



high pressure system
Powerful tube and sewer cleaning systems!

www.ehle-hd.com

*"Technology and quality
are our hallmark!"*



our powerhouse

tube and sewer cleaning systems for optimum results

This catalogue includes our products used for tube and sewer cleaning. We also offer a wide choice of tailored designs or special solutions. If you have questions relating to the application field, the correct choice of product for a task planned, or relating to special solutions – do not hesitate to contact our trained technical consultants with all your questions and challenges - phone: +49 (0) 34 292.65 420.



flushing system vans

- underground parking vans
- standard vans and special vans
- suction system trailer

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... the right van for all applications!

van modification

experience and innovation

Expertise is indispensable. We have manufactured special and TV inspection vans for sewer cleaning companies and communities alike for more than 20 years. We always deliver, no matter what geographical region or application is involved. Our products are firmly based on a perfect combination of expertise and innovation.

Each van is designed and manufactured according to the needs and applications of the client. Thanks to decades of expertise in van retrofits and modifications, and our passion for technology and deep understanding of your needs, we create unique systems to help you master your daily challenges.

We use different vans as a platform, combined with a wide choice of high-pressure flushing systems, power supplies or iPEK camera systems to configure the solution most suitable for you - it goes without saying, we deliver Ehle HP quality, tailored for optimum performance according to your requirements, and absolutely reliable.

Furthermore, we are your one stop shop for different installations at same van. Whatever you need - camera inspection, pressure testing, a flushing system or combined vans - we deliver sophisticated designs which match, which are efficient in use and which have the lowest weight possible.

Ehle-HD van options:

- ① *TV inspection trucks*
- ② *pressure testing vans*
- ③ *flushing system vans*
- ④ *combined vans*
- ⑤ *special vans*



water tank

1

Water tank made of plastics / PE or stainless steel with capacities between 1,000 and 2,000 litres.

storage boxes

2

In our DrainJet RB van, we always install the powerful and compact HP flushing system on the starboard side of the rear room. This provides you with a large storage compartment for bulky equipment or the option to complement the van with a sewer camera inspection system.

3

high pressure flushing system and pump drive

HP system with auxiliary drive and output of 100 litres / 200 bar. HP reel including 120 m 1/2" HP hose and cross lead spindle.

5

workshop retrofits

We offer simple shelf systems, drawers for spirals and equipment, workbenches and tool cabinets. Tailored and sophisticated in every detail. Everything optimized for a long service life.

4

operator panel

- HP system control unit with all controls
- Emergency button
- Hourmeter
- Cable and radio remote control



DrainJet RB standard van

Our DrainJet RB van is an extremely versatile all-purpose tool for building drainage cleaning. The compact, starboard design allows a retrofit as a flushing-only van, TV inspection and flushing system van, or sealness tester van.

Our DrainJet RB van comes with various pump flow rates and drives. Whether you want a Mercedes Sprinter, a box body van or another platform - everything is feasible!

We offer vans which are underground parking capable, with separate or with auxiliary drives, flushing system vans with a box or shell body for a max. weight of 7.5 metric tons, but also Sprinter trailers of 7 tons.

Our ideas and production capabilities are the sound basis of our high quality. With the clients' experience and needs in mind, we design and develop solutions with real value in real use perfectly adapted to your requirements and of absolute reliability.



Rear room with combined equipment - TV inspection system

combined vans

Go once to your destination and take everything with you. We consider these needs of many clients and offer a wide choice of equipment options. It will not be a challenge for us to complement flushing system vans with TV inspection systems (pushed or carrier systems), manhole inspection or sealness testing systems. We manufacture our own testing systems and deliver all accessories required.

Our strong partners, e.g. the TV inspection system manufacturer iPEK, and our decades of expertise enable us fulfil all requirements. Reliability and trust in consultation and service are the pillars of our success.



Tool room with drawer for spiral equipment

van equipment

All retrofitted vans are equipped with a highly durable flooring made of a sprayed or cast compound. Here, elasticity and wear resistance are of special value.

Walls, the ceiling and doors are insulated and panelled with checkered aluminum sheets to protect the van body against condensation and humidity. Additional shelves and accessories are possible in all variants, as per your choice.



technical data - DrainJet RB van		
high pressure output	85 litres / 160 bar	100 litres / 200 bar
application	ND 100 - ND 250	ND 100 - ND 250
drive options	Auxiliary drive or separate motor	
suitable van platforms	MB Sprinter, VW Crafter or similar	
tank volume	1000 - 2000 litres plastics tank / 1000 - 1400 litres stainless steel tank	
tank material	Plastics / PE or stainless steel	
high pressure pump	Speck or Pratissoli model	
hose reel	1 x 120 m HP reel 1/2" (optional) 1 x 40 m water filling hose reel 3/4"	
operator panel	Waterproof version with gas regulator, pressure regulator, hose reel control unit and displays	
additional equipment	Internal panelling, built-in cabinets, additional heating system, remote control, accessories and many more	



technical data - DrainJet RB van	
high pressure output	128 litres / 200 bar
application	ND 100 - ND 400
drive options	Auxiliary drive
suitable van platforms	MB Sprinter, VW Crafter or similar
tank volume	1000 - 2000 litres plastics tank / 1000 - 1400 litres stainless steel tank
tank material	Plastics / PE or stainless steel
high pressure pump	Speck or Pratissoli model
hose reel	1 x 120 m HP reel 3/4" (optional) 1 x 120 m HP reel 1/2" (optional) 1 x 40 m water filling hose reel 3/4"
operator panel	Waterproof version with gas regulator, pressure regulator, hose reel control unit and displays
additional equipment	Internal panelling, built-in cabinets, additional heating system, remote control, accessories and many more



flushing system

You may use the DrainJet RB to clean tubes with a maximum diameter of 400 mm. Nevertheless, it is a compact and lightweight construction, so additional equipment may be installed in the rear room of the van.

Whatever you need - be it pushed or carrier TV inspection systems, pressure testing equipment, refurbishment robots or a pillar crane to clean and maintain pump systems – you order it, we deliver it.



tools room retrofits

The tools room retrofit will be made according to your requirements. Please specify space, storage boxes or quality requirements. We deliver both simple shelves, but also drawers for spirals and equipment, a workbench, and tool cabinets.

With the refurbishment van retrofit we can also include a refurbishment robot and a TV operator seat, tailored and sophisticated in all details. Our installations are designed for a long service life.



Installation options:

- shelf systems
- storage room for spirals and equipment
- heavy-duty drawers
- tool cabinets
- workbench
- retrofit as a refurbishment van
- TV operator working desk installation

water tank

1

1,000 litres PE water tank with storage boxes on top.

iPEK TV inspection system

2

The DrainJet van is equipped with a high quality 300 m TV inspection system by iPEK – a satellite system included.

3

high pressure flushing system and pump drive

- DrainJet RB with auxiliary drive - hydraulic motor
- 100 litres / 200 bar pump output
- hydraulically operated reel with 120 m 1/2" HP hose
- filling reel with 40 m hose
- cable and radio remote control

operator room

The strict segregation of the inspection work station and operator room made the former now a more comfortable office, whereas the rear room provides space for the HP unit, cable drums and accessories. The inspection room is now more ergonomic and separated by a special glass sliding door.

4

operator panel

- HP system control unit with all controls
- emergency button
- hourmeter
- cable and radio remote control

DrainJet RB special van

Would you like it bigger? No problem – our HP flushing systems can be combined with TV camera inspection systems and are the perfect platform for each application.

We offer the DrainJet High pressure flushing vans with closed shell body in two versions: either with a design open to the driver's cabin or with a partition wall to the driver's cabin and access door at the side.

These closed shell body vans are the real professional's for industry, communities and commercial sewer cleaners. The versatile platforms offer a wide choice of retrofit options and many, many fields of application. This model has special attractions for sewer and tube cleaning and TV inspection of the sewer condition. In addition, it offers plenty of space for tools and accessories.

Do you need a platform with TV camera inspection system or a refurbishing unit? Do not hesitate to contact us. We will design and tailor your van platform retrofit in close cooperation with you - we will provide you with a useful and economical design.



» Operator room, office and dashboard with Rovion DCX5000 operating panel and PC «

Installation options:

- flushing and TV inspection systems
- flushing, TV, and refurbishment systems
- flushing, TV, and shortliner installation options
- workshop van for communities, crane included
- and many more

Would you like a presentation or do you have any questions relating to our van offers? Do not hesitate to contact our consultants.





operator room inside the van

Our van installations feature high quality and versatile retrofit options. We paid particular attention to a low-entry height, quality material, and good insulation of our van bodies.

We offer two versions of van installations: a design open to the driver's cabin (see photo), and a closed design with a partition wall to the driver's cabin and a cinematic access door at the starboard side.

The strict segregation between the inspection working station and the operator room made the former now a more comfortable and ergonomic office, whereas the rear room provides space for the HP unit, cable drums and accessories.

Our design provides additional space for crew members or guests on the turnable passenger seat and the sitting bench. The bench may also accommodate the battery pack.

As for the open body design with access to the driver's cabin, we recommend the special glass sliding door to separate it from the operator's and rear rooms.

Operator room equipment

- Rotating passenger's seat for second operator
- Desk with box of drawers
- Control units and documentation hardware
- 3 monitors and a PC
- Bench for a passenger
- Shelves and cabinets
- LED illumination
- Power supply backed up with Li-ion battery



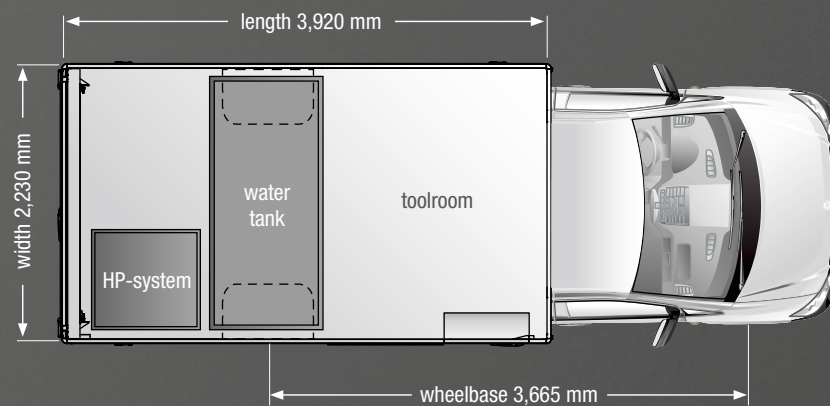
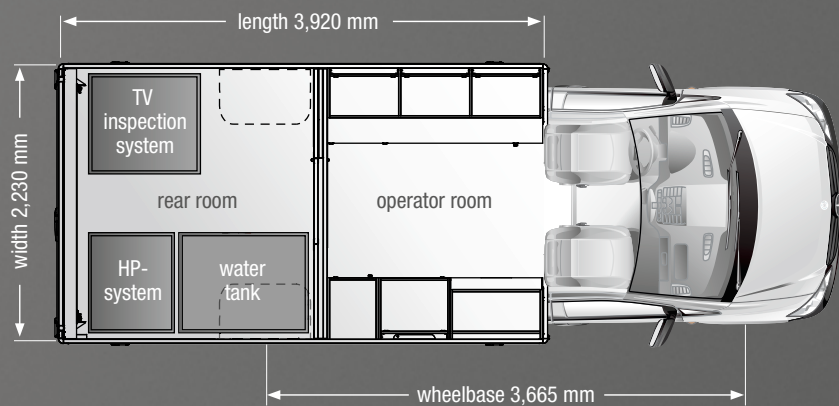
Design 1: Open design with access passage

- Shell body with open access to the operator's and equipment rooms from the driver's cabin



Design 2: Closed design with access from the side

- Closed van body with partition panel to the driver's cabin, with cinematic sliding door at the starboard side.



