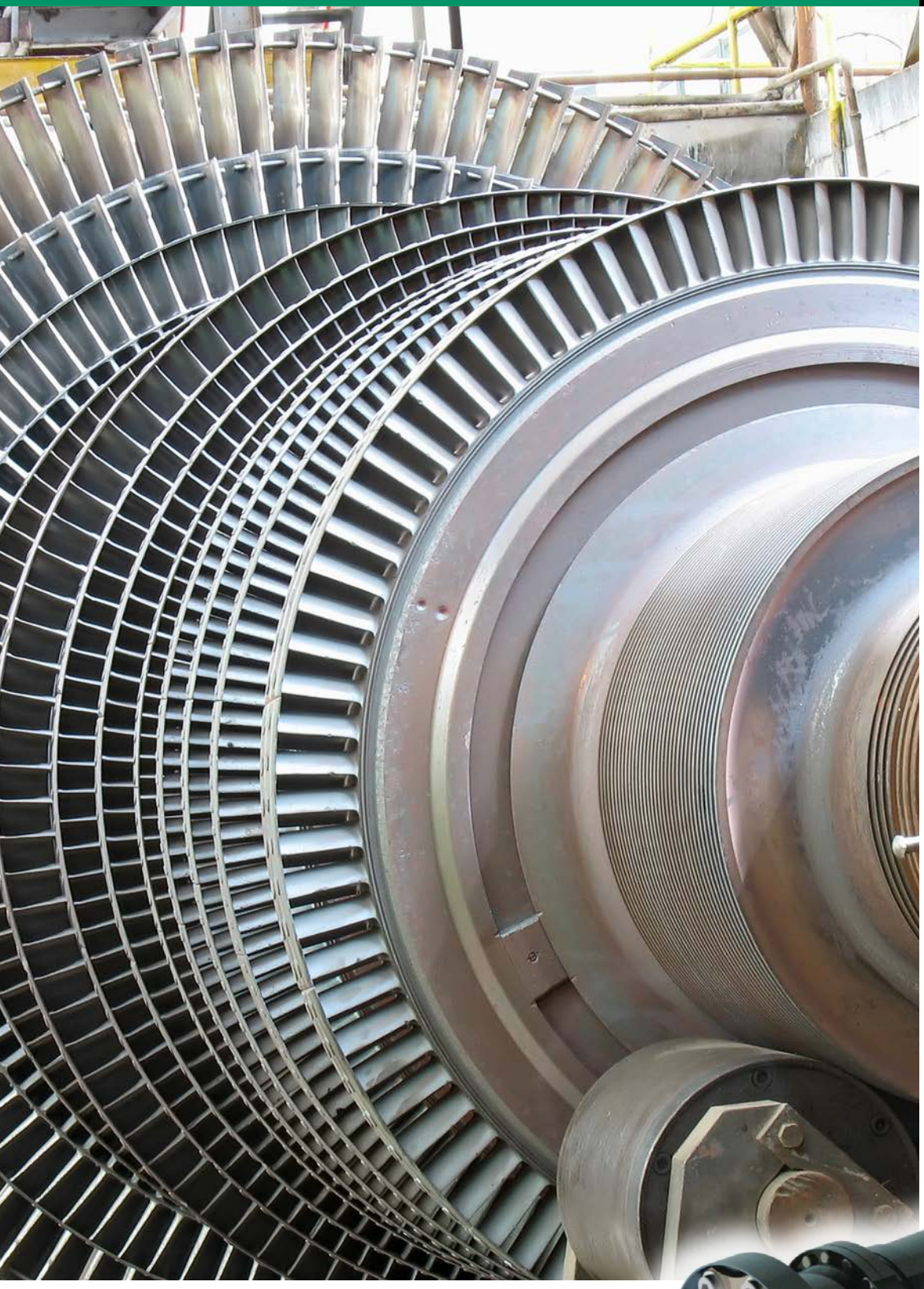


# 8000/6000 Series

## High Performance Couplings

## For High Speed Applications

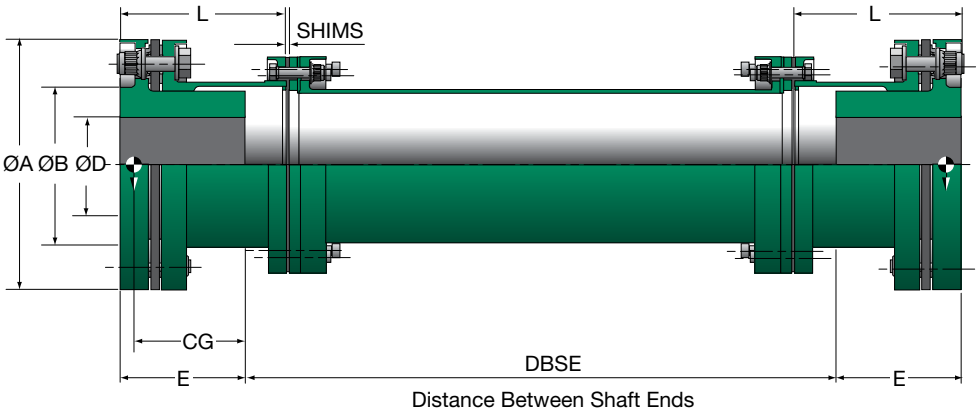


Bibby Turboflex®
Altra Industrial Motion

# 2RH COUPLINGS

Specifically designed for the process pump and general industrial markets.

- No lubrication for maintenance free operation
- Low over hung mass on the shaft ends
- High shaft capacity in relation to coupling diameter
- Design verified using Finite Element Analysis
- Designed to meet API 671 & ISO 10441 requirements
- Low bending and axial stiffness
- Coupling bolts shrouded to reduce "windage" losses
- Atex compliant




The Turboflex 8000 & 6000 (2RH) series of couplings have evolved from over 50 years experience supplying high performance disc couplings to the world's high speed turbo-machinery market. The result is one of the most technically advanced couplings available today.

## Table 1: Specifications

| RH Coupling | Max Cont Rating kW/rpm ①②③④ | Max Cont Torque Rating kNm ①②③④ | Max Speed RPM ⑤ | Total Mass kg ⑥⑦ | Total Inertia $kgm^2$ ⑥⑦ | Torsional Stiffness MNm/rad ⑦ | Half Coupling CG mm ⑦ | Max Flange Dia A mm | Boss Dia B mm | Normal Bore Dia D mm ⑧ | Hub Length E mm | Half Coupling Length L mm | Tube Mass per 100mm kg | Tube Inertia per 100mm $kgm^2$ | Tube Torsional Stiffness per 100mm MNm/rad | Max Angle Deg. | Max Axial mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Table 1a 6000 SERIES | | | | | | | | | | | | | | | | | |
| 6130 | 0.59 | 5.7 | 21,300 | 17.2 | 0.05 | 0.24 | 28.3 | 162.0 | 96.0 | 64.0 | 85.0 | 115.0 | 0.85 | 0.002 | 2.1 | .33 | 3.0 |
| 6150 | 0.91 | 8.7 | 19,000 | 26.4 | 0.11 | 0.42 | 31.4 | 191.0 | 114.0 | 76.0 | 97.0 | 128.0 | 1.02 | 0.004 | 3.6 | .33 | 3.8 |
