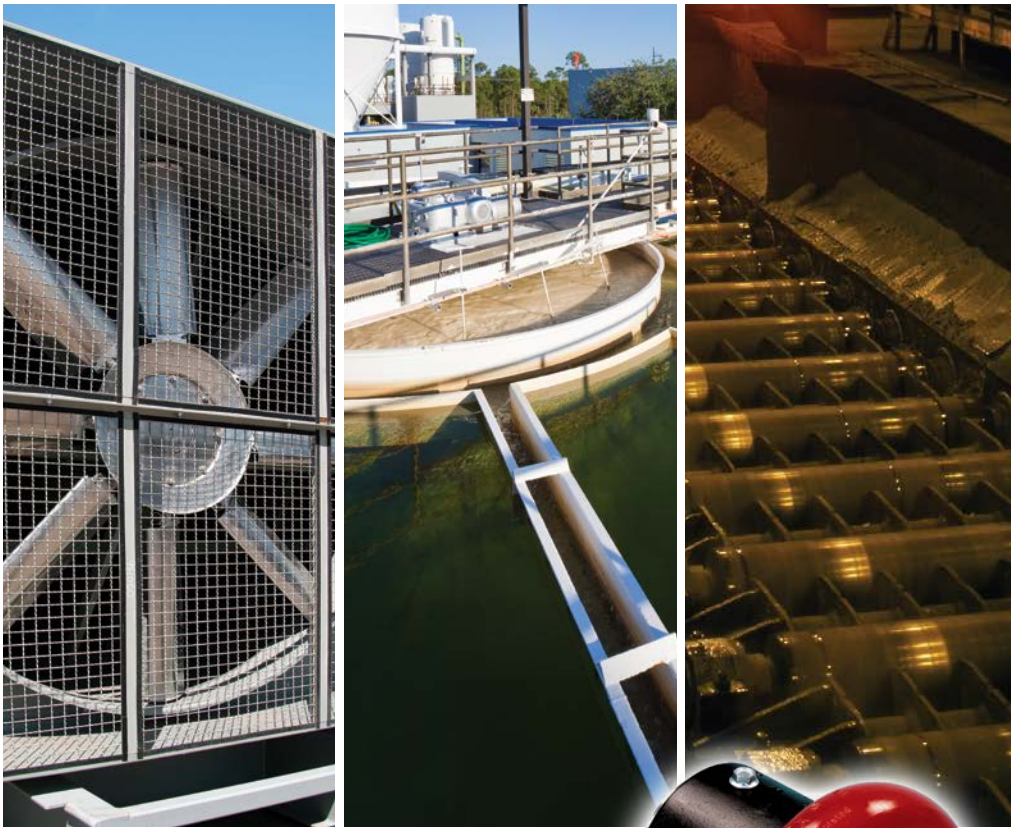


# Dura-Flex® Elastomeric Couplings (Metric)



# Dura-Flex couplings are designed from the ground up using finite element analysis to maximize flex life

TB Wood's Dura-Flex couplings "split-in-half" element design allows for easy element installation/replacement without moving connected equipment or disturbing the shaft connection.

Spacer design can accommodate a large range of shaft spacing with few parts. Patented design of the urethane bond to the leading edge of the steel shoe bolted to the hub, minimizes bond stress for long coupling life.

These couplings are highly flexible and able to accommodate shaft misalignments (1/16" parallel misalignment and 4° angular misalignment) while minimizing torsional vibration and preventing damage to connected equipment.

