



벤처기업



벤처디자인



INNOBIZ  
중소기업 기술혁신 협회



فروشگاه اینترنتی اتوماسیون ۲۴  
**Automation24**  
(۰۲۵) ۳۶۶۱۳۷۷۸ و (۰۲۵) ۳۶۶۱۳۶۷۸



# SUNG-IL

Ultra-precision Couplings  
Connecting Shaft  
Support Units  
F.A. Units  
A.P. Lock



**Sung-il Machinery Co., Ltd.**



## Oldham Coupling

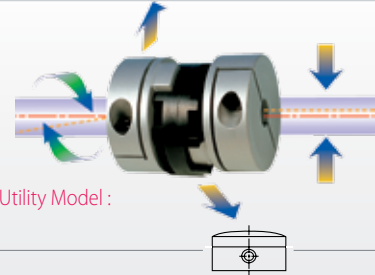
'SI.CO' mark(Trademark : 40-2012-0061376) indicates that the authenticity is certified.  
'SOH' (Trademark : 40-2012-0044882) is the original trademark for SUNG-IL's Oldham Coupling.

The major characteristic of OLDHAM COUPLING is excellent flexibility and wide range of parallel misalignment acceptability. Since there is no restoring force, there is little weight(load) on the bearing and shaft. Torque is transferred through a disk that is capable of accepting misalignment error and mechanical intermittence. However, excessive load can damage the disk. Replacement of a disk is easy without disassembling the hub from the shaft.



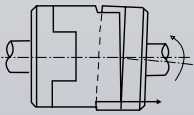
### Features

- Superior performance absorbing parallel and angular misalignment (the middle disk's slip and the hub's rounding effect)
- Easy to assemble and replace
- Minimizes the load on the shaft under misalignment
- Electrical insulation
- Minimizes backlash by pre-loaded assembly

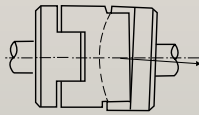


※ Registration of Utility Model :  
20-0271943

#### Traditional Oldham Type



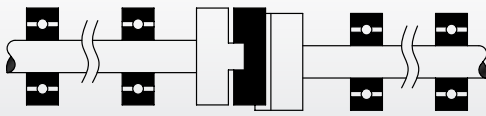
#### Sung-il Oldham Type



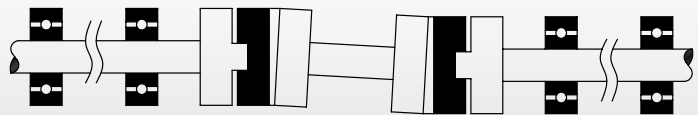
When there is an angular misalignment, the conventional OLDHAM couplings encounter bending moment on the outer diameter which leads to a bending moment on the shaft. However, since Sung-il OLDHAM coupling is featured after being machined in micro rounding process, it can accept angular misalignment. Also, it reduces the load on the shaft and transmits torque constantly.

### Proper installation of OLDHAM COUPLING

- It should be avoid to install with relatively long driven/driving shaft from bearing supports and proper bearing shaft is necessary.
- OLDHAM coupling is inadequate for connecting fluctuating shafts or being used in pair.

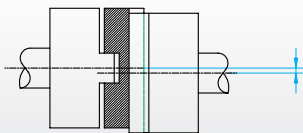


Right Use

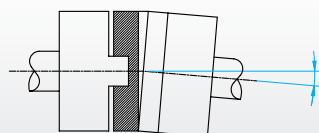


Wrong Use

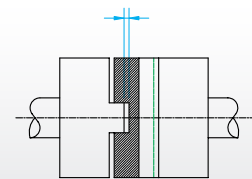
### Misalignment



Permissible Parallel Misalignment :  $\pm$ mm



Permissible Angular Misalignment :  $\pm$ °



Permissible End-play :  $\pm$ mm

### Application

- X-Y Position Table
- Suitable for small sized motor such as AC motor, DC motor, and Servo motor
- Hydraulic distribution system and optical instrument
- Ventilation equipment, environmental equipment
- Encoder
- Transferring equipment of Paper, disk, tape transporting device

