

# Slit Couplings

## Set Screw, Short / Long

Points of comparison between similar products | Max. Rotational Speed: 19,000~78,000rpm

**Features:** Because backlash is 0, it is suitable for applications where rotation accuracy is required.

### Slit Set Screw

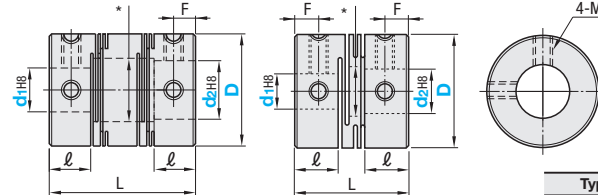


**CPL** (Aluminum - Long)

**CPLS** (Stainless Steel - Long)

**CPS** (Aluminum - Short)

**CPSS** (Stainless Steel - Short)



The lateral, angular, and axial misalignment values shown are for each occurring individually. When multiple misalignments are occurring simultaneously, the allowable maximum value of each will be reduced to 1/2.  
For the selection criteria and alignment procedures, see **P.1061**.

\*d<sub>1</sub>, d<sub>2</sub> Identical Diameter = d<sub>1</sub>+0.5  
d<sub>1</sub>, d<sub>2</sub> Different Diameters = Large Shaft Diameter + 0.5  
• When d<sub>1</sub> is 4mm or less and d<sub>2</sub> is 5mm or more, there are 3 set screws.  
• When both d<sub>1</sub> and d<sub>2</sub> are less than 4mm, there are 2 set screws.

| Type       | M | Material        | S | Surface Treatment | A | Accessory |
|------------|---|-----------------|---|-------------------|---|-----------|
| CPL, CPS   |   | Aluminum Alloy  |   | Clear Anodize     |   | Set Screw |
| CPLS, CPSS |   | Stainless Steel |   | -                 |   |           |

| Part Number | Type                   | D  | d <sub>1</sub> | d <sub>2</sub> |     |      |      | L    |     | ℓ   |      | M (Coarse) | F   | Unit Price |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|-------------|------------------------|----|----------------|----------------|-----|------|------|------|-----|-----|------|------------|-----|------------|------|-----|------|--|--|--|--|--|--|--|--|--|--|--|
|             |                        |    |                | CPL            | CPS | CPLS | CPSS | CPL  | CPS | CPL | CPS  |            |     | CPL        | CPLS | CPS | CPSS |  |  |  |  |  |  |  |  |  |  |  |
| 8           | CPL (Aluminum)         | 8  | *2             | *3             | 3   | 3    | 3    | 14   | 10  | 3.5 | 3.4  | M2         | 1.7 |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
| 12          | CPL (Aluminum)         | 12 | *4             | *5             | 4   | 5    | 4    | 18.5 | 14  | 5   | 5.2  | M2.5       | 2.5 |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
| 16          | CPL (Aluminum)         | 16 | *5             | *6             | 5   | 6    | 6    | 23   | 18  | 6.5 | 6.8  | M3         | 3   |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
| 20          | CPL (Aluminum)         | 20 | *6             | *8             | 6   | 8    | 8    | 26   | 20  | 7.5 | 7.65 | M3         | 3   |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
| 25          | CPS (Aluminum)         | 25 | *6             | *8             | 6   | 8    | 8    | 31   | 25  | 8.5 | 9.6  | M4         | 4   |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
| 32          | CPSS (Stainless Steel) | 32 | *8             | *10            | 8   | 10   | 10   | 41   | 32  | 12  | 12.6 | M4         | 6   |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
| 40          | CPSS (Stainless Steel) | 40 | *10            | *12            | 10  | 12   | 12   | 56   | -   | 17  | -    | M5         | 8.5 |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |
|             |                        |    |                |                |     |      |      |      |     |     |      |            |     |            |      |     |      |  |  |  |  |  |  |  |  |  |  |  |

\*CPS and CPSS are available in \* marked sizes only.

| Part Number    | Type | D     | Allowable Torque (N·m) | Max. Rotational Speed (r/min) | Moment of Inertia (kg·m <sup>2</sup> ) | Static Torsional Spring Constant (N·m/rad) | Lateral Misalignment (mm) | Angular Misalignment (°) | Allowable Axial Misalignment (mm) | Screw Tightening Torque (N·m) | Mass (g) |
|----------------|------|-------|------------------------|-------------------------------|--|--|---------------------------|--------------------------|-----------------------------------|-------------------------------|----------|
| CPL (Aluminum) | CPL  | 8     | 0.1                    | 78000                         | 1.2x10 <sup>-8</sup>                   | 25   | 0.10                      | 2                        | ±0.2                              | 0.3                           | 1.4      |
|                |      | 12    | 0.4                    | 52000                         | 8.3x10 <sup>-8</sup>                   | 45   |                           |                          |                                   |                               |          |
|                |      | 16    | 0.5                    | 39000                         | 3.3x10 <sup>-7</sup>                   | 80   |                           |                          |                                   |                               |          |
|                |      | 20    | 1                      | 31000                         | 9.0x10 <sup>-7</sup>                   | 170  | 0.15                      | 2                        | ±0.4                              | 0.7                           | 14       |
|                |      | 25    | 2                      | 25000                         | 2.6x10 <sup>-6</sup>                   | 380  |                           |                          |                                   |                               |          |
|                |      | 32    | 4                      | 19000                         | 9.6x10 <sup>-6</sup>                   | 500  |                           |                          |                                   |                               |          |
| 40             | 8    | 15000 | 3.2x10 <sup>-5</sup>   | 700                           | 0.20                                   | 2  | ±0.5                      | 1.7                      | 60                                |                               |          |