DrainJet MT van *auxiliary drive or separate motor*

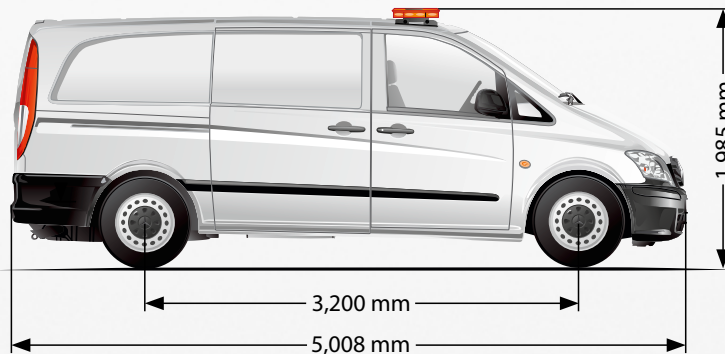
The small dimensions of the HP **DrainJet MT van** allow use in urban areas with restrictions in height, size and maneuverability.

Both with an auxiliary drive or separate motor, the **DrainJet MT 70/140** offers maximum performance with small dimensions and weight. The retrofit of the tools room is flexible. We design your storage boxes as required. Whatever you need - shelves, drawers for spiral equipment or tool cabinets - everything is possible.

Thanks to its low noise emissions, the **DrainJet MT 70/140** may even be used overnight, so it is the ideal choice for emergencies and underground parking areas.

Fields of application:

- For use in urban areas, underground parking areas, and as an emergency service van



technical data - DrainJet MT 70/140		
drive options	auxiliary drive	Separate drive
suitable van platforms	MB Vito	VW-Bus, Ford Transit, MB Vito or similar
high pressure output	70 litres / 140 bar	70 litres / 140 bar
application	ND 200	ND 200
tank volume	400 - 1000 litres	
tank material	Plastics / PE	
HP system	Safety, overflow and pressure-regulating valves, water filter	
hose reel	1x 80 m HP reel 1/2" and 1x 40 m water filling hose reel 3/4"	
operator panel	Waterproof version with gas regulator, pressure regulator, hose reel control unit and displays	
additional equipment	Internal panelling, built-in cabinets, additional heating system, remote control, Accessories and many more	



flushing system

The **DrainJet MT** van includes a central high-pressure flushing system with a 1/2" HP reel (80 m hose) and a 3/4" water supply reel (40 m hose).

The diesel engine is located below the HP system. If additionally equipped with an auxiliary drive (MB-Vito platform only), a higher water supply and extra space will be available.



tools room retrofits

The tools room retrofit will meet all your requirements in terms of space, storage boxes and quality.

We can install both simple shelves and drawers for spirals, equipment and tool cabinets - the design is tailored and sophisticated in every detail.



Equipment options:

- shelf systems
- storage room for spirals and spiral equipment
- tool cabinets
- storage options for small items

InRoKa Mini 40-100 small HP flushing system

Small flushing system for quick application **InRoKa Mini 40-100**. An EHLE proprietary system, suitable for any small van.

This small HP flushing system is installed at the rear side, next to the sliding door, or in a trailer. It is an indispensable aid for the technical maintenance of buildings: useful to clear clogged tubes, to clean building tie-ins or separation systems, to prepare a TV inspection or for sealness tests.

The retrofit with the TV thrust inspection system **AGILIOS™** made by **iPEK-Spezial-TV** and the measuring and testing equipment made by Ehle HD complement this system perfectly.

Fields of application:

- quick solution to clear clogged tubes
- preparation of a TV inspection of small tubes and building tie-ins.
- pre-cleaning of small tubes and building tie-ins for a subsequent sealness test
- cleaning of pump manholes and separation systems



technical data - InRoKa Mini 40-100

engine / motor	11 HP, manual start, air cooled petrol engine and timing belt drive
suitable van platforms	Fiat Doblo, Citroën Berlingo, MB Citan / Vito or similar model
application	ND 125
high pressure output	40 litres / 100 bar
pump	3 cylinder piston pump
tank volume	240 litres
tank material	Plastics (HxBxT) 1,000 x 600 x 400 mm
hose reel	Hand reel, extendable, 60 m HP hose ND 10, 3/8" male thread
special features	Drive frame for HP unit
dimensions (HxBxT)	735 x 535 x 1,060 mm
accessories	including standard pipe cleaning nozzle



Tandem suction trailer *model 1200 / 1500 / 2000 litres*

The **tandem suction trailers** are designed for quick and flexible use. They are a favourite because of their proven design combined with rugged and compact components and easy operation.

They are used to clean manholes, pits, basins, tanks, channels and gullies. Because of their compact dimensions, they are suited for use under confined conditions.

The suction trailers need less maintenance and allow a more economical use. We particularly recommend them for service providers, civil engineering companies, waste management companies, spill control departments, communities and technical service providers.

The rear side and top tank covers open quickly and easily to allow easy cleaning of the tank interior.

You need to switch over to overpressure in order to pump down the tank fluid. This makes the entire system resilient to foreign matter, since the pump unit has no contact with the medium itself.

technical data - Tandem suction trailer			
item No	3 000 810	3 000 811	3 000 812
versions	SA 1200	SA 1500	SA 2000
tank volume	1,200 litres	1,500 litres	2,000 litres
water suction rate	1,000 lpm	1,000 lpm	1,000 lpm
drive / output	11.7 kW petrol engine	11.7 kW petrol engine	11.7 kW petrol engine
vacuum	max. 9,000 mmWC / max. 0.5 bar	max. 9,000 mmWC / max. 0.5 bar	max. 9,000 mmWC / max. 0.5 bar
pressure head	5 meters	5 meters	5 meters
payload	1,380 kg	1,600 kg	2,300 kg
admissible total weight	2,300 kg	2,600 kg	3,500 kg
supported load	100 kg	100 kg	150 kg
dimensions (LxBxH)	3,800x1,700x1,900 mm	3,800x1,700x1,950 mm	4,000x1,700x2,000 mm

Additional equipment:

- collision protection bars on top, rear side and front
- lockable tool box
- separate 25 litres petrol tank for the Briggs & Stratton 16 HP engine
- (optional) 2x suction hoses NW75 (6 m)
- (optional) 1x suction lance ND 75 (2.6 m)
- (optional) 1x sludge scraper with support

Fields of application:

- for pumping down and management of sewage, sludge and other not nonflammable liquids



tube and sewer cleaning nozzles

... efficient and powerful!

tube and sewer cleaning nozzles

We have been developing and manufacturing equipment and accessories for sewer and tube cleaning for more than 20 years. We design our own nozzles and manufacture them using high quality material.

nozzle working principle

Each sewer cleaning nozzle is a compromise between forward traction and cleaning performance. The principle goes as follows: The flatter and smaller the angle is, the stronger is the forward traction. The higher and steeper the angle is, the better is the cleaning performance of the nozzle used.

ordering instructions



















To calculate the optimum size of the nozzle inserts, please specify the exact pump flow rate (in lpm), the operating pressure (bar) together with the length, diameter and material (rubber / plastics) of the HP hose used when you place your order.

Tried already?

It goes without saying that you may use our tube and sewer cleaning nozzles on a trial basis. Please contact our service hotline to discuss details:
Phone: +49 (0) 34 292.65 420

pictograms used

Symbols used in the nozzles specification

	round jet nozzles
	twister jet nozzles
	flat jet nozzles
	spinning nozzles
	tools and accessories
	use and contamination level [in %]
	connection thread [inch]
	applications [mm]
	water supply [min. flow rate in lpm at 100 bar]
	thrust nozzles
	attachment nozzles and/or front nozzles
	spinning nozzles
	thrust jet angle
	attachment nozzles and/or Front jet angle
	spinning nozzle jet angle
	length [mm]
	dimensions [in mm]
	weight [in kg]

An absolute need for all service vans!

The following recommendations include the basic equipment needed on every van fitted with a flushing system, plus possible enhancements with standard and special nozzles proven in field use.



Recommended equipment for 1/2" connection

Basic equipment and enhancements

BASIC EQUIPMENT

Specification / Name	Page
Profi-Egg-Shape nozzle	25
DUO tube nozzle	25
pick nozzle	26
hose guides - Banana <i>mini version</i>	62
return unit for manhole crest	62



Recommended equipment for 3/4" connection

Basic equipment and enhancements

BASIC EQUIPMENT

Specification / Name	Page
DUO tube nozzle	25
pick nozzle	26
Trio bomb nozzle T75	31
hose guides - Banana <i>short version</i>	62
return unit for manhole crest	62

AMENDMENTS

Specification / Name	Page
Twister pick nozzle	27
Mini Tandem nozzle	28
Grenade nozzle G50 (stainless steel)	29
hydraulic root cutter HWA 1-2	44
chain scraper with cutter	50
guide carriage for chain scraper	50
manhole cleaning lance	55
nozzle set for manhole cleaning lance	55
HP gun RL204 with lance	55

AMENDMENTS

Specification / Name	Page
Twister pick nozzle	27
Mini Tandem nozzle	28
hydraulic root cutter HWA 1-2	44
chain scraper with cutter	50
guide carriage for chain scraper	50
manhole cleaning lance (for 1/2" reel)	55
nozzle set for manhole cleaning lance	55
HP gun RL204 with lance	55



Recommended equipment for 1" connection

Basic equipment

BASIC EQUIPMENT

Specification / Name	Page
pick nozzle long version	26
Tandem nozzle 2-4 (ND 200 - ND 400)	28
Bomb nozzle B100	30
Trio bomb nozzle T75	31
Super-Bully clearing nozzle SB03	32
manhole cleaning lance (for ½" reel)	55
nozzle set for manhole cleaning lance	55
hose guides - Banana short version	62
return unit for manhole crest	62



Recommended equipment for 1 1/4" connection

Basic equipment

BASIC EQUIPMENT

Specification / Name	Page
standard-tube nozzle	24
pick nozzle, long version	26
Tandem nozzle 2-4 (DN200 - max. 500)	28
Trio bomb nozzle T125	31
Super-Bully clearing nozzle SB04	32
manhole cleaning lance (for ½" reel)	55
nozzle set for manhole cleaning lance	55
hose guides - Banana long version	62
return unit for manhole crest	62



If you have any questions...

... regarding proper use, the right choice or a trial operation of our tube and sewer cleaning nozzles, our consultants are available for you.

+49 (0) 34 292.65 420

You may contact us between 7 am and 5 pm, Monday to Friday. Or simply contact us by email to: service@ehle-hd.com – we will call you right back!

To calculate the optimum size of the nozzle inserts, we need your exact pump flow rate (lpm), the working pressure (bar), distance, diameter, and material (rubber / plastics) of the HD hose used.



© FFG Flensburger Fahrzeugbau Gesellschaft mbH



Do you have any
questions regarding
our cleaning nozzles?
Simply give us
a call.

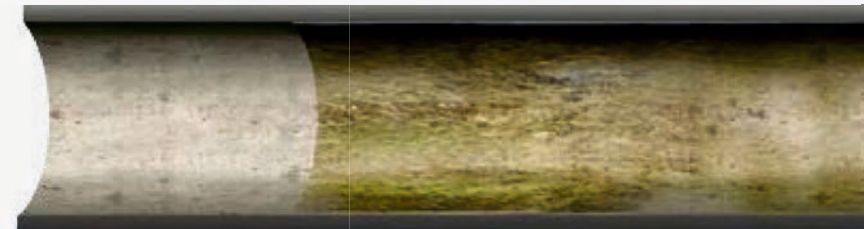
Contamination levels

Please use the following description as a guide to select the right nozzle combination.

The following nozzle configurations are possible, depending on the tube diameter, contamination level, hose diameter, pressure, and water supply. The size of the sewer cleaning nozzle is determined according to the tube diameter.

A major problem is the exact removal of roots in tubes. We offer a wide range of nozzles and tools for this purpose and which cut both small roots and thick trunk roots. We develop and manufacture our own units and tools of high quality material, including bend passage-capable spinning chain scrapers, hydraulic root cutters and tube weasels with optional spinning tools.

If you have questions or doubts about the specifications, do not hesitate to contact our consultants. Let us discuss the optimum solution for your requirements – Phone: +49 (0) 34 292.65 420.





