

# ELECON

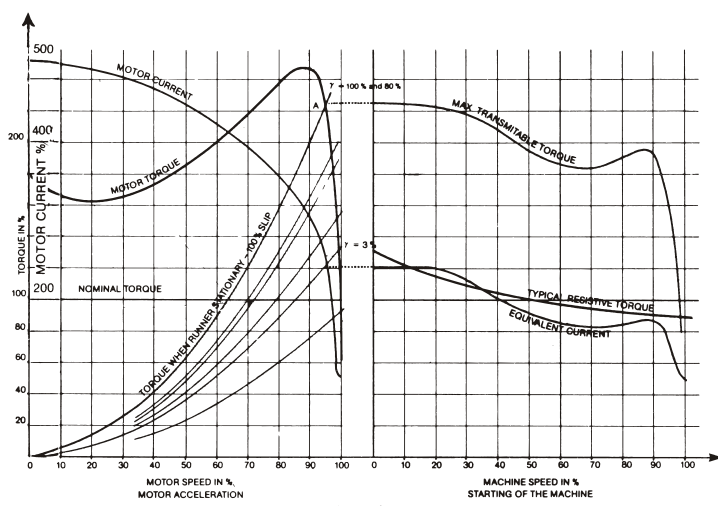
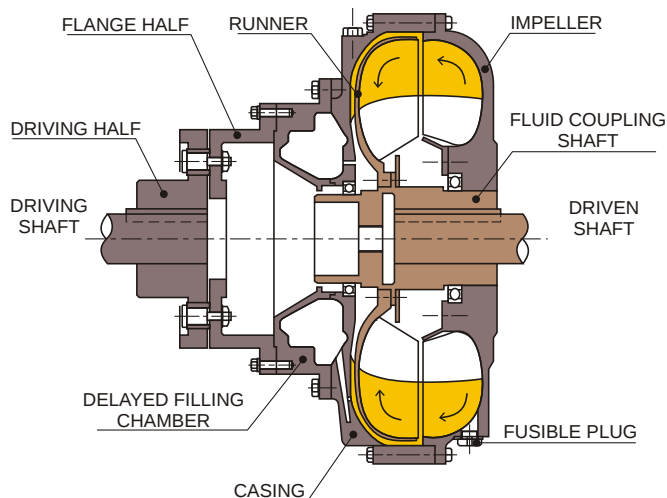
## TRACTION TYPE HYDROKINETIC FLUID COUPLING





Hydrokinetic fluid couplings

## SELECTION OF TRACTION TYPE FLUID COUPLINGS AS A FUNCTION OF POWER TRANSMITTED AND INPUT SPEED.



The graph shows how, with the use of fluid coupling demand during acceleration of the load is kept to an acceptable value: thus favouring the use of a squirrel cage motor. After switch-on, as the motor accelerates, the torque transmitted by the fluid coupling builds up according to curve OA in the lefthand graph while the output shaft is stationary. The motor thus has available a high surplus of torque and so accelerates to point a very rapidly.

The abrupt start usually associated with squirrel cage motor is cushioned by a fluid coupling. It assures a very smooth start and protects the machine in the event of jamming or overload: because the fluid coupling acts as a torque limiter the inertia of the motor rotor is not transmitted in a damaging way.

| SELECTION TABLE         |     |      |      |      |      |      |     |
|-------------------------|-----|------|------|------|------|------|-----|
| POWER TRANSMITTED IN KW |     |      |      |      |      |      |     |
| Motor speed (rpm)       | 750 | 960  | 1170 | 1450 | 1760 | 2950 |     |
| Fluid Coupling size     | 185 | 0.20 | 0.45 | 0.75 | 1.5  | 3    | 5   |
|                         | 235 | 0.60 | 1.30 | 2.30 | 4.5  | 9    | 15  |
|                         | 270 | 1.10 | 2.50 | 4.50 | 9    | 17   | 28  |
|                         | 320 | 2.5  | 5.5  | 10   | 20   | 38   | 65  |
|                         | 370 | 5    | 12   | 22   | 42   | 85   | 130 |
|                         | 420 | 10   | 22   | 40   | 80   | 150  | 250 |
|                         | 480 | 20   | 40   | 75   | 155  | 250  | 500 |
|                         | 584 | 40   | 100  | 175  | 340  | 500  | --  |
|                         | 660 | 80   | 180  | 310  | 600  | 700  | --  |
|                         | 760 | 180  | 350  | 580  | 950  | --   | --  |

When the fluid coupling is filled with oil to the appropriate level and the motor is switched on, oil in the passages between the vanes of the impeller is accelerated radially outwards gaining energy all the time until it reaches the maximum circuit diameter. The oil then passes from the impeller to the runner in which it is forced to move inwards between the vanes and as its radial velocity falls energy is transferred to the runner and output shaft. Because the oil passes directly from the impeller to the runner, (there is no reaction member, as in a torque converter), the efficiency is high, with full load slips of between 2 and 5 % being achieved in practice and depending on the application and size selection.

Windage and oil circulation losses are negligible therefore efficiency equals 100% slip %. Should an overload occur the fluid coupling will stall, i.e. slip 100 % at a torque value determined by the initial oil filling level. Thus motor and machine are both protected.

ELECON hydrokinetic constant filling fluid couplings have the following advantages :

### PERFORMANCE

The level of performance achieved by Fluid Coupling is governed mainly by the design of its working circuit which includes the shape of the circuit, number of vanes in the circuit, the vanes placement etc.

The working circuit developed by Elecon is out of number of years of experience in the field and is vital in the performance of the fluid coupling. Elecon Fluid couplings are very rugged in construction, simple in design and reliable in operation.

### REDUCED STARTING CURRENT

When Elecon fluid coupling is connected to the drive system it allows the motor to start practically at no load. This results in reduced starting current enabling quick start and acceleration of the drive motor.

### SOFT START

It gives gradual start to driven equipment and thus provides smooth and shockless transmission.

### LOW MAINTENANCE COST

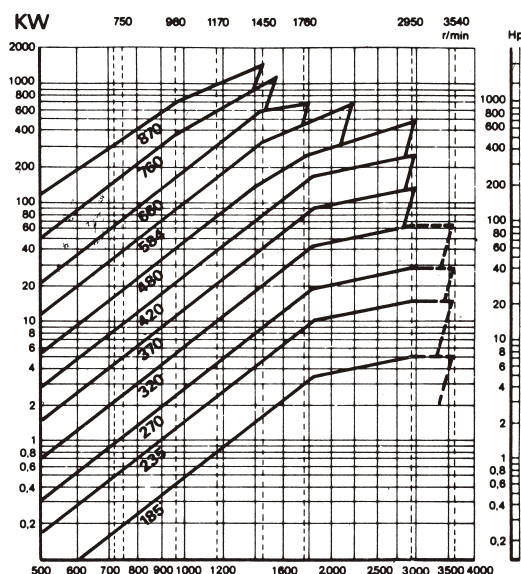
Driving and driven equipments suffer less wear and tear and thus there is reduction in electrical and mechanical maintenance cost.

### PROTECTION TO MOTOR AND MACHINE

In case of overload, accidental jamming, the transmission torque is limited by the fluid coupling and thereby providing protection to the electric motor and the connected machine.

In case of extended jamming period, fusible plug blow off will empty the fluid coupling thereby disconnecting the output from the input, and protecting both driving and driven equipment.

To prevent the loss of oil and to have an additional safety device, thermal trig switch can be provided when demanded in addition to the fusible plug.



The table shows maximum power ratings for each size of fluid coupling at different motor speeds. The chart may be used for preliminary size selection when drive power and motor speeds are known. When electric motors are being used the selection chart allows twice motor full load torque for starting.



## TRACTION TYPE FLUID COUPLINGS

### Description

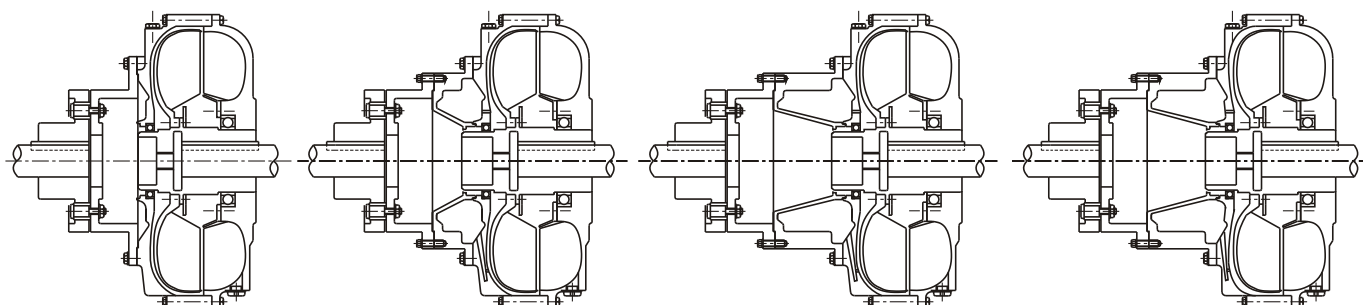
There are following types of ELECON traction couplings :

- CD : Coupling without delayed filling chamber
- CDR : Coupling with delayed filling chamber
- CDRP : Coupling with extended delayed filling chamber
- CDRS : Coupling with extended delayed filling chamber and controlled nozzles.

- Type CD consists of an impeller, driven by the motor and a runner, driving the output shaft, which together with a casing forms an oil tight unit. The working circuit includes a central "by pass" chamber which in conjunction with a baffle helps to limit the torque under conditions of high slip without sacrificing efficiency under normal running conditions.
- Type CDR includes in addition a delayed filling chamber attached to the casing and communicating with the working circuit by means of holes. This permits machines to start at reduced torque e.g. 1.4 times full load torque.
- Type CDRP has an extra large delayed filling chamber. This allows low starting torques (1.2 times full load torque) and low full load slip.
- Type CDRS has an extra large delayed filling chamber with controlled nozzles. This allows very low starting torques (0.6 times full load torque)

### Fluid coupling types and mountings.

1. Model CDR-XR (hollow shaft):  
An in-line arrangement with the hollow shaft of the fluid coupling generally fitted over the driven machine shaft. The connection to the motor is by means of a fully flexible coupling.
2. Model CDIR-XR (hollow shaft):  
Reversed coupling with delayed filling chamber. It is possible in certain cases to mount the fluid coupling on the motor shaft with the flexible coupling on the output side, this is referred to as "reverse mounting" (model XR reversed).
3. Model PH (with "V-belt" pulleys):  
This is a combination of fluid coupling and "V-belt" pulley.  
PHR : fluid coupling mounted on motor shaft  
PHM : fluid coupling mounted on machine shaft
4. Model CD/CDR - R:  
Fluid coupling with solid shaft Also, an in-line arrangement which is mounted on the motor shaft and has a solid output shaft which facilitate the radial removal of fluid coupling without disturbing motor as well as machine. **There is a choice of flexible couplings & brake drum.**

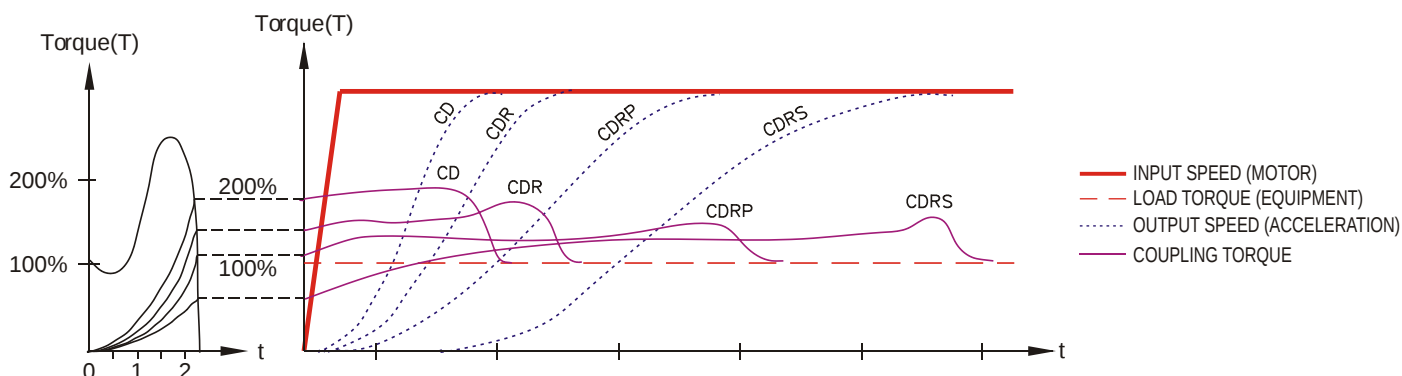


**CD**  
"BASIC COUPLING"  
The CD design without delay fill chamber is used for high inertia machines requiring a starting torque limited to 200% of nominal torque.

**CDR**  
"SOFT START COUPLING"  
The CDR design with standard delay fill chamber is used where the starting torque limitation down to 140% of nominal torque is required.

**CDRP**  
"PROLONGED SOFT START COUPLING"  
The CDRP design has a delay fill chamber of twice the volume of that of the CDR, and is used for belt conveyors where torque limitation down to 120% of nominal torque is required.

