

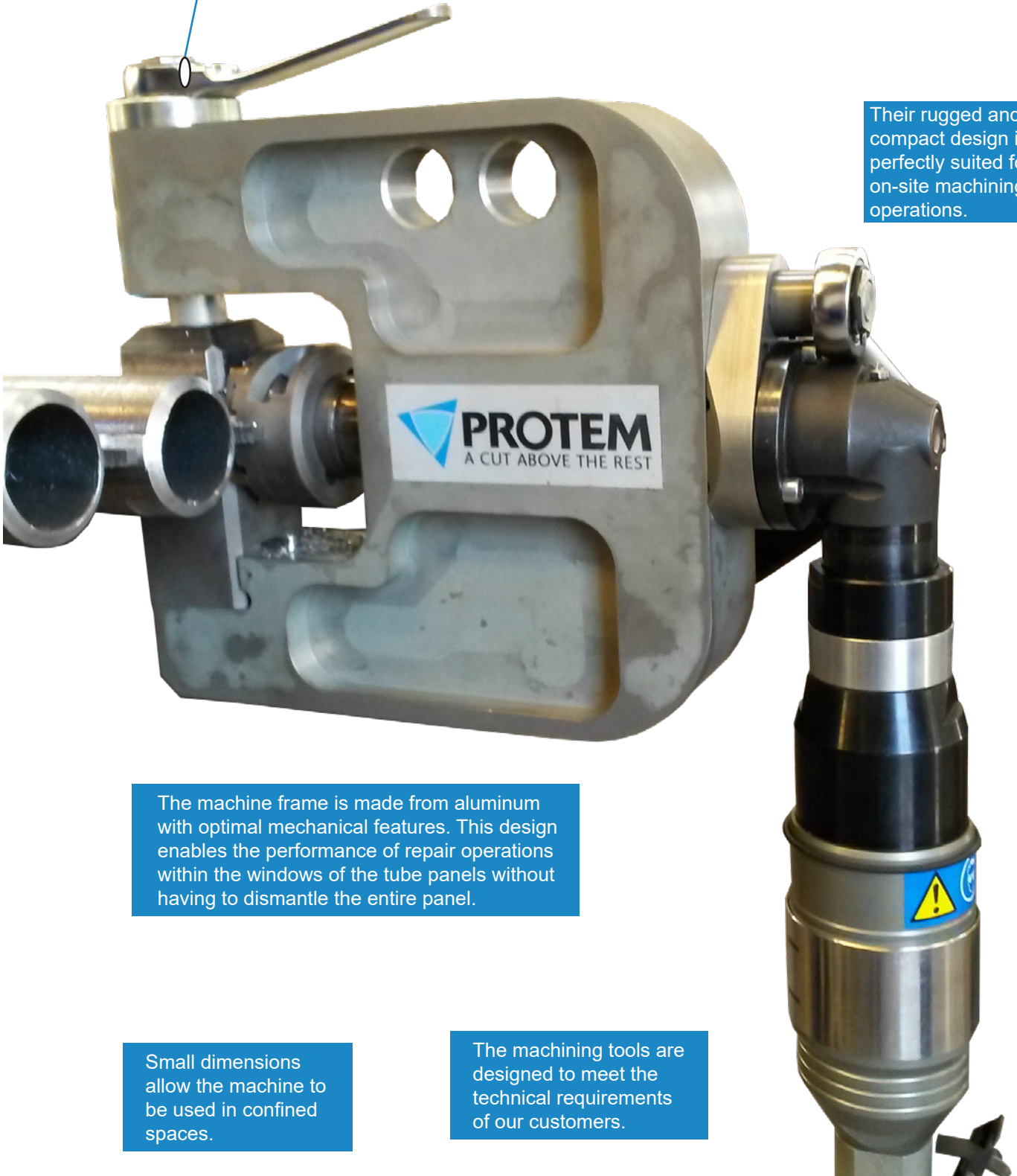
GR Series Portable Beveling and Waterwall Machine for boiler tubes

The clamping system consists of a fixed clamping jaw and a mobile clamping jaw. Both are activated manually with a ratchet.

