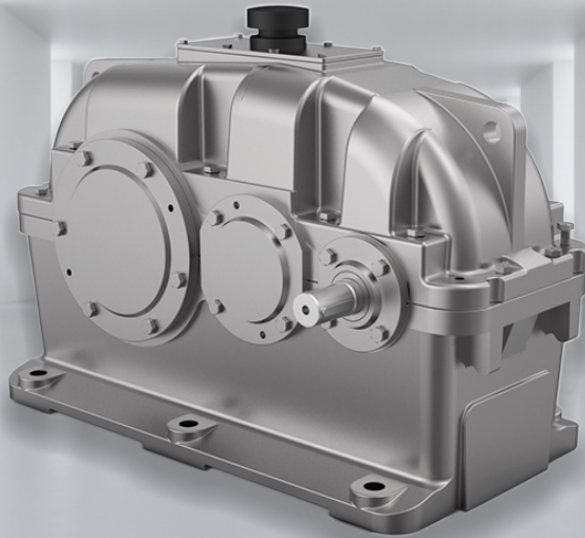




## PZ SERIES

Cylindrical Gear Reducer



We reserve the right to our company to make changes or modifications to catalogue without prior notice.

## PZ Series cylindrical gear reducer

### Cylinder Gearbox Reducer

**Summary:** This product is cylindrical gear hard surface speed reducer. It is widely applied to the fields of metallurgy, mines, mines, hoisting, transportation, cement, architecture, chemical, textile, printing and dyeing, pharmaceutical, etc.

**The suitable scope of speed reducer is as follows:**

1. The rotation of high speed shaft should not be more than 1500rpm;
2. The circumferential velocity of gear transmission should not be more than 20,/sec;
3. The temperature of work environment should be -40-45°C. If it below 0°C, before start, the lubricating oil should be pre-heated to above 0°C. This speed reducer can be run at clockwise and counterclockwise direction.

#### Characteristics

1. The gear is made of high strength low carbon alloy steel through carburization and quenching. The hardness of tooth surface may reach to HRC58-62. All gear adapts NC tooth grinding process, high in accuracy and good in contact performance;
2. Highly transmission efficiency: single stage, more than 96.5%; double-stage, more than 93%; three-stage, more 90%;
3. Smooth and stable in run, low noise;
4. Compact, light, long life, high bearing capacity;. Easy to disassemble, inspect and assemble.

#### Type, specification of speed reducer and its expressed method

1. The type including: PZDY single-stage cylindrical gear speed reducer, PZLY double-stage cylindrical gear speed reducer, PZSY three-stage cylindrical gear speed reducer

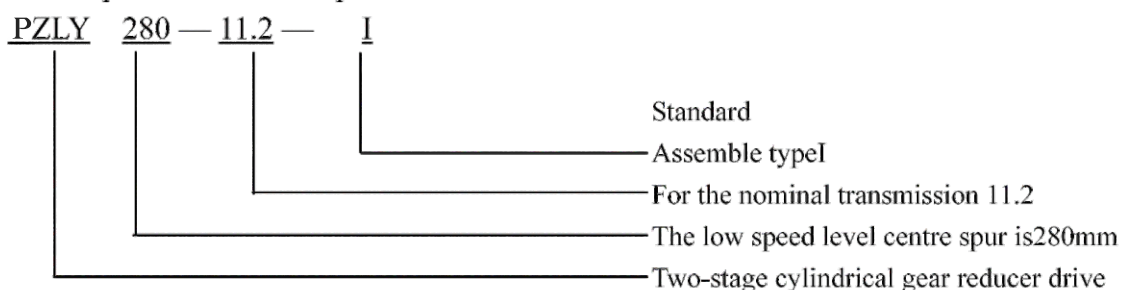
2. Specification has: Single stage: 80、100、125、160、200、250、280、315、355、400、450、500、560;

Two-stage: 112、125、140、160、180、200、224、250、280、315、355、400、450、500、560、630、710;

Three-stage: 160、180、200、224、250、280、315、355、400、450、500、560、630、710;

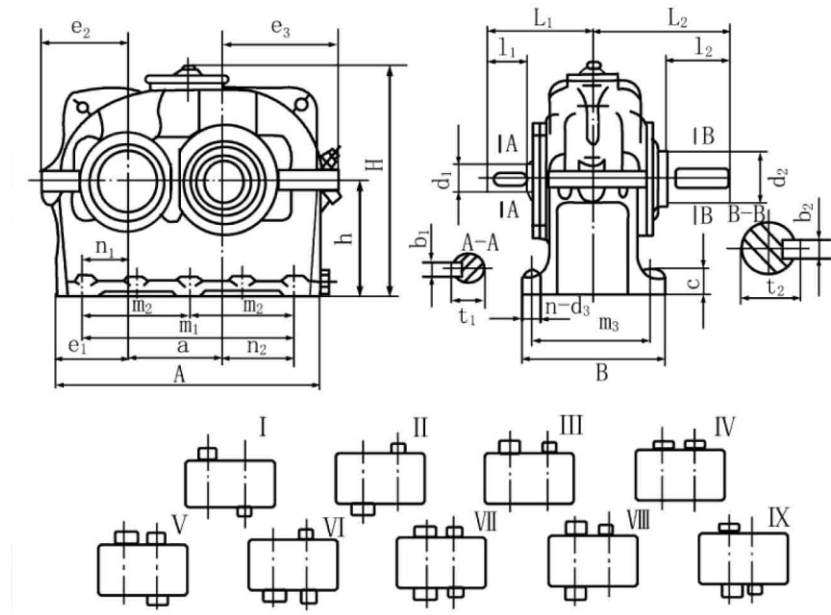
Four-stage: 180、200、225、250、280、320、360、450、500、560、630、710、800

#### 3. Representation examples:



4. Only allow to single direction running for reducer with hold back. Regulation is face to input shaft, input shaft 's running as "S" clockwise ,running as "N" counter-clockwise

