Tube squaring machines RPG 3.0 (battery), RPG 4.5 (S), RPG 8.6

Tube squaring machines (electric/battery-powered)

In manual welding, high-quality pipe end preparation is desirable for economic reasons; in automated welding, known as "orbital welding," high-quality pipe end preparation is absolutely essential for technical reasons. Orbitalum has developed the RPG 3.0 (battery-powered), RPG 4.5, RPG 4.5 S, and RPG 8.6 tube squaring machines for this weld seam preparation. The optimal solution for the required high-quality pipe end preparation for orbital welding!



- Creates a pipe plan surface with very high surface quality ✓
- Burr-free and right-angled ✓
- Beveling possible with special holder (not with RPG 4.5 S) ✓
- Quick-change system for tools, clamping shells, and tubes ✓
- Machining of thin-walled stainless steel pipes (V4A) and micro fittings ✓
- Indexable insert with 2 cutting edges and high-performance coating ✓
- Electric versions with speed-controlled electric motor with speed control ✓
- Battery versions with powerful and environmentally friendly lithium-ion technology ✓
- Portable and lightweight machine for mobile and safe use ✓

With high precision, the user can process pipes with an outer diameter of 6.0 mm – 77.0 mm using the RPG 3.0 (battery-powered). The RPG 4.5 can process pipe ends up to 114.4 mm (4.5") and the RPG 8.6 up to 219.1 mm (8.6") outer pipe diameter quickly, burr-free, and absolutely right-angled.

Low operating costs are a major advantage in tube processing. The symmetrical, interchangeable stainless steel and aluminum clamping shells (not on the RPG 4.5 S) can be replaced quickly and easily in a short time without tools. Changing dimensions no longer takes much time. Thanks to the ergonomic machine design, the user can work comfortably and save time.

The multifunctional tools (MFW) feature two cutting edges and a high-performance anti-wear coating. This allows pipes made of unalloyed, low-alloyed, and high-alloyed steels as well as aluminum to be processed with high precision, particularly quickly and economically. The system enables clean and safe operation.

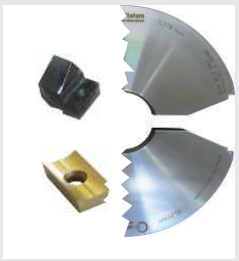
The RPG 3.0, RPG 4.5 (S), and RPG 8.6 are equipped with a high-quality, powerful drive in 230-, 120-, and 110-volt versions, respectively.
The RPG 3.0 is also available as a cordless version (230 V or 115 V), featuring powerful and environmentally friendly lithium-ion technology.
The machine and accessories are delivered in a sturdy hard-sided transport case.

Additional features of the RPG 4.5 S:
The **RPG 4.5 S** tube squaring machine is distinguished by its universal vise clamping system: This particularly cost-effective alternative to the otherwise standard size-specific clamping shells allows pipes to be centered, clamped, and machined with the utmost ease.

- Integrated clamping jaws made of hardened cast aluminum for various tube diameters
- High cost-effectiveness, as no dimension-specific clamping shells are required
- Multi-point clamping of the pipe



Delivered in a hard-sided transport case



Includes WH tool holder and MFW multifunctional tool. Large selection of clamping shells – sold separately



Burr-free and right-angled



Quick-change system for tools, clamping shells, and pipes



Area of application: Pipe and plant manufacturers for the high-purity gas, electronics, pharmaceutical, food, beverage, solar, and chemical industries

AREA OF APPLICATION		RPG 3.0	RPG3.0 BATTERY	RPG 4.5	RPG 4.5 S	RPG 8.6
Code	[230 V]	790031001	790031011	790038001	790038011	790039001
	[110 V]	790031003	-	790038003	–	790039003
	[120 V]	790031002	-	790038002	790038012	790039002
	[115 V]	-	790031012	-	-	-
Pipe OD	[mm]	6.0-77.0	6.0-77.0	12.7 - 114.3	12.7 - 114.3	50.8 - 219.1
	[inch]	0.24-3.0	0.24-3.0	0.5 - 4.5	0.5 - 4.5	2 - 8.6
Wall thickness max.	[mm]	3.0	3.0	3.0	3.0	3.6
	[inch]	0.118	0.118	0.118	0.118	0.142
Materials		High-alloyed steels (stainless steel material no. 1.40... - 1.45... according to DIN 17 455 and DIN 17 456), unalloyed and low-alloyed steels, aluminum. Others on request.				