KR tube nozzle 1+2"
Ø 60 - 200 mm

1 100 066 / Page 24



Grenade nozzle G50 - 1/2"
Ø 100 - 200 mm

1 100 220 / Page 29



Profi-Egg - 1/2"
Ø 100 - 200 mm

1 100 054 / Page 25



KR tube nozzle 3+4"
Ø 70 - 250 mm

1 100 068 / Page 24



Bomb nozzle B75 - 3/4"
Ø 150 - 300 mm

1 100 240 / Page 30



Bomb nozzle B100 - 1"
Ø 200 - 600 mm

1 100 241 / Page 30



DUO tube nozzle - 1/2"
Ø 70 - 250 mm

1 100 080 / Page 25



Traction nozzle, long - 1/2"
Ø 75 - 200 mm

1 100 052 / Page 25



Trio bomb nozzle T75- 3/4"
Ø 150 - 250 mm

1 100 260 / Page 31



Trio bomb nozzle T100 - 1"
Ø 200 - 600 mm

1 100 261 / Page 31



Super-Bully SB01 - 3/4"
Ø 250 - 400 mm

1 100 310 / Page 32



Super-Bully SB02 - 1"
Ø 250 - 600 mm

1 100 311 / Page 32



Trio bomb nozzle T75 - 3/4"
Ø 150 - 250 mm

1 100 260 / Page 31



Trio bomb nozzle T100 - 1"
Ø 200 - 600 mm

1 100 261 / Page 31



Trio bomb T125- 1 1/4"
Ø 300 - 800 mm

1 100 262 / Page 31



Super-Bully SB03 - 1"
Ø 300 - 600 mm

1 100 312 / Page 31



Super-Bully SB05 - 1 1/4"
Ø 400 - 1,200 mm

1 100 314 / Page 32



pick nozzle - 1" - 1 1/4"
Ø 300 - 700 mm

1 100 156 / Page 26



HRR spinning nozzle - 1/2"
Ø 60 - 150 mm

1 120 076 / Page 37



HRR spinning nozzle - 1"
Ø 100 - 300 mm

1 120 078 / Page 37



chain scraper - 1/2"
Ø 80 - 200 mm

1 120 201 / Page 50



hydraulic Root-Cutter HWA
Ø 100 - 250 mm

1 120 250 / Page 44



hydraulic Root-Cutter HWB
Ø 200 - 400 mm

1 120 300 / Page 46



Tube-Weasel 3/4" - 1"
Ø 150 - 400 mm

1 120 170 / Page 48



KRD spinning nozzle - 1/2"
Ø 60 - 150 mm

1 120 056 / Page 36



Mini-Tandem - 1/2"
Ø 80 - 200 mm

1 100 280 / Page 28



Tandem nozzle 2-4 - 1"
Ø 200 - 400 mm

1 100 283 / Page 28



Tandem nozzle 3-6 - 1"
Ø 300 - 600 mm

1 100 285 / Page 28



Multi-Power MPA
Ø 100 - 250 mm

1 120 110 / Page 41



Multi-Power MPD
Ø 200 - 600 mm

1 120 120 / Page 42



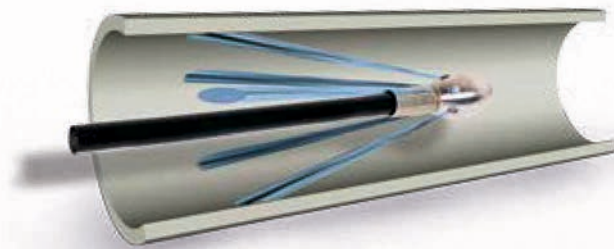


standard nozzles

ND 25 - 400 mm






Sewer and tube nozzles made of stainless steel feature long service life, excellent cleaning characteristics, and high traction. The special egg-shape is tailored to the sewer bottom and makes these nozzles the ideal tool to clean building tie-ins.

In addition, the optimum position of the jet angle ensures perfect cleaning and high traction of the nozzles. So they are the perfect choice even for low water supply. Applied properly, the nozzle centres automatically inside the tube to be cleaned.



Fields of application:

- HP cleaning of tubes and lines of ND 25 and above
- suitable in particular for small diameter tubes and for building tie-ins
- removal of deposits, contaminations, and uncomplicated clogging (use of front jet only)

									
	1 100 060	1 100 062	1 100 090	1 100 092	1 100 064	1 100 066	1 100 068	1 100 070	1 100 072
	KR tube nozzle	KR tube nozzle 4+1	Ball nozzle	Ball nozzle 4+1	KR tube nozzle 6+1	KR tube nozzle 6+1	KR tube nozzle 6+1	KR tube nozzle 8+1	KR tube nozzle 10+1
	1/4" female thread	1/4" female thread	1/4" female thread	1/4" female thread	3/8" female thread	1/2" female thread	3/4" female thread	1" female thread	1 1/4" female thread
	25 - 100 mm	25 - 100 mm	40 - 110 mm	40 - 110 mm	50 - 150 mm	60 - 200 mm	70 - 250 mm	150 - 300 mm	200 - 400 mm
	20 lpm	25 lpm	20 lpm	25 lpm	35 lpm	50 lpm	80 lpm	200 lpm	300 lpm
	4 x with bore	4 x with bore	4 x with bore	4 x with bore	6 x with bore	6 x M4	6x M6	8x M6	10x M6
	-	1 x with bore	-	1 x with bore	1 x with bore	1 x M4	1x M6	1x M6	1x M6
	25 ° thrust nozzle	25 ° thrust nozzle	25 ° thrust nozzle	25 ° thrust nozzle	25 ° thrust nozzle	25 ° thrust nozzle	25 ° thrust nozzle	25 ° thrust nozzle	25 ° thrust nozzle
	-	0° front nozzle	-	0° front nozzle	0° front nozzle	0° front nozzle	0° front nozzle	0° front nozzle	0° front nozzle
LxØ	22 x 18 mm	22 x 18 mm	25 x 25 mm	25 x 25 mm	35 x 25 mm	57 x 36 mm	70 x 47 mm	85 x 56 mm	86 x 65 mm
	0.02 kg	0.02 kg	0.06 kg	0.06 kg	0.07 kg	0.22 kg	0.45 kg	0.76 kg	1.20 kg

DUO tube nozzles ND 70 - 300 mm

The **DUO tube nozzles** have succeeded our **standard tube nozzles**. The new design with 2 nozzle jet circuits improves cleaning performance.

Fields of application:









- cleaning of tubes and lines of ND 70 and above
- improved traction and cleaning performance due to two different jet circuits
- suitable in particular for building tie-ins, long tubes, and long pressurized distances
- all DUO nozzles are available with front jet and a blind plug
- for removal of medium contaminations and uncomplicated clogging (use with front jet)



1 100 080

1 100 082

1 100 084

	DUO tube nozzle	DUO tube nozzle	DUO tube nozzle
	1/2" female thread	3/4" female thread	1" female thread
	70 - 250 mm	100 - 250 mm	150 - 300 mm
	60 lpm	120 lpm	200 lpm
	2 x 3 M6	2 x 3 M6	2 x 3 M6
	1x M6	1x M6	1x M6
	23°/18° thrust nozzle	25° /20° thrust nozzle	25° /20° thrust nozzle
	0° front nozzle	0° front nozzle	0° front nozzle
LxØ	57 x 45 mm	70 x 50 mm	85 x 56 mm
	0.35 kg	0.50 kg	0.72 kg

traction nozzles and Profi-Egg ND 60 - 200 mm

The **traction nozzles** and the **Profi-Egg-Shape nozzle** are tube cleaning nozzles recommended for every 1/2"-flushing system. Their features - good passage through tube bends, and high traction and flushing performance – make them especially suited for building tie-ins. All 1/2" tube nozzles are equipped with ceramic inserts.

Fields of application:









- especially suited for building tie-ins
- good passage through bends, high traction
- high flushing performance



1 100 050

1 100 052

1 100 054

	Traction nozzle <i>short version</i>	Traction nozzle <i>long version</i>	Profi-Egg-Shape nozzle
	1/2" female thread	1/2" female thread	1/2" female thread
	60 - 200 mm	75 - 200 mm	100 - 200 mm
	30 lpm	45 lpm	50 lpm
	6 x M4	6 x M4	5x M6
	1x M6	1x M6	1x M6
	20 ° thrust nozzle	20 ° thrust nozzle	25 ° thrust nozzle
	0° front nozzle	0° front nozzle	0° front nozzle
LxØ	39 x 40 mm	56 x 40 mm	60 x 56 mm
	0.23 kg	0.37 kg	0.70 kg

pick nozzles

ND 40 - 500 mm

The ideal nozzle against clogged tubes - smooth but powerful! Thanks to their front jet power, these nozzles clear even the most complicated clogging in tubes. The smooth oval shape allows an excellent bend passage and safe rescue of the nozzle, even under the most challenging conditions. The optimum distribution of the water supply between forward traction and 4-5 front jets is achieved by the **pick nozzle**, with excellent performance for clearing of clogged tubes and material removal.

i For use without a water reclaiming system, we recommend our **Twister pick nozzle**.

Fields of application:

- clearing of clogged tubes ND 40 - 500 mm
- washing out and cleaning of clogged tubes, sewers, and drainages
- for lines of medium length and medium pressurized distances
- suitable for vans with a water reclaiming system

								i
	1 100 151	1 100 152	1 100 153	1 100 154	1 100 155	1 100 156	1 100 157	The heavy duty versions of our pick nozzles remain on the sewer bottom and do not rise during operation.
	pick nozzle	pick nozzle	pick nozzle	pick nozzle	pick nozzle	pick nozzle <i>long version</i>	pick nozzle <i>long version</i>	
	3/8" female thread	1/2" female thread	3/4" female thread	1" female thread	1 1/4" female thread	1" female thread	1 1/4" female thread	
	40 - 150 mm	60 - 200 mm	100 - 250 mm	150 - 300 mm	200 - 400 mm	200 - 400 mm	200 - 500 mm	
	45 lpm	55 lpm	80 lpm	220 lpm	300 lpm	220 lpm	320 lpm	
	6 x with bore	6 x M4	6x M6	8x M6	10x M6	6 x M10	6 x M10	
	4 x M4	4 x M4	4x M6	4x M6	4x M6	5 x M10	5 x M10	
	Thrust nozzle 20° each	Thrust nozzle 20° each	Thrust nozzle 20° each	Thrust nozzle 20° each	Thrust nozzle 20° each	Thrust nozzle 23° each	Thrust nozzle 23° each	
	Front 25° / 0°	Front 25° / 0°	Front 25° / 0°	Front 25° / 0°	Front 25° / 0°	Front 25° / 0°	Front 25° / 0°	
LxØ	45 x 25 mm	57 x 36 mm	70 x 47 mm	85 x 56 mm	85 x 66 mm	180 x 75 mm	205 x 90 mm	
	0.08 kg	0.21 kg	0.44 kg	0.75 kg	1.05 kg	3.50 kg	6.10 kg	



Twister pick nozzles ND 60 - 500 mm

The twister nozzle removes all clogging with ease! The spinning front jet of this pick nozzle ensures optimum results when unblocking any tubes or removing small roots and deposits. The spinning Twister front jet of this nozzle multiplies the impact energy of the front jet of a standard pick nozzle. Compared with standard pick nozzles, this nozzle consumes only 20% of the water available at the front. This way, more water is available for forward traction, cleaning and flushing.

Fields of application:

- HP cleaning to clear clogged tubes of diameters ND 60 mm - ND 500 mm
- removal of solid deposits, minor incrustations, small roots, and grease
- excellent traction and cleaning performance, good bend passage
- replaces a HRV spinning nozzle
- **not suitable for use with a water reclaiming system**



1 100 180



1 100 181



1 100 183












1 100 185



1 100 187



The heavy duty versions of our Twister pick nozzles remain on the sewer bottom and do not rise during operation.

