CATALOGUE OC // EN // Code 790 700 000 // Rev. 0220

ORBITAL **CUTTING & BEVELING**

Orbital cutting & beveling machines for high-purity process piping

orbitalum
orbital | cutting + welding

A brand of
ITW Orbital Cutting & Welding

Highlights

GF 4, GF 6 (AVM/MVM) | Pipe cutting and beveling machines

This saw has been designed for precise cutting of tubes and pipes in just seconds. For more than 40 years construction companies rely on the standard set by Orbitalum in the industrial prefabrication of pipeline systems: From the chemical, biotechnology, pharmaceutical, food and beverage industry to the energy plant construction and shipbuilding.

The most important advantages:

- Square, burr-free and cold machining process
- Deformation-free clamping system for tubes and pipes
- Optimum preparation for the automated welding process
- Sturdy design with powerful drive
- Unique and automated orbital cutting process
- Simultaneous or seperate cutting and beveling
- Cost-effective, increasing productivity
- Long tool life

...more on page 9

PS 4.5 Plus | Portable tube saw

The "Plus" in its name says it: With the PS 4.5 Plus Orbitalum Tools presents the redesign of our existing conceptually flexible light tube saw for burr-free cutting of tubes and elbows and is focusing on even higher quality and increased service life through even more rugged sliding elements. At the same time its problem-free and simple usage as well as its unbeatable price remain the prime factors among it users.

The most important advantages:

- Refined technology with new design
- The lightest machine in this field of application on the market
- Integrated line laser to determine the cut off point
- Feeding and sawing in a single pass
- Tripod made of aluminum (optional) – now space-saving storage in the PS transport case possible
- Deformation-free clamping of thin-walled tubes
- For cutting of thin-walled tubes and elbows
- No rework necessary because of a burr-free and square cut
- Cold cutting process prevents corrosion

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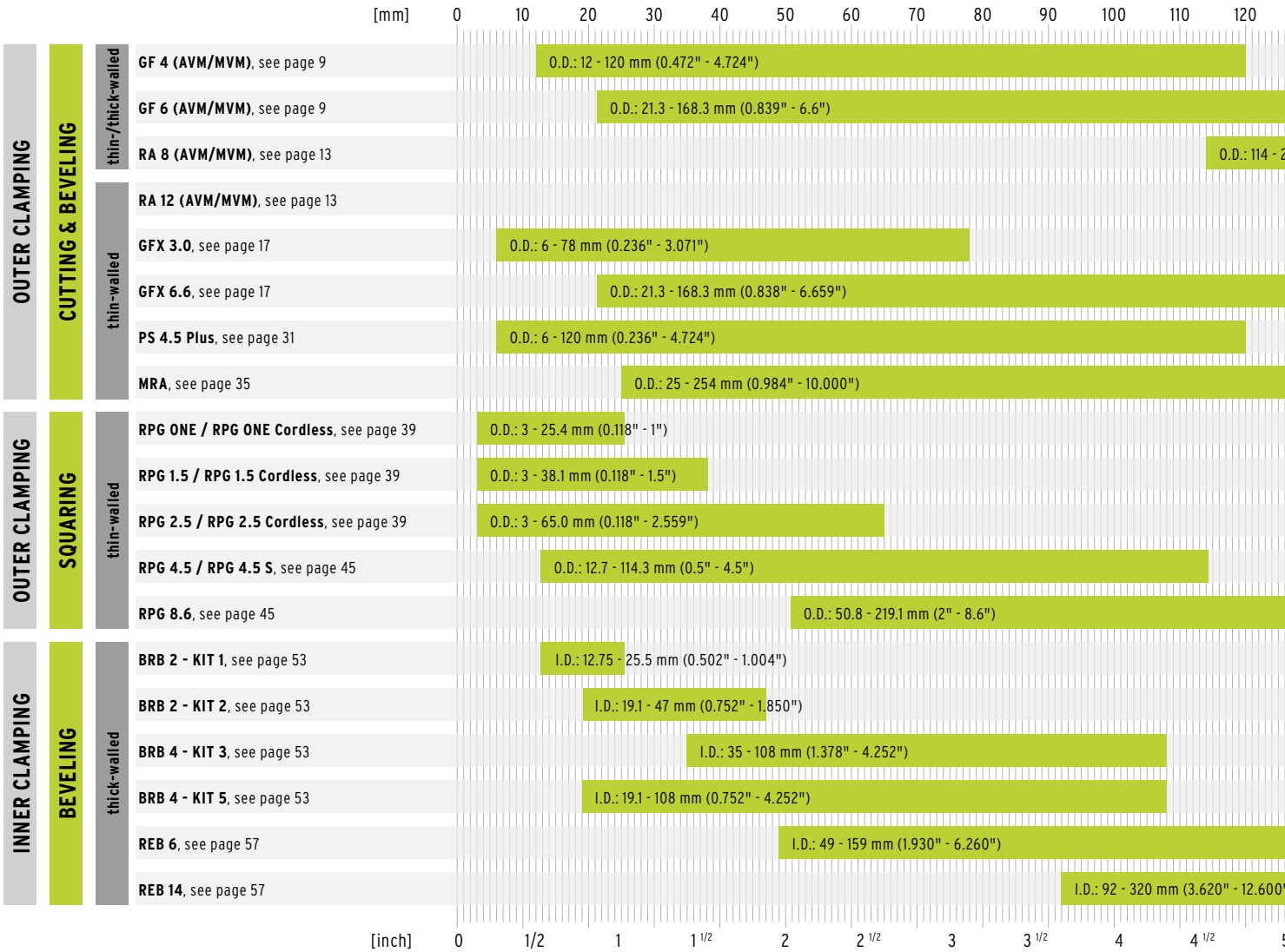
Our solutions

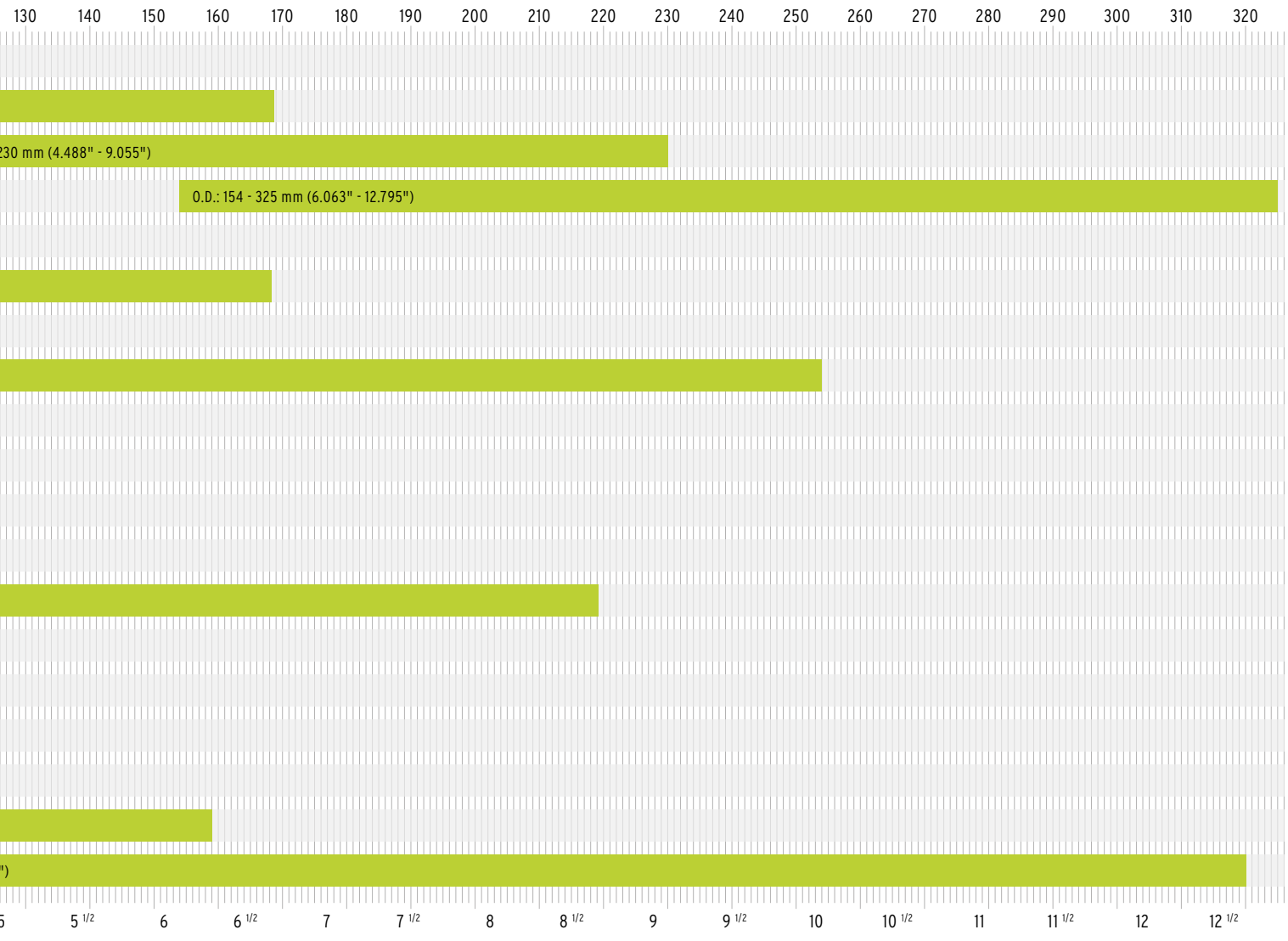
Our products offer a wide range of applications. Regardless of whether you want to prepare large, small, thin-walled or thick-walled, high-alloyed or low-alloyed tubes and pipes, we can certainly offer you a suitable solution. This quick reference shows the various application possibilities of our machines.



A BRAND OF **ITW ORBITAL CUTTING & WELDING** **ORBITALUM TOOLS GMBH** Josef-Schuettler-Str. 17 78224 Singen Germany Tel. +49 (0) 77 31 792 - 0 Fax +49 (0) 77 31 792 - 524 tools@orbitalum.com

At a glance

Would you like a personal consultation?
Then simply contact us by phone +49 (0) 77 31 792-0 or by e-mail to tools@orbitalum.com.
Our team will gladly help you finding the suitable solution for your individual application.



Markets and Applications

Orbitalum manufactures the world's most complete line of portable, powered tube and pipe cutting, facing and beveling weld preparation machine tools. In addition we build a complete line of advanced orbital welding systems used in high purity, process piping and specialized heat exchanger applications. Orbitalum products are widely used in the following industries:

APPLICATIONS	E.G.	PRODUCTS
Heat Exchanger	• Shell & tube • Box header • HVAC • Seal weld (autogenous) • Strength weld (wire) • Gas cabinets • Component manufacturing	• RPG Tube squaring machines • BRB Boiler pipe preparation machines • ORBIMAT Orbital welding power supplies • ORBIWELD Orbital weld heads • P16, P20 Tube-to-tube-sheet orbital weld heads • HX Orbital weld heads • TX Orbital weld heads • ORBmax Residual oxygen meter
Pharmacy and Chemistry	• UHP water lines • Process lines • Mixing valves • CIP clean in place lines	• GF, PS, RA & GFX Pipe cutting & beveling machines • RPG Tube squaring machines • ORBIMAT Orbital welding power supplies • ORBIWELD Orbital weld heads • ORBmax Residual oxygen meter
Semicon	• UHP water lines • Vacuum lines • Wafer processing lines • CFOS lines • Jacketed product • Gas cabinets • Component manufacturing	• RPG Tube squaring machines • ORBIMAT Orbital welding power supplies • ORBIWELD Orbital weld heads • ORBmax Residual oxygen meter
Aerospace	• Airframe hydraulic lines • Engine fuel lines • Engine specific components • Onboard HVAC	• GF, PS, RA & GFX Pipe cutting & beveling machines • RPG Tube squaring machines • ORBIMAT Orbital welding power supplies • ORBIWELD Orbital weld heads • ORBmax Residual oxygen meter
Food & Dairy	• Product water lines • Jacketed product • Mixing valves • CIP clean in place lines	• GF, PS, RA & GFX Pipe cutting & beveling machines • RPG Tube squaring machines • ORBIMAT Orbital welding power supplies • ORBIWELD Orbital weld heads • ORBmax Residual oxygen meter

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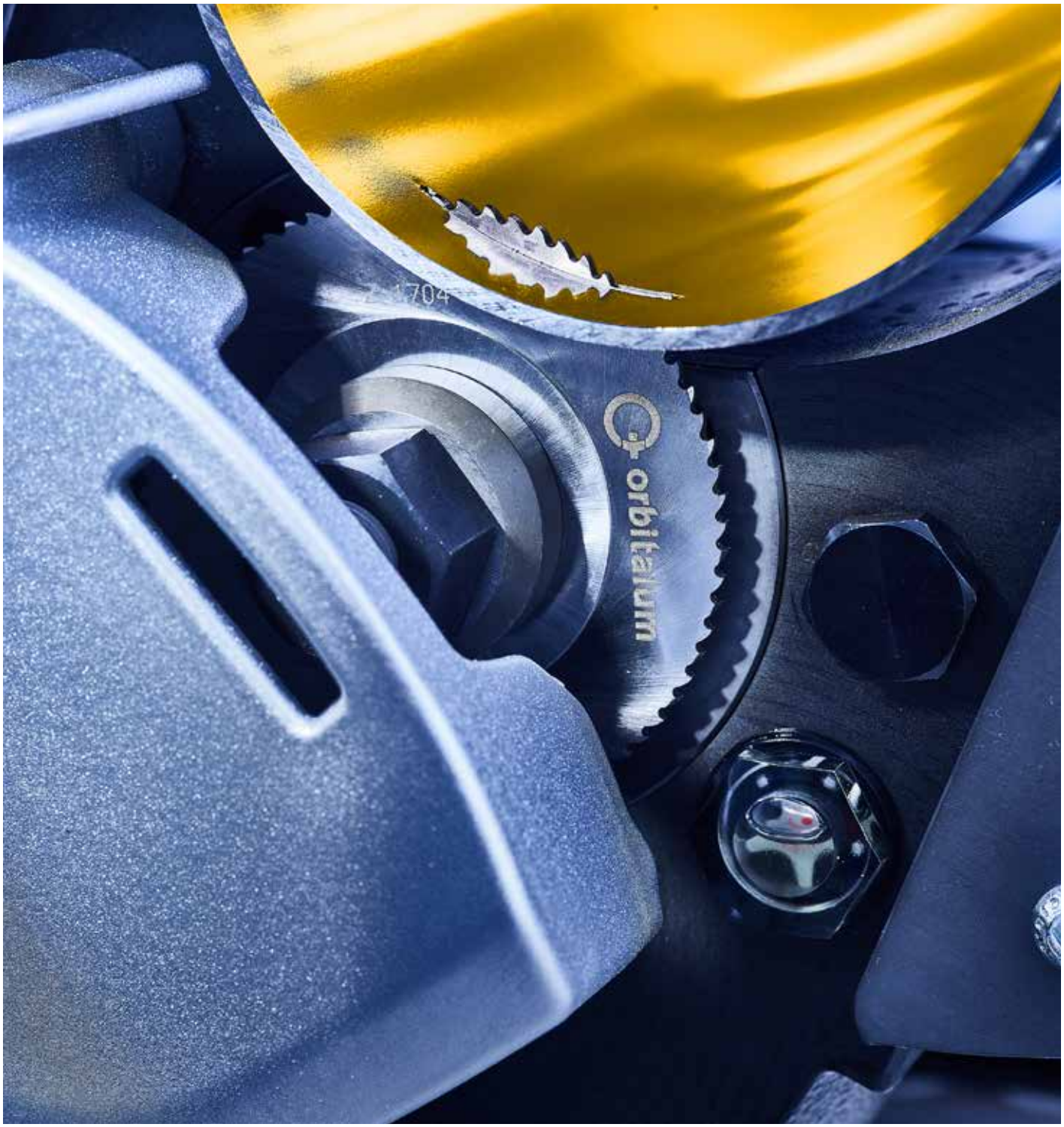
Pipe Cutting and Beveling Technology



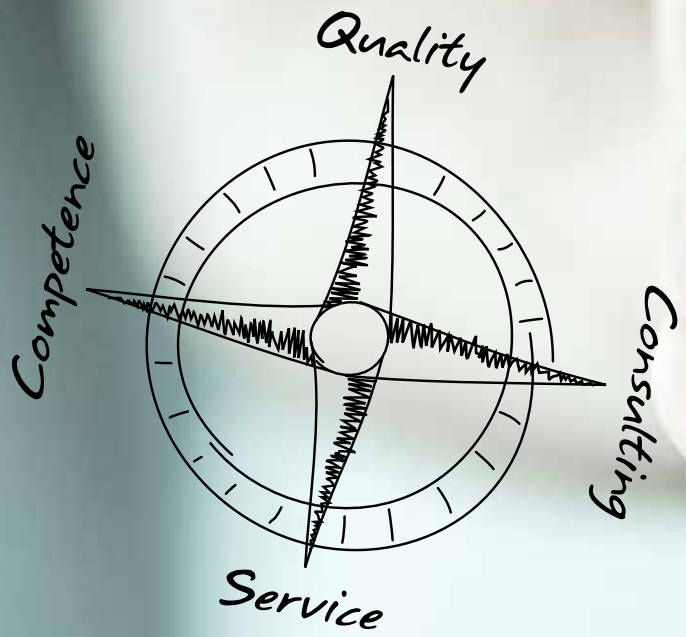
Quality products from Orbitalum Tools – always a good decision!

Quality
made in
Germany

For our products we choose only the best materials and suitable manufacturing methods and attach great importance during the development phase to ensure a high level of product quality and durability.

Our machines and tools are assembled, configured, tested and packed by hand, with the highest care by our qualified and motivated employees in Singen (Germany).

Our staff are standing for this aim with their expertise and experience.



GF 4, GF 6 (AVM/MVM)

Pipe cutting and beveling machines

This saw has been designed for precise cutting of tubes and pipes in just seconds.
For more than 40 years construction companies rely on the standard set by Orbitalum in the industrial prefabrication of pipeline systems: From the chemical, biotechnology, pharmaceutical, food and beverage industry to the energy plant construction and shipbuilding.

The GF series sets new standards in orbital pipe machining. Numerous innovative functions combined with an ergonomic design create significant advantages for you in the industrial prefabrication of pipeline systems

- Square, burr-free and cold machining process ✓
- Deformation-free clamping system for tubes and pipes ✓
- Optimum preparation for the automated welding process ✓
- Sturdy design with powerful drive ✓
- Unique and automated orbital cutting process ✓
- Simultaneous or seperate cutting and beveling ✓
- Cost-effective, increasing productivity ✓
- Long tool life ✓
- Anthracite-colored coated components for improved sliding properties and protection against corrosion ✓

The basic requirement for the productive and high-quality welding of pipes with automated welding technology is a precise, right-angled and burrfree cut as well as a perfectly beveled pipe end. The GF series cuts and bevels high-alloy steel (stainless steel), low- and unalloyed steel, plastics, casting materials and non-ferrous metals easily and in just seconds, using the "Planetary Cutting" method. The powerful clamping is effected without any deformation of the workpiece.

Besides the completely manual operation, users also have the possibility to choose between manual operation with manual feed module (MVM) or automatic feed module (AVM) – both optional. The latter option optimizes the cutting result, increases the tool life and reduces the operator impact. The result: Maximum safety and productivity.

FURTHER ADVANTAGES:

- Stainless steel clamping attachments for protection against contact corrosion included
- Reduced operator impact by optional feed module AVM or MVM for an automated or manual cutting process
- Locking mechanism prevents unauthorized usage and theft
- An ergonomically-designed motor handle for a safe and comfortable operating position, which also enables easy cutting of elbows
- Integrated line laser to determine the cut off point
- 2 position clamping jaws to reduce chatter and enable smaller length of pipe to be machined (GF 4 only)
- Multifunctional tool for all adjustments on the machine
- Optimized speed range (40-215 rpm), ideal for cutting high-performance materials (Hastelloy®, P91, etc.)
- Swivel cable with a quick-disconnect coupler: for easy and comfortable replacement of the power cable
- Optimized saw blade guard protects the user against flying chips and comes with a measuring port (for GF 4 only)

FEED VERSIONS:

Pipe cutting and beveling machine with **automatic feed module AVM***: This intelligent solution continuously controls the cutting speed depending on the torque and the parameter settings. The AVM improves the handling of the GF and RA machine and stops automatically after the cutting process. Pipe cutting and beveling machines **with manual feed module MVM***: This manually operated feed module facilitates the cutting and beveling of pipes. With the help of a hand wheel, the machine head rotates easily and with little effort around the pipe with a constant speed.

Available with automatic or manual feed modules AVM/MVM

Multifunctional tool for all adjustments on the machine

Reversible clamping jaws for preparing thin- or thick-walled pipes (GF 4 only)

Integrated line laser to determine the cut off point

APPLICATION RANGE		GF 4	GF 4 AVM*	GF 4 MVM*	GF 6	GF 6 AVM*	GF 6 MVM*
Code	[230 V] [120 V]	790 142 001 790 142 002	790 142 011 790 142 012	790 142 021 790 142 022	790 143 001 790 143 002	790 143 011 790 143 012	790 143 021 790 143 022
Tube OD	[mm] [inch]	12 - 120 0.472 - 4.724	12 - 120 0.472 - 4.724	12 - 120 0.472 - 4.724	21.3 - 168.3 0.839 - 6.626	21.3 - 168.3 0.839 - 6.626	21.3 - 168.3 0.839 - 6.626
Wall thickness (depends on material)**	[mm] [inch]	1 - 9 0.039 - 0.354	1 - 9 0.039 - 0.354	1 - 9 0.039 - 0.354	1.5 - 15 0.059 - 0.591	1.5 - 15 0.059 - 0.591	1.5 - 15 0.059 - 0.591
Tube ID min. (saw blade Ø 63 mm) Tube ID min. (saw blade Ø 2.480")	[mm] [inch]	21 0.827	21 0.827	21 0.827	30 1.181	30 1.181	30 1.181
Tube ID min. (saw blade Ø 68 mm) Tube ID min. (saw blade Ø 2.677")	[mm] [inch]	16 0.630	16 0.630	16 0.630	25 0.984	25 0.984	25 0.984
Tube ID min. (saw blade Ø 80 mm) Tube ID min. (saw blade Ø 3.150")	[mm] [inch]	4 0.157	4 0.157	4 0.157	13 0.512	13 0.512	13 0.512
Tube ID min. (saw blade Ø 100 mm) Tube ID min. (saw blade Ø 3.937")	[mm] [inch]	- -	- -	- -	0 0	0 0	0 0
Tube materials		High-quality steel (any Cr and Mo content); figh-quality stainless steel (any Cr and Mo content); high-quality steel (Cr < 12% and Mo < 2.5%; Cr < 20% and Mo = 0%): case hardened steels, high-speed steels, tempering steels, bearing steels, tool steels; black and galvanized steel pipe; general structural steel; annealed cast iron pipe (GGG); aluminum; brass; copper; plastics (PE, PP, PVDE, PVC)					
TECHNICAL DATA		**GF 4**	**GF 4 AVM***	**GF 4 MVM***	**GF 6**	**GF 6 AVM***	**GF 6 MVM***
Power	[kW] [hp]	1.8 2.41	1.9 2.54	1.8 2.41	1.8 2.41	1.9 2.54	1.8 2.41
Power AVM	[kW] [hp]	-	0.05 0.07	-	-	0.05 0.07	-
Built-in electronic variable cutting speed with restart inhibitor	[rpm]	40 - 215	40 - 215	40 - 215	40 - 215	40 - 215	40 - 215
Slide housing speed with AVM	[rpm]	-	0.1 - 3.9	-	-	0.3 - 3.5	-
Slide housing torque max. with AVM	[Nm]	-	101	-	-	353	-
Protection class	[class]	II (DIN EN 60745-1)	I (DIN EN 60204-1)	II (DIN EN 60745-1)	II (DIN EN 60745-1)	I (DIN EN 60204-1)	II (DIN EN 60745-1)
Noise level at the workplace approx.	[dB (A)]	79	79	79	79	79	79
Vibration level (according to DIN EN 28662, part 1)	[m/s²]	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Mains fuse by customer	[A]	16	16	16	16	16	16
Dimensions (lxwxh)	[mm] [inch]	480 x 325 x 680 18.9 x 12.8 x 26.8	480 x 325 x 810 18.9 x 12.8 x 31.9	480 x 325 x 780 18.9 x 12.8 x 30.7	574 x 352.7 x 920 22.6 x 13.9 x 36.2	574 x 352.7 x 972 22.6 x 13.9 x 38.3	574 x 352.7 x 920 22.6 x 13.9 x 36.2
Weight of machine approx.***	[kg] [lbs]	55.0 121.2	64.5 142.2	60.0 132.2	92.7 204.4	101.7 224.2	97.8 215.6
Versions (single-phase AC)	[V, Hz]	230 V, 50/60 Hz 120 V, 50/60 Hz	230 V, 50/60 Hz 120 V, 50/60 Hz	230 V, 50/60 Hz 120 V, 50/60 Hz	230 V, 50/60 Hz 120 V, 50/60 Hz	230 V, 50/60 Hz 120 V, 50/60 Hz	230 V, 50/60 Hz 120 V, 50/60 Hz
SCOPE OF DELIVERY		**GF 4**	**GF 4 AVM***	**GF 4 MVM***	**GF 6**	**GF 6 AVM***	**GF 6 MVM***
Pipe cutting and beveling machine	Pc.	1	1	1	1	1	1
Transportation case	Pc.	1	1	1	1	1	1
Set of stainless steel clamping attachments	Pc.	1	1	1	1	1	1
Saw blade (Code 790 ...)	Pc.	1 (...042 064)	1 (...042 064)	1 (...042 064)	1 (...043 018)	1 (...043 018)	1 (...043 018)
Mounting plate	Pc.	1	1	1	1	1	1
Line laser with fastening screw****	Pc.	1	1	1	1	1	1
Tool set	Set	1	1	1	1	1	1
Saw blade lubricant GF TOP (Code 790 060 228)	Tube	1	1	1	1	1	1
Special gear oil (Code 790 041 030)	Bottle	1	1	1	1	1	1
Operating instructions and spare parts list	Set	1	1	1	1	1	1

The technical data are not binding. They are not warranted characteristics and are subject to change. Please consult our general conditions of supply.

* The automatic/manual feed module AVM/MVM is already fitted to the pipe cutter upon delivery.

** With automatic cutting process. Increased wall thickness possible with manual feed or by adding an additional cut (depending on the saw blade diameter).

*** Weight without packaging and accessories.

**** The line laser is already mounted at the GF 4 (AVM/MVM) on delivery. At the GF 6 (AVM/MVM) the line laser is supplied separately and has to be mounted on the machine before commissioning

GF 4 GF 4 AVM GF 4 MVM GF 6 GF 6 AVM GF 6 MVM

Pipe cutting and beveling machines

GF 4, GF 6 (AVM/MVM)

Features, application range, technical data and scope of delivery,
see from page 9.

ARTICLE	VERSION	CODE		WEIGHT OF MACHINE KG	DISPATCH WEIGHT KG
GF 4	230 V, 50/60 Hz EU	**790 142 001**		61.300	88.000
GF 4	120 V, 50/60 Hz EU/US	**790 142 002**		61.300	88.000
GF 4 AVM	230 V, 50/60 Hz EU	**790 142 011**		70.500	98.000
GF 4 AVM	120 V, 50/60 Hz EU/US	**790 142 012**		70.500	98.000
GF 4 MVM	230 V, 50/60 Hz EU	**790 142 021**		66.600	98.000
GF 4 MVM	120 V, 50/60 Hz EU/US	**790 142 022**		66.600	98.000
GF 6	230 V, 50/60 Hz EU	**790 143 001**		92.700	140.000
GF 6	120 V, 50/60 Hz EU/US	**790 143 002**		92.700	140.000
GF 6 AVM	230 V, 50/60 Hz EU	**790 143 011**		101.700	153.000
GF 6 AVM	120 V, 50/60 Hz EU/US	**790 143 012**		101.700	153.000
GF 6 MVM	230 V, 50/60 Hz EU	**790 143 021**		97.800	147.000
GF 6 MVM	120 V, 50/60 Hz EU/US	**790 143 022**		97.800	147.000

Suitable accessories

- Saw blades and bevel cutters, see from page 27
- High-performance lubricants for cutting and beveling, see page 22
- Special gear oil, see page 22
- Swivel cable, see page 23
- Quick-mounting base plates with integrated screw clamps, see page 23
- Mobile workstation, see page 23
- Pipe feeder base unit and extension unit, see from page 24
- Collapsible work bench, see page 82

GF 4, GF 6

GF 4 AVM, GF 6 AVM

GF 4 MVM, GF 6 MVM

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Simply rent and stay flexible.