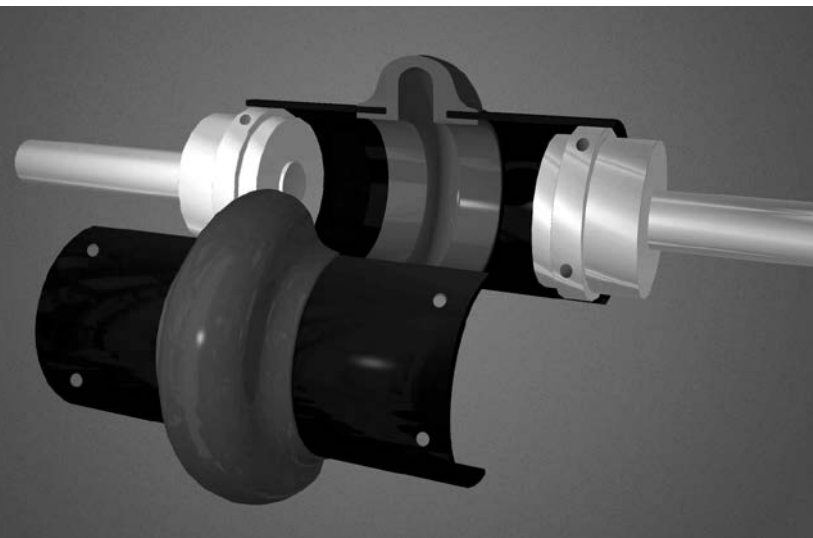
Specially formulated polyurethane material provides superior weathering, chemical resistance, and dynamic properties.



Patent No. 5,611,732

## Features (Metric)

- Torque up to 4.50 kNm; 39,500 in.lbs.
- Easy to assemble/replace
- High misalignment ratings
- No maintenance/lubrication
- Part-for-part interchangeable with industry standard design
- In-stock versatile spacer design can accommodate many configurations with few parts
- Bore-to-size (BTS), Sure-Grip bushed (QD), and Taper-Lock® hubs are available
- All dimensions including hardware and fasteners



Specially designed, split-in-half element can be easily replaced without moving any connected equipment.

## Applications

Dura-Flex couplings can be found hard at work in many industries such as water treatment, paper and metal processing, power generation, and material handling. These couplings are ideal for a wide variety of applications with uniform to heavy shock loads including:

- Pumps
- Fans/Blowers
- Compressors
- Electric Motors
- Conveyors



Dura-Flex couplings withstand harsh conditions in wastewater facilities.

# Metric Coupling Selection

## Determining Prime Mover Classification

| Prime Mover   | Class |
|---|-------|
| Electric Motors (standard duty), Hydraulic Motors, Turbines | A     |
| Gasoline or Steam Engines (4 or more cylinders)             | B     |
| Diesel or Gas Engines, High Torque Electric Motors          | C     |

## Determining Load Characteristics and Service Factor

| Typical Applications  | Load           | Characteristics  | Prime Mover Class |     |     |
|---|----------------|--|-------------------|-----|-----|
|   |                |  | A                 | B   | C   |
| Agitators (pure liquids), Blowers (centrifugal, Can and Bottle Filling Machines, Conveyors – uniformly loaded or fed (belt, chain, screw), Fans (centrifugal), Generators (uniform load), Pumps (centrifugal), Screens (air washing, water), Stokers (uniform load), Woodworking Machines (planers, routers, saws)  | Uniform        | Even loads – no shock – non reversing – infrequent starts (up to 10 per hour) – low starting torques     | 1.0               | 1.5 | 2.0 |
| Beaters, Blowers (lobe, vane), Compressors (centrifugal, rotary), Conveyors – non uniformly loaded or fed (belt, bucket, chain, screw), Dredge Pumps, Fans (forced draft, propeller), Kilns, Paper Mills (calendars, converting machines, conveyors, dryers, mixers, winders), Printing Presses, Pumps (gear, rotary), Shredders, Textile Machinery (dryers, dyers) | Moderate shock | Uneven loads – moderate shock infrequent reversing-moderate torques                                      | 1.5               | 2.0 | 2.5 |
| Cranes (bridge, hoist, trolley), Fans (cooling tower), Generators (welding), Hammer Mills, Mills (ball, pebble, rolling, tube, tumbling), Pumps (oil well), Wire Drawing Machines   | Heavy shock    | Uneven loads – heavy shock – frequent starts and stops – high starting torques – high inertia peak loads | 2.0               | 2.5 | 3.0 |

**Note:** The above applications depict the generally accepted conditions encountered in industry. Conditions subject to extreme temperatures, abrasive dusts, corrosive liquids, excessively high starting torques, etc., must be considered as extra heavy shock loads. These conditions will increase service factors. Consult TB Wood's for these selections.