The GR machines perform simultaneously, the welding preparation of the tubes and excavation of the membrane walls of the tube panels.

Their rugged and compact design is perfectly suited for on-site machining operations.

OD Mounted



The machine frame is made from aluminum with optimal mechanical features. This design enables the performance of repair operations within the windows of the tube panels without having to dismantle the entire panel.

Small dimensions allow the machine to be used in confined spaces.

The machining tools are designed to meet the technical requirements of our customers.

GR40NG Portable Beveling and Waterwall Machine for boiler tubes

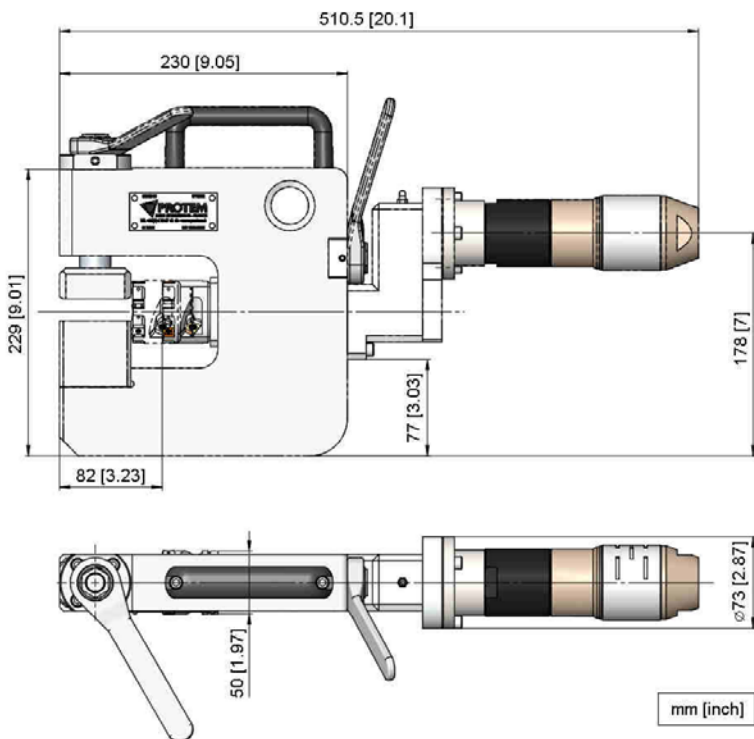
Standard Capacity: 21.3mm - 60.3mm (0.838" - 2.374")



The Protem GR Series are OD clamping machines specially designed for the simultaneous machining and beveling of membrane wall panels. The body is designed to fit in the gap of a membrane wall panel avoiding the disassembly of the whole panel. The machine is mainly made of aluminum for lightness and strength. That's why the GR machines are particularly adapted for onsite operations. The clamping system and the feed rate are operated by a ratchet. The Protem GR machines are equipped with a special milling cutter with carbide inserts for high quality machining of any type of material.

Beveling	Surfacing	Cut to length	Weld joint removal	Coating Removal	Squaring	Cutting
✓	✓	✓	✓	✓	✓	✗

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Advantages:

- Mobile
- Powerful Machining Equipment
- Easy and Safe use for the Operators
- No Heat Affected Zone
- High Accuracy
- Fast and easy mounting
- The tool-bits can be changed and adjusted very quickly
- Smooth and Burr-Free Surface Finish
- No vibration during the machining process
- Adapted for works in tight spaces

GR40NG Portable Beveling and Waterwall Machine for boiler tubes

Technical Features:

