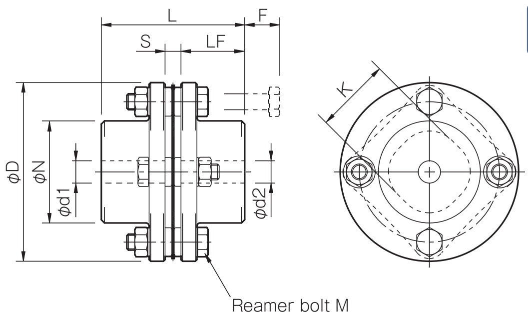
# SFS(S) Types Single Element Type

## Specifications

| Model | Rated torque [N・m] | Misalignment | | Max. rotation speed [min⁻¹] | Torsional stiffness [N・m/rad] | Axial stiffness [N/mm] | Moment of inertia [kg・m²] | Mass [kg] |
|---|---|---|---|---|---|---|---|---|
| | | Angular [°] | Axial [mm] | | | | | |
| SFS-05S | 20 | 1 | ±0.6 | 25000 | 16000 | 43 | $0.11 \times 10^{-3}$ | 0.30 |
| SFS-06S | 40 | 1 | ±0.8 | 20000 | 29000 | 45 | $0.30 \times 10^{-3}$ | 0.50 |
| SFS-08S | 80 | 1 | ±1.0 | 17000 | 83000 | 60 | $0.87 \times 10^{-3}$ | 1.00 |
| SFS-09S | 180 | 1 | ±1.2 | 15000 | 170000 | 122 | $1.60 \times 10^{-3}$ | 1.40 |
| SFS-10S | 250 | 1 | ±1.4 | 13000 | 250000 | 160 | $2.60 \times 10^{-3}$ | 2.10 |
| SFS-12S | 450 | 1 | ±1.6 | 11000 | 430000 | 197 | $6.50 \times 10^{-3}$ | 3.40 |
| SFS-14S | 800 | 1 | ±1.8 | 9500 | 780000 | 313 | $9.90 \times 10^{-3}$ | 4.90 |

*Max. rotation speed does not take into account dynamic balance.
*The moment of inertia and mass are measured for the maximum bore diameter.

## Dimensions




Unit [mm]

| Model | d1・d2 | | | D | N | L | LF | S | F | K | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pilot bore | Min. | Max. | | | | | | | | |
| SFS-05S | 7 | 8 | 20 | 56 | 32 | 45 | 20 | 5 | 11 | 24 | 4-M5 × 22 |
| SFS-06S | 7 | 8 | 25 | 68 | 40 | 56 | 25 | 6 | 10 | 30 | 4-M6 × 25 |
| SFS-08S | 10 | 11 | 35 | 82 | 54 | 66 | 30 | 6 | 11 | 38 | 4-M6 × 29 |
| SFS-09S | 10 | 11 | 38 | 94 | 58 | 68 | 30 | 8 | 21 | 42 | 4-M8 × 36 |
| SFS-10S | 15 | 16 | 42 | 104 | 68 | 80 | 35 | 10 | 16 | 48 | 4-M8 × 36 |
| SFS-12S | 18 | 19 | 50 | 126 | 78 | 91 | 40 | 11 | 23 | 54 | 4-M10 × 45 |
| SFS-14S | 20 | 22 | 60 | 144 | 88 | 102 | 45 | 12 | 31 | 61 | 4-M12 × 54 |

*Pilot bores are to be drilled into the part.
*The nominal diameter of the reamer bolt M is equal to the quantity minus the nominal diameter of the screw threads times the nominal length.

## Standard Bore Diameter

| Model | Standard bore diameter d1・d2 [mm] | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8 | 9 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 22 | 24 | 25 | 28 | 30 | 32 | 35 | 38 | 40 | 42 | 45 | 48 | 50 | 55 | 56 | 60 |
| SFS-05S | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | | | | |
| SFS-06S | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | |
| SFS-08S | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | |
| SFS-09S | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | |
| SFS-10S | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | |
| SFS-12S | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | |
| SFS-14S | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

* Bore diameters marked with ● are supported as standard bore diameter. See the standard hole-drilling standards for information.

## How to Place an Order

SFS-10S-25H-30H

- Size
- Type: S
  Single element
- Bore diameter: d1 (Small diameter) - d2 (Large diameter)
  Blank: Pilot bore
  Bore specifications
  Blank : Compliant with the old JIS standards (class 2) E9
  H: Compliant with JIS standards H9
  J: Compliant with JIS standards JS9
  P: Compliant with JIS standards P9
  N: Compliant with motor standards

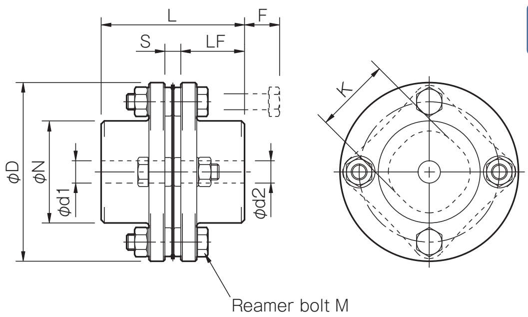
# SFS(S-C) Types Single Element Type/Electroless Nickel Plating Specification

## Specifications

| Model | Rated torque [N・m] | Misalignment | | Max. rotation speed [min⁻¹] | Torsional stiffness [N・m/rad] | Axial stiffness [N/mm] | Moment of inertia [kg・m²] | Mass [kg] |
|---|---|---|---|---|---|---|---|---|
| | | Angular [°] | Axial [mm] | | | | | |
| SFS-05S-C | 15 | 1 | ±0.6 | 25000 | 16000 | 43 | $0.11 \times 10^{-3}$ | 0.30 |
| SFS-06S-C | 30 | 1 | ±0.8 | 20000 | 29000 | 45 | $0.30 \times 10^{-3}$ | 0.50 |
| SFS-08S-C | 60 | 1 | ±1.0 | 17000 | 83000 | 60 | $0.87 \times 10^{-3}$ | 1.00 |
| SFS-09S-C | 135 | 1 | ±1.2 | 15000 | 170000 | 122 | $1.60 \times 10^{-3}$ | 1.40 |
| SFS-10S-C | 190 | 1 | ±1.4 | 13000 | 250000 | 160 | $2.60 \times 10^{-3}$ | 2.10 |
| SFS-12S-C | 340 | 1 | ±1.6 | 11000 | 430000 | 197 | $6.50 \times 10^{-3}$ | 3.40 |
| SFS-14S-C | 600 | 1 | ±1.8 | 9500 | 780000 | 313 | $9.90 \times 10^{-3}$ | 4.90 |

*Max. rotation speed does not take into account dynamic balance.
*The moment of inertia and mass are measured for the maximum bore diameter.

## Dimensions




CAD

Unit [mm]

| Model | d1・d2 | | D | N | L | LF | S | F | K | M |
|---|---|---|---|---|---|---|---|---|---|---|
| | Min. | Max. | | | | | | | | |
| SFS-05S-C | 8 | 20 | 56 | 32 | 45 | 20 | 5 | 11 | 24 | 4-M5 × 22 |
| SFS-06S-C | 8 | 25 | 68 | 40 | 56 | 25 | 6 | 10 | 30 | 4-M6 × 25 |
| SFS-08S-C | 11 | 35 | 82 | 54 | 66 | 30 | 6 | 11 | 38 | 4-M6 × 29 |
| SFS-09S-C | 11 | 38 | 94 | 58 | 68 | 30 | 8 | 21 | 42 | 4-M8 × 36 |
| SFS-10S-C | 16 | 42 | 104 | 68 | 80 | 35 | 10 | 16 | 48 | 4-M8 × 36 |
| SFS-12S-C | 19 | 50 | 126 | 78 | 91 | 40 | 11 | 23 | 54 | 4-M10 × 45 |
| SFS-14S-C | 22 | 60 | 144 | 88 | 102 | 45 | 12 | 31 | 61 | 4-M12 × 54 |

*The nominal diameter of the reamer bolt M is equal to the quantity minus the nominal diameter of the screw threads times the nominal length.

## Standard Bore Diameter

| Model | Standard bore diameter d1・d2 [mm] | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8 | 9 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 22 | 24 | 25 | 28 | 30 | 32 | 35 | 38 | 40 | 42 | 45 | 48 | 50 | 55 | 56 | 60 |
| SFS-05S-C | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | | | | |
| SFS-06S-C | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | |
| SFS-08S-C | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | |
| SFS-09S-C | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | |
| SFS-10S-C | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | |
| SFS-12S-C | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | |
| SFS-14S-C | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

* Bore diameters marked with ● are supported as standard bore diameter. See the standard hole-drilling standards for information.

## How to Place an Order

SFS-10S-C-25H-30H

- Size
- Type: S
  Single element
- Surface finishing
  -C: Electroless nickel plating
- Bore diameter: d1 (Small diameter) - d2 (Large diameter)
  Bore specifications
  Blank : Compliant with the old JIS standards (class 2) E9
  H: Compliant with JIS standards H9
  J: Compliant with JIS standards JS9
  P: Compliant with JIS standards P9
  N: Compliant with motor standards

COUPLINGS
ETP BUSHINGS
ELECTROMAGNETIC CLUTCHES & BRAKES
SPEED CHANGERS & REDUCERS
INVERTERS
LINEAR SHAFT DRIVES
TORQUE LIMITERS
ROSTA
SERIES
Metal Couplings
Metal Disc Couplings SERVOFLEX
High-rigidity Couplings SERVORIGID
Metal Slit Couplings HELI-CAL
Metal Coil Spring Couplings BAUMANNFLEX
Pin Bushing Couplings PARAFLEX
Link Couplings SCHMIDT
Rubber and Plastic Couplings
Dual Rubber Couplings STEPFLEX
Jaw Couplings MIKI PULLEY STARFLEX
Jaw Couplings SPRFLEX
Plastic Bellows Couplings BELLOWFLEX
Rubber and Plastic Couplings CENTAFLEX
MODELS
SFC
SFS
SFF
SFM
SFH

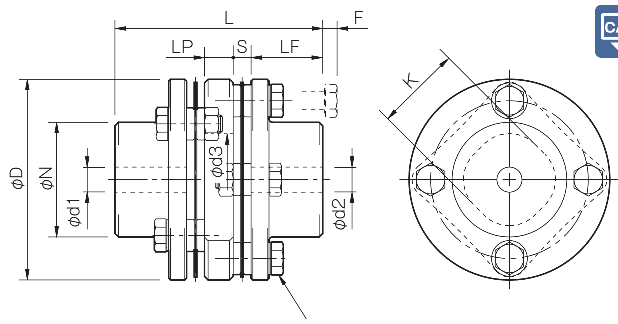
# SFS(W) Types Double Element Type

## Specifications

| Model | Rated torque [N・m] | Misalignment | | | Max. rotation speed [min⁻¹] | Torsional stiffness [N・m/rad] | Axial stiffness [N/mm] | Moment of inertia [kg・m²] | Mass [kg] |
|---|---|---|---|---|---|---|---|---|---|
| | | Parallel [mm] | Angular [°] | Axial [mm] | | | | | |
| SFS-05W | 20 | 0.2 | 1 (On one side) | ± 1.2 | 10000 | 8000 | 21 | $0.14 \times 10^{-3}$ | 0.40 |
| SFS-06W | 40 | 0.3 | 1 (On one side) | ± 1.6 | 8000 | 14000 | 22 | $0.41 \times 10^{-3}$ | 0.70 |
| SFS-08W | 80 | 0.3 | 1 (On one side) | ± 2.0 | 6800 | 41000 | 30 | $1.10 \times 10^{-3}$ | 1.30 |
| SFS-09W | 180 | 0.5 | 1 (On one side) | ± 2.4 | 6000 | 85000 | 61 | $2.20 \times 10^{-3}$ | 2.10 |
| SFS-10W | 250 | 0.5 | 1 (On one side) | ± 2.8 | 5200 | 125000 | 80 | $3.60 \times 10^{-3}$ | 2.80 |
| SFS-12W | 450 | 0.6 | 1 (On one side) | ± 3.2 | 4400 | 215000 | 98 | $9.20 \times 10^{-3}$ | 4.90 |
| SFS-14W | 800 | 0.7 | 1 (On one side) | ± 3.6 | 3800 | 390000 | 156 | $15.00 \times 10^{-3}$ | 7.10 |

*Max. rotation speed does not take into account dynamic balance.
*The moment of inertia and mass are measured for the maximum bore diameter.

