

## UNIVERSAL JOINT

UZKU-N  
KWN 22200

KUDOSWORLD CORPORATION

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

Add: Orchard Summer Palace, No.209-2 Qingnian Street, Shenhe District, Shenyang City, China 110016

Tel: 0086 (024) 31976438

Fax: 0086(024) 3197 6437

**Product | Engineering Services  
Maintenance**

## Technical Features

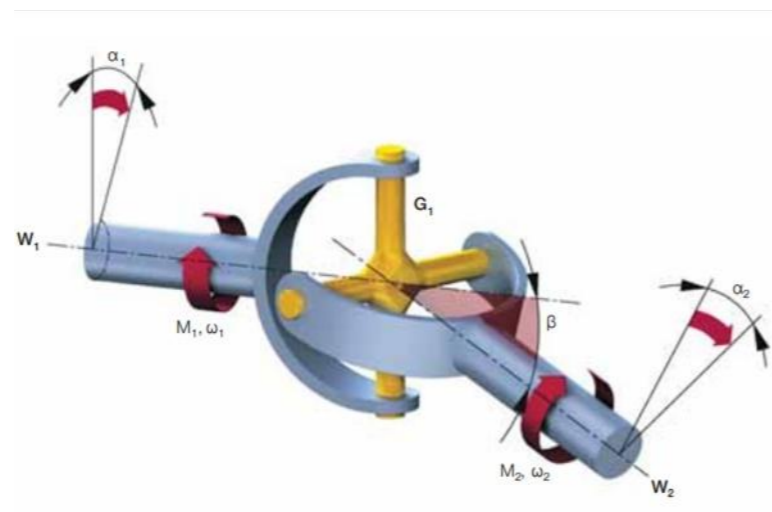
Universal joint, with its characteristics, realizes the continuous rotation of the two shafts which are not on the same axis, and transmits torque in a reliable way. The most distinctive features of universal joint are: a relatively bigger angular compensation allowed structurally, compact structure, high transmission efficiency, high production rate and long service life. Universal joints with different structures could tolerate different included angles which range from 5 to 45 degrees.

## Application

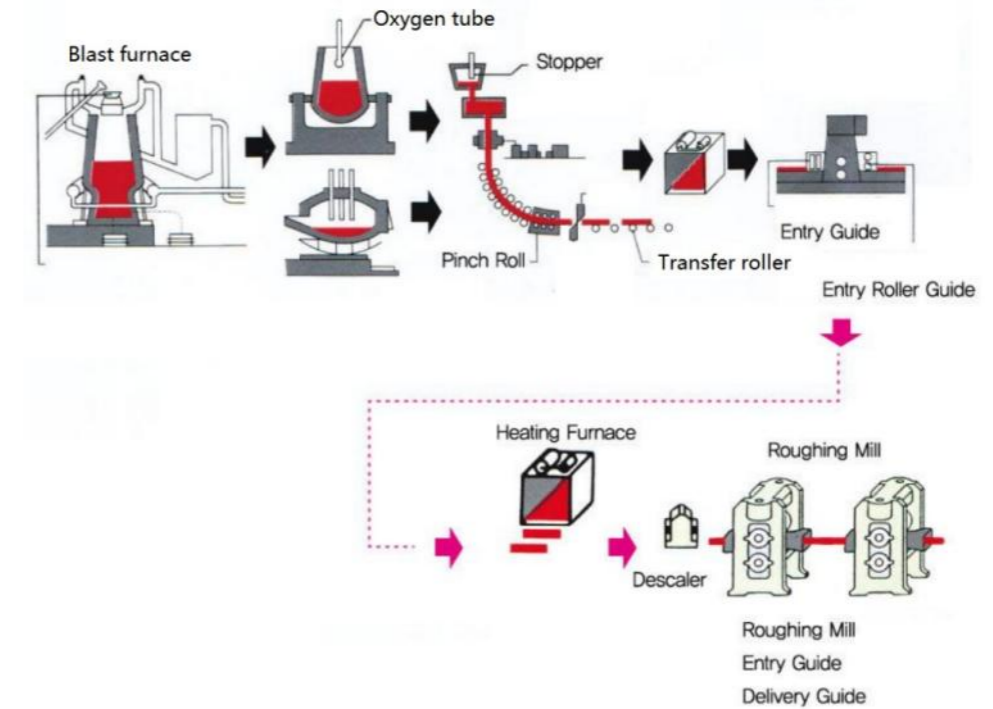
Universal joint due to its deviation Angle and high transmission torque characteristics, is widely used in all kinds of lifting, engineering transport, mining, petroleum, shipping, coal, rubber, paper machinery and other heavy industry machinery.

## Style design

- $G_1$  Universal joint
- $W_1$  Input shaft
- $W_2$  Output shaft
- $\alpha_1, \alpha_2$  Rotation angle
- $\beta$  Deflection angle
- $M_1, M_2$  Torsion
- $\omega_1, \omega_2$  Angular velocity

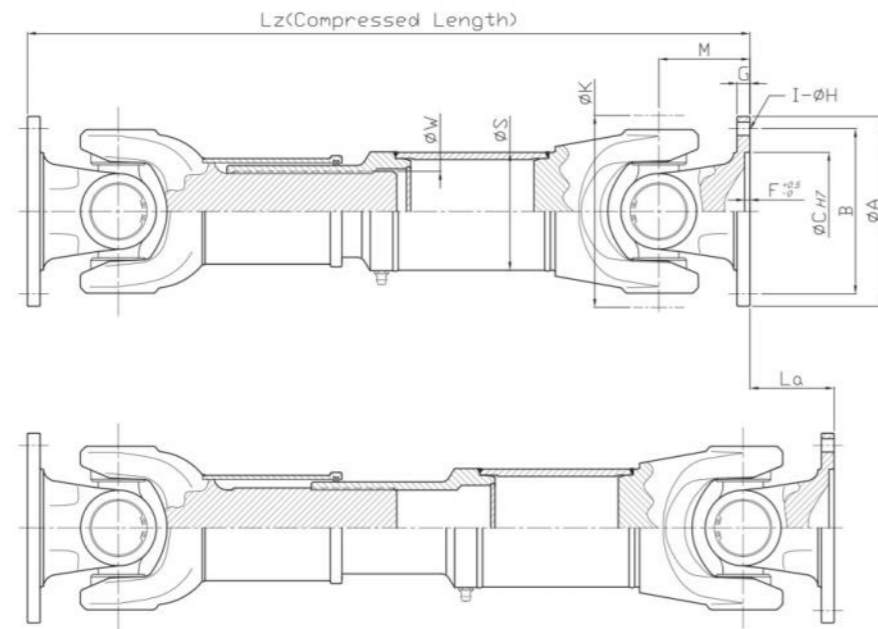


## The practical application of Universal Joint

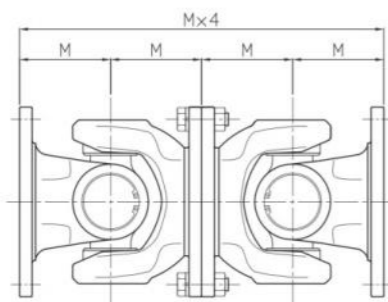




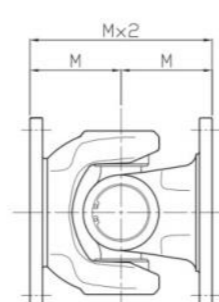
### UL Type



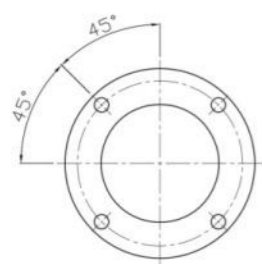
Extended Length



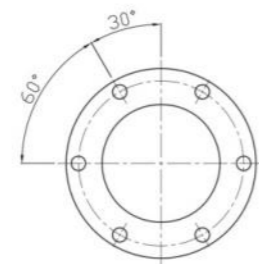
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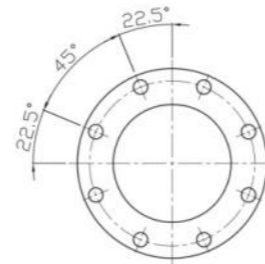
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<4-HOLE FLANGE>

