

Pump Spacer Coupling TFI Series w/ Torsi-Lock - Torsiflex-i

API610/ISO13709 | Double Flex Spacer

- All Torsi-Lock devices must be sized to transmit the actual application Peak Torque. The data table shows a comparison of the Torsi-Lock torque transmissibility to the coupling Peak Torque Rating as a reference. The table below does not show all possible Torsi-Lock sizes and ranges. For any Torsi-Lock requirement beyond those detailed here, please consult TB Woods Engineering (see the catalog back cover for contact information).



- To determine the actual transmissible torque, as well as the actual combined hub plus Torsi-Lock device weight, from the data table, linearly interpolate between the range of values given for min and max shaft diameter. See the example interpolation calculation to the right.

- The data table is applicable to keyless shaft applications only. For keyed shaft applications, either:
 - Use a half key in the shaft and deduct the transmissible torque value of the Torsi-Lock by 10%
 - Use a full height key and the overkey dimension as the Shaft Size (dw) to determine the correct Torsi-Lock size.

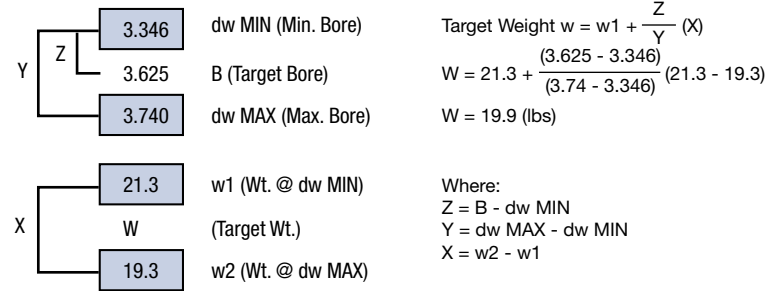
| Torsi-Lock Size | | | | 20 | 22 | 24 | 30 | 36 | 40 | 44 | 48 | 50 | 55 | 62 | 68 | 75 | 80 | 90 | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---------|------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Shaft Size Range | DW | Min (over) | in | 0.630 | 0.709 | 0.787 | 0.827 | 1.024 | 1.220 | 1.339 | 1.417 | 1.575 | 1.654 | 1.890 | 2.047 | 2.362 | 2.559 | 2.756 | 2.953 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | mm | 16 | 18 | 20 | 21 | 26 | 31 | 34 | 36 | 40 | 42 | 48 | 52 | 60 | 65 | 70 | 75 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Max (incl) | in | 0.709 | 0.787 | 0.827 | 1.024 | 1.220 | 1.339 | 1.417 | 1.575 | 1.654 | 1.890 | 2.047 | 2.362 | 2.559 | 2.756 | 2.953 | 3.150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | mm | 18 | 20 | 21 | 26 | 31 | 34 | 36 | 40 | 42 | 48 | 52 | 60 | 65 | 70 | 75 | 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Transmissible Torque (x1000) | | TMin | lb-in | 1.15 | 1.50 | 1.86 | 1.71 | 3.45 | 4.96 | 6.28 | 6.46 | 9.29 | 10.3 | 15.5 | 17.7 | 22.1 | 28.3 | 42.0 | 61.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | TMax | lb-in | 1.59 | 2.04 | 2.21 | 3.36 | 5.58 | 7.08 | 7.61 | 9.82 | 12.2 | 16.6 | 19.9 | 27.9 | 35.0 | 40.7 | 64.2 | 79.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Torsi-Lock Device Dims | O.A.L. | L1 | in | 0.89 | 0.89 | 0.91 | 0.98 | 1.07 | 1.11 | 1.18 | 1.18 | 1.26 | 1.36 | 1.38 | 1.38 | 1.50 | 1.50 | 1.75 | 1.95 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | O.D. | Ht | in | 1.89 | 1.89 | 1.97 | 2.36 | 2.83 | 2.95 | 3.15 | 3.15 | 3.54 | 3.94 | 4.33 | 4.53 | 5.43 | 5.71 | 6.10 | 6.69 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Weight | Wt | lb | 0.44 | 0.44 | 0.44 | 0.66 | 1.10 | 1.10 | 1.32 | 1.21 | 1.76 | 2.43 | 2.87 | 3.09 | 5.29 | 5.51 | 7.28 | 10.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Coupling Size | TFI0027 | | | 1.48 | 1.47 | 1.46 | 1.77 | 2.24 | 2.19 | 2.44 | 2.40 | 2.87 | 3.69 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 1.44 | 1.43 | 1.44 | 1.64 | 2.07 | 2.08 | 2.36 | 2.21 | 2.76 | 3.33 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 1.47 | 1.47 | 1.49 | 1.57 | 1.65 | 1.69 | 1.76 | 1.76 | 1.84 | 1.94 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TFI0038 | | | | 2.57 | 2.56 | 2.87 | 3.32 | 3.25 | 3.49 | 3.44 | 3.89 | 4.70 | 5.14 | 5.43 | 7.53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 2.53 | 2.53 | 2.72 | 3.13 | 3.12 | 3.40 | 3.23 | 3.77 | 4.30 | 4.84 | 4.76 | 7.04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 1.65 | 1.67 | 1.75 | 1.83 | 1.87 | 1.94 | 1.94 | 2.02 | 2.12 | 2.14 | 2.14 | 2.26 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TFI0140 | | | | | | | | 3.79 | 4.04 | 3.99 | 4.46 | 5.29 | 5.76 | 6.08 | 8.23 | 8.40 | 10.8 | 14.