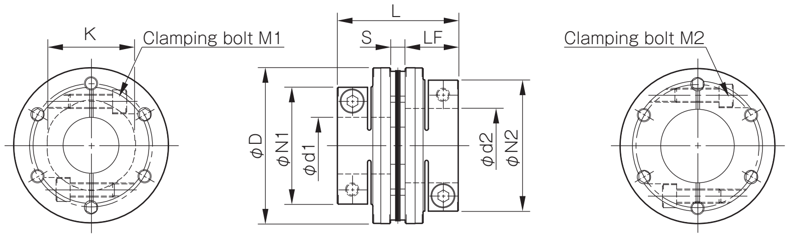
SFM Models Clamping

Specifications

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m^2]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFM-060SS-□B-□B-60N	60	0.02	1	±0.3	24000	104000	399	0.22×10^{-3}	0.52
SFM-060SS-□B-□B-80N	80	0.02	1	±0.3	24000	104000	399	0.23×10^{-3}	0.49
SFM-070SS-□B-□B-90N	90	0.02	1	±0.5	24000	240000	484	0.40×10^{-3}	0.72
SFM-070SS-□B-□B-100N	100	0.02	1	±0.5	24000	240000	484	0.42×10^{-3}	0.67
SFM-080SS-□B-□B-150N	150	0.02	1	±0.5	24000	120000	96	0.79×10^{-3}	1.04
SFM-080SS-□B-□B-200N	200	0.02	1	±0.5	24000	310000	546	1.25×10^{-3}	1.40
SFM-090SS-□B-□B-250N	250	0.02	1	±0.6	24000	520000	321	1.54×10^{-3}	1.62
SFM-090SS-□B-□B-300N	300	0.02	1	±0.6	24000	520000	321	1.58×10^{-3}	1.53
SFM-100SS-□B-□B-450N	450	0.02	1	±0.65	20000	740000	540	3.27×10^{-3}	2.53
SFM-120SS-□B-□B-600N	600	0.02	1	±0.8	20000	970000	360	6.90×10^{-3}	3.78

* Torsional stiffness values given are calculated for the element alone.
* The moment of inertia and mass are measured for the maximum bore diameter.

Dimensions



Model	d1 [mm]	d2 [mm]	D [mm]	L [mm]	N1・N2 [mm]	LF [mm]	S [mm]	K [mm]	M1・M2 Qty - Nominal dia.	M1・M2 Tightening torque [N・m]
SFM-060SS-□B-□B-60N	12・14・15・16・17・18・19	12・14・15・16・17・18・19・20・22	58	53.4	44	24	5.4	32	2-M6	14
	–	24・25・28			48				2-M5	7
	–	30			52					
SFM-060SS-□B-□B-80N	20・22	20・22	58	53.4	44	24	5.4	32	2-M6	14
	24・25・28	24・25・28			48				2-M5	7
	30	30			52					
SFM-070SS-□B-□B-90N	18・19	18・19・20・22・24・25	68	55.9	47	25	5.9	38	2-M6	14
	–	28・30・32・35			56					
SFM-070SS-□B-□B-100N	20・22・24・25	20・22・24・25	68	55.9	47	25	5.9	38	2-M6	14
	28・30・32・35	28・30・32・35			56					
SFM-080SS-□B-□B-150N	22・24・25	22・24・25	78	68.3	53	30	8.3	37	2-M8	34
	28・30・32・35	28・30・32・35			56				2-M6	14
SFM-080SS-□B-□B-200N	22・24・25	22・24・25	78	67.7	53	30	7.7	42	2-M8	34
	28・30・32・35	28・30・32・35			70					
	38	38			74					
SFM-090SS-□B-□B-250N	25・28	25・28・30・32	88	68.3	66	30	8.3	50	2-M8	34
	–	35・38・40・42			74					
SFM-090SS-□B-□B-300N	30・32	30・32	88	68.3	66	30	8.3	50	2-M8	34
	35・38・40・42	35・38・40・42			74					
SFM-100SS-□B-□B-450N	32・35・38・40・42・45・48	32・35・38・40・42・45・48	98	90.2	84	40	10.2	56	2-M10	68
SFM-120SS-□B-□B-600N	32・35・38・40・42・45	32・35・38・40・42・45	118	90.2	84	40	10.2	68	2-M10	68
	48・50・55	48・50・55			100					

* Nominal diameter of clamping bolt M1/M2 is given as number of bolts - nominal diameter, and the number is the number for one hub.

