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# ИНТЕЛЛЕКТУАЛЬНАЯ МУФТА



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# ИНТЕЛЛЕКТУАЛЬНАЯ МУФТА

## Тип



**SMD**



**SMJ**



**SMH**



**SMO**



### **SMD**

Torsionally rigid servo disc coupling

### **SMJ**

Flexible Jaw type Coupling

### **SMH**



Flexible Spiral Helical type Coupling

### **SMO**

Flexible Oldham type Coupling

## Selection Information

● Suitable ○ Applicable

Product Name		DISC	JAW	HELICAL	OLDHAM
Model Name		SMD	SMJ	SMH	SMO
Appearance					
Torque Range(Nm)		1~250	5~320	0.1~6	0.6~30
Bore Range(mm)		4~45	4~45	3~20	3~30
Performance	Low Backlash	●	○	●	
	Highly torsional rigidity	●	○	○	○
	Low Mass Inertia	●	●	●	○
	Flexibility	●	○	●	●
	Vibration Absorption		●		○
Application	General-Purpose Motor		●		●
	Stepping Motor	●	●	●	○
	Servo Motor	●	●	●	
	Detector(Encoder)		●	●	○

## Selection

### Step 1

- Calculation of transmitted torque ( $T_w$ )

$$T_w(\text{Nm}) = 9550 \times \frac{P(\text{kW})}{N(\text{rpm})}$$

P : Prime Motor Power(kW)  
N : Coupling rotation speed(rpm)

However, when using a servo motor or stepping motor, apply the maximum torque ( $T_s$ ).

$$T_w(\text{Nm}) = T_s(\text{Nm})$$

### Step 2

- Calculation of required torque ( $T_r$ )

$$T_r(\text{Nm}) = T_w(\text{Nm}) \times F_1 \times F_2 \times F_3 \times F_4$$

Service factor  
F<sub>1</sub> : Load factor  
F<sub>2</sub> : Usage hours coefficient  
F<sub>3</sub> : Starting frequency coefficient  
F<sub>4</sub> : Ambient temperature coefficient

Load factor (F<sub>1</sub>)

Load type	Constant load	Light variable load	Medium variable load	Heavy variable load
F <sub>1</sub>	1	1.3	1.8	2.3

Usage hours coefficient (F<sub>2</sub>)

Hour/day	~8	~16	~24
F <sub>2</sub>	1	1.2	1.3

Starting frequency coefficient (F<sub>3</sub>)

Frequency/hour	~10	~50	~100	~200	~200 over
F <sub>3</sub>	1	1.3	1.5	2	2.5

Ambient temperature coefficient(F<sub>4</sub>)

※ Apply to Jaw and Oldham couplings only.

Temperature(°C)	-30~30	~40	~60	~80
F <sub>4</sub>	1	1.2	1.4	2

### Step 3

- Select a model in which the rated torque ( $T_n$ ) of the coupling is larger than the required torque ( $T_r$ ) according to the specifications and dimension table.

$$T_n > T_r$$

### Step 4

- Check if the peak torque ( $T_p$ ) of the prime motor and driven machine is less or equal to the maximum torque ( $T_{max.}$ ) in the specification table.

$$T_{max.} > T_p$$

- If use clamp bolts for fitting to the shaft, check whether the allowable transmission torque ( $T_c$ ) according to the inner bore diameter meets the required torque ( $T_r$ ) and peak torque ( $T_p$ ).

$$T_c > T_r, \quad T_c > T_p$$

### Step 5

- Убедитесь в том, макс. диаметр отверстия муфты соответствует диаметру вала основного двигателя и управляемая машина.
- Убедитесь в том, макс. скорость вращения муфты соответствует скорости вращения основного двигателя.

※ В случае возникновения сильной вибрации при воздействии на устройство обратитесь в компанию NARA

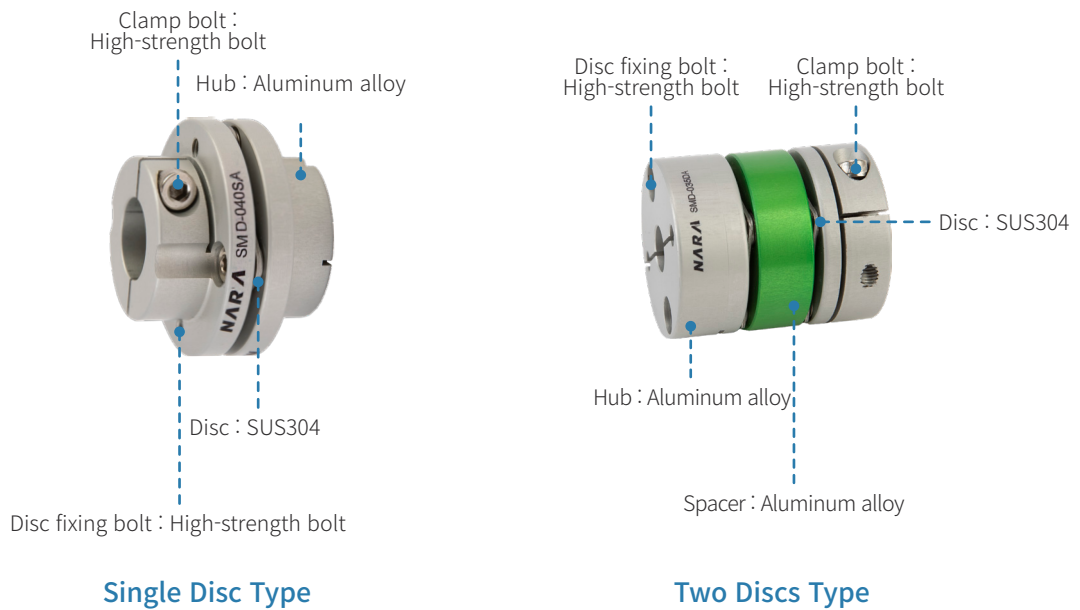
## SMD Torsionally rigid servo disc coupling