TECHNICAL SPECIFICATION		RPG 3.0	RPG3.0 BAT-TERY	RPG 4.5	RPG 4.5 S	RPG 8.6
Dimensions (with drive)	[mm]	460 x 245 x 185	316 x 242 x 185	460 x 260 x 230	610 x 380 x 270	500 x 350 x 350
	[inch]	18.1 x 9.6 x 7.3	12.4 x 9.5 x 7.3	18.1 x 10.2 x 9.1	24 x 15 x 10.6	19.7 x 13.8 x 13.8
Performance	[W]	1100	-	1100	1100	1100
Protection class	[Class]	II	II (charger)	II	II	II
Speed (max. idle speed)	[min-1]	8-52	0-30 (1st gear)	8 - 52	8 - 52	7 - 18
Vibration level (EN 60745)	[m/s2]	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Sound pressure level at the workplace (EN 23741)	[dB (A)]	Idling approx. 83	Idling approx. 83	Idling approx. 83	Idling approx. 83	Idling approx. 83

The technical specification is non-binding. It does not constitute a guarantee of properties. Subject to change without notice.

SCOPE OF DELIVERY		RPG3.0	RPG3.0 BATTERY	RPG 4.5	RPG 4.5 S	RPG 8.6
Tube squaring machine	PCS	1	1	1	1	1
Hard-sided transport case	PCS	1	1	1	1	1
Tool Holder WH (Code 790038320)	PCS	1	1	1	1	1
Overload protection (square nut)	PCS	1	1	1	1	1
Multifunctional Tool MFW	PCS	1	1	1	1	1
Tool Key	PCS	1	1	1	1	1
General safety instructions for tube squaring machines	PCS	1	1	1	1	1
Operating instructions & Spare parts list Download link PDF: https://www.orbitalum.com/de/down-load.html	PDF	1	1	1	1	1

The technical specification is non-binding. It does not constitute a guarantee of properties. Subject to change without notice.

Tube squaring machines RPG 3.0 (battery), RPG 4.5 (S), RPG 8.6



Illustration: RPG 3.0 electric



Illustration: RPG 3.0 battery



Illustration: RPG 4.5



Illustration: RPG 4.5 S



Illustration: RPG 8.6

Clamping shells must be ordered separately.

ITEM	CODE	KG	SHIPPING WEIGHT KG
RPG 3.0, 230 V, 50/60 Hz EU	790031001	7,8	16,3
RPG 3.0, 110 V, 50/60 Hz EU	790031003	7,8	16,3
RPG 3.0, 120 V 50/60 Hz US	790031002	7,8	16,3
RPG 3.0 Akku (18 V), 230 V, 50/60 Hz EU	790031011	7,1	16,8
RPG 3.0 Akku (18 V), 115 V, 50/60 Hz US	790031012	7,1	16,8
RPG 4.5, 230 V, 50/60 Hz EU	790038001	10,5	19,4
RPG 4.5, 110 V, 50/60 Hz EU	790038003	10,5	19,4
RPG 4.5, 120 V, 50/60 Hz US	790038002	10,5	19,4
RPG 4.5 S, 230 V, 50/60 Hz EU	790038011	23	34
RPG 4.5 S, 120 V, 50/60 Hz US	790038012	23	34
RPG 8.6, 230 V, 50/60 Hz EU	790039001	20,5	32
RPG 8.6, 110 V, 50/60 Hz EU	790039003	20,5	32
RPG 8.6, 120 V, 50/60 Hz US	790039002	20,5	32

Accessories

Clamping shells for RPG 3.0 (battery), RPG 4.5 (S), RPG 8.6

Extremely durable. The clamping shell with click mechanism guarantees precise clamping of pipes and quick clamping shell replacement without tools.

► Please check the outer diameter of the pipes before ordering the clamping shells.