| 6180 | 1.47 | 14.0 | 16,950 | 40.4 | 0.23 | 0.65 | 39.7 | 224.0 | 135.0 | 90.0 | 121.0 | 149.0 | 1.24 | 0.006 | 6.4 | .33 | 4.5 |
| 6210 | 2.31 | 22.0 | 15,270 | 54.6 | 0.40 | 0.96 | 45.6 | 255.0 | 153.0 | 102.0 | 133.0 | 167.0 | 1.79 | 0.012 | 11.8 | .33 | 5.0 |
| 6235 | 3.36 | 32.1 | 13,400 | 78.7 | 0.75 | 1.40 | 52.8 | 288.0 | 72.5 | 115.0 | 157.0 | 197.0 | 2.31 | 0.020 | 20.4 | .33 | 6.0 |
| 6260 | 4.44 | 42.4 | 12,050 | 102.9 | 1.20 | 1.86 | 56.8 | 317.0 | 190.5 | 127.0 | 169.0 | 209.0 | 2.77 | 0.029 | 29.3 | .33 | 6.5 |
| Table 1b 8000 SERIES | | | | | | | | | | | | | | | | | |
| 8130 | 0.89 | 8.5 | 21,300 | 17.4 | 0.05 | 0.27 | 56.7 | 162.0 | 96.0 | 64.0 | 85.0 | 115.0 | 0.85 | 0.002 | 2.1 | .25 | 2.5 |
| 8150 | 1.41 | 13.4 | 19,000 | 26.3 | 0.11 | 0.46 | 64.5 | 191.0 | 114.0 | 76.0 | 97.0 | 128.0 | 1.02 | 0.004 | 3.6 | .25 | 3.0 |
| 8180 | 2.22 | 21.2 | 16,950 | 41.1 | 0.24 | 0.76 | 81.4 | 224.0 | 135.0 | 90.0 | 121.0 | 149.0 | 1.24 | 0.006 | 6.4 | .25 | 3.5 |
| 8210 | 3.48 | 33.2 | 15,270 | 57.3 | 0.43 | 1.26 | 87.8 | 255.0 | 153.0 | 102.0 | 133.0 | 167.0 | 1.79 | 0.012 | 11.8 | .25 | 4.0 |
| 8235 | 5.04 | 48.1 | 13,400 | 83.7 | 0.80 | 1.94 | 105.0 | 288.0 | 172.5 | 115.0 | 157.0 | 197.0 | 2.31 | 0.020 | 20.4 | .25 | 4.5 |
| 8260 | 6.84 | 65.3 | 12,050 | 110.5 | 1.29 | 2.73 | 113.2 | 317.0 | 190.5 | 127.0 | 169.0 | 209.0 | 2.77 | 0.029 | 29.3 | .25 | 5.0 |
| 8280 | 8.66 | 82.7 | 11,150 | 136.1 | 1.84 | 3.60 | 120.2 | 341.0 | 210.0 | 140.0 | 181.0 | 224.0 | 3.23 | 0.038 | 38.7 | .25 | 5.8 |
| 8320 | 11.54 | 110.2 | 9,800 | 186.2 | 3.18 | 4.87 | 137.0 | 389.0 | 228.0 | 152.0 | 205.0 | 252.0 | 3.94 | 0.059 | 59.9 | .25 | 6.3 |
| 8340 | 14.70 | 140.3 | 9,300 | 241.8 | 4.78 | 6.33 | 153.3 | 419.0 | 247.5 | 165.0 | 229.0 | 281.0 | 4.49 | 0.076 | 76.7 | .25 | 6.8 |