### 3、The appearance, assembly and installation dimensions.



#### 1、PZDY Series

| PZDY | A         | B     | H≈    | a     | i=1.25~2.8 |       |       |       |       | i=3.15~4.5 |       |       |       |       | i=5~5.6   |           |       |       |       |
|------|-----------|-------|-------|-------|------------|-------|-------|-------|-------|------------|-------|-------|-------|-------|-----------|-----------|-------|-------|-------|
|      |           |       |       |       | $d_1(m6)$  | $l_1$ | $L_1$ | $b_1$ | $t_1$ | $d_1(m6)$  | $l_1$ | $L_1$ | $b_1$ | $t_1$ | $d_1(m6)$ | $l_1$     | $L_1$ | $b_1$ | $t_1$ |
| 80   | 235       | 150   | 210   | 80    | 28         | 42    | 112   | 8     | 31    | 24         | 36    | 106   | 8     | 27    | 19        | 28        | 98    | 6     | 21.5  |
| 100  | 290       | 175   | 260   | 100   | 42         | 82    | 167   | 12    | 45    | 28         | 42    | 127   | 8     | 31    | 22        | 36        | 121   | 6     | 24.5  |
| 125  | 355       | 195   | 330   | 125   | 48         | 82    | 182   | 14    | 51.5  | 38         | 58    | 158   | 10    | 41    | 28        | 42        | 142   | 8     | 31    |
| 160  | 445       | 245   | 403   | 160   | 65         | 105   | 225   | 18    | 69    | 48         | 82    | 202   | 14    | 51.5  | 38        | 58        | 178   | 10    | 41    |
| 200  | 545       | 310   | 507   | 200   | 80         | 130   | 275   | 22    | 85    | 60         | 105   | 250   | 18    | 64    | 48        | 82        | 227   | 14    | 51.5  |
| 250  | 680       | 370   | 662   | 250   | 100        | 165   | 340   | 28    | 106   | 80         | 130   | 305   | 22    | 85    | 60        | 105       | 280   | 18    | 64    |
| 280  | 755       | 450   | 722   | 280   | 110        | 165   | 385   | 28    | 116   | 85         | 130   | 350   | 22    | 90    | 65        | 105       | 325   | 18    | 69    |
| 315  | 840       | 500   | 770   | 315   | 130        | 200   | 445   | 32    | 137   | 95         | 130   | 375   | 25    | 100   | 75        | 105       | 350   | 20    | 79.5  |
| 355  | 930       | 550   | 930   | 355   | 140        | 200   | 470   | 36    | 148   | 100        | 165   | 435   | 28    | 106   | 90        | 130       | 400   | 25    | 95    |
| 400  | 1040      | 605   | 982   | 400   | 150        | 200   | 485   | 36    | 158   | 110        | 165   | 450   | 28    | 116   | 95        | 130       | 415   | 25    | 100   |
| 450  | 1150      | 645   | 1090  | 450   | 160        | 240   | 545   | 40    | 169   | 120        | 165   | 470   | 32    | 127   | 100       | 165       | 470   | 28    | 106   |
| 500  | 1290      | 710   | 1270  | 500   | 180        | 240   | 580   | 45    | 190   | 130        | 200   | 540   | 32    | 137   | 120       | 165       | 505   | 32    | 127   |
| 560  | 1440      | 780   | 1360  | 560   | 200        | 280   | 660   | 45    | 210   | 150        | 200   | 580   | 36    | 158   | 130       | 200       | 580   | 32    | 137   |
| PZDY | $d_2(m6)$ | $l_2$ | $L_2$ | $b_2$ | $t_2$      | C     | $m_1$ | $m_2$ | $m_3$ | $n_1$      | $n_2$ | $e_1$ | $e_2$ | $e_3$ | h         | Bolt hole |       | Weigh | oilL  |
|      |           |       |       |       |            |       |       |       |       |            |       |       |       |       |           | $d_3$     | n     |       |       |
| 80   | 32        | 58    | 128   | 10    | 35         | 18    | 180   | —     | 120   | 40         | 60    | 67.5  | 81    | 101   | 100       | 12        | 4     | 14    | 0.9   |
| 100  | 48        | 82    | 167   | 14    | 51.5       | 22    | 225   | —     | 140   | 52.5       | 72.5  | 85    | 102   | 122   | 125       | 15        | 4     | 35    | 1.6   |
| 125  | 55        | 82    | 182   | 16    | 59         | 25    | 290   | —     | 160   | 65         | 100   | 97.5  | 119   | 155   | 160       | 15        | 4     | 76    | 3.2   |
| 160  | 70        | 105   | 225   | 20    | 74.5       | 32    | 355   | —     | 200   | 73         | 122   | 118   | 141   | 190   | 200       | 18.5      | 4     | 115   | 6.5   |
| 200  | 90        | 130   | 275   | 25    | 95         | 40    | 425   | —     | 255   | 80         | 145   | 140   | 169   | 235   | 250       | 24        | 4     | 228   | 12.5  |
| 250  | 110       | 165   | 340   | 28    | 116        | 50    | 550   | 275   | 305   | 110        | 190   | 175   | 214   | 295   | 315       | 28        | 6     | 400   | 23    |
| 280  | 130       | 200   | 420   | 32    | 137        | 50    | 620   | 310   | 380   | 120        | 220   | 187.5 | 228   | 328   | 355       | 28        | 6     | 540   | 36    |
| 315  | 140       | 200   | 445   | 36    | 148        | 63    | 700   | 350   | 420   | 137.5      | 247.5 | 207.5 | 254   | 364   | 400       | 35        | 6     | 800   | 45    |
| 355  | 150       | 200   | 470   | 36    | 158        | 63    | 770   | 385   | 470   | 142.5      | 272.5 | 222.5 | 269   | 397   | 450       | 35        | 6     | 1050  | 70    |
| 400  | 160       | 240   | 525   | 40    | 169        | 80    | 850   | 425   | 510   | 150        | 300   | 245   | 304   | 454   | 500       | 42        | 6     | 1640  | 90    |
| 450  | 170       | 240   | 545   | 40    | 179        | 80    | 950   | 475   | 550   | 165        | 335   | 265   | 331   | 501   | 560       | 42        | 6     | 2100  | 125   |
| 500  | 190       | 280   | 620   | 45    | 200        | 100   | 1080  | 540   | 610   | 190        | 390   | 295   | 418   | 618   | 630       | 42        | 6     | 3100  | 180   |
| 560  | 240       | 330   | 790   | 56    | 252        | 100   | 1200  | 600   | 680   | 205        | 435   | 325   | 432   | 662   | 710       | 48        | 6     | 3730  | 250   |

