


**SELECTION PROCEDURE**
**(a) Service Factor**

Determine the required service factor from table 1 below.

**(b) Design Power**

Multiply the normal running power by the service factor. This gives **Design Power** which is used as a basis for selecting the coupling.

**(c) Coupling Size**

Refer table 2 and from the appropriate speed read across until a power greater than that required is found. The size of Tyre-flex coupling required is given in that column..

**(d) Bore Size**

Check from table 3 that selected coupling can accommodate required bores.

**TABLE 1 : SERVICE FACTORS**

| SPECIAL CLASSES   | Type of Driving Unit              |                        |                    |   |                        |            |
|---|-----------------------------------|------------------------|--------------------|---|------------------------|------------|
|   | Electric Motors<br>Steam Turbines |                        |                    | Internal Combustion Engines<br>Steam Engines<br>Water Engines |                        |            |
|   | Hours per day duty                |                        | Hours per day duty |   |                        |            |
| Type of Driven Machine  | upto<br>10                        | over 10<br>to 16 incl. | Over<br>16         | upto<br>10  | over 10<br>to 16 incl. | Over<br>16 |
| <b>CLASS 1</b><br>Agitators, Brewing machinery, Centrifugal compressors and pumps, Belt Conveyors, Dynamometers, Lineshafts, Fans upto 7.5 kW, Blower and exhausters ( except positive displacement ) & Generators.                                   | 0.8                               | 0.9                    | 1.0                | 1.3   | 1.4                    | 1.5        |
| <b>CLASS 2</b><br>Clay working machinery, General machine tools, Paper mill beaters and winders, Rotary pumps, Rubber extruders, Rotary Screens, Textile Machinery, Marine Propellers & Fans over 7.5 kW.   | 1.3                               | 1.4                    | 1.5                | 1.8   | 1.9                    | 2.0        |
| <b>CLASS 3</b><br>Bucket elevators, Cooling tower fans, Piston compressors & pumps, Foundry machinery, Metal presses, Paper mills, Calenders, Hammer mills, Presses and pulp grinders, Rubber Calenders, Pulverisers & Positive displacement blowers. | 1.8                               | 1.9                    | 2.0                | 2.3   | 2.4                    | 2.5        |
| <b>CLASS 4</b><br>Reciprocating conveyors, Gyratory crushers, Mills ( ball, pebble and rod ). Rubber Machinery ( Banbury Mixers and Mills ) & Vibratory screens.  | 2.3                               | 2.4                    | 2.5                | 2.8   | 2.9                    | 3.0        |

**TABLE 2: POWER RATING (kW)**

| Speed<br>rpm | Size T / TO |       |       |       |         |         |        |        |        |         |         |        |     |       |      |
|--------------|-------------|-------|-------|-------|---------|---------|--------|--------|--------|---------|---------|--------|-----|-------|------|
|              | 4           | 5     | 6     | 7     | 8       | 9       | 10     | 11     | 12     | 14      | 16      | 18     | 20  | 22    | 25   |
| 750          | 1.87        | 5.17  | 9.97  | 19.65 | 29.47   | 39.30   | 53.02  | 68.70  | 104.25 | 182.25  | 296.25  | 492.75 | 732 | 907.5 | 1155 |
| 1000         | 2.50        | 6.90  | 13.30 | 26.20 | 39.30   | 52.40   | 70.70  | 91.60  | 139.0  | 243.0   | 395.0   | 657.0  | 976 | 1215  | 1537 |
| 1500         | 3.75        | 10.35 | 19.95 | 39.30 | 58.95   | 78.60   | 106.05 | 137.40 | 208.50 | 364.50  | 592.50* | 986.5* | -   | -     | -    |
| 1800         | 4.50        | 12.42 | 23.94 | 47.16 | 70.74   | 94.32   | 127.26 | 164.88 | 250.20 | 437.40* | -       | -      | -   | -     | -    |
| 3000         | 7.50        | 20.70 | 39.90 | 78.60 | 117.90* | 157.20* | -      | -      | -      | -       | -       | -      | -   | -     | -    |
| 3600         | 9.00        | 24.84 | 47.98 | 94.32 | -       | -       | -      | -      | -      | -       | -       | -      | -   | -     | -    |

All these power ratings are calculated at constant torque.

For speeds below 100 RPM and intermediate speeds use normal torque ratings.