MACHINE TYPE:	CLAMPING LENGTHS:
RPG 3.0	19.9 mm (0.783")
RPG 4.5	24.9 mm (0.980")
RPG 8.6	39.9 mm (1.571")

MACHINE TYPE		RPG 3.0 (BATTERY)		RPG 4.5		RPG 8.6	
PIPE OD		STAINLESS STEEL		STAINLESS STEEL		ALUMINUM	
[MM]	[INCH]	CODE	KG	CODE	KG	CODE	KG
6.35	0.25	790031239	–	–	–	–	–
10.00	0.394	790031243	1,300	–	–	–	–
12.00	0.472	790031244	1,300	790038454	2.170	–	–
12.70	0.500	790031232	1.245	790038438	2.177	–	–
13.00	0.512	790031259	1,300	790038439	2.176	–	–
13.50	0.531	790031267	1.300	790038440	2.175	–	–
14.00	0.551	790031272	–	790038441	2.174	–	–
16.00	0.630	790031273	–	790038442	2,168	–	–
17.20	0.677	790031260	1.300	790038443	2.164	–	–
18.00	0.709	790031274	–	790038444	2.161	–	–
19.00	0.748	790031264	1,200	790038445	2,150	–	–
19.05	0.750	790031233	1.225	790038446	2.157	–	–
20.00	0.787	790031275	–	790038447	2.153	–	–
21.30	0.839	790031245	1,200	790038448	2.100	–	–
22.00	0.866	790031268	1,300	790038449	2,144	–	–
22.22	0.875	–	–	790038050	2.195	–	–
23.00	0.906	790031265	–	790038450	2.140	–	–
24.00	0.945	–	–	790038451	2.133	–	–
25.00	0.984	790031231	–	790038452	2.127	–	–
25.25	0.994	–	–	790038049	2.180	–	–
25.40	1,000	790031234	1.195	790038051	2.180	–	–
26.90	1,059	790031246	1,200	790038400	2.090	–	–
27.20	1,071	–	–	790038468	2.165	–	–
28.00	1,102	790031263	–	790038401	2.110	–	–
29.00	1,142	790031261	1.200	790038402	2.105	–	–
30.00	1,181	–	–	790038403	2.095	–	–
31.75	1,250	790031241	1.200	790038052	1.865	–	–
31.80	1,252	–	–	790038404	2.080	–	–
32.00	1,260	–	–	790038455	2,080	–	–
33.00	1,299	–	–	790038465	2,120	–	–
33.40	1,315	790031254	1.130	790038405	2.040	–	–
33.70	1,327	790031247	1,200	790038406	2.060	–	–

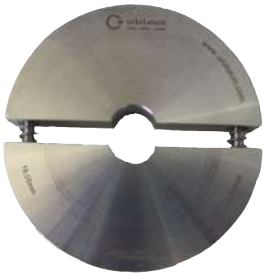


Illustration: Stainless steel clamping shell for RPG 3.0 (battery)

