

Application guide

Coupling type	Application	
<p>Smart coupling</p> 	<ul style="list-style-type: none"> • Gantry robot • Printing machine • Cutting and welding machine • Laser processing equipment • Medical Equipment 	<ul style="list-style-type: none"> • Stepping Motor • Servo Motor • Detector (encoder)
<p>Panflex coupling</p> 	<ul style="list-style-type: none"> • All kind of Pumps • Compressors • Steel making plant • Petro chemical plants 	<ul style="list-style-type: none"> • Power plants equipment • Paper plant • Machine tools • Blower & Fans
<p>Gear coupling</p> 	<ul style="list-style-type: none"> • Iron & Steel making plant • Plants Devices • Paper plant • All kind of pumps 	<ul style="list-style-type: none"> • Compressors • Conveyors • Crane and hoist • Extruders • Subway Vehicles
<p>Jaw coupling</p> 	<ul style="list-style-type: none"> • All kinds of pumps • Compressors • Injection moulding machines • Wind Power Generator 	<ul style="list-style-type: none"> • Machine tool • Industrial machines • Automation machines
<p>Drum coupling</p> 	<ul style="list-style-type: none"> • Container Cranes • Overhead Cranes • Radle Cranes • Ship unloader 	
<p>Chain coupling</p> 	<ul style="list-style-type: none"> • Industrial machines • Automation machines 	
<p>Flange Flexible coupling</p> 	<ul style="list-style-type: none"> • Industrial Pumps 	
<p>Brake drum coupling</p> 	<ul style="list-style-type: none"> • Crane and hoist • Belt conveyors 	
<p>Fluid coupling</p> 	<ul style="list-style-type: none"> • Conveyor • Mills • Crusher • Agitator 	<ul style="list-style-type: none"> • Stacker/ Reclaimer • Dust collector • Blower and Fan • Mixer • Ship unloader

SMART COUPLING

Type



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	Backlash free	●	○	●	○
	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 (Tw)

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

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

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

$$Tw(\text{Nm}) = Ts(\text{Nm})$$

Step 2

- Calculation of required torque (Tr)

$$Tr(\text{Nm}) = Tw(\text{Nm}) \times F_1 \times F_2 \times F_3 \times F_4$$

Service factor
F₁ : Load factor
F₂ : Usage hours coefficient
F₃ : Starting frequency coefficient
F₄ : Ambient temperature coefficient

Load factor (F₁)

Load type	Constant load	Light variable load	Medium variable load	Heavy variable load
F ₁	1	1.3	1.8	2.3

Usage hours coefficient (F₂)

Hour/day	~8	~16	~24
F ₂	1	1.2	1.3

Starting frequency coefficient (F₃)

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

Ambient temperature coefficient(F₄)

※ Apply to Jaw and Oldham couplings only.

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

Step 3

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

$$Tn > Tr$$

Step 4

- Check if the peak torque (Tp) of the prime motor and driven machine is less or equal to the maximum torque (Tmax.) in the specification table.

$$Tmax. > Tp$$

- If use clamp bolts for fitting to the shaft, check whether the allowable transmission torque (Tc) according to the inner bore diameter meets the required torque (Tr) and peak torque (Tp).

$$Tc > Tr, Tc > Tp$$

Step 5

- Check whether max. bore diameter of the coupling meets the shaft diameter of the prime motor and driven machine.
- Check whether max. rotation speed of the coupling meets the rotation speed of the prime motor.

