

Precision Couplings

A shaft coupling is a critical element in a robust and durable linear shaft drive. Misalignment of motor and drive shafts can cause loss of precision, noise and premature failure. By using a precision coupling shaft misalignment can be overcome without loss of precision. Choosing a shaft coupling requires consideration of a number of factors. The type of coupling to choose depends on the type of misalignment expected in the application and the precision required.

Amount of Backlash

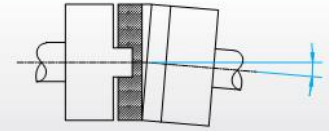
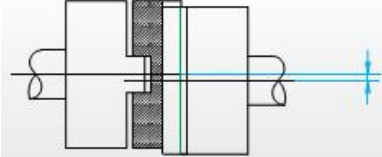
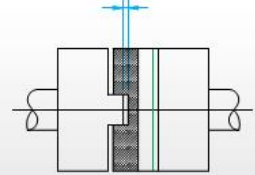
When precise positioning is required backlash of the coupling must be reduced as much as possible. One piece or bolted together couplings are backlash free but also transmit misalignments to bearings, shafts, motors and gearboxes causing premature failure.

Torsional Stiffness

Soft couplings have elastomeric (plastic or rubber) elements and are generally lower cost. These couplings may flex up to 5° at rated torque lowering precision and system response. Metal couplings are the stiffest.

Reducing Backlash / Increasing Rigidity
Jaw Coupling Precision Jaw Oldham Helical Beam Disc coupling

Types of Misalignment

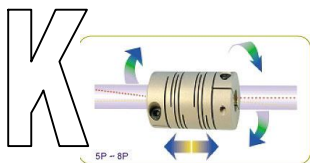
Angular	Parallel	End Play
This is where the angular axis of the two shafts are at an angle to each other.	Where one shaft is offset in a parallel sense is described as radial misalignment. Good applications may have values in the fraction of mm.	This is where the position of one shaft to the other along the length of the shaft can vary. In practice this can be caused by temperature changes due to environment and machine operation.
		

Increasing misalignment ability
Jaw Coupling Precision Jaw Oldham Helical Beam

Mechanical and Electrical isolation

The various couplings exhibit differing behaviour under mechanical or electrical stress. Three-piece couplings with plastic intermediate members offer electrical isolation of the moving carriage. This can reduce the potential for electrical damage to motors.

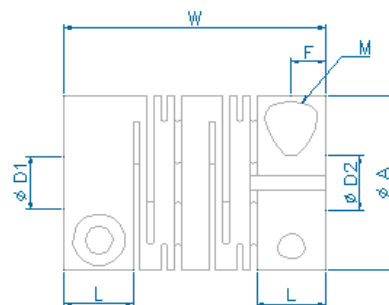
Oldham and helical beam couplings have the added benefit of acting as a mechanical fuse with the complete elimination of motion on failure of the coupling due to impact.



Helical Beam Couplings



- High rigidity
- Mechanical fuse
- High miss alignment

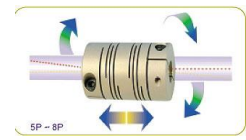


PRODUCT CODE	DIMENSION(mm)					Weight (g)	Moment of inertia (kg·m ²)	Max · RPM (Min-1)	Rated Torque (N·m)	Max Torque (N·m)	Torsional Stiffness (N·m/rad)	Error of Misalignment		
	A	L	W	F	M							Angle (°)	Parallel (mm)	End-Play (mm)
SRB-12C	12.7	5	19	2.5	2	3.8	8×10 ⁻⁷	12000	0.2	0.4	36	2.5 °	0.1	0.3
SRB-16C	16	6.1	21.5	3.05	2.6	8.5	3.1×10⁻⁷	12000	0.4	0.8	65	2.5 °	0.15	0.3
SRB-19C	19.1	6.1	23	3.05	2.6	12	6.5×10 ⁻⁶	9500	0.6	1.2	140	2.5 °	0.15	0.4
SRB-22C	22.2	7.2	26.5	3.55	3	19	1.4×10⁻⁶	8500	1	2	170	2.5 °	0.15	0.4
SRB-26C	26.2	7.4	31.4	3.7	3	33	3.2×10 ⁻⁶	7500	1.5	3	240	2.5 °	0.2	0.5
SRBA-32C	31.8	9.4	39	4.7	4	60	9.1×10 ⁻⁵	6500	2.6	5.2	400	2.5 °	0.2	0.5
SRBB-32C	31.8	9.4	44	4.7	4	68	1.1×10⁻⁵	6000	2.6	5.2	380	2.5 °	0.25	0.5
SRBA-39C	39	10.5	43	5.35	5	95	2.2×10⁻⁵	5000	6.5	13	520	2.5 °	0.25	0.5
SRBB-39C	39	16	56	5.35	5	135	3.1×10⁻⁵	4100	6.5	13	460	2.5 °	0.25	0.5
SRBA-49C	49	15	63.5	7.5	6	260	8.4×10 ⁻⁵	3200	13	26	750	2.5 °	0.25	0.5
SRBB-49C	49	15	70	7.5	6	270	8.8×10⁻⁵	3200	13	26	700	2.5 °	0.25	0.5
SRBA-60C	60	19	76.2	9.35	8	440	2.5×10 ⁻⁴	2600	24	48	1000	2.5 °	0.25	0.5
SRBB-60C	60	19	88	9.35	8	520	3.0×10 ⁻⁴	2600	24	48	980	2.5 °	0.3	0.5