	Twister pick nozzle	Twister pick nozzle	Twister pick nozzle	Twister pick nozzle <i>long version</i>	Twister pick nozzle <i>long version</i>
	1/2" female thread	3/4" female thread	1" female thread	1" female thread	1 1/4" female thread
	60 - 200 mm	100 - 300 mm	100 - 300 mm	150 - 400 mm	200 - 500 mm
	40 lpm	80 lpm	180 lpm	220 lpm	340 lpm
	6 x M4	8x M6	8x M6	6 x M10	6 x M10
	Twister nozzle (13 lpm)	Twister nozzle (30 lpm)	Twister nozzle (50 lpm)	Twister nozzle (25 / 50 lpm) depending on the water available	Twister nozzle (50 lpm)
	18 ° thrust nozzle	20 ° thrust nozzle	20 ° thrust nozzle	23 ° thrust nozzle	23 ° thrust nozzle
	Front 20°	Front 20°	Front 20°	Front 20°	Front 20°
	63 x 39 mm	95 x 55 mm	95 x 55 mm	180 x 75 mm	205 x 90 mm
	0.34 kg	0.85 kg	0.85 kg	3.50 kg	6.00 kg



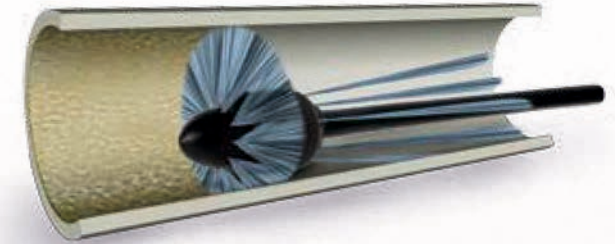
Tandem nozzles

ND 80 - 600 mm

These nozzles are ideal for streak-free cleaning when preparing for a TV inspection! The combination of round and flat jet nozzles ensures a streak-free cleaning of the tube wall in a single step. The new, staggered design of the nozzle body (1" and larger) allows a better spread of the flat jets for optimum cleaning of the sewer bottom.

Fields of application:

- for medium and slightly contaminated sewers of ND 80 to ND 600 with medium sewer and pressurization lengths
- for incrustations and grease deposits
- streak-free cleaning, especially in front of the sewer inspection camera system
- suitable for vans with a water reclaiming system



1 100 280

Mini Tandem



1 100 281

Mini Tandem



1 100 282

Tandem nozzle 1-3



1 100 283

Tandem nozzle 2-4



1 100 284

Tandem nozzle 2-4



1 100 285

Tandem nozzle 3-6



We deliver the tandem nozzles 3-6 completely with a skids set suitable for ND 300 - 600 mm. This centring results in an optimum distribution of the water supply on the tube wall.

1 100 286

Tandem nozzle 3-6

	1 100 280	1 100 281	1 100 282	1 100 283	1 100 284	1 100 285	1 100 286
	Mini Tandem	Mini Tandem	Tandem nozzle 1-3	Tandem nozzle 2-4	Tandem nozzle 2-4	Tandem nozzle 3-6	Tandem nozzle 3-6
	1/2" female thread	3/4" female thread	1" female thread	1" female thread	1 1/4" female thread	1" female thread	1 1/4" female thread
	80 - 200 mm	100 - 250 mm	100 - 300 mm	200 - 400 mm	200 - 400 mm	300 - 600 mm	300 - 600 mm
	70 lpm	120 lpm	220 lpm	240 lpm	280 lpm	280 lpm	320 lpm
	2 x 4 M6 (flat)	2 x 4 M6 (flat)	6 x M10	6 x M10	6 x M10	6 x M10	6 x M10
	-	-	6 x M10 (flat)	10 x M10 (flat)	10 x M10 (flat)	10 x M10 (flat)	10 x M10 (flat)
	23°/18° thrust nozzle	25°/20° thrust nozzle	Thrust nozzle 23° each	Thrust nozzle 12° each	Thrust nozzle 12° each	Thrust nozzle 12° each	Thrust nozzle 12° each
	-	-	Front 60° each	Front 60° each	Front 60° each	Front 60° each	Front 60° each
LxØ	57 x 45 mm	70 x 50 mm	150 x 75 mm	210 x 108 mm	210 x 108 mm	450 x 240 mm	450 x 240 mm
	0.36 kg	0.50 kg	2.30 kg	8.50 kg	8.50 kg	10.4 kg	10.4 kg

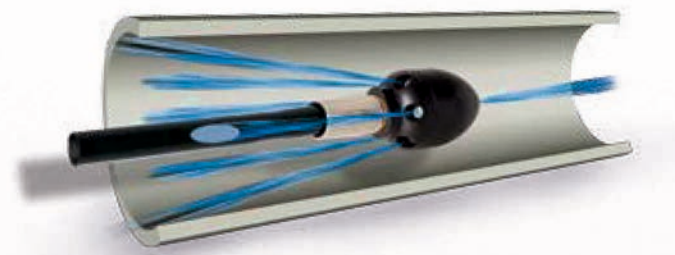
Grenade nozzles

ND 100 - 300 mm

A versatile cleaning nozzle for long distances! Grenade nozzles have excellent traction and cleaning performance and are extremely versatile. One benefit of this nozzle is its high traction force, in particular with long tubes or pressurized distances. Six thrust nozzles with flat jet angles ensure high traction and flushing performance with excellent cleaning, even for low water supply. The optional attachment jet nozzle insert removes small obstacles and light clogging.

Fields of application:

- HP cleaning of medium and slightly contaminated sewers of ND 100 to ND 300 mm maximum
- suitable for tubes and sewer lines with medium and large distances
- for regular maintenance
- suitable even for minor pump flow rate



1 100 220



1 100 221












1 100 221



1 100 222



The grenade nozzles are equipped with ceramics inserts, as are all our tube and sewer cleaning nozzles. We supply additional blind plugs to the front jet.

	Grenade nozzle G50	Grenade nozzle G75	Grenade nozzle G75	Grenade nozzle G100
	1/2" female thread	3/4" female thread	1" female thread	1" female thread
	100 - 200 mm	150 - 250 mm	150 - 250 mm	200 - 300 mm
	50 lpm	120 lpm	120 lpm	200 lpm
	6x M6	6 x M10	6 x M10	6 x M10
	1x M6	1 x M10	1 x M10	1 x M10
	22 ° thrust nozzle	22 ° thrust nozzle	22 ° thrust nozzle	22 ° thrust nozzle
	0° front nozzle	0° front nozzle	0° front nozzle	0° front nozzle
	80 x 50 mm	120 x 75 mm	120 x 75 mm	140 x 75 mm
	0.79 kg	1.90 kg	1.90 kg	3.10 kg



Bomb nozzles

ND 150 - 800 mm

The proven standard in tube and sewer cleaning services! Bomb nozzles are hardened, heavy-duty nozzles for sewer cleaning. They are effective in cleaning entire tube walls with large diameters and medium contamination. Two different jet angles ensure optimum traction with high cleaning performance.

The flat jet of the first jet circuit provides the forward traction and the required flushing performance. The steeper angle of the second jet circuit cleans the tube wall.

Fields of application:

- HP cleaning of medium and heavily contaminated sewers of ND 150 and above
- for regular maintenance
- for medium and long sewer distances



1 100 240

Bomb nozzle **B75**



1 100 240

Bomb nozzle **B75**



1 100 241

Bomb nozzle **B100**



1 100 242

Bomb nozzle **B125**



1 100 243

Longcast nozzle **B75 long version**



The B75 bomb nozzle (long version) is a longcast nozzle mainly used for gap bridging.

	3/4" female thread	1" female thread	1" female thread	1 1/4" female thread	1" female thread
	150 - 250 mm	150 - 300 mm	200 - 600 mm	300 - 800 mm	150 - 300 mm
	120 lpm	120 lpm	220 lpm	320 lpm	120 lpm
	2 x 4 M10	2 x 4 M10	2 x 5 M10	2 x 5 M10	2 x 4 M10
	Thrust nozzle 25° /12° each	Thrust nozzle 25° /12° each	Thrust nozzle 30° /12° each	Thrust nozzle 30° /12° each	Thrust nozzle 25° /12° each
	100 x 75 mm	100 x 75 mm	190 x 100 mm	230 x 110 mm	140 x 75 mm
	2.00 kg	2.00 kg	7.60 kg	12.00 kg	3.10 kg

Bomb Plus nozzle

ND 200 - 800 mm

For long sewer distances we recommend the Bomb Plus nozzle! The 2 flat jet angles of 8° and 12° allow large hose distances and, therefore, cleaning of long sewers.

Fields of application:







- cleaning of slightly and medium contaminated sewers of ND 200 and above
- especially suited for very long sewers, e.g. in landfills or under motorways.
- for regular maintenance operations



1 100 250



1 100 251

	Bomb Plus nozzle B200	Bomb Plus nozzle B300
	1" female thread	1 1/4" female thread
	200 - 600 mm	300 - 800 mm
	220 lpm	300 lpm
	2 x 5 x M10	2 x 5 x M10
	10° / 15°	10° / 15°
LxØ	190 x 100 mm	240 x 110 mm
	7.60 kg	12.0 kg

Trio bomb nozzle

ND 150 - 800 mm

Heavy contamination is no problem for the Trio Bomb nozzles! The Trio bomb nozzle is a special bomb nozzle with 3 jet circuits for better cleaning performance and higher traction compared to the bomb nozzles with 2 jet circuits only.

Fields of application:

- cleaning of medium and heavily contaminated sewers of ND 150 and above



1 100 260









1 100 260



1 100 261



1 100 262

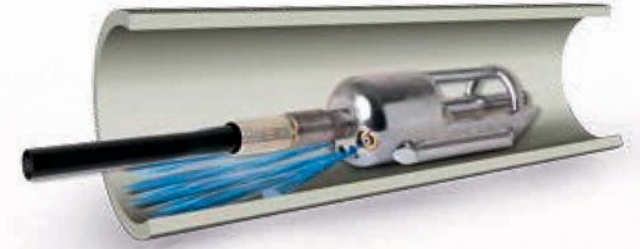
	Trio bomb nozzle T75	Trio bomb nozzle T75	Trio bomb nozzle T100	Trio bomb nozzle T125
	3/4" female thread	1" female thread	1" female thread	1 1/4" female thread
	150 - 250 mm	150 - 250 mm	200 - 600 mm	300 - 800 mm
	120 lpm	120 lpm	240 lpm	< 360 lpm
	3 x 4 M6	3 x 4 M6	3 x 4 M10	3 x 5 M10
	21° / 14° / 7°	21° / 14° / 7°	21° / 14° / 7°	25° / 15° / 5°
LxØ	100 x 75 mm	100 x 75 mm	190 x 100 mm	240 x 110 mm
	2.00 kg	1.90 kg	7.30 kg	11.3 kg

Super-Bully clearing nozzles **ND 250 and above**

Defines standards – for extremely heavy contamination! The latest nozzle technology and findings from the field were applied when developing our heavy-clearing nozzles. The entire water jet energy produced concentrates on the sewer bottom to be cleaned. This results in a maximum efficiency combined with excellent traction and cleaning. The low point of gravity, the skid guide and an edgeless design prevent a turn-over and ensure the unlimited sliding properties of the clearing nozzle, both in forward and backward movement.

Fields of application:

- for removal of heavy deposits, e.g. debris or sludge, in sewers of ND 250 and above
- larger sewer and tube lengths possible
- suitable for vans with a water reclaiming system


1 100 310
1 100 311

1 100 312
1 100 313

1 100 314


We supply heavy Super-Bully clearing nozzles including rotating joints and ceramics nozzle inserts.