We supply equipment over a short and long term rental condition – a cost effective alternative to purchasing. We take care of our rental equipment so it is in top condition for you and we can help you to match the right rental equipment to your specific projects.

Renting from Orbitalum is the ideal opportunity to try out a model you're thinking of purchasing.

Your benefits of renting:

- Reducing need for storage
- Eliminating repair costs
- Conserving your capital
- Having the most up-to-date technology
- Minimizing down-time

Our rental and used machine service includes:

- Weekly rental charges
- Hire purchase
- Long-term rental

Please ask us for our favorable rental and rent-to-buy conditions:

Tel. +49 (0) 77 31 792-0

or per e-mail to

tools@orbitalum.com

RA 8, RA 12 (AVM/MVM)

Pipe cutting and beveling machines

Perform economical cutting and beveling with technology made by Orbitalum Tools!
Cutting and beveling high-alloy steel (stainless steel), low- and unalloyed steel, plastics, casting materials and non-ferrous metals in just seconds, using the "Planetary Cutting" method.

The perfect preparation for orbital welding

- Square, burr-free and cold machining process ✓
- Deformation-free clamping system for tubes and pipes ✓
- Optimum preparation for the automated welding process ✓
- Sturdy design with powerful drive ✓
- Unique and automated orbital cutting process ✓
- Multiple point clamping ✓
- Fast adjustment of dimensions ✓
- Regulated cutting speed ✓
- Fast tool replacement ✓

"Enhanced safety due to stationary tube – rotating tool". The tested process of planetary cutting is another important feature, which characterizes all ORBITALUM pipe cutting machines. The saw blade rises into the cutting area and is driven orbitally around the tube. The advantage is that a small saw blade can cut a large tube diameter, without heating the tube.

An innovative clamping principle which clamps the tube at several points: Thanks to the deformation-free clamping system, pipes with a wall-thickness of 2 up to 10 mm (0.079" - 0.394") can be prepared easily an quickly. It is possible to cut all high-alloyed, un- and low-alloyed steels, black and galvanized steel pipes, general structural steels, annealed cast iron pipes (GGG), aluminum, brass, copper and plastics.

Besides the completely manual operation, users also have the possibility to choose between manual operation with manual feed module (MVM) or automatic feed module (AVM) = both optional. The latter option optimizes the cutting result, increases the tool life and reduces the operator impact. The result: Maximum safety and productivity.

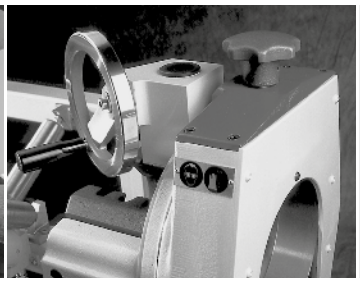
FURTHER ADVANTAGES:

- Reduced operator impact by optional feed module AVM or MVM for an automated or manual cutting process
- Optimal tool contact
- Optimized speed range (40-215 rpm), ideal for cutting high-performance materials (Hastelloy®, P91, etc.)
- An ergonomically-designed motor handle for a safe and comfortable operating position
- Cutting in seconds
- Simultaneous or seperate cutting and beveling
- Increased productivity
- Increased service life of tools
- More corrosion protection through clamping jaw attachments (included)
- All RA's are fitted with the swivel cable with a quick-disconnect coupler

FEED VERSIONS:

Pipe cutting and beveling machine with **automatic feed module AVM***: This intelligent solution continuously controls the cutting speed depending on the torque and the parameter settings. The AVM improves the handling of the GF and RA machine and stops automatically after the cutting process. Pipe cutting and beveling machines **with manual feed module MVM***: This manually operated feed module facilitates the cutting and beveling of pipes. With the help of a hand wheel, the machine head rotates easily and with little effort around the pipe with a constant speed.

Available with automatic or manual feed modules (AVM/MVM)



Manual feed module MVM

Optimized speed range

Planetary cutting technology

APPLICATION RANGE		RA 8	RA 8 AVM*	RA 8 MVM*	RA 12	RA 12 AVM*	RA 12 MVM*
Code	[230 V] [120 V]	790 045 095 790 045 096	790 045 001 790 045 007	790 045 069 790 045 082	790 047 095 790 047 096	790 047 001 790 047 007	790 047 069 790 047 082
Tube OD	[mm] [inch]	114 - 230 4.488 - 9.055	114 - 230 4.488 - 9.055	114 - 230 4.488 - 9.055	157 - 325 6.181 - 12.795	157 - 325 6.181 - 12.795	157 - 325 6.181 - 12.795
Wall thickness (depends on material)**	[mm] [inch]	2 - 10 0.079 - 0.394	2 - 10 0.079 - 0.394	2 - 10 0.079 - 0.394	2 - 10 0.079 - 0.394	2 - 10 0.079 - 0.394	2 - 10 0.079 - 0.394
Tube ID min. (saw blade Ø 63 mm) Tube ID min. (saw blade Ø 2.480")	[mm] [inch]	137 5.394	137 5.394	137 5.394	190 7.480	190 7.480	190 7.480
Tube ID min. (saw blade Ø 68 mm) Tube ID min. (saw blade Ø 2.677")	[mm] [inch]	132 5.197	132 5.197	132 5.197	185 7.283	185 7.283	185 7.283
Tube ID min. (saw blade Ø 80 mm) Tube ID min. (saw blade Ø 3.150")	[mm] [inch]	120 4.724	120 4.724	120 4.724	173 6.811	173 6.811	173 6.811
Tube ID min. (saw blade Ø 100 mm) Tube ID min. (saw blade Ø 3.937")	[mm] [inch]	100 3.937	100 3.937	100 3.937	153 6.024	153 6.024	153 6.024
Tube materials		High-quality steel (any Cr and Mo content); figh-quality stainless steel (any Cr and Mo content); high-quality steel (Cr < 12% and Mo < 2.5%; Cr < 20% and Mo = 0%): case hardened steels, high-speed steels, tempering steels, bearing steels, tool steels; black and galvanized steel pipe; general structural steel; annealed cast iron pipe (GGG); aluminum; brass; copper; plastics (PE, PP, PVDE, PVC)					
TECHNICAL DATA		**RA 8**	**RA 8 AVM***	**RA 8 MVM***	**RA 12**	**RA 12 AVM***	**RA 12 MVM***
Power	[kW] [hp]	1.8 2.41	1.9 2.54	1.8 2.41	1.8 2.41	1.9 2.54	1.8 2.41
Power AVM	[kW] [hp]	-	0.05 0.07	-	-	0.05 0.07	-
Built-in electronic variable cutting speed with restart inhibitor	[rpm]	40 - 215	40 - 215	40 - 215	40 - 215	40 - 215	40 - 215
Slide housing speed with AVM	[rpm]	-	0.1 - 2.3	-	-	0.1 - 1.8	-
Slide housing torque max. with AVM	[Nm]	-	165	-	-	210	-
Protection class	[class]	II (DIN EN 60745-1)	I (DIN EN 60204-1)	II (DIN EN 60745-1)	II (DIN EN 60745-1)	I (DIN EN 60204-1)	II (DIN EN 60745-1)
Noise level at the workplace approx.	[dB (A)]	79	79	79	79	79	79
Vibration level (according to DIN EN 28662, part 1)	[m/s²]	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Mains fuse by customer	[A]	16	16	16	16	16	16
Dimensions (lxwxh)	[mm] [inch]	778 x 430 x 485 30.6 x 16.9 x 19.1	918 x 430 x 485 36.1 x 16.9 x 19.1	788 x 430 x 485 31.0 x 16.1 x 19.1	940 x 374 x 592 37.0 x 14.7 x 23.3	1.070 x 374 x 592 42.1 x 14.7 x 23.3	1.090 x 374 x 592 42.9 x 14.7 x 23.3
Weight of machine approx.***	[kg] [lbs]	102.5 225.9	110.0 242.5	104.6 230.6	138.6 305.6	146.1 322.1	140.7 310.2
Versions (single-phase AC)	[V, Hz]	230 V, 50/60 Hz 120 V, 50/60 Hz	230 V, 50/60 Hz 120 V, 50/60 Hz	230 V, 50/60 Hz 120 V, 50/60 Hz	230 V, 50/60 Hz 120 V, 50/60 Hz	230 V, 50/60 Hz 120 V, 50/60 Hz	230 V, 50/60 Hz 120 V, 50/60 Hz
SCOPE OF DELIVERY		**RA 8**	**RA 8 AVM***	**RA 8 MVM***	**RA 12**	**RA 12 AVM***	**RA 12 MVM***
Pipe cutting and beveling machine	Pc.	1	1	1	1	1	1
Transportation case	Pc.	1	1	1	1	1	1
Saw blade (Code 790 043 018)	Pc.	1	1	1	1	1	1
Mounting plate	Pc.	1	1	1	1	1	1
Tool set	Set	1	1	1	1	1	1
Saw blade lubricant GF TOP (Code 790 060 228)	Tube	1	1	1	1	1	1
Special gear oil (Code 790 041 030)	Bottle	1	1	1	1	1	1
Operating instructions and spare parts list	Set	1	1	1	1	1	1

The technical data are not binding. They are not warranted characteristics and are subject to change. Please consult our general conditions of supply.

* The automatic/manual feed module AVM/MVM is already fitted to the pipe cutter upon delivery.

** With automatic cutting process. Increased wall thickness possible with manual feed or by adding an additional cut (depending on the saw blade diameter).

*** Weight without packaging and accessories.

RA 8 RA 8 AVM RA 8 MVM

RA 12 RA 12 AVM RA 12 MVM

Pipe cutting and beveling machines

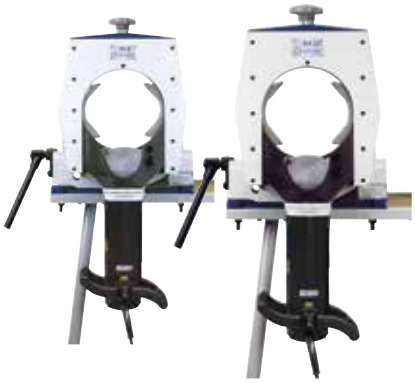
RA 8, RA 12 (AVM/MVM)

Features, application range, technical data and scope of delivery,
see from page 13.

ARTICLE	VERSION	CODE		WEIGHT OF MACHINE KG	DISPATCH WEIGHT KG
RA 8	230 V, 50/60 Hz EU	**790 045 095**		102.500	149.000
RA 8	120 V, 50/60 Hz EU/US	**790 045 096**		102.500	149.000
RA 8 AVM	230 V, 50/60 Hz EU	**790 045 001**		110.000	165.000
RA 8 AVM	120 V, 50/60 Hz EU/US	**790 045 007**		110.000	165.000
RA 8 MVM	230 V, 50/60 Hz EU	**790 045 069**		103.000	153.000
RA 8 MVM	120 V, 50/60 Hz EU/US	**790 045 082**		103.000	153.000
RA 12	230 V, 50/60 Hz EU	**790 047 095**		138.600	177.000
RA 12	120 V, 50/60 Hz EU/US	**790 047 096**		138.600	177.000
RA 12 AVM	230 V, 50/60 Hz EU	**790 047 001**		146.000	205.000
RA 12 AVM	120 V, 50/60 Hz EU/US	**790 047 007**		146.000	205.000
RA 12 MVM	230 V, 50/60 Hz EU	**790 047 069**		140.700	200.000
RA 12 MVM	120 V, 50/60 Hz EU/US	**790 047 082**		140.700	200.000

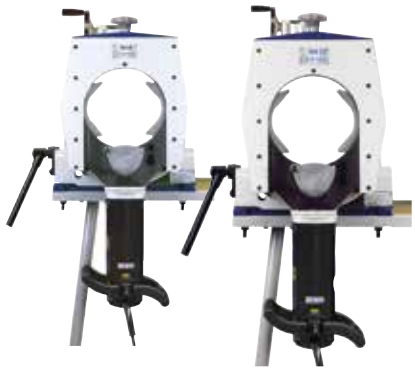
Suitable accessories

- Saw blades and bevel cutters, see from page 27
- High-performance lubricants for cutting and beveling, see page 22
- Special gear oil, see page 22
- Swivel cable, see page 23
- Quick-mounting base plates with integrated screw clamps, see page 23
- Mobile workstation, see page 23
- Pipe feeder base unit and extension unit, see from page 24



RA 8, RA 12

RA 8 AVM, RA 12 AVM



RA 8 MVM, RA 12 MVM

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Comprehensive service and maintenance offer

We care not only about your concerns prior to purchase. Even after the sale has been made you can fully rely on us.

Our products are extremely robust and reliable.
In order to maintain their performance in the long term, you should have the servicing and maintenance work carried out regularly at the recommended intervals.

All servicing and maintenance work is carried out by qualified and motivated employees with the utmost care. They analyze the situation in order to find the optimal solution for the long term.

Competent service is provided through our subsidiaries as well as our worldwide network of authorized partners. These have been selected with great care and trained at regular intervals by our experts so that they always remain up-to-date with regard to our products and technologies.

Why maintenance?

"Prevention is better than cure"

Don't wait until your machine breaks down sooner or later due to a lack of servicing or maintenance work!

Small causes can often engender large effects - and downtimes or malfunctions could have been avoided through timely checking and maintenance.

When did you last have your machinery maintained?
Arrange an appointment with us straight away:

+49 (0) 77 31 792-786

customerservice@itw-ocw.com

Don't forget to fill out the Service Form which can be downloaded at: www.orbitalum.de/en/service.html

Our services:

- Repairs, replacements
- Cost estimates
- Proactive maintenance
- Service training for customers
- Rental machines for bridging repair periods at special terms
- Collection service for machines
- Visual and functional inspection
- Determination and measuring of technical parameters
- Information to customer about maintenance result
- Functional test of the system components
- Cleaning and care work
- Replacement of defined wear parts as well as of defective components
- Implementation of modifications in as far as these serve to technically improve the equipment
- Required adjustment and setting work including calibration and re-acceptance

Your advantages:

- Service directly from the manufacturer or authorized partner
- Reduction of downtimes
- Long-term functioning of your machinery and plants
- Ensuring the availability
- Early recognition of wear avoids unnecessary and costly repairs
- Reduction of the susceptibility to failure
- Value retention of your machinery and plants
- Regular maintenance work ensures reliable and safe machine operation – even after many years
- Higher availability of own service employees

GFX 3.0, GFX 6.6

Pipe cutting and beveling machines

Innovative saws from Orbitalum Tools for cutting and beveling of tubes and for cutting off elbows (also for thin-walled stainless steel) in just seconds. The perfect preparation for orbital welding! Easy to use, powerful and compact saw with low weight – our new GFX provides even more outstanding features.

The GFX series: Easy to handle, powerful and compact

- Square, burr-free and cold machining process ✓
- Deformation-free clamping system especially applicable for thin-walled tubes ✓
- Easy handling through light weight ✓
- Simultaneous or seperate cutting and beveling ✓
- Increased productivity ✓
- Low-maintenance and service friendly ✓
- Environmental friendly; long tool life ✓
- Second saw blade position to cut off elbows ✓
- Ideal for pressfitting applications ✓

Our GFX series is the ideal solution for cutting of thin-walled tubes. The rugged design for a long product life makes the saws especially economical. Furthermore, the long tool lives thereby increase the productivity.

The GFX series is extremely low-maintenance and service-friendly and offers a large range of applications. Materials which can be processed are unalloyed, low-alloy and high-alloy steels, stainless steels, non-ferrous metals, aluminum alloys, titanium alloys, composite materials and plastics.

As is characteristic for the ORBITALUM pipe saws, the saw allows convenient marking of the cut-off point on the tube with the help of a line laser.

A second saw blade clamping point enables tube elbows to be cut off.

The powerful motor is equipped with overload protection and ergonomic handles and is available for the voltages 230 V, 50/60 Hz or 120 V, 50/60 Hz.

The cable connection with a quick-release screw coupler enables simple, convenient replacement of the flexible swivel cable.

The applications lie mainly in the food processing, beverage, pharmaceutical and chemical industries.

FURTHER ADVANTAGES:

- Optimized chip flow due to a new vice design
- Cast iron clamping jaws
- Integrated line laser to determine the cut off point
- Ergonomically designed motor handle
- Powerful drive with 1.2 kW and adjustable speed control for cutting several materials and extended tool life
- Electronic overload protection with integrated temperature monitor and electronic speed regulation
- Increased durability of tools due to the new drive GF10
- Ergonomically positioned speed control adjusting wheel
- Swivel cable with a quick-disconnect coupler: For easy and quick replacement of power cables
- Direct mounting on workbench possible with GFX 3.0

Second saw blade position to cut off elbows

Cast iron clamping jaws with stainless steel caps

Integrated line laser to determine the cut off point

Powerful drive with electronic overload protection and ergonomically designed motor handle

Saw blade lubricant GF TOP included

Square, burr-free and deformation-free pipe end – ideal for pressfitting applications

APPLICATION RANGE		GFX 3.0	GFX 6.6
Code	[230 V] [120 V]	790 144 001 790 144 002	790 146 001 790 146 002
Tube OD	[mm] [inch]	6.0 - 78.0 0.236 - 3.071	21.3 - 168.3 0.838 - 6.659
Wall thickness	[mm] [inch]	0.8 - 7.0 0.031 - 0.275	0.8 - 7.0 0.031 - 0.275
Tube ID min. (saw blade Ø 63/2.248")	[mm] [inch]	0 0	23.0 0.905
OD range (saw blade Ø 63/2.248")	[mm] [inch]	6.0 - 78.0 0.236 - 3.071	24.6 - 168.3 1.008 - 6.659
Tube ID min. (saw blade Ø 68/2.677")	[mm] [inch]	0 0	18 0.708
OD range (saw blade Ø 68/2.677")	[mm] [inch]	6.0 - 73.0 0.236 - 2.874	21.3 - 168.3 0.838 - 6.659
Tube ID min. (saw blade Ø 80/3.149")	[mm] [inch]	- -	6.0 0.236
OD range (saw blade Ø 80/3.149")	[mm] [inch]	- -	21.3 - 156.0 0.838 - 2.205
Tube materials	Unalloyed, low-alloy and high-alloy steel, stainless steel, non-ferrous metal, aluminum alloy, titanium alloy, composite material and plastic		
TECHNICAL DATA		**GFX 3.0**	**GFX 6.6**
Dimensions (lxwxh)	[mm] [inch]	570 x 330 x 280 22.44 x 12.99 x 11.02	575 x 350 x 671 22.64 x 13.78 x 26.42
Weight incl. vice	[kg] [lbs]	28.5 62.83	74.4 164.02
Power	[W]	1200	1200
Protection class	[class]	II	II
Built-in electronic variable cutting speed with restart inhibitor	[rpm]	30 - 200	30 - 200
Versions (single-phase AC)	[V, Hz] [V, Hz]	230 V, 50/60 Hz EU 120 V, 50/60 Hz US	230 V, 50/60 Hz EU 120 V, 50/60 Hz US
Vibration level (EN 50144)	[m/s²]	< 2.5	< 2.5
Noise level at the workplace (EN 23741)	[dB (A)]	79.7	79.7
SCOPE OF DELIVERY		**GFX 3.0**	**GFX 6.6**
Pipe cutting and beveling machine	Pc.	1	1
Wooden transportation case	Pc.	1	1
Saw blade (Code 790 ...)	Pc.	1 (...041 035)	1 (...042 064)
Quick-mounting plate without screw clamps*	Pc.	-	1
Stainless steel caps**	Set	1	1
Line laser with holder and fastening screws***	Pc.	1	1
Tool set	Set	1	1
Saw blade lubricant GF TOP (Code 790 060 228)	Tube	1	1
Operating instructions and spare parts list	Set	1	1

GFX 3.0, GFX 6.6

The technical data are not binding. They are not warranted characteristics and are subject to change.
Please consult our general conditions of supply.

* The GFX 3.0 can be mounted directly on the workbench without a quick-mounting plate. Quick-mounting plates with screw clamps for GFX 3.0 and GFX 6.6 are available optionally.
** Already mounted on the sliding clamping jaws of the GFX at delivery.
*** The line laser has to be mounted on the GFX before commissioning.

Pipe cutting and beveling machines

GFX 3.0, GFX 6.6

Features, application range, technical data and scope of delivery, see page 17.

ARTICLE	VERSION	CODE		WEIGHT OF MACHINE KG	DISPATCH WEIGHT KG
GFX 3.0	230 V, 50/60 Hz EU	**790 144 001**		28.000	44.000
GFX 3.0	120 V, 50/60 Hz US	**790 144 002**		28.000	44.000
GFX 6.6	230 V, 50/60 Hz EU	**790 146 001**		74.400	104.000
GFX 6.6	120 V, 50/60 Hz US	**790 146 002**		74.400	104.000

GFX 3.0, GFX 6.6

Durable storage and shipping case

High-quality padded blue shipping case. Particularly sturdy design.

ARTICLE	CODE		KG
Durable storage and shipping case for GFX 3.0	**790 144 019**		12.500

Durable storage and shipping case

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Other accessories

- Saw blades and bevel cutters, see from page 27
- High-performance lubricants for cutting and beveling, see page 22
- Special gear oil, see page 22
- Swivel cable, see page 23
- Quick-mounting base plates with integrated screw clamps, see page 23
- Mobile workstation, see page 23
- Pipe feeder base unit and extension unit, see from page 24
- Tripod, see page 33
- Collapsible work bench, see page 82

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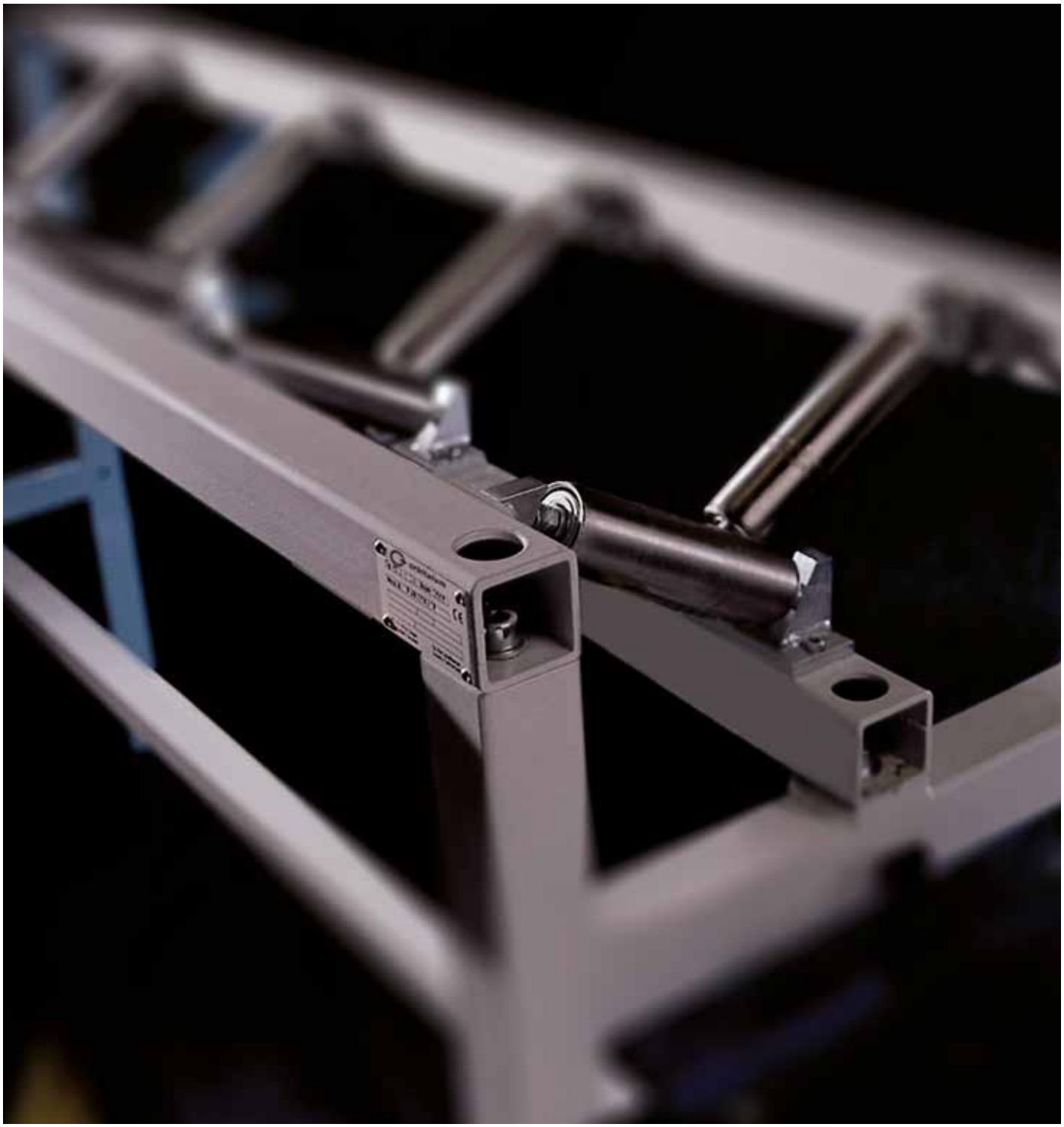
Accessories for GF and RA machines



Accessories for GF and RA machines

GF TOP

Saw blade lubricant GF TOP

Synthetic high-performance lubricant for cutting and beveling machines.
Increases the tool life of the saw blade.
Meets the requirements for H2 lubricants.
The screwable brush guarantees an easy and uniform application of lubricant on the saw blade.

ARTICLE	VERSION	CODE		KG
Saw blade lubricant GF TOP	Tube, 180 g	**790 060 228**		0.205

GF LUB

Saw blade lubricant GF LUB

Chlorine-free high-performance lubricant for cutting and beveling.
Increases the tool life of the saw blade.
This ecologically cutting compound is the environmentally friendly replacement for ROCOL: just with a new name and improved quality.
GF LUB meets the latest environmental directives and ecological standards.

ARTICLE	VERSION	CODE		KG
Saw blade lubricant GF LUB	Tube, 160 ml	**790 041 016**		0.160

Special gear oil

Special gear oil

For all GF and RA machines.

ARTICLE	VERSION	CODE		KG
Special gear oil	Bottle, 250 ml	**790 041 030**		0.235

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Swivel cable

To prevent twisting of the cable.
For all GF, RA and PS machines with protection class II (double insulated).

ARTICLE	VERSION	CABLE LENGTH		CODE		KG
		[M]	[FT]			
Swivel cable complete	230 V, 50/60 Hz EU	4	13.12	**790 142 081**		0.680
Swivel cable complete	120 V, 50/60 Hz US/CA	4	13.12	**790 142 082**		0.654
Swivel cable complete	230 V, 50/60 Hz CH	4	13.12	**790 142 083**		0.595
Swivel cable complete	230 V, 50/60 Hz AU	4	13.12	**790 142 084**		0.655
Swivel cable complete	120 V, 50/60 Hz GB	4	13.12	**790 142 087**		0.740
Swivel cable	230 V, 50/60 Hz EU	4	13.12	**790 142 076**		0.560
Swivel cable	120 V, 50/60 Hz US/CA	4	13.12	**790 142 077**		0.740
Swivel cable	230 V, 50/60 Hz CH	4	13.12	**790 142 078**		0.520
Swivel cable	120 V, 50/60 Hz GB	4	13.12	**790 142 079**		0.630
Swivel cable	230 V, 50/60 Hz AU	4	13.12	**790 142 080**		0.560

Swivel cable complete

Swivel cable

Quick-mounting base plates with integrated screw clamps

For quick mounting of the machine on work benches.
Ideal for frequent changes of location.

