



# WESTCAR s.r.l.

## ROTOGEAR

Code 15418 - 2011

# GEAR COUPLING Type RE



## Type AR



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# WESTCAR PRODUCTS

ROTOFLUID hydraulic couplings for rated power



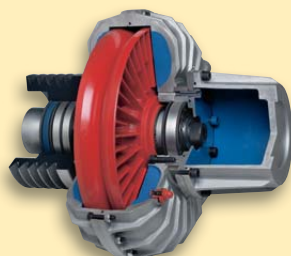
ROTOGEAR tooth gear couplings for torques up to 383.000 Nm

ROTOFLUID GGG hydraulic couplings (with cast-iron casing) for rated power from 100 to 6000 kW



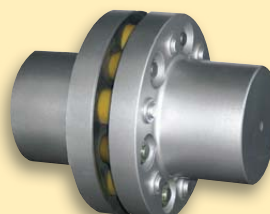
ROTOFLEXI® flexible couplings with quick replacement of the rubber element without axial hub movement. For torques up to 4.000 Nm.

ROTOFLUID-SCF/DCF hydraulic couplings with single/double delay chamber



HBX – GCX – HPX disc couplings with spacer  
HBSX – GCSX – HPSX - BE.  
Torques up to 1.043.300 Nm

ROTOFLUID-CA hydraulic couplings with annular chamber and starting torque lower than nominal motor torque



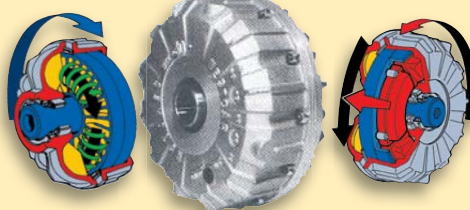
ROTOPIN flexible couplings with pins for axial sliding. For torques up to 300.000 Nm

Drum and disc brakes with brake servo



ROTOGRID flexible taper grid couplings. For torques up to 169.500 Nm

**SOFTSTART**  
Static starter with digital control for rated power up to 750 kW.  
Energy saving function.  
Water hammering control.  
Programming also via RS 485



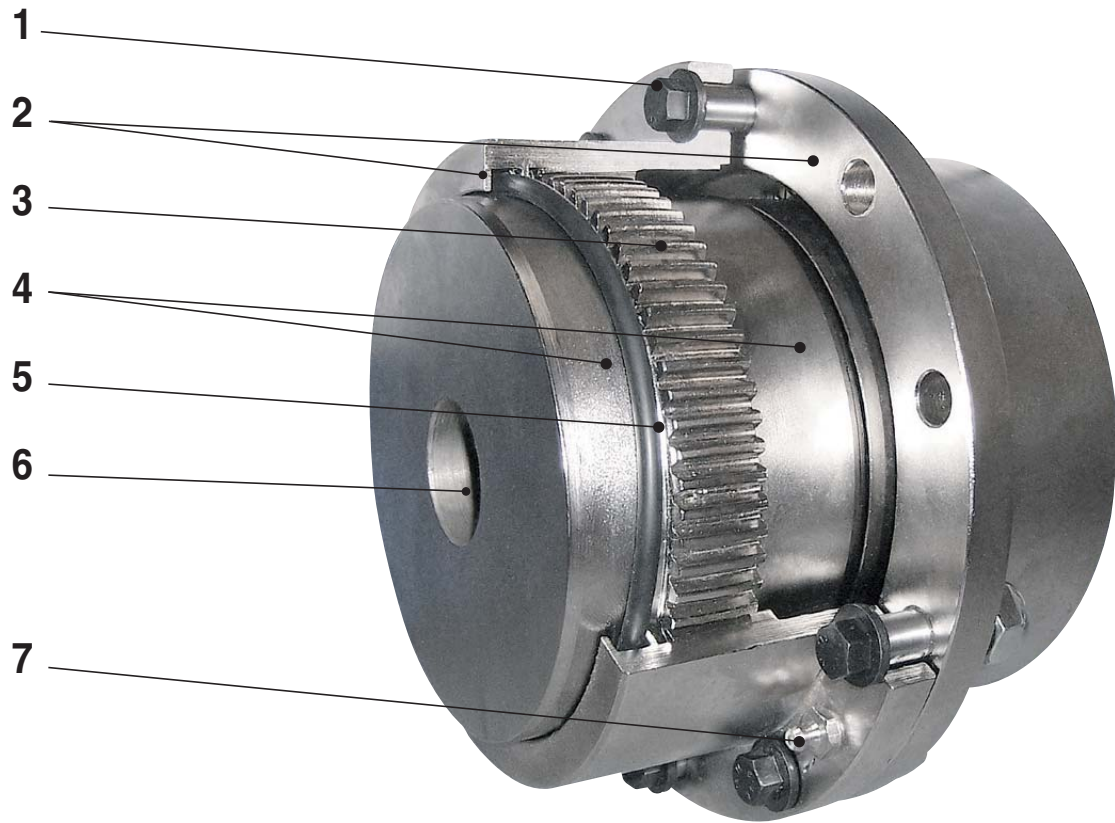
ROTOMECH hydromechanical couplings with hydraulic start-up and centrifugal mechanical lock-up with zero slip at running.  
For rated power up to 1500 kW



ON REQUEST THE PRODUCT  
CAN BE SUPPLIED  
ACCORDING TO ATEX.



**ROTOGEAR COUPLINGS  
RE SERIES**



- 1 Calibrated special-steel screws**
- 2 One piece sleeve with internal straight teeth**
- 3 Crowned toothing**
- 4 Hub teeth**
- 5 O-Rings**
- 6 Machined bore and keyway upon request**
- 7 Two lubrication plugs are mounted on each half sleeve**



Rotogear couplings are the most reliable and economic solution for connecting shafts in medium and heavy industry drives.

“RE” series couplings are suitable for compensating angular, radial and combined misalignments, without any power loss and reduce axial movements of connected shafts.

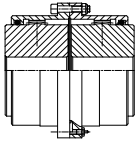
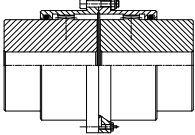
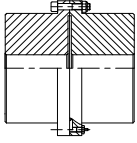
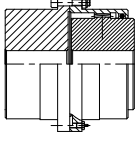
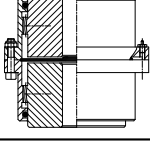
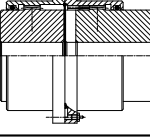
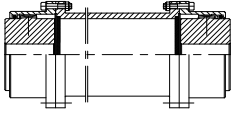
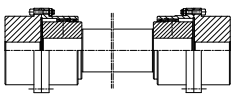
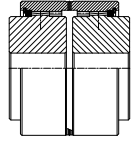
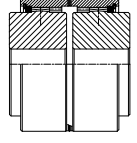
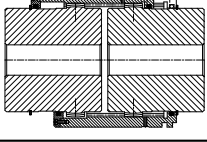
Crowned toothing assures a larger contact area and more teeth constantly in contact, an optimum load distribution with a minimum backlash.

“RE” series rotogear couplings are designed for compensating a static misalignment of 1° per rotogear mesh.



## STANDARD AVAILABLE TYPES

Sheet  
30-035 EN  
Date  
03-2011

| Type coupling                                                                       | Series               | Description                     | Page |
|-------------------------------------------------------------------------------------|----------------------|---------------------------------|------|
|    | RE                   | Coupling with standard hubs     | 9    |
|    | RE UU                | Coupling with long hubs         | 10   |
|    | RE FOO               | Rigid coupling                  | 11   |
|    | RE FO                | Half rigid coupling             | 12   |
|   | RE V                 | Vertical coupling               | 13   |
|  | RE FT                | Sliding coupling                | 14   |
|  | RE D                 | Coupling with spacer "D" series | 15   |
|  | RE B                 | Coupling with spacer "B" series | 16   |
|  | RE M                 | Sleeve coupling "M" series      | 17   |
|  | RE MC                | Sleeve coupling "MC" series     | 18   |
|  | RE DH.MN<br>RE DH.PM | Disengaging coupling            | 19   |



## ROTOGEAR COUPLINGS COMPARISON TABLE

| WESTCAR<br>ROTOGEAR<br>RE.. | MAINA<br>GO..A | FACHIN<br>IF.. | ESCO<br>FST | FALK<br>G.. | KOP-FLEX<br>H | AJAX<br>6901 | LOVEJOY<br>F | AMERIDRIVES<br>F |
|-----------------------------|----------------|----------------|-------------|-------------|---------------|--------------|--------------|------------------|
| <b>40</b>                   | 0              | 3              | 45          | -           | 1             | 1            | 1            | 101              |
| <b>55</b>                   | 1              | 4              | 60          | 15          | 1½            | 1,5          | 1½           | 101½             |
| <b>70</b>                   | 2              | 5,5            | 75          | 20          | 2             | 2            | 2            | 102              |
| <b>85</b>                   | 3              | 7              | 95          | 25          | 2½            | 2,5          | 2½           | 102½             |
| <b>100</b>                  | 4              | 8              | 110         | 30          | 3             | 3            | 3            | 103              |
| <b>120</b>                  | 5              | 9,5            | 130         | 35          | 3½            | 3,5          | 3½           | 103½             |
| <b>140</b>                  | 6              | 11             | 155         | 40          | 4             | 4            | 4            | 104              |
| <b>160</b>                  | 7              | 12             | 175         | 45          | 4½            | 4,5          | 4½           | 104½             |
| <b>180</b>                  | 8              | 14             | 195         | 50          | 5             | 5            | 5            | 105              |
| <b>200</b>                  | 9              | 15             | 215         | 55          | 5½            | 5,5          | 5½           | 105½             |
| <b>220</b>                  | 10             | 16,5           | 240         | 60          | 6             | 6            | 6            | 106              |
| <b>250</b>                  | 11             | 19             | 275         | 70          | 7             | 7            | 7            | 107              |



## ROTOGEAR COUPLING SELECTION

Make a preliminary selection of the coupling size by checking the max allowed bore diameter stated in the technical table relating to the chosen coupling type.

Select the service factor SF from table 1.

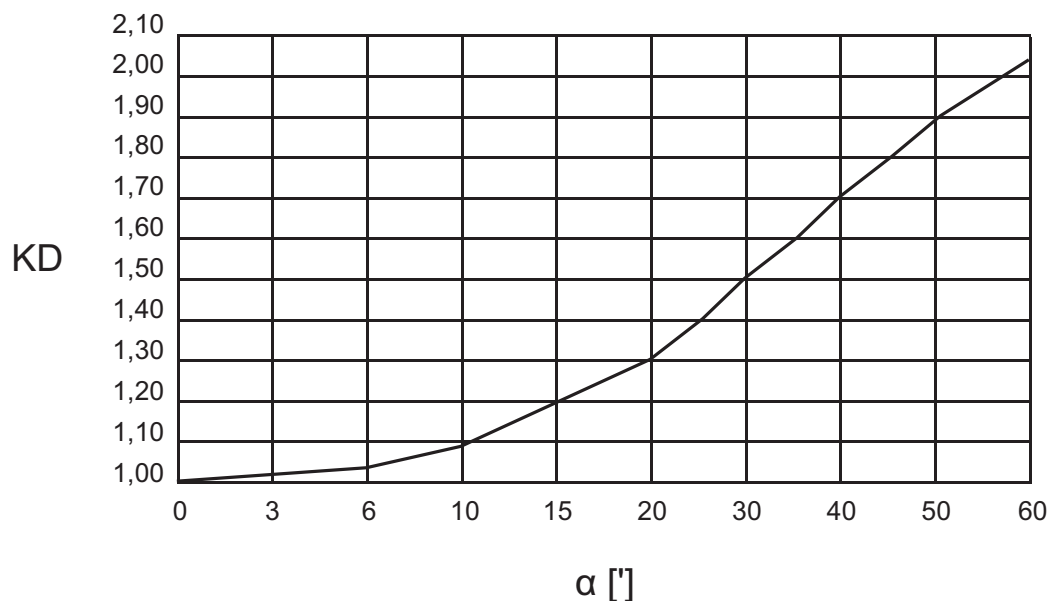
Table 1

| SERVICE FACTOR "SF"                                                                                                                       |      |                                                                                                         |     |
|-------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------|-----|
| Agitators for pure liquids<br>Electric generators<br>Fans<br>Centrifugal pumps<br>Belt conveyors                                          | 1.5  | Reciprocating compressors<br>Cold rolling mills<br>Calenders<br>Travelling cranes<br>Winders<br>Presses | 2   |
|                                                                                                                                           |      | Tapping machines<br>Crushers                                                                            | 2.5 |
|                                                                                                                                           |      | Rubber calenders<br>Rubber mixers<br>Roller tables                                                      | 2.5 |
|                                                                                                                                           |      | Hot rolling mills<br>Screwdown drives<br>Coilers<br>Reversing cold rolling mills                        | 3   |
|                                                                                                                                           |      |                                                                                                         |     |
| Pumps<br>Double acting pumps<br>Gear pumps<br>Bucket elevators<br>Chain belt conveyors<br>Screw belt conveyors<br>Centrifugal compressors | 1.75 |                                                                                                         |     |
|                                                                                                                                           |      |                                                                                                         |     |
|                                                                                                                                           |      |                                                                                                         |     |
|                                                                                                                                           |      |                                                                                                         |     |
|                                                                                                                                           |      |                                                                                                         |     |

**Note:** the values stated in the table are valid for electric motors and turbine drive; for reciprocating engine drives, increase such value by one.

