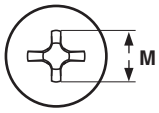
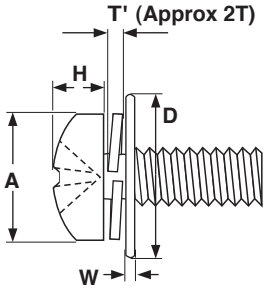
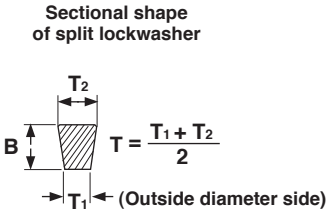
SEMS

JIS B1188 *Small Pan* Phillips: STAINLESS Split Lockwasher/Flat Washer







METRIC - JIS B1188 Phillips Small Pan Split Washer / Flat Washer Sems

JIS B1188

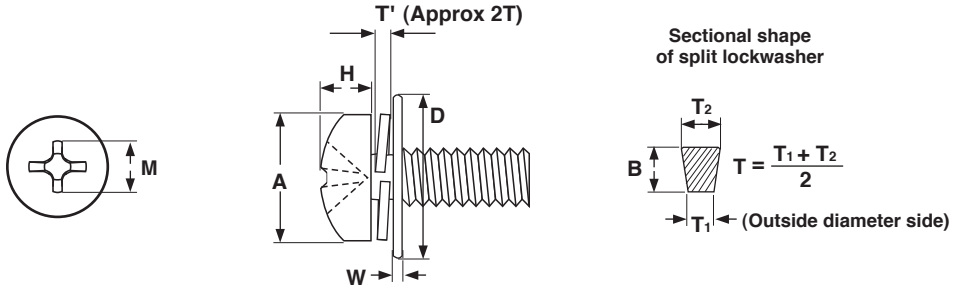
Screw Dimensions							Flat Washer				Split Washer		Phillips Drive Size
		A		H		M	D		W		D1		
Nominal Size	Thread Pitch	Head Diameter		Head Height		Recess Diam	Outside Diameter		Thickness		Outside Diameter	B(min) x T (min)	
		Max	Min	Max	Min	Ref	Max	Min	Max	Min	Max		
M2	0.4	3.5	3.1	1.4	1.2	2.2	4.3	4	0.34	0.26	4	0.9 x 0.5	1
M2	0.4						5	4.7	0.34	0.26			
M2.5	0.45	4.5	4.1	1.8	1.6	2.6	6.5	6.15	0.55	0.45	4.8	1 x 0.6	1
M3	0.5	5.5	5	2.15	1.85	3.6	7	6.65	0.55	0.45	5.5	1.1 x 0.7	2
							6	5.7	0.55	0.45			
M4	0.7	7	6.5	2.75	2.45	4.2	9	8.65	0.9	0.7	7	1.4 x 1	2
M5	0.8	9	8.4	3.45	3.15	4.9	10	9.65	1.1	0.9	8.5	1.7 x 1.3	2
M6	1.0	10.5	9.8	4.1	3.7	6.3	12.5	12.1	1.75	1.45	11.5	2.7 x 1.5	3

Tolerance on Length	Nominal Screw Size	Nominal Screw Lengths			
		Up to 10 mm	Over 10 mm to 20 mm, incl.	Over 20 mm to 40 mm, incl.	Over 40 mm
	M2.5	-0.4	-0.6	-0.8	-
	M3 to M4	-0.6	-0.6	-0.8	-1
	M5 to M8	-0.8	-1	-1	-1

Description	A cross-recessed, pan head machine screw with two free-spinning, captive washers. Directly below the pan head is a helical split lockwasher; beneath the split lockwasher is a round flat washer. The diameter and height of the pan head are between 5% and 20% smaller than a standard pan head.		
Applications/ Advantages	This double washer sems screw is typically a more economical alternative to a patented conical washer sems screw. They are commonly used in the electronics industry. The Stainless Sems screw is used in applications where resistance to corrosion is a primary concern.		
Component	***Screw***	***Split Lockwasher***	***Flat Washer***
Material	A2 Stainless	*304 Stainless*	***302 Stainless***
Plating	Stainless Sems are usually provided without any additional finish..		

JIS B1188 *Small Pan* Phillips: STEEL Split Lockwasher/Flat Washer

SEMS



METRIC - JIS B1188 Phillips Small Pan Split Washer / Flat Washer Sems

JIS B1188

Screw Dimensions							Flat Washer				Split Washer		
Nominal Size	Thread Pitch	A Head Diameter		H Head Height		M Recess Diam	D Outside Diameter		W Thickness		D1 Outside Diameter	B(min) x T (min)	Phillips Drive Size
		Max	Min	Max	Min	Ref	Max	Min	Max	Min	Max		
M2	0.4	3.5	3.1	1.4	1.2	2.2	5	4.7	0.34	0.26	4	0.9 x 0.5	1
M2.5	0.45	4.5	4.1	1.8	1.6	2.6	6.5	6.15	0.55	0.45	4.8	1 x 0.6	1
M3	0.5	5.5	5	2.15	1.85	3.6	7	6.65	0.55	0.45	5.5	1.1 x 0.7	2
							6	5.7	0.55	0.45			
M4	0.7	7	6.5	2.75	2.45	4.2	10	9.65	1.1	0.9	7	1.4 x 1	2
							9	8.65	0.9	0.7			
							8	7.65	0.9	0.7			
M5	0.8	9	8.4	3.45	3.15	4.9	10	9.65	1.1	0.9	8.5	1.7 x 1.3	2
M6	1.0	10.5	9.8	4.1	3.7	6.3	12.5	12.1	1.75	1.45	11.5	2.7 x 1.5	3

Tolerance on Length	Nominal Screw Size	Nominal Screw Lengths				
		Up to 4mm	Over 4 mm to 10 mm	Over 10 mm to 20 mm, incl.	Over 20 mm to 40 mm, incl.	Over 40 mm
	M2 & M2.5	-0.3	-0.4	-0.6	-0.8	-
	M3 to M4.5	-	-0.6	-0.6	-0.8	-1
	M5 to M8	-	-0.8	-1	-1	-1

Description	A cross-recessed, pan head machine screw with two free-spinning, captive washers. Directly below the pan head is a helical split lockwasher; beneath the split lockwasher is a round flat washer. The diameter and height of the pan head are between 5% and 20% smaller than a standard pan head.		
Applications/ Advantages	This double washer sems screw is typically a more economical alternative to a patented conical washer sems screw. They are commonly used in the electronics industry.		
Component	***Screw***	***Split Lockwasher***	***Flat Washer***
Material	Class 4.8 carbon steel	Split lockwashers shall be made from a carbon steel that conforms to the following chemical composition requirements: ***Carbon:*** 0.54 - 0.81%; ***Silicon***: 0.15 - 0.35%; ***Manganese***: 0.30 - 0.90%; ***Phosphorus***: 0.030% max.; ***Sulfur***: 0.030% max.	Plain washers shall be made from a carbon steel that conforms to the following chemical composition requirements: ***Carbon:*** 0.12% max.; ***Manganese***: 0.50% max.; ***Phosphorus***: 0.040% max.; ***Sulfur***: 0.045% max.
Hardness	Rockwell B 71 minimum	Rockwell C 42 - 50	Rockwell B 60 maximum
Tensile Strength	420 N/mm^2 (applies to screws with a minimum nominal length of 2.5d (where *d* is the nominal diameter of the screw)	-	-
Plating	Sems are available in zinc yellow and clear zinc finishes, and baked after plating.		