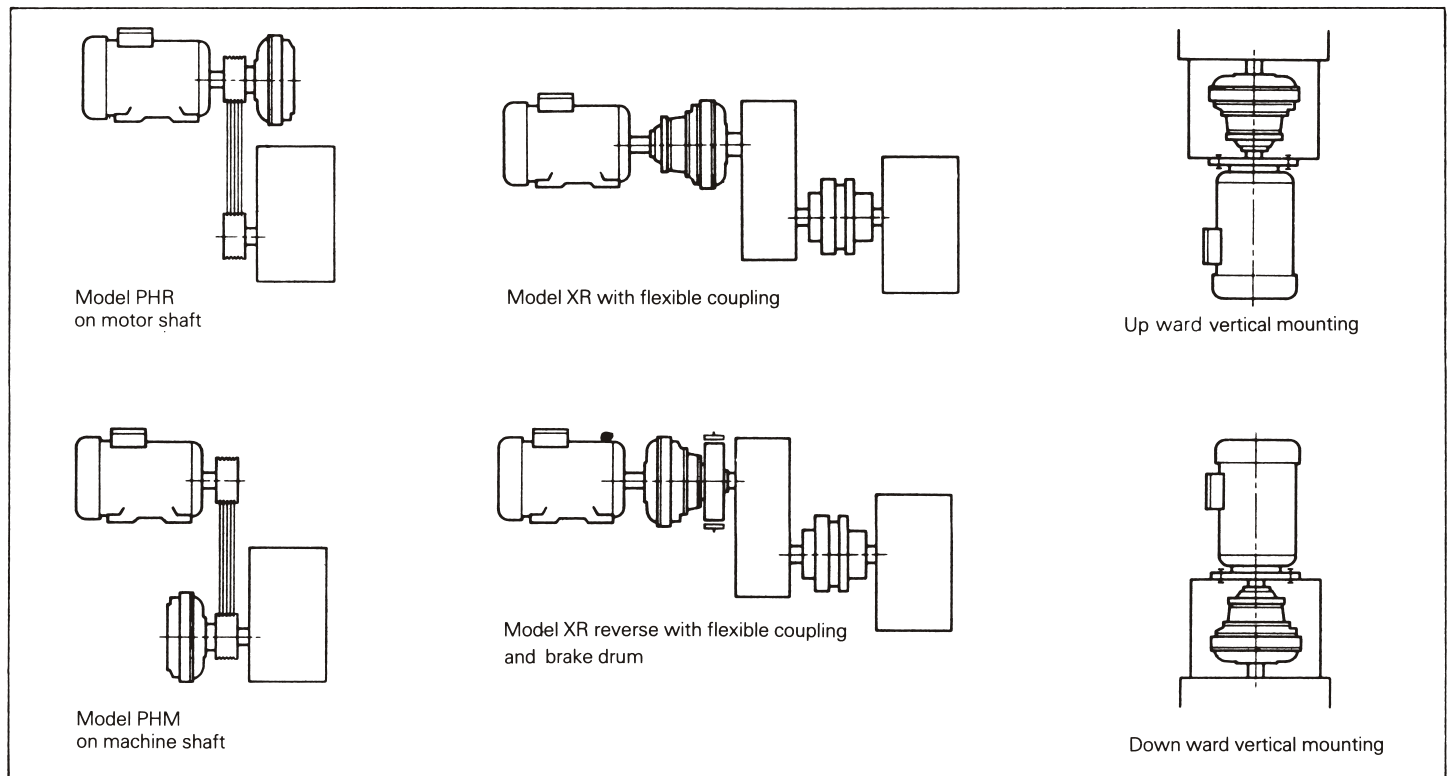
**CDRS**  
"SUPER SOFT START COUPLING"  
The CDRS design is used particularly on belt conveyors where the motor starting torque is limited to 60% of the nominal torque. It allows progressive tensioning of the belt before accelerating the load with a torque limitation down to 120% of nominal torque.



COMPARISON OF START - UP CHARACTERISTICS



## Examples of mounting



## ELECON

### SOFT TOUCH GIVES YOU THE SOLUTION TO SIX MACHINE KILLING PROBLEMS

#### 1. Soft starts

Start an empty conveyor with too much motor torque. You'll break belts. Damage idlers and wear the equipment out before its time. The soft start of the ELECON Fluid Coupling controls torque, allowing it to build up gradually without shock loads.

#### 2. The right starting torque

A fully loaded crusher or mixer takes more torque to start than a standard squirrel cage motor can safely provide. An ELECON Fluid Coupling boosts the usable torque of the motor by as much as 200% and at the same time reduces current draw.

#### 3. Protection of the motor

A motor slowly starting a big fan draws excessive current and is a source of electrical overload and failure. The ELECON Fluid Coupling allows the motor to quickly accelerate to full speed, reducing current draw to normal levels in seconds.

#### 4. Shock absorption

A jam in the system can create torque loads ten times the nominal. Equipment will break. The ELECON Fluid Coupling will absorb this machine killing shock.

#### 5. Perfectly balanced motor loading

Two or more motors driving the same load are nearly impossible to balance. But, with ELECON Fluid Coupling, you can balance the load easily by adjusting the amount of fluid in the coupling.

#### 6. Elimination of unwanted vibrations

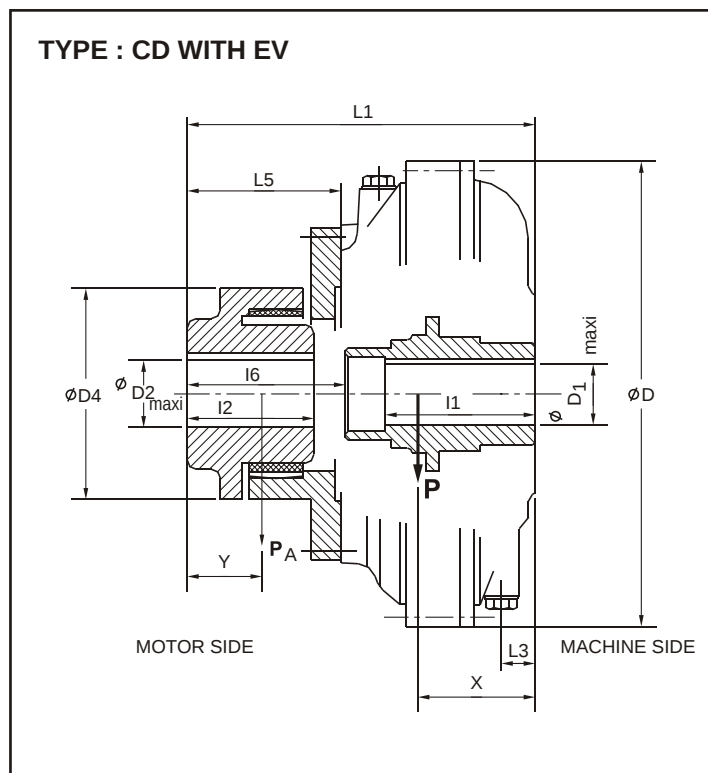
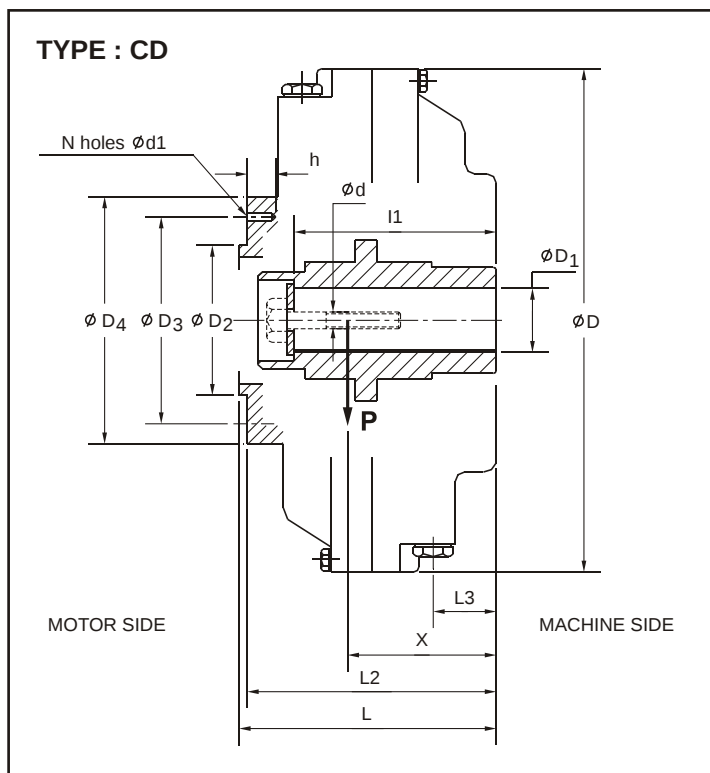
When the motor and driven machinery vibrate together, the resonance can cause severe damage. The ELECON Fluid Coupling dampens out the unwanted vibrations.



ELECON Fluid coupling

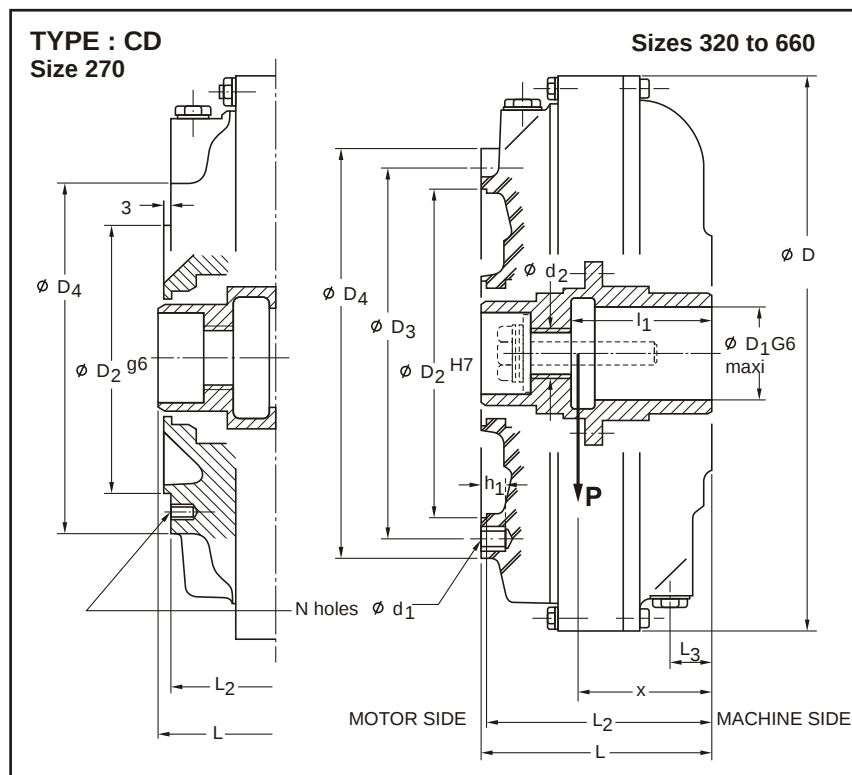


ELECON Fluid Coupling installed with Crusher drive at Gandhinagar T.P.S.



| FLUID COUPLING |                     | SIZE   | 185   | 235   |
|----------------|---------------------|--------|-------|-------|
| FLUID COUPLING | J                   | INPUT  | 0.003 | 0.009 |
|                | (kgm <sup>2</sup> ) | OUTPUT | 0.025 | 0.060 |
|                | WEIGHT P (DRY)      | kg     | 7     | 12    |
|                | x                   | mm     | 75    | 102   |
|                |                     | D      | 225   | 275   |
|                |                     | D1     | 38    | 42    |
|                |                     | D2     | 71    | 82    |
|                |                     | D3     | 97    | 113   |
|                |                     | D4     | 110   | 135   |
|                |                     | L      | 116   | 140   |
|                |                     | L2     | 114   | 136   |
|                |                     | l1     | 85    | 112   |
|                |                     | N      | 8     | 6     |
|                |                     | d1     | M5    | M6    |
|                |                     | L3     | 26    | 34    |
|                |                     | h      | 14    | 18    |

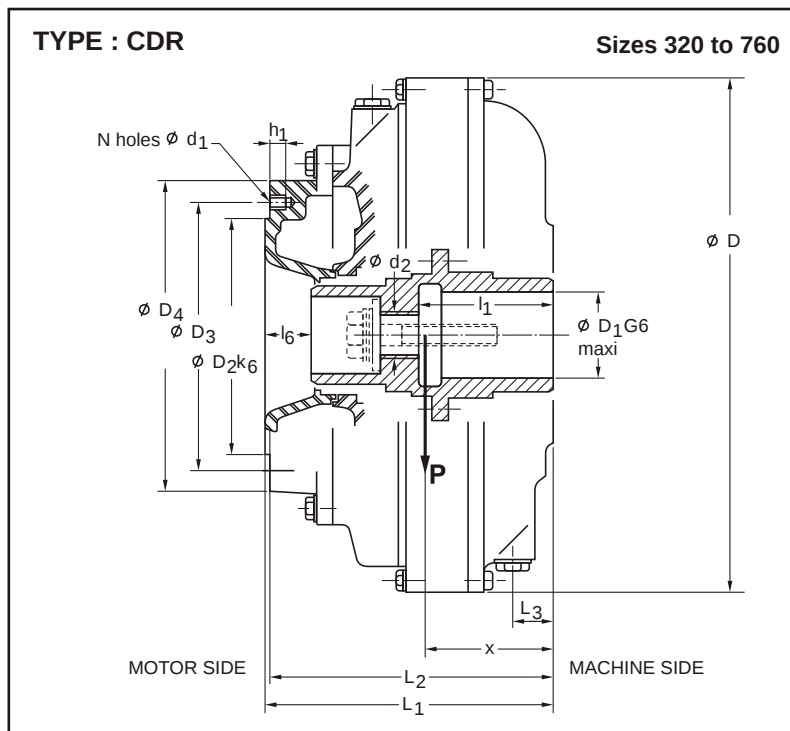
| FLUID COUPLING                     |                                  |                | SIZE | 185   | 235   |
|------------------------------------|----------------------------------|----------------|------|-------|-------|
| FLEXIBLE COUPLING                  |                                  |                | TYPE | EV-75 | EV-85 |
| FLUID COUPLING + FLEXIBLE COUPLING | J                                | FLUID COUP.    |      | 0.030 | 0.065 |
|                                    | (kgm <sup>2</sup> )              | FLEXIBLE COUP. |      | 0.003 | 0.009 |
|                                    | TOTAL                            | P              | kg   | 7     | 12    |
|                                    | WEIGHT (DRY)= P + P <sub>A</sub> | X              | mm   | 75    | 102   |
|                                    |                                  | P <sub>A</sub> | kg   | 2.5   | 3.0   |
|                                    |                                  | y              | mm   | 23    | 25    |
|                                    |                                  | D              |      | 225   | 275   |
|                                    |                                  | D1             |      | 38    | 42    |
|                                    |                                  | D2             |      | 30    | 38    |
|                                    |                                  | D4             |      | 70    | 85    |
|                                    |                                  | L1             |      | 165   | 192   |
|                                    |                                  | L5             |      | 51    | 56    |
|                                    |                                  | l1             |      | 85    | 112   |
|                                    |                                  | l2             |      | 45    | 45    |
|                                    |                                  | L3             |      | 26    | 34    |
|                                    |                                  | l6             |      | 55    | 58    |



| FLUID COUPLING |                     | SIZE   | 270   | 320   | 370   | 420       | 480       | 584       | 660       |
|----------------|---------------------|--------|-------|-------|-------|-----------|-----------|-----------|-----------|
| TYPE<br>CD     | J                   | INPUT  | 0.12  | 0.24  | 0.47  | 0.72      | 1.33      | 2.90      | 5.30      |
|                | (kgm <sup>2</sup> ) | OUTPUT | 0.02  | 0.04  | 0.08  | 0.16      | 0.36      | 0.83      | 1.45      |
|                | WEIGHT P (DRY)      | kg     | 15    | 24    | 33    | 47        | 68        | 120       | 170       |
|                | x                   | mm     | 75    | 90    | 95    | 103       | 115       | 136       | 155       |
|                |                     | D2     | 150   | 215   | 245   | 280       | 320       | 385       | 445       |
|                |                     | D3     | 172   | 250   | 280   | 320       | 366       | 432       | 500       |
|                |                     | D4     | 194   | 274   | 306   | 348       | 392       | 468       | 540       |
|                |                     | L      | 143   | 158   | 180   | 200       | 224       | 262       | 304       |
|                |                     | L2     | 136   | 153   | 174   | 194       | 218       | 256       | 298       |
|                |                     | N      | 6     | 12    | 12    | 12        | 12        | 12        | 12        |
|                |                     | d1     | M 8   | M10   | M12   | M12       | M12       | M14       | M14       |
|                |                     | h1     | 12    | 18    | 18    | 18        | 18        | 21        | 21        |
|                |                     | D      | 315   | 365   | 425   | 475       | 550       | 670       | 760       |
|                |                     | D1     | 55    | 60    | 65    | 80        | 90        | 110       | 120       |
|                |                     | L3     | 25    | 25    | 29    | 37        | 37        | 49        | 55        |
|                |                     | l1     | 100   | 110   | 110   | 120       | 155       | 170       | 200       |
|                | TAPPED HOLE         | d2     | 1"BSP | 1"BSP | 1"BSP | 1-1/4"BSP | 1-1/4"BSP | 1-1/4"BSP | 1-1/4"BSP |