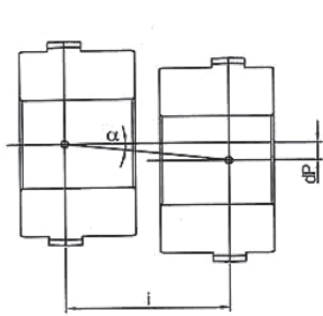
Calculate from graph 1 the misalignment factor KD, depending on operating misalignment  $\alpha$ .

Graph 1



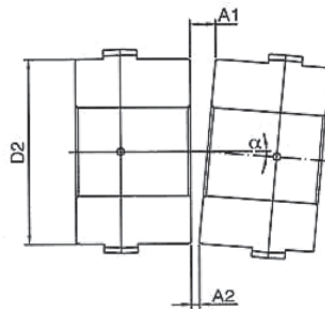
## ROTOGEAR COUPLING SELECTION

Operating misalignment  $\alpha$  may be calculated with the following formulas:



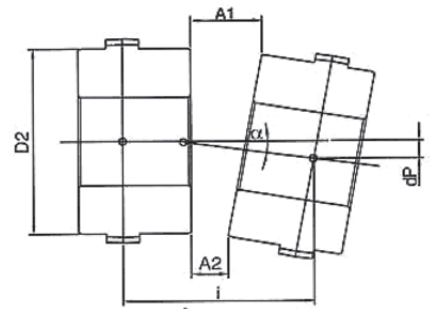
**OFFSET MISALIGNMENT**

$$\alpha = \arctan \left[ \frac{dP}{i} \right]$$



**ANGULAR MISALIGNMENT**

$$\alpha = \arcsin \left[ \frac{A2 - A1}{D2} \right]$$



**COMBINED MISALIGNMENT**

$$\alpha = \arctan \left[ \frac{dP}{i} \right] + \frac{1}{2} \arcsin \left[ \frac{A2 - A1}{D2} \right]$$

Compute the torque to be transmitted, increase it by multiplying with service factor SF and torque factor KD.

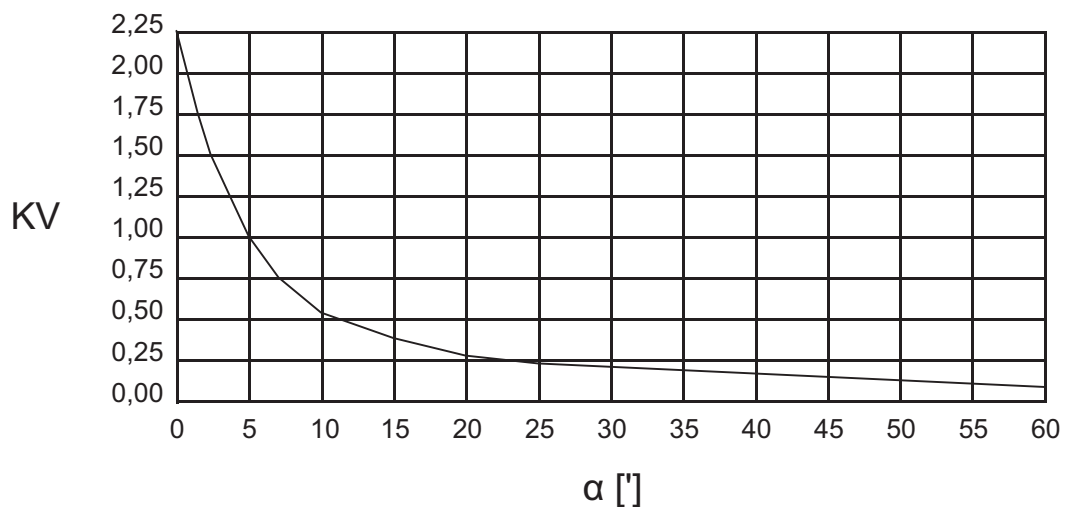
$$T = \frac{Pa \times 9,55}{n} \times SF \times KD \text{ (KNm)}$$

Pa = Absorbed power (Kw)  
n = RPM

Confirm the preliminary coupling size or increase it to a size which has a torque rating Tn equal to or greater than the computed T torque value.

Check that maximum speed n is not higher than selected size coupling maximum speed reduced by the speed factor Kv depending by operating misalignment  $\alpha$  shown on graph 2:

Graph 2

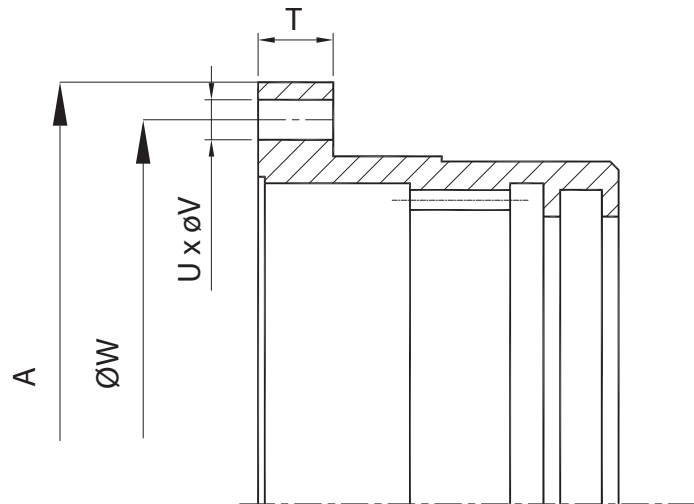


Dimensions of the selected coupling should be compared with the space available for the application to assure proper clearances. Shaft extension, distance and clearances to align coupling should be checked.

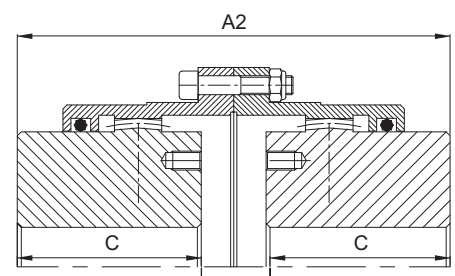
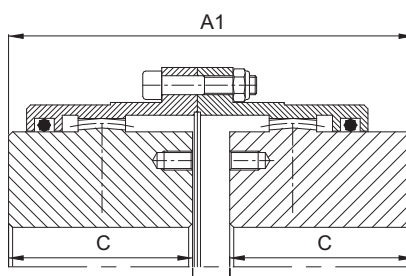
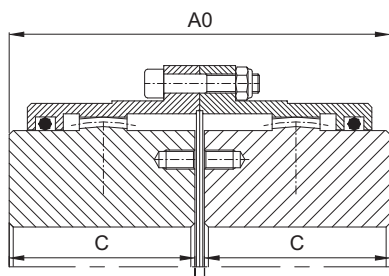


# ROTOGEAR COUPLING

 Sheet  
30-039 EN

 Date  
03-2011


| DIMENSION |    | 40  | 55  | 70  | 85  | 100 | 120 | 140 | 160 | 180 | 200 | 220 | 250 |
|-----------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A         | mm | 111 | 142 | 168 | 200 | 225 | 265 | 300 | 330 | 370 | 406 | 438 | 505 |
| T         | mm | 12  | 10  | 10  | 13  | 13  | 22  | 22  | 22  | 24  | 25  | 25  | 28  |
| U         | mm | 6   | 8   | 10  | 10  | 12  | 12  | 14  | 14  | 14  | 14  | 14  | 16  |
| V H8      | mm | 8   | 10  | 10  | 12  | 12  | 16  | 16  | 16  | 18  | 22  | 22  | 24  |
| W         | mm | 96  | 122 | 148 | 178 | 203 | 236 | 270 | 300 | 335 | 368 | 400 | 460 |



| HUB POSITION |    | 40  | 55  | 70  | 85  | 100 | 120 | 140 | 160 | 180 | 200 | 220 | 250 |
|--------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A0           | mm | 89  | 103 | 127 | 157 | 185 | 216 | 246 | 278 | 308 | 358 | 388 | 450 |
| A1           | mm | 103 | 108 | 138 | 164 | 204 | 237 | 272 | 307 | 350 | 403 | 438 | 512 |
| A2           | mm | 127 | 113 | 149 | 171 | 223 | 258 | 298 | 336 | 392 | 448 | 488 | 574 |
| C            | mm | 43  | 50  | 62  | 76  | 90  | 105 | 120 | 135 | 150 | 175 | 190 | 220 |
| G            | mm | 3   | 3   | 3   | 5   | 5   | 6   | 6   | 8   | 8   | 8   | 8   | 10  |
| G1           | mm | 5   | 8   | 14  | 12  | 24  | 27  | 32  | 37  | 50  | 53  | 58  | 72  |
| G2           | mm | 7   | 13  | 25  | 19  | 43  | 48  | 58  | 66  | 92  | 98  | 108 | 134 |

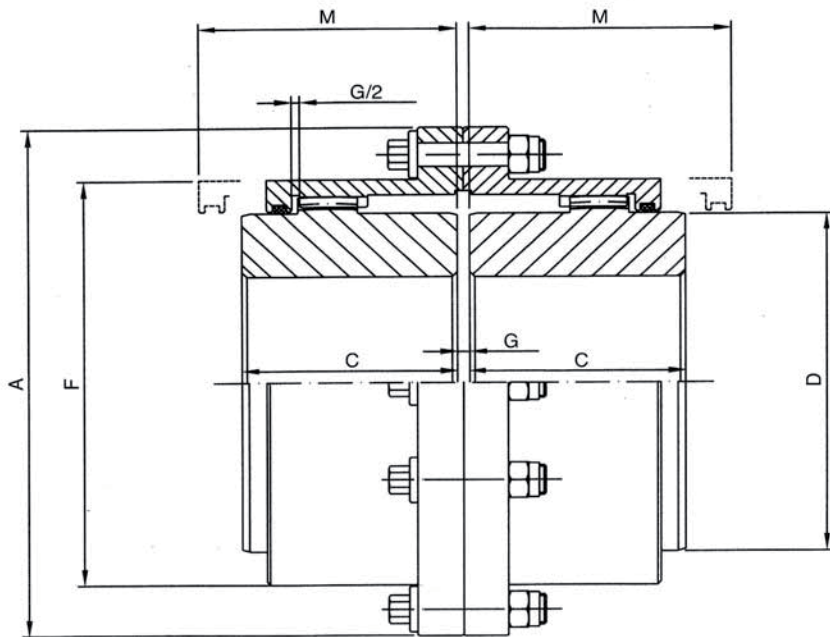
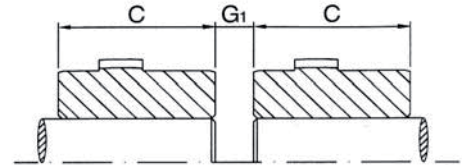
*Dimensions are approximate*



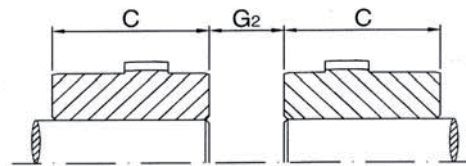


## COUPLING WITH STANDARD HUBS

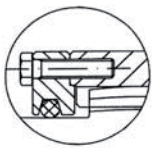
 Sheet  
30-040 EN

 Date  
03-2011

**RE...**


One reversed hub

**RE...R**


Two reversed hubs

**RE...RR**

 Seal flange  
sizes from 280 to 450


| Size | Torque (kNm)             |                         | Max speed (rpm) | Bore Min/Max (mm) | Dimensions (mm) |     |       |     |       |    |    |     | Mass (2) Kg | Grease (Kg) | Inertia (2) Kgm <sup>2</sup> |
|------|--------------------------|-------------------------|-----------------|-------------------|-----------------|-----|-------|-----|-------|----|----|-----|-------------|-------------|------------------------------|
|      | Rating<br>T <sub>n</sub> | Max<br>T <sub>max</sub> |                 |                   | A               | C   | F     | D   | M (1) | G  | G1 | G2  |             |             |                              |
| 40   | 1,7                      | 4,1                     | 5990            | 12 / 50           | 111             | 43  | 82,5  | 69  | 58    | 3  | 5  | 7   | 4           | 0,08        | 0,005                        |
| 55   | 2,7                      | 6,2                     | 4610            | 18 / 60           | 142             | 50  | 104,5 | 85  | 68    | 3  | 8  | 13  | 8           | 0,09        | 0,012                        |
| 70   | 5,5                      | 12                      | 4130            | 28 / 75           | 168             | 62  | 130,5 | 107 | 87    | 3  | 14 | 25  | 13          | 0,15        | 0,032                        |
| 85   | 8,5                      | 21                      | 3980            | 40 / 95           | 200             | 76  | 158,5 | 133 | 95    | 5  | 12 | 19  | 26          | 0,25        | 0,084                        |
| 100  | 13,5                     | 34                      | 3850            | 50 / 110          | 225             | 90  | 183,5 | 152 | 120   | 5  | 24 | 43  | 37          | 0,45        | 0,162                        |
| 120  | 22                       | 54                      | 3700            | 60 / 130          | 265             | 105 | 211,5 | 178 | 130   | 6  | 27 | 48  | 59          | 0,7         | 0,375                        |
| 140  | 34                       | 83                      | 3200            | 70 / 155          | 300             | 120 | 245,5 | 209 | 135   | 6  | 32 | 58  | 91          | 0,9         | 0,728                        |
| 160  | 43                       | 99                      | 2900            | 85 / 170          | 330             | 135 | 275   | 234 | 155   | 8  | 37 | 66  | 123         | 1,54        | 1,225                        |
| 180  | 68                       | 156                     | 2550            | 95 / 190          | 370             | 150 | 307   | 254 | 195   | 8  | 50 | 92  | 170         | 2,3         | 2,105                        |
| 200  | 82                       | 195                     | 2320            | 110 / 210         | 406             | 175 | 335   | 279 | 220   | 8  | 53 | 98  | 234         | 3,2         | 3,401                        |
| 220  | 150                      | 348                     | 2100            | 120 / 230         | 438             | 190 | 367   | 305 | 236   | 8  | 58 | 108 | 295         | 3,9         | 5,052                        |
| 250  | 195                      | 479                     | 1800            | 130 / 280         | 505             | 220 | 423   | 355 | 273   | 10 | 72 | 134 | 455         | 6,1         | 10,32                        |
| 280  | 275                      | 550                     | 1200            | 150 / 325         | 580             | 250 | 495   | 400 | -     | 12 | -  | -   | 685         | 6,5         | 20,6                         |
| 320  | 381                      | 762                     | 980             | 170 / 370         | 630             | 275 | 545   | 450 | -     | 12 | -  | -   | 920         | 7,2         | 33,5                         |
| 360  | 492                      | 984                     | 900             | 190 / 400         | 700             | 305 | 589   | 490 | -     | 12 | -  | -   | 1210        | 8,5         | 53,3                         |
| 400  | 658                      | 1316                    | 800             | 210 / 430         | 760             | 330 | 649   | 550 | -     | 12 | -  | -   | 1590        | 11,4        | 83,5                         |
| 450  | 835                      | 1670                    | 700             | 240 / 475         | 825             | 355 | 714   | 580 | -     | 12 | -  | -   | 2060        | 12,5        | 128,4                        |