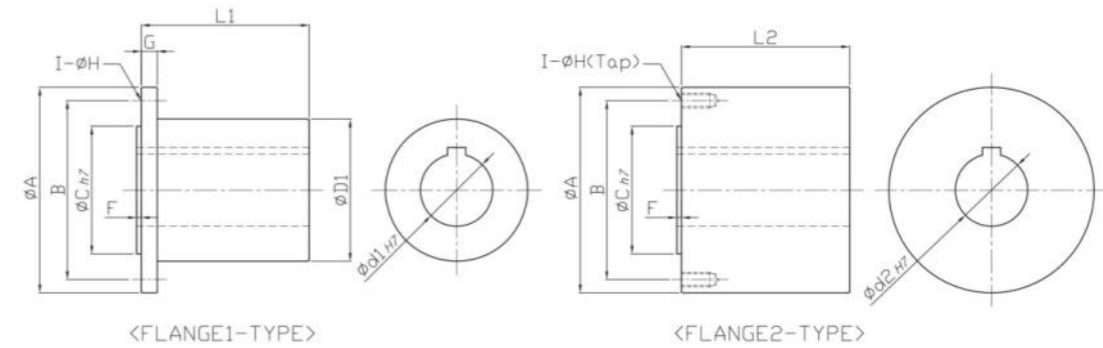


<6-HOLE FLANGE>



<8-HOLE FLANGE>

### UL Type



| Product name     |          | UL58     | UL65     | UL75(6h)   | UL75(4h)     | UL90      | UL100     | UL120    | UL150     | UL160     | UL180     | UL200     |
|------------------|----------|----------|----------|------------|--------------|-----------|-----------|----------|-----------|-----------|-----------|-----------|
| DIN              | Standard | 473.10   | 473.20   | 473.30     |              | 287.00    | 287.10    | 287.20   | 587.15    | 587.20    | 587.30    | 587.35    |
| Bearing          | mm       | ø18x47   | ø18x47   | ø23.8x61.3 | ø25x63.8     | ø27x81.75 | ø27x81.75 | ø35x98.6 | ø42x117.5 | ø48x116.5 | ø52x133   | ø57x144   |
| Tcs              | Nm       | 150      | 250      | 400        | 550          | 1100      | 1800      | 2700     | 5000      | 6500      | 10000     | 12000     |
| Tdw              | Nm       | 110      | 150      | 300        | 400          | 400       | 700       | 1000     | 1800      | 2700      | 4000      | 4500      |
| β (angle)        | °        | 24       | 24       | 24         | 16           | 24        | 24        | 35       | 30        | 30        | 35        | 35        |
| A (flange)       | mm       | 58       | 65       | 75         |              | 90        | 100       | 120      | 150       | 160       | 180       | 200       |
| K (swing dia.)   | mm       | 62       | 62       | 78         |              | 96        | 96        | 116      | 138       | 145       | 158       | 170       |
| B (pcd)          | mm       | 47       | 52       | 62         |              | 74.5      | 84        | 101.5    | 130       | 140       | 155.5     | 175       |
| C                | mm       | 30       | 35       | 42         |              | 47        | 57        | 75       | 90        | 100       | 110       | 125       |
| F                | mm       | 2.5      | 2.5      | 2.5        |              | 3         | 3         | 3        | 3         | 4         | 4         | 5         |
| G                | mm       | 4        | 4        | 6          | 6.5          | 7         | 7         | 8        | 10        | 10        | 12        | 14        |
| I (qty of holes) | -        | 4        | 4        | 6          | 4            | 4         | 6         | 8        | 8         | 8         | 8         | 8         |
| H                | mm       | 5        | 6        | 6          |              | 8.5       | 8.5       | 10       | 12        | 12        | 14        | 14        |
| M                | mm       | 32       | 32       | 42         | 40           | 55        | 55        | 70       | 72        | 82        | 92        | 100       |
| S (tube)         | mm       | 42.7x3.6 | 42.7x3.6 | 55x5       | 50.8x2.4     | 60.5x3.65 | 60.5x3.65 | 73x5.2   | 89.1 x7.6 | 89.1 x7.6 | 89.1 x7.6 | 101.6x8.1 |
| W (spline)       | -        | 25-m1.25 | 25-m1.25 | 30-m1.667  | 33.33-m1.667 | 36-m2     | 36-m2     | 42-m2    | 50-m1.5   | 65-m2.5   | 65-m2.5   | 75-m2.5   |
| Lz (min.)        | mm       | 262      | 262      | 319        | 295          | 345       | 345       | 430      | 480       | 480       | 583       | 648       |
| La (stroke)      | mm       | 60       | 60       | 100        | 50           | 60        | 60        | 100      | 120       | 120       | 120       | 120       |
| G                | kg       | 2        | 2        | 3.7        | 6.16         | 5.7       | 5.7       | 12       | 24        | 26        | 35        | 46.5      |
| Gr               | kg       | 3.47     | 3.47     | 6.165      | 2.865        | 5.1       | 5.1       | 8.7      | 15.3      | 15.3      | 15.3      | 18.68     |
| d1 (max.)        | mm       | 20       | 25       | 30         |              | 35        | 40        | 50       | 60        | 70        | 80        | 85        |
| D1 (max.)        | mm       | 35       | 40       | 50         |              | 55        | 64        | 80       | 105       | 110       | 125       | 130       |
| L1               | mm       | 30       | 40       | 48         |              | 55        | 63        | 80       | 90        | 110       | 125       | 140       |
| d2 (max.)        | mm       | 35       | 40       | 45         |              | 55        | 60        | 70       | 90        | 95        | 110       | 120       |
| L2               | mm       | 56       | 63       | 70         |              | 90        | 90        | 110      | 140       | 160       | 180       | 180       |

\*Tcs: Functional limit Torque

\*Lz(Ordor Production): Shortest possible compressed length

\*G: Weight of shaft

\*Tdw: Fatigue Torque

\*La: Length compensation

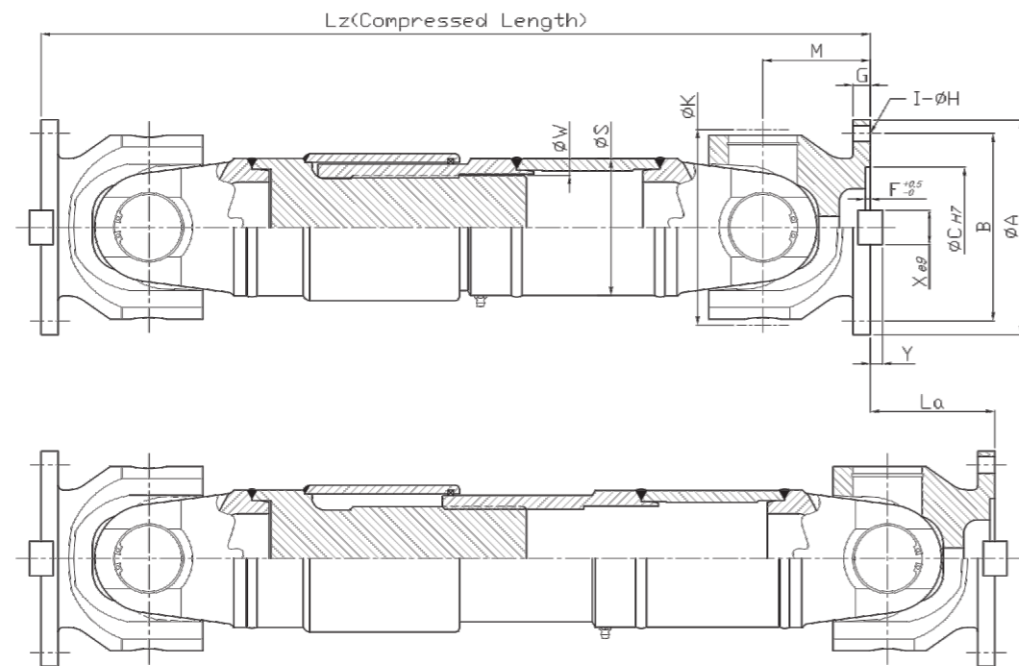
\*Gr: Weight per 1,000mm tube

\*β : Maximun deflection angle per joint

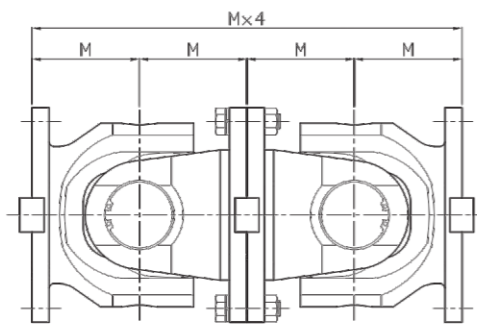
\*Lz+La: Maximun operating length

How to Order: UL 150 X 1500 (+110)  
TYPE A LZ La

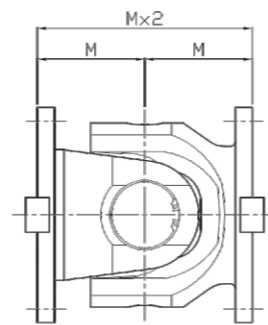
### UT Type



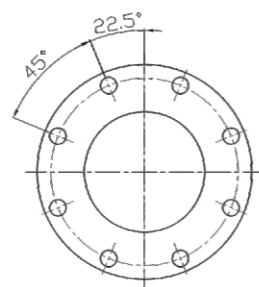
Extended Length



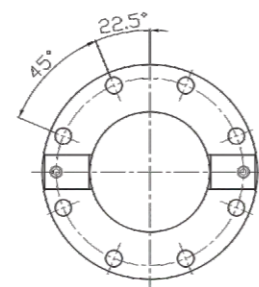
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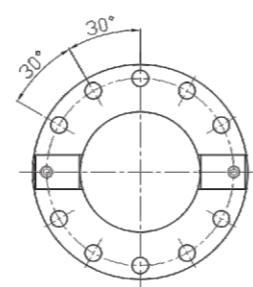
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<8-HOLE FLANGE>  
(100~225)

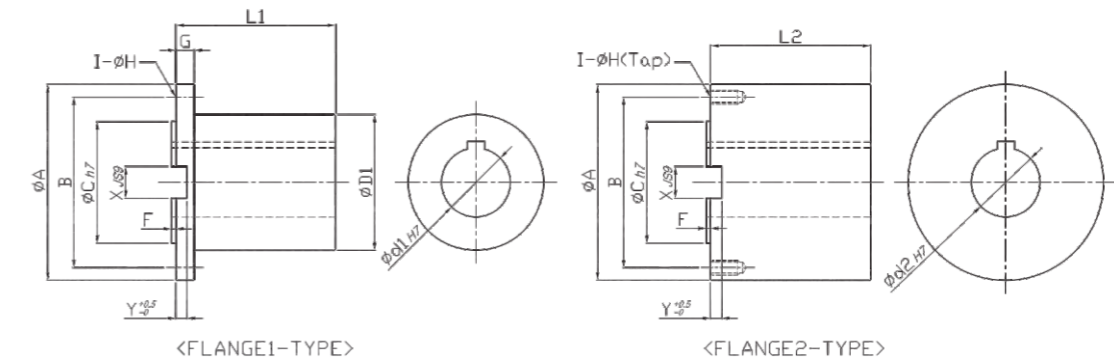


<8-HOLE FLANGE>  
(250~285)



<10-HOLE FLANGE>  
(315~390)

