XEBEC
Deburring Technologies, LLC

Patent Pending

NEW!
Self-Adjusting
Sleeve
optional tool for Xebec Brush™

- **Completely automate your process**
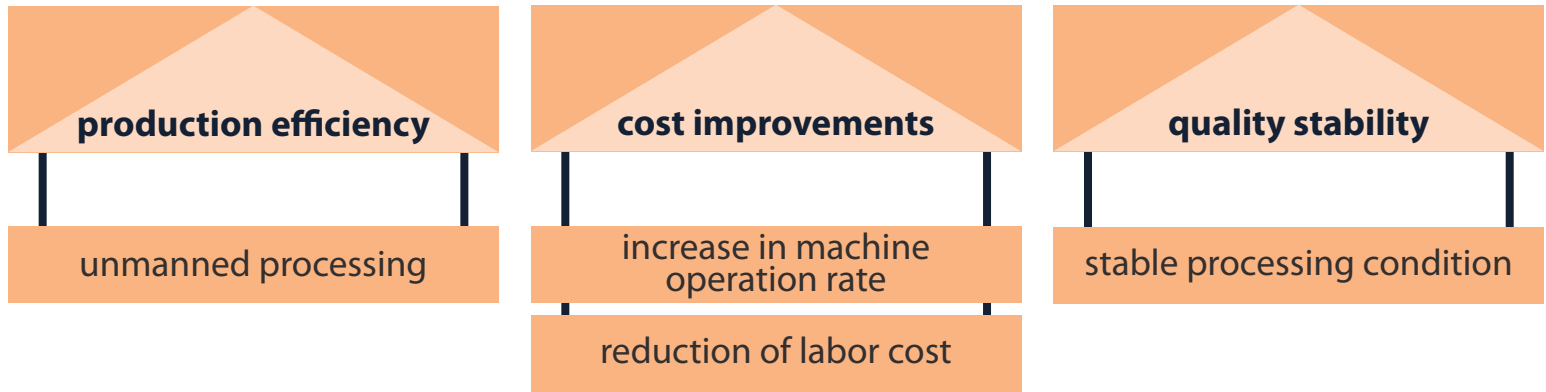- **Reduce machine down time**
- **Maintain optimal brush setting**

Use in place of Xebec Sleeve™

By using Self Adjusting Sleeve™, manual adjusting isn't necessary!

Advantages

Manual projection adjustment no longer necessary

| production efficiency	cost improvements	quality stability
unmanned processing	increase in machine operation rate	stable processing condition
	reduction of labor cost	

How It Works

The side gear passing through the rack gear enables to adjust the desired amount of projection. Projection can be set to your preferred length (0.05 to 1 mm).
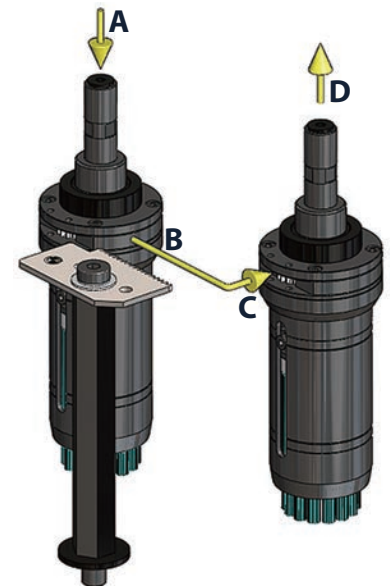
1 | Operations of the Self Adjusting Sleeve™

1 Always check that mating gears are in the engaging direction.

50
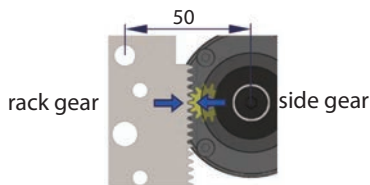
rack gear — side gear

2 Adjust the positions and heights of the rack gear and the side gear.

side gear
rack gear

130+Brush projection amount
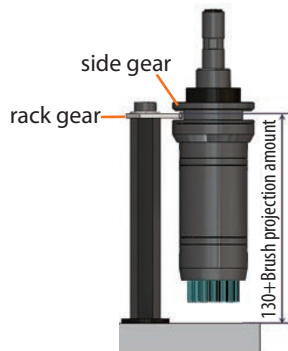
3 As shown in the figure at right, move the sleeve in the following order: A-B-C-D.
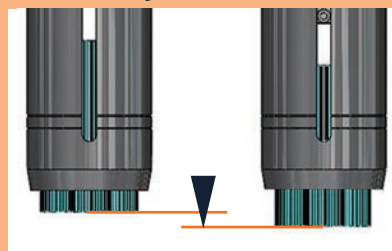
A
D
B
C