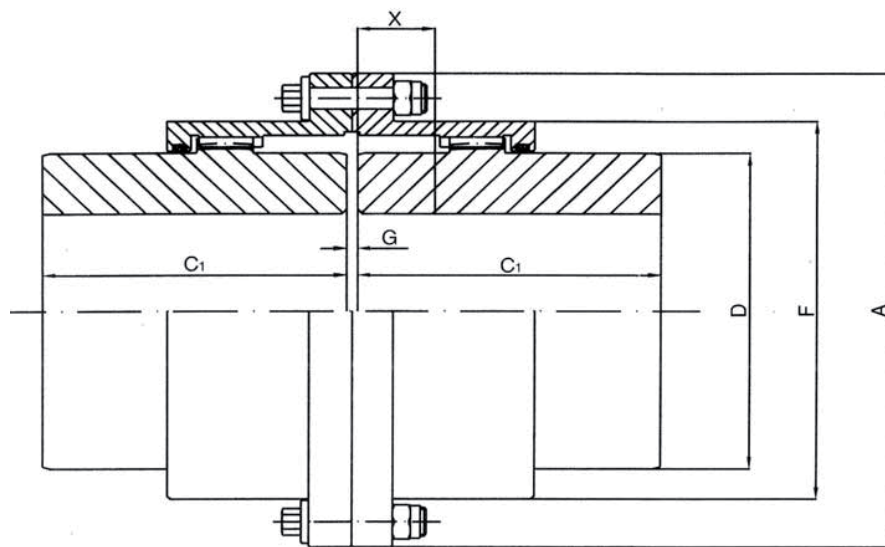
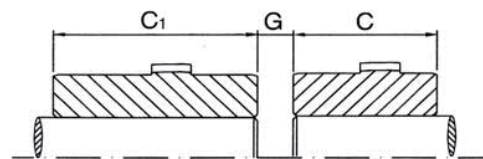
(1) Minimum clearance required for alignment

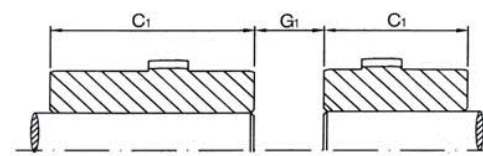
(2) Values stated are calculated for solid hubs with no bores

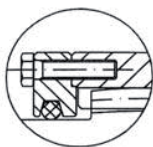


## COUPLING WITH LONG HUBS

 Sheet  
30-041 EN

 Date  
03-2011

**RE...UU**

 One long hub and  
one standard hub

**RE...U**

 One long hub and  
one reversed standard hub

**RE...UR**

 Seal flange  
sizes from 280 to 450

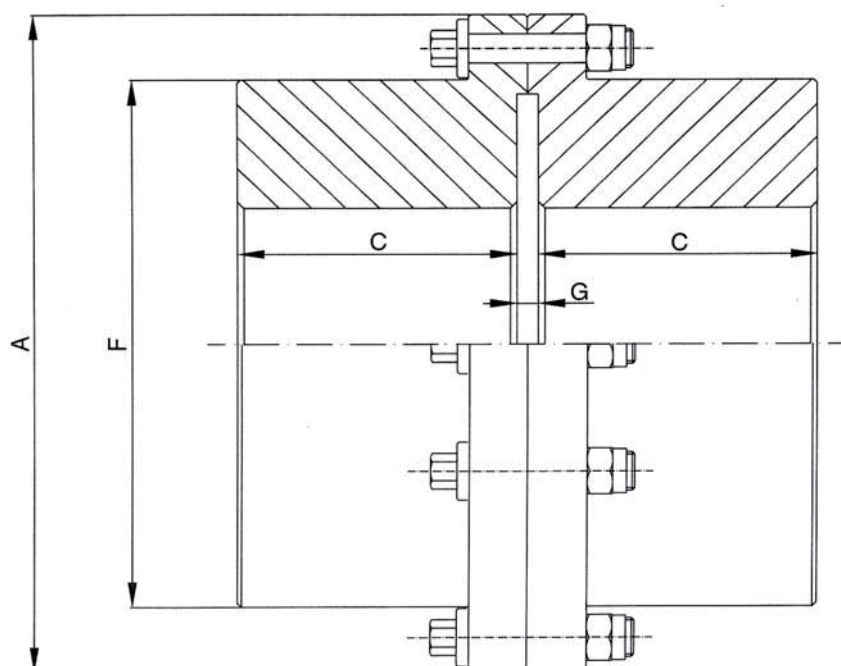
| Size | Torque (kNm)             |                         | Max speed (rpm) | Bore Min/Max (mm) | Dimensions (mm) |                |     |       |     |    |                |    | Mass (1) Kg | Grease (Kg) | Inertia (1) Kgm <sup>2</sup> |
|------|--------------------------|-------------------------|-----------------|-------------------|-----------------|----------------|-----|-------|-----|----|----------------|----|-------------|-------------|------------------------------|
|      | Rating<br>T <sub>n</sub> | Max<br>T <sub>max</sub> |                 |                   | A               | C <sub>1</sub> | C   | F     | D   | G  | G <sub>1</sub> | X  |             |             |                              |
| 40   | 1,7                      | 4,1                     | 5990            | 12 / 50           | 111             | 105            | 43  | 82,5  | 69  | 3  | 5              | 12 | 7,9         | 0,08        | 0,007                        |
| 55   | 2,7                      | 6,2                     | 4610            | 18 / 60           | 142             | 115            | 50  | 104,5 | 85  | 3  | 8              | 16 | 12,7        | 0,09        | 0,018                        |
| 70   | 5,5                      | 12                      | 4130            | 28 / 75           | 168             | 130            | 62  | 130,5 | 107 | 3  | 14             | 22 | 21          | 0,15        | 0,045                        |
| 85   | 8,5                      | 21                      | 3980            | 40 / 95           | 200             | 150            | 76  | 158,5 | 133 | 5  | 12             | 26 | 38          | 0,25        | 0,118                        |
| 100  | 13,5                     | 34                      | 3850            | 50 / 110          | 225             | 170            | 90  | 183,5 | 152 | 5  | 24             | 38 | 55          | 0,45        | 0,23                         |
| 120  | 22                       | 54                      | 3700            | 60 / 130          | 265             | 185            | 105 | 211,5 | 178 | 6  | 27             | 45 | 84          | 0,7         | 0,505                        |
| 140  | 34                       | 83                      | 3200            | 70 / 155          | 300             | 215            | 120 | 245,5 | 209 | 6  | 32             | 50 | 134         | 0,9         | 1,01                         |
| 160  | 43                       | 99                      | 2900            | 85 / 170          | 330             | 245            | 135 | 275   | 234 | 8  | 37             | 58 | 180         | 1,54        | 1,735                        |
| 180  | 68                       | 156                     | 2550            | 95 / 190          | 370             | 295            | 150 | 307   | 254 | 8  | 50             | 70 | 260         | 2,3         | 3,03                         |
| 200  | 82                       | 195                     | 2320            | 110 / 210         | 406             | 300            | 175 | 335   | 279 | 8  | 53             | 80 | 317         | 3,2         | 4,55                         |
| 220  | 150                      | 348                     | 2100            | 120 / 230         | 438             | 305            | 190 | 367   | 305 | 8  | 58             | 86 | 382         | 3,9         | 6,15                         |
| 250  | 195                      | 479                     | 1800            | 130 / 280         | 505             | 310            | 220 | 423   | 355 | 10 | 72             | 96 | 546         | 6,1         | 12,5                         |
| 280  | 275                      | 550                     | 1200            | 150 / 325         | 580             |                | 250 | 495   | 400 | 12 | -              | -  | -           | 6,5         | -                            |
| 320  | 381                      | 762                     | 980             | 170 / 370         | 630             |                | 275 | 545   | 450 | 12 | -              | -  | -           | 7,2         | -                            |
| 360  | 492                      | 984                     | 900             | 190 / 400         | 700             |                | 305 | 589   | 490 | 12 | -              | -  | -           | 8,5         | -                            |
| 400  | 658                      | 1316                    | 800             | 210 / 430         | 760             |                | 330 | 649   | 550 | 12 | -              | -  | -           | 11,4        | -                            |
| 450  | 835                      | 1670                    | 700             | 240 / 475         | 825             |                | 355 | 714   | 580 | 12 | -              | -  | -           | 12,5        | -                            |

(1) Values stated are calculated for solid hubs type RE...UU with no bores

**RIGID COUPLING**

Sheet  
30-042 EN

Date  
03-2011

**RE...FOO**

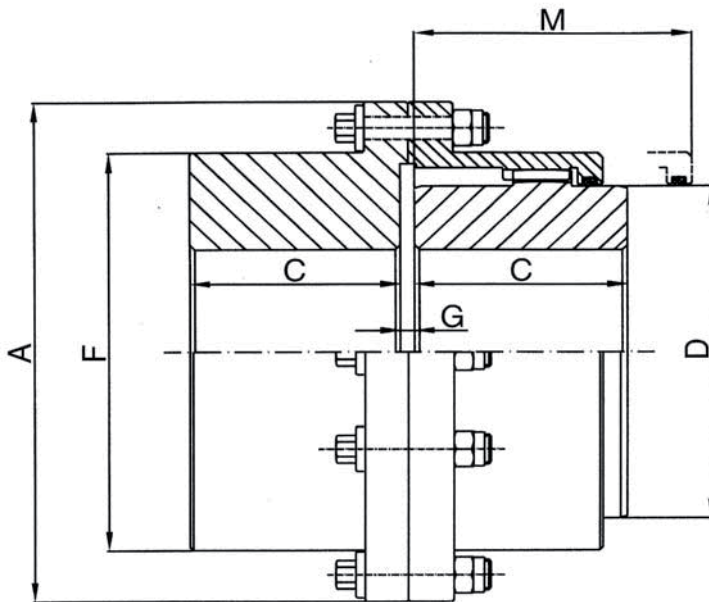
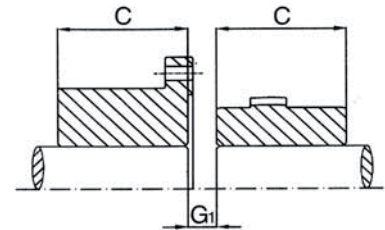
| Size | Torque (kNm)             |                         | Max speed (rpm) | Bore Max (mm) | Dimensions (mm) |     |       |    | Mass (1) Kg | Inertia (1) Kgm <sup>2</sup> |
|------|--------------------------|-------------------------|-----------------|---------------|-----------------|-----|-------|----|-------------|------------------------------|
|      | Rating<br>T <sub>n</sub> | Max<br>T <sub>max</sub> |                 |               | A               | C   | F     | G  |             |                              |
| 40   | 1,7                      | 4,1                     | 5990            | 60            | 111             | 43  | 82,5  | 3  | 5,2         | 0,005                        |
| 55   | 2,7                      | 6,2                     | 4610            | 75            | 142             | 50  | 104,5 | 3  | 9           | 0,016                        |
| 70   | 5,5                      | 12                      | 4130            | 90            | 168             | 62  | 130,5 | 3  | 14,6        | 0,038                        |
| 85   | 8,5                      | 21                      | 3980            | 110           | 200             | 76  | 158,5 | 5  | 28          | 0,096                        |
| 100  | 13,5                     | 34                      | 3850            | 130           | 225             | 90  | 183,5 | 5  | 42          | 0,198                        |
| 120  | 22                       | 54                      | 3700            | 150           | 265             | 105 | 211,5 | 6  | 66          | 0,445                        |
| 140  | 34                       | 83                      | 3200            | 175           | 300             | 120 | 245,5 | 6  | 98,2        | 0,832                        |
| 160  | 43                       | 99                      | 2900            | 195           | 330             | 135 | 275   | 8  | 137         | 1,435                        |
| 180  | 68                       | 156                     | 2550            | 220           | 370             | 150 | 307   | 8  | 192         | 2,455                        |
| 200  | 82                       | 195                     | 2320            | 240           | 406             | 175 | 335   | 8  | 266         | 4,059                        |
| 220  | 150                      | 348                     | 2100            | 260           | 438             | 190 | 367   | 8  | 345         | 6,128                        |
| 250  | 195                      | 479                     | 1800            | 300           | 505             | 220 | 423   | 10 | 525         | 10,78                        |
| 280  | 275                      | 550                     | 1200            | 365           | 580             | 250 | 475   | 12 | 751         | 21,62                        |
| 320  | 381                      | 762                     | 980             | 395           | 630             | 275 | 520   | 12 | 960         | 35,50                        |
| 360  | 492                      | 984                     | 900             | 425           | 700             | 305 | 556   | 12 | 1230        | 56,90                        |
| 400  | 658                      | 1316                    | 800             | 470           | 760             | 330 | 615   | 12 | 1810        | 91,54                        |
| 450  | 835                      | 1670                    | 700             | 520           | 825             | 355 | 680   | 12 | 2140        | 134,60                       |