| FLUID COUPLING                                                                    |                  |                    | SIZE | 270                               | 320   | 370   | 420                                | 480                                | 584                                | 660                                |
|-----------------------------------------------------------------------------------|------------------|--------------------|------|-----------------------------------|-------|-------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| FLEXIBLE COUPLING                                                                 |                  |                    | TYPE | CDF5 <sup>1</sup> / <sub>2</sub>  | CDF6  | CDF7  | CDF9                               | CDF10                              | CDF13                              | CDF14                              |
| FLUID<br>COUPLING<br>+<br>FLEXIBLE<br>COUPLING                                    | J<br>(kgm2)      | FLUID COUP.        |      | 0.14                              | 0.28  | 0.55  | 0.88                               | 1.69                               | 3.73                               | 6.75                               |
|                                                                                   |                  | FLEXIBLE COUP.     |      | 0.02                              | 0.04  | 0.08  | 0.16                               | 0.36                               | 0.83                               | 1.45                               |
|                                                                                   | TOTAL<br>Wt(DRY) | FLUID COUP. kg.    | 15   | 24                                | 33    | 47    | 68                                 | 120                                | 170                                |                                    |
|                                                                                   |                  | FLEXIBLE COUP. kg. | 9.5  | 17                                | 24    | 37    | 47                                 | 88                                 | 135                                |                                    |
| D<br>D1<br>D2<br>D4<br>L1<br>L5<br>I1<br>I2<br>I6<br>TAPPED HOLE<br>D2<br>D3<br>d |                  |                    |      | 315                               | 365   | 425   | 475                                | 550                                | 670                                | 760                                |
|                                                                                   |                  |                    |      | 55                                | 60    | 65    | 80                                 | 90                                 | 110                                | 120                                |
|                                                                                   |                  |                    |      | 40                                | 48    | 60    | 80                                 | 90                                 | 110                                | 120                                |
|                                                                                   |                  |                    |      | 152.4                             | 165.1 | 190.5 | 241.3                              | 266.7                              | 342.9                              | 368.3                              |
|                                                                                   |                  |                    |      | 245                               | 285   | 337   | 371                                | 412                                | 481                                | 576.6                              |
|                                                                                   |                  |                    |      | 109                               | 127   | 157   | 171                                | 188                                | 219                                | 272                                |
|                                                                                   |                  |                    |      | 100                               | 110   | 110   | 120                                | 155                                | 170                                | 200                                |
|                                                                                   |                  |                    |      | 44.5                              | 48    | 60    | 82.5                               | 95                                 | 108                                | 120                                |
|                                                                                   |                  |                    |      | 100                               | 105   | 137   | 151                                | 167                                | 192                                | 241                                |
|                                                                                   |                  |                    |      | 1"BSP                             | 1"BSP | 1"BSP | 1 <sup>1</sup> / <sub>4</sub> "BSP | 1 <sup>1</sup> / <sub>4</sub> "BSP | 1 <sup>1</sup> / <sub>4</sub> "BSP | 1 <sup>1</sup> / <sub>4</sub> "BSP |
|                                                                                   |                  |                    |      | 63.5                              | 73    | 92    | 124                                | 143                                | 165                                | 190                                |
|                                                                                   |                  |                    |      | AS PER THREADED HOLE IN THE SHAFT |       |       |                                    |                                    |                                    |                                    |

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| FLUID COUPLING            | SIZE           | 320   | 370   | 420       | 480       | 584       | 660       | 760       |
|---------------------------|----------------|-------|-------|-----------|-----------|-----------|-----------|-----------|
| J<br>(kg.m <sup>2</sup> ) | INPUT          | 0.25  | 0.48  | 0.74      | 1.35      | 2.95      | 5.40      | 9.5       |
|                           | OUTPUT         | 0.04  | 0.08  | 0.16      | 0.36      | 0.83      | 1.45      | 2.6       |
| WEIGHT P (DRY)<br>x       | Kg             | 26    | 36    | 51        | 74        | 128       | 180       | 250       |
|                           | mm             | 110   | 116   | 135       | 155       | 172       | 200       | 222       |
|                           | D2             | 170   | 195   | 220       | 265       | 315       | 360       | 420       |
|                           | D3             | 195   | 228   | 265       | 310       | 360       | 420       | 480       |
|                           | D4             | 220   | 252   | 290       | 330       | 392       | 468       | 530       |
|                           | L1             | 206   | 228   | 260       | 300       | 336       | 389       | 449       |
|                           | L2             | 203   | 225   | 257       | 297       | 333       | 385       | 445       |
|                           | l6             | 26    | 28    | 40        | 55        | 47        | 54        | 54        |
|                           | N              | 6     | 8     | 8         | 12        | 16        | 16        | 20        |
|                           | d1             | M12   | M12   | M12       | M12       | M12       | M14       | M16       |
|                           | h1             | 18    | 18    | 18        | 18        | 18        | 21        | 36        |
|                           | D              | 365   | 425   | 475       | 550       | 670       | 760       | 870       |
|                           | D1             | 60    | 65    | 80        | 90        | 110       | 120       | 135       |
|                           | L3             | 25    | 29    | 37        | 37        | 49        | 55        | 49        |
|                           | l1             | 110   | 110   | 120       | 155       | 170       | 200       | 240       |
|                           | TAPPED HOLE d2 | 1"BSP | 1"BSP | 1-1/4"BSP | 1-1/4"BSP | 1-1/4"BSP | 1-1/4"BSP | 1-1/4"BSP |



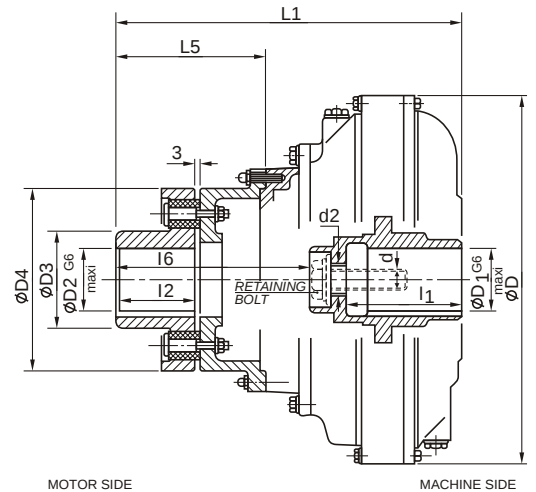
Hydrokinetic fluid couplings

## TRACTION TYPE MOUNTING : XR (hollow shaft)

Sizes : 320-760

Type : CDR with flexible coupling FCF

| FLUID COUPLING |                          | SIZE           | 320                               | 370    | 420        | 480        | 584        | 660        | 760        |
|----------------|--------------------------|----------------|-----------------------------------|--------|------------|------------|------------|------------|------------|
| FLEXIBLE COUP. |                          | TYPE           | FCF6                              | FCF7   | FCF9       | FCF10      | FCF13      | FCF14      | FCF16      |
|                | J<br>(kgm <sup>2</sup> ) | FLUID COUP.    | 0.28                              | 0.55   | 0.88       | 1.70       | 3.75       | 6.50       | 12.10      |
|                |                          | FLEX. COUP.    | 0.09                              | 0.17   | 0.35       | 0.51       | 1.93       | 4.80       | 7.00       |
|                | TOTAL<br>Wt. (DRY)       | FLUID COUP.kg  | 28                                | 38     | 53         | 78         | 135        | 192        | 262        |
|                |                          | FLEX. COUP.kg  | 14                                | 21     | 32         | 40         | 78         | 120        | 150        |
|                |                          | D              | 365                               | 425    | 475        | 550        | 670        | 760        | 870        |
|                |                          | D1             | 60                                | 65     | 80         | 90         | 110        | 120        | 135        |
|                |                          | D2             | 48                                | 60     | 80         | 90         | 110        | 120        | 135        |
|                |                          | D4             | 165.1                             | 190.5  | 241.3      | 266.7      | 342.9      | 368.3      | 419.1      |
|                |                          | L1             | 330                               | 382    | 428        | 485        | 552        | 656        | 718        |
|                |                          | L5             | 127                               | 157    | 171        | 188        | 219        | 272        | 273        |
|                |                          | I1             | 110                               | 110    | 120        | 155        | 170        | 200        | 240        |
|                |                          | I2             | 48                                | 60     | 82.5       | 95         | 108        | 120        | 146        |
|                |                          | I6             | 150                               | 182    | 208        | 240        | 263        | 321        | 344        |
|                |                          | TAPPED HOLE d2 | 1" BSP                            | 1" BSP | 1-1/4" BSP | 1-1/4" BSP | 1-1/4" BSP | 1-1/4" BSP | 1-1/4" BSP |
|                |                          | D3             | 73                                | 92     | 124        | 143        | 165        | 190        | 235        |
|                |                          | d              | AS PER THREADED HOLE IN THE SHAFT |        |            |            |            |            |            |

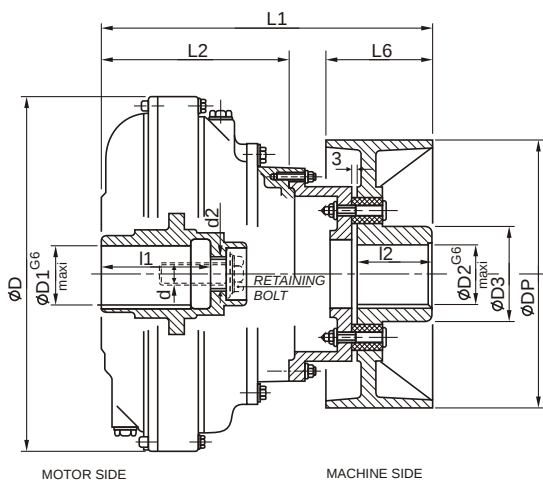


Hydrokinetic fluid couplings

## TRACTION TYPE MOUNTING : XR (hollow shaft - reverse mounting)

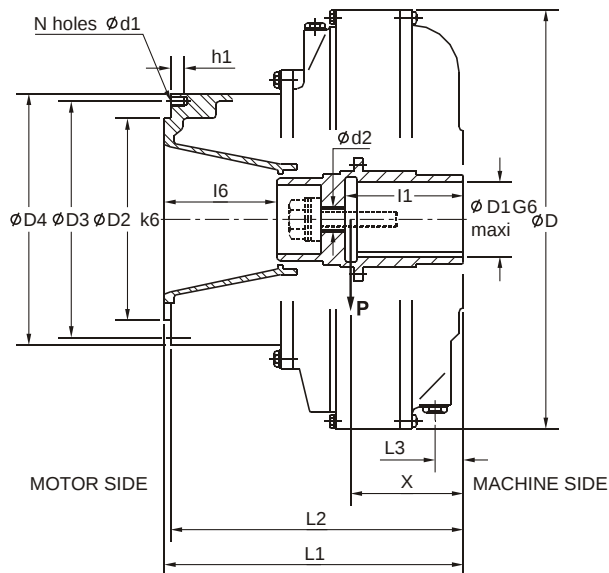
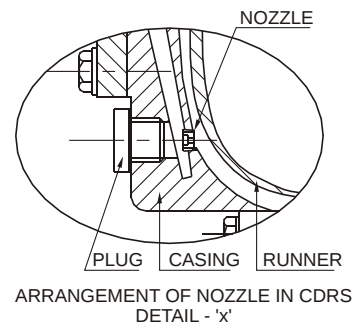
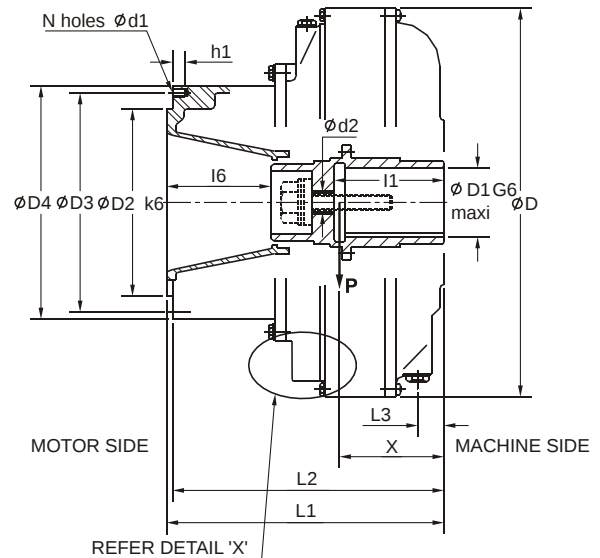
Sizes : 320-760

Type : CDIR with flexible brake drum coupling FCFB



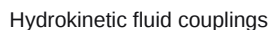
| FLUID COUPLING         |                          | SIZE           | 320                               | 370            | 420            | 480        | 584              | 660               | 760        |
|------------------------|--------------------------|----------------|-----------------------------------|----------------|----------------|------------|------------------|-------------------|------------|
| BREAK DRUM             |                          | DIA            | 250 315                           | 250 315 400    | 315 400 500    | 400 500    | 400 500 630      | 500 630           | 630 710    |
| FLEXIBLE COUP.         |                          | TYPE           | FCFB 6                            | FCFB 7         | FCFB 9         | FCFB 10    | FCFB 13          | FCFB 14           | FCFB 16    |
| FLUID COUPLING         | J<br>(kgm <sup>2</sup> ) | FLUID COUP.    | 0.28                              | 0.55           | 0.88           | 1.70       | 3.75             | 6.50              | 12.10      |
|                        |                          | FLEX. COUP.    | 0.39 0.84                         | 0.47 0.94 1.80 | 1.10 2.50 5.90 | 3.50 6.20  | 4.56 10.00 23.00 | 11.80 25.40 29.20 | 44.00      |
| +<br>FLEXIBLE COUPLING | TOTAL<br>Wt. (DRY)       | FLUID COUP.kg  | 28                                | 38             | 53             | 78         | 135              | 192               | 262        |
|                        |                          | FLEX. COUP.kg  | 25 34                             | 30 38 50       | 47 65 95       | 80 110     | 114 165 225      | 190 270 295       | 350        |
|                        |                          | D              | 365                               | 425            | 475            | 550        | 670              | 760               | 870        |
|                        |                          | D1             | 60                                | 65             | 80             | 90         | 110              | 120               | 135        |
|                        |                          | L1             | 380                               | 392 392 448    | 437 437 520    | 544        | 562 603 625      | 656 716           | 804        |
|                        |                          | L2             | 203                               | 225            | 257            | 297        | 333              | 384               | 445        |
|                        |                          | I1             | 110                               | 110            | 120            | 155        | 170              | 200               | 240        |
|                        |                          | DP             | 250 315                           | 250 315 400    | 315 400 500    | 400 500    | 400 500 630      | 500 630 630       | 710        |
|                        |                          | D2             | 48 48                             | 60 60 60       | 80 80 80       | 90 90      | 100 100 100      | 115 115 140       | 140        |
|                        |                          | L6             | 95 118                            | 95 118 150     | 118 150 190    | 150 190    | 150 190 236      | 190 236 236       | 265        |
|                        |                          | I2             | 75 75                             | 70 70 95       | 117 117 117    | 120 120    | 118 159 159      | 120 180 146       | 146        |
|                        |                          | TAPPED HOLE d2 | 1" BSP                            | 1" BSP         | 1-1/4" BSP     | 1-1/4" BSP | 1-1/4" BSP       | 1-1/4" BSP        | 1-1/4" BSP |
|                        |                          | D3             | 73                                | 92             | 124            | 143        | 165              | 190               | 235        |
|                        |                          | d              | AS PER THREADED HOLE IN THE SHAFT |                |                |            |                  |                   |            |

Owing to continuous development and improvement all dimensions and characteristics are subject to change without notice.