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 3.67 | 3.95 | 3.80 | 4.35 | 4.92 | 5.48 | 5.47 | 7.78 | 7.91 | 10.2 | 14.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 1.69 | 1.76 | 1.76 | 1.84 | 1.94 | 1.96 | 1.96 | 2.08 | 2.08 | 2.33 | 2.53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TFI0260 | | | | | | | | | | | 6.29 | 6.74 | 7.55 | 7.99 | 8.28 | 10.4 | 10.5 | 12.9 | 16.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 6.08 | 6.62 | 7.16 | 7.69 | 7.62 | 9.89 | 9.98 | 12.3 | 16.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 1.94 | 2.02 | 2.12 | 2.14 | 2.26 | 2.26 | 2.51 | 2.71 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TFI0400 | | | | | | | | | | | | | | 9.69 | 9.99 | 12.1 | 12.2 | 14.6 | 18.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 9.40 | 9.32 | 11.6 | 11.7 | 14.0 | 17.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 2.14 | 2.14 | 2.26 | 2.26 | 2.51 | 2.71 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TFI0750 | | | | | | | | | | | | | | | | | 15.8 | 18.2 | 22.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 15.3 | 17.5 | 21.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | 2.38 | 2.63 | 2.83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TFI1310 | | | | | | | | | | | | | | | | | | 25.4 | 29.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 24.7 | 28.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 2.80 | 2.99 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TFI1900 | | | Example (Coupling Size 1310): <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>90</th> <th>100</th> <th>110</th> <th>115</th> <th>125</th> <th>140</th> <th>155</th> <th>165</th> <th>175</th> <th>185</th> <th>195</th> </tr> </thead> <tbody> <tr> <td>25.4</td> <td>29.2</td> <td>33.1</td> <td>33.5</td> <td>33.2</td> <td>38.4</td> <td>41.0</td> <td>48.9</td> <td>54.7</td> <td>63.0</td> <td>79.3</td> </tr> <tr> <td>24.7</td> <td>28.4</td> <td>32.1</td> <td>31.4</td> <td>30.8</td> <td>33.1</td> <td>36.4</td> <td>47.1</td> <td>50.8</td> <td>58.8</td> <td>74.3</td> </tr> <tr> <td>2.80</td> <td>2.99</td> <td>3.29</td> <td>3.45</td> <td>3.35</td> <td>3.35</td> <td>3.35</td> <td>3.80</td> <td>3.80</td> <td>3.80</td> <td>4.19</td> </tr> </tbody> </table> | | | | | | | | | | | | | | | | | 90 | 100 | 110 | 115 | 125 | 140 | 155 | 165 | 175 | 185 | 195 | 25.4 | 29.2 | 33.1 | 33.5 | 33.2 | 38.4 | 41.0 | 48.9 | 54.7 | 63.0 | 79.3 | 24.7 | 28.4 | 32.1 | 31.4 | 30.8 | 33.1 | 36.4 | 47.1 | 50.8 | 58.8 | 74.3 | 2.80 | 2.99 | 3.29 | 3.45 | 3.35 | 3.35 | 3.35 | 3.80 | 3.80 | 3.80 | 4.19 |
| 90 | 100 | 110 | 115 | 125 | 140 | 155 | 165 | 175 | 185 | 195 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25.4 | 29.2 | 33.1 | 33.5 | 33.2 | 38.4 | 41.0 | 48.9 | 54.7 | 63.0 | 79.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24.7 | 28.4 | 32.1 | 31.4 | 30.8 | 33.1 | 36.4 | 47.1 | 50.8 | 58.8 | 74.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.80 | 2.99 | 3.29 | 3.45 | 3.35 | 3.35 | 3.35 | 3.80 | 3.80 | 3.80 | 4.19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TFI2500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TFI3300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TFI6000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TFI8500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TFI12000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Pump Spacer Coupling TFI Series w/ Torsi-Lock - Torsiflex-i