ARTICLE	CODE		KG
Quick-mounting base plate for GFX 3.0, RA 2, RA 21 S	**790 041 027**		4.230
Quick-mounting base plate for GF 4, GF 6, GFX 6.6, RA 4, RA 6, RA 8, RA 41 Plus	**790 042 027**		6.165
Quick-mounting base plate for PS 4.5, PS 4.5 Plus and PS 6.6	**790 048 334**		2.600

Quick-mounting base plates with integrated screw clamps

Mobile workstation

For the mobile site and/or workshop. The ideal addition for all Orbitalum pipe cutters (with exception of GF 20 AVM. RA 2, PS 4.5, PS 4.5 Plus, PS 6.6 on request).

Advantages:

- Safe and easy transportation of machines and equipment on site
- Flexible operation at each working station
- Elimination of material handling and setting up of the machines e.g. no requirement to mount the machines to benches
- Height-adjustable pipe support with stainless steel roller
- The tool box comes with 4 drawers for tools and equipment and is lockable
- Lifting table with height adjustment of the GF- and RA-machines to the required pipe dimension
- Accurate and clean work by swarf collection tray

TECHNICAL DATA	MOBILE WORKSTATION
Dimensions (lxwxh)	115 x 43 x 91 cm 45.3" x 16.9" x 35.8"
Load capacity max.	675 kg 1488.1 lbs

ARTICLE	CODE		KG
Mobile workstation	**790 068 071**		137.000

Mobile workstation

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Pipe feeder base unit

Pipe feeder extension unit

Pipe feeder base unit and extension unit

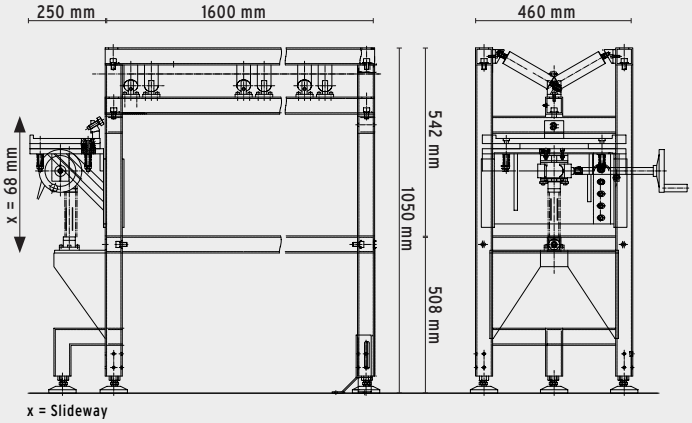
The pipe feeder accurately feeds long and heavy pipes into GF and RA machines. Very sturdy and stable design with powder-coated frames and stainless steel rollers.

Advantages:

- Extremely stable and sturdy
- Fast adjustment of dimensions
- Centerline of tubes and pipes adjust easily in seconds
- Steel frame coated for maintenancefree finish
- Rollers made of stainless steel
- Extension of the pipe feeder possible with extension unit
- Saves time and money
- Perfect for all kinds of steel

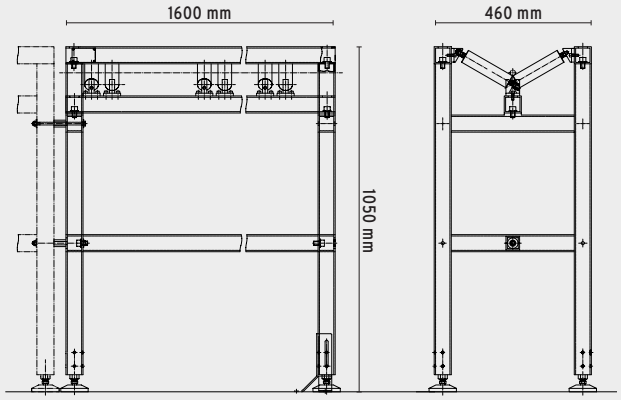
Base unit:

Fits all pipe cutting and beveling machines from Orbitalum Tools (except the RA 2, GFX 3.0, RA 21 S and GF 20 AVM. PS 4.5, PS 4.5 Plus and PS 6.6 on request). The machines can be directly mounted onto the base plate of the pipe feeder base unit, without further parts. The machines can be easily adjusted to the required cutting dimension using the handwheel-operated mechanical height adjustment. The machine is securely fastened to the base plate.



Extension unit:

To extend the base unit, can be used singularly or in multiples, easily bolted together.



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Floor bracket accessory:

To fasten the base unit or the extension unit to the floor.
The assembly consists of 4 brackets and 8 bolts with washers.

APPLICATION RANGE/ TECHNICAL DATA	PIPE FEEDER BASE UNIT	PIPE FEEDER EXTENSION UNIT
Tube OD	16 - 325 mm 0.63" - 12.8"	16 - 325 mm 0.63" - 12.8"
Dimensions approx.	185 x 105 x 50 cm 72.8" x 41.3" x 19.7"	approx. 160 x 105 x 50 62.9" x 41.3" x 19.7"
Load capacity max.	400 kg 881.8 lbs	400 kg 881.8 lbs
Height-adjustable mounting plate (adjusting range)	68 mm 2.68"	- -

ARTICLE	CODE		KG
Pipe feeder base unit	**790 068 051**		116.000
Pipe feeder extension unit	**790 068 061**		72.000
Floor bracket accessory	**790 068 053**		1.900

Other accessories

- Saw blades and bevel cutters, see from page 27
- Collapsible work bench, see page 82

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Saw blades and bevel cutters for GF and RA machines

Saw blades

Features and application ranges, see page 27.

Most saw blades are available in favorable packs of 10 (individually packed) – meaning that you save 30% on the normal list price when you buy these value packs.

Please note the differing code number when ordering the 10-pack.

Saw blade Economy

Saw blade Performance

Saw blade High-Performance

Saw blade Premium

Saw blades with additional borehole

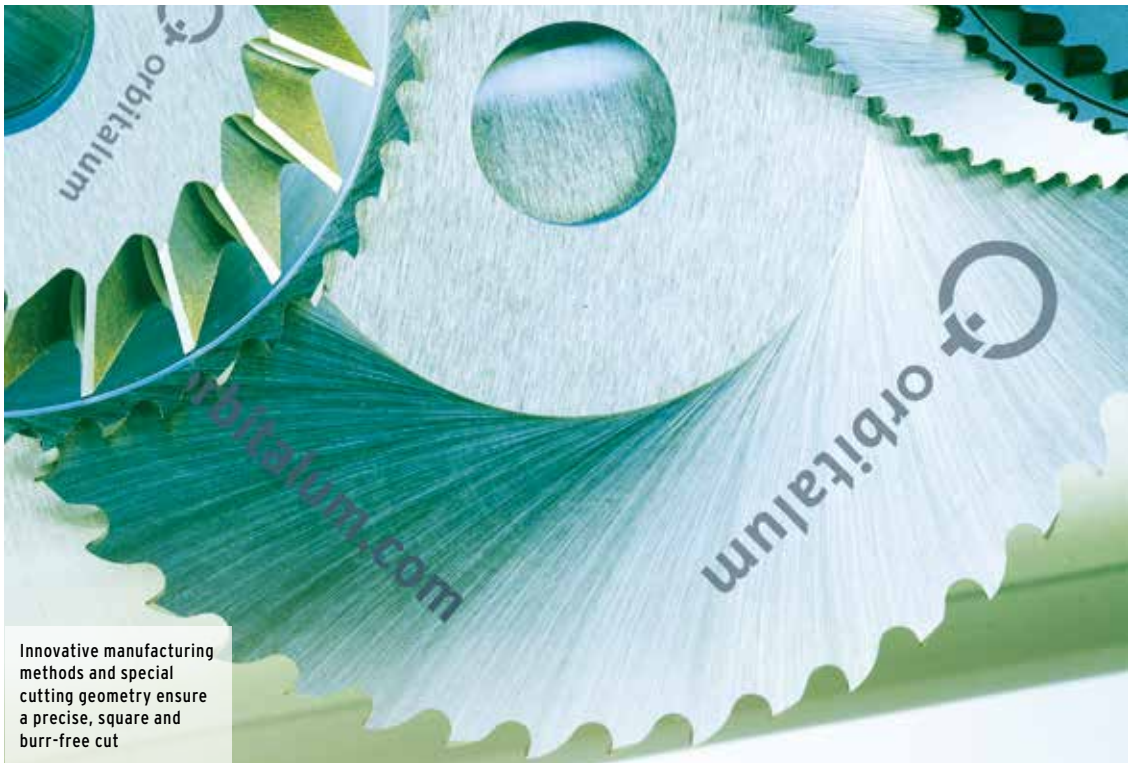
ARTICLE	VERSION	WALL THICKNESS		SAW BLADE Ø		PACKAGE OF 1 PC			PACKAGE OF 10 PCS	
		[MM]	[INCH]	[MM]	[INCH]	CODE		KG	CODE	
Saw blade	Economy*	1.5 - 6.0	0.059 - 0.236	68	2.677	**790 042 063**		0.036	**792 042 063**	
Saw blade	Economy	2.0 - 5.5	0.079 - 0.217	63	2.480	**790 041 020**		0.032	**792 041 020**	
Saw blade	Economy*	5.0 - 12.0	0.197 - 0.472	80	2.953	**790 043 030**		0.075	**792 043 030**	
Saw blade	Performance	0.6 - 1.2	0.024 - 0.047	63	2.480	**790 041 036**		0.027	**792 041 036**	
Saw blade	Performance	1.0 - 1.6	0.039 - 0.063	68	2.677	**790 042 049**		0.050	**792 042 049**	
Saw blade	Performance	1.0 - 3.0	0.039 - 0.118	63	2.480	**790 048 072**		0.035	**792 048 072**	
Saw blade	Performance	1.2 - 2.5	0.047 - 0.098	63	2.480	**790 041 035**		0.040	**792 041 035**	
Saw blade	Performance	1.2 - 2.5	0.047 - 0.098	68	2.677	**790 042 064**		0.045	**792 042 064**	
Saw blade	Performance**	1.2 - 2.5	0.047 - 0.098	100	3.937	**790 043 036**		0.104	**792 043 036**	
Saw blade	Performance	1.2 - 3.0	0.047 - 0.118	83	3.268	**790 043 024**		0.075	**792 043 024**	
Saw blade	Performance	1.5 - 2.5	0.059 - 0.098	80	3.150	**790 046 022**		0.065	**792 046 022**	
Saw blade	Performance	2.5 - 5.5	0.098 - 0.217	63	2.480	**790 041 048**		0.035	**792 041 048**	
Saw blade	Performance**	2.5 - 5.5	0.098 - 0.217	100	3.937	**790 043 038**		0.120	**792 043 038**	
Saw blade	Performance	2.5 - 7.0	0.098 - 0.276	68	2.677	**790 042 048**		0.045	**792 042 048**	
Saw blade	Performance	2.5 - 7.0	0.098 - 0.276	80	3.150	**790 043 018**		0.080	**792 043 018**	
Saw blade	Performance	6.0 - 10.0	0.236 - 0.394	80	2.953	**790 043 022**		0.075	**792 043 022**	
Saw blade	Performance**	6.0 - 15.0	0.236 - 0.591	100	3.937	**790 047 026**		0.105	**792 047 026**	
Saw blade	High-Performance	1.2 - 2.5	0.047 - 0.098	80	3.150	**790 046 021**		0.064		
Saw blade	High-Performance	1.2 - 2.5	0.047 - 0.098	63	2.480	**790 041 034**		0.040		
Saw blade	High-Performance	2.5 - 7.0	0.098 - 0.267	68	2.677	**790 042 058**		0.045		
Saw blade	Premium	1.2 - 2.5	0.047 - 0.098	63	2.480	**790 041 049**		0.033		
Saw blade with borehole	Performance	1.0 - 3.0	0.039 - 0.118	63	2.480	**790 048 472**		0.035	**792 048 472**	
Saw blade with borehole	Performance	1.2 - 2.5	0.047 - 0.098	63	2.480	**790 041 435**		0.030	**792 041 435**	
Saw blade with borehole	Performance	1.2 - 2.5	0.047 - 0.098	68	2.677	**790 042 464**		0.047	**792 042 464**	
Saw blade with borehole	Performance	1.5 - 2.5	0.059 - 0.098	80	3.150	**790 046 422**		0.052	**792 046 422**	
Saw blade with borehole	Performance	2.5 - 7.0	0.098 - 0.276	68	2.677	**790 042 448**		0.036	**792 042 448**	

* applicable only for aluminum tubes
** only for GF 6, RA 6, RA 8, RA 12 and GF 20 AVM

Saw blades and bevel cutters

For GF and RA machines

These saw blades and bevel cutters are especially designed for our pipe cutters for highest requirements and longest service life. 4 different ranges of saw blades are available.



Innovative manufacturing methods and special cutting geometry ensure a precise, square and burr-free cut

Burr-free and deformation-free

Square

Cutting and beveling

- **Economy** range for low and non-alloy steels and cast iron pipes
- **Performance** range for high-alloy steels (stainless steel)
- **High-Performance** range for high-performance materials and high-alloy steels
- **Premium** range especially made for stainless steel applications with extra long durability

WORKABLE PIPE MATERIALS	AL	MILD STEEL, CU, CUNI, CUZN, CUSN	INOX, V2A, V4A, 304, 316 (L)	TI, DUPLEX, INCONEL
Economy	*	*		
Performance		*	*	
High-Performance		*	*	*
Premium			*	

The technical data are not binding. They are not warranted characteristics and are subject to change. Please consult our general conditions of supply.

Saw blade/bevel cutter combinations

Features and application ranges, see page 27.
Simultaneous cutting and beveling of pipes in just seconds.

Weld-prep saw blade/bevel cutter combinations (V-prep)

Weld-prep saw blade/bevel cutter combination (V-prep)

Consisting of one saw blade and one bevel cutter.
It is possible to order the individual parts separately.

VERSION	WALL THICKNESS		BEVELING ANGLE [°]	HEIGHT OF BEVEL MAX.		SAW BLADE Ø		CODE		KG
	[MM]	[INCH]		[MM]	[INCH]	[MM]	[INCH]			
Performance	1.2 - 3.0	.047 - .118	30	3	.118	63	2.480	**790 044 050**		0.100
Performance	2.5 - 7.0	.098 - .276	30	7	.276	68	2.677	**790 042 161**		0.108
High-Performance	2.5 - 5.0	.098 - .197	35	5	.197	68	2.677	**790 042 015**		0.120
High-Performance	2.5 - 6.0	.098 - .236	45	4	.157	68	2.677	**790 042 023**		0.135
High-Performance	2.5 - 7.0	.098 - .276	30	7	.276	68	2.677	**790 042 013**		0.108

Replacement parts for weld-prep saw blade/bevel cutter combinations (V-prep)

ARTICLE	VERSION	CODE		KG
Saw blade for 790 044 050	Performance	**790 044 040**		0.027
Bevel cutter 30° for 790 044 050	Performance	**790 044 049**		0.065
Saw blade for 790 042 155, 790 042 157 and 790 042 161	Performance	**790 042 153**		0.040
Bevel cutter 30° for 790 042 161	Performance	**790 042 160**		0.060
Saw blade for 790 042 018, 790 042 015, 790 042 023, 790 042 013	High-Performance	**790 042 016**		0.040
Bevel cutter 30° for 790 042 013	High-Performance	**790 042 021**		0.077
Bevel cutter 35° for 790 042 015	High-Performance	**790 042 014**		0.060

Support disc for saw blade/bevel cutter combinations

We recommend the use of 1 support disc for the saw blade/bevel cutter combination.

ARTICLE	CODE		KG
Support disc	**790 046 188**		0.068

Press fitting saw blade/bevel cutter combinations

Press fitting saw blade/bevel cutter combination

Consisting of one saw blade and one bevel cutter. Especially for stainless steel press fitting systems. It is possible to order the individual parts separately.

VERSION	WALL THICKNESS		BEVELING ANGLE [°]	HEIGHT OF BEVEL MAX.		SAW BLADE Ø		CODE		KG
	[MM]	[INCH]		[MM]	[INCH]	[MM]	[INCH]			
Performance	1.0 - 2.0	.039 - .079	45 / 70	0.4/1.0	.016/.039	63	2.480	**790 044 046**		0.090

Replacement parts for press fitting saw blade/bevel cutter combinations

ARTICLE	VERSION	CODE		KG
Saw blade for 790 044 046	Performance	**790 044 040**		0.027
Bevel cutter for 790 044 046	Performance	**790 044 042**		0.064

Bevel cutters

Features and application ranges, see page 27.

For V-prep profiles on pipe ends.
The bevel cutter is mounted on the GF/RA pipe cutter instead of a saw blade.
Reproducible weld seam preparation in just seconds.

Bevel cutters V-prep

ARTICLE	BEVELING ANGLE [°]	HEIGHT OF BEVEL MAX.		BEVEL CUTTER Ø		CODE		KG
		[MM]	[INCH]	[MM]	[INCH]			
Economy	30.0	9.5	.374	72	2.835	**790 042 045**		0.165
Economy	35.0	8.9	.350	70	2.756	**790 042 037**		0.170
Economy	37.5	8.4	.331	70	2.756	**790 042 036**		0.162
Economy	45.0	7.5	.295	70	2.756	**790 042 038**		0.162
Performance	30.0	9.5	.374	72	2.835	**790 042 071**		0.153
Performance	30.0	13.0	.512	76	2.992	**790 043 023**		0.187
Performance	37.5	8.4	.331	70	2.756	**790 042 070**		0.163
High-Performance	30.0	9.5	.374	72	2.835	**790 042 073**		0.157

Bevel cutter V-prep

Saw blade lubricant GF TOP

Synthetic high-performance lubricant for cutting and beveling machines.
Increases the tool life of the saw blade. Meets the requirements for H2 lubricants.
The screwable brush guarantees an easy and uniform application of lubricant on the saw blade.

ARTICLE	VERSION	CODE		KG
Saw blade lubricant GF TOP	Tube, 180 g	**790 060 228**		0.205

GF TOP

Saw blade lubricant GF LUB

Chlorine-free high-performance lubricant for cutting and beveling.
Increases the tool life of the saw blade.
This ecologically cutting compound is the environmentally friendly replacement for ROCOL: just with a new name and improved quality.
GF LUB meets the latest environmental directives and ecological standards.

ARTICLE	VERSION	CODE		KG
Saw blade lubricant GF LUB	Tube, 160 ml	**790 041 016**		0.160

GF LUB

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Saw blades for SCORP machines

Saw blade TCT

Saw blade TCT

APPLICATION RANGE SCORP 360 WITH TCT SAW BLADE			
Plastic pipe OD		Saw blade Ø 140 mm/5.512" max. wall thickness	
[mm]	[inch]	[mm]	[inch]
75	2.953	15.1	0.594
90	3.543	11.4	0.449
100	3.937	10.1	0.398
110	4.331	9.3	0.366
115	4.528	9.1	0.358
125	4.921	8.8	0.346
140	5.512	8.7	0.343
160	6.299	9.1	0.358
165	6.496	9.3	0.366
180	7.087	9.9	0.390
190	7.480	10.4	0.409
200	7.874	10.9	0.429
215	8.465	11.8	0.465
225	8.858	12.4	0.488
240	9.449	13.4	0.528
250	9.843	14.0	0.551
270	10.630	15.4	0.606
280	11.024	16.0	0.630
315	12.402	18.3	0.720
320	12.598	18.6	0.732
355	13.976	20.4	0.803

ARTICLE	FOR PIPE MATERIALS	SAW BLADE Ø		RPM MAX.	CODE		KG
		[MM]	[INCH]				
Saw blade TCT	Steel, copper, aluminum, all kinds of plastic	140	5.512	4.200	**790 014 055**		0.154

Cutting blade Diamond

Cutting blade Diamond

ARTICLE	FOR PIPE MATERIALS	SAW BLADE Ø		RPM MAX.	CODE		KG
		[MM]	[INCH]				
Cutting blade Diamond*	Cast iron	155	6.102	4.200	**790 014 059**		0.215

* only for SCORP 360. While stock last.

Saw blade Cermet

Saw blade Cermet

ARTICLE	FOR PIPE MATERIALS	SAW BLADE Ø		RPM MAX.	CODE		KG
		[MM]	[INCH]				
Saw blade Cermet	Stainless steel	140	5.512	4.200	**790 014 056**		0.153

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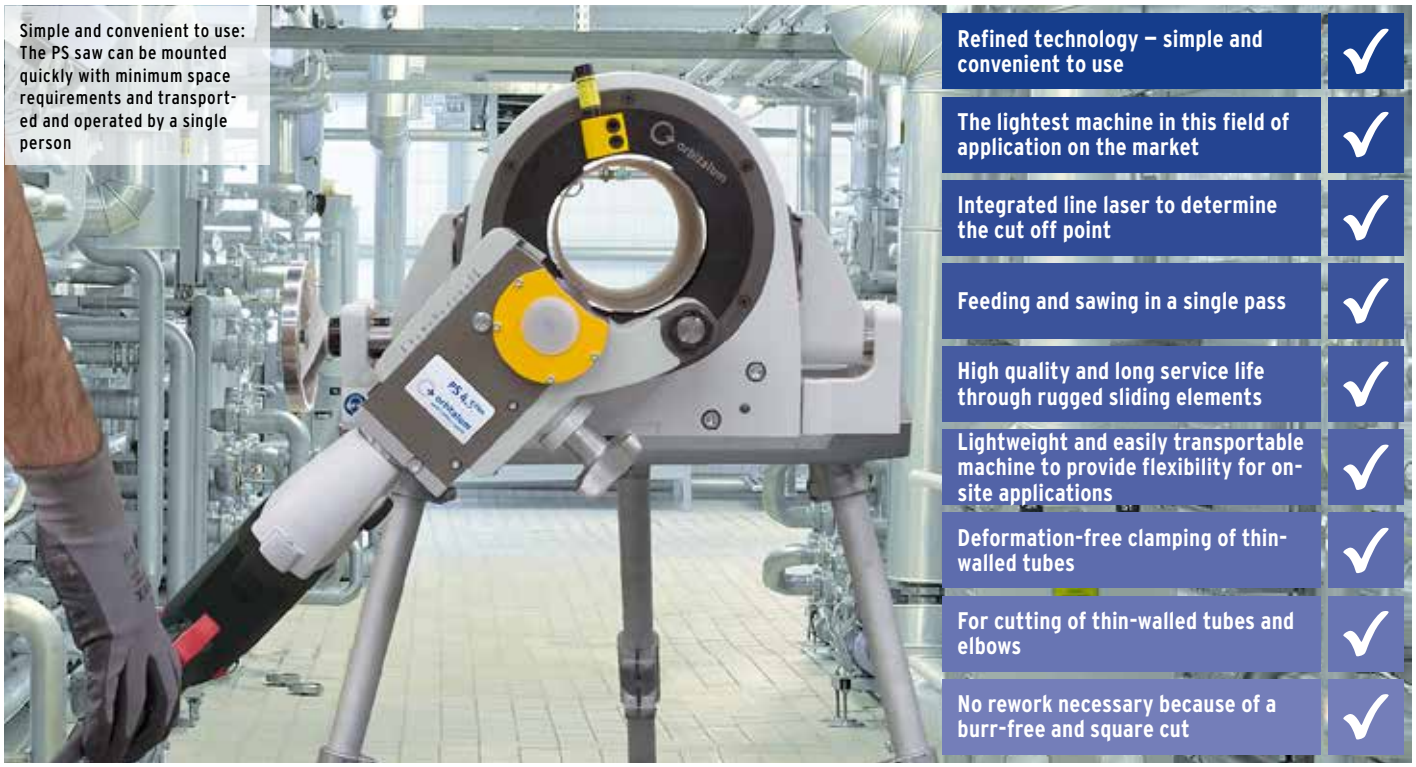
PS 4.5 Plus

Portable tube saws

A mobile, powerful and flexible tube cutting machine for use on construction sites, that's what the PS saw from Orbitalum Tools stands for. This tube saw convinces not only with it's burr-free, right-angled and deformation-free cutting results, but also with its low weight.
At the same time its problem-free and simple usage as well as its unbeatable price are the prime factors among it users.



Simple and convenient to use: The PS saw can be mounted quickly with minimum space requirements and transported and operated by a single person

- Refined technology – simple and convenient to use ✓
- The lightest machine in this field of application on the market ✓
- Integrated line laser to determine the cut off point ✓
- Feeding and sawing in a single pass ✓
- High quality and long service life through rugged sliding elements ✓
- Lightweight and easily transportable machine to provide flexibility for on-site applications ✓
- Deformation-free clamping of thin-walled tubes ✓
- For cutting of thin-walled tubes and elbows ✓
- No rework necessary because of a burr-free and square cut ✓

Tube cutting made easy! Cutting thin-walled stainless-steel tubes and elbows using the superior "Planetary cutting technology".

For its field of applications, the PS 4.5 Plus (23 kg) is amongst the lightest in their class available machines on the market today.

"Enhanced safety due to stationary tube - rotating tool." The tested process of planetary cutting is another important feature, which characterizes all ORBITALUM pipe cutting machines. The saw blade rises into the cutting area and is driven orbitally around the pipe. The advantage is that a small saw blade can cut a large tube diameter, without heating the tube.

As is characteristic for the ORBITALUM pipe saws, the saw allows convenient marking of the cut-off point on the tube with the help of a line laser. A second saw blade clamping point enables tube elbows to be cut off.

The powerful motor is equipped with overload protection and ergonomic handlesand is available for the voltages 230 V, 110 V or 120 V, 50/60 Hz.

The slide housing as well as the self-centering clamping jaws were produced from high-quality aluminum alloys, which measure up to the highest requirements for construction sites.

FURTHER ADVANTAGES:

- Cold cutting process prevents corrosion
- Integrated line laser to determine the cut off point
- Orbital cutting process saves time
- Multiple point clamping
- Fast adjustment of the pipe dimension
- Long saw blade service life
- Press fitting saw blade combinations can be used*
- Speed controlled single-phase AC motor with restart inhibitor

* Only with saw blade/bevel cutter combinations of Orbitalum Tools: Code 790 044 046 or 790 044 047. Especially for stainless steel press fitting systems. Consisting of one saw blade and one bevel cutter. It is possible to order the individual parts separately. Workable wall thickness: 1 - 2 mm (0.039" - 0.079"), beveling angle: 45°/70°, height of bevel: max. 0.4/1 mm (0.016"/.0.039").

Supplied in a durable storage and shipping case with compartments for accessories, for example the mounting plate, tools and now also for the tripod (optionally available)

Self-centering vice made of high-quality aluminum alloy

Tried-and-tested planetary cutting technology: The saw blade immerses into the cut and is guided orbitally around the tube

Included: "Performance" saw blade (790 048 072) and saw blade lubricant GF TOP

Second saw blade position to cut off elbows

Tripod made of aluminum optional available.
Can be dismantled in a few steps – for space-saving storage, for example in the PS transport case

APPLICATION RANGE		PS 4.5 Plus
Code	[230 V]	790 048 001
	[110 V]	790 048 002
	[120 V]	790 048 003
Tube OD	[mm]	6 - 120
	[inch]	0.236 - 4.724
Elbow OD	[mm]	30 - 120
	[inch]	1.181 - 4.724
Wall thickness min. - max.	[mm]	0.6 - 3.0
	[inch]	0.024 - 0.118
TECHNICAL DATA		
Dimensions	[mm]	480 x 230 x 600
	[inch]	20.9 x 9.1 x 23.6
Power	[W]	1100
	[hp]	1.5
Protection class (DIN VDE 0740, isolated)	[class]	II
Speed	[rpm]	30 - 165
Vibration level (DIN EN 28662, part 1)	[m/s²]	< 2.5
Noise level at the workplace approx.	[dB (A)]	78
SCOPE OF DELIVERY		
Portable tube saw	Pc.	1
Cast aluminum clamping jaws	Set	1
Durable storage and shipping case	Pc.	1
Saw blade (Code 790 048 072)	Pc.	1
Tool bag equipped with tools	Pc.	1
Saw blade lubricant GF TOP (Code 790 060 228)	Tube	1
Operating instructions and spare parts list	Set	1

PS 4.5 Plus

The technical data are not binding. They are not warranted characteristics and are subject to change.
Please consult our general conditions of supply.