### Features



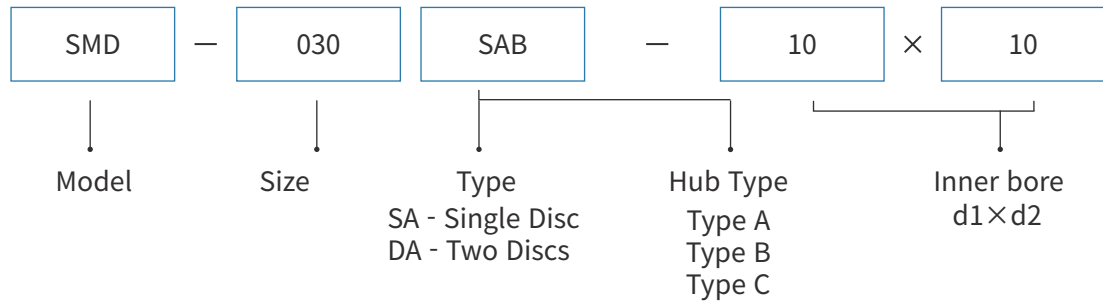
- Metal plate type flexible coupling.
- Stainless single disc allows angular misalignment and axial displacement, if two discs are applied, also parallel misalignment is allowed.
- Characteristics of forward and reverse rotation are identical.
- Excellent torsional rigidity.
- The most suitable coupling for servo motors.

### Structure



## SMD Torsionally rigid servo disc coupling

### How to order



### Standard Bores Diameter

Model	Standard bores diameter d1-d2(mm)																											
	4	5	6	6.35	8	9	9.525	10	12	14	15	15.875	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	
SMD-010SA/DA	●	●	●	●	●																							
SMD-020SA/DA		●	●	●	●	○	○	○																				
SMD-030SA/DA			○	●	●	●	●	●	●	●	●																	
SMD-035SA/DA					●	●	●	●	●	●	●	○	●															
SMD-040SA/DA						○	○	●	●	●	●	○	●	●	●													
SMD-050SA/DA									●	●	●	○	●	●	●	●	●	●	●									
SMD-060SA/DA										○	○	○	○	○	○	●	●	●	●	●	●	●	●					
SMD-080SA/DA																○	○	○	●	○	●	○	●					
SMD-090SA/DA																			○	○	○	○	○	○	○	○		
SMD-100SA/DA																								○	○	○	○	○

※ Standard type is always available in stock. ※ Contact us when ordering

### Allowable Transmission torque (Tc) for fixing with clamp bolt

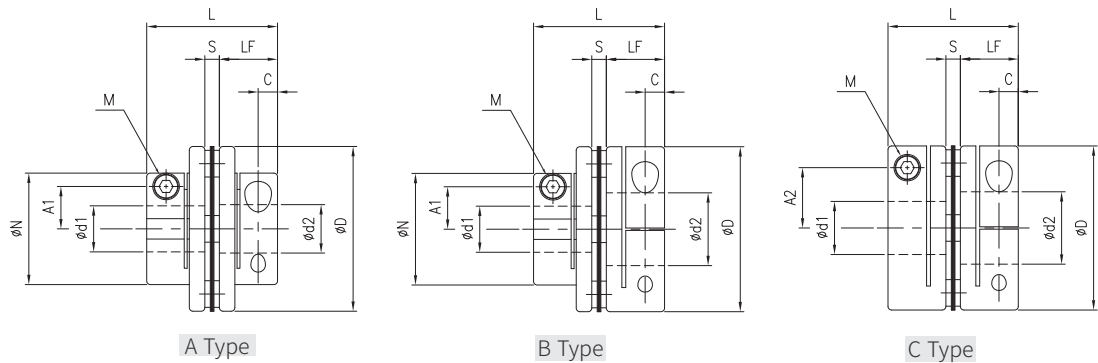
Model	Standard bores diameter d1 × d2(mm) and Allowable Transmission torque (Nm)																											
	4	5	6	6.35	8	9	9.525	10	12	14	15	15.875	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	
SMD-010SA/DA	2	2	2	2	2																							
SMD-020SA/DA		3.2	3.6	3.6	4	4	4	4																				
SMD-030SA/DA			4.4	4.4	5	5.4	5.5	5.7	7.6	8.3																		
SMD-035SA/DA					11	12	12	13	14	15	15	16	16															
SMD-040SA/DA						11	11	12	13	14	14	17	18	19	19													
SMD-050SA/DA									25	27	28	28	28	30	31	38	40	42	43									
SMD-060SA/DA										51	53	54	54	57	58	59	75	78	79	83	86							
SMD-080SA/DA																123	128	134	136	143	148	151	157					
SMD-090SA/DA																			222	232	239	243	253	262	268			
SMD-100SA/DA																								275	285	291	297	306

Note)

1. Shaft tolerances are based on h7, transmitted torque may be decreased in case of small shaft size.
2. According to operating condition(Fixing type, Acc./Dec. Frequency, Temperature), Transmission Torque may be decreased, Therefore it is recommended to apply after testing with actual mounting to the devices.

## SMD Torsionally rigid servo disc coupling

### Specifications/ Dimensions



1. Contact NARA if a larger model than the below dimensions is required.
2. Recommended shaft tolerance is h7.
3. Specifications and Dimensions in the Catalog might be modified without any notice for performance improvement, Contact NARA before using the couplings.