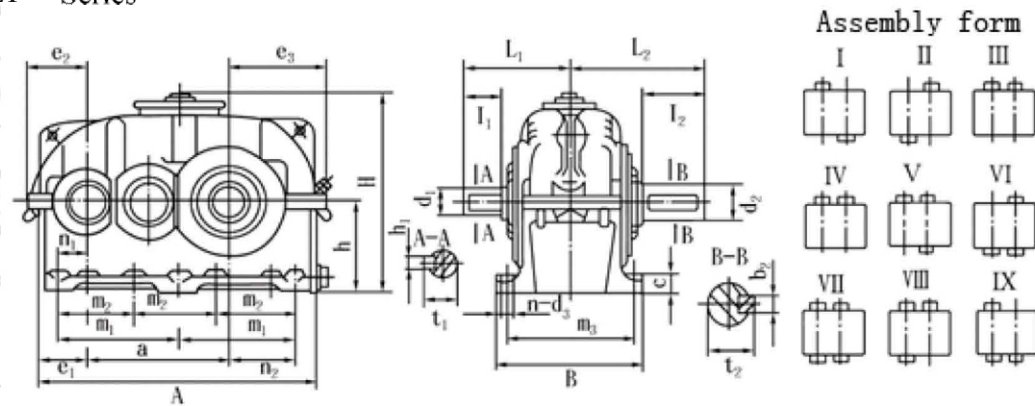


PZDY Reducer power $P_1$

| ratio i | The nominal |        | Specifications        |     |     |     |     |      |      |      |      |      |      |      |      |
|---------|-------------|--------|-----------------------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
|         | input       | output | 80                    | 100 | 125 | 160 | 200 | 250  | 280  | 315  | 355  | 400  | 450  | 500  | 560  |
|         | $n_1$       | $n_2$  | Input power $P_1$ /kW |     |     |     |     |      |      |      |      |      |      |      |      |
| 1.25    | 1500        | 1200   | 57                    | 103 | 205 | 360 | 633 | 1121 | —    | —    | —    | —    | —    | —    | —    |
|         | 1000        | 800    | 40                    | 69  | 140 | 260 | 446 | 807  | —    | —    | —    | —    | —    | —    | —    |
|         | 750         | 600    | 31                    | 52  | 105 | 190 | 348 | 636  | —    | —    | —    | —    | —    | —    | —    |
| 1.4     | 1500        | 1070   | 53                    | 96  | 194 | 326 | 616 | 1109 | —    | —    | —    | —    | —    | —    | —    |
|         | 1000        | 715    | 37                    | 65  | 132 | 240 | 433 | 794  | —    | —    | —    | —    | —    | —    | —    |
|         | 750         | 535    | 29                    | 48  | 102 | 180 | 337 | 624  | —    | —    | —    | —    | —    | —    | —    |
| 1.6     | 1500        | 940    | 49                    | 92  | 180 | 310 | 587 | 1068 | 1473 | 1996 | 2766 | —    | —    | —    | —    |
|         | 1000        | 625    | 34                    | 63  | 125 | 217 | 410 | 760  | 1051 | 1430 | 1992 | —    | —    | —    | —    |
|         | 750         | 470    | 27                    | 50  | 98  | 168 | 319 | 595  | 824  | 1124 | 1569 | —    | —    | —    | —    |
| 1.8     | 1500        | 835    | 45                    | 87  | 173 | 290 | 557 | 1024 | 1411 | 1925 | 2663 | —    | —    | —    | —    |
|         | 1000        | 555    | 31                    | 62  | 120 | 206 | 389 | 726  | 1002 | 1372 | 1906 | —    | —    | —    | —    |
|         | 750         | 415    | 24                    | 48  | 95  | 160 | 302 | 567  | 784  | 1074 | 1497 | —    | —    | —    | —    |
| 2       | 1500        | 750    | 39                    | 80  | 158 | 278 | 526 | 970  | 1339 | 1827 | 2536 | —    | —    | —    | —    |
|         | 1000        | 500    | 27                    | 55  | 110 | 194 | 367 | 684  | 946  | 1296 | 1806 | 2547 | 3578 | 4793 | —    |
|         | 750         | 375    | 21                    | 43  | 85  | 150 | 284 | 534  | 738  | 1013 | 1414 | 1999 | 2821 | 3775 | 5169 |
| 2.24    | 1500        | 670    | 36                    | 70  | 141 | 264 | 484 | 914  | 1236 | 1711 | 2377 | —    | —    | —    | —    |
|         | 1000        | 445    | 25                    | 49  | 98  | 183 | 337 | 645  | 874  | 1207 | 1683 | 2402 | 3397 | 4512 | —    |
|         | 750         | 335    | 19                    | 38  | 76  | 142 | 262 | 503  | 682  | 941  | 1314 | 1878 | 2667 | 3538 | 4833 |
| 2.5     | 1500        | 600    | 32                    | 64  | 127 | 245 | 447 | 855  | 1154 | 1617 | 2264 | —    | —    | —    | —    |
|         | 1000        | 400    | 22                    | 45  | 88  | 170 | 311 | 601  | 812  | 1136 | 1596 | 2235 | 3185 | 4353 | —    |
|         | 750         | 300    | 17                    | 35  | 68  | 132 | 241 | 468  | 633  | 884  | 1243 | 1742 | 2492 | 3406 | 4645 |
| 2.8     | 1500        | 535    | 27                    | 53  | 115 | 224 | 409 | 789  | 1063 | 1489 | 2068 | —    | —    | —    | —    |
|         | 1000        | 360    | 19                    | 37  | 80  | 155 | 284 | 552  | 746  | 1048 | 1456 | 2049 | 2945 | 4000 | —    |
|         | 750         | 270    | 15                    | 29  | 62  | 120 | 220 | 429  | 580  | 816  | 1134 | 1593 | 2296 | 3118 | 4232 |
| 3.15    | 1500        | 475    | 23                    | 47  | 96  | 203 | 375 | 709  | 990  | 1359 | 1924 | 2658 | 3790 | 5036 | 6666 |
|         | 1000        | 315    | 16                    | 33  | 67  | 140 | 260 | 496  | 695  | 952  | 1352 | 1817 | 2681 | 3607 | 4807 |
|         | 750         | 235    | 13                    | 25  | 52  | 109 | 202 | 385  | 540  | 740  | 1052 | 1458 | 2084 | 2802 | 3747 |
| 3.55    | 1500        | 425    | 20                    | 41  | 85  | 179 | 337 | 639  | 898  | 1210 | 1730 | 2410 | 3407 | 4460 | 6119 |
|         | 1000        | 280    | 14                    | 28  | 59  | 124 | 234 | 446  | 628  | 845  | 1210 | 1694 | 2396 | 3196 | 4395 |
|         | 750         | 210    | 11                    | 22  | 46  | 96  | 181 | 346  | 488  | 655  | 940  | 1312 | 1856 | 2483 | 3419 |
| 4       | 1500        | 375    | 17                    | 34  | 69  | 155 | 300 | 570  | 774  | 1095 | 1555 | 2146 | 2981 | 3985 | 5651 |
|         | 1000        | 250    | 12                    | 24  | 48  | 107 | 208 | 396  | 539  | 764  | 1088 | 1501 | 2090 | 2838 | 4033 |
|         | 750         | 187    | 9                     | 18  | 37  | 83  | 161 | 307  | 418  | 590  | 844  | 1160 | 1618 | 2199 | 3128 |
| 4.5     | 1500        | 335    | 14                    | 29  | 55  | 137 | 260 | 495  | 703  | 997  | 1367 | 1878 | 2619 | 3635 | 4912 |
|         | 1000        | 220    | 9.5                   | 20  | 38  | 95  | 180 | 344  | 488  | 694  | 953  | 1311 | 1832 | 2582 | 3485 |
|         | 750         | 166    | 7                     | 15  | 30  | 73  | 139 | 266  | 378  | 536  | 738  | 1015 | 1416 | 1997 | 2694 |
| 5       | 1500        | 300    | 11                    | 25  | 48  | 121 | 229 | 451  | 608  | 864  | 1179 | 1680 | 2340 | 3149 | 4400 |
|         | 1000        | 200    | 8                     | 17  | 33  | 84  | 159 | 313  | 422  | 599  | 820  | 1168 | 1629 | 2231 | 3125 |
|         | 750         | 150    | 6                     | 13  | 26  | 65  | 123 | 242  | 326  | 462  | 633  | 900  | 1257 | 1724 | 2418 |
| 5.6     | 1500        | 270    | 10                    | 20  | 40  | 109 | 211 | 389  | 531  | 779  | 1031 | 1564 | 2038 | 2791 | 3778 |
|         | 1000        | 180    | 7                     | 14  | 27  | 75  | 146 | 270  | 368  | 540  | 716  | 1088 | 1417 | 1969 | 2670 |
|         | 750         | 134    | 5                     | 11  | 21  | 59  | 113 | 208  | 285  | 416  | 554  | 838  | 1092 | 1519 | 2061 |

note: 1. The construction standard pattern no  $i = 6.3$ , using  $i = 6.3$ , need special design of gears and bearing structure.  
2. Space of gear circumference speed  $v > 20 \text{ m/s}$ .

