



**SHENZHEN BENLI TRANSMISSION TECHNOLOGY CO.,  
LTD.**

## **Precision Coupling Catalog**

Professional manufacturer of precision coupling components for servo motors, stepping motors, CNC machines, semiconductor equipment, UV printers, and industrial automation systems. Four major series, 30+ models covering bore diameters from  $\Phi 3$  to  $\Phi 78$  mm.

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# Company Profile

**Shenzhen Crocnc Equipment Co., LTD (CROCNC)** is a professional enterprise integrating the R&D, manufacturing, and sales of precision transmission components. Located in Guangming District, Shenzhen, China, the company specializes in producing high-quality couplings for servo and stepping motor applications.

With a complete in-house manufacturing capability — from CNC machining of aluminum and stainless steel components to surface treatment and assembly — CROCNC ensures consistent quality across its entire product range. The company's core philosophy is **"Customer First,"** committed to building a nationally recognized coupling brand with proprietary intellectual property.

## Core Products

- Diaphragm Couplings (Single/Double, Aluminum/Stainless Steel)
- Plum/Jaw Couplings (Aluminum/Stainless Steel, Clamp/Sleeve)
- Cross Slider (Oldham) Couplings
- Beam (Parallel) Couplings
- Support Units & Precision Nuts

## Application Industries

CNC Machine Tools • Laser Cutting Equipment • Semiconductor Equipment • UV Printers • Industrial Robots • 3C Electronics Automation • Packaging Machinery • Textile Machinery • Printing Equipment

## Company Information

|              |                                             |
|--------------|---------------------------------------------|
| Company      | Shenzhen Crocnc Equipment Co., LTD (CROCNC) |
| Brand        | CROCNC                                      |
| Location     | Shenzhen, China                             |
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### Zero Backlash

Diaphragm and beam types achieve true zero backlash through elastic deformation



### High Rigidity

Torsional stiffness up to 1,600,000 N-m/rad for precision servo systems



### Low Inertia

Aluminum body reduces rotational inertia for fast servo response



### Corrosion Resistant

304 stainless steel options for food, medical, and chemical environments



### Misalignment Compensation

Absorbs angular, parallel, and axial misalignment to protect equipment



### Vibration Damping

TPU elastomer in plum couplings absorbs vibration and provides electrical insulation

# Product Series Overview

CROCNC offers four major coupling series plus specialized encoder and cross-slider types, covering 30+ models with bore diameters from Ø3 to Ø78 mm.

| Series Code | Series Name                                | Elastic Element            | Body Material     | Connection Type  | O.D. Range (mm) | Bore Range (mm) | Rated Torque (N·m) | Max Speed (rpm) | Primary Application                            |
|-------------|--------------------------------------------|----------------------------|-------------------|------------------|-----------------|-----------------|--------------------|-----------------|------------------------------------------------|
| CRO-CS      | Aluminum Single Diaphragm Clamp            | 304 SS Diaphragm           | Aluminum          | Clamp            | 19 – 126        | 3 – 78          | 1 – 350            | 7,500 – 50,000  | Servo motor connection, standard precision     |
| CRO-CD      | Aluminum Single Diaphragm Clamp (Extended) | 304 SS Diaphragm           | Aluminum          | Clamp            | 19 – 126        | 3 – 78          | 1 – 6,750          | 8,000 – 50,000  | Heavy-duty servo, medium/low speed high torque |
| CRO-CFC     | Aluminum Plum (Jaw) Clamp                  | TPU Elastomer              | Aluminum          | Clamp            | 14 – 120        | 3 – 78          | 0.2 – 5,200        | 3,000 – 46,000  | General industrial, vibration damping          |
| CRO-FZG     | Stainless Steel Plum (Jaw) Sleeve          | TPU Elastomer              | 304 SS            | Sleeve (Locking) | 30 – 120        | 9.5 – 65        | 14.8 – 1,040       | 2,800 – 20,000  | Corrosive/sanitary environments, high response |
| CRO-HC      | Aluminum Cross Slider (Oldham) Clamp       | Engineering Plastic Slider | Aluminum / 304 SS | Clamp            | —               | —               | —                  | —               | Large parallel misalignment compensation       |
| CRO-IC      | Aluminum Beam Coupling Clamp               | Metal Cut-out Beam         | Aluminum          | Clamp            | —               | —               | —                  | —               | Encoders, zero backlash, high sensitivity      |
| CRO-B       | Encoder-specific Coupling                  | Helical Structure          | Aluminum / 304 SS | Clamp            | —               | —               | —                  | —               | Rotary encoder mounting, miniature bore        |

Note: CRO-CS, CRO-CD, CRO-CFC, and CRO-FZG are the four main series with full specification tables in this catalog. Additional series (CRO-HC, CRO-IC, CRO-B, CRO-SE, CRO-LF, CRO-CW, CRO-NB, etc.) are available upon request.