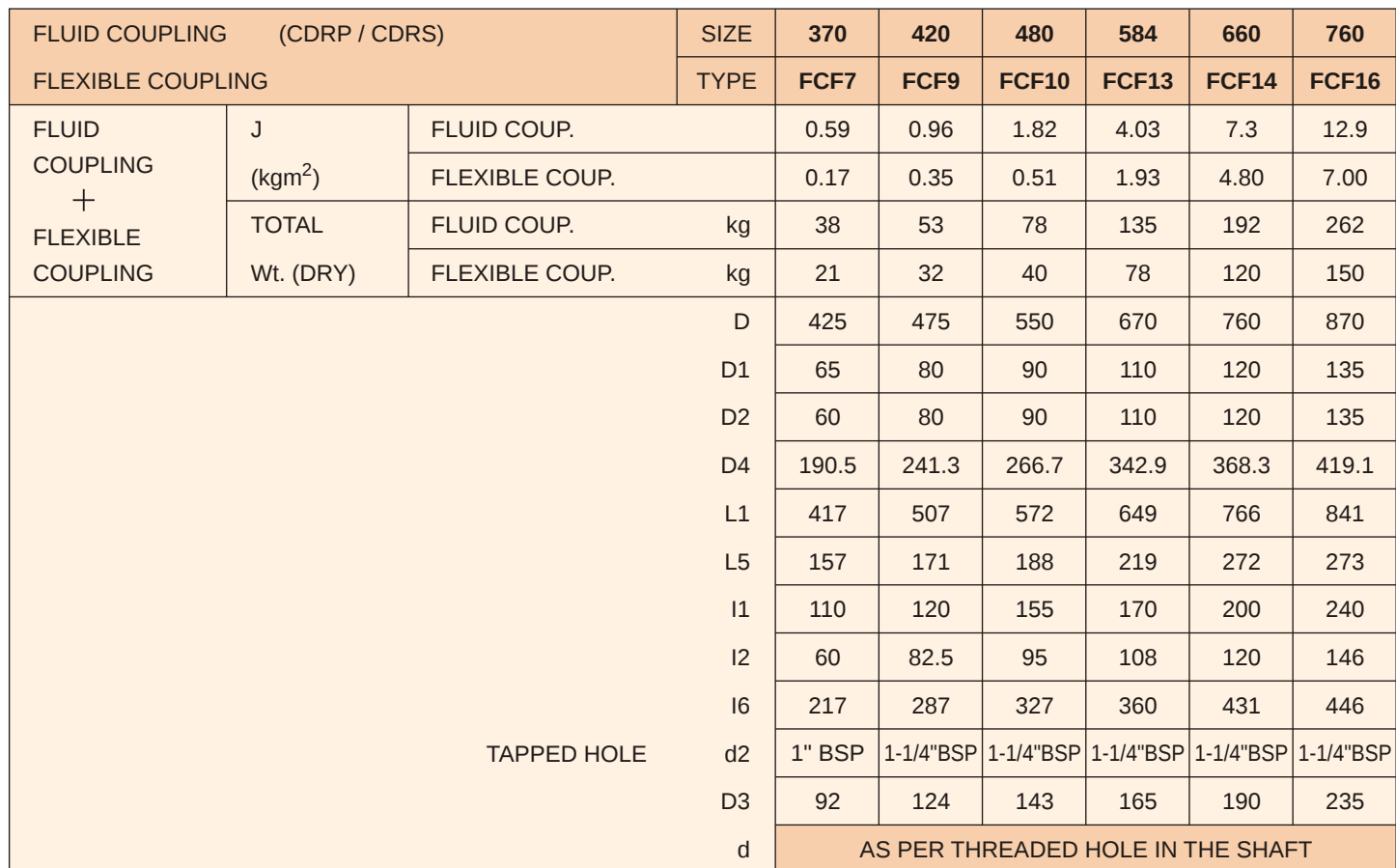

**TYPE : CDRP - 370 TO 760**

**TYPE : CDRS - 420 TO 760**


| COUPLING                 | SIZE           | 370   | 420       | 480       | 584       | 660       | 760       |
|--------------------------|----------------|-------|-----------|-----------|-----------|-----------|-----------|
| J<br>(kgm <sup>2</sup> ) | INPUT          | 0.51  | 0.8       | 1.46      | 3.2       | 5.85      | 10.3      |
|                          | OUTPUT         | 0.08  | 0.16      | 0.36      | 0.83      | 1.45      | 2.6       |
| WEIGHT P (DRY)<br>x      | kg             | 38    | 54        | 78        | 135       | 190       | 265       |
|                          | mm             | 120   | 142       | 165       | 180       | 210       | 235       |
|                          | D              | 425   | 475       | 550       | 670       | 760       | 870       |
|                          | D1             | 65    | 80        | 90        | 110       | 120       | 135       |
|                          | D2             | 195   | 220       | 265       | 315       | 360       | 420       |
|                          | D3             | 228   | 265       | 310       | 360       | 420       | 480       |
|                          | D4             | 252   | 290       | 330       | 392       | 468       | 530       |
|                          | L1             | 263   | 339       | 387       | 433       | 499       | 572       |
|                          | L2             | 260   | 336       | 384       | 430       | 495       | 568       |
|                          | L3             | 29    | 37        | 37        | 49        | 55        | 49        |
|                          | l1             | 110   | 120       | 155       | 170       | 200       | 240       |
|                          | l6             | 63    | 119       | 142       | 144       | 164       | 177       |
|                          | N              | 8     | 8         | 12        | 16        | 16        | 20        |
|                          | d1             | M12   | M12       | M12       | M12       | M14       | M16       |
|                          | h1             | 18    | 18        | 18        | 18        | 21        | 36        |
|                          | TAPPED HOLE d2 | 1"BSP | 1-1/4"BSP | 1-1/4"BSP | 1-1/4"BSP | 1-1/4"BSP | 1-1/4"BSP |

Owing to continuous development and improvement all dimensions and characteristics are subject to change without notice.



Types : CDRP - 370 TO 760 with flexible coupling FCF and  
CDRS - 420 TO 760 with flexible coupling FCF



Owing to continuous development and improvement all dimensions and characteristics are subject to change without notice.

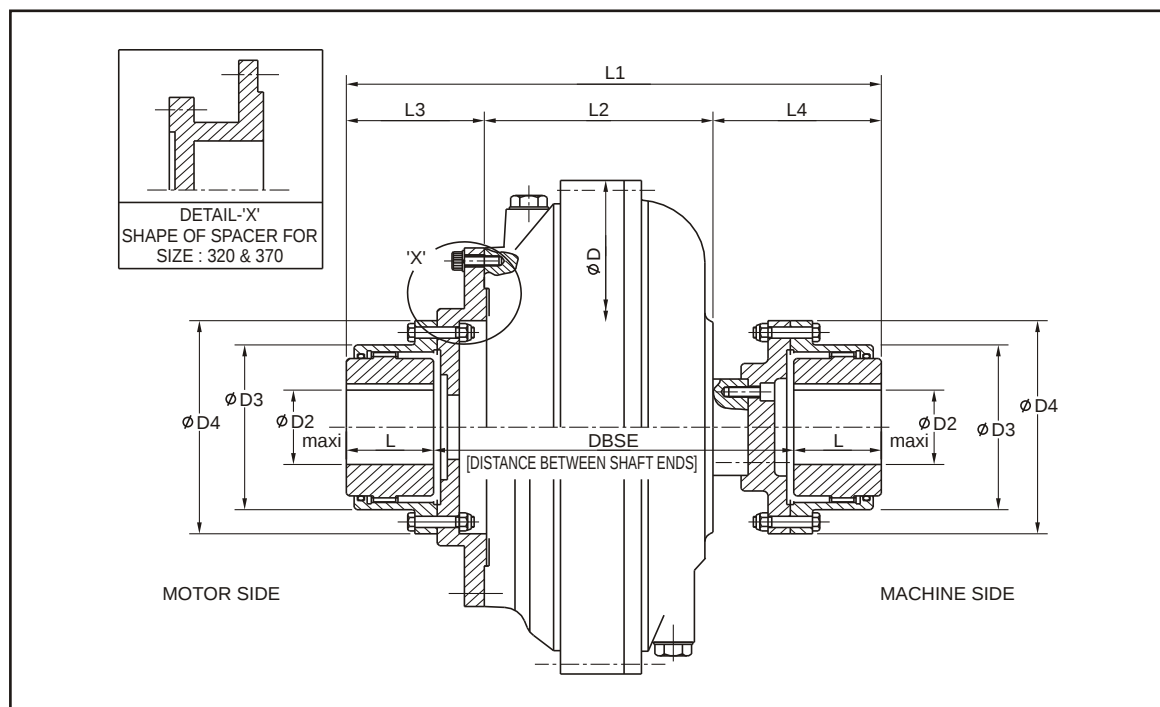


Hydrokinetic fluid couplings

**TRACTION TYPE MOUNTING : R** (solid shaft - radially removable)

Sizes : 320-660

Type : CD-R with elign gear coupling ED



| TYPE<br>&<br>SIZE                                  | FLUID COUPLING                                                                               |                  |        | CD-R | 320  | 370  | 420  | 480  | 584  | 660  |
|----------------------------------------------------|----------------------------------------------------------------------------------------------|------------------|--------|------|------|------|------|------|------|------|
|                                                    | ELIGN GEAR COUPLING                                                                          |                  |        | ED   | 500  | 1000 | 1000 | 1600 | 2200 | 3200 |
| FLUID<br>COUPLING<br><br>+<br><br>GEAR<br>COUPLING | J<br><br>(kgm <sup>2</sup> )                                                                 | FLUID COUPLING   |        | 0.3  | 0.6  | 0.96 | 1.85 | 4.1  | 7.43 |      |
|                                                    |                                                                                              | GEAR<br>COUPLING | INPUT  | 0.08 | 0.14 | 0.27 | 0.48 | 1.22 | 2.25 |      |
|                                                    |                                                                                              |                  | OUTPUT | 0.02 | 0.09 | 0.09 | 0.16 | 0.36 | 0.66 |      |
|                                                    | TOTAL<br><br>Wt (DRY)<br><br>(kg)                                                            | FLUID COUPLING   |        | 27   | 36   | 52   | 75   | 132  | 187  |      |
|                                                    |                                                                                              | GEAR<br>COUPLING | INPUT  | 14   | 25.2 | 27   | 37   | 65   | 90   |      |
|                                                    |                                                                                              |                  | OUTPUT | 11   | 21   | 21   | 28   | 44   | 67   |      |
|                                                    | D<br><br>D2<br><br>D3<br><br>D4<br><br>L<br><br>DBSE<br><br>L1<br><br>L2<br><br>L3<br><br>L4 |                  |        |      | 365  | 425  | 475  | 550  | 670  | 760  |
|                                                    |                                                                                              |                  |        |      | 75   | 95   | 95   | 110  | 130  | 155  |
| 129.5                                              |                                                                                              |                  |        |      | 156  | 156  | 181  | 209  | 247  |      |
| 171                                                |                                                                                              |                  |        |      | 210  | 210  | 234  | 274  | 312  |      |
| 62                                                 |                                                                                              |                  |        |      | 76   | 76   | 90   | 105  | 120  |      |
| 306                                                |                                                                                              |                  |        |      | 351  | 366  | 357  | 416  | 475  |      |
| 430                                                |                                                                                              |                  |        |      | 503  | 518  | 537  | 626  | 715  |      |
| 158                                                |                                                                                              |                  |        |      | 180  | 200  | 224  | 262  | 304  |      |
| 148                                                |                                                                                              |                  |        |      | 171  | 155  | 144  | 168  | 192  |      |
| 124                                                |                                                                                              |                  |        |      | 152  | 163  | 169  | 196  | 219  |      |

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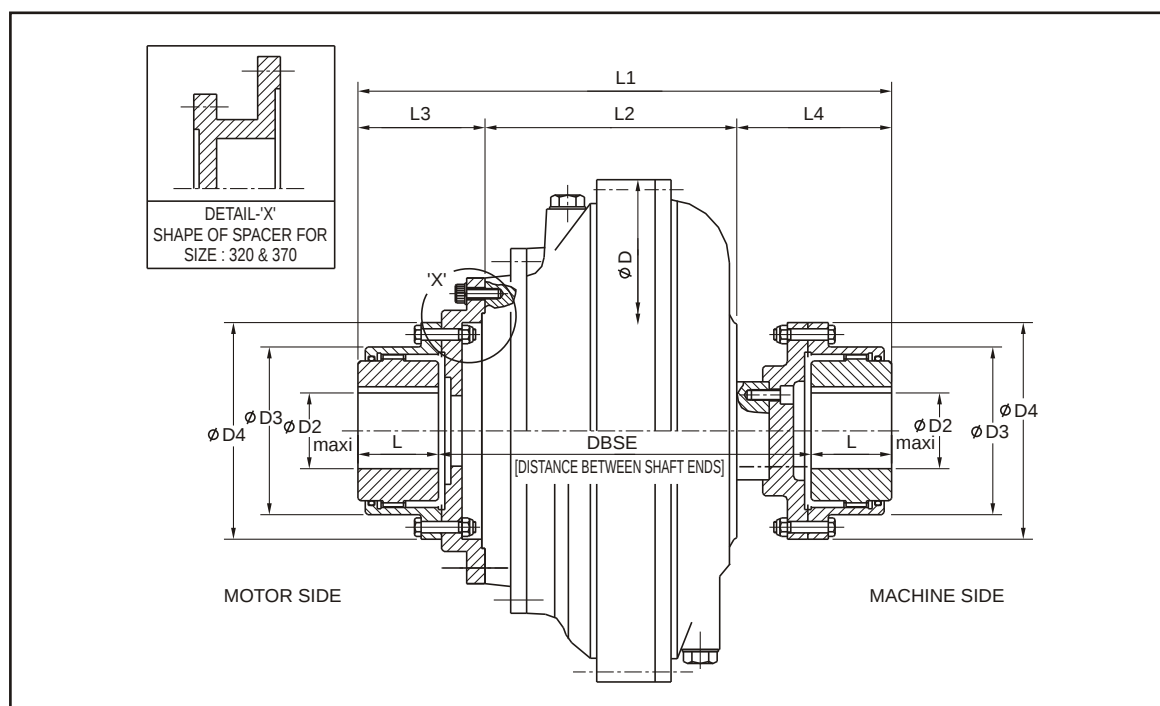