Standard Bore Diameter

Model		Standard bore diameter d1·d2 [mm]																					
	Nominal diameter	12	14	15	16	17	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55
SFM-060SS-□B-□B-60N	d1	●	●	●	●	●	●	●															
	d2	●	●	●	●	●	●	●	●	●	●	●	●	●									
SFM-060SS-□B-□B-80N	d1								●	●	●	●	●	●									
	d2								●	●	●	●	●	●									
SFM-070SS-□B-□B-90N	d1						●	●															
	d2						●	●	●	●	●	●	●	●	●	●							
SFM-070SS-□B-□B-100N	d1								●	●	●	●	●	●	●	●							
	d2								●	●	●	●	●	●	●	●							
SFM-080SS-□B-□B-150N	d1									●	●	●	●	●	●	●							
	d2									●	●	●	●	●	●	●							
SFM-080SS-□B-□B-200N	d1									●	●	●	●	●	●	●	●						
	d2									●	●	●	●	●	●	●	●						
SFM-090SS-□B-□B-250N	d1											●	●										
	d2											●	●	●	●	●	●	●	●				
SFM-090SS-□B-□B-300N	d1													●	●	●	●	●	●				
	d2													●	●	●	●	●	●				
SFM-100SS-□B-□B-450N	d1														●	●	●	●	●	●	●		
	d2														●	●	●	●	●	●	●		
SFM-120SS-□B-□B-600N	d1														●	●	●	●	●	●	●	●	●
	d2														●	●	●	●	●	●	●	●	●

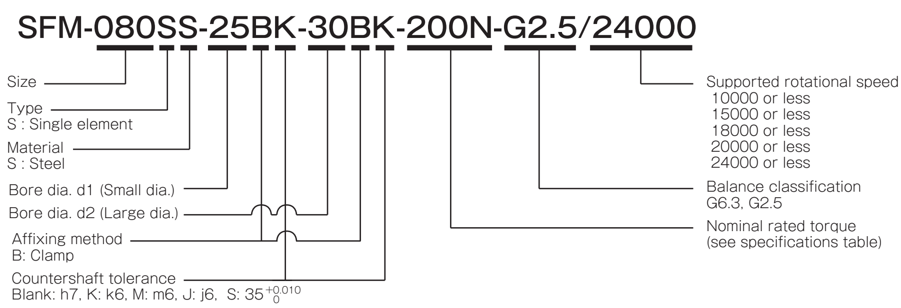
* The bore diameters marked with ● are supported as standard bore diameter.

Balance correction

Model (size)	Balance classification	Supported rotational speed [min⁻¹]				
		10000 or less	15000 or less	18000 or less	20000 or less	24000 or less
SFM-060SS	G6.3 • G2.5	●	●	●	●	●
SFM-070SS	G6.3 • G2.5	●	●	●	●	●
SFM-080SS	G6.3 • G2.5	●	●	●	●	●
SFM-090SS	G6.3 • G2.5	●	●	●	●	●
SFM-100SS	G6.3 • G2.5	●	●	●	●	
SFM-120SS	G6.3 • G2.5	●	●	●	●	

* We will perform balance correction for supported rotational speeds marked with ●.