# CRO-CS Series — Aluminum Single Diaphragm Clamp

## CRO-CS

Aluminum Single Diaphragm Clamp-Type Coupling

**Features:** High-strength aluminum body with 304 stainless steel diaphragm. Zero backlash, high rigidity, low inertia. Designed for servo/stepping motor to precision lead screw connections. Suitable for bidirectional rotation at high speed.

**Body Material:** High-strength Aluminum (anodized)

**Diaphragm:** 304 Stainless Steel

**Connection:** Clamp type

**Backlash:** Zero

**Applications:** CNC machine tools, semiconductor equipment, laser processing, UV printers (X/Y/Z axes), robotics, packaging/printing machinery

| Key Parameters       |                                                   |
|----------------------|---------------------------------------------------|
| Outer Dia. (ΦD)      | 19 – 126 mm                                       |
| Total Length (L)     | 19 – 78 mm                                        |
| Bore Range           | 3 – 78 mm                                         |
| Rated Torque         | 1 – 350 N·m                                       |
| Max Speed            | 7,500 – 50,000 rpm                                |
| Torsional Stiffness  | 9.1×10 <sup>2</sup> – 1.6×10 <sup>9</sup> N·m/rad |
| Angular Misalignment | 0.1° – 1°                                         |

### Specification Table — Small Sizes (Φ19 – Φ44)

| Model      | Common Bore d1, d2 (mm)                                           | ΦD | L    | LF    | S   | F    | Clamp Screw | Screw Torque (N·m) | Rated Torque (N·m) | Ang. Misalign. (°) | Par. Misalign. (mm) | Axial Misalign. (mm) | Max Speed (rpm) | Torsional Stiffness (N·m/rad) | Inertia (kg·m <sup>2</sup> ) | Weight (g) |
|------------|-------------------------------------------------------------------|----|------|-------|-----|------|-------------|--------------------|--------------------|--------------------|---------------------|----------------------|-----------------|-------------------------------|------------------------------|------------|
| CS-19+20   | 3, 4, 5, 6, 6.35, 7, 8                                            | 19 | 20   | 9.1   | 1.8 | 3.3  | M2.5        | 0.8                | 1                  | 1                  | ≤0.09               | ±0.009               | 50,000          | 1,400                         | 6.7×10 <sup>-6</sup>         | 11         |
| CS-26+26   | 3, 4, 5, 6, 6.35, 7, 8, 9, 9.525, 10, 11, 12                      | 26 | 26   | 11.65 | 2.6 | 3.9  | M3          | 1.2                | 1.5                | 1                  | ≤0.14               | ±0.1                 | 10,000          | 3,700                         | 2.2×10 <sup>-5</sup>         | 28         |
| CS-32+28   | 5, 6, 6.35, 7, 8, 9, 9.525, 10, 11, 12, 12.7, 14, 15              | 32 | 28   | 12.25 | 3.5 | 3.85 | M3          | 1.2                | 2                  | 1                  | ≤0.18               | ±0.1                 | 10,000          | 5,700                         | 7.1×10 <sup>-5</sup>         | 46         |
| CS-34+32   | 5, 6, 6.35, 7, 8, 9, 9.525, 10, 11, 12, 12.7, 14, 15, 16          | 34 | 32   | 14.25 | 3.5 | 4.5  | M4          | 2.5                | 3                  | 1                  | ≤0.18               | ±0.1                 | 10,000          | 8,100                         | 8.0×10 <sup>-5</sup>         | 55         |
| CS-39+34.5 | 8, 9, 9.525, 10, 11, 12, 12.7, 14, 15, 16, 17, 18, 19             | 39 | 34.5 | 14.9  | 4.5 | 5    | M4          | 2.5                | 6                  | 0.1                | ≤0.23               | ±0.1                 | 10,000          | 18,000                        | 2.2×10 <sup>-4</sup>         | 81         |
| CS-44+34.5 | 8, 9, 9.525, 10, 11, 12, 12.7, 14, 15, 16, 17, 18, 19, 20, 22, 24 | 44 | 34.5 | 14.9  | 4.5 | 5    | M4          | 2.5                | 9                  | 0.1                | ≤0.27               | ±0.1                 | 10,000          | 20,000                        | 2.8×10 <sup>-4</sup>         | 99         |

