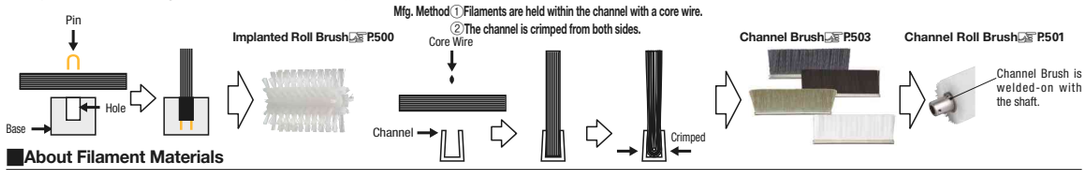
Brush
Overview

■Overview
Offers Bar Type Channel Bush and Roll Brush, which are well suited for various industrial applications such as parts leveling, dusting and washing.
Additionally, MISUMI original attachment bracket are provided.

Implanted Roll Brush **Channel Roll Brush** **Channel Brush** **Dedicated Attachments**

■Features of Implanted Roll Brush and Channel Brush
There are 2 ways to manufacture brush: "Implanted Roll Brush" which is used to plant the filaments and "Channel Brush" which is used to clamp and fix the filaments arranged on a straight line.
"Implanted Roll Brush" has the feature that clogging is unlikely to occur. "Channel Brush" features holding more filament which do not fall out easily.

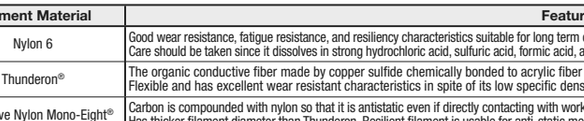
○ Implanted Roll Brush Mfg. Method ○ Channel Brushes / Channel Roll Brush Mfg. Method



■About Filament Materials

Filament Material	Features
Nylon 6	Good wear resistance, fatigue resistance, and resiliency characteristics suitable for long term operation. Suitable for food processing. Maximum temp. limit for the filaments is 100°C. Care should be taken since it dissolves in strong hydrochloric acid, sulfuric acid, formic acid, and phenolic acid.
Thunderon®	The organic conductive fiber made by copper sulfide chemically bonded to acrylic fiber has static neutralizing functionality. Flexible and has excellent wear resistant characteristics in spite of its low specific density. ℗Thunderon® is a registered trademark of Nihon Sanmo Dyeing Co., Ltd.
Conductive Nylon Mono-Eight®	Carbon is compounded with nylon so that it is antistatic even if directly contacting with workpiece. Use conditions conform to Nylon 6. Has thicker filament diameter than Thunderon. Resilient filament is usable for anti-static measures. ℗Mono-Eight® is a registered trademark of TORAY MONOFILAMENT Co., Ltd.
Nylon with Abrasive Grain	Abrasive particles are compounded with nylon so that it is more resistant to breakage and burrs than Nylon 6. Uses Alumina #320.

■Filament Diameter of Channel Brush (for 30mm)

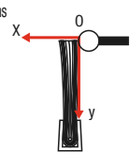
Channel Width	5mm					3mm			
Filament Material	Nylon 6			Conductive Nylon Mono-Eight®	Nylon with Abrasive Grain	Nylon 6		Thunderon®	Conductive Nylon Mono-Eight®
Filament Dia.	0.2	0.3	0.5	0.3	0.6	0.2	0.3	0.075	0.3
Photo									
Channel Brush	○	○	○	○	○	○	○	○	○
Roll Brush		○	○			○			

Filament Material	Filament Diameter	Features
Nylon 6	0.2	Feel of Tooth Brush (Normal)
	0.3	Feel of Bathtub Brush. Harder than Tooth Brush (Hard)
	0.5	Hard. Feel of Deck Brush
Thunderon®	0.075	Diameter and Feel of Average Human Hair.
Conductive Nylon Mono-Eight®	0.3	Feel of Bathtub Brush. Harder than Tooth Brush (Hard)
Nylon with Abrasive Grain	0.6	Harder and more resilient than Nylon 6, 0.5.

■Elasticity Test of Channel Brush

See the test conditions on the left.

