CENTAFLEX®
SERIES R
HIGHLY FLEXIBLE COUPLINGS
FOR HEAVY DUTY APPLICATIONS

Catalog CF-RS-E-04-04
The CENTAFLEX-R is a simple robust ROLLER coupling with a progressive torsional characterisation. Ideal for boat drives, providing a very low stiffness at low torque (& speed) which shifts the torsional resonance below idle speed and prevents gearhammer (gear chatter).

And there are also numerous applications for this kind of coupling in many different industrial drives.

Using the rubber-in-compression principle with rubber rollers between cams, the coupling offers high reliability as it is free from a bonding process common in couplings of equal performance.

The associated cams are profiled using sophisticated computer design (CAD) backed by extensive physical testing.

Important features and advantages of the CENTAFLEX-series R.
- Progressive torsional characteristic with very low stiffness at low torque and increased, but moderate stiffness at high torque
- Fail safe
- Simple, reliable, no bonding, only rubber in compression
- Special developed, temperature resistant elastomer CENTALAN with high damping, suitable for high ambient temperature of more than 100°C (212°F)
- For commercial heavy duty or difficult applications we recommend the special „HD“ rubber rollers, which are also oilresistant.
- Well proven in service and approved by classification societies
- High allowable energy loss by intensive inner and outer ventilation
- Suitable for blind fitting in bell housings
- Economic/easy maintainable design
- Protected by international patents
- Area of application: flange mounted units or well aligned independently mounted units on rigid mounts
- The CF-R is part of the CENTA-Antriebe family of marine drive couplings covering a range between the more than 100 000 times proven CENTAFLEX-DS (Dual Stage) series and the well established, CENTAX series up to 500 kNm.

**Technical Data**

<table>
<thead>
<tr>
<th>Centaflex-R size</th>
<th>Rated torque $T_n$ [kNm] for duty:</th>
<th>for continuous</th>
<th>Max. torque $T_{max}$ [kNm]</th>
<th>Flywheel size SAE 3620</th>
<th>Max. speed [rpm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>94</td>
<td>0,25</td>
<td>0,20</td>
<td>0,17</td>
<td>0,75</td>
<td>6,5 - 165 and special</td>
</tr>
<tr>
<td>114</td>
<td>0,70</td>
<td>0,56</td>
<td>0,49</td>
<td>2,10</td>
<td>11,5 - 290</td>
</tr>
<tr>
<td>134</td>
<td>1,00</td>
<td>0,80</td>
<td>0,70</td>
<td>3,00</td>
<td>11,5 - 290</td>
</tr>
<tr>
<td>136</td>
<td>1,60</td>
<td>1,25</td>
<td>1,11</td>
<td>4,80</td>
<td>11,5 - 290</td>
</tr>
<tr>
<td>216</td>
<td>3,15</td>
<td>2,50</td>
<td>2,20</td>
<td>9,40</td>
<td>11,5 - 290 14 - 355</td>
</tr>
<tr>
<td>268</td>
<td>4,25</td>
<td>3,40</td>
<td>3,00</td>
<td>12,50</td>
<td>14 - 355</td>
</tr>
<tr>
<td>318</td>
<td>6,30</td>
<td>5,00</td>
<td>4,40</td>
<td>19,00</td>
<td>14 - 355 18 - 460</td>
</tr>
<tr>
<td>420</td>
<td>10,00</td>
<td>8,00</td>
<td>7,00</td>
<td>30,00</td>
<td>18 - 460 21 - 530</td>
</tr>
<tr>
<td>520</td>
<td>15,00</td>
<td>12,00</td>
<td>10,50</td>
<td>45,00</td>
<td>18 - 460 21 - 530</td>
</tr>
</tbody>
</table>

*The rated torque for pleasure duty is the nominal torque $T_{nom}$ of the coupling.

**Torque for transient conditions:**
- Other flywheel sizes are available
- For higher speeds please consult us

This table shows only the basic technical data required for coupling selection based on engine nominal torque and duty only. We can provide much more detailed technical data, which may be required for the conduction of a torsional vibration analysis. Please ask for data sheet D26-003.