### Specification Table — Medium Sizes (Φ50 – Φ82)

| Model    | Common Bore d1, d2 (mm)                                           | ΦD | L  | LF    | S   | F   | Clamp Screw | Screw Torque (N·m) | Rated Torque (N·m) | Ang. (°) | Par. (mm) | Axial (mm) | Max Speed (rpm) | Torsional Stiffness (N·m/rad) | Inertia (kg·m <sup>2</sup> ) | Weight (g) |
|----------|-------------------------------------------------------------------|----|----|-------|-----|-----|-------------|--------------------|--------------------|----------|-----------|------------|-----------------|-------------------------------|------------------------------|------------|
| CS-50+41 | 8, 9, 9.525, 10, 11, 12, 12.7, 14, 15, 16, 17, 18, 19, 20, 22, 24 | 50 | 41 | 18.1  | 4.8 | 5.8 | M5          | 5                  | 18                 | 0.1      | ≤0.30     | ±0.1       | 10,000          | 32,000                        | 2.5×10 <sup>-3</sup>         | 135        |
| CS-56+45 | 10, 12, 14, 15, 16, 17, 18, 19, 20, 22, 24, 25, 28, 30, 32        | 56 | 45 | 19.75 | 5.5 | 6.4 | M5          | 5                  | 25                 | 0.1      | ≤0.36     | ±0.1       | 10,000          | 50,000                        | 1.2×10 <sup>-2</sup>         | 217        |
| CS-64+53 | 12, 14, 15, 16, 17, 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38    | 64 | 53 | 23.35 | 6.7 | 7.7 | M6          | 8                  | 60                 | 0.1      | ≤0.4      | ±0.4       | 9,000           | 70,000                        | 1.5×10 <sup>-2</sup>         | 348        |
| CS-82+68 | 17, 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42            | 82 | 68 | 30    | 8.0 | 9.7 | M8          | 20                 | 80                 | 0.1      | ≤0.5      | ±0.8       | 8,000           | 140,000                       | 1.4×10 <sup>-1</sup>         | 689        |

### Specification Table — Large Sizes (Φ94 – Φ126)

| Model     | Common Bore d1, d2 (mm)                                            | ΦD  | L  | LF | S    | F  | Clamp Screw | Screw Torque (N·m) | Rated Torque (N·m) | Ang. (°) | Par. (mm) | Axial (mm) | Max Speed (rpm) | Torsional Stiffness (N·m/rad) | Inertia (kg·m <sup>2</sup> ) | Weight (g) |
|-----------|--------------------------------------------------------------------|-----|----|----|------|----|-------------|--------------------|--------------------|----------|-----------|------------|-----------------|-------------------------------|------------------------------|------------|
| CS-94+68  | 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 43, 44, 45         | 94  | 68 | 30 | 8.0  | 10 | M10         | 40                 | 165                | 0.1      | ≤0.7      | ±0.8       | 8,000           | 120,000                       | 1.23×10 <sup>-1</sup>        | 960        |
| CS-104+70 | 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 43, 44, 45, 46, 47, 48 | 104 | 70 | 30 | 10.0 | 10 | M10         | 40                 | 235                | 0.1      | ≤0.8      | ±0.8       | 8,000           | 120,000                       | 1.85×10 <sup>-1</sup>        | 1,200      |
| CS-126+78 | 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 43, 44, 45, 46, 47, 55 | 126 | 78 | 33 | 12.0 | 12 | M12         | 75                 | 350                | 0.1      | ≤0.9      | ±0.9       | 7,500           | 135,000                       | 3.75×10 <sup>-1</sup>        | 1,560      |

### Model Naming Convention

**CS-d1+d2** — where **CS** = Aluminum Single Diaphragm Clamp series, **d1** = input bore diameter (mm), **d2** = output bore diameter (mm).

Example: CS-32+28 indicates input bore Φ32 mm, output bore Φ28 mm.

For keyway or non-standard bores, add suffix (e.g., CS-32+28-8K+9K for inward keyway).

# CRO-CD Series — Aluminum Single Diaphragm Clamp (Extended)

## CRO-CD

Extended-length Aluminum Single Diaphragm Clamp-Type Coupling

**Features:** Same operating principle as CRO-CS, but with extended body length and larger flange dimensions. Greater torque capacity and larger misalignment allowances at the same outer diameter. Ideal for heavy-duty applications where the standard CS length is insufficient.