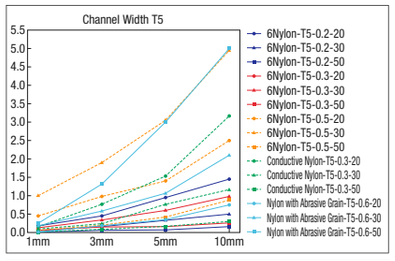
Test Conditions

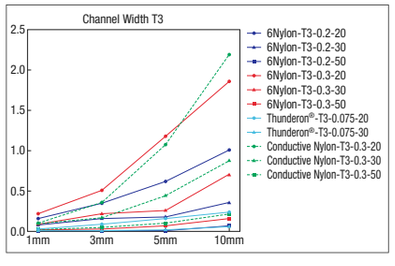


Loads are measured while the filament tip (y0 ~ 1mm) is pushed in X direction to cause the leaning of 1, 3, 5, and 10mm.
Measured values are not guaranteed values, but an example of measured values.

Testing Method

Brush Test Sample				Load in X ☐ mm Direction (N)			
Material (Filament)	Channel Width	Filament Dia.	Filament Length (mm)	1mm	3mm	5mm	10mm
Nylon 6	5	0.2	20	0.18	0.45	0.95	1.45
		0.3		0.45	0.98	1.40	2.50
		0.5		3.20	6.20	9.80	11.90
		0.2	30	0.05	0.16	0.33	0.50
		0.3		0.13	0.34	0.60	0.98
		0.5		1.00	1.90	3.05	4.95
		0.2	50	0.01	0.06	0.07	0.16
		0.3		0.06	0.15	0.16	0.26
		0.5		0.06	0.20	0.42	0.88
	3	0.2	20	0.15	0.34	0.61	1.00
		0.3		0.21	0.50	1.17	1.85
		0.2	30	0.07	0.15	0.17	0.35
		0.3		0.08	0.21	0.25	0.70
		0.2	50	-	-	-	0.06
		0.3		0.01	0.02	0.06	0.15
Thunderon®		0.075	20	0.02	0.08	0.15	0.23
			30	-	-	0.01	0.05
Conductive Nylon Mono-Eight®	5	0.3	20	0.50	1.00	1.80	2.80
			30	0.20	0.30	0.80	1.30
			50	0.02	0.16	0.17	0.50
	3	0.3	20	0.20	0.50	1.10	2.10
			30	0.05	0.18	0.40	1.00
			50	0.01	0.02	0.06	0.18
Nylon with Abrasive Grain	5	0.6	20	0.70	2.00	5.80	8.20
			30	0.30	0.80	1.90	4.20
			50	0.05	0.10	0.50	1.10





℗Values are for reference only, not guaranteed.

■Precaution for Use
①Brush's service life will vary depending on usage conditions and frequency. Pulling off some filaments may cause entire falling-out.
②Maximum temp. limit for the filaments is 100°C. The filaments will melt and fall off at above that.
③Nylon 6 dissolves in strong hydrochloric acid, sulfuric acid, formic acid, and phenolic acid.
④Brush press contact length should be 2mm or less. Do not press further than necessary.
⑤Do not bend the channel brush.
⑥The Channel Brush has ±2mm bow/bend per L100mm.

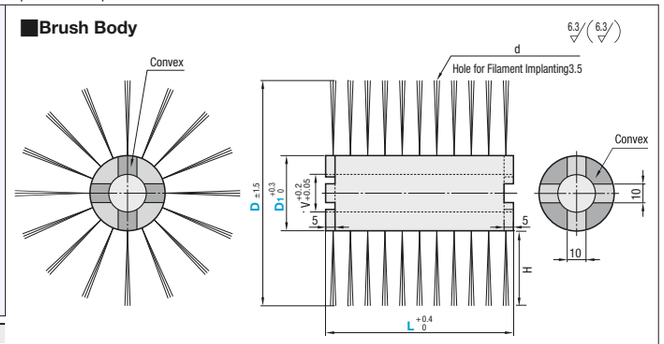
■Precaution for Use and Storage
①Beware of the deformation of the filaments in storage. If the brush is left in contact with workpiece while in storage, the filaments may be deformed permanently. Additionally, avoid filament tips from contacts when storing the brush by itself.
②Dry before storage.
③Remove any foreign objects from the brush.
④Do not use in high temp. environment or near fire.