Hydrokinetic fluid couplings

**TRACTION TYPE MOUNTING : R** (solid shaft - radially removable)

Sizes : 320-760

Type : CDR-R with elign gear coupling ED



| TYPE<br>&<br>SIZE                                        | FLUID COUPLING           |                  |        | CDR-R | 320   | 370  | 420  | 480  | 584  | 660  | 760   |
|----------------------------------------------------------|--------------------------|------------------|--------|-------|-------|------|------|------|------|------|-------|
|                                                          | ELIGN GEAR COUPLING      |                  |        | ED    | 500   | 1000 | 1000 | 1600 | 2200 | 3200 | 4500  |
| FLUID<br>COUPLING<br><br>+<br><br>FLUID<br>COUPLING      | J<br>(kgm <sup>2</sup> ) | FLUID COUPLING   |        |       | 0.32  | 0.62 | 0.99 | 1.88 | 4.15 | 7.54 | 13.30 |
|                                                          |                          | GEAR<br>COUPLING | INPUT  |       | 0.05  | 0.13 | 0.19 | 0.34 | 0.70 | 1.52 | 2.53  |
|                                                          |                          |                  | OUTPUT |       | 0.02  | 0.09 | 0.09 | 0.16 | 0.36 | 0.66 | 1.01  |
|                                                          | TOTAL<br>Wt(DRY)<br>(kg) | FLUID COUPLING   |        |       | 29    | 40   | 56   | 81   | 141  | 198  | 275   |
|                                                          |                          | GEAR<br>COUPLING | INPUT  |       | 13    | 23   | 24   | 33   | 47   | 78   | 104   |
|                                                          |                          |                  | OUTPUT |       | 11    | 21   | 21   | 28   | 44   | 67   | 86    |
| D<br>D2<br>D3<br>D4<br>L<br>DBSE<br>L1<br>L2<br>L3<br>L4 |                          |                  |        |       | 365   | 425  | 475  | 550  | 670  | 760  | 870   |
|                                                          |                          |                  |        |       | 75    | 95   | 95   | 110  | 130  | 155  | 175   |
|                                                          |                          |                  |        |       | 129.5 | 156  | 156  | 181  | 209  | 247  | 273   |
|                                                          |                          |                  |        |       | 171   | 210  | 210  | 234  | 274  | 312  | 337   |
|                                                          |                          |                  |        |       | 62    | 76   | 76   | 90   | 105  | 120  | 135   |
|                                                          |                          |                  |        |       | 351   | 396  | 423  | 430  | 487  | 555  | 635   |
|                                                          |                          |                  |        |       | 475   | 548  | 575  | 610  | 697  | 795  | 905   |
|                                                          |                          |                  |        |       | 203   | 225  | 257  | 297  | 333  | 384  | 445   |
|                                                          |                          |                  |        |       | 148   | 171  | 155  | 144  | 168  | 192  | 210   |
|                                                          |                          |                  |        |       | 124   | 152  | 163  | 169  | 196  | 219  | 250   |

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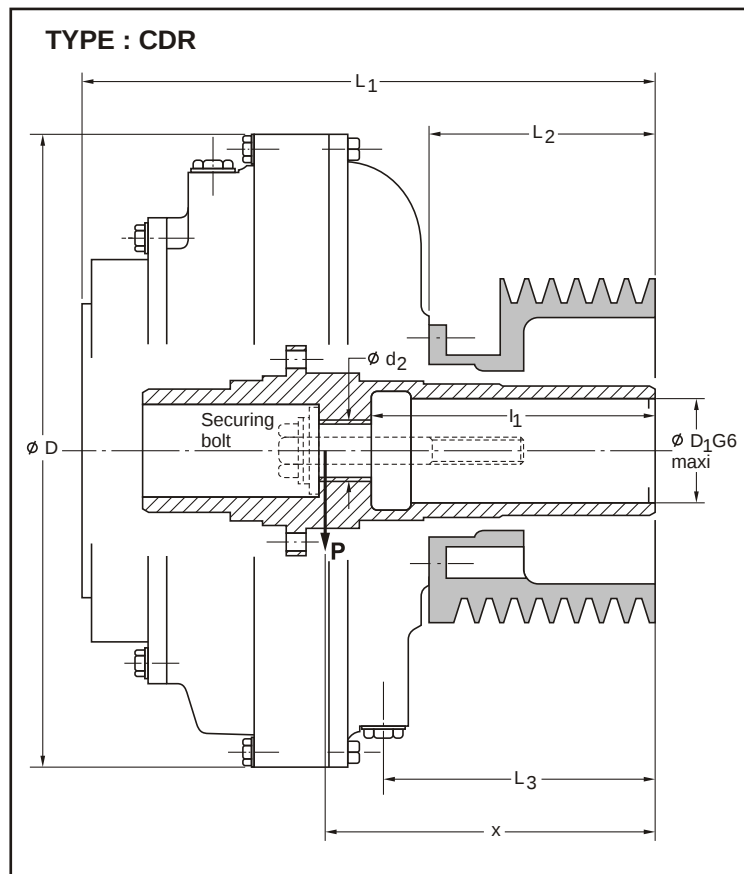
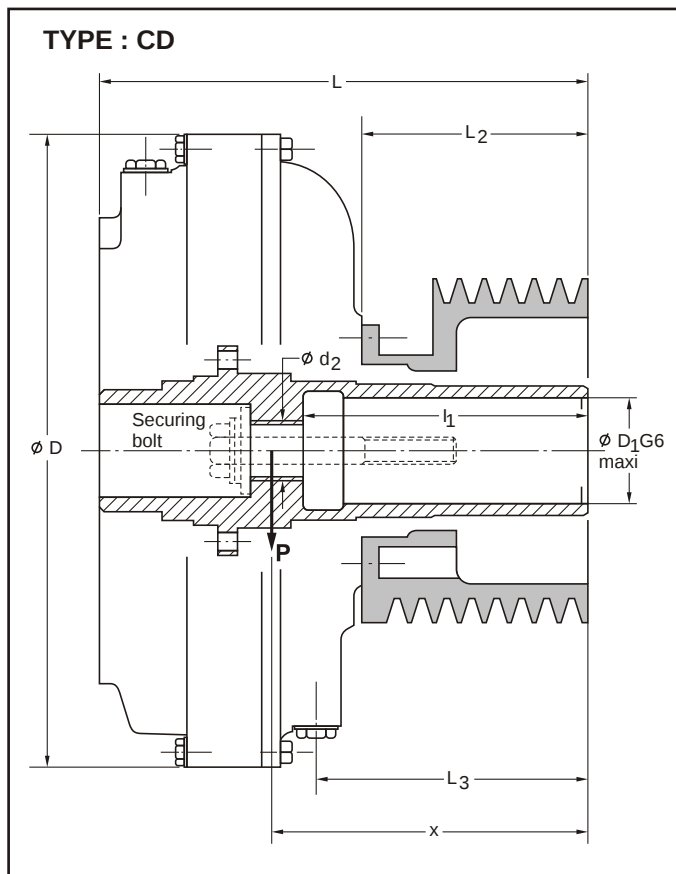
Hydrokinetic fluid couplings

## TRACTION TYPE MOUNTING : PH (V-BELT PULLEY)

Sizes : 270 to 370

Types : CD and CDR

Mounting : • On motor shaft - (PHR)  
• On machine shaft - (PHM)



| FLUID COUPLING |                                   | SIZE   | 270   | 320   | 370   |
|----------------|-----------------------------------|--------|-------|-------|-------|
| TYPE CD        | J* (kgm <sup>2</sup> )            | INPUT  | 0.02  | 0.04  | 0.07  |
|                |                                   | OUTPUT | 0.12  | 0.24  | 0.47  |
|                | WEIGHT P (dry and without pulley) | kg     | 17    | 26    | 36    |
|                | x                                 | mm     | 140   | 168   | 200   |
|                | L                                 | mm     | 251   | 273   | 322   |
| TYPE CDR       | J* (kgm <sup>2</sup> )            | INPUT  | -     | 0.04  | 0.07  |
|                |                                   | OUTPUT | -     | 0.25  | 0.48  |
|                | WEIGHT P (dry and without pulley) | kg     | -     | 29    | 40    |
|                | x                                 | mm     | -     | 180   | 210   |
|                | L1                                | mm     | -     | 320   | 370   |
|                |                                   | D      | 315   | 365   | 425   |
|                |                                   | D1     | 50    | 55    | 60    |
|                |                                   | L2     | 110   | 115   | 140   |
|                |                                   | L3     | 135   | 142   | 167   |
|                |                                   | l1     | 164   | 165   | 190   |
|                |                                   | d2     | 1"BSP | 1"BSP | 1"BSP |

J\* values of inertia for PHR

For PHM the values of inertia are reversed for primary and secondary parts.

Owing to continuous development and improvement all dimensions and characteristics are subject to change without notice.



