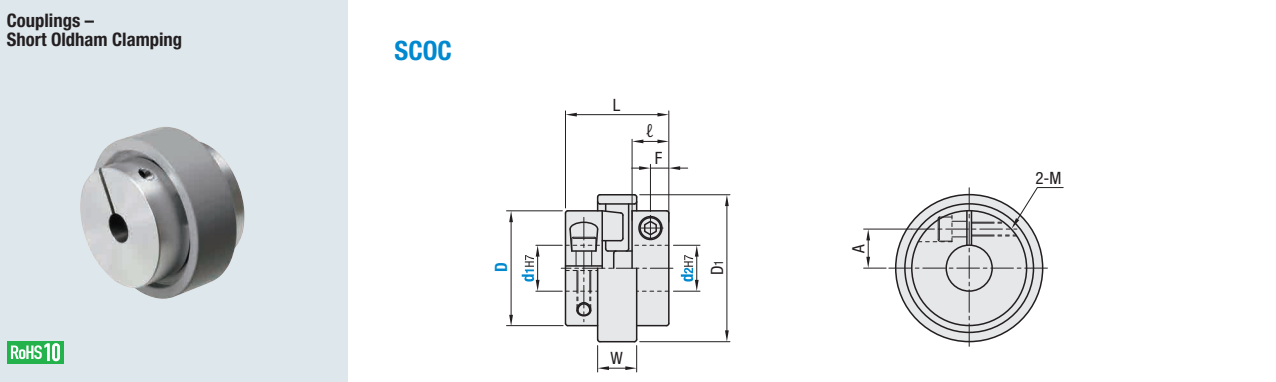


# Couplings (Short Oldham)

## Clamping / Spacers

**Couplings – Short Oldham Clamping**

**SCOC**



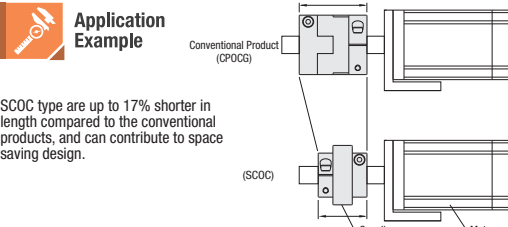
Operating Temperature -20~80°C  
 Tolerance values for d<sub>1</sub>, d<sub>2</sub> are applied before slit is machined.  
 The lateral, angular, and axial misalignment values shown are for each occurring individually. When more than one misalignments are occurring simultaneously, the allowable maximum value of each will be reduced by 1/2.  
 For the selection criteria and alignment procedures, see P.1091, 1093.  
 For installing, use Coupling O.A.L. as a reference.

Parts	Material	Surface Treatment	Accessories
Hub	Aluminum Alloy	Clear Anodize	Hex Socket Head Cap Screw
Spacers	Polycetal	—	

Part Number	Type	D	d <sub>1</sub> , d <sub>2</sub> (d <sub>1</sub> ≤ d <sub>2</sub> )						L	D <sub>1</sub>	W	ℓ	F	A	Clamp Screw	
			3	4	5	6	7	8							M	Tightening Torque (N-m)
SCOC	12	3	4	5				13.5	16	5.5	5	2.5	4	2	0.5	
	16	3	4	5	6			18	21.5	8	6.5	3.25	5.5	2.5	1.0	
	20		5	6	6.35	7	8	19	27	8.8	6.8	3.4	6.5	2.5	1.0	
	25		6	6.35	7	8	10	22.5	33.5	10.5	8	4	8.5	3	1.5	

Part Number	Type	D	Allow. Torque (N-m)	Angular Misalign. (°)	Lateral Misalign. (mm)	Static Torsional Spring Constant (N-m/rad)	Max. Rotational Speed (r/min)	Moment of Inertia (Kg-m <sup>2</sup> )	Mass (g)
SCOC	12	0.3	1.5	0.3	0.3	18	12000	0.1 x 10 <sup>-6</sup>	4
	16	0.8			0.5	55	9000	0.42 x 10 <sup>-6</sup>	9
	20	1.0			1.0	95	6000	1.05 x 10 <sup>-6</sup>	15
	25	1.6			1.2	162	5000	3.04 x 10 <sup>-6</sup>	28

**Application Example**



SCOC type are up to 17% shorter in length compared to the conventional products, and can contribute to space saving design.

