# WCC DISC COUPLING

## DESCRIPTION

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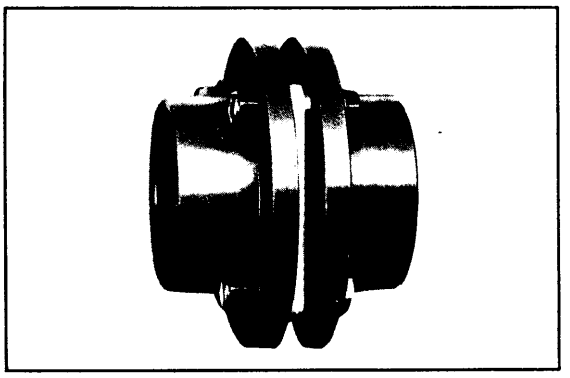

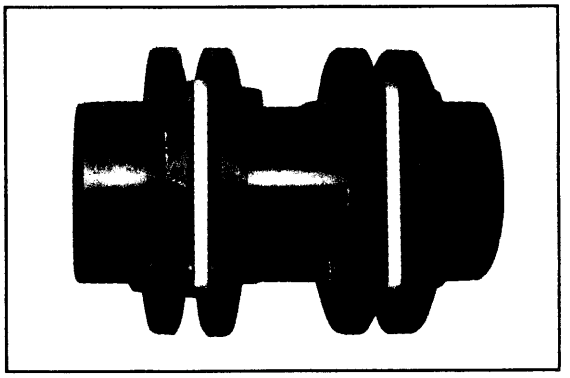

- Disc Couplings are free from rotational back lash, provide unifrom and smooth at constant angular velocity. This coupling has given outstanding service for instance in regulating and control drives. For equiment such as machine tools with numerical controllers. indexing systems, and printing machine, disc coupling are better than other couplings.
- Disc Couplings have no sliding, frictional, or moving parts. Therefore there is no friction or noise and they are not subject to wear and require no maintenace, no lubrication.

With proper selection and careful installation, an unlimited working life may be expected from this compact. ruggedly constructed all steel couplings.

- The flexible element plate packs (Stainless steel) are integral components, easily visible, readly inspected and can be installed without difficulty.
- Disc Couplings are manufactured for torque from 3.4kgf.m to 8530kgf.m, in various sizes available and they are applicable for a wide variety of systems because of their great range of allowable displacement.
- Disc Couplings are suitable for both directions of rotation and adaptable for vertical installation with intergral support.
- Disc Couplings are used in all types of industries and temperature to 280° C are permissible.

## STRUCTURE

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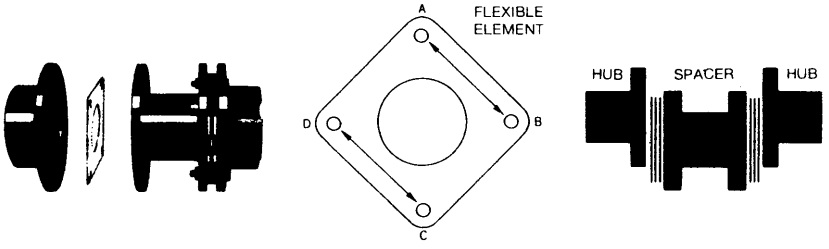
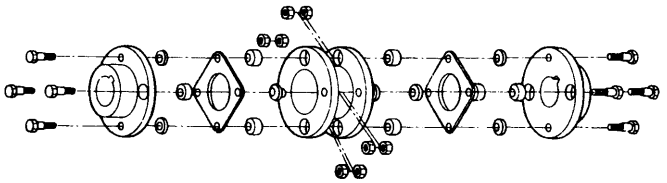
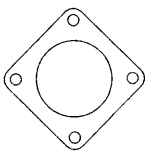
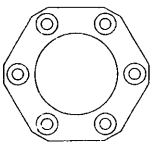
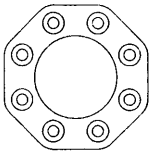
- Disc Couplings are all steel couplings. They are symmetrically constructed. The disc packs are located between the Flange of the Coupling hubs and spacer are alternately bolted to Flanges.
- The stainless steel pack is an integral assembly consisting of individual plates. Since all junction points are built up this way the disc pack represents a compact unit.