### UT Type



| Product name     | UT100 | UT120        | UT150      | UT160    | UT180    | UT225     | UT250     | UT285    | UT315    | UT350    | UT390    |          |
|------------------|-------|--------------|------------|----------|----------|-----------|-----------|----------|----------|----------|----------|----------|
| Bearing          | mm    | ø32x92(57)   | ø39.68x117 | ø52x133  | ø52x133  | ø57x144   | ø72x185   | ø95x217  | ø110x247 | ø120x275 | ø135x307 | ø160x334 |
| Tcs              | kNm   | 2.4          | 5          | 10       | 10       | 12        | 43        | 80       | 120      | 160      | 225      | 320      |
| Tdw              | kNm   | 0.7          | 1.6        | 4        | 4        | 4.5       | 13        | 40       | 58       | 80       | 110      | 160      |
| $\beta$ (angle)  | °     | 24           | 24         | 35       | 35       | 35        | 24        | 15       | 15       | 15       | 15       | 15       |
| A (flange)       | mm    | 100          | 120        | 150      | 160      | 180       | 225       | 250      | 285      | 315      | 350      | 390      |
| K (swing dia.)   | mm    | 98           | 136        | 158      | 158      | 170       | 215       | 250      | 285      | 315      | 350      | 390      |
| B (pcd)          | mm    | 84           | 101.5      | 130      | 140      | 155.5     | 196       | 218      | 245      | 280      | 310      | 345      |
| C                | mm    | 57           | 75         | 90       | 100      | 110       | 140       | 140      | 175      | 175      | 220      | 250      |
| F                | mm    | 3            | 3          | 3        | 4        | 4         | 6         | 6        | 6        | 7        | 7        | 8        |
| G                | mm    | 10           | 10         | 12       | 12       | 14        | 15        | 25       | 27       | 32       | 35       | 40       |
| I (qty of holes) | -     | 6            | 8          | 8        | 8        | 8         | 8         | 8        | 8        | 10       | 10       | 10       |
| H                | mm    | 9            | 10         | 12       | 12       | 14        | 16        | 19       | 21       | 23       | 23       | 25       |
| M                | mm    | 62           | 72         | 90       | 90       | 100       | 108       | 160      | 180      | 200      | 220      | 240      |
| X                | mm    | -            | -          | -        | -        | -         | -         | 40       | 40       | 40       | 50       | 70       |
| Y                | mm    | -            | -          | -        | -        | -         | -         | 12.5     | 15       | 15       | 16       | 18       |
| S (tube)         | mm    | 76.3x3.65    | 90x80      | 89.1x7.6 | 89.1x7.6 | 101.6x8.1 | 139.8x9.5 | 168x14   | 194x16   | 216x18.2 | 273x19   | 273x36   |
| W (spline)       | -     | 33.33-m1.667 | 50-m1.5    | 65-m2.5  | 65-m2.5  | 75-m2.5   | 85-m2.5   | 115-m2.5 | 150-m3   | 150-m3   | 185-m5   | 185-m5   |
| Lz (min.)        | mm    | 310          | 425        | 590      | 590      | 630       | 700       | 960      | 1,055    | 1,165    | 1,270    | 1,420    |
| La (stroke)      | mm    | 40           | 120        | 120      | 120      | 120       | 120       | 140      | 140      | 140      | 150      | 170      |
| G                | kg    | 6            | 16         | 33       | 34       | 46.5      | 80        | 172      | 263      | 382      | 532      | 738      |
| Gr               | kg    | 6.54         | 10.48      | 15.3     | 15.3     | 18.7      | 30.5      | 53       | 70       | 88.9     | 119      | 210.4    |
| d1 (max.)        | mm    | 40           | 50         | 60       | 70       | 80        | 105       | 115      | 130      | 155      | 170      | 190      |
| D1 (max.)        | mm    | 64           | 80         | 105      | 110      | 125       | 172       | 191      | 215      | 248      | 278      | 309      |
| L1               | mm    | 63           | 80         | 90       | 110      | 125       | 160       | 175      | 200      | 235      | 255      | 285      |
| d2 (max.)        | mm    | 60           | 70         | 90       | 95       | 110       | 140       | 155      | 175      | 195      | 215      | 240      |
| L2               | mm    | 90           | 110        | 140      | 160      | 180       | 210       | 235      | 270      | 300      | 330      | 370      |

\*Tcs: Functional limit Torque

\*Lz(Ord Production): Shortest possible compressed length

\*G: Weight of shaft

\*Tdw: Fatigue Torque

\*La: Length compensation

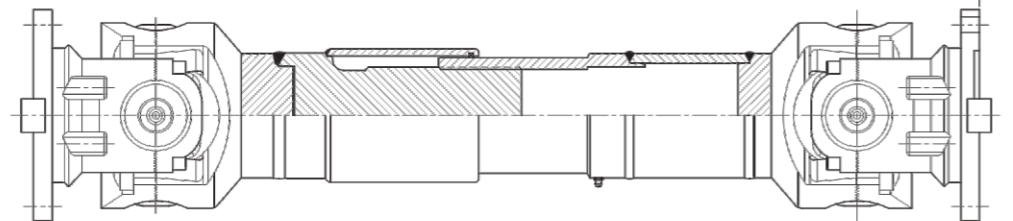
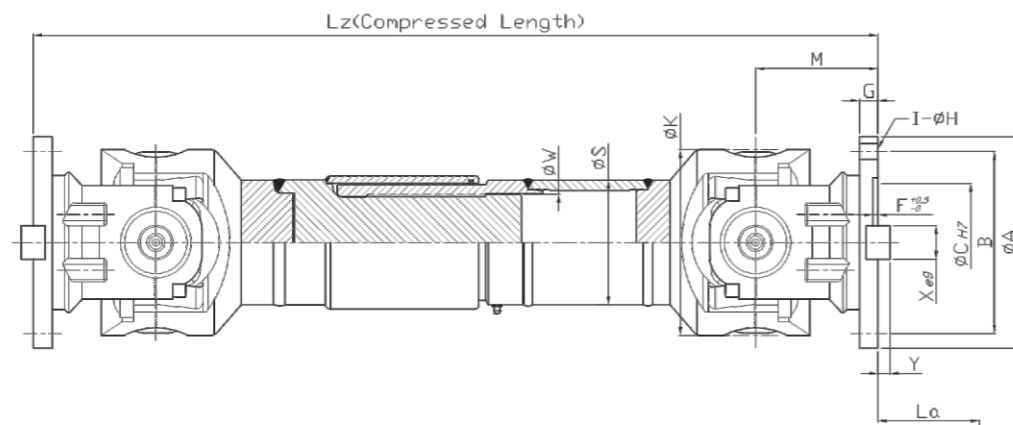
\*Gr: Weight per 1,000mm tube

\* $\beta$ : Maximum deflection angle per joint

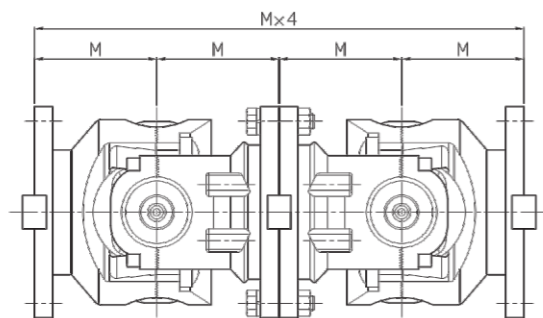
\*Lz+La: Maximum operating length

How to Order:  $\frac{UT}{TYPE} \frac{150}{A} \times \frac{1500}{LZ} \frac{(+120)}{La}$

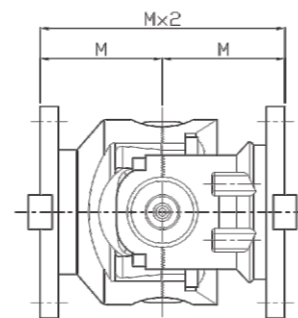
**UK Type**



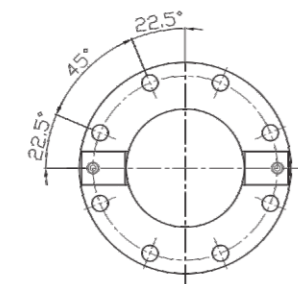
Extended Length



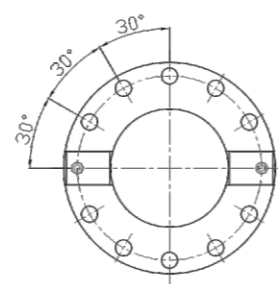
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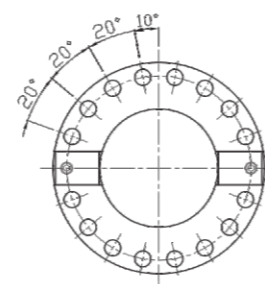
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<8-HOLE FLANGE>