4 By adjusting the passing through distance of B, the amount of projection can be can be set.

*Upper limit feeding speed for rack gear passing through time : F=10000 mm/min
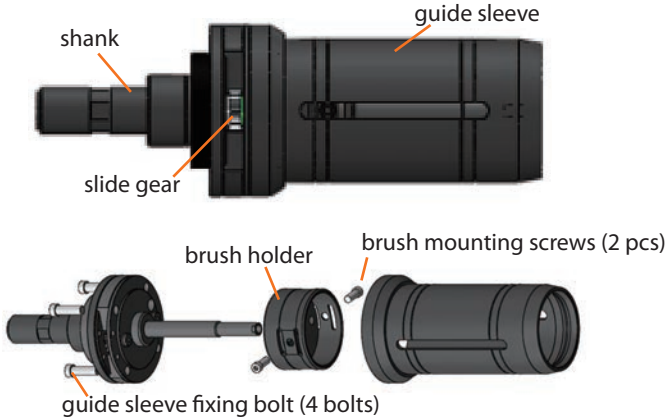
Amount of projection adjustment

Projection amount of 0.05 mm to 1 mm per operation can be set. The amount of correction can be adjusted by increments of 50µm.
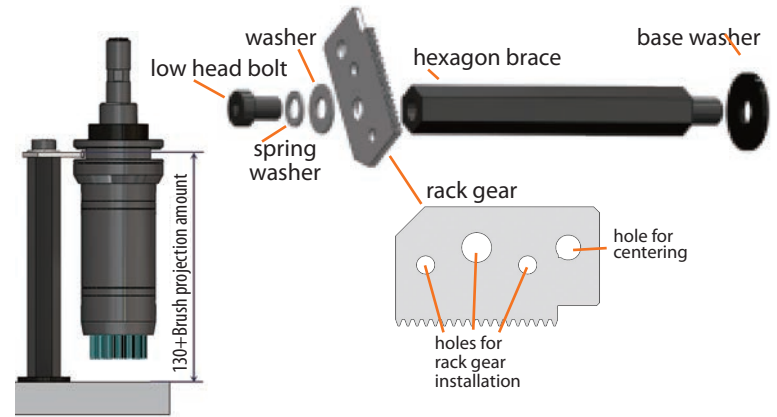
Refer to user manual for correlation between side gear and amount of projection

Body

shank

guide sleeve

slide gear

brush holder

brush mounting screws (2 pcs)

guide sleeve fixing bolt (4 bolts)

Standard Accessory Kit

washer

low head bolt

spring washer

hexagon brace

base washer

rack gear

hole for centering

holes for rack gear installation

130+ Brush projection amount

---

2 Check of the Self Adjusting Sleeve™ fixing, rack & operation range

1 Mount the rack gear to avoid interference (with fixtures, etc.) and in a position where the operation can be achieved (tool operations area) as shown in Figure 2.

2 Securely fix the rack gear. The inclination of the longitudinal direction of the rack gear to the slide axis has to be below 0.1mm.

below 0.1mm

3 With the main spindle at its normal orientation angle, mount the tool assembly on the main spindle so that the side gear of the sleeve main body is directed towards the rack gear.
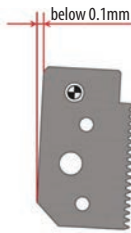
Operation range of Xebec Self-Adjusting Sleeve™
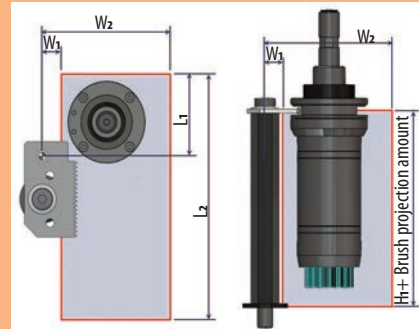
Operation range when the sleeve passes through the rack gear.

W_2

W_1

L_1

L_2

W_2

W_1

H_1+ Brush projection amount

product code	W_1 (mm)	W_2 (mm)	L_1 (mm)	L_2 (mm)	H_1 (mm)
XP-AUT06M	10	75	50	155	85
XP-AUT15M	10	75	50	155	95
XP-AUT25M	15	100	60	180	130
XP-AUT40M	15	100	60	180	130

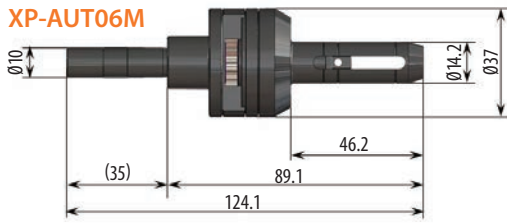## 3 How to decide projection adjustment cycle

Find the smallest depth of cut. Check the amount of brush wear after one pass. Adjust the projection before deburring performance drops. (You do not have to adjust it every pass as long as burr can be removed.)