## Calculate Design Horsepower or Design Torque

- If Prime Mover is a 970, 1450, or 3000 RPM motor  
 $\text{Design KW} = \text{Prime Mover KW} \times \text{Service Factor}$   
 Go to page 4 and reference the corresponding motor RPM column.
- If Prime Mover is not one of the three speeds listed above  
 $\text{Design KW @ 100 RPM} = (\text{Prime Mover KW} \times \text{Service Factor} \times 100) / \text{Coupling RPM}$   
 Go to page 4 and reference KW @ 100 RPM column.
- If Using Prime Mover Torque  
 $\text{Design Torque} = \text{Prime Mover Torque} \times \text{Service Factor}$   
 Go to page 4 and reference Torque column.

### Metric Version Catalog

For Imperial information  
see Catalog P-1690-TBW

# Coupling Selection

## Dura-Flex Couplings sold by component

A DURA-FLEX Assembly consists of one element (STD or Spacer) and two hubs (BTS or QD). Optional high speed rings may also be ordered for spacer elements. Below is an ordering example for Dura-Flex Couplings.

|               | Part #                | Description   | Size 20 Example |
|---------------|-----------------------|---|-----------------|
| Element (1)   | WE2M – WE80M          | Standard Metric Element, sizes 2 through 80             | WE20M           |
|               | WES2M – WES80M        | Spacer Metric Element, sizes 2 through 80               | WES20M          |
| Hubs (2)      | WE[2-80] HMPB         | BTS Hubs – MPB suitable to rebore                       | WE20HMMPB       |
|               | WE[3-80] HMTL Bushing | TL Hubs (sizes 3 through 80, bushing not included)      | WE20HMTL        |
| *HS Rings (1) | WE[20-80]RM           | High speed rings - size 20-80 (standard for sizes 2-10) | WE20RM          |

\*Spacer element only

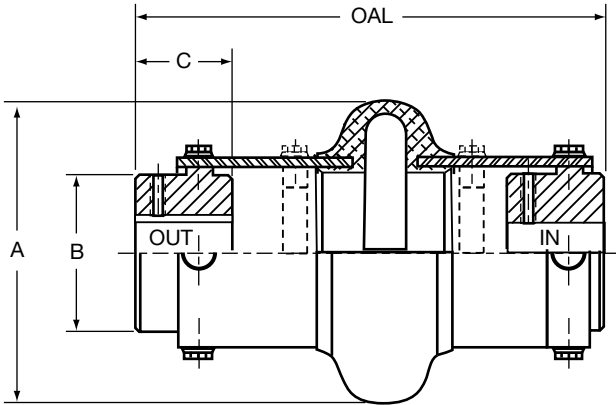
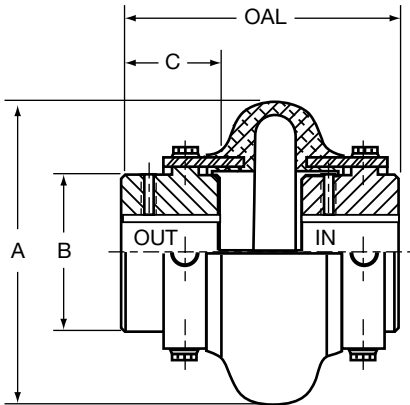
## Coupling Ratings (standard & spacer) (Metric)