Roll Brush
Implanted Roll Brush

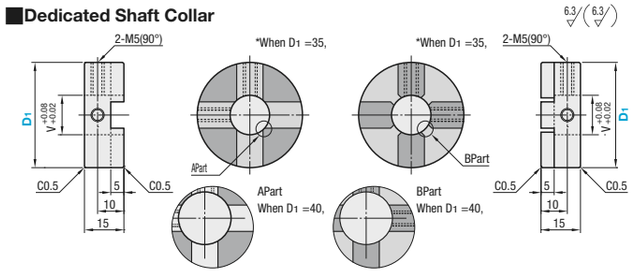
■Offers roll brush with uneven shafts for interlocking from stock. Only having to replace the worn part leads to cost reduction.

Type		Type	Material	
			Brush Filament	Pipe
Brush Body	Fixed	URBSN	Nylon 6	PP
	Configurable	URBSNF	Nylon 66 (Filament Dia. No. 0.1) Nylon 6 (Filament Dia. No. 0.2 ~ 0.5)	
		URBSMF	Conductive Nylon Mono-Eight®	
Dedicated Shaft Collar		URBSSC	EN 1.4301 Equiv.	

■Brush Body

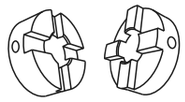


■Dedicated Shaft Collar



Type	Filament Dia.	d
URBSNF	0.1	0.1
	0.2	0.21
	0.3	0.295
	0.5	0.535
URBSMF	0.15	0.15
	0.3	0.3

■Dedicated Shaft Collar Construction Diagram



Fixed by interlocking concave-convex surface.

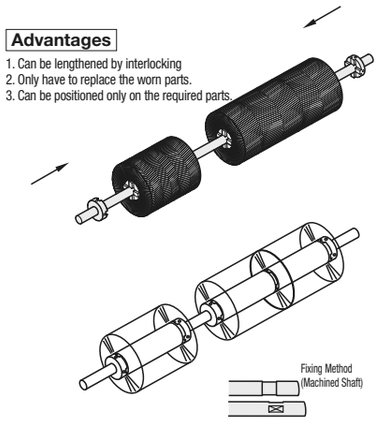
℗Use the brush at less than 1000rpm (the maximum rotation for URBSMF is 400). Note that maximum rotational speed varies depending on the mounting method, the brush length, the brush O.D. or the number of connected brush.

■Brush Fixed

Part Number Type	D	L Selection	Filament Dia. No. Selection	d Filament Dia.	d	D1	V	H	Proper Motor Power (Unit: kW) ℗Reference Value	Unit Price L50	Unit Price L100
URBSN	80	50	0.3	0.3	0.295	35	15	22.5	0.4		
	100	100				40	20	30.0	0.75		
	150					40	20	55.0			

ex Example

Advantages
1. Can be lengthened by interlocking
2. Only have to replace the worn parts.
3. Can be positioned only on the required parts.



■Brush Configurable

Part Number Type	D1	D 5mm Increment	L Selection	Filament Dia. No. Selection	V	H (H=(D-D1)/2)	Proper Motor Power (Unit: kW) ℗Reference Value
URBSNF	35	60~80	50	0.1 0.2	15	12.5~22.5	0.4
	40	70~150	100	0.3 0.5	20	10~55	0.75
URBSMF	35	60~80	50	0.15	15	12.5~22.5	0.4
	40	70~150	100	0.3	20	10~55	0.75

■Dedicated Shaft Collar (Concave-Convex at Both Sides, 2 pcs.)

Part Number Type	D1	V	Accessory:	Unit Price
URBSSC	35	15	Hex Socket Set Screw (Flat End) M5SFS5-8 (EN 1.4301 Equiv.)	
	40	20		

℗Select the same size as the brush body D1.

Ordering Example

■Brush Fixed: Part Number - L - Filament Dia. → URBSN80 - 50 - 0.3

■Dedicated Shaft Collar: Part Number → URBSSC35

■Brush Configurable: Part Number - D - L - Filament Dia. → URBSNF40 - 105 - 50 - 0.5

■Brush Configurable

Part Number Type	D1	D	L	Filament Dia. 0.1	0.2	0.3	0.5
URBSNF	35	60~80	50				
	40	70~150					
	35	60~80	100				
	40	70~150					

Part Number Type	D1	D	L	Filament Dia. 0.15	0.3
URBSMF	35	60~80	50		
	40	70~150			
	35	60~80	100		
	40	70~150			