### Specifications(SMD-SA)

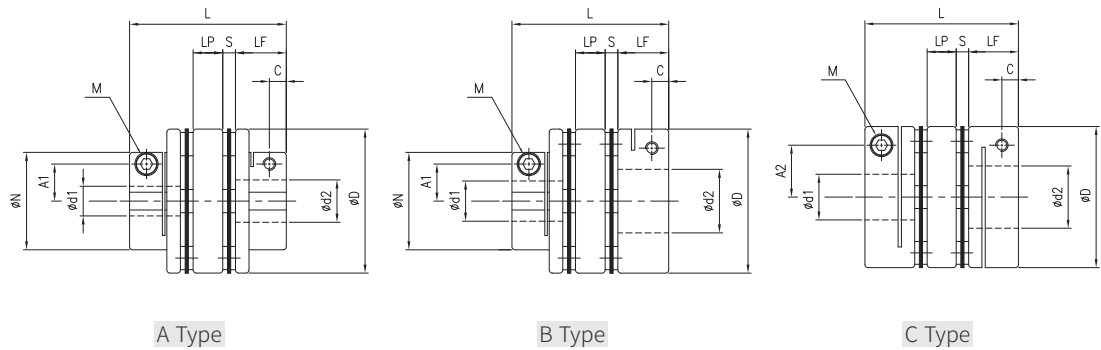
Model	Rated Torque (Nm)	Max Torque (Nm)	Max speed (rpm)	Torsional stiffness (Nm/rad)	Axial stiffness (N/mm)	Type	Moment of inertia (kgm <sup>2</sup> )	Maximum allowable misalignment			Mass (g)
								Parallel misalignment (mm)	Angular misalignment (°)	Axial displacement (mm)	
SMD-010SA	1	2	10,000	220	140	C	$0.75 \times 10^{-6}$	0.02	1	±0.1	14
SMD-020SA	1.5	3	10,000	1,600	64	C	$2.45 \times 10^{-6}$	0.02	1	±0.15	25
SMD-030SA	4	8	10,000	3,200	64	A	$3.80 \times 10^{-6}$	0.02	1	±0.2	31
						B	$5.99 \times 10^{-6}$				40
						C	$8.16 \times 10^{-6}$				50
SMD-035SA	7	14	10,000	7,000	90	C	$18 \times 10^{-6}$	0.02	1	±0.25	80
SMD-040SA	10	20	10,000	8,800	80	A	$15.5 \times 10^{-6}$	0.02	1	±0.3	70
						B	$22.6 \times 10^{-6}$				90
						C	$29.7 \times 10^{-6}$				110
SMD-050SA	25	50	10,000	18,000	48	A	$50.6 \times 10^{-6}$	0.02	1	±0.4	150
						B	$75.4 \times 10^{-6}$				180
						C	$100 \times 10^{-6}$				220
SMD-060SA	60	120	10,000	36,000	76.4	A	$131.6 \times 10^{-6}$	0.02	1	±0.45	260
						B	$199.6 \times 10^{-6}$				330
						C	$267.7 \times 10^{-6}$				400
SMD-080SA	100	200	10,000	52,800	54.8	C	$736.5 \times 10^{-6}$	0.02	1	±0.55	750
SMD-090SA	180	360	10,000	170,000	122	C	$1160 \times 10^{-6}$	0.02	1	±0.6	1130
SMD-100SA	250	500	10,000	250,000	160	C	$1180 \times 10^{-6}$	0.02	1	±0.7	1330

### Dimensions(SMD-SA)

Model	D	N	L	LF	LP	S	A1	A2	C	M	Bolt tightening torque (Nm)	Type	d1		d2		
													Min	Max	Min	Max	
SMD-010SA	19	-	20.2	9	-	2.2	-	6.5	3.3	M2.5	1	C	4	8	4	8	
SMD-020SA	26	-	22.5	10.5	-	1.5	-	9.5	3.5	M2.5	1	C	5	10	5	10	
SMD-030SA	34	22	28	13	-	1.6	8	-	4	M3	1.5	A	6	10	6	10	
		-					8	12.5				B	6	10	12	14	
		-					-	12.5				C	12	14	12	14	
SMD-035SA	39	-	32.3	15	-	2.3	-	13.5	4.5	M4	3.4	C	8	16	8	16	
SMD-040SA	44	30	34	16	-	2.5	11	-	5	M4	3.4	A	9	15	9	15	
		-					11	16				B	9	15	15	19	
		-					-	16				C	15	19	15	19	
SMD-050SA	56	38	43	20	-	2.8	14.5	-	7	M5	7	A	11	19	11	19	
							-	14.5				21	B	11	19	20	25
							-	-				21	C	20	25	20	25
SMD-060SA	68	46	54	24	-	6	17.5	-	8	M6	14	A	14	20	14	20	
							-	17.5				25	B	14	20	22	30
							-	-				25	C	22	30	22	30
SMD-080SA	83	-	67.5	30	-	7.5	-	28	9	M8	30	C	20	35	20	35	
SMD-090SA	94	-	67.5	30	-	7.5	-	34	9	M8	30	C	25	40	25	40	
SMD-100SA	104	-	68.3	30	-	8.3	-	39	9	M8	30	C	35	45	35	45	

## SMD Torsionally rigid servo disc coupling

### Specifications/ Dimensions



1. Contact NARA if a larger model than the below dimensions is required.
2. Recommended shaft tolerance is h7.
3. Specifications and Dimensions in the Catalog might be modified without any notice for performance improvement, Contact NARA before using the couplings.

### Specifications(SMD-DA)

Model	Rated Torque (Nm)	Max Torque (Nm)	Max speed (rpm)	Torsional stiffness (Nm/rad)	Axial stiffness (N/mm)	Type	Moment of inertia (kg m <sup>2</sup> )	Maximum allowable misalignment			Mass (g)
								Parallel misalignment (mm)	Angular misalignment (°)	Axial displacement (mm)	
SMD-010DA	1	2	10,000	170	70	C	1.0×10 <sup>-6</sup>	0.12	2	±0.2	19
SMD-020DA	1.5	3	10,000	1,000	32	C	3.41×10 <sup>-6</sup>	0.15	2	±0.3	35
SMD-030DA	4	8	10,000	2,100	32	A	6.93×10 <sup>-6</sup>	0.17	2	±0.4	50
						B	9.1×10 <sup>-6</sup>				58
						C	11.3×10 <sup>-6</sup>				67
SMD-035DA	7	14	10,000	4,000	45	C	30.3×10 <sup>-6</sup>	0.23	2	±0.5	140
SMD-040DA	10	20	10,000	5,300	40	A	27.5×10 <sup>-6</sup>	0.23	2	±0.6	113
						B	34.6×10 <sup>-6</sup>				130
						C	41.7×10 <sup>-6</sup>				146
SMD-050DA	25	50	10,000	10,800	24	A	86.6×10 <sup>-6</sup>	0.28	2	±0.8	222
						B	111.3×10 <sup>-6</sup>				256
						C	136.1×10 <sup>-6</sup>				290
SMD-060DA	60	120	10,000	22,800	38.2	A	230.9×10 <sup>-6</sup>	0.35	2	±0.9	400
						B	298.9×10 <sup>-6</sup>				470
						C	366.9×10 <sup>-6</sup>				540
SMD-080DA	100	200	10,000	37,800	27.4	C	1070×10 <sup>-6</sup>	0.52	2	±1.1	1080
SMD-090DA	180	360	10,000	85,000	61	C	1640×10 <sup>-6</sup>	0.52	2	±1.2	1200
SMD-100DA	250	500	10,000	125,000	80	C	3770×10 <sup>-6</sup>	0.52	2	±1.4	1450

