.50 | 3.83 | 2.96 |
| | | Output Shaft Torque (N.m) | 3950 | 3950 | 3950 | 3950 |
| | 1/500 | AInput Shaft power (kw) | 4.37 | 3.82 | 3.14 | 2.46 |
| | | Output Shaft Torque (N.m) | 3950 | 3950 | 3950 | 3950 |
| | 1/600 | Input Shaft power (kw) | 4.10 | 3.42 | 2.83 | 2.18 |
| | | Output Shaft Torque (N.m) | 3950 | 3950 | 3950 | 3950 |
| | 1/800 | Input Shaft power (kw) | 3.32 | 2.87 | 2.36 | 1.85 |
| | | Output Shaft Torque (N.m) | 3950 | 3950 | 3950 | 3950 |
| | 1/900 | Input Shaft power (kw) | 3.13 | 2.67 | 2.19 | 1.72 |
| | | Output Shaft Torque (N.m) | 3950 | 3950 | 3950 | 3950 |

## *Output Shaft*

# Output Shaft O.H.L

| Size | Input Speed ( r/min) | Output Shaft 0.H.L.(N) Ratio | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1/5 | 1/10 | 1/15 | 1/20 | 1/30 | 1/40 | 1/50 | 1/60 |
| 40 | 1800 | 680 | 680 | | 680 | 680 | 680 | 680 | 680 |
| | 1500 | 680 | 680 | | 680 | 680 | 680 | 680 | 680 |
| | 1200 | 680 | 680 | | 680 | 680 | 680 | 680 | 680 |
| | 900 | 680 | 680 | | 680 | 680 | 680 | 680 | 680 |
| 50 | 1800 | 880 | 980 | 1100 | 1100 | 1100 | 1100 | 1100 | 1100 |
| | 1500 | 880 | 1050 | 1100 | 1100 | 1100 | 1100 | 1100 | 1100 |
| | 1200 | 980 | 1100 | 1100 | 1100 | 1100 | 1100 | 1100 | 1100 |
| | 900 | 1100 | 1100 | 1100 | 1100 | 1100 | 1100 | 1100 | 1100 |
| 60 | 1800 | 980 | 980 | 1100 | 1300 | 1480 | 1730 | 1960 | 1960 |
| | 1500 | 980 | 1000 | 1200 | 1420 | 1550 | 1840 | 1960 | 1960 |
| | 1200 | 1000 | 1100 | 1300 | 1530 | 1690 | 1960 | 1960 | 1960 |
| | 900 | 1000 | 1180 | 1420 | 1680 | 1850 | 1960 | 1960 | 1960 |
| 70 | 1800 | 1070 | 1240 | 1500 | 1750 | 1930 | 2290 | 2600 | 2800 |
| | 1500 | 1100 | 1330 | 1570 | 1830 | 2030 | 2420 | 2760 | 2930 |
| | 1200 | 1150 | 1420 | 1700 | 1970 | 2200 | 2600 | 2930 | 2930 |
| | 900 | 1150 | 1550 | 1860 | 2170 | 2420 | 2870 | 2940 | 2940 |
| 80 | 1800 | 1550 | 1750 | 2100 | 2460 | 2710 | 3190 | 3550 | 3910 |
| | 1500 | 1660 | 1860 | 2230 | 2610 | 2860 | 3390 | 3780 | 3910 |
| | 1200 | 1820 | 2000 | 2380 | 2820 | 3090 | 3640 | 3910 | 3910 |
| | 900 | 1820 | 2190 | 2610 | 3090 | 3380 | 3920 | 3920 | 3920 |
| 100 | 1800 | 1690 | 1750 | 2000 | 2340 | 2600 | 3100 | 3560 | 3910 |
| | 1500 | 1690 | 1750 | 2120 | 2460 | 2750 | 3300 | 3790 | 4160 |
| | 1200 | 1770 | 1850 | 2260 | 2630 | 2950 | 3510 | 4070 | 4490 |
| | 900 | 1770 | 2020 | 2450 | 2910 | 3230 | 3890 | 4480 | 4930 |
| 120 | 1800 | 1690 | 1750 | 2130 | 2650 | 2790 | 3490 | 3950 | 4440 |
| | 1500 | 1770 | 1810 | 2260 | 2800 | 2950 | 3720 | 4200 | 4710 |
| | 1200 | 1860 | 1930 | 2380 | 2990 | 3180 | 3980 | 4500 | 5080 |
| | 900 | 1860 | 2090 | 2610 | 3280 | 3460 | 4370 | 4970 | 5590 |
| 135 | 1800 | 2680 | 2980 | 3510 | 4170 | 4580 | 5510 | 6360 | 7070 |
| | 1500 | 2800 | 3110 | 3750 | 4400 | 4840 | 5870 | 6760 | 7510 |
| | 1200 | 2980 | 3330 | 3980 | 4740 | 5200 | 6310 | 7260 | 8090 |
| | 900 | 3260 | 3640 | 4360 | 5170 | 5710 | 6920 | 8020 | 8930 |
| 155 | 1800 | 6600 | 7350 | 8000 | 12000 | 13500 | 14000 | 14600 | 14600 |
| | 1500 | 7500 | 8420 | 10500 | 12500 | 14000 | 14600 | 14600 | 14600 |
| | 1200 | 7900 | 8800 | 11000 | 13500 | 14600 | 14600 | 14600 | 14600 |
| | 900 | 8700 | 9700 | 12500 | 14600 | 14600 | 14600 | 14600 | 14600 |
| 175 | 1800 | 7500 | 8300 | 10200 | 12500 | 14000 | 16300 | 17600 | 17600 |
| | 1500 | 8600 | 9600 | 11700 | 13200 | 15400 | 17000 | 17600 | 17600 |
| | 1200 | 9100 | 10200 | 12700 | 14000 | 16000 | 17600 | 17600 | 17600 |
| | 900 | 9800 | 11000 | 13900 | 15600 | 17600 | 17600 | 17600 | 17600 |
| 200 | 1800 | | 9800 | 11700 | 11760 | 13700 | 17100 | 19600 | 21500 |
| | 1500 | | 11270 | 13200 | 14200 | 16100 | 18100 | 21500 | 21500 |
| | 1200 | | 11760 | 14000 | 15500 | 17600 | 21500 | 21500 | 21500 |
| | 900 | | 12700 | 14800 | 16800 | 21500 | 21500 | 21500 | 21500 |
| 250 | 1800 | | 10800 | 13300 | 15600 | 18600 | 21560 | 26400 | 26400 |
| | 1500 | | 11700 | 13700 | 16600 | 19600 | 24500 | 26400 | 26400 |
| | 1200 | | 14700 | 17600 | 22500 | 24000 | 26400 | 26400 | 26400 |
| | 900 | | 15600 | 19600 | 25000 | 26400 | 26400 | 26400 | 26400 |

## Specification For Select Type

The correct selection is necessary to use ***REVCO/WGM*** worm speed reducer efficiently.therefore please refer to the following specification before ordering.

### Input Shaft Speed

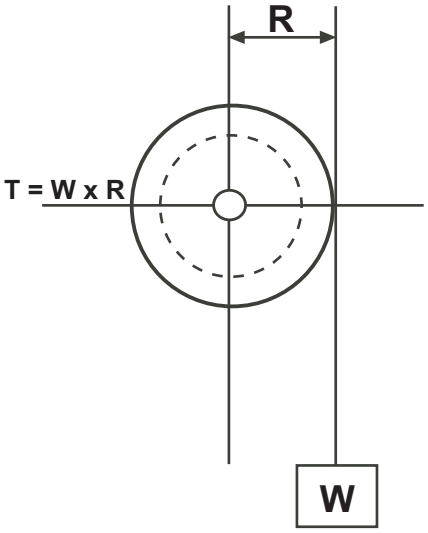
The general input shaft speed is 600-1500r/min,the maximum is 1800r/min.too low input shaft speed could affect efficiency and lubrification.

### Output Shaft Speed

Depends upon the input shaft speed and reduction ratio.

### Output Torque T

The transmission torque of reducer depends upon the force that causes the output shaft rotate and the rotary radius.see fig.1:




### Load Factor f

The rating input power and output torque of reducer is established on the basis of an ideal condition that the reducer are operating continuously 8 hours per day under a constant load.if the load or operating condition changes. the output torque changes also .so select suitable type must according to the flowing table 1.

### Overhung Load Coefficient $f_1$

It is due to the O.H.L. that the shaft of the speed reducer bent or its casing cracked.according to table 2, the selected reducer type must meet the following Formula:

$$0.H.L = \frac{\text{Output torque T}}{\text{Rotary radius}} \times \text{O.H.L. Coefficient } f_1$$

Table 1: Load Factor f

| Prime Mover | Duration Of Service Per Day | Load Factor f | | |
|---|---|---|---|---|
| | | Uniform Load | Moderate Shock | Heavy Shock |
| Electric Motor | Occasional 1/2h | 0.80 | 0.90 | 1.00 |
| | Intermittent 2h | 0.90 | 1.00 | 1.25 |
| | 8-10h | 1.00 | 1.25 | 1.50 |
| | 24h | 1.25 | 1.50 | 1.75 |

Note:For frequent starts and stops multiply the values listed in the above table

Table 2 : Overhung Load (O.H.L) Coefficient $f_1$

| Transmission Method | Sprocket | Gear | V-belt | Flat Belt |
|---|---|---|---|---|
| O.H.L. Coefficient $f_1$ | 1.00 | 1.25 | 1.50 | 2.50 |

***Example :***

One conveying machine needs to select a worm speed reducer (input shaft is lower). its input shaft speed is 1500r/min, Its output speed is 30 r/min Chain pulley transmission, the tensile force is 5000N on full load. The diameter of sprocket,s reference circle is 400mm.Operating 10 hours continuously per day. Moderate shook.

Selecting As Follows:

Ratio i = 30 = 1500 = 1/50

Refer to table 1 ,f = 1.25

Load torque T = W x R x f = 5000 x 0. 4/2 x 1.25 = 1250N.m

Refer to table 2, $f_1$ = 1

0.H.L.= W x f, = 5000 x 1 = 5000N

Select Type 175(1/50). Its max. allowed torque is 1412N.m and its max. allowed O.H.L. Is 17600N. ***Thus, WPA175 -1/50 is selected.***

## Choice of lubricants

The reducer should be filled with the appropriate oil to the center of the oil gauge before putting in operation. Excessive oil levels result in higher operating temperatures and are as undesirable as using too little oil. After approximately 85 hours of operation the reducer must be drained,flushed thoroughly with light oil,and refilled with fresh recommended oil.this flushing and Refilling should be repeated every 2500 hours.

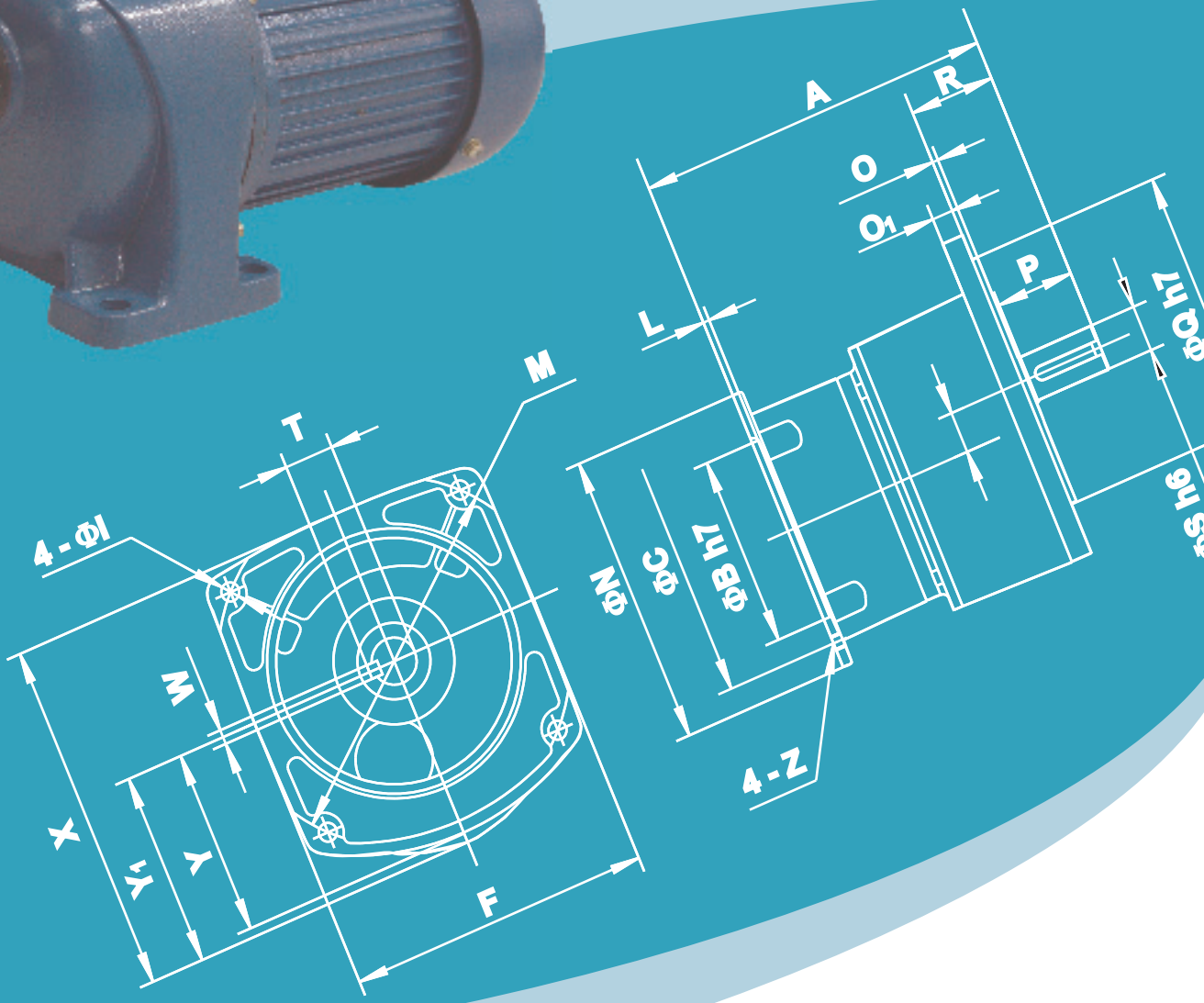
| Lubricant | Mineral Oil | | Compounded Oil | | Extreme Pressure Oil | |
|---|---|---|---|---|---|---|
| Ambient Temperature | 15 to 6OF<br>-9 TO 16c | 50 to 125F<br>10 to 50C | 15 to 60F<br>-9 TO I6c | 50 to 125F<br>10 to 50C | 15 to 60F<br>-9 TO I 6c | 50 to 125F<br>10 to 50C |
| AGMA | 5 | 6 | 7 | 8 | 7EP | 8 EP |
| Shell | Turbo oil<br>220 | Turbo oil<br>320 | Valvata<br>J460 | Valvata<br>J680 | Omala<br>460 | Omala<br>680 |
| MObil | DTE oil BB | DTE oil AA | Mobil 600w<br>cylinder oil | Mobil 600w<br>super cylinder oil | Mobil gear<br>634 | Mobil gear<br>636 |
| TEXACO | Regal oil<br>R & 0 220 | Regal oil<br>R & 0 320 | Vanguard<br>cylinder oil 460 | Honor Cylinder<br>oil 680 | Meropa<br>460 | Meropa<br>680 |
| Esso | Teresstic<br>220 | Teresstic<br>320 | Cylesstic<br>Tk460 | Cylesstic<br>Tk680 | SPARTAN<br>EP460 | SPARTAN<br>EP680 |
| Union oil co.of CA | Union Turbine<br>oil 220 | Union Turbine<br>oil 320 | Union<br>steaval A | Union worm<br>gear tube 140 | Extra duty NL<br>gear lube 7EP | Extra duty NL<br>gear tube 8EP |
| GB | | | L-CKE/320 | L-CKE/460 | L-CKE/P320 | L-CKE/P460 |