### Structure & Material

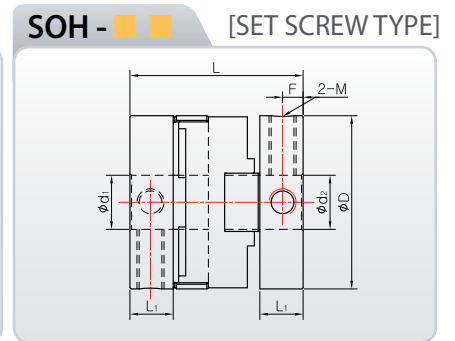
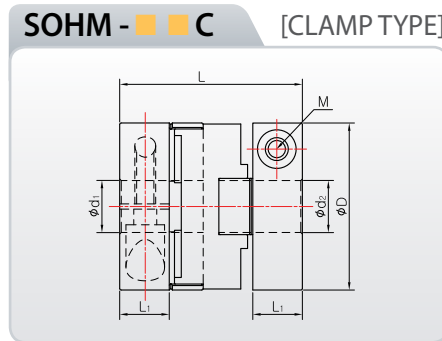
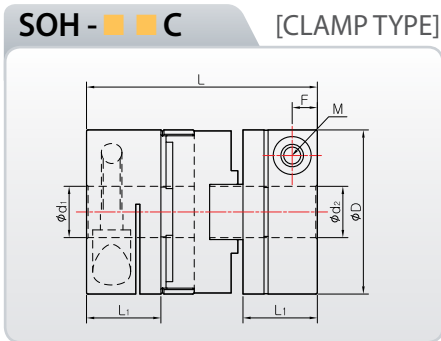
- Material : Polyacetal
- Penetrative spacer is available



- Material : Aluminum Alloy
- Surface Treatment : Alumite

※ Surface treatment (Alumite) is not processed on hubs for SOH-6, 8, 10, 12, 12C.  
※ White-colored disk is inserted for SOH-6, 8, 10, 12. (The material is same polyacetal as black-colored disk.)

Please, download CAD DATA from [www.sungilfa.com](http://www.sungilfa.com)