※ In case of applying to the device severe vibration occurs, Contact NARA

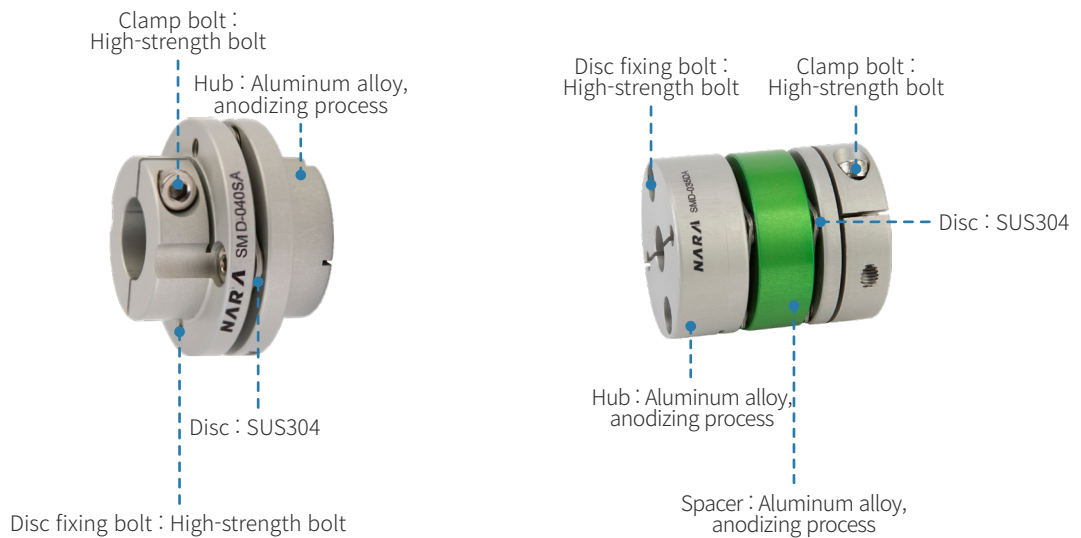
SMD Torsionally rigid servo disc coupling

Features



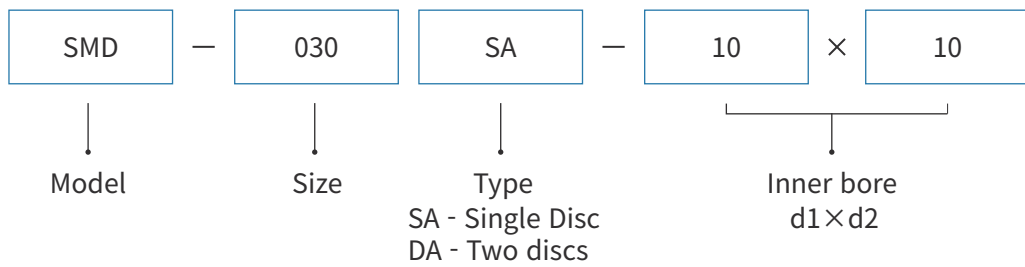
- Metal plate type flexible coupling.
- Stainless single disc allows angular misalignment and axial displacement, if two discs are applied, also parallel misalignment is allowed.
- Characteristics of forward and reverse rotation are identical.
- Excellent torsional rigidity.
- The most suitable coupling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

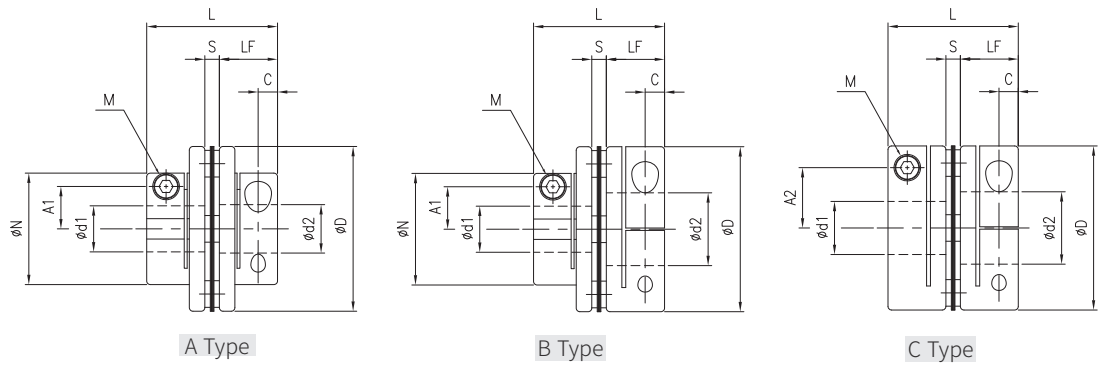
Model	Standard bores diameter d1 × d2(mm) and Allowable Transmission torque (Nm)																													
	4	5	6	6.35	8	9	9.525	10	12	14	15	15.875	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45			
SMD-010SA/DA	2	2	2	2	2																									
SMD-020SA/DA		3.2	3.6	3.6	4	4	4	4																						
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)