① Stated ratings are in accordance with API 671 (Ed'n 3) definition.

② In accordance with API 671, a minimum service factor of 1.5 is recommended.

③ API 671 defined peak torque capacity is 1.33 x continuous rating.

④ API 671 defined momentary capacity (or SCT) is 1.9 x continuous rating.

⑤ Maximum speeds are for units in standard materials with nominal bores given above.

⑥ Further reduction in mass will normally be possible, if required, using established design modifications.

⑦ Values are calculated using a DBSE of 457.2mm (18") maximum bores & standard dimensions.

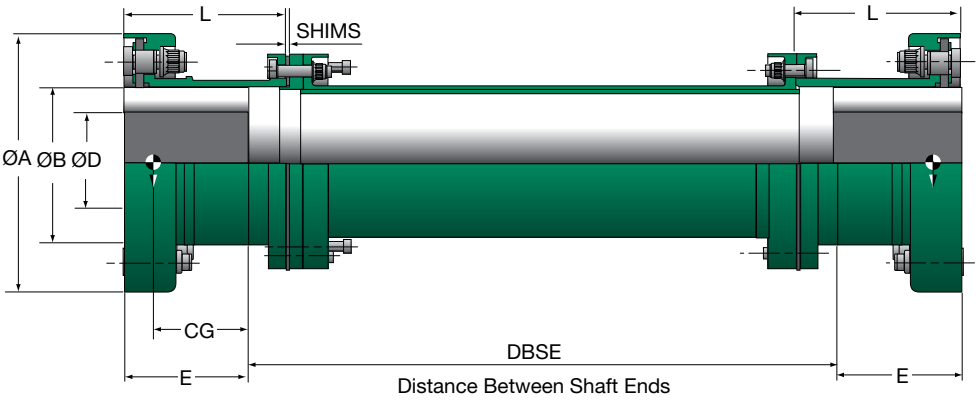
⑧ Bore sizes can be increased to those given in Table 2 providing the maximum speed given in Table 1 are NOT exceeded.

## Table 2: Increased Bore Capabilities

| 6000 series | 8000 series | Max Bore Dia D mm ⑧ | Max Speed RPM ⑧ |
|---|---|---|---|
| 6130 | 8130 | 70.0 | 19,000 |
| 6150 | 8150 | 80.0 | 16,690 |
| 6180 | 8180 | 100.0 | 14,460 |
| 6210 | 8210 | 110.0 | 12,460 |
| 6235 | 8235 | 130.0 | 10,490 |
| 6260 | 8260 | 140.0 | 9,050 |
| | 8280 | 150.0 | 8,050 |
| | 8320 | 170.0 | 6,450 |
| | 8340 | 180.0 | 5,790 |

# 2RM COUPLINGS

The Turboflex 8000 & 6000 (2RM) "Co-Planar" series of couplings incorporate all the same advanced features of the (2RH) series but with the added benefit of even lower overhung mass on the shaft end.