How to Place an Order



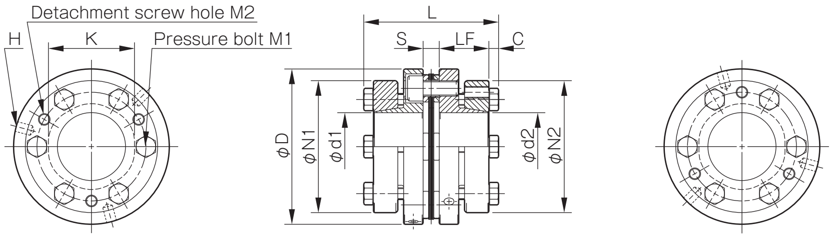
SFM Models Wedge Coupling

Specifications

Model	Rated torque [N·m]	Misalignment			Max. rotation speed [min^{-1}]	Torsional stiffness [N·m/rad]	Axial stiffness [N/mm]	Moment of inertia [kg·m²]	Mass [kg]
		Parallel [mm]	Angular [°]	Axial [mm]					
SFM-070SS-□K-□K-100N	100	0.02	1	±0.5	24000	240000	484	0.66×10^{-3}	0.92
SFM-080SS-□K-□K-150N	150	0.02	1	±0.5	24000	120000	96	1.21×10^{-3}	1.03
SFM-080SS-□K-□K-200N	200	0.02	1	±0.5	24000	310000	546	1.11×10^{-3}	1.26
SFM-090SS-□K-□K-300N	300	0.02	1	±0.6	24000	520000	321	1.75×10^{-3}	1.48
SFM-100SS-□K-□K-450N	450	0.02	1	±0.65	20000	740000	540	2.56×10^{-3}	1.87
SFM-120SS-□K-□K-600N	600	0.02	1	±0.8	20000	970000	360	5.33×10^{-3}	2.50
SFM-140SS-□K-□K-800N	800	0.02	1	±1.0	20000	1400000	360	10.28×10^{-3}	4.66
SFM-140SS-□K-□K-1000N	1000	0.02	1	±1.0	20000	1400000	360	14.70×10^{-3}	5.01

* Torsional stiffness values given are calculated for the element alone.
* The moment of inertia and mass are measured for the maximum bore diameter.

Dimensions



Model	d1 [mm]	d2 [mm]	D [mm]	L [mm]	N1・N2 [mm]	LF [mm]	S [mm]	C [mm]	K [mm]	H [mm]	M1 Qty - Nominal dia.	M1 Tightening torque [N・m]	M2 Qty - Nominal dia.
SFM-070SS-□K-□K-100N	18・19	18・19	68	62.9	53	23.5	5.9	5	38	3-5.1	6-M6	10	3-M6
	20・22・24・25	20・22・24・25			58								
	28・30	28・30			63								
	32・35	32・35			68								
SFM-080SS-□K-□K-150N	22・24・25	22・24・25	78	69.3	58	25.5	8.3	5	37	4-5.1	4-M6	10	2-M6
	28・30	28・30			63								
	32・35	32・35			68								
	–	38			73								
SFM-080SS-□K-□K-200N	22・24・25	22・24・25	78	68.7	58	25.5	7.7	5	42	3-5.1	6-M6	10	3-M6
	28・30	28・30			63								
	32・35	32・35			68								
	38	38			73								
SFM-090SS-□K-□K-300N	28・30	28・30	88	69.3	63	25.5	8.3	5	50	3-6.8	6-M6	10	3-M6
	32・35	32・35			68								
	38・40・42	38・40・42			73								
	45	45			78								
	48	48			83								
SFM-100SS-□K-□K-450N	32・35	32・35	98	75.2	68	27.5	10.2	5	56	3-6.8	6-M6	10	3-M6
	38・40・42	38・40・42			73								
	45	45			78								
	48・50	48・50			83								
SFM-120SS-□K-□K-600N	35	35	118	75.2	68	27.5	10.2	5	68	3-6.8	6-M6	10	3-M6
	38・40・42	38・40・42			73								
	45	45			78								
	48・50・52	48・50・52			83								
	55	55			88								
	60・62・65	60・62・65			98								
	–	70			108								
SFM-140SS-□K-□K-800N	35・38	35・38	138	94.6	83	36.5	10.6	5.5	78	3-8.6	6-M8	24	3-M8
	40・42・45	40・42・45			88								
	–	48・50・52			98								
	–	55・60			108								
	–	62・65・70			118								
	–	75・80			128								
SFM-140SS-□K-□K-1000N	48・50・52	48・50・52	138	94.6	98	36.5	10.6	5.5	78	3-8.6	6-M8	24	3-M8
	55・60	55・60			108								
	62・65・70	62・65・70			118								
	75	75・80			128								

* The nominal diameters of the pressure bolt M1 and detachment screw hole M2 are equal to the quantity minus the nominal diameter of the screw threads. The quantities of H, M1 and M2 are the same as the quantity for a hub on one side.