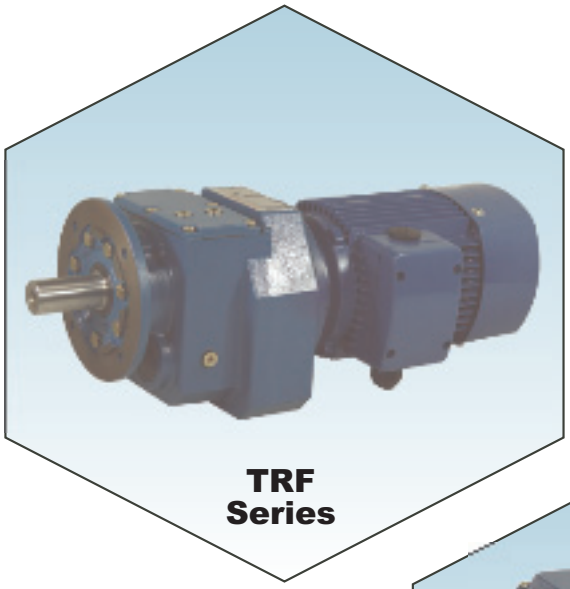
## Solusions and reason for the general faults of reducers

| FAULT DESCRIPTION | REASONS | SOLUTIONS |
|---|---|---|
| *Overheating* | *Overloading.*<br>*Insufficient or excess lubricant oil.*<br>*Inferior or improper lubricant oil.*<br>*Oil seal is over-rubbed.*<br>*Improper connection between output shaft and transmitting device* | *Adjust to proper loading or select large unit.*<br>*Fill in adequate lubricant oil as indication.*<br>*Fill in proper lubricant oil after draining out oil.*<br>*Drop lubricante oil on oil seal.*<br>*Adjust to proper positior.* |
| *Noise* | *Poor fit between worm wheel and worm shaft.*<br>*Bearing damaged or clearance too large.*<br>*Insufficient lubricant oil.*<br>*Invaded by foreign objects.* | *Finish contact surfaces of gears,*<br>*Replace bearing.*<br>*Fill in proper adequate lubricant oil as indication.*<br>*Remove foreign objects and replace lubricant oil.* |
| *Abnormal vibration* | *Transmitting device is not fixed.*<br>*Worm wheel worn or damaged.*<br>*Bearing wom or damaged.*<br>*Bolt loosed.*<br>*Invaded by foreign objects.* | *Fix transmitting device.*<br>*Replace worm wheel.*<br>*Replace bearing.*<br>*Tighten bolt.*<br>*Remove foreign objects and replace lubricant oil.* |
| *Oil leakage* | *Oil seal damaged.*<br>*Gasket damaged.*<br>*Excess oil.*<br>*Oil drain plug loosed.*<br>*Oil gauge damaged.* | *Replace oil seal.*<br>*Replace gasket.*<br>*Fill in adequate lubricant oil as indication.*<br>*Tighten oil drain plug.*<br>*Replace oil gauge.* |
| *Input or output shaft doesn't work* | *Worm wheel and worm shaft overheating.*<br>*Bearing damaged.*<br>*Invaded by foreign objects.*<br>*Excess wear of worm wheel and worn shaft* | *Replace or replace.*<br>*Replace bearing.*<br>*Remove foreign object and replace lubricant oil.*<br>*Replace worm wheel or worm shaft.* |
| *Worm wheel over-worm* | *Overloading.*<br>*Inferior or improper lubricant oil.*<br>*Insufficient lubricant oil.*<br>*Bearing damaged.*<br>*Operating temperature too high.* | *Adjust to proper loading.*<br>*Replace proper lubricant oil.*<br>*Fill in adequate lubricant oil as indicattion*<br>*Replace bearing.*<br>*Improve ventilation conditions.* |

# MINI HELICAL GEAR

## G3
### MINI HELICAL GEAR



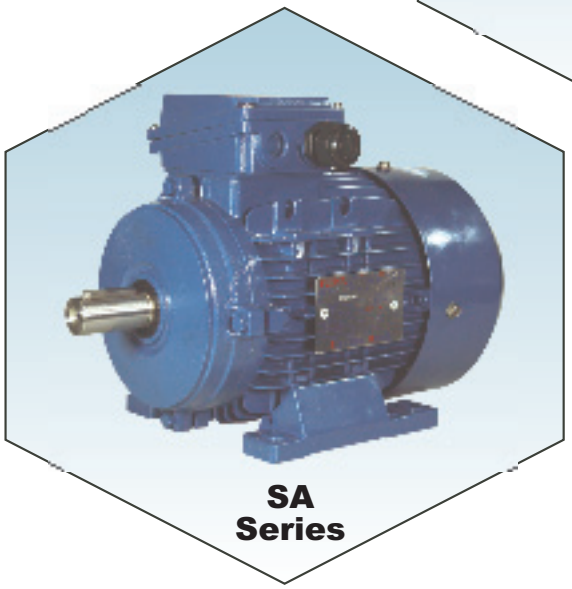
TRF
Series

TK
Series

EFF 2

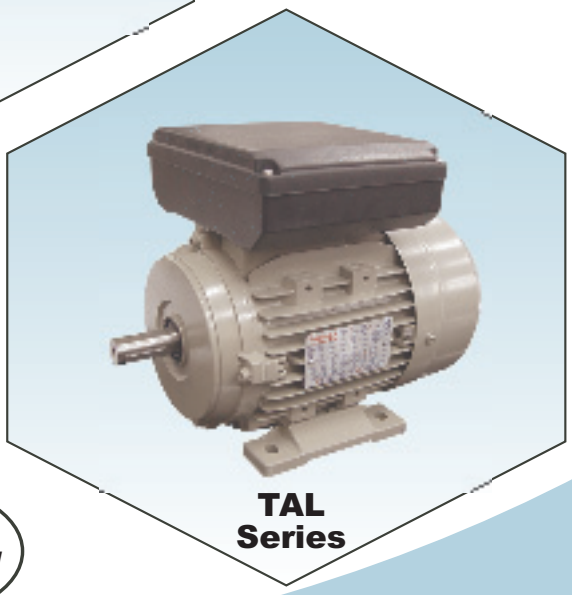
YAB
Series

IEC
Standard



SA
Series

NEMA
Standard



TAL
Series

TR Series

YUEMA
ELEKTRIC MOTOR

**CHARACTERISTICS**

1. Transmission ratio with awide range
2. Compact structure takes up small room
3. Low Vibration, Low noise, low energy
4. Refined design , reliable and wearable
5. Modular and multistructure

Transmax
ELEKTRIC MOTOR

# CONTENTS

Page

## STRUCTURE FEATURE

- Two types of housings: Aluminum alloy and cast iron; Two kinds of frames: foot mounting and flange mounting. They are good-looking in appearance, suitable for universal mount.
- Helical gear with the high-tensile alloy material makes the construction more compact, housing smaller, efficiency higher, output torque larger.
- Hardened facing transmission gear that fine finished has the advantages below: seldom distortion, high precision,stable running, low noise, It also can work continually under the dreadful conditions
- With 6 specification for the diameter of output shaft: **Φ18, Φ22, Φ28, Φ32, Φ40, Φ50**
- Two or three-stage transmission, large in ratio range, each single frame size with 14 ratios from 5:1 to 200:1.
- Using high quality bearing prolongs the use life.
  High-performance oil seal prevents the lubricant from leaking back to the inner of motor.
- Three-phase motor combined the standard and full-enclosed aluminum motor, which is good in waterproof, easy in heat dissipation, high in running efficiency.
- Modular combination extends the transmission ratio from i = 5:1 to 1400:1.

## SURFACE PAINTING

- Shot blasting firstly and then special antiseptic treatment on aluminum alloy surface (remain the metalline silver white; also is corrosion resistance to organic solvent, such as gasoline, xylene and so on).
- After phosphating, painted with blue and gray coating.

## MODEL & MARK

**G3** Series model reducer

**G3 F M - 28 - 030 - T040**

1 2 3 4 5 6

| No | Comments |
|---|---|
| 1. | Model code |
| 2. | Mount mode<br>1). **F**: Flange mounted<br>2). **L**: Foot-mounted |
| 3. | Power mode<br>1). **M**: Standard model (motor without brake)<br>2). **B**: Brake model(motor with brake)<br>3). **S**: IEC input<br>4). Without character means shaft input |
| 4. | Output shaft diameter **(Ø18; Ø22; Ø28; Ø32; Ø40; Ø50 )** |
| 5. | Speed ratio of reducer<br>( **i = 5; 10; 15; 20; 25; 30; 40; 50; 60; 80; 100; 120; 160; 200** ) |
| 6. | Motor power ( **0.1; 0.20; 0.40; 0.75; 1.5; 2.2KW** )<br>1). **T** : Three phase motor<br>2). Without **T** means single phase motor<br>3). (...) IEC Motor power |

Combination of speed variator and and **IEC** input reducer

**UDL - 075 - G3 F S - 28 - 030**

1 2 3 4 5 6 7

| No | Comments |
|---|---|
| 1. | Code of aluminium alloy casing speed variator |
| 2. | Motor power **(0.18; 0.37; 0.75KW)** |
| 3. | Model code |
| 4. | Mount mode<br>1). **F**: Flange mounted<br>2). **L**: Foot-mounted |
| 5. | **S**: Means IEC input |
| 6. | Output shaft diameter ( **Ø18; Ø22; Ø28; Ø32; Ø40;Ø50** ) |
| 7. | Speed ratio of reducer<br>( **i = 5; 10; 15; 20; 25; 30; 40; 50; 60; 80; 100; 120; 160; 200** ) |

## SELECT THE REDUCER TYPE

**G3LM** Three-phase motor reducer with foot

**G3FM** Three-phase motor reducer with flange

**G3LS** IEC input reducer with foot

**G3FS** IEC input reducer with flange

**G3L** Shaft input reducer with foot

**G3F** Shaft input reducer with flange

**UDL-G3LS** Combination of speed variator and IEC input reducer with foot

**UDL-G3FS** Combination of speed variator and IEC input reducer with flange

## NOTICE FOR ORDER

The customer should provide us the following information when you want to order G3 series reducers from our company:

- Basic parameters of reducer (including model code, mount mode, motor mode, output shaft diameter, speed ratio, motor power);
- Painting on outside body: the color of G3 series reducers and motors are painted with blue, also we can paint according to customer's request.

## RELEVANT PARAMETER

***1) Power***

$$P_1 = \frac{P_2}{\eta} \text{ [kW]}$$

$$P_{1n} \geqslant P_1 \bullet fs \text{ [kW]}$$

| | |
|---|---|
| $P_1$ | Input power |
| $P_2$ | Output power |
| $P_{1n}$ | Selected motor power |
| $f_s$ | Service factor |
| $\eta$ | Transmission efficiency |

**G3** Series gear units transmission efficiency $\eta$ **= 95%.**

***2) Rotation speed***

$n_1$ Gear units input speed
$n_2$ Gear units output speed

which in selection table means the motor rotation speed 1400/min. If driven by the external gearing,1400r/min or lower rotation speed is suggested so as to optimize the working conditions and prolong the service life. Higher input rotation speed is permitted, but in this situation, the rated torque $M_2$ will be reduced.

***3) Transmission ratio i***

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

Usually transmission ratio is decimal fraction with 2 radix point tagged in selection tables.

***4) Torque***

$$M_2 = \frac{9550 \bullet P_1 \bullet \eta}{n_2} \text{ [Nm]}$$

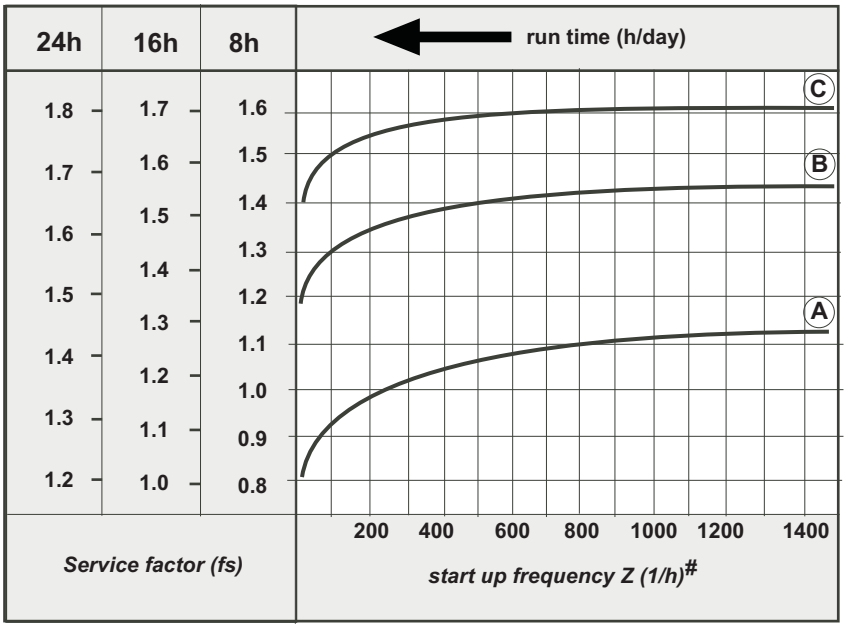
$$M_{2n} \geqslant M_2 \bullet fs \text{ [Nm]}$$

| | |
|---|---|
| $M_2$ | Output torque |
| $M_{2n}$ | Selected output torque |
| $P_1$ | Input power |
| $\eta$ | Transmission efficiency |
| $f_s$ | Service factor |

***5) Service factor fs***

The effect of the driven machine on the gear unit is taken into account to a sufficient level of accuracy using the service factor fs. The service factor is determined according to the daily operating time and the

starting frequency Z. Three load classifications are considered depending on the mass acceleration factor. You can read off the service factor applicable to your application in following Figure. The service factor selected using this diagram must be less than or equal to the service factor as given in the performance parameter table.