### Dimensions(SMD-DA)

Model	D	N	L	LF	LP	S	A1	A2	C	M	bolt tightening torque (Nm)	Type	d1		d2	
													min	max	min	max
SMD-010DA	19	-	27.4	9	5	2.2	-	6.5	3.3	M2.5	1	C	4	8	4	8
SMD-020DA	26	-	30	10.5	6	1.5	-	9.5	3.5	M2.5	1	C	5	10	5	10
SMD-030DA	34	22	37.2	13	8	1.6	8	-	4	M3	1.5	A	6	10	6	10
							8	12.5				B	6	10	12	14
							-	12.5				C	12	14	12	14
SMD-035DA	39	-	46.6	15	12	2.3	-	13.5	4.5	M4	3.4	C	8	16	8	16
SMD-040DA	44	30	48	15.5	12	2.5	11	-	5	M4	3.4	A	9	15	9	15
							11	16				B	9	15	15	19
							-	16				C	15	19	15	19
SMD-050DA	56	38	58.6	20	13	2.8	14.5	-	7	M5	7	A	11	19	11	19
							14.5	21				B	11	19	20	25
							-	21				C	20	25	20	25
SMD-060DA	68	46	74	24	14	6	17.5	-	8	M6	14	A	14	20	14	20
							17.5	25				B	14	20	22	30
							-	25				C	22	30	22	30
SMD-080DA	83	-	97	30	22	7.5	-	28	9	M8	30	C	20	35	20	35
SMD-090DA	94	-	97	30	22	7.5	-	34	9	M8	30	C	25	40	25	40
SMD-100DA	104	-	98.6	30	22	8.3	-	39	9	M8	30	C	35	45	35	45



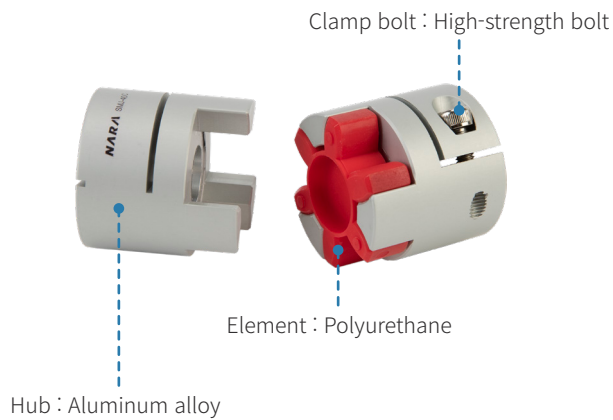
## SMJ Flexible Jaw Type Coupling

### Features



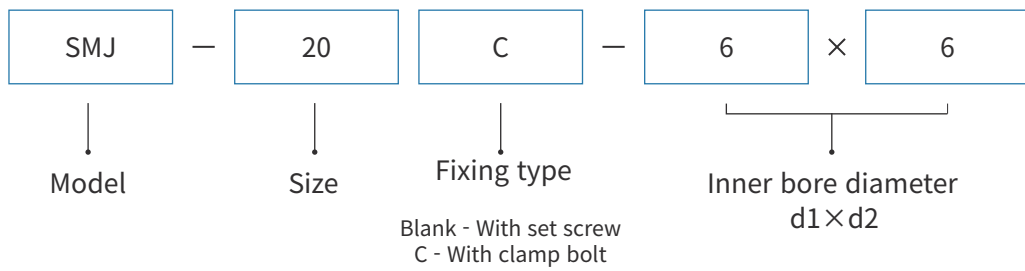
- A simple structure in which an element is fitted between two hubs.
- Zero backlash due to preliminary pressure applied to the element.
- Excellent flexibility and absorption of parallel misalignment, angular misalignment and torsional vibration.
- Characteristics of forward and reverse rotation are identical.
- It has electrical insulation characteristic.

### Structure



# SMJ Flexible Jaw Type Coupling

## How to order



## Standard bores diameter

Model	Standard bores diameter d1×d2(mm)																								
	4	5	6	6.35	7	8	9	10	11	12	14	15	16	18	19	20	24	25	28	30	32	35	40	45	
SMJ-20/20C	●	●	●	●	●	●																			
SMJ-25/25C		●	●	●	●	●	○	●																	
SMJ-30/30C			●	●	●	●	●	●	●	●	●														
SMJ-40/40C							○	○	●	○	●	●	●	●	●	●	●								
SMJ-55/55C								○	○	●	●	●	●	●	●	●	●	●	●	●					
SMJ-65/65C											●	●	●	●	●	●	●	●	●	●	○	○			
SMJ-80/80C																	●	●	●	●	●	●	●	●	●

※ Standard type is always available in stock.

## Allowable Transmission torque(Tc) for fixing with clamp bolt

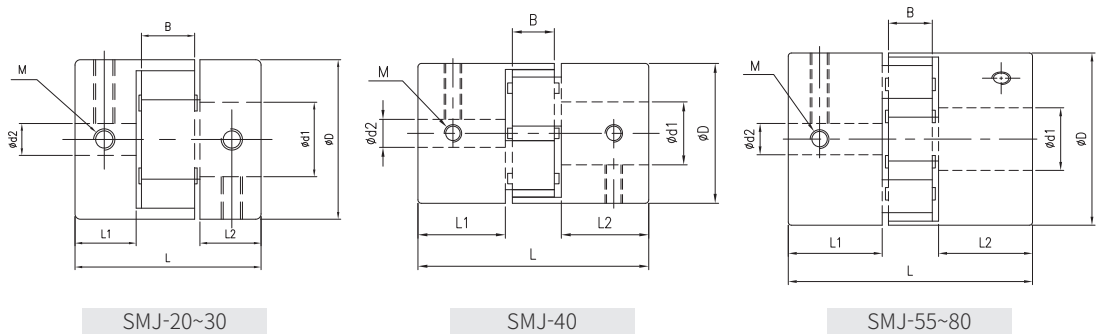
Model	Standard bores diameter d1×d2(mm) and Allowable Transmission torque (Nm)																									
	4	5	6	6.35	7	8	9	10	11	12	14	15	16	18	19	20	24	25	28	30	32	35	40	45		
SMJ-20C	1.8	2.3	2.8	2.8	3	3.4																				
SMJ-25C		3.5	4.1	4.1	4.4	4.9	5.3	5.7																		
SMJ-30C			8.5	8.5	9.1	9.8	10	11	12	12	13															
SMJ-40C							18	19	21	22	23	25	26	27	28	29	30									
SMJ-55C									47	48	50	54	56	58	61	62	63	69	70	74						
SMJ-65C											92	95	98	103	105	107	117	119	126	130	134	140				
SMJ-80C																	111	114	126	129	136	141	145	152	163	173

Note)

1. Shaft tolerances are based on h7, transmitted torque may be decreased in case of small shaft size.
2. According to operating condition(Fixing type, Acc./Dec. Frequency, Temperature), Transmission Torque may be decreased, Therefore it is recommended to apply after testing with actual mounting to the devices.

