

AXXAIR's orbital beveling

- V- or J-Bevel? -

AXXAIR
INNOVATIVE ORBITAL SOLUTIONS

There are two types of bevel, which depend on the manual or automatic welding process used: the V-bevel and the J-bevel (or "Tulip").

These names relate to the fact that, when assembled, the two prepared edges assume the shape of these letters.

In orbital welding, the two root faces of the bevelled parts are placed in contact with each other.

All that is required is a simple fusion of the two root faces and for the bevel to be subsequently filled with wire.

V-bevel

For manual TIG welding, a V-bevel is preferable, with or without a root face, depending on the manner in which the parts are married. It is called a V-bevel as, once the parts have been married, the resulting shape looks like the letter V.

The root face generally prevents the edges being distorted when the parts are handled, along with a collapse on the first pass (penetration).

For manual welding, the parts are married leaving a small gap, which specifically allows the wire to be inserted manually, including from inside the tube (penetration geometry). The bevel angles routinely used are 30, 37.5 and 45°.



These angles are determined by the application, the thickness of the parts to be welded and the material used. We offer 3 milling heads for orbital V-bevels, each corresponding to one of these angles.



J-bevel (tulip)

This shape is essential for automated welding, especially for orbital welding.



The root face of this type of bevel enables a delicate "tube-tube" type assembly to be created; this generally allows for a single fusion penetration, which represents a better way of precisely controlling the penetration's geometry. This type of preparation also reduces the volume of metal required to fill the bevel.

The root face must be sufficiently long to allow a single fusion bead to be created, without overlapping onto the edges of the bevel: a root face thickness of 1.6 to 2 mm with a root face length of 2 to 2.5 mm. These adjustments are easily made and relate to the carbide milling head (unlike adjustment using HSS tools).



As the accessories (elbows, T unions, flanges, etc.) are generally prepared with V-bevels, many welds will need to be of the V-J type, which is difficult to achieve. Consequently, the quality of orbital welding accessories is generally a key criteria to be taken into consideration.



Contact us to find the perfect solutions for your needs!



GA 122 - 172 - 222 - 322

AXXAIR
INNOVATIVE ORBITAL SOLUTIONS

No tube deformation and no tube pollution

Concentric clamping



Stainless steel jaws

V-bevel or J-bevel without lubricant

Carbide technology, 10x faster than HSS inserts

Angles :

- J-Bevel: 10°
- V-Bevel: 30°, 37,5° and 45°



Perfect sealing against chips

All rotating parts are incorporated in the body

Plastic shield in the front



Easy handling and transportation



Continuous use

Anti-twist cable with bearings. Protects the electric cable from damage resulting from rotation around the tube.

Tool life

Rotation handle for controlled and continuous cutting speed

Tracking system

External profile tracking that takes into account the ovality of the tubes



Easy setting of the root face

Reading on a vernier



1550 W motor

Wide speed range: flexibility depending on the material

Global Process

Can be transformed into an orbital cutting and welding machine

Opening capacity

122	ø15 - ø119mm ø5/8" - ø4,5"
172	ø33 - ø173 mm ø1,3 - ø6,625"
222	ø55 - ø228 mm ø2.35 to ø8,625"
322	ø141 - ø328 mm ø5,5 to ø12,75"

Join **experience**



GA 122 - 172 - 222 - 322


AXXAIR
 INNOVATIVE ORBITAL SOLUTIONS

Technical specifications:

New motor: 1550 W, 120 V or 230 V

- Class 2 electric device. Double electrical isolation. None accessible metal part. Longer service life, more power, patented dust protection.

- Vibration level in accordance with standard EN 28662: <math>< 2.5\text{m/s}^2</math>, Protection class: IP 20

- Vario Tacho Constamatic (VTC) Full-wave Electronics with Thumbwheel: for working at customised speeds to suit the application material and speeds that remain constant, even under load.
6 speed variations: from 2050 to 7300 RPM

- 0V security: the motor does not restart alone after a power failure

- Mechanical protection of the gearbox, torque limiter integrated into the angular gearbox

All motors are supplied in their own individual cases, including the necessary tools



Robustness of the body:

- Effective clamping system with an endless screw engaging directly with the cam lock.

Easy maintenance and control:

- Lubrication of the inner parts with the grease nipples
- Quick access to the screw beneath the internal cowling

