

SOH Series

Zero Backlash Oldham Coupling



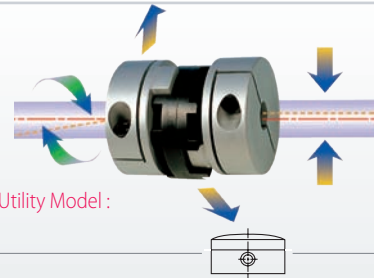
'SI.CO' mark(Trademark : 40-2012-0061376) indicates that the authenticity is certified.
 'SOH' (Trademark : 40-2012-0044882) is the original trademark for SUNGIL's Oldham Coupling.

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.

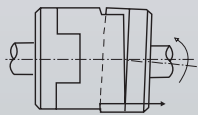


Features

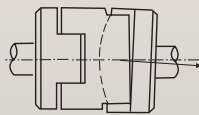
- Superior performance absorbing parallel and angular misalignment (the middle disk's slip and the hub's rounding effect)
- Easy to assemble and replace
- Minimizes the load on the shaft under misalignment
- Electrical insulation
- Minimizes backlash by pre-loaded assembly



Traditional Oldham Type



Sungil Oldham Type



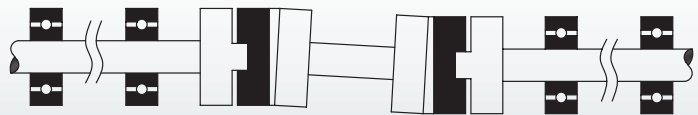
When there is an angular misalignment, the conventional OLDHAM couplings encounter bending moment on the outer diameter which leads to a bending moment on the shaft. However, since SUNGIL OLDHAM coupling is featured after being machined in micro rounding process, it can accept angular misalignment. Also, 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.

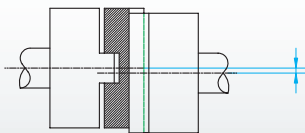


Right Use

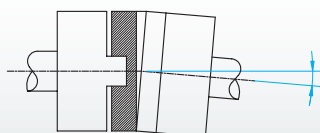


Wrong Use

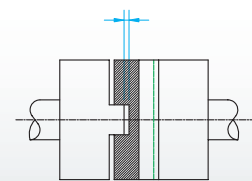
Misalignment



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
- Transtering equipment of Paper, disk, tape transporting device

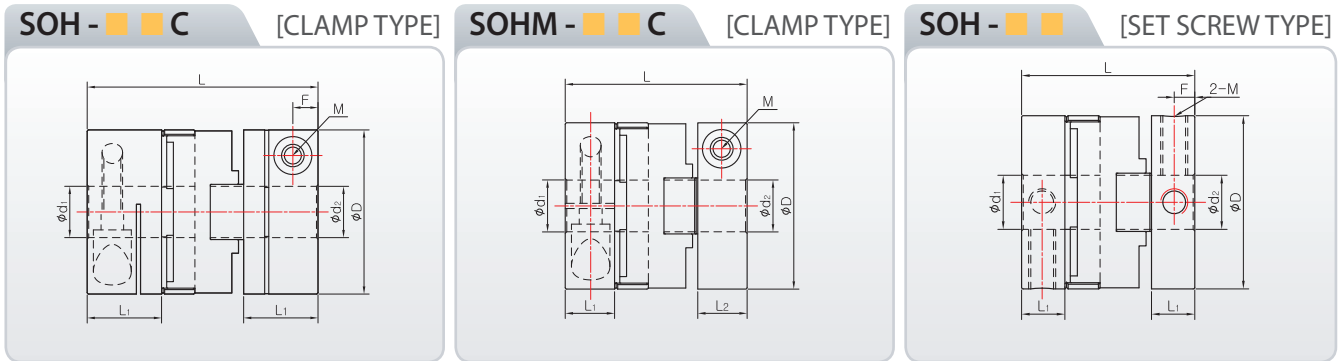
Structure & Material

- Material : Polyacetal
- Penetrative spacer is available



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Please, download CAD DATA from www.sungilfa.com