## 2、PZLY Series



| Specification | A    | B    | H ≈  | a    | i=63~112            |                |                |                |                | i=125~20            |                |                |                |                | d <sub>2</sub> (m6) | t <sub>2</sub> | L <sub>2</sub> | b <sub>2</sub> | t <sub>2</sub> |
|---------------|------|------|------|------|---------------------|----------------|----------------|----------------|----------------|---------------------|----------------|----------------|----------------|----------------|---------------------|----------------|----------------|----------------|----------------|
|               |      |      |      |      | d <sub>1</sub> (m6) | t <sub>1</sub> | L <sub>1</sub> | b <sub>1</sub> | t <sub>1</sub> | d <sub>1</sub> (m6) | t <sub>1</sub> | L <sub>1</sub> | b <sub>1</sub> | t <sub>1</sub> |                     |                |                |                |                |
| 112           | 385  | 215  | 265  | 192  | 24                  | 36             | 141            | 8              | 27             | 22                  | 36             | 141            | 6              | 24.5           | 48                  | 82             | 192            | 14             | 51.5           |
| 125           | 425  | 235  | 309  | 215  | 28                  | 42             | 157            | 8              | 31             | 24                  | 36             | 151            | 8              | 27             | 55                  | 82             | 197            | 16             | 59             |
| 140           | 475  | 245  | 335  | 240  | 32                  | 58             | 185            | 10             | 35             | 28                  | 42             | 167            | 8              | 31             | 65                  | 105            | 230            | 18             | 69             |
| 160           | 540  | 290  | 375  | 272  | 38                  | 58             | 198            | 10             | 41             | 32                  | 58             | 198            | 10             | 35             | 75                  | 105            | 245            | 20             | 79.5           |
| 180           | 600  | 320  | 435  | 305  | 42                  | 82             | 232            | 12             | 45             | 32                  | 58             | 208            | 10             | 35             | 85                  | 130            | 285            | 22             | 90             |
| 200           | 665  | 355  | 489  | 340  | 48                  | 82             | 247            | 14             | 51.5           | 38                  | 58             | 223            | 10             | 41             | 95                  | 130            | 300            | 25             | 100            |
| 224           | 755  | 390  | 515  | 384  | 48                  | 82             | 267            | 14             | 51.5           | 42                  | 82             | 267            | 12             | 45             | 100                 | 165            | 355            | 28             | 106            |
| 250           | 830  | 450  | 594  | 430  | 60                  | 105            | 315            | 18             | 64             | 48                  | 82             | 292            | 14             | 51.5           | 110                 | 165            | 380            | 28             | 116            |
| 280           | 920  | 500  | 670  | 480  | 65                  | 105            | 340            | 18             | 69             | 55                  | 82             | 317            | 16             | 59             | 130                 | 200            | 440            | 32             | 137            |
| 315           | 1030 | 570  | 780  | 539  | 75                  | 105            | 365            | 20             | 79.5           | 60                  | 105            | 365            | 18             | 64             | 140                 | 200            | 470            | 36             | 148            |
| 355           | 1150 | 600  | 870  | 605  | 85                  | 130            | 410            | 22             | 90             | 70                  | 105            | 385            | 20             | 74.5           | 170                 | 240            | 530            | 40             | 179            |
| 400           | 1280 | 690  | 968  | 680  | 90                  | 130            | 440            | 25             | 95             | 80                  | 130            | 440            | 22             | 85             | 180                 | 240            | 560            | 45             | 190            |
| 450           | 1450 | 750  | 1065 | 765  | 100                 | 165            | 515            | 28             | 106            | 85                  | 130            | 480            | 22             | 90             | 220                 | 280            | 640            | 50             | 231            |
|               |      |      |      |      | i=63~125            |                |                |                |                | i=14~20             |                |                |                |                |                     |                |                |                |                |
| 500           | 1600 | 830  | 1190 | 855  | 110                 | 165            | 555            | 28             | 116            | 95                  | 130            | 520            | 25             | 100            | 240                 | 330            | 730            | 56             | 252            |
| 560           | 1760 | 910  | 1320 | 960  | 120                 | 165            | 575            | 32             | 127            | 110                 | 165            | 575            | 28             | 116            | 280                 | 380            | 820            | 63             | 292            |
| 630           | 1980 | 1010 | 1480 | 1080 | 140                 | 200            | 660            | 36             | 148            | 120                 | 165            | 625            | 32             | 127            | 300                 | 380            | 870            | 70             | 314            |
| 710           | 2220 | 1110 | 1653 | 1210 | 160                 | 240            | 740            | 40             | 169            | 140                 | 200            | 700            | 36             | 148            | 340                 | 450            | 990            | 80             | 355            |

| PZLY | C  | m <sub>1</sub> | m <sub>2</sub> | m <sub>3</sub> | n <sub>1</sub> | n <sub>2</sub> | e <sub>1</sub> | e <sub>2</sub> | e <sub>3</sub> | h   | Bolt hole      |   | Weight<br>kg | oilL  |
|------|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|----------------|---|--------------|-------|
|      |    |                |                |                |                |                |                |                |                |     | d <sub>3</sub> | n |              |       |
| 112  | 22 | 160            | —              | 180            | 43             | 85             | 75.5           | 92             | 134            | 125 | 15             | 6 | 60           | 3     |
| 125  | 25 | 180            | —              | 200            | 45             | 100            | 77.5           | 98             | 153            | 140 | 15             |   | 69           | 4. 3  |
| 140  | 25 | 200            | —              | 210            | 47.5           | 112.5          | 85             | 106            | 171            | 160 | 15             |   | 105          | 6     |
| 160  | 32 | 225            | —              | 245            | 58             | 120            | 103            | 126            | 188            | 180 | 18.5           | 6 | 155          | 8. 5  |
| 180  | 32 | 250            | —              | 275            | 60             | 135            | 110            | 134            | 209            | 200 | 18.5           |   | 185          | 11. 5 |
| 200  | 40 | 280            | —              | 300            | 65             | 155            | 117.5          | 148            | 238            | 225 | 24             |   | 260          | 16. 5 |
| 224  | 40 | 310            | —              | 335            | 70.5           | 165.5          | 137.5          | 168            | 263            | 250 | 24             | 6 | 370          | 23    |
| 250  | 50 | 350            | —              | 380            | 80             | 190            | 145            | 184            | 293            | 280 | 28             |   | 527          | 32    |
| 280  | 50 | 380            | —              | 430            | 75             | 205            | 155            | 195            | 325            | 315 | 28             |   | 700          | 46    |
| 315  | 63 | 420            | —              | 490            | 78             | 223            | 173            | 219            | 364            | 355 | 35             |   | 940          | 65    |

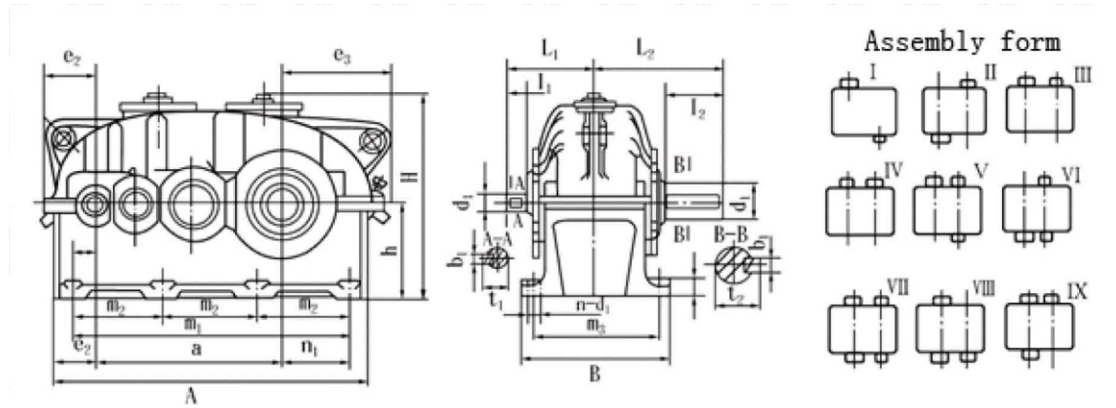
|     |     |     |     |     |       |       |       |     |     |     |    |   |      |     |
|-----|-----|-----|-----|-----|-------|-------|-------|-----|-----|-----|----|---|------|-----|
| 355 | 63  | 475 | —   | 520 | 92.5  | 252.5 | 192.5 | 238 | 398 | 400 | 35 | 6 | 1250 | 90  |
| 400 | 80  | 520 | —   | 590 | 95    | 265   | 215   | 275 | 445 | 450 | 42 | 6 | 1750 | 125 |
| 450 | 80  | —   | 400 | 650 | 117.5 | 317.5 | 242.5 | 305 | 505 | 500 | 42 | 8 | 2650 | 180 |
| 500 | 100 | —   | 440 | 710 | 120   | 345   | 262.5 | 337 | 557 | 560 | 48 | 8 | 3400 | 250 |
| 560 | 100 | —   | 490 | 790 | 120   | 390   | 265   | 354 | 624 | 630 | 48 |   | 4500 | 350 |
| 630 | 125 | —   | 540 | 870 | 115   | 425   | 295   | 384 | 694 | 710 | 56 |   | 6800 | 350 |
| 710 | 125 | —   | 610 | 950 | 140   | 480   | 335   | 440 | 780 | 800 | 56 |   | 8509 | 520 |