\# starting frequency Z: The cycles include all starting and braking procedures as well as change overs from low to high speed.

load classifications:

Ⓐ ***Uniform***, permitted mass acceleration factor ⩽ 0.2

Ⓑ ***Moderate shock load***, permitted mass acceleration factor ⩽ 3

Ⓒ ***Heavy shock load***, permitted mass acceleration factor ⩽ 10

Load classifications see the addendum.

The mass acceleration factor is calculated as follows:

$$fa = \frac{Jc}{Jm}$$

**fa** Mass acceleration factor
**Jc** All external mass moments of inertia ( $kgm^2$ )
**Jm** Mass moment of inertia on the motor end ( $kgm^2$ )

If mass acceleration factors **fa** > 10, please call our Technical Service.

To keep the service-life of gear units, the use factor **fs** selected from the catalogue must be equal or slightly higher than the calculated use factor **fs**

### *6) Radial loads & axial loads Fr2*

When determining the resulting radial loads, the type of transmission elements, mounted on the shaft end must be considered. Various transmission elements are corresponding with following transmission element factors fz:

| *Transmission element* | *Transmission element factor Fz* | *Comments* |
|---|---|---|
| **Gears** | 1.00 | ⩾ 17 teeth |
| | 1.15 | < 17 teeth |
| **Chain sprockets** | 1.00 | ⩾ 20 teeth |
| | 1.25 | < 20 teeth |
| | 1.40 | < 13 teeth |
| **Narrow V-belt pulleys** | 1.75 | Influence of the tensile force |
| **Flat belt pulleys** | 2.50 | Influence of the tensile force |
| **Toothed belt pulleys** | 2.50 | Influence of the tensile force |

The overhung loads exerted on the motor or gear shaft is then calculated as follows:

$$Fr_2 = \frac{M_d \bullet 2000 \bullet f_z}{d_0} \ [N]$$

**$Fr_2$** Radial loads [N]
**$M_d$** Torque [Nm]
**$d_0$** Mean diameter of the mounted transmission element [mm]
**$f_z$** Transmission element factor

## *SELECTION EXAMPLE*

### *1). Gear motor*

Example: Required power 1kW on driven machine, work for 8h/day, ***moderate shock load***, so $f_s$ = 1.3 , M6 foot-mounted, $n_2$ = 47 r/min

$$i = \frac{n_1}{n_2} = \frac{1400}{47} = 30$$

$$P_{1n} \geqslant P_1 \bullet fs = \frac{P_2}{\eta} \bullet fs = \frac{1}{0.95} \times 1.3 = 1.37 \ [kW]$$

Choose type:

***G3LM - 40 - 030 - T150***

***2) Gear units***

Example: Recluired torquc 20Nrn on driven machine, work 6h/day, uniform load, so fs = 1.1, n2= 144 r/min, flange-mounted, IEC input.

$$i = \frac{n1}{n2} = \frac{1400}{144} = 9.72$$

$$M_{2n} \geqslant M2 \cdot f_s = 20 \times 1.1 = 22\ [Nm]$$

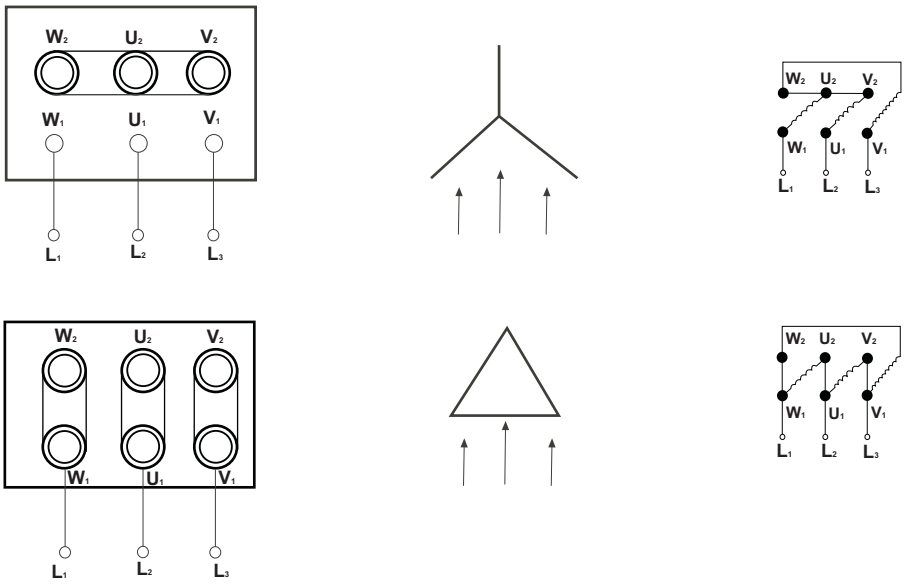
$$P_{1n} \geqslant P1 \cdot fs = \frac{M2 \cdot n1}{9550 \cdot \eta \cdot i} \cdot fs = \frac{20 \times 1400}{9550 \times 0.95 \times 9.72} \times 1.1 = 0.349\ [kW]$$

Choose type:

***G3FS - 22 - 010 - (037)***

## *MOTOR CONNECTION*

There are six connection poles on the motor's connection board, when selecting starlike and triangle connection, three phase pressure inputted will be different(as following drawing shows), if you exchange any two lines, the reducer will reverse.



## PERFORMANCE PARAMETER

| Normal ratio | | | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 80 | 100 | 100 | 120 | 160 | 200 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.1kW | output shaft | | Ø18 | | | | | | | | | | | Ø22 | | | |
| | actual speed ratio | | 4.97 | 10.12 | 15.16 | 20.08 | 24.89 | 30.46 | 40.11 | 50.14 | 62.17 | 79.12 | 98.18 | - | 122.27 | 155.62 | 194.52 |
| | $n_2$* (1/min) | | 282 | 138 | 92 | 70 | 56 | 46 | 35 | 28 | 23 | 18 | 14 | - | 11 | 9 | 7 |
| | $M_2$ | 50Hz | 3.2 | 6.5 | 9.8 | 12.9 | 16.1 | 19.6 | 25.7 | 31.1 | 37.5 | 49.5 | 62. | - | 76.1 | 100.7 | 125.4 |
| | (Nm) | 60Hz | 3 | 5 | 8 | 11 | 13 | 17 | 21 | 26 | 31 | 41 | 52 | - | 63 | 84 | 105 |
| | $Fr_1$ (N) | | 588 | 882 | 980 | 1180 | 1270 | 1370 | 1470 | 1570 | 2160 | 2450 | 2450 | 2450 | 2450 | 2450 | 2450 |
| | $Fr_2$(N) | | 176 | | | | | | | | | | | | | | |
| 0.2kW | output shaft | | Ø18 | | | | | Ø22 | | | | | | Ø28 | | | |
| | actual speed ratio | | 4.97 | 10.12 | 15.16 | 20.08 | 24.89 | 30.86 | 39.56 | 49.09 | 62.17 | 79.12 | 98.18 | 104.08 | 120.88 | 165 | 196.43 |
| | $n_2$* (1/min) | | 282 | 138 | 92 | 70 | 56 | 45 | 35 | 29 | 23 | 18 | 14 | 13 | 12 | 8 | 7 |
| | $M_2$ | 50Hz | 6.5 | 12.6 | 19.1 | 26.3 | 32.6 | 38.9 | 50.4 | 63 | 75.6 | 100.8 | 103.9 | 125.40 | 150 | 200.4 | 250.7 |
| | (Nm) | 60Hz | 5.4 | 10.5 | 16.6 | 21.9 | 27.1 | 32.4 | 42 | 52.5 | 63 | 84 | 86.6 | 104.50 | 125 | 167 | 208.9 |
| | $Fr_1$ (N) | | 588 | 882 | 980 | 1180 | 1270 | 1760 | 1860 | 1960 | 2160 | 2450 | 2450 | 2840 | 3330 | 3430 | 3430 |
| | $Fr_2$(N) | | 196 | | | | | | | | | | | | | | |
| 0.4kW | output shaft | | Ø22 | | | | | Ø28 | | | | | | Ø32 | | | |
| | actual speed ratio | | 4.86 | 9.71 | 15.27 | 19.43 | 24.29 | 30 | 38.96 | 48.29 | 58.22 | 79.48 | 98.51 | 98.29 | 121.56 | 158.48 | 202.5 |
| | n2* (1/min) | | 288 | 144 | 92 | 72 | 58 | 47 | 36 | 29 | 24 | 18 | 14 | 14 | 12 | 9 | 7 |
| | $M_2$ | 50Hz | 12.9 | 25 | 38.6 | 51.4 | 65.4 | 78.2 | 100.7 | 125.4 | 150 | 200.4 | 206.8 | 250.70 | 301.1 | 400.7 | 461.8 |
| | (Nm) | 60Hz | 10.7 | 20.8 | 32.1 | 42.9 | 54.5 | 65.2 | 83.9 | 104.5 | 125.0 | 167.0 | 172.3 | 208.9 | 250.9 | 333.9 | 384.8 |
| | Fr1 (N) | | 882 | 1180 | 1370 | 1470 | 1670 | 2550 | 2840 | 3140 | 3430 | 3430 | 3430 | 4900 | 5880 | 5880 | 5880 |
| | Fr2(N) | | 245 | | | | | | | | | | | | | | |
| 0.75kW | output shaft | | Ø28 | | | | | Ø32 | | | | | | Ø40 | | | |
| | actual speed ratio | | 5.04 | 10 | 14.95 | 20.4 | 24.29 | 30.67 | 39.69 | 49.09 | 59.54 | 79.38 | 98.18 | 98.90 | 122.08 | 155.56 | 194.44 |
| | n2* (1/min) | | 278 | 140 | 94 | 69 | 58 | 46 | 35 | 29 | 24 | 18 | 14 | 14 | 11 | 9 | 7 |
| | $M_2$ | 50Hz | 24.6 | 48.2 | 72.9 | 97.5 | 122.1 | 145.7 | 187.5 | 235.7 | 282.9 | 376.1 | 387.9 | 439 | 527 | 703 | 764 |
| | (Nm) | 60Hz | 20.5 | 40.2 | 60.7 | 81.3 | 201.8 | 121.4 | 156.3 | 196.4 | 235.7 | 313.4 | 323.2 | 366 | 439 | 585 | 732 |
| | $Fr_1$ (N) | | 1270 | 1760 | 2160 | 2350 | 2450 | 4020 | 4210 | 4610 | 5490 | 5880 | 5880 | 7060 | 7060 | 7060 | 7060 |
| | $Fr_2$(N) | | 294 | | | | | | | | | | | | | | |
| 1.5kW | output shaft | | Ø32 | | | | | Ø40 | | | | | | Ø50 | | | |
| | actual speed ratio | | 5 | 10 | 15 | 20 | 25.56 | 30 | 41.54 | 51.27 | 59.34 | 83.08 | 102.55 | 104.72 | 116.79 | 165.88 | 194.37 |
| | n2* (1/min) | | 280 | 140 | 93 | 70 | 55 | 47 | 34 | 27 | 24 | 17 | 14 | 13 | 12 | 8 | 7 |
| | M2 | 50Hz | 48.2 | 97.5 | 145.7 | 193.9 | 242.1 | 272 | 351 | 439 | 527 | 703 | 724 | 878 | 1060 | 1230 | 1230 |
| | (Nm) | 60Hz | 40.2 | 81.3 | 121.4 | 161.6 | 201.8 | 226 | 293 | 366 | 439 | 585 | 603 | 732 | 878 | 1170 | 1230 |
| | Fr1(N) | | 1760 | 2450 | 2840 | 3230 | 3820 | 5100 | 5880 | 7060 | 7060 | 7060 | 7060 | 9800 | 9800 | 9800 | 9800 |
| | Fr2(N) | | 343 | | | | | | | | | | | | | | |
| 2.2kW | output shaft | | Ø40 | | | | | Ø50 | | | | | | | | | |
| | actual speed ratio | | 5.14 | 10.29 | 14.69 | 20.57 | 25.71 | 30.8 | 38.82 | 50.73 | 59.27 | 77.45 | 100.76 | | | | |
| | n2* (1/min) | | 272 | 136 | 95 | 68 | 54 | 45 | 36 | 28 | 24 | 18 | 14 | | | | |
| | M2 | 50Hz | 67 | 133 | 200 | 266 | 332 | 399 | 515 | 644 | 773 | 1029 | 1230 | | | | |
| | (Nm) | 60Hz | 56 | 111 | 167 | 221 | 277 | 332 | 429 | 537 | 644 | 858 | 1080 | | | | |
| | $Fr_1$ (N) | | 2160 | 3140 | 3530 | 4020 | 4700 | 6960 | 7250 | 8620 | 9800 | 9800 | 9800 | | | | |
| | $Fr_2$(N) | | 392 | | | | | | | | | | | | | | |

**( " * " : $n_1$ = 1400r / min 50Hz )**

## OUTPUT TORQUE OF I**EC** INPUT REDUCER

| Normal ratio | | | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 80 | 100 | 100 | 120 | 160 | 200 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.12kW | output shaft | | | | | | Ø18 | | | | | | | Ø22 | | | |
| | M2 | 50Hz | 3.9 | 7.8 | 11.7 | 15.4 | 19.3 | 23.5 | 30.9 | 37.3 | 45.0 | 59.4 | 75.5 | — | 91.3 | 120.9 | 150.4 |
| | (Nm) | 60Hz | 3.2 | 6.5 | 9.8 | 12.9 | 16.1 | 20.4 | 25.7 | 31.1 | 37.5 | 49.5 | 62.9 | — | 76.1 | 100.7 | 125.4 |
| 0.18kW | output shaft | | | | Ø18 | | | | Ø22 | | | | | Ø28 | | | |
| | M2 | 50Hz | 5.9 | 11.4 | 17.2 | 23.6 | 29.3 | 35 | 45.3 | 56.7 | 68.1 | 90.7 | 93.5 | 112.8 | 135 | 180.3 | 225.6 |
| | (Nm) | 60Hz | 4.9 | 9.5 | 14.9 | 19.7 | 24.4 | 29.2 | 37.8 | 47.3 | 56.7 | 75.6 | 77.9 | 94 | 112.5 | 150.3 | 188 |
| 0.37kW | output shaft | | | | Ø22 | | | | Ø28 | | | | | Ø32 | | | |
| | M2 | 50Hz | 11.9 | 23.1 | 35.7 | 47.6 | 60.5 | 72.3 | 93.2 | 116 | 138.8 | 185.3 | 191.3 | 231.9 | 278.5 | 370.7 | 427.2 |
| | (Nm) | 60Hz | 9.9 | 19.2 | 29.7 | 39.6 | 50.4 | 60.3 | 77.6 | 96.6 | 115.6 | 154.4 | 159.4 | 193.3 | 232.1 | 308.9 | 356 |
| 0.75kW | output shaft | | | | Ø28 | | | | Ø32 | | | | | Ø40 | | | |
| | M2 | 50Hz | 24.6 | 48.2 | 72.9 | 97.5 | 122.1 | 145.7 | 187.5 | 235.7 | 282.9 | 376.1 | 387.9 | 439 | 527 | 703 | 764 |
| | (Nm) | 60Hz | 20.5 | 40.2 | 60.7 | 81.3 | 201.8 | 121.4 | 156.3 | 196.4 | 235.7 | 313.4 | 323.2 | 366 | 439 | 585 | 732 |
| 1.5kW | output shaft | | | | Ø32 | | | | Ø40 | | | | | Ø50 | | | |
| | M2 | 50Hz | 48.2 | 97.5 | 145.7 | 193.9 | 242.1 | 272 | 351 | 439 | 527 | 703 | 724 | 878 | 1060 | 1230 | 1230 |
| | (Nm) | 60Hz | 40.2 | 81.3 | 121.4 | 161.6 | 201.8 | 226 | 293 | 366 | 439 | 585 | 603 | 732 | 878 | 1170 | 1230 |
| 2.2kW | output shaft | | | | Ø40 | | | | Ø50 | | | | | | | | |
| | M2 | 50Hz | 67 | 133 | 200 | 266 | 332 | 399 | 515 | 644 | 773 | 1029 | 1230 | | | | |
| | (Nm) | 60Hz | 56 | 111 | 167 | 221 | 277 | 332 | 429 | 537 | 644 | 858 | 1080 | | | | |

