

Report

Municipal Technique



Water as a tool
for a clean environment

Cleaning processes play a major role in the maintenance of municipal systems. The objects to be cleaned include sewer channels, pipelines, wells, shafts, settling basins and civil engineering constructions.

Since more than 40 years, WOMA's high-pressure water jet technology is successfully used in these areas for the following applications:

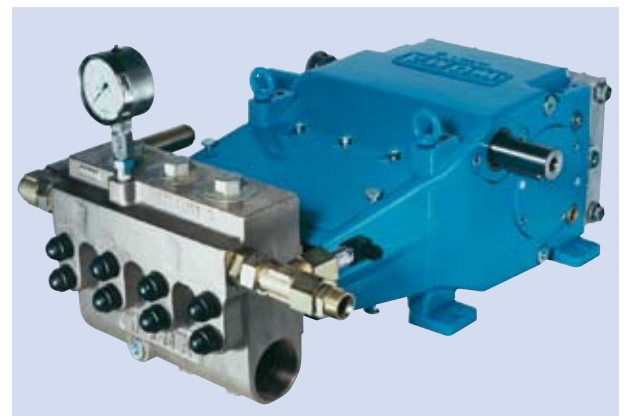
- ▶ Removal of incrustations and impurities from pipelines.
- ▶ Cleaning of sewers and collecting drains of different profiles and wall materials.
- ▶ Removal of drain skins from sewer walls.
- ▶ Removal of impurities and foulings in settling and aeration basins.
- ▶ Cleaning of drainage pipes in drinking water wells.
- ▶ Scouring of deep wells.
- ▶ Cleaning of sewer- and sludge troughs and sand catchers.
- ▶ Removal of impurities from drainage filter presses.
- ▶ Cleaning of garbage chutes.
- ▶ Cleaning of concrete, stone and brick surfaces.
- ▶ Surface preparation of steel and concrete structures.
- ▶ Cleaning, paint removal and roughening of traffic areas.

Why High-Pressure Water Jets?

- ▶ Very wide range of application in all areas of the municipal technique.



Pipe cleaning by an TubeMaster®-System and vertical traverse unit



Abrasive resistant high-pressure plunger pump type 250 ARP® for municipal applications

Internal hose diameter in mm (1 mm = 0,04 in)	ID 6	Small siphons and drains
	ID 10	Service connections and drains
	ID 12	Pipes with diameters up to 150 mm
	ID 20	Channels with diameters up to 300 mm
	ID 25	Channels with diameters larger than 300 mm

Approximate internal hose diameters for channel and pipe cleaning with WOMA's high-pressure waterjet technique



Road cleaning by high-pressure nozzle-beam and fan jets

WOMA Apparatebau GmbH

Werthausen Str. 77-79 · D-47226 Duisburg
P. O. Box 14 18 20 · D-47208 Duisburg
Phone +49(0)2065/304-0 · Fax +49(0)2065/304-200
Internet: www.woma.de
E-mail: info@woma.de

- ▶ Wide range of tools and accessories.
- ▶ High cleaning efficiency even in areas of difficult access.
- ▶ Possibility of mechanization of cleaning tools.
- ▶ Disburdening of operators from manual, dirty and insanitary jobs.
- ▶ Avoidance of any gas and slag.
- ▶ Avoidance of chemical or abrasive additives.
- ▶ Very sensitive and selective removal of coatings, impurities and deposits without damaging the wall materials.
- ▶ Possibility of combining cleaning and suction.
- ▶ Applications possible during active production.

The Material Range

Using high-pressure water jets, among others, the following materials can reliably be removed: Bacterial

cultures, coatings, deposits, filtrates, incrustations, organic foulings, oxide layers, paint systems, sludges.

The Technique

WOMA offers stationary and mobile high- and ultra-high pressure water jetting systems with operating pressures up to 3,000 bar and water flow rates up to 1,679 l/min, consisting of electric or combustion drive, high-pressure plunger pump, guiding and control devices, water tools, and high-pressure accessory. Also, for operating pressures up to 400 bar, abrasive resistant pumps (ARP®) are available for dealing with impurified water. Moreover, WOMA offers hot waterjetting systems with operating pressures up to 800 bar and mobile compact systems with operating pressures up to 1,000 bar. The special high-pressure program for municipal applications also includes the following components:

- ▶ Vertical high-pressure plunger pumps for the installation in municipal vehicles.
- ▶ High-pressure guns in modular design for cleaning, decoating and selective material removal.
- ▶ Whirl jet nozzles with several orifices for cleaning partially or completely blocked tubes.
- ▶ Pneumatically driven rotating pipe cleaning units.
- ▶ Self aligning oscillating nozzles for channel bottoms.
- ▶ Reaction force driven nozzle carriers.
- ▶ Flexible high-pressure hoses for channel and pipe cleaning.
- ▶ Round and fan shape nozzles.
- ▶ High-pressure valves for purified water.
- ▶ Vacuum suction devices for sludge removal.
- ▶ Reel systems for cleaning hoses.
- ▶ Lance ejection preventer for tube bundle cleaning.



Municipal vehicle for sewer cleaning and emission-free stripping of white lines



Reaction-force driven oscillating sewer cleaning Skip Jack



Cleaning of settling basins

Mobile hot waterjetting system Ecotherm® 800 for municipal cleaning