For example, when brush traveling distance is 2,000 mm and brush wears 50μm, you adjust the projection every 10 processes (0.5mm brush wear) or 40 processes (2mm brush wear). Depends on your cycle time.
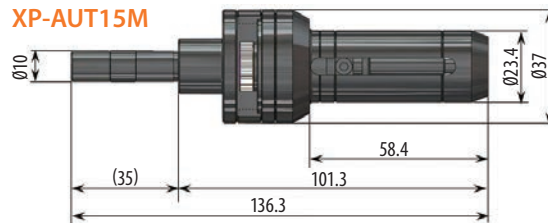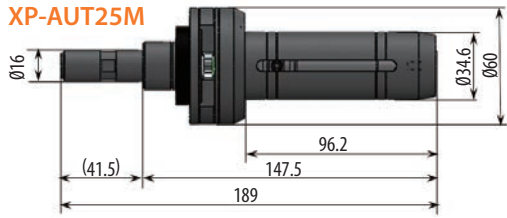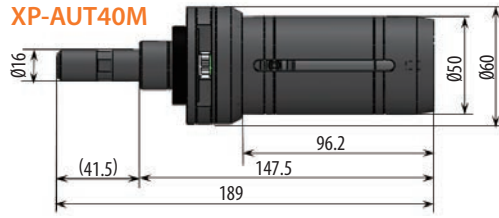
XP-AUT06M

Ø10 · Ø14.2 · Ø37
46.2
(35) · 89.1
124.1

XP-AUT15M

Ø10 · Ø23.4 · Ø37
58.4
(35) · 101.3
136.3

XP-AUT25M

Ø16 · Ø34.6 · Ø60
96.2
(41.5) · 147.5
189

XP-AUT40M

Ø16 · Ø50 · Ø60
96.2
(41.5) · 147.5
189

Rack Gear
XP-AUT06M/XP-AUT15M

59.6
10.33 · 35 · R4.25
27.83
14 · 15 · 31
41
2-Ø6.2 · 73.14 · Ø10.2
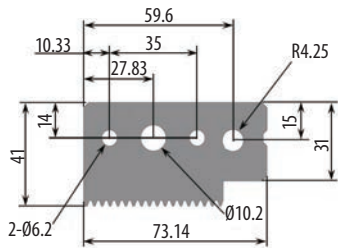
Rack Gear
XP-AUT25M/XP-AUT40M

59.3
10.33 · 35 · R4.25
27.63
20 · 14 · 41
2-Ø6.2 · Ø10.2
70

Hexagonal Brace

M10 · M12
22 · Ø35
143
155
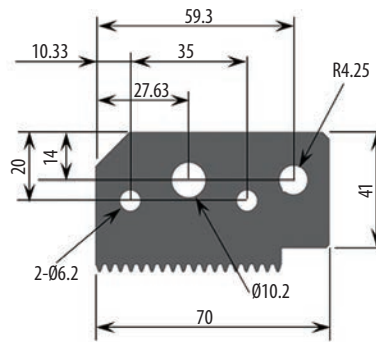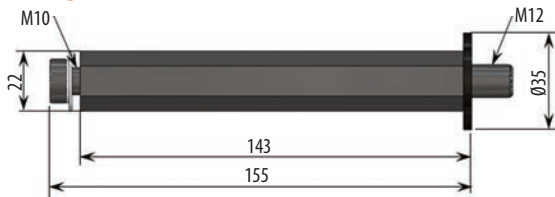
Please make sure to read the user manual before use. In order to ensure safety, please observe the operator safety measures and operational precautions listed below. Please read XEBEC Brush™ Surface Instruction Manual for usage of XEBEC Brush™ Surface.

Operator safety measures
If these safety measures are neglected, there are following risks.
- If the tool fragments and/or chip powder gets into the eyes, there is the risk of losing eyesight in the worst case.
- If the tool fragments and/or chip powder hit the skin, there is the risk of getting injured.
- Dust generated by machining process may cause skin irritation or allergy.

Wear Protective Equipment
Always wear safety glasses, protective gloves and masks when operating the tool. In addition, wear long sleeves and have the cuffs/bottom of the jacket properly closed to minimize skin exposure.

Beware of Grinding Powder
Grinding powder and burrs may scatter within an area around the work as the brush revolves; therefore, please collect dust using a dust collector and stay clear of this area.

Caution to Your Surroundings
Because it could be dangerous if tool fragments and/or chip powder scatter while working, enclose the potentially dangerous work area to prevent other people from entering, or have those around the work area wear protective equipment.

Product Lineup

product code	overall length (mm)	shank length (mm)	outermost diameter (mm)	shank diameter (mm)	main body weight	maximum rotation speed	supporting brush
XP-AUT06M	124.1	35.0	37	10	220	10000	A13-CB06M, A11-CB06M, A21-CB06M, A31-CB06M
XP-AUT15M	136.3	35.0	3	10	270	6000	A13-CB15M, A11-CB15M, A21-CB15M, A31-CB15M
XP-AUT25M	189.0	41.5	60	16	795	5000	A11-CB25M, A21-CB25M, A31-CB25M
XP-AUT40M	189.0	41.5	60	16	910	3000	A11-CB40M, A21-CB40M, A31-CB40M