Standard Bore Diameter

Model		Standard bore diameter d1·d2 [mm]																							
	Nominal diameter	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	52	55	60	62	65	70	75	80
SFM-070SS-□K-□K-100N	d1	●	●	●	●	●	●	●	●	●	●														
	d2	●	●	●	●	●	●	●	●	●	●														
SFM-080SS-□K-□K-150N	d1				●	●	●	●	●	●	●														
	d2				●	●	●	●	●	●	●	●													
SFM-080SS-□K-□K-200N	d1				●	●	●	●	●	●	●	●													
	d2				●	●	●	●	●	●	●	●													
SFM-090SS-□K-□K-300N	d1							●	●	●	●	●	●	●	●	●									
	d2							●	●	●	●	●	●	●	●	●									
SFM-100SS-□K-□K-450N	d1									●	●	●	●	●	●	●	●								
	d2									●	●	●	●	●	●	●	●								
SFM-120SS-□K-□K-600N	d1										●	●	●	●	●	●	●	●	●	●	●	●			
	d2										●	●	●	●	●	●	●	●	●	●	●	●	●		
SFM-140SS-□K-□K-800N	d1										●	●	●	●	●										
	d2										●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SFM-140SS-□K-□K-1000N	d1															●	●	●	●	●	●	●	●	●	
	d2															●	●	●	●	●	●	●	●	●	●

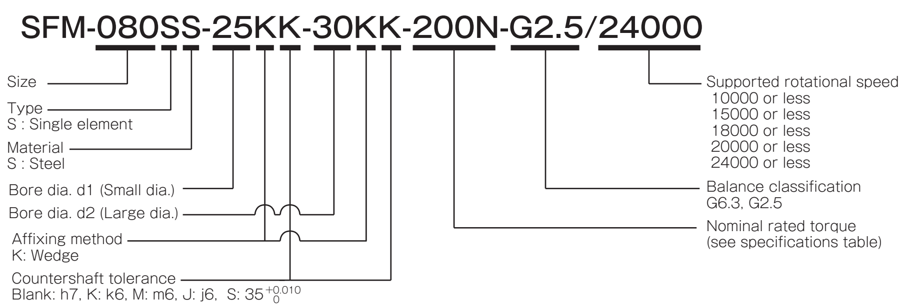
* The bore diameters marked with ● are supported as standard bore diameter.

Balance correction

Model (size)	Balance classification	Supported rotational speed [min⁻¹]				
		10000 or less	15000 or less	18000 or less	20000 or less	24000 or less
SFM-070SS	G6.3 • G2.5	●	●	●	●	●
SFM-080SS	G6.3 • G2.5	●	●	●	●	●
SFM-090SS	G6.3 • G2.5	●	●	●	●	●
SFM-100SS	G6.3 • G2.5	●	●	●	●	
SFM-120SS	G6.3 • G2.5	●	●	●	●	
SFM-140SS	G6.3 • G2.5	●	●	●	●	

* We will perform balance correction for supported rotational speeds marked with ●.

How to Place an Order



SFM Models

Items Checked for Design Purposes

Special Items to Take Note of

You should note the following to prevent any problems.

(1) Always be careful of parallel, angular, and axial misalignment.

(2) Always tighten bolts with the specified torque.

Precautions for Handling

Couplings are assembled at high accuracy using a special mounting jig to ensure accurate concentricity of left and right internal diameters. Take extra precautions when handling couplings, should strong shocks be given on couplings, it may affect mounting accuracy and cause the parts to break during use.

(1) Couplings are designed for use within an operating temperature range of -30° C to 120℃ . Although the couplings are designed to be waterproof and oilproof, do not subject them to excessive amounts of water and oil as it may cause part deterioration.

(2) Handle the element with care as it is made of a thin stainless steel metal disc, also making sure to be careful so as not to injure yourself.