Portable tube saw

PS 4.5 Plus

Features, application range, technical data and scope of delivery, see page 31.

ARTICLE	VERSION	CODE		WEIGHT OF MACHINE KG	DISPATCH WEIGHT KG
PS 4.5 Plus	230 V, 50/60 Hz EU	**790 048 001**		23.600	37.000
PS 4.5 Plus	110 V, 50/60 Hz EU	**790 048 002**		23.600	37.000
PS 4.5 Plus	120 V, 50/60 Hz US	**790 048 003**		23.600	37.000

PS 4.5 Plus

Quick-mounting base plates with integrated screw clamps

Quick and easy mounting of the machine to the bench with no drilling.
Including 4 socket head screws to fix the PS to the quick-mounting base plate.

ARTICLE	CODE		KG
Quick-mounting base plates with integrated screw clamps	**790 048 334**		2.600

Quick-mounting base plates with integrated screw clamps

Saw blades

Performance range for high-alloy steels (stainless steel).
Recommended saw blades (only Ø 63 mm/2.480") for PS 4.5 Plus and PS 6.6.

ARTICLE	VERSION	WALL THICKNESS		SAW BLADE Ø		CODE		KG
		[MM]	[INCH]	[MM]	[INCH]			
Saw blade	Performance	1.0 - 3.0	0.039 - 0.118	63	2.480	**790 048 072**		0.035
Saw blade	Performance	0.6 - 1.2	0.024 - 0.047	63	2.480	**790 041 036**		0.027

Saw blade Performance

Tripod

Made of aluminum. Suitable for PS 4.5, PS 4.5 Plus, PS 6.6 and GFX 3.0.
For easy mounting of machines directly on the tripod with no base plate.
Can be dismantled in a few steps. NEW: Storage in the PS transport case possible.
Space saving = fast application = easy handling.

ARTICLE	CODE		KG
Tripod for PS 4.5, PS 4.5 Plus, PS 6.6, GFX 3.0	**790 048 390**		7.400

Tripod

Laser retrofitting kit

Line laser to identify the cutting point on the tube.
Easy mounting on the swivel on the PS machines.
Kit contains 1 line laser, 1 laser holder with 2 fixing screws, replacement batteries, 1 set of assembly instructions.

ARTICLE	CODE		KG
Laser retrofitting kit for PS 4.5, PS 4.5 Plus and PS 6.6	**790 048 060**		0.110

Laser retrofitting kit

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Other accessories

- High-performance lubricants for cutting and beveling, see page 22
- Swivel cable, see page 23
- Quick-mounting base plates with integrated screw clamps, see page 23
- Mobile workstation, see page 23
- Pipe feeder base unit and extension unit, see from page 24
- Collapsible work bench, see page 82

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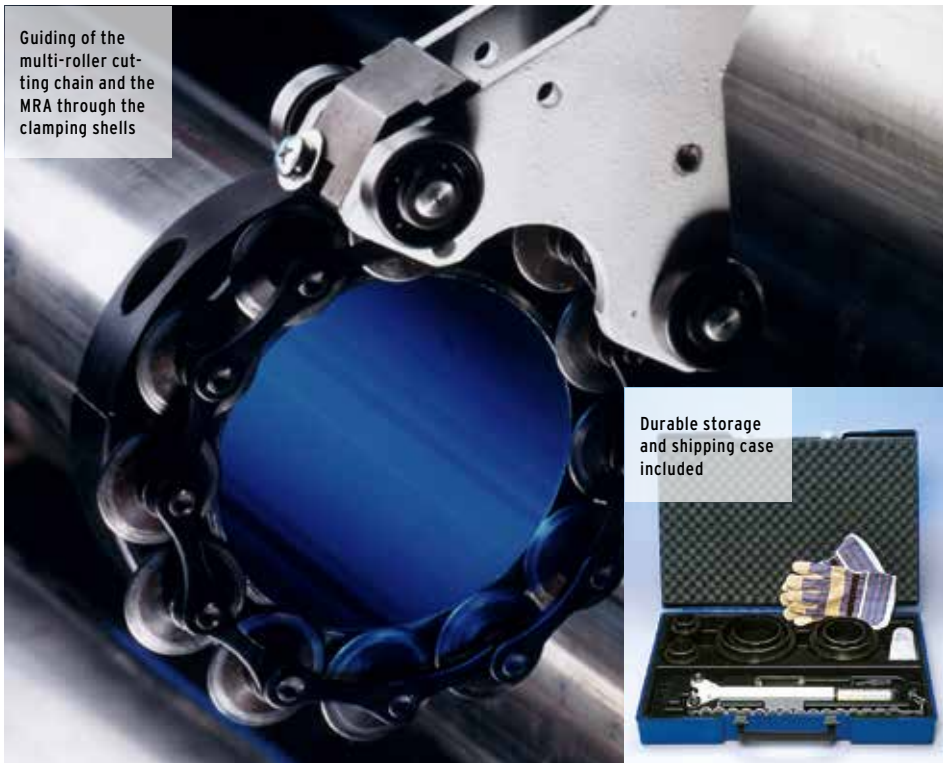
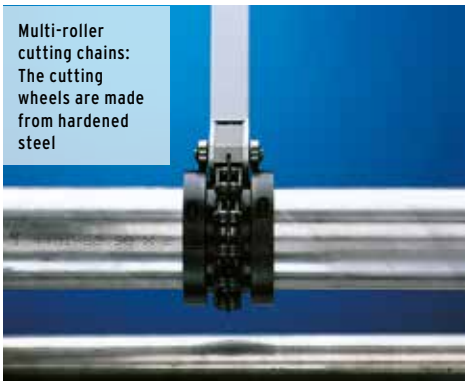
MRA

Metal tube cutter

The clever solution for cutting metal tubes manually in any position.
This metal tube cutter is especially designed for cramped working places and for chipless cutting processes.



Guiding of the multi-roller cutting chain and the MRA through the clamping shells



Multi-roller cutting chains: The cutting wheels are made from hardened steel

Durable storage and shipping case included

Diameter-specific clamping shells

For manual cutting of metal tubes in any position. Easy to use – first-rate cutting technology.

The patented cutting technique used in designing the MRA is based on the diameter-specific clamping shells and the flexible multi-roller cutting chain. Both these components are made of hardened, wear resistant steel and provide the following advantages:

- Long service life of the components
- The cutting chain is at a right-angle around the tube
- The MRA runs on track rollers on the clamping shells
- Minimum hand movements
- Tubes made of stainless steel can be cut

FURTHER ADVANTAGES:

- Deformation-free and square cut
- No electricity required
- Requires little space, for use in limited access areas

FOR TUBE MATERIALS:

- High-alloy steel (stainless steel material e.g. no. 1.40... to 1.45... or 304/316 materials)
- Low-alloy and unalloyed steel
- Cast materials
- Non-ferrous metals

APPLICATION RANGE		MRA
Code		790 008 001
Tube OD	[mm]	25.0 - 254.0
	[inch]	0.984 - 10.000
Wall thickness*	[mm]	0.8 - 3.0
	[inch]	0.031 - 0.118
TECHNICAL DATA		**MRA**
Dimensions	[mm]	450 x 105
	[inch]	17.7 x 4.1
SCOPE OF DELIVERY		**MRA**
Metal tube cutter MRA	Pc.	1
Durable storage & shipping case	Pc.	1
Socket head key	Pc.	1
Connection clamp	Pc.	1
Working gloves	Pair	1
Operating instructions and spare parts list	Set	1

The technical data are not binding. They are not warranted characteristics and are subject to change. Please consult our general conditions of supply.

* Depends on material. For high-alloy steels, the max. wall thickness which can be processed is 2.0 - 2.5 mm (0.079 - 0.098")

MRA

Multi-roller cutting chain

Clamping shells

Metal tube cutter

MRA

Features, application range, technical data and scope of delivery, see page 35.

Multi-roller cutting chains and clamping shells must be ordered separately.

ARTICLE	CODE		WEIGHT OF MACHINE KG	DISPATCH WEIGHT KG
Metal tube cutter MRA	**790 008 001**		3.100	8.000

Multi-roller cutting chains MRA

Cutting wheels made from hardened steel.

ARTICLE	TUBE OD		CUTTING WHEELS [QTY]	CODE		KG
	[MM]	[INCH]				
Multi-roller cutting chain MRA	25.0 - 114.3	0.984 - 4.500	15	**790 008 018**		0.500
Multi-roller cutting chain MRA	114.3 - 254.0	4.500 - 10.000	16	**790 008 041**		0.900

Clamping shells MRA

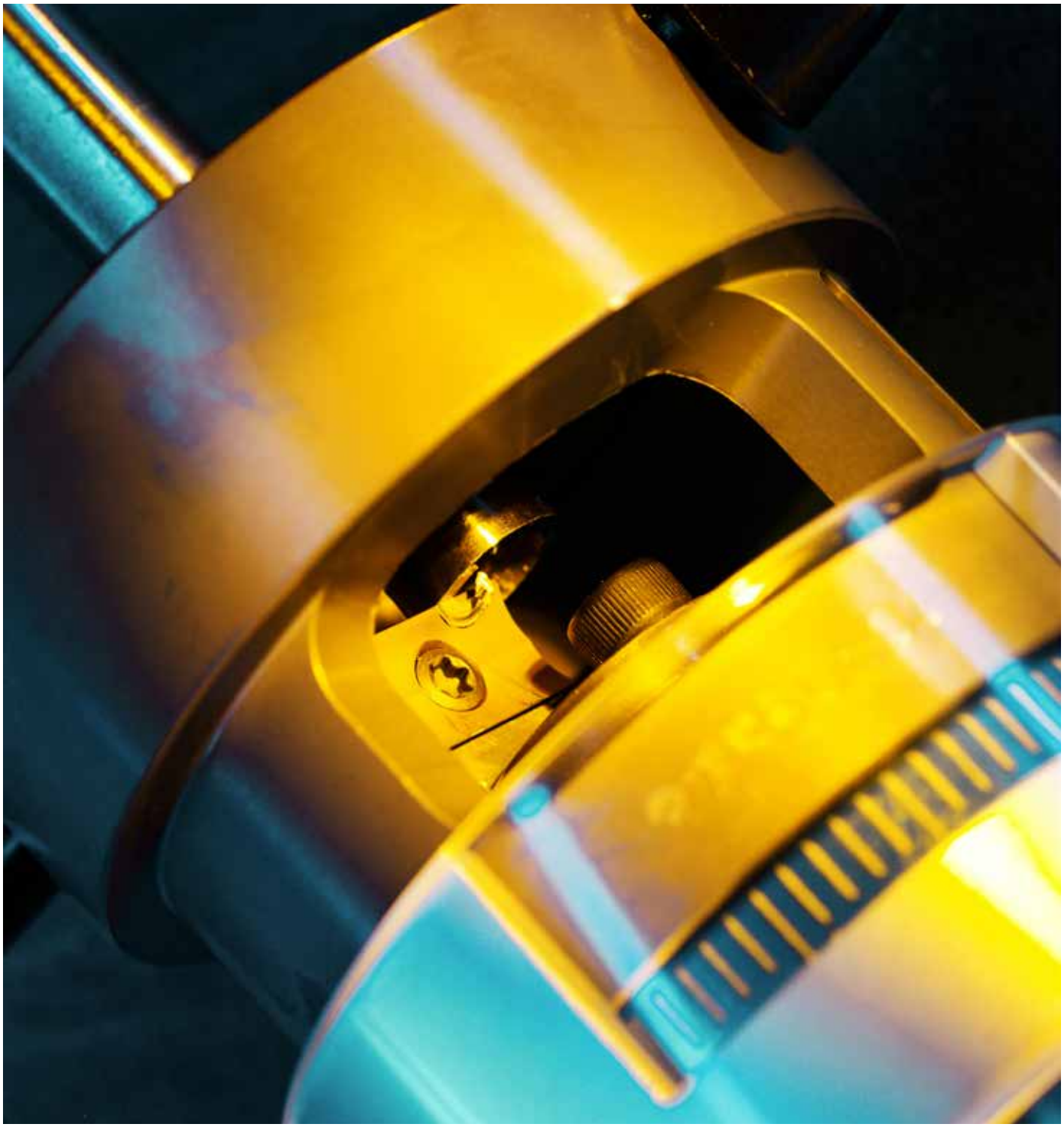
Set of two pieces, made from hardened steel. One pair of clamping shells needed for each tube size. Further dimensions of clamping shells are available on request.

TUBE OD		CODE		KG	TUBE OD		CODE		KG
[MM]	[INCH]				[MM]	[INCH]			
25.0	0.984	**790 008 102**		0.650	80.0	3.150	**790 008 233**		1.375
25.4	1.000	**790 008 104**		0.655	84.0	3.300	**790 008 240**		1.690
29.0	1.142	**790 008 103**		0.705	85.0	3.350	**790 008 245**		1.750
33.7	1.330	**790 008 105**		0.885	88.9	3.500	**790 008 250**		1.780
38.1	1.500	**790 008 130**		0.955	100.0	3.937	**790 008 255**		1.970
40.0	1.575	**790 008 135**		0.955	101.6	4.000	**790 008 260**		2.025
42.4	1.670	**790 008 140**		1.005	104.0	4.095	**790 008 270**		1.925
44.5	1.752	**790 008 150**		1.052	108.0	4.252	**790 008 280**		2.100
48.3	1.900	**790 008 155**		1.100	110.0	4.330	**790 008 285**		2.150
50.0	1.970	**790 008 160**		1.130	114.3	4.500	**790 008 290**		2.295
50.8	2.000	**790 008 165**		1.140	129.0	5.080	**790 008 315**		2.800
52.0	2.050	**790 008 175**		1.190	139.7	5.500	**790 008 325**		3.000
53.0	2.087	**790 008 180**		1.150	150.0	5.906	**790 008 333**		3.375
54.0	2.125	**790 008 185**		1.100	152.4	6.000	**790 008 335**		3.232
57.0	2.244	**790 008 190**		1.210	154.0	6.060	**790 008 340**		3.365
60.3	2.375	**790 008 195**		1.315	160.0	6.300	**790 008 355**		3.520
63.5	2.500	**790 008 200**		1.375	165.0	6.496	**790 008 360**		4.125
65.0	2.559	**790 008 203**		1.375	168.3	6.625	**790 008 365**		3.600
70.0	2.755	**790 008 215**		1.445	204.0	8.030	**790 008 380**		4.375
73.0	2.874	**790 008 220**		1.480	219.1	8.625	**790 008 385**		4.680
75.0	2.950	**790 008 225**		1.600	228.6	9.000	**790 008 387**		4.890
76.1	2.996	**790 008 230**		1.560	254.0	10.000	**790 008 390**		5.420

Other accessories

- Collapsible work bench, see page 82

Tube Squaring Technology



Comprehensive training program.

We as Orbitalum emphasize on the safe operation of our equipment as it has the utmost priority.

We generally recommend a product safety and user training to clearly understand the proper usage of the equipment and in order to avoid any possible dangers and accidents.

We offer:

- Training on daily or weekly basis
- At any location
- Skilled trainers
- Certification after successful participation
- Fully equipped training centre in Singen
- State-of-the-art training equipment

If you would like to learn more about our comprehensive training program or if you need information about our next user trainings then please contact our service team.
Via phone:

+49 (0) 77 31 792-200

Or per e-mail to:

training@itw-ocw.com

ORBITALUM TOOLS GMBH Josef-Schuettler-Str. 17 78224 Singen Germany Tel. +49 (0) 77 31 792 - 0 Fax +49 (0) 77 31 792 - 524 tools@orbitalum.com

RPG ONE, RPG 1.5, RPG 2.5

Tube squaring machines (Electric/Cordless)

The RPG series represent ease of use and particularly economical clamping. The capabilities of our RPG range include squaring (I-seam) thin-walled stainless steel tubes and micro-fittings, as well as unalloyed and low-alloyed steels, aluminum and titanium. The machines fit excellently in the hand as their size and weight can hardly be surpassed. Users can select the appropriate clamping shells from the range of accessories for each diameter.

Squaring tube ends with a high-quality finish	✓
Burr-free and square	✓
Beveling possible with a special tool holder	✓
Quick clamping system for tools, clamping shells and tubes	✓
Preparation of thin-walled stainless steel tubes (V4A) and micro fittings	✓
High-performance coated tool bit with two cutting edges	✓
Electric versions with built-in electronic speed regulation with speed stabilization	✓
Environmentally friendly cordless versions thanks to lithium-ion technology	✓
Space saving, light weight and portable machine for a mobile and secure application	✓

Pipe and installation manufacturers from the high-purity gas, electronics, pharmaceuticals, food processing, beverages, solar and chemical industries benefit from the mobile, high-quality and burr-free processing of pipe ends.

Due to the quick tool change system, tools, clamping shells and tubes can be easily changed without using any additional equipment.
All multifunctional tools (MFW) are two-sided tool bits with protective coating against tool wear. This enables the preparation of tubes made of high-alloy, unalloyed and low-alloy steels and aluminum with high precision very quickly and efficiently.

With the **cordless version**, we offer the optimal solution, which is independent of an electricity supply, for extending or repairing an existing plant with limited space availability. The cordless drive was designed to meet customer requirements.

The machines and accessories are supplied in a handy, durable storage and shipping case – the cordless versions additionally with a 230 V charger for the European market or a 120 V charger for the American market.

FURTHER ADVANTAGES:

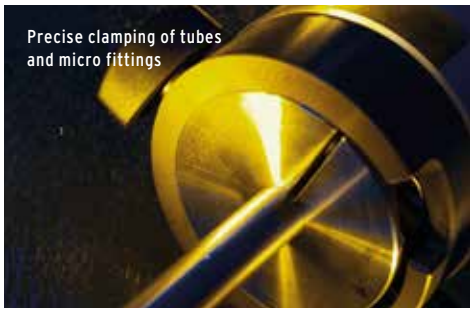
- Micrometer feed for optimum results
- No additional tools required for operation
- Modular design, ensuring compatibility within the RPG series
- The special adaptor clamping shell allows the RPG 2.5 to be used with the clamping shells for the RPG 1.5 machines.

ELECTRIC VERSIONS:

- Machine with rotating/removable drive
- Built-in electronic speed regulation with speed stabilization: Vario-Tachometer-Constamatic (VTC) full wave electronics
- Restart protection to prevent the machine from starting in an uncontrolled way after it has been re-connected to the electric mains or after the voltage supply has been reestablished after a power failure
- RPM regulator
- Sturdy marathon motor
- Overload protection
- Shut-off carbon brushes
- Carbon wear indicator

CORDLESS VERSIONS:

- Short design
- Lithium-ion technology
- Motor with high performance and small size
- No memory effect
- Single cell monitoring in the cordless pack
- Electronic overload protection with integrated temperature monitor
- Robust cordless packs with capacity display
- Minimal self-discharge
- Environmentally friendly
- AIR-COOLED technology for short charging times and a long service life


Precise clamping of tubes and micro fittings

Built-in electronic speed regulation with speed stabilization

Environmentally friendly cordless versions thanks to lithium-ion technology

The technical data are not binding. They are not warranted characteristics and are subject to change. Please consult our general conditions of supply.

APPLICATION RANGE		RPG ONE	RPG ONE CORDLESS	RPG 1.5	RPG 1.5 CORDLESS	RPG 2.5	RPG 2.5 CORDLESS
Code	[230 V]	790 036 031	790 036 021	790 037 001	790 037 011	790 030 001	790 030 011
	[115 V]	-	790 036 022	-	790 037 012	-	790 030 012
	[120 V]	790 036 032	-	790 037 002	-	790 030 002	-
	[110 V]	790 036 033	-	790 037 003	-	790 030 003	-
Tube OD min.-max.	[mm]	3.0* - 25.4	3.0* - 25.4	3.0* - 38.1	3.0* - 38.1	3.0* - 65.0	3.0* - 65.0
	[inch]	0.118* - 1.0	0.118* - 1.0	0.118* - 1.5	0.118* - 1.5	0.118* - 2.559	0.118* - 2.559
Wall thickness max.	[mm]	2.0	2.0	3.0	3.0	3.0	3.0
	[inch]	0.079	0.079	0.118	0.118	0.118	0.118
Tube materials		High-alloy steels (stainless steel material no. 1.40... to 1.45... as per DIN 17455 and DIN 17456), unalloyed and low-alloy steels, aluminum.					
TECHNICAL DATA		**RPG ONE**	**RPG ONE CORDLESS**	**RPG 1.5**	**RPG 1.5 CORDLESS**	**RPG 2.5**	**RPG 2.5 CORDLESS**
Dimensions (lxwxh)	[mm]	390 x 70 x 200	261 x 80 x 255	400 x 160 x 350	275 x 90 x 255	500 x 170 x 300	260 x 320 x 300
	[inch]	15.4 x 2.8 x 7.9	10.3 x 3.2 x 10	15.8 x 6.3 x 13.8	10.8 x 3.5 x 10	19.7 x 6.7 x 11.8	10.2 x 12.6 x 11.8
Built-in electronic variable cutting speed	[rpm]	145 - 380	0 - 500	145 - 380	0 - 500	1. speed: 9 - 52 2. speed: 27 - 153	1. speed: 0 - 29 2. speed: 0 - 100
Power	[W]	1010	-	1010	-	1010	-
Voltage of rechargeable battery	[V]	-	18	-	18	-	18
Capacity	[Ah]	-	4.0	-	4.0	-	4.0
Noise level at the workplace (EN 23741)	[dB (A)]	approx. 78	approx. 78	approx. 78	approx. 78	approx. 78.2	approx. 78.2
Vibration level (EN 50144)	[m/s²]	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
SCOPE OF DELIVERY		**RPG ONE**	**RPG ONE CORDLESS**	**RPG 1.5**	**RPG 1.5 CORDLESS**	**RPG 2.5**	**RPG 2.5 CORDLESS**
Tube squaring machine	Pc.	1	1	1	1	1	1
Durable storage and shipping case	Pc.	1	1	1	1	1	1
Rechargeable batteries	Pc.	-	2	-	2	-	2
Battery charger	Pc.	-	1	-	1	-	1
Overload protection (square nut)	Pc.	-	-	-	-	1	1
Tool holder WH (Code 790 ...)	Pc.	1 (... 037 152)	1 (... 037 152)	1 (... 037 152)	1 (... 037 152)	1 (... 037 152)	1 (... 037 152)
Multifunctional tool MFW (Code 790 038 314)	Pc.	1	1	1	1	1	1
Adapter clamping shell (Code 790 030 094)	Pc.	-	-	-	-	1	1
Tool set	Set	1	1	1	1	1	1
Operating instructions and spare parts list	Set	1	1	1	1	1	1
Bench stand for cordless machines optional available (Code 790 037 169)							

* Application range with standard tool holder (Code 790 037 152) is from 6.0 mm/0.236" OD. With special tool holder (Code 790 037 161) 3.0 mm/0.118" OD is possible.

RPG ONE

RPG 1.5

RPG 2.5

RPG ONE Cordless

RPG 1.5 Cordless

RPG 2.5 Cordless

Tube squaring machines

RPG ONE, RPG 1.5, RPG 2.5 (Cordless)

Features, application range, technical data and scope of delivery, see page 39.

Stainless steel clamping shells must be ordered separately.

ARTICLE	VERSION	CODE		WEIGHT OF MACHINE KG	DISPATCH WEIGHT KG
RPG ONE	230 V, 50/60 Hz EU	**790 036 031**		4.140	9.600
RPG ONE	120 V, 50/60 Hz US	**790 036 032**		4.140	9.600
RPG ONE	110 V, 50/60 Hz EU	**790 036 033**		4.140	9.600
RPG ONE Cordless (18 V)	230 V, 50/60 Hz EU	**790 036 021**		2.880	8.200
RPG ONE Cordless (18 V)	115 V, 60 Hz US	**790 036 022**		2.880	8.200
RPG 1.5	230 V, 50/60 Hz EU	**790 037 001**		4.700	9.500
RPG 1.5	120 V, 50/60 Hz US	**790 037 002**		4.700	9.500
RPG 1.5	110 V, 50/60 Hz EU	**790 037 003**		4.700	9.500
RPG 1.5 Cordless (18 V)	230 V, 50/60 Hz EU	**790 037 011**		3.440	10.100
RPG 1.5 Cordless (18 V)	115 V, 60 Hz US	**790 037 012**		3.440	10.100
RPG 2.5	230 V, 50/60 Hz EU	**790 030 001**		6.600	12.500
RPG 2.5	120 V, 50/60 Hz US	**790 030 002**		6.600	12.500
RPG 2.5	110 V, 50/60 Hz EU	**790 030 003**		6.600	12.500
RPG 2.5 Cordless (18 V)	230 V, 50/60 Hz EU	**790 030 011**		5.340	11.320
RPG 2.5 Cordless (18 V)	115 V, 60 Hz US	**790 030 012**		5.340	11.320

RPG ONE / RPG ONE Cordless

RPG 1.5 / RPG 1.5 Cordless

RPG 2.5 / RPG 2.5 Cordless

Angle drive for RPG ONE (cordless) and RPG 1.5 (cordless)

The angle drive is an available option and can be subsequently mounted on the following RPG machines:

RPG ONE; RPG ONE cordless; RPG 1.5; RPG 1.5 cordless

The squaring machine reduces the design length to 200 mm (7.874").
Technical characteristics remain unchanged.

ARTICLE	CODE		KG
Angle drive for RPG ONE and RPG 1.5 (cordless)	**790 037 400**		0,475

Angle drive

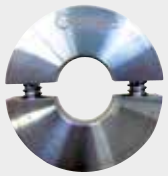
ORBITALUM TOOLS GMBH Josef-Schuettler-Str. 17 78224 Singen Germany Tel. +49 (0) 77 31 792 - 0 Fax +49 (0) 77 31 792 - 524 tools@orbitalum.com

Stainless steel clamping shells

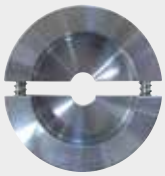
Extremely durable. Assures accurate centering and quick clamping shell change without any tools with its unique design and positive clamping shell mechanism. Further dimensions of clamping shells are available.

Please check the outer diameter of the tubes before ordering the clamping shells.