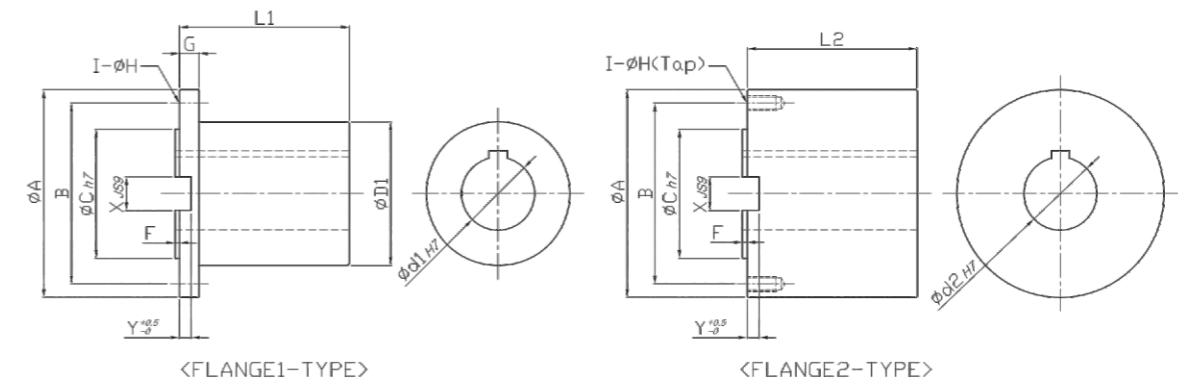


<10-HOLE FLANGE>



<16-HOLE FLANGE>

**UK Type**



| Product name     |     | UK225       | UK250       | UK285        | UK315        | UK350      | UK390     | UK435      | UK480      | UK550      |
|------------------|-----|-------------|-------------|--------------|--------------|------------|-----------|------------|------------|------------|
| Bearing          | mm  | ø88x218x124 | ø95x244x138 | ø110x276x156 | ø125x304x176 | Customize  | Customize | Customize  | Customize  | Customize  |
| Tcs              | kNm | 56          | 80          | 112          | 160          | 224        | 315       | 450        | 630        | 900        |
| Tdw              | kNm | 28          | 40          | 56           | 80           | 112        | 158       | 225        | 315        | 450        |
| $\beta$ (angle)  | °   | 15          | 15          | 15           | 15           | 15         | 10        | 10         | 10         | 10         |
| A (flange)       | mm  | 225         | 250         | 285          | 315          | 350        | 390       | 435        | 480        | 550        |
| K (swing dia.)   | mm  | 225         | 250         | 285          | 315          | 350        | 390       | 435        | 480        | 550        |
| B (pcd)          | mm  | 196         | 218         | 245          | 280          | 310        | 345       | 385        | 425        | 492        |
| C                | mm  | 140         | 140         | 175          | 175          | 220        | 250       | 280        | 320        | 380        |
| F                | mm  | 5           | 5           | 7            | 8            | 8          | 8         | 10         | 12         | 12         |
| G                | mm  | 20          | 25          | 27           | 32           | 35         | 40        | 42         | 47         | 50         |
| I (qty of holes) | -   | 8           | 8           | 8            | 10           | 10         | 10        | 16         | 16         | 16         |
| H                | mm  | 17          | 19          | 21           | 23           | 23         | 25        | 28         | 31         | 31         |
| M                | mm  | 145         | 165         | 180          | 205          | 225        | 215       | 245        | 275        | 305        |
| X                | mm  | 32          | 40          | 40           | 40           | 50         | 70        | 80         | 90         | 100        |
| Y                | mm  | 9           | 12.5        | 15           | 15           | 16         | 18        | 20         | 22.5       | 22.5       |
| S (tube)         | mm  | 152x13.5    | 168x14      | 194x16       | 216.3x18.2   | 267.4x21.4 | 273x24.5  | 318.5x33.3 | 355.6x35.7 | 406.4x40.5 |
| W (spline)       | -   | 110-m2.5    | 130-m3      | 150-m3       | 150-m3       | 185-m5     | 185-m5    | 210-m5     | 210-m5     | 240-m5     |
| Lz (min.)        | mm  | 890         | 1,010       | 1,090        | 1,240        | 1,310      | 1,430     | 1,620      | 1,820      | 2,035      |
| La (stroke)      | mm  | 100         | 135         | 135          | 170          | 170        | 170       | 170        | 190        | 210        |
| G                | kg  | 129         | 214         | 272          | 406          | 493        | 732       | 1,055      | 1,468      | 2,209      |
| Gr               | kg  | 46.1        | 53          | 70           | 88.9         | 130        | 150       | 234        | 281.6      | 365.4      |
| d1 (max.)        | mm  | 105         | 115         | 130          | 155          | 170        | 190       | 215        | 235        | 275        |
| D1 (max.)        | mm  | 172         | 191         | 215          | 248          | 278        | 309       | 344        | 379        | 446        |
| L1               | mm  | 160         | 175         | 200          | 235          | 255        | 285       | 325        | 355        | 415        |
| d2 (max.)        | mm  | 140         | 155         | 175          | 195          | 215        | 240       | 270        | 300        | 340        |
| L2               | mm  | 210         | 235         | 270          | 300          | 330        | 370       | 405        | 450        | 510        |

\*Tcs: Functional limit Torque

\*Lz(Order Production): Shortest possible compressed length

\*G: Weight of shaft

\*Tdw: Fatigue Torque

\*La: Length compensation

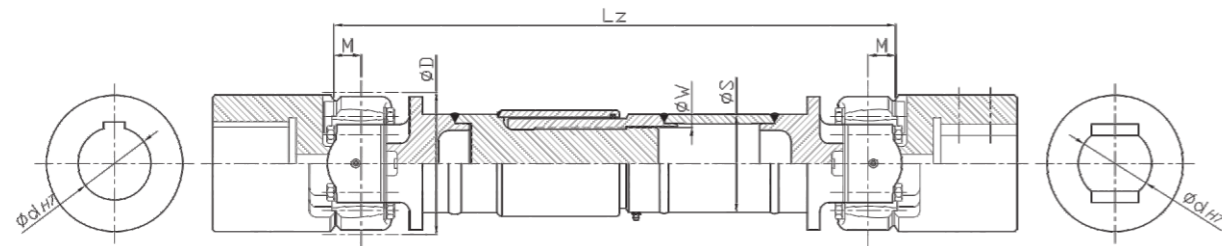
\*Gr: Weight per 1,000mm tube

\* $\beta$  : Maximun deflection angle per joint

\*Lz+La: Maximun operating length

How to Order:  $\frac{UL}{TYPE} \frac{225}{A} \times \frac{1500}{LZ} \frac{(+100)}{La}$

## UH Type

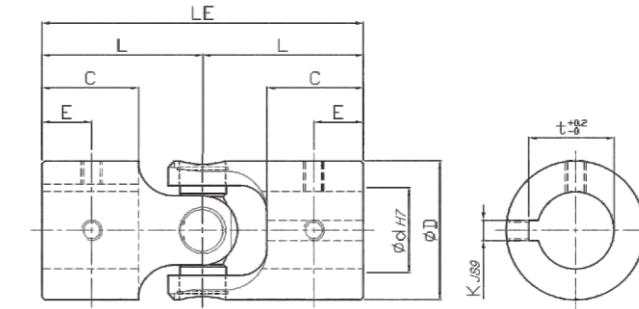


| Product name    |     | UH300    | UH350  | UH400    | UH425    | UH450    | UH500  | UH550     | UH600     | UH650     | UH700     | UH750     |
|-----------------|-----|----------|--------|----------|----------|----------|--------|-----------|-----------|-----------|-----------|-----------|
| Tcs             | kNm | 190      | 300    | 445      | 536      | 634      | 847    | 1,180     | 1,500     | 1,890     | 2,353     | 2,940     |
| Tdw             | kNm | 65       | 110    | 170      | 209      | 250      | 347    | 470       | 620       | 786       | 980       | 1,240     |
| $\beta$ (angle) | °   | 10       | 10     | 8        | 8        | 8        | 8      | 6         | 6         | 6         | 6         | 6         |
| D               | mm  | 300      | 350    | 400      | 425      | 450      | 500    | 550       | 600       | 650       | 700       | 750       |
| M               | mm  | 60       | 70     | 80       | 86       | 92       | 107    | 116       | 125       | 136       | 146       | 155       |
| S (tube)        | mm  | 244.5x28 | 273x30 | 323.9x36 | 355.6x40 | 406.4x40 | 457x50 | Customize | Customize | Customize | Customize | Customize |
| W (spline)      | -   | 185-m5   | 210-m5 | 210-m5   | 210-m5   | 240-m5   | 290-m8 | Customize | Customize | Customize | Customize | Customize |
| Lz (min.)       | mm  | 965      | 1,080  | 1,220    | 1,284    | 1,348    | 1,503  | 1,604     | 1,730     | 1,849     | 1,949     | 2,090     |
| La (stroke)     | mm  | 135      | 155    | 175      | 185      | 195      | 205    | 220       | 235       | 250       | 265       | 290       |
| G               | kg  | 477      | 767    | 1,125    | 1,351    | 1,627    | 2,227  | Customize | Customize | Customize | Customize | Customize |
| Gr              | kg  | 149      | 180    | 255.6    | 311.3    | 361.4    | 501.94 | Customize | Customize | Customize | Customize | Customize |
| d (max.)        | mm  | 185      | 215    | 250      | 265      | 280      | 310    | 340       | 375       | 400       | 435       | 465       |

\*Tcs: Functional limit Torque      \*Tdw: Fatigue Torque      \* $\beta$  : Maximum deflection angle per joint  
 \*Lz(Order Production): Shortest possible compressed length      \*La: Length compensation      \*Lz+La: Maximum operating length  
 \*G: Weight of shaft      \*Gr: Weight per 1,000mm tube

How to Order:  $\frac{UH}{TYPE} \frac{300}{D} X \frac{1500}{LZ} (\frac{+135}{La})$

## UE Type



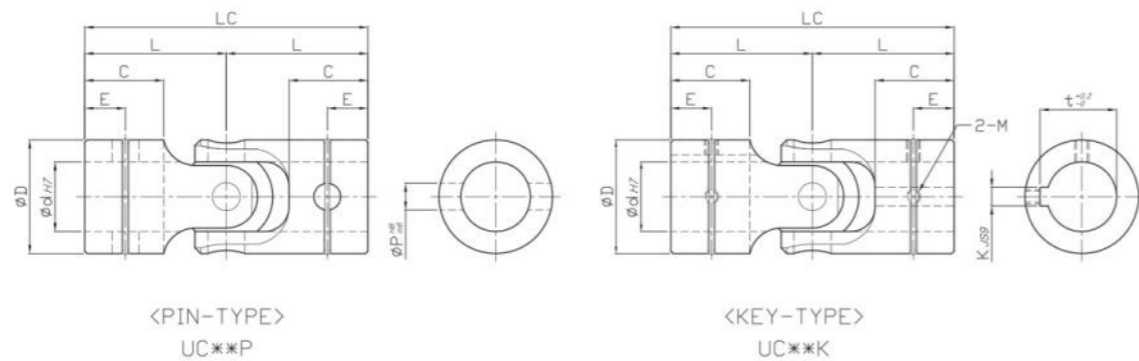
| Product name    |    | UE20                             | UE25                       | UE30                             | UE35                               | UE40                          | UE50                           | UE60                            |
|-----------------|----|----------------------------------|----------------------------|----------------------------------|------------------------------------|-------------------------------|--------------------------------|---------------------------------|
| Bearing         | mm | $\varnothing 16 \times 40(24.5)$ | $\varnothing 18 \times 47$ | $\varnothing 20.1 \times 57(35)$ | $\varnothing 25 \times 63.8(41.2)$ | $\varnothing 27 \times 81.75$ | $\varnothing 32 \times 92(57)$ | $\varnothing 37 \times 104(67)$ |
| Tcs             | Nm | 150                              | 250                        | 400                              | 550                                | 1,100                         | 1,800                          | 3,800                           |
| Tdw             | Nm | 110                              | 150                        | 240                              | 400                                | 400                           | 700                            | 1,600                           |
| $\beta$ (angle) | °  | 25                               | 25                         | 25                               | 25                                 | 25                            | 25                             | 25                              |
| d               | mm | 20                               | 25                         | 30                               | 35                                 | 40                            | 50                             | 60                              |
| D               | mm | 43                               | 54                         | 62                               | 69                                 | 96                            | 99                             | 114                             |
| LE              | mm | 86                               | 110                        | 140                              | 200                                | 200                           | 270                            | 300                             |
| L               | mm | 43                               | 55                         | 70                               | 100                                | 100                           | 135                            | 150                             |
| C               | mm | 23                               | 30                         | 40                               | 60                                 | 60                            | 80                             | 84                              |
| E               | mm | 11.5                             | 14                         | 20                               | 30                                 | 30                            | 40                             | 42                              |
| K               | mm | 6                                | 8                          | 8                                | 10                                 | 12                            | 14                             | 18                              |
| t               | mm | 22.8                             | 28.3                       | 33.3                             | 38.3                               | 43.3                          | 53.8                           | 64.4                            |
| M               | mm | 6                                | 8                          | 8                                | 10                                 | 12                            | 14                             | 16                              |