**Body Material:** High-strength Aluminum (anodized)

**Diaphragm:** 304 Stainless Steel

**Connection:** Clamp type

**Backlash:** Zero

**Applications:** Heavy-duty CNC machines, metal cutting main drives, large laser cutting equipment, heavy automated production lines

| Key Parameters      |                                                    |
|---------------------|----------------------------------------------------|
| Outer Dia. (ΦD)     | 19 – 126 mm                                        |
| Total Length (L)    | 27 – 110 mm                                        |
| Bore Range          | 3 – 78 mm                                          |
| Rated Torque        | 1 – 6,750 N·m                                      |
| Max Speed           | 8,000 – 50,000 rpm                                 |
| Torsional Stiffness | 9.1×10 <sup>2</sup> – 3.95×10 <sup>7</sup> N·m/rad |

Specification Table — Small Sizes (Φ19 – Φ39)

| Model      | Common Bore d1, d2 (mm)                               | ΦD | L    | LF    | LP   | S   | F    | Clamp Screw | Rated Torque (N·m) | Ang. (°) | Par. (mm) | Axial (mm) | Max Speed (rpm) | Torsional Stiffness (N·m/rad) | Weight (g) |
|------------|-------------------------------------------------------|----|------|-------|------|-----|------|-------------|--------------------|----------|-----------|------------|-----------------|-------------------------------|------------|
| CD-19+27   | 3, 4, 5, 6, 6.35, 7, 8                                | 19 | 27   | 9.1   | 5.2  | 1.8 | 3.3  | M2.5        | 1                  | 0.12     | ≤0.18     | ±0.10      | 50,000          | 700                           | 14.6       |
| CD-26+35   | 5, 6, 6.35, 7, 8, 9, 9.525, 10, 11, 12                | 26 | 35   | 11.35 | 7.1  | 2.5 | 3.9  | M3          | 1.5                | 0.15     | ≤0.18     | ±0.10      | 10,000          | 1,850                         | 37         |
| CD-28+32.2 | 5, 6, 6.35, 7, 8, 9, 9.525, 10, 11, 12, 14            | 28 | 32.2 | 9.5   | 8.2  | 2.5 | 3.85 | M3          | 1.5                | 0.15     | ≤0.18     | ±0.10      | 8,000           | 2,500                         | 45         |
| CD-32+41   | 5, 6, 6.35, 7, 8, 9, 9.525, 10, 11, 12, 12.7, 14      | 32 | 41   | 12.25 | 9.5  | 3.5 | 3.85 | M3          | 2                  | 0.17     | ≤0.18     | ±0.10      | 10,000          | 2,850                         | 67         |
| CD-34+45   | 5, 6, 6.35, 7, 8, 9, 9.525, 10, 11, 12, 12.7, 14, 15  | 34 | 45   | 14.25 | 9.5  | 3.5 | 4.5  | M4          | 3                  | 0.17     | ≤0.18     | ±0.10      | 10,000          | 4,050                         | 77         |
| CD-39+50   | 8, 9, 9.525, 10, 11, 12, 12.7, 14, 15, 16, 17, 18, 19 | 39 | 50   | 14.9  | 11.2 | 4.5 | 5.0  | M4          | 6                  | 0.22     | ≤0.36     | ±0.10      | 10,000          | 9,000                         | 118        |

Specification Table — Medium & Large Sizes (Φ44 – Φ126)

| Model      | Common Bore d1, d2 (mm)                                            | ΦD  | L   | LF    | LP   | S    | F   | Clamp Screw | Rated Torque (N·m) | Ang. (°) | Par. (mm) | Axial (mm) | Max Speed (rpm) | Torsional Stiffness (N·m/rad) | Weight (g) |
|------------|--------------------------------------------------------------------|-----|-----|-------|------|------|-----|-------------|--------------------|----------|-----------|------------|-----------------|-------------------------------|------------|
| CD-44+50   | 8, 9, 9.525, 10, 11, 12, 12.7, 14, 15, 16, 17, 18, 19, 20, 22, 24  | 44  | 50  | 14.9  | 11.2 | 4.5  | 5.0 | M4          | 9                  | 0.22     | ≤0.36     | ±0.10      | 10,000          | 10,000                        | 144        |
| CD-50+57   | 8, 9, 9.525, 10, 11, 12, 12.7, 14, 15, 16, 17, 18, 19, 20, 22, 24  | 50  | 57  | 18.6  | 10.2 | 4.8  | 5.8 | M5          | 18                 | 0.23     | ≤0.54     | ±0.10      | 10,000          | 16,000                        | 235        |
| CD-56+64   | 10, 12, 14, 15, 16, 17, 18, 19, 20, 22, 24, 25, 28, 30, 32         | 56  | 64  | 19.75 | 13.5 | 5.5  | 6.4 | M5          | 25                 | 0.27     | ≤0.72     | ±0.10      | 10,000          | 25,000                        | 318        |
| CD-68+75   | 12, 14, 15, 16, 17, 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38     | 68  | 75  | 23.35 | 15.7 | 6.7  | 7.7 | M6          | 60                 | 0.31     | ≤0.8      | ±0.4       | 9,000           | 35,000                        | 492        |
| CD-82+98   | 17, 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42             | 82  | 98  | 30    | 22   | 8.0  | 9.7 | M8          | 80                 | 0.55     | ≤0.8      | ±0.8       | 8,000           | 70,000                        | 1,013      |
| CD-94+98   | 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 43, 44, 45         | 94  | 98  | 30    | 22   | 8.0  | 10  | M10         | 165                | 0.55     | ≤1.3      | ±0.8       | 8,000           | 50,000                        | 1,502      |
| CD-104+102 | 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 43, 44, 45, 46, 47, 48 | 104 | 102 | 30    | 22   | 10.0 | 10  | M10         | 235                | 0.55     | ≤1.3      | ±0.8       | 8,000           | 60,000                        | 1,650      |
| CD-126+110 | 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 43, 44, 45, 46, 47, 55 | 126 | 110 | 33    | 20   | 12.0 | 12  | M12         | 350                | 0.60     | ≤1.3      | ±0.9       | 8,000           | 67,500                        | 1,980      |