## PZLY Reducer power

| ratio<br>i | Speed       |              | Specifications   |      |      |      |      |       |     |     |     |     |      |      |      |      |      |      |      |
|------------|-------------|--------------|------------------|------|------|------|------|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|
|            | /r-min      |              |                  |      |      |      |      |       |     |     |     |     |      |      |      |      |      |      |      |
|            | input<br>n1 | output<br>n2 | 112              | 125  | 140  | 160  | 180  | 200   | 224 | 250 | 280 | 315 | 355  | 400  | 450  | 500  | 560  | 630  | 710  |
|            |             |              | Input powerP1/kW |      |      |      |      |       |     |     |     |     |      |      |      |      |      |      |      |
| 6.3        | 1500        | 240          | 37.4             | 54   | 73   | 114  | 157  | 221   | 305 | 424 | 578 | 791 | 1156 | 1650 | 2192 | 3132 | 4310 | —    | —    |
|            | 1000        | 160          | 26.4             | 37.4 | 50   | 78   | 109  | 153   | 211 | 294 | 400 | 548 | 802  | 1146 | 1558 | 2181 | 3000 | 4347 | 6229 |
|            | 750         | 120          | 19.5             | 28.6 | 38.5 | 60   | 84   | 119   | 163 | 227 | 308 | 422 | 618  | 884  | 1213 | 1685 | 2320 | 3357 | 4884 |
| 7.1        | 1500        | 210          | 34               | 49   | 66   | 104  | 143  | 201   | 277 | 385 | 525 | 719 | 1051 | 1500 | 1993 | 2847 | 3817 | —    | —    |
|            | 1000        | 140          | 24               | 34   | 45.5 | 71   | 99   | 139   | 192 | 267 | 364 | 498 | 729  | 1042 | 1416 | 1983 | 2731 | 3952 | 5663 |
|            | 750         | 106          | 17.7             | 26   | 35   | 54.5 | 76   | 108   | 148 | 206 | 280 | 384 | 562  | 804  | 1103 | 1532 | 2109 | 3052 | 4440 |
| 8          | 1500        | 185          | 32               | 43   | 61   | 94.5 | 130  | 181.5 | 250 | 347 | 469 | 678 | 932  | 1309 | 1869 | 2489 | 3520 | —    | —    |
|            | 1000        | 125          | 21.5             | 29.5 | 42.4 | 64   | 93   | 126   | 173 | 241 | 325 | 470 | 646  | 908  | 1298 | 1730 | 2447 | 3398 | 5019 |
|            | 750         | 94           | 17               | 23   | 33   | 49   | 69   | 97    | 133 | 186 | 251 | 362 | 498  | 700  | 1000 | 1333 | 1887 | 2619 | 3881 |
| 9          | 1500        | 167          | 29               | 38.5 | 56   | 81   | 119  | 165.5 | 227 | 315 | 423 | 612 | 841  | 1182 | 1689 | 2248 | 3183 | —    | —    |
|            | 1000        | 111          | 20               | 27   | 38.5 | 55   | 82.5 | 115   | 157 | 218 | 293 | 424 | 583  | 819  | 1172 | 1561 | 2210 | 3068 | 4537 |
|            | 750         | 83           | 15               | 20.5 | 30   | 42   | 64   | 88    | 121 | 168 | 226 | 327 | 449  | 631  | 903  | 1202 | 1703 | 2363 | 3502 |
| 10         | 1500        | 150          | 26               | 35   | 50   | 73   | 109  | 149   | 204 | 284 | 383 | 555 | 762  | 1070 | 1530 | 2038 | 2883 | —    | —    |
|            | 1000        | 100          | 18               | 24   | 35   | 50   | 75   | 103   | 142 | 197 | 266 | 384 | 528  | 742  | 1061 | 1414 | 2001 | 2777 | 4112 |
|            | 750         | 75           | 14               | 18.5 | 26.6 | 38   | 58   | 80    | 109 | 152 | 204 | 296 | 407  | 571  | 817  | 1088 | 1541 | 2139 | 3172 |
| 11.2       | 1500        | 134          | 23               | 31.5 | 45   | 66   | 96   | 133   | 184 | 255 | 346 | 500 | 688  | 966  | 1381 | 1839 | 2604 | —    | —    |
|            | 1000        | 89           | 16               | 22   | 31   | 45   | 67   | 92    | 127 | 177 | 240 | 347 | 477  | 669  | 957  | 1275 | 1806 | 2506 | 3711 |
|            | 750         | 67           | 12               | 17   | 24   | 35   | 51   | 71    | 98  | 136 | 185 | 267 | 367  | 516  | 737  | 982  | 1391 | 1930 | 2862 |
| 12.5       | 1500        | 120          | 21               | 28   | 40   | 59   | 83   | 116.5 | 165 | 229 | 311 | 450 | 618  | 869  | 1242 | 1654 | 2341 | —    | —    |
|            | 1000        | 80           | 14               | 19.5 | 28   | 40   | 57   | 81    | 114 | 159 | 216 | 312 | 428  | 601  | 860  | 1146 | 1621 | 2251 | 3338 |
|            | 750         | 60           | 11               | 15   | 21   | 31   | 44   | 63    | 88  | 122 | 166 | 240 | 330  | 463  | 663  | 882  | 1249 | 1734 | 2573 |
| 14         | 1500        | 107          | 18.5             | 25   | 36   | 52.5 | 74   | 105   | 148 | 206 | 279 | 404 | 555  | 779  | 1115 | 1485 | 2162 | 2918 | 4318 |
|            | 1000        | 71           | 12.5             | 17.5 | 25   | 36   | 51   | 73    | 102 | 142 | 193 | 280 | 384  | 540  | 772  | 1028 | 1455 | 2020 | 2996 |
|            | 750         | 54           | 9.8              | 13   | 19   | 27.6 | 39   | 56    | 79  | 110 | 149 | 216 | 296  | 416  | 594  | 792  | 1120 | 1555 | 2310 |
| 16         | 1500        | 94           | 16               | 22   | 31   | 47.5 | 70.5 | 98    | 133 | 185 | 251 | 362 | 498  | 700  | 1000 | 1333 | 1887 | 2619 | 3879 |
|            | 1000        | 62           | 11               | 15   | 21.5 | 32   | 49   | 68    | 92  | 128 | 174 | 251 | 345  | 484  | 693  | 923  | 1306 | 1812 | 2690 |
|            | 750         | 47           | 8                | 11.5 | 17   | 25   | 38   | 53    | 71  | 99  | 134 | 193 | 266  | 373  | 533  | 711  | 1005 | 1395 | 2073 |
| 18         | 1500        | 83           | 14               | 19.5 | 28   | 42.5 | 60.5 | 86    | 115 | 161 | 225 | 326 | 448  | 629  | 899  | 1197 | 1697 | 2353 | 3487 |
|            | 1000        | 56           | 10               | 13.5 | 19.6 | 29   | 42   | 59.5  | 80  | 111 | 156 | 226 | 310  | 435  | 622  | 829  | 1175 | 1628 | 2417 |
|            | 750         | 42           | 7.5              | 10.5 | 15   | 22   | 32   | 46    | 61  | 86  | 120 | 174 | 239  | 335  | 479  | 638  | 905  | 1252 | 1861 |
| 20         | 1500        | 75           | 13               | 18   | 25.5 | 38   | 59   | 77    | 103 | 142 | 205 | 296 | 418  | 587  | 839  | 1120 | 1580 | 2200 | 3260 |
|            | 1000        | 50           | 9                | 12   | 18   | 26.5 | 41   | 53.5  | 72  | 95  | 142 | 205 | 279  | 392  | 560  | 746  | 1050 | 1460 | 2170 |
|            | 750         | 38           | 6.8              | 9.5  | 14   | 20   | 32   | 41    | 55  | 76  | 109 | 158 | 210  | 295  | 420  | 562  | 735  | 1120 | 1635 |