Hydrokinetic fluid couplings

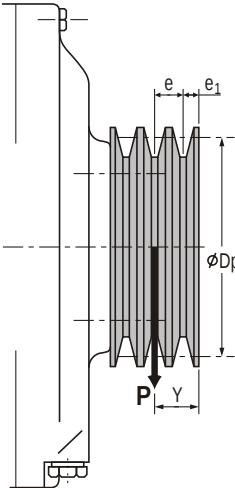
## TRACTION TYPE MOUNTING : PH

Sizes : 270 to 370

Profile of grooves : SPA-SPB-SPC

| Size Coupling (mm) | Profile groove | N° grooves   | *Sym-bols          | PITCH CIRCLE DIAMETER Dp |                    |                    |                   |                   |                   |                  |                  |                  |                  |                                                                                                                                                                                                                                                                                                        |                  |                  |                  |                  |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|--------------------|----------------|--------------|--------------------|--------------------------|--------------------|--------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|------------------|------------------|-----------------|-----------------|----------|-----------|-----------|---|----|----|----|----|---|----|----|
|                    |                |              |                    | 140                      | 150                | 160                | 170               | 180               | 190               | 200              | 212              | 224              | 236              | 250                                                                                                                                                                                                                                                                                                    | 265              | 280              | 300              | 315              | 335             | 355             |          |           |           |   |    |    |    |    |   |    |    |
| 270                | SPA            | 3            | J<br>P<br>Y        | 0.021<br>5.8<br>45       | 0.029<br>7.4<br>45 | 0.04<br>9.1<br>45  | 0.052<br>11<br>45 | 0.067<br>13<br>45 | 0.084<br>15<br>45 | 0.10<br>17<br>45 | 0.14<br>20<br>45 | 0.17<br>23<br>45 | 0.21<br>26<br>45 | <table><tr><td>Profile type</td><td>SPA 13x8</td><td>SPB 17x11</td><td>SPC 22x14</td></tr><tr><td>e</td><td>15</td><td>19</td><td>25</td></tr><tr><td>e1</td><td>9</td><td>11</td><td>15</td></tr></table> <p>For other profiles refer to ELECON</p> <p>*J = kgm<sup>2</sup><br/>P = kg<br/>Y = mm</p> |                  |                  |                  |                  |                 | Profile type    | SPA 13x8 | SPB 17x11 | SPC 22x14 | e | 15 | 19 | 25 | e1 | 9 | 11 | 15 |
|                    |                | Profile type | SPA 13x8           | SPB 17x11                | SPC 22x14          |                    |                   |                   |                   |                  |                  |                  |                  |                                                                                                                                                                                                                                                                                                        |                  |                  |                  |                  |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    |                | e            | 15                 | 19                       | 25                 |                    |                   |                   |                   |                  |                  |                  |                  |                                                                                                                                                                                                                                                                                                        |                  |                  |                  |                  |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    | e1             | 9            | 11                 | 15                       |                    |                    |                   |                   |                   |                  |                  |                  |                  |                                                                                                                                                                                                                                                                                                        |                  |                  |                  |                  |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    | 4              | J<br>P<br>Y  | 0.021<br>5.8<br>45 | 0.029<br>7.4<br>45       | 0.04<br>9.1<br>45  | 0.052<br>11<br>45  | 0.067<br>13<br>45 | 0.084<br>15<br>45 | 0.10<br>17<br>45  | 0.14<br>20<br>45 | 0.17<br>23<br>45 | 0.21<br>26<br>45 |                  |                                                                                                                                                                                                                                                                                                        |                  |                  |                  |                  |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    | 5              | J<br>P<br>Y  | 0.021<br>5.8<br>45 | 0.029<br>7.4<br>45       | 0.04<br>9.1<br>45  | 0.052<br>11<br>45  | 0.067<br>13<br>45 | 0.084<br>15<br>45 | 0.10<br>17<br>45  | 0.14<br>20<br>45 | 0.17<br>23<br>45 | 0.21<br>26<br>45 |                  |                                                                                                                                                                                                                                                                                                        |                  |                  |                  |                  |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    | SPB            | 2            | J<br>P<br>Y        | 0.021<br>5.8<br>45       | 0.029<br>7.4<br>45 | 0.04<br>9.1<br>45  | 0.052<br>11<br>45 | 0.067<br>13<br>45 | 0.084<br>15<br>45 | 0.10<br>17<br>45 | 0.14<br>20<br>45 | 0.17<br>23<br>45 | 0.21<br>26<br>45 |                                                                                                                                                                                                                                                                                                        |                  |                  |                  |                  |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    |                | 3            | J<br>P<br>Y        | 0.021<br>5.8<br>45       | 0.029<br>7.4<br>45 | 0.04<br>9.1<br>45  | 0.052<br>11<br>45 | 0.067<br>13<br>45 | 0.084<br>15<br>45 | 0.10<br>17<br>45 | 0.14<br>20<br>45 | 0.17<br>23<br>45 | 0.21<br>26<br>45 |                                                                                                                                                                                                                                                                                                        |                  |                  |                  |                  |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    |                | 4            | J<br>P<br>Y        | 0.021<br>5.8<br>45       | 0.029<br>7.4<br>45 | 0.04<br>9.1<br>45  | 0.052<br>11<br>45 | 0.067<br>13<br>45 | 0.084<br>15<br>45 | 0.10<br>17<br>45 | 0.14<br>20<br>45 | 0.17<br>23<br>45 | 0.21<br>26<br>45 |                                                                                                                                                                                                                                                                                                        |                  |                  |                  |                  |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    | SPC            | 2            | J<br>P<br>Y        |                          | 0.029<br>7.4<br>45 | 0.04<br>9.1<br>45  | 0.052<br>11<br>45 | 0.067<br>13<br>45 | 0.084<br>15<br>45 | 0.10<br>17<br>45 | 0.14<br>20<br>45 | 0.17<br>23<br>45 | 0.21<br>26<br>45 |                                                                                                                                                                                                                                                                                                        |                  |                  |                  |                  |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
| 3                  |                | J<br>P<br>Y  |                    | 0.029<br>7.4<br>45       | 0.04<br>9.1<br>45  | 0.052<br>11<br>45  | 0.067<br>13<br>45 | 0.084<br>15<br>45 | 0.10<br>17<br>45  | 0.14<br>20<br>45 | 0.17<br>23<br>45 | 0.21<br>26<br>45 |                  |                                                                                                                                                                                                                                                                                                        |                  |                  |                  |                  |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
| 320                | SPA            | 3            | J<br>P<br>Y        |                          |                    | 0.039<br>8.8<br>56 | 0.052<br>11<br>56 | 0.067<br>13<br>56 | 0.085<br>15<br>56 | 0.11<br>17<br>56 | 0.14<br>20<br>63 | 0.17<br>23<br>63 | 0.22<br>26<br>63 | 0.27<br>30<br>63                                                                                                                                                                                                                                                                                       | 0.34<br>34<br>63 | 0.42<br>39<br>63 | 0.55<br>46<br>63 | 0.67<br>52<br>63 |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    |                | 4            | J<br>P<br>Y        |                          |                    | 0.039<br>8.8<br>56 | 0.052<br>11<br>56 | 0.067<br>13<br>56 | 0.085<br>15<br>56 | 0.11<br>17<br>56 | 0.14<br>20<br>63 | 0.17<br>23<br>63 | 0.22<br>26<br>63 | 0.27<br>30<br>63                                                                                                                                                                                                                                                                                       | 0.34<br>34<br>63 | 0.42<br>39<br>63 | 0.55<br>46<br>63 | 0.67<br>52<br>63 |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    |                | 5            | J<br>P<br>Y        |                          |                    | 0.039<br>8.8<br>56 | 0.052<br>11<br>56 | 0.067<br>13<br>56 | 0.085<br>15<br>56 | 0.11<br>17<br>56 | 0.14<br>20<br>63 | 0.17<br>23<br>63 | 0.22<br>26<br>63 | 0.27<br>30<br>63                                                                                                                                                                                                                                                                                       | 0.34<br>34<br>63 | 0.42<br>39<br>63 | 0.55<br>46<br>63 | 0.67<br>52<br>63 |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    | SPB            | 2            | J<br>P<br>Y        |                          |                    | 0.039<br>8.8<br>56 | 0.052<br>11<br>56 | 0.067<br>13<br>56 | 0.085<br>15<br>56 | 0.11<br>17<br>56 | 0.14<br>20<br>63 | 0.17<br>23<br>63 | 0.22<br>26<br>63 | 0.27<br>30<br>63                                                                                                                                                                                                                                                                                       | 0.34<br>34<br>63 | 0.42<br>39<br>63 | 0.55<br>46<br>63 | 0.67<br>52<br>63 |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    |                | 3            | J<br>P<br>Y        |                          |                    | 0.039<br>8.8<br>56 | 0.052<br>11<br>56 | 0.067<br>13<br>56 | 0.085<br>15<br>56 | 0.11<br>17<br>56 | 0.14<br>20<br>63 | 0.17<br>23<br>63 | 0.22<br>26<br>63 | 0.27<br>30<br>63                                                                                                                                                                                                                                                                                       | 0.34<br>34<br>63 | 0.42<br>39<br>63 | 0.55<br>46<br>63 | 0.67<br>52<br>63 |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    |                | 4            | J<br>P<br>Y        |                          |                    | 0.039<br>8.8<br>56 | 0.052<br>11<br>56 | 0.067<br>13<br>56 | 0.085<br>15<br>56 | 0.11<br>17<br>56 | 0.14<br>20<br>63 | 0.17<br>23<br>63 | 0.22<br>26<br>63 | 0.27<br>30<br>63                                                                                                                                                                                                                                                                                       | 0.34<br>34<br>63 | 0.42<br>39<br>63 | 0.55<br>46<br>63 | 0.67<br>52<br>63 |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    | SPC            | 2            | J<br>P<br>Y        |                          |                    | 0.039<br>8.8<br>56 | 0.052<br>11<br>56 | 0.067<br>13<br>56 | 0.085<br>15<br>56 | 0.11<br>17<br>56 | 0.14<br>20<br>63 | 0.17<br>23<br>63 | 0.22<br>26<br>63 | 0.27<br>30<br>63                                                                                                                                                                                                                                                                                       | 0.34<br>34<br>63 | 0.42<br>39<br>63 | 0.55<br>46<br>63 | 0.67<br>52<br>63 |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    |                | 3            | J<br>P<br>Y        |                          |                    | 0.039<br>8.8<br>56 | 0.052<br>11<br>56 | 0.067<br>13<br>56 | 0.085<br>15<br>56 | 0.11<br>17<br>56 | 0.14<br>20<br>63 | 0.17<br>23<br>63 | 0.22<br>26<br>63 | 0.27<br>30<br>63                                                                                                                                                                                                                                                                                       | 0.34<br>34<br>63 | 0.42<br>39<br>63 | 0.55<br>46<br>63 | 0.67<br>52<br>63 |                 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    | 370            | SPA          | 4                  | J<br>P<br>Y              |                    |                    |                   | 0.081<br>15<br>60 | 0.10<br>17<br>60  | 0.13<br>20<br>60 | 0.17<br>24<br>60 | 0.21<br>27<br>60 | 0.31<br>37<br>73 | 0.40<br>43<br>73                                                                                                                                                                                                                                                                                       | 0.51<br>50<br>73 | 0.64<br>60<br>73 | 0.85<br>67<br>73 | 1.0<br>78<br>73  | 1.3<br>90<br>73 | 1.7<br>90<br>73 |          |           |           |   |    |    |    |    |   |    |    |
|                    |                |              | 5                  | J<br>P<br>Y              |                    |                    |                   | 0.081<br>15<br>60 | 0.10<br>17<br>60  | 0.13<br>20<br>60 | 0.17<br>24<br>60 | 0.21<br>27<br>60 | 0.31<br>37<br>73 | 0.40<br>43<br>73                                                                                                                                                                                                                                                                                       | 0.51<br>50<br>73 | 0.64<br>60<br>73 | 0.85<br>67<br>73 | 1.0<br>78<br>73  | 1.3<br>90<br>73 | 1.7<br>90<br>73 |          |           |           |   |    |    |    |    |   |    |    |
| 6                  |                |              | J<br>P<br>Y        |                          |                    |                    | 0.081<br>15<br>60 | 0.10<br>17<br>60  | 0.13<br>20<br>60  | 0.17<br>24<br>60 | 0.21<br>27<br>60 | 0.31<br>37<br>73 | 0.40<br>43<br>73 | 0.51<br>50<br>73                                                                                                                                                                                                                                                                                       | 0.64<br>60<br>73 | 0.85<br>67<br>73 | 1.0<br>78<br>73  | 1.3<br>90<br>73  | 1.7<br>90<br>73 |                 |          |           |           |   |    |    |    |    |   |    |    |
| SPB                |                | 3            | J<br>P<br>Y        |                          |                    |                    | 0.081<br>15<br>60 | 0.10<br>17<br>60  | 0.13<br>20<br>60  | 0.17<br>24<br>60 | 0.21<br>27<br>60 | 0.31<br>37<br>73 | 0.40<br>43<br>73 | 0.51<br>50<br>73                                                                                                                                                                                                                                                                                       | 0.64<br>60<br>73 | 0.85<br>67<br>73 | 1.0<br>78<br>73  | 1.3<br>90<br>73  | 1.7<br>90<br>73 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    |                | 4            | J<br>P<br>Y        |                          |                    |                    | 0.081<br>15<br>60 | 0.10<br>17<br>60  | 0.13<br>20<br>60  | 0.17<br>24<br>60 | 0.21<br>27<br>60 | 0.31<br>37<br>73 | 0.40<br>43<br>73 | 0.51<br>50<br>73                                                                                                                                                                                                                                                                                       | 0.64<br>60<br>73 | 0.85<br>67<br>73 | 1.0<br>78<br>73  | 1.3<br>90<br>73  | 1.7<br>90<br>73 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    |                | 5            | J<br>P<br>Y        |                          |                    |                    | 0.081<br>15<br>60 | 0.10<br>17<br>60  | 0.13<br>20<br>60  | 0.17<br>24<br>60 | 0.21<br>27<br>60 | 0.31<br>37<br>73 | 0.40<br>43<br>73 | 0.51<br>50<br>73                                                                                                                                                                                                                                                                                       | 0.64<br>60<br>73 | 0.85<br>67<br>73 | 1.0<br>78<br>73  | 1.3<br>90<br>73  | 1.7<br>90<br>73 |                 |          |           |           |   |    |    |    |    |   |    |    |
| SPC                |                | 6            | J<br>P<br>Y        |                          |                    |                    |                   |                   |                   |                  |                  | 0.31<br>37<br>73 | 0.40<br>43<br>73 | 0.51<br>50<br>73                                                                                                                                                                                                                                                                                       | 0.64<br>60<br>73 | 0.85<br>67<br>73 | 1.0<br>78<br>73  | 1.3<br>90<br>73  | 1.7<br>90<br>73 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    |                | 3            | J<br>P<br>Y        |                          |                    |                    | 0.081<br>15<br>60 | 0.10<br>17<br>60  | 0.13<br>20<br>60  | 0.17<br>24<br>60 | 0.21<br>27<br>60 | 0.31<br>37<br>73 | 0.40<br>43<br>73 | 0.51<br>50<br>73                                                                                                                                                                                                                                                                                       | 0.64<br>60<br>73 | 0.85<br>67<br>73 | 1.0<br>78<br>73  | 1.3<br>90<br>73  | 1.7<br>90<br>73 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    |                | 4            | J<br>P<br>Y        |                          |                    |                    | 0.081<br>15<br>60 | 0.10<br>17<br>60  | 0.13<br>20<br>60  | 0.17<br>24<br>60 | 0.21<br>27<br>60 | 0.31<br>37<br>73 | 0.40<br>43<br>73 | 0.51<br>50<br>73                                                                                                                                                                                                                                                                                       | 0.64<br>60<br>73 | 0.85<br>67<br>73 | 1.0<br>78<br>73  | 1.3<br>90<br>73  | 1.7<br>90<br>73 |                 |          |           |           |   |    |    |    |    |   |    |    |
|                    |                | 5            | J<br>P<br>Y        |                          |                    |                    |                   |                   |                   |                  |                  | 0.31<br>37<br>73 | 0.40<br>43<br>73 | 0.51<br>50<br>73                                                                                                                                                                                                                                                                                       | 0.64<br>60<br>73 | 0.85<br>67<br>73 | 1.0<br>78<br>73  | 1.3<br>90<br>73  | 1.7<br>90<br>73 |                 |          |           |           |   |    |    |    |    |   |    |    |

Technical drawing of a coupling profile. It shows a cross-section of a profile with three grooves. Dimensions are labeled:  $e$  (width of a groove),  $e_1$  (width of a flat),  $P$  (pitch),  $Y$  (height of a groove), and  $\phi Dp$  (pitch circle diameter).



Owing to continuous development and improvement all dimensions and characteristics are subject to change without notice.



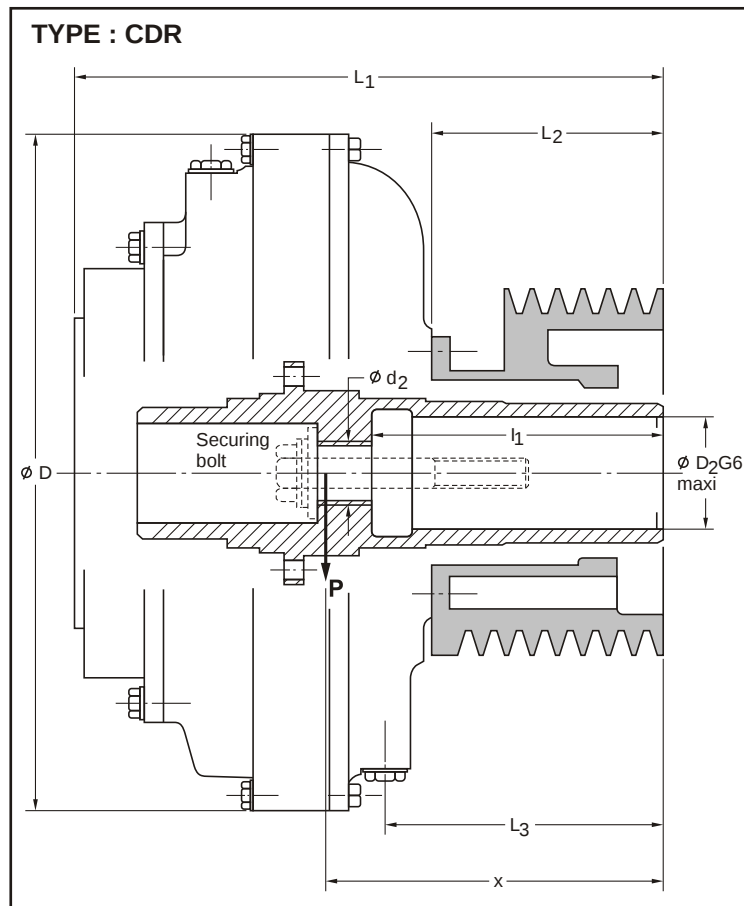
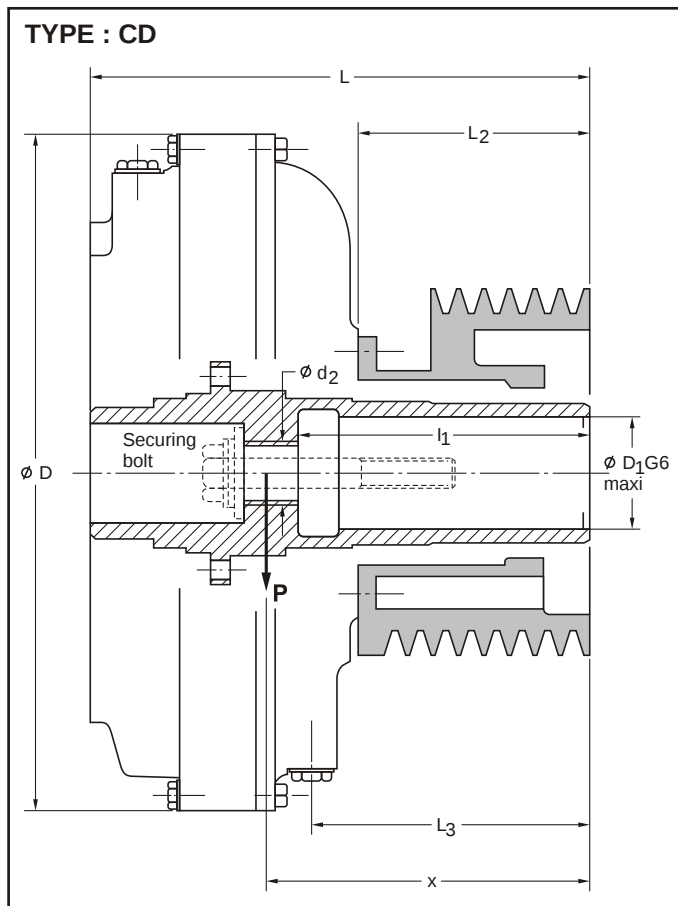
Hydrokinetic fluid couplings

## TRACTION TYPE MOUNTING : PH (V-BELT PULLEY)

Sizes : 420 to 584

Types : CD and CDR

Mounting : • on motor shaft (PHR)  
• on machine shaft (PHM)



| FLUID COUPLING |                                   | SIZE                | 420       | 480       | 584       |
|----------------|-----------------------------------|---------------------|-----------|-----------|-----------|
| TYPE CD        | J* INPUT                          | (kgm <sup>2</sup> ) | 0.16      | 0.36      | 0.83      |
|                | OUTPUT                            |                     | 0.70      | 1.30      | 2.90      |
|                | WEIGHT P (dry and without pulley) | kg                  | 51        | 72        | 125       |
|                | x                                 | mm                  | 236       | 280       | 290       |
|                | L                                 | mm                  | 368       | 427       | 467       |
| TYPE CDR       | J* INPUT                          | (kgm <sup>2</sup> ) | 0.16      | 0.36      | 0.83      |
|                | OUTPUT                            |                     | 0.74      | 1.35      | 2.95      |
|                | WEIGHT P (dry and without pulley) | kg                  | 56        | 75        | 134       |
|                | x                                 | mm                  | 250       | 305       | 320       |
|                | L1                                | mm                  | 428       | 503       | 541       |
|                |                                   | D                   | 475       | 550       | 670       |
|                |                                   | D1                  | 75        | 80        | 100       |
|                |                                   | L2                  | 170       | 205       | 205       |
|                |                                   | L3                  | 205       | 240       | 254       |
|                |                                   | l1                  | 215       | 252       | 290       |
|                |                                   | TAPPED HOLE d2      | 1-1/4"BSP | 1-1/4"BSP | 1-1/4"BSP |

**J\*** values of inertia for PHR

For PHM the values of inertia are reversed for primary and secondary parts.