Model naming: **CD-d1+d2** — CD = Extended Diaphragm Clamp series. Same bore convention as CS series. Select CD when CS standard length is insufficient or higher torque margin is required at the same outer diameter.

# CRO-CFC Series — Aluminum Plum (Jaw) Clamp

## CRO-CFC

Aluminum Plum (Jaw) Coupling, Clamp Type

**Features:** High-strength aluminum body (one-piece CNC machined) with TPU polyurethane elastomer spider (plum insert) and 304 stainless steel center plate. Compact, low inertia, zero backlash transmission. **Removable design** allows replacement of the TPU spider without replacing the entire coupling.

**Body Material:** High-strength Aluminum (anodized)

**Center Plate:** 304 Stainless Steel

**Elastomer:** TPU Polyurethane (replaceable spider)

**Connection:** Clamp type

**Electrical Insulation:** Yes (TPU provides isolation)

**Applications:** CNC servo systems, semiconductor equipment, robotics, packaging/textile machinery, conveyors, UV printers (Z-axis), cost-sensitive automation

| Key Parameters      |                    |
|---------------------|--------------------|
| Outer Dia. (ΦD)     | 14 – 120 mm        |
| Total Length (L)    | 22 – 160 mm        |
| Bore Range          | 3 – 78 mm          |
| Rated Torque        | 0.2 – 5,200 N-m    |
| Max Speed           | 3,000 – 46,000 rpm |
| Torsional Stiffness | 20 – 4,600 N-m/rad |

### Specification Table — Small Sizes (Φ14 – Φ30)

| Model     | Common Bore d1, d2 (mm)                   | ΦD | L  | LF    | LP   | S   | Clamp Screw | Screw Torque (N-m) | Rated Torque (N-m) | Ang. (°) | Par. (mm) | Axial (mm) | Max Speed (rpm) | Torsional Stiffness (N-m/rad) | Weight (g) |
|-----------|-------------------------------------------|----|----|-------|------|-----|-------------|--------------------|--------------------|----------|-----------|------------|-----------------|-------------------------------|------------|
| CFC-14+22 | 3, 4, 5, 6, 6.35                          | 14 | 22 | 14.3  | 6.6  | 3.8 | M2.5        | 0.8                | 0.2                | 1        | ≤0.6      | ±0.02      | 46,000          | 20                            | 10         |
| CFC-20+25 | 3, 4, 5, 6, 6.35, 7, 8, 9, 9.525, 10      | 20 | 25 | 16.8  | 8.6  | 4.6 | M3          | 1.2                | 0.2                | 1        | ≤0.6      | ±0.02      | 15,000          | 46                            | 15         |
| CFC-20+30 | 3, 4, 5, 6, 6.35, 7, 8, 9, 9.525, 10      | 20 | 30 | 19.25 | 8.6  | 5.4 | M3          | 1.2                | 0.2                | 1        | ≤0.6      | ±0.02      | 15,000          | 46                            | 19         |
| CFC-25+30 | 4, 5, 6, 6.35, 7, 8, 9, 9.525, 10, 11, 12 | 25 | 30 | 20.82 | 11.6 | 4.6 | M4          | 2.5                | 0.6                | 1        | ≤0.6      | ±0.02      | 16,000          | 65                            | 33         |
| CFC-25+34 | 4, 5, 6, 6.35, 7, 8, 9, 9.525, 10, 11, 12 | 25 | 34 | 22.82 | 11.6 | 5.6 | M4          | 2.5                | 0.6                | 1        | ≤0.6      | ±0.02      | 16,000          | 65                            | 42         |
| CFC-30+35 | 4, 5, 6, 6.35, 7, 8, 9, 9.525, 10, 11, 12 | 30 | 35 | 23.25 | 12.7 | 5.6 | M4          | 2.5                | 1                  | 1        | ≤0.6      | ±0.02      | 15,000          | 72                            | 50         |