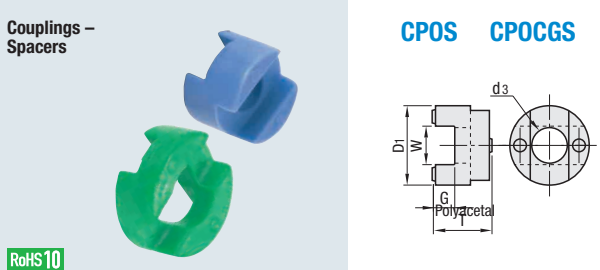
**Part Number Example**

Part Number: SCOC25 - Shaft Bore Dia. d<sub>1</sub>: 8 - Shaft Bore Dia. d<sub>2</sub>: 10

## Spacers (For: CPO, CPOC, CPOCG) P.1114

**Couplings – Spacers**

**CPOS CPOCGS**



Operating Temperature -20~80°C

**Part Number Example**

Part Number: CPOS20

Part Number	Type	No.	D <sub>1</sub>	T	d <sub>3</sub>	W	G	Applicable Couplings
16		16	12	7	8	4.5		CP016, CPOC16
20		20	15	9	10	5.5		CP020, CPOC20
25		25	18	11	12	6.5		CP025, CPOC25
32		32	21	14.5	15		7.5	CP032, CPOC32
40		40	18	17	19			CP040, CPOC40
<b>CPOCGS</b>								
12		12	4.88	6	3.95	2.44		CPOCG12
16		16	6.96	8	4.95	3.48		CPOCG16
20		20	8.06	10	6.95	4.03		CPOCG20
25		25	11.18	14	8.95	5.59		CPOCG25
32		32	13.34	18	9.95	6.67		CPOCG32

D40 Spacer is Black.

# Couplings

## Jaw Style Set Screw / Jaw Style Clamping

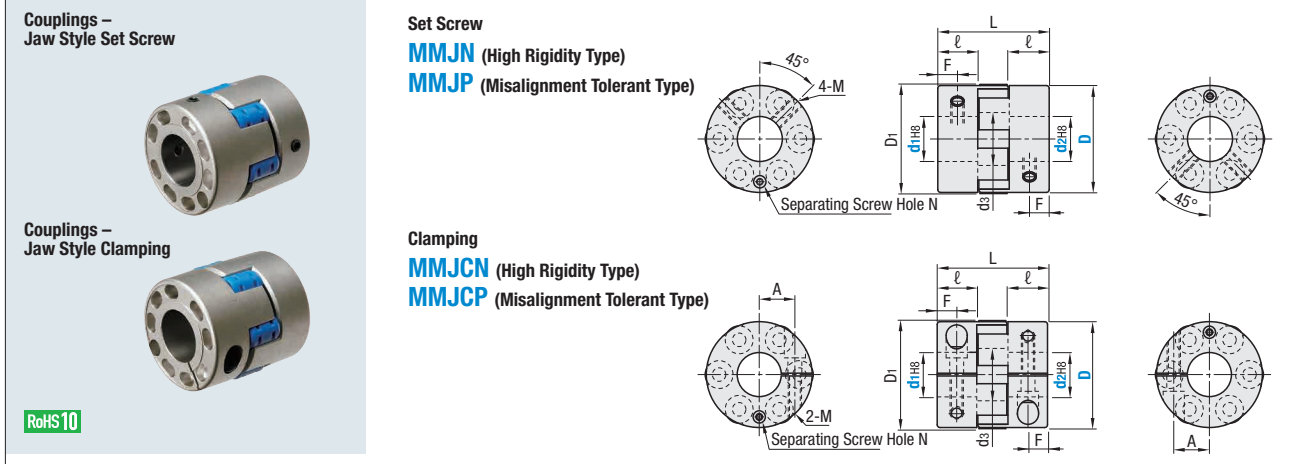
Features: Handles high torque and has significantly less backlash because the spacer is assembled by press-fitting. Excellent for carrier device using servo motor, since the full length is short and spacer absorbs the shock during forward-reverse action.

**Couplings – Jaw Style Set Screw**

**Set Screw**  
**MMJN** (High Rigidity Type)  
**MMJP** (Misalignment Tolerant Type)

**Couplings – Jaw Style Clamping**

**Clamping**  
**MMJCN** (High Rigidity Type)  
**MMJCP** (Misalignment Tolerant Type)



Operating Temperature -20~60°C  
 Tolerance values for d<sub>1</sub>, d<sub>2</sub> are applied before slit is machined.  
 The lateral, angular, and axial misalignment values shown are for each occurring individually. When more than one misalignments are occurring simultaneously, the allowable maximum value of each will be reduced by 1/2.  
 For the selection criteria and alignment procedures, see P.1091, 1093.  
 A separation of hub is possible by fitting commercially available bolt into the separating screw hole.