Specific shapes & angles	I, V, other on request
Clamping	Manual
Feed stroke	24 mm (0.945")
Cutting head gear drive	170 rpm. Approximate rotation speed according to air pressure and air flow
GR40NG pneumatic drive	1.47 kW, 6 bar (87 psi), 1400 l/min (49 cfm)
Electric drive	110V and 220V
<i>Pneumatically driven machines have to be used with a lubricating filter. Recommended option: regulation valve.</i>	

Order No.	Description
GR40NG-1000	Portable Beveling and Waterwall Cutting Machine for boiler tubes PROTEM GR40 for Ø 0.838" - 2.374" (21.3mm - 60.3mm) with pneumatic drive
GR40NG-1020	Portable Beveling and Waterwall Cutting Machine for boiler tubes PROTEM GR40 for Ø 0.838" - 2.374" (21.3mm - 60.3mm) with electric drive 220V
GR40NG-1040	Portable Beveling and Waterwall Cutting Machine for boiler tubes PROTEM GR40 for Ø 0.838" - 2.374" (21.3mm - 60.3mm) with electric drive 110V



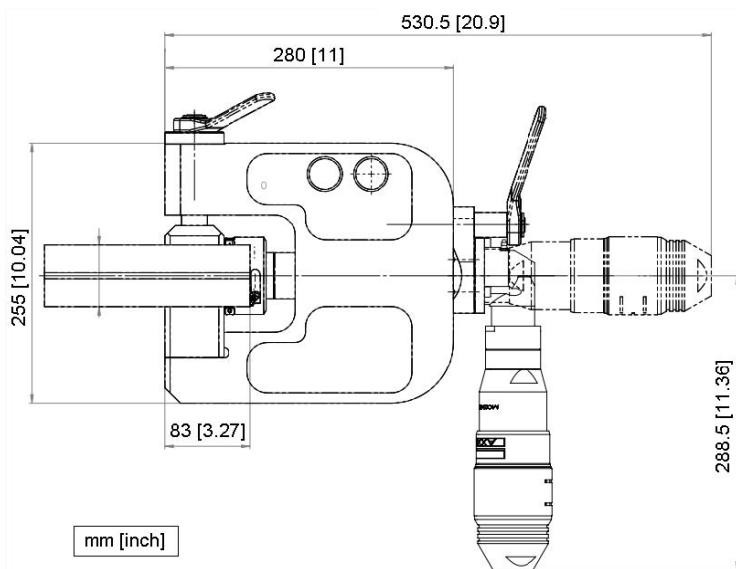
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GR76NG Portable Beveling and Waterwall Machine for boiler tubes

Standard Capacity: 38mm - 76mm (1.496" - 2.992")



Beveling	Surfacing	Cut to length	Weld joint removal	Coating Removal	Squaring	Cutting
✓	✓	✓	✓	✓	✓	✗

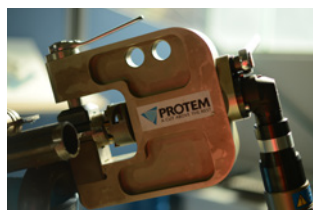
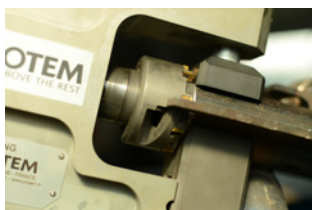


OD Mounted

Technical Features:

Specific shapes & angles	I, V, other on request
Clamping	Manual
Feed stroke	27 mm (1.06")
Cutting head gear drive	148 rpm. Approximate rotation speed according to air pressure and air flow
GR76NG pneumatic drive	1.47 kW, 6 bar (87 psi), 1800 l/min (63 cfm)
Electric drive	110V and 220V
Pneumatically driven machines have to be used with a lubricating filter. Recommended option: regulation valve.	