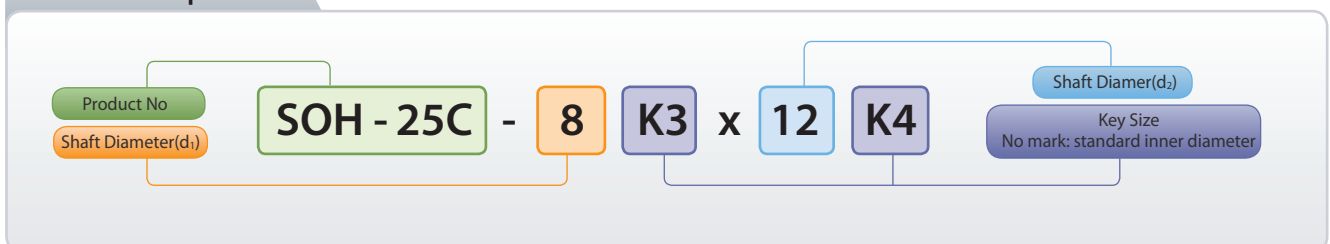
Dimensions & Performance

Product Number	Dimension (± 0.3)				Fastening Bolt M	Fastening Torque (N · m)	Max. RPM (min^{-1})	Max Torque (N · m)	Rated Torque (N · m)	Torsional Stiffness (N · m/rad)	Moment of Inertia ($\text{kg} \cdot \text{m}^2$)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	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^{-7}	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^{-7}	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^{-6}	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^{-6}	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^{-5}	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^{-5}	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^{-4}	329	1.5	3.5	0.2
SOHM-16C	16	20.7	6.1	3	M2,6	1	13,000	2	1	65	2.6×10^{-7}	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^{-7}	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^{-6}	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^{-6}	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^{-5}	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^{-5}	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^{-4}	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^{-4}	547	1.5	3.5	0.2
SOH-16	16	17.9	4.7	2.2	M3	0.7	13,000	2	1	65	2.4×10^{-7}	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^{-7}	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^{-6}	24	1.5	2	0.1
SOH-32	32	31.9	8	3.8	M5	4	9,000	14	7	620	6.3×10^{-6}	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^{-5}	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^{-4}	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^{-4}	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^{-4}	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)

How to order product



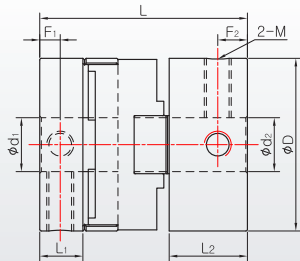
※ Please mark each inner diameter size.

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

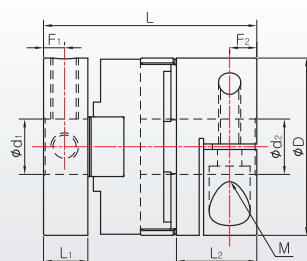
SOH Series

Zero Backlash Oldham Coupling

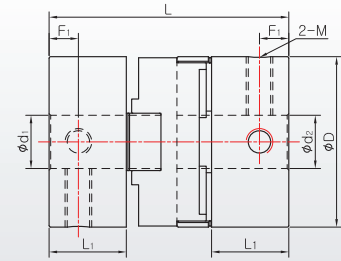
SOH - ■ ■ ■ S [SET SCREW TYPE]



SOH - ■ ■ ■ SC [COMBINATION TYPE]



SOH - ■ ■ ■ SS [SET SCREW TYPE]



Dimensions & Performance

Product Number	Dimension ($\pm 0,3$)						Fastening Torque (N·m)	Fastening Torque (N·m)	Max. RPM (min^{-1})	Max Torque (N·m)	Rated Torque (N·m)	Torsional Stiffness (N·m/rad)	Moment of Inertia ($\text{kg} \cdot \text{m}^2$)	Mass (g)	Permissible Misalignment		
	D	L	L ₁	L ₂	F ₁	F ₂									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	$2,7 \times 10^{-7}$	79	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	$7,5 \times 10^{-7}$	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	$2,6 \times 10^{-6}$	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	$8,1 \times 10^{-6}$	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	$2,9 \times 10^{-7}$	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	$7,2 \times 10^{-7}$	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	$2,6 \times 10^{-6}$	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	$7,8 \times 10^{-6}$	50,3	1,5	2,5	0,2
SOH-16SS	16	23,9	7,7	7,7	3,8	3,8	M3	0,7	13,000	2	1	65	$3,4 \times 10^{-7}$	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	$8,9 \times 10^{-7}$	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	$2,9 \times 10^{-6}$	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	$9,5 \times 10^{-6}$	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