# SMJ Flexible Jaw Type Coupling

## Specifications/ Dimensions



※ Specifications and Dimensions in the Catalog might be modified without any notice for performance improvement, Contact NARA before using the couplings.

### Specifications(SMJ)

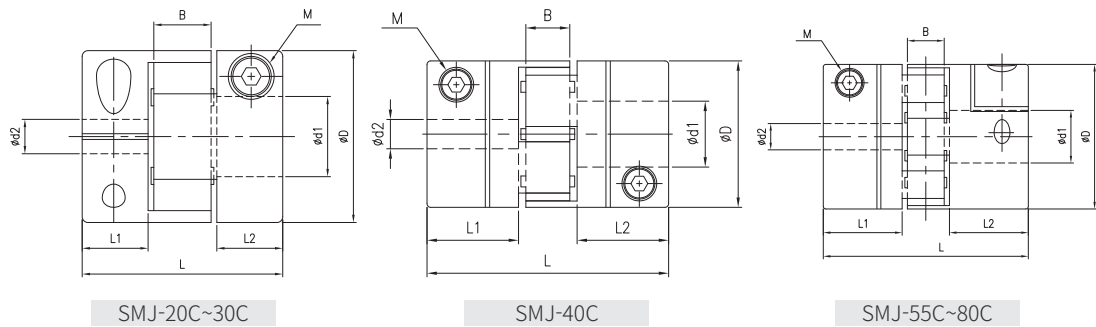
Model	Rated Torque (Nm)	Max Torque (Nm)	Max speed (rpm)	Torsional stiffness (Nm/rad)	Moment of inertia (kg m <sup>2</sup> )	Maximum allowable misalignment			Mass (g)
						Parallel misalignment (mm)	Angular misalignment (°)	Axial displacement (mm)	
SMJ-20	5	10	10,000	29	1.0×10 <sup>-6</sup>	0.1	1	±0.8	18
SMJ-25	9	18	10,000	45	2.4×10 <sup>-6</sup>	0.1	1	±1.0	25
SMJ-30	10	20	10,000	73	5.9×10 <sup>-6</sup>	0.1	1	±1.0	46
SMJ-40	15	30	8,000	570	3.1×10 <sup>-5</sup>	0.1	1	±1.2	125
SMJ-55	60	120	7,000	1,600	1.7×10 <sup>-4</sup>	0.1	1	±1.4	350
SMJ-65	160	320	5,900	3,000	3.9×10 <sup>-4</sup>	0.1	1	±1.5	570
SMJ-80	320	640	4,500	6,500	1.1×10 <sup>-3</sup>	0.1	1	±1.8	1,150

### Dimensions(SMJ)

Model	D	L	Inner bore		L1, L2	B	M	bolt tightening torque (Nm)
			d1	d2				
SMJ-20	20	30	4~8	4~8	10	8	M3	0.7
SMJ-25	25	32	5~10	5~10	10	9	M4	1.7
SMJ-30	30	35	6~14	6~14	11.5	10	M4	1.7
SMJ-40	40	66	8~20	8~20	25	12	M5	3.6
SMJ-55	55	78	10~28	10~28	30	14	M6	7
SMJ-65	65	90	14~35	14~35	35	15	M8	15
SMJ-80	80	114	19~45	19~45	45	18	M8	15

# SMJ Гибкая кулачковая муфта

## Specifications/ Dimensions



※ Specifications and Dimensions in the Catalog might be modified without any notice for performance improvement, Contact NARA before using the couplings.

### Specifications(SMJ-C)

Model	Rated Torque (Nm)	Max Torque (Nm)	Max speed (rpm)	Torsional stiffness (Nm/rad)	Moment of inertia (kg m <sup>2</sup> )	Maximum allowable misalignment			Mass (g)
						Parallel misalignment (mm)	Angular misalignment (°)	Axial displacement (mm)	
SMJ-20C	5	10	10,000	29	$1.1 \times 10^{-6}$	0.1	1	±0.8	19
SMJ-25C	9	18	10,000	45	$2.4 \times 10^{-6}$	0.1	1	±1.0	25
SMJ-30C	10	20	10,000	73	$6.2 \times 10^{-6}$	0.1	1	±1.0	50
SMJ-40C	15	30	8,000	570	$3.1 \times 10^{-5}$	0.1	1	±1.2	135
SMJ-55C	60	120	7,000	1,600	$1.6 \times 10^{-4}$	0.1	1	±1.4	330
SMJ-65C	160	320	5,900	3,000	$3.8 \times 10^{-4}$	0.1	1	±1.5	560
SMJ-80C	320	640	4,500	6,500	$1.0 \times 10^{-3}$	0.1	1	±1.8	1,050

### Dimensions(SMJ-C)

Model	D	L	Inner bore		L1, L2	B	M	bolt tightening torque (Nm)
			d1	d2				
SMJ-20C	20	30	4~8	4~8	10	8	M2.5	1
SMJ-25C	25	32	5~10	5~10	10	9	M3	1.5
SMJ-30C	30	35	6~14	6~14	11.5	10	M4	3.4
SMJ-40C	40	66	8~20	8~20	25	12	M5	7
SMJ-55C	55	78	10~28	10~28	30	14	M6	14
SMJ-65C	65	90	14~35	14~35	35	15	M8	30
SMJ-80C	80	114	19~45	19~45	45	18	M8	30

## SMH Flexible Spiral Helical Type Coupling

### Features



- An integral structure with long spiral grooves in a cylindrical material, and has zero backlash.
- Long grooved coil springs allow parallel misalignment, angular misalignment and axial displacement.
- Characteristics of forward and reverse rotation are identical.
- Low moment of inertia and excellent flexibility.
- Suitable for servo motors.