### Specification Table — Medium Sizes (Φ40 – Φ55)

| Model     | Common Bore d1, d2 (mm)                                             | ΦD | L  | LF   | LP   | S    | Clamp Screw | Screw Torque (N-m) | Rated Torque (N-m) | Ang. (°) | Par. (mm) | Axial (mm) | Max Speed (rpm) | Torsional Stiffness (N-m/rad) | Weight (g) |
|-----------|---------------------------------------------------------------------|----|----|------|------|------|-------------|--------------------|--------------------|----------|-----------|------------|-----------------|-------------------------------|------------|
| CFC-40+40 | 5, 6, 6.35, 7, 8, 9, 10, 11, 12, 12.7, 14, 15, 16                   | 40 | 40 | 25.5 | 10.9 | 7.0  | M4          | 2.5                | 6.5                | 1        | ≤0.6      | ±0.02      | 12,000          | 72                            | 60         |
| CFC-40+50 | 5, 6, 6.35, 7, 8, 9, 10, 11, 12, 12.7, 14, 15, 16, 17, 18, 19       | 40 | 50 | 32.1 | 13.7 | 6.7  | M5          | 5                  | 32                 | 0.02     | ≤0.8      | ±0.02      | 10,000          | 450                           | 127        |
| CFC-40+55 | 6, 8, 9, 10, 11, 12, 12.7, 14, 15, 16, 17, 18, 19, 20, 22, 24       | 40 | 55 | 34.5 | 13.7 | 7.2  | M5          | 5                  | 32                 | 0.02     | ≤0.8      | ±0.02      | 10,000          | 450                           | 154        |
| CFC-55+49 | 10, 11, 12, 12.7, 14, 15, 16, 17, 18, 19, 20, 24, 25, 28, 30, 32    | 55 | 49 | 32.0 | 16.1 | 6.5  | M6          | 8                  | 46                 | 0.02     | ≤0.8      | ±0.02      | 8,000           | 1,200                         | 241        |
| CFC-55+78 | 8, 10, 12, 12.7, 14, 15, 16, 17, 18, 19, 20, 22, 24, 25, 28, 30, 32 | 55 | 78 | 46.4 | 16.1 | 10.3 | M6          | 8                  | 46                 | 0.02     | ≤0.8      | ±0.02      | 8,000           | 1,200                         | 341        |

### Specification Table — Large Sizes (Φ80 – Φ120)

| Model       | Common Bore d1, d2 (mm)                                        | ΦD  | L   | LF   | LP   | S    | Clamp Screw | Screw Torque (N·m) | Rated Torque (N·m) | Ang. (°) | Par. (mm) | Axial (mm) | Max Speed (rpm) | Torsional Stiffness (N·m/rad) | Weight (g) |
|-------------|----------------------------------------------------------------|-----|-----|------|------|------|-------------|--------------------|--------------------|----------|-----------|------------|-----------------|-------------------------------|------------|
| CFC-80+114  | 14, 15, 16, 17, 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40 | 80  | 114 | 68.0 | 22.5 | 14.0 | M8          | 20                 | 109                | 0.02     | ≤1.0      | ±0.02      | 6,000           | 2,800                         | 433        |
| CFC-95+90   | 15, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45             | 95  | 90  | 53.5 | 16.7 | 11.9 | M8          | 20                 | 109                | 0.02     | ≤1.0      | ±0.02      | 6,000           | 2,800                         | 583        |
| CFC-105+140 | 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45, 50, 55, 60, 65     | 105 | 140 | 83.2 | 24.0 | 15.0 | M10         | 40                 | 420                | 0.02     | ≤1.0      | ±0.02      | 3,800           | 3,400                         | 1,650      |
| CFC-120+160 | 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45, 50, 55, 60, 65     | 120 | 160 | 93.7 | 27.4 | 26   | M12         | 75                 | 520                | 0.02     | ≤1.0      | ±0.02      | 3,000           | 4,600                         | 3,230      |

Model naming: **CFC-d1+d2** — CFC = Aluminum Plum (Jaw) Clamp series. TPU spider is replaceable — no need to replace the entire coupling when the elastomer wears. Lighter and more economical than the stainless steel FZG series (~1/3 lighter, ~1/3 cheaper).

# CRO-FZG Series — Stainless Steel Plum (Jaw) Sleeve

## CRO-FZG

Stainless Steel Plum (Jaw) Coupling, Sleeve (Locking) Type

**Features:** 304 stainless steel body with TPU polyurethane elastomer spider. Uses **locking sleeve (expanding bushing)** connection for zero-backlash clamping on the shaft. Superior corrosion resistance, high rigidity, and fast response. Suitable for sanitary, corrosive, and humid environments.