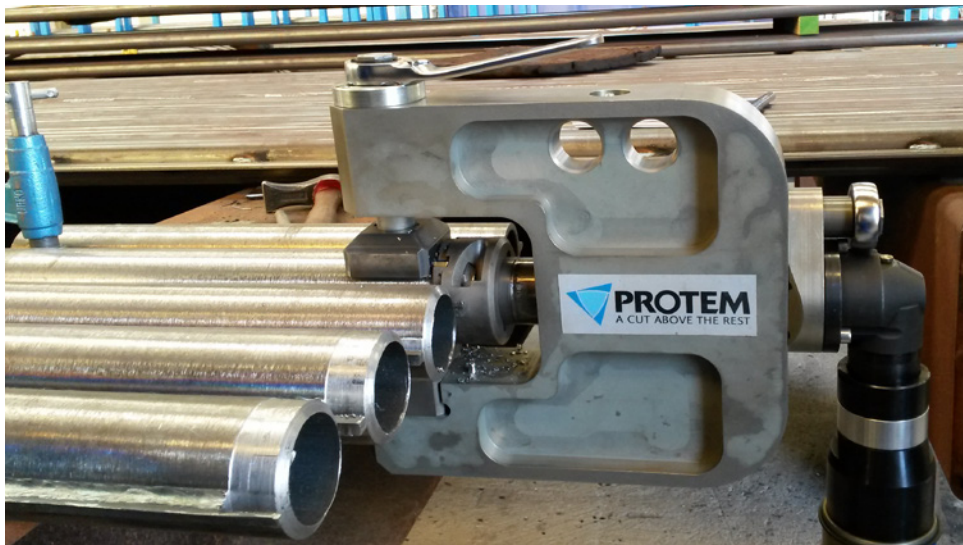
GR76NG On-Site or in Workshop:



Order No.	Description
GR76NG-1000	Portable Beveling and Waterwall Cutting Machine for boiler tubes PROTEM GR76 for Ø 1.496" - 2.992" (38mm - 76mm) with pneumatic drive
GR76NG-1020	Portable Beveling and Waterwall Cutting Machine for boiler tubes PROTEM GR76 for Ø 1.496" - 2.992" (38mm - 76mm) with electric drive 220V
GR76NG-1040	Portable Beveling and Waterwall Cutting Machine for boiler tubes PROTEM GR76 for Ø 1.496" - 2.992" (38mm - 76mm) with electric drive 220V

GR90NG Portable Beveling and Waterwall Machine for boiler tubes

Standard Capacity: 42.2mm - 89mm (1.661" - 3.503")



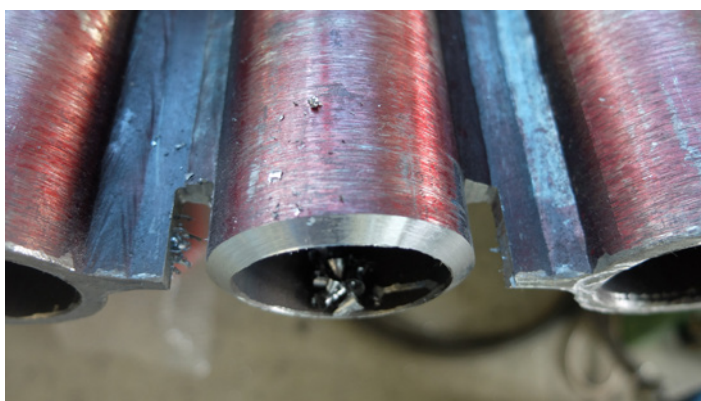
Beveling	Surfacing	Cut to length	Weld joint removal	Coating Removal	Squaring	Cutting
✓	✓	✓	✓	✓	✓	✗

Technical Features:

Specific shapes & angles	I, V, other on request
Clamping	Manual
Feed stroke	27 mm (1.06")
Cutting head gear drive	90 rpm. Approximate rotation speed according to air pressure and air flow
GR90NG pneumatic drive	1.47 kW, 6 bar (87 psi), 1800 l/min (63 cfm)
Electric drive	110V and 220V
<i>Pneumatically driven machines have to be used with a lubricating filter. Recommended option: regulation valve.</i>	