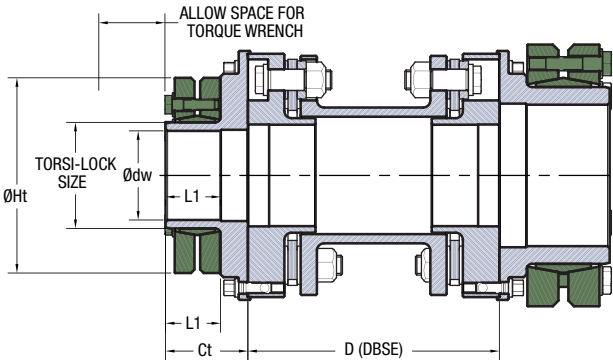
API610/ISO13709 | Double Flex Spacer

Example Interpolation Calculation

To interpolate Torsi-Lock table data for a TF 0260 with a size 115 Torsi-Lock for a bore of 3.625":



Note that the same method can be used to determine actual Torsiloc transmissible torque ratings for bores that are in between the min and max.



| 110 | 115 | 125 | 140 | 155 | 165 | 175 | 185 | 195 | 200 | 220 | 240 | 260 | 280 | 300 | 320 | 340 | 350 | 360 | 380 | 390 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| 3.150 | 3.346 | 3.740 | 4.134 | 4.921 | 5.512 | 5.709 | 6.102 | 6.496 | 6.890 | 7.283 | 7.874 | 8.465 | 9.252 | 9.843 | 10.630 | 11.417 | 12.008 | 12.205 | 12.598 | 12.992 |
| 80 | 85 | 95 | 105 | 120 | 140 | 145 | 155 | 165 | 175 | 185 | 200 | 215 | 235 | 250 | 270 | 290 | 305 | 310 | 320 | 330 |
| 3.346 | 3.740 | 4.134 | 4.921 | 5.512 | 5.709 | 6.102 | 6.496 | 6.890 | 7.283 | 7.874 | 8.465 | 9.252 | 9.843 | 10.630 | 11.417 | 12.008 | 12.205 | 12.598 | 12.992 | 13.780 |
| 85 | 95 | 105 | 125 | 140 | 145 | 155 | 165 | 175 | 185 | 200 | 215 | 235 | 250 | 270 | 290 | 305 | 310 | 320 | 330 | 350 |
| 63.7 | 81.4 | 93.4 | 124 | 99 | 283 | 345 | 412 | 558 | 655 | 733 | 1,000 | 1,204 | 1,513 | 1,885 | 2,301 | 2,655 | 3,292 | 3,186 | 3,850 | 4,470 |
| 95.6 | 133 | 122 | 181 | 257 | 341 | 407 | 478 | 642 | 748 | 929 | 1,190 | 1,478 | 1,841 | 2,257 | 2,664 | 2,983 | 3,540 | 3,673 | 4,133 | 5,098 |
| 2.24 | 2.40 | 2.31 | 2.31 | 2.31 | 2.76 | 2.76 | 2.76 | 3.15 | 3.15 | 3.71 | 3.71 | 4.03 | 4.50 | 4.50 | 4.58 | 4.58 | 5.31 | 5.31 | 5.87 | 5.87 |
| 7.28 | 7.28 | 7.28 | 8.66 | 9.65 | 10.24 | 10.83 | 11.61 | 12.40 | 12.99 | 13.58 | 14.57 | 15.55 | 16.73 | 18.11 | 19.49 | 21.06 | 21.46 | 21.85 | 23.03 | 23.43 |
| 13.0 | 13.2 | 13.2 | 17.6 | 22.1 | 30.9 | 35.3 | 44.1 | 59.5 | 66.2 | 77.2 | 97.0 | 106 | 132 | 165 | 185 | 221 | 265 | 276 | 331 | 344 |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| 20.7 | 21.3 | | | | | | | | | | | | | | | | | | | |
| 19.9 | 19.3 | | | | | | | | | | | | | | | | | | | |
| 3.01 | 3.16 | | | | | | | | | | | | | | | | | | | |
| 22.4 | 23.0 | 22.8 | 28.2 | | | | | | | | | | | | | | | | | |
| 21.6 | 21.0 | 20.7 | 23.3 | | | | | | | | | | | | | | | | | |