PZSY Series reducer



| Specification | A    | B    | H<br>≈ | a    | i=22.4~71           |                |                |                |                | i=80~100            |                |                |                |                | d <sub>1</sub> (m6) | b <sub>1</sub> | L <sub>2</sub> | b <sub>2</sub> | t <sub>2</sub> |
|---------------|------|------|--------|------|---------------------|----------------|----------------|----------------|----------------|---------------------|----------------|----------------|----------------|----------------|---------------------|----------------|----------------|----------------|----------------|
|               |      |      |        |      | d <sub>1</sub> (m6) | t <sub>1</sub> | L <sub>1</sub> | b <sub>1</sub> | t <sub>1</sub> | d <sub>1</sub> (m6) | t <sub>1</sub> | L <sub>1</sub> | b <sub>1</sub> | t <sub>1</sub> |                     |                |                |                |                |
| 160           | 600  | 290  | 375    | 352  | 24                  | 36             | 166            | 8              | 27             | 19                  | 28             | 158            | 6              | 21.5           | 75                  | 105            | 245            | 20             | 79.5           |
| 180           | 665  | 320  | 435    | 395  | 28                  | 42             | 187            | 8              | 31             | 22                  | 36             | 181            | 6              | 24.5           | 85                  | 130            | 285            | 22             | 90             |
| 200           | 745  | 355  | 492    | 440  | 32                  | 58             | 218            | 10             | 35             | 22                  | 36             | 196            | 6              | 24.5           | 95                  | 130            | 300            | 25             | 100            |
| 224           | 840  | 390  | 535    | 496  | 38                  | 58             | 233            | 10             | 41             | 24                  | 36             | 211            | 8              | 27             | 100                 | 165            | 355            | 28             | 106            |
| 250           | 930  | 450  | 589    | 555  | 42*                 | 82*            | 282            | 12             | 45             | 32                  | 58             | 258            | 10             | 35             | 110                 | 165            | 380            | 28             | 116            |
| 280           | 1025 | 500  | 662    | 620  | 48                  | 82             | 307            | 14             | 51.5           | 38                  | 58             | 283            | 10             | 41             | 130                 | 200            | 440            | 32             | 137            |
| 315           | 1160 | 570  | 749    | 699  | 48                  | 82             | 337            | 14             | 51.5           | 42                  | 82             | 337            | 12             | 45             | 140                 | 200            | 470            | 36             | 148            |
|               |      |      |        |      | i=22.4~35.5         |                |                |                |                | i=40~90             |                |                |                |                |                     |                |                |                |                |
| 355           | 1280 | 600  | 870    | 785  | 60                  | 105            | 380            | 18             | 64             | 48                  | 82             | 357            | 14             | 51.5           | 170                 | 240            | 530            | 40             | 179            |
| 400           | 1420 | 690  | 968    | 880  | 65                  | 105            | 410            | 18             | 69             | 55                  | 82             | 387            | 16             | 59             | 180                 | 240            | 560            | 45             | 190            |
| 450           | 1610 | 750  | 1067   | 989  | 70                  | 105            | 450            | 20             | 74.5           | 60                  | 105            | 450            | 18             | 64             | 220                 | 280            | 640            | 50             | 231            |
|               |      |      |        |      | i=22.4~45           |                |                |                |                | i=50~90             |                |                |                |                |                     |                |                |                |                |
| 500           | 1790 | 830  | 1170   | 1105 | 80                  | 130            | 515            | 22             | 85             | 65                  | 105            | 490            | 18             | 69             | 240                 | 330            | 730            | 56             | 252            |
| 560           | 2010 | 910  | 1320   | 1240 | 95                  | 130            | 530            | 25             | 100            | 75                  | 105            | 505            | 20             | 79.5           | 280                 | 380            | 820            | 63             | 292            |
| 630           | 2260 | 1030 | 1480   | 1395 | 110                 | 165            | 625            | 28             | 116            | 85                  | 130            | 590            | 22             | 90             | 300                 | 380            | 880            | 70             | 314            |
| 710           | 2540 | 1160 | 1655   | 1565 | 120                 | 165            | 685            | 32             | 127            | 90                  | 130            | 650            | 25             | 95             | 340                 | 450            | 1010           | 80             | 355            |

note\* When i=63 and i=71, Axis stretch size d<sub>1</sub>=32、L<sub>1</sub>=58.

| Specification | C   | m <sub>1</sub> | m <sub>2</sub> | m <sub>3</sub> | n <sub>1</sub> | n <sub>2</sub> | e <sub>1</sub> | e <sub>2</sub> | e <sub>3</sub> | h   | Bolt hole      |   | Weight/kg | oil/L |
|---------------|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|----------------|---|-----------|-------|
|               |     |                |                |                |                |                |                |                |                |     | d <sub>3</sub> | n |           |       |
| 160           | 32  | 510            | 170            | 245            | 38             | 120            | 83             | 107            | 188            | 180 | 18.5           | 8 | 170       | 10    |
| 180           | 32  | 570            | 190            | 275            | 37.5           | 137.5          | 85             | 109            | 209            | 200 | 18.5           | 8 | 205       | 14    |
| 200           | 40  | 630            | 210            | 300            | 40             | 150            | 97.5           | 128            | 238            | 225 | 24             | 8 | 285       | 19    |
| 224           | 40  | 705            | 235            | 335            | 43.5           | 165.5          | 110.5          | 141            | 263            | 250 | 24             | 8 | 395       | 26    |
| 250           | 50  | 810            | 270            | 380            | 60             | 195            | 120            | 158            | 293            | 280 | 28             | 8 | 540       | 36    |
| 280           | 50  | 855            | 285            | 430            | 35             | 200            | 120            | 160            | 325            | 315 | 28             | 8 | 750       | 53    |
| 315           | 63  | 960            | 320            | 490            | 40             | 221            | 143            | 189            | 364            | 355 | 35             | 8 | 1030      | 78    |
| 355           | 63  | 1080           | 360            | 520            | 42.5           | 252.5          | 143            | 188            | 398            | 400 | 35             | 8 | 1400      | 115   |
| 400           | 80  | 1200           | 400            | 590            | 45             | 275            | 155            | 215            | 445            | 450 | 42             | 8 | 1950      | 160   |
| 450           | 80  | 1350           | 450            | 650            | 48             | 313            | 178            | 240            | 505            | 500 | 42             | 8 | 2636      | 220   |
| 500           | 100 | 1500           | 500            | 710            | 59             | 336            | 200            | 277            | 557            | 560 | 48             | 8 | 3800      | 300   |
| 560           | 100 | 1680           | 560            | 790            | 70             | 370            | 235            | 324            | 624            | 630 | 48             | 8 | 5100      | 450   |
| 630           | 125 | 1890           | 630            | 890            | 72.5           | 422.5          | 255            | 344            | 694            | 710 | 56             | 8 | 7060      | 520   |
| 710           | 125 | 2130           | 710            | 1000           | 92.5           | 472.5          | 297.5          | 400            | 780            | 800 | 56             | 8 | 9205      | 820   |