### Structure

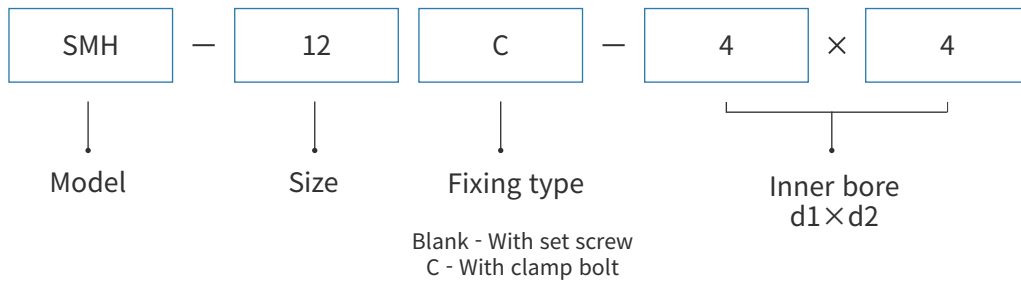
Clamp bolt : High-strength bolt



Boby : Aluminum alloy

# SMH Flexible Spiral Helical Type Coupling

## How to order



## Standard bores diameter

Model	Standard bores diameter d1 × d2 (mm)																
	d1	3	4	4	5	6	6	8	8	10	10	12	12	15	16	18	20
	d2	3	4	6	5	6	8	8	10	10	12	12	14	15	16	18	20
SMH-12/12C		●	●														
SMH-16/16C		●	●		●												
SMH-19/19C			●		●	●											
SMH-22/22C			●	●	●	●											
SMH-25/25C						●	●	●		●							
SMH-29/29C						●	●	●		●	●	●					
SMH-32/32C						●	●	●		●	●	●					
SMH-34/34C								●	●	●	●	●	●		●		
SMH-39/39C												●		●		●	●

※ Standard type is always available in stock.

## Allowable Transmission torque(Tc) for fixing with clamp bolt

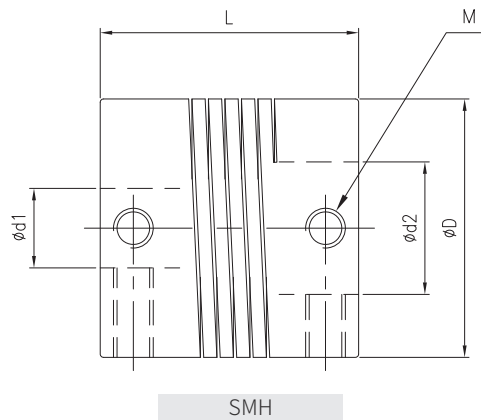
Model	Standard bores diameter d1 × d2 (mm)											
	3	4	5	6	8	10	12	14	15	16	18	20
SMH-12C	0.6	0.6										
SMH-16C	0.8	0.8	0.8									
SMH-19C		1.2	1.2	1.2								
SMH-22C		2	2	2								
SMH-25C				3.2	3.2	3.2						
SMH-29C				4.3	4.6	4.6	4.6					
SMH-32C				5	5	5	5	5				
SMH-34C					6	6	6	6	6	6		
SMH-39C							12	12	12	12	12	12

Note)

1. Shaft tolerances are based on h7, transmitted torque may be decreased in case of small shaft size.
2. According to operating condition(Fixing type, Acc./Dec. Frequency, Temperature), Transmission Torque may be decreased, Therefore it is recommended to apply after testing with actual mounting to the devices.

## SMH Flexible Spiral Helical Type Coupling

### Specifications/ Dimensions



※ Specifications and Dimensions in the Catalog might be modified without any notice for performance improvement, Contact NARA before using the couplings.

### Specifications(SMH)

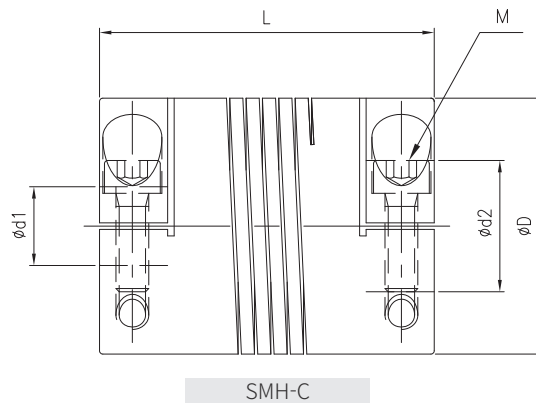
Model	Rated Torque (Nm)	Max Torque (Nm)	Max speed (rpm)	Torsional stiffness (Nm/rad)	Moment of inertia (kg m <sup>2</sup> )	Maximum allowable misalignment			Mass (g)
						Parallel misalignment (mm)	Angular misalignment (°)	Axial displacement (mm)	
SMH-12	0.1	0.2	10,000	4	$9.3 \times 10^{-8}$	0.25	5	±0.25	4
SMH-16	0.18	0.36	10,000	8	$2.9 \times 10^{-7}$	0.25	5	±0.25	8
SMH-19	0.3	0.6	10,000	13.4	$6.9 \times 10^{-7}$	0.25	5	±0.25	13
SMH-22	1	2	10,000	21.4	$1.4 \times 10^{-6}$	0.25	5	±0.25	20
SMH-25	1.6	3.2	10,000	30.5	$2.8 \times 10^{-6}$	0.25	5	±0.25	29
SMH-29	2.3	4.6	10,000	47.6	$5.4 \times 10^{-6}$	0.25	5	±0.25	42
SMH-32	2.5	5	10,000	64	$8.8 \times 10^{-6}$	0.25	5	±0.25	55
SMH-34	3	6	10,000	77	$1.1 \times 10^{-5}$	0.25	5	±0.25	60
SMH-39	6	12	10,000	116	$2.0 \times 10^{-5}$	0.25	5	±0.25	80

### Dimensions(SMH)

Model	D	L	Inner bore		M	Bolt tightening torque (Nm)
			d1	d2		
SMH-12	12.7	12.7	3~4	3~4	M3	0.7
SMH-16	16	16	3~5	3~5	M3	0.7
SMH-19	19	19.4	4~6	4~6	M3	0.7
SMH-22	22.2	22.4	4~6	4~6	M4	1.7
SMH-25	25	25.4	6~10	6~10	M4	1.7
SMH-29	29	29	6~12	6~12	M5	3.6
SMH-32	32	32	6~12	6~12	M5	3.6
SMH-34	34	34	8~16	8~16	M5	3.6
SMH-39	39	39	12~20	12~20	M6	7

## SMH Flexible Spiral Helical Type Coupling

### Specifications/ Dimensions



※ Specifications and Dimensions in the Catalog might be modified without any notice for performance improvement, Contact NARA before using the couplings.