(3) Do not tighten up clamping bolts or pressure bolts until after inserting the mounting shaft.

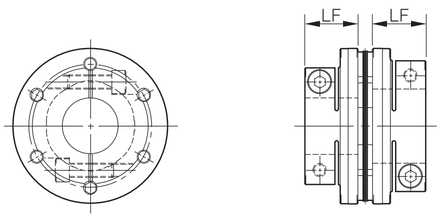
(4) Mounting shaft is assumed to be a round shaft.

Mounting (Clamping)

(1) Check that coupling clamping bolts have been loosened and remove any rust, dust, oil residue, etc. from the inner diameter surfaces of the shaft and couplings. In particular, never allow oil or grease containing antifriction or other agent (molybdenum-, silicon-, or fluorine-based), which would dramatically affect the friction coefficient, to contact the surface.

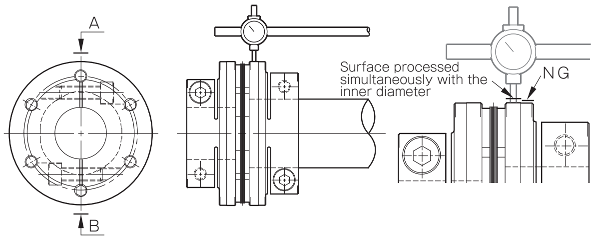
(2) Be careful when inserting the couplings into the shaft so as not to apply excessive force of compression or tensile force to the element.

(3) Ensure that the length of the coupling inserted onto the motor shaft touches the shaft for the entire length of the clamping hub of the coupling (LF dimension), as shown in the diagram below, and position it so that it does not interfere with the elements, spacers or the other shaft. Then temporarily tighten the two clamping bolts, tightening them alternately until the coupling cannot be manually rotated.



Model (Clamping)	LF dimension [mm]
SFM-060	24
SFM-070	25
SFM-080	30
SFM-090	30
SFM-100	40
SFM-120	40

(4) Hold a dial gauge against the outer diameter of the clamping hub on the motor shaft side (the surface processed simultaneously with the inner diameter), and then tighten the two clamping bolts while turning the motor shaft by hand and adjusting the difference in the runout values at A and B in the figure below is 0.02 mm or less (and as close to 0 as possible).



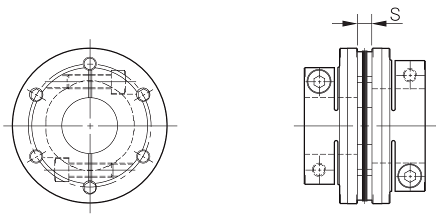
(5) Alternately fasten the two clamping bolts as you adjust them, and finish by tightening both bolts to the appropriate tightening torque of the following table, using a calibrated torque wrench.
Since it is fastened by two clamping bolts, tightening one bolt before the other will place more than the prescribed axial force on the bolt tightened first when the other bolt is tightened. Be sure to tighten them alternately, a little at a time.

Clamping bolt nominal diameter	Tightening torque [N·m]
M5	7
M6	14
M8	34
M10	68

(6) Mount the motor, to which the coupling has already been mounted, on the body of the machinery. At that time, adjust the motor mounting position (centering location) while inserting the coupling onto the driven shaft, being alert to undue forces on the element such as compression or pulling.

(7) Make the length of the driven shaft inserted into the coupling connect to the shaft for the length of the LF dimension (described above), alternately tighten the two clamping bolts, and provisionally tighten enough that the coupling cannot be manually rotated.

(8) In addition, keep the dimension between clamping hub faces (the S dimension in the diagram) to within the allowable misalignment of the axial displacement with respect to a reference value. Note that the tolerance values were calculated based on the assumption that both the level of parallel misalignment and angular deflection are zero. Adjust to keep this value as low as possible.



Model (Clamping)	S dimension [mm]
SFM-060	5.4
SFM-070	5.9
SFM-080 (-150N)	8.3
SFM-080 (-200N)	7.7
SFM-090	8.3
SFM-100	10.2
SFM-120	10.2

(9) Adjust runout using the same procedure as for the motor shaft side, and then finish by tightening the clamping bolts to the appropriate tightening torque.