	Super-Bully nozzle SB01		Super-Bully nozzle SB03		Super-Bully nozzle SB05
	Super-Bully nozzle SB01	Super-Bully nozzle SB02	Super-Bully nozzle SB03	Super-Bully nozzle SB04	Super-Bully nozzle SB05
	3/4" female thread	1" female thread	1" female thread	1 1/4" female thread	1 1/4" female thread
	250 mm and above	250 mm and above	300 mm and above	300 mm and above	400 mm and above
	180 lpm	220 lpm	250 lpm	320 lpm	350 lpm
	5 x M10	5 x M10	7 x M10	7 x M10	7 x M10
	1 x M10	1 x M10	1 x M10	1 x M10	1 x M10
	3x 15° / 2x 26°	3x 15° / 2x 26°	5x 15° / 2x 26°	5x 15° / 2x 26°	1x 5° / 4x 15° / 2x 26°
	-	-	-	-	-
LxØ	340 x 105 mm	340 x 105 mm	350 x 125 mm	350 x 125 mm	400 x 150 mm
	12.0 kg	12.0 kg	20.1 kg	20.1 kg	31.5 kg

All dimensions without rotating joint

Twister-Bully clearing nozzles ND 250 and above

This power pocket is used against heavy and difficult-to-remove sediments! The **Twister bully clearing nozzle** removes both heavy deposits and incrustations on the sewer bottom. Similar to the **Super bully nozzle**, the entire water energy concentrates on the sewer bottom to be cleaned. This results in a maximum efficiency combined with excellent traction and cleaning. Combined with our Twister inserts, the water may affect a larger area, which considerably improves the cleaning performance.

Fields of application:

- for removal of heavy deposits, e.g. debris or sludge, in sewers of ND 250 and above
- removal of minor incrustations at the rims of the sewer bottom
- removal of completely clogged medium or large sewer profiles
- **not suitable for use with a water reclaiming system**



1 100 320

Twister-Bully nozzle **TB02**



1 100 321

Twister-Bully nozzle **TB03**



1 100 322

Twister-Bully nozzle **TB05**



We supply heavy Super bully clearing nozzles including rotating joints and ceramics nozzle inserts.

	1" female thread
	250 mm and above
	250 lpm
	3 x M10 round jet nozzle
	2 x M22 Twister nozzle
	1 x M22 Twister nozzle
	3x 15° / 2x 26° Twister nozzle
	Front twister 20°
	LxØ 320 x 110 mm
	12.0 kg

	1" female thread
	300 mm and above
	300 lpm
	5 x M10 round jet nozzle
	2 x M22 Twister nozzle
	1 x M22 Twister nozzle
	5x 15° / 2x 26° Twister nozzle
	Front twister 20°
	420 x 125 mm
	20.1 kg

	1 1/4" female thread
	400 mm and above
	360 lpm
	5 x M10 round jet nozzle
	2 x M22 Twister nozzle
	1 x M22 Twister nozzle
	1x 5° / 4x 15° / 2x 26° Twister nozzle
	Front twister 20°
	500 x 150 mm
	31.5 kg

All dimensions without rotating joint



Joker clearing nozzle

ND 400 - 1,000 mm

The combination of skid guides and very flat jet angle results in a high acceleration of the water inside the sewer, which mobilizes non-incrustated deposits and flushes them to the manhole.

Fields of application:

- Especially suited to clear sewers with high water level from sand and debris
- Used in sewers of ND 400 and above
- Larger sewer lengths possible



1 100 295

Joker nozzle *assembly with basket*



1" female thread



400 - 1,000 mm



200 lpm



6 x M10



-



7 ° thrust nozzle



LxØ 400 x 250 mm



8.30 kg



1 100 296

Joker nozzle *assembly with basket*

1 1/4" female thread

400 - 1,000 mm

320 lpm

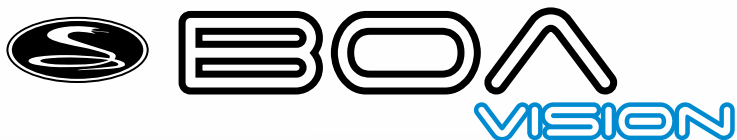
6 x M10

-

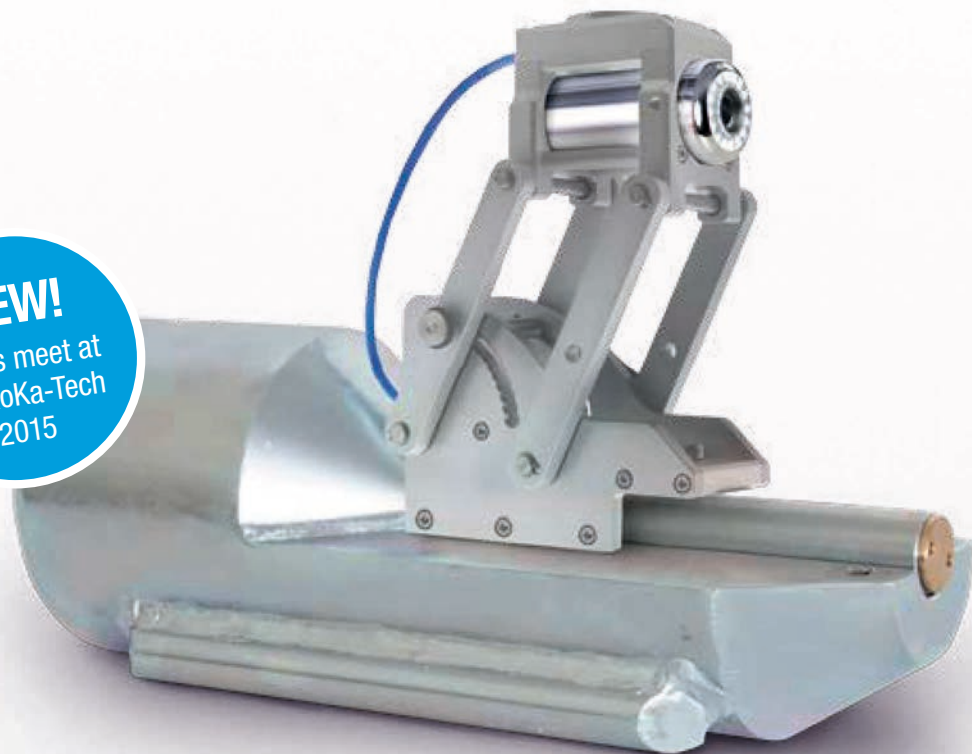
7 ° thrust nozzle

400 x 250 mm

8.20 kg



NEW!
Let us meet at
the RoKa-Tech
2015



camera lift

NEW product! Boa Vision with manually adjustable camera elevation attached at the Super and Twister Bully clearing nozzles. So that you have everything under control and at a glance!



wireless video transmission

We will be showing our newly developed Boa Vision system with wireless video transmission at the RoKa-Tech 2015. Flushing and inspection without additional cable drum.

Sewer cleaning including video documentation

We want to fulfil these needs of our customers and design a rugged, practical and powerful camera nozzle for sewer cleaning. This is designed to supply wireless live video images in high resolution and quality to the operator panel of the flushing system van. A dazzle-free monitor and a powerful recording system complement the video-assisted sewer cleaning. The work done is documented and serves as a proof of service for invoicing.



KRD spinning nozzles

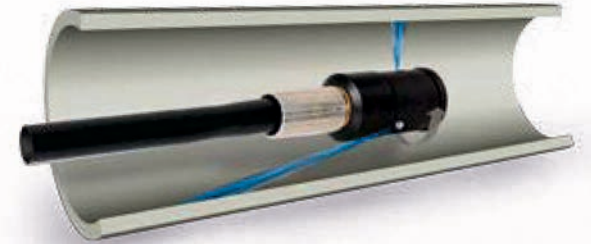
ND 25 - 300 mm







A standard tool and an absolute must in every van! The optimum combination of radial and semiradial jets make this nozzle the ideal aid in state-of-the-art tube and sewer cleaning. The radial jet faces the tube wall at a 90° angle, while the two semiradial jets point backwards at a 43° angle to produce a combination of cleaning and thrust. The high impact energy of the 90° jet removes the deposits, while the semiradial jets flush them away.

i For use with nominal diameters of ND 150 and above; with water reclaiming trucks we recommend our **Multi-Power nozzles**.

Fields of application:

- suitable for tubes between ND 25 and ND 300
- removal of sludge clods, light incrustations, small roots, and grease deposits
- preparation of tube refurbishments



						
	1 120 051	1 120 053	1 120 055	1 120 056	1 120 057	1 120 058
	KRD spinning nozzle Ø 16	KRD spinning nozzle Ø 22	KRD spinning nozzle Ø 28	KRD spinning nozzle Ø 40	KRD spinning nozzle Ø 40	KRD spinning nozzle Ø 60
	1/4" female thread	1/4" female thread	1/4" female thread	1/2" female thread	3/4" female thread	1" female thread
	25 - 75 mm	40 - 100 mm	40 - 100 mm	60 - 150 mm	60 - 150 mm	100 - 300 mm
	11 lpm	15 lpm	30 lpm	50 lpm	80 lpm	120 lpm
	-	-	-	-	-	6x M6
	3 x with bore	3 x with bore	3 x M4	3x M6	3x M6	3x M6
	-	-	-	-	-	25 ° thrust nozzle
	Rotation 90° / 43°	Rotation 90° / 43°	Rotation 90° / 43°	Rotation 90° / 43°	Rotation 90° / 43°	Rotation 90° / 43°
LxØ	30 x 16 mm	51 x 22 mm	58 x 29 mm	84 x 40 mm	84 x 40 mm	96 x 60 mm
	0.03 kg	0.10 kg	0.20 kg	0.60 kg	0.60 kg	1.30 kg

HRR spinning nozzles ND 25 - 300 mm

Semiradial nozzle with 4 backwards-pointing cutting jets. The 4 cutting jets are oriented 43° backwards and produce the forward traction and accomplish the cleaning itself. Thus, the spinning drive and thrust jets are part of the same function. As with all spinning nozzles with a water gap guide, the spinning motion is produced by a rotor sliding on the water film around the stator axis.

1 For use with nominal diameters of ND 150 and above; with water reclaiming trucks we recommend our **Multi-Power nozzles**.

Fields of application:

- tubes between ND 25 and ND 300
- removal of deposits, small and soft roots
- higher traction force
- preparation a tube for the use of **Ehle root cutters**



						
	1 120 071	1 120 073	1 120 075	1 120 076	1 120 077	1 120 078
	HRR spinning nozzle Ø 16	HRR spinning nozzle Ø 22	HRR spinning nozzle Ø 28	HRR spinning nozzle Ø 40	HRR spinning nozzle Ø 40	HRR spinning nozzle Ø 60
	1/4" female thread	1/4" female thread	1/4" female thread	1/2" female thread	3/4" female thread	1" female thread
	25 - 75 mm	40 - 100 mm	40 - 100 mm	60 - 150 mm	60 - 150 mm	100 - 300 mm
	11 lpm	15 lpm	30 lpm	50 lpm	80 lpm	120 lpm
	-	-	-	-	-	6x M6
	4 x with bore	4 x with bore	4 x M4	4x M6	4x M6	4x M6
	-	-	-	-	-	25 ° thrust nozzle
	Rotation 43°	Rotation 43°	Rotation 43°	Rotation 43°	Rotation 43°	Rotation 43°
	36 x 16 mm	50 x 22 mm	55 x 28 mm	78 x 40 mm	78 x 40 mm	96 x 60 mm
	0.03 kg	0.10 kg	0.20 kg	0.60 kg	0.60 kg	1.40 kg



KRD oscillating spinning nozzles

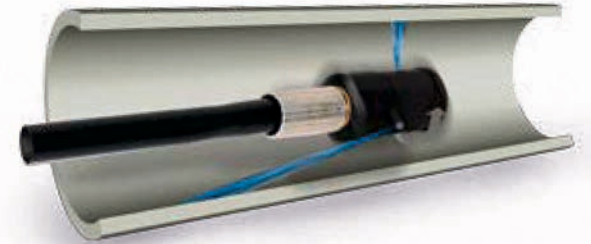
ND 60 - 300 mm

Removes hard incrustations by vibrational energy! The excentric rotor design creates vibrations which this spinning nozzle transfers on the tube to be cleaned. This way, even the hardest incrustations are removed.

⚠ Not suitable for stoneware tubes, since the tube glaze may be become damaged.

