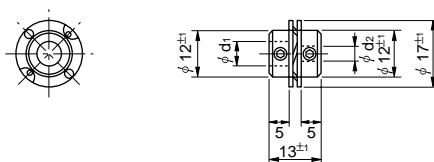


## OPTIONAL PARTS

Couplings and Slipping Clutches, which are usually supplied as integral parts of our Motor-Potentiometers, can be supplied independently and separately.

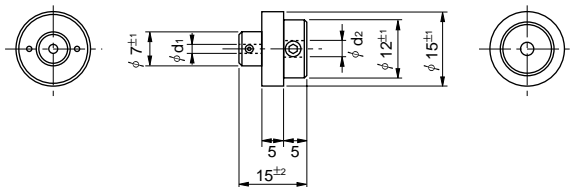
### Coupling: Model C17



Allowable eccentricity: Below 0.15  
 Allowable angle of deflection: within 5°  
 Allowable axial play: ±0.2  
 Allowable torque: 0.9N•m (9 kgf•cm)

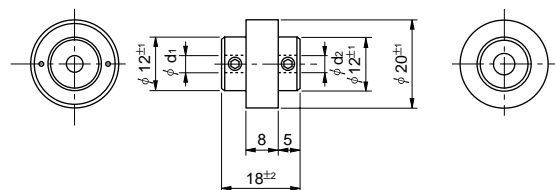
| Model No. | d1 $\begin{smallmatrix} +0.02 \\ 0 \end{smallmatrix}$ | d2 $\begin{smallmatrix} +0.02 \\ 0 \end{smallmatrix}$ |
|-----------|---|---|
| C1763     | 6   | 3   |
| C1764     | 6   | 4   |
| C1765     | 6   | 5   |
| C1766     | 6   | 6   |

### Slipping Clutch (Universal coupling): Model USC15 (Standard Slipping Torque: Approx. 20mN•m [200gf•cm])



| Model No. | d1 $\begin{smallmatrix} +0.02 \\ 0 \end{smallmatrix}$ | d2 $\begin{smallmatrix} +0.02 \\ 0 \end{smallmatrix}$ |
|-----------|---|---|
| USC1523   | 2   | 3   |
| USC1524   | 2   | 4   |
| USC1525   | 2   | 5   |
| USC1526   | 2   | 6   |
| USC1533   | 3   | 3   |
| USC1534   | 3   | 4   |
| USC1536   | 3   | 6   |

### Slipping Clutch (Universal coupling): Model USC20 (Standard Slipping Torque: Approx. 50mN•m [500gf•cm])



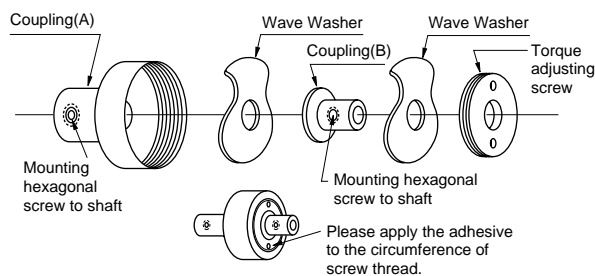
| Model No. | d1 $\begin{smallmatrix} +0.02 \\ 0 \end{smallmatrix}$ | d2 $\begin{smallmatrix} +0.02 \\ 0 \end{smallmatrix}$ |
|-----------|---|---|
| USC2045   | 4   | 5   |
| USC2046   | 4   | 6   |
| USC2066   | 6   | 6   |

### How to Adjust the Torque of Our Slipping Clutches Model USC Series (Adjustable range: Approx. 15mN•m [150gf•cm] ~ Approx. 100mN•m [1000g•cm])

1) We are supplying our slipping clutch model USC series under temporarily assembled condition of standard slipping torque and therefore, we would kindly request you to adjust yourselves the slipping torque to meet your application according to the following procedure.

#### 2) How to Adjust

- Turn the torque adjusting screw to the right in order to fasten the wave washers strongly.
- Then, turn the torque adjusting screw to the left slowly in order to get necessary slipping torque.
- When you can get necessary torque, you must fix the screw with an adhesive to the sketch right-hand:

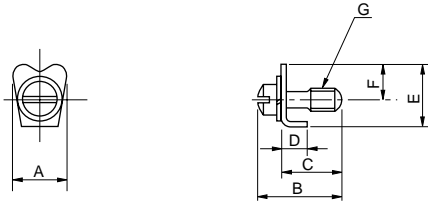


#### 3) Adjustable Range

| Model No. | Range                           |
|-----------|---------------------------------|
| USC15     | 15 ~ 60mN•m (150 ~ 600gf•cm)    |
| USC20     | 25 ~ 100mN•m (250 ~ 1,000gf•cm) |