| Coupling Size | KW @ RPM |        |        |         | Torque Nm | Stiffness NM/RAD | Maximum RPM |         | Max. Misalignment |         |
|---------------|----------|--------|--------|---------|-----------|------------------|-------------|---------|-------------------|---------|
|               | 100      | 970    | 1450   | 3000    |           |                  | Standard    | Spacer* | Parallel (mm)     | Angular |
| WE2M          | 0.22     | 2.17   | 3.24   | 6.71    | 22        | 358              | 7500        | 7500    | 1.6               | 4°      |
| WE3M          | 0.43     | 4.20   | 6.27   | 12.98   | 41        | 532              | 7500        | 7500    | 1.6               | 4°      |
| WE4M          | .66      | 6.37   | 9.52   | 19.69   | 62        | 607              | 7500        | 7500    | 1.6               | 4°      |
| WE5M          | 1.10     | 10.71  | 16.00  | 33.11   | 105       | 1110             | 7500        | 7500    | 1.6               | 4°      |
| WE10M         | 1.72     | 16.64  | 24.87  | 51.45   | 164       | 1790             | 7500        | 7500    | 1.6               | 4°      |
| WE20M         | 2.72     | 26.40  | 39.47  | 81.65   | 260       | 3120             | 6600        | 4800    | 2.4               | 3°      |
| WE30M         | 4.32     | 41.88  | 62.61  | 129.53  | 412       | 4770             | 5800        | 4200    | 2.4               | 3°      |
| WE40M         | 6.60     | 64.01  | 95.69  | 197.98  | 622       | 7370             | 5000        | 3600    | 2.4               | 3°      |
| WE50M         | 9.05     | 87.81  | 131.27 | 271.58  | 864       | 13900            | 4200        | 3100    | 2.4               | 3°      |
| WE60M         | 14.79    | 143.51 | 214.52 | 443.84  | 1412      | 18900            | 3800        | 2800    | 3.2               | 2°      |
| WE70M         | 26.19    | 254.03 | 379.74 | 785.67  | 2500      | 23200            | 3600        | 2600    | 3.2               | 2°      |
| WE80M         | 46.76    | 453.53 | 677.95 | 1402.66 | 4463      | 34500            | 2000        | 1800    | 3.2               | 2°      |

\* Maximum spacer RPM = Maximum standard RPM if using optional high speed rings

## Assembly Dimensions

All dimensions in mm



Sizes WES2M through WES10M are furnished with high speed rings. All larger sizes, rings can be ordered as an option.

All weights shown are with MPB style hubs.

Shaft Spacing from 6.35 mm up to the MAX DBSE can be accommodated by positioning hubs IN or OUT or by using various existing hole patterns. OAL — Over All Length does Not include bolt heads.

### Dimensions Common to BTS Standard and Spacer Assemblies (mm)

| Size           | A   | B   | C   | Max Bore |
|----------------|-----|-----|-----|----------|
| WE2M & WES2M   | 94  | 47  | 24  | 29       |
| WE3M & WES3M   | 108 | 59  | 38  | 35       |
| WE4M & WES4M   | 115 | 66  | 43  | 42       |
| WE5M & WES5M   | 137 | 80  | 44  | 48       |
| WE10M & WES10M | 165 | 93  | 48  | 54       |
| WE20M & WES20M | 187 | 114 | 52  | 60       |
| WE30M & WES30M | 214 | 138 | 59  | 73       |
| WE40M & WES40M | 247 | 168 | 64  | 86       |
| WE50M & WES50M | 288 | 207 | 70  | 92       |
| WE60M & WES60M | 318 | 222 | 83  | 102      |
| WE70M & WES70M | 356 | 235 | 92  | 114      |
| WE80M & WES80M | 406 | 287 | 124 | 152      |

### Standard Element Assembly (mm)

| Product No. | OAL MAX | OAL MIN | Maximum DBSE | Weight Kg |
|-------------|---------|---------|--------------|-----------|
| WE2M        | 96      | 82      | 48           | 0.68      |
| WE3M        | 110     | 97      | 34           | 1.5       |
| WE4M        | 119     | 97      | 33           | 2.0       |
| WE5M        | 135     | 110     | 46           | 3.4       |
| WE10M       | 141     | 105     | 46           | 5.1       |
| WE20M       | 173     | 109     | 69           | 7.4       |
| WE30M       | 193     | 118     | 76           | 12.6      |
| WE40M       | 207     | 129     | 80           | 20.6      |
| WE50M       | 234     | 147     | 94           | 26.8      |
| WE60M       | 272     | 164     | 107          | 37.5      |
| WE70M       | 279     | 183     | 123          | 49.4      |
| WE80M       | 375     | 236     | 169          | 110.5     |

Product number is element only.