| 3.01 | 3.16 | 3.07 | 3.07 | | | | | | | | | | | | | | | | | |
| 26.0 | 26.5 | 26.2 | 31.6 | 34.4 | | | | | | | | | | | | | | | | |
| 25.1 | 24.4 | 24.0 | 26.5 | 30.0 | | | | | | | | | | | | | | | | |
| 3.13 | 3.28 | 3.19 | 3.19 | 3.19 | | | | | | | | | | | | | | | | |
| 33.1 | 33.5 | 33.2 | 38.4 | 41.0 | 48.9 | 54.7 | 63.0 | 79.3 | | | | | | | | | | | | |
| 32.1 | 31.4 | 30.8 | 33.1 | 36.4 | 47.1 | 50.8 | 58.8 | 74.3 | | | | | | | | | | | | |
| 3.29 | 3.45 | 3.35 | 3.35 | 3.35 | 3.80 | 3.80 | 3.80 | 4.19 | | | | | | | | | | | | |
| 41.5 | 42.0 | 41.6 | 46.8 | 49.2 | 57.1 | 62.8 | 71.0 | 87.2 | 91.0 | 109 | | | | | | | | | | |
| 40.6 | 39.8 | 39.2 | 41.3 | 44.5 | 55.1 | 58.8 | 66.7 | 82.2 | 85.7 | 98.9 | | | | | | | | | | |
| 3.37 | 3.52 | 3.43 | 3.43 | 3.43 | 3.88 | 3.88 | 3.88 | 4.27 | 4.27 | 4.84 | | | | | | | | | | |
| | 50.0 | 49.4 | 54.5 | 56.7 | 64.3 | 69.9 | 78.0 | 94.0 | 97.5 | 115 | 137 | | | | | | | | | |
| | 47.7 | 46.9 | 48.8 | 51.7 | 62.3 | 65.7 | 7.5 | 88.8 | 92.0 | 105 | 126 | | | | | | | | | |
| | 3.70 | 3.60 | 3.60 | 3.60 | 4.05 | 4.05 | 4.05 | 4.44 | 4.44 | 5.01 | 5.01 | | | | | | | | | |
| | | | 62.0 | 64.2 | 71.7 | 77.4 | 85.4 | 101 | 105 | 122 | 144 | 157 | | | | | | | | |
| | | | 56.2 | 59.2 | 69.7 | 73.2 | 80.9 | 96.2 | 99.5 | 112 | 133 | 141 | | | | | | | | |
| | | | 3.60 | 3.60 | 4.05 | 4.05 | 4.05 | 4.44 | 4.44 | 5.01 | 5.01 | 5.32 | | | | | | | | |
| | | | | 87.6 | 95.0 | 101 | 108 | 124 | 128 | 148 | 166 | 179 | 207 | 244 | 262 | | | | | |
| | | | | 82.5 | 93.0 | 96.3 | 104 | 119 | 122 | 135 | 155 | 162 | 192 | 222 | 239 | | | | | |
| | | | | 3.75 | 4.19 | 4.19 | 4.19 | 4.59 | 4.59 | 5.15 | 5.15 | 5.47 | 5.94 | 5.94 | 6.02 | | | | | |
| | | | | | 132 | 140 | 155 | 158 | 175 | 196 | 208 | 236 | 271 | 289 | 321 | 364 | 381 | | | |
| | | | | | 127 | 135 | 150 | 152 | 164 | 184 | 191 | 220 | 249 | 265 | 302 | 357 | 366 | | | |
| | | | | | 4.43 | 4.43 | 4.82 | 4.82 | 5.39 | 5.39 | 5.70 | 6.17 | 6.17 | 6.25 | 6.25 | 6.99 | 6.99 | | | |
| | | | | | | | | 191 | 193 | 210 | 231 | 243 | 270 | 305 | 322 | 353 | 396 | 413 | 487 | 499 |
| | | | | | | | | 185 | 187 | 199 | 219 | 225 | 254 | 282 | 297 | 334 | 389 | 397 | 470 | 463 |
| | | | | | | | | 4.98 | 4.98 | 5.55 | 5.55 | 5.86 | 6.33 | 6.33 | 6.41 | 6.41 | 7.15 | 7.15 | 7.70 | 7.70 |