## Dimensions




CAD

Unit [mm]

| Model | d1・d2 | | | D | N | L | LF | LP | S | F | d3 | K | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pilot bore | Min. | Max. | | | | | | | | | | |
| SFS-05W | 7 | 8 | 20 | 56 | 32 | 58 | 20 | 8 | 5 | 4 | 20 | 24 | 8-M5 × 15 |
| SFS-06W | 7 | 8 | 25 | 68 | 40 | 74 | 25 | 12 | 6 | 3 | 24 | 30 | 8-M6 × 18 |
| SFS-08W | 10 | 11 | 35 | 82 | 54 | 84 | 30 | 12 | 6 | 2 | 28 | 38 | 8-M6 × 20 |
| SFS-09W | 10 | 11 | 38 | 94 | 58 | 98 | 30 | 22 | 8 | 12 | 32 | 42 | 8-M8 × 27 |
| SFS-10W | 15 | 16 | 42 | 104 | 68 | 110 | 35 | 20 | 10 | 7 | 34 | 48 | 8-M8 × 27 |
| SFS-12W | 18 | 19 | 50 | 126 | 78 | 127 | 40 | 25 | 11 | 10 | 40 | 54 | 8-M10 × 32 |
| SFS-14W | 20 | 22 | 60 | 144 | 88 | 144 | 45 | 30 | 12 | 15 | 46 | 61 | 8-M12 × 38 |

*Pilot bores are to be drilled into the part.
*The nominal diameter of the reamer bolt M is equal to the quantity minus the nominal diameter of the screw threads times the nominal length.

## Standard Bore Diameter

| Model | Standard bore diameter d1・d2 [mm] | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8 | 9 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 22 | 24 | 25 | 28 | 30 | 32 | 35 | 38 | 40 | 42 | 45 | 48 | 50 | 55 | 56 | 60 |
| SFS-05W | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | | | | |
| SFS-06W | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | |
| SFS-08W | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | |
| SFS-09W | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | |
| SFS-10W | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | |
| SFS-12W | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | |
| SFS-14W | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

* Bore diameters marked with ● are supported as standard bore diameter. See the standard hole-drilling standards for information.

## How to Place an Order

SFS-10W-25H-30H

- Size
- Type: W
  Double element
- Bore diameter: d1 (Small diameter) - d2 (Large diameter)
  Blank: Pilot bore
  Bore specifications
  Blank : Compliant with the old JIS standards (class 2) E9
  H: Compliant with JIS standards H9
  J: Compliant with JIS standards JS9
  P: Compliant with JIS standards P9
  N: Compliant with motor standards

# SFS(W-C) Types Double Element Type/Electroless Nickel Plating Specification

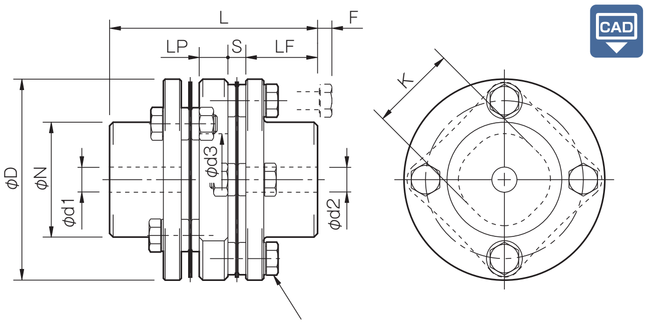


## Specifications

| Model | Rated torque [N・m] | Misalignment | | | Max. rotation speed [min⁻¹] | Torsional stiffness [N・m/rad] | Axial stiffness [N/mm] | Moment of inertia [kg·m²] | Mass [kg] |
|---|---|---|---|---|---|---|---|---|---|
| | | Parallel [mm] | Angular [°] | Axial [mm] | | | | | |
| SFS-05W-C | 15 | 0.2 | 1 (On one side) | ±1.2 | 10000 | 8000 | 21 | $0.14 \times 10^{-3}$ | 0.40 |
| SFS-06W-C | 30 | 0.3 | 1 (On one side) | ±1.6 | 8000 | 14000 | 22 | $0.41 \times 10^{-3}$ | 0.70 |
| SFS-08W-C | 60 | 0.3 | 1 (On one side) | ±2.0 | 6800 | 41000 | 30 | $1.10 \times 10^{-3}$ | 1.30 |
| SFS-09W-C | 135 | 0.5 | 1 (On one side) | ±2.4 | 6000 | 85000 | 61 | $2.20 \times 10^{-3}$ | 2.10 |
| SFS-10W-C | 190 | 0.5 | 1 (On one side) | ±2.8 | 5200 | 125000 | 80 | $3.60 \times 10^{-3}$ | 2.80 |
| SFS-12W-C | 340 | 0.6 | 1 (On one side) | ±3.2 | 4400 | 215000 | 98 | $9.20 \times 10^{-3}$ | 4.90 |
| SFS-14W-C | 600 | 0.7 | 1 (On one side) | ±3.6 | 3800 | 390000 | 156 | $15.00 \times 10^{-3}$ | 7.10 |

*Max. rotation speed does not take into account dynamic balance.
*The moment of inertia and mass are measured for the maximum bore diameter.

## Dimensions




Unit [mm]

| Model | d1・d2 | | D | N | L | LF | LP | S | F | d3 | K | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Min. | Max. | | | | | | | | | | |
| SFS-05W-C | 8 | 20 | 56 | 32 | 58 | 20 | 8 | 5 | 4 | 20 | 24 | 8-M5×15 |
| SFS-06W-C | 8 | 25 | 68 | 40 | 74 | 25 | 12 | 6 | 3 | 24 | 30 | 8-M6×18 |
| SFS-08W-C | 11 | 35 | 82 | 54 | 84 | 30 | 12 | 6 | 2 | 28 | 38 | 8-M6×20 |
| SFS-09W-C | 11 | 38 | 94 | 58 | 98 | 30 | 22 | 8 | 12 | 32 | 42 | 8-M8×27 |
| SFS-10W-C | 16 | 42 | 104 | 68 | 110 | 35 | 20 | 10 | 7 | 34 | 48 | 8-M8×27 |
| SFS-12W-C | 19 | 50 | 126 | 78 | 127 | 40 | 25 | 11 | 10 | 40 | 54 | 8-M10×32 |
| SFS-14W-C | 22 | 60 | 144 | 88 | 144 | 45 | 30 | 12 | 15 | 46 | 61 | 8-M12×38 |

*The nominal diameter of the reamer bolt M is equal to the quantity minus the nominal diameter of the screw threads times the nominal length.

## Standard Bore Diameter

| Model | Standard bore diameter d1・d2 [mm] | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8 | 9 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 22 | 24 | 25 | 28 | 30 | 32 | 35 | 38 | 40 | 42 | 45 | 48 | 50 | 55 | 56 | 60 |
| SFS-05W-C | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | | | | |
| SFS-06W-C | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | |
| SFS-08W-C | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | |
| SFS-09W-C | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | |
| SFS-10W-C | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | |
| SFS-12W-C | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | |
| SFS-14W-C | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

* Bore diameters marked with ● are supported as standard bore diameter. See the standard hole-drilling standards for information.

## How to Place an Order

SFS-10W-C-25H-30H

- Size
- Type: W Double element
- Surface finishing –C: Electroless nickel plating
- Bore diameter: d1 (Small diameter) - d2 (Large diameter)
  Bore specifications
  Blank : Compliant with the old JIS standards (class 2) E9
  H: Compliant with JIS standards H9
  J: Compliant with JIS standards JS9
  P: Compliant with JIS standards P9
  N: Compliant with motor standards

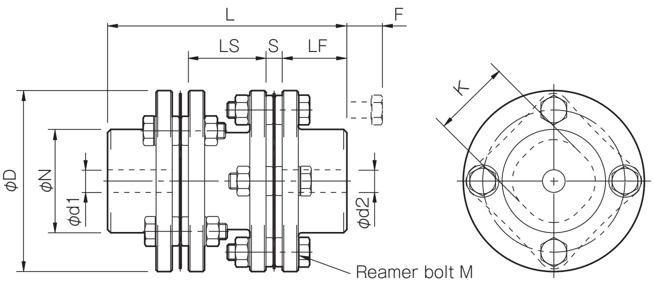
# SFS(G) Types Floating Shaft Type

## Specifications

| Model | Rated torque [N・m] | Misalignment | | | Max. rotation speed [min⁻¹] | Torsional stiffness [N・m/rad] | Axial stiffness [N/mm] | Moment of inertia [kg・m²] | Mass [kg] |
|---|---|---|---|---|---|---|---|---|---|
| | | Parallel [mm] | Angular [°] | Axial [mm] | | | | | |
| SFS-05G | 20 | 0.5 | 1 (On one side) | ± 1.2 | 20000 | 8000 | 21 | 0.20 × $10^{-3}$ | 0.50 |
| SFS-06G | 40 | 0.5 | 1 (On one side) | ± 1.6 | 16000 | 14000 | 22 | 0.55 × $10^{-3}$ | 0.90 |
| SFS-08G | 80 | 0.5 | 1 (On one side) | ± 2.0 | 13000 | 41000 | 30 | 1.50 × $10^{-3}$ | 1.70 |
| SFS-09G | 180 | 0.6 | 1 (On one side) | ± 2.4 | 12000 | 85000 | 61 | 2.90 × $10^{-3}$ | 2.40 |
| SFS-10G | 250 | 0.6 | 1 (On one side) | ± 2.8 | 10000 | 125000 | 80 | 4.60 × $10^{-3}$ | 3.30 |
| SFS-12G | 450 | 0.8 | 1 (On one side) | ± 3.2 | 8000 | 215000 | 98 | 11.80 × $10^{-3}$ | 5.80 |
| SFS-14G | 800 | 0.9 | 1 (On one side) | ± 3.6 | 7000 | 390000 | 156 | 21.20 × $10^{-3}$ | 8.60 |

*Max. rotation speed does not take into account dynamic balance.
*The moment of inertia and mass are measured for the maximum bore diameter.

## Dimensions




CAD

Unit [mm]

| Model | d1・d2 | | | D | N | L | LF | LS | S | F | K | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pilot bore | Min. | Max. | | | | | | | | | |
| SFS-05G | 7 | 8 | 20 | 56 | 32 | 74 | 20 | 24 | 5 | 11 | 24 | 8-M5 × 22 |
| SFS-06G | 7 | 8 | 25 | 68 | 40 | 86 | 25 | 24 | 6 | 10 | 30 | 8-M6 × 25 |
| SFS-08G | 10 | 11 | 35 | 82 | 54 | 98 | 30 | 26 | 6 | 11 | 38 | 8-M6 × 29 |
| SFS-09G | 10 | 11 | 38 | 94 | 58 | 106 | 30 | 30 | 8 | 21 | 42 | 8-M8 × 36 |
| SFS-10G | 15 | 16 | 42 | 104 | 68 | 120 | 35 | 30 | 10 | 16 | 48 | 8-M8 × 36 |
| SFS-12G | 18 | 19 | 50 | 126 | 78 | 140 | 40 | 38 | 11 | 23 | 54 | 8-M10 × 45 |
| SFS-14G | 20 | 22 | 60 | 144 | 88 | 160 | 45 | 46 | 12 | 31 | 61 | 8-M12 × 54 |

*Pilot bores are to be drilled into the part.
*If you require a product with an LS dimension that exceeds those above, contact Miki Pulley with your required dimension [mm]. Please contact Miki Pulley for assistance if the LS dimension is less than those above or if LS ≧ 1000.
*The nominal diameter of the reamer bolt M is equal to the quantity minus the nominal diameter of the screw threads times the nominal length.

## Standard Bore Diameter

| Model | Standard bore diameter d1・d2 [mm] | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8 | 9 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 22 | 24 | 25 | 28 | 30 | 32 | 35 | 38 | 40 | 42 | 45 | 48 | 50 | 55 | 56 | 60 |
| SFS-05G | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | | | | |
| SFS-06G | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | |
| SFS-08G | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | |
| SFS-09G | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | |
| SFS-10G | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | |
| SFS-12G | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | |
| SFS-14G | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

* Bore diameters marked with ● are supported as standard bore diameter. See the standard hole-drilling standards for information.