## Table 1: Specifications

| RH Coupling | Max Cont Rating kW/rpm ①②③④ | Max Cont Torque Rating kNm ①②③④ | Max Speed RPM ⑤ | Total Mass kg ⑥⑦ | Total Inertia $kgm^2$ ⑥⑦ | Torsional Stiffness MNm/rad ⑦ | Half Coupling CG mm ⑦ | Max Flange Dia A mm | Boss Dia B mm | Normal Bore Dia D mm ⑧ | Hub Length E mm | Half Coupling Length L mm | Tube Mass per 100mm kg | Tube Inertia per 100mm $kgm^2$ | Tube Torsional Stiffness per 100mm MNm/rad | Max Angle Deg. | Max Axial mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8130 | 0.89 | 8.47 | 22,000 | 17.9 | 0.056 | 0.26 | 63.8 | 169.0 | 99.0 | 64.0 | 85.0 | 115.0 | 0.81 | 0.002 | 1.8 | .25 | 2.5 |
| 8150 | 1.41 | 13.45 | 18,400 | 28.6 | 0.126 | 0.48 | 71.3 | 200.0 | 119.0 | 76.0 | 97.0 | 130.0 | 1.13 | 0.004 | 3.8 | .25 | 3.0 |
| 8180 | 2.22 | 21.24 | 16,500 | 43.8 | 0.266 | 0.83 | 88.3 | 231.0 | 141.0 | 90.0 | 121.0 | 151.0 | 1.49 | 0.007 | 6.8 | .25 | 3.5 |
| 8210 | 3.48 | 33.22 | 14,700 | 62.8 | 0.487 | 1.28 | 94.8 | 262.0 | 164.0 | 102.0 | 133.0 | 164.0 | 1.89 | 0.011 | 11.2 | .25 | 4.0 |
| 8235 | 5.04 | 48.14 | 13,100 | 91.6 | 0.931 | 1.91 | 110.7 | 298.0 | 190.0 | 115.0 | 157.0 | 194.0 | 2.24 | 0.019 | 18.8 | .25 | 4.5 |
| 8260 | 6.84 | 65.31 | 11,700 | 121.6 | 1.49 | 2.67 | 118.5 | 328.0 | 208.0 | 127.0 | 169.0 | 209.0 | 3.15 | 0.030 | 30.8 | .25 | 5.0 |
| 8280 | 8.66 | 82.71 | 10,700 | 150.9 | 2.159 | 3.69 | 127.9 | 354.0 | 222.0 | 140.0 | 181.0 | 224.0 | 3.61 | 0.039 | 39.9 | .25 | 5.8 |
| 8320 | 11.54 | 110.17 | 9,900 | 206.2 | 3.708 | 5.00 | 145.1 | 396.0 | 246.0 | 152.0 | 205.0 | 252.0 | 4.30 | 0.058 | 58.8 | .25 | 6.3 |

① Stated ratings are in accordance with API 671 (Ed'n 3) definition.

② In accordance with API 671, a minimum service factor of 1.5 is recommended.

③ API 671 defined peak torque capacity is 1.33 x continuous rating.

④ API 671 defined momentary capacity (or SCT) is 1.9 x continuous rating.

⑤ Maximum speeds are for units in standard materials with nominal bores given above.

⑥ Further reduction in mass will normally be possible, if required, using established design modifications.

⑦ Values are calculated using a DBSE of 457.2mm (18") maximum bores & standard dimensions.

⑧ Bore sizes can be increased to those given in Table 2 providing the maximum speed given in Table 1 are NOT exceeded.

## Table 2: Increased Bore Capabilities

| RH Coupling | Max Bore Dia D mm ⑧ | Max Speed RPM ⑧ |
|---|---|---|
| 8130 | 70.0 | 18,000 |
| 8150 | 80.0 | 14,700 |
| 8180 | 100.0 | 12,000 |
| 8210 | 110.0 | 11,000 |
| 8235 | 130.0 | 9,500 |
| 8260 | 140.0 | 8,250 |
| 8280 | 150.0 | 7,700 |
| 8320 | 170.0 | 7,200 |

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### Overrunning Clutches

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