\*Tcs: Functional limit Torque  
 \*Tdw: Fatigue Torque  
 \* $\beta$  : Maximum deflection angle per joint

How to Order:  $\frac{UE}{TYPE} \frac{25}{d} \frac{K8}{K(Key\ width)} X \frac{D54}{D} X \frac{110}{LE}$



### UC Type



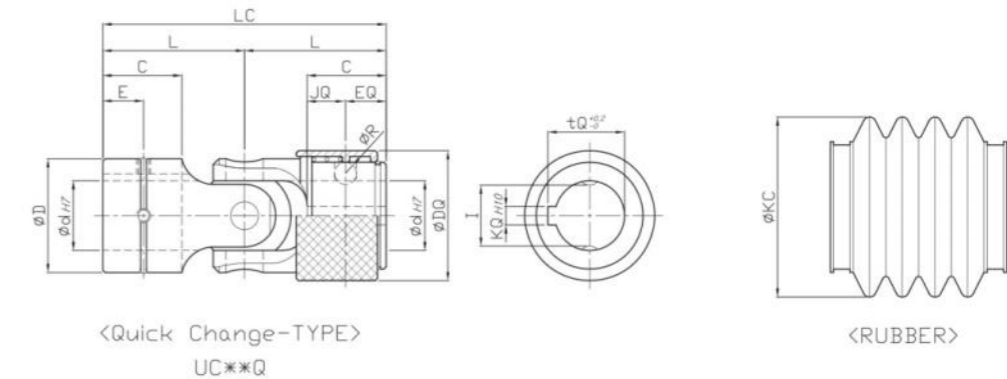
| Product name                   | UC06              |        | UC08   |                | UC10    |                | UC12    |              | UC14    |              | UC16    |              | UC18    |              | UC20  |  |
|--------------------------------|-------------------|--------|--------|----------------|---------|----------------|---------|--------------|---------|--------------|---------|--------------|---------|--------------|-------|--|
|                                | -D12              | -D15   | -D19   | -D20           | -D23    | -D24           | -D26    | -D28         | -D30    | -D32         | -D33    | -D36         | -D36    | -D40         |       |  |
| Allowable conditional variable | 32,000            | 48,000 | 80,000 |                | 121,000 |                | 151,000 |              | 200,000 |              | 232,000 |              | 273,000 |              |       |  |
| Max. Speed                     | min <sup>-1</sup> | 2,500  | 2,200  | 2,000          |         | 1,800          |         | 1,600        |         | 1,400        |         | 1,200        |         | 1,000        |       |  |
| Tcs                            | Nm                | 16     | 35     | 83             | 185     | 140            | 200     | 200          | 500     | 310          | 600     | 400          | 900     | 530          | 1,200 |  |
| Tdw                            | Nm                | 5      | 12     | 27             | 62      | 46             | 67      | 66           | 167     | 102          | 200     | 132          | 300     | 175          | 400   |  |
| β (angle)                      | °                 | 30     | 30     | 30             |         | 30             |         | 30           |         | 30           |         | 30           |         | 30           |       |  |
| d                              | mm                | 6      | 8      | 10             |         | 12             |         | 14           |         | 16           |         | 18           |         | 20           |       |  |
| D                              | mm                | 12     | 15     | 19             | 20      | 23             | 24      | 26           | 28      | 30           | 32      | 32           | 36      | 36           | 40    |  |
| LC                             | mm                | 31     | 36     | 42             | 68      | 52             | 84      | 59           | 94      | 74           | 104     | 81           | 120     | 87           | 124   |  |
| L                              | mm                | 15.5   | 18     | 21             | 34      | 26             | 42      | 29.5         | 47      | 37           | 52      | 40.5         | 60      | 43.5         | 62    |  |
| C                              | mm                | 9      | 10     | 12             | 23      | 15             | 29      | 17           | 31.5    | 22           | 34.5    | 23.5         | 40      | 25           | 40    |  |
| E                              | mm                | 4.5    | 5      | 6              | 9       | 7.5            | 14      | 8.5          | 15      | 11           | 17      | 11.75        | 20      | 12.5         | 20    |  |
| P                              | mm                | 3      | 3.5    | 4.5            | -       | 5              | -       | 5.8          | -       | 6.5          | -       | 7            | -       | 8            | -     |  |
| K                              | mm                | -      | -      | 3<br>(4)       |         | 4<br>(4)       |         | 5<br>(5)     |         | 5<br>(5)     |         | 6<br>(5)     |         | 6<br>(5)     |       |  |
| t                              | mm                | -      | -      | 11.4<br>(11.5) |         | 13.8<br>(13.5) |         | 16.3<br>(16) |         | 18.3<br>(18) |         | 20.8<br>(20) |         | 22.8<br>(22) |       |  |
| M                              | mm                | 3      | 3      | 5              | 3       | 5              | 4       | 6            | 5       | 6            | 5       | 6            | 6       | 6            | 6     |  |
| KC (Rubber)                    | mm                | -      | 25     | 32             | 32      | 35             | -       | 40           | -       | 46           | -       | 52           | 58      | 58           | -     |  |
| DQ                             | mm                | -      | -      | -              | -       | -              | -       | -            | -       | -            | -       | -            | -       | -            | -     |  |
| EQ                             | mm                | -      | -      | -              | -       | -              | -       | -            | -       | -            | -       | -            | -       | -            | -     |  |
| I                              | mm                | -      | -      | -              | -       | -              | -       | -            | -       | -            | -       | -            | -       | -            | -     |  |
| R                              | mm                | -      | -      | -              | -       | -              | -       | -            | -       | -            | -       | -            | -       | -            | -     |  |
| JQ                             | mm                | -      | -      | -              | -       | -              | -       | -            | -       | -            | -       | -            | -       | -            | -     |  |
| KQ                             | mm                | -      | -      | -              | -       | -              | -       | -            | -       | -            | -       | -            | -       | -            | -     |  |
| tQ                             | mm                | -      | -      | -              | -       | -              | -       | -            | -       | -            | -       | -            | -       | -            | -     |  |
| Ts                             | kg                | 530    | 784    | 1,300          | 1,450   | 2,300          | 3,300   | 2,600        | 4,700   | 3,900        | 5,480   | 4,400        | 5,940   | 5,200        | 8,330 |  |
| Weight                         | g                 | 15     | 30     | 55             | 130     | 110            | 200     | 155          | 400     | 260          | 520     | 345          | 700     | 465          | 1,060 |  |

\*Refer to "Allowable Conditional Variables" on Page 18 before selecting one.  
 \*Tcs: Functional limit Torque  
 \*Tdw: Fatigue Torque

\*β : Maximum deflection angle per joint  
 \*Ts: Static tensile load

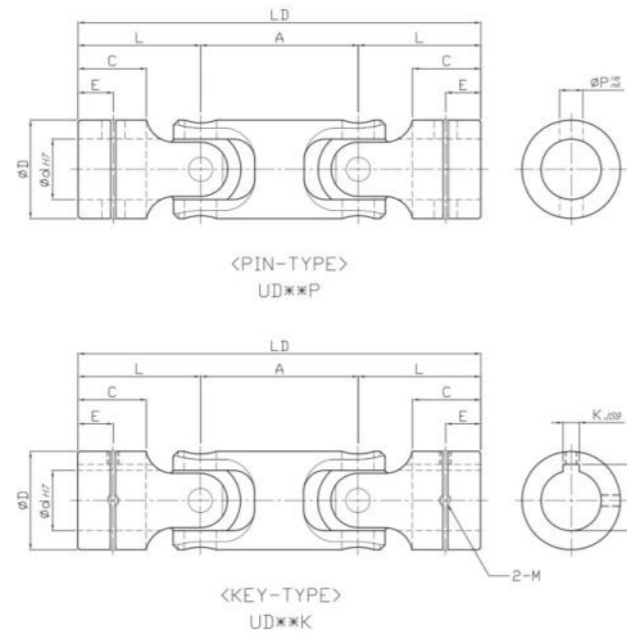
How to Order: UC  $\frac{25}{d}$   $\frac{K7 \text{ or } P \text{ or } Q7}{K(\text{Key width}) \text{ or } P \text{ or } Q(\text{Key width})}$  x  $\frac{D44}{D}$  x  $\frac{105}{LC}$  ex)UC25K7xD44x105