Machine model:	Clamping length at tubes:	Clamping length at micro fittings:
RPG ONE	10.0 mm (0.394")	4.0 mm (0.157")
RPG 1.5	15.0 mm (0.591")	4.0 mm (0.157")
RPG 2.5	15.0 mm (0.591")	4.0 mm (0.157")



Stainless steel clamping shells



Stainless steel clamping shells for micro fittings

MACHINE MODEL		RPG ONE						RPG 1.5						RPG 2.5					
TUBE OD		TUBES			MICRO FITTINGS			TUBES			MICRO FITTINGS			TUBES			MICRO FITTINGS		
[MM]	[INCH]	790...		KG	790...		KG	790...		KG	790...		KG	790...		KG	790...		KG
3.00	0.118	**036 232**		0.118	**-**		-	**037 220**		0.300	**037 300**		0.225	**-**		-	**-**		-
3.18	0.125	**036 201**		0.119	**-**		-	**037 221**		0.308	**037 301**		0.227	**-**		-	**-**		-
4.00	0.157	**-**		-	**-**		-	**037 222**		0.310	**037 302**		0.226	**-**		-	**-**		-
4.78	0.188	**-**		-	**-**		-	**037 223**		0.310	**037 303**		0.234	**-**		-	**-**		-
5.00	0.197	**-**		-	**-**		-	**037 224**		0.308	**037 304**		0.228	**-**		-	**-**		-
6.00	0.236	**036 213**		0.117	**036 304**		0.066	**037 225**		0.310	**037 305**		0.220	**-**		-	**-**		-
6.35	0.250	**036 202**		0.118	**036 301**		0.066	**037 226**		0.306	**037 306**		0.460	**037 226**		0.306	**037 306**		0.460
7.00	0.276	**036 214**		0.118	**-**		-	**037 257**		0.306	**-**		-	**037 257**		0.306	**-**		-
8.00	0.315	**036 215**		0.118	**036 307**		0.065	**037 227**		0.299	**037 307**		0.223	**037 227**		0.299	**037 307**		0.223
9.00	0.354	**-**		-	**-**		-	**037 254**		0.280	**-**		-	**037 254**		0.280	**-**		-
9.53	0.375	**036 203**		0.115	**036 302**		0.064	**037 228**		0.297	**037 308**		0.300	**037 228**		0.297	**037 308**		0.300
10.00	0.394	**036 204**		0.115	**036 305**		0.065	**037 229**		0.298	**037 309**		0.222	**037 229**		0.298	**037 309**		0.222
10.10	0.398	**036 222**		0.114	**-**		-	**-**		-	**-**		-	**-**		-	**-**		-
11.00	0.433	**036 226**		0.112	**-**		-	**037 293**		0.252	**-**		-	**037 293**		0.252	**-**		-
11.11	0.437	**-**		-	**-**		-	**037 255**		0.295	**-**		-	**037 255**		0.295	**-**		-
12.00	0.472	**036 205**		0.112	**036 306**		0.064	**037 230**		0.293	**037 310**		0.220	**037 230**		0.293	**037 310**		0.220
12.10	0.476	**036 223**		0.111	**-**		-	**-**		-	**-**		-	**-**		-	**-**		-
12.50	0.492	**-**		-	**-**		-	**-**		-	**037 317**		0.220	**-**		-	**037 317**		0.220
12.70	0.500	**036 206**		0.111	**036 303**		0.062	**037 231**		0.292	**037 311**		0.220	**037 231**		0.292	**037 311**		0.220
13.00	0.512	**-**		-	**-**		-	**037 232**		0.295	**-**		-	**037 232**		0.295	**-**		-
13.20	0.520	**-**		-	**-**		-	**037 263**		0.290	**-**		-	**037 263**		0.290	**-**		-
13.50	0.531	**036 227**		0.110	**-**		-	**037 233**		0.290	**-**		-	**037 233**		0.290	**-**		-
14.00	0.551	**036 228**		0.108	**-**		-	**037 234**		0.288	**-**		-	**037 234**		0.288	**-**		-
14.10	0.555	**036 224**		0.107	**-**		-	**-**		-	**-**		-	**-**		-	**-**		-
14.30	0.563	**-**		-	**-**		-	**037 253**		0.289	**-**		-	**037 253**		0.289	**-**		-
14.70	0.579	**-**		-	**-**		-	**037 290**		0.287	**-**		-	**037 290**		0.287	**-**		-
15.00	0.591	**036 216**		0.107	**-**		-	**037 235**		0.287	**-**		-	**037 235**		0.287	**-**		-
15.30	0.602	**-**		-	**-**		-	**037 259**		0.287	**-**		-	**037 259**		0.287	**-**		-
15.60	0.614	**036 225**		0.105	**-**		-	**-**		-	**-**		-	**-**		-	**-**		-
15.70	0.618	**-**		-	**-**		-	**037 291**		0.284	**-**		-	**037 291**		0.284	**-**		-
15.88	0.625	**036 211**		0.105	**-**		-	**037 236**		0.285	**-**		-	**037 236**		0.285	**-**		-
16.00	0.630	**036 212**		0.104	**-**		-	**037 237**		0.285	**-**		-	**037 237**		0.285	**-**		-
17.00	0.670	**036 221**		0.103	**-**		-	**037 256**		0.280	**-**		-	**037 256**		0.280	**-**		-
17.08	0.672	**-**		-	**-**		-	**037 260**		0.281	**-**		-	**037 260**		0.281	**-**		-
17.20	0.677	**036 207**		0.104	**-**		-	**037 238**		0.300	**037 312**		0.220	**037 238**		0.300	**037 312**		0.220
18.00	0.709	**036 217**		0.102	**-**		-	**037 239**		0.280	**-**		-	**037 239**		0.280	**-**		-
19.00	0.748	**-**		-	**-**		-	**037 240**		0.275	**037 314**		0.216	**037 240**		0.275	**037 314**		0.216
19.05	0.750	**036 208**		0.100	**-**		-	**037 241**		0.274	**037 315**		0.215	**037 241**		0.274	**037 315**		0.215
20.00	0.787	**036 230**		0.096	**-**		-	**037 242**		0.272	**-**		-	**037 242**		0.272	**-**		-
21.00	0.827	**-**		-	**-**		-	**037 294**		0.270	**-**		-	**037 294**		0.270	**-**		-
21.20	0.835	**-**		-	**-**		-	**-**		-	**037 313**		0.213	**-**		-	**037 313**		0.213
21.30	0.839	**036 209**		0.094	**036 317**		0.057	**037 243**		0.270	**037 318**		0.212	**037 243**		0.270	**037 318**		0.212
21.70	0.854	**036 220**		0.093	**-**		-	**037 261**		0.270	**-**		-	**037 261**		0.270	**-**		-
22.00	0.866	**036 218**		0.093	**-**		-	**037 244**		0.264	**-**		-	**037 244**		0.264	**-**		-
22.22	0.875	**-**		-	**-**		-	**037 292**		0.270	**-**		-	**037 292**		0.270	**-**		-
23.00	0.906	**036 219**		0.085	**-**		-	**037 245**		0.255	**-**		-	**037 245**		0.255	**-**		-
24.00	0.945	**-**		-	**-**		-	**037 246**		0.256	**-**		-	**037 246**		0.256	**-**		-
25.00	0.984	**036 231**		0.081	**-**		-	**037 247**		0.252	**-**		-	**037 247**		0.252	**-**		-
25.40	1.000	**036 210**		0.083	**-**		-	**037 248**		0.240	**-**		-	**037 248**		0.240	**-**		-

MACHINE MODEL		RPG ONE						RPG 1.5						RPG 2.5					
TUBE OD		TUBES			MICRO FITTINGS			TUBES			MICRO FITTINGS			TUBES			MICRO FITTINGS		
[MM]	[INCH]	790...		KG	790...		KG	790...		KG	790...		KG	790...		KG	790...		KG
26.90	1.059	-		-	-		-	037 249		0.260	-		-	037 249		0.260	-		-
27.00	1.063	-		-	-		-	037 264		0.260	-		-	037 264		0.260	-		-
27.20	1.071	-		-	-		-	037 262		0.260	-		-	037 262		0.260	-		-
28.00	1.102	-		-	-		-	037 250		0.240	-		-	037 250		0.240	-		-
29.00	1.142	-		-	-		-	037 251		0.232	-		-	037 251		0.232	-		-
30.00	1.181	-		-	-		-	037 252		0.228	-		-	037 252		0.228	-		-
31.80	1.250	-		-	-		-	037 280		0.230	-		-	037 280		0.230	-		-
32.00	1.260	-		-	-		-	037 258		0.226	-		-	037 258		0.226	-		-
33.40	1.315	-		-	-		-	037 281		0.220	-		-	037 281		0.220	-		-
33.70	1.327	-		-	-		-	037 282		0.218	-		-	037 282		0.218	-		-
34.00	1.339	-		-	-		-	037 283		0.215	-		-	037 283		0.215	-		-
35.00	1.377	-		-	-		-	037 284		0.210	-		-	037 284		0.210	-		-
36.00	1.417	-		-	-		-	037 285		0.204	-		-	037 285		0.204	-		-
38.00	1.496	-		-	-		-	037 286		0.199	-		-	037 286		0.199	-		-
38.10	1.500	-		-	-		-	037 287		0.194	-		-	037 287		0.194	-		-
40.00	1.575	-		-	-		-	-		-	-		-	030 234		0.565	-		-
41.00	1.614	-		-	-		-	-		-	-		-	030 230		0.560	-		-
42.00	1.654	-		-	-		-	-		-	-		-	030 117		0.483	-		-
42.40	1.669	-		-	-		-	-		-	-		-	030 227		0.483	-		-
42.70	1.681	-		-	-		-	-		-	-		-	030 224		0.483	-		-
43.00	1.693	-		-	-		-	-		-	-		-	030 231		0.544	-		-
44.50	1.752	-		-	-		-	-		-	-		-	030 228		0.483	-		-
48.30	1.902	-		-	-		-	-		-	-		-	030 226		0.500	-		-
50.80	2.000	-		-	-		-	-		-	-		-	030 220		0.483	-		-
51.00	2.008	-		-	-		-	-		-	-		-	030 233		0.482	-		-
52.00	2.047	-		-	-		-	-		-	-		-	030 225		0.483	-		-
53.00	2.087	-		-	-		-	-		-	-		-	030 232		0.457	-		-
54.00	2.126	-		-	-		-	-		-	-		-	030 221		0.452	-		-
55.00	2.165	-		-	-		-	-		-	-		-	030 235		0.440	-		-
57.00	2.244	-		-	-		-	-		-	-		-	030 229		0.419	-		-
60.30	2.374	-		-	-		-	-		-	-		-	030 222		0.386	-		-
63.50	2.500	-		-	-		-	-		-	-		-	030 223		0.350	-		-
65.00	2.559	-		-	-		-	-		-	-		-	030 236		0.330	-		-

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Tool holder WH

Tool holder WH

Fits multifunctional tool 790 038 314. Incl. Torx fixing screw M4x10 (790 086 220).
For max. wall thickness 3 mm (0.118").

Application range Tool holder	Possible application		Beveling angle [°]		Tube OD		
	Squaring	Beveling			RPG ONE (Cordless)	RPG 1.5 (Cordless)	RPG 2.5 (Cordless)
WH12-I/Standard* Code 790 037 152	x	-	-	[mm]	6.0 - 25.4	6.0 - 38.1	6.0 - 65.0
				[inch]	0.236 - 1.0	0.236 - 1.5	0.236 - 2.559
WH12-I Code 790 037 161	x	-	-	[mm]	3.0 - 6.0	3.0 - 6.0	3.0 - 6.0
				[inch]	0.118 - 0.236	0.118 - 0.236	0.118 - 0.236
WH12-I/Micro fittings** Code 790 037 156	x	-	-	[mm]	-	3.0 - 21.2	6.35 - 21.2
				[inch]	-	0.118 - 0.84	0.25 - 0.84
WH3-V-30 Code 790 037 158	-	x	30°	[mm]	-	max. 35.0	max. 60.3
				[inch]	-	max. 1.378	max. 2.374
WH3-V-35 Code 790 037 159	-	x	35°	[mm]	-	max. 33.7	max. 59.3
				[inch]	-	max. 1.327	max. 2.335
WH3-V-45*** Code 790 037 157	-	x	45°	[mm]	-	max. 33.7	max. 59.0
				[inch]	-	max. 1.327	max. 2.3

ARTICLE	CODE		KG
Standard tool holder WH12-I*	**790 037 152**		0.040
Special tool holder WH12-I	**790 037 161**		0.026
Special tool holder micro fittings WH12-I**	**790 037 156**		0.100
Tool holder WH3-V-30	**790 037 158**		0.024
Tool holder WH3-V-35	**790 037 159**		0.024
Tool holder WH3-V-45***	**790 037 157**		0.022

* Supplied as standard with the RPG.
** Only to be used with stainless steel clamping shells for micro fittings.
*** Not applicable with the RPG ONE.

Multifunctional tool MFW

Multifunctional tool MFW

Two-sided tool bit with protective coating against tool wear.
Usable for all machines of the RPG series.

ARTICLE	QTY	CODE		KG
Multifunctional tool MFW-P-2	1	**790 038 314**		0.003
Multifunctional tool MFW-P-2	10	**790 038 315**		0.045
Torx screw	1	**790 086 220**		0.002

Other accessories

- Collapsible work bench, see page 82

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RPG 4.5 (S), RPG 8.6

Tube squaring machines

In manual welding technology, quality pipe end processing is absolutely essential from an economic perspective. A high quality of pipe-end machining is absolutely required from a technical viewpoint in automated welding, the so-called "orbital welding". Orbitalum has developed the squaring tube machines RPG 4.5, RPG 4.5 S and RPG 8.6. The perfect solution for the demanding, quality preparation of pipe ends for orbital welding!

- Squaring tube ends with a high-quality finish ✓
- Burr-free and square ✓
- Beveling possible with a special tool holder (not with RPG 4.5 S) ✓
- Quick clamping system for tools, clamping shells and tubes ✓
- Preparation of thin-walled stainless steel tubes (V4A) ✓
- High-performance coated tool bit with two cutting edges ✓
- Built-in electronic speed regulation ✓
- Micrometer feed for optimum results ✓
- Space saving, light weight and portable machine for a mobile and secure application ✓

With high-precision, the user is able to prepare tubes with the RPG 4.5 up to 114.4 mm (4.5") and with the RPG 8.6 up to 219.1 mm (8.6") tube outer diameters quickly, burr-free and absolutely square.

Low operating costs for processing tubes are a big advantage. Our symmetric, exchangeable stainless steel and aluminum clamping shells (not for RPG 4.5 S) allow for a quick and easy tool change without any tool. A dimension change no longer requires a lot of time. The operator can work comfortably thanks to the ergonomic design of the machine, and can also save time.

All multifunctional tools (MFW) are two-sided tool bits with protective coating against tool wear. This enables the preparation of tubes made of high-alloy, unalloyed and low-alloy steels and aluminum with high precision very quickly and efficiently.
Clean and secure working area with a clear view of the cutting head.

The RPG 4.5 (S) and RPG 8.6 are equipped with a high-quality, powerful drive with 230 Volt and/or 120 Volt.

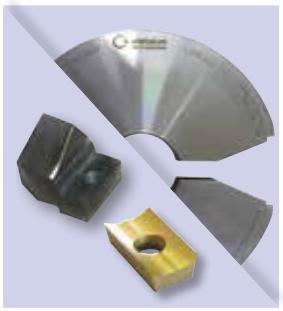
The machines and accessories are supplied in a handy, durable storage and shipping case.

ADDITIONAL FEATURES OF THE RPG 4.5 S:

The tube squaring machine RPG 4.5 S is characterized by its universal vice-clamping system. With this particularly economical alternative to other conventional dimension-specific clamping shells, tubes can be centered, clamped and processed in the easiest way possible.

- Integrated clamping jaws made from coated cast aluminum for different tube diameters
- Cost-effective as no dimension-specific clamping shells required
- Multi-point clamping of the tube

Including durable storage and shipping case



Including tool holder WH and multifunctional tool MFW. A wide range of stainless steel clamping shells are optional available

Burr-free and square

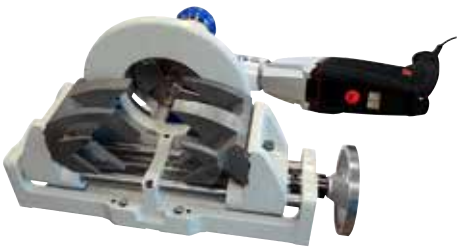
Quick clamping system for tools, clamping shells and tubes

Application area: Process plant builders for the high-purity gas, electronic, pharmaceutical, food, beverage, solar as well as the chemical industry

APPLICATION RANGE		RPG 4.5	RPG 4.5 S	RPG 8.6
Code	[230 V]	790 038 001	790 038 011	790 039 001
	[110 V]	790 038 003	-	790 039 003
	[120 V]	790 038 002	790 038 012	790 039 002
Tube OD	[mm]	12.7 - 114.3	12.7 - 114.3	50.8 - 219.1
	[inch]	0.5 - 4.5	0.5 - 4.5	2 - 8.6
Wall thickness max.	[mm]	3.0	3.0	3.6
	[inch]	0.118	0.118	0.142
Tube materials		High-alloy steels. unalloyed and low-alloy steels and aluminum. Others on request.		
TECHNICAL DATA		**RPG 4.5**	**RPG 4.5 S**	**RPG 8.6**
Dimensions (including motor)	[mm]	460 x 260 x 230	610 x 380 x 270	500 x 350 x 350
	[inch]	18.1 x 10.2 x 9.1	24 x 15 x 10.6	19.7 x 13.8 x 13.8
Power	[W]	1010	1010	1010
Protection class	[class]	II	II	II
Speed (max. idling speed)	[min^{-1}]	8 - 52	8 - 52	7 - 18
Vibration level (EN 60745)	[m/s^2]	< 2.5	< 2.5	< 2.5
Noise level at the workplace (EN 23741)	[dB (A)]	Idle running approx. 83	Idle running approx. 83	Idle running approx. 83
SCOPE OF DELIVERY		**RPG 4.5**	**RPG 4.5 S**	**RPG 8.6**
Tube squaring machine	Pc.	1	1	1
Durable storage and shipping case	Pc.	1	1	1
Tool holder WH (Code 790 038 320)	Pc.	1	1	1
Multifunctional tool MFW (Code 790 038 314)	Pc.	1	1	1
Tool set	Set	1	1	1
Operating instructions and spare parts list	Set	1	1	1

The technical data are not binding. They are not warranted characteristics and are subject to change. Please consult our general conditions of supply.

RPG 4.5



RPG 4.5 S

RPG 8.6

Tube squaring machines

RPG 4.5, RPG 4.5 S, RPG 8.6

Features, application range, technical data and scope of delivery, see page 45.

Clamping shells must be ordered separately.

ARTICLE	VERSION	CODE		WEIGHT OF MACHINE KG	DISPATCH WEIGHT KG
RPG 4.5	230 V, 50/60 Hz EU	**790 038 001**		10.500	19.400
RPG 4.5	110 V, 50/60 Hz EU	**790 038 003**		10.500	19.400
RPG 4.5	120 V, 50/60 Hz US	**790 038 002**		10.500	19.400
RPG 4.5 S	230 V, 50/60 Hz EU	**790 038 011**		23.000	34.000
RPG 4.5 S	120 V, 50/60 Hz US	**790 038 012**		23.000	34.000
RPG 8.6	230 V, 50/60 Hz EU	**790 039 001**		20.500	32.000
RPG 8.6	110 V, 50/60 Hz EU	**790 039 003**		20.500	32.000
RPG 8.6	120 V, 50/60 Hz US	**790 039 002**		20.500	32.000

RPG 4.5

RPG 4.5 S

RPG 8.6

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Clamping shells

Extremely durable. The two-piece-design with click mechanism ensures accurate centering and quick clamping shell change without any tools.
Further dimensions of clamping shells are available.

Please check the outer diameter of the tubes before ordering the clamping shells.

Stainless steel clamping shell for RPG 4.5

Aluminum clamping shells for RPG 8.6

Machine model:	Clamping lengths:
RPG 4.5	24.9 mm (0.980")
RPG 8.6	39.9 mm (1.571")

APPLICABLE WITH:		RPG 4.5			RPG 8.6		
TUBE OD		STAINLESS STEEL			ALUMINUM		
[MM]	[INCH]	CODE		KG	CODE		KG
12.00	0.472	**790 038 454**		2.170	-		-
12.70	0.500	**790 038 438**		2.177	-		-
13.00	0.512	**790 038 439**		2.176	-		-
13.50	0.531	**790 038 440**		2.175	-		-
14.00	0.551	**790 038 441**		2.174	-		-
16.00	0.630	**790 038 442**		2.168	-		-
17.20	0.677	**790 038 443**		2.164	-		-
18.00	0.709	**790 038 444**		2.161	-		-
19.00	0.748	**790 038 445**		2.150	-		-
19.05	0.750	**790 038 446**		2.157	-		-
20.00	0.787	**790 038 447**		2.153	-		-
21.30	0.839	**790 038 448**		2.100	-		-
22.00	0.866	**790 038 449**		2.144	-		-
22.22	0.875	**790 038 050**		2.195	-		-
23.00	0.906	**790 038 450**		2.140	-		-
24.00	0.945	**790 038 451**		2.133	-		-
25.00	0.984	**790 038 452**		2.127	-		-
25.25	0.994	**790 038 049**		2.180	-		-
25.40	1.000	**790 038 051**		2.180	-		-
26.90	1.059	**790 038 400**		2.090	-		-
27.20	1.071	**790 038 468**		2.165	-		-
28.00	1.102	**790 038 401**		2.110	-		-
29.00	1.142	**790 038 402**		2.105	-		-
30.00	1.181	**790 038 403**		2.095	-		-
31.75	1.250	**790 038 052**		1.865	-		-
31.80	1.250	**790 038 404**		2.080	-		-
32.00	1.260	**790 038 455**		2.080	-		-
33.00	1.299	**790 038 465**		2.120	-		-
33.40	1.315	**790 038 405**		2.040	-		-
33.70	1.327	**790 038 406**		2.060	-		-
34.00	1.339	**790 038 407**		2.115	-		-
35.00	1.377	**790 038 408**		2.050	-		-
36.00	1.417	**790 038 409**		2.044	-		-
38.00	1.496	**790 038 410**		2.025	-		-
38.10	1.500	**790 038 053**		2.020	-		-
40.00	1.575	**790 038 411**		2.000	-		-
41.00	1.614	**790 038 412**		1.990	-		-
42.00	1.654	**790 038 413**		1.976	-		-
42.16	1.660	**790 038 414**		1.950	-		-
42.40	1.669	**790 038 415**		1.965	-		-
42.70	1.681	**790 038 416**		1.950	-		-
44.45	1.750	**790 038 417**		1.955	-		-
44.50	1.752	**790 038 418**		1.955	-		-
45.00	1.772	**790 038 419**		1.948	-		-
48.00	1.890	**790 038 464**		1.960	-		-
48.26	1.900	**790 038 420**		1.880	-		-
48.30	1.902	**790 038 421**		1.905	-		-
48.60	1.913	**790 038 422**		1.875	-		-
50.00	1.969	**790 038 456**		1.880	-		-
50.80	2.000	**790 038 054**		1.895	**790 039 260**		4.500
51.00	2.008	**790 038 423**		1.870	-		-
52.00	2.047	**790 038 424**		1.850	-		-

APPLICABLE WITH:		RPG 4.5			RPG 8.6		
TUBE OD		STAINLESS STEEL			ALUMINUM		
[MM]	[INCH]	CODE		KG	CODE		KG
53.00	2.087	**790 038 425**		1.835	**-**		-
54.00	2.126	**790 038 426**		1.827	**-**		-
57.00	2.244	**790 038 457**		1.780	**790 039 265**		4.000
60.00	2.362	**790 038 469**		1.780	**-**		-
60.30	2.374	**790 038 427**		1.700	**-**		-
60.45	2.380	**790 038 428**		1.726	**-**		-
60.50	2.382	**790 038 429**		1.695	**-**		-
63.00	2.480	**790 038 461**		1.725	**-**		-
63.50	2.500	**790 038 055**		1.670	**-**		-
65.00	2.559	**790 038 463**		1.700	**-**		-
70.00	2.756	**790 038 430**		1.545	**-**		-
73.03	2.875	**790 038 453**		1.460	**-**		-
73.15	2.880	**790 038 431**		1.482	**-**		-
75.00	2.953	**790 038 462**		1.490	**-**		-
76.10	2.996	**790 038 432**		1.420	**-**		-
76.20	3.000	**790 038 056**		1.420	**790 039 261**		4.200
76.30	3.004	**790 038 433**		1.390	**-**		-
80.00	3.150	**790 038 466**		1.390	**790 039 308**		-
85.00	3.346	**790 038 434**		1.220	**-**		-
85.90	3.382	**790 038 435**		1.124	**-**		-
88.90	3.500	**790 038 057**		1.130	**790 039 264**		4.000
89.10	3.508	**790 038 436**		1.100	**-**		-
90.00	3.543	**790 038 467**		1.150	**-**		-
101.60	4.000	**790 038 058**		0.800	**790 039 252**		3.800
104.00	4.094	**790 038 437**		0.740	**790 039 309**		2.500
108.00	4.252	**790 038 458**		0.620	**790 039 266**		3.750
114.30	4.500	**790 038 059**		0.435	**790 039 256**		3.500
127.05	5.002	**-**		-	**790 039 262**		3.420
133.00	5.236	**-**		-	**790 039 267**		2.980
139.70	5.500	**-**		-	**790 039 259**		3.100
141.30	5.563	**-**		-	**790 039 257**		2.900
152.40	6.000	**-**		-	**790 039 253**		2.700
159.00	6.260	**-**		-	**790 039 268**		2.500
168.30	6.625	**-**		-	**790 039 254**		2.300
193.70	7.626	**-**		-	**790 039 269**		3.500
197.00	7.756	**-**		-	**790 039 263**		1.530
203.20	8.000	**-**		-	**790 039 258**		1.350
219.10	8.625	**-**		-	**790 039 255**		0.600

Tool holder WH

Fits multifunctional tool 790 038 314.
Incl. Torx fixing screw M4x10 (790 086 220).

Beveling with the RPG 4.5 S is not recommended.

Tool holder WH

Application range Tool holder	Possible application		Beveling angle [°]
	Squaring	Beveling	
Tool holder WH12-I	x	-	-
Tool holder WH12-V-30°	-	x	30
Tool holder WH12-V-35°	-	x	35
Tool holder WH12-V-45°	-	x	45
Tool holder WH12-U-20°	-	x	20

ARTICLE	CODE		KG
Tool holder WH12-I	**790 038 320**		0.025
Tool holder WH12-V-30°	**790 038 329**		0.034
Tool holder WH12-V-35°	**790 038 282**		0.054
Tool holder WH12-V-45°	**790 038 280**		0.044
Tool holder WH12-U-20°	**790 038 326**		0.031

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Multifunctional tool MFW

Multifunctional tool MFW

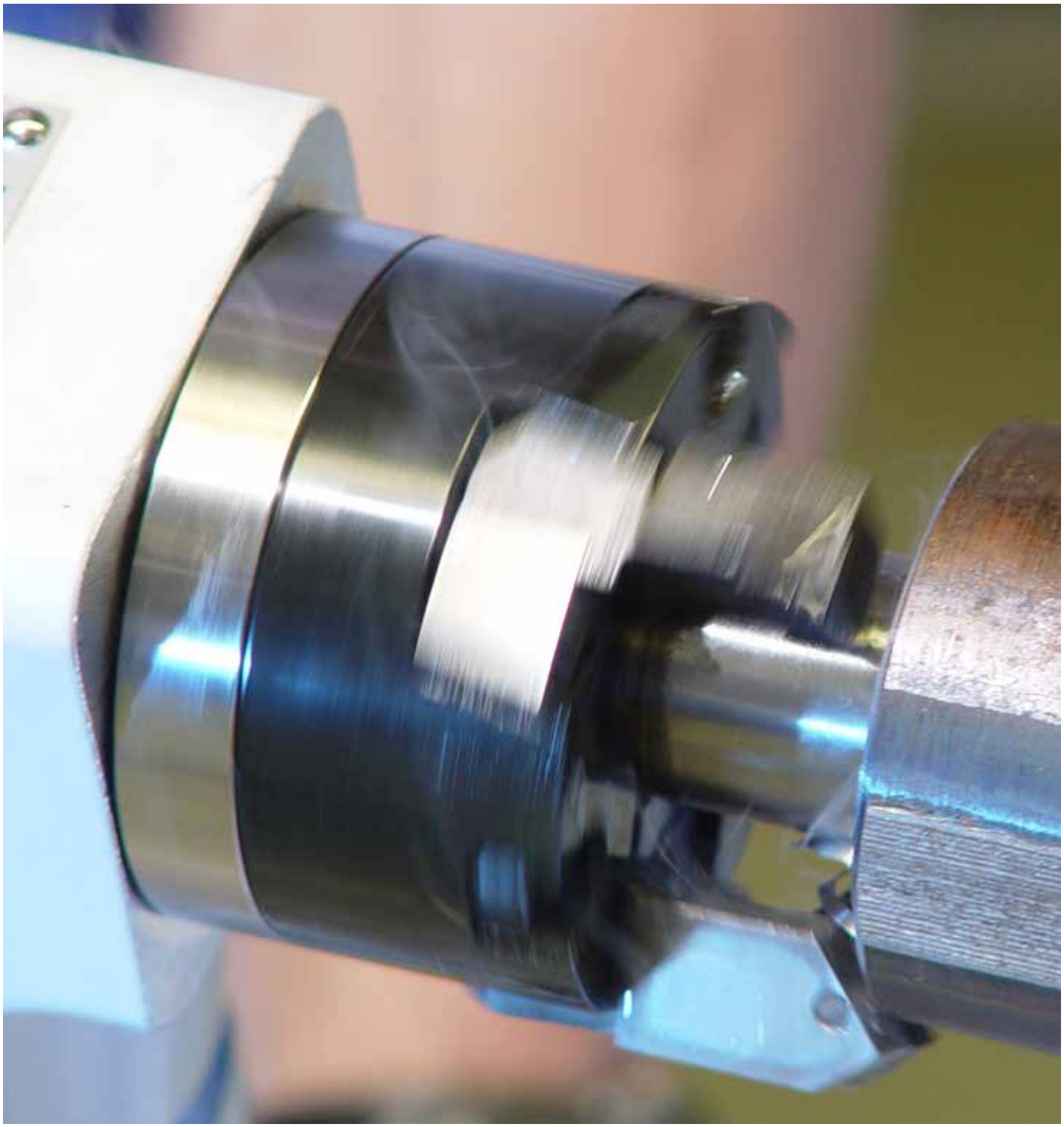
Two-sided tool bit with protective coating against tool wear.
Usable for all machines of the RPG series.