## PERFORMANCE TABLE FOR COMBINE OF SPEED VARIATOR AND **IEC** INPUT REDUCER

| motor & rev | Model | i | n2 r/min | M2 | motor & rev | Model | i | n2 r/min | M2 N.M |
|---|---|---|---|---|---|---|---|---|---|
| | | 5 | 34.4 ~ 176 | 7.5 ~ 36.1 | | | 60 | 3.4 ~ 17.2 | 167 ~ 755 |
| | | 10 | 16.9 ~ 86.3 | 15.3 ~ 73.6 | | UDL0.37-G3-28 | 80 | 2.5 ~ 12.6 | 228 ~ 1030 |
| | UDL0.18-G3-18 | 15 | 11.3 ~ 57.7 | 23 ~ 110 | 0.37kw | | 100 | 2 ~ 10.2 | 283 ~ 1277 |
| | | 20 | 8.5 ~ 43.6 | 30.4 ~ 146 | 4P | | 100 | 2 ~ 10.2 | 282 ~ 1274 |
| | | 25 | 6.8 ~ 35.2 | 37.7 ~ 181 | n1=1400r/min | UDL0.37-G3-32 | 120 | 1.6 ~ 8.2 | 349 ~ 1576 |
| | | 30 | 5.5 ~ 28.4 | 46.8 ~ 224 | | | 160 | 1.3 ~ 6.3 | 455 ~ 2055 |
| 0.18kw | | 40 | 4.3 ~ 22.1 | 59.9 ~ 288 | | | 200 | 1 ~ 4.9 | 581 ~ 2625 |
| 4P | | 50 | 3.5 ~ 17.8 | 74.4 ~ 357 | | | 5 | 39.7 ~ 198 | 29.3 ~ 132 |
| | UDL0.18-G3 22 | 60 | 2.7 ~ 14.1 | 64.2 ~ 452 | | | 10 | 20 ~ 100 | 58.2 ~ 263 |
| n1=1400r/min | | 80 | 2.2 ~ 11.1 | 120 ~ 575 | 0.75kw | UDL0.75-G3-28 | 15 | 13.4 ~ 66.9 | 87 ~ 393 |
| | | 100 | 1.7 ~ 8.9 | 149 ~ 714 | | | 20 | 9.8 ~ 49 | 119 ~ 536 |
| | | 100 | 1.6 ~ 8.4 | 158 ~ 757 | 4P | | 25 | 8.24 ~ 1.2 | 141 ~ 638 |
| | | 120 | 1.4 ~ 7.2 | 183 ~ 877 | n1=1400r/min | | 30 | 6.5 ~ 32.6 | 178 ~ 806 |
| | UDL0.18-G3-28 | 160 | 1 ~ 5.3 | 250 ~ 1199 | | | 40 | 5 ~ 25.2 | 231 ~ 1043 |
| | | 200 | 0.9 ~ 4.5 | 298 ~ 1428 | | UDL0.75-G3-32 | 50 | 4.1 ~ 20.4 | 287 ~ 1290 |
| | | 5 | 41.2 ~ 206 | 13.9 ~ 63 | | | 60 | 3.4 ~ 16.8 | 346 ~ 1565 |
| | | 10 | 20.6 ~ 103 | 27.9 ~ 126 | | | 80 | 2.5 ~ 12.6 | 462 ~ 2086 |
| 0.37kw | UDL0.37-G3-22 | 15 | 13.1 ~ 65.5 | 43.8 ~ 198 | | | 100 | 2 ~ 10.2 | 571 ~ 2580 |
| 4P | | 20 | 10.3 ~ 51.5 | 55.8 ~ 250 | | | | | |
| n1=1400r/min | | 25 | 8.2 ~ 41.2 | 69.7 ~ 315 | | | | | |
| | | 30 | 6.7 ~ 33.3 | 86.1 ~ 389 | | | | | |
| | UDL0.37-G3-28 | 40 | 5.1 ~ 25.7 | 112 ~ 505 | | | | | |
| | | 50 | 4.1 ~20.7 | 139 ~ 625 | | | | | |

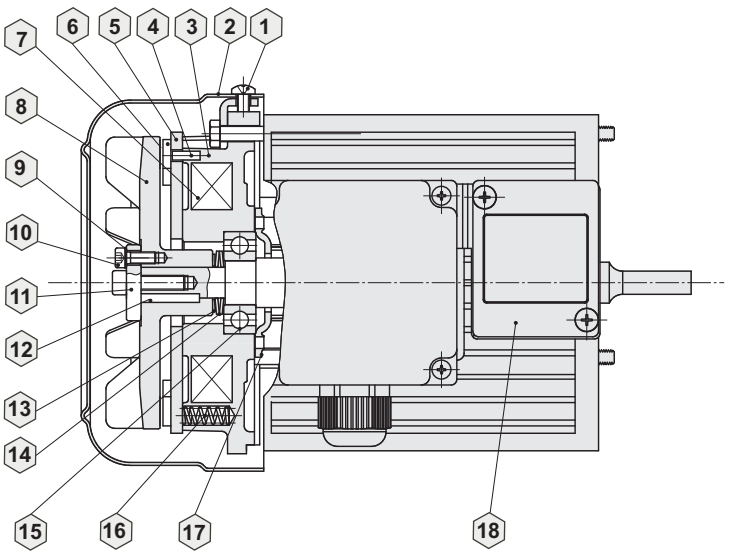
## TRAIT OF THE BRAKING REDUCER AND ITS APPLICATION

Braking reducer is the reducer with brake motor.The motor brake apparatus caonsists of spring, lining, brake plate, rectifier and winding. It realizes running upon power-on condition while braking upon power-off condition. The integrated design of the motor and brake makes the configuration compact; The lining, which uses the imported and high-efficient non-asbestos material, is wearable during high-frequency usage, and low in wear rate, also enviromment-protected. It can be used more than 1,000,000 times; the rectifier actualizes the controlling motor starting and emergency stop by a swich;and ti is short in response tinme,The hard facing helical gear reducer with a longevity usage is suitable to be applied on the automatic occasion such as high braking frequency, emergency stop and starting.

## CHARACTERISTICS TABLE

| power (KW) | rated torque (Nm) | excitation Pressure (V) | excitation power (W) | clearance adjust workload (J) | overall workload (J) | magnetize workload (ms) | release time (ms) | clearance | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | stated value (mm) | limited value (mm) |
| **0.2** | 2 | 90 | 20 | $9X10^7$ | $45X10^7$ | 30 | 80 | 0.3 | 0.7 |
| **0.4** | 4 | 90 | 26 | $15X10^7$ | $75X10^7$ | 30 | 100 | 0.3 | 0.7 |
| **0.75** | 8 | 90 | 39.4 | $30X10^7$ | $100X10^7$ | 60 | 120 | 0.3 | 1 |
| **1.5** | 15 | 90 | 48 | $30X10^7$ | $100X10^7$ | 90 | 140 | 0.4 | 1 |
| **2.2** | 30 | 90 | 52.2 | $50X10^7$ | $160X10^7$ | 90 | 150 | 0.4 | 1 |

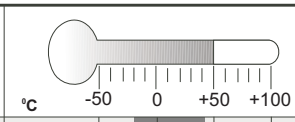
## BRAKE STRUCTURAL VIEW




1. screw
2. fan cover
3. pole group
4. sping pin
5. gag bit plate
6. friction piece
7. winding
8. brake board
9. sping washer
10. inner hex screw
11. clearance adjust screw
12. key
13. clearance washer
14. papilionaceous sping
15. bearing
16. brake sping
17. bearing press buckle
18. electrical source set

G3 series reducers are supplied with lubricant, synthetic oil, SHELL Alvania GL00 before delivery, It doesn't need to replace lubricant for first 20,000 hours running, But if works in special application, Such as high temperature, long-time running heavy impact load, It should be changed every10,000-15,000 working hours.

## LUBRICANT GREASE

| |  | ISO | SHEEL | MOBIL | BP | GOLS 皇格尔 | GMERI | |
|---|---|---|---|---|---|---|---|---|
| **G3** | Standard -15 +40 | 000 - 0 | Alvania GL 00 | Mobilux EP 00 | Energrease LS - EP 00 | 8125A 00 | | Synthetic Oil |
| | -25 +60 | 00 | TIVELA GL 00 | Glygoyle Grease 00 | | | | Synthetic Oil |
| **UDL..** | -25 +40 | VG32 | A.T.F.DXRON | A.T.F. 220 | Autran DX | | Ub3 | Mineral Oil |

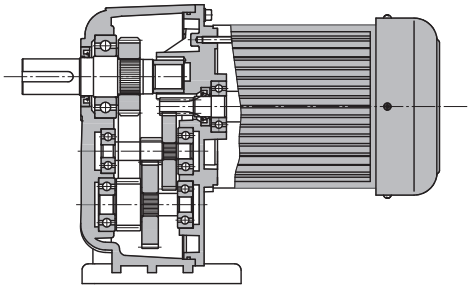
## QUANTITY OF LUBRICATION

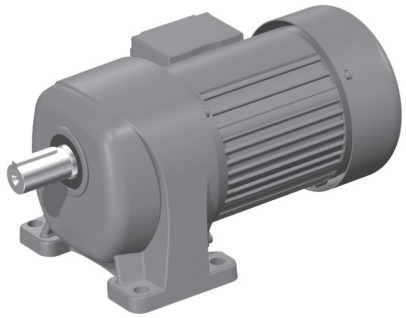
| **output shaft** | **Ø18** | **Ø22** | **Ø28** | **Ø32** | **Ø40** | **Ø50** |
|---|---|---|---|---|---|---|
| **quantity of lubricant (g)** | 140 | 200 | 400 | 600 | 900 | 1600 |

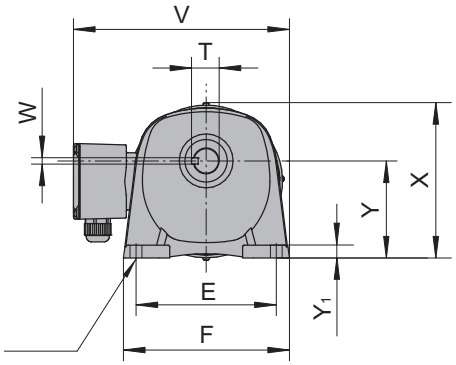
## APPLICATION ENVIRONMENT :

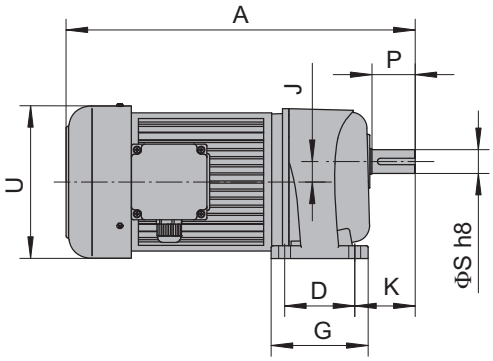
Ambient temperature between-10 C to 40 C,Ambient humidity below 85%RH,the altitude below 1,000m, no corrosive and explosive gas or liquid or dust, mounted in indoor.