## How to Place an Order

SFS-10G-25H-30H LS=500

Size

Type: G
Double element
Floating shaft

Bore diameter: d1 (Small diameter) - d2 (Large diameter)
Blank: Pilot bore
Bore specifications
Blank : Compliant with the old JIS standards (class 2) E9
H: Compliant with JIS standards H9
J: Compliant with JIS standards JS9
P: Compliant with JIS standards P9
N: Compliant with motor standards

Spacer length
* Use mm units for LS dimensions.
* Leave blank for standard spacers.

# SFS(G-C) Types Floating Shaft Type/Electroless Nickel Plating Specification

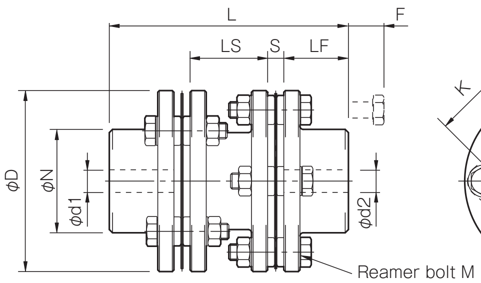


## Specifications

| Model | Rated torque [N・m] | Misalignment | | | Max. rotation speed [min⁻¹] | Torsional stiffness [N・m/rad] | Axial stiffness [N/mm] | Moment of inertia [kg・m²] | Mass [kg] |
|---|---|---|---|---|---|---|---|---|---|
| | | Parallel [mm] | Angular [°] | Axial [mm] | | | | | |
| SFS-05G-C | 15 | 0.5 | 1 (On one side) | ±1.2 | 20000 | 8000 | 21 | $0.20 \times 10^{-3}$ | 0.50 |
| SFS-06G-C | 30 | 0.5 | 1 (On one side) | ±1.6 | 16000 | 14000 | 22 | $0.55 \times 10^{-3}$ | 0.90 |
| SFS-08G-C | 60 | 0.5 | 1 (On one side) | ±2.0 | 13000 | 41000 | 30 | $1.50 \times 10^{-3}$ | 1.70 |
| SFS-09G-C | 135 | 0.6 | 1 (On one side) | ±2.4 | 12000 | 85000 | 61 | $2.90 \times 10^{-3}$ | 2.40 |
| SFS-10G-C | 190 | 0.6 | 1 (On one side) | ±2.8 | 10000 | 125000 | 80 | $4.60 \times 10^{-3}$ | 3.30 |
| SFS-12G-C | 340 | 0.8 | 1 (On one side) | ±3.2 | 8000 | 215000 | 98 | $11.80 \times 10^{-3}$ | 5.80 |
| SFS-14G-C | 600 | 0.9 | 1 (On one side) | ±3.6 | 7000 | 390000 | 156 | $21.20 \times 10^{-3}$ | 8.60 |

*Max. rotation speed does not take into account dynamic balance.
*The moment of inertia and mass are measured for the maximum bore diameter.

## Dimensions




Unit [mm]

| Model | d1・d2 | | D | N | L | LF | LS | S | F | K | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Min. | Max. | | | | | | | | | |
| SFS-05G-C | 8 | 20 | 56 | 32 | 74 | 20 | 24 | 5 | 11 | 24 | 8-M5 × 22 |
| SFS-06G-C | 8 | 25 | 68 | 40 | 86 | 25 | 24 | 6 | 10 | 30 | 8-M6 × 25 |
| SFS-08G-C | 11 | 35 | 82 | 54 | 98 | 30 | 26 | 6 | 11 | 38 | 8-M6 × 29 |
| SFS-09G-C | 11 | 38 | 94 | 58 | 106 | 30 | 30 | 8 | 21 | 42 | 8-M8 × 36 |
| SFS-10G-C | 16 | 42 | 104 | 68 | 120 | 35 | 30 | 10 | 16 | 48 | 8-M8 × 36 |
| SFS-12G-C | 19 | 50 | 126 | 78 | 140 | 40 | 38 | 11 | 23 | 54 | 8-M10 × 45 |
| SFS-14G-C | 22 | 60 | 144 | 88 | 160 | 45 | 46 | 12 | 31 | 61 | 8-M12 × 54 |

* If you require a product with an LS dimension that exceeds those above, contact Miki Pulley with your required dimension [mm]. Please contact Miki Pulley for assistance if the LS dimension is less than those above or if LS ≧ 1000.
* Please note that when the LS dimension exceeds 100 mm with the electroless nickel plating specification (SFS-□G-C), the insertion length of the shaft cannot exceed the LS dimension.
* The nominal diameter of the reamer bolt M is equal to the quantity minus the nominal diameter of the screw threads times the nominal length.

## Standard Bore Diameter

| Model | Standard bore diameter d1・d2 [mm] | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8 | 9 | 10 | 11 | 12 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 22 | 24 | 25 | 28 | 30 | 32 | 35 | 38 | 40 | 42 | 45 | 48 | 50 | 55 | 56 | 60 |
| SFS-05G-C | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | | | | |
| SFS-06G-C | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | |
| SFS-08G-C | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | |
| SFS-09G-C | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | |
| SFS-10G-C | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | |
| SFS-12G-C | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | |
| SFS-14G-C | | | | | | | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

* Bore diameters marked with ● are supported as standard bore diameter. See the standard hole-drilling standards for information.

## How to Place an Order

**SFS-10G-C-25H-30H LS=500**

- Size
- Type: G
  - Double element
  - Floating shaft
- Surface finishing
  - -C: Electroless nickel plating
- Bore diameter: d1 (Small diameter) - d2 (Large diameter)
  - Bore specifications
  - Blank : Compliant with the old JIS standards (class 2) E9
  - H: Compliant with JIS standards H9
  - J: Compliant with JIS standards JS9
  - P: Compliant with JIS standards P9
  - N: Compliant with motor standards
- Spacer length
  - * Use mm units for LS dimensions.
  - * Leave blank for standard spacers.

# SFS Models

## Options Frictional coupling hub

The hub contains a frictional coupling element enabling more accurate installation.

## Specifications

| Model | Rated torque [N・m] | Misalignment | | | Max. rotation speed [min⁻¹] | Torsional stiffness [N・m/rad] | Axial stiffness [N/mm] | Moment of inertia [kg・m²] | Mass [kg] |
|---|---|---|---|---|---|---|---|---|---|
| | | Parallel [mm] | Angular [°] | Axial [mm] | | | | | |
| SFS-06S-□M-□M | 40 | – | 1 | ±0.8 | 5000 | 29000 | 45 | $0.30\times10^{-3}$ | 0.70 |
| SFS-08S-□M-□M | 80 | – | 1 | ±1.0 | 5000 | 83000 | 60 | $0.93\times10^{-3}$ | 1.30 |
| SFS-09S-□M-□M | 180 | – | 1 | ±1.2 | 5000 | 170000 | 122 | $1.80\times10^{-3}$ | 1.80 |
| SFS-10S-□M-□M | 250 | – | 1 | ±1.4 | 5000 | 250000 | 160 | $2.70\times10^{-3}$ | 2.30 |
| SFS-12S-□M-□M | 450 | – | 1 | ±1.6 | 5000 | 430000 | 197 | $6.80\times10^{-3}$ | 4.10 |
| SFS-14S-□M-□M | 580 | – | 1 | ±1.8 | 5000 | 780000 | 313 | $14.01\times10^{-3}$ | 6.40 |

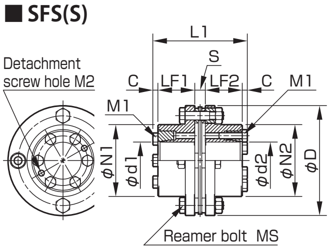
| Model | Rated torque [N・m] | Misalignment | | | Max. rotation speed [min⁻¹] | Torsional stiffness [N・m/rad] | Axial stiffness [N/mm] | Moment of inertia [kg・m²] | Mass [kg] |
|---|---|---|---|---|---|---|---|---|---|
| | | Parallel [mm] | Angular [°] | Axial [mm] | | | | | |
| SFS-06W-□M-□M | 40 | 0.3 | 1 (On one side) | ±1.6 | 5000 | 14000 | 22 | $0.41\times10^{-3}$ | 0.90 |
| SFS-08W-□M-□M | 80 | 0.3 | 1 (On one side) | ±2.0 | 5000 | 41000 | 30 | $1.16\times10^{-3}$ | 1.60 |
| SFS-09W-□M-□M | 180 | 0.5 | 1 (On one side) | ±2.4 | 5000 | 85000 | 61 | $2.40\times10^{-3}$ | 2.50 |
| SFS-10W-□M-□M | 250 | 0.5 | 1 (On one side) | ±2.8 | 5000 | 125000 | 80 | $3.70\times10^{-3}$ | 3.00 |
| SFS-12W-□M-□M | 450 | 0.6 | 1 (On one side) | ±3.2 | 4400 | 215000 | 98 | $9.50\times10^{-3}$ | 5.60 |
| SFS-14W-□M-□M | 580 | 0.7 | 1 (On one side) | ±3.6 | 3800 | 390000 | 156 | $19.11\times10^{-3}$ | 8.60 |

| Model | Rated torque [N・m] | Misalignment | | | Max. rotation speed [min⁻¹] | Torsional stiffness [N・m/rad] | Axial stiffness [N/mm] | Moment of inertia [kg・m²] | Mass [kg] |
|---|---|---|---|---|---|---|---|---|---|
| | | Parallel [mm] | Angular [°] | Axial [mm] | | | | | |
| SFS-06G-□M-□M | 40 | 0.5 | 1 (On one side) | ±1.6 | 5000 | 14000 | 22 | $0.55\times10^{-3}$ | 1.10 |
| SFS-08G-□M-□M | 80 | 0.5 | 1 (On one side) | ±2.0 | 5000 | 41000 | 30 | $1.56\times10^{-3}$ | 2.00 |
| SFS-09G-□M-□M | 180 | 0.6 | 1 (On one side) | ±2.4 | 5000 | 85000 | 61 | $3.10\times10^{-3}$ | 2.80 |
| SFS-10G-□M-□M | 250 | 0.6 | 1 (On one side) | ±2.8 | 5000 | 125000 | 80 | $4.70\times10^{-3}$ | 3.50 |
| SFS-12G-□M-□M | 450 | 0.8 | 1 (On one side) | ±3.2 | 5000 | 215000 | 98 | $12.10\times10^{-3}$ | 6.50 |
| SFS-14G-□M-□M | 580 | 0.9 | 1 (On one side) | ±3.6 | 5000 | 390000 | 156 | $25.31\times10^{-3}$ | 10.10 |

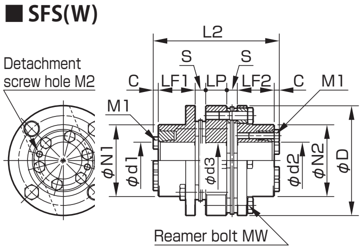
*Check the Standard Bore Diameters as there may be limitations on the rated torque caused by the holding power of the coupling shaft section.
*Max. rotation speed does not take into account dynamic balance.
*The moment of inertia and mass are measured for the maximum bore diameter.