ARTICLE	QTY.	CODE		KG
Multifunctional tool MFW-P-2	1	**790 038 314**		0.003
Multifunctional tool MFW-P-2	10	**790 038 315**		0.045

Other accessories

- Collapsible work bench, see page 82

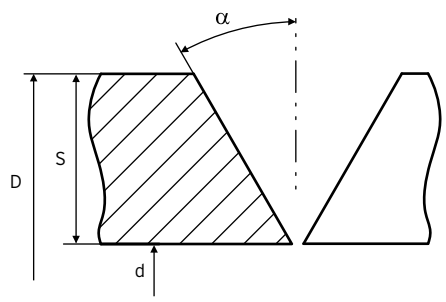
Pipe Beveling Technology



The correct tooling for your individual application

We will gladly help you find the suitable tools for your specific application.
To offer you the relevant tool holders and multifunctional tools for our BRB and REB machines we need some information from you.
Please use the following form and let us know your needs (if known):

V-prep



D:
d:
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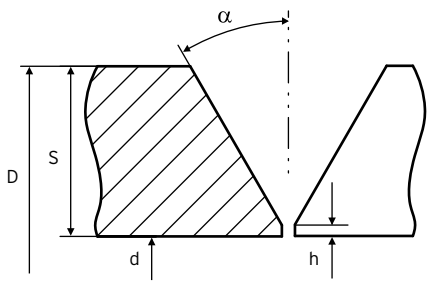
Y-prep



D:
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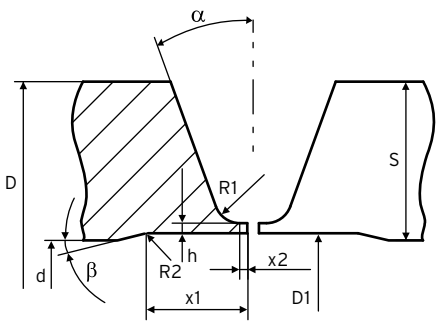
U-prep (1)



D:
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R2:
x1:
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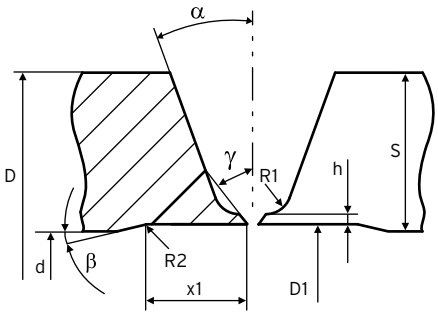
β:
D1:

U-prep (2)



D:
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R2:
x1:
α:
β:
γ:
D1:

Your contact details:

Company name:		
Customer no.:	Date:	Contact person:
Phone:		Fax:
Address:		Signature and stamp
Remarks:		

Please return the completed form by **Fax to +49 (0) 77 31 792-524** or per E-Mail to **tools@orbitalum.com**.

BRB 2, BRB 4

Boiler pipe preparation machines

The solution when space is limited! Only very limited space is often available between welded boiler pipes. The compact body design of BRB machines is optimized for the application in question to provide the operator with the best possible access in every position and is therefore the best solution for pipe end and tube sheet joint preparations in boiler, tank and apparatus construction.

Counterboring and axial turning of pipes made from high-alloy steel (stainless steel), low-alloy and carbon steel with the unique tool system QTC®.

Handy, ergonomic and compact design	✓
Precise and reproducible weld seam preparation	✓
Fast application with the BRB Pneum./ Auto, ideal for continuous production e.g. boiler/heat exchanger applications	✓
High performance and lightweight	✓
High-performance coated tool bits with up to 4 cutting edges	✓
Quick clamping system for tools with easy adjustment	✓
Adjustable air outlet	✓
Easy to change tools; up to 3 tools can be used simultaneously	✓
Tools adaptable on all BRB machines	✓

Powerful und robust boiler prep machine! The BRB series from Orbitalum, developed for boiler applications with the lowest space availability, makes precise welding preparations possible using optimal torque, together with low weight.

With the Orbitalum patented Quick-Tool-Change (QTC®), tools can be replaced easily and quickly. All multifunctional tools (MFW) are multi-edge tool bits with protective coating against tool wear. Thus pipe-ends made from unalloyed, low-alloy and high-alloy steels, with a high percentage of chromium and nickel, can be processed quickly, cost-effectively, and very precisely.

The machines and accessories are supplied in a durable storage and shipping case.

THE VARIOUS CLAMPING SYSTEMS:

The **"NC" clamping system** with its clamping wedges anchored in the mandrel is ideal for applications in which foreign objects may not enter the pipe inside or a tank.
The "NC" clamping system provides additional certainty in particular at vertical applications.

The **"Standard" clamping system** has proven itself in many years of use through its stability and reliability. You can continue to use this system.

DRIVE VERSIONS:

Electric:
230 V, 50/60 Hz (BRB 2/BRB 4) or
120 V, 50/60 Hz (BRB 2).
Single-phase AC motor, Protection class II;
Built-in electronic variable cutting speed.

Pneumatic: Pneumatic power drive.

Pneumatic/Auto: Pneumatic multi-disc motor with additional pneumatic clamping system. Time is of the essence when installing or repairing boiler pipes, the pneumatic clamping system greatly reduces the time to both clamp and release the machine, improving efficiency. The machine centers itself on the inside diameter of the pipe and then clamps automatically by using the toggle switch, likewise the toggle switch releases the clamping after the machining operation. This is why the BRB with automatic pneumatic clamping is ideal for continuous production e.g. boiler and heat exchanger applications.

Ideal for series machining

The "NC" clamping system cannot be lost thanks to its clamping wedges anchored in the mandrel

Manufacturer's warranty can only be given when using a mobile air unit. We recommend the mobile air unit from Orbitalum Tools, Code 790 093 060.

TECHNICAL DATA		BRB 2	BRB 2	BRB 2	BRB 4	BRB 4	BRB 4
Drive version		Electric	Pneumatic	Pneum./ Auto	Electric	Pneumatic	Pneum./ Auto
Power	[kW]	0.5	0.38	0.38	1.2	1.0	1.0
Speed	[rpm]	18 - 118	0 - 120	0 - 120	12 - 37	0 - 110	0 - 110
Air consumption (at 6 bar)	[m^3/min]	-	0.7	0.7	-	1.0	1.0
Noise level Laeq 1 m (EN 23741), approx.	[dB (A)]	76	82	82	82	84	84
Vibration level (EN 28662, part 1)	[m/s^2]	2.5	2.5	2.5	2.5	2.5	2.5

APPLICATION RANGE		BRB 2	BRB 2	BRB 4	BRB 4
		KIT 1	KIT 2	KIT 3	KIT 5
Clamping system		Standard	NC	NC	NC
Code	[230 V]	790 085 011	790 185 012	790 186 013	790 186 015
	[120 V]	790 085 021	790 185 022	-	-
	[Pneumatic]	790 085 007	790 185 002	790 186 003	790 186 005
	[Pneu./Auto]	790 085 041	790 185 042	790 186 033	790 186 035
Tube ID / Clamping range Ø	[mm]	12.75 - 25.5	19.1 - 47.0	35.0 - 108.0	19.1 - 108.0
	[inch]	0.502 - 1.004	0.752 - 1.850	1.378 - 4.252	0.752 - 4.252
Tool retainer Ø	[mm]	50.0 / 12.75	50.0 / 16.0	120.0 / 27.0	68.0 / 19.0 68.0 / 27.0 120.0 / 27.0
	[inch]	1.969 / 0.502	1.969 / 0.630	4.724 / 1.063	2.677 / 0.748 2.677 / 1.063 4.724 / 1.063
Mandrel Ø	[mm]	12.75	19.05	34.5	19.05 34.5
	[inch]	0.502	0.750	1.358	0.750 1.358
Tube OD	[mm]	16.75 - 41.5	23.0 - 50.8	38.5 - 114.3	23.0 - 114.3
	[inch]	0.659 - 1.634	0.906 - 2.441	1.516 - 4.50	0.906 - 4.50
Wall thickness* min. - max.	[mm]	1.5 - 5.0	2.0 - 6.0	2.0 - 15.0	2.0 - 15.0
	[inch]	0.059 - 0.197	0.079 - 0.236	0.079 - 0.590	0.079 - 0.590
SCOPE OF DELIVERY		**BRB 2**	**BRB 2**	**BRB 4**	**BRB 4**
		KIT 1	**KIT 2**	**KIT 3**	**KIT 5**
Boiler pipe preparation machine	Pc.	1	1	1	1
Durable storage & shipping case	Pc.	1	1	1	1
Tool retainers (dimensions, please see the table above)	Pc.	1	1	1	3
Clamping sets (dimensions, please see the table above)	Set	6	6	18 (8+10)	24 (14+10)
Mandrel (dimensions, please see the table above)	Pc.	1	1	1	2
Cutting lubrication KSS-TOP (Code 790 060 226)	Spray pump	1	1	1	1
Tool set	Set	1	1	1	1
Operating instructions and spare parts list	Set	1	1	1	1

* Depending on pipe material and dimension. With BRB 4: Aluminum up to 15 mm/0.59" wall thickness. Stainless steel up to 8 mm/0.315" wall thickness. Steel up to 10 mm/0.39" wall thickness

The technical data are not binding. They are not warranted characteristics and are subject to change.
Please consult our general conditions of supply.

BRB 2 Electric with clamping system "Standard"

BRB 2 Pneumatic with clamping system "Standard"

BRB 2 Pneumatic/Auto with clamping system "Standard"

BRB 2 and BRB 4 Electric with clamping system "NC"

BRB 2 and BRB 4 Pneumatic with clamping system "NC"

BRB 2 and BRB 4 Pneum./Auto with clamping system "NC"

Boiler pipe preparation machines

BRB 2, BRB 4

Features, application range, technical data and scope of delivery, see from page 53.

Tool holder, multifunctional tools and tool bits must be ordered separately, see from page 60.

ARTICLE	VERSION	CLAMPING SYSTEM	CODE		WEIGHT OF MACHINE KG	DISPATCH WEIGHT KG
BRB 2 EL, Kit 1	230 V, 50/60 Hz EU	Standard	**790 085 011**		4.100	12.200
BRB 2 EL, Kit 1	120 V, 50/60 Hz EU/US	Standard	**790 085 021**		4.100	12.200
BRB 2 P, Kit 1	Pneumatic	Standard	**790 085 007**		3.800	11.900
BRB 2 Pneu./Auto, Kit 1	Pneumatic/Auto	Standard	**790 085 041**		4.600	13.300
BRB 2 EL, Kit 2	230 V, 50/60 Hz EU	NC	**790 185 012**		4.900	13.000
BRB 2 EL, Kit 2	120 V, 50/60 Hz EU/US	NC	**790 185 022**		4.900	13.000
BRB 2 P, Kit 2	Pneumatic	NC	**790 185 002**		4.400	12.500
BRB 2 Pneu./Auto, Kit 2	Pneumatic/Auto	NC	**790 185 042**		5.100	13.800
BRB 4 EL, Kit 3	230 V, 50/60 Hz EU	NC	**790 186 013**			23.300
BRB 4 P, Kit 3	Pneumatic	NC	**790 186 003**			22.200
BRB 4 Pneu./Auto, Kit 3	Pneumatic/Auto	NC	**790 186 033**			23.400
BRB 4 EL, Kit 5	230 V, 50/60 Hz EU	NC	**790 186 015**		11.400	26.400
BRB 4 P, Kit 5	Pneumatic	NC	**790 186 005**			25.500
BRB 4 Pneu./Auto, Kit 5	Pneumatic/Auto	NC	**790 186 035**			26.000

e.g. BRB 2 and BRB 4 Pneumatic/Auto with clamping system "NC"

Suitable accessories

- Tool bits TB, see page 61
- Tool holder for tool bits, see page 62
- Tool holder WH, see page 60
- Multifunctional tools MFW, see page 61
- Combination possibilities of tool holder and multifunctional tools, see page 66
- Upgrade sets BRB 2 for dimension extension, see page 62
- Feed ratchet for BRB 4, see page 62
- Bevel cutter heads for BRB 2 (V-/Y-prep), see page 63
- Bevel cutter heads for BRB 4 (V-prep), see page 63
- Balancer spring, see page 62
- Adjustable spacer, see page 63
- Mobile air unit DWE 10 and air hose with quick coupling, see page 64
- Cutting lubrication KSS-TOP, see page 64
- Collapsible work bench, see page 82

ORBITALUM TOOLS GMBH Josef-Schuettler-Str. 17 78224 Singen Germany Tel. +49 (0) 77 31 792 - 0 Fax +49 (0) 77 31 792 - 524 tools@orbitalum.com

The different weld prep profiles:

Facing / I-prep | V-prep | Y-prep | J-prep / U-prep | Counterboring / ID-prep

Description of the tools made by Orbitalum Tools:

Samples::

Multifunctional tool MFW for working on the pipe OD (**MFW 30-V/I-4-R5**):

Multifunctional tool	Max. workable wall thickness in mm	Weld prep profiles	Number of cutting edges	Prep radius in mm
MFW	30	V/I	4	R5

Multifunctional tool MFW for working on the pipe ID (**MFW 10-ID-2-R0.8**):

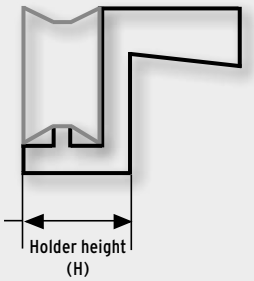
Multifunctional tool	Max. length on the counterbore / bevel	For working on the inner diameter	Number of cutting edges	Prep radius in mm
MFW	10	ID	2	R0.8

Tool holder WH for beveling (**WH 30-V-30°**):

Tool holder	Max. workable wall thickness in mm	Weld prep profile	Prep angle
WH	30	V	30°

Tool holder WH for facing (**WH 30-I-H27**):

Tool holder	Max. workable wall thickness in mm	Weld prep profile	Holder height in mm
WH	30	I	H27



Tool holder WH for counterboring (**WH 10-ID-14°**):

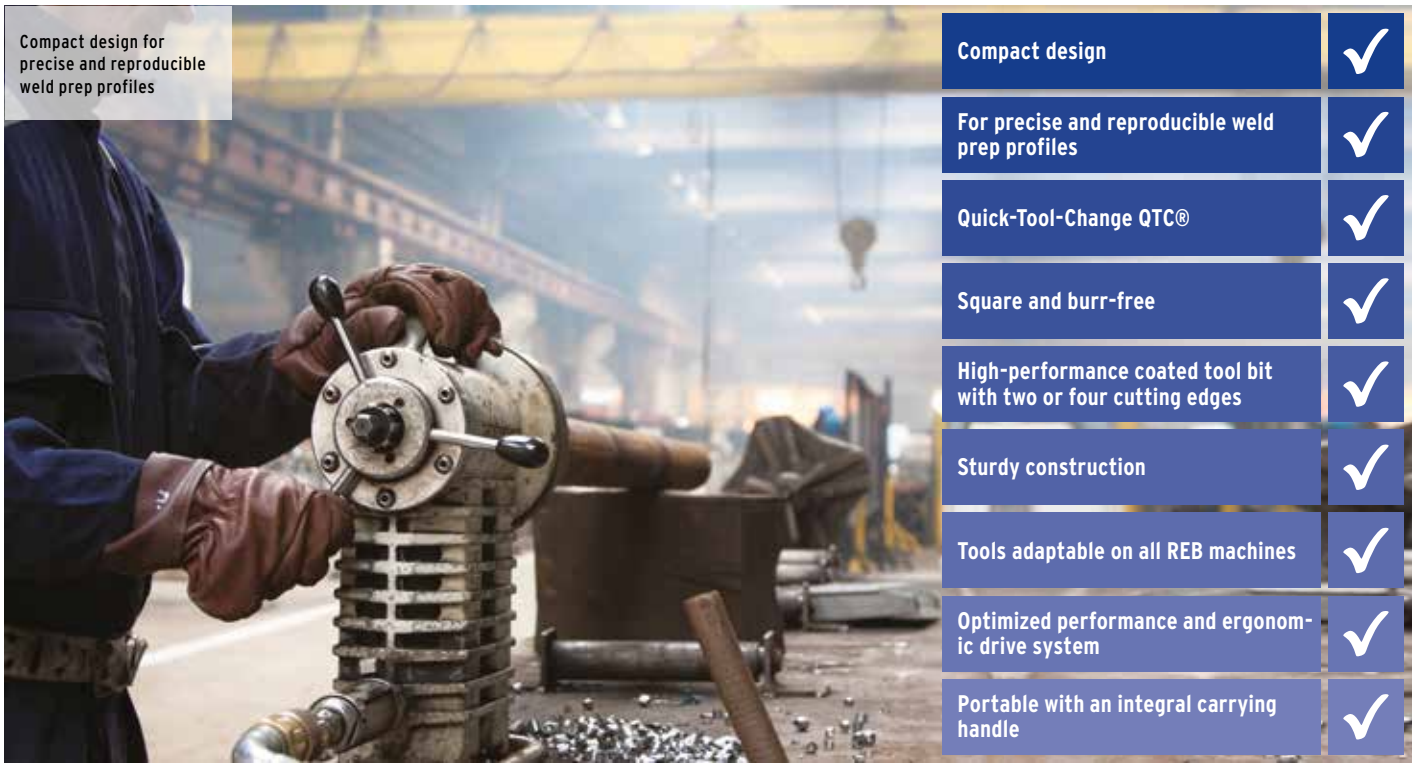
Tool holder	Max. length on the counterbore / bevel	For working on the inner diameter	Counterbore angle
WH	10	ID	14°

Do you need any support in finding the right weld prep tools? Then please contact us using the contact form on page 52.

REB 6, REB 14

Pipe end preparation machines

The portable pipe end preparation machines REB are setting new standards in the weld prepping of metal pipes. Take advantage of this latest technology to reduce your tool and manufacturing costs and to increase your productivity when making precise and reproduceable weld prep profiles, both on site and in the prefab workshop.



The powerful pipe end preparation solution. Counterboring and axial turning of pipes made from high-alloy steel (stainless steel), low-alloy and carbon steel with the unique tool system QTC®. Up to 4 tools can be used at the same time.

With the Orbitalum patented Quick-Tool-Change (QTC®), tools can be replaced easily and quickly. All multifunctional tools (MFW) are multi-edge tool bits with protective coating against tool wear. Thus pipe-ends made from unalloyed, low-alloy and high-alloy steels, with a high percentage of chromium and nickel, can be processed quickly, cost-effectively, and very precisely.

The REB machines are available in the following drive versions:

- **Electric**: 230 V, 50/60 Hz or 120 V, 50/60 Hz.
- **Pneumatic** power drive.

The machines and accessories are supplied in a durable storage and shipping case.

Quick-Tool-Change QTC®

Fast adjustment of the pipe dimension

Available with compressed air or electric drive

Cutting lubrication KSS-TOP included

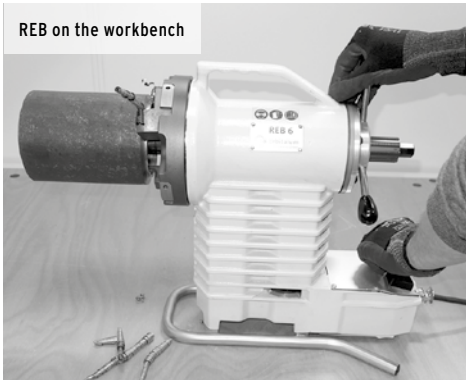
A wide range of tool holder and multifunctional tools (available option)

Mobile air unit (available option)

Manufacturer's warranty can only be given when using a mobile air unit. We recommend the mobile air unit from Orbitalum Tools, Code 790 093 060.

APPLICATION RANGE*		REB 6	REB 6	REB 14	REB 14
		PNEUMATIC	ELECTRIC	PNEUMATIC	ELECTRIC
Code	[Pneum.]	790 093 001	-	790 094 001	-
	[230 V]	-	790 093 002	-	790 094 002
	[120 V]	-	790 093 005	-	790 094 005
Tube ID	[mm]	49 - 159	49 - 159	92 - 320	92 - 320
	[inch]	1.93 - 6.26	1.93 - 6.26	3.62 - 12.60	3.62 - 12.60
Wall thickness	[mm]	3 - 22	3 - 22	4 - 30	4 - 22
	[inch]	0.12 - 0.87	0.12 - 0.87	0.16 - 1.18	0.16 - 0.87
Tube OD	[mm]	56 - 168.3	56 - 168.3	100 - 358.0	100 - 358.0
	[inch]	2.20 - 6.61	2.20 - 6.61	3.94 - 14.00	3.94 - 14.00
Tube materials		Unalloyed and low-alloyed steels, high-alloyed steels (stainless steel), aluminum			
TECHNICAL DATA		**REB 6**	**REB 6**	**REB 14**	**REB 14**
		PNEUMATIC	**ELECTRIC**	**PNEUMATIC**	**ELECTRIC**
Dimensions	[mm]	560 x 260 x 400	640 x 260 x 420	625 x 375 x 490	700 x 375 x 510
	[inch]	22 x 10.2 x 15.8	25.2 x 10.2 x 16.5	24.6 x 14.8 x 19.3	27.6 x 14.8 x 20
Power	[kW]	1.8	1.2	1.8	1.2
Air consumption (at 6 bar)	[m^3/min]	2.0	-	2.0	-
Speed	[min^{-1}]	0 - 26	10 - 32	0 - 13	5 - 16
Vibration level (EN 28662, part 1)	[m/s^2]	< 2.5	< 2.5	< 2.5	< 2.5
Noise level at the workplace (average speed range), approx.	[dB (A)]	At idle-speed: 75 Under load: 77	At idle-speed: 75 Under load: 77	At idle-speed: 75 Under load: 77	At idle-speed: 75 Under load: 77
SCOPE OF DELIVERY		**REB 6**	**REB 6**	**REB 14**	**REB 14**
		PNEUMATIC	**ELECTRIC**	**PNEUMATIC**	**ELECTRIC**
Pipe end preparation machine	Pc.	1	1	1	1
Transportation case	Pc.	1	1	1	1
Clamping chuck	Pc.	1	1	1	1
Clamping sets each with 3 clamping wedges	Pc.	5	5	6	6
Cutting lubrication KSS-TOP (Code 790 060 226)	Spray pump	1	1	1	1
Tool set	Set	1	1	1	1
Operating instructions and spare parts list	Set	1	1	1	1

REB on the workbench



Portable with an integral carrying handle

The technical data are not binding. They are not warranted characteristics and are subject to change. Please consult our general conditions of supply.

* It is possible to extend the dimensions by using the optional clamping wedges (accessories).

REB 6 Pneumatic

REB 6 Electric

REB 14 Pneumatic

REB 14 Electric

Pipe end preparation machines

REB 6, REB 14

Features, application range, technical data and scope of delivery, see from page 57.

Tool holder and multifunctional tools must be ordered separately, see from page 60.

ARTICLE	VERSION	CODE		WEIGHT OF MACHINE KG	DISPATCH WEIGHT KG
REB 6	Pneumatic	**790 093 001**		32.000	52.000
REB 6	230 V, 50/60 Hz EU	**790 093 002**		35.000	55.000
REB 6	120 V, 50/60 Hz US	**790 093 005**		35.000	55.000
REB 14	Pneumatic	**790 094 001**		61.000	90.000
REB 14	230 V, 50/60 Hz EU	**790 094 002**		64.000	93.000
REB 14	120 V, 50/60 Hz US	**790 094 005**		64.000	93.000

REB 6 Electric

REB 14 Pneumatic

Suitable accessories

- Tool holder WH, see page 60
- Multifunctional tools MFW, see page 61
- Combination possibilities of tool holder and multifunctional tools, see page 66
- Mobile air unit DWE 10 and air hose with quick coupling, see page 64
- Cutting lubrication KSS-TOP, see page 64
- Elbow clamping system, see page 64
- ID tracking for REB 14, see page 65
- Collapsible work bench, see page 82

Accessories for BRB and REB machines

Tool holder WH

With Torx screw. Combination possibilities of tool holder and multifunctional tools, see page 66.

ARTICLE	WELD PREP PROFILE	APPLICABLE WITH	HEIGHT [MM]	HEIGHT [INCH]	CODE		KG
WH5-I	I	BRB 2 / REB	10	0.394	**790 085 230**		0.005
WH4-I*	I	BRB 2	10	0.394	**790 085 234**		0.033
WH12-I	I	BRB 4	20	0.787	**790 086 210**		0.035
WH12-I / short	I	BRB 2 / BRB 4	14	0.551	**790 086 281**		0.032
WH15-I	I	BRB 4 / REB	20	0.787	**790 092 202**		0.100
WH15-I	I	BRB 4 / REB	27	1.063	**790 092 204**		0.100
WH15-I**	I	BRB 4 / REB	16.5 - 23	0.650 - 0.906	**790 093 410**		0.247
WH30-I	I	REB	20	0.787	**790 093 202**		0.166
WH30-I	I	REB	27	1.063	**790 093 204**		0.235
WH5-V-30°	V/Y	BRB 2	-	-	**790 085 236**		0.015
WH12-V-30°	V/Y	BRB 4	-	-	**790 086 214**		0.040
WH12-V-30° / short	V	BRB 2 / BRB 4	-	-	**790 086 282**		0.036
WH12-V-37.5°	V/Y	BRB 4	-	-	**790 086 216**		0.040
WH12-V-45°	V/Y	BRB 4	-	-	**790 086 474**		0.052
WH12-V-80°	V/Y	BRB 4 / REB	-	-	**790 093 462**		0.115
WH12-V-35°	V/Y	BRB 4	-	-	**790 086 272**		0.048
WH15-V-30°	V/Y	BRB 4 / REB	-	-	**790 092 210**		0.100
WH15-V-37.5°	V/Y	BRB 4 / REB	-	-	**790 092 216**		0.100
WH12-V-37.5° / short	V	BRB 2 / BRB 4	-	-	**790 086 283**		0.035
WH15-V-45°	V/Y	BRB 4 / REB	-	-	**790 092 218**		0.144
WH15-V-60°	V/Y	BRB 4 / REB	-	-	**790 092 212**		0.100
WH30-V-15°	V/Y	REB	-	-	**790 093 468**		0.200
WH30-V-25°	V/Y	REB	-	-	**790 093 476**		0.209
WH30-V-30°	V/Y	REB	-	-	**790 093 210**		0.192
WH30-V-32.5°	V/Y	REB	-	-	**790 093 424**		0.234
WH30-V-37.5°	V/Y	REB	-	-	**790 093 216**		0.199
WH30-V-40°	V/Y	REB	-	-	**790 093 510**		0.237
WH30-V-45°	V/Y	REB	-	-	**790 093 404**		0.204
WH5-U-20°	U	BRB 2	-	-	**790 085 228**		0.014
WH12-U-10°	U	BRB 4	-	-	**790 086 208**		0.044
WH12-U-15°	U	BRB 4 / REB	-	-	**790 086 213**		0.044
WH12-U-20°	U	BRB 4	-	-	**790 086 224**		0.047
WH12-U-20° / large clamping surface	U	BRB 4 / REB	-	-	**790 086 476**		0.091
WH12-U-25°	U	BRB 4	-	-	**790 086 212**		0.051
WH30-U-5°	U	REB	-	-	**790 093 509**		0.210
WH30-U-7°	U	BRB 4 / REB	-	-	**790 093 408**		0.206
WH30-U-10°	U	BRB 4 / REB	-	-	**790 093 220**		0.174
WH30-U-14°	U	REB	-	-	**790 093 474**		0.190
WH30-U-20°	U	BRB 4 / REB	-	-	**790 093 218**		0.184
WH30-U-25°	U	REB	-	-	**790 093 478**		0.165
WH5-ID-14° / 10 mm (0.394") deep	ID	BRB 2	-	-	**790 085 232**		0.017
WH5-ID-14°	ID	BRB 4 / REB	-	-	**790 093 406**		0.139
WH5-ID-45°***	ID	BRB 2 / BRB 4 / REB	-	-	**790 086 218**		0.055
WH10-ID-5° / long	ID	BRB 4 / REB	-	-	**790 093 400**		0.152
WH10-ID-14°	ID	BRB 4 / REB	-	-	**790 093 402**		0.160
WH10-ID-14° / 30 mm (1.181") deep	ID	BRB 4 / REB	-	-	**790 093 466**		0.265
WH12-ID-10° / from ID 50 (1.969")	ID	BRB 4 / REB	-	-	**790 086 280**		0.060
WH10-ID-30°	ID	BRB 4 / REB	-	-	**790 093 493**		0.100
WH10-ID-45°	ID	REB	-	-	**790 093 494**		0.107
WH10-ID-80°***	ID	BRB 2 / BRB 4	-	-	**790 086 275**		0.075
WH10-AD-10°	OD	BRB 2 / BRB 4	-	-	**790 086 276**		

* Special tool holder for facing pipes in pipe plates.
** Adjustable tool holder WH for I-prep. Comes with adjustable tool holder, multifunctional tool MFW15-V/I-4 (Code 790 093 037), Torx screws and adjusting plates.
*** Special tool holder WH for cutting tubes from tube sheets.