## *G3LM THREE-PHASE MOTOR REDUCER WITH FOOT*





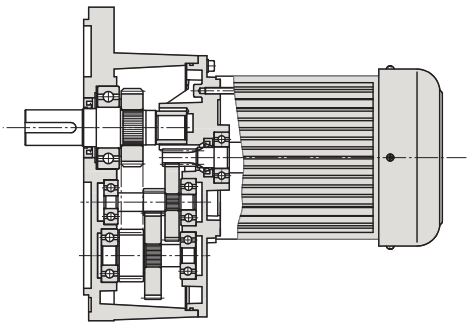


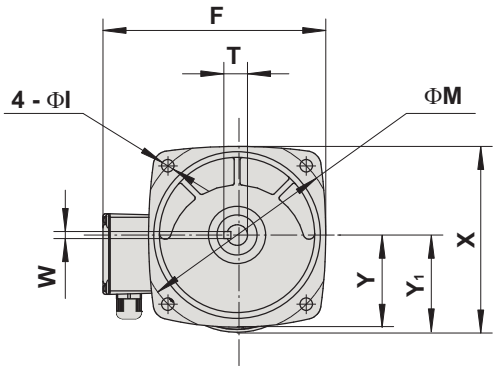



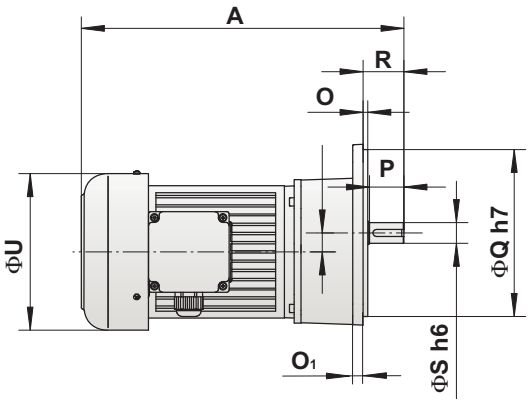

motor rotate speed 1400 r / min

| power kW | output shaft | ratio | primary outline and dimension-mount | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A | | D | E | F | J | G | H | K | P | S | T | U | V | W | X | Y | Y1 |
| | | | $A_1$ | $A_2$ | | | | | | | | | | | | | | | | |
| 0.1 | Ø18 | 5,10,15,20 25,30,40,50 | 236 | 270 | 40 | 110 | 135 | 16.5 | 65 | 9 | 45 | 30 | 18 | 20.5 | 129 | 183 | 6 | 133 | 85 | 10 |
| | Ø22 | 60,80,100,120,160,200 | 262 | 296 | 65 | 130 | 155 | 19 | 90 | 11 | 55 | 40 | 22 | 24.5 | 129 | 193 | 6 | 139.5 | 90 | 12 |
| 0.2 | Ø18 | 5,10,15,20,25 | 267 | 270 | 40 | 110 | 135 | 16.5 | 65 | 9 | 45 | 30 | 18 | 20.5 | 129 | 183 | 6 | 133 | 85 | 10 |
| | Ø22 | 30,40,50,60 80,100 | 293 | 296 | 65 | 130 | 155 | 19 | 90 | 11 | 55 | 40 | 22 | 24.5 | 129 | 193 | 6 | 139.5 | 90 | 12 |
| | Ø28 | 100,120,160,200 | 306 | 309.5 | 90 | 140 | 175 | 23.5 | 125 | 11 | 65 | 45 | 28 | 31 | 129 | 203 | 8 | 170 | 110 | 15 |
| 0.4 | Ø22 | 5,10,15,20,25 | 314 | 324.5 | 65 | 130 | 155 | 19 | 90 | 11 | 55 | 40 | 22 | 24.5 | 139 | 199.5 | 6 | 141.5 | 90 | 12 |
| | Ø28 | 30,40,50,60 80,100 | 330 | 337.5 | 90 | 140 | 175 | 23.5 | 125 | 11 | 65 | 45 | 28 | 31 | 139 | 210 | 8 | 170 | 110 | 15 |
| | Ø32 | 100,120,160,200 | 349 | 357 | 130 | 170 | 208 | 28.5 | 170 | 13 | 70 | 55 | 32 | 35 | 139 | 226 | 10 | 198 | 130 | 18 |
| 0.75 | Ø28 | 5,10,15,20,25 | 350.5 | 343.5 | 90 | 140 | 175 | 23.5 | 125 | 11 | 65 | 45 | 28 | 31 | 159 | 222 | 8 | 170 | 110 | 15 |
| | Ø32 | 30,40,50,60 80,100 | 379.5 | 387 | 130 | 170 | 208 | 28.5 | 170 | 13 | 70 | 55 | 32 | 35 | 159 | 238.5 | 10 | 198 | 130 | 18 |
| | Ø40 | 100,120,160,200 | 401.5 | 408.5 | 150 | 210 | 254 | 34 | 196 | 15 | 90 | 65 | 40 | 43 | 185 | 249 | 12 | 230 | 150 | 20 |
| 1.5 | Ø32 | 5,10,15,20,25 | 420.5 | 441 | 130 | 170 | 208 | 28.5 | 170 | 13 | 70 | 55 | 32 | 35 | 185 | 250.5 | 10 | 198 | 130 | 18 |
| | Ø40 | 30,40,50,60 80,100 | 457.5 | 478 | 150 | 210 | 254 | 34 | 196 | 15 | 90 | 65 | 40 | 43 | 185 | 260 | 12 | 230 | 150 | 20 |
| | Ø50 | 100,120,160,200 | 485.5 | 506 | 160 | 230 | 290 | 40 | 210 | 18 | 100 | 75 | 50 | 53.5 | 185 | 288 | 14 | 265 | 170 | 25 |
| 2.2 | Ø40 | 5,10,15,20,25 | 466.5 | 487 | 150 | 210 | 254 | 34 | 196 | 15 | 90 | 65 | 40 | 43 | 185 | 260 | 12 | 230 | 150 | 20 |
| | Ø50 | 30,40,50,60 80,100 | 510.5 | 531 | 160 | 230 | 290 | 40 | 210 | 18 | 100 | 75 | 50 | 53.5 | 185 | 288 | 14 | 265 | 170 | 25 |

## *G3FM THREE-PHASE MOTOR REDUCER WITH FLANGE*



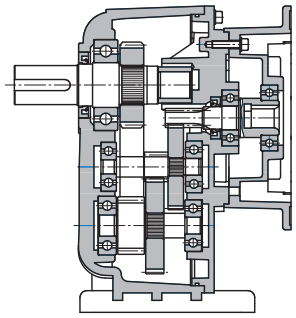


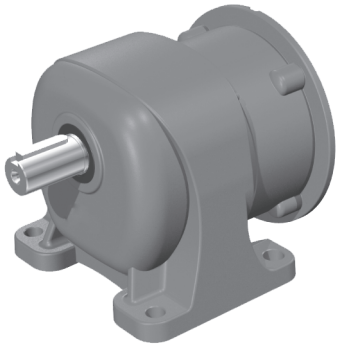



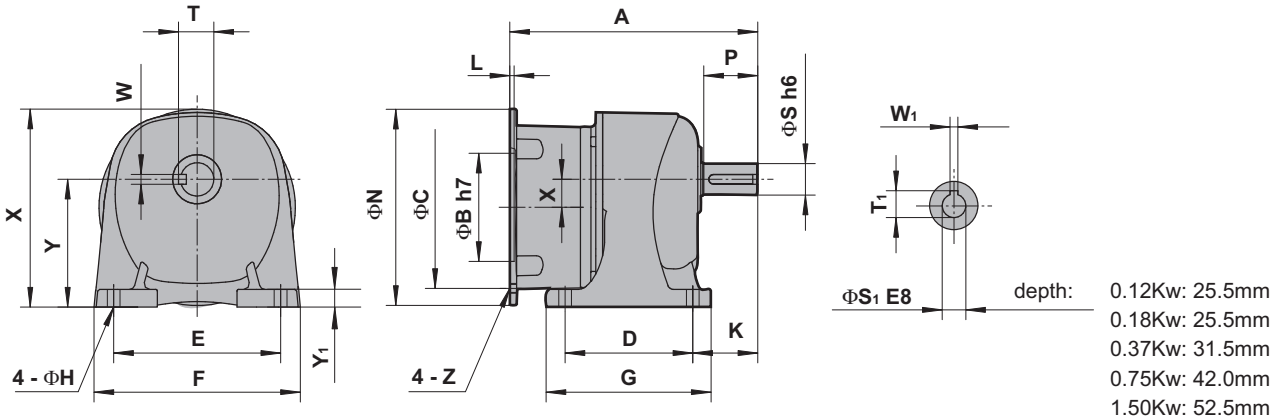

motor rotate speed 1400 r / min

| power kW | output shaft | ratio | primary outline and dimension-mount | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A | | F | I | J | M | O | O1 | P | Q | R | S | T | U | W | X | Y | Y1 |
| | | | A1 | A2 | | | | | | | | | | | | | | | | |
| 0.1 | Ø18 | 5,10,15,20 25,30,40,50 | 236 | 270 | 192.5 | 11 | 16.5 | 170 | 4 | 10 | 30 | 145 | 35 | 18 | 20.5 | 129 | 6 | 157 | 80 | 81 |
| | Ø22 | 60,80,100,120,160,200 | 262 | 296 | 197.5 | 11 | 19 | 185 | 4 | 12 | 40 | 148 | 47 | 22 | 24.5 | 129 | 6 | 171.5 | 89.5 | 83.5 |
| 0.2 | Ø18 | 5,10,15,20,25 | 267 | 270 | 192.5 | 11 | 16.5 | 170 | 4 | 10 | 30 | 145 | 35 | 18 | 20.5 | 129 | 6 | 161 | 80 | 81 |
| | Ø22 | 30,40,50,60 80,100 | 293 | 296 | 197.5 | 11 | 19 | 185 | 4 | 12 | 40 | 148 | 47 | 22 | 24.5 | 129 | 6 | 171.5 | 89.5 | 83.5 |
| | Ø28 | 100,120,160,200 | 306 | 309.5 | 208.5 | 11 | 23.5 | 215 | 4 | 15 | 45 | 170 | 50 | 28 | 31 | 129 | 8 | 198.5 | 105.5 | 88 |
| 0.4 | Ø22 | 5,10,15,20,25 | 314 | 324.5 | 204 | 11 | 19 | 185 | 4 | 12 | 40 | 148 | 47 | 22 | 24.5 | 139 | 6 | 171.5 | 89.5 | 88.5 |
| | Ø28 | 30,40,50,60 80,100 | 330 | 337.5 | 215 | 11 | 23.5 | 215 | 4 | 15 | 45 | 170 | 50 | 28 | 31 | 139 | 8 | 198.5 | 105.5 | 93 |
| | Ø32 | 100,120,160,200 | 349 | 357 | 229.5 | 13 | 28.5 | 250 | 4 | 15 | 55 | 180 | 60 | 32 | 35 | 139 | 10 | 234 | 126 | 98 |
| 0.75 | Ø28 | 5,10,15,20,25 | 350.5 | 343.5 | 227.5 | 11 | 23.5 | 215 | 4 | 15 | 45 | 170 | 50 | 28 | 31 | 159 | 8 | 198.5 | 105.5 | 103 |
| | Ø32 | 30,40,50,60 80,100 | 379.5 | 387 | 242 | 13 | 28.5 | 250 | 4 | 15 | 55 | 180 | 60 | 32 | 35 | 159 | 10 | 234 | 126 | 108 |
| | Ø40 | 100,120,160,200 | 401.5 | 408.5 | 270 | 18 | 34 | 310 | 5 | 18 | 65 | 230 | 71 | 40 | 43 | 185 | 12 | 284 | 149 | 126.5 |
| 1.5 | Ø32 | 5,10,15,20,25 | 420.5 | 441 | 254 | 13 | 28.5 | 250 | 5 | 15 | 55 | 180 | 60 | 32 | 35 | 185 | 10 | 234 | 126 | 121 |
| | Ø40 | 30,40,50,60 80,100 | 457.5 | 478 | 270 | 18 | 34 | 310 | 5 | 18 | 65 | 230 | 71 | 40 | 43 | 185 | 12 | 284 | 149 | 126.5 |
| | Ø50 | 100,120,160,200 | 485.5 | 506 | 300 | 22 | 40 | 360 | 5 | 25 | 75 | 270 | 83 | 50 | 53.5 | 185 | 14 | 32.5 | 173.5 | 132.5 |
| 2.2 | Ø40 | 5,10,15,20,25 | 466.5 | 487 | 270 | 18 | 34 | 310 | 5 | 18 | 65 | 230 | 71 | 40 | 43 | 185 | 12 | 284 | 149 | 126.5 |
| | Ø50 | 30,40,50,60 80,100 | 510.5 | 531 | 300 | 22 | 40 | 360 | 5 | 25 | 75 | 270 | 83 | 50 | 53.5 | 185 | 14 | 32.5 | 173.5 | 132.5 |