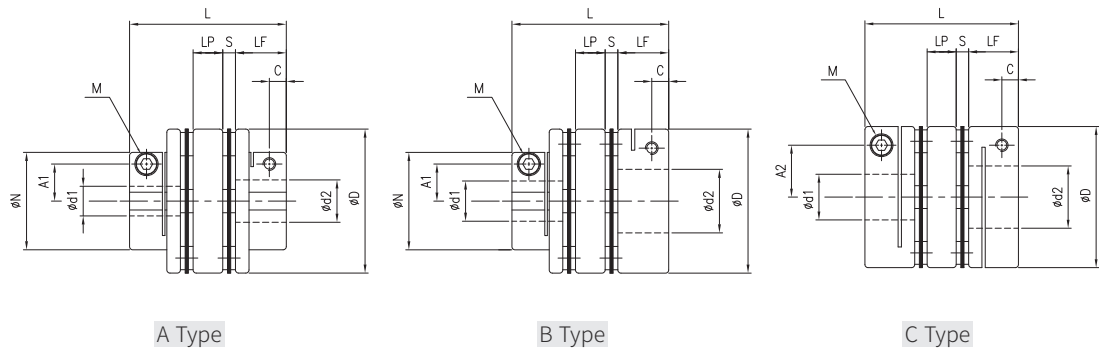
Model	Rated Torque (Nm)	Max Torque (Nm)	Max speed (rpm)	Torsional stiffness (Nm/rad)	Axial stiffness (N/mm)	Type	Moment of inertia (kgm ²)	Maximum allowable misalignment			Mass (g)
								Parallel misalignment (mm)	Angular misalignment (°)	Axial displacement (mm)	
SMD-010SA	1	2	10,000	220	140	C	0.75×10^{-6}	0.02	1	±0.1	14
SMD-020SA	1.5	3	10,000	1,600	64	C	2.45×10^{-6}	0.02	1	±0.15	25
SMD-030SA	4	8	10,000	3,200	64	A	3.80×10^{-6}	0.02	1	±0.2	31
						B	5.99×10^{-6}				40
						C	8.16×10^{-6}				50
SMD-035SA	7	14	10,000	7,000	90	C	18×10^{-6}	0.02	1	±0.25	80
SMD-040SA	10	20	10,000	8,800	80	A	15.5×10^{-6}	0.02	1	±0.3	70
						B	22.6×10^{-6}				90
						C	29.7×10^{-6}				110
SMD-050SA	25	50	10,000	18,000	48	A	50.6×10^{-6}	0.02	1	±0.4	150
						B	75.4×10^{-6}				180
						C	100×10^{-6}				220
SMD-060SA	60	120	10,000	36,000	76.4	A	131.6×10^{-6}	0.02	1	±0.45	260
						B	199.6×10^{-6}				330
						C	267.7×10^{-6}				400
SMD-080SA	100	200	10,000	52,800	54.8	C	736.5×10^{-6}	0.02	1	±0.55	750
SMD-090SA	180	360	10,000	170,000	122	C	1160×10^{-6}	0.02	1	±0.6	1130
SMD-100SA	250	500	10,000	250,000	160	C	1180×10^{-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 ²)	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 ⁻⁶	0.12	2	±0.2	19	
SMD-020DA	1.5	3	10,000	1,000	32	C	3.41×10 ⁻⁶	0.15	2	±0.3	35	
SMD-030DA	4	8	10,000	2,100	32	A	6.93×10 ⁻⁶	0.17	2	±0.4	50	
						B	9.1×10 ⁻⁶					58
						C	11.3×10 ⁻⁶					67
SMD-035DA	7	14	10,000	4,000	45	C	30.3×10 ⁻⁶	0.23	2	±0.5	140	
SMD-040DA	10	20	10,000	5,300	40	A	27.5×10 ⁻⁶	0.23	2	±0.6	113	
						B	34.6×10 ⁻⁶					130
						C	41.7×10 ⁻⁶					146
SMD-050DA	25	50	10,000	10,800	24	A	86.6×10 ⁻⁶	0.28	2	±0.8	222	
						B	111.3×10 ⁻⁶					256
						C	136.1×10 ⁻⁶					290
SMD-060DA	60	120	10,000	22,800	38.2	A	230.9×10 ⁻⁶	0.35	2	±0.9	400	
						B	298.9×10 ⁻⁶					470
						C	366.9×10 ⁻⁶					540
SMD-080DA	100	200	10,000	37,800	27.4	C	1070×10 ⁻⁶	0.52	2	±1.1	1080	
SMD-090DA	180	360	10,000	85,000	61	C	1640×10 ⁻⁶	0.52	2	±1.2	1200	
SMD-100DA	250	500	10,000	125,000	80	C	3770×10 ⁻⁶	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
		-					12.5	B				6	10	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