WH12-I

WH15-I**

WH15-V-30°

WH12-U-15°

WH5-ID-14°

Multifunctional tools MFW "Economy"

Two- or four-sided tool bits without coating.
For low-alloy steel, carbon steel, aluminum and cast iron pipes.

ARTICLE	VERSION	FOR WALL THICKNESS		APPLICABLE WITH TOOL HOLDER / FOR WELD PREP PROFILE	APPLICABLE WITH	CODE		KG
		[MM]	[INCH]					
MFW15-V/I-4	Economy	2 - 15	0.079-0.591	V, Y, I	BRB 4 / REB	**790 093 047**		0.033
MFW30-V/I-4	Economy	2 - 30	0.079-1.181	V, Y, I	REB	**790 093 043**		0.055

Multifunctional tools MFW "High-Performance"

Two- and/or four-sided tool bits with high-performance protective coating against tool wear.
For high-alloy steel (stainless steel) low-alloy steel, carbon steel, aluminum and cast iron pipes.

ARTICLE	VERSION	FOR WALL THICKNESS		APPLICABLE WITH TOOL HOLDER / FOR WELD PREP PROFILE	APPLICABLE WITH	CODE		KG
		[MM]	[INCH]					
MFW5-U-2-R0.4	High-Performance	max. 6	max. 0.236	WH5-I and WH5-U-20° radius 0.4 mm	BRB 2	**790 085 030**		0.002
MFW5-U-2-R2	High-Performance	max. 6	max. 0.236	WH5-I and WH5-U-20° radius 2 mm	BRB 2	**790 085 032**		0.002
MFW30-V / I-4	High-Performance	2 - 30	0.079 - 1.181	V, Y, I	REB	**790 093 033**		0.055
MFW30-U-4-R5	High-Performance	2 - 30	0.079 - 1.181	V, Y, I, U radius 5 mm	REB	**790 093 034**		0.055
MFW30-U-4-R2	High-Performance	2 - 30	0.079 - 1.181	V, Y, I, U radius 2 mm	REB	**790 093 035**		0.060
MFW30-U-4-R0.4	High-Performance	2 - 30	0.079 - 1.181	V, Y, I, U radius 0.4 mm	REB	**790 093 042**		0.060
MFW4-I-2	High-Performance	max. 4	max. 0.157	WH4-I-2 (special holder)	BRB 2	**790 085 031**		0.002
MFW15-V / I-4	High-Performance	2 - 15	0.079 - 0.591	V, Y, I	BRB 4 / REB	**790 093 037**		0.055
MFW12-V / I-2	High-Performance	2 - 12	0.079 - 0.472	V, Y, I, U radius 1.2 mm	BRB 4	**790 086 060**		0.003
MFW12-U-2-R2	High-Performance	2 - 12	0.079 - 0.472	V, Y, I, U radius 2 mm	BRB 4	**790 086 064**		0.003
MFW5-ID-2-R0.4 (14°)	High-Performance	-	-	WH5-ID-14° radius 0.4 mm	BRB 4 / REB	**790 093 039**		0.003
MFW5-ID-2-R0.4 (45°)	High-Performance	-	-	WH5-ID-45° radius 0.4 mm	BRB 4 / REB	**790 086 061**		0.002
MFW10-ID-2-R0.4 (80°)	High-Performance	-	-	WH10-ID-80° radius 0.4 mm	BRB 4	**790 086 062**		0.002
MFW10-ID-2-R0.8 (14°)	High-Performance	-	-	WH10-ID-14° radius 0.8 mm	REB	**790 093 038**		0.002
MFW10-ID-2-R3 (14°)	High-Performance	-	-	WH10-ID-14° radius 3 mm	REB	**790 093 041**		0.004

Tool bits TB

Can only be used with the BRB 2.

With a width of only 4.5 mm (0.177") the tool bits are ideal for shortening heat exchanger pipes. This allows even heat exchangers with minimal pipe spacing to be processed without problems. The opposing tool holders or cutting edges furthermore ensure improved force transmission.

The corresponding **tool retainer for tool bits** has to be ordered separately (see page 62).

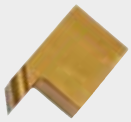
ARTICLE	WELD PREP PROFILE	APPLICABLE WITH	WIDTH [MM]	WIDTH [INCH]	PREP ANGLE [°]	CODE		KG
TB4.5-I	I	BRB 2	4.5	0.177	-	**790 085 500**		0.012
TB4.5-V-30°	V	BRB 2	4.5	0.177	30	**790 085 501**		0.014
TB4.5-V-37.5°	V	BRB 2	4.5	0.177	37.5	**790 085 502**		0.015
TB4.5-V-45°	V	BRB 2	4.5	0.177	45	**790 085 503**		0.015
TB6-REMOVE-45°	-	BRB 2	6.0	0.236	45	**790 085 504**		0.012

MFW15-V/I-4 "Economy"

MFW30-U-4-R1

MFW15-V / I-4

MFW5-ID-2-R0.4 (14°)


Tool bits TB

Tool holder for tool bits TB

Tool holder for tool bits TB

This tool retainer is available separately for the **BRB 2**.

Depending on the application (for example the processing of heat exchangers) the use of tool bits (page 61) as well as the corresponding tool retainer is required. This retainer can be mounted on the BRB 2 in just a few steps.

ARTICLE	CODE		KG
Tool holder for tool bits	**790 085 510**		0.235

Upgrade set BRB Standard "dimension extension"

Upgrade sets BRB 2 for dimension extension

For dimension extension of BRB 2 machines through upgrading from Kit 2 to Kit 1 (BRB 2 Standard) or from Kit 1 to Kit 2 (BRB 2 NC).

MACHINE, CLAMPING SYSTEM	UPGRADING FROM KIT TO KIT	MANDREL Ø		TOOL RETAINER Ø		DIMENSION EXTENSION TO			
						TUBE ID		TUBE OD	
		[MM]	[INCH]	[MM]	[INCH]	[MM]	[INCH]	[MM]	[INCH]
BRB 2, Standard	Kit 2 > Kit 1	12.75	0.500	50.0	1.968	12.75 - 25.5	0.500 - 1.004	16.75 - 41.5	0.659 - 1.634
BRB 2, NC	Kit 1 > Kit 2	19.05	0.750	50.0 / 16.0	1.969 / 0.630	19.1 - 47.0	0.752 - 1.850	23.0 - 62.0	0.906 - 2.441

ARTICLE	CODE		KG
Upgrade set BRB 2, Standard "Kit 2 to Kit 1"	**790 085 017**		0.800
Upgrade set BRB 2, NC "Kit 1 to Kit 2"	**790 185 018**		1.870

Feed ratchet for BRB 4

Feed ratchet for BRB 4

Especially designed for cramped working spaces, for example when cutting out finned tubes.

ARTICLE	CODE		KG
Feed ratchet for BRB 4	**790 086 127**		0.420

Balancer spring and hoist bracket

Balancer spring and hoist brackets

For load-free hanging of BRB machines with a balancer. Ideal for series machining! Using a balancer enables optimal machining results from relaxed and fatigue-free work with longer work duration, and at the same time ensures more safety for the user (machine is safeguarded from falling).

Hoist brackets
BRB machines which have been manufactured up to October 2009 can be retrofitted with the suitable hoist brackets. All new models are already equipped with the hoist bracket.

ARTICLE	CODE		KG
Balancer spring	**832 030 002**		3.800
Hoist bracket for BRB 4	**790 086 310**		0.270
Hoist bracket for BRB 2	**790 085 310**		0.185

Bevel cutter heads for BRB 2 (V-/Y-prep)

Optimized work, smoother and steadier cutting. Including adjustable tool holder. The bevel cutter heads can be replaced like a tool mounting plate. They are available for several prep angles. The bevel cutter heads can be adapted to all machines (even older models).

Scope of delivery:
- 2 Multifunctional tools (MFW-12-V/I-2, Code 790 086 060)
- 2 Tool bits (tool bit R4.5-I, Code 790 085 390)
- 2 Torx screws
- 6 Threaded pins
- 3 Fastening screws each, M5x16

Bevel cutter heads for BRB 2

ARTICLE	APPLICATION RANGE				CODE		KG
	KIT 1 (ID MIN. – OD MAX.)		KIT 2 (ID MIN. – OD MAX.)				
	[MM]	[INCH]	[MM]	[INCH]			
Bevel cutter head 30°	16 - 46	0.630 - 1.810	-	-	**790 085 380**		-
Bevel cutter head 37.5°	16 - 36	0.630 - 1.420	-	-	**790 085 381**		0.316
Bevel cutter head 45°	16 - 33	0.630 - 1.300	-	-	**790 085 382**		0.330
Bevel cutter head 30°	-	-	19 - 43	0.750 - 1.690	**790 085 383**		0.360
Bevel cutter head 37.5°	-	-	19 - 39	0.750 - 1.540	**790 085 384**		-
Bevel cutter head 45°	-	-	19 - 36	0.750 - 1.420	**790 085 385**		0.356

Bevel cutter heads for BRB 4 (V-prep)

The bevel cutter heads with 3 cutting edges provide considerable advantages for heavy chip removal, e.g. for welded material. The bevel cutter heads can be replaced like a tool mounting plate. They are available for various prep angles and can be adapted to all machines (even older models).

Scope of delivery:
- 3 Multifunctional tools (MFW-12-V/I-2, Code 790 086 060; MFW-P-2, Code 790 038 314 on request)
- 3 Torx screws
- 3 Fastening screws each, M6x16

Bevel cutter heads for BRB 4

ARTICLE	APPLICATION RANGE	WALL THICKNESS MAX.		CODE		KG
		[MM]	[INCH]			
Bevel cutter head 30°	ID 36 mm to OD 78 mm (1.417 - 3.071") in 3 steps of 5 mm (0.197") distance	10	0.394	**790 086 500**		0.465
Bevel cutter head 45°	ID 45 mm to OD 73 mm (1.772 - 2.874") in 2 steps of 5 mm (0.197") distance	10	0.394	**790 086 459**		0.515

Adjustable spacer

For BRB machines. The adjustable spacer ensures a constant and repeatable depth machining of boiler pipes, etc. Flexibly adjustable.

Adjustable spacer

ARTICLE	CODE		KG
Adjustable spacer for BRB 2	**790 085 055**		0.513
Adjustable spacer for BRB 4	**790 086 045**		1.285

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Mobile air unit DWE 10

Mobile air unit DWE 10

Lubricator and air filter adjustable pressure range 0-10 bar, flow max. 2.6 m³/min (91.8 cfm). Air inlet side: 1/2" clutch coupling (DIN 3481). Air outlet side: 1/2" quick coupling. Suitable for air hose 790 093 061.

ARTICLE	CODE		KG
Mobile air unit DWE 10	**790 093 060**		4.200

Air hose with quick coupling

Air hose with quick coupling

To connect the REB or BRB machine with the mobile air unit DWE 10.
Length: 4 m (157.5"). ID: 19.1 mm (0.752"). Air inlet side: 1/2" quick coupling.
Air outlet side: 90° angle screw with 1/2" quick coupling and a nipple to screw into the speed regulation handle on REB or BRB.

ARTICLE	CODE		KG
Air hose with quick coupling	**790 093 061**		2.000

Cutting lubrication KSS-TOP

Cutting lubrication KSS-TOP

The water soluble, fully synthetic cooling fluid extends the tool life of the tool bits. Is well corrosion resistant. Developed conforming to drinking water requirements according to DVGW work sheet W521 (thread cutting compounds for drinking water installations) and basically complies with these specifications.
Is biologically degradable (OECD 302 B).

ARTICLE	VERSION	CODE		KG
Cutting lubrication KSS-TOP	Spray pump with 500 ml	**790 060 226**		0.630
Cutting lubrication KSS-TOP refill canister	Canister with 10 l	**790 060 227**		11.000

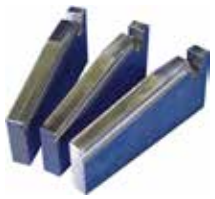
Elbow clamping system

Elbow clamping system

For preparing elbows with the REB 6 with an ID of 75 - 157 mm (2.95" - 6.18").

Scope of delivery:
- 1 Durable storage and shipping case
- 1 Mandrel with clamping mechanism for elbows
- 1 Straightening tool
- 8 Sets with 3 pins for dimension range 75 - 157 mm (2.953" - 6.181")

ARTICLE	CODE		KG
Elbow clamping system for REB 6 complete	**790 093 015**		9.900



Optional clamping wedges

Optional clamping wedges

To extend the dimension of the REB standard machines.

ARTICLE	APPLICABLE WITH	TUBE ID [MM]	TUBE ID [INCH]	CODE		KG
Clamping sets	REB 6	155 - 166	6.102 - 6.535	**790 093 295**		1.300
Clamping sets	REB 14	320 - 339	12.598 - 13.346	**790 094 189**		3.600
Clamping sets	REB 14	331 - 350	13.031 - 13.780	**790 094 190**		3.850

PIPE BEVELING TECHNOLOGY

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ID tracking for REB 14

The REB ID tracking can be used to prepare thin-walled. large-scale pipes for welding. where precise pipe end preparation and an exact base height are required. The module measures the pipe ID. The force of the spring on the inside diameter ensures that the roller "tracks" any irregularities of the pipe. producing a weld prep exactly in accordance with the ID. Thus maintaining a perfect weld prep. All weld preparations such as V-. Y- and U-preps can be realized with the ID tracking module.

Scope of delivery:

- ID tracking module
- Mount for plane
- Assembly instructions

ID tracking for REB 14

APPLICATION RANGE	[MM]	[INCH]
Tube ID	150 - 320	5.910 - 12.600
Wall thickness max.	15	0.591

ARTICLE	CODE		KG
ID tracking for REB 14	**790 094 013**		5.750

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Combination possibilities of tool holder WH and multifunctional tools MFW for REB and BRB machines

Tools for "I-prep"			
CODE	TOOL HOLDER	TORX SCREWS	SUITABLE MULTIFUNCTIONAL TOOLS
790 085 234	WH 4-I	790 085 244	790 085 031 with R 0
790 085 230	WH 5-I	790 093 224	790 085 030 with R 0.4
790 086 210	WH 12-I-H 20 mm	790 086 220	790 086 060 with R 1.2
790 086 281	WH 12-I / short	790 086 220	790 086 060 with R 1.2
790 092 202	WH 15-I-H 20 mm	790 093 226	790 093 037 with R 0
790 092 204	WH 15-I-H 27 mm	790 093 226	790 093 037 with R 0
790 093 202	WH 30-I-H 20 mm	790 093 226	790 093 033 with R 0
790 093 204	WH 30-I-H 27 mm	790 093 226	790 093 033 with R 0
790 093 410	WH 15-I-H 16.5-23 mm (adjustable)	790 093 226 / 790 093 425	790 093 037 with R 0
Tools for "V-prep" and "Y-prep"			
CODE	TOOL HOLDER	TORX SCREWS	SUITABLE MULTIFUNCTIONAL TOOLS
790 085 236	WH 5-V-30°	790 093 224	790 085 030 with R 0.4
790 086 214	WH 12-V-30°	790 086 220	790 086 060 with R 1.2
790 086 282	WH 12-V-30° / short	790 086 220	790 086 060 with R 1.2
790 086 272	WH 12-V-35°	790 086 220	790 086 060 with R 1.2
790 086 216	WH 12-V-37.5°	790 086 220	790 086 060 with R 1.2
790 086 283	WH 12-V-37.5° / short	790 086 220	790 086 060 with R 1.2
790 086 474	WH 12-V-45°	790 086 022	790 086 060 with R 1.2
790 093 462	WH 12-V-80°	790 086 220	790 086 060 with R 1.2
790 092 210	WH 15-V-30°	790 093 226	790 093 037 with R 0 / 790 093 047
790 092 216	WH 15-V-37.5°	790 093 226	790 093 037 with R 0 / 790 093 047
790 092 218	WH 15-V-45°	790 093 226	790 093 037 with R 0 / 790 093 047
790 092 212	WH 15-V-60°	790 093 226	790 093 037 with R 0 / 790 093 047
790 093 468	WH 30-V-15°	790 093 226	790 093 033 with R 0 / 790 093 043
790 093 476	WH 30-V/U-25°	790 093 226	790 093 033 with R 0 / 790 093 043
790 093 210	WH 30-V-30°	790 093 226	790 093 033 with R 0 / 790 093 043
790 093 424	WH 30-V-32.5°	790 093 226	790 093 033 with R 0 / 790 093 043
790 093 216	WH 30-V-37.5°	790 093 226	790 093 033 with R 0 / 790 093 043
790 093 404	WH 30-V-45°	790 093 226	790 093 033 with R 0 / 790 093 043
790 093 470	WH 30-V-50°	790 093 226	790 093 033 with R 0 / 790 093 043
790 093 472	WH 30-V-55°	790 093 226	790 093 033 with R 0 / 790 093 043
Tools for "U-prep"			
CODE	TOOL HOLDER	TORX SCREWS	SUITABLE MULTIFUNCTIONAL TOOLS
790 085 228	WH 5-U-20°	790 093 224	790 085 030 with R 0.4
790 086 208	WH 12-U-10°	790 086 220	790 086 060 with R 1.2 / 790 086 064 with R 2
790 086 213	WH 12-U-15°	790 086 220	790 086 060 with R 1.2 / 790 086 064 with R 2
790 086 224	WH 12-U-20°	790 086 220	790 086 060 with R 1.2 / 790 086 064 with R 2
790 086 476	WH 12-U-20° large clamping surface	790 086 220	790 086 060 with R 1.2 / 790 086 064 with R 2
790 086 212	WH 12-U-25°	790 086 220	790 086 060 with R 1.2 / 790 086 064 with R 2
790 093 408	WH 30-U-7°	790 093 226	790 093 034 with R 5 / 790 093 035 with R 2
790 093 220	WH 30-U-10°	790 093 226	790 093 034 with R 5 / 790 093 035 with R 2
790 093 474	WH 30-U-14°	790 093 226	790 093 034 with R 5 / 790 093 035 with R 2
790 093 468	WH 30-V/U-15°	790 093 226	790 093 034 with R 5 / 790 093 035 with R 2
790 093 218	WH 30-U-20°	790 093 226	790 093 034 with R 5 / 790 093 035 with R 2
790 093 478	WH 30-U-25°	790 093 226	790 093 034 with R 5 / 790 093 035 with R 2
Tools for "beveling / counterboring"			
CODE	TOOL HOLDER	TORX SCREWS	SUITABLE MULTIFUNCTIONAL TOOLS
790 085 232	WH 5-ID-14°	790 093 224	790 093 039 with R 0.4
790 093 406	WH 5-ID-14°	790 093 224	790 093 039 with R 0.4
790 086 218	WH 5-ID-45°	790 093 224	790 086 061 with R 0.4
790 093 400	WH 10-ID-5° / long	790 093 225	790 093 038 with R 0.8 / 790 093 041 with R 3
790 093 402	WH 10-ID-14°	790 093 225	790 093 038 with R 0.8 / 790 093 041 with R 3
790 093 466	WH 10-ID-14° / 30 mm (1.181") deep	790 093 225	790 093 038 with R 0.8 / 790 093 041 with R 3
790 086 296	WH 10-ID-60°	790 093 225	790 093 038 with R 0.8 / 790 093 041 with R 3
790 086 275	WH 10-ID-80°	790 086 220	790 086 062 with R 0.4
790 086 280	WH 12-ID-10° / from ID 50 (1.969")	790 086 217	790 086 060 with R 1.2
790 093 494	WH 10-ID-45°	790 086 220	790 093 040 with R 0.8
790 093 493	WH 10-ID-30°	790 086 220	790 093 040 with R 0.8
Tools for "OD preparation"			
CODE	TOOL HOLDER	TORX SCREWS	SUITABLE MULTIFUNCTIONAL TOOLS
790 086 276	WH 10-AD-10°	790 086 220	790 086 062 with R 0.4

Application range of tool holder for J-prep

		BRB 2 Mandrel Ø 12.7 WZT Ø 51		BRB 2 Mandrel Ø 19 WZT Ø 51		BRB 4 Mandrel Ø 19 WZT Ø 68		BRB 4 Mandrel Ø 32 WZT Ø 68		BRB 4 Mandrel Ø 32 WZT Ø 90		BRB 4 Mandrel Ø 32 WZT Ø 120		REB 6 Mandrel Ø 40 WZT Ø 183		REB 14 Mandrel Ø 63 WZT Ø 375	
Max. ID with a height of land 1 mm (0.039")																	
Code	Description	ID max. [mm]	ID min. [mm]	ID max. [mm]	ID min. [mm]	ID max. [mm]	ID min. [mm]	ID max. [mm]	ID min. [mm]	ID max. [mm]	ID min. [mm]	ID max. [mm]	ID min. [mm]	ID max. [mm]	ID min. [mm]	ID max. [mm]	ID min. [mm]
790 085 228	WH 5-U-20°	34	15	38	21	-	-	-	-	-	-	104	34	159	49	320	65
790 093 220	WH 30-U-10°	-	-	-	-	-	-	-	-	-	-	58	34	121	49	313	65
790 093 474	WH 30-U-14°	-	-	-	-	-	-	-	-	-	-	58	34	121	49	313	65
790 093 468	WH 30-V/U-15°	-	-	-	-	-	-	-	-	-	-	58	34	121	49	313	65
790 093 218	WH 30-U-20°	-	-	-	-	-	-	-	-	-	-	58	34	121	49	313	65
790 093 478	WH 30-U-25°	-	-	-	-	-	-	-	-	-	-	58	34	121	49	313	65
790 093 408	WH 30-U-7°	-	-	-	-	-	-	-	-	-	-	58	34	121	49	313	65
790 086 208	WH 12-U-10°	-	-	-	-	32	21	-	-	54	34	84	34	147	49	320	65
790 086 224	WH 12-U-20°	-	-	-	-	32	21	-	-	54	34	84	34	147	49	320	65
790 086 212	WH 12-U-25°	-	-	-	-	32	21	-	-	54	34	84	34	147	49	320	65

Application range of tool holders for counterboring

Counterboring		BRB 2 Mandrel Ø 12.7 WZT Ø 51		BRB 2 Mandrel Ø 19 WZT Ø 51		BRB 4 Mandrel Ø 19 WZT Ø 68		BRB 4 Mandrel Ø 32 WZT Ø 68		BRB 4 Mandrel Ø 32 WZT Ø 90		BRB 4 Mandrel Ø 32 WZT Ø 120		REB 6 Mandrel Ø 40 WZT Ø 183		REB 14 Mandrel Ø 63 WZT Ø 375	
Workable pipe inner diameter (0.5 mm / 0.020" safe distance to mandrel)																	
Code	Description	ID max. [mm]	ID min. [mm]	ID max. [mm]	ID min. [mm]	ID max. [mm]	ID min. [mm]	ID max. [mm]	ID min. [mm]	ID max. [mm]	ID min. [mm]	ID max. [mm]	ID min. [mm]	ID max. [mm]	ID min. [mm]	ID max. [mm]	ID min. [mm]
790 085 232	WH 5-ID-14°/ 10 mm deep	38	27	38	36	55	36	55	42	77	42	107	42	159	53	320	92
790 093 400	WH 10-ID-5° / long	-	-	-	-	-	-	-	-	72	59	105	61	159	71	320	95
790 093 402	WH 10-ID-14°	-	-	-	-	-	-	-	-	72	59	105	61	159	71	320	95
790 093 406	WH 5-ID-14°	-	-	-	-	-	-	-	-	60	39	96	43	159	60	320	92
790 093 466	WH 10-ID-14° / 30 mm (1.181") deep	-	-	-	-	-	-	-	-	61	53	105	61	159	78	320	101
790 086 218	WH 5-ID-45°	24	20*	37	24	49	27	49	37	40	40	107	37	159	58	320	92
Application range of tool holders for facing																	
790 086 275	WH 10-ID-80°	41	37	41	43	58	43	58	56	80	56	110	56	159	64	320	92

* With diameter 20 mm: max. length of bevel 4 - 5 mm (0.157" - 0.197").