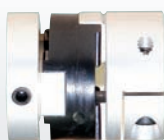
Product Number	Standard Inner Diameter(d_1, d_2 , unit:mm)																								
	3	4	5	6	6,35	8	9,525	10	11	12	14	15	16	18	19	20	22	24	25	25,4	28	30	32	35	40
SOH□-16□□	●	●	●	●																					
SOH□-20□□		●	●	●	●	●																			
SOH□-25□□			●	●	●	●	●	●																	
SOH□-32□□				●	●	●	●	●	●	●	●	●													
SOH□-43□□						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SOH□-53□□								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SOH□-57□□												●	●	●	●	●	●	●	●	●	●	●	●	●	●
SOH□-70□□														●	●	●	●	●	●	●	●	●	●	●	●

- For the inner diameter, INCH type is available
- Nonstandard 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 - ■ ■ ■



SOH - ■ ■ ■ SC



SOH - ■ ■ ■ S



SOH - ■ ■ ■ SS



SOH Series

SOH Big Series Zero Backlash Oldham Coupling

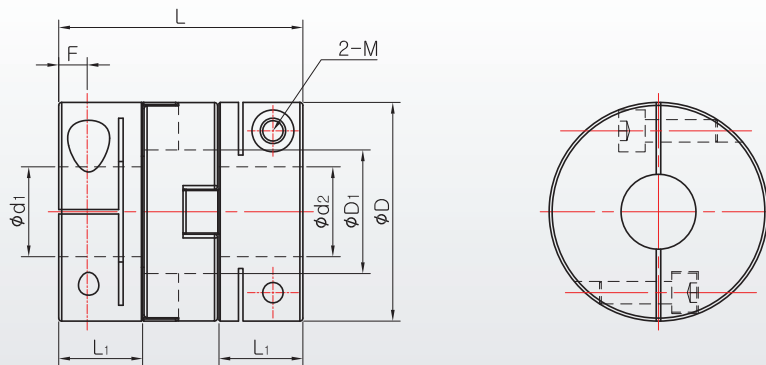
Please, download CAD DATA from www.sungilfa.com

Features

- Allowable Inner Diameter Size: $\varnothing 15 \sim \varnothing 60$
- 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 when ordering key-type or penetration type.

- SOH-70C = $\varnothing 35.3$
- SOH-90C = $\varnothing 40.5$
- SOH-120C = $\varnothing 50.5$

Dimensions & Performance

Product Number	Dimension ($\pm 0,3$)					Fastening Bolt M	Fastening Torque (N · m)	Max · RPM (min^{-1})	Max Torque (N · m)	Rated Torque (N · m)	Torsional Stiffness (N · m / rad)	Moment of Inertia ($\text{kg} \cdot \text{m}^2$)	Mass (g)	Permissible Misalignment		
	D	D ₁	L	L ₁	F									Angle (°)	Parallel (mm)	End-Play (mm)
SOH-70C	73	35,3	81,5	28	10	M8	30	4,500	130	65	2,000	$5,4 \times 10^{-4}$	670	1,5	3,5	0,3
SOH-90C	88	40,5	97	33,5	12	M10	50	4,500	210	105	2,500	$1,2 \times 10^{-3}$	1240	1,5	4	0,35
SOH-120C	118	50,5	138	40,5	13	M12	90	3,500	400	200	6,300	$6,5 \times 10^{-3}$	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_1, d_2 unit:mm)																					
	$\varnothing 15$	$\varnothing 16$	$\varnothing 18$	$\varnothing 19$	$\varnothing 20$	$\varnothing 22$	$\varnothing 24$	$\varnothing 25$	$\varnothing 28$	$\varnothing 30$	$\varnothing 32$	$\varnothing 34$	$\varnothing 35$	$\varnothing 40$	$\varnothing 42$	$\varnothing 45$	$\varnothing 50$	$\varnothing 52$	$\varnothing 55$	$\varnothing 58$	$\varnothing 60$	
SOH-70C	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
SOH-90C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
SOH-120C								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

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