### Spacer Element Assembly (mm)

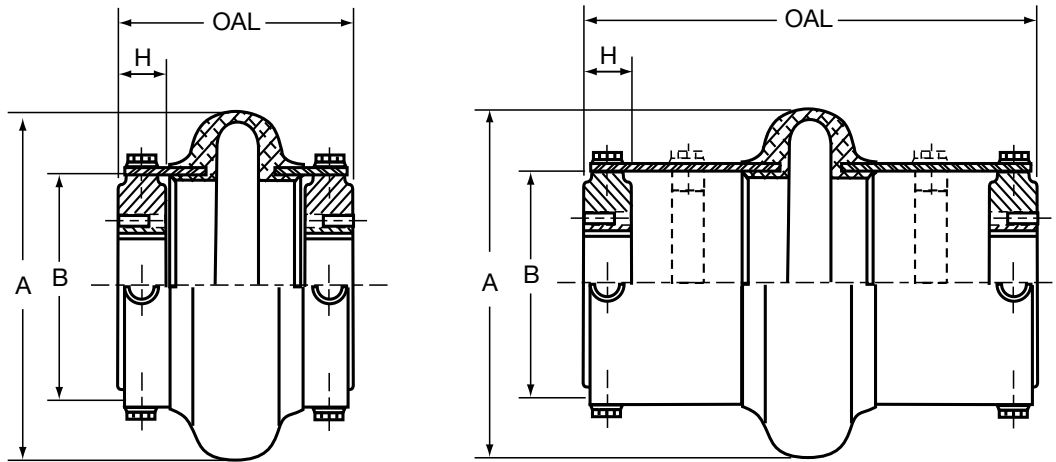
| Product No. | OAL MAX | OAL MIN | Maximum DBSE | Weight Kg |
|-------------|---------|---------|--------------|-----------|
| WES2M       | 145     | 145     | 103          | 1.1       |
| WES3M       | 204     | 185     | 128          | 2.2       |
| WES4M       | 213     | 185     | 127          | 2.8       |
| WES5M       | 216     | 185     | 127          | 4.3       |
| WES10M      | 223     | 185     | 127          | 6.2       |
| WES20M      | 284     | 237     | 180          | 8.7       |
| WES30M      | 296     | 237     | 180          | 14.1      |
| WES40M      | 302     | 237     | 175          | 22.2      |
| WES50M      | 313     | 237     | 173          | 28.8      |
| WES60M      | 414     | 315     | 248          | 41.3      |
| WES70M      | 427     | 318     | 243          | 58.1      |
| WES80M      | 501     | 318     | 248          | 117.0     |

Product number is element only.

# Taper Lock® Bushed Coupling

## Assembly Dimensions

All dimensions in mm



### Dimensions Common to Taper-Lock® Bushed Standard and Spacer Assemblies (mm)

| Size           | A   | B   | H   | Bushing | Max Bore |
|----------------|-----|-----|-----|---------|----------|
| WE3M & WES3M   | 108 | 59  | 22  | TL1008  | 26       |
| WE4M & WES4M   | 115 | 66  | 22  | TL1008  | 26       |
| WE5M & WES5M   | 137 | 80  | 22  | TL1210  | 32       |
| WE10M & WES10M | 165 | 93  | 25  | TL1610  | 44       |
| WE20M & WES20M | 187 | 114 | 25  | TL1610  | 44       |
| WE30M & WES30M | 214 | 138 | 32  | TL2012  | 55       |
| WE40M & WES40M | 247 | 168 | 44  | TL2517  | 68       |
| WE50M & WES50M | 288 | 207 | 44  | TL2517  | 68       |
| WE60M & WES60M | 318 | 222 | 51  | TL3020  | 82       |
| WE70M & WES70M | 356 | 235 | 89  | TL3535  | 100      |
| WE80M & WES80M | 406 | 287 | 102 | TL4040  | 113      |

### Standard Element Assembly (mm)

| Product No. | OAL | Maximum DBSE | Weight kg |
|-------------|-----|--------------|-----------|
| WE3M        | 87  | 43           | 0.8       |
| WE4M        | 87  | 43           | 1.2       |
| WE5M        | 100 | 56           | 1.8       |
| WE10M       | 103 | 52           | 2.7       |
| WE20M       | 114 | 64           | 4.1       |
| WE30M       | 129 | 65           | 6.2       |
| WE40M       | 149 | 60           | 9.9       |
| WE50M       | 165 | 76           | 14.3      |
| WE60M       | 186 | 84           | 21.1      |
| WE70M       | 238 | 60           | 30.3      |
| WE80M       | 298 | 95           | 37.2      |

Product number is element only.