Type	Standard Bore	Hub	Spacers	Surface Treatment	Accessories
Set Screw	MMJN	Aluminum	Polyurethane (Blue)	Electroless Nickel Plating	Set Screw
	MMJP		Nylon (Black)		
Clamping	MMJCN	Diecast	Polyurethane (Blue)	Electroless Nickel Plating	Hex Socket Head Cap Screw
	MMJCP		Nylon (Black)		

### Set Screw Type

Part Number	Type	D	d <sub>1</sub> , d <sub>2</sub> (d <sub>1</sub> ≤ d <sub>2</sub> )						D <sub>1</sub>	d <sub>3</sub>	L	ℓ	F	Set Screw		Separating Tap Diameter N
			55	70	95	M	Tightening Torque (N-m)									
MMJN MMJP		55	15	16	18	20	24	56	27	60	21	10.5	13	M6	8	M4
		70	18	20	24	28	30	72	35	75	26	13	M8	16	M5	
		95	24	28	30	35	40	97	46	100	35.5	17.5	M10	33	M6	

### Clamping Type

Part Number	Type	D	d <sub>1</sub> , d <sub>2</sub> (d <sub>1</sub> ≤ d <sub>2</sub> )						D <sub>1</sub>	d <sub>3</sub>	L	ℓ	F	A	Clamp Screw		Separating Tap Diameter N
			55	70	95	M	Tightening Torque (N-m)										
MMJCN MMJCP		55	15	16	18	20	24	56	27	60	21	10.5	18.5	18.5	M6	15	M4
		70	18	20	24	28	30	72	35	75	26	13	24	24	M8	32	M5
		95	24	28	30	35	40	97	46	100	35.5	17.5	32	32	M10	65	M6

### Set Screw (High Rigidity)

Part Number	Type	D	Allow. Torque (N-m)	Angular Misalign. (°)	Lateral Misalign. (mm)	Static Torsional Spring Constant (N-m/rad)	Max. Rotational Speed (r/min)		Inertia Moment of Inertia (Kg-m <sup>2</sup> )	Allow. Axial Misalign. (mm)	Mass (g)
							MMJN	MMJCN			
Set Screw	55	80	1	0.1	0.15	20000	8000	11000	1.0 x 10 <sup>-4</sup>	±0.5	300
Clamping	70	120					8000	6000	4.0 x 10 <sup>-4</sup>	±0.7	600
Clamping	95	180					6000	4000	1.0 x 10 <sup>-3</sup>	±1.0	1200

The allowable torque varies depending on temperature. See P.1091

### Misalignment Tolerant Type

Part Number	Type	D	Allow. Torque (N-m)	Angular Misalign. (°)	Lateral Misalign. (mm)	Static Torsional Spring Constant (N-m/rad)	Max. Rotational Speed (r/min)		Inertia Moment of Inertia (Kg-m <sup>2</sup> )	Allow. Axial Misalign. (mm)	Mass (g)	
							MMJN	MMJCN				
Set Screw	55	20	2	0.3	0.4	4000	600	11000	8000	1.0 x 10 <sup>-4</sup>	±0.5	300
Clamping	70	40					1200	8000	6000	4.0 x 10 <sup>-4</sup>	±0.7	600
Clamping	95	80					6000	4000	1.0 x 10 <sup>-3</sup>	±1.0	1200	

The allowable torque varies depending on temperature. See P.1091

**Part Number Alterations**

Part Number: MMJN55 - Shaft Bore Dia. d<sub>1</sub> (LDC) - Shaft Bore Dia. d<sub>2</sub> (RDC) - (LK, RK, LDC, RDC, KLH, KRH)

Example: MMJN55 - LDC19 - RDC22

**Part Number Example**

Part Number: MMJN55 - Shaft Bore Dia. d<sub>1</sub>: 15 - Shaft Bore Dia. d<sub>2</sub>: 18

**Alterations**

**Keyway**

**Shaft Bore Dia.**

**Keyway Width**

Keyway Width (b) is changed as table below.  
 Ordering Code: KLH10 KRH10

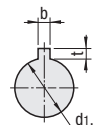
Shaft Bore Dia. d <sub>1</sub> , d <sub>2</sub>	KLH, KRH (b)		t	
	Dim.	Tol.	Dim.	Tol.
30	10	±0.0180	3.3	+0.2 0

Cannot be combined with shaft bore changes (LDC, RDC) alterations

Cannot be combined with shaft bore changes (LDC, RDC) alterations

Applicable to Keywayed Bores only

### Keywayed Dimension



Shaft Bore Dia. d <sub>1</sub> , d <sub>2</sub>	LK	RK	b		t		Keyway Dims. b x h
			Dim.	Tol.	Dim.	Tol.	
15, 16	5	5	±0.0150	2.3	+0.1 0	5 x 5	
18, 20	6	6					2.8
24~30	8	8	±0.0180	3.3	+0.2 0	8 x 7	
35	10	10				10 x 8	
40	12	12	±0.0215			12 x 8	