(1) Values stated are calculated for solid hubs with no bores

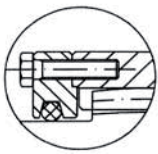


## HALF RIGID COUPLING

 Sheet  
30-043 EN

 Date  
03-2011

**RE...FO**


One reversed hub

**RE...FOR**

 Seal flange  
sizes from 280 to 450


| Size | Torque (kNm) |      | Max speed (rpm) | Bore Min/Max (mm) | Bore Max (1)(mm) | Dimensions (mm) |     |       |     |     |    |    | Mass (3) Kg | Grease (Kg) | Inertia (3) Kgm² |
|------|--------------|------|-----------------|-------------------|------------------|-----------------|-----|-------|-----|-----|----|----|-------------|-------------|------------------|
|      | Rating       | Max  |                 |                   |                  | A               | C   | F     | D   | M   | G  | G1 |             |             |                  |
|      | Tn           | Tmax |                 |                   |                  |                 |     |       |     | (2) |    |    |             |             |                  |
| 40   | 1,7          | 4,1  | 5990            | 12 / 50           | 60               | 111             | 43  | 82,5  | 69  | 58  | 3  | 5  | 4,6         | 0,05        | 0,005            |
| 55   | 2,7          | 6,2  | 4610            | 18 / 60           | 75               | 142             | 50  | 104,5 | 85  | 68  | 3  | 8  | 8,5         | 0,09        | 0,014            |
| 70   | 5,5          | 12   | 4130            | 28 / 75           | 90               | 168             | 62  | 130,5 | 107 | 87  | 3  | 14 | 13,8        | 0,15        | 0,035            |
| 85   | 8,5          | 21   | 3980            | 40 / 95           | 110              | 200             | 76  | 158,5 | 133 | 95  | 5  | 12 | 27          | 0,25        | 0,09             |
| 100  | 13,5         | 34   | 3850            | 50 / 110          | 130              | 225             | 90  | 183,5 | 152 | 120 | 5  | 24 | 39,5        | 0,45        | 0,18             |
| 120  | 22           | 54   | 3700            | 60 / 130          | 150              | 265             | 105 | 211,5 | 178 | 130 | 6  | 27 | 62,5        | 0,70        | 0,41             |
| 140  | 34           | 83   | 3200            | 70 / 155          | 175              | 300             | 120 | 245,5 | 209 | 135 | 6  | 32 | 94,6        | 0,90        | 0,78             |
| 160  | 43           | 99   | 2900            | 85 / 170          | 195              | 330             | 135 | 275   | 234 | 155 | 8  | 37 | 130         | 1,54        | 1,33             |
| 180  | 68           | 156  | 2550            | 95 / 190          | 220              | 370             | 150 | 307   | 254 | 195 | 8  | 50 | 181         | 2,30        | 2,28             |
| 200  | 82           | 195  | 2320            | 110 / 210         | 240              | 406             | 175 | 335   | 279 | 220 | 8  | 53 | 250         | 3,20        | 3,73             |
| 220  | 150          | 348  | 2100            | 120 / 230         | 260              | 438             | 190 | 367   | 305 | 236 | 8  | 58 | 320         | 3,90        | 5,59             |
| 250  | 195          | 479  | 1800            | 130 / 280         | 300              | 505             | 220 | 423   | 355 | 273 | 10 | 72 | 490         | 6,10        | 10,55            |
| 280  | 275          | 550  | 1200            | 150 / 325         | 365              | 580             | 250 | 475   | 400 | -   | 12 | -  | 718         | 5,2         | 21,11            |
| 320  | 381          | 762  | 980             | 170 / 370         | 395              | 630             | 275 | 520   | 450 | -   | 12 | -  | 940         | 5,8         | 34,50            |
| 360  | 492          | 984  | 900             | 190 / 400         | 425              | 700             | 305 | 556   | 490 | -   | 12 | -  | 1220        | 8           | 55,10            |
| 400  | 658          | 1316 | 800             | 210 / 430         | 470              | 760             | 330 | 615   | 550 | -   | 12 | -  | 1700        | 10          | 87,52            |
| 450  | 835          | 1670 | 700             | 240 / 475         | 520              | 825             | 355 | 680   | 580 | -   | 12 | -  | 2100        | 12          | 131,50           |

(1) Maximum bore for rigid coupling

(2) Minimum clearance required for alignment

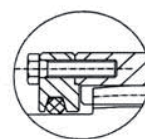
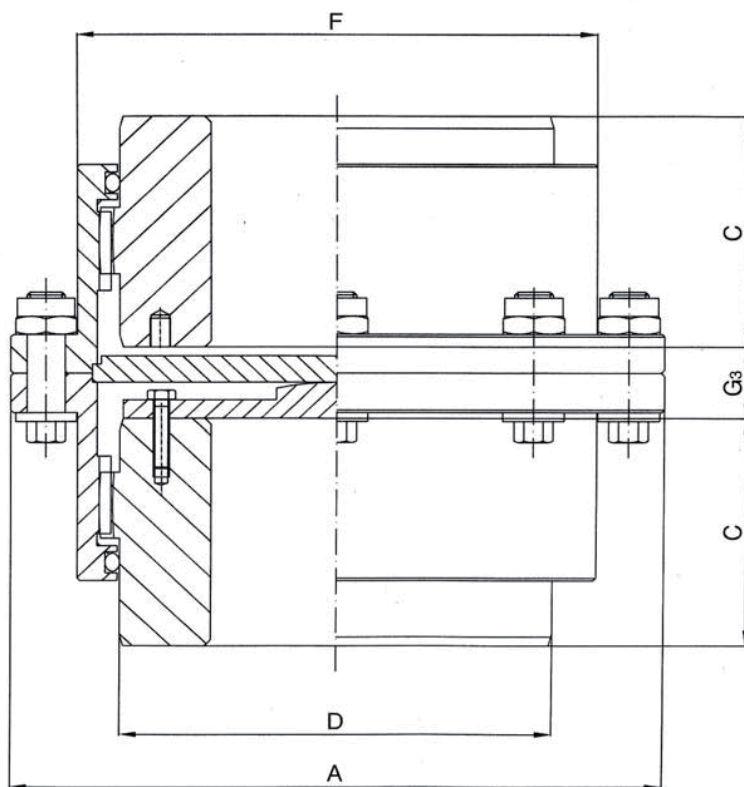
(3) Values stated are calculated for solid hubs with no bores





## VERTICAL COUPLING

 Sheet  
30-044 EN

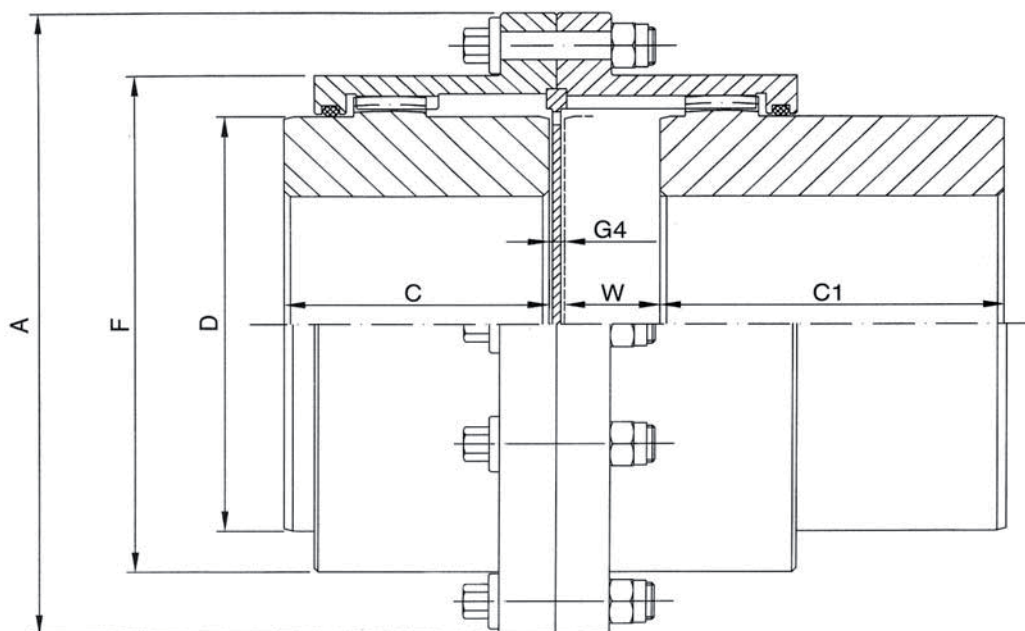
 Date  
03-2011

 Seal flange  
sizes from 280 to 450

**RE...V**


| Size | Torque (kNm) |      | Max speed (rpm) | Bore Min/Max (mm) | Dimensions (mm) |     |       |     |     | Mass (1) Kg | Grease (Kg) | Inertia (1) Kgm² |
|------|--------------|------|-----------------|-------------------|-----------------|-----|-------|-----|-----|-------------|-------------|------------------|
|      | Rating       | Max  |                 |                   | A               | C   | F     | D   | G3  |             |             |                  |
|      | Tn           | Tmax |                 |                   |                 |     |       |     |     |             |             |                  |
| 40   | 1,7          | 4,1  | 5990            | 12 / 50           | 111             | 43  | 82,5  | 69  | 23  | 5           | 0,08        | 0,005            |
| 55   | 2,7          | 6,2  | 4610            | 18 / 60           | 142             | 50  | 104,5 | 85  | 23  | 9           | 0,09        | 0,012            |
| 70   | 5,5          | 12   | 4130            | 28 / 75           | 168             | 62  | 130,5 | 107 | 31  | 15          | 0,15        | 0,032            |
| 85   | 8,5          | 21   | 3980            | 40 / 95           | 200             | 76  | 158,5 | 133 | 31  | 28          | 0,25        | 0,084            |
| 100  | 13,5         | 34   | 3850            | 50 / 110          | 225             | 90  | 183,5 | 152 | 43  | 49          | 0,45        | 0,162            |
| 120  | 22           | 54   | 3700            | 60 / 130          | 265             | 105 | 211,5 | 178 | 48  | 62          | 0,70        | 0,375            |
| 140  | 34           | 83   | 3200            | 70 / 155          | 300             | 120 | 245,5 | 209 | 58  | 95          | 0,90        | 0,728            |
| 160  | 43           | 99   | 2900            | 85 / 170          | 330             | 135 | 275   | 234 | 66  | 129         | 1,54        | 1,225            |
| 180  | 68           | 156  | 2550            | 95 / 190          | 370             | 150 | 307   | 254 | 92  | 178         | 2,30        | 2,105            |
| 200  | 82           | 195  | 2320            | 110 / 210         | 406             | 175 | 335   | 279 | 98  | 244         | 3,20        | 3,401            |
| 220  | 150          | 348  | 2100            | 120 / 230         | 438             | 190 | 367   | 305 | 108 | 307         | 3,90        | 5,052            |
| 250  | 195          | 479  | 1800            | 130 / 280         | 505             | 220 | 423   | 355 | 134 | 470         | 6,10        | 10,32            |
| 280  | 275          | 550  | 1200            | 150 / 325         | 580             | 250 | 495   | 400 | 140 | 725         | 6,50        | 20,60            |
| 320  | 381          | 762  | 980             | 170 / 370         | 630             | 275 | 545   | 450 | 140 | 970         | 7,20        | 33,50            |
| 360  | 492          | 984  | 900             | 190 / 400         | 700             | 305 | 589   | 490 | 140 | 1260        | 8,50        | 53,30            |
| 400  | 658          | 1316 | 800             | 210 / 430         | 760             | 330 | 649   | 550 | 150 | 1650        | 11,40       | 83,50            |
| 450  | 835          | 1670 | 700             | 240 / 475         | 825             | 355 | 714   | 580 | 150 | 2130        | 12,50       | 128,40           |