**Dimensions & Performance**

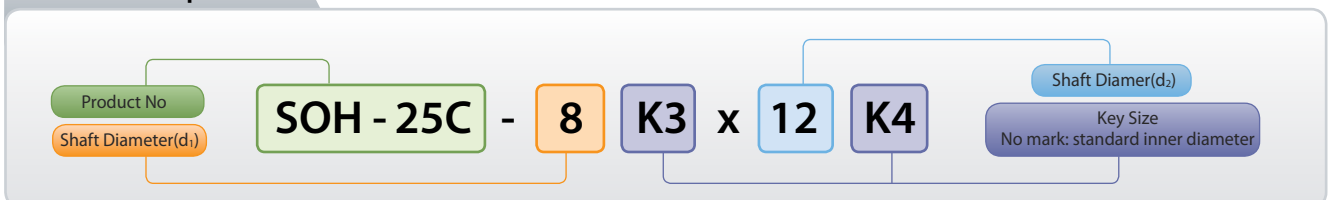
Product Number	Dimension (mm) (±0.3)				Fastening Bolt M	Fastening Torque (N · m)	Max-RPM (min <sup>-1</sup> )	Max Torque (N · m)	Rated Torque (N · m)	Torsional Stiffness (N · m/rad)	Moment of Inertia (kg · m <sup>2</sup> )	Mass (g)	Permissible Misalignment		
	D	L	L <sub>1</sub>	F									Angle (°)	Parallel (mm)	End-Play (mm)
SOH-16C	16	23,9	7,7	2,7	M2,6	1	13,000	2	1	65	3,07 × 10 <sup>-7</sup>	8,5	1,5	1	0,1
SOH-20C	20	25,7	8	2,8	M2,6	1	11,000	3	1,5	120	8,16 × 10 <sup>-7</sup>	14,2	1,5	1,5	0,1
SOH-25C	25,5	32	10,2	3,5	M3	1,7	10,000	5	2,5	200	2,71 × 10 <sup>-6</sup>	29,3	1,5	2	0,1
SOH-32C	32	44,7	14,4	4,9	M4	3,5	9,000	14	7	620	9,18 × 10 <sup>-6</sup>	59,6	1,5	2,5	0,15
SOH-43C	43	52	16,5	5,8	M5	8	8,000	25	12,5	1,200	3,4 × 10 <sup>-5</sup>	127,1	1,5	3,0	0,15
SOH-53C	53	58,3	19,5	6,3	M5	8	7,000	40	20	1,400	9,1 × 10 <sup>-5</sup>	217	1,5	3,2	0,2
SOH-57C	57	76,2	26,9	7,7	M6	13	6,000	68	34	2,600	1,6 × 10 <sup>-4</sup>	329	1,5	3,5	0,2
SOHM-12C	11,9	16,5	5	2,5	M2	0,5	15,000	1,8	0,9	55	7,4 × 10 <sup>-8</sup>	3,5	1,5	1	0,05
SOHM-16C	16	20,7	6,1	3	M2,6	1	13,000	2	1	65	2,6 × 10 <sup>-7</sup>	7,4	1,5	1	0,1
SOHM-20C	20	21,9	6,1	2,9	M2,6	1	11,000	3	1,5	120	6,8 × 10 <sup>-7</sup>	12	1,5	1,5	0,1
SOHM-25C	25,5	26,4	7,4	3,7	M3	1,7	10,000	5	2,5	200	2,2 × 10 <sup>-6</sup>	23	1,5	2	0,1
SOHM-32C	32	34,9	9,5	4,7	M4	3,5	9,000	14	7	620	6,8 × 10 <sup>-6</sup>	44	1,5	2,5	0,2
SOHM-43C	43	47	14,7	7,3	M5	8	8,000	25	12,5	1,200	3,0 × 10 <sup>-5</sup>	114	1,5	3,0	0,15
SOHM-53C	53	53,1	16,9	8,3	M5	8	7,400	40	20	1,400	8,3 × 10 <sup>-5</sup>	197	1,5	3,2	0,15
SOHM-57C	57	56,8	18	8,7	M6	13	6,000	68	34	2,600	1,2 × 10 <sup>-4</sup>	232	1,5	3,5	0,2
SOHM-70C	73	75,5	25	12,3	M8	30	4,500	120	60	4,800	4,5 × 10 <sup>-4</sup>	547	1,5	3,5	0,2
SOH-6	5,9	8,4	2,5	1,25	M2	0,3	22,000	0,4	0,2	5	2,5 × 10 <sup>-9</sup>	0,5	1,5	0,5	0,05
SOH-8	7,9	9,8	2,5	1,25	M2	0,3	20,000	1	0,5	10	8,4 × 10 <sup>-9</sup>	0,9	1,5	0,7	0,05
SOH-10	9,9	10,4	2,9	1,5	M2	0,3	18,000	1,4	0,7	25	2,4 × 10 <sup>-8</sup>	1,7	1,5	0,9	0,05
SOH-12	11,9	14,5	3,9	2	M3	0,7	15,000	1,8	0,9	55	6,3 × 10 <sup>-8</sup>	3	1,5	1	0,05
SOH-16	16	17,9	4,7	2,2	M3	0,7	13,000	2	1	65	2,4 × 10 <sup>-7</sup>	7	1,5	1	0,1
SOH-20	20	19,9	5,1	2,4	M4	1,7	11,000	3	1,5	120	6,4 × 10 <sup>-7</sup>	12	1,5	1,5	0,1
SOH-25	25,5	25,4	6,9	3,1	M4	1,7	10,000	5	2,5	200	2,2 × 10 <sup>-6</sup>	24	1,5	2	0,1
SOH-32	32	31,9	8	3,8	M5	4	9,000	14	7	620	6,3 × 10 <sup>-6</sup>	41	1,5	2,5	0,2
SOH-43	43	52	16,5	7,1	M5	4	8,000	25	12,5	1,200	3,7 × 10 <sup>-5</sup>	135	1,5	3,0	0,15
SOH-53	53	58,3	19,5	7,5	M6	7	7,000	40	20	1,400	1,0 × 10 <sup>-4</sup>	228	1,5	3,2	0,15
SOH-57	57	76,2	26,9	9,9	M8	15	6,000	68	34	2,600	1,8 × 10 <sup>-4</sup>	345	1,5	3,5	0,2
SOH-70	73	75,5	25	12,2	M8	15	4,500	120	60	4,800	4,5 × 10 <sup>-4</sup>	567	1,5	3,5	0,2

\* Mass and mass moment of inertia are measured with max. bore size

※ SOH-16 and SOH-20 have different number of tightening bolts according to inner bore sizes (1ea or 2ea)

※ One(1) locking bolt is included in SOH6, 8 products.

**How to order product**



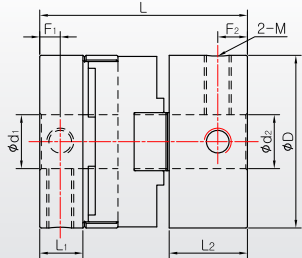
※ Please mark each inner diameter size.