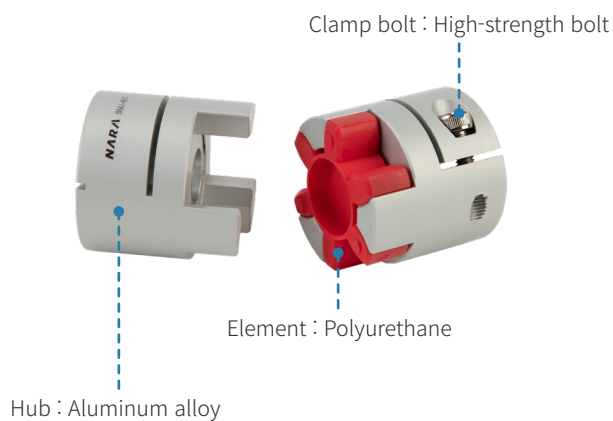
SMJ Flexible Jaw Type Coupling

Features



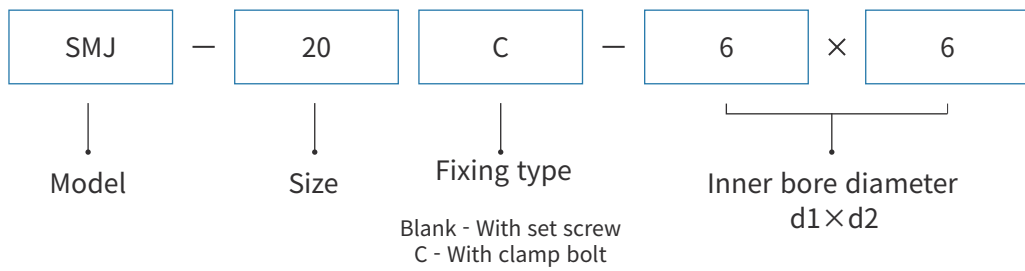
- A simple structure in which an element is fitted between two hubs.
- Zero backlash due to preliminary pressure applied to the element.
- Excellent flexibility and absorption of parallel misalignment, angular misalignment and torsional vibration.
- Characteristics of forward and reverse rotation are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