Owing to continuous development and improvement all dimensions and characteristics are subject to change without notice.



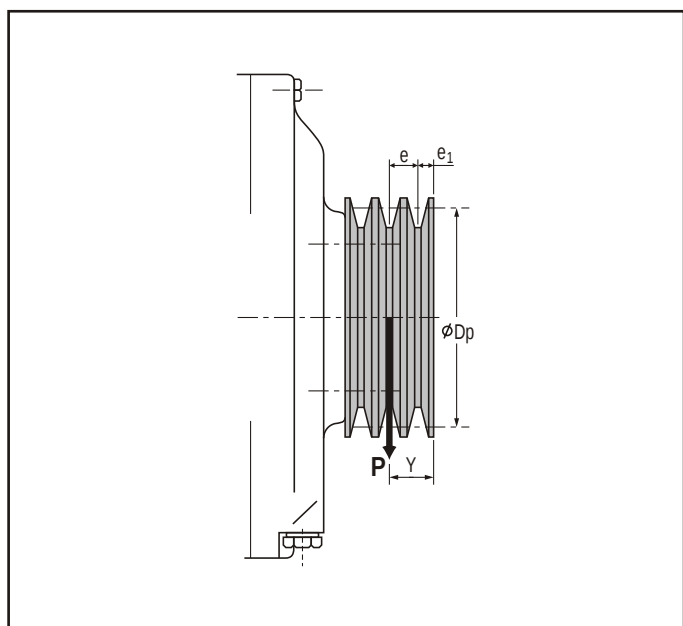
Hydrokinetic fluid couplings

## TRACTION TYPE MOUNTING : PH

Sizes : 420 to 584

Profile of grooves : SPB-SPC

| Size coupling (mm) | Profile groove | N° grooves | *Sym-bols | PITCH CIRCLE DIAMETER Dp |      |      |      |      |      |      |      |      |      |      |      |      |  |
|--------------------|----------------|------------|-----------|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--|
|                    |                |            |           | 200                      | 212  | 224  | 236  | 250  | 265  | 280  | 300  | 315  | 335  | 355  | 400  | 450  |  |
| 420                | SPB            | 4          | J         | 0.15                     | 0.19 | 0.25 | 0.31 | 0.40 | 0.59 | 0.74 | 0.99 | 1.20 | 1.55 | 1.95 |      |      |  |
|                    |                |            | P         | 21                       | 25   | 30   | 35   | 41   | 54   | 62   | 74   | 83   | 97   | 112  |      |      |  |
|                    |                |            | Y         | 70                       | 70   | 70   | 70   | 70   | 90   | 90   | 90   | 90   | 90   | 90   |      |      |  |
|                    |                | 5          | J         | 0.15                     | 0.19 | 0.25 | 0.31 | 0.40 | 0.59 | 0.74 | 0.99 | 1.20 | 1.55 | 1.95 |      |      |  |
|                    |                |            | P         | 21                       | 25   | 30   | 35   | 41   | 54   | 62   | 74   | 83   | 97   | 112  |      |      |  |
|                    |                |            | Y         | 70                       | 70   | 70   | 70   | 70   | 90   | 90   | 90   | 90   | 90   | 90   |      |      |  |
|                    | SPC            | 3          | J         | 0.15                     | 0.19 | 0.25 | 0.31 | 0.40 | 0.59 | 0.74 | 0.99 | 1.20 | 1.55 | 1.95 |      |      |  |
|                    |                |            | P         | 21                       | 25   | 30   | 35   | 41   | 54   | 62   | 74   | 83   | 97   | 112  |      |      |  |
|                    |                |            | Y         | 70                       | 70   | 70   | 70   | 70   | 90   | 90   | 90   | 90   | 90   | 90   |      |      |  |
|                    |                | 4          | J         | 0.15                     | 0.19 | 0.25 | 0.31 | 0.40 | 0.59 | 0.74 | 0.99 | 1.20 | 1.55 | 1.95 |      |      |  |
|                    |                |            | P         | 21                       | 25   | 30   | 35   | 41   | 54   | 62   | 74   | 83   | 97   | 112  |      |      |  |
|                    |                |            | Y         | 70                       | 70   | 70   | 70   | 70   | 90   | 90   | 90   | 90   | 90   | 90   |      |      |  |
| 480                | SPB            | 6          | J         |                          |      |      |      | 0.47 | 0.59 | 0.74 | 0.99 | 1.20 | 1.55 | 1.95 |      |      |  |
|                    |                |            | P         |                          |      |      |      | 45   | 54   | 62   | 74   | 83   | 97   | 112  |      |      |  |
|                    |                |            | Y         |                          |      |      |      | 90   | 90   | 90   | 90   | 90   | 90   | 90   |      |      |  |
|                    |                | 8          | J         |                          |      |      |      | 0.47 | 0.60 | 0.76 | 1.07 | 1.34 | 1.36 | 1.88 | 3.40 |      |  |
|                    |                |            | P         |                          |      |      |      | 46   | 53   | 53   | 68   | 79   | 62   | 80   | 122  |      |  |
|                    |                |            | Y         |                          |      |      |      | 82   | 82   | 105  | 105  | 105  | 110  | 110  | 110  |      |  |
|                    | SPC            | 5          | J         |                          |      |      |      | 0.47 | 0.60 | 0.76 | 1.07 | 1.34 | 1.36 | 1.88 | 3.40 |      |  |
|                    |                |            | P         |                          |      |      |      | 46   | 53   | 53   | 68   | 79   | 62   | 80   | 122  |      |  |
|                    |                |            | Y         |                          |      |      |      | 82   | 82   | 105  | 105  | 105  | 110  | 110  | 110  |      |  |
|                    |                | 6          | J         |                          |      |      |      | 0.47 | 0.60 | 0.76 | 1.07 | 1.34 | 1.36 | 1.88 | 3.40 |      |  |
|                    |                |            | P         |                          |      |      |      | 46   | 53   | 53   | 68   | 79   | 62   | 80   | 122  |      |  |
|                    |                |            | Y         |                          |      |      |      | 82   | 82   | 105  | 105  | 105  | 110  | 110  | 110  |      |  |
| 584                | SPC            | 6          | J         |                          |      |      |      | 0.51 | 0.63 | 0.76 | 1.07 | 1.34 | 1.36 | 1.88 | 3.40 | 5.20 |  |
|                    |                |            | P         |                          |      |      |      | 52   | 55   | 52   | 65   | 70   | 60   | 75   | 120  | 175  |  |
|                    |                | 8          | J         |                          |      |      |      |      |      |      |      | 1.34 | 1.36 | 1.88 | 3.40 | 5.20 |  |
|                    |                |            | P         |                          |      |      |      |      |      |      |      | 70   | 60   | 75   | 120  | 175  |  |



| Profile type | SPB 17 x 11 | SPC 22 x 14 |  |
|--------------|-------------|-------------|--|
| e            | 19          | 25          |  |
| e1           | 11          | 15          |  |

For other profiles refer to ELECON

\* J = kgm<sup>2</sup>  
P = kg  
Y = mm

Owing to continuous development and improvement all dimensions and characteristics are subject to change without notice.



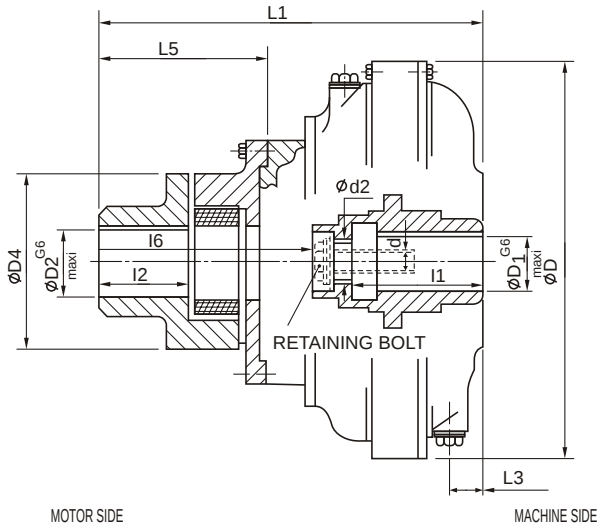
## Hydrokinetic fluid couplings

### TRACTION TYPE MOUNTING : XR (hollow shaft)

Sizes : 320 to 760

Type : CDR with flexible coupling EX

| FLUID COUPLING                           |                          |                | SIZE | 320                               | 370    | 420        | 480        | 584        | 660        | 760        |
|------------------------------------------|--------------------------|----------------|------|-----------------------------------|--------|------------|------------|------------|------------|------------|
| FLEXIBLE COUPLING                        |                          |                | TYPE | EX65                              | EX75   | EX95       | EX110      | EX125      | EX140      | EX140      |
| FLUID COUPLING<br>+<br>FLEXIBLE COUPLING | J<br>(kgm <sup>2</sup> ) | FLUID COUP.    | 0.28 | 0.55                              | 0.88   | 1.70       | 3.75       | 6.50       | 12.1       |            |
|                                          |                          | FLEX. COUP.    | 0.07 | 0.13                              | 0.26   | 0.53       | 1.11       | 2.70       | 3.47       |            |
|                                          | TOTAL WEIGHT<br>(DRY)    | FLUID COUP.kg. | 28   | 38                                | 53     | 78         | 135        | 192        | 262        |            |
|                                          |                          | FLEX. COUP.kg. | 14   | 22                                | 33     | 50         | 78         | 128        | 141        |            |
|                                          |                          |                | D    | 365                               | 425    | 475        | 550        | 670        | 760        | 870        |
|                                          |                          |                | D1   | 60                                | 65     | 80         | 90         | 110        | 120        | 135        |
|                                          |                          |                | D2   | 65                                | 75     | 95         | 100        | 120        | 140        | 140        |
|                                          |                          |                | D4   | 170                               | 200    | 230        | 260        | 300        | 360        | 360        |
|                                          |                          |                | L1   | 329.5                             | 382    | 428        | 485        | 552        | 656        | 718        |
|                                          |                          |                | L3   | 25                                | 29     | 37         | 37         | 49         | 55         | 49         |
|                                          |                          |                | L5   | 126.5                             | 157    | 171        | 188        | 219        | 272        | 273        |
|                                          |                          |                | I1   | 110                               | 110    | 120        | 155        | 170        | 200        | 240        |
|                                          |                          |                | I2   | 74.5                              | 98.5   | 110        | 112.5      | 131.5      | 172        | 172        |
|                                          |                          |                | I6   | 149.5                             | 181    | 200        | 237        | 261        | 300        | 322        |
| TAPPED HOLE                              |                          |                | d2   | 1" BSP                            | 1" BSP | 1-1/4" BSP | 1-1/4" BSP | 1-1/4" BSP | 1-1/4" BSP | 1-1/4" BSP |
|                                          |                          |                | d    | AS PER THREADED HOLE IN THE SHAFT |        |            |            |            |            |            |