Sizes WES3M through WES10M are furnished with high speed rings. All larger sizes, rings can be ordered as an option.

All weights shown are with MPB bushings.

### Spacer Element Assembly (mm)

| Product No. | OAL MAX | OAL MIN | Maximum DBSE | Weight Kg |
|-------------|---------|---------|--------------|-----------|
| WES3M       | 185     | 185     | 137          | 1.5       |
| WES4M       | 185     | 185     | 137          | 1.9       |
| WES5M       | 185     | 185     | 137          | 2.7       |
| WES10M      | 185     | 185     | 133          | 3.6       |
| WES20M      | 237     | 237     | 174          | 5.4       |
| WES30M      | 237     | 237     | 168          | 8.2       |
| WES40M      | 244     | 237     | 155          | 12.2      |
| WES50M      | 244     | 237     | 155          | 17.0      |
| WES60M      | 328     | 315     | 226          | 27.5      |
| WES70M      | 364     | 318     | 186          | 36.9      |
| WES80M      | 377     | 318     | 174          | 42.3      |

Product number is element only.

Shaft Spacing from 6.35 mm up to the MAX DBSE can be accommodated by positioning hubs IN or OUT or by using various existing hole patterns. OAL — Over All Length does Not include bolt heads.

© Taper-Lock: J.H. Fenner & Co. Limited, England.

# TB Wood's offers a wide range of couplings for industrial applications

For over 70 years, TB Wood's has been designing and manufacturing innovative coupling solutions to meet therequirements for a broad variety of applications spanning many industries. TB Wood's couplings represent the latest in technology, featuring superior design and exceptional quality to ensure long-lasting performance in all types of industrial applications including printing presses, machine tools, cooling tower fans, food processing equipment, pumps, blowers, electric motors, compressors, mixers, and conveyors.



## L-JAW ELASTOMERIC COUPLINGS

Jaw-type elastomeric couplings are an economical, proven solution for general purpose applications. Jaw couplings are easy to install and require no lubrication or maintenance. Four different flexible insert types are available: Buna-N rubber, Urethane, Hytrel™ and Bronze. Jaw couplings are an excellent choice for all light and medium duty general purpose industrial applications. Models available with torque capacities up to 0.70 kNm; 6,228 in.lbs.

*See Catalog P-1686-TBW*



## SURE-FLEX PLUS® ELASTOMERIC COUPLINGS

Sure-Flex Plus is a TB Wood's original! Sure-Flex Plus Couplings utilize a rubber (EPDM or Neoprene) or Hytrel™ thermoplastic flex element (sleeve) to transmit torque and accommodate shaft misalignments. Sure-Flex Plus couplings have exceptional torsional flexibility, and the 4-way flexing action absorbs virtually all types of shock, vibration, misalignment, and end float. These couplings are an excellent choice when low cost, high flexibility, vibration damping, and easy installation are primary concerns. Models available with torque capacities up to 8.20 kNm; 72,480 in.lbs.

*See Catalog P-1686-TBW*



## G-FLEX GRID COUPLINGS

State-of-the-art design from Bibby Turboflex, the original grid coupling manufacturer. G-Flex is an all-metal coupling that provides positive protection against the damaging effects of shock loads and vibration. Aluminum horizontal cover (T10), and all-steel vertical cover (T20) designs are available. G-Flex tapered grid couplings are an excellent choice where torsional flexibility and vibration damping are primary concerns. Models available with torque capacities up to 169 kNm; 1,500,000 in.lbs.

*See Catalog P-1686-TBW*



## FORM-FLEX DISC COUPLINGS

Form-Flex metal disc couplings consist of two hubs, a spacer and two high strength carbon or stainless steel flexible discs. Modified and special designs are commonly supplied to meet specific application conditions. Available in carbon steel, stainless steel or with corrosion resistant coatings. Models available with torque capacities up to 270 kNm; 2,400,000 in.lbs.

*See Catalog P-1686-TBW*

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*Elastomeric Couplings*

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