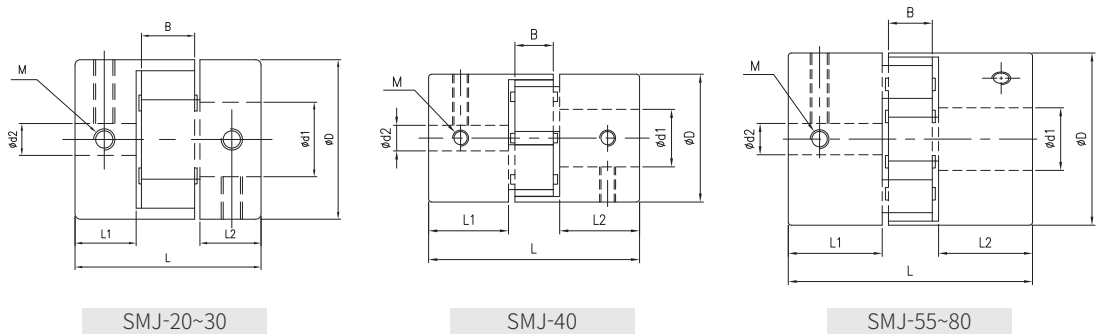
Model	Standard bores diameter d1×d2(mm) and Allowable Transmission torque (Nm)																									
	4	5	6	6.35	7	8	9	10	11	12	14	15	16	18	19	20	24	25	28	30	32	35	40	45		
SMJ-20C	1.8	2.3	2.8	2.8	3	3.4																				
SMJ-25C		3.5	4.1	4.4	4.9	5.3	5.7																			
SMJ-30C			8.5	8.5	9.1	9.8	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



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Specifications(SMJ)

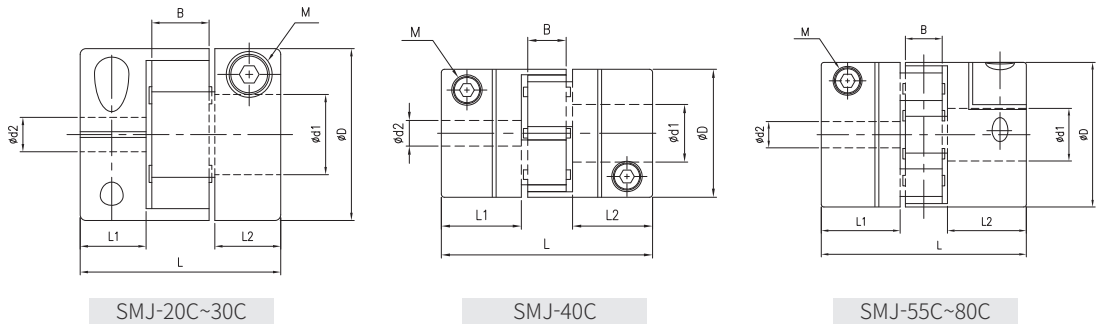
Model	Rated Torque (Nm)	Max Torque (Nm)	Max speed (rpm)	Torsional stiffness (Nm/rad)	Moment of inertia (kg m ²)	Maximum allowable misalignment			Mass (g)
						Parallel misalignment (mm)	Angular misalignment (°)	Axial displacement (mm)	
SMJ-20	5	10	10,000	29	1.0×10^{-6}	0.1	1	±0.8	18
SMJ-25	9	18	10,000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

Specifications/ Dimensions



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Specifications(SMJ-C)

Model	Rated Torque (Nm)	Max Torque (Nm)	Max speed (rpm)	Torsional stiffness (Nm/rad)	Moment of inertia (kg m ²)	Maximum allowable misalignment			Mass (g)
						Parallel misalignment (mm)	Angular misalignment (°)	Axial displacement (mm)	
SMJ-20C	5	10	10,000	29	1.1×10 ⁻⁶	0.1	1	±0.8	19
SMJ-25C	9	18	10,000	45	2.4×10 ⁻⁶	0.1	1	±1.0	25
SMJ-30C	10	20	10,000	73	6.2×10 ⁻⁶	0.1	1	±1.0	50
SMJ-40C	15	30	8,000	570	3.1×10 ⁻⁵	0.1	1	±1.2	135
SMJ-55C	60	120	7,000	1,600	1.6×10 ⁻⁴	0.1	1	±1.4	330
SMJ-65C	160	320	5,900	3,000	3.8×10 ⁻⁴	0.1	1	±1.5	560
SMJ-80C	320	640	4,500	6,500	1.0×10 ⁻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 pan springs allow parallel misalignment, angular misalignment and axial displacement.
- Characteristics of forward and reverse rotation are identical.
- Low moment of inertia and excellent torsional rigidity.
- Suitable for servo motors.