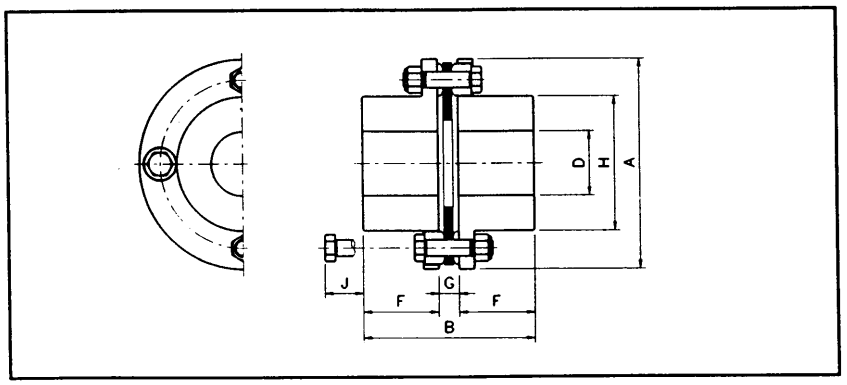


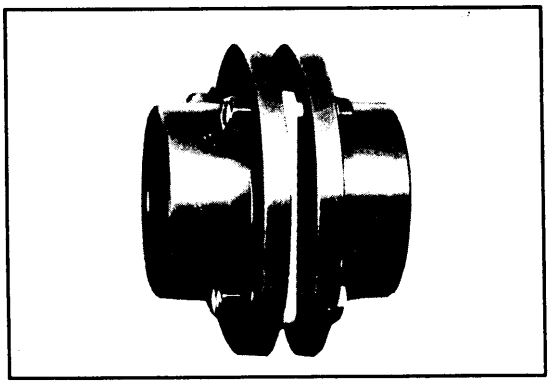



| TYPE | P4 | P6 | P8 |
|---|---|---|---|
| FEATURE |  |  |  |
| Allowable Torque | 3.4-650 kgf-m | 840-6,100 kgf-m | 1,200-8,530 kgf-m |
| Allowable Angle | 1° | 0.7° | 0.5° |

# WCC DISC COUPLING

## ● 4 BOLTS Single Flexible Coupling



| Size No. | A | B | D | | F | G | H | J |
|---|---|---|---|---|---|---|---|---|
| | | | Max | Min | | | | |
| 05S | 67 | 56.9 | 23 | 8 | 25.4 | 6.1 | 33 | 13 |
| 10S | 81 | 57.4 | 32 | 10 | 25.4 | 6.6 | 46 | 16 |
| 15S | 93 | 65.8 | 35 | 10 | 28.7 | 8.4 | 51 | 22 |
| 20S | 104 | 78.2 | 42 | 10 | 33.5 | 11.2 | 61 | 20 |
| 25S | 126 | 93.9 | 50 | 16 | 41.1 | 11.7 | 71 | 25 |
| 30S | 143 | 107.3 | 58 | 16 | 47.8 | 11.7 | 84 | 28 |
| 35S | 168 | 131.2 | 74 | 25 | 57.2 | 16.8 | 106 | 23 |
| 40S | 194 | 144.0 | 83 | 25 | 63.5 | 17.0 | 119 | 30 |
| 45S | 214 | 174.0 | 95 | 45 | 76.2 | 21.6 | 137 | 22 |
| 50S | 246 | 201.7 | 109 | 50 | 88.9 | 23.9 | 157 | 23 |
| 55S | 276 | 230.4 | 118 | 50 | 101.6 | 27.2 | 170 | 40 |

The single flexible coupling is designed to compensate for an angular displacement of up to 1° maximum. It can operate at high speeds and under heavy loads while supporting radial road.