(1) Values stated are calculated for solid hubs with no bores

## SLIDING COUPLING



**RE...FT**

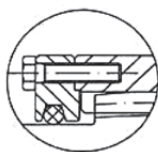
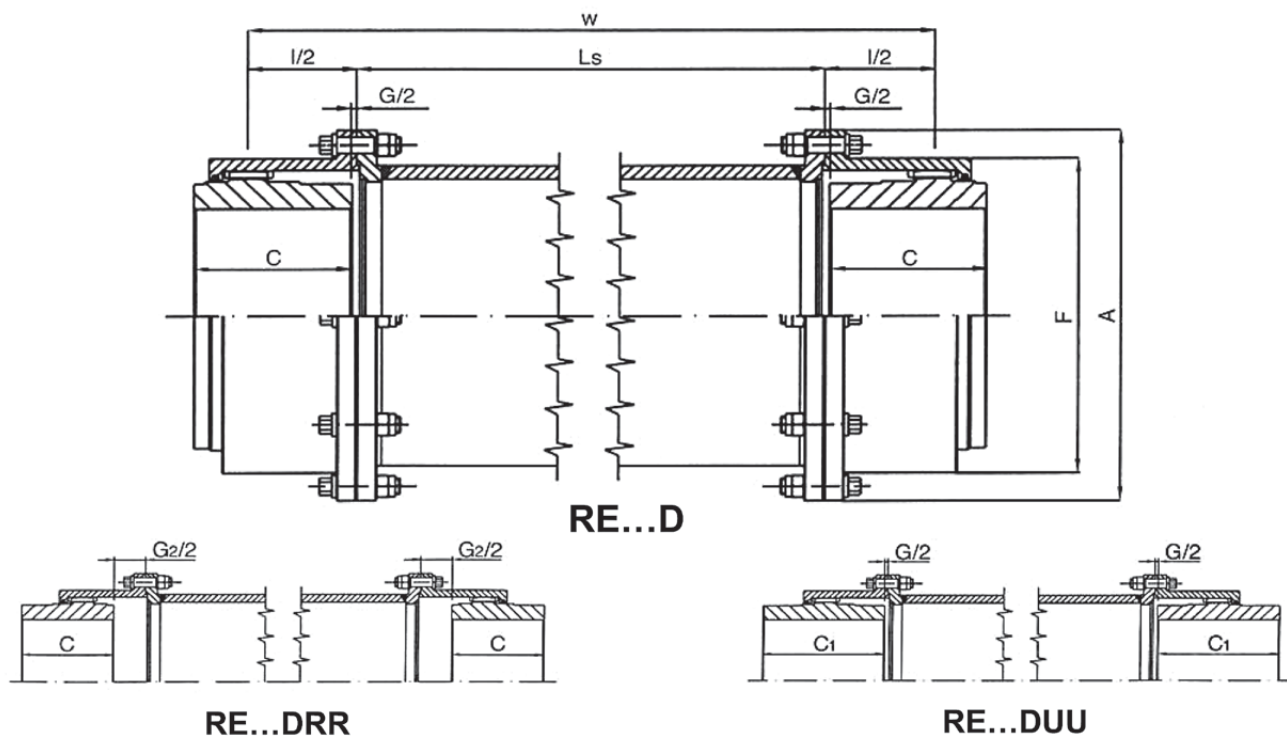
| Size       | Torque (kNm)                   |                               | Max speed (rpm) | Bore Min/Max (mm) | Dimensions (mm) |          |          |          |           |           |          |
|------------|--------------------------------|-------------------------------|-----------------|-------------------|-----------------|----------|----------|----------|-----------|-----------|----------|
|            | Rating<br><b>T<sub>n</sub></b> | Max<br><b>T<sub>max</sub></b> |                 |                   | <b>A</b>        | <b>F</b> | <b>D</b> | <b>C</b> | <b>C1</b> | <b>G4</b> | <b>W</b> |
| <b>40</b>  | 1,7                            | 4,1                           | 5990            | 12 / 50           | 111             | 82,5     | 69       | 43       | 100       | 7         | 62       |
| <b>55</b>  | 2,7                            | 6,2                           | 4610            | 18 / 60           | 142             | 104,5    | 85       | 50       | 102       | 7         | 62       |
| <b>70</b>  | 5,5                            | 12                            | 4130            | 28 / 75           | 168             | 130,5    | 107      | 62       | 110       | 7         | 64       |
| <b>85</b>  | 8,5                            | 21                            | 3980            | 40 / 95           | 200             | 158,5    | 133      | 76       | 122       | 8         | 72       |
| <b>100</b> | 13,5                           | 34                            | 3850            | 50 / 110          | 225             | 183,5    | 152      | 90       | 130       | 8         | 72       |
| <b>120</b> | 22                             | 54                            | 3700            | 60 / 130          | 265             | 211,5    | 178      | 105      | 144       | 10        | 80       |
| <b>140</b> | 34                             | 83                            | 3200            | 70 / 155          | 300             | 245,5    | 209      | 120      | 156       | 10        | 88       |
| <b>160</b> | 43                             | 99                            | 2900            | 85 / 170          | 330             | 275      | 234      | 135      | 162       | 14        | 88       |
| <b>180</b> | 68                             | 156                           | 2550            | 95 / 190          | 370             | 307      | 254      | 150      | 180       | 14        | 102      |
| <b>200</b> | 82                             | 195                           | 2320            | 110 / 210         | 406             | 335      | 279      | 175      | 220       | 14        | 130      |
| <b>220</b> | 150                            | 348                           | 2100            | 120 / 230         | 438             | 367      | 305      | 190      | 220       | 14        | 130      |
| <b>250</b> | 195                            | 479                           | 1800            | 130 / 280         | 505             | 423      | 355      | 220      | 210       | 16        | 110      |







## COUPLING WITH SPACER "D" SERIES

Sheet  
30-046 ENDate  
03-2011

Seal flange  
sizes from 280 to 450

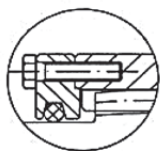
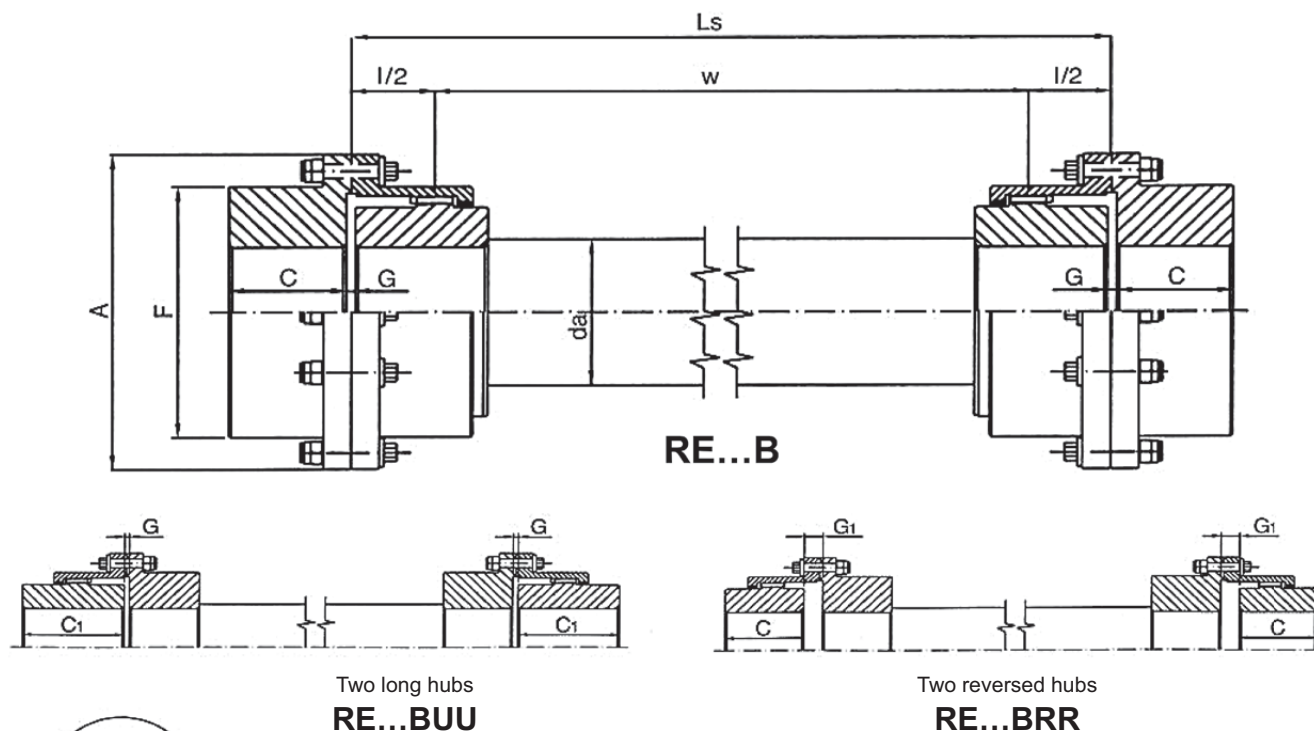


Maximum speed (rev/min) =  $10^{(M-N \log_{10} W)}$

| Size | Bore<br>Min/Max<br>(mm) | Dimensions (mm) |     |     |       |     |    |     |        | Speed Coeff. |       | Grease<br>(Kg) |
|------|-------------------------|-----------------|-----|-----|-------|-----|----|-----|--------|--------------|-------|----------------|
|      |                         | A               | C   | C1  | F     | I   | G  | G2  | Ls min | M            | N     |                |
| 40   | 12 / 50                 | 111             | 43  | 105 | 82,5  | 48  | 3  | 7   | 80     | 9,899        | 2,018 | 0,08           |
| 55   | 18 / 60                 | 142             | 50  | 115 | 104,5 | 58  | 3  | 13  | 90     | 10,184       | 2,066 | 0,09           |
| 70   | 28 / 75                 | 168             | 62  | 130 | 130,5 | 76  | 3  | 25  | 90     | 9,881        | 1,961 | 0,15           |
| 85   | 40 / 95                 | 200             | 76  | 150 | 158,5 | 88  | 5  | 19  | 100    | 10,069       | 1,985 | 0,25           |
| 100  | 50 / 110                | 225             | 90  | 170 | 183,5 | 114 | 5  | 43  | 100    | 10,295       | 2,027 | 0,45           |
| 120  | 60 / 130                | 265             | 105 | 185 | 211,5 | 132 | 6  | 48  | 110    | 10,295       | 2,027 | 0,70           |
| 140  | 70 / 155                | 300             | 120 | 215 | 245,5 | 152 | 6  | 58  | 110    | 10,186       | 1,964 | 0,90           |
| 160  | 85 / 170                | 330             | 135 | 245 | 275   | 172 | 8  | 66  | 130    | 10,406       | 1,998 | 1,54           |
| 180  | 95 / 190                | 370             | 150 | 295 | 307   | 200 | 8  | 92  | 150    | 10,406       | 1,998 | 2,30           |
| 200  | 110 / 210               | 406             | 175 | 300 | 335   | 228 | 8  | 98  | 160    | 10,676       | 2,048 | 3,20           |
| 220  | 120 / 230               | 438             | 190 | 305 | 367   | 248 | 8  | 108 | 170    | 10,676       | 2,023 | 3,90           |
| 250  | 130 / 280               | 505             | 220 | 310 | 423   | 292 | 10 | 134 | 180    | 10,682       | 2,024 | 6,10           |
| 280  | 150 / 325               | 580             | 250 | -   | 495   | -   | 12 | -   | -      | -            | -     | 6,50           |
| 320  | 170 / 370               | 630             | 275 | -   | 545   | -   | 12 | -   | -      | -            | -     | 7,20           |
| 360  | 190 / 400               | 700             | 305 | -   | 589   | -   | 12 | -   | -      | -            | -     | 8,50           |
| 400  | 210 / 430               | 760             | 330 | -   | 649   | -   | 12 | -   | -      | -            | -     | 11,40          |
| 450  | 240 / 475               | 825             | 355 | -   | 714   | -   | 12 | -   | -      | -            | -     | 12,50          |



## COUPLING WITH SPACER "B" SERIES

Sheet  
30-047 ENDate  
03-2011Seal flange  
sizes from 280 to 450

Maximum speed (rev/min) = **10** (M-N Log<sub>10</sub> W)

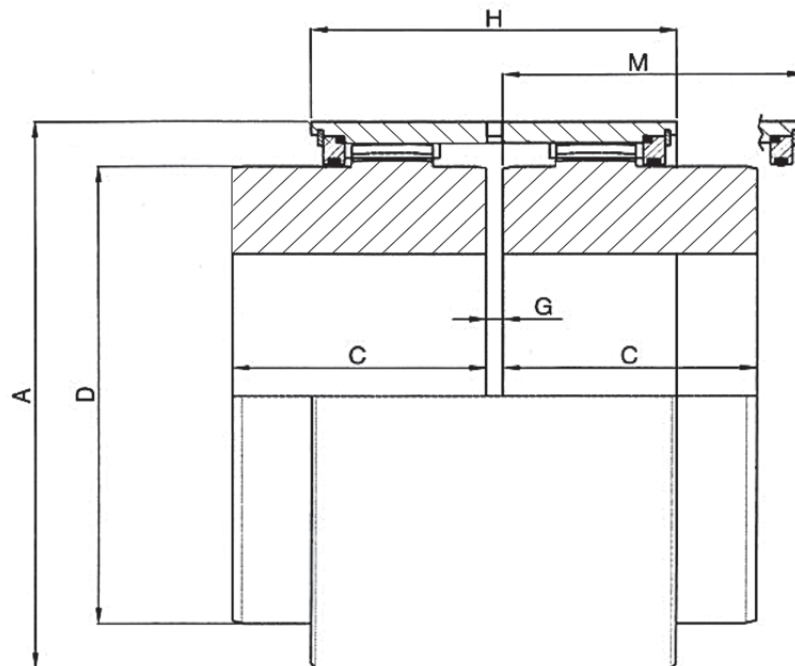
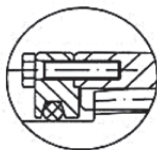
| Size | Bore<br>Min/Max<br>(mm) | Bore<br>Max (1)<br>(mm) | Dimensions (mm) |     |     |       |     |     |    |    | Speed Coeff. |       |
|------|-------------------------|-------------------------|-----------------|-----|-----|-------|-----|-----|----|----|--------------|-------|
|      |                         |                         | A               | C   | C1  | F     | da  | I   | G  | G1 | M            | N     |
| 40   | 12 / 50                 | 60                      | 111             | 43  | 105 | 82,5  | 55  | 48  | 3  | 5  | 9,569        | 1,995 |
| 55   | 18 / 60                 | 75                      | 142             | 50  | 115 | 104,5 | 65  | 58  | 3  | 8  | 9,591        | 1,982 |
| 70   | 28 / 75                 | 90                      | 168             | 62  | 130 | 130,5 | 80  | 76  | 3  | 14 | 9,622        | 1,962 |
| 85   | 40 / 95                 | 110                     | 200             | 76  | 150 | 158,5 | 100 | 88  | 5  | 12 | 9,844        | 1,997 |
| 100  | 50 / 110                | 130                     | 225             | 90  | 170 | 183,5 | 110 | 114 | 5  | 24 | 10,043       | 2,045 |
| 120  | 60 / 130                | 150                     | 265             | 105 | 185 | 211,5 | 130 | 132 | 6  | 27 | 10,011       | 2,016 |
| 140  | 70 / 155                | 175                     | 300             | 120 | 215 | 245,5 | 150 | 152 | 6  | 32 | 9,901        | 1,966 |
| 160  | 85 / 170                | 195                     | 330             | 135 | 245 | 275   | 170 | 172 | 8  | 37 | 9,964        | 1,969 |
| 180  | 95 / 190                | 220                     | 370             | 150 | 295 | 307   | 190 | 200 | 8  | 50 | 9,856        | 1,926 |
| 200  | 110 / 210               | 240                     | 406             | 175 | 300 | 335   | 200 | 228 | 8  | 53 | 10,075       | 1,978 |
| 220  | 120 / 230               | 260                     | 438             | 190 | 305 | 367   | 220 | 248 | 8  | 58 | 10,353       | 2,043 |
| 250  | 130 / 280               | 300                     | 505             | 220 | 310 | 423   | 250 | 292 | 10 | 72 | 10,387       | 2,038 |
| 280  | 150 / 325               | 365                     | 580             | 250 | -   | 495   | -   | -   | 12 | -  | -            | -     |
| 320  | 170 / 370               | 395                     | 630             | 275 | -   | 545   | -   | -   | 12 | -  | -            | -     |
| 360  | 190 / 400               | 425                     | 700             | 305 | -   | 589   | -   | -   | 12 | -  | -            | -     |
| 400  | 210 / 430               | 470                     | 760             | 330 | -   | 649   | -   | -   | 12 | -  | -            | -     |
| 450  | 240 / 475               | 520                     | 825             | 355 | -   | 714   | -   | -   | 12 | -  | -            | -     |