## Dimensions

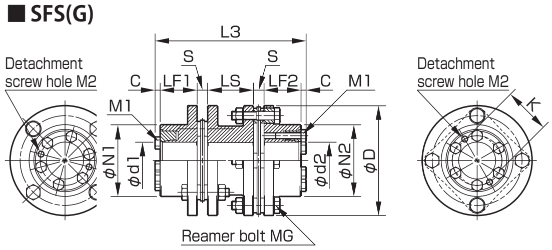
■ SFS(S)




■ SFS(W)




■ SFS(G)




Unit [mm]

| Model | d1 | d2 | D | N1 | N2 | L1 | L2 | L3 | LF1 | LF2 | LP | LS | S | C | d3 | K | MS | MW | MG | M1 | M2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SFS-06 | 12・14・15 | 12・14・15 | 68 | 40 | 40 | 65.6 | 83.6 | 95.6 | 25 | 25 | 12 | 24 | 6 | 4.8 | 24 | 30 | 4-M6×25 | 8-M6×18 | 8-M6×25 | 4-M5 | 2-M5 |
| SFS-08 | 15・16・17・18・19・20・22 | 15・16・17・18・19・20・22 | 82 | 54 | 54 | 75.6 | 93.6 | 107.6 | 30 | 30 | 12 | 26 | 6 | 4.8 | 28 | 38 | 4-M6×29 | 8-M6×20 | 8-M6×29 | 4-M6 | 2-M6 |
| | 25・28 | 25・28 | 94 | 58 | 58 | 77.6 | 107.6 | 115.6 | 30 | 30 | 22 | 30 | 8 | 4.8 | 32 | 42 | 4-M8×36 | 8-M8×27 | 8-M8×36 | 6-M6 | 2-M6 |
| SFS-09 | 25・28 | 30・32・35 | 94 | 58 | 68 | 85.6 | 115.6 | 123.6 | 30 | 38 | 22 | 30 | 8 | 4.8 | 32 | 42 | 4-M8×36 | 8-M8×27 | 8-M8×36 | 6-M6 | 2-M6 |
| | 30・32・35 | 30・32・35 | 94 | 68 | 68 | 93.6 | 123.6 | 131.6 | 38 | 38 | 22 | 30 | 8 | 4.8 | 32 | 42 | 4-M8×36 | 8-M8×27 | 8-M8×36 | 6-M6 | 2-M6 |
| SFS-10 | 25・28・30・32・35 | 25・28・30・32・35 | 104 | 68 | 68 | 89.6 | 119.6 | 129.6 | 35 | 35 | 20 | 30 | 10 | 4.8 | 34 | 48 | 4-M8×36 | 8-M8×27 | 8-M8×36 | 6-M6 | 2-M6 |
| SFS-12 | 30・32・35 | 30・32・35 | 126 | 78 | 78 | 101.6 | 137.6 | 150.6 | 40 | 40 | 25 | 38 | 11 | 5.3 | 40 | 54 | 4-M10×45 | 8-M10×32 | 8-M10×45 | 4-M8 | 2-M8 |
| SFS-14 | 35 | 35 | 144 | 88 | 88 | 112.6 | 154.6 | 170.6 | 45 | 45 | 30 | 46 | 12 | 5.3 | 46 | 61 | 4-M12×54 | 8-M12×38 | 8-M12×54 | 6-M8 | 2-M8 |

* If you require a product with an LS dimension other than that for SFS(G) type, contact Miki Pulley with your required dimension. Please contact Miki Pulley for assistance if LS ≧ 1000.
* The nominal diameters of each bolt and tap are equal to the quantity minus the nominal diameter of the screw threads times the nominal length. The quantities for the pressure bolt M1 and detachment screw hole M2 are quantities for the hub on one side.

## Standard Bore Diameter

| SFS-06 | | Standard bore diameter d2 [mm] | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 12M | 14M | 15M | 16M | 17M | 18M | 19M | 20M | 22M | 25M | 28M | 30M | 32M | 35M |
| Standard bore diameter d1 [mm] | 12M | ● | ● | ● | | | | | | | | | | | |
| | 14M | | ● | ● | | | | | | | | | | | |
| | 15M | | | ● | | | | | | | | | | | |

| SFS-08 | | Standard bore diameter d2 [mm] | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 12M | 14M | 15M | 16M | 17M | 18M | 19M | 20M | 22M | 25M | 28M | 30M | 32M | 35M |
| Standard bore diameter d1 [mm] | 15M | | | ● | ● | ● | ● | ● | ● | ● | | | | | |
| | 16M | | | | ● | ● | ● | ● | ● | ● | | | | | |
| | 17M | | | | | ● | ● | ● | ● | ● | | | | | |
| | 18M | | | | | | ● | ● | ● | ● | | | | | |
| | 19M | | | | | | | ● | ● | ● | | | | | |
| | 20M | | | | | | | | ● | ● | | | | | |
| | 22M | | | | | | | | | ● | | | | | |

| SFS-09 | | Standard bore diameter d2 [mm] | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 12M | 14M | 15M | 16M | 17M | 18M | 19M | 20M | 22M | 25M | 28M | 30M | 32M | 35M |
| Standard bore diameter d1 [mm] | 25M | | | | | | | | | | ● | ● | ● | ● | ● |
| | 28M | | | | | | | | | | | ● | ● | ● | ● |
| | 30M | | | | | | | | | | | | ● | ● | ● |
| | 32M | | | | | | | | | | | | | ● | ● |
| | 35M | | | | | | | | | | | | | | ● |

| SFS-10 | | Standard bore diameter d2 [mm] | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 12M | 14M | 15M | 16M | 17M | 18M | 19M | 20M | 22M | 25M | 28M | 30M | 32M | 35M |
| Standard bore diameter d1 [mm] | 25M | | | | | | | | | | ● | ● | ● | ● | ● |
| | 28M | | | | | | | | | | | ● | ● | ● | ● |
| | 30M | | | | | | | | | | | | ● | ● | ● |
| | 32M | | | | | | | | | | | | | ● | ● |
| | 35M | | | | | | | | | | | | | | ● |

| SFS-12 | | Standard bore diameter d2 [mm] | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 12M | 14M | 15M | 16M | 17M | 18M | 19M | 20M | 22M | 25M | 28M | 30M | 32M | 35M |
| Standard bore diameter d1 [mm] | 30M | | | | | | | | | | | | 380 | 380 | 380 |
| | 32M | | | | | | | | | | | | | 400 | 400 |
| | 35M | | | | | | | | | | | | | | ● |

| SFS-14 | | Standard bore diameter d2 [mm] | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 12M | 14M | 15M | 16M | 17M | 18M | 19M | 20M | 22M | 25M | 28M | 30M | 32M | 35M |
| Standard bore diameter d1 [mm] | 35M | | | | | | | | | | | | | | ● |

* Bore diameters marked with ● or numbers are supported as the standard bore diameters. Consult Miki Pulley regarding special arrangements which may be possible for other bore diameters.
* Bore diameters whose fields contain numbers are restricted in their rated torque by the holding power of the shaft connection component because the bore diameter is small. The numbers indicate the rated torque [N•m].
* Where a bore diameter is not given above and is small, please check first; model may be restricted in its rated torque.
* The recommended processing tolerance for paired mounting shafts is the h7 (h6 or g6) class. However, for a bore diameter of ø35, the shaft tolerance is $^{+0.010}_{-0.025}$.

## How to Place an Order

SFS-10G-25M-30M LS=500

- Size
- Types
  - S :Single element
  - W:Double element
  - G:Floating shaft
- Bore diameter d1 (Small diameter)
- Bore diameter d2 (Large diameter)
- Affixing method
  - M: Frictional coupling
- Spacer length
  - * Use mm units for LS dimensions.
  - * Leave blank for standard spacers.

COUPLINGS
ETP BUSHINGS
ELECTROMAGNETIC CLUTCHES & BRAKES
SPEED CHANGERS & REDUCERS
INVERTERS
LINEAR SHAFT DRIVES
TORQUE LIMITERS
ROSTA

SERIES
Metal Couplings
Metal Disc Couplings SERVOFLEX
High-rigidity Couplings SERVORIGID
Metal Slit Couplings HELI-CAL
Metal Coil Spring Couplings BAUMANNFLEX
Pin Bushing Couplings PARAFLEX
Link Couplings SCHMIDT
Rubber and Plastic Couplings
Dual Rubber Couplings STEPFLEX
Jaw Couplings MIKI PULLEY STARFLEX
Jaw Couplings SPRFLEX
Plastic Bellows Couplings BELLOWFLEX
Rubber and Plastic Couplings CENTAFLEX

MODELS
SFC
SFS
SFF
SFM
SFH

# SFS Models

## Options Tapered Shaft Supported

Supports servo motor tapered shafts.

## Specifications

| Model | Rated torque [N・m] | Misalignment | | | Max. rotation speed [min⁻¹] | Torsional stiffness [N・m/rad] | Axial stiffness [N/mm] | Moment of inertia [kg・m²] | Mass [kg] |
|---|---|---|---|---|---|---|---|---|---|
| | | Parallel [mm] | Angular [°] | Axial [mm] | | | | | |
| SFS-06S-□M-11C | 40 | – | 1 | ±0.8 | 5000 | 29000 | 45 | $0.29 \times 10^{-3}$ | 0.60 |
| SFS-06S-□M-16C | 40 | – | 1 | ±0.8 | 5000 | 29000 | 45 | $0.34 \times 10^{-3}$ | 0.70 |
| SFS-08S-□M-16C | 80 | – | 1 | ±1.0 | 5000 | 83000 | 60 | $0.84 \times 10^{-3}$ | 1.20 |
| SFS-09S-□M-16C | 180 | – | 1 | ±1.2 | 5000 | 170000 | 122 | $1.50 \times 10^{-3}$ | 1.60 |

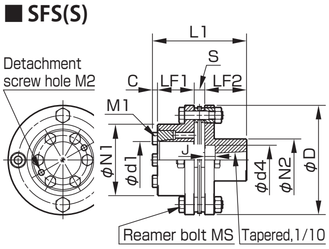
| Model | Rated torque [N・m] | Misalignment | | | Max. rotation speed [min⁻¹] | Torsional stiffness [N・m/rad] | Axial stiffness [N/mm] | Moment of inertia [kg・m²] | Mass [kg] |
|---|---|---|---|---|---|---|---|---|---|
| | | Parallel [mm] | Angular [°] | Axial [mm] | | | | | |
| SFS-06W-□M-11C | 40 | 0.3 | 1 (On one side) | ±1.6 | 5000 | 14000 | 22 | $0.40 \times 10^{-3}$ | 0.80 |
| SFS-06W-□M-16C | 40 | 0.3 | 1 (On one side) | ±1.6 | 5000 | 14000 | 22 | $0.45 \times 10^{-3}$ | 0.90 |
| SFS-08W-□M-16C | 80 | 0.3 | 1 (On one side) | ±2.0 | 5000 | 41000 | 30 | $1.07 \times 10^{-3}$ | 1.50 |
| SFS-09W-□M-16C | 180 | 0.5 | 1 (On one side) | ±2.4 | 5000 | 85000 | 61 | $2.10 \times 10^{-3}$ | 2.30 |

| Model | Rated torque [N・m] | Misalignment | | | Max. rotation speed [min⁻¹] | Torsional stiffness [N・m/rad] | Axial stiffness [N/mm] | Moment of inertia [kg・m²] | Mass [kg] |
|---|---|---|---|---|---|---|---|---|---|
| | | Parallel [mm] | Angular [°] | Axial [mm] | | | | | |
| SFS-06G-□M-11C | 40 | 0.5 | 1 (On one side) | ±1.6 | 5000 | 14000 | 22 | $0.54 \times 10^{-3}$ | 1.00 |
| SFS-06G-□M-16C | 40 | 0.5 | 1 (On one side) | ±1.6 | 5000 | 14000 | 22 | $0.59 \times 10^{-3}$ | 1.10 |
| SFS-08G-□M-16C | 80 | 0.5 | 1 (On one side) | ±2.0 | 5000 | 41000 | 30 | $1.47 \times 10^{-3}$ | 1.90 |
| SFS-09G-□M-16C | 180 | 0.6 | 1 (On one side) | ±2.4 | 5000 | 85000 | 61 | $2.80 \times 10^{-3}$ | 2.60 |

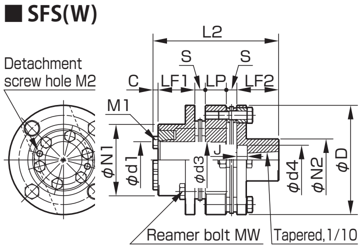
* There may be limitations on the rated torque caused by the holding power of the coupling shaft section. If the bore diameter is not standard and is small, please check first.
* Max. rotation speed does not take into account dynamic balance.
* The moment of inertia and mass are measured for the maximum bore diameter.