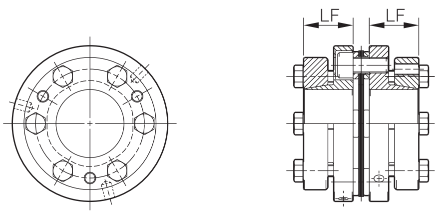
(10) To protect against initial loosening of the clamping bolt, we recommend operating for a set period of time and then retightening to the appropriate tightening torque.

Mounting (Wedge Coupling)

(1) Check that coupling pressure bolts have been loosened and remove any rust, dust, oil residue, etc. from the inner diameter surfaces of the shaft and couplings. In particular, never allow oil or grease containing antifriction or other agent (molybdenum-, silicon-, or fluorine-based), which would dramatically affect the friction coefficient, to contact the surface.

(2) Be careful when inserting the couplings into the shaft so as not to apply excessive force of compression or tensile force to the element.

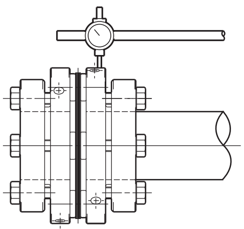
(3) Insert each coupling far enough onto the motor shaft that it touches the shaft along the entire length of the coupling flange (LF dimension), as shown in the diagram below. Position it so that it does not interfere with the elements, spacers or the other shaft and then hold it in place.



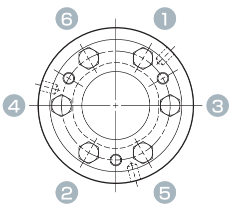
Model (Wedge coupling)	LF dimension [mm]
SFM-070	23.5
SFM-080	25.5
SFM-090	25.5
SFM-100	27.5
SFM-120	27.5
SFM-140	36.5

(4) Using the drive pin hole, lightly tighten the pressure bolt on the diagonal.

(5) Touch the dial gauge to the flange end face or outer diameter on the motor shaft side. Then, while gently rotating the motor shaft manually, adjust the flange periphery and end face by hammering until the runout is as close to zero as possible.



(6) Sequentially fasten the pressure bolts while doing hammering adjustments, and then use a calibrated torque wrench to tighten all the pressure bolts to the appropriate tightening torques below. See the following figure for the tightening procedure for the pressure bolts. Try to tighten them evenly.

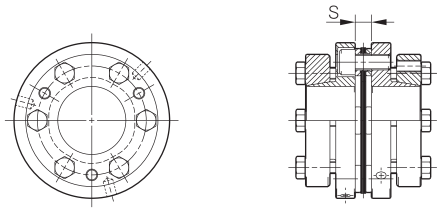


Pressure bolt nominal diameter	Tightening torque [N·m]
M6	10
M8	24

(7) Tighten the motor shaft's pressure bolts at the nominal torque and check that the runout value is low.

(8) Mount the motor, to which the coupling has already been mounted, on the body of the machinery. At that time, adjust the motor mounting position (centering location) while inserting the coupling onto the driven shaft, being alert to any deformation of the disc, etc. Make the length of the driven shaft inserted into the coupling be in contact with the entire length of the coupling flange (LF dimension), and maintain it at that position.

(9) Keep the width of the dimension between flange faces (S dimension in the diagram) within the allowable error range for axial misalignment with respect to the reference value. Note that the tolerance values were calculated based on the assumption that both the level of parallel misalignment and angular deflection are zero. Adjust to keep this value as low as possible.