### Specifications(SMH-C)

Model	Rated Torque (Nm)	Max Torque (Nm)	Max speed (rpm)	Torsional stiffness (Nm/rad)	Moment of inertia (kg m <sup>2</sup> )	Maximum allowable misalignment			Mass (g)
						Parallel misalignment (mm)	Angular misalignment (°)	Axial displacement (mm)	
SMH-12C	0.1	0.2	10,000	4	$1.4 \times 10^{-8}$	0.25	5	±0.25	6
SMH-16C	0.18	0.36	10,000	8	$3.6 \times 10^{-7}$	0.25	5	±0.25	11
SMH-19C	0.3	0.6	10,000	13.4	$7.9 \times 10^{-7}$	0.25	5	±0.25	14
SMH-22C	1	2	10,000	21.4	$1.7 \times 10^{-6}$	0.25	5	±0.25	24
SMH-25C	1.6	3.2	10,000	30.5	$3.3 \times 10^{-6}$	0.25	5	±0.25	34
SMH-29C	2.3	4.6	10,000	47.6	$6.7 \times 10^{-6}$	0.25	5	±0.25	52
SMH-32C	2.5	5	10,000	64	$1.0 \times 10^{-6}$	0.25	5	±0.25	62
SMH-34C	3	6	10,000	77	$1.3 \times 10^{-5}$	0.25	5	±0.25	68
SMH-39C	6	12	10,000	116	$2.6 \times 10^{-5}$	0.25	5	±0.25	92

### Dimensions(SMH-C)

Model	D	L	Inner bore		M	Bolt tightening torque (Nm)
			d1	d2		
SMH-12C	12.7	16.5	3~4	3~4	M2.5	1
SMH-16C	16	21.5	3~5	3~5	M2.5	1
SMH-19C	19	23.4	4~6	4~6	M2.5	1
SMH-22C	22.2	27	4~6	4~6	M3	1.5
SMH-25C	25	31.4	6~10	6~10	M3	1.5
SMH-29C	29	38.4	6~12	6~12	M3	1.5
SMH-32C	32	39	6~12	6~12	M4	3.4
SMH-34C	34	44	8~16	8~16	M4	3.4
SMH-39C	39	51	12~20	12~20	M5	7



## SMO Flexible Oldham Type Coupling

### Features



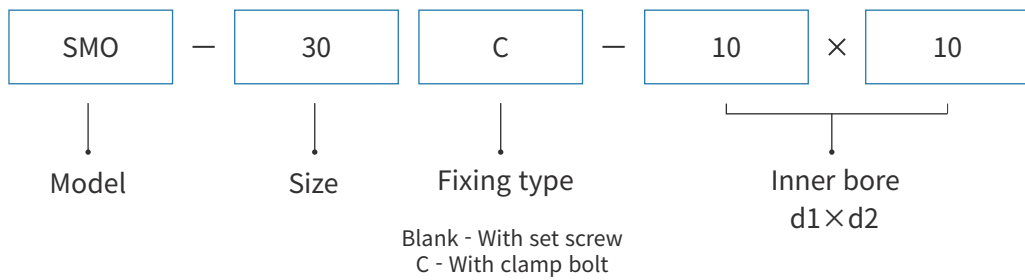
- Shaft ends load is reduced due to small radial load caused by parallel misalignment.
- Allows large parallel and angular misalignment due to hub and element slip properties.
- It has electrical insulation.
- Simple structure and easy assembly.

### Structure



# SMO Flexible Oldham Type Coupling

## How to order



## Standard bores diameter

Model	Standard bores diameter d1×d2(mm)																				
	3	4	5	6	6.35	8	9.53	10	12	14	15	16	18	20	22	24	25	26	28	30	
SMO-15/15C	●	●	●	●	●																
SMO-20/20C			●	●	●	●															
SMO-25/25C				●	●	●	●	●													
SMO-30/30C				○	○	●	●	●	●	●											
SMO-40/40C								●	●	●	●	●	●	○							
SMO-50/50C									○	○	●	●	●	●	●	●	●	●			
SMO-60/60C												○	●	●	●	●	●	●	●	●	●

※ Standard type is always available in stock.

## Allowable Transmission torque(Tc) for fixing with clamp bolt

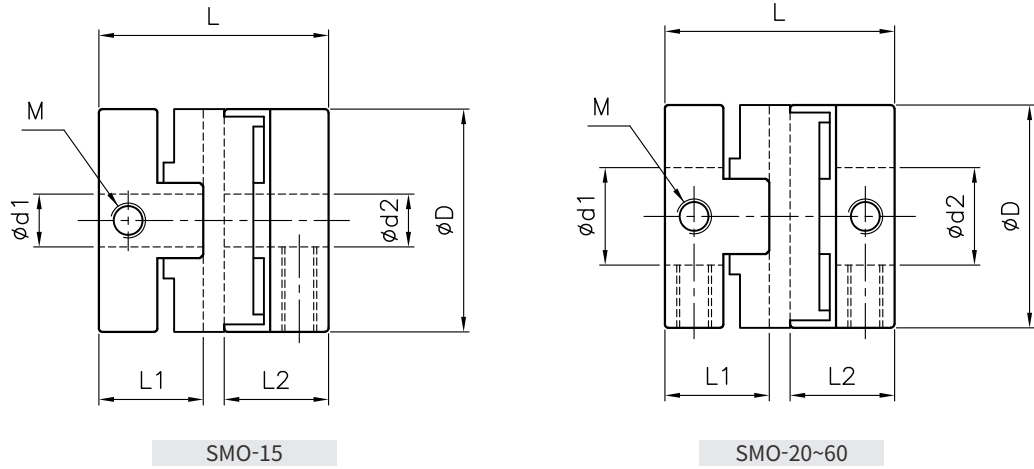
Model	Standard bores diameter d1×d2(mm) and Allowable Transmission torque (Nm)																				
	3	4	5	6	6.35	8	9.53	10	12	14	15	16	18	20	22	24	25	26	28	30	
SMO-15C	1.4	1.4	1.4	1.4	1.4																
SMO-20C			2.4	2.4	2.4	2.4															
SMO-25C				3.9	3.9	4	4	4													
SMO-30C				8	8	9	9	9	9	9											
SMO-40C								18	18	18	18	18	18								
SMO-50C								26	27	30	31	32	34	35	36	36	36	36			
SMO-60C												57	59	62	64	67	70	71	72	72	72

Note)

1. Shaft tolerances are based on h7, transmitted torque may be decreased in case of small shaft size.
2. According to operating condition(Fixing type, Acc./Dec. Frequency, Temperature), Transmission Torque may be decreased, Therefore it is recommended to apply after testing with actual mounting to the devices.

