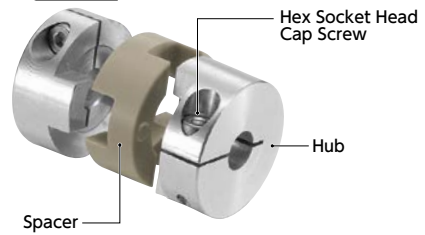


**Structure**

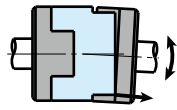
- clamping type

**MOP-C** → P.247

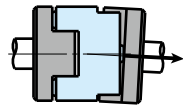


- Spacer's projection structure

Spacer's projection structure allows large angular to be effortlessly accepted. It reduces burden on the shaft.



(Without projection)



(With projection)

In the Oldham-type coupling whose spacer has no projection, the spacer and hubs interfere with each other near outside diameter, so that the max. angular misalignment is small (1° - 1.5°) and that the bending moment arises on the shaft.

NBK's oldham type coupling allows the angular misalignment to be easily accepted since the projection serves as support. Bending moment does not arise. Therefore, the max. angular misalignment is large (2°) and the burden on the shaft is reduced.



- Property

	<b>MOP</b>
Low Particle	△
Vacuum-supported	◎
Low Outgas	○
Heat-resistance	◎
Chemical Resistance	○
Allowable Misalignment	◎
Electrical Insulation	◎
Cleanroom Specification	◎
Allowable Operating Temperature	-20°C to 120°C

◎: Excellent ○: Very good

△: Abrasion powder may be produced

- This is an oldham-type flexible coupling.
- Clean washing and clean packaging are completed. It can be used in an environment or cleanroom where heat resistance and chemical resistance are required, such as FPD manufacturing device and semiconductor manufacturing device.
- PEEK is adopted in the spacer. This is superior in heat resistance and chemical resistance, and the amount of outgas is ultralow.
- Slippage of hubs and a spacer allows eccentricity and angular misalignment to be accepted.
- The load on the shaft generated by misalignment is small and the burden on the shaft is reduced.

- Application

FPD manufacturing device/Semiconductor manufacturing device

- Material/Finish



	<b>MOP-C</b>
Hub	A2017
Spacer	PEEK (Polyether ether ketone)
Hex Socket Head Cap Screw	SUSXM7

- PEEK's color may vary depending on the lot or other matters.

- Part number specification

**MOP-25C-8-8**

Product Code    Size    bore diameter

Please refer to dimensional table for part number specification.

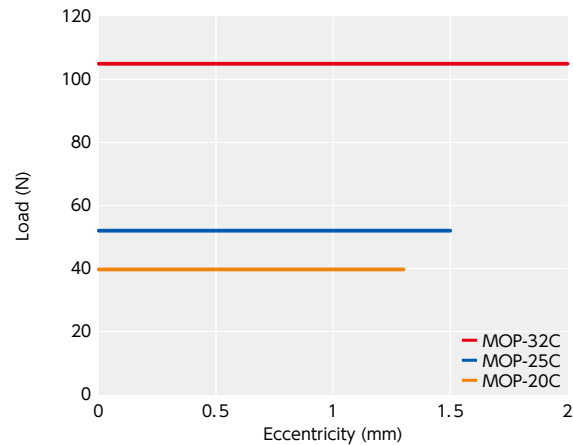
Additional Keyway at Shaft Hole → P.803  
Available / Add'l charge

Cleanroom Wash & Packaging → P.807  
Cleanroom washed and packed

Change to Stainless Steel Screw → P.805  
Changed to the S.S. screw

## Technical Information

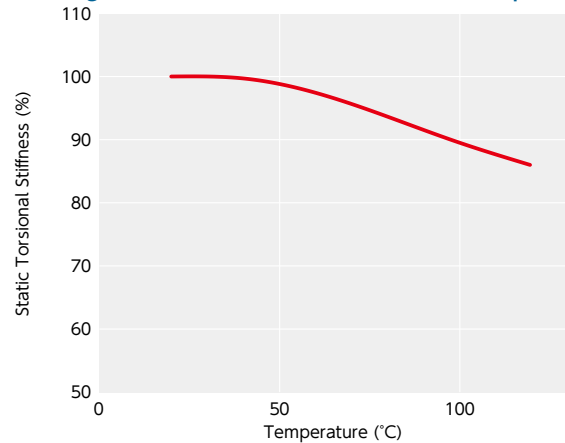
### ● Eccentric Reaction Force



These are initial slippage load values of hubs and a spacer.

After running-in operation, the slippage load becomes small, the load on the shaft due to misalignment becomes lowered, and the burden on the shaft bearing is reduced.

### ● Change in static torsional stiffness due to temperature



This is a value under the condition where the static torsional stiffness at 20°C is 100%.

The change of **MOP** in torsional stiffness due to temperature is small and the change in responsiveness is extremely small. However, if the unit is used at higher temperature, be careful about misalignment due to elongation or deflection of the shaft associated with thermal expansion.

### ● Analysis of outgas

Unit: (v/v ppm)

Component	Content	
Inorganic gas	Hydrogen	500 or less
	Carbon monoxide	500 or less
	Carbon dioxide	500 or less
Organic gas	Methane	5 or less
	Ethane	5 or less
	Ethylene	5 or less
	Propane	5 or less
	Acetylene	5 or less
	i-butane	5 or less
	n-butane	5 or less
	Propylene	5 or less

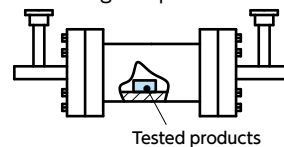
● Both inorganic gas and organic gas are not more than the lower limit of determined amount and are not detected.