## G3LS IEC INPUT REDUCER WITH FOOT



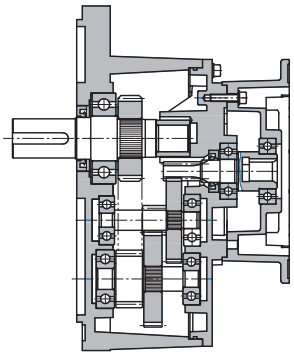


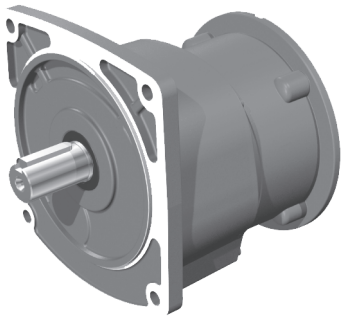


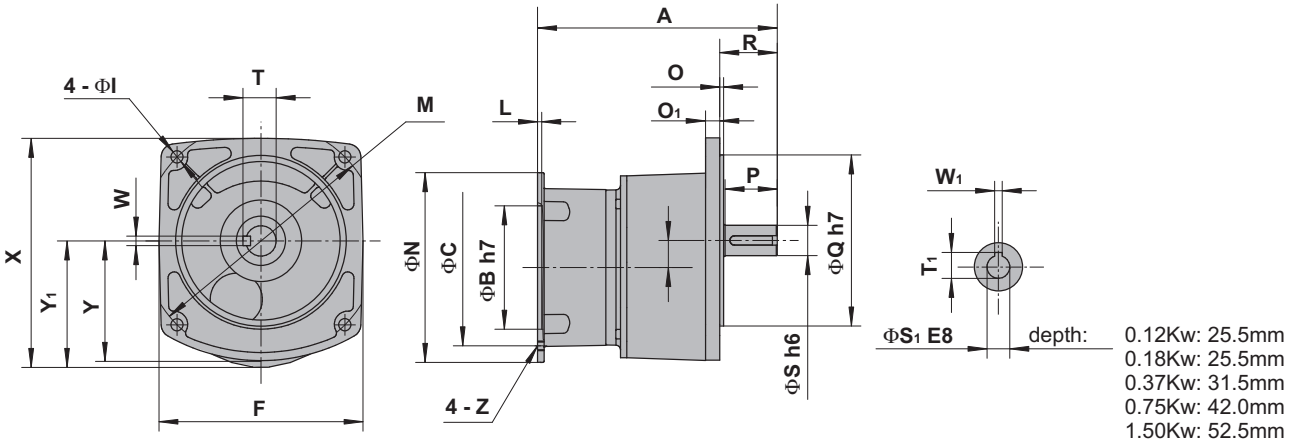

motor rotate speed 1400 r / min

| power kW | output shaft | ratio | primary outline and dimension-mount | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A | B | C | D | E | F | G | H | J | K | L | N | P | S | $S_1$ | T | $T_1$ | W | $W_1$ | X | Y | $Y_1$ | Z |
| 0.12 | Ø18 | 5,10,15,20 25,30,40,50 | 147 | 95 | 115 | 40 | 110 | 135 | 65 | 9 | 16.5 | 45 | 4.5 | 140 | 30 | 18 | 11 | 20.5 | 12.8 | 6 | 4 | 138.5 | 85 | 10 | M8 |
| | Ø22 | 60,80,100,120,160,200 | 173 | 95 | 115 | 65 | 130 | 154 | 90 | 11 | 19 | 55 | 4.5 | 140 | 40 | 22 | 11 | 24.5 | 12.8 | 6 | 4 | 141 | 90 | 12 | M8 |
| 0.18 | Ø18 | 5,10,15,20,25 | 147 | 95 | 115 | 40 | 110 | 135 | 65 | 9 | 16.5 | 45 | 4.5 | 140 | 30 | 18 | 11 | 20.5 | 12.8 | 6 | 4 | 138.5 | 85 | 10 | M8 |
| | Ø22 | 30,40,50,60 80,100 | 173 | 95 | 115 | 65 | 130 | 154 | 90 | 11 | 19 | 55 | 4.5 | 140 | 40 | 22 | 11 | 24.5 | 12.8 | 6 | 4 | 141 | 90 | 12 | M8 |
| | Ø28 | 100,120,160,200 | 186.5 | 95 | 115 | 90 | 140 | 175 | 125 | 11 | 23.5 | 65 | 4.5 | 140 | 45 | 28 | 11 | 31 | 12.8 | 8 | 4 | 170 | 110 | 15 | M8 |
| 0.37 | Ø22 | 5,10,15,20,25 | 181.5 | 110 | 130 | 65 | 130 | 154 | 90 | 11 | 19 | 55 | 4.5 | 160 | 40 | 22 | 14 | 24.5 | 16.3 | 6 | 5 | 151 | 90 | 12 | M8 |
| | Ø28 | 30,40,50,60 80,100 | 198 | 110 | 130 | 90 | 140 | 175 | 125 | 11 | 23.5 | 65 | 4.5 | 160 | 45 | 28 | 14 | 31 | 16.3 | 8 | 5 | 170 | 110 | 15 | M8 |
| | Ø32 | 100,120,160,200 | 216.5 | 110 | 130 | 130 | 170 | 208 | 170 | 13 | 28.5 | 70 | 4.5 | 160 | 55 | 32 | 14 | 35 | 16.3 | 10 | 5 | 198 | 130 | 18 | M8 |
| 0.75 | Ø28 | 5,10,15,20,25 | 206.5 | 130 | 165 | 90 | 140 | 175 | 125 | 11 | 23.5 | 65 | 4.5 | 200 | 45 | 28 | 19 | 31 | 21.8 | 8 | 6 | 186.5 | 110 | 15 | M10 |
| | Ø32 | 30,40,50,60 80,100 | 235 | 130 | 165 | 130 | 170 | 208 | 170 | 13 | 28.5 | 70 | 4.5 | 200 | 55 | 32 | 19 | 35 | 21.8 | 10 | 6 | 201.5 | 130 | 18 | M10 |
| | Ø40 | 100,120,160,200 | 260.5 | 130 | 165 | 150 | 210 | 254 | 196 | 15 | 34 | 90 | 4.5 | 200 | 65 | 40 | 19 | 43 | 21.8 | 12 | 8 | 230 | 150 | 20 | M10 |
| 1.5 | Ø32 | 5,10,15,20,25 | 252 | 130 | 165 | 130 | 170 | 208 | 170 | 13 | 28.5 | 70 | 4.5 | 200 | 55 | 32 | 24 | 35 | 27.3 | 10 | 8 | 201.5 | 130 | 18 | M10 |
| | Ø40 | 30,40,50,60 80,100 | 293.5 | 130 | 165 | 150 | 210 | 254 | 196 | 15 | 34 | 90 | 4.5 | 200 | 65 | 40 | 24 | 43 | 27.3 | 12 | 8 | 230 | 150 | 20 | M10 |
| | Ø50 | 100,120,160,200 | 321.5 | 130 | 165 | 160 | 230 | 290 | 210 | 18 | 40 | 100 | 4.5 | 200 | 75 | 50 | 24 | 53.5 | 27.3 | 14 | 8 | 265 | 170 | 25 | M10 |
| 2.2 | Ø40 | 5,10,15,20,25 | 290 | 180 | 215 | 150 | 210 | 254 | 196 | 15 | 34 | 90 | 5.5 | 250 | 65 | 40 | 28 | 43 | 31.3 | 12 | 8 | 230 | 150 | 20 | M12 |
| | Ø50 | 30,40,50,60 80,100 | 334 | 180 | 215 | 160 | 230 | 290 | 210 | 18 | 40 | 100 | 5.5 | 250 | 75 | 50 | 28 | 53.5 | 31.3 | 14 | 8 | 265 | 170 | 25 | M12 |

# G3FS IEC INPUT REDUCER WITH FLANGE

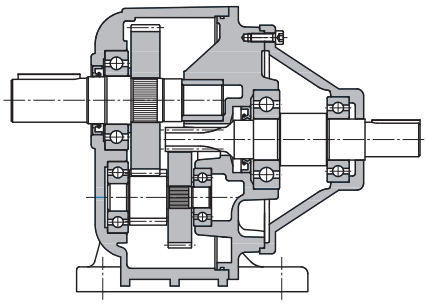


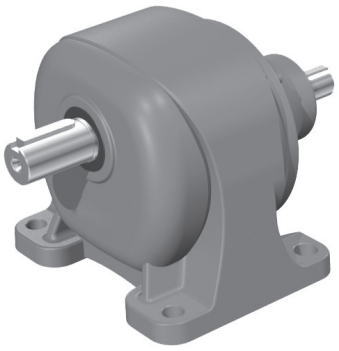


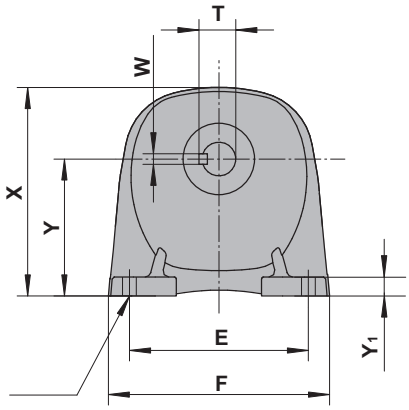


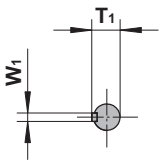

| power kW | output shaft | ratio | primary outline and dimension-mount | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A | B | C | F | I | J | L | M | N | O | O1 | P | Q | R | S | S1 | T | T1 | W | W1 | X | Y | Y1 | Z |
| 0.12 | Ø18 | 5,10,15,20 25,30,40,50 | 147 | 95 | 115 | 154 | 11 | 16.5 | 4.5 | 170 | 140 | 4 | 10 | 30 | 145 | 35 | 18 | 11 | 20.5 | 12.8 | 6 | 4 | 163.5 | 80 | 86.5 | M8 |
| | Ø22 | 60,80,100,120,160,200 | 173 | 95 | 115 | 164 | 11 | 19 | 4.5 | 185 | 140 | 4 | 12 | 40 | 148 | 47 | 22 | 11 | 24.5 | 12.8 | 6 | 4 | 171.5 | 89.5 | 89 | M8 |
| 0.18 | Ø18 | 5,10,15,20,25 | 147 | 95 | 115 | 154 | 11 | 16.5 | 4.5 | 170 | 140 | 4 | 10 | 30 | 145 | 35 | 18 | 11 | 20.5 | 12.8 | 6 | 4 | 163.5 | 80 | 86.5 | M8 |
| | Ø22 | 30,40,50,60 80,100 | 173 | 95 | 115 | 164 | 11 | 19 | 4.5 | 185 | 140 | 4 | 12 | 40 | 148 | 47 | 22 | 11 | 24.5 | 12.8 | 6 | 4 | 171.5 | 89.5 | 89 | M8 |
| | Ø28 | 100,120,160,200 | 186.5 | 95 | 115 | 186 | 11 | 23.5 | 4.5 | 215 | 140 | 4 | 15 | 45 | 170 | 50 | 28 | 11 | 31 | 12.8 | 8 | 4 | 198.5 | 105.5 | 93.5 | M8 |
| 0.37 | Ø22 | 5,10,15,20,25 | 181.5 | 110 | 130 | 164 | 11 | 19 | 4.5 | 185 | 160 | 4 | 12 | 40 | 148 | 47 | 22 | 14 | 24.5 | 16.3 | 6 | 5 | 201 | 89.5 | 99 | M8 |
| | Ø28 | 30,40,50,60 80,100 | 198 | 110 | 130 | 186 | 11 | 23.5 | 4.5 | 215 | 160 | 4 | 15 | 45 | 170 | 50 | 28 | 14 | 31 | 16.3 | 8 | 5 | 198.5 | 105.5 | 103.5 | M8 |
| | Ø32 | 100,120,160,200 | 216.5 | 110 | 130 | 215 | 13 | 28.5 | 4.5 | 250 | 160 | 4 | 15 | 55 | 180 | 60 | 32 | 14 | 35 | 16.3 | 10 | 5 | 234 | 126 | 108.5 | M8 |
| 0.75 | Ø28 | 5,10,15,20,25 | 206.5 | 130 | 165 | 185 | 11 | 23.5 | 4.5 | 215 | 200 | 4 | 15 | 45 | 170 | 50 | 28 | 19 | 31 | 21.8 | 8 | 6 | 216.5 | 105.5 | 123.5 | M10 |
| | Ø32 | 30,40,50,60 80,100 | 235 | 130 | 165 | 215 | 13 | 28.5 | 4.5 | 250 | 200 | 4 | 15 | 55 | 180 | 60 | 32 | 19 | 35 | 21.8 | 10 | 6 | 236.5 | 126 | 128.5 | M10 |
| | Ø40 | 100,120,160,200 | 260.5 | 130 | 165 | 270 | 18 | 34 | 4.5 | 310 | 200 | 5 | 18 | 65 | 230 | 71 | 40 | 19 | 43 | 21.8 | 12 | 6 | 284 | 149 | 134 | M10 |
| 1.5 | Ø32 | 5,10,15,20,25 | 252 | 130 | 165 | 215 | 13 | 28.5 | 4.5 | 250 | 200 | 4 | 15 | 55 | 180 | 60 | 32 | 24 | 35 | 27.3 | 10 | 8 | 236.5 | 126 | 128.5 | M10 |
| | Ø40 | 30,40,50,60 80,100 | 293.5 | 130 | 165 | 270 | 18 | 34 | 4.5 | 310 | 200 | 5 | 18 | 65 | 230 | 71 | 40 | 24 | 43 | 27.3 | 12 | 8 | 284 | 149 | 134 | M10 |
| | Ø50 | 100,120,160,200 | 321.5 | 130 | 165 | 300 | 22 | 40 | 4.5 | 360 | 200 | 5 | 25 | 75 | 270 | 83 | 50 | 24 | 53.5 | 27.3 | 14 | 8 | 323.5 | 173.5 | 140 | M10 |
| 2.2 | Ø40 | 5,10,15,20,25 | 290 | 180 | 215 | 270 | 18 | 34 | 5 | 310 | 250 | 5 | 18 | 65 | 230 | 71 | 40 | 28 | 43 | 31.3 | 12 | 8 | 284 | 149 | 134 | M12 |
| | Ø50 | 30,40,50,60 80,100 | 334 | 180 | 215 | 300 | 22 | 40 | 5 | 360 | 250 | 5 | 25 | 75 | 270 | 83 | 50 | 28 | 53.5 | 31.3 | 14 | 8 | 323.5 | 173.5 | 140 | M12 |

