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Nozzle installation instructions

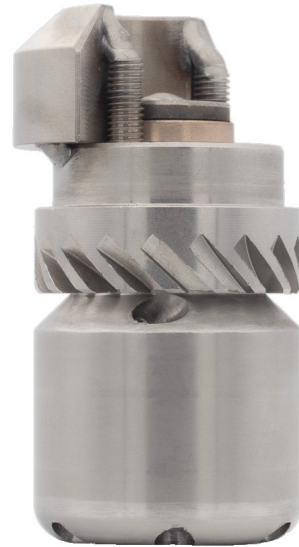
Tarantula · Vibrating Nozzles

Families included

- Tarantula: 1", 3/4", 80, 1/2", 1/2" EasyCare, 3/8" and 1/4".
- Vibrating: Light Vibrating 1/2" and Mini Vibrating 1/4".



TARANTULA



VIBRATING

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

BRUNA · Roberto Bruña, S.L.

Models included and scope

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

Models included

TARANTULA: Tarantula 1", Tarantula 3/4", Tarantula 80, Tarantula 1/2", Tarantula 1/2" EasyCare, Tarantula 3/8", Tarantula 1/4".

VIBRATING: Light Vibrating 1/2", Mini Vibrating 1/4".

Manufacturing, sales and service

BRUNA · Roberto Bruña, S.L.
C/ Recta de Heras, 7
39619 San Salvador · Cantabria · España
www.robertobruna.com

IMPORTANT The exact technical characteristics of each unit depend on its calibration. Do not replace inserts, jets, internal components with parts that are not approved for the model.

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Introduction

BRUNA designs and manufactures high-performance jetting nozzles for pipe and sewer cleaning. Nozzles are selected and calibrated according to available flow, pressure, pipe diameter and the type of work to be carried out.

This manual focuses on two families intended for demanding and specific cleaning work: slow-rotation Tarantula nozzles and vibrating nozzles.

IMPORTANT Read and understand these instructions before connecting the nozzle to a high-pressure hose. The instructions for the high-pressure water unit, reel, hose and safety accessories also remain applicable.

2. General description

The nozzles described are connected to a high-pressure hose and use water jets to travel through the pipe and perform the cleaning task. Their operation depends on the jet configuration and, depending on the family, a rotating, vibrating or cutting element.

- Tarantula: slow rotation for roots, limescale, soaps and hard deposits.
- Vibrating nozzles: generate vibration to help remove resistant deposits, particularly cement and limescale.

Safety

DANGER DANGER: high-pressure water can cause serious or fatal injury. Never test a nozzle at high pressure outside a pipe or controlled test enclosure.

3.1 Warnings and main hazards

- Fully depressurize the system before installing, removing, cleaning or servicing the nozzle.
- Never direct high-pressure jets towards people, animals, electrical equipment or objects not intended for the cleaning operation.
- Check that all jet outlets are clear before use. A partial blockage can alter the nozzle trajectory or thrust.
- Do not twist the hose during installation. Rotate the nozzle or use a compatible swivel where necessary.
- Insert the nozzle safely inside the pipe before applying high pressure.
- Use anti-return devices, guides and protective systems whenever required by the installation and the work.
- Adjust pressure and flow to the nozzle calibration and to the limits of the system and pipe.
- Do not use a nozzle with damaged body, threads, seals or rotating components.

3.2 Operator responsibility

The operator must assess site-specific risks, establish a safety zone, control access and ensure that personnel are trained to use high-pressure water cleaning equipment.

3.3 Personnel and personal protective equipment

- Suitable close-fitting work clothing.
- Eye and face protection against splashes and particles.
- Protective gloves suitable for the work.
- Slip-resistant safety footwear.
- Respiratory protection and other PPE when required by sewer conditions, residues or the working environment.

Functional description

Tarantula

Tarantula nozzles concentrate the flow into jets arranged on a slow-rotating head. This rotation allows sustained work on roots, limescale and hard deposits. Some models allow an optional front jet and certain models include solutions intended to reduce maintenance.

Vibrating nozzles

Vibrating nozzles generate a vibrating movement during operation. They are designed for demanding removal of resistant deposits such as cement and limescale within the recommended pipe-diameter ranges.

IMPORTANT Jet configuration, thread, minimum flow and working diameter vary by model. Always consult the technical table in section 11.

Transport, cleaning and storage

- Transport nozzles so they cannot move, strike other objects or fall while the vehicle or equipment is moving.
- After use, carefully remove dirt and contamination adhering to the nozzle.
- Dry the nozzle before storage.
- Protect surfaces and internal components in accordance with the maintenance requirements of the model.
- Store nozzles in holders, trays or cases that prevent impacts and keep jet openings clear.
- Avoid prolonged storage with water trapped inside the nozzle.

On Tarantula models with a lubrication system or additional reservoir, check the lubricant condition in accordance with the maintenance requirements of the model before long-term storage.

Assembly, installation and initial use

6.1 Checks before installation

- Verify that the model is suitable for the pipe diameter and available flow.
- Check thread compatibility between nozzle, adaptor and hose.
- Visually inspect the thread, body, jets, blades and moving parts.
- Make sure all jets are clear. Remove any obstruction with suitable tools without deforming the inserts.
- Confirm that the system is depressurized before handling the connection.

6.2 Connecting to the hose

1. Place the nozzle and hose on a stable surface away from the edge of the manhole or access opening.
2. Thread the nozzle or corresponding adaptor without forcing the thread.
3. Avoid rotating the hose to tighten the connection. If required by the assembly, use a compatible swivel.
4. Secure the connection using the appropriate tool without applying forces that could damage the thread or body.
5. Install guides, skids or anti-return devices when required for the pipe diameter or task.
6. Insert the nozzle into the pipe in a controlled manner before pressurizing.