Types in bold are stocked in smallest bore for each size

Bore feasibility

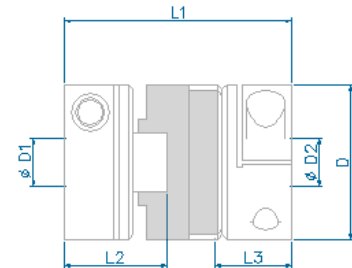
PRODUCT NUMBER	(D1D2) INNER Diameter(mm)																
	ø3	ø4	ø5	ø6	ø8	ø10	ø11	ø12	ø14	ø15	ø16	ø18	ø19	ø20	ø22	ø24	ø25
SRB-12C																	
SRB-16C																	
SRB-19C																	
SRB-22C																	
SRB-26C																	
SRBA-32C																	
SRBB-32C																	
SRBA-39C																	
SRBB-49C																	
SRBB-60C																	



Oldham Couplings – our most popular



- Electrically isolating
- Mechanical fuse
- Replaceable insert
- High parallel miss alignment

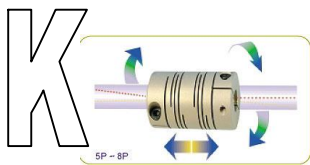


PRODUCT NUMBER	DIMENSION(±0.3)				Bolt M	Weight (gr)	Max Torque (N·m)	Rated Torque (N·m)	Torsional Stiffness (N·m/rad)	Moment of Inertia (kg·m ²)	Max ·RPM (Min ⁻¹)	Error of Misalignment		
	D	L 1	L 2	L 3								Angle (°)	Parallel (mm)	End Play (mm)
SOH-16C	16	23.6	11	11	M2.6	10	2	1	65	3.7×10⁻⁷	8,000	2°	1	0.1
SOH-16SC	16	21	8	11	M3	7.5	2	1	65	2.9×10 ⁻⁷	8,000	2°	1	0.1
SOHM-16C	16	21	9.5	9.5	M2.6	9	2	1	65	3.2×10 ⁻⁷	8,000	2°	1	0.1
SOH-20C	20	25.5	11.8	11.8	M2.6	16	3	1.5	120	9.3×10⁻⁷	7,000	2°	1.5	0.1
SOH-20SC	20	22.8	8.9	11.8	M4	15.5	3	1.5	120	9.0×10 ⁻⁷	7,000	2°	1.5	0.1
SOHM-20C	20	22.5	10	10	M2.6	14	3	1.5	120	8.2×10 ⁻⁷	7000	2°	1.5	0.1
SOH-25C	25.5	32	14.8	14.8	M3	34	5	2.5	200	3.3×10⁻⁶	6000	2°	2	0.1
SOH-25SC	25.5	28.8	11.6	14.8	M4	27	5	2.5	200	2.6×10 ⁻⁶	6000	2°	2	0.1
SOHM-25C	25.5	27	12	12	M3	27	5	2.5	200	2.6×10 ⁻⁶	6000	2°	2	0.1
SOH-32C	32	45	21	21	M4	80	14	7	620	1.3×10⁻⁵	4800	2°	3	0.2
SOH-32SC	32	38.5	21	14.5	M5	70	14	7	620	1.1×10 ⁻⁵	4800	2°	2.5	0.2
SOHM-32C	32	35	16	16	M4	52	14	7	620	8.3×10 ⁻⁶	4800	2°	2.5	0.2
SOH-43C	43	52	24	24	M5	160	30	15	1200	4.3×10⁻⁵	4000	2°	3	0.2
SOHM-43C	43	47	21.2	21.2	M5	132	30	15	1200	2.0×10 ⁻⁵	4000	2°	3	0.2
SOH-53C	53	58	19.5	19.5	M5	252	50	25	1400	1.0×10⁻⁴	3400	2°	3.2	0.2
SOHM-53C	53	53	16.9	16.9	M5	235	50	25	1400	9.6×10 ⁻⁵	3400	2°	3.2	0.2
SOHM-57C	57	56	26.7	26.7	M6	250	72	36	2600	1.3×10 ⁻⁴	3200	2°	3.5	0.2
SOH-57C	57	77	36.5	36.5	M6	390	72	36	2600	1.8×10⁻⁴	3200	2	3.5	0.2
SOHM-70C	73	77	37	37	M8	450	130	65	4800	1.5×10 ⁻⁴	3200	2	3.5	0.2
SOH-70C	73	81.5	28	28	M8	670	130	65	2000	5.4×10⁻⁴	4500	2	3.5	0.3

