

FOR OPTIMAL PERFORMANCE AND LONG SERVICE LIFE

Nozzle installation instructions

Root-Cutters

English version · October 2026

Models included

- Root-Cutter 1/2".
- Root-Cutter 1/4".



Root-Cutter 1/2"



Root-Cutter 1/4"

IMPORTANT These nozzles must only be used as part of a suitable high-pressure water cleaning system. Pressure, water flow, hose and connection components must match the calibration and the model being used.

Models included and scope

These instructions describe the installation, use, maintenance and storage of BRUNA Root-Cutter nozzles. They must be kept with the equipment and remain available to personnel carrying out pipe-cleaning work.

Models included

- Root-Cutter 1/2".
- Root-Cutter 1/4".

Manufacturing, sales and service

BRUNA · Roberto Bruña, S.L.

C/ Recta de Heras, 7

39619 San Salvador · Cantabria · España

www.robortobruna.com

Contents

1. Introduction
2. General description
3. Safety
4. Transport, cleaning and storage
5. Assembly, installation and first use
6. Operation
7. Maintenance
8. Troubleshooting
9. Disassembly and disposal
10. Technical data

1. Introduction

BRUNA designs and manufactures high-performance nozzles for pipe and sewer cleaning. This manual focuses exclusively on the Root-Cutter family, designed to cut and remove roots inside pipes by combining high-pressure water jets with replaceable cutting elements.

2. General description

Root-Cutter nozzles are connected to a high-pressure hose and combine water jets with cutting parts for work on roots, hardened residues and similar deposits. The 1/2" model is intended for larger pipe diameters, while the 1/4" model is used in smaller diameters and more restricted access areas.

3. Safety

- Fully depressurise the system before installing, removing, cleaning or maintaining the nozzle.
- Never direct high-pressure jets towards people, animals, electrical installations or unsuitable targets.
- Insert the nozzle into the pipe before applying pressure.
- Do not use a nozzle with damaged blades, threads, body or inserts.
- Wear eye protection, suitable gloves and non-slip safety footwear.
- Establish a safe working area and keep unauthorised persons away.

4. Transport, cleaning and storage

Transport the nozzles protected against impacts. After use, remove dirt and residue, dry the nozzle completely and store it in a holder or case that prevents impacts and keeps the jets clear. Do not store the nozzle for long periods with water retained inside.

5. Assembly, installation and first use

- Check that the model is suitable for the pipe diameter and available water flow.
- Verify thread compatibility between the nozzle, the adapter and the hose.
- Visually inspect blades, screws, jets and the overall condition of the body.
- Screw the nozzle on without forcing the connection and tighten it with the proper tool.
- Insert the nozzle into the pipe in a controlled manner before pressurising the system.
- Start work progressively and observe the nozzle behaviour from a safe position.

6. Operation

Apply pressure only when the nozzle is inside the pipe and in a safe position. Control forward and backward movement to avoid blockages, impacts and overload. If you notice reduced performance or abnormal behaviour, stop work, depressurise the system and inspect the nozzle.

7. Maintenance

- Regularly check blade condition and replace the blades if they are worn or damaged.
- Clean the jets and do not use tools that may deform the inserts.
- Check the tightness of screws and fastening parts after intensive work.
- Use only BRUNA spare parts or components approved for the specific model.

8. Troubleshooting

Symptom	Possible cause	Action
Poor cutting performance	Worn or damaged blades	Replace blades and inspect the assembly before continuing.
Irregular thrust	Jets partially blocked	Depressurise and clean the jets; check for damage.
Loss of performance	Insufficient water flow or incorrect calibration	Check water flow, pressure and equipment calibration.
Frequent blockages	Unsuitable pipe diameter or misuse	Confirm the recommended range and work with controlled feed.

9. Disassembly and disposal

Fully depressurise the system before removing the nozzle. Handle blades and sharp edges with care. At the end of the service life, separate components by material and dispose of lubricants, screws, blades and other waste in accordance with local regulations.

10. Technical data

Data taken from the BRUNA 2026 catalogue. Water flow values are shown as the published minimum reference flow for each model. Final calibration must match the customer equipment.

Model	Thread	Pipe	Jets	Water flow	Dimensions	Weight	Notes
Root-Cutter 1/2"	1/2" / 3/8"	90 - 200 mm	R: 6 × M4 · F: 3 × M4	from 41 l/min	35 × 70 mm	0.334 kg	Replaceable blades
Root-Cutter 1/4"	1/4" / 1/8"	50 - 160 mm	R: 6 × M4 · F: 3 × M4	from 41 l/min	28 × 54 mm	0.158 kg	Rotating cutting elements

IMPORTANT Replacement blade sets are available for the Root-Cutter 1/2".