

Round Stoppers / Shims for Round Stoppers Standard Type

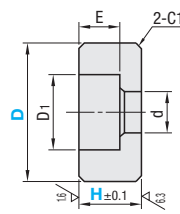
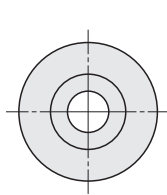
Counterbored Holes, Tapped Holes

■ **Features:** Use at stop point of equipments and workpieces. Selectable from Standard/Free Type according to the applications.



Standard
Configurable

AST
ASTNF



25 / (6.3 / 1.6)

Material: EN 1.1191
Equiv.
Hardness: 40~45HRC

Standard

Part Number	Type	No.	D	H	d	D ₁	E	Applicable Screw	Unit Price	Volume Discount Rate
3	AST	12	8	3.4	6.5	3.5	M 3			
4	AST	16	10	4.4	8	4.5	M 4			
5	AST	19	10	5.4	9.5	5.5	M 5			
6	AST	20	10	6.6	11	6.5	M 6			
8	AST	25	15	9	14	8.6	M 8			
10	AST	28	16	11	17.5	11	M10			
12	AST	30	18	14	20	13.5	M12			

For orders of 100 or more pieces, please request a quotation.

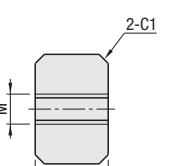
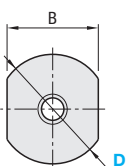
Configurable

Part Number	Type	No.	D	H	d	D ₁	E	Applicable Screw	Unit Price
3	ASTNF	10~15	5~30	3.4	6.5	3.5	M 3		
4	ASTNF	10~25	5~30	4.4	8	4.5	M 4		
5	ASTNF	12~35	5~30	5.4	9.5	5.5	M 5		
6	ASTNF	15~40	5~30	6.6	11	6.5	M 6		
8	ASTNF	16~50	5~30	9	14	8.6	M 8		
10	ASTNF	22~50	5~30	11	17.5	11	M10		
12	ASTNF	24~50	5~30	14	20	13.5	M12		

Round Stoppers - Tapped Holes

Standard
Configurable

ASTM
ASTMF



25 / (1.6)

Material: EN 1.1191 Equiv.
Hardness: 40~45HRC

Standard

Part Number	Type	No.	D	H	M (Coarse)	B	Unit Price	Volume Discount Rate
3	ASTM	12	8	M3	10			
4	ASTM	16	10	M4	14			
5	ASTM	19	10	M5	17			
6	ASTM	20	10	M6	17			
8	ASTM	25	15	M8	22			
10	ASTM	28	16	M10	24			
12	ASTM	30	18	M12	27			

For orders of 100 or more pieces, please request a quotation.

Configurable

Part Number	Type	No.	D	H	M (Coarse)	B	Unit Price
3	ASTMF	10~15	5~30	M3	D-2		
4	ASTMF	10~25	5~30	M4	D-2		
5	ASTMF	12~35	5~30	M5	D-2		
6	ASTMF	15~40	5~30	M6	D-2		
8	ASTMF	16~50	5~30	M8	D-2		
10	ASTMF	22~50	5~30	M10	D-2		
12	ASTMF	24~50	5~30	M12	D-2		



Ordering Example

Part Number	D	H	Alterations
AST8	12	10	(Counterbored Standard Type)
ASTNF3	12	10	(Counterbored Configurable Type)
ASTM6	12	15	(Tapped Hole Standard Type)
ASTMF5	12	15	(Tapped Hole Configurable Type)



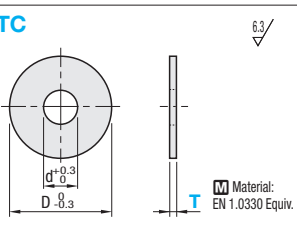
Alterations

Part Number	D	H	ZG
ASTNF4	12	10	ZG

Alterations	Counterbored Hole Depth																
Code	ZG																
Spec.	<table><tr><th>Applicable Screw</th><th>E</th></tr><tr><td>M3</td><td>-</td></tr><tr><td>M4</td><td>5.6</td></tr><tr><td>M5</td><td>6.7</td></tr><tr><td>M6</td><td>8.0</td></tr><tr><td>M8</td><td>10.6</td></tr><tr><td>M10</td><td>13.2</td></tr><tr><td>M12</td><td>15.5</td></tr></table> Applicable to ASTNF only Not applicable to M3	Applicable Screw	E	M3	-	M4	5.6	M5	6.7	M6	8.0	M8	10.6	M10	13.2	M12	15.5
Applicable Screw	E																
M3	-																
M4	5.6																
M5	6.7																
M6	8.0																
M8	10.6																
M10	13.2																
M12	15.5																

Shims for Round Stoppers Standard Type

ASTC



Material: EN 1.0330 Equiv.

Part Number	Type	No.	T Selection	d	D	Unit Price	Volume Discount Rate
3	ASTC	0.1	4	12			
4	ASTC	0.2	5	16			
5	ASTC	0.5	6	19			
6	ASTC	1	8	20			
8	ASTC	1	10	25			
10	ASTC	1	12	28			
12	ASTC	1	14	30			

For orders larger than indicated quantity, please request a quotation.



