

Shafts

Hex Socket Type

Shafts – Hex Socket Type



RoHS 10

- Features of Low Temperature Black Chrome Plating P.213.
- Circularity, Straightness, Perpendicularity, Concentricity and Changes in Hardness P.198.
- Annealing may lower hardness at shaft end machined areas (effective thread length + approx. 10 mm). P.199

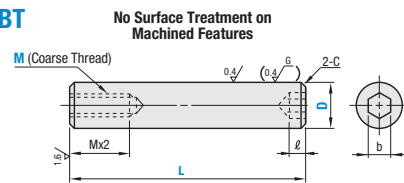
Hex Socket Dimensions

D	b	Hex Socket Depth ℓ
6	2.5	3.5
8	3	4.5
10	4	6
12 / 13 / 15	5	7.5
16 / 18	6	9
20	8	12

Type			D Tol.	Material	Hardness	Surface Treatment
Tapped Type	Stepped and Tapped	Threaded Type				
SFBT	SFBH	SFBN	g6	52100 Bearing Steel Equivalent	Effective Hardened Depth of Induction Hardened P.199	—
SSFBT	SSFBH	SSFBN		SUS440C (13Cr) Stainless Steel Equivalent		
PSFBT	PSFBH	PSFBN		52100 Bearing Steel Equivalent	52100 Bearing Steel Equivalent 58 HRC min.	
PSSFBT	PSSFBH	PSSFBN		SUS440C (13Cr) Stainless Steel Equivalent	SUS440C (13Cr) Stainless Steel Equivalent 56 HRC min.	
RSFBT	RSFBH	RSFBN		52100 Bearing Steel Equivalent	Hard Chrome Plating Plating Hardness: 750 HV min. Plating Thickness: 5 μ or More	

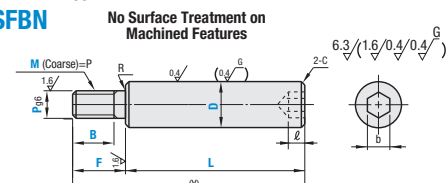
Tapped Type

SFBT



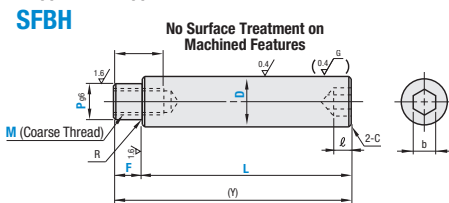
Threaded Type

SFBN



Stepped and Tapped

SFBH



Tapped Type / Stepped and Tapped Type

Part Number		1 mm Increments				M (Tapped)	M (Stepped and Tapped)	(Y) Max.	R	C
Type	D	L (Tapped)	L (Stepped and Tapped)	F	P					
Tapped Type	*6	20-300	—	2 ≤ F ≤ P x 4	—	3	—	0.3 or Less	0.5 or Less	
SFBT	8	20-400	25-400		6	3 4 5	3			424
SSFBT	10	20-500	25-500		6-8	3 4 5 6	3 4 5			532
PSFBT	12	20-600	25-600		6-10	4 5 6 8	3 4 5 6			640
PSSFBT	13	25-650	25-650		6-11	4 5 6 8	3 4 5 6 8			694
RSFBT	15	25-750	25-750		6-13	4 5 6 8 10	3 4 5 6 8 10			802
(L ≤ 500)	16	30-800	25-800		6-14	4 5 6 8 10	3 4 5 6 8 10			856
	18	30-900	25-900		8-16	4 5 6 8 10 12	4 5 6 8 10 12			964
	20	30-1000	25-1000		8-17	4 5 6 8 10 12	4 5 6 8 10 12			1068

Tapped Type: D=6 is available for Tapped Type only.
 Tapped Type: Mx2.5+4+ℓ ≤ L. When Mx2.5+4+ℓx1.5 ≥ L, tap pilot holes may go through.
 Stepped and Tapped Type: P ≥ M+3. Mx2.5+4+ℓ ≤ Y. When Mx2.5+4+ℓx1.5 ≥ Y, tap pilot hole may go through.