### UC Type



| UC22         |       | UC25         |        | UC30         |        | UC35           |        | UC40           |        | UC45           |        | UC50           |        |
|--------------|-------|--------------|--------|--------------|--------|----------------|--------|----------------|--------|----------------|--------|----------------|--------|
| -D40         | -D44  | -D44         | -D50   | -D50         | -D60   | -D70           | -D67   | -D80           | -D75   | -D90           | -D83   | -D100          |        |
| 344,000      |       | 406,000      |        | 531,000      |        | 711,000        |        | 718,000        |        | 1,150,000      |        | 1,400,000      |        |
| 900          |       | 800          |        | 700          |        | 600            |        | 500            |        | 400            |        | 300            |        |
| 760          | 1,440 | 1,000        | 2,540  | 1,500        | 3,300  | 2,400          | 5,300  | 3,600          | 10,000 | 4,800          | 12,600 | 5,800          | 15,200 |
| 251          | 480   | 330          | 847    | 495          | 1,100  | 792            | 1,767  | 1,188          | 3,333  | 1,584          | 4,200  | 1,914          | 5,067  |
| 30           |       | 30           |        | 30           |        | 30             |        | 30             |        | 30             |        | 30             |        |
| 22           |       | 25           |        | 30           |        | 35             |        | 40             |        | 45             |        | 50             |        |
| 39           | 44    | 44           | 50     | 49           | 60     | 59             | 70     | 67             | 80     | 75             | 90     | 83             | 100    |
| 94           | 130   | 105          | 140    | 122          | 178    | 140            | 200    | 157            | 228    | 176            | 250    | 191            | 270    |
| 47           | 65    | 52.5         | 70     | 61           | 89     | 70             | 100    | 78.5           | 114    | 88             | 125    | 95.5           | 135    |
| 27           | 41    | 30           | 43     | 35           | 56     | 40             | 62     | 45             | 70     | 50             | 76     | 55             | 80     |
| 13.5         | 20    | 15           | 21     | 17.5         | 28     | 20             | 31     | 22.5           | 35     | 25             | 38     | 27.5           | 50     |
| 9            | -     | 10           | -      | 11.5         | -      | 13             | -      | 14.5           | -      | 16             | -      | 17.5           | -      |
| 6<br>(7)     |       | 8<br>(7)     |        | 8<br>(7)     |        | 10<br>(10)     |        | 12<br>(10)     |        | 14<br>(12)     |        | 14<br>(12)     |        |
| 24.8<br>(25) |       | 28.3<br>(28) |        | 33.3<br>(33) |        | 38.3<br>(38.5) |        | 43.3<br>(43.5) |        | 48.8<br>(48.5) |        | 53.8<br>(53.5) |        |
| 6            | 6     | 8            | 8      | 8            | 10     | 10             | 10     | 10             | 10     | 10             | 12     | 10             | 12     |
| -            | 68    | 68           | 82     | 82           | -      | -              | -      | -              | -      | -              | -      | -              | -      |
| -            | -     | 49           | 50     | 56           | 60     | 64             | 70     | -              | -      | -              | -      | -              | -      |
| -            | -     | 15           | 20.5   | 17.5         | 25     | 20             | 28     | -              | -      | -              | -      | -              | -      |
| -            | -     | 21.54        | 23     | 26.95        | 28     | 32             | 32     | -              | -      | -              | -      | -              | -      |
| -            | -     | 4.4          | 5      | 4.8          | 5      | 4.8            | 6      | -              | -      | -              | -      | -              | -      |
| -            | -     | 15           | 22.5   | 17.5         | 31     | 20             | 34     | -              | -      | -              | -      | -              | -      |
| -            | -     | 7            |        | 7            |        | 10             |        | -              | -      | -              | -      | -              | -      |
| -            | -     | 28           |        | 33           |        | 38.5           |        | -              | -      | -              | -      | -              | -      |
| 6,800        | 9,200 | 8,100        | 12,190 | 10,000       | 17,800 | 14,000         | 23,698 | 1,800          | 34,125 | 22,000         | 43,130 | 28,000         | 50,978 |
| 630          | 1,300 | 790          | 1,820  | 1,160        | 2,800  | 2,255          | 4,600  | 2,730          | 7,000  | 4,350          | 10,000 | 5,200          | 13,000 |

### UD Type

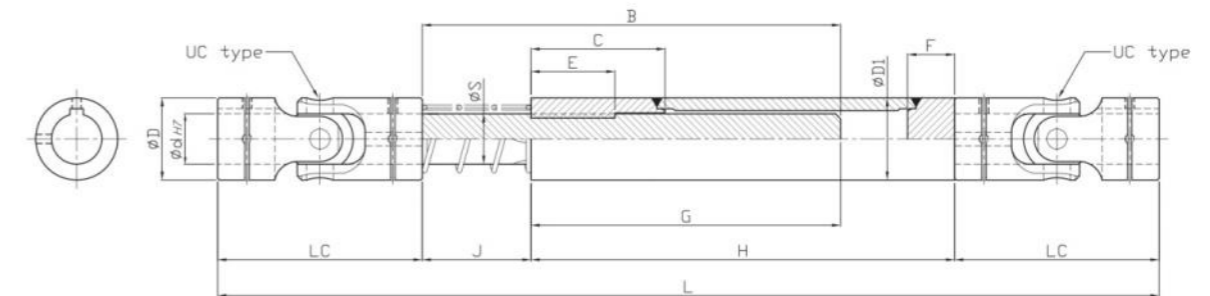


| Product name                   | UD10              | UD12    | UD14    | UD16    | UD20    | UD25    | UD30         | UD35         | UD40           | UD45           | UD50           |
|--------------------------------|-------------------|---------|---------|---------|---------|---------|--------------|--------------|----------------|----------------|----------------|
| Allowable conditional variable | 80,000            | 121,000 | 151,000 | 200,000 | 273,000 | 406,000 | 531,000      | 711,000      | 918,000        | 1,150,000      | 1,400,000      |
| Max. Speed                     | min <sup>-1</sup> | 2,000   | 1,800   | 1,600   | 1,400   | 1,000   | 800          | 700          | 600            | 500            | 400            |
| Tcs                            | Nm                | 61      | 100     | 140     | 230     | 390     | 750          | 1,100        | 1,800          | 2,700          | 4,300          |
| Tdw                            | Nm                | 20      | 33      | 46      | 76      | 129     | 248          | 363          | 594            | 891            | 1,419          |
| $\beta$ (angle)                | °                 | 30      | 30      | 30      | 30      | 30      | 30           | 30           | 30             | 30             | 30             |
| d                              | mm                | 10      | 12      | 14      | 16      | 20      | 25           | 30           | 35             | 40             | 45             |
| D                              | mm                | 19      | 23      | 26      | 30      | 36      | 44           | 50           | 59             | 67             | 75             |
| LD                             | mm                | 67.5    | 83      | 94.5    | 117.5   | 139     | 168          | 195          | 224            | 251            | 304            |
| A                              | mm                | 25.5    | 31      | 35.5    | 43.5    | 52      | 63           | 73           | 83             | 94             | 113            |
| L                              | mm                | 21      | 26      | 29.5    | 37      | 43.5    | 52.5         | 61           | 70             | 78.5           | 88             |
| C                              | mm                | 12      | 15      | 17      | 22      | 25      | 30           | 35           | 40             | 45             | 55             |
| E                              | mm                | 6       | 7.5     | 8.5     | 11      | 12.5    | 15           | 17.5         | 20             | 22.5           | 27.5           |
| P                              | mm                | 4.5     | 5       | 5.8     | 6.5     | 8       | 10           | 11.5         | 13             | 14.5           | 17.5           |
| K                              | mm                | 3       | 4       | 5       | 5       | 6       | 8<br>(7)     | 8<br>(7)     | 10<br>(10)     | 12<br>(10)     | 14<br>(12)     |
| t                              | mm                | 11.4    | 13.8    | 16.3    | 18.3    | 22.8    | 28.3<br>(28) | 33.3<br>(33) | 38.3<br>(38.5) | 43.3<br>(43.5) | 48.8<br>(48.5) |
| M                              | mm                | 5       | 5       | 6       | 6       | 6       | 8            | 8            | 10             | 10             | 10             |
| Ts                             | kg                | 1,300   | 2,300   | 2,600   | 3,900   | 5,200   | 8,100        | 10,000       | 14,000         | 18,000         | 22,000         |
| Weight                         | g                 | 95      | 180     | 250     | 410     | 690     | 1,240        | 1,775        | 3,180          | 4,150          | 7,750          |

\*Refer to "Allowable Conditional Variables" on Page 18 before selecting one.    \* $\beta$  : Maximum deflection angle per joint  
 \*Tcs: Functional limit Torque    \*Ts: Static tensile load  
 \*Tdw: Fatigue Torque

How to Order: UD 25 K7 or P x D44 x 168 ex ) UD25K7xD44x168  
TYPE d K(Key width) or P D LD

### UP Type



| Product name | UP12 | UP14   | UP16   | UP18    | UP20    | UP25                  | UP30                | UP35                | UP40                  | UP45                  | UP50                  |
|--------------|------|--------|--------|---------|---------|-----------------------|---------------------|---------------------|-----------------------|-----------------------|-----------------------|
| d            | mm   | 12     | 14     | 16      | 18      | 20                    | 25                  | 30                  | 35                    | 40                    | 45                    |
| D            | mm   | 23     | 26     | 30      | 32      | 36                    | 44                  | 49                  | 59                    | 67                    | 75                    |
| L            | mm   | 224    | 238    | 348     | 362     | 454                   | 501                 | 535                 | 572                   | 632                   | 702                   |
| La (stroke)  | mm   | 30     | 30     | 100     | 100     | 100                   | 100                 | 100                 | 100                   | 100                   | 100                   |
| B            | mm   | 100    | 100    | 180     | 180     | 260                   | 263                 | 263                 | 263                   | 280                   | 260                   |
| S (spline)   | -    | 15-m1  | 15-m1  | 22-m1   | 22-m1   | 22-m1                 | 30x25-6             | 30x25-6             | 38x32-6               | 42-m2                 | 45x41-8               |
| D1 (tube)    | mm   | 23x3.4 | 24x3.9 | 31x3.25 | 33x4.25 | 36x5.75               | 44x6.5              | 49x7                | 59x8                  | 67x9                  | 75x6.35               |
| E            | mm   | 40     | 40     | 50      | 50      | 50                    | 50                  | 50                  | 60                    | 80                    | 80                    |
| C            | mm   | 67     | 67     | 80      | 80      | 80                    | 80                  | 80                  | 90                    | 120                   | 120                   |
| LC           | mm   | 52     | 59     | 74      | 81      | 87                    | 105                 | 122                 | 140                   | 157                   | 191                   |
| G            | mm   | 75     | 75     | 180     | 180     | 180                   | 200                 | 200                 | 200                   | 200                   | 200(280)              |
| F            | mm   | 20     | 20     | 20      | 20      | 20                    | 28                  | 28                  | 29                    | 38                    | 40                    |
| H            | mm   | 95     | 95     | 200     | 200     | 200                   | 228                 | 228                 | 229                   | 238                   | 240                   |
| J            | mm   | 25     | 25     | 0       | 0       | 80                    | 63                  | 63                  | 63                    | 80                    | 60                    |
| Coil spring  | -    | -      | -      | -       | -       | ID23.5*□2<br>*17*200L | ID34*□3<br>*13*200L | ID34*□3<br>*13*200L | ID39*□3.5<br>*14*210L | ID55*□3.5<br>*14*210L | ID55*□3.5<br>*14*210L |