Order No.	Description
GR90NG-1000	Portable Beveling and Waterwall Cutting Machine for boiler tubes PROTEM GR90 for Ø 1.661" - 3.508" (42.2mm - 89mm) with pneumatic drive
GR90NG-1020	Portable Beveling and Waterwall Cutting Machine for boiler tubes PROTEM GR90 for Ø 1.661" - 3.508" (42.2mm - 89mm) with electric drive 220V
GR90NG-1040	Portable Beveling and Waterwall Cutting Machine for boiler tubes PROTEM GR90 for Ø 1.661" - 3.508" (42.2mm - 89mm) with electric drive 110V

OD Mounted



GR120NG Portable Beveling and Waterwall Machine for boiler tubes

Standard Capacity: 48.3mm - 114.3mm (1.901" - 4.5")



Beveling	Surfacing	Cut to length	Weld joint removal	Coating Removal	Squaring	Cutting
✓	✓	✓	✓	✓	✓	✗

Technical Features:

Specific shapes & angles	I, V, other on request
Clamping	Manual
Feed stroke	27 mm (1.06")
Cutting head gear drive	50 rpm. Approximate rotation speed according to air pressure and air flow
GR120NG pneumatic drive	1.47 kW, 6 bar (87 psi), 1800 l/min (63 cfm)
Electric drive	110V and 220V
<i>Pneumatically driven machines have to be used with a lubricating filter. Recommended option: regulation valve.</i>	

Order No.	Description
GR120NG-1000	Portable Beveling and Waterwall Cutting Machine for boiler tubes PROTEM GR120 for Ø 1.901" - 4.5" (48.3mm - 114.3mm) with pneumatic drive
GR120NG-1020	Portable Beveling and Waterwall Cutting Machine for boiler tubes PROTEM GR120 for Ø 1.901" - 4.5" (48.3mm - 114.3mm) with electric drive 220V
GR120NG-1040	Portable Beveling and Waterwall Cutting Machine for boiler tubes PROTEM GR120 for Ø 1.901" - 4.5" (48.3mm - 114.3mm) with electric drive 110V



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GR Series Portable Waterwall Machine for boiler tubes

Options

Order No.	Description
GR40NG-1500	Milling tool for GR40 - one for each diameter
GR40PP-45-11	Tool holder 45°
GR40PP-90-09	Tool holder 90°
GR40PPD-1316	Tool holder for inside machining operations
GR40NG-68	Tool holder plate
GR40NG-K01	Transport crate

Order No.	Description
GR76NG-1500	Milling tool for GR76 - one for each diameter
GR76PP-45-11	Tool holder 45°
GR76PP-90-09	Tool holder 90°
GR76PPD-1316	Tool holder for inside machining operations
GR76NG-68	Tool holder plate
GR76NG-K01	Transport crate

Order No.	Description
GR90NG-1500	Milling tool for GR90 - one for each diameter
GR90PP-45-11	Tool holder 45°
GR90PP-90-09	Tool holder 90°
GR90PPD-1316	Tool holder for inside machining operations
GR90NG-68	Tool holder plate
GR90NG-K01	Transport crate

Order No.	Description
GR120NG-1500	Milling tool for GR120 - one for each diameter
GR120PP-45-11	Tool holder 45°
GR120PP-90-09	Tool holder 90°
GR120PPD-1316	Tool holder for inside machining operations
GR120NG-68	Tool holder plate
GR120NG-K01	Transport crate

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GR Series Portable Waterwall Machine for boiler tubes

Tool-Bits

Order No.	Description
O-GR-P1-4-H-F	Beveling tool insert for GR machines
O-GR-P2-3.-H-T	Pointed tool insert for GR machines
O-GR-P3-3.-H-T	Flat tool insert for GR machines