Threaded Type

Part Number		1 mm Increments				P	(Y) Max.	R	C	Coarse Thread Dimensions	
Type	D	L	F	B (Threaded)	M					Pitch	
Threaded Type SFBN SSFBN PSFBN PSSFBN RSFBN (L ≤ 500)	6	25-300	2 ≤ F ≤ P x 5	(When P ≤ 6) B ≤ F-2	3 4 5	330	0.3 or Less	0.5 or Less		3	0.5
	8	25-400			3 4 5 6	440				4	0.7
	10	25-500		4 5 6 8	550	5				0.8	
	12	25-600		5 6 8 10	660	6				1.0	
	13	25-650		5 6 8 10 12	715	8				1.25	
	15	25-750		5 6 8 10 12	825	10				1.5	
	16	25-800		5 6 8 10 12	880	12				1.75	
	18	25-900		5 6 8 10 12 16	990	16				2.0	
	20	25-1000	(When P=12 and 16) B ≤ F-5 B ≥ Pitch x 3	6 8 10 12 16	1100	1.0 or Less					

D > P

Shafts

Hex Socket Type, continued

Part Number	L	F	B	P	M
Example	SFBT20	- 525	-	-	- M8
	SFBH20	- 400	- F25	-	- P16 - M10
	SFBN20	- 500	- F25	- B20	- P16

Part Number	L	F	B	P (PMC / PSC)	M (MSC)	(LKC...etc.)
Alterations	SFBN20	- 250	- F40	- B30	- P10	- LKC

Alterations	Alteration to L Dimension Tolerance	Change to Fine Thread	Change to Fine Thread																																																																																																																												
Code	LKC	MSC	PMC / PMS																																																																																																																												
Spec.	Changes L Tolerance. Ordering Code: LKC L < 200 → L ± 0.03 200 ≤ L < 500 → L ± 0.05 L ≥ 500 → L ± 0.1 For use of LKC L dimensions can be specified in 0.1 mm increment. Not applicable when D-P ≤ 2.	Changes tapped threads to fine tapped threads shown in the table below. Ordering Code: MSC14 (Applicable to Tapped Type) <table border="1"> <thead> <tr> <th>D</th> <th colspan="4">MSC</th> </tr> </thead> <tbody> <tr> <td>12 / 13</td> <td>8</td> <td>10</td> <td></td> <td></td> </tr> <tr> <td>15 / 16</td> <td>8</td> <td>10</td> <td>12</td> <td></td> </tr> <tr> <td>18</td> <td>8</td> <td>10</td> <td>12</td> <td>14</td> </tr> <tr> <td>Pitch</td> <td>1.0</td> <td>1.25</td> <td>1.5</td> <td></td> </tr> </tbody> </table> Specify M dimensions with MSC. M dimension is equal to MSC. Not applicable to Stepped and Tapped Type.	D	MSC				12 / 13	8	10			15 / 16	8	10	12		18	8	10	12	14	Pitch	1.0	1.25	1.5		Changes the threads to fine threads shown in the table below. (PMC → Applicable to bearing nut fine thread pitches) (PMS → Applicable to cylinder fine thread pitches) Ordering Code: PMC17 (Applicable to Threaded Type only) <table border="1"> <thead> <tr> <th>D</th> <th colspan="4">PMC</th> <th colspan="4">PMS</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10</td> <td>4</td> <td>5</td> <td>6</td> <td>8</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>12</td> <td>5</td> <td>6</td> <td>8</td> <td>10</td> <td></td> <td></td> <td>10</td> <td></td> </tr> <tr> <td>13</td> <td>5</td> <td>6</td> <td>8</td> <td>10</td> <td>12</td> <td></td> <td>10</td> <td></td> </tr> <tr> <td>15</td> <td>5</td> <td>6</td> <td>8</td> <td>10</td> <td>12</td> <td></td> <td>10</td> <td>12</td> </tr> <tr> <td>16</td> <td>5</td> <td>6</td> <td>8</td> <td>10</td> <td>12</td> <td>15</td> <td>10</td> <td>12</td> </tr> <tr> <td>18</td> <td>5</td> <td>6</td> <td>8</td> <td>10</td> <td>12</td> <td>15</td> <td>10</td> <td>12</td> </tr> <tr> <td>20</td> <td>6</td> <td>8</td> <td>10</td> <td>12</td> <td>15</td> <td>17</td> <td>10</td> <td>12</td> </tr> <tr> <td>Pitch</td> <td>0.35</td> <td>0.5</td> <td>0.75</td> <td>1.0</td> <td>1.5</td> <td>1.25</td> <td>1.5</td> <td></td> </tr> </tbody> </table> Specify P dimensions with PMC (PMS). P dimension is equal to that of PMC (PMS).	D	PMC				PMS				6	3	4	5	6					8	3	4	5	6					10	4	5	6	8					12	5	6	8	10			10		13	5	6	8	10	12		10		15	5	6	8	10	12		10	12	16	5	6	8	10	12	15	10	12	18	5	6	8	10	12	15	10	12	20	6	8	10	12	15	17	10	12	Pitch	0.35	0.5	0.75	1.0	1.5	1.25	1.5	
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