Fields of application:

- removal of hard deposits, lime, hard incrustations, and clods of construction material
- suitable only for PVC, steel or cast iron tubes between ND 60 and ND 300



1 120 090



1 120 091



1 120 092

	KRD oscillating nozzle Ø 40	KRD oscillating nozzle Ø 40	KRD oscillating nozzle Ø 60
	1/2" female thread	3/4" female thread	3/4" female thread
	60 - 150 mm	60 - 150 mm	100 - 300 mm
	80 lpm	95 lpm	180 lpm
	-	-	-
	3x M6 (KRD)	3x M6 (KRD)	3x M6 (KRD)
	-	-	-
	Rotation 90° / 43°	Rotation 90° / 43°	Rotation 90° / 43°
	78 x 40 mm	78 x 40 mm	96 x 60 mm
	0.60 kg	0.60 kg	1.30 kg

HRR oscillating spinning nozzles ND 60 - 300 mm

Removes hard incrustations by vibrational energy! The excentric rotor design creates vibrations of this spinning nozzle which are transfers to the tube to be cleaned. This way, even the hardest incrustations are removed.

⚠ Not suitable for stoneware tubes, since the tube glaze may be become damaged.

Fields of application:

- removal of hard deposits, lime, hard incrustations, and clods of construction material
- suitable only for PVC, steel or cast iron tubes between ND 60 and ND 300











1 120 093



1 120 096



1 120 097

	HRR spinning nozzle Ø 40	HRR spinning nozzle Ø 40	HRR spinning nozzle Ø 60
	1/2" female thread	3/4" female thread	3/4" female thread
	60 - 150 mm	60 - 150 mm	100 - 300 mm
	80 lpm	95 lpm	180 lpm
	-	-	-
	4x M6 (HRR)	4x M6 (HRR)	4x M6 (HRR)
	-	-	-
	Rotation 43°	Rotation 43°	Rotation 43°
LxØ	78 x 40 mm	78 x 40 mm	96 x 60 mm
	0.60 kg	0.60 kg	1.30 kg



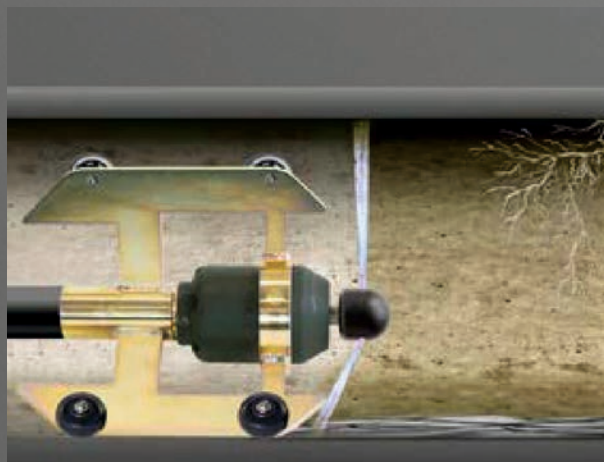
Multi-Power nozzle

The universal tool in HP cleaning.

Our Multi-Power nozzles are the universal tools for tube and sewer cleaning. Four different spinning heads allow you to remove all deposits found in the field. Furthermore, you may use the nozzle heads with the Multi-Power MPA for ND 100 - 250 mm, the Multi-Power MPD for ND 200 - 600 mm and the tube weasel for ND 150 - 400 mm, and feed them with reclaimed water.

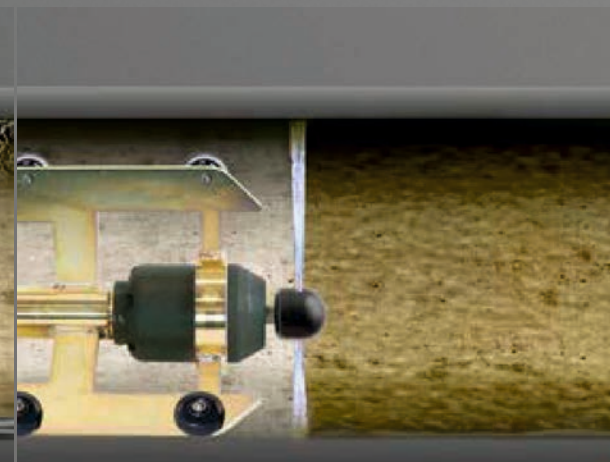
Assembly of the spinning nozzle heads is quick and simple. They are attached without special tools at the fourfold supported rotary joint. It supplies the water without positive guide directly to the nozzle head.

The rotation is produced by the impact angle of the respective "head jets". This results in zero power loss and sliding face abrasion as found with standard spinning nozzles with water gap guide.



Multi-Power combined head - KRD type
ND 100 - ND 250 with guide basket ND 300 - ND 600

- 2x 90° to the tube wall and 2x 45° facing backwards
- removal of incrustations, small roots, sludge segregation, and grease deposits
- may be used with a Multi-Power MPA / MPD and Tube-Weasel



Multi-Power radial head nozzle - RRD type
ND 100 - ND 250 with guide basket ND 300 - ND 600

- four jet angles 90°
- removal of hard incrustations, and grease deposits
- may be used with a Multi-Power MPA / MPD and Tube-Weasel



Multi-Power-semiradial head - HRR type
ND 100 - ND 250 with guide basket ND 300 - ND 600

- four jet angles 45° facing backwards
- removal of hard incrustations, small roots and sludge segregation
- may be used with a Multi-Power MPA / MPD and Tube-Weasel



Multi-Power drilling head - BRD type
DN100 - ND 250 with appropriate guide basket ND 300 - ND 600

- two jet angles 90° facing the tube wall and 2x 20° + 1x 5° facing the front.
- for partially and/or completely clogged tubes, roots (nested roots) and heavy deposits
- may be used with a Multi-Power MPA / MPD and Tube-Weasel

Multi-Power spinning nozzle MPA type **ND 100 - 250 mm**

The Multi-Power nozzle replaces 4 different spinning nozzles. The spinning KRD combined head and the BRD drilling head enable you to resolve all challenges. The rotary joint takes the pressurized water (without positive guide) directly to the nozzle head. This way, even grey water may be used. Thanks to its design, the Multi-Power nozzle produces a far higher jet impact energy than conventional spinning nozzles with water gap guide.

Fields of application:

- *KRD combined head - for removal of sludge clods, grease deposits, light incrustations, and small roots.*
- *BRD drilling head - used for partially and totally clogged tubes, nested roots, and heavy deposits*
- *HP cleaning to clear clogged tubes of diameters above ND 60*
excellent traction and cleaning performance, good bend passage
- **suitable for vans with a water reclaiming system**



1 120 110

MPA spinning nozzle 1+2



1 120 111

MPA spinning nozzle 1+2



1 120 123

MP combined head **KRD type**



1 120 126

MP drilling head **BRD type**



1 120 127

MP semiradial head **HRR type**



1 120 128

MP radial head **RRD type**



1/2" female thread

3/4" female thread

3/8" female thread

3/8" female thread

3/8" female thread

3/8" female thread



100 - 250 mm

100 - 250 mm

100 - 250 mm

100 - 250 mm

100 - 250 mm

100 - 250 mm



70 lpm

120 lpm

-

-

-

-



6x M6

6x M6

-

-

-

-



3 x with bore

3 x with bore

4 x M4

5 x M4

4x M6

4x M6



15 ° thrust nozzle

15 ° thrust nozzle

-

20° / 5° front jet

-

-



-

-

Rotation 90° / 45°

Rotation 90°

Rotation 45°

Rotation 90°



170 x 80 mm

160 x 80 mm

48 x 50 mm

48 x 50 mm

48 x 50 mm

48 x 50 mm



2.10 kg (without head)

2.10 kg (without head)

0.55 kg

0.54 kg

0.55 kg

0.55 kg



Multi-Power spinning nozzle MPD type

ND 200 - 600 mm

The Multi-Power nozzle type 1+4 allows the use of 4 different spinning heads with the same drive. Thanks to their maintenance-free drive, these nozzles are perfect for use with reclaimed water. The rotary joint takes the pressurized water (without positive guide) directly to the nozzle head. This way, even grey water may be used. Thanks to its design, the Multi-Power nozzle produces a far higher jet impact energy than conventional spinning nozzles with water gap guide.

Fields of application:

- cleaning of medium and heavily contaminated sewers and tubes between ND 200 and ND 600,
- depending on the spinning head used, suitable for removal of: small roots, incrustations, clogged points, grease deposits, and sludge and building material clods
- for medium and large sewer and tube distances
- suitable for vans with a water reclaiming system



1 120 120

MPD spinning nozzle 1+4



1 120 121

MPD spinning nozzle 1+4



1 120 127

MP semiradial head **HRR type**



1 120 123

MP combined head **KRD type**



1 120 128

MP radial head **RRD type**



1 120 126

MP drilling head **BRD type**



1 120 130

MPD guide basket **type 3-6**










	1 120 120	1 120 121	1 120 127	1 120 123	1 120 128	1 120 126	1 120 130
	MPD spinning nozzle 1+4	MPD spinning nozzle 1+4	MP semiradial head HRR type	MP combined head KRD type	MP radial head RRD type	MP drilling head BRD type	MPD guide basket type 3-6
	1" female thread	1 1/4" female thread	3/8" female thread	3/8" female thread	3/8" female thread	3/8" female thread	1 1/4" female thread
	200 - 600 mm	200 - 600 mm	200 - 600 mm	200 - 600 mm	200 - 600 mm	200 - 600 mm	300 - 600 mm
	220 lpm	280 lpm	-	-	-	-	-
	6 x M10	6 x M10	-	-	-	-	-
	-	-	4x M6	2x M6 / 2x M6	4x M6	2x M6 / 2x M6 / 1x M6	-
	15 ° thrust nozzle	15 ° thrust nozzle	-	-	-	20° / 5° front jet	-
	-	-	Rotation 45°	Rotation 90° / 45°	Rotation 90°	Rotation 90°	-
LxØ	170 x 89 mm	160 x 89 mm	48 x 50 mm	48 x 50 mm	48 x 50 mm	48 x 50 mm	270 x 270 mm
	4.70 kg (without head)	4.60 kg (without head)	0.55 kg	0.55 kg	0.55 kg	0.54 kg	4.80 kg

Multi-Power spinning nozzle MPF type **ND 700 - 1,200 mm**

Efficient clearing of large and special sewer profiles! We designed the Multi-Power nozzle MPF to exploit the excellent properties of the Multi-Power spinning nozzle 1+4 (MPD) and for the clearing of large tube diameters (ND 700 to ND 1,200 mm). These nozzles use the field-proven drive with Multi-Power spinning nozzle (MPD). Various lances with different shapes, lengths and nozzle inserts are used to clean the tube wall directly. The lance head provided may be equipped with a maximum of 4 lances. The angled lances produce the spinning motion of the nozzle.

Fields of application:

- HP cleaning of large and special profiles with slight contamination
- incrustations between ND 700 and 1,200 mm
- cleaning of the tube wall without streaks
- **also suitable for vans with a water reclaiming system**

							
1 120 133				1 120 136			
Multi-Power nozzle Type MPF				MPF nozzle lance 7-9 RF			
	1 1/4" female thread	3/8" female thread	3/8" female thread	-	-	-	-
	700 - 1,200 mm	700 - 1,200 mm	700 - 1,200 mm	700 - 900 mm	700 - 900 mm	900 - 1,200 mm	900 - 1,200 mm
	280 lpm	-	-	-	-	-	-
	6 x M10	-	-	-	-	-	-
	-	Retainer 2x	Retainer 4x	1 x M10	1x Twister nozzle	1 x M10	1x Twister nozzle
	12°	-	-	-	-	-	-
-	-	-	-	Round / flat	20° Twister nozzle	Round / flat	20° Twister nozzle
LxØ	850 x 650 mm	40 x 94 mm	40 x 94 mm	Length 240 mm	Length 240 mm	Length 360 mm	Length 360 mm
	37.0 kg	0.35 kg	0.42 kg	0.25 kg	0.48 kg	0.30 kg	0.537 kg





Hydraulic root cutter HWA type

ND 100 - 250 mm

The hydraulic root cutter **Hydro-Power HWA type** with hydraulic motor generates a high tool force, even with low pump flow rate. The tools retainer can handle root cutter blades, chains, and tools for mechanical tube cleaning. The special tools are driven by a hydraulic motor. Features are high efficiency, constant torque, rugged and compact construction. The rotation power may reach 1.1 kW. Guide skids are installed to centre the tools. Dimensions are adapted to the tube size.