## Dimensions

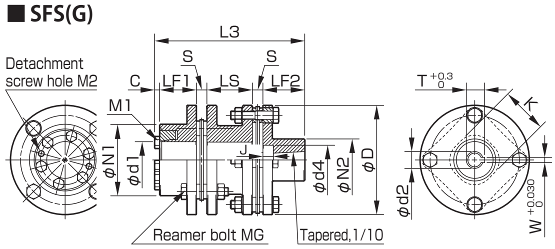
■ SFS(S)




■ SFS(W)




■ SFS(G)




Unit [mm]

| Model | d2 Nominal dia. | d1 | d2 | W $^{+0.030}_{0}$ | T $^{+0.3}_{0}$ | d4 | J | D | N1 | N2 | L1 | L2 | L3 | LF1 | LF2 | LP | LS | S | C | d3 | K | MS | MW | MG | M1 | M2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SFS-06 | 11C | 12・14・15 | 11 | 4 | 12.2 | 18 | 9 | 68 | 40 | 30 | 60.8 | 78.8 | 90.8 | 25 | 25 | 12 | 24 | 6 | 4.8 | 24 | 30 | 4-M6×25 | 8-M6×18 | 8-M6×25 | 4-M5 | 2-M5 |
| | 16C | 15 | 16 | 5 | 17.3 | 28 | 10 | | | 40 | 75.8 | 93.8 | 105.8 | | 40 | | | | | | | | | | | |
| SFS-08 | 16C | 15・16・17・18・19・20・22 | 16 | 5 | 17.3 | 28 | 10 | 82 | 54 | 40 | 80.8 | 98.8 | 112.8 | 30 | 40 | 12 | 26 | 6 | 4.8 | 28 | 38 | 4-M6×29 | 8-M6×20 | 8-M6×29 | 4-M6 | 2-M6 |
| SFS-09 | 16C | 25・28 | 16 | 5 | 17.3 | 28 | 10 | 94 | 58 | 40 | 82.8 | 112.8 | 120.8 | 30 | 40 | 22 | 30 | 8 | 4.8 | 32 | 42 | 4-M8×36 | 8-M8×27 | 8-M8×36 | 6-M6 | 2-M6 |
| | | 30・32・35 | | | | | | | 68 | | 90.8 | 120.8 | 128.8 | 38 | | | | | | | | | | | | |

* If you require a product with an LS dimension other than that for SFS(G) type, contact Miki Pulley with your required dimension. Please contact Miki Pulley for assistance if LS ≧ 1000.
* The nominal diameters of each bolt and tap are equal to the quantity minus the nominal diameter of the screw threads times the nominal length.
* The machining tolerance for paired mounting shafts of the hub on the friction-coupled side is h7 (h6 or g6) class.

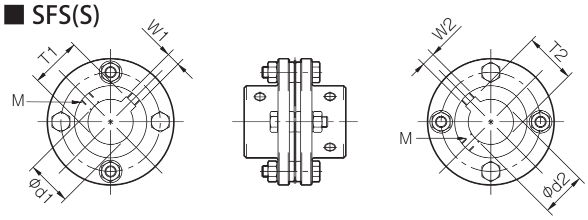
## How to Place an Order

**SFS-08G-20M-16C LS=500**

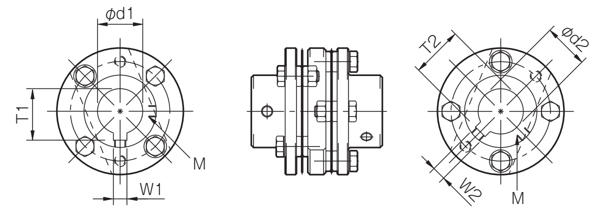
- Size
- Types
  - S: Single element
  - W: Double element
  - G: Floating shaft
- Bore diameter d1
- Affixing method
  - M: Frictional coupling
- [d2] C
  - C: Tapered shaft hub
  - *Select d2 for C.
- Spacer length
  - * Use mm units for LS dimensions.
  - * Leave blank for standard spacers.

## Standard Hole-Drilling Standards

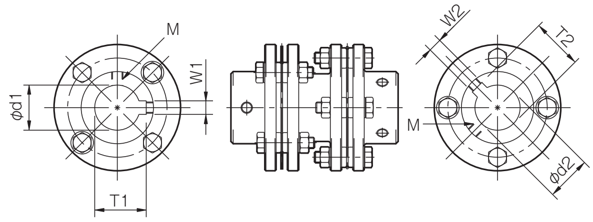
### ■ SFS(S)




### ■ SFS(W)




### ■ SFS(G)




Unit [mm]

**Models compliant with the old JIS standard (class 2) JIS B 1301 1959**

| Nominal bore diameter | Bore diameter [d1・d2] | Keyway width [W1・W2] | Keyway height [T1・T2] | Set screw hole [M] |
|---|---|---|---|---|
| | Tolerance H7, H8 | Tolerance E9 | – | – |
| 8 | 8 $^{+0.022}_{0}$ | – | – | 2-M4 |
| 9 | 9 $^{+0.022}_{0}$ | – | – | 2-M4 |
| 10 | 10 $^{+0.022}_{0}$ | – | – | 2-M4 |
| 11 | 11 $^{+0.018}_{0}$ | – | – | 2-M4 |
| 12 | 12 $^{+0.018}_{0}$ | 4 $^{+0.050}_{+0.020}$ | 13.5 $^{+0.3}_{0}$ | 2-M4 |
| 14 | 14 $^{+0.018}_{0}$ | 5 $^{+0.050}_{+0.020}$ | 16.0 $^{+0.3}_{0}$ | 2-M4 |
| 15 | 15 $^{+0.018}_{0}$ | 5 $^{+0.050}_{+0.020}$ | 17.0 $^{+0.3}_{0}$ | 2-M4 |
| 16 | 16 $^{+0.018}_{0}$ | 5 $^{+0.050}_{+0.020}$ | 18.0 $^{+0.3}_{0}$ | 2-M4 |
| 17 | 17 $^{+0.018}_{0}$ | 5 $^{+0.050}_{+0.020}$ | 19.0 $^{+0.3}_{0}$ | 2-M4 |
| 18 | 18 $^{+0.018}_{0}$ | 5 $^{+0.050}_{+0.020}$ | 20.0 $^{+0.3}_{0}$ | 2-M4 |
| 19 | 19 $^{+0.021}_{0}$ | 5 $^{+0.050}_{+0.020}$ | 21.0 $^{+0.3}_{0}$ | 2-M4 |
| 20 | 20 $^{+0.021}_{0}$ | 5 $^{+0.050}_{+0.020}$ | 22.0 $^{+0.3}_{0}$ | 2-M4 |
| 22 | 22 $^{+0.021}_{0}$ | 7 $^{+0.061}_{+0.025}$ | 25.0 $^{+0.3}_{0}$ | 2-M6 |
| 24 | 24 $^{+0.021}_{0}$ | 7 $^{+0.061}_{+0.025}$ | 27.0 $^{+0.3}_{0}$ | 2-M6 |
| 25 | 25 $^{+0.021}_{0}$ | 7 $^{+0.061}_{+0.025}$ | 28.0 $^{+0.3}_{0}$ | 2-M6 |
| 28 | 28 $^{+0.021}_{0}$ | 7 $^{+0.061}_{+0.025}$ | 31.0 $^{+0.3}_{0}$ | 2-M6 |
| 30 | 30 $^{+0.021}_{0}$ | 7 $^{+0.061}_{+0.025}$ | 33.0 $^{+0.3}_{0}$ | 2-M6 |
| 32 | 32 $^{+0.025}_{0}$ | 10 $^{+0.061}_{+0.025}$ | 35.5 $^{+0.3}_{0}$ | 2-M8 |
| 35 | 35 $^{+0.025}_{0}$ | 10 $^{+0.061}_{+0.025}$ | 38.5 $^{+0.3}_{0}$ | 2-M8 |
| 38 | 38 $^{+0.025}_{0}$ | 10 $^{+0.061}_{+0.025}$ | 41.5 $^{+0.3}_{0}$ | 2-M8 |
| 40 | 40 $^{+0.025}_{0}$ | 10 $^{+0.061}_{+0.025}$ | 43.5 $^{+0.3}_{0}$ | 2-M8 |
| 42 | 42 $^{+0.025}_{0}$ | 12 $^{+0.075}_{+0.032}$ | 45.5 $^{+0.3}_{0}$ | 2-M8 |
| 45 | 45 $^{+0.025}_{0}$ | 12 $^{+0.075}_{+0.032}$ | 48.5 $^{+0.3}_{0}$ | 2-M8 |
| 48 | 48 $^{+0.025}_{0}$ | 12 $^{+0.075}_{+0.032}$ | 51.5 $^{+0.3}_{0}$ | 2-M8 |
| 50 | 50 $^{+0.025}_{0}$ | 12 $^{+0.075}_{+0.032}$ | 53.5 $^{+0.3}_{0}$ | 2-M8 |
| 55 | 55 $^{+0.030}_{0}$ | 15 $^{+0.075}_{+0.032}$ | 60.0 $^{+0.3}_{0}$ | 2-M10 |
| 56 | 56 $^{+0.030}_{0}$ | 15 $^{+0.075}_{+0.032}$ | 61.0 $^{+0.3}_{0}$ | 2-M10 |
| 60 | 60 $^{+0.030}_{0}$ | 15 $^{+0.075}_{+0.032}$ | 65.0 $^{+0.3}_{0}$ | 2-M10 |

**Models compliant with the new JIS standard (H9) JIS B 1301 1996**

| Nominal bore diameter | Bore diameter [d1・d2] | Keyway width [W1・W2] | Keyway height [T1・T2] | Set screw hole [M] |
|---|---|---|---|---|
| | Tolerance H7, H8 | Tolerance H9 | – | – |
| 8H | 8 $^{+0.022}_{0}$ | 3 $^{+0.025}_{0}$ | 9.4 $^{+0.3}_{0}$ | 2-M4 |
| 9H | 9 $^{+0.022}_{0}$ | 3 $^{+0.025}_{0}$ | 10.4 $^{+0.3}_{0}$ | 2-M4 |
| 10H | 10 $^{+0.022}_{0}$ | 3 $^{+0.025}_{0}$ | 11.4 $^{+0.3}_{0}$ | 2-M4 |
| 11H | 11 $^{+0.018}_{0}$ | 4 $^{+0.030}_{0}$ | 12.8 $^{+0.3}_{0}$ | 2-M4 |
| 12H | 12 $^{+0.018}_{0}$ | 4 $^{+0.030}_{0}$ | 13.8 $^{+0.3}_{0}$ | 2-M4 |
| 14H | 14 $^{+0.018}_{0}$ | 5 $^{+0.030}_{0}$ | 16.3 $^{+0.3}_{0}$ | 2-M4 |
| 15H | 15 $^{+0.018}_{0}$ | 5 $^{+0.030}_{0}$ | 17.3 $^{+0.3}_{0}$ | 2-M4 |
| 16H | 16 $^{+0.018}_{0}$ | 5 $^{+0.030}_{0}$ | 18.3 $^{+0.3}_{0}$ | 2-M4 |
| 17H | 17 $^{+0.018}_{0}$ | 5 $^{+0.030}_{0}$ | 19.3 $^{+0.3}_{0}$ | 2-M4 |
| 18H | 18 $^{+0.018}_{0}$ | 6 $^{+0.030}_{0}$ | 20.8 $^{+0.3}_{0}$ | 2-M5 |
| 19H | 19 $^{+0.021}_{0}$ | 6 $^{+0.030}_{0}$ | 21.8 $^{+0.3}_{0}$ | 2-M5 |
| 20H | 20 $^{+0.021}_{0}$ | 6 $^{+0.030}_{0}$ | 22.8 $^{+0.3}_{0}$ | 2-M5 |
| 22H | 22 $^{+0.021}_{0}$ | 6 $^{+0.030}_{0}$ | 24.8 $^{+0.3}_{0}$ | 2-M5 |
| 24H | 24 $^{+0.021}_{0}$ | 8 $^{+0.036}_{0}$ | 27.3 $^{+0.3}_{0}$ | 2-M6 |
| 25H | 25 $^{+0.021}_{0}$ | 8 $^{+0.036}_{0}$ | 28.3 $^{+0.3}_{0}$ | 2-M6 |
| 28H | 28 $^{+0.021}_{0}$ | 8 $^{+0.036}_{0}$ | 31.3 $^{+0.3}_{0}$ | 2-M6 |
| 30H | 30 $^{+0.021}_{0}$ | 8 $^{+0.036}_{0}$ | 33.3 $^{+0.3}_{0}$ | 2-M6 |
| 32H | 32 $^{+0.025}_{0}$ | 10 $^{+0.036}_{0}$ | 35.3 $^{+0.3}_{0}$ | 2-M8 |
| 35H | 35 $^{+0.025}_{0}$ | 10 $^{+0.036}_{0}$ | 38.3 $^{+0.3}_{0}$ | 2-M8 |
| 38H | 38 $^{+0.025}_{0}$ | 10 $^{+0.036}_{0}$ | 41.3 $^{+0.3}_{0}$ | 2-M8 |
| 40H | 40 $^{+0.025}_{0}$ | 12 $^{+0.043}_{0}$ | 43.3 $^{+0.3}_{0}$ | 2-M8 |
| 42H | 42 $^{+0.025}_{0}$ | 12 $^{+0.043}_{0}$ | 45.3 $^{+0.3}_{0}$ | 2-M8 |
| 45H | 45 $^{+0.025}_{0}$ | 14 $^{+0.043}_{0}$ | 48.8 $^{+0.3}_{0}$ | 2-M10 |
| 48H | 48 $^{+0.025}_{0}$ | 14 $^{+0.043}_{0}$ | 51.8 $^{+0.3}_{0}$ | 2-M10 |
| 50H | 50 $^{+0.025}_{0}$ | 14 $^{+0.043}_{0}$ | 53.8 $^{+0.3}_{0}$ | 2-M10 |
| 55H | 55 $^{+0.030}_{0}$ | 16 $^{+0.043}_{0}$ | 59.3 $^{+0.3}_{0}$ | 2-M10 |
| 56H | 56 $^{+0.030}_{0}$ | 16 $^{+0.043}_{0}$ | 60.3 $^{+0.3}_{0}$ | 2-M10 |
| 60H | 60 $^{+0.030}_{0}$ | 18 $^{+0.043}_{0}$ | 64.4 $^{+0.3}_{0}$ | 2-M10 |