# OPTIONAL PARTS

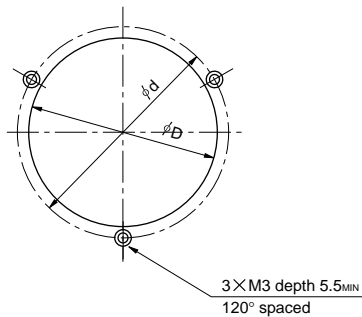
## Servomount Fixing Nail with a Screw



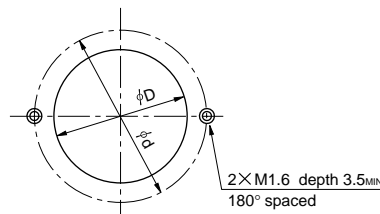
| Model No. | SFN1        | SFN2        | SFN3           |
|-----------|-------------|-------------|----------------|
| A         | 7.0         | 7.0         | 4.0            |
| B         | 10.5        | 10.5        | 6.5            |
| C         | 7.5         | 7.5         | 5.0            |
| D         | 3.5         | 2.5         | 2.2            |
| E         | 8.0         | 8.0         | 4.8            |
| F         | 4.5         | 4.5         | 3.3            |
| G         | M3<br>P=0.5 | M3<br>P=0.5 | M1.6<br>P=0.35 |

## Panel Arrangements for Servomount

### For use with SFN1 or SFN2



### For use with SFN3



| Model No. | Examples of Fixable Potentiometers  |
|-----------|---|
| SFN1      | CP45,CP50,CP70,<br>46HDS,50HDS,<br>SCB50,FP50,FCP40A,<br>FCP50A,FSCB50A   |
| SFN2      | 20HPS,20HHPS,22HHPS,<br>25HPS,30HDS,CP22,CP30,<br>FCP22A,FCPS22AC,<br>FCP30A,FSCB22A,KSM22FS,<br>FSCB30A,FFP22A,LNB22 |
| SFN3      | 12HPS,12HHPS,FCP12A,<br>FFP12A  |

Note: SFN1 and SFN2 are secured at 3 positions with an equal space of 120°. SFN3 can be secured at 2 positions with a space of 180°.

## Dimensions of Panel Arrangements when using SFN1

| Modes     | Size | D +0.05<br>0 | d ±0.2 |
|-----------|------|--------------|--------|
| 46HDS-n   |      | 47.63        | 57.5   |
| CP45      |      | 33.32        | 47.5   |
| CP50      |      | 47.63        | 57.5   |
| FCP40A    |      | 33.32        | 43.0   |
| FCP50A    |      | 47.63        | 57.5   |
| SCB50     |      | 47.63        | 57.5   |
| FP50      |      | 47.63        | 57.5   |
| FSCB50A   |      | 47.63        | 57.5   |
| OF46HDS-n |      | 60.00        | 68.0   |
| OFCP50    |      | 47.63        | 75.0   |
| 50HDS     |      | 47.63        | 57.5   |

## Dimensions of Panel Arrangements when using SFN2

| Modes      | Size | D +0.05<br>0 | d ±0.2 |
|------------|------|--------------|--------|
| 20HPS-10S  |      | 19.05        | 29.5   |
| 25HPS-10   |      | 24.61        | 36.0   |
| 20HHPS-10S |      | 19.05        | 29.5   |
| 22HHPS-10  |      | 19.05        | 29.5   |
| CP22       |      | 19.05        | 29.5   |
| CP30       |      | 24.61        | 34.5   |
| FCP22A     |      | 19.05        | 29.5   |
| FCPS22AC   |      | 19.05        | 29.5   |
| FCP30A     |      | 24.61        | 34.5   |
| FSCB22A    |      | 19.05        | 29.5   |
| FSCB30A    |      | 24.61        | 34.5   |
| FFP22A     |      | 19.05        | 29.5   |
| LNB22      |      | 19.05        | 29.5   |
| KSM22FS    |      | 19.05        | 29.5   |
| 30HDS      |      | 24.61        | 34.5   |

## Dimensions of Panel Arrangements when using SFN3

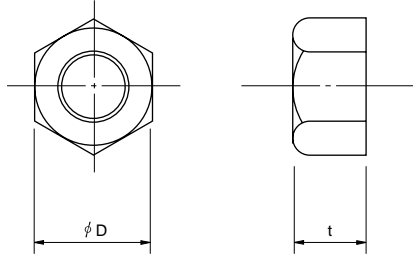
| Modes     | Size | D +0.05<br>0 | d ±0.2 |
|-----------|------|--------------|--------|
| 12HPS-10  |      | 9.53         | 17     |
| 12HHPS-10 |      | 9.53         | 17     |
| FCP12A    |      | 11.11        | 17     |
| FFP12A    |      | 11.11        | 17     |

Note: D: Outer diameter of pot. flange pilot.  
d: Position of tapping for servomount fixing nails.