### ● Measurement Methods

Inorganic gas — Gas chromatography (TCD)  
Organic gas — Gas chromatography (FID)

### ● Measurement Conditions

Heating temperature — 100°C



## Technical Information

### ● PEEK's physical property

Property	Test Method	unit	PEEK
Tensile Strength	D638	N/mm <sup>2</sup>	97
Tensile elongation	D638	%	65
Bending Strength	D790	N/mm <sup>2</sup>	156
Bending elastic modulus	D790	GPa	4.1
Izod impact value (with notch)	D256	J/m	94
Rockwell hardness	D785	R / M Scale	M99
Deflection Temperature Under Load (1.82MPa)	D648	°C	152
Combustibility	UL94	—	V-0
Dielectric Constant (10 <sup>6</sup> Hz)	D150	—	3.3
Dielectric loss tangent (10 <sup>6</sup> Hz)	D150	—	0.003
Volume resistivity (x10 <sup>14</sup> )	D257	Ω·m	4.9
Insulation Breakdown Strength	D149	MV/m	17
Arc resistance	D495	sec	23
Specific gravity	D792	—	1.30
Water absorption (in 23°C water x 24 h)	D570	%	0.500
Content by percentage of glass fiber	—	%	0

### ● PEEK's chemical resistance

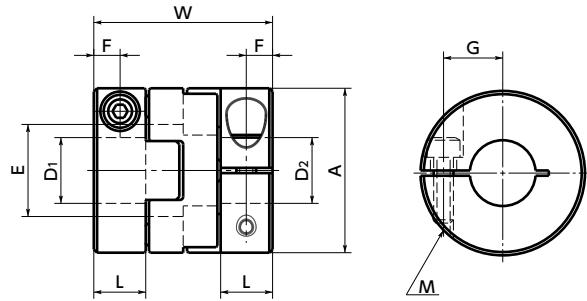
Chemical name	PEEK
10% hydrochloric acid	○
10% sulfuric acid	○
50% sulfuric acid	×
10% nitric acid	○
50% nitric acid	×
50% hydrofluoric acid	×
10% phosphoric acid	○
Formic acid	△
10% acetic acid	○
Citric acid	○
Chromic acid	○
Boric acid	○
Methyl alcohol	○
Glycol	○
Ammonia	○
10% sodium hydroxide	○
10% potassium hydroxide	○
Calcium hydroxide	○
Hydrogen sulfide (gas)	○
Sulfur dioxide	○
Ammonium nitrate	○
Sodium nitrate	○
Calcium carbonate	○
Calcium chloride	○
Magnesium chloride	○
Magnesium sulfate	○
Zinc sulfate	○
Hydrogen peroxide	○

○: Available △: Fair pending on condition

×: Not available

● This is test data with a specimen used at room temperature (23°C). The chemical resistance varies depending on the usage conditions. Be sure to perform a test under the same usage conditions as in actual usage in advance.

MOP-C



### Dimensions

Unit : mm

Part Number	A	L	W	E	F	G	M	Screw Tightening Torque (N·m)
<b>MOP-20C</b>	20	7	22.1	10	3.5	6.5	M2.5	1
<b>MOP-25C</b>	25	8	27.2	14	4	9	M3	1.5
<b>MOP-32C</b>	32	10	33.3	18	5	11	M4	2.5

Part Number	Standard Bore Diameter D1 · D2						
	5	6	8	10	11	12	14
<b>MOP-20C</b>	●	●	●				
<b>MOP-25C</b>			●	●			
<b>MOP-32C</b>				●	●	●	●

- All products are provided with hex socket head cap screw.
- Recommended dimensional allowances of applicable shaft diameter are h6 and h7.
- In case of mounting on D-cut shaft, be careful about the position of the D-cut surface of the shaft. → P.258

### Performance

Part Number	Max. Bore Diameter (mm)	Rated*1 torque (N·m)	Max.*1 torque (N·m)	Max. Rotational Frequency (min <sup>-1</sup> )	Moment*2 of Inertia (kg·m <sup>2</sup> )	Static Torsional Stiffness (N·m/rad)	Max. Lateral Misalignment (mm)	Max. Angular Misalignment (°)	Mass*2 (g)
<b>MOP-20C</b>	8	0.7	1.4	31000	7.4×10 <sup>-7</sup>	93	1.3	2	13
<b>MOP-25C</b>	10	1.2	2.4	25000	2.2×10 <sup>-6</sup>	140	1.5	2	24
<b>MOP-32C</b>	14	2.8	5.6	19000	7.3×10 <sup>-6</sup>	350	2	2	48

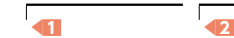
- \*1 : Correction of rated torque and max. torque due to load fluctuation is not required.
- \*2 : These are values with max. bore diameter.

[Additional Keyway at Shaft Hole → P.803](#)
[Cleanroom Wash & Packaging → P.807](#)
[Change to Stainless Steel Screw → P.805](#)

Available / Add'l charge      Cleanroom washed and packed      Changed to the S.S. screw

- Part number specification

**MOP-25C - 8-8** (1 set)



**MOP-25 - SPCR** (Single Spacer)

Product Code      Outside Diameter (A Dimension)      Single Spacer