Typical installations include coupling of shafts, one of which is supported by bearing at two points and the other supported by only on bearing

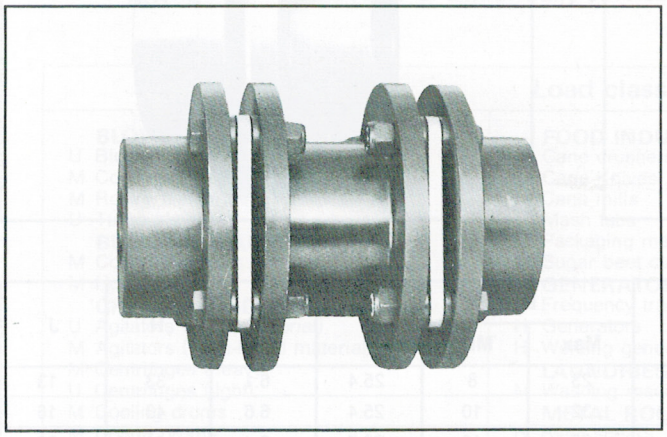
Allowable torque values become liner when torque changes while within the zone of maximum allowable torque specified in this catalogue.

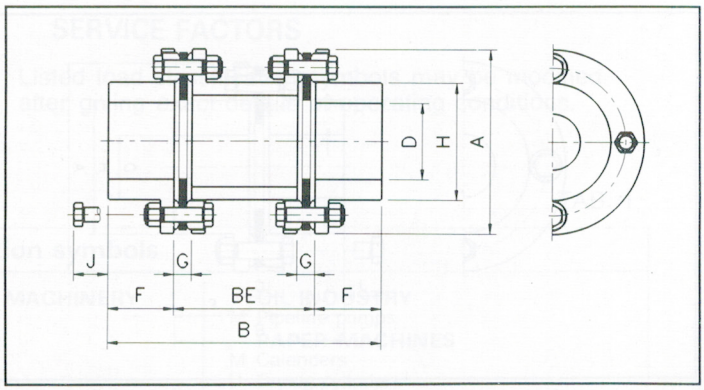
| Size No. | Allowable Torque (kgf.m) | | | | Max. Allowable Radial Load (kgf) | (1) Max. Speed (rpm) | Weight W (kgf) | $GD^2$ ($kgf.cm^2$) | Torsional Stiffness (kgf.m/rad) | (2) Axial Spring Constant (kgf/mm) |
|---|---|---|---|---|---|---|---|---|---|---|
| | No Radial Load | 1/3 Radial Load | 2/3 Radial Load | Max. Radial Load | | | | | | |
| 05S | 3.4 | 1.5 | 1.2 | 0.8 | 15 | 47,000 | 0.6 | 8 | $0.22x10^4$ | 4.1 |
| 10S | 9.2 | 4.1 | 3.2 | 2.3 | 25 | 39,000 | 1.1 | 24 | $0.63x10^4$ | 6.0 |
| 15S | 18 | 8.1 | 6.3 | 4.5 | 56 | 34,000 | 1.7 | 48 | $1.5x10^4$ | 14.4 |
| 20S | 25 | 11.3 | 8.7 | 6.0 | 83 | 30,000 | 2.5 | 80 | $2.4x10^4$ | 17.1 |
| 25S | 43 | 19.3 | 16.0 | 11.0 | 120 | 25,000 | 4.3 | 224 | $4.3x10^4$ | 22.3 |
| 30S | 79 | 35.5 | 27.6 | 20.0 | 180 | 22,000 | 6.9 | 440 | $7.0x10^4$ | 31.3 |
| 35S | 130 | 58.5 | 45.5 | 32.5 | 270 | 19,000 | 11.3 | 1080 | $13x10^4$ | 36.2 |
| 40S | 210 | 94.5 | 73.4 | 52.5 | 380 | 16,000 | 16.7 | 2080 | $21x10^4$ | 44.9 |
| 45S | 340 | 153.0 | 119.0 | 85.0 | 450 | 15,000 | 22.7 | 3520 | $30x10^4$ | 47.9 |
| 50S | 500 | 225.0 | 171.0 | 125.0 | 610 | 13,000 | 35.4 | 7200 | $44x10^4$ | 54.8 |
| 50S | 650 | 292.0 | 227.0 | 163.0 | 770 | 11,000 | 52.0 | 12800 | $59x10^4$ | 57.2 |