## SMO Flexible Oldham Type Coupling

### Specifications/ Dimensions



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### Specifications(SMO)

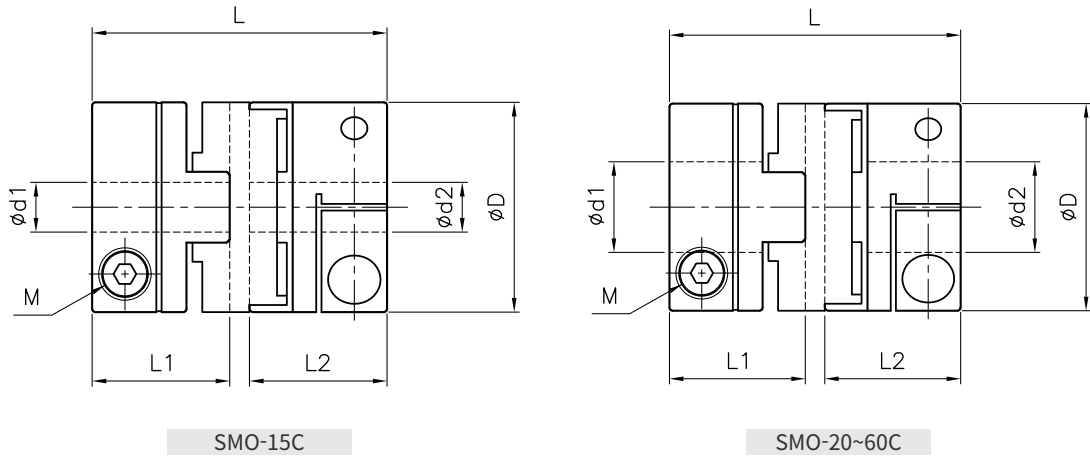
Model	Rated Torque (Nm)	Max Torque (Nm)	Max speed (rpm)	Torsional stiffness (Nm/rad)	Moment of inertia (kg m <sup>2</sup> )	Maximum allowable misalignment			Mass (g)
						Parallel misalignment (mm)	Angular misalignment (°)	Axial displacement (mm)	
SMO-15	0.6	1.2	8,000	33	$2.6 \times 10^{-7}$	1	3	±0.1	7.5
SMO-20	1.1	2.2	7,000	57	$7.6 \times 10^{-7}$	1.5	3	±0.1	15
SMO-25	2	4	6,000	99	$2.4 \times 10^{-6}$	2	3	±0.1	22
SMO-30	4	8	4,000	341	$6.6 \times 10^{-6}$	2.5	3	±0.15	48
SMO-40	9	18	4,000	575	$3.8 \times 10^{-5}$	3	3	±0.15	160
SMO-50	19	38	3,000	876	$1.0 \times 10^{-4}$	3.5	3	±0.2	265
SMO-60	30	60	3,000	1,109	$1.7 \times 10^{-4}$	4	3	±0.2	395

### Dimensions(SMO)

Model	D	L	Inner bore		L1, L2	M	bolt tightening torque (Nm)
			d1	d2			
SMO-15	16.5	18	3~6.35	3~6.35	8	M3	0.7
SMO-20	20.5	20	5~8	5~8	9	M4	1.7
SMO-25	26	26	6~10	6~10	12	M4	1.7
SMO-30	32	33	6~15	6~15	15	M5	3.6
SMO-40	43	52	10~19	10~19	24	M5	3.6
SMO-50	54	58	10~25	10~25	27	M6	7
SMO-60	57.5	77	15~30	15~30	37	M8	15

## SMO Flexible Oldham Type Coupling

### Specifications/ Dimensions



※ Specifications and Dimensions in the Catalog might be modified without any notice for performance improvement, Contact NARA before using the couplings.

### Specifications(SMO-C)

Model	Rated Torque (Nm)	Max Torque (Nm)	Max speed (rpm)	Torsional stiffness (Nm/rad)	Moment of inertia (kg m <sup>2</sup> )	Maximum allowable misalignment			Mass (g)
						Parallel misalignment (mm)	Angular misalignment (°)	Axial displacement (mm)	
SMO-15C	0.6	1.2	8,000	33	$3.5 \times 10^{-7}$	1	3	±0.1	10
SMO-20C	1.1	2.2	7,000	57	$9.8 \times 10^{-7}$	1.5	3	±0.1	18
SMO-25C	2	4	6,000	99	$3.3 \times 10^{-6}$	2	3	±0.1	37
SMO-30C	4	8	4,000	341	$9.9 \times 10^{-6}$	2.5	3	±0.15	81
SMO-40C	9	18	4,000	575	$3.8 \times 10^{-5}$	3	3	±0.15	150
SMO-50C	19	38	3,000	876	$1.0 \times 10^{-4}$	3.5	3	±0.2	260
SMO-60C	30	60	3,000	1,109	$1.7 \times 10^{-4}$	4	3	±0.2	395

### Dimensions(SMO-C)

Model	D	L	Inner bore		L1, L2	M	bolt tightening torque (Nm)
			d1	d2			
SMO-15C	16.5	24	3~6.35	3~6.35	11	M2.5	1
SMO-20C	20.5	26	5~8	5~8	12	M2.5	1
SMO-25C	26	32	6~10	6~10	15	M3	1.5
SMO-30C	32	45	6~15	6~15	21	M4	3.4
SMO-40C	43	52	10~19	10~19	24	M5	7
SMO-50C	54	58	10~25	10~25	27	M5	7
SMO-60C	57.5	77	15~30	15~30	37	M6	14



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Являемся официальными представителями NARA на территории Российской Федерации. ООО «КТС» ОГРН 1215400048445  
654063, Кемеровская область, г. Новокузнецк, ул. Шебелинская, д. 15

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## **NARA ваш глобальный партнер**

На протяжении последних 40 лет компания NARA прилагала все усилия для удовлетворения потребностей клиентов и поставляла все виды муфт по индивидуальному заказу для различных промышленных предприятий