Structure

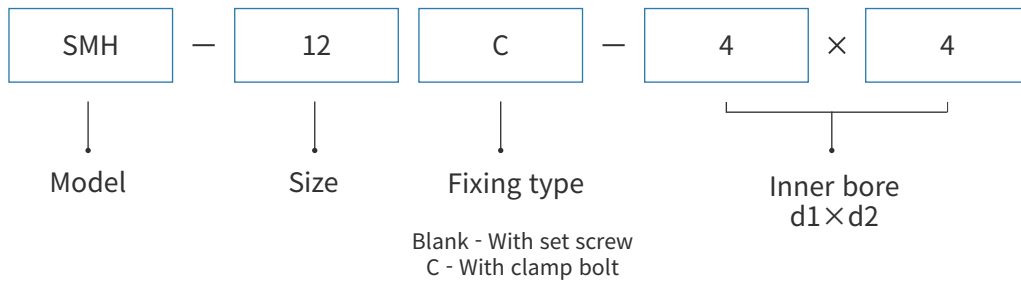
Clamp bolt : High-strength bolt



Body : 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

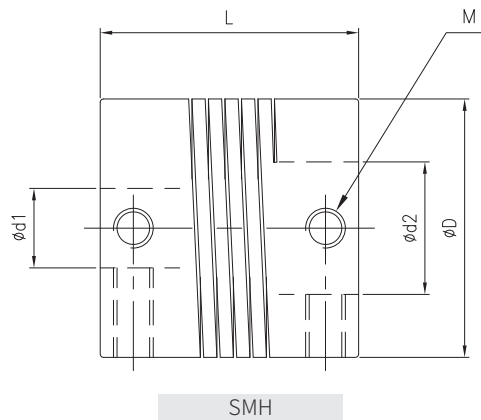
Note)

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)

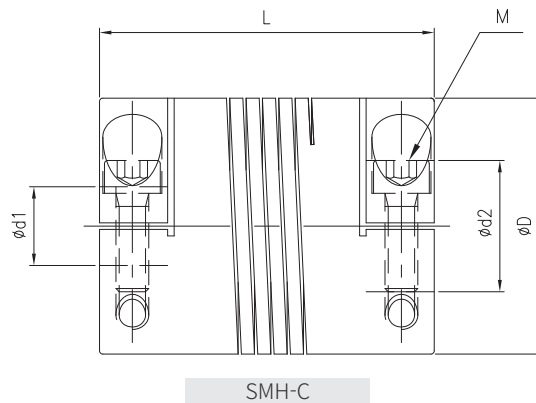
Model	Rated Torque (Nm)	Max Torque (Nm)	Max speed (rpm)	Torsional stiffness (Nm/rad)	Moment of inertia (kg m ²)	Maximum allowable misalignment			Mass (g)
						Parallel misalignment (mm)	Angular misalignment (°)	Axial displacement (mm)	
SMH-12	0.1	0.2	10,000	4	9.3×10^{-8}	0.25	5	±0.25	4
SMH-16	0.18	0.36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



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Specifications(SMH-C)

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



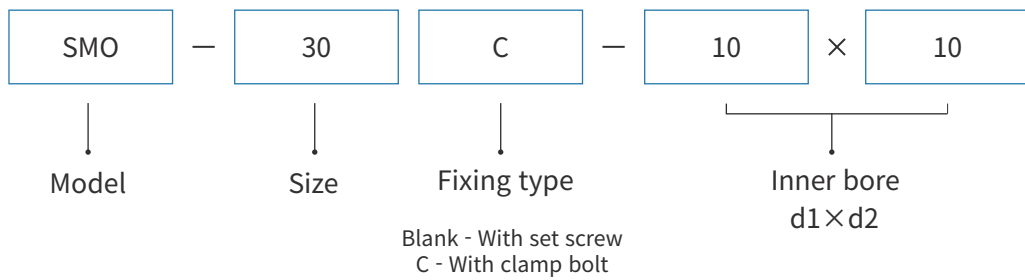
- Shaft ends load is reduced due to small radial load caused by misalignment in the axial direction.
- Allows large parallel and angular misalignment due to hub and element slip properties.
- It has electrical insulation.
- Simple structure and easy assembly.