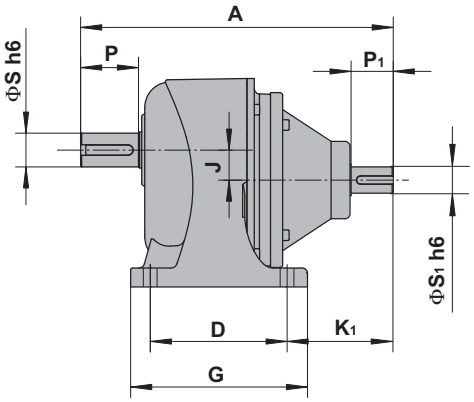
# G3FS IEC INPUT REDUCER WITH FOOT







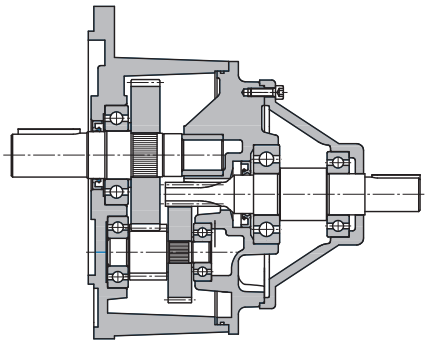



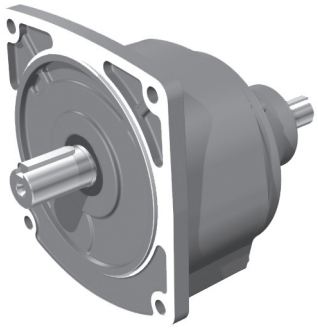



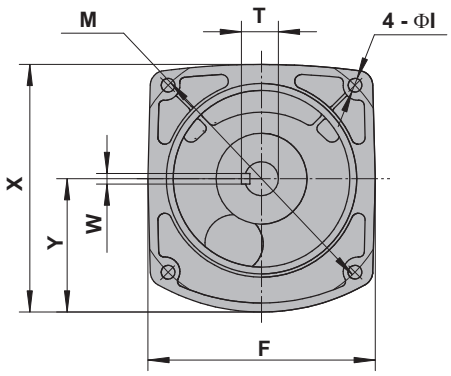

motor rotate speed 1400 r / min

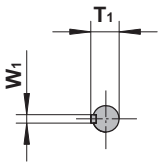
| power kW | output shaft | ratio | primary outline and dimension-mount | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A | D | E | F | G | H | J | K1 | P | P1 | S | S1 | T | T1 | W | W1 | X | Y | Y1 |
| 0.1 | Ø18 | 5,10,15,20 25,30,40,50 | 181.5 | 40 | 110 | 135 | 65 | 9 | 16.5 | 96.5 | 30 | 25 | 18 | 12 | 20.5 | 13.5 | 6 | 4 | 131 | 85 | 10 |
| | Ø22 | 60,80,100,120,160,200 | 207.5 | 65 | 130 | 154 | 90 | 11 | 19 | 87.5 | 40 | 25 | 22 | 12 | 24.5 | 13.5 | 6 | 4 | 139.5 | 90 | 12 |
| 0.2 | Ø18 | 5,10,15,20,25 | 181.5 | 40 | 110 | 135 | 65 | 9 | 16.5 | 96.5 | 30 | 25 | 18 | 12 | 20.5 | 13.5 | 6 | 4 | 131 | 85 | 10 |
| | Ø22 | 30,40,50,60 80,100 | 207.5 | 65 | 130 | 154 | 90 | 11 | 19 | 87.5 | 40 | 25 | 22 | 12 | 24.5 | 13.5 | 6 | 4 | 139.5 | 90 | 12 |
| | Ø28 | 100,120,160,200 | 220.5 | 90 | 140 | 175 | 125 | 11 | 23.5 | 65.5 | 45 | 25 | 28 | 12 | 31 | 13.5 | 8 | 4 | 170 | 110 | 15 |
| 0.4 | Ø22 | 5,10,15,20,25 | 219 | 65 | 130 | 154 | 90 | 11 | 19 | 99 | 40 | 30 | 22 | 15 | 24.5 | 17 | 6 | 5 | 139.5 | 90 | 12 |
| | Ø28 | 30,40,50,60 80,100 | 235 | 90 | 140 | 175 | 125 | 11 | 23.5 | 80 | 45 | 30 | 28 | 15 | 31 | 17 | 8 | 5 | 170 | 110 | 15 |
| | Ø32 | 100,120,160,200 | 254 | 130 | 170 | 208 | 170 | 13 | 28.5 | 54 | 55 | 30 | 32 | 15 | 35 | 17 | 10 | 5 | 198 | 130 | 18 |
| 0.75 | Ø28 | 5,10,15,20,25 | 244.5 | 90 | 140 | 175 | 125 | 11 | 23.5 | 89.5 | 45 | 35 | 28 | 20 | 31 | 22.5 | 8 | 6 | 170 | 110 | 15 |
| | Ø32 | 30,40,50,60 80,100 | 273.5 | 130 | 170 | 208 | 170 | 13 | 28.5 | 73.5 | 55 | 35 | 32 | 20 | 35 | 22.5 | 10 | 6 | 198 | 130 | 18 |
| | Ø40 | 100,120,160,200 | 295.5 | 150 | 210 | 254 | 196 | 15 | 34 | 55.5 | 65 | 35 | 40 | 20 | 43 | 22.5 | 12 | 6 | 230 | 150 | 20 |
| 1.5 | Ø32 | 5,10,15,20,25 | 297 | 130 | 170 | 208 | 170 | 13 | 28.5 | 97 | 55 | 40 | 32 | 25 | 35 | 28 | 10 | 8 | 198 | 130 | 18 |
| | Ø40 | 30,40,50,60 80,100 | 334 | 150 | 210 | 254 | 196 | 15 | 34 | 94 | 65 | 40 | 40 | 25 | 43 | 28 | 12 | 8 | 230 | 150 | 20 |
| | Ø50 | 100,120,160,200 | 362 | 160 | 230 | 290 | 210 | 18 | 40 | 102 | 75 | 40 | 50 | 25 | 53.5 | 28 | 14 | 8 | 265 | 170 | 25 |
| 2.2 | Ø40 | 5,10,15,20,25 | 330 | 150 | 210 | 254 | 196 | 15 | 34 | 90 | 65 | 45 | 40 | 30 | 43 | 33 | 12 | 8 | 230 | 150 | 20 |
| | Ø50 | 30,40,50,60 80,100 | 374 | 160 | 230 | 290 | 210 | 18 | 40 | 114 | 75 | 45 | 50 | 30 | 53.5 | 33 | 14 | 8 | 265 | 170 | 25 |

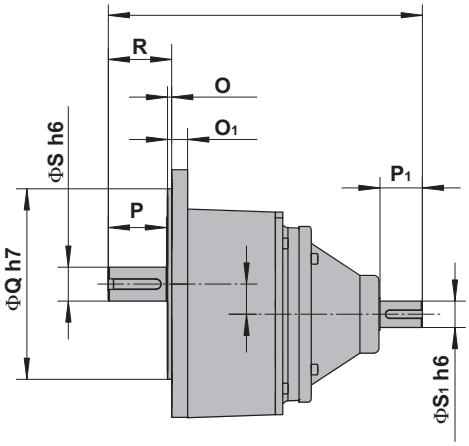
## *G3F IEC INPUT REDUCER WITH FLANGE*







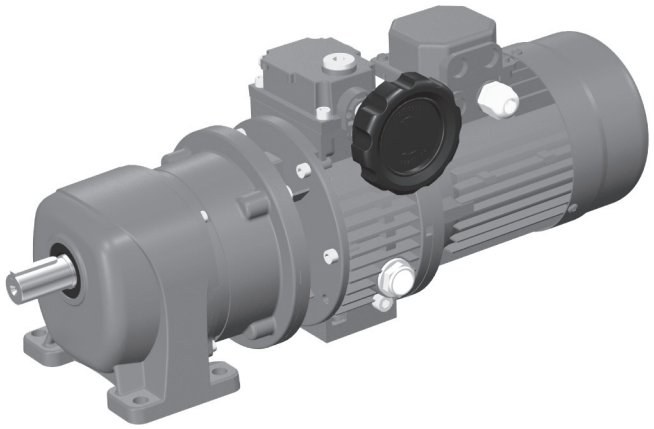



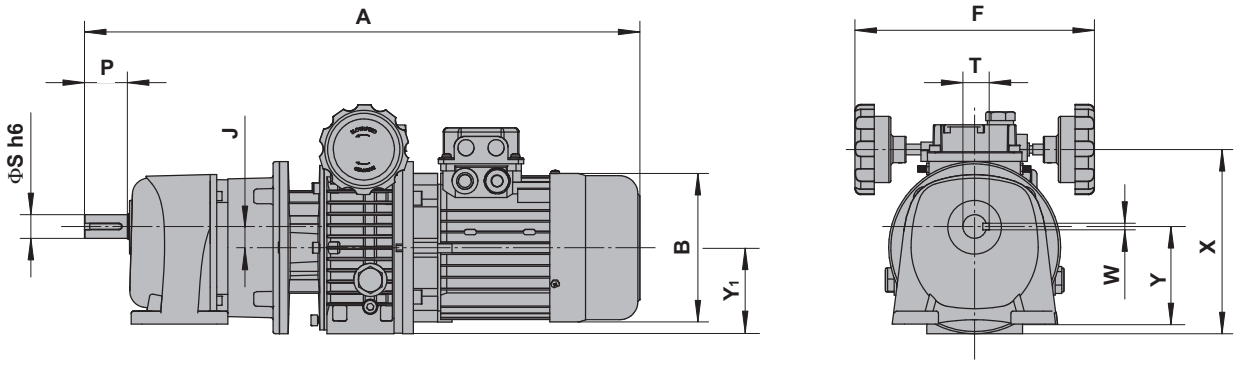




motor rotate speed 1400 r / min

| power kW | output shaft | ratio | primary outline and dimension-mount | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A | F | I | J | M | O | $O_1$ | P | $P_1$ | Q | R | S | $S_1$ | T | $T_1$ | W | $W_1$ | X | Y |
| 0.1 | Ø18 | 5,10,15,20 25,30,40,50 | 181.5 | 154 | 11 | 16.5 | 170 | 4 | 10 | 30 | 25 | 145 | 35 | 18 | 12 | 20.5 | 13.5 | 6 | 4 | 157 | 80 |
| | Ø22 | 60,80,100,120,160,200 | 207.5 | 164 | 11 | 19 | 185 | 4 | 12 | 40 | 25 | 148 | 47 | 22 | 12 | 24.5 | 13.5 | 6 | 4 | 171.5 | 89.5 |
| 0.2 | Ø18 | 5,10,15,20,25 | 181.5 | 154 | 11 | 16.5 | 170 | 4 | 10 | 30 | 25 | 145 | 35 | 18 | 12 | 20.5 | 13.5 | 6 | 4 | 157 | 80 |
| | Ø22 | 30,40,50,60 80,100 | 207.5 | 164 | 11 | 19 | 185 | 4 | 12 | 40 | 25 | 148 | 47 | 22 | 12 | 24.5 | 13.5 | 6 | 4 | 171.5 | 89.5 |
| | Ø28 | 100,120,160,200 | 220.5 | 186 | 11 | 23.5 | 215 | 4 | 15 | 45 | 25 | 170 | 50 | 28 | 12 | 31 | 13.5 | 8 | 4 | 198.5 | 105.5 |
| 0.4 | Ø22 | 5,10,15,20,25 | 219 | 164 | 11 | 19 | 185 | 4 | 12 | 40 | 30 | 148 | 47 | 22 | 15 | 24.5 | 17 | 6 | 5 | 171.5 | 89.5 |
| | Ø28 | 30,40,50,60 80,100 | 235 | 186 | 11 | 23.5 | 215 | 4 | 15 | 45 | 30 | 170 | 50 | 28 | 15 | 31 | 17 | 8 | 5 | 198.5 | 105.5 |
| | Ø32 | 100,120,160,200 | 254 | 215 | 13 | 28.5 | 250 | 4 | 15 | 55 | 30 | 180 | 60 | 32 | 15 | 35 | 17 | 10 | 5 | 234 | 126 |
| 0.75 | Ø28 | 5,10,15,20,25 | 244.5 | 185 | 11 | 23.5 | 215 | 4 | 15 | 45 | 35 | 170 | 50 | 28 | 20 | 31 | 22.5 | 8 | 6 | 198.5 | 105.5 |
| | Ø32 | 30,40,50,60 80,100 | 273.5 | 215 | 13 | 28.5 | 250 | 4 | 15 | 55 | 35 | 180 | 60 | 32 | 20 | 35 | 22.5 | 10 | 6 | 234 | 126 |
| | Ø40 | 100,120,160,200 | 295.5 | 270 | 18 | 34 | 310 | 5 | 18 | 65 | 35 | 230 | 71 | 40 | 20 | 43 | 22.5 | 12 | 6 | 284 | 149 |
| 1.5 | Ø32 | 5,10,15,20,25 | 297 | 215 | 13 | 28.5 | 250 | 4 | 15 | 55 | 40 | 180 | 60 | 32 | 25 | 35 | 28 | 10 | 8 | 234 | 126 |
| | Ø40 | 30,40,50,60 80,100 | 334 | 270 | 18 | 34 | 310 | 5 | 18 | 65 | 40 | 230 | 71 | 40 | 25 | 43 | 28 | 12 | 8 | 284 | 149 |
| | Ø50 | 100,120,160,200 | 362 | 300 | 22 | 40 | 360 | 5 | 25 | 75 | 40 | 270 | 83 | 50 | 25 | 53.5 | 28 | 14 | 8 | 323.5 | 173.5 |
| 2.2 | Ø40 | 5,10,15,20,25 | 330 | 270 | 18 | 34 | 310 | 5 | 18 | 65 | 45 | 230 | 71 | 40 | 30 | 43 | 33 | 12 | 8 | 284 | 149 |
| | Ø50 | 30,40,50,60 80,100 | 374 | 300 | 22 | 40 | 360 | 5 | 25 | 75 | 45 | 270 | 83 | 50 | 30 | 53.5 | 33 | 14 | 8 | 323.5 | 173.5 |

# UDL - G3LS COMBINATION OF SPEED VARIATOR AND IEC INPUT REDUCER WITH FOOT

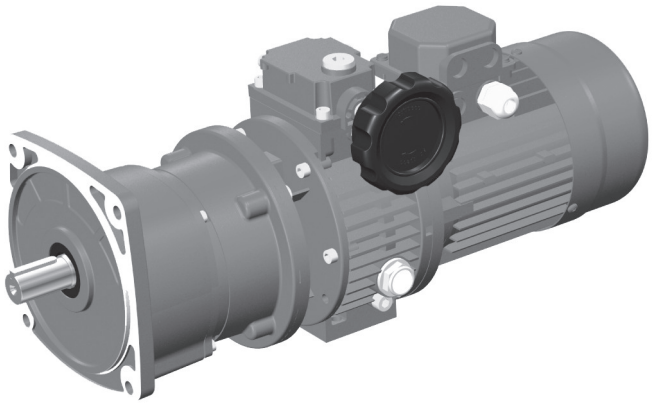


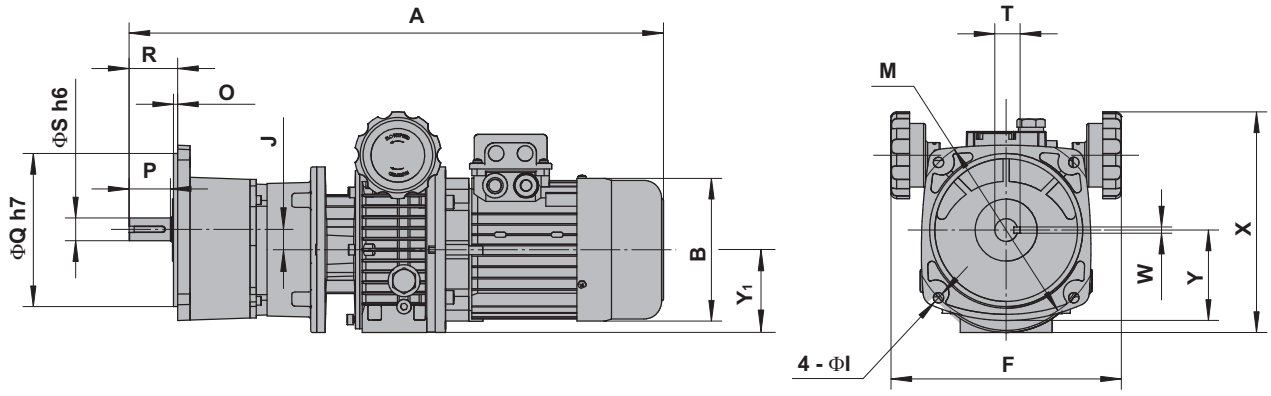



motor rotate speed 1400 r / min

| power kW | output shaft | G3LS $I_1$ | UDL $I_2$ | primary outline and dimension-mount | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | A | B | F | J | P | S | T | W | X | Y | $Y_1$ |
| 0.18 | Ø18 | 5,10,15,20,25 | 1.6 ~ 8.2 | 459.5 | 120 | 220 | 16.5 | 30 | 18 | 20.5 | 6 | 148 | 85 | 70 |
| | Ø22 | 30,40,50,60 80,100 | 1.4 ~ 7.0 | 485.5 | 120 | 220 | 19 | 40 | 22 | 24.5 | 6 | 148 | 90 | 70 |
| | Ø28 | 100,120,160,200 | 1.4 ~ 7.0 | 499 | 120 | 220 | 23.5 | 45 | 28 | 31 | 8 | 148 | 110 | 70 |
| 0.37 | Ø22 | 5,10,15,20,25 | 1.4 ~ 7.0 | 494 | 141 | 220 | 19 | 40 | 22 | 24.5 | 6 | 170 | 90 | 80 |
| | Ø28 | 30,40,50,60 80,100 | 1.4 ~ 7.0 | 510.5 | 141 | 220 | 23.5 | 45 | 28 | 31 | 8 | 170 | 110 | 80 |
| | Ø32 | 100,120,160,200 | 1.4 ~ 7.0 | 583.5 | 141 | 220 | 28.5 | 55 | 32 | 35 | 10 | 170 | 130 | 80 |
| 0.75 | Ø28 | 5,10,15,20,25 | 1.4 ~ 7.0 | 649.5 | 160 | 240 | 23.5 | 45 | 28 | 31 | 8 | 207 | 110 | 100 |
| | Ø32 | 30,40,50,60 80,100 | 1.4 ~ 7.0 | 678.5 | 160 | 240 | 28.5 | 55 | 32 | 35 | 10 | 207 | 130 | 100 |