**Models compliant with the new JIS standard (JS9) JIS B 1301 1996**

| Nominal bore diameter | Bore diameter [d1・d2] | Keyway width [W1・W2] | Keyway height [T1・T2] | Set screw hole [M] |
|---|---|---|---|---|
| | Tolerance H7, H8 | Tolerance JS9 | – | – |
| 8J | 8 $^{+0.022}_{0}$ | 3 ±0.0125 | 9.4 $^{+0.3}_{0}$ | 2-M4 |
| 9J | 9 $^{+0.022}_{0}$ | 3 ±0.0125 | 10.4 $^{+0.3}_{0}$ | 2-M4 |
| 10J | 10 $^{+0.022}_{0}$ | 3 ±0.0125 | 11.4 $^{+0.3}_{0}$ | 2-M4 |
| 11J | 11 $^{+0.018}_{0}$ | 4 ±0.0150 | 12.8 $^{+0.3}_{0}$ | 2-M4 |
| 12J | 12 $^{+0.018}_{0}$ | 4 ±0.0150 | 13.8 $^{+0.3}_{0}$ | 2-M4 |
| 14J | 14 $^{+0.018}_{0}$ | 5 ±0.0150 | 16.3 $^{+0.3}_{0}$ | 2-M4 |
| 15J | 15 $^{+0.018}_{0}$ | 5 ±0.0150 | 17.3 $^{+0.3}_{0}$ | 2-M4 |
| 16J | 16 $^{+0.018}_{0}$ | 5 ±0.0150 | 18.3 $^{+0.3}_{0}$ | 2-M4 |
| 17J | 17 $^{+0.018}_{0}$ | 5 ±0.0150 | 19.3 $^{+0.3}_{0}$ | 2-M4 |
| 18J | 18 $^{+0.018}_{0}$ | 6 ±0.0150 | 20.8 $^{+0.3}_{0}$ | 2-M5 |
| 19J | 19 $^{+0.021}_{0}$ | 6 ±0.0150 | 21.8 $^{+0.3}_{0}$ | 2-M5 |
| 20J | 20 $^{+0.021}_{0}$ | 6 ±0.0150 | 22.8 $^{+0.3}_{0}$ | 2-M5 |
| 22J | 22 $^{+0.021}_{0}$ | 6 ±0.0150 | 24.8 $^{+0.3}_{0}$ | 2-M5 |
| 24J | 24 $^{+0.021}_{0}$ | 8 ±0.0180 | 27.3 $^{+0.3}_{0}$ | 2-M6 |
| 25J | 25 $^{+0.021}_{0}$ | 8 ±0.0180 | 28.3 $^{+0.3}_{0}$ | 2-M6 |
| 28J | 28 $^{+0.021}_{0}$ | 8 ±0.0180 | 31.3 $^{+0.3}_{0}$ | 2-M6 |
| 30J | 30 $^{+0.021}_{0}$ | 8 ±0.0180 | 33.3 $^{+0.3}_{0}$ | 2-M6 |
| 32J | 32 $^{+0.025}_{0}$ | 10 ±0.0180 | 35.3 $^{+0.3}_{0}$ | 2-M8 |
| 35J | 35 $^{+0.025}_{0}$ | 10 ±0.0180 | 38.3 $^{+0.3}_{0}$ | 2-M8 |
| 38J | 38 $^{+0.025}_{0}$ | 10 ±0.0180 | 41.3 $^{+0.3}_{0}$ | 2-M8 |
| 40J | 40 $^{+0.025}_{0}$ | 12 ±0.0215 | 43.3 $^{+0.3}_{0}$ | 2-M8 |
| 42J | 42 $^{+0.025}_{0}$ | 12 ±0.0215 | 45.3 $^{+0.3}_{0}$ | 2-M8 |
| 45J | 45 $^{+0.025}_{0}$ | 14 ±0.0215 | 48.8 $^{+0.3}_{0}$ | 2-M10 |
| 48J | 48 $^{+0.025}_{0}$ | 14 ±0.0215 | 51.8 $^{+0.3}_{0}$ | 2-M10 |
| 50J | 50 $^{+0.025}_{0}$ | 14 ±0.0215 | 53.8 $^{+0.3}_{0}$ | 2-M10 |
| 55J | 55 $^{+0.030}_{0}$ | 16 ±0.0215 | 59.3 $^{+0.3}_{0}$ | 2-M10 |
| 56J | 56 $^{+0.030}_{0}$ | 16 ±0.0215 | 60.3 $^{+0.3}_{0}$ | 2-M10 |
| 60J | 60 $^{+0.030}_{0}$ | 18 ±0.0215 | 64.4 $^{+0.3}_{0}$ | 2-M10 |

**Models compliant with the new JIS standard (P9) JIS B 1301 1996**

| Nominal bore diameter | Bore diameter [d1・d2] | Keyway width [W1・W2] | Keyway height [T1・T2] | Set screw hole [M] |
|---|---|---|---|---|
| | Tolerance H7, H8 | Tolerance P9 | – | – |
| 8P | 8 $^{+0.022}_{0}$ | 3 $^{-0.006}_{-0.031}$ | 9.4 $^{+0.3}_{0}$ | 2-M4 |
| 9P | 9 $^{+0.022}_{0}$ | 3 $^{-0.006}_{-0.031}$ | 10.4 $^{+0.3}_{0}$ | 2-M4 |
| 10P | 10 $^{+0.022}_{0}$ | 3 $^{-0.006}_{-0.031}$ | 11.4 $^{+0.3}_{0}$ | 2-M4 |
| 11P | 11 $^{+0.018}_{0}$ | 4 $^{-0.012}_{-0.042}$ | 12.8 $^{+0.3}_{0}$ | 2-M4 |
| 12P | 12 $^{+0.018}_{0}$ | 4 $^{-0.012}_{-0.042}$ | 13.8 $^{+0.3}_{0}$ | 2-M4 |
| 14P | 14 $^{+0.018}_{0}$ | 5 $^{-0.012}_{-0.042}$ | 16.3 $^{+0.3}_{0}$ | 2-M4 |
| 15P | 15 $^{+0.018}_{0}$ | 5 $^{-0.012}_{-0.042}$ | 17.3 $^{+0.3}_{0}$ | 2-M4 |
| 16P | 16 $^{+0.018}_{0}$ | 5 $^{-0.012}_{-0.042}$ | 18.3 $^{+0.3}_{0}$ | 2-M4 |
| 17P | 17 $^{+0.018}_{0}$ | 5 $^{-0.012}_{-0.042}$ | 19.3 $^{+0.3}_{0}$ | 2-M4 |
| 18P | 18 $^{+0.018}_{0}$ | 6 $^{-0.012}_{-0.042}$ | 20.8 $^{+0.3}_{0}$ | 2-M5 |
| 19P | 19 $^{+0.021}_{0}$ | 6 $^{-0.012}_{-0.042}$ | 21.8 $^{+0.3}_{0}$ | 2-M5 |
| 20P | 20 $^{+0.021}_{0}$ | 6 $^{-0.012}_{-0.042}$ | 22.8 $^{+0.3}_{0}$ | 2-M5 |
| 22P | 22 $^{+0.021}_{0}$ | 6 $^{-0.012}_{-0.042}$ | 24.8 $^{+0.3}_{0}$ | 2-M5 |
| 24P | 24 $^{+0.021}_{0}$ | 8 $^{-0.015}_{-0.051}$ | 27.3 $^{+0.3}_{0}$ | 2-M6 |
| 25P | 25 $^{+0.021}_{0}$ | 8 $^{-0.015}_{-0.051}$ | 28.3 $^{+0.3}_{0}$ | 2-M6 |
| 28P | 28 $^{+0.021}_{0}$ | 8 $^{-0.015}_{-0.051}$ | 31.3 $^{+0.3}_{0}$ | 2-M6 |
| 30P | 30 $^{+0.021}_{0}$ | 8 $^{-0.015}_{-0.051}$ | 33.3 $^{+0.3}_{0}$ | 2-M6 |
| 32P | 32 $^{+0.025}_{0}$ | 10 $^{-0.015}_{-0.051}$ | 35.3 $^{+0.3}_{0}$ | 2-M8 |
| 35P | 35 $^{+0.025}_{0}$ | 10 $^{-0.015}_{-0.051}$ | 38.3 $^{+0.3}_{0}$ | 2-M8 |
| 38P | 38 $^{+0.025}_{0}$ | 10 $^{-0.015}_{-0.051}$ | 41.3 $^{+0.3}_{0}$ | 2-M8 |
| 40P | 40 $^{+0.025}_{0}$ | 12 $^{-0.018}_{-0.061}$ | 43.3 $^{+0.3}_{0}$ | 2-M8 |
| 42P | 42 $^{+0.025}_{0}$ | 12 $^{-0.018}_{-0.061}$ | 45.3 $^{+0.3}_{0}$ | 2-M8 |
| 45P | 45 $^{+0.025}_{0}$ | 14 $^{-0.018}_{-0.061}$ | 48.8 $^{+0.3}_{0}$ | 2-M10 |
| 48P | 48 $^{+0.025}_{0}$ | 14 $^{-0.018}_{-0.061}$ | 51.8 $^{+0.3}_{0}$ | 2-M10 |
| 50P | 50 $^{+0.025}_{0}$ | 14 $^{-0.018}_{-0.061}$ | 53.8 $^{+0.3}_{0}$ | 2-M10 |
| 55P | 55 $^{+0.030}_{0}$ | 16 $^{-0.018}_{-0.061}$ | 59.3 $^{+0.3}_{0}$ | 2-M10 |
| 56P | 56 $^{+0.030}_{0}$ | 16 $^{-0.018}_{-0.061}$ | 60.3 $^{+0.3}_{0}$ | 2-M10 |
| 60P | 60 $^{+0.030}_{0}$ | 18 $^{-0.018}_{-0.061}$ | 64.4 $^{+0.3}_{0}$ | 2-M10 |

**Models compliant with the motor standard JIS C 4210 2001**

| Nominal bore diameter | Bore diameter [d1・d2] | Keyway width [W1・W2] | Keyway height [T1・T2] | Set screw hole [M] |
|---|---|---|---|---|
| | Tolerance G7, F7 | Tolerance H9 | – | – |
| 14N | 14 $^{+0.024}_{+0.006}$ | 5 $^{+0.030}_{0}$ | 16.3 $^{+0.3}_{0}$ | 2-M4 |
| 19N | 19 $^{+0.028}_{+0.007}$ | 6 $^{+0.030}_{0}$ | 21.8 $^{+0.3}_{0}$ | 2-M5 |
| 24N | 24 $^{+0.028}_{+0.007}$ | 8 $^{+0.036}_{0}$ | 27.3 $^{+0.3}_{0}$ | 2-M6 |
| 28N | 28 $^{+0.028}_{+0.007}$ | 8 $^{+0.036}_{0}$ | 31.3 $^{+0.3}_{0}$ | 2-M6 |
| 38N | 38 $^{+0.050}_{+0.025}$ | 10 $^{+0.036}_{0}$ | 41.3 $^{+0.3}_{0}$ | 2-M8 |
| 42N | 42 $^{+0.050}_{+0.025}$ | 12 $^{+0.043}_{0}$ | 45.3 $^{+0.3}_{0}$ | 2-M8 |
| 48N | 48 $^{+0.050}_{+0.025}$ | 14 $^{+0.043}_{0}$ | 51.8 $^{+0.3}_{0}$ | 2-M10 |
| 55N | 55 $^{+0.060}_{+0.030}$ | 16 $^{+0.043}_{0}$ | 59.3 $^{+0.3}_{0}$ | 2-M10 |
| 60N | 60 $^{+0.060}_{+0.030}$ | 18 $^{+0.043}_{0}$ | 64.4 $^{+0.3}_{0}$ | 2-M10 |

## Set screw position

| Model | Distance from edge [mm] |
|---|---|
| SFS-05 | 7 |
| SFS-06 | 9 |
| SFS-08 | 10 |
| SFS-09 | 10 |
| SFS-10 | 12 |
| SFS-12 | 12 |
| SFS-14 | 15 |

## NOTE

- Positions of set screws and keyways are not on the same plane.
- Set screws are included with the product.
- Positioning precision for keyway milling is determined by sight.
- Contact Miki Pulley when the keyway requires a positioning precision for a particular flange hub.
- Consult the technical documentation at the end of this volume for standard dimensions for bore drilling other than those given here.