Types in bold are stocked in smallest bore for each size

Bore feasibility

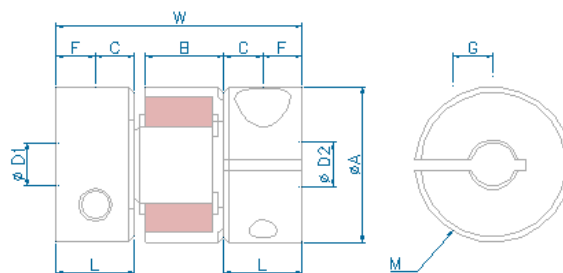
PRODUCT NUMBER	Standard Shaft Diameter(D ₁ ,D ₂)																								
	ø3	ø4	ø5	ø6	ø6.35	ø8	ø9.525	ø10	ø12	ø14	ø15	ø16	ø18	ø19	ø20	ø22	ø24	ø25	ø25.4	ø28	ø30	ø32	ø35	ø40	
SOH-16C																									
SOH-20C																									
SOH-25C																									
SOH-32C																									
SOH-43C																									
SOH-53C																									
SOH-57C																									
SOH-70C																									



Precision Jaw Couplings – SJC Couplings



- Large bore types
- Electrically isolating

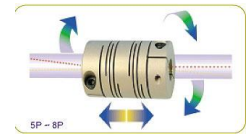


PRODUCT NUMBER	DIMENSION(mm)							Sleeve (JIS A)	Zero Backlash (N.m)	Max Bore (mm)	Weight (g)	Moment of (kg·m ²)	Max RPM (Min-1)	Rated Torque (N·m)	Max Torque (N·m)	Wrench Torque (N·m)	Torsional Stiffness (N·m/rad)	Error of Misalignment		
	A	L	W	B	C	F	M											(°)	(mm)	(mm)
SJC-14C GR	14	7	22	6	1	3.5	M2	92	0.2	5	6	1.6×10 ⁻⁷	11000	1.2	2.4	0.5	14	1.0	0.1	+0.6
SJC-14C RD	14	7	22	6	1	3.5	M2	98	0.2	5	6	1.6×10 ⁻⁷	11000	2	4	0.5	22	1.0	0.1	+0.6
SJC-20C GR	20	10	30	8	1	5	M2.6	92	0.2	8	19	1.1×10 ⁻⁶	7600	3	6	1	29	1.0	0.15	+0.8
SJC-20C RD	20	10	30	8	1	5	M2.6	98	0.2	8	19	1.1×10 ⁻⁶	7600	5	10	1	55	1.0	0.1	+0.8
SJC-25C GR	25	10	32.5	9	1.25	5	M3	92	0.35	12	25	2.4×10 ⁻⁶	6200	5	10	1.8	45	1.0	0.15	+1.0
SJC-25C RD	25	10	32.5	9	1.25	5	M3	98	0.35	12	25	2.4×10 ⁻⁶	6200	9	18	1.8	80	1.0	0.1	+1.0
SJCA-30C GR	30	11.3	35	10	1.5	5.5	M4	98	0.5	14	50	6.2×10 ⁻⁶	5100	7.5	15	2.5	73	1.0	0.15	+1.0
SJCB-30C GR	30	15.8	44	10	1.5	5.5	M4	92	-	14	55	7.5×10 ⁻⁶	5100	7.5	15	2.5	73	1.0	0.15	+1.0
SJCA-30C RD	30	11.3	35	10	1.5	5.5	M4	98	0.5	14	50	6.2×10 ⁻⁶	5100	7.5	15	2.5	73	1.0	0.15	+1.0
SJCB-30C RD	30	15.8	44	10	1.5	5.5	M4	98	-	14	55	7.5×10 ⁻⁶	5100	7.5	15	2.5	73	1.0	0.15	+1.0