(1) Maximum bore for rigid coupling



## COUPLING WITH SPACER "M" SERIES

 Sheet  
30-048 EN

 Date  
03-2011

**RE...M**

 Seal flange  
sizes from 280 to 450

| Size | Torque (kNm)   |                  | Max speed (rpm) | Bore Min/Max (mm) | Dimensions (mm) |     |     |     |       |    | Mass (2) Kg | Grease (Kg) | Inertia (2) Kgm <sup>2</sup> |
|------|----------------|------------------|-----------------|-------------------|-----------------|-----|-----|-----|-------|----|-------------|-------------|------------------------------|
|      | Rating         | Max              |                 |                   | A               | C   | D   | H   | M (1) | G  |             |             |                              |
|      | T <sub>n</sub> | T <sub>max</sub> |                 |                   |                 |     |     |     |       |    |             |             |                              |
| 40   | 1,7            | 4,1              | 5990            | 12 / 50           | 98              | 43  | 69  | 86  | 91    | 3  | 4           | 0,07        | 0,005                        |
| 55   | 2,7            | 6,2              | 4610            | 18 / 60           | 115             | 50  | 85  | 97  | 102   | 3  | 8           | 0,08        | 0,011                        |
| 70   | 5,5            | 12               | 4130            | 28 / 75           | 145             | 62  | 107 | 112 | 117   | 3  | 12,5        | 0,1         | 0,031                        |
| 85   | 8,5            | 21               | 3980            | 40 / 95           | 176             | 76  | 133 | 141 | 146   | 5  | 25          | 0,2         | 0,082                        |
| 100  | 13,5           | 34               | 3850            | 50 / 110          | 196             | 90  | 152 | 145 | 150   | 5  | 34          | 0,4         | 0,15                         |
| 120  | 22             | 54               | 3700            | 60 / 130          | 225             | 105 | 178 | 164 | 169   | 6  | 58          | 0,6         | 0,325                        |
| 140  | 34             | 83               | 3200            | 70 / 155          | 256             | 120 | 209 | 180 | 185   | 6  | 86          | 0,8         | 0,685                        |
| 160  | 43             | 99               | 2900            | 85 / 170          | 286             | 135 | 234 | 198 | 203   | 8  | 118         | 1,5         | 1,125                        |
| 180  | 68             | 156              | 2550            | 95 / 190          | 310             | 150 | 254 | 194 | 200   | 8  | 155         | 2           | 1,724                        |
| 200  | 82             | 195              | 2320            | 110 / 210         | 345             | 175 | 279 | 220 | 225   | 8  | 225         | 3           | 2,802                        |
| 220  | 150            | 348              | 2100            | 120 / 230         | 375             | 190 | 305 | 234 | 240   | 8  | 270         | 3,5         | 4,542                        |
| 250  | 195            | 479              | 1800            | 130 / 280         | 430             | 220 | 355 | 264 | 270   | 10 | 404         | 4           | 8,42                         |
| 280  | 275            | 550              | 1200            | 150 / 325         | 495             | 250 | 400 | 302 | 305   | 12 | 590         | 4,5         | 15,73                        |
| 320  | 381            | 762              | 980             | 170 / 370         | 545             | 275 | 450 | 328 | 340   | 12 | 785         | 5,5         | 24,82                        |
| 360  | 492            | 984              | 900             | 190 / 400         | 590             | 305 | 490 | 336 | 350   | 12 | 980         | 6           | 35,66                        |
| 400  | 658            | 1316             | 800             | 210 / 430         | 650             | 330 | 550 | 348 | 360   | 12 | 1395        | 7           | 58,72                        |
| 450  | 835            | 1670             | 700             | 240 / 475         | 715             | 355 | 580 | 356 | 370   | 12 | 1790        | 9,5         | 95,42                        |

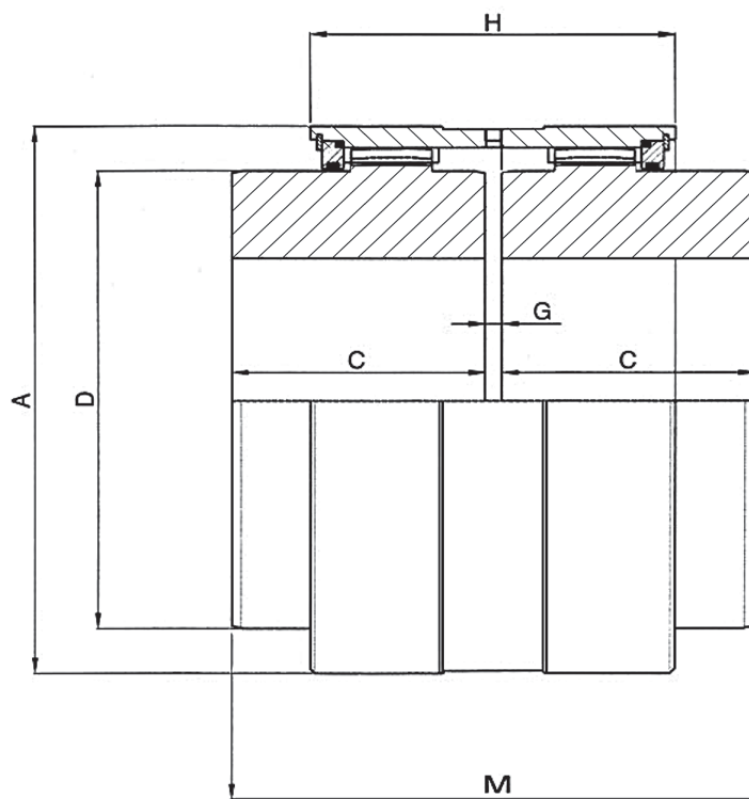
(1) Minimum clearance required for assembling and alignment

(2) Values stated are calculated for solid hubs with no bores



## COUPLING WITH SPACER "MC" SERIES

Sheet  
30-049 EN  
Date  
03-2011



Standard hubs

**RE...MC**

One long hub

**RE...MCL**

Two long hubs

**RE...MCLL**

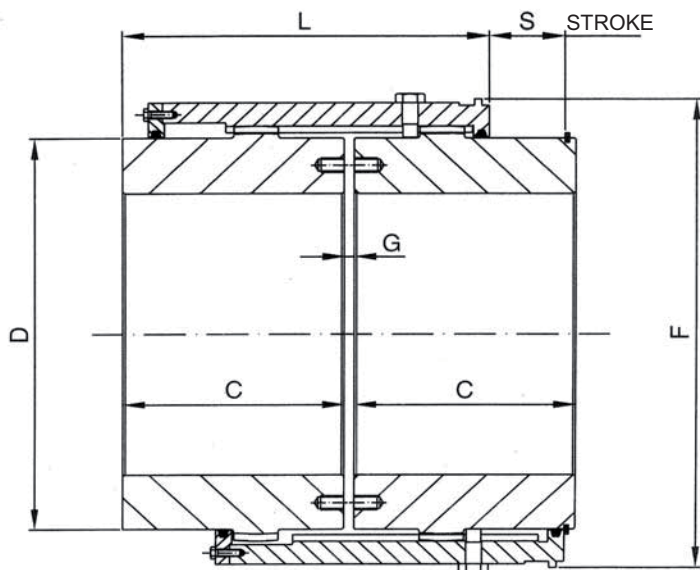
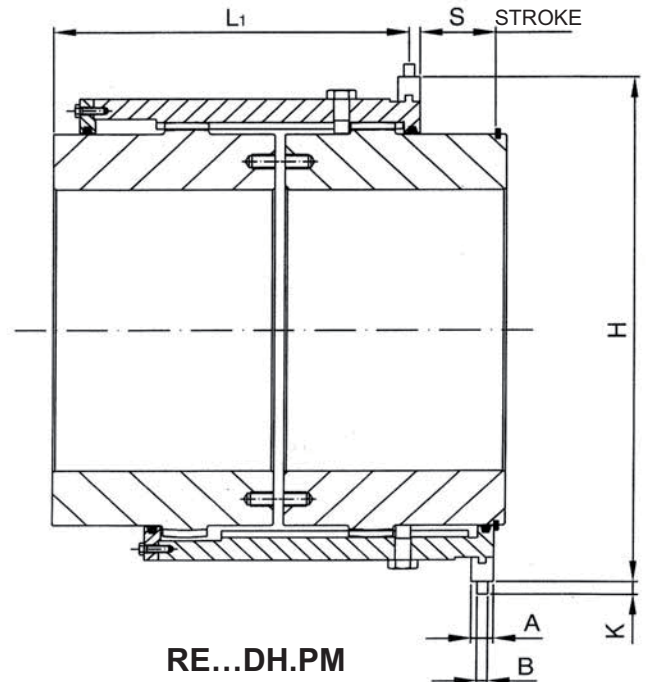
| Size | Torque (kNm) |       | Max speed (rpm) | Bore Min/Max (mm) | Dimensions (mm) |      |     |     |     |    |             |      | Mass Kg |              |          | J (1)<br>Kg cm <sup>2</sup> |
|------|--------------|-------|-----------------|-------------------|-----------------|------|-----|-----|-----|----|-------------|------|---------|--------------|----------|-----------------------------|
|      | Rating       | Max   |                 |                   | Standard series |      |     |     |     |    | Long series |      | Sleeve  | Standard hub | Long hub |                             |
|      |              |       |                 |                   | A               | C    | D   | H   | M   | G  | C(2)        | M(2) |         |              |          |                             |
| 25   | 600          | 1524  | 6000            | 0 / 28            | 68              | 41   | 42  | 61  | 85  | 3  | 60          | 123  | 0,72    | 0,48         | 0,69     | 8,68                        |
| 32   | 1000         | 2520  | 5000            | 0 / 38            | 85              | 48,5 | 55  | 73  | 100 | 3  | 80          | 163  | 1,14    | 0,99         | 1,58     | 25,1                        |
| 40   | 1250         | 3125  | 4200            | 0 / 48            | 95              | 56   | 64  | 82  | 115 | 3  | 80          | 163  | 1,68    | 1,49         | 2,10     | 44,82                       |
| 56   | 2500         | 6200  | 3500            | 0 / 60            | 120             | 68   | 80  | 97  | 140 | 4  | 100         | 204  | 2,86    | 2,96         | 4,22     | 132,6                       |
| 63   | 4000         | 9260  | 3000            | 0 / 70            | 140             | 74,5 | 100 | 108 | 153 | 4  | 119,5       | 243  | 3,75    | 4,90         | 7,67     | 278,2                       |
| 80   | 7500         | 18000 | 2600            | 0 / 90            | 175             | 82,5 | 125 | 125 | 170 | 5  | 140         | 285  | 5,58    | 8,72         | 14,26    | 558,6                       |
| 100  | 12000        | 28500 | 1400            | 0 / 110           | 198             | 105  | 150 | 148 | 216 | 6  | 174,5       | 355  | 6,63    | 15,76        | 25,40    | 1044,5                      |
| 125  | 23600        | 56250 | 950             | 40 / 140          | 245             | 140  | 190 | 214 | 288 | 8  | 207,5       | 423  | 17,70   | 32,60        | 49,50    | 3650                        |
| 155  | 40000        | 90000 | 700             | 40 / 175          | 300             | 180  | 240 | 240 | 370 | 10 | 245         | 498  | 28,30   | 65,50        | 91,40    | 9982                        |

(1) Values stated are calculated for standard coupling with maximum bore without key seat

(2) Couplings with hubs suitable for shafts of UNEL-MEC series motors

Couplings of size **125** and **155** are manufactured with 39NiCrMo3 steel, hardened and tempered