# SFS Models

## Items Checked for Design Purposes

### Special Items to Take Note of

You should note the following to prevent any problems.

(1) Always be careful of parallel, angular, and axial misalignment.

(2) Always tighten bolts with the specified torque.

### Precautions for Handling

SFS models are delivered as components. Select whether to assemble by mounting flange hubs on each shaft and coupling shafts in both directions by mounting the element last, while centering, or to assemble by completing couplings first and then inserting them onto the shafts.
When using the assembly method that completes couplings first, take extra precautions when handling couplings. Subjecting assembled couplings to strong shocks may affect mounting accuracy and cause the parts to break during use.

(1) Couplings are designed for use within an operating temperature range of -30° C to 120℃ . Although the couplings are designed to be waterproof and oilproof, do not subject them to excessive amounts of water and oil as it may cause part deterioration.

(2) Handle the element with care as it is made of a thin stainless steel metal disc, also making sure to be careful so as not to injure yourself.

(3) For frictional coupling types, do not tighten up pressure bolts until after inserting the mounting shaft.

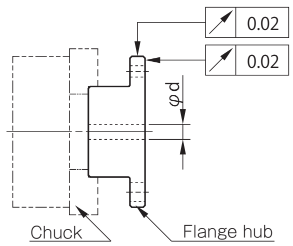
(4) Mounting shaft to frictional coupling types is assumed to be a round shaft.

### Centering and Finishing When Drilling Bores in Flange Hubs

Keep the following in mind when processing bore diameters in pilot-bore products.

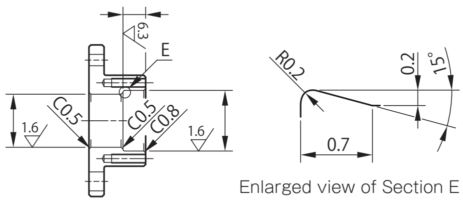
#### ■ Centering

After adjusting the chuck so that runout of each flange hub is no more than the precision of the figure below, finish the inner diameter, guided by the figure below.




#### ■ Taper ring (RfN8006) specifications

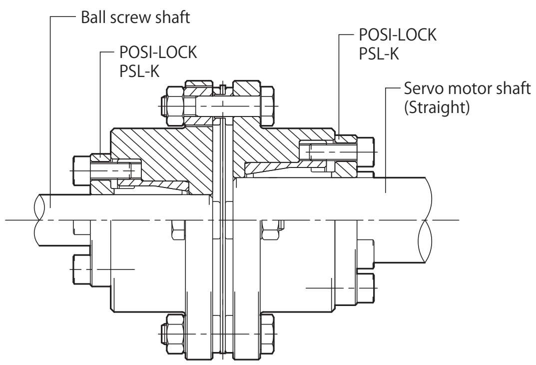
Finish as shown in the figure below if you are processing for a connection by means of a taper ring (RfN8006).



Enlarged view of Section E

#### ■ Finishing/mounting example

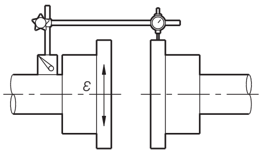
The example shows a pilot-bore type of flange hub processed for a POSI-LOCK PSL-K, a shaft lock made by Miki Pulley, and connected to a straight shaft.




### Centering

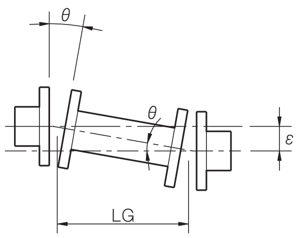
#### ■ Parallel misalignment ( ε )

Lock the dial gauge in place on one shaft and then measure the runout of the paired flange hub's outer periphery while rotating that shaft.
Since couplings on which the elements (discs) are a set SFS(S) types do not allow parallel misalignment, get as close to zero as possible. For couplings that allow the entire length to be freely set SFS(G) types, use the following formula to calculate allowable parallel misalignment.




$$\varepsilon = \tan\theta \times LG$$

ε : Allowable parallel misalignment
θ : 1°

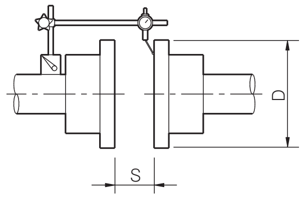



$$LG = LS + S$$

LS: Total length of spacer
S: Dimension of gap between flange hub and spacer

#### ■ Angular deflection( θ )

Lock the dial gauge in place on one shaft and then measure the runout of the end surface near the paired flange hub's outer periphery while rotating that shaft.
Adjust runout B so that θ ≦ 1° in the following formula.




$$B = D \times \tan\theta$$

B: Runout
D: Flange hub outer diameter
θ : 1°

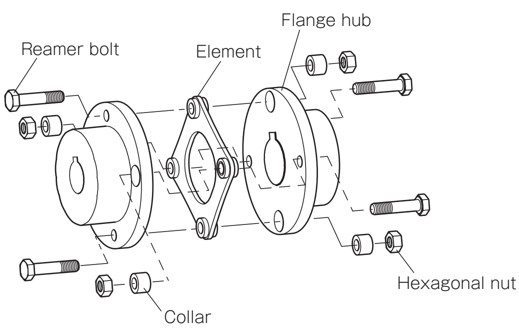
#### ■ Axial displacement (S)

In addition, restrict the dimension between flange hub faces (S in the diagram) within the allowable error range for axial displacement with respect to a reference value. Note that the tolerance values were calculated based on the assumption that both the level of parallel misalignment and angular deflection are zero. Adjust to keep this value as low as possible.

*On the SFS(S), this is the dimension of the gap between two flange hubs. On the SFS(W/G), dimension S is the gap between the flange hub and the spacer.

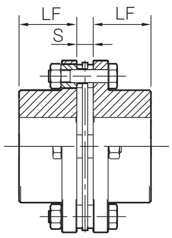
## Mounting

This assembly method mounts a flange hub on each shaft of the SFS models and couples shafts in both directions by mounting the element last, while centering.




(1) Remove any rust, dust, oil residue, etc. from inner diameter surfaces of the shaft and flange hubs. In particular, never allow oil or grease containing antifriction or other agent (molybdenum-, silicon-, or fluorine-based), which would dramatically affect the friction coefficient, to contact the surface.

(2) Insert each shaft far enough into the flange hub that the paired mounting shaft touches the shaft along the entire length of the flange hub (LF dimension), as shown in the diagram below, and does not interfere with the elements, spacers or the other shaft.




(3) Mount the other flange hub on the paired mounting shaft as described in steps (1) and (2).

(4) Keep the width of the dimension between flange hub faces (S dimension in the diagram) within the allowable error range for axial misalignment with respect to the reference value. Note that the tolerance values were calculated based on the assumption that both the level of parallel misalignment and angular deflection are zero. Adjust to keep this value as low as possible.

| Coupling size | 05 | 06 | 08 | 09 | 10 | 12 | 14 |
|---|---|---|---|---|---|---|---|
| S [mm] | 5 | 6 | 6 | 8 | 10 | 11 | 12 |

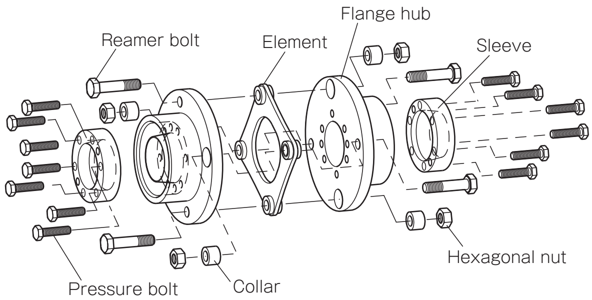
(5) Insert the element into the gap between the two flange hubs, and then mount it with the reamer bolt for locking the element in place. Check that the element is not deformed. If it is, it may be under an axial force or there may be insufficient lubrication between the collar, bolt, and disc, so adjust to bring it to normal. The situation may be improved by applying a small amount of machine oil to the bearing surface of the reamer bolt. However, never use any oil or grease containing antifriction or other agent (molybdenum-, silicon-, or fluorine-based) which would dramatically affect the friction coefficient.

(6) Use a calibrated torque wrench to tighten all the reamer bolts to the tightening torques of the table below.

| Coupling size | 05 | 06 | 08 | 09 | 10 | 12 | 14 |
|---|---|---|---|---|---|---|---|
| Reamer bolt size | M5 | M6 | M6 | M8 | M8 | M10 | M12 |
| Tightening torque [N•m] Black oxide finish (standard) specification | 8 | 14 | 14 | 34 | 34 | 68 | 118 |
| Tightening torque [N•m] Electroless nickel plating [° C] specification | 6 | 11 | 11 | 26 | 26 | 51 | 90 |

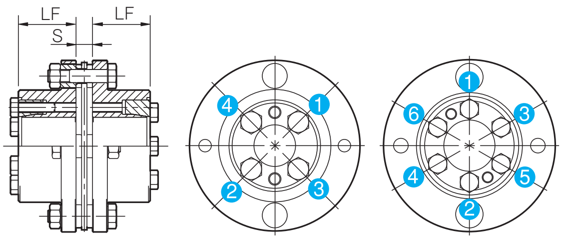
## Mounting (Frictional Coupling Hub Types)

This assembly method mounts a flange hub on each shaft of the SFS (frictional coupling hub) type and couples both shafts by mounting the element last while centering.




(1) Loosen the pressure bolts of the flange hubs, check that the sleeve can move freely, and then remove any rust, dust, oil residue, etc. from the inner diameter surfaces of the shaft and flange hubs. In particular, never allow oil or grease containing antifriction or other agent (molybdenum-, silicon-, or fluorine-based), which would dramatically affect the friction coefficient, to contact the surface.

(2) Insert each shaft far enough into the flange hub that the paired mounting shaft touches the shaft along the entire length of the flange hub (LF dimension), as shown in the diagram below, and does not interfere with the elements, spacers or the other shaft. Then, holding them in place, tighten the pressure bolts evenly, a little at a time on the diagonal, following the tightening sequence shown in the figure below.




(3) Mount the other flange hub on the paired mounting shaft as described in steps (1) and (2).

(4) Keep the width of the dimension between flange hub faces (S dimension in the diagram) within the allowable error range for axial misalignment with respect to the reference value. Note that the tolerance values were calculated based on the assumption that both the level of parallel misalignment and angular deflection are zero. Adjust to keep this value as low as possible.

| Coupling size | 06 | 08 | 09 | 10 | 12 | 14 |
|---|---|---|---|---|---|---|
| S [mm] | 6 | 6 | 8 | 10 | 11 | 12 |

(5) Insert the element into the gap between the two flange hubs, and then mount it with the reamer bolt for locking the element in place. Check that the element is not deformed. If it is, it may be under an axial force or there may be insufficient lubrication between the collar, bolt, and disc, so adjust to bring it to normal. The situation may be improved by applying a small amount of machine oil to the bearing surface of the reamer bolt. However, never use any oil or grease containing antifriction or other agent (molybdenum-, silicon-, or fluorine-based) which would dramatically affect the friction coefficient.