\* Dynamic balancing preferred at these speeds.

| Poles | 2    | 4    | 6    | 8   |
|-------|------|------|------|-----|
| rpm   | 3000 | 1500 | 1000 | 750 |

**TECHNICAL DATA : FLEXIBLE TYRES**

| Size                       | 4   | 5   | 6   | 7   | 8   | 9    | 10   | 11   | 12   | 14   | 16   | 18    | 20    | 22    | 25    |
|----------------------------|-----|-----|-----|-----|-----|------|------|------|------|------|------|-------|-------|-------|-------|
| Torsional Stiffness Nm/deg | 5   | 13  | 26  | 41  | 63  | 91   | 126  | 178  | 296  | 470  | 778  | 1371  | 1959  | 2760  | 3562  |
| Parallel Misalignment mm   | 1.1 | 1.3 | 1.6 | 1.9 | 2.1 | 2.4  | 2.6  | 2.9  | 3.2  | 3.7  | 4.2  | 4.8   | 5.3   | 5.8   | 6.6   |
| End Float mm               | 1.3 | 1.7 | 2.0 | 2.3 | 2.6 | 3.0  | 3.3  | 3.7  | 4.0  | 4.6  | 5.3  | 6.0   | 6.6   | 7.3   | 8.2   |
| Rated Torque Nm            | 24  | 66  | 127 | 250 | 375 | 500  | 675  | 875  | 1330 | 2325 | 3730 | 6270  | 9325  | 11600 | 14675 |
| Max. Torque Nm             | 64  | 160 | 318 | 487 | 759 | 1096 | 1517 | 2137 | 3547 | 5642 | 9339 | 16455 | 23508 | 33125 | 42750 |