Fields of application:

- removal of nested and small roots in tubes between ND 100 and ND 200 (with accessories up to ND 250)
- short version for building tie-ins
- use even with low pump flow rate
- prepared for chain heads of small roots cutters
- combination with tools for mechanical cleaning possible

Available stock:

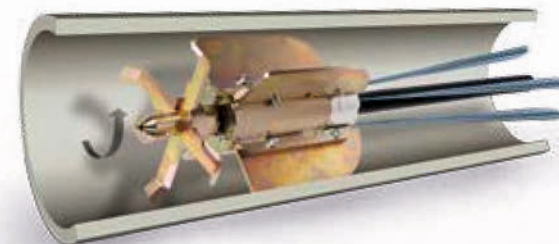
- assembly set for ND 100 - ND 200 in rugged transport case
- hydraulic motor in guide basket for ND 100
- 1 set guide skids for ND 150 and ND 200 each
- root cutter blades (ND 100, ND 150, ND 200), cross-blade drill head, service hand crank, maintenance spray, and assembly tools

Optional tools and accessories:

- you may use an optional set of skids and blades in addition to the chain retainers for HWA nozzles for Hydro-Power 1-2 nozzles designed for tubes up to ND 250
- the adaptor for spiral tools can work with mechanical tools for tube cleaning

Ordering instructions:

- as for tubes and sewers between ND 100 and ND 250, please order the **root cutter Hydro-Power HWA type**
- especially suited for building tie-ins and access to smaller emergency gates, we recommend the **Hydro-Power short version**.



	1 120 250	1 120 251
	Hydro-Power 1-2	Hydro-Power <i>short version</i>
	3/4" female thread	1/2" female thread
	100 - 250 mm	100 - 200 mm
	65 lpm	55 lpm
	4x M6	4x M6
	30 ° thrust nozzle	15 ° thrust nozzle
LxØ	250 x 95 mm	150 x 95 mm
	3.60 kg (10.5 kg)	2.60 kg (9.00 kg)

optional tools **Hydro-Power HWA type**



1 120 270

root cutter blades **HWA**

Ø 100 mm



1 120 271

root cutter blades **HWA**

Ø 125 mm



1 120 272

root cutter blades **HWA**

Ø 150 mm



1 120 274

root cutter blades **HWA**

Ø 200 mm



1 120 275

root cutter blades **HWA**

Ø 250 mm



1 120 263

chain retainer

Ø 100 - 150 mm



1 120 265


chain retainer

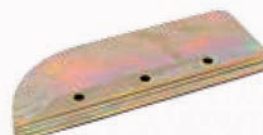
Ø 200 - 250 mm



11 002 013

replacement chain / sold by the meter

 Length 1 metre /
thickness 4.5 mm



1 120 255

set guide skids

Ø 125 mm



1 120 262


set guide skids

Ø 250 mm



1 120 282


drill head for **HWA**

 M6 AG / SW 19



1 120 280


adaptor for spiral tools

 22 mm spiral



1 120 281

adaptor for spiral tools

 32 mm spiral



mechanical tube cleaning tools

See catalogue
Mechanical pipe cleaning



1 120 331

HD rotating joint

 3/4"



Hydraulic root cutter HWB type

ND 200 - 400 mm

The **hydraulic root cutter Hydro-Power type HWB** is a power packet for the removal of sewer deposits and roots of any kind. Due to the many standard accessories, you may use the "Hydro-Power" HWB 2-4 nozzle for tubes of ND 200, 250, 300, 350, and 400 mm. The simple design allows quick and easy replacement of blade retainers and guide skids. The optional chain heads remove small roots and light deposits from the tube wall, after the trunk root is cut.

The tool is driven by a hydraulic motor, similar to the HWA nozzle. Features are high efficiency, constant torque, and rugged and compact construction.

Output amounts to 2.1 kW. Rugged guide skids of matching size are installed to centre the system.

Fields of application:

- removal of nested and small roots in tubes between ND 200 and ND 400
- use even with low pump flow rate
- prepared for chain heads of small roots cutters
- combination with tools for mechanical cleaning possible

Available stock:

- assembly set for ND 200 - ND 400 in rugged transport case
- hydraulic motor in guide basket for ND 200
- 1 set guide skids for ND 250/300 and ND 350/400 each
- root cutter blades (for ND 200, ND 250, ND 300 and ND 350/400), cross-blade drill head, service hand crank, maintenance spray, assembly tools

Recommended:

- retainers for chain heads of small roots cutters
- combination with tools for mechanical cleaning possible
- the hydraulic root cutter should be combined with a high pressure rotating joint



	1 120 300	1 120 300
	Hydro-Power 2-4	Hydro-Power 2-4
	3/4" female thread	1" female thread
	200 - 400 mm	200 - 400 mm
	180 lpm	180 lpm
	4x M6	4x M6
	30 ° thrust nozzle	30 ° thrust nozzle
LxØ	250 x 90 mm	250 x 90 mm
	4.00 kg (11.0 kg)	4.00 kg (11.0 kg)

tools and spare parts **Hydro-Power HWB type**



1 120 274

root cutter blades **HWB**

Ø 200 mm



1 120 275

root cutter blades, long version **HWB**

Ø 250 mm



1 120 301

special blades for root cutter head

Ø 300 / 350 / 400 mm



1 120 302

chain retainer, including 2 m replacement chain

Ø 200 - 400 mm



11 002 035


replacement chain

 Length 1 metre /
thickness 7.0 mm



1 120 311

drill head for **HWB**

 M6 AG / SW 24



root cutter blades, chuck **HWB**

Ø 200 - 250 mm



root cutter head **HWB**

Ø 300 mm




root cutter head **HWB**

Ø 350 - 400 mm



1 120 266

adaptor hose for **HWB**

 3/4" male thread -
1" female thread

 Length 3m



1 120 331

HD rotating joint

 3/4"



1 120 334

HD rotating joint

 1"



Tube-Weasel with optional rotation

ND 150 - 400 mm

The **Tube-Weasel** with optional rotation is a useful aid for preparing tube refurbishment.

The generous tools assortment allow all challenges to be solved. The unique feature is optional rotation which can be activated by an increase in pressure. This way, you may prepare exactly the location to be refurbished without damaging the tube over its entire length.

The optional rotation (activated by an increase in pressure) allows targeted operation. Thus, the chain scraper, spinning ball head or grinding head will not damage intact tube lengths. Measure damaged spots or nested roots to move the tube weasel and to activate the spinning tool after a pressure increase. Reduce pressure when exiting to avoid any damage to the intact tube.

Fields of application:

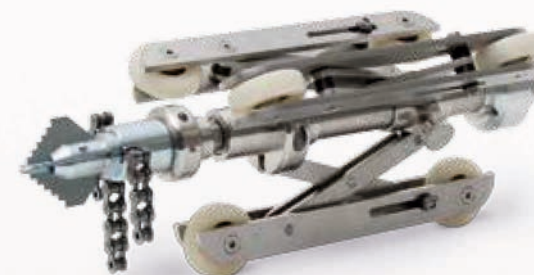
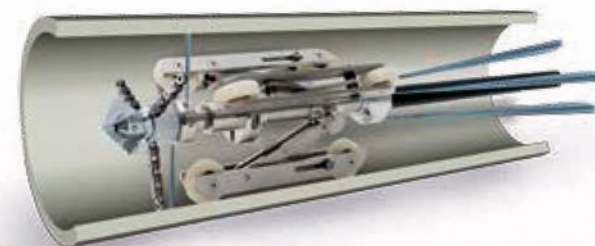
- cleaning operations with spinning heads
- removal of roots with the milling chain head
- removal of cement clods with the spinning ball head
- roughening the tube with the grinding head for later refurbishment
- **also suitable for vans with a water reclaiming system**

Available stock:

- Tube-Weasel with optional rotation ND 150 - ND 400
- tool drive for the refurbishment grinding head, milling chain head and ball spinning head
- hook wrench for assembly
- rugged transport case

Ordering instructions:

- Please indicate the intended use in your order, so we can recommend the perfect tool.



	1 120 170	1 120 170
	Tube-Weasel	Tube-Weasel
	1/2" female thread	3/4" female thread
	150 - 400 mm	150 - 400 mm
	70 lpm	70 lpm
	3x M6	3x M6
	30 ° thrust nozzle	30 ° thrust nozzle
LxØ	340 x 140 mm	340 x 140 mm
	4.74 kg	4.74 kg

Optional tools **Tube-Weasel**



Refurbishment grinding head

1 120 172	refurbishment grinding head	Ø 150 - 400 mm
1 120 176	grinding belt set 150 - 200	Ø 150 - 200 mm
1 120 177	grinding belt set 200 - 250	Ø 200 - 250 mm
1 120 178	grinding belt set 300 - 400	Ø 300 - 400 mm



Milling chain head

1 120 173	milling chain retainer	Ø 150 - 400 mm
1 120 179	drill head Tube-Weasel	Ø 150 - 400 mm
1 120 181	milling chain set 150	Ø 150 mm
1 120 182	milling chain set 200	Ø 200 mm
1 120 183	milling chain set 250	Ø 250 mm
1 120 184	milling chain set 300	Ø 300 mm
1 120 185	milling chain set 350	Ø 350 mm
1 120 186	milling chain set 400	Ø 400 mm
1 120 180	milling chains <i>sold by the meter</i>	Length 1m



Spinning-Ball-Head

1 120 171	Spinning-Ball-Head	Ø 150 - 400 mm
1 120 280	adaptor for spiral tools	Ø 22 mm
1 120 190	Ball-Set Ø 20 mm	Ø 150 - 200 mm
1 120 191	Ball-Set Ø 20 mm	Ø 250 - 300 mm
1 120 192	Ball-Set Ø 20 mm	Ø 350 - 400 mm
1 120 193	Ball-Set Ø 25 mm	Ø 150 - 200 mm
1 120 194	Ball-Set Ø 25 mm	Ø 250 - 300 mm
1 120 195	Ball-Set Ø 25 mm	Ø 350 - 400 mm
1 120 196	Ball-Set Ø 30 mm	Ø 150 - 200 mm
1 120 197	Ball-Set Ø 30 mm	Ø 250 - 300 mm
1 120 198	Ball-Set Ø 30 mm	Ø 350 - 400 mm



nozzle heads

1 120 123	nozzle head KRD type	Ø 150 - 400 mm
1 120 126	nozzle head BRD type	Ø 150 - 400 mm
1 120 127	nozzle head HRR type	Ø 150 - 400 mm
1 120 128	nozzle head RRD type	Ø 150 - 400 mm



mechanical tube cleaning

1 120 280	adaptor for spiral tools Ø 22 mm
1 120 281	adaptor for spiral tools Ø 32 mm

 see catalogue - mechanical pipe cleaning



accessories

1 120 266	Adaptor hose, 3/4" male thread - 1" female thread, length 3 m
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chain scraper

ND 80 - 200 mm

The **chain scraper** is a spinning tool mainly used to remove roots or hard incrustations such as slime or cement sludge. The rotor is equipped with three nozzles which spin the rotor so that the chain adapted to the tube diameter centres the chain scraper inside the tube. The precisely-adjusted abrasion effect of the chain and the 90° impact angle result in an excellent cleaning performance of this special nozzle.

i For hard deposits we recommend to use a spinning ball head.

Fields of application:

- removal of big and small roots in tubes between ND 80 and ND 200
(for ND 150 and above, a guide carriage is required).
- removal of solid deposits, as slime or clay, and cement clods
- especially suited for bends of building tie-ins



The chains should not be too short. They should drag along the tube wall but must not impact it.