# UDL - G3FS COMBINATION OF SPEED VARIATOR AND IEC INPUT REDUCER WITH FLANGE

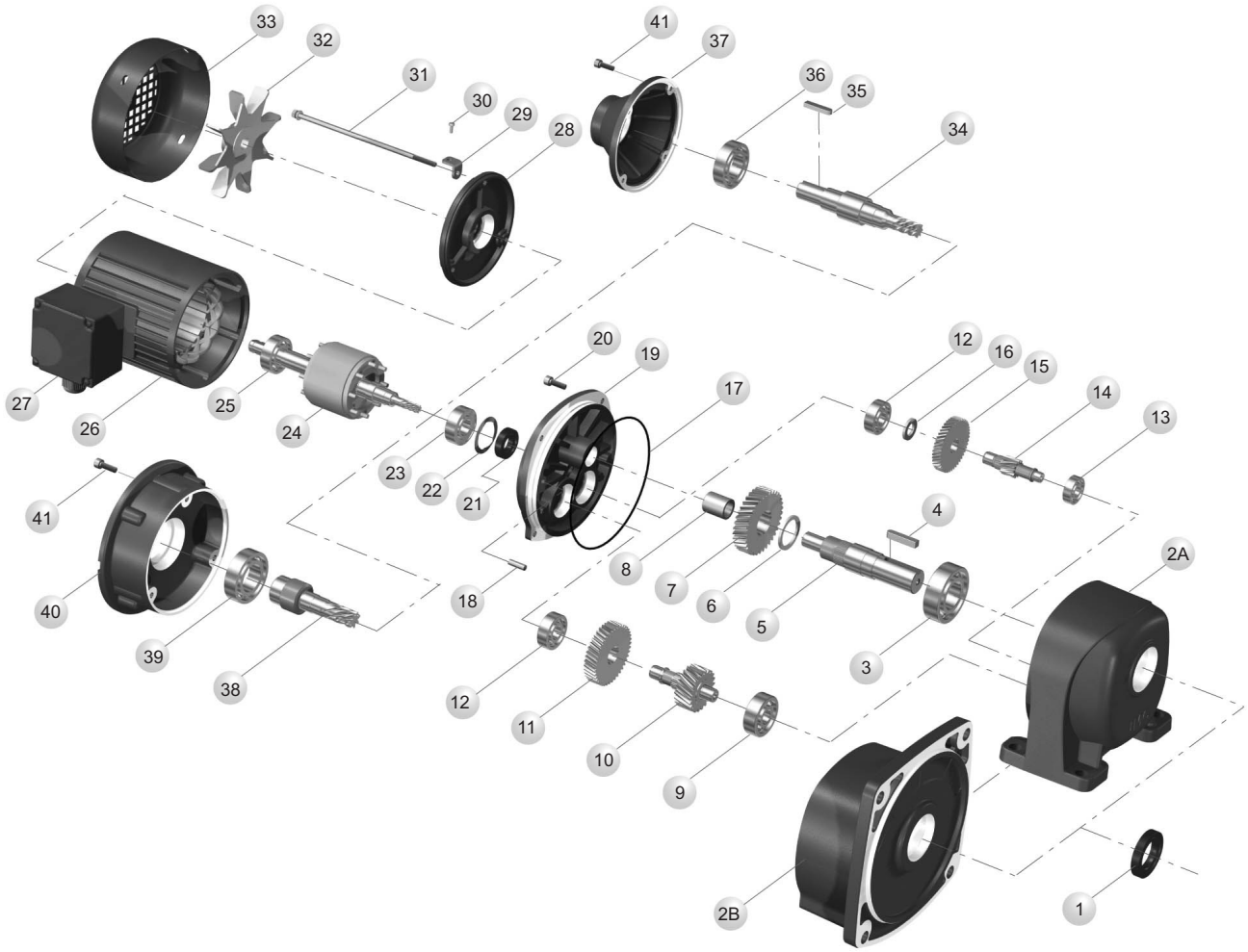





motor rotate speed 1400 r / min

| power kW | output shaft | G3FS $I_1$ | UDL $I_2$ | primary outline and dimension-mount | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | A | B | F | I | J | O | P | Q | R | S | T | W | X | Y | Y1 |
| 0.18 | Ø18 | 5,10,15,20,25 | 1.6 ~ 8.2 | 459.5 | 120 | 220 | 11 | 16.5 | 4 | 30 | 145 | 35 | 18 | 20.5 | 6 | 148 | 80 | 70 |
| | Ø22 | 30,40,50,60 80,100 | 1.4 ~ 7.0 | 485.5 | 120 | 220 | 11 | 19 | 4 | 40 | 148 | 47 | 22 | 24.5 | 6 | 148 | 89.5 | 70 |
| | Ø28 | 100,120,160,200 | 1.4 ~ 7.0 | 499 | 120 | 220 | 11 | 23.5 | 4 | 45 | 170 | 50 | 28 | 31 | 8 | 148 | 105.5 | 70 |
| 0.37 | Ø22 | 5,10,15,20,25 | 1.4 ~ 7.0 | 494 | 141 | 220 | 11 | 19 | 4 | 40 | 148 | 47 | 22 | 24.5 | 6 | 170 | 89.5 | 80 |
| | Ø28 | 30,40,50,60 80,100 | 1.4 ~ 7.0 | 510.5 | 141 | 220 | 11 | 23.5 | 4 | 45 | 170 | 50 | 28 | 31 | 8 | 170 | 105.5 | 80 |
| | Ø32 | 100,120,160,200 | 1.4 ~ 7.0 | 583.5 | 141 | 220 | 13 | 28.5 | 4 | 55 | 180 | 60 | 32 | 35 | 10 | 170 | 126 | 80 |
| 0.75 | Ø28 | 5,10,15,20,25 | 1.4 ~ 7.0 | 649.5 | 160 | 240 | 11 | 23.5 | 4 | 45 | 170 | 50 | 28 | 31 | 8 | 207 | 105.5 | 100 |
| | Ø32 | 30,40,50,60 80,100 | 1.4 ~ 7.0 | 678.5 | 160 | 240 | 13 | 28.5 | 4 | 55 | 180 | 60 | 32 | 35 | 10 | 207 | 126 | 100 |

## STAGE EXPLODED VIEW

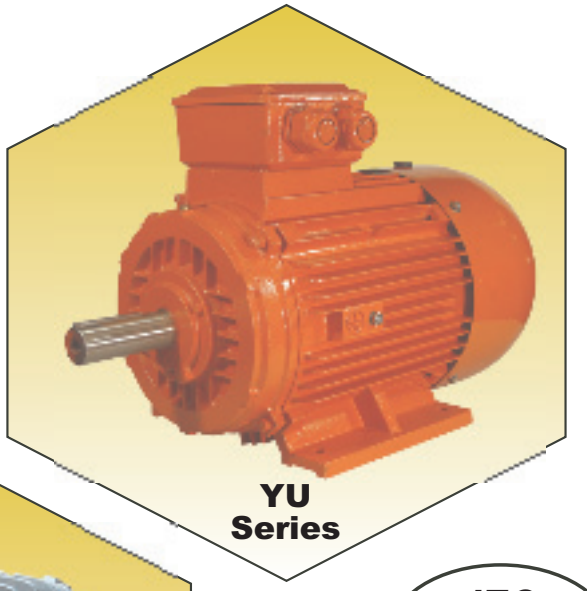



| No. | Keterangan | No. | Keterangan | No. | Keterangan |
|---|---|---|---|---|---|
| **1.** | oil seal-output shaft | **14.** | pinion-2nd stage | **28.** | rear cover-motor |
| **2A.** | foot housing | **15.** | gear-1st stage | **29.** | bracket |
| **2B.** | flange housing | **16.** | spacer | **30.** | screw-fan cover |
| **3.** | bearing-output shaft | **17.** | O-RING | **31.** | long bolt-motor |
| **4.** | key-output shaft | **18.** | pin | **32.** | cooling fan |
| **5.** | output shaft | **19.** | motor flange | **33.** | fan cover-motor |
| **6.** | spacer | **20.** | inner hexangular screw | **34.** | input shaft gear shaft |
| **7.** | gear-3rd stage | **21.** | oil seal-motor shaft | **35.** | key-input shaft |
| **8.** | oiliness bearing | **22.** | spring washer | **36.** | bearing-input shaft gear shaft |
| **9.** | bearing-3rd stage pinion | **23.** | bearing-motor shaft | **37.** | input cover |
| **10.** | pinion-3rd stage | **24.** | rotor | **38.** | input hole gear shaft |
| **11.** | bearing-2nd stage | **25.** | bearing-motor shaft | **39.** | bearing-input hole gear shaft |
| **12.** | bearing-motor flange | **26.** | motor stator | **40.** | flange-input |
| **13.** | bearing-2nd stage pinion | **27.** | wire box | **41.** | Inner hexagon screw |

## CORRECT THE MALFUNCTION

| defective reason | | analysis | solution method |
|---|---|---|---|
| noise | knocking | gear surface damaged | contact manufacturer,replace gear set |
| | continual cacophony | bearing damaged | replace the damaged bearing |
| | periodical cacophony | particle on the gear surface | check gear surface |
| | neigh | lack of lubricant | fill with lubricant |
| | intermittent cacophony | dirty lubricant | replace the new lubricant |
| shake | fixed foundation shake | deflective mount on the surface | re-adjust fixed pedestal |
| | output shaft shake | bearing damaged | replace the damaged bearing |
| | inner gear parts shake | gear damaged | replace the damaged gear |
| | housing shake | defective gear assembly | re-adjust the gear set |
| leakage | oil seal leakage | oil seal vulcanize | replace the damaged oil seal |
| | housing leakage | housing with the sand hole | replace housing with the sand hole |
| | combined surface leakage | o-ring damaged | replace the damaged o-ring |
| over-heating | oil seal damaged | over-tighten oil seal | replace over-tighten oil seal |
| | over-heat housing | over-load | re-calculate load |
| | lack of lubricant | low lubricant | fill with lubricant |
| | over-heat motor | 1. the temperature of environment is too high .<br>2. is ness .airi bad .<br>3. presurre is too high or to low fan has been damaged | 1. take measure to reduce the temp - erature<br>2. clean out the wind pass- age, and check the motor if cooling<br>3. adjust electrical source pressure |
| the motor can't work | | electrical source haven't been switched on | check if the switch is contacted well, if the fuse wise is broken or the motor down-lead is broken. |
| the rotate speed of the output shaft is too low | | wrong control connection outside<br>over loading<br>wrong ratio<br>electrical source pressure too low<br>over-load | correct it on the right connection<br>reduce the load<br>check the rotation ratio of the cooling fan and output shaft by hand<br>adjust electrical source pressure<br>reduce load |
| motor circu- mrotate,outp- ut shaft don't circumrotate | | inner gear set damaged | please contact the manufacture to replace the gear set |

Y3 Series



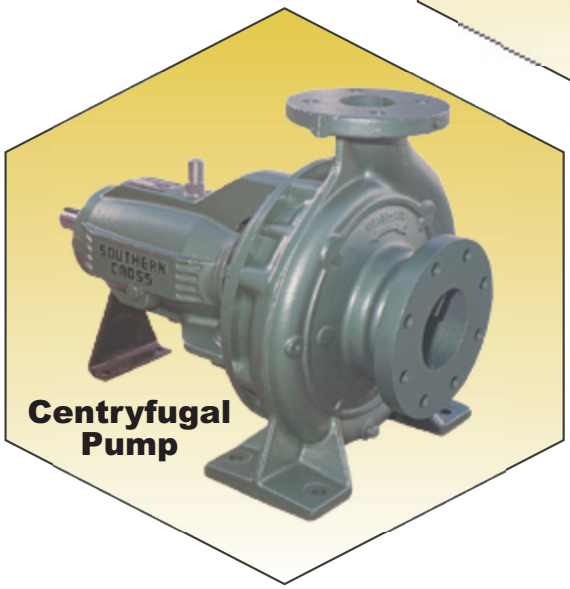
YU Series

EFF 2

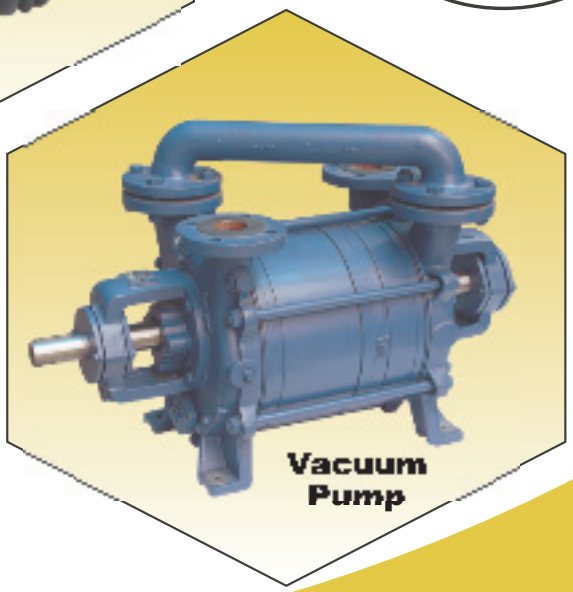
YA Series

IEC Standard

NEMA Standard



Centryfugal Pump



Vacuum Pump

Elektrim Motor

YUEMA
ELEKTRIK MOTOR

Elektrim
Made in Poland
CANTONI MOTOR

SOUTHERN CROSS
Made in Australia

speck pumpen
Made in Germany

VFD - F Series

VFD - G Series

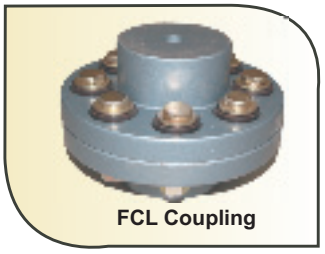
VFD - V Series

VFD - B Series

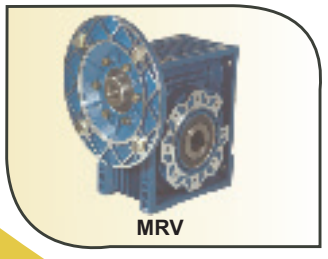
VFD - S Series

VFD - M Series

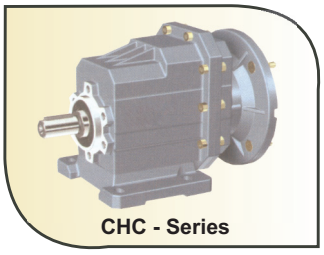
VFD - L Series



FCL Coupling



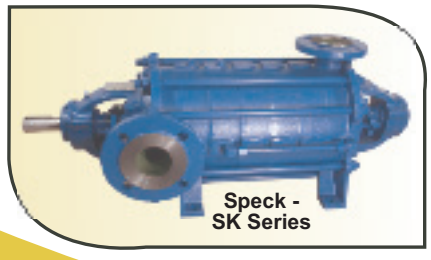
MRV



CHC - Series

Koshin - GL Series

Koshin - GC Series



Speck - SK Series

Speck - ASK Series

***SOUTHERN CROSS***
***Made in Australia***

***speck pumpen***
***Made In Germany***

***Elektrim***
***Made in Poland*** CANTONI MOTOR

***Oriental Koshin***
***Made In Japan***

DELTA
DELTA ELECTRONICS, INC.