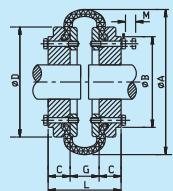


# TYRE - FLEX COUPLINGS

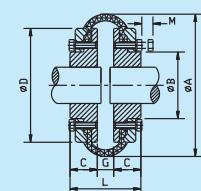
## TYPE - T/TO

TYRE FLEX  
T / TO

T-4 to T-12

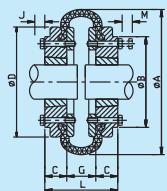


TO-14 to TO-25

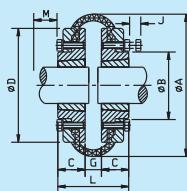


TYPE B

T-4 to T-6



TO-14 to TO-22



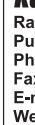
TYPE F/H

TABLE 3 : DIMENSIONAL DATA : TYRE-FLEX HUB TYPES B, F & H

| Size  | Kw at<br>100<br>RPM | MAX.<br>SPEED<br>rpm | Type | #<br>Bush<br>Size | # Bore |        | Type F/H |     |     | Type B |       | ØA  | ØD  | ØB  | M   | G  | Wt. per<br>Coupling<br>Kg | MI (WR <sup>2</sup> ) PER<br>COUPLING<br>kgm <sup>2</sup> |         |         |  |  |  |  |
|-------|---------------------|----------------------|------|-------------------|--------|--------|----------|-----|-----|--------|-------|-----|-----|-----|-----|----|---------------------------|---|---------|---------|--|--|--|--|
|       |                     |                      |      |                   | PB     | Max.   |          | L   | C   | J      | L     | C   |     |     |     |    |                           |   |         |         |  |  |  |  |
|       |                     |                      |      |                   |        | Metric | Inch     |     |     |        |       |     |     |     |     |    |                           |   |         |         |  |  |  |  |
| T-4   | 0.25                | 4500                 | B    | -                 | 10     | 32     | 1 1/4    | -   | -   | -      | 68    | 22  | 104 | 82  | -   | 17 | 24                        | 1.9   | 0.00161 |         |  |  |  |  |
|       |                     |                      | F/H  | 1008              | -      | 25     | 1        | 68  | 22  | 29     | -     | -   |     |     |     |    |                           | 1.7   | 0.00148 |         |  |  |  |  |
| T-5   | 0.69                | 4500                 | B    | -                 | 10     | 38     | 1 1/2    | -   | -   | -      | 93    | 32  | 133 | 100 | 79  | 17 | 29                        | 3.5   | 0.00358 |         |  |  |  |  |
|       |                     |                      | F/H  | 1210              | -      | 32     | 1 1/4    | 79  | 25  | 38     | -     | -   |     |     |     |    |                           | 19  | 2.7     | 0.00349 |  |  |  |  |
| T-6   | 1.33                | 4000                 | B    | -                 | 15     | 45     | 1 3/4    | -   | -   | -      | 111   | 38  | 165 | 125 | 73  | 8  | 35                        | 5   | 0.0105  |         |  |  |  |  |
|       |                     |                      | F/H  | 1610              | -      | 42     | 1 5/8    | 85  | 25  | 38     | -     | -   |     |     |     |    |                           | 103   | 3.6     | 0.0103  |  |  |  |  |
| T-7   | 2.62                | 3600                 | B    | -                 | 19     | 50     | 2        | -   | -   | -      | 133   | 45  | 197 | 144 | 82  | -  | 43                        | 7.8   | 0.0198  |         |  |  |  |  |
| T-8   | 3.93                | 3100                 | B    | -                 | 25     | 63     | 2 1/2    | -   | -   | -      | 149.5 | 51  | 210 | 167 | 96  | -  | 47.5                      | 10.9  | 0.042   |         |  |  |  |  |
| T-9   | 5.24                | 3000                 | B    | -                 | 30     | 75     | 3        | -   | -   | -      | 165   | 57  | 235 | 188 | 110 | -  | 51                        | 15  | 0.0681  |         |  |  |  |  |
| T-10  | 7.07                | 2600                 | B    | -                 | 32     | 80     | 3 1/8    | -   | -   | -      | 178   | 60  | 254 | 216 | 125 | -  | 58                        | 21.5  | 0.1303  |         |  |  |  |  |
| T-11  | 9.16                | 2300                 | B    | -                 | 32     | 90     | 3 1/2    | -   | -   | -      | 183   | 65  | 279 | 233 | 140 | -  | 53                        | 28.8  | 0.1622  |         |  |  |  |  |
| T-12  | 13.9                | 2050                 | B    | -                 | 38     | 100    | 4        | -   | -   | -      | 209.5 | 76  | 314 | 264 | 152 | -  | 57.5                      | 43.1  | 0.365   |         |  |  |  |  |
| TO-14 | 24.3                | 1800                 | B    | -                 | 58     | 127    | 5        | -   | -   | -      | 201   | 89  | 359 | 311 | 195 | 26 | 23                        | 60.6  | 0.6045  |         |  |  |  |  |
|       |                     |                      | F/H  | 3525              | -      | *100   | 4        | 153 | 65  | 67     | -     | -   |     |     |     |    |                           | -   | 42.6    | 0.4922  |  |  |  |  |
| TO-16 | 39.5                | 1600                 | B    | -                 | 65     | 140    | 5 1/2    | -   | -   | -      | 212   | 102 | 395 | 345 | 216 | -  | 8                         | 86.4  | 1.2755  |         |  |  |  |  |
|       |                     |                      | F/H  | 4030              | -      | *115   | 4 1/2    | 162 | 77  | 80     | -     | -   |     |     |     |    |                           | 72.6  | 1.1134  |         |  |  |  |  |
| TO-18 | 65.7                | 1500                 | B    | -                 | 70     | 150    | 6        | -   | -   | -      | 254   | 116 | 470 | 398 | 220 | -  | 22                        | 133.3   | 2.1525  |         |  |  |  |  |
|       |                     |                      | F/H  | 4535              | -      | *125   | 5        | 200 | 89  | 89     | -     | -   |     |     |     |    |                           | 123.0   | 1.9514  |         |  |  |  |  |
| TO-20 | 97.6                | 1300                 | B    | -                 | 70     | 150    | 6        | -   | -   | -      | 258   | 114 | 508 | 429 | 220 | -  | 30                        | 144.6   | 3.1765  |         |  |  |  |  |
|       |                     |                      | F/H  | 4535              | -      | *125   | 5        | 208 | 89  | 89     | -     | -   |     |     |     |    |                           | 158.3   | 3.0129  |         |  |  |  |  |
| TO-22 | 121                 | 1100                 | B    | -                 | 75     | 160    | 6 1/2    | -   | -   | -      | 281   | 127 | 562 | 470 | 240 | -  | 27                        | 181.63  | 4.7861  |         |  |  |  |  |
|       |                     |                      | F/H  | 5040              | -      | 125    | 5        | 231 | 102 | 92     | -     | -   |     |     |     |    |                           | 195.1   | 4.8954  |         |  |  |  |  |
| TO-25 | 154                 | 1000                 | B    | -                 | 85     | 190    | 7 1/2    | -   | -   | -      | 294   | 132 | 628 | 532 | 275 | -  | 30                        | 281.1   | 8.129   |         |  |  |  |  |

- All dimensions are in mm. Unless otherwise specified.
- M is the amount by which clamping screws need to be withdrawn to release the tyre.
- J is the wrench clearance to allow for tightening and loosening the bush on the shaft.
- Shaft ends, although normally located G apart, can project beyond the flanges as shown. In this event allow sufficient space between shaft ends for end float and misalignment.
- Maximum torque figures should be regarded as short duration overload rating for direct on line starting. Angular misalignment capacity up to 4°.
- Weights & Moment of Inertia specified are at without bores.
- F/H construction for size 7 to 12 available in TO7 to TO12.
- # For detailed information about Taper Bush bore, please refer Taper Bush catalogue.
- \* Standard Bore of 90 mm, 100 mm, 115 mm and max. bore with shallow key 100 mm, 115 mm and 125 mm for bush nos. 3525, 4030 & 4535 resply.

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