6.3 Initial use

No specific run-in period is required. A new nozzle may be used after checking installation, system compatibility and calibration. Start the work progressively and observe the behaviour from a safe position.

Operation

- Keep unauthorized persons outside the work area.
- Apply pressure only when the nozzle is inside the pipe and in a safe position.
- Increase pressure in a controlled manner up to the working value established for the calibration.
- Control forward and reverse speed to avoid impacts against pipe walls, changes in section or fittings.
- Do not attempt to free a blocked nozzle by sudden increases in pressure.
- During withdrawal, continuously monitor nozzle position to prevent it from leaving the pipe while the system is pressurized.
- Before fully removing the nozzle, shut off the water and release residual pressure.

Guidance by family

Family	Main use	Control during operation
Tarantula	Roots, limescale, soaps and hard deposits	Avoid impacts to the rotating head and work with controlled travel.
Vibrating	Cement, limescale and resistant deposits	Control vibration and avoid repeated impacts on fragile pipe elements.

Maintenance

IMPORTANT Carry out any work only with the system fully stopped, isolated and depressurized.

- Inspect the nozzle after each use.
- Replace damaged or blocked inserts/jets that cannot be cleaned correctly.
- Check seals, shaft seals, bearings and internal parts on rotating models.
- Maintain the Tarantula lubrication system using the corresponding maintenance kit.
- On the Tarantula 1/2" EasyCare, check the additional oil reservoir and keep it in suitable condition.
- Use BRUNA spare parts or parts expressly approved for the model.

After maintenance

- Verify that all removed parts have been correctly reassembled.
- Check the tightness of threaded parts.
- Remove tools and materials from the work area.
- Check free movement of moving parts without applying high pressure.
- Carry out the next start-up in a controlled manner.

Faults and troubleshooting

Symptom	Possible cause	Action
Irregular thrust or unstable trajectory	One or more jets partially blocked	Depressurize, remove and clean the jets; inspect for damage.
Loss of performance	Insufficient flow, wear or incorrect configuration	Check flow, calibration and condition of inserts/cutting elements.
Tarantula does not rotate correctly	Dirt, internal wear or insufficient lubrication	Do not force it. Clean and inspect; check the maintenance kit.
Vibrating nozzle loses effectiveness	Blockage, wear or insufficient flow	Check jets, flow and overall condition.
Leak at the connection	Incorrect/damaged thread, seal or adaptor	Depressurize and replace the defective component.

IMPORTANT Never carry out functional tests with a high-pressure line connected and the nozzle outside a pipe or a test installation designed for this purpose.

Disassembly and disposal

- Depressurize and completely disconnect the nozzle before disassembly.
- Handle sharp edges and wear components carefully.
- Separate components by material when the nozzle reaches the end of its service life.
- Dispose of oils, greases, adhesives and other maintenance products in accordance with local environmental regulations.
- Do not discharge lubricants or contaminating residues onto the ground or into the sewer system.

Metal parts may be recycled where their condition and local regulations allow. Contaminated components must be handled in accordance with requirements applicable at the place of use.

Technical data

Model	Thread	Pipe	Jets	Flow	Dimensions	Weight	Notes
Tarantula 1"	(1"-1/4") / 1" / 3/4"	8" - 36"	R: 2×M10 (25°) · F: 1×M10 (15°)	from 53 gpm	4.7" × 8.6"	9.5 lbs	Optional front jet
Tarantula 3/4"	3/4"	8" - 16"	R: 2×M8 (25°) · F: 1×M8 (15°)	from 26 gpm	3.3" × 7.4"	4.8 lbs	Optional front jet
Tarantula 80	1/2" / 3/8"	6" - 12"	R: 2×M8 (25°) · F: 1×M8 (15°)	from 18 gpm	1.9" × 4.9"	2.2 lbs	Additional oil reservoir
Tarantula 1/2"	1/2" / 3/8"	4" - 10"	R: 2×M6 (25°) · F: 1×M4 (15°)	from 10 gpm	1.5" × 3.7"	1 lb	Optional front jet
Tarantula 1/2" EasyCare	1/2" / 3/8"	4" - 10"	R: 2×M6 (25°) · F: 1×M4 (15°)	from 10 gpm	1.5" × 3.7"	1.1 lbs	Additional oil reserve
Tarantula 3/8"	3/8" / 1/4"	3" - 10"	R: 2×M4 (25°)	from 8 gpm	1.1" × 2.6"	0.4 lbs	Optional front jet

R = rear jets · F = front jet(s).

Technical data • continued

Model	Thread	Pipe	Jets	Flow	Dimensions	Weight	Notes
Tarantula 1/4"	1/4" / 1/8"	3" - 6"	R: 4×M4 (25°)	from 8 gpm	1.1" × 2.5"	0.4 lbs	-
Light Vibrating 1/2"	1/2" / 3/8"	3" - 8"	R: 6×M4 (10°) · F: 3×M4	from 10 gpm	1.4" × 2.7"	0.7 lbs	Vibration for resistant deposits
Mini Vibrating 1/4"	1/4" / 1/8"	2" - 6"	R: 6×M4 (10°) · F: 3×M4	from 8 gpm	1.1" × 2.1"	0.4 lbs	Vibration for resistant deposits

IMPORTANT If your equipment flow or pressure does not match the nozzle calibration, contact BRUNA before use. An unsuitable configuration may reduce performance and increase the risk of damage.

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