79.3 — Combined weight of the hub and Torsi-Lock device at the MIN shaft diameter.

74.4 — Combined weight of the hub and Torsi-Lock device at the MAX shaft diameter.

4.19 — Ct: Overall hub length thru bore (not including pilot lip)

Floating Shaft Couplings

PRODUCT DESCRIPTION

- Used for coupling spans that are greater than max catalog length for fully machined spacer designs
- Designed for moderate speed applications
- Construction includes:
 - Two fully machined steel hubs
 - One dynamically balanced welded or composite tube spacer
 - Standard hardware and stainless steel disc packs
- Form-Flex® A-Series designs use non-unitized disc packs
- Form-Flex® G-Series designs use unitized disc packs
- Spacers are configured for any custom length up to D-max shown per operating speed
- Can be bored for any shaft configuration (see page F5-40 for hub design options)

TYPICAL APPLICATIONS

- Fans
- Turbo Compressors
- Vertical Pumping
- Cooling Tower
- Printing Press
- Paper Machines

SPECIAL APPLICATIONS

- Mine Ventilation
- Dynamometers
- Test Stands
- Dredging Equipment
- Lift Tables

DESIGN VARIATIONS

- A5/G5 - Welded Steel Tube
- A6/G6 - Welded Steel Tube - Vertical
- A7/G7 - Welded Steel Tube - Semi-Floating Spacer
- A5C/G5C - Composite Tube
- A6C/G6C - Composite Tube - Vertical
- A7C/G7C - Composite Tube - Semi-Floating

Large tube designs are available for speeds greater than catalog limits or for torsional tuning. Consult TB Wood's engineering for more info.