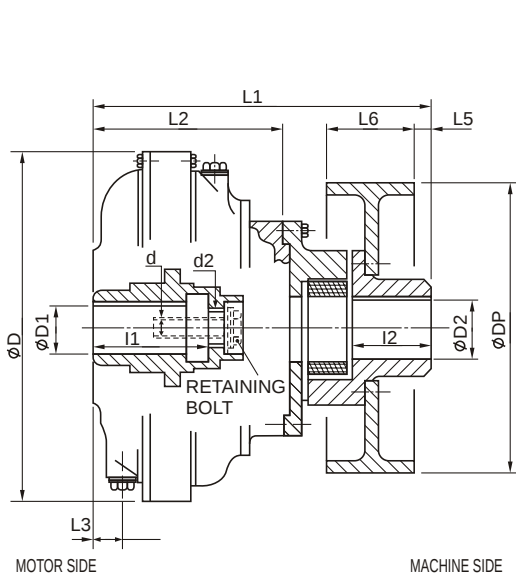


## Hydrokinetic fluid couplings

### TRACTION TYPE MOUNTING : XR (hollow shaft - reverse mounting)

Sizes : 320 to 760

Type : CDIR with flexible coupling EB



| FLUID COUPLING                     |                          | SIZE            | 320   |                                   |      | 370   |        |      | 420   |            |      | 480    |            |      | 584    |            |      | 660    |            |     | 760    |            |  |  |
|------------------------------------|--------------------------|-----------------|-------|-----------------------------------|------|-------|--------|------|-------|------------|------|--------|------------|------|--------|------------|------|--------|------------|-----|--------|------------|--|--|
| BRAKE DRUM                         |                          | DIA             | 250   | 315                               | 250  | 315   | 400    | 315  | 400   | 500        | 400  | 500    | 400        | 500  | 630    | 500        | 630  | 630    | 710        |     |        |            |  |  |
| FLEXIBLE COUPLING                  |                          | TYPE            | EB 65 |                                   |      | EB 75 |        |      | EB 95 |            |      | EB 110 |            |      | EB 125 |            |      | EB 140 |            |     | EB 140 |            |  |  |
| FLUID COUP.<br>+<br>FLEX.<br>COUP. | J<br>(kgm <sup>2</sup> ) | FLUID COUP.     | 0.28  |                                   |      | 0.55  |        |      | 0.88  |            |      | 1.7    |            |      | 3.75   |            |      | 6.50   |            |     | 12.1   |            |  |  |
|                                    |                          | FLEX. COUP.     | 0.20  | 0.44                              | 0.26 | 0.53  | 1.40   | 0.60 | 1.58  | 4.20       | 2.00 | 4.45   | 2.26       | 4.86 | 11.4   | 6.45       | 12.9 | 13.7   | 20.9       |     |        |            |  |  |
|                                    | TOTAL<br>Wt<br>(DRY)     | FLUID COUP. kg. | 28    |                                   |      | 38    |        |      | 53    |            |      | 78     |            |      | 135    |            |      | 192    |            |     | 262    |            |  |  |
|                                    |                          | FLEX. COUP. kg. | 24    | 33                                | 32   | 41    | 62     | 53   | 75    | 113        | 97   | 130    | 112        | 150  | 209    | 203        | 310  | 270    | 320        |     |        |            |  |  |
|                                    |                          |                 | D     | 365                               |      |       | 425    |      |       | 450        |      |        | 550        |      |        | 670        |      |        | 760        |     |        | 870        |  |  |
|                                    |                          |                 | D1    | 60                                |      |       | 65     |      |       | 80         |      |        | 90         |      |        | 110        |      |        | 120        |     |        | 135        |  |  |
|                                    |                          |                 | L1    | 329.5                             |      |       | 382    |      |       | 428        |      |        | 485        |      |        | 552        |      |        | 656        |     |        | 718        |  |  |
|                                    |                          |                 | L2    | 203                               |      |       | 225    |      |       | 257        |      |        | 297        |      |        | 333        |      |        | 384        |     |        | 445        |  |  |
|                                    |                          |                 | L3    | 25                                |      |       | 29     |      |       | 37         |      |        | 37         |      |        | 49         |      |        | 55         |     |        | 49         |  |  |
|                                    |                          |                 | I1    | 110                               |      |       | 119    |      |       | 120        |      |        | 155        |      |        | 170        |      |        | 200        |     |        | 240        |  |  |
| BRAKE DRUM                         |                          |                 | Dp    | 250                               | 315  | 250   | 315    | 400  | 315   | 400        | 500  | 400    | 500        | 400  | 500    | 630        | 500  | 630    | 630        | 710 |        |            |  |  |
|                                    |                          |                 | D2    | 65                                | 65   | 75    | 75     | 75   | 95    | 95         | 95   | 110    | 110        | 125  | 125    | 125        | 125  | 125    | 125        | 125 | 125    |            |  |  |
|                                    |                          |                 | L5    | 25                                | 10   | 35    | 35     | 25   | 20    | 35         | 25   | 35     | 25         | 25   | 20     | 20         | 30   | 50     | 50         | 30  |        |            |  |  |
|                                    |                          |                 | L6    | 95                                | 118  | 95    | 118    | 150  | 118   | 150        | 190  | 150    | 190        | 150  | 190    | 236        | 190  | 236    | 236        | 265 |        |            |  |  |
| TAPPED HOLE                        |                          |                 | I2    | 74.5                              |      |       | 98.5   |      |       | 110        |      |        | 112.5      |      |        | 131.5      |      |        | 172        |     |        | 172        |  |  |
|                                    |                          |                 | d2    | 1" BSP                            |      |       | 1" BSP |      |       | 1-1/4" BSP |      |        | 1-1/4" BSP |      |        | 1-1/4" BSP |      |        | 1-1/4" BSP |     |        | 1-1/4" BSP |  |  |
|                                    |                          |                 | d     | AS PER THREADED HOLE IN THE SHAFT |      |       |        |      |       |            |      |        |            |      |        |            |      |        |            |     |        |            |  |  |

Owing to continuous development and improvement all dimensions and characteristics are subject to change without notice.



## DETERMINATION OF THE INITIAL OIL FILLING

### Oil filling

The size of fluid coupling will have been chosen to suit the speed of rotation and the power to be transmitted the oil filling required will be dependent on:

- the power absorbed by the driven machine and
  - the required starting (or, stalling) torque.
- N.B.: The oil filling should never be allowed to exceed 80% of the total capacity of the fluid coupling when cold, because overfilling may cause excessive internal pressure and damage the seals.

To determine the amount of oil required:

#### Use

Table 3.a for CD (without delayed filling chamber)

Table 3.b for CDR (with delayed filling chamber)

Table 3.c for CDRP/CDRS (with extended delayed filling chamber)

**Table 1**

VALUE of X

(For Type CD, CDR, CDRP, CDRS)

| Fluid coupling  | Size                 | 185  | 235  | 270   | 320  | 370   | 420   | 480  | 584  | 660   | 760   |
|-----------------|----------------------|------|------|-------|------|-------|-------|------|------|-------|-------|
|                 | Outside Diameter Dmm | 225  | 275  | 315   | 365  | 425   | 475   | 550  | 670  | 760   | 870   |
| SPEED IN R.P.M. | 750                  | 0.06 | 0.20 | 0.38  | 0.9  | 1.90  | 3.57  | 6.85 | 18.7 | 34.4  | 70    |
|                 | 900                  | 0.10 | 0.34 | 0.66  | 1.56 | 3.27  | 6.17  | 11.9 | 32.3 | 59.4  | 120   |
|                 | 1000                 | 0.14 | 0.47 | 0.91  | 2.15 | 4.48  | 8.45  | 16.3 | 44.2 | 81.5  | 165   |
|                 | 1200                 | 0.25 | 0.82 | 1.60  | 3.75 | 7.50  | 14.70 | 28.5 | 77.3 | 142   | 280   |
|                 | 1500                 | 0.49 | 1.62 | 3.14  | 7.40 | 15.50 | 29    | 56.2 | 153  | 280   | (565) |
|                 | 1800                 | 0.85 | 2.80 | 5.43  | 12.8 | 26.80 | 50.1  | 97.1 | 264  | (484) | -     |
|                 | 3000                 | 3.91 | 12.9 | 25.20 | 59.3 | 123   | -     | -    | -    | -     | -     |

**Table 2**

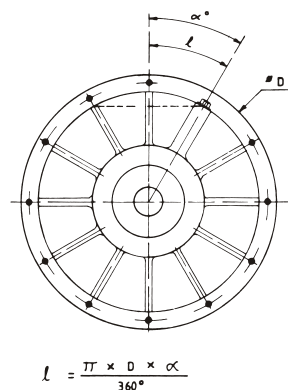
| FILLING ANGLE α° | FILLING ANGLE α° |              | Table 2.a |      | Table 2.b |      | Table 2.c |    |
|------------------|------------------|--------------|-----------|------|-----------|------|-----------|----|
|                  | Coupling Type    | Co-efficient | CD        |      | CDR       |      | CDRP/CDRS |    |
|                  |                  |              | Km        | Kn   | Km        | Kn   | Km        | Kn |
|                  |                  |              |           |      |           |      |           |    |
|                  | 50               | 5.6          | 2.4       | 5.7  | 2.7       | -    | -         | -  |
|                  | 55               | 5.1          | 2.1       | 5.2  | 2.5       | -    | -         | -  |
|                  | 60               | 4.5          | 1.9       | 4.7  | 2.2       | 4.7  | 2.8       |    |
|                  | 65               | 3.65         | 1.7       | 4.1  | 2.1       | 4.1  | 2.7       |    |
|                  | 70               | 2.66         | 1.6       | 3.2  | 2         | 3.2  | 2.5       |    |
|                  | 75               | 2            | 1.3       | 2.8  | 1.8       | 2.8  | 2.2       |    |
|                  | 80               | 1.5          | 0.8       | 2.4  | 1.7       | 2.4  | 2.1       |    |
|                  | 85               | 1.3          | 0.6       | 2.1  | 1.4       | 2.1  | 2         |    |
|                  | 90               | 1            | 0.4       | 1.6  | 1.2       | 1.6  | 1.8       |    |
|                  | 95               | 0.8          | 0.3       | 1.2  | 0.9       | 1.2  | 1.5       |    |
|                  | 100              | 0.7          | 0.2       | 0.96 | 0.7       | 0.95 | 1.3       |    |

**Table 3 : Approximate equivalent oil volume in litres at 20° C**

| Table 3.a |                  | CD (Without delayed filling chamber) |      |      |      |      |       |       |       |       |     |
|-----------|------------------|--------------------------------------|------|------|------|------|-------|-------|-------|-------|-----|
| Coupling  | Type             | SIZE                                 | 185  | 235  | 270  | 320  | 370   | 420   | 480   | 584   | 660 |
|           | FILLING ANGLE α° |                                      |      |      |      |      |       |       |       |       |     |
|           | 50               | 1                                    | 1.90 | 2.60 | 4.20 | 7.10 | 10.05 | 15    | 26.55 | 44.50 |     |
|           | 55               | 0.97                                 | 1.86 | 2.45 | 4    | 6.90 | 9.50  | 14.30 | 26.60 | 42.60 |     |
|           | 60               | 0.93                                 | 1.80 | 2.30 | 3.80 | 6.50 | 8.90  | 13.60 | 24.60 | 40.60 |     |
|           | 65               | 0.88                                 | 1.70 | 2.20 | 3.60 | 6    | 8.40  | 12.80 | 23    | 38.20 |     |
|           | 70               | 0.82                                 | 1.58 | 2.00 | 3.30 | 5.70 | 7.80  | 12    | 21.40 | 35.80 |     |
|           | 75               | 0.76                                 | 1.50 | 1.90 | 3.10 | 5.20 | 7.20  | 11.20 | 20    | 33.40 |     |
|           | 80               | 0.70                                 | 1.39 | 1.80 | 2.90 | 4.80 | 6.70  | 10.20 | 18.40 | 31    |     |
|           | 85               | 0.64                                 | 1.27 | 1.70 | 2.65 | 4.40 | 6.30  | 9.30  | 16.80 | 28.60 |     |
|           | 90               | 0.57                                 | 1.14 | 1.55 | 2.40 | 4    | 5.70  | 8.50  | 15.30 | 26.30 |     |
|           | 95               | 0.52                                 | 1.02 | 1.40 | 2.25 | 3.70 | 5     | 7.80  | 14    | 24    |     |
|           | 100              | 0.46                                 | 0.90 | 1.30 | 2.10 | 3.40 | 4.60  | 7.20  | 13    | 22    |     |

| Table 3.b |                  | CDR (With delayed filling chamber) |       |       |       |       |     |     |     |  |  |
|-----------|------------------|------------------------------------|-------|-------|-------|-------|-----|-----|-----|--|--|
| Coupling  | Type             | SIZE                               | 320   | 370   | 420   | 480   | 584 | 660 | 760 |  |  |
|           | FILLING ANGLE α° |                                    |       |       |       |       |     |     |     |  |  |
|           | 50               | 9                                  | 12.50 | 20    | 34.10 | 52    | 75  |     |     |  |  |
|           | 55               | 8.60                               | 12.10 | 18.90 | 32.70 | 50.20 | 71  |     |     |  |  |
|           | 60               | 8.20                               | 11.30 | 17.90 | 31.20 | 47.80 | 67  |     |     |  |  |
|           | 65               | 7.60                               | 11    | 16.60 | 29.20 | 45    | 62  |     |     |  |  |
|           | 70               | 7                                  | 10    | 15.30 | 27.20 | 42    | 57  |     |     |  |  |
|           | 75               | 6.50                               | 9.40  | 14.30 | 25    | 39    | 53  |     |     |  |  |
|           | 80               | 5.90                               | 8.60  | 13.30 | 22.80 | 36    | 49  |     |     |  |  |
|           | 85               | 5.60                               | 8.10  | 12.10 | 20.90 | 33    | 46  |     |     |  |  |
|           | 90               | 5                                  | 7.25  | 10.90 | 19    | 30.20 | 42  |     |     |  |  |
|           | 95               | 4.80                               | 6.50  | 9.60  | 17.50 | 27.60 | 38  |     |     |  |  |
|           | 100              | 4.20                               | 5.90  | 8.40  | 15.90 | 25.30 | 34  |     |     |  |  |

| Table 3.c |                  | CDRP/CDRS (With extended delay filling chamber) |       |       |       |     |     |     |  |  |  |
|-----------|------------------|-------------------------------------------------|-------|-------|-------|-----|-----|-----|--|--|--|
| Coupling  | Type             | SIZE                                            | 370   | 420   | 480   | 584 | 660 | 760 |  |  |  |
|           | FILLING ANGLE α° |                                                 |       |       |       |     |     |     |  |  |  |
|           | 50               | 15.20                                           | 22    | 36.50 | 59.50 | 90  |     |     |  |  |  |
|           | 55               | 14.80                                           | 21.10 | 35.10 | 57.80 | 85  |     |     |  |  |  |
|           | 60               | 14.20                                           | 20.20 | 33.60 | 55.10 | 80  |     |     |  |  |  |
|           | 65               | 13.65                                           | 19.10 | 31.80 | 51.80 | 75  |     |     |  |  |  |
|           | 70               | 13                                              | 18.10 | 30    | 48.20 | 68  |     |     |  |  |  |
|           | 75               | 11.90                                           | 16.90 | 28.20 | 44.20 | 63  |     |     |  |  |  |
|           | 80               | 10.80                                           | 15.70 | 26.20 | 41    | 58  |     |     |  |  |  |
|           | 85               | 9.70                                            | 14.50 | 24.20 | 37.40 | 54  |     |     |  |  |  |
|           | 90               | 8.60                                            | 13.20 | 22.20 | 34.10 | 49  |     |     |  |  |  |
|           | 95               | 7.30                                            | 12    | 20    | 31.20 | 44  |     |     |  |  |  |
|           | 100              | 6.50                                            | 10.70 | 17.80 | 28.60 | 40  |     |     |  |  |  |



For a coupling with a delayed filling chamber CDR - 420 at 1450 rpm, Value of 'X' from Table-01 = 29.

$$Kn = P/X = 75/29 = 2.59$$

$$Km = Kn \times (Ts/Tn) = 2.59 \times 1.4 = 3.63$$

To allow for the fact that starting torque is delivered at a speed less than for nominal torque,

Divide the value of Km by 0.9  
i.e. Km = 3.63/0.9 = 4.03

From Table-2.b for Km = 4.03, Oil filling angle is about 65 degree and

From Table-3.b for Angle = 65 degree, Quantity of fluid is 11.0 liters approximately.

Referring to Table -2, to obtain a full load slip not exceeding 3%, the value of Kn should be less than indicated for the chosen filling.

#### Oil change

Recommended every 8000 hours of working or every two years.

#### Checking the oilfill

- 1) Place filling plug in vertical position and remove.
- 2) Rotate the coupling slowly until the oil just comes up to the filling hole. This position must match the angle top dead centre calculated by the method given above.
- 3) If necessary, remove or add some oil.
- 4) Replace filling plug and tighten.