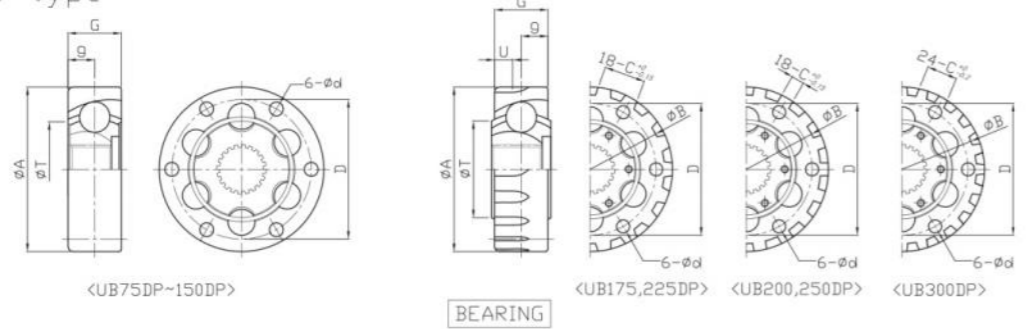
\*L(Order Production) : Shortest possible compressed length    \*L+La : Maximum operating length  
 \*La : Length compensation    \*LC : Refer to UC-type table

How to Order: UP 25 K7 x D44 x 1000 (+100)  
TYPE d K(Key width) D L La



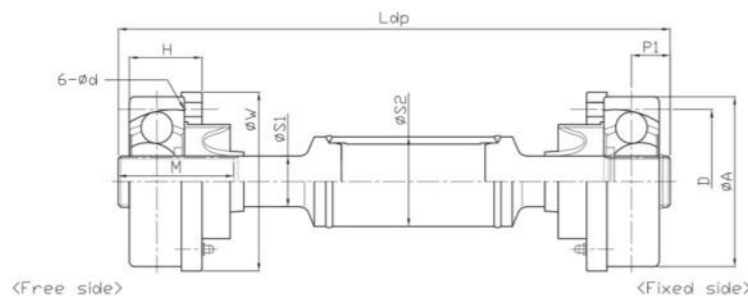
### UB Type

UB-type



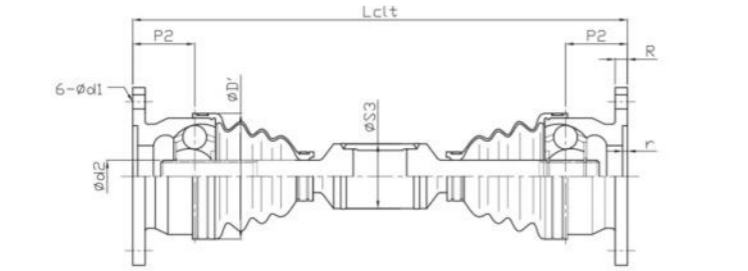
UB \*\*DP  
Without Flange

UB \*\*DFP  
With Flange



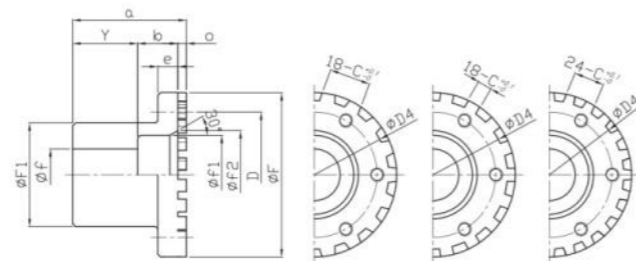
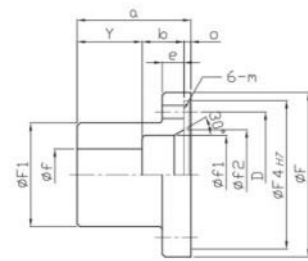
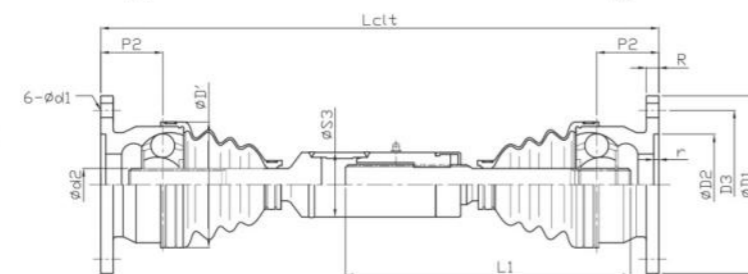
UB \*\*CLP  
Without Flange

UB \*\*CLFP  
With Flange



UB \*\*CLT  
Without Flange

UB \*\*CLFT  
With Flange



### UB Type

| Product name          |                   | UB75                              | UB95                              | UB100                             | UB125                              | UB150                              | UB175                              | UB200                              | UB225                              | UB250                              | UB300                               |
|-----------------------|-------------------|-----------------------------------|-----------------------------------|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-------------------------------------|
| TD1                   | Nm                | 588                               | 1,130                             | 1420                              | 2,750                              | 4,710                              | 6,720                              | 11,200                             | 14,700                             | 20,700                             | 29,100                              |
| TD2                   | Nm                | 392                               | 637                               | 882                               | 1,470                              | 2,890                              | 4,020                              | 5,880                              | 7,550                              | 10,700                             | 15,800                              |
| Bearing               | A                 | 80 <sup>0</sup> <sub>-0.046</sub> | 95 <sup>0</sup> <sub>-0.054</sub> | -                                 | 125 <sup>0</sup> <sub>-0.063</sub> | 146 <sup>0</sup> <sub>-0.063</sub> | 165.1 <sup>0</sup> <sub>-0.1</sub> | 190 <sup>0</sup> <sub>-0.115</sub> | 212 <sup>0</sup> <sub>-0.115</sub> | 230 <sup>0</sup> <sub>-0.115</sub> | 266.7 <sup>0</sup> <sub>-0.13</sub> |
|                       | B                 | -                                 | -                                 | -                                 | -                                  | -                                  | 158.5                              | 180                                | 203                                | 220.4                              | 254                                 |
|                       | C                 | -                                 | -                                 | -                                 | -                                  | -                                  | 42.4                               | 16.25                              | 54.7                               | 19.3                               | 50.6                                |
|                       | No. of teeth      | -                                 | -                                 | -                                 | -                                  | -                                  | 18                                 | 18                                 | 18                                 | 18                                 | 24                                  |
|                       | U                 | -                                 | -                                 | -                                 | -                                  | -                                  | 18                                 | 18                                 | 18                                 | 18                                 | 20                                  |
|                       | D (pcd)           | 66±0.15                           | 80±0.15                           | -                                 | 106±0.15                           | 124±0.15                           | 139.7±0.2                          | 159±0.3                            | 180±0.3                            | 197±0.5                            | 225.4±0.5                           |
|                       | d                 | 8.5                               | 8.5                               | -                                 | 10.5                               | 12.5                               | 15                                 | 13.5                               | 13.5                               | 17.5                               | 17.5                                |
|                       | G                 | 24.4                              | 31.8                              | -                                 | 40.6                               | 48.2                               | 50.8                               | 60                                 | 65                                 | 75                                 | 84                                  |
|                       | g                 | 12.2                              | 15.9                              | -                                 | 20.3                               | 24.1                               | 24.5                               | 30                                 | 32.5                               | 37.5                               | 42                                  |
|                       | T                 | 45                                | 60                                | -                                 | 76                                 | 92                                 | 108                                | 126                                | 143                                | 156                                | 175                                 |
| DP / DFP series       | W                 | 85                                | 100                               | -                                 | 130                                | 151                                | 170                                | 196                                | 218                                | 238                                | 273                                 |
|                       | S1                | 22.33                             | 26.36                             | -                                 | 36.33                              | 45.6                               | 51.6                               | 59.5                               | 65.4                               | 74.25                              | 83.4                                |
|                       | S2                | 48.6                              | 48.6                              | -                                 | 60.5                               | 76.3                               | 89.1                               | 101.6                              | 101.6                              | 139.8                              | 139.8                               |
|                       | H                 | 34.9                              | 41.3                              | -                                 | 51.6                               | 62                                 | 61.6                               | 73.8                               | 76.2                               | 86.8                               | 96.8                                |
|                       | P1                | 16                                | 21                                | -                                 | 29                                 | 28                                 | 38                                 | 40                                 | 48                                 | 53                                 | 65                                  |
|                       | M                 | 60                                | 70                                | -                                 | 80                                 | 135                                | 135                                | 135                                | 160                                | 160                                | 165                                 |
|                       | β □               | 14                                | 14                                | -                                 | 16                                 | 16                                 | 16                                 | 16                                 | 16                                 | 18                                 | 18                                  |
|                       | La (stroke)       | ±12                               | ±16                               | -                                 | ±20                                | ±24                                | ±27                                | ±29                                | ±29                                | ±30                                | ±35                                 |
|                       | Ldp (min.)        | 505                               | 505                               | -                                 | 605                                | 705                                | 805                                | 805                                | 805                                | 805                                | 805                                 |
|                       | CLP / CLFP series | D1                                | 118                               | 136                               | 154                                | 179                                | 192                                | 215                                | 250                                | 265                                | -                                   |
| D'                    |                   | 81                                | 108                               | 112                               | 148                                | 165                                | 172                                | 199                                | 222                                | -                                  | -                                   |
| D2                    |                   | 62 <sup>+0.074</sup> <sub>0</sub> | 70 <sup>+0.074</sup> <sub>0</sub> | 80 <sup>+0.074</sup> <sub>0</sub> | 102 <sup>+0.087</sup> <sub>0</sub> | 110 <sup>+0.087</sup> <sub>0</sub> | 125 <sup>+0.1</sup> <sub>0</sub>   | 140 <sup>+0.1</sup> <sub>0</sub>   | 155 <sup>+0.1</sup> <sub>0</sub>   | -                                  | -                                   |
| r                     |                   | 3                                 | 3                                 | 3                                 | 3.5                                | 3.5                                | 5                                  | 5                                  | 5                                  | -                                  | -                                   |
| R                     |                   | 8                                 | 10                                | 10                                | 10                                 | 12                                 | 15                                 | 16                                 | 18                                 | -                                  | -                                   |
| D3                    |                   | 97                                | 110                               | 125                               | 150                                | 165                                | 185                                | 215                                | 228                                | -                                  | -                                   |
| d1                    |                   | 10.5                              | 12.5                              | 14.5                              | 14.5                               | 14.5                               | 17                                 | 19                                 | 21                                 | -                                  | -                                   |
| d2                    |                   | 22                                | 27.5                              | 29.75                             | 36.75                              | 46                                 | 52                                 | 60                                 | 66                                 | -                                  | -                                   |
| S3                    |                   | 48.6                              | 48.6                              | 60.5                              | 60.5                               | 89.1                               | 101.6                              | 101.6                              | 139.8                              | -                                  | -                                   |
| P2                    |                   | 40                                | 46                                | 47                                | 55                                 | 76                                 | 83                                 | 95                                 | 105                                | -                                  | -                                   |
| DP series Flange(DFP) | β □               | 25                                | 25                                | 25                                | 25                                 | 25                                 | 25                                 | 25                                 | 25                                 | -                                  | -                                   |
|                       | La (stroke)       | ±10                               | ±10                               | ±10                               | ±10                                | ±15                                | ±15                                | ±15                                | ±15                                | -                                  | -                                   |
|                       | Lclp (min.)       | 545                               | 550                               | 550                               | 655                                | 785                                | 885                                | 905                                | 905                                | -                                  | -                                   |
|                       | L1                | 270                               | 310                               | 320                               | 340                                | 450                                | 520                                | 520                                | 590                                | -                                  | -                                   |
|                       | La (stroke)       | +80,-6                            | +80,-6                            | +90,-8                            | +90,-8                             | +120,-15                           | +150,-15                           | +150,-15                           | +150,-15                           | -                                  | -                                   |
|                       | Lclt (min.)       | 455                               | 515                               | 580                               | 610                                | 830                                | 910                                | 950                                | 1050                               | -                                  | -                                   |
|                       | a                 | 91                                | 133                               | -                                 | 155                                | 178                                | 192                                | 215                                | 227                                | 240                                | 262                                 |
|                       | b (fixed)         | 12                                | 16                                | -                                 | 20                                 | 24                                 | 34                                 | 35                                 | 35                                 | 38                                 | 45                                  |
|                       | b (free)          | 24                                | 32                                | -                                 | 40                                 | 48                                 | 54                                 | 55                                 | 55                                 | 58                                 | 70                                  |
|                       | Y (fixed)         | 74                                | 112                               | -                                 | 130                                | 148                                | 150                                | 170                                | 180                                | 190                                | 205                                 |
| Y (free)              | 62                | 96                                | -                                 | 110                               | 124                                | 130                                | 150                                | 160                                | 170                                | 180                                |                                     |
| o                     | 5                 | 5                                 | -                                 | 5                                 | 5                                  | 8                                  | 10                                 | 12                                 | 12                                 | 12                                 |                                     |
| e                     | 12                | 12                                | -                                 | 15                                | 18                                 | 26                                 | 28                                 | 30                                 | 34                                 | 38                                 |                                     |
| F                     | 85                | 100                               | -                                 | 130                               | 152                                | 175                                | 200                                | 220                                | 245                                | 275                                |                                     |
| F1                    | 55                | 65                                | -                                 | 90                                | 105                                | 120                                | 140                                | 160                                | 180                                | 205                                |                                     |
| F2                    | 80                | 95                                | -                                 | 125                               | 146                                | 159                                | 181                                | 204                                | 222                                | 256                                |                                     |
| f2                    | 50                | 63                                | -                                 | 80                                | 96                                 | 110                                | 130                                | 150                                | 160                                | 180                                |                                     |
| f1                    | 45                | 55                                | -                                 | 75                                | 85                                 | 95                                 | 110                                | 130                                | 138                                | 155                                |                                     |
| f (max.)              | 35                | 42                                | -                                 | 60                                | 70                                 | 80                                 | 92                                 | 105                                | 120                                | 135                                |                                     |
| m                     | M8                | M8                                | -                                 | M10                               | M12                                | M14                                | M12                                | M12                                | M16                                | M16                                |                                     |
| Bolt length           | 55                | 60                                | -                                 | 75                                | 90                                 | 100                                | 110                                | 120                                | 130                                | 150                                |                                     |