PZSY Reducer power

| ratio i | speed/rmin <sup>-1</sup> |                | Specifications                 |     |     |     |     |     |     |     |     |     |      |      |      |      |
|---------|--------------------------|----------------|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
|         | input                    | output         | 160                            | 180 | 200 | 224 | 250 | 280 | 315 | 355 | 400 | 450 | 500  | 560  | 630  | 710  |
|         | n <sub>1</sub>           | n <sub>2</sub> | Input power P <sub>1</sub> /kW |     |     |     |     |     |     |     |     |     |      |      |      |      |
| 22.4    | 1500                     | 67             | 34                             | 51  | 68  | 98  | 131 | 182 | 270 | 400 | 530 | 780 | 1065 | 1450 | 1865 | —    |
|         | 1000                     | 44             | 24                             | 35  | 48  | 68  | 91  | 128 | 185 | 262 | 355 | 540 | 750  | 1025 | 1325 | 1905 |
|         | 750                      | 33             | 18                             | 27  | 37  | 52  | 70  | 97  | 135 | 215 | 275 | 415 | 580  | 800  | 1030 | 1485 |
| 25      | 1500                     | 60             | 32                             | 46  | 63  | 96  | 115 | 157 | 240 | 365 | 470 | 705 | 1020 | 1405 | 1865 | —    |
|         | 1000                     | 40             | 22                             | 31  | 43  | 66  | 80  | 108 | 163 | 250 | 315 | 465 | 705  | 975  | 1325 | 1905 |
|         | 750                      | 30             | 16                             | 24  | 33  | 51  | 60  | 84  | 122 | 195 | 240 | 350 | 540  | 750  | 1030 | 1485 |
| 28      | 1500                     | 54             | 29                             | 42  | 59  | 86  | 113 | 142 | 220 | 325 | 425 | 625 | 945  | 1260 | 1800 | —    |
|         | 1000                     | 36             | 20                             | 29  | 41  | 60  | 75  | 98  | 148 | 215 | 280 | 420 | 650  | 870  | 1245 | 1760 |
|         | 750                      | 27             | 15                             | 22  | 31  | 46  | 56  | 76  | 114 | 160 | 210 | 310 | 500  | 670  | 960  | 1355 |
| 31.5    | 1500                     | 48             | 26                             | 37  | 51  | 79  | 95  | 127 | 197 | 290 | 395 | 560 | 840  | 1140 | 1600 | —    |
|         | 1000                     | 32             | 17                             | 26  | 35  | 55  | 63  | 86  | 132 | 195 | 270 | 370 | 585  | 790  | 1110 | 1565 |
|         | 750                      | 24             | 14                             | 20  | 27  | 42  | 49  | 65  | 100 | 145 | 200 | 280 | 450  | 605  | 855  | 1200 |
| 35.5    | 1500                     | 42             | 23                             | 34  | 47  | 70  | 88  | 117 | 178 | 275 | 350 | 510 | 755  | 1025 | 1450 | —    |
|         | 1000                     | 28             | 15                             | 23  | 32  | 48  | 59  | 80  | 118 | 180 | 235 | 340 | 520  | 710  | 1000 | 1410 |
|         | 750                      | 21             | 12                             | 18  | 25  | 37  | 44  | 61  | 90  | 140 | 175 | 255 | 405  | 545  | 750  | 1090 |
| 40      | 1500                     | 38             | 21                             | 30  | 42  | 64  | 79  | 107 | 158 | 235 | 325 | 465 | 675  | 930  | 1300 | —    |
|         | 1000                     | 25             | 17                             | 21  | 29  | 40  | 53  | 71  | 108 | 160 | 210 | 315 | 465  | 640  | 900  | 1315 |
|         | 750                      | 19             | 11                             | 16  | 22  | 31  | 41  | 55  | 80  | 125 | 155 | 235 | 360  | 495  | 680  | 1015 |
| 45      | 1500                     | 33             | 17                             | 24  | 34  | 46  | 70  | 96  | 142 | 215 | 280 | 410 | 615  | 850  | 1130 | —    |
|         | 1000                     | 22             | 12                             | 16  | 24  | 32  | 47  | 64  | 95  | 145 | 185 | 280 | 425  | 590  | 770  | 1150 |
|         | 750                      | 17             | 9                              | 12  | 18  | 25  | 36  | 50  | 74  | 110 | 140 | 210 | 320  | 450  | 600  | 885  |
| 50      | 1500                     | 30             | 15                             | 22  | 32  | 46  | 63  | 85  | 128 | 195 | 245 | 360 | 540  | 750  | 1030 | 1490 |
|         | 1000                     | 20             | 11                             | 15  | 22  | 31  | 43  | 59  | 85  | 130 | 165 | 240 | 370  | 520  | 710  | 1030 |
|         | 750                      | 15             | 8                              | 12  | 17  | 24  | 32  | 43  | 65  | 95  | 125 | 180 | 290  | 400  | 550  | 795  |
| 56      | 1500                     | 27             | 15                             | 21  | 31  | 43  | 56  | 76  | 112 | 170 | 220 | 310 | 480  | 675  | 955  | 1340 |
|         | 1000                     | 18             | 10                             | 15  | 22  | 30  | 38  | 52  | 77  | 115 | 145 | 210 | 330  | 470  | 660  | 930  |
|         | 750                      | 13.4           | 8                              | 11  | 17  | 23  | 28  | 40  | 58  | 90  | 110 | 160 | 255  | 360  | 510  | 715  |
| 63      | 1500                     | 24             | 12                             | 17  | 23  | 37  | 45  | 61  | 102 | 145 | 195 | 280 | 425  | 605  | 860  | 1170 |
|         | 1000                     | 16             | 8                              | 12  | 16  | 25  | 30  | 42  | 70  | 100 | 130 | 190 | 290  | 420  | 600  | 810  |
|         | 750                      | 12             | 6                              | 9   | 12  | 20  | 23  | 32  | 52  | 75  | 100 | 140 | 225  | 325  | 460  | 620  |
| 71      | 1500                     | 21             | 11                             | 17  | 23  | 33  | 40  | 56  | 90  | 130 | 185 | 245 | 390  | 540  | 770  | 1045 |
|         | 1000                     | 14             | 8                              | 11  | 15  | 23  | 27  | 38  | 60  | 90  | 115 | 170 | 270  | 370  | 540  | 725  |
|         | 750                      | 10.6           | 6                              | 9   | 12  | 18  | 21  | 29  | 45  | 65  | 90  | 125 | 210  | 285  | 410  | 555  |
| 80      | 1500                     | 18.8           | 9                              | 13  | 18  | 26  | 36  | 51  | 80  | 115 | 155 | 225 | 340  | 470  | 675  | 960  |
|         | 1000                     | 12.5           | 6                              | 9   | 12  | 18  | 24  | 34  | 54  | 80  | 100 | 150 | 240  | 330  | 470  | 665  |
|         | 750                      | 9.4            | 4                              | 7   | 10  | 14  | 19  | 27  | 42  | 60  | 80  | 110 | 185  | 250  | 360  | 510  |
| 90      | 1500                     | 16.7           | 8                              | 12  | 18  | 25  | 33  | 46  | 74  | 105 | 140 | 200 | 305  | 395  | 590  | 765  |
|         | 1000                     | 11.1           | 6                              | 8   | 12  | 17  | 22  | 30  | 49  | 70  | 95  | 130 | 200  | 278  | 405  | 530  |
|         | 750                      | 8.3            | 4                              | 6   | 9   | 13  | 17  | 23  | 37  | 55  | 70  | 100 | 160  | 210  | 300  | 405  |
| 100     | 1500                     | 15             | 8                              | 11  | 16  | 24  | 30  | 43  | 60  | —   | —   | —   | —    | —    | —    | —    |
|         | 1000                     | 10             | 5                              | 7   | 11  | 16  | 21  | 29  | 40  | —   | —   | —   | —    | —    | —    | —    |
|         | 750                      | 7.5            | 4                              | 6   | 8   | 13  | 16  | 22  | 30  | —   | —   | —   | —    | —    | —    | —    |