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	19	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

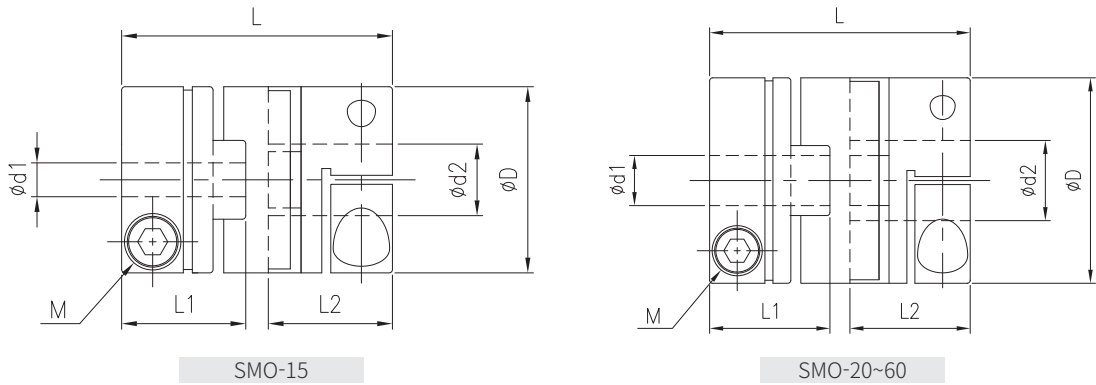
Model	Standard bores diameter d1 × d2 (mm) and Allowable Transmission torque (Nm)																			
	3	4	5	6	6.35	8	9.53	10	12	14	15	16	18	20	22	24	25	26	28	30
SMO-15C	1.4	1.4	1.4	1.4	1.4															
SMO-20C			2.4	2.4	2.4	2.4														
SMO-25C				3.9	3.9	4	4	4												
SMO-30C				8	8	9	9	9	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

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)

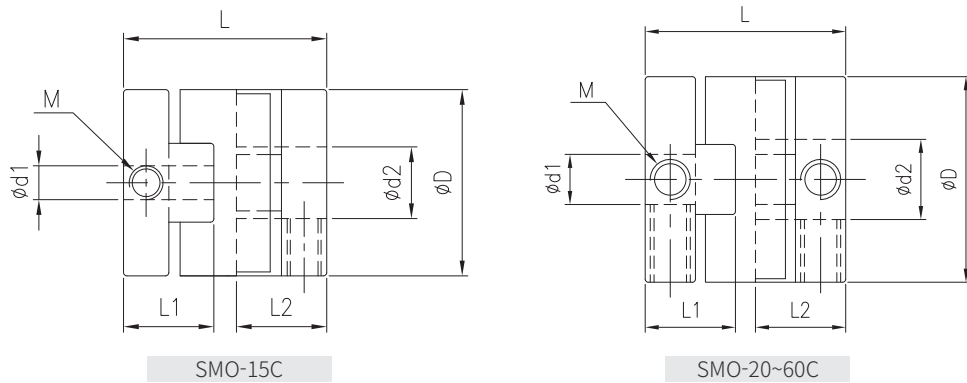
Model	Rated Torque (Nm)	Max Torque (Nm)	Max speed (rpm)	Torsional stiffness (Nm/rad)	Moment of inertia (kg m ²)	Maximum allowable misalignment			Mass (g)
						Parallel misalignment (mm)	Angular misalignment (°)	Axial displacement (mm)	
SMO-15	0.6	1.2	8,000	33	2.6×10^{-7}	1	3	±0.1	7.5
SMO-20	1.1	2.2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



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Specifications(SMO-C)

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