SJCA-40C GR	40	19.5	55	12	2	6.7	M5	92	-	18	135	3.1×10 ⁻⁵	3800	10	20	4	570	1.0	0.1	+1.2
SJCB-40C GR	40	25	66	12	2	8.5	M5	98	1.2	18	160	3.9×10 ⁻⁵	3800	10	20	4	570	1.0	0.1	+1.2
SJCA-40C RD	40	19.5	55	12	2	6.7	M5	98	-	18	135	3.1×10 ⁻⁵	3800	10	20	4	570	1.0	0.1	+1.2
SJCB-40C RD	40	25	66	12	2	8.5	M5	98	1.2	18	160	3.9×10 ⁻⁵	3800	10	20	4	570	1.0	0.1	+1.2
SJC-55C GR	55	30	78	14	2	10.5	M6	92	-	25	330	1.6×10 ⁻⁴	2800	35	70	8	1600	1.0	0.15	+1.4
SJC-55C RD	55	30	78	14	2	10.5	M6	98	-	25	330	1.6×10 ⁻⁴	2800	60	120	8	2600	1.0	0.1	+1.4
SJC-65C GR	65	35	90	15	2.5	13	M8	92	-	30	560	3.8×10 ⁻⁴	2350	95	190	16	3000	1.0	0.15	+1.5
SJC-65C RD	65	35	90	15	2.5	13	M8	98	-	30	560	3.8×10 ⁻⁴	2350	160	320	16	4900	1.0	0.1	+1.5
SJC-80C GR	80	45	114	18	3	15	M8	92	-	40	1050	1.0×10 ⁻³	1800	190	380	20	6500	1.0	0.1	+1.5
SJC-80C RD	80	45	114	18	3	15	M8	98	-	40	1050	1.0×10 ⁻³	1800	320	640	20	11000	1.0	0.1	+1.5
SJC-100C-GR	104	56	140	21	3.5	20	M12	92	-	60	2550	4.6×10 ⁻³	3000	300	600	120	7000	1	0.15	2
SJC-100C-RD	104	56	140	21	3.5	20	M12	98	-	60	2550	4.6×10 ⁻³	3000	600	1200	120	30000	1	0.1	2

Indent only

Bore feasibility

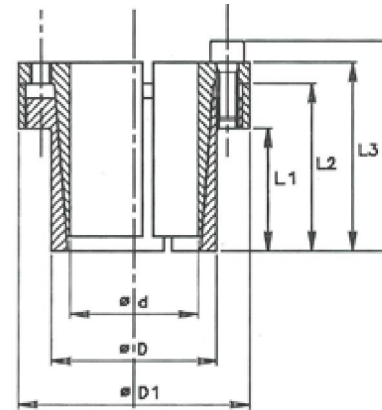
PRODUCT NUMBER	Stock Bores D1 - D2																										
	ø3	ø4	ø4.5	ø5	ø6	ø6.35	ø7	ø8	ø9.525	ø10	ø11	ø12	ø14	ø15	ø16	ø18	ø19	ø20	ø25	ø26	ø28	ø30	ø35	ø40	ø45	ø50	ø60
SJC-14C																											
SJC-20C																											
SJC-25C																											
SJC-30C																											
SJC-40C																											
SJC-55C																											
SJC-65C																											
SJC-80C																											
SJC-100C																											



Friction Bushes – CLK Couplings

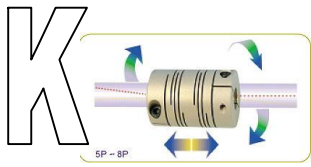


- Easy assembly and disassembly
- No keyways required
- Simple axial and rotational adjustment
- Ideal for timing pulleys
- Simple machining requirements