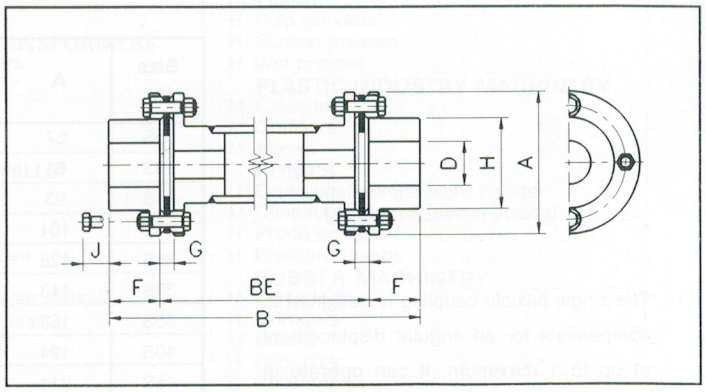
### Fastening torque for Bolt

| Size No. | 05S | 10S | 15S | 20S | 25S | 30S | 35S | 40S | 45S | 50S | 55S |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Bolt Head Diameter (mm) | 10 | 10 | 13 | 13 | 17 | 19 | 19 | 24 | 24 | 27 | 36 |
| Fastening Torque (kgf.m) | **0.9** | **0.9** | **2.2** | **2.2** | **4.2** | **7.3** | **7.3** | **15.9** | **15.9** | **22.1** | **58** |

## ● 4 BOLTS Double Flexible Coupling






## ● Dimension

| Factors | | | | W4-OOD (standard) | | | | W4-OOSD (short) | | | | W4-OOF (custom) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size No. | Rating Torque (kgf.m) | * (1) Max. Speed (rpm) | *(2) Axial Spring Constant (kgf/mm) | BE | Weight W (kgf) | $GD^2$ ($kgf.cm^2$) | Torsional Stiffness (kgf.m/rad) | BE (mm) | Weight W (kgf) | $GD^2$ ($kgf.cm^2$) | Torsional Stiffness (kgf.m/rad) | BE (mm) | * (3) BE (mm) |
| 05D | 3.4 | 5,400 | 2.1 | 88.9 | 1.2 | 18 | $0.09x10^4$ | 36 | 1.1 | 17.8 | $0.11x10^4$ | 2F + BE | To be arranged |
| 10D | 9.2 | 4,500 | 3.0 | 88.9 | 1.9 | 44 | $0.28x10^4$ | 39 | 1.7 | 41 | $0.31x10^4$ | | |
| 15D | 18 | 4,300 | 7.2 | 101.6 | 2.9 | 84 | $0.62x10^4$ | 47 | 2.7 | 79 | $0.72x10^4$ | | |
| 20D | 25 | 4,200 | 8.5 | 127.0 | 4.1 | 148 | $0.95x10^4$ | 53 | 3.7 | 136 | $1.16x10^4$ | | |
| 25D | 43 | 4,000 | 11.1 | 127.0 | 7.1 | 396 | $1.74x10^4$ | 62 | 6.6 | 377 | $2.06x10^4$ | | |
| 30D | 79 | 3,800 | 15.6 | 127.0 | 10.8 | 800 | $2.82x10^4$ | 69 | 10.3 | 775 | $3.31x10^4$ | | |
| 35D | 130 | 3,600 | 18.1 | 127.0 | 16.3 | 1680 | $5.62x10^4$ | 78 | 15.6 | 1628 | $6.26x10^4$ | | |
| 40D | 210 | 3,600 | 22.4 | 139.7 | 24.7 | 3400 | $8.89x10^4$ | 89 | 24.0 | 3317 | $9.96x10^4$ | | |
| 45D | 340 | 3,600 | 23.9 | 152.4 | 32.5 | 5600 | $13.13x10^4$ | 97 | 31.5 | 5428 | $14.44x10^4$ | | |
| 50D | 500 | 3,600 | 27.4 | 177.4 | 50.0 | 11200 | $18.96x10^4$ | 109 | 48.4 | 10865 | $21.16x10^4$ | | |
| 55D | 650 | 3,600 | 28.6 | 177.8 | 75.0 | 20400 | $26.05x10^4$ | 134 | 73.9 | 20127 | $28.03x10^4$ | | |

★ Spring Constant values become linear when torque changes while within the zone of maximum allowable torque specified in this catalogue.

★ "BE" is available in optional lengths upon request.