**Torsional Responsibility**
The responsibility for ensuring torsional compatibility rests with the assembler of the drive train. CENTA cannot accept liability for gearbox noise or for damage of the coupling or other components of the drive caused by torsional vibrations. Torsional vibration analysis can be made by the engine builders, survey societies, consultants etc. or by CENTA.

**Dimensional Responsibility**
The dimensions on the flywheel side of the couplings are based on standards SAE J620 and DIN 6281, and special flanges. The responsibility for ensuring dimensional compatibility rests with the assembler of the drive train. CENTA cannot accept liability for interference between the coupling and the flywheel or the gearbox or for damage caused by such interference.

We reserve the right to amend any dimension or detail specified or illustrated in this publication without notice and without incurring any obligation to provide such modification to such couplings previously delivered.

Please ask for an application drawing and current data before making detailed coupling selection.
**CENTAFLEX®-R**

**Dimensions**

![Dimensions Table]

Design variations

Standard flange designs are based on SAEJ620c flywheels but special sizes are available upon request.

All shaft designs can be accommodated as the hubs are made of high grade steel and splined, tapered (including oil injection fitted) and parallel shafts can be designed.

Detailed drawings of customized couplings for all important marine gear series are available on request.

Fixed or floating splined input shafts can be accommodated, as the floating spline design has an integral axial location with thrust capacity. Both designs are of the same overall dimensions.

Couplings are uni-directional based on CCW rotation (viewing the flywheel), however sizes 420 and 520 are also available for CW rotation. The fail safe feature can easily be removed, if it is not wanted.

**Application examples:**

![Application Example Diagram]
For small gears with splined input shaft, on which the coupling can float axially, a steel plate on the outer flange holds the coupling together axially (sizes 94, 114, 134, 136)

If required by the torsional situation, a steel disc as additional secondary inertia can be added.

Coupling design for exchange of rollers, normal working conditions. This design is also suitable for free standing, non flanged gears, provided the engine is on rigid mounts and well aligned.

Exchange of rollers. The side plate of the output hub can optionally be bolted on and off. This feature allows easy and quick change of the rubber rollers in situ as well on free standing gears and on flange mounted gears, provided the bell housing offers sufficient space and large enough openings. CENTA can also deliver a spacer for the bell housing in order to provide the necessary space.
CENTA - the complete range of advanced flexible couplings and shafts for all kinds of boat drives.

**CENTA Couplings for flange mounted gears**

- **CENTAMAX-S**
  - Linear disc type coupling
  - T = 0,25 - 40 kNm

- **CENTAFLEX-DS**
  - Progressive dual stage coupling
  - T = 0,25 - 2 kNm

- **CENTAFLEX-R**
  - Progressive roller coupling
  - T = 0,25 - 15 kNm

**Free standing gears - close coupled**

- **CENTAMAX-B**
  - For slight misalignment
  - T = 0,25 - 20 kNm

- **CENTAX-N**
  - For reasonable misalignment
  - T = 1,1 - 25 kNm

- **CENTAX-L**
  - For substantial misalignment
  - T = 2 - 90 kNm

**CENTA Couplings for remote mounted gears, V-drives, stern-drives and water jets**

- **CENTAX-V**
  - Intermediate coupling for u/j
  - T = 0,2 - 50 kNm

- **CENTA-FH**
  - Flange housing with flexible coupling for u/j
  - T = 1 - 20 kNm

- **CENTAFLEX-A-G/A-GZ/A-GS**
  - Torsional soft flexible shaft for angle up to 2° per element
  - T = 0,1 - 14 kNm

- **CENTAFLEX-DS**
  - Progressive dual stage coupling
  - T = 0,25 - 2 kNm

- **CENTAFLEX-R**
  - Progressive roller coupling
  - T = 0,25 - 15 kNm

**CENTA also delivers all kinds of flexible couplings and lightweight shafts - with or without propeller thrust - to be installed between gear and propeller or waterjet**

**CENTA Couplings for large free standing gears**

- **CENTAX - L - G - M - DP**
  - For larger boats and ships CENTA has the complete range of advanced flexible couplings and shafts up to 600 kNm

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