note: i=100 Space is simplified Series design, When need to supplement.

### Lubrication&Cooling means

1. As usual it apply to oil bath and natural cooling.If you request cooling coil to cool or forced pump lubrication ,please contact us.

When high speed grade's circulate speed  $V < 2.5 \text{ m/s}$ , OR environmental temperature during  $35 \sim 50$ , choose mid extreme pressure gear oil N320/VG320

When high speed grade's circulate speed  $V < 2.5 \text{ m/s}$ , OR apply to circular lubrication, choose mid extreme pressure gear oil N220/VG220

2. For bearing, recommend splash oil lubrication and brand is same as for gear.
3. When last stage center distance (spec.a)  $\gg 400$ , recommend forced lubrication, plz check appendix D.
4. PZDY, PZLY to be adviced to match the oil cooler, when ratio  $> 40$  for PZSY, no cooler

### Installation,usage and maintance

1. Plz insure the input shaft axis and output shaft axis of gearbox lies in the same one shaft with connected part's shaft axis. The error cannot above allowable value for coupling to be used. If you use triangle belt as input drive, belt should reduce the unbalance quality through cutting manufacture.
2. Done with the installtion ,plz pure the lubrcication into the oil bath of housing ,oil surface should reach the height of oil dipstick (between the upper limit line and floor level line).
3. Before it is driven, turn by hand to confirm if it is flexible without lock , then drive no load, term is 2 hours. If you find out noise, oil leakage, libriation ,plz eliminate it
4. The first use for gearbox, after driving 20 days, plz change the new oil. Should exam the quality of oil, plz change it in time. And exam the height of oil surface, if it is lower than mid line of dispatch, need to be supplied. As usual ,change the oil of gearbox which work for 8 hours every day every three month. Its working time within 8 hours, oil can be changed for every 6 months
5. If you find out the oil 's temperature rise above  $70^\circ \text{C}$  or oil's temperature is above  $100^\circ \text{C}$ , quality of oil is low down and has deviant noise . Plz stop and exam.

### Selection for gearbox

$P_1$  means nominal power, if actual input speed's difference for reducer beyond 4% with someone (1500,1000,750), please as actual input speed to convert :

#### **Example**

one set of belt form transmission machine's speed reducer to be used to transport big goods, driven by motor, input speed  $n_1 = 1200 \text{ r/min}$ , ration  $i = 4.5$ , load power  $P_2 = 380 \text{ kw}$ , every day it work for 24 hours, Plz choose a model.

**Step 1** Check up by appendix A and get to: belt form transmission speed reducer's load is medium concussion, if reducer is broken it will lead to the whole production line is stop production, and check up

table 1,2 to get up:  $K_A = 1.5, S_A = 1.5$ ,

$$P_{2m} = P_2 \times K_A \times S_A = 380 \times 1.5 \times 1.5 = 855 \text{ kw}$$

Request  $P_{2m} \leq P_1$

**Step 2**  $n_1 = 1200 \text{ r/min}$  near to  $1000 \text{ r/min}$ ,  $i = 4.5$ , check up and get PZDY355,  $i = 4.5, n_1 = 1000 \text{ r/min}, P_1 = 953 \text{ kw}$ . When  $n_1 = 1200 \text{ r/min}$ , to convert nominal power :

$$P_1 = 953 \times 1200 / 1000 = 1143.6 \text{ kw}, P_{2m} = 855 \text{ kw} \leq P_1 = 1143.6 \text{ kw}, \text{so PZDY355 is Ok.}$$

Table 1 Working situation factor  $K_A$

| Prime motor                             | Working time everyday(hour) | KA                      |                       |                         |
|-----------------------------------------|-----------------------------|-------------------------|-----------------------|-------------------------|
|                                         |                             | Light impulsive load(U) | Mid impulsive load(M) | Heavy impulsive load(H) |
| Motor/steam turbine/hydraulic machinery | $\sim 3$                    | 0.8                     | 1                     | 1.5                     |
|                                         | $> 3 \sim 10$               | 1                       | 1.25                  | 1.75                    |
|                                         | $> 10$                      | 1.25                    | 1.5                   | 2                       |



|                                 |       |      |      |      |
|---------------------------------|-------|------|------|------|
| <b>4-6 set cyclinder engine</b> | ~3    | 1    | 1.25 | 1.75 |
|                                 | >3~10 | 1.25 | 1.5  | 2.25 |
|                                 | >10   | 1.5  | 1.75 | 2.5  |
| <b>1-3 set cyclinder engine</b> | ~3    | 1.25 | 1.5  | 2    |
|                                 | >3~10 | 1.5  | 1.75 | 2.25 |
|                                 | >~10  | 1.75 | 2    | 2.5  |

#### Appendix A (Reducer gearbox Loading classification)

| Name of machine             | Loading classification | Name of machine       | Loading classification |
|-----------------------------|------------------------|-----------------------|------------------------|
| <b>Construction machine</b> |                        | <b>Textile lathe</b>  |                        |
| Concrete batch plant        | M                      | Feeding machine       | M                      |
| Winch machine               | M                      | Loom                  | M                      |
| Road Construction machine   | M                      | Printing&drying lathe | M                      |
| <b>Chemical</b>             |                        | Prepared bucket       | M                      |
| Mixer(hydraulic)            | U                      | <b>Rubber machine</b> |                        |
| Mixer(Semi-hydraulic)       | M                      | Calendar              | M                      |
| Centrifugal body(heavy)     | M                      | Extruder              | H                      |
| Centrifugal body(light)     | U                      | Banduary              | M                      |
| Cooling roller              | M                      | Kneader               | H                      |
| Dry rooler                  | M                      | Roller mill           | H                      |
| Mixer                       | M                      |                       |                        |

**(More reference data such as plastic machine,engineer,crane and so on, please contact us, we will supply with it.)**

Table 2 Safety factor  $S_A$

| Result for reducer's effectiveness | General loss                   | Serious loss                          | Serious badly loss                               |
|------------------------------------|--------------------------------|---------------------------------------|--------------------------------------------------|
|                                    | Single machine stop production | Whole production line stop production | personal injury,power cut,crane is bad and so on |
| $S_A$                              | 1.1~1.3                        | 1.3~1.5                               | 1.5~1.7                                          |





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