**Body Material:** 304 Stainless Steel  
**Elastomer:** TPU Polyurethane (replaceable spider)  
**Connection:** Locking sleeve (expanding bushing)  
**Backlash:** Zero

**Corrosion Resistance:** Excellent (304 SS)  
**Applications:** Food processing machinery, medical/pharmaceutical equipment, chemical industry, marine equipment, outdoor automation, high-response positioning systems

| Key Parameters      |                     |
|---------------------|---------------------|
| Outer Dia. (ΦD)     | 30 – 120 mm         |
| Total Length (L)    | 50 – 160 mm         |
| Bore Range          | 9.5 – 65 mm         |
| Rated Torque        | 14.8 – 1,040 N·m    |
| Max Speed           | 2,800 – 20,000 rpm  |
| Torsional Stiffness | 510 – 7,200 N·m/rad |

### Specification Table — Small & Medium Sizes (Φ30 – Φ65)

| Model     | Common Bore d1, d2 (mm)                    | ΦD | L  | LF   | Clamp Screw | Screw Torque (N·m) | Rated Torque (N·m) | Ang. (°) | Par. (mm) | Axial (mm) | Max Speed (rpm) | Torsional Stiffness (N·m/rad) | Weight (g) |
|-----------|--------------------------------------------|----|----|------|-------------|--------------------|--------------------|----------|-----------|------------|-----------------|-------------------------------|------------|
| FZG-30+50 | 9.9, 10, 11, 12, 12.7, 14                  | 30 | 50 | 30.6 | M3          | 1.2                | 14.8               | 0.8      | ≤0.6      | ±0.02      | 20,000          | 510                           | 115        |
| FZG-35+55 | 9.9, 10, 12, 12.7, 14, 15, 16              | 35 | 55 | 33.3 | M4          | 2.5                | 16                 | 0.8      | ≤0.6      | ±0.02      | 18,000          | 510                           | 185        |
| FZG-40+55 | 10, 12, 12.7, 14, 15, 16, 17, 18, 19       | 40 | 55 | 34.5 | M4          | 2.5                | 19                 | 0.8      | ≤0.8      | ±0.02      | 18,000          | 520                           | 250        |
| FZG-40+66 | 10, 12, 14, 15, 16, 17, 18, 19, 20, 22     | 40 | 66 | 40   | M4          | 2.5                | 19                 | 0.8      | ≤0.8      | ±0.02      | 18,000          | 550                           | 280        |
| FZG-55+78 | 12, 14, 15, 16, 17, 18, 19, 20, 22         | 55 | 78 | 46.4 | M5          | 5                  | 68                 | 0.8      | ≤0.8      | ±0.02      | 13,000          | 1,510                         | 700        |
| FZG-65+90 | 14, 15, 16, 17, 18, 19, 20, 22, 24, 25, 28 | 65 | 90 | 53.5 | M5          | 5                  | 190                | 0.8      | ≤0.8      | ±0.02      | 10,500          | 2,800                         | 1,100      |

### Specification Table — Large Sizes (Φ80 – Φ120)

| Model       | Common Bore d1, d2 (mm)                                | ΦD  | L   | LF   | Clamp Screw | Screw Torque (N·m) | Rated Torque (N·m) | Ang. (°) | Par. (mm) | Axial (mm) | Max Speed (rpm) | Torsional Stiffness (N·m/rad) | Weight (g) |
|-------------|--------------------------------------------------------|-----|-----|------|-------------|--------------------|--------------------|----------|-----------|------------|-----------------|-------------------------------|------------|
| FZG-80+114  | 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 45         | 80  | 114 | 68   | M6          | 8                  | 270                | 0.8      | ≤0.8      | ±0.02      | 8,600           | 3,600                         | 1,850      |
| FZG-95+126  | 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 45, 48, 50     | 95  | 126 | 75   | M8          | 20                 | 440                | 0.8      | ≤1.0      | ±0.02      | 7,200           | 4,700                         | 5,680      |
| FZG-105+140 | 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50     | 105 | 140 | 83.2 | M8          | 20                 | 720                | 0.8      | ≤1.0      | ±0.02      | 5,800           | 5,800                         | 7,730      |
| FZG-120+160 | 24, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50, 60, 65 | 120 | 160 | 93.7 | M10         | 40                 | 1,040              | 0.8      | ≤1.0      | ±0.02      | 7,200           | 7,200                         | 9,300      |

Model naming: **FZG-d1+d2** — FZG = Stainless Steel Plum Sleeve series. The locking sleeve mechanism uses tapered rings that contract radially when bolts are tightened, providing a more reliable shaft connection than keyway and easier disassembly than press-fit.