※ When you order 'penetration type', please mark 'penetration-type'

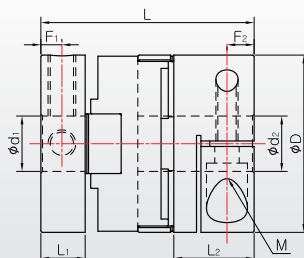
# SOH Series

## Oldham Coupling

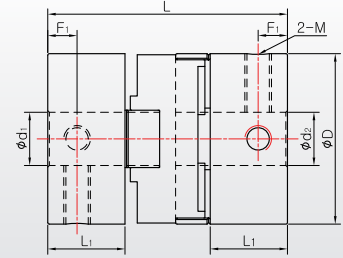
### SOH - ■ ■ S [SET SCREW TYPE]



### SOH - ■ ■ SC [COMPLEX TYPE]



### SOH - ■ ■ SS [SET SCREW TYPE]



### Dimensions & Performance

Product Number	Dimension (mm) (±0.3)						Fastening Torque (N·m)	Fastening Torque (N·m)	Max-RPM (min <sup>-1</sup> )	Max Torque (N·m)	Rated Torque (N·m)	Torsional Stiffness (N-m/rad)	Moment of Inertia (kg·m <sup>2</sup> )	Mass (g)	Permissible Misalignment		
	D	L	L <sub>1</sub>	L <sub>2</sub>	F <sub>1</sub>	F <sub>2</sub>									Angle (°)	Parallel (mm)	End-Play (mm)
SOH-16S	16	20,9	4,7	7,7	2,2	3,8	M3	0,7	13,000	2	1	65	2,7 × 10 <sup>-7</sup>	7,9	1,5	1	0,1
SOH-20S	20	22,8	5,1	8	2,4	3,6	M4	1,7	11,000	3	1,5	120	7,5 × 10 <sup>-7</sup>	13	1,5	1,5	0,1
SOH-25S	25,5	28,7	6,9	10,2	3,1	4,9	M4	1,7	10,000	5	2,5	200	2,6 × 10 <sup>-6</sup>	27,2	1,5	2	0,1
SOH-32S	32	38,3	8	14,4	3,8	5,5	M5	4	9,000	14	7	620	8,1 × 10 <sup>-6</sup>	52	1,5	2,5	0,2
SOH-16SC	16	20,9	4,7	7,7	2,2	2,7	M3/M2,6	0,7/1	13,000	2	1	65	2,9 × 10 <sup>-7</sup>	7,5	1,5	1	0,1
SOH-20SC	20	22,8	5,1	8	2,4	2,8	M4/M2,6	1,7/1	11,000	3	1,5	120	7,2 × 10 <sup>-7</sup>	12,6	1,5	1,5	0,1
SOH-25SC	25,5	28,7	6,9	10,2	3,1	3,5	M4/M3	1,7/1,7	10,000	5	2,5	200	2,6 × 10 <sup>-6</sup>	26	1,5	2	0,1
SOH-32SC	32	38,3	8	14,4	3,8	4,9	M5/M4	4/3,5	9,000	14	7	620	7,8 × 10 <sup>-6</sup>	50,3	1,5	2,5	0,2
SOH-8SS	7,9	12,6	4,6	4,6	2,3	2,3	M3	0,7	20,000	1	0,5	10	1,3 × 10 <sup>-8</sup>	1,5	1,5	0,7	0,05
SOH-16SS	16	23,9	7,7	7,7	3,8	3,8	M3	0,7	13,000	2	1	65	3,4 × 10 <sup>-7</sup>	9,3	1,5	1	0,1
SOH-20SS	20	25,7	8	8	3,6	3,6	M4	1,7	11,000	3	1,5	120	8,9 × 10 <sup>-7</sup>	15	1,5	1,5	0,1
SOH-25SS	25,5	32	10,2	10,2	4,9	4,9	M4	1,7	10,000	5	2,5	200	2,9 × 10 <sup>-6</sup>	31	1,5	2	0,1
SOH-32SS	32	44,7	14,4	14,4	5,5	5,5	M5	4	9,000	14	7	620	9,5 × 10 <sup>-6</sup>	63	1,5	2,5	0,2

\* Mass and mass moment of inertia are measured with max. bore size  
 \* SOH-□□SC-d1 (set screw hub) x d2(clamp type hub) \* SOH-□□S-d1 (shorter set screw hub) x d2(longer set screw hub)  
 (the order of inner bore size is important)