Ordering Example

Part Number	T
ASTC3	0.1

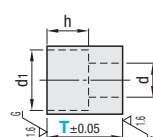
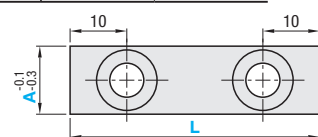
Flat Stoppers / Shims for Flat Stoppers Standard Type

Flat Stoppers - T, L Selectable / T, L Configurable



Type	Material	Hardness
T, L Selectable	EN 1.1191 Equiv.	40~45HRC
FSWN	Polycetal	-
FSWJ	Polycetal	-

6.3 / (1.6)
1/8 for 1/8 area of FSWJ, FSWJF and FSWNF.



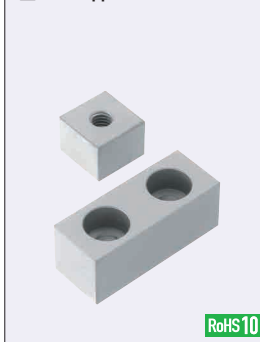
T, L Selectable

Part Number	Type	A	T Selection	L Selection	d	d ₁	h	Unit Price
12	FSWN	12	15	20	4.5	8	5	
15	FSWN	15	15	20	5.5	9.5	6	
16	FSWJ	16	15	20	6.6	11	7	
19	FSWJ	19	15	20	6.6	11	7	
25	FSWJ	25	15	20	6.6	11	7	

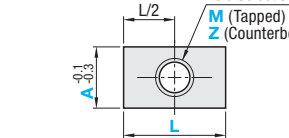
T, L Configurable

Part Number	Type	A	T	L	d	d ₁	h	Unit Price
12	FSWNF	12	15	20	4.5	8	5	
15	FSWNF	15	15	20	5.5	9.5	6	
16	FSWJF	16	15	20	6.6	11	7	
19	FSWJF	19	15	20	6.6	11	7	
25	FSWJF	25	15	20	6.6	11	7	

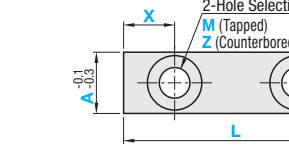
Flat Stoppers - Hole Selectable



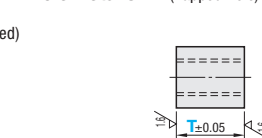
FSWNSF (1 Hole)



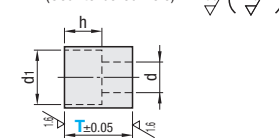
FSWNWF (2 Holes)



Hole Details M (Tapped Hole)



Z (Counterbored Hole)



Counterbore Dimensions

Z	d	d ₁	h
Z4	4.5	8	5
Z5	5.5	9.5	6
Z6	6.6	11	7

Material: EN 1.1191 Equiv. Hardness: 40~45HRC

Hole Selectable: One-Hole

Part Number	Type	A	T	L	Hole Selection	Unit Price
12	FSWNSF	12	15	20	M4, 5, 6	
15	FSWNSF	15	15	20	M4, 5, 6	
16	FSWNSF	16	15	20	M4, 5, 6	
19	FSWNSF	19	15	20	M6	
25	FSWNSF	25	15	20	M6	

Hole Selectable: Two-Hole

Part Number	Type	A	T	L	X	Hole Selection	Unit Price
12	FSWNWF	12	15	20	10~30	M4, 5, 6	
15	FSWNWF	15	15	20	10~30	M4, 5, 6	
16	FSWNWF	16	15	20	10~30	M4, 5, 6	
19	FSWNWF	19	15	20	10~30	M6	
25	FSWNWF	25	15	20	10~30	M6	



Ordering Example

Part Number	T	L	X	Hole Selection
FSWN12	15	75		Z5
FSWNSF16	12	16		M6
FSWNWF16	15	40	X10	M6



Alterations

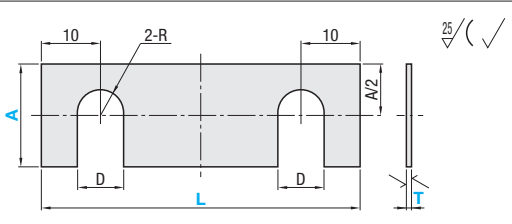
Part Number	T	L	X	ZG
FSWNWF16	15	40	X10	ZG4

Alterations	Counterbored Hole Depth								
Code	ZG								
Spec.	<table><tr><th>ZG (Counterbored)</th><th>h</th></tr><tr><td>ZG4</td><td>5.6</td></tr><tr><td>ZG5</td><td>6.7</td></tr><tr><td>ZG6</td><td>8.0</td></tr></table> Applicable to Hole Selectable Type only	ZG (Counterbored)	h	ZG4	5.6	ZG5	6.7	ZG6	8.0
ZG (Counterbored)	h								
ZG4	5.6								
ZG5	6.7								
ZG6	8.0								

Shims for Flat Stoppers Standard Type



Type	Material	Surface Treatment	T
FSWNC	EN 1.4301 Equiv.	-	0.1 0.2 0.3
FSWNC	EN 1.0330 Equiv.	Black Oxide	0.5 1



Part Number	Type	A	T Selection	L Selection	D	Unit Price
12	FSWNC	12	0.1	30	5	
15	FSWNC	15	0.2	50	6	
16	FSWNC	16	0.2	75	7	
19	FSWNC	19	0.3	100	7	
25	FSWNC	25	0.3	100	7	

For Shims for T and L Configurable Flat Stoppers, see P.2-161