| Part Number            | Type | D     | Allowable Torque (N·m) | Max. Rotational Speed (r/min) | Moment of Inertia (kg·m <sup>2</sup> ) | Static Torsional Spring Constant (N·m/rad) | Lateral Misalignment (mm) | Angular Misalignment (°) | Allowable Axial Misalignment (mm) | Screw Tightening Torque (N·m) | Mass (g) |
|------------------------|------|-------|------------------------|-------------------------------|--|--|---------------------------|--------------------------|-----------------------------------|-------------------------------|----------|
| CPLS (Stainless Steel) | CPLS | 8     | 0.2                    | 78000                         | 3.1x10 <sup>-8</sup>                   | 50   | 0.10                      | 2                        | ±0.2                              | 0.3                           | 3        |
|                        |      | 12    | 0.3                    | 52000                         | 2.1x10 <sup>-7</sup>                   | 64   |                           |                          |                                   |                               |          |
|                        |      | 16    | 0.5                    | 39000                         | 8.4x10 <sup>-7</sup>                   | 85   |                           |                          |                                   |                               |          |
|                        |      | 20    | 1                      | 31000                         | 2.4x10 <sup>-6</sup>                   | 250  | 0.15                      | 2                        | ±0.4                              | 1.7                           | 71       |
|                        |      | 25    | 2                      | 25000                         | 6.8x10 <sup>-6</sup>                   | 330  |                           |                          |                                   |                               |          |
|                        |      | 32    | 3.5                    | 19000                         | 2.6x10 <sup>-5</sup>                   | 850  |                           |                          |                                   |                               |          |
| 40                     | 8    | 15000 | 8.7x10 <sup>-5</sup>   | 1000                          | 0.20                                   | 2  | ±0.5                      | 4                        | 350                               |                               |          |

| Part Number    | Type | D  | Allowable Torque (N·m) | Max. Rotational Speed (r/min) | Moment of Inertia (kg·m <sup>2</sup> ) | Static Torsional Spring Constant (N·m/rad) | Angular Misalignment (°) | Allowable Axial Misalignment (mm) | Screw Tightening Torque (N·m) | Mass (g) |
|----------------|------|----|------------------------|-------------------------------|--|--|--------------------------|-----------------------------------|-------------------------------|----------|
| CPS (Aluminum) | CPS  | 8  | 0.1                    | 78000                         | 1.0x10 <sup>-8</sup>                   | 24   | 1                        | ±0.1                              | 0.3                           | 1        |
|                |      | 12 | 0.4                    | 52000                         | 7.0x10 <sup>-8</sup>                   | 80   |                          |                                   |                               |          |
|                |      | 16 | 0.5                    | 39000                         | 2.8x10 <sup>-7</sup>                   | 180  |                          |                                   |                               |          |
|                |      | 20 | 1                      | 31000                         | 7.5x10 <sup>-7</sup>                   | 200  | ±0.2                     | 1.7                               | 24                            | 12       |
|                |      | 25 | 2                      | 25000                         | 2.3x10 <sup>-6</sup>                   | 780  |                          |                                   |                               |          |
|                |      | 32 | 4                      | 19000                         | 8.0x10 <sup>-6</sup>                   | 1100                                       |                          |                                   |                               |          |

\*CPS does not allow eccentricity.

| Part Number            | Type | D  | Allowable Torque (N·m) | Max. Rotational Speed (r/min) | Moment of Inertia (kg·m <sup>2</sup> ) | Static Torsional Spring Constant (N·m/rad) | Angular Misalignment (°) | Allowable Axial Misalignment (mm) | Screw Tightening Torque (N·m) | Mass (g) |
|------------------------|------|----|------------------------|-------------------------------|--|--|--------------------------|-----------------------------------|-------------------------------|----------|
| CPSS (Stainless Steel) | CPSS | 8  | 0.2                    | 78000                         | 2.4x10 <sup>-8</sup>                   | 49   | 1                        | ±0.1                              | 0.3                           | 2.7      |
|                        |      | 12 | 0.3                    | 52000                         | 1.8x10 <sup>-7</sup>                   | 140  |                          |                                   |                               |          |
|                        |      | 16 | 0.5                    | 39000                         | 7.2x10 <sup>-7</sup>                   | 240  |                          |                                   |                               |          |
|                        |      | 20 | 1                      | 31000                         | 2.0x10 <sup>-6</sup>                   | 330  | ±0.2                     | 1.7                               | 63                            | 32       |
|                        |      | 25 | 2                      | 25000                         | 6.1x10 <sup>-6</sup>                   | 720  |                          |                                   |                               |          |
|                        |      | 32 | 3.5                    | 19000                         | 2.1x10 <sup>-5</sup>                   | 1300                                       |                          |                                   |                               |          |

\*CPSS does not allow eccentricity.

Ordering Example: Part Number - Shaft Bore Dia. d<sub>1</sub> - Shaft Bore Dia. d<sub>2</sub>  
CPL16 - 5 - 6