Code	Size dXD	L1 mm	L2 mm	L3 mm	B mm	D1 mm	Torque Mt Nm	Axial Thrust F ass. KN	Surface pressures on		Tightening screw s	Tightening torque Nm
	mm								Shaft PW N/mm2	Hub Pn N/mm2		
CLK110 6-14	6x14	10	18	21	24	25	12	4	185	80	3xM3	2
CLK110 7-15	7x15	12	22	25	29	27	25	7	235	110	3xM4	5
CLK110 8-15	8x15	12	22	25	29	27	29	7	205	110	3xM4	5
CLK110 9-16	9x16	14	23	26	30	28	44	10	205	115	4xM4	5
CLK110 10-16	10x16	14	23	26	30	28	49	10	185	115	4xM4	5
CLK110 11-18	11x18	14	23	26	30	32	53	10	170	105	4xM4	5
CLK110 12-18	12x18	14	23	26	30	32	58	10	160	105	4xM4	5
CLK110 13-23	13x23	14	23	26	30	38	63	10	140	80	4xM4	5
CLK110 14-23	14x23	14	23	26	30	38	68	10	130	80	4xM4	5
CLK110 15-24	15x24	16	29	36	42	45	127	17	185	115	3xM6	17
CLK110 16-24	16x24	16	29	36	42	45	136	17	175	115	3xM6	17
CLK110 17-26	17x26	18	31	38	44	47	180	22	190	125	4xM6	17
CLK110 18-26	18x26	18	31	38	44	47	200	22	180	125	4xM6	17
CLK110 19-27	19x27	18	31	38	44	49	210	22	170	120	4xM6	17
CLK110 20-28	20x28	18	31	38	44	50	220	22	160	115	4xM6	17
CLK110 22-32	22x32	25	38	45	51	54	250	22	115	80	4xM6	17
CLK110 24-34	24x34	25	38	45	51	56	270	22	105	75	4xM6	17
CLK110 25-34	25x34	25	38	45	51	56	280	22	100	75	4xM6	17
CLK110 28-39	28x39	25	38	45	51	61	465	33	135	97	6xM6	17
CLK110 30-41	30x41	25	38	45	51	62	510	33	127	90	6xM6	17
CLK110 32-43	32x43	25	38	45	51	65	540	33	120	90	6xM6	17
CLK110 35-47	35x47	32	45	52	58	69	790	45	105	80	8xM6	17
CLK110 38-50	38x50	32	45	52	58	72	860	45	100	75	8xM6	17
CLK110 40-53	40x53	32	45	52	58	75	900	45	95	70	8xM6	17
CLK110 42-55	42x55	32	45	52	58	78	950	45	90	70	8xM6	17
CLK110 45-59	45x59	45	62	70	78	86	1890	84	110	85	8xM8	41
CLK110 48-62	48x62	45	62	70	78	87	2010	84	105	80	8xM8	41
CLK110 50-65	50x65	45	62	70	78	92	2100	84	100	75	8xM8	41
CLK110 55-71	55x71	55	72	80	88	98	2600	94	85	65	9xM8	41
CLK110 60-77	60x77	55	72	80	88	104	2840	94	75	60	9xM8	41
CLK110 65-84	65x84	55	72	80	88	111	3070	94	70	55	9xM8	41
CLK110 70-90	70x90	65	86	96	106	119	5250	150	90	70	9xM10	83
CLK110 75-95	75x95	65	86	96	106	126	5600	150	80	65	9xM10	83
CLK110 80-100	80x100	65	86	96	106	131	8020	200	100	80	12xM10	83
CLK110 85-106	85x106	65	86	96	106	137	8500	200	95	75	12xM10	83
CLK110 90-112	90x112	65	86	96	106	144	9000	200	90	75	12xM10	83
CLK110 95-120	95x120	65	86	96	106	149	11000	230	100	80	14xM10	83
CLK110 100-125	100x125	65	86	96	106	154	15000	300	120	95	18xM10	83
CLK110 110-140	110x140	90	114	128	140	180	16000	290	80	65	12xM12	145
CLK110 120-155	120x155	90	114	128	140	198	17500	290	70	55	12xM12	145
CLK110 130-165	130x165	90	114	128	140	208	25000	384	90	70	16xM12	145

Normal stock items in bold type



Other types available



DISK COUPLING

DISK COUPLING of SI is built-in coupling which provides big torsion rigidity and superior mobility, and it is high precision coupling that has nearly permanent lifespan.



FLEXIBLE COUPLING

Absorb large amplitude, eccentricity and end play simultaneously
Absorb shock and vibration perfectly
No lubrication and low inertia moment



HIGH TORQUE FLEXIBLE DISK COUPLING

New Ideal and Best Suited Design
Ideal-Realization of Servo System
SHD Series High Torque Flexible Disk Coupling
New developed flexible disk



CROSS JOINT COUPLING

The precision calibration coupling of the cross joint type, which can easily absorb eccentricity and amplitude instrumentally, is a coupling

- Some types available in stainless steel
- Non precision types also available