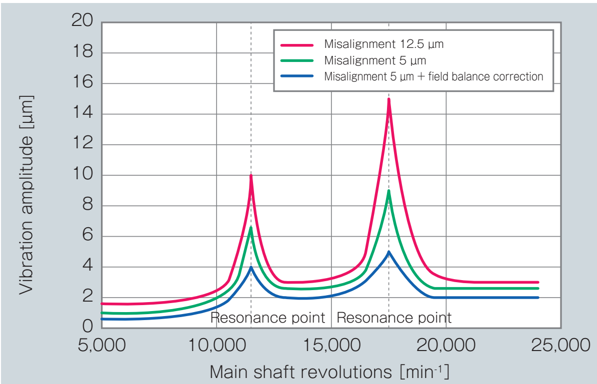
Model	S dimension [mm]
SFM-070	5.9
SFM-080 (-150N)	8.3
SFM-080 (-200N)	7.7
SFM-090	8.3
SFM-100	10.2
SFM-120	10.2
SFM-140	10.6

(10) Tighten the pressure bolts on the driven shaft in order using the same procedure as for the pressure bolts on the motor shaft side, and then finish by tightening to the appropriate tightening torque.

(11) To protect against initial loosening of the pressure bolt, we recommend operating for a set period of time and then retightening to the appropriate tightening torque.

Important when Combining for High-Revolution (Main Shaft) Applications

For high-revolution applications such as a machining center main shaft, vibration can become an issue.
One cause of vibration at high revolutions is misalignment of shaft axes when combining the spindle motor and the main shaft, with vibration still occurring even with balance correction of the coupling itself.
While it is possible to allow for some misalignment occurring as parallel, angular, or axial displacement, it is particularly important to take care with misalignment with high-revolution applications. Be sure to perform axial adjustment during assembly and field balance correction after assembly.



*Couplings used in the above measurements had undergone balance correction on an individual basis.

SFM Models

Items Checked for Design Purposes

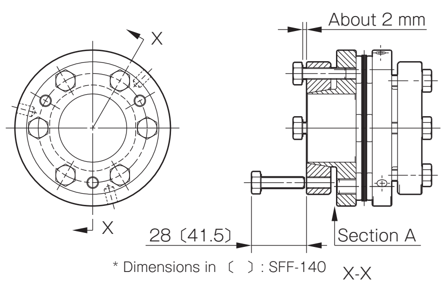
Removal

(1) Check to confirm that there is no torque or axial load being applied to the coupling. There may be cases where a torque is applied to the coupling, particularly when the safety brake is being used. Make sure to verify that this is not occurring before removing parts.

(2) Loosen all the clamping bolts or pressure bolts (loosen pressure bolts until the gap between bearing seat and sleeve is about 2mm).

(3) For clamping type, release the fastening to the shaft by sufficiently loosening all clamping bolts. Note that grease has been applied to the clamping bolts, so do not remove them all the way.

(4) In the case of a wedge coupling system that tightens a pressure bolt from the axial direction, the sleeve will be self-locking, so the coupling between flange and shaft cannot be released simply by loosening the pressure bolt. (Note that in some cases, a coupling can be released by loosening a pressure bolt.) For that reason, when designing devices, a space must be installed for inserting a detachment screw.



* Dimensions in ( ) : SFF-140

(5) Pull out three of the pressure bolts (two 080, 150 N) loosened in step (2), insert them into the detachment screw holes on the sleeve, and tighten them in order, a little at a time. The coupling will be released.

(6) If there is no space in the axial direction, insert the tip of a flathead screwdriver or the like into part A and lightly tap perpendicular to the shaft or use it as a lever to pry off the coupling. Use appropriate caution to not damage the coupling body or the pressure bolts.

Suitable Torque Screwdriver/Torque Wrench

Clamping bolt

Nominal bolt diameter	Tightening torque [N・m]	Torque screwdriver/ wrench	Hexagon bit/ head	Coupling size
M5	7	N10LTDK	SB 4mm	060
M6	14	N25LCK	25HCK 5mm	060・070・080
M8	34	N50LCK	50HCK 6mm	080・090
M10	68	N100SPCK × 68N・m	100HCK 8mm	100・120

* Torque screwdriver (wrench)/bit (head) models are those of Nakamura Mfg. Co., Ltd.

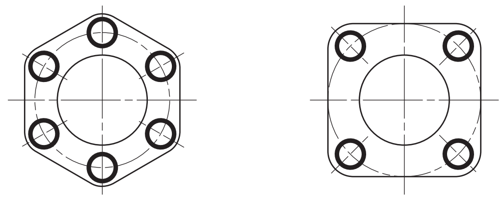
Pressure bolt

Nominal bolt diameter	Tightening torque [N・m]	Torque wrench	Spanner head	Coupling size
M6	10	N12SPCK × 10N・m	25SCK 10mm	070 ~ 120
M8	24	N50SPCK × 24N・m	50SCK 13mm	140

* Torque wrench/spanner head models are those of Nakamura Mfg. Co., Ltd.