\*Td1 (Dynamic allowable torque) : When torque fluctuates during revolution in one direction \*β : Maximum deflection angle per joint  
 \*TD2 (Dynamic allowable torque) : When start / stop and forward / reverserevolution are repeated frequently \*Ldp, Lclp, Lclt : Order Production

How to Order: UB  $\frac{125}{d}$   $\frac{DFP}{series}$  x  $\frac{1000}{length}$   $\frac{(+20)}{La}$

## Model Selection Guide

### Bearing Series

#### UL, UT, UK, UH, UE, UB-Type

Calculate the torque (Tn, Tsp) delivered to the universal joint in comparison with the torque (Tdw, Tcs) indicated in the table of this catalogue and then select an item accordingly.

$$T_n(N.m) = \frac{716.2 \times H_p}{RPM \times 9.8} = \frac{974 \times K_w}{RPM \times 9.8}$$

$$T_n < T_{dw}$$

Be sure that the value of Tn does not exceed that of Tdw. Otherwise, the universal joint may be damaged.

\*Hp : Power of the engine

\*Kw : Power of the motor

\*RPM : Maximum Rotative Velocity of the Universal joint (min<sup>-1</sup>)

\*Tn : Nominal torque of the machine

\*Tdw : Fatigue torque of Universal joint (Refer to the table)

$$T_{sp}(N.m) = T_n \times K(\text{Service factor})$$

$$T_{sp} < T_{cs}$$

\*Be sure that the value of Tsp does not exceed that of Tcs. Otherwise, the universal joint may be damaged.

\*Tsp : Maximum peak torque of the machine \* Tcs : Functional limit torque of universal joint (Refer to the table)

\*K : Service factor (The service factors shown in the following tables should be used as approximate values only.)

| Light shock load: K = 1.1–1.5  | Medium shock load: K = 1.5–2  | Heavy shock load: K = 2–3   |
|--|---|---|
| Driven machines<br>Centrifugal pumps<br>Generators (continuous load)<br>Conveyors (continuous load)<br>Small ventilators<br>Machine tools<br>Printing machines                   | Driven machines<br>Centrifugal pumps<br>Generators (non–continuous load)<br>Conveyors (non–continuous load)<br>Medium ventilators<br>Wood handling machines<br>Small paper and textile machines<br>Pumps (multi–cylinder)<br>Compressors (multi–cylinder)<br>Road and bar mills<br>Locomotive primary drives          | Driven machines<br>Large ventilators<br>Marine transmissions<br>Calender drives<br>Transport roller tables<br>Small pinch rolls<br>Small tube mills<br>Heavy paper and textile machines<br>Compressors (single–cylinder)<br>Pumps (single–cylinder) |
| Heavy shock load: K = 2–3  | Extra–heavy shock load: K = 3–5   | Extreme shock load: K = 5–10  |
| Driven machines<br>Mixers<br>Bucket wheel reclaimers<br>Bending machines<br>Presses<br>Rotary drilling rigs<br>Locomotive secondary drives<br>Continuous casters<br>Crane drives | Driven machines<br>Continuous working roller tables<br>Medium section mills<br>Continuous slabbing and blooming mills<br>Continuous heavy tube mills<br>Reversing working roller tables<br>Vibration conveyors<br>Scale breakers<br>Straightening machines<br>Cold rolling mills<br>Reeling drives<br>Blooming stands | Driven machines<br>Feed roller drives<br>Wrapper roll drives<br>Plate–shears<br>Reversing slabbing and blooming mills   |

## Model Selection Guide

### UC, UD Series

In the use of an universal joint, many factors such as rotating speed, angle, torque and lubrication must be considered. The following selection method shows that, firstly, it is to be checked the total multiplied value of rotating speed, angle and torque does not exceed the allowable conditional variable shown in each selection table.

Secondly, it is to be checked that each value of the above three factors does not exceed the allowable value each.

1. Conditional variable

Calculation formula

$$\text{Calculation conditional variable} = \text{Rotating speed(rpm)} \times \text{angle}(\text{°}) \times \text{torque(N.m)}$$

$$\text{Calculation conditional variable} < \text{Allowable conditional variable}$$

2. Rotating speed(rpm)

$$\text{Rotating speed} \times \text{Angle coefficient} < \text{Allowable rotating speed}$$

#### Angle coefficient table

| Angle             | Under 5° | 10°  | 15°  | 20°  | 25°  | 30°  |
|-------------------|----------|------|------|------|------|------|
| Angle coefficient | 1.00     | 1.05 | 1.18 | 1.43 | 1.82 | 2.50 |

3. Angle(°)

Angle < Allowable operating angle

4. Torque(N.m)

Torque < Allowable torque

### Selection example ( UC series )

When UC series is to be used under a rotating speed of 800rpm, and operating angle 15° , and a transmission torque of 10 N.m, the calculation conditional variable 120000 is obtained from the following formula.

$$\text{Rotating speed(rpm)} \times \text{angle}(\text{°}) \times \text{torque(N.m)} = \text{Conditional variable}$$

$$800 \times 15 \times 10 = 120000$$

Secondly, check the allowable rotating speed of UC–12 according to the following formula.

$$\text{Rotating speed} \times \text{Angle coefficient} < \text{Allowable rotating speed.}$$

Do the above calculations and compare the allowable conditions to each of the items for UC–12.

1. Conditional variable–120000 < Allowable conditional variable–120000

2. Rotating speed–800rpm × 1.18 < Allowable rotating speed–1800rpm

3. Angle–15° < Allowable operating angle–30°

4. Torque–10N.m < Allowable torque 46N.m

The UC–12 universal joint meeting the equipments of the above conditions, with good lubricating conditions.