**DISENGAGING COUPLING**Sheet  
30-050 ENDate  
03-2011**RE...DH.MN****RE...DH.PM**

| Size | Torque (kNm) |      | Max speed (rpm) | Bore Min/Max (mm) | Dimensions (mm) |     |     |     |     |    |     |    |    |    | Grease (Kg) |      |
|------|--------------|------|-----------------|-------------------|-----------------|-----|-----|-----|-----|----|-----|----|----|----|-------------|------|
|      | Rating       | Max  |                 |                   | F               | C   | D   | L   | L1  | G  | S   | A  | B  | K  |             | H    |
|      | Tn           | Tmax |                 |                   |                 |     |     |     |     |    |     |    |    |    |             |      |
| 40   | 1,7          | 4,1  | 5990            | 12 / 50           | 100             | 60  | 69  | 100 | 90  | 3  | 17  | 20 | 12 | 12 | 130         | 0,08 |
| 55   | 2,7          | 6,2  | 4610            | 18 / 60           | 120             | 70  | 85  | 110 | 100 | 3  | 18  | 20 | 12 | 12 | 150         | 0,09 |
| 70   | 5,5          | 12   | 4130            | 28 / 75           | 152             | 85  | 107 | 140 | 128 | 3  | 29  | 24 | 16 | 16 | 190         | 0,15 |
| 85   | 8,5          | 21   | 3980            | 40 / 95           | 175             | 95  | 133 | 155 | 143 | 5  | 32  | 24 | 16 | 16 | 210         | 0,25 |
| 100  | 13,5         | 34   | 3850            | 50 / 110          | 200             | 105 | 152 | 170 | 158 | 5  | 34  | 24 | 16 | 16 | 240         | 0,45 |
| 120  | 22           | 54   | 3700            | 60 / 130          | 230             | 120 | 178 | 195 | 179 | 6  | 39  | 32 | 20 | 20 | 270         | 0,7  |
| 140  | 34           | 83   | 3200            | 70 / 155          | 260             | 130 | 209 | 205 | 189 | 6  | 45  | 32 | 20 | 20 | 310         | 0,9  |
| 160  | 43           | 99   | 2900            | 85 / 170          | 290             | 150 | 234 | 240 | 224 | 8  | 50  | 32 | 20 | 20 | 330         | 1,54 |
| 180  | 68           | 156  | 2550            | 95 / 190          | 320             | 175 | 254 | 280 | 264 | 8  | 56  | 32 | 20 | 20 | 360         | 2,3  |
| 200  | 82           | 195  | 2320            | 110 / 210         | 350             | 190 | 279 | 300 | 280 | 8  | 62  | 40 | 24 | 22 | 400         | 3,2  |
| 220  | 150          | 348  | 2100            | 120 / 230         | 395             | 220 | 305 | 350 | 330 | 8  | 70  | 40 | 24 | 22 | 450         | 3,9  |
| 250  | 195          | 479  | 1800            | 130 / 280         | 450             | 250 | 355 | 400 | 375 | 10 | 77  | 50 | 28 | 24 | 510         | 6,1  |
| 280  | 275          | 550  | 1200            | 150 / 325         | 545             | 275 | 400 | 430 | 405 | 12 | 80  | 50 | 28 | 24 | 610         | 6,5  |
| 320  | 381          | 762  | 980             | 170 / 370         | 590             | 300 | 450 | 470 | 440 | 12 | 87  | 60 | 32 | 30 | 660         | 7,2  |
| 360  | 492          | 984  | 900             | 190 / 400         | 640             | 335 | 490 | 510 | 480 | 12 | 95  | 60 | 32 | 30 | 710         | 8,5  |
| 400  | 658          | 1316 | 800             | 210 / 430         | 715             | 360 | 550 | 560 | 520 | 12 | 100 | 80 | 44 | 40 | 810         | 11,4 |
| 450  | 835          | 1670 | 700             | 240 / 475         | 780             | 390 | 580 | 600 | 560 | 12 | 110 | 80 | 44 | 40 | 870         | 12,5 |



## Assembly instructions / Lubrication and maintenance

RE gear couplings are packed and delivered without lubrication. Couplings are supplied with a special corrosion-proof protective grease. You are required to follow the instructions below to assure correct assembly and maintenance. These instructions assume a grease lubrication. Special tools are not required for the assembly.

### 1. Assembly

- 1.1 Check that the minimum space required for assembly is available between the machines as shown on the tables. Verify that the coupling is installed with the hubs in normal or in reversed position.
- 1.2 Disassemble the coupling and clean all the surfaces.
- 1.3 Position the key in the suitable keyseat on the shaft. Insert the O-ring in the seat of the external sleeve and install it on the shaft. For sizes starting from 590 insert the O-ring in the cover plate, insert the hub on the shaft being careful to not damage the O-ring. Do the same with the other half coupling. Use of a molikote based grease can be useful for hub assembly.
- 1.4 For assembly with an interference fit, O-rings or cover plates must be adequately protected during the hub warming up. In case of assembling a coupling with heat treated teeth, is important that the hub temperature is not higher than 200°C.
- 1.5 With the hubs assembled on the shafts, check that the alignment and dimension "S" is according to the dimensional tables with a tolerance of 0.5 mm (axial). Check the shaft alignment carefully.
- 1.6 Apply some joint adhesive on the mating surfaces of the toothed sleeves of the coupling. For sizes starting from 590 joint adhesive must be applied on contact surfaces of the closing plates. Then insert the bolts and complete the assembly of the coupling. Position the lubrication holes on the toothed sleeves offset by 90°.
- 1.7 Fill the coupling with the right quantity of grease when the assembly is completed.
- 1.8 Check that the coupling has angular and axial movement. Note: accident prevention rules (d.p.r. 27.04.75 nr. 457 art. 55) require fixed guard on rotating parts.

### 2. Maintenance

- 2.1 Completely replace the grease every 8000 hours of operation, by carefully cleaning the coupling and checking the shaft alignment.
- 2.2 For ambient temperature from -10°C to +90°C, use of a grease with EP features and lithium based additive is required.  
We suggest the use of the following lubricants (with standard ambient and operating conditions):

|       |                 |        |                     |
|-------|-----------------|--------|---------------------|
| AGIP: | GR-MU/EPO (EP1) | SHELL: | ALVANIA EP GREASE 1 |
| API:  | APIGREASE PGX-0 | MOBIL: | MOBILGREASE-SPECIAL |
| IP:   | ATHESIA-EPO     | ESSO:  | PEN-O-LED-EP 350    |

- 2.3 Add new grease every 5-6 months if necessary and check the free axial movement of the toothed sleeves.
- 2.4 In case of grease leakage from the toothed sleeves, disassemble the coupling, clean the mating surfaces, apply new joint adhesive and fill the coupling with new grease. For high service temperatures contact our technical dept. for the choice of the proper lubricant.

## COUPLINGS FOR CABLE DRUMS SELECTION OF COUPLING

### Coupling selection

The correct selection of the coupling can be accomplished using the following procedure:

1) Pre-select the coupling size according to the shaft diameter of the gearbox to which the coupling hub has to be mounted (reference dimensional table, maximum bore allowed)

2) Determine your real transmissible torque to apply to the coupling with the following formula :

$$MT \text{ MAX.} = P/N \times sf \times 955 \text{ (daNm)}$$

Where: **P** = power kW

**N** = r.p.m. of drum

**sf** = service factor (see table n° 1)

**955** = fixed coefficient

Check that the applied torque doesn't exceed the nominal torque for the pre-selected coupling.

3) Calculate the radial load on the coupling, function of the rope pull load, the hoisting efficiency and rope drum weight, use the following formula:

$$P = T + G/2 \text{ (daN)}$$

**P** = radial load (daN)

**T** = rope pull load (daN)

**G** = drum force weight (daN)

Check that the calculated radial load doesn't exceed the maximum acceptable radial load for the pre-selected coupling.

4) Example:

**Gearbox shaft** diameter 220mm.

Power to transmit 45kW

r.p.m. 9

Rope pull load 10.000 daN

Drum force weight 1.250 daN

Service factor 2

Torque calculated MT max. =  $45/9 \times 2 \times 955 = 9550 \text{ daNm}$

Compare the values obtained with the values indicated in the table n° 2 to assure that the right coupling for that application is the type AR 450/J

Table 1 - Service factor "fs" according to the standards

|                        |      |      |     |     |     |    |      |     |      |    |
|------------------------|------|------|-----|-----|-----|----|------|-----|------|----|
| Per Standard DIN 15020 | IBm  | Iam  | 2m  | 3m  | 4m  | 5m |      |     |      |    |
| Per Standard REM       | T0   | T1   | T2  | T3  | T4  | T5 | T6   | T7  | T8   | T9 |
| Service Factor         | 1.12 | 1.25 | 1.4 | 1.6 | 1.8 | 2  | 2.25 | 2.5 | 2.75 | 3  |

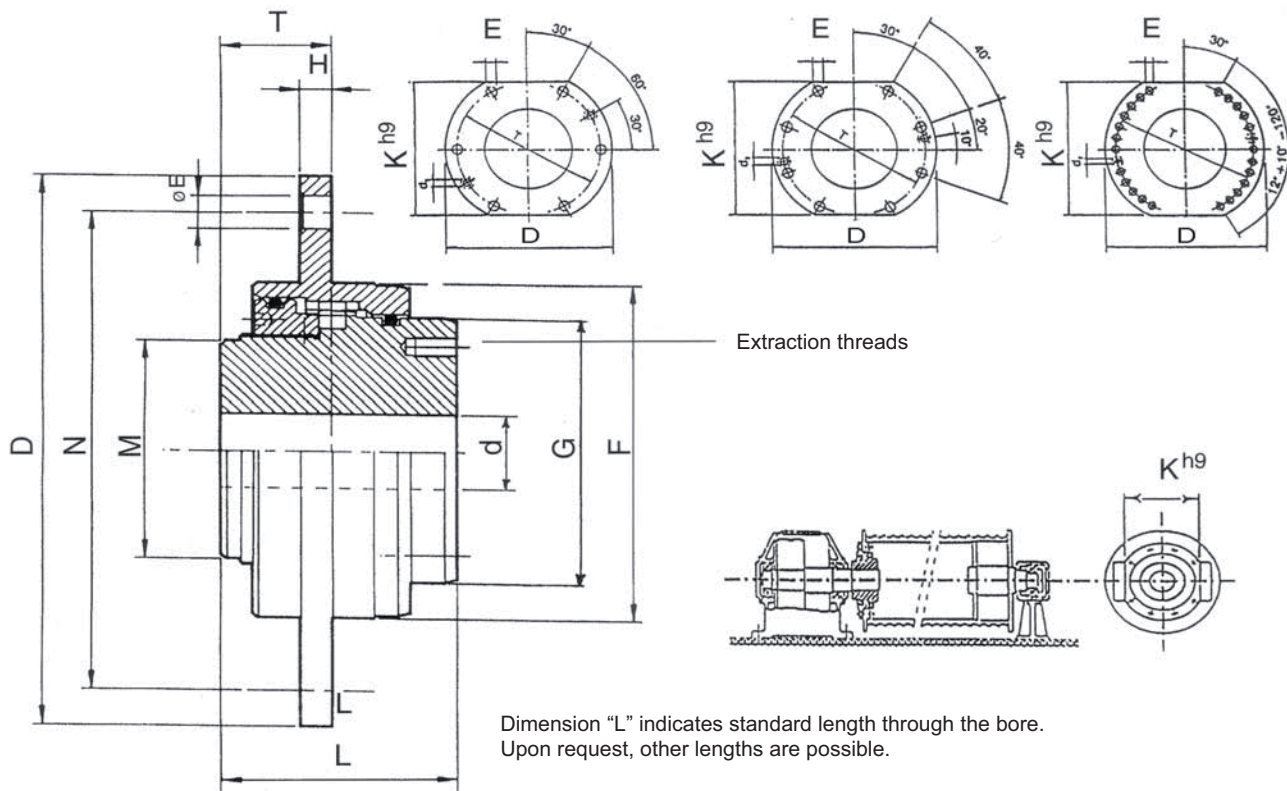
Table 2 - Coupling Selection

| COUPLING AR.../J        | 140  | 160  | 180  | 200  | 220  | 240  | 260  | 280  | 310  | 340  | 400  | 420   | 450   | 530   | 560   | 600   | 670   | 730   |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| <b>Bore d</b><br>in mm  | min. | 30   | 30   | 30   | 50   | 50   | 60   | 60   | 60   | 70   | 70   | 90    | 90    | 100   | 100   | 120   | 120   | 140   |
|                         | max. | 65   | 80   | 85   | 95   | 105  | 115  | 130  | 140  | 160  | 175  | 210   | 220   | 235   | 290   | 310   | 330   | 375   |
| <b>Mass</b>             | kg   | 10   | 12   | 20   | 24   | 28   | 32   | 40   | 55   | 72   | 94   | 130   | 160   | 200   | 300   | 370   | 415   | 600   |
| <b>Torque (nom.)</b>    | daNm | 250  | 400  | 780  | 1350 | 1600 | 1850 | 2200 | 3200 | 4000 | 5100 | 7700  | 9200  | 13000 | 19000 | 31000 | 42000 | 54000 |
| <b>Radial load cap.</b> | daN  | 1200 | 1400 | 1800 | 2500 | 3100 | 3700 | 4200 | 5200 | 6300 | 7950 | 11250 | 12300 | 14500 | 20200 | 22200 | 26000 | 32300 |