Differences in Torsional Stiffness due to Element Shape

Elements used by SFM models may be either square or hexagonal. Since torque is transmitted by coupling the hubs to each other via the element, torsional stiffness is higher in couplings that use hexagonal elements transmitting torque with six bolts, at the expense of some flexibility. Choose your element shape accordingly.



Model (nominal rated torque)	Element shape
SFM-060	Hexagonal
SFM-070	Hexagonal
SFM-080 (-150N)	Square
SFM-080 (-200N)	Hexagonal
SFM-090	Hexagonal
SFM-100	Hexagonal
SFM-120	Hexagonal
SFM-140	Hexagonal

Clamping and Wedge Coupling in Combination

For the range of common sizes between clamping and wedge coupling (070 - 120), a common element is used per each size allowing you to use them in combination.
When specifying bore diameters in this instance, specify d1: clamping, d2: wedge coupling in that order, regardless of larger and smaller bore diameters.

Example) SFM-080SS-30B-25K-200N-G2.5/24000

Bore dia. d1
Affixing method B : Clamp
Affixing method K: Wedge
Bore dia. d2

Rated torques after combination are given for the clamping side. See the table below.

d1 clamping (designation B)		d2 wedge coupling (designation K)		Rated torque after combination [N·m]
Model	Bore diameter range [mm]	Model	Bore diameter range [mm]	
SFM-070 (-90N)	18・19	SFM-070 (-100N)	18 ~ 35	90
SFM-070 (-100N)	20 ~ 35	SFM-070 (-100N)	18 ~ 35	100
SFM-080 (-150N)	22 ~ 35	SFM-080 (-150N)	22 ~ 38	150
SFM-080 (-200N)	22 ~ 38	SFM-080 (-200N)	22 ~ 38	200
SFM-090 (-250N)	25・28	SFM-090 (-300N)	28 ~ 48	250
SFM-090 (-300N)	30 ~ 42	SFM-090 (-300N)	28 ~ 48	300
SFM-100 (-450N)	32 ~ 48	SFM-100 (-450N)	32 ~ 50	450
SFM-120 (-600N)	32 ~ 55	SFM-120 (-600N)	35 ~ 70	600

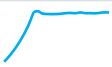
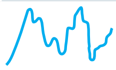
Selection Procedures

(1) Find the torque, Ta, applied to the coupling using the output capacity, P, of the driver and the usage rotation speed, n.

$$Ta\ [N\cdot m] = 9550 \times \frac{P\ [kW]}{n\ [min^{-1}]}$$

(2) Determine the factor K from the load properties, and find the corrected torque, Td, applied to the coupling.

$$Td\ [N\cdot m] = Ta\ [N\cdot m] \times K\text{(Refer to the table below for values)}$$

Load properties	Constant	Vibrations: Small	Vibrations: Medium	Vibrations: Large
				
K	1.0	1.25	1.75	2.25

For servo motor drive, multiply the maximum torque, Ts, by the usage factor K = 1.2 to 1.5.

$$Td\ [N\cdot m] = Ts\ [N\cdot m] \times (1.2 \sim 1.5)$$

For high-revolution applications such as a machining center main shaft, it is necessary to set a high safety factor unlike common feed screw systems.
Multiply the maximum torque of spindle motor: Ts by the service factor: K=3 to 3.6.

$$Td\ [N\cdot m] = Ts\ [N\cdot m] \times (3 \sim 3.6)$$

(3) Set the size so that the rated coupling torque, Tn, is higher than the corrected torque, Td.

$$Tn\ [N\cdot m] \geqq Td\ [N\cdot m]$$

(4) Check that the mount shaft is no larger than the maximum bore diameter of the coupling.

* Contact Miki Pulley for assistance with any device experiencing extreme periodic vibrations.