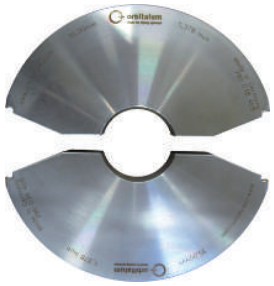


Illustration: Stainless steel clamping shell for RPG 4.5



Illustration: Aluminum clamping shell for RPG 8.6

MACHINE TYPE		RPG 3.0 (BATTERY)		RPG 4.5		RPG 8.6	
PIPE OD		STAINLESS STEEL		STAINLESS STEEL		ALUMINUM	
[MM]	[INCH]	CODE	KG	CODE	KG	CODE	KG
34.00	1,339	790031269	1,300	790038407	2.115	–	–
35	1,377	790031266	–	790038408	2.050	–	–
36.00	1,417	–	–	790038409	2.044	–	–
38.00	1,496	790031250	1,200	790038410	2.025	–	–
38.10	1,500	790031225	1,200	790038053	2.020	–	–
40.00	1,575	790031270	1,300	790038411	2,000	–	–
41.00	1,614	790031220	1,160	790038412	1,990	–	–
42.00	1,654	–	–	790038413	1.976	–	–
42.16	1,660	790031255	–	790038414	1.950	–	–
42.40	1,669	799031221	1.100	790038415	1.965	–	–
42.70	1,681	–	–	790038416	1.950	–	–
44.45	1,750	–	–	790038417	1.955	–	–
44.50	1,752	790031229	1.045	790038418	1.955	–	–
45.00	1,772	–	–	790038419	1,948	–	–
48.00	1,890	790031262	–	790038464	1,960	–	–
48.26	1,900	790031256	–	790038420	1,880	–	–
48.30	1,902	790031222	1.100	790038421	1.905	–	–
48.60	1,913	–	–	790038422	1.875	–	–
50.00	1,969	790031251	1,050	790038456	1.880	–	–
50.80	2,000	790031223	0.975	790038054	1.895	790039260	4.500
51.00	2,008	790031248	1,200	790038423	1.870	–	–
52.00	2,047	-	-	790038424	1,850	–	–
53.00	2,087	790031224	1.0	790038425	1.835	–	–
54.00	2,126	790031258	1,200	790038426	1.827	–	–
55.00	2,165	799031228	0.910	–	–	–	–
57.00	2,244	790031230	0.895	790038457	1.780	790039265	4.000
60.00	2,362	–	–	790038469	1,780	–	–
60.30	2,374	790031227	0.850	790038427	1.700	–	–
60.45	2,380	–	–	790038428	1.726	–	–
60.50	2,382	–	–	790038429	1.695	–	–
63.00	2,480	–	–	790038461	1,725	–	–
63.50	2,500	790031226	0.805	790038055	1.670	–	–
65.00	2,559	–	–	790038463	1,700	–	–
70.00	2,756	790031237	0.700	790038430	1.545	–	–
73.03	2,875	790031257	0.645	790038453	1.460	–	–
73.15	2,880	–	–	790038431	1.482	–	–
75.00	2,953	–	–	790038462	1,490	–	–
76.10	2,996	790031238	0.590	790038432	1.420	–	–
76.20	3,000	790031236	0.600	790038056	1.420	790039261	4.200
76.30	3,004	–	–	790038433	1.390	–	–
80.00	3,150	–	–	790038466	1,390	790039308	–
85.00	3,346	–	–	790038434	1,220	–	–
85.90	3,382	–	–	790038435	1.124	–	–
88.90	3,500	–	–	790038057	1,130	790039264	4,000

MACHINE TYPE		RPG 3.0 (BATTERY)		RPG 4.5		RPG 8.6	
PIPE OD		STAINLESS STEEL		STAINLESS STEEL		ALUMINUM	
[MM]	[INCH]	CODE	KG	CODE	KG	CODE	KG
89.10	3,508	–	–	790038436	1.100	–	–
90.00	3,543	–	–	790038467	1,150	–	–
101.60	4,000	–	–	790038058	0.800	790039252	3.80
104.00	4,094	–	–	790038437	0.740	790039309	2.500
108.00	4,252	–	–	790038458	0.620	790039266	3.750
114.30	4,500	–	–	790038059	0.435	790039256	3.500
127.05	5,002	–	–	–	–	790039262	3,420
133.00	5,236	–	–	–	–	790039267	2,980
139.70	5,500	–	–	–	–	790039259	3,100
141.30	5,563	–	–	–	–	790039257	2,900
152.40	6,000	–	–	–	–	790039253	2,700
159.00	6,260	–	–	–	–	790039268	2,500
168.30	6,625	–	–	–	–	790039254	2,300
193.70	7,626	–	–	–	–	790039269	3,500
197.00	7,756	–	–	–	–	790039263	1,530
203.20	8,000	–	–	–	–	790039258	1,350
219.10	8,625	–	–	–	–	790039255	0.600



Illustration: Tool holder WH

Tool holder WH for RPG 3.0 (battery), RPG 4.5 (S), RPG 8.6

Includes Torx fastening screw M4x10 (790 086 220).

Beveling with the RPG 4.5 S is not recommended.

AREA OF APPLICATION TOOL HOLDER	TYPE OF MACHINING		CHAMFER ANGLE [°]
	PLANNING	CHAMFER	
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

ITEM	CODE	KG
Tool holder WH12-I	790038320	0,025
Tool holder WH12-V-30°	790038329	0,034
Tool holder WH12-V-35°	790038282	0,054
Tool holder WH12-V-45°	790038280	0,044
Tool holder WH12-U-20°	790038326	0,031

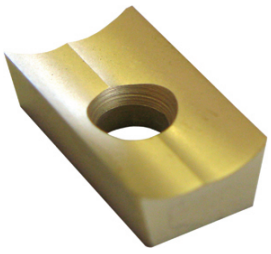


Illustration: Multifunctional tool MFW

Multifunctional tool MFW

With 2 cutting edges and process-specific tool wear protection coating.

Can be used for all machines in the RPG series.

ITEM	QUANTITY	CODE	KG
Multifunctional tool MFW-P-2	10	790038315	0,045
TORX M4x10 clamping screw	1	790086220	0,002