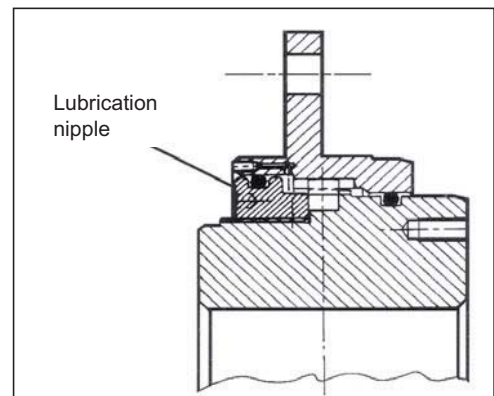
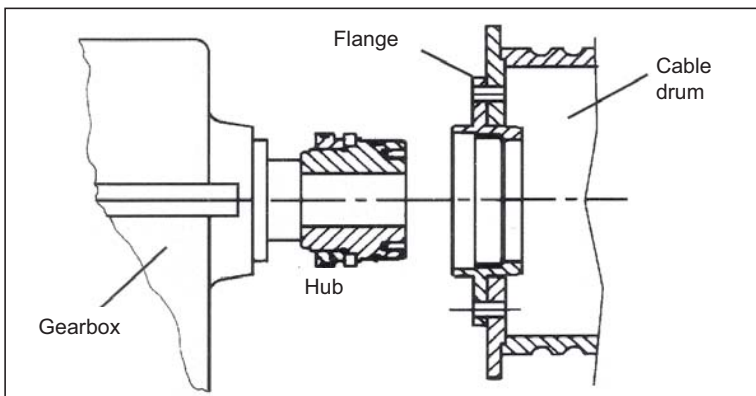


## COUPLINGS FOR CABLE DRUMS DIMENSIONS

 Sheet  
30-055 EN

 Date  
03-2011


| COUPLING AR.../J |          | 140  | 160  | 180  | 200  | 220  | 240  | 260  | 280  | 310  | 340  | 400   | 420   | 450   | 530   | 560   | 600   | 670   | 730   |
|------------------|----------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Bore d<br>in mm  | min.     | 30   | 30   | 30   | 50   | 50   | 60   | 60   | 60   | 70   | 70   | 90    | 90    | 100   | 100   | 120   | 120   | 140   | 140   |
|                  | max.     | 65   | 80   | 85   | 95   | 105  | 115  | 130  | 140  | 160  | 175  | 210   | 220   | 235   | 290   | 310   | 330   | 375   | 410   |
| Dimens.<br>in mm | D        | 230  | 250  | 280  | 320  | 340  | 360  | 380  | 400  | 420  | 450  | 510   | 550   | 580   | 650   | 680   | 710   | 780   | 850   |
|                  | M        | 90   | 110  | 120  | 135  | 145  | 163  | 183  | 195  | 225  | 255  | 310   | 325   | 350   | 425   | 455   | 490   | 555   | 615   |
|                  | F h6     | 140  | 160  | 180  | 200  | 220  | 240  | 260  | 280  | 310  | 340  | 400   | 420   | 450   | 530   | 560   | 600   | 670   | 730   |
|                  | T        | 42   | 42   | 42   | 45   | 45   | 45   | 45   | 45   | 45   | 60   | 60    | 60    | 60    | 65    | 65    | 81    | 81    | 81    |
|                  | L        | 90   | 95   | 100  | 110  | 125  | 130  | 145  | 170  | 175  | 185  | 220   | 240   | 260   | 315   | 350   | 380   | 410   | 450   |
|                  | H        | 12   | 12   | 12   | 15   | 15   | 15   | 15   | 15   | 15   | 20   | 20    | 20    | 20    | 25    | 25    | 25    | 25    | 25    |
|                  | N        | 200  | 220  | 250  | 280  | 300  | 320  | 340  | 360  | 380  | 400  | 460   | 500   | 530   | 600   | 630   | 660   | 730   | 800   |
|                  | G        | 110  | 130  | 142  | 157  | 175  | 195  | 215  | 231  | 261  | 286  | 346   | 361   | 386   | 461   | 491   | 526   | 591   | 651   |
|                  | Ø E H8   | 14   | 14   | 14   | 18   | 18   | 18   | 18   | 18   | 18   | 24   | 24    | 24    | 24    | 24    | 24    | 28    | 28    | 28    |
|                  | N° holes | 6    | 6    | 6    | 6    | 6    | 6    | 6    | 6    | 6    | 6    | 6     | 6     | 8     | 8     | 24    | 24    | 24    | 24    |
|                  | K h9     | 200  | 220  | 250  | 280  | 300  | 320  | 340  | 360  | 380  | 400  | 460   | 500   | 530   | 580   | 600   | 640   | 700   | 760   |
| Mass             |          | 13   | 16   | 24   | 29   | 35   | 42   | 54   | 67   | 90   | 108  | 150   | 190   | 230   | 395   | 460   | 520   | 740   | 890   |
| Torque (nom.)    |          | 250  | 400  | 780  | 1350 | 1600 | 1850 | 2200 | 3200 | 4000 | 5100 | 7700  | 9200  | 13000 | 19000 | 31000 | 42000 | 54000 | 75000 |
| Radial load cap. |          | 1200 | 1400 | 1800 | 2500 | 3100 | 3700 | 4200 | 5200 | 6300 | 7950 | 11250 | 12300 | 14500 | 20200 | 25000 | 30000 | 34000 | 39000 |

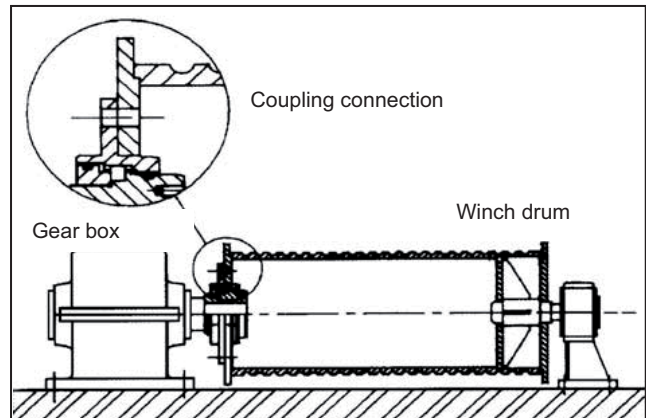


## COUPLINGS FOR CABLE DRUMS INSTALLATION INSTRUCTIONS

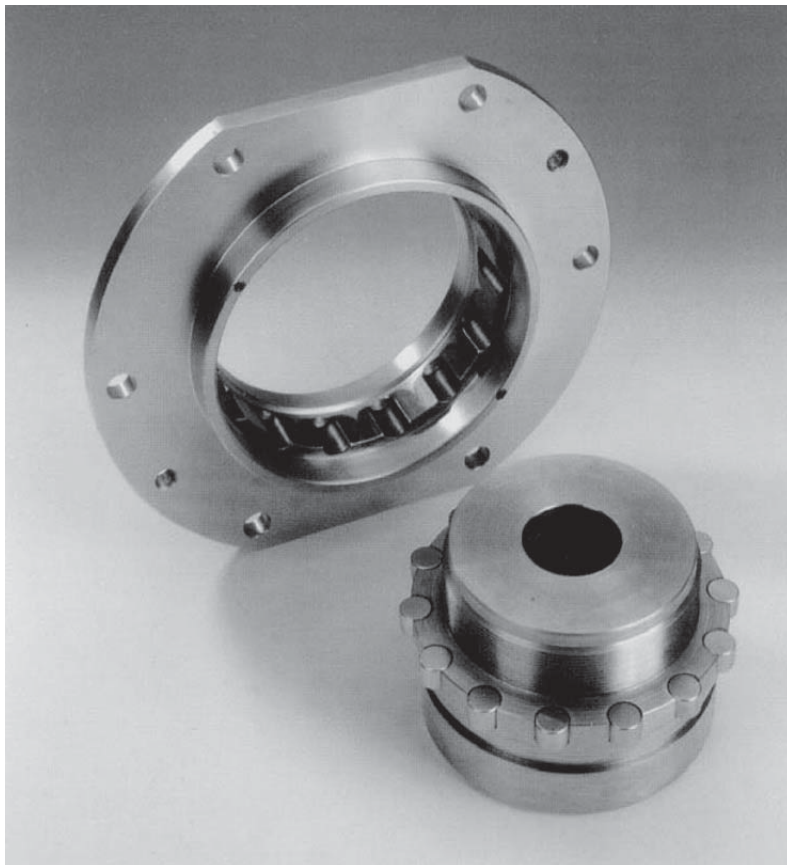
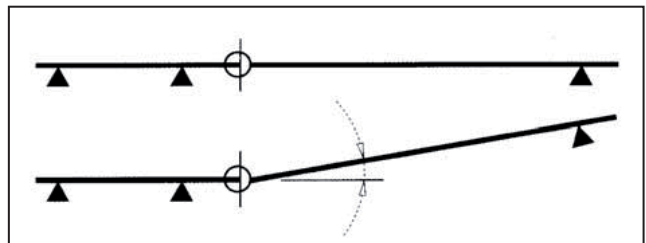
The Coupling is supplied without lubrication. The outside of the coupling is protected with a rust resistant coating. No special tools are necessary to assemble the coupling and it is not even necessary to clean the coupling. The hub must be installed on the shaft with a light interference fit. Proceed as follows:

- 1 Remove the packing material from the shaft.
- 2 Heat the shaft in an oil bath or with a flame to a temperature of approximately 120°C, but not exceeding 130 - 135°C.
- 3 After checking the dimensions, install the coupling so that the coupling hub fits securely on the shaft.

### Installation example



### Misalignment



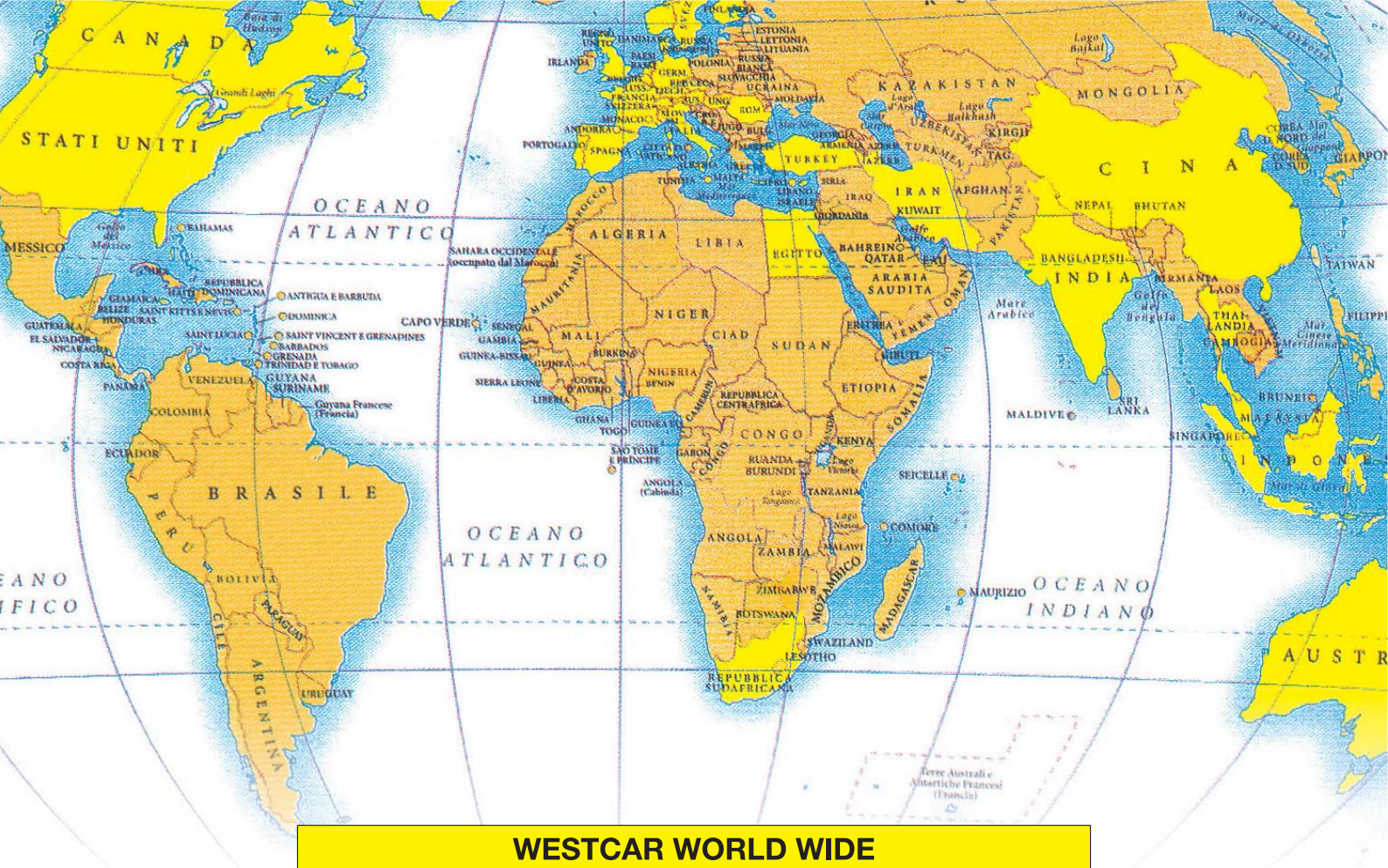
### Maintenance

- 1 Every 6000 hours the grease must be removed, the coupling thoroughly cleaned and the components inspected and state of wear determined.
- 2 Use a grease that has added lithium for temperatures of -10°C e 90°C. We recommend the following greases:

**AGIP GR-MU/EPO (EP1)**  
**IP ATHEsia EPO**  
**MOBILGREASE SPECIAL**  
**ESSO PEN-O-LED EP 360**  
**SHELL ALVANIA EP GREASE I**  
**API GREASE PGX-O**

- 3 Every six months top off with more grease as necessary.





|                  |               |              |
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