Abbreviations:
WH = Tool holder
WZT = Tool support / Tool retainer

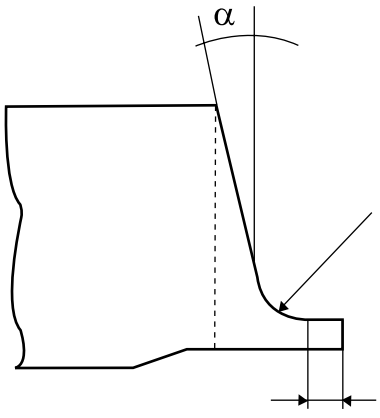
Length of land with the use of tool holder for facing 790 092 202 / 790 093 202 and 790 086 210

Code	Description (α)	MFW 12-V/I-2- R1.2 790 086 060	MFW 30-U-4- R2 790 093 035	MFW 30-U-4- R5 790 093 034
		Length of land (X1)		
790 085 228	WH 5-U-20°	-	-	-
790 093 218	WH 30-U-20°	-	1.4 mm	0 mm
790 093 220	WH 30-U-10°	-	2.5 mm	0.5 mm
790 093 408	WH 30-U-7°	-	3.8 mm	1.1 mm
790 093 474	WH 30-U-14°	-	2.3 mm	0 mm
790 093 478	WH 30-U-25°	-	1.1 mm	0 mm
790 086 208	WH 12-U-10°	1.5 mm	-	-
790 086 212	WH 12-U-25°	1.5 mm	-	-
790 086 224	WH 12-U-20°	1.5 mm	-	-

Length of land with the use of tool holder for facing 790 093 410 (adjustable)

Code	Description (α)	MFW 12-V/I-2- R1.2 790 086 060	MFW 30-U-4- R2 790 093 035	MFW 30-U-4- R5 790 093 034
		Length of land (X1)		
790 093 408	WH 30-U-7°	-	1 - 7 mm	0 - 2.5 mm
790 093 220	WH 30-U-10°	-	0 - 6 mm	0 - 3 mm
790 093 474	WH 30-U-14°	-	0 - 6.5 mm	0 - 1 mm
790 093 218	WH 30-U-20°	-	0 - 5 mm	0 - 3.5 mm
790 093 478	WH 30-U-25°	-	0 - 5 mm	0 - 1 mm
790 086 208	WH 12-U-10°	0 - 5 mm	-	-
790 086 224	WH 12-U-20°	0 - 5 mm	-	-
790 086 212	WH 12-U-25°	0 - 5 mm	-	-

Abbreviations:
WH = Tool holder
WZT = Tool support / Tool retainer

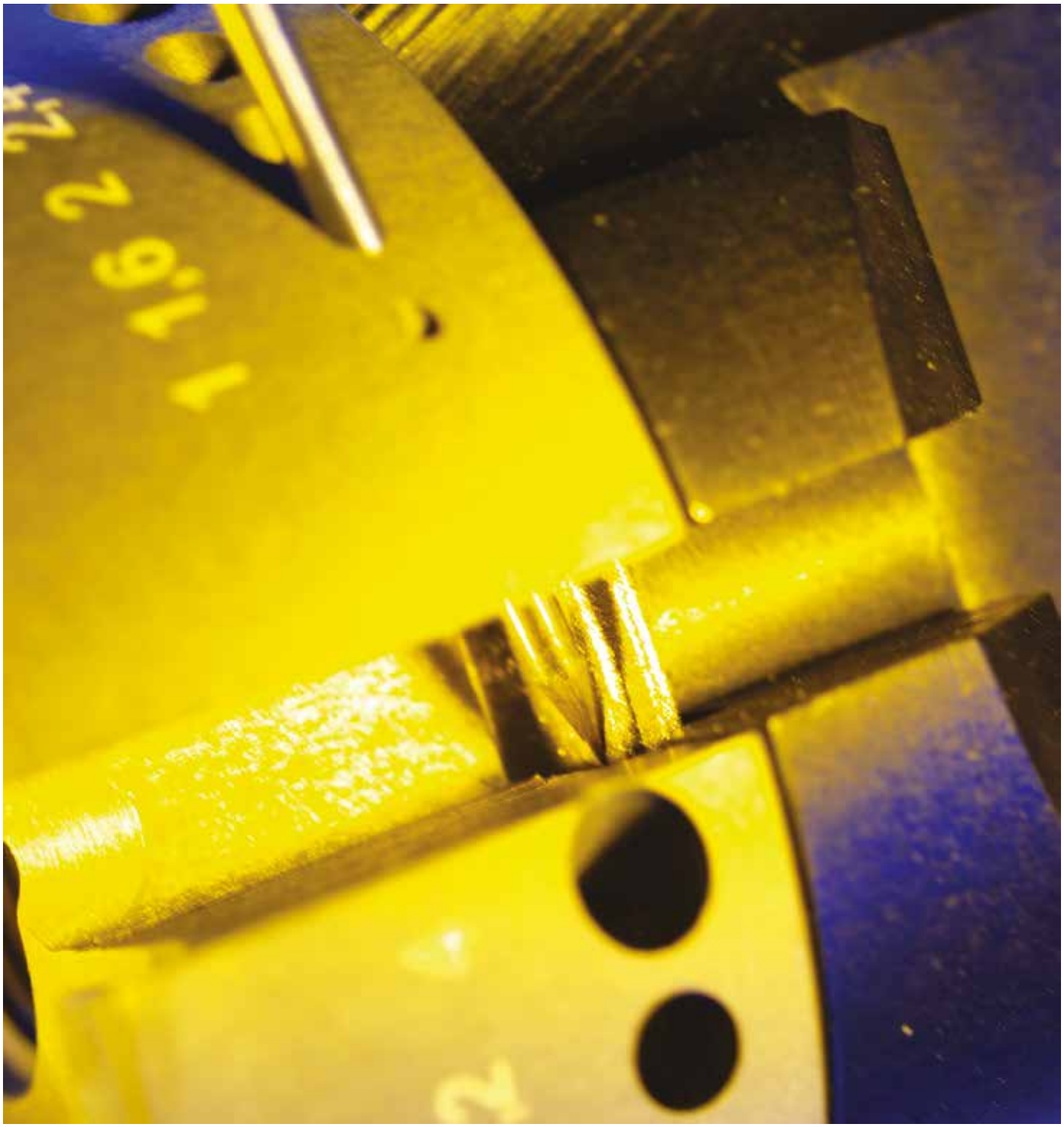


α / Prep Angle
given by the angle of the tool holder WH

R / Radius
given by the radius of the multifunctional tool MFW

X 1 / Length of land
from the pipe end to the beginning of the radius

Tungsten Grinding Technology



Orbital welding systems and accessories for high-purity process piping from Orbitalum Tools.

E.g. compact power supplies for mechanized TIG orbital welding with a currently unique operating concept and a whole series of other special technical features. In connection with an ORBITALUM orbital weld head, the user is being offered an extremely innovative and economical welding system.

Please ask for our separate catalogue to learn more about this and other products for orbital welding.

ESG Plus, ESG Plus²

Tungsten Grinders

The best solution for a precise and fast preparation of tungsten electrodes.
The perfect hand-held grinder for cutting, grinding and planing electrodes which are used in WIG/TIG welding machines.

- Repeatable points every time due to preset grinding angles ✓
- Easy and fast to use ✓
- Optimum preparation for orbital and manual welding ✓
- Longitudinal grinding for optimum arc ignition and excellent arc stability ✓
- Guarantees longer tool life and ease of ignition of the tungsten electrode ✓
- Specially designed for one-off jobs on site ✓
- Compact design, optimum resilience and perfect reproducibility ✓
- Functional design ✓
- Precise orbital grinding ✓

The powerful Hand-Tungsten-Grinder for grinding, facing and cutting.

One machine – complete electrode preparation:

- Grinding electrodes:
  - 4 different angles
  - 6 different electrode sizes
- Facing electrodes
- Cutting electrodes

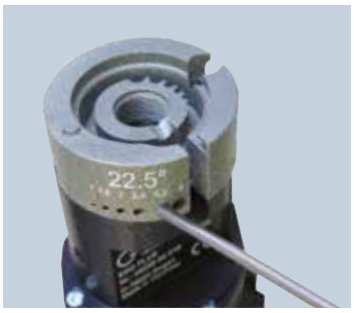
The machines are available with a high-quality and powerful drive with 230 Volt and/or 110 Volt. Machines and accessories are delivered in a durable storage and shipping case.

FURTHER ADVANTAGES:

- Facility for easy trimming of the electrodes (optional)
- External dust extractor can be easily adapted
- Short preparation times with high grinding performance
- No adjustment needs to be done before operation

ADDITIONAL FEATURES ESG PLUS²:

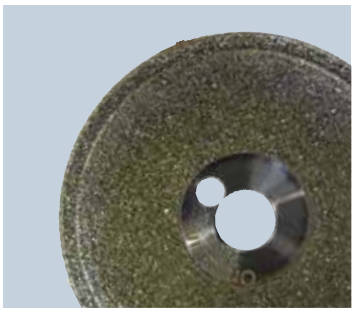
- Portable tungsten grinder with two different grinding wheels. This allows the electrode to be pre-ground with the coarse diamond wheel then finished with the fine diamond wheel.



Grinding electrodes:
4 different angles and 6 different electrode sizes

Facing electrodes

Cutting electrodes



Replaceable grinding wheel diamond-coated on both sides for optimal performance

SCOPE OF DELIVERY / APPLICATION RANGE		ESG PLUS	ESG PLUS²
Code	[230 V]	790 052 485 (15°/18°/22.5°/30°) 790 052 545 (15°/30°/45°/60°)	790 052 585 (15°/18°/22.5°/30°) 790 052 546 (15°/30°/45°/60°)
	[110 V]	790 052 486 (15°/18°/22.5°/30°) 790 052 645 (15°/30°/45°/60°)	790 052 586 (15°/18°/22.5°/30°) 790 052 646 (15°/30°/45°/60°)
Tungsten grinder	Pc.	1	1
Durable storage and shipping case	Pc.	1	1
Grinding head for electrodes Ø 1.0 - 1.6 - 2.0 - 2.4 - 3.2 - 4.0 mm (0.04" - 1/16" - 0.08" - 3/32" - 1/8" - 5/32")	Pc.	1	1
Grinding head for grinding angle 15° - 18° - 22.5° - 30° **or** 15° - 30° - 45° - 60°	Pc.	1	1
Diamond grinding wheel Fine (790 052 487)	Pc.	-	1
Diamond grinding wheel Medium (790 052 488)	Pc.	1	-
Diamond grinding wheel Coarse (790 052 550)	Pc.	-	1
Tool to replace the grinding wheel	Pc.	1	1
Operating instructions and spare parts list	Set	1	1
TECHNICAL DATA		**ESG PLUS**	**ESG PLUS²**
Dimensions (including motor)	[mm]	Ø 65 x 350	Ø 65 x 350
	[inch]	Ø 2.56 x 13.78	Ø 2.56 x 13.78
Power	[W]	500	500
Power-on time	[%]	100	100
Speed (Rotary speed)	[rpm]	30.000	30.000
Main supply cable (length)	[m]	3	3
	[inch]	118.1	118.1
Vibration level (EN 28662, part 1)	[m/s²]	< 2.5	< 2.5
Noise level at the workplace (Idle running), approx.	[dB (A)]	83	83

The technical data are not binding. They are not warranted characteristics and are subject to change. Please consult our general conditions of supply.

Tungsten Grinders ESG

ESG Plus, ESG Plus²

Features, application range, technical data and scope of delivery, see from page 71.

ARTICLE	VERSION	GRINDING ANGLES [°]	CODE		WEIGHT OF MACHINE KG	DISPATCH WEIGHT KG
ESG Plus	230 V, 50/60 Hz EU	15 / 18 / 22.5 / 30	**790 052 485**		1.430	3.560
ESG Plus	110 V, 50/60 Hz EU/US	15 / 18 / 22.5 / 30	**790 052 486**		1.430	3.560
ESG Plus	230 V, 50/60 Hz EU	15 / 30 / 45 / 60	**790 052 545**		1.430	3.560
ESG Plus	110 V, 50/60 Hz EU/US	15 / 30 / 45 / 60	**790 052 645**		1.430	3.560
ESG Plus²	230 V, 50/60 Hz EU	15 / 18 / 22.5 / 30	**790 052 585**		1.520	3.825
ESG Plus²	110 V, 50/60 Hz EU/US	15 / 18 / 22.5 / 30	**790 052 586**		1.520	3.825
ESG Plus²	230 V, 50/60 Hz EU	15 / 30 / 45 / 60	**790 052 546**		1.520	3.825
ESG Plus²	110 V, 50/60 Hz EU/US	15 / 30 / 45 / 60	**790 052 646**		1.520	3.825

ESG Plus

ESG Plus²

Diamond grinding wheels

Replaceable grinding wheel diamond-coated on both sides for optimal performance.

For 1.0 and 1.6 mm (0.039"/0.063") electrodes we recommend the standard grinding wheel. For 2.0 and 2.4 mm (0.078"/0.094") electrodes a medium grained grinding wheel and for 3.2 and 4.0 mm (0.126"/0.157") a coarse grained grinding wheel is advisable.

ARTICLE	APPLICABLE WITH	GRAIN	WHEEL Ø		S		CODE		KG
			[MM]	[INCH]	[MM]	[INCH]			
Diamond grinding wheel	ESG 4	Standard	32.00	1.290	1.2	0.047	**790 052 460**		0.005
Diamond grinding wheel	ESG Plus, ESG Plus²	Fine	33.50	1.319	2.2	0.087	**790 052 487**		0.010
Diamond grinding wheel	ESG Plus, ESG Plus²	Medium	33.50	1.319	2.2	0.087	**790 052 488**		0.011
Diamond grinding wheel	ESG Plus, ESG Plus²	Coarse	33.50	1.319	2.2	0.087	**790 052 550**		0.011

Diamond grinding wheels

Cutting device

For simple separating of the electrodes.
Applicable up to an electrode diameter of 2.4 mm (0.094").

ARTICLE	SETTING	CUTTING LENGTHS		CODE		KG
		[MM]	[INCH]			
Cutting device	fixed	12.0 13.0 15.0 17.0	0.472 0.512 0.591 0.669	**790 052 513**		0.030

Cutting device

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Electrode holder with collet

Spare collet

Electrode holder

For machining smaller electrodes.
The electrode holder is supplied including 1 flexible collet.

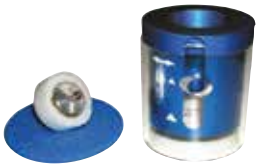
ARTICLE	SETTING	ELECTRODE Ø		CODE		KG
		[MM]	[INCH]			
Electrode holder with collet	continuous	1.0 - 3.2	0.039 - 0.126	**790 052 457**		0.023
Spare collet	continuous	1.0 - 3.2	0.039 - 0.126	**790 052 481**		0.002

Wall-/table-/vice-mounting plate

Wall-/table-/vice-mounting plate

For stationary use of the ESG Plus and ESG Plus².
Simple and rapid mounting to a wall, a table or a vice.

ARTICLE	CODE		KG
Wall-/table-/vice-mounting plate	**790 052 483**		0.102



Protective cover

Protective cover

Easy to adapt on the ESG Plus head.
With integrated retainer for suction units.
For use on electrodes with thorium.
Consider country-specific regulations, standards and guidelines.

ARTICLE	CODE		KG
Protective cover ESG Plus	**790 052 496**		0.170
Protective cover ESG Plus²	**790 052 596**		0.220

Double-Decker Kit

Double-Decker Kit

Easy to mount to the ESG Plus.
This attachment makes it possible to use 2 different grinding wheels at the same time.

Including:
- 1 grinding head
- 1 diamond grinding wheel (Coarse)
- 1 cylinder-head screw with collar (M4x34)
- 1 shaft extension.

ARTICLE	APPLICABLE WITH	GRINDING ANGLES [°]	CODE		KG
Double-Decker Kit	ESG Plus	15 / 18 / 22.5 / 30	**790 052 490**		0.160
Double-Decker Kit	ESG Plus	15 / 30 / 45 / 60	**790 052 390**		0.100

Threading, Jointing and Sealing Technology

Accessories for Pipe Threading Technology

Replacement set of threading chasers for ASK

Replacement sets of threading chasers

for Whitworth pipe threads according to DIN 2999.
Made of HSS (high-speed steel). Right-handed.

ARTICLE	VERSION	CODE		KG
Replacement set of threading chasers for ASK	R 3/8	**790 003 503**		0.100
Replacement set of threading chasers for ASK	R 1/2	**790 003 504**		0.145
Replacement set of threading chasers for ASK	R 3/4	**790 003 505**		0.130
Replacement set of threading chasers for ASK	R 1	**790 003 506**		0.170
Replacement set of threading chasers for ASK	R 1 1/4	**790 003 507**		0.145
Replacement set of threading chasers for ASK	R 1 1/2*	**790 003 508**		0.205
Replacement set of threading chasers for ASK	R 2*	**790 003 509**		0.260

* not for TGA

Nipple holder

Nipple holder

With internal clamping. Self-clamping. For pipes according to DIN 2440.

ARTICLE	VERSION	THREAD	CODE		KG
Nipple holder	DN 15	R 1/2	**790 002 101**		0.345
Nipple holder	DN 20	R 3/4	**790 002 102**		0.566
Nipple holder	DN 25	R 1	**790 002 103**		0.740
Nipple holder	DN 32	R 1 1/4	**790 002 104**		1.120
Nipple holder	DN 40*	R 1 1/2	**790 002 105**		1.420
Nipple holder	DN 50*	R 2	**790 002 106**		2.120

* not for TGA

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Thread Jointing Technology

Flax dispenser "Sales Display Package"

Cardboard box including 10 flax bobbins.
Innovative and unique retail pack for the presentable display of flax bobbins at the sales counter.

For decades Orbitalum flax bobbins have stood for high-purity, finely-brushed flax with optimal sealing qualities and precise proportioning.

Further advantages:

- Dispenser box including 10 flax bobbins (packaged individually)
- Parallel winding
- Optimal dispensing
- No waste
- Simple handling
- Suitable for dispenser

ARTICLE	VERSION	CODE		KG
Flax dispenser, sales display package	including 10 flax bobbins	**790 052 716**		0.780

Flax dispenser "Sales Display Package"

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Seals

Seal dispenser

Seal dispenser

For gas and water installations. Approved by the DVGW in accordance with DIN 3535, Part 6.
With 225 asbestos-free seals. Including transparent labeled protective cover.
Very robust, shock-proof and break-proof seal dispenser block made of elastic material that protects the seals against moisture, falling out or damage.
The seals can be removed singly and are always at hand.

ARTICLE	CODE		KG
Seal dispenser	**790 052 721**		0.682
Seal dispenser, empty	**790 052 722**		0.335
Protective covering for seal dispenser	**790 052 723**		0.049

Seals

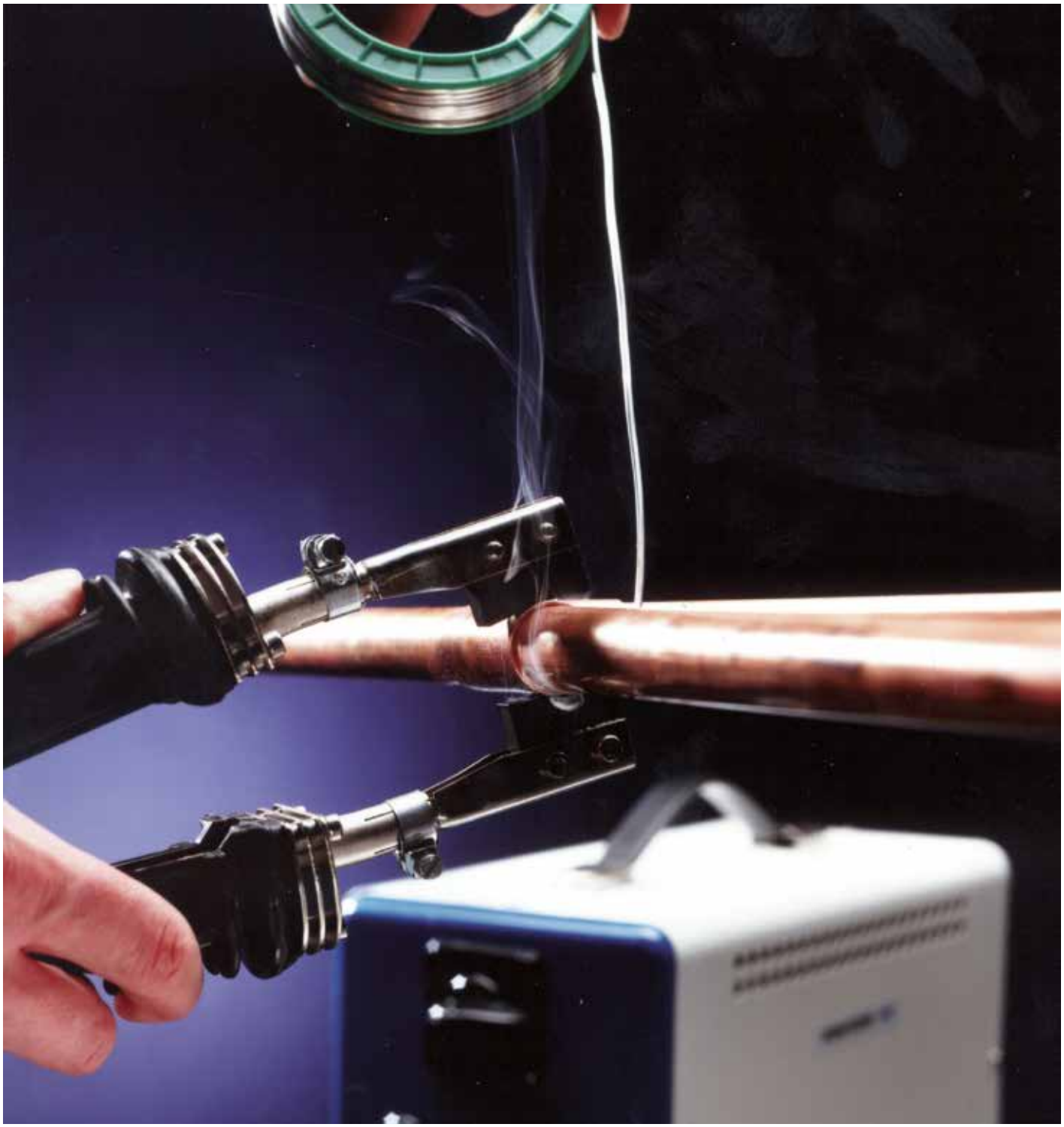
IT-seals, asbestos-free.

Explanations
R = Raccord (union/fittings)
RV = Radiator valve
H = Dutchman seal
HK = Dutchman seal, small
HG = Dutchman seal, large

ARTICLE	VERSION	DIMEN-SION	QTY. PER PACK	CODE		KG
Seals	R 1/4	10 x 6	100	**790 052 726**		0.001
Seals	R 3/8	14 x 10	100	**790 052 727**		0.002
Seals	R 3/8	15 x 8	100	**790 052 728**		0.002
Seals	R 3/8	15 x 10	100	**790 052 729**		0.002
Seals	R 1/2	18 x 10	100	**790 052 730**		0.002
Seals	R 1/2	18 x 11	100	**790 052 731**		0.002
Seals	R 1/2	18 x 12	100	**790 052 732**		0.002
Seals	R 3/4	23 x 17	100	**790 052 733**		0.002
Seals	R 3/4	24 x 15	100	**790 052 734**		0.002
Seals	R 1	30 x 22	100	**790 052 735**		0.003
Seals	R 1 1/4	37 x 29	100	**790 052 736**		0.002
Seals	R 1 1/4	39 x 32	100	**790 052 737**		0.002
Seals	R 1 1/2	44 x 37	100	**790 052 738**		0.003
Seals	R 2	56 x 48	50	**790 052 739**		0.002
Seals	Leather 3/4	23 x 16	100	**790 052 740**		0.002
Seals	RV 3/4	23 x 17	100	**790 052 741**		0.002
Seals	H 3/4	38 x 27	100	**790 052 742**		0.002
Seals	H 1	44 x 32	100	**790 052 743**		0.002
Seals	H 1 1/4	55 x 42	50	**790 052 744**		0.004
Seals	H 1 1/2	62 x 46	50	**790 052 745**		0.002
Seals	H 2	78 x 60	50	**790 052 746**		0.007
Seals	HK 3/8	24 x 17	100	**790 052 747**		0.002
Seals	HK 1/2	30 x 21	100	**790 052 748**		0.003
Seals	HG 3/8	27 x 19	100	**790 052 749**		0.002
Seals	HG 1/2	34 x 23	100	**790 052 750**		0.002

* Weight per seal

Copper Pipe Installation Technology



Accessories for LAM 1500, LAM 1600

Clamp holder with carbon V-electrode

Clamp holder with carbon V-electrode

Made of stainless steel.

ARTICLE	CODE		KG
Clamp holder with carbon V-electrode	**790 057 020**		0.038

Carbon V-electrode

Carbon V-electrode

Minimum purchase: 10 pieces.

ARTICLE	CODE		KG
Carbon V-electrode	**790 057 025**		0.010

Stick electrode

Stick electrode

Minimum purchase: 6 pieces.

ARTICLE	CODE		KG
Stick electrode	**790 057 026**		0.020

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Accessories for Workshop and Site

Collapsible work bench, deburring tool

Collapsible work bench

Collapsible work bench

Can only be used for saws with an application range of up to 4.5" pipe outer diameter. From 6", please use the pipe feeder (Code 790 068 051) or mobile workstation (Code 790 068 071) - please see from page 24.

DIMENSIONS	COLLAPSIBLE WORK BENCH
Dimension (lxwxh)	100 x 70 x 85 cm / 39.37" x 27.56" x 33.46"

ARTICLE	CODE		KG
Collapsible work bench, load capacity: 650 kg	**790 052 030**		30.000

Deburring tool

Deburring tool

APPLICATION RANGE	DEBURRING TOOL
Tube OD max.	54 mm / 2.126"
Tube ID max.	10 mm / 0.394"

ARTICLE	CODE		KG
Deburring tool	**790 052 052**		0.455

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About us

For the finest in pipe & tube cutting, beveling and orbital welding products.

For more than 50 years construction companies rely on the standard in the industrial prefabrication of pipeline systems set by the market leader Orbitalum.

Orbitalum Tools based in Singen, Germany and E.H. Wachs based in Lincolnshire, Illinois, USA are operating jointly as **ITW Orbital Cutting & Welding**, a division of the US industrial group ITW.

Orbitalum Tools is a global leader in providing complete solutions for the industrial prefabrication, installation and maintenance of pipeline systems – for everything from cutting pipes and preparing weld seams to orbital welding for process and plant engineering.

With its high-quality, nearly indestructible, portable and user-friendly pipe processing machines for cutting and beveling, **E.H. Wachs** has established itself in many industries. For example, in the oil and gas industry, the chemical industry and in pipeline and ship construction – in the preproduction, maintenance, repair and dismantling of installations.

ITW (Illinois Tool Works, www.itw.com) is a US Fortune 200 global industrial manufacturer of consumables, specialty equipment and related service businesses headquartered in Glenview, Illinois. ITW Orbital Cutting & Welding is part of the ITW Welding Group, which is world market leader in welding products (e.g. MILLER ELECTRIC, HOBART BROTHERS).

When you partner with us you're not only partnering with the industry leader in portable weld preparation machine tools and orbital welding systems, you're partnering with ITW, the industry leader in advanced welding technologies.

The ITW Orbital Cutting & Welding group stands for the best, most efficient technology for all aspects of orbital cutting and welding around the globe.

As ITW OCW we provide an almost unique product availability, a worldwide customer service and technical support as well as a sales network at local level. A partnership with ITW OCW involves:

- Acclaimed state-of-the-art technology, competent contact partners
- Fast, comprehensive delivery service
- Reliable product support
- Large stocks at local level
- Comprehensive OEM spare parts and consumables
- Strategically ideal located sales locations, service and rental centers
- Excellently factory-trained and certified technicians
- Practical trainings – at our site or at your location
- Certified company

ITW Orbital Cutting & Welding continues the Orbitalum and E.H. WACHS tradition of offering world class products, combined with exceptional service and support, to keep ITW-OCW the supplier of choice for tools used to cut - prep - weld - all from one source.

Waste disposal / environmental protection

Disposal of electrical (electronic) devices

(RL 2012/19/EU)

Electrical (electronic) devices which are marked with the symbol above, may not be disposed of with household waste in accordance to the EU directive 2002/96/EC.
By actively using the offered return and collection systems, you actively contribute to the reuse, recycling and utilisation of electrical (electronic) devices.
Electrical (electronic) used devices contain parts which must be handled selectively according to the EU directive. Separate collection and selective treatment is the basis for environment-friendly disposal and the protection of human health.
Our products that were sold to you after August 13th, 2005 are taken back and treated according to legal standards. These products have to be sent free of charge.
The return of used devices which pose a health or safety risk for human beings due to contamination during use may be refused.
The legally compliant disposal of electrical (electronic) devices that were placed on the market before August 13th, 2005 are in the responsibility of the end-user.

Returning of batteries

Some of our products work with batteries. Batteries which are marked with the symbol above may not be disposed of together with household waste according to the applicable EU directive 2006/66/EU. With batteries containing hazardous substances, the chemical symbol for the heavy metal content is indicated below the waste bin:

Cd = Cadmium
Hg = Mercury
Pb = Lead

The ITW ORBITAL CUTTING & WELDING group provides global customers one source for the finest in pipe & tube cutting, beveling and orbital welding products.

Certified management system according to ISO 9001:2015

Authorized Economic Operator (AEO)

worldwide | sales + service

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orbitalum
orbital | cutting + welding

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