### Standard Inner diameter

제품번호	표준 내경 (d <sub>1</sub> , d <sub>2</sub> ) Standard INNER Diameter (mm)																														
	1	1,5	2	2,5	3	4	4,5	5	6	6,35	8	9,525	10	11	12	14	15	16	18	19	20	22	24	25	25,4	28	30	32	35	40	
SOH □-6 □□	●	●	●																												
SOH □-8 □□	●		●	●																											
SOH □-10 □□			●	●	●																										
SOH □-12 □□				●	●	●	●																								
SOH □-16 □□					●	●	●	●																							
SOH □-20 □□						●	●	●	●																						
SOH □-25 □□							●	●	●	●	●																				
SOH □-32 □□								●	●	●	●	●	●																		
SOH □-43 □□									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SOH □-53 □□											●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SOH □-57 □□												●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SOH □-70 □□													●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

■ For the inner diameter, INCH type is available ■ Non-standard inner diameter is also available  
 ■ Keyway is available ■ The recommendation for shaft tolerance is h7. ■ For the \* inner bore, the shaft cannot penetrate through a spacer.  
 ■ The following is the size of the inner diameter of penetration-type spacer ( SOH-16=Ø7.7, SOH-20=Ø10.7, SOH-25=Ø14.5, SOH-32=Ø16.5, SOH-43=Ø21.7, SOH-53=Ø25.7, SOH-70=Ø35.3 )

### SOH-■ ■ S



### SOH-■ ■ SC



### SOH-■ ■ S



### SOH-■ ■ SS



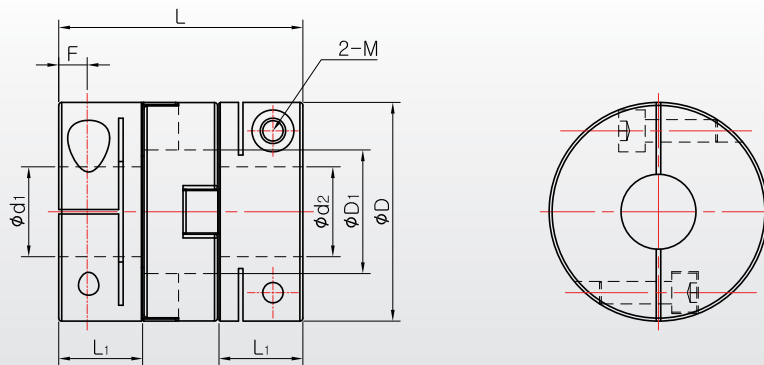
Please, download CAD DATA from [www.sungilfa.com](http://www.sungilfa.com)

Features

- Allowable Inner Diameter Size: Ø15 ~ Ø60
- High permissible torque, High torsional stiffness
- High Absorptivity of misalignment
- Excellent fastening due to double clamping
- Excellent balancing due to perfect bilateral symmetry



※ Registration of Design : 30-0593190-4



The following is the size of the inner diameter of penetration-type spacer  
Please refer to this below figure when ordering key-type or penetration type.

- SOH-70C = Ø35.3
- SOH-90C = Ø40.5
- SOH-120C = Ø50.5

Dimensions & Performance

Product Number	Dimension (mm) (±0.3)					Fastening Bolt M	Fastening Torque (N · m)	Max · RPM (min <sup>-1</sup> )	Max Torque (N · m)	Rated Torque (N · m)	Torsional Stiffness (N · m / rad)	Moment of Inertia (kg · m <sup>2</sup> )	Mass (g)	Permissible Misalignment		
	D	D <sub>1</sub>	L	L <sub>1</sub>	F									Angle (°)	Parallel (mm)	End-Play (mm)
SOH-70C	73	35.3	81.5	28	10	M8	30	4,500	130	65	2,000	5.4 × 10 <sup>-4</sup>	670	1.5	3.5	0.3
SOH-90C	88	40.5	97	33.5	12	M10	50	4,500	210	105	2,500	1.2 × 10 <sup>-3</sup>	1240	1.5	4	0.35
SOH-120C	118	50.5	138	40.5	13	M12	90	3,500	400	200	6,300	6.5 × 10 <sup>-3</sup>	2600	1.5	4.5	0.4

\* Mass and mass moment of inertia are measured with max. bore size

Permissible Misalignment

Product Number	Standard Inner Diameter(d <sub>1</sub> , d <sub>2</sub> unit:mm)																					
	Ø 15	Ø 16	Ø 18	Ø 19	Ø 20	Ø 22	Ø 24	Ø 25	Ø 28	Ø 30	Ø 32	Ø 34	Ø 35	Ø 40	Ø 42	Ø 45	Ø 50	Ø 52	Ø 55	Ø 58	Ø 60	
SOH-70C	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
SOH-90C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
SOH-120C								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

- For the inner diameter, INCH type is available
- Non-standard inner diameter is also available
- Keyway is available
- The recommendation for shaft tolerance is h7.