# Series Comparison & Selection Guide

## Performance Comparison Matrix

| Dimension                          | CRO-CS | CRO-CD | CRO-CFC | CRO-FZG |
|------------------------------------|--------|--------|---------|---------|
| Zero Backlash                      | ★★★★★  | ★★★★★  | ★★★★☆   | ★★★★☆   |
| Torsional Rigidity                 | ★★★★★  | ★★★★★  | ★★★☆☆   | ★★★★☆   |
| Response Speed                     | ★★★★★  | ★★★★★  | ★★★☆☆   | ★★★★☆   |
| Vibration Damping                  | ☆☆     | ☆☆     | ★★★★★   | ★★★★☆   |
| Parallel Misalignment Compensation | ☆☆     | ★★☆☆   | ★★★☆☆   | ★★★☆☆   |
| Angular Misalignment Compensation  | ★★★☆☆  | ★★★☆☆  | ★★★☆☆   | ★★★★☆   |
| Corrosion Resistance               | ★★☆☆   | ★★☆☆   | ★★☆☆    | ★★★★★   |
| Lightweight                        | ★★★★☆  | ★★★☆☆  | ★★★★★   | ★★☆☆    |
| Cost Effectiveness                 | ★★★★☆  | ★★★☆☆  | ★★★★★   | ★★☆☆    |

## Application-Based Selection Matrix

| Application Scenario                               | Recommended Series    | Reason                                                              |
|----------------------------------------------------|-----------------------|---------------------------------------------------------------------|
| Servo motor + precision lead screw                 | CRO-CS                | Zero backlash, lightweight aluminum, cost-effective                 |
| High-torque servo system                           | CRO-CD                | Extended length, larger torque margin                               |
| General motor drive with vibration damping         | CRO-CFC               | TPU elastomer absorbs vibration, economical                         |
| Stainless steel / sanitary / corrosive environment | CRO-FZG               | 304 SS body, excellent corrosion resistance                         |
| Large parallel misalignment                        | CRO-HC                | Cross slider (Oldham) specializes in parallel offset                |
| Rotary encoder mounting                            | CRO-IC / CRO-B        | Beam coupling, zero backlash, encoder-specific                      |
| UV printer X/Y/Z axes                              | CRO-CS / CRO-CFC      | X/Y: diaphragm for high-frequency reversal; Z: plum for smooth lift |
| Ultra-high torque                                  | CRO-NB / MB / SZ / LZ | 8-screw or 45# steel construction                                   |

## Misalignment Compensation Comparison

| Series  | Angular Misalignment | Parallel Misalignment | Axial Misalignment |
|---------|----------------------|-----------------------|--------------------|
| CRO-CS  | 0.1° – 1°            | ≤0.09 – 0.9 mm        | ±0.009 – 0.9 mm    |
| CRO-CD  | 0.12° – 0.6°         | ≤0.18 – 1.3 mm        | ±0.1 – 0.9 mm      |
| CRO-CFC | 0.02° – 2°           | ≤0.6 – 1.0 mm         | ±0.02 mm           |
| CRO-FZG | 0.8° – 2°            | ≤0.6 – 1.0 mm         | ±0.02 mm           |

## Model Naming Convention

| Code                | Series Type                     | Material          | Connection        |
|---------------------|---------------------------------|-------------------|-------------------|
| CS / CD             | Diaphragm Clamp (CD = Extended) | Aluminum          | Clamp             |
| CFC / FC            | Plum (Jaw) Clamp                | Aluminum          | Clamp             |
| FZ / FZG            | Plum (Jaw) Sleeve               | 304 SS            | Sleeve (Locking)  |
| HC / HCG            | Cross Slider (Oldham)           | Aluminum / 304 SS | Clamp             |
| IC / IB             | Beam (Parallel)                 | Aluminum          | Clamp / Set Screw |
| ICG / IG            | Beam (Parallel) SS              | 304 SS            | Clamp / Set Screw |
| B / BB / BG         | Encoder-specific                | Aluminum / 304 SS | Clamp             |
| SE / LF / CW        | High-sensitivity Diaphragm      | Aluminum          | Clamp             |
| NB / MB / ST8 / LT8 | 8-screw High-rigidity Diaphragm | Aluminum          | Clamp             |
| SZ / LZ             | 45# Steel Diaphragm             | 45# Steel         | Clamp             |

Material suffix: G = Stainless Steel / High-rigidity, S = Stainless (Stainless), C = Clamp, Z = Sleeve. Bore convention: CRO-[type]-d1+d2, where d1 = input bore (mm), d2 = output bore (mm).

## Contact Us

For inquiries, custom specifications, OEM/ODM, or export orders

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