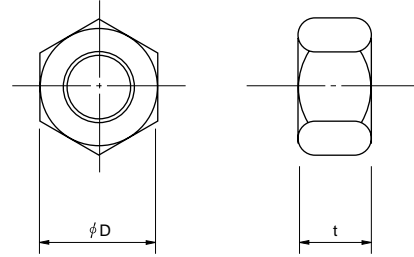
## STANDARD DIMENSIONS OF ATTACHED NUTS AND WASHERS

### ●Hexagon Nut

#### ■N-1 (One-sided Nut)



#### ■N-2 (Double-sided Nut)

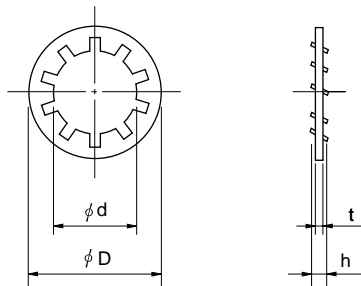


(unit: mm)

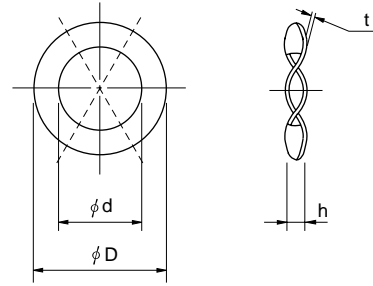
| No. | Kind of Nut | Kind of Mounting Nut | D    | t   | Applicable Pot. model No.  |
|-----|-------------|----------------------|------|-----|--|
| 1   | N-1         | M6 P=0.75            | 8    | 2.0 | 12HP, 12HPC, 12HHP, FCP12AC  |
| 2   |             | 1/4—32 UNEF          | 9.0  | 2.0 | 12HP-E, 12HPC-E, 12HHP-10E   |
| 3   |             | M7 P=0.75            | 10.0 | 2.0 | 10HP, 25HP-nB  |
| 4   | N-2         | M8 P=0.75            | 10.0 | 2.0 | OF30   |
| 5   |             | M9 P=0.75            | 12.0 | 2.5 | 20HP, 20HHP, 22HP-n(M), (N), 22HHP-n(M), (N), 25HP-n(C), (D), (E) 46HD, CP22E, FCP22E, CP22C, FCP22AC, OF50, OF20HHP, OF46HD |
| 6   |             | M10 P=0.75           | 13.0 | 2.5 | OF30MCA, OF10LP  |
| 7   |             | M12 P=1.0            | 17.0 | 5.0 | OF20LP   |
| 8   |             | 3/8—32 UNEF          | 12.0 | 2.5 | 22HP-n, 22HP-nE, 22HHP-n, 22HHP-nE   |
| 9   |             | 5/8—18 UNF           | 21.0 | 3.2 | OF50PB   |

### ●Washer

#### ■TW (Inner Teeth Washer)



#### ■WW (Wave Washer)



(unit: mm)

| No. | Kind of Washer | Kind of Mounting Nut | d    | D    | t   | h   | Applicable Pot. model No.  |
|-----|----------------|----------------------|------|------|-----|-----|--|
| 1   | T.W.           | M6 P=0.75            | 6.5  | 11   | 0.6 | 1.0 | 12HP, 12HPC, 12HHP, FCP12AC  |
| 2   |                | 1/4—32 UNEF          | 6.5  | 11   | 0.6 | 1.0 | 12HP-E, 12HPC-E, 12HHP-10E   |
| 3   |                | M7 P=0.75            | 7.5  | 13   | 0.6 | 1.0 | 10HP, 25HP-nB  |
| 4   |                | M8 P=0.75            | 8.5  | 15   | 0.8 | 1.6 | OF30   |
| 5   |                | M9 P=0.75            | 9.5  | 16.5 | 1.0 | 1.6 | 20HP, 20HHP, 22HP-n(M), (N), 22HHP-n(M), (N), 25HP-n(C), (D), (E) 46HD, CP22E, CP22C, FCP22E, FCP22AC, OF50, OF20HHP, OF46HD |
| 6   | W.W.           | M10 P=0.75           | 10.5 | 14.5 | 0.3 | 2.5 | OF30MCA, OF10LP  |
| 7   | T.W.           | M12 P=1.0            | 13.0 | 21.0 | 1.0 | 2.0 | OF20LP   |
| 8   |                | 3/8—32 UNEF          | 11.0 | 15.0 | 0.6 | 1.0 | 22HP-n, 22HP-nE, 22HHP-n, 22HHP-nE   |
| 9   |                | 5/8—18 UNF           | 16.5 | 26.0 | 1.2 | 2.5 | OF50PB   |