(6) Use a calibrated torque wrench to tighten all the reamer and pressure bolts to the tightening torques of the table below.

| Coupling size | 06 | 08 | 09 | 10 | 12 | 14 |
|---|---|---|---|---|---|---|
| Reamer bolt size | M6 | M6 | M8 | M8 | M10 | M12 |
| Tightening torque [N·m] | 14 | 14 | 34 | 34 | 68 | 118 |
| Pressure bolt size | M5 | M6 | M6 | M6 | M8 | M8 |
| Tightening torque [N·m] | 8 | 14 | 14 | 14 | 34 | 34 |

(7) To protect against initial loosening of the pressure bolts, we recommend operating for a set period of time and then retightening to the appropriate tightening torque.

# SFS Models

## Items Checked for Design Purposes

### Mounting (When Mounted After Coupling Is Completed)

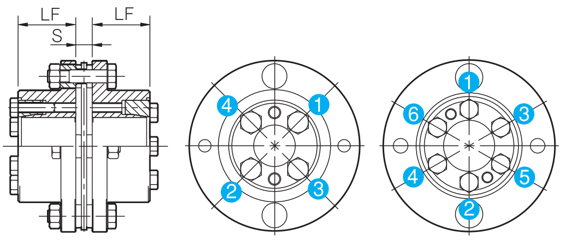
This assembly method first completes the coupling and then inserts it onto the shaft.

(1) Remove any rust, dust, oil or the like from the inner diameter surfaces of the shaft and flange hubs. In particular, never allow oil or grease containing antifriction or other agent (molybdenum-, silicon-, or fluorine-based), which would dramatically affect the friction coefficient, to contact the surface.
For types that use frictional coupling, loosen the flange hub's pressure bolt and check that the sleeve can move freely.

(2) Be careful when inserting the couplings into the shaft so as not to apply excessive force of compression or tensile force to the element.
Be particularly careful not to mistakenly apply excessive compression force when inserting couplings into the paired shaft after mounting on one shaft.

(3) For frictional coupling types, with the pressure bolts loosened, make sure that couplings move gently in the axial and rotational directions. Readjust the centering of the two shafts if the couplings fail to move smoothly enough.

(4) Insert each shaft far enough into the flange hub that the paired mounting shaft touches the shaft along the entire length of the flange hub (LF dimension), as shown in the diagram below. Then position it so that it does not interfere with the elements, spacers or the other shaft and lock it in place. For frictional coupling types, tighten the pressure bolts evenly, a little at a time on the diagonal, following the tightening sequence shown in the figure below.




(5) Keep the width of the dimension between flange hub faces (S dimension in the diagram) within the allowable error range for axial misalignment with respect to the reference value. Note that the tolerance values were calculated based on the assumption that both the level of parallel misalignment and angular deflection are zero. Adjust to keep this value as low as possible.

| Coupling size | 05 | 06 | 08 | 09 | 10 | 12 | 14 |
|---|---|---|---|---|---|---|---|
| S [mm] | 5 | 6 | 6 | 8 | 10 | 11 | 12 |

(6) Use a calibrated torque wrench to tighten all the pressure bolts to the appropriate tightening torques of the table below.

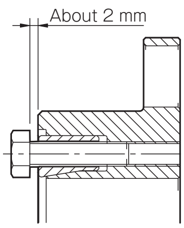
| Coupling size | 06 | 08 | 09 | 10 | 12 | 14 |
|---|---|---|---|---|---|---|
| Pressure bolt size | M5 | M6 | M6 | M6 | M8 | M8 |
| Tightening torque [N·m] | 8 | 14 | 14 | 14 | 34 | 34 |

(7) To protect against initial loosening of the pressure bolts, we recommend operating for a set period of time and then retightening to the appropriate tightening torque.

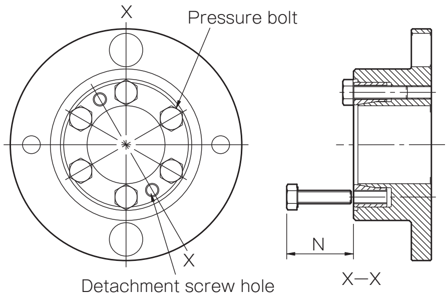
### Removal

(1) Check to confirm that there is no torque or axial direction load being applied to the coupling. There may be cases where a torque is applied to the coupling, particularly when the safety brake is being used. Make sure to verify that this is not occurring before removing parts.

(2) Loosen all the pressure bolts placing pressure on the sleeve until the gap between bearing seat and sleeve is about 2 mm.
In the case of a tapered coupling system, the mechanism will be self-locking, so the coupling between flange hub and shaft cannot be released. (Note that in some cases, a coupling can be released.) For that reason, when designing couplings, a space must be installed for inserting a detachment screw. If there is no space in the axial direction, consult Miki Pulley.



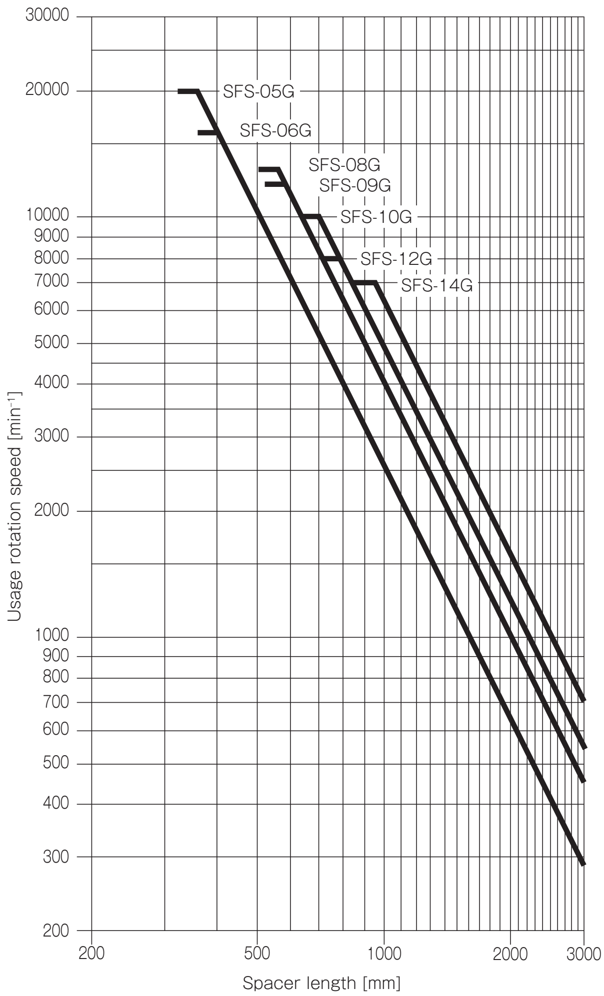

(3) Pull out two of the pressure bolts loosened in step (2), insert them into detachment screw holes at two locations on the sleeve, and tighten them alternately, a little at a time. The coupling between the flange hub and shaft will be released.




| Coupling size | 06 | 08 | 09 | 10 | 12 | 14 |
|---|---|---|---|---|---|---|
| Nominal diameter of pressure bolt × Length | M5 × 20 | M6 × 24 | M6 × 24 | M6 × 24 | M8 × 25 | M8 × 25 |
| Recommended N dimension [mm] | 26 | 30 | 30 | 30 | 31.5 | 31.5 |

### Limit Rotation Speed

For SFS(G) long spacer types, the speed at which the coupling can be used will vary with the length of spacer selected. Use the following table to confirm that the speed you will use is at or below the limit rotation speed. When a max. rotation speed is set for a specific type, that speed is the upper limit.



## Points to Consider Regarding the Feed Screw System

In feed screw systems using a stepper motor or servo motor, the pulsation natural frequency of the stepper motor and the torsional natural frequency of the system as a whole may cause the system to resonate, or the gain adjustment of the servo motor may cause the system to oscillate.

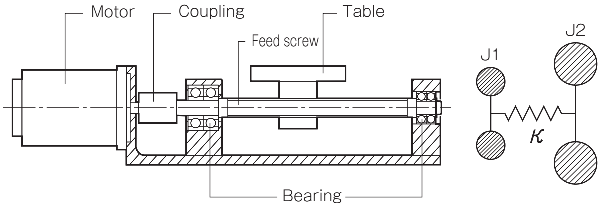
If resonance occurs, the resonant rotation speed must be skipped, or if oscillation occurs, adjustment will need to be made such as by using the filter function or other electrical control system to resolve the issue.

In either instance, to handle resonance and oscillation, it will be necessary to take into account the torsional natural frequency for the system overall during the design stage, including the torsional stiffness for the coupling and feed screw section and the moment of inertia and other characteristics. Please contact Miki Pulley with any questions regarding these issues.

## How to Find the Natural Frequency of a Feed Screw System

Select a coupling based on the nominal and maximum torque of the stepper motor or servo motor.

Next, find the overall natural frequency, Nf, from the torsional stiffness of the coupling and feed screw, $\kappa$, the moment of inertia of driving side, J1, and the moment of inertia of driven side, J2, for the feed screw system shown below.




Natural frequency of overall feed screw system Nf [Hz]

$$Nf=\frac{1}{2\pi}\sqrt{\kappa\left(\frac{1}{J1}+\frac{1}{J2}\right)}$$

$\kappa$: Torsional stiffness of the coupling and feed screw [N·m/rad]
J1: Moment of inertia of driving side [kg·m²]
J2: Moment of inertia of driven side [kg·m²]

Torsional spring constant of coupling and feed screw $\kappa$ [N·m/rad]

$$\frac{1}{\kappa}=\frac{1}{\kappa c}+\frac{1}{\kappa b}$$

$\kappa c$: Torsional spring constant of coupling [N·m/rad]
$\kappa b$: Torsional spring constant of feed screw [N·m/rad]

Driving moment of inertia J1 [kg·m²]

$$J1=Jm+\frac{Jc}{2}$$

Jm: Moment of inertia of servomotor [kg·m²]
Jc: Moment of inertia of coupling [kg·m²]

Driven moment of inertia J2 [kg·m²]

$$J2=Jb+Jt+\frac{Jc}{2}$$

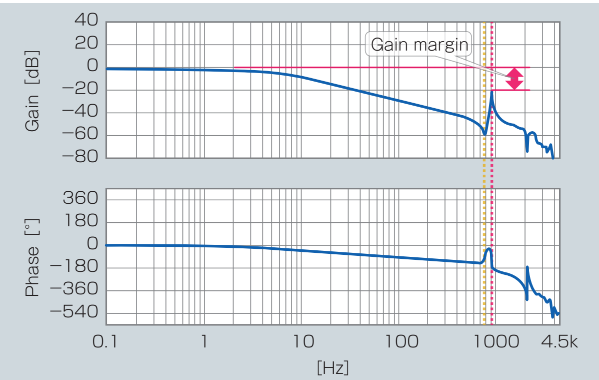
Jb: Moment of inertia of feedscrew [kg·m²]
Jt: Moment of inertia of table [kg·m²]
Jc: Moment of inertia of coupling [kg·m²]

Moment of inertia of table Jt [kg·m²]

$$Jt=\frac{M\times P^2}{4\pi^2}$$

M: Mass of table [kg]
P: Lead of feed screw [m]

Since it is easier for oscillation to occur when the gain margin with natural frequency is 10 dB or lower, it is necessary for the natural frequency to be set high with a therefore higher gain margin at the design stage, or to adjust the natural frequency using the servomotor's electric tuning function (filter function) so as to avoid oscillation.




## Selection Procedures

(1) Find the torque, Ta, applied to the coupling using the output capacity, P, of the driver and the usage rotation speed, n.

$$Ta\,[N\cdot m]=9550\times\frac{P\,[kW]}{n\,[min^{-1}]}$$

(2) Determine the factor $\kappa$ from the load properties, and find the corrected torque, Td, applied to the coupling.

**Td = Ta × K (Refer to the table below for values)**

| Load properties | Constant | Vibrations: Small | Vibrations: Medium | Vibrations: Large |
|---|---|---|---|---|
| K | 1.0 | 1.25 | 1.75 | 2.25 |

For servo motor drive, multiply the maximum torque, Ts, by the usage factor K = 1.2 to 1.5.

**Td = Ts × (1.2 to 1.5)**

(3) Set the size so that the rated coupling torque, Tn, is higher than the corrected torque, Td.

$$Tn \geqq Td$$

(4) The rated torque of the coupling may be limited by the bore diameter of the coupling. See the table showing the bore diameters that limit rated torque.

(5) Check that the mount shaft is no larger than the maximum bore diameter of the coupling.

Contact Miki Pulley for assistance with any device experiencing extreme periodic vibrations.