ND 70 mm / 5 chain links
ND 100 mm / 9 chain links
ND 150 mm / 11 chain links
ND 200 mm / 13 chain links

					
	1 120 201	1 120 202	1 120 206	1 120 205	1 120 209
	chain scraper	chain scraper	guide carriage	replacement cutter	replacement chain
	1/2" female thread	3/4" female thread	3/4" female thread	-	-
	80 - 200 mm	80 - 200 mm	150 - 200 mm	-	-
	55 lpm	80 lpm	-	-	-
	3x M6	3x M6	-	-	-
	3x M6	3x M6	-	-	-
	Thrust nozzle 25° each	Thrust nozzle 25° each	-	-	-
	Rotation 90° each	Rotation 90° each	-	-	-
LxØ	150 x 60 mm	150 x 60 mm	235 x 130 mm	30 x 60 mm	45 mm
	1.60 kg	1.60 kg	2.00 kg	0.40 kg	0.50 kg per 1 metre

Rescue nozzles

ND 100 mm and above

We designed this new **Rescue** nozzle to remove metal objects from tubes and sewers. A built-in permanent magnet with a traction force of 7 - 47 kg enables your HP flushing system to remove all magnetic metal objects.

Be it lost tools, spirals or foreign objects - the rescue nozzle helps to remove them from the sewer and is a useful add-on to your nozzle assortment in the van.

Fields of application:

- To rescue metal objects from tubes and sewers











1 100 270



1 100 271



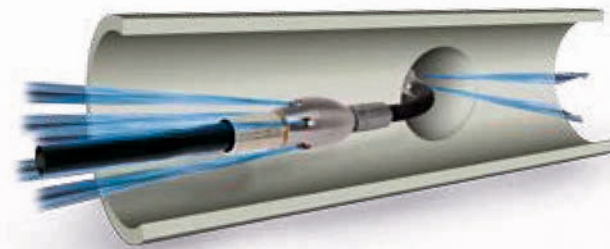
1 100 272

	Rescue nozzle	Rescue nozzle	Rescue nozzle
	1/2" female thread	3/4" female thread	1" female thread
	100 mm and above	150 mm and above	200 mm and above
	50 lpm	120 lpm	220 lpm
	5x M6	2 x 4 M10	2 x 5 M10
	7 kg	27 kg	47 kg
	25 ° thrust nozzle	Thrust nozzle 25° /12° each	Thrust nozzle 30° /12° each
	LxØ 60 x 56 mm	100 x 75 mm	190 x 100 mm
	0.75 kg	2.10 kg	8.10 kg

Steerable nozzle **ND 100 - 400 mm**

This way, you clean your branches professionally and with ease! Our steerable nozzle is a professional tool for the efficient cleaning of branches, secondary sewers and building drainages from main sewers. Easy operation and low cost make this nozzle an advantage.

A 70 bar working pressure make the steerable nozzle raise to the height of the tie-in to be cleaned. The traction is produced by the jet circuit of the driving nozzle. If applied correctly, the nozzle centres in the main sewer, similar to a tube nozzle. If the pressure exceeds 90 bar, a valve switches on the pilot nozzle. This bends the steerable nozzle such that the flushing hose rotates and the steerable nozzle may enter the tie-in.



Application: (Camera support is required for this purpose.)

- HP cleaning in secondary sewers, branches and building tie-ins with tube diameters ND 100 and above, suitable for main sewer access in sewers between ND 150 and ND 400
- for simultaneous cleaning of slightly contaminated main sewers (ND 200)










1 100 350



1 100 351



1 100 352

	Steerable nozzle with control valve and driver	HP guiding hose short version	HP guiding hose long version
	1/2" female thread	-	-
	150 - 250 mm	150 - 250 mm	200 - 400 mm
	70 lpm	70 lpm	70 lpm
	6x M6	-	-
	2 x M4	-	-
	22.5 ° thrust nozzle	-	-
	Guide 90°	-	-
LxØ	245 x 36 mm	180 x 18 mm	210 x 18 mm
	0.40 kg	0.10 kg	0.15 kg

Steerable camera nozzle Cobra Vision v2.0

ND 100 - 400 mm

The **steerable camera nozzle CobraVision v2.0 1/2"** is the successor of our steerable nozzle. The CobraVision II allows you to steer the camera from the main sewer into a secondary sewer and its branches. To this end, you increase the pressure of your HP flusher unit to switch on the steerable nozzle.

The CobraVision II allows a complete inspection and cleaning of the whole tube path across several bends and branches. Diameters between ND 100 and ND 400 are supported.

For connection with RIDGID-SeeSnake compatible controllers or 12V DC van power sockets and external add-on monitors for inspection without documentation software.

Application:

- 1/2" HP flushers: 70 litres / 120 bar / 80 meters and higher
- to clean and TV-inspect building drainages and their branches from the main sewer, ND 100 - ND 400

Equipment:

- rugged cable drum with adjustable cable guide
- splash-proof electronics
- camera flushing system with camera head and 1/2" hose connection
- controls located directly at the reel
- distance counter



item number	specification	special features
S19 950 001	Complete assortment - steerable camera nozzle Cobra Vision v2.0	<ul style="list-style-type: none"> - Steerable camera nozzle with 1/2" hose connection, thrust nozzle and 5 ceramics inserts, spring, valve-controlled steerable nozzle with camera retainer - colour axial camera type 10 / D35 with stainless steel case - video signal (PAL) - steerable LED illumination - sled to centre the camera probe - rugged, hand-operated camera cable drum RM200-CV including stainless steel frames, electronic distance counter and 120 m of special cable - 5 m connection cable for RIDGID systems - 5 m connection cable for 12V van power socket

technical data - Cobra Vision II

use for and more than	ND 100 - 400
cable length	120 m
power supply	Directly operated via the RIDGID controller or 12V van power socket
power consumption	max. 17 W
zeroing of distance counter	at any position
distance counter direction	positive and negative
resolution of distance counter	10 cm
weight	20 kg
dimensions (L x W x H)	610 x 289 x 520 mm



InRoKa-Rohrboy

Specifications - Rohrboy	
rated voltage	230 V, 50 Hz
high pressure pump	Speck model
pump output	20 litres / max. 100 bar
total pressure increase	850 pa (35m hose)
hose connection	ND6 and ND8
dimensions (LxWxH)	500 x 650 x 1,004 mm
weight	55.0 kg



The mobile **Rohrboy** HP flushing system is the perfect tool for big problems with building tie-ins. With a flow rate of 20 litres per minute and an output pressure of 100 bar, the thrust hose and the special Twister nozzle insert clear all clogged tubes.

Simply push the debris from the emergency gate or connection down to the main sewer.

Quick - simple - safe (no more flooded basements).

Our assembly set includes: 1x Rohrboy 20/100 with foot and pressure switches, 1x thrust hose ND6 (10 m) with front jet nozzle and 1x ND 8 (15 m) with thrust twister nozzle, 1x inlet hose (3 m) including 2x GK connection and 1x hose bag

item number	specification	weight
1 130 300	InRoKa-Rohrboy 20/100 flushing system - complete assortment	57.0 kg
1 130 301	InRoKa-20/100 thrust hose SET 15 m, with Twister nozzle	5.00 kg
1 130 307	thrust pick nozzle, female thread 1/4" with 3 bores, ND6 1/4" male thread	0.10 kg
1 130 305	tube nozzle with 3 bores female thread 1/4"	0.03 kg
1 130 308	thrust twister jet nozzle 20 litres /100 bar - 3/8" female thread	0.25 kg
1 130 311	Rohrboy-20/100 thrust hose 10 m ND6, 1/4"	3.00 kg
1 130 312	Rohrboy-20/100 thrust hose 10 m ND8, 3/8"	5.00 kg
1 130 317	rugged transport bag for Rohrboy thrust hoses	0.20 kg



reel with rollers



Our **reel with rollers** 3/8" with 60 m hose is the optimum accessory for mobile cleaning operations in basements, underground parking areas, and all other locations where you cannot access the work site with your van. In this way you can extend your range of action considerably. Suitable for TV inspection if equipped with flushing thruster nozzles

Special features:

- Rugged design, with ergonomic transport handle
- 1/2" connection, shut-off ball valve and nozzle retainers

item number	specification	weight
19 916 028	reel with rollers and 1/2" connection for 3/8" flushing hose 60 m	28.0 kg
102 221	flushing hose 60 m for reel with rollers, 210 bar, male and female threads 3/8" 9.5 x 4	21.0 kg
19 916 030	Agilios flushing and thruster nozzle 3/8"	0.15 kg
1 100 064	tube nozzle 6+1 bores 3/8" female thread, length 35 mm, Ø 25 mm	0.10 kg
1 100 096	ball nozzle 4 bores 3/8" female thread, length 25 mm, Ø 25 mm	0.03 kg

telescopic manhole lance



The **telescopic manhole lance** cleans manholes and other areas. The manhole lance can be extended continuously between 1,750 mm and 6,000 mm to clean deep manholes easily from the manhole crest.

Special features:

- rugged, telescopic version with quick fasteners
- length 1,750 mm (extendable to 6,000 mm)
- 1/2" spinning nozzle

item number	specification	weight
1 130 105	telescopic manhole cleaning lance with 1/2" round jet nozzle	2.30 kg
1 130 106	nozzle set for manhole cleaning lance including Flat and vortex jet nozzles	0.40 kg
1 130 108	sewer cleaning round jet nozzle 1/2", ceramics	0.04 kg
1 130 109	sewer cleaning flat jet nozzle 1/2", hardened metal	0.04 kg
1 130 110	sewer cleaning vortex jet nozzle 1/2", ceramics	0.40 kg

high pressure gun



The rugged **high pressure gun** cleans manholes and other areas. The manhole lance ensures perfect cleaning of manholes down from the crest.

Special features:

- 1/2" female thread for hose connection with rotating joint
- 1/4" female thread for nozzle
- lateral handle

item number	specification	weight
1 130 100	HP gun with 500 m stainless steel lance - type RL204	2.50 kg
1 130 103	HP gun with 1000 m stainless steel lance - type RL204	3.00 kg

front jet nozzle, stainless steel



The **front jet nozzles made of stainless steel** are suitable for cleaning of sewers, tanks, and surfaces. Normally, they are directly connected to the HP hose end or to the HP gun port. Suitable nozzle inserts: Ceramics inserts with round jet or flat jet inserts

Application:

- manhole, pit and tank cleaning with HP gun
- surface cleaning in industry, trade, and civil engineering
- offshore and filter area cleaning
- Multi-Power nozzle lance heads for large profile cleaning

item number	specification	connection	weight
1 100 130	front jet nozzle, stainless steel - round jet	1/2"	0.21 kg
1 100 131	front jet nozzle, stainless steel - round jet	3/4"	0.43 kg
1 100 132	front jet nozzle, stainless steel - round jet	1"	0.75 kg

high pressure Rotating-Joints



The **Rotary-Joints** are used with large profile cleaning nozzles. The advantage of our high-pressure rotating joints is their excellent and smooth operation. The version made of stainless steel is rugged and prevents water loss.

Fields of application:

- can be combined with heavy clearing nozzles, e.g. Super and Twister Bully nozzles
- for skid guided spinning tools, e.g. hydraulic root cutter, type HWA and HWB or the Multi-Power nozzle type MPF for large profiles,

item number	specification	LxØ	weight
1 120 330	Rotating-Joint - 1/2" female thread	110 x 50 mm	1.00 kg
1 120 331	Rotating-Joint - 3/4" female thread	115 x 56 mm	1.20 kg
1 120 334	Rotating-Joint - 1" female thread	120 x 60 mm	1.45 kg
1 120 336	Rotating-Joint - 1 1/4" female thread	130 x 60 mm	1.40 kg
1 120 337	Rotating-Joint - 1 1/2" female thread	140 x 80 mm	1.50 kg

ring nozzle suction injector



Our tailored **ring nozzle suction injector** allows you to use the suction pipe (diameter 32 mm) e.g. to remove solid material (such as stones) whose size is smaller than the suction inlet. The ring nozzle design of our suction injector achieves a high throughput of about 230 litres/minute with a supply of 40 litres water at 140 bar.

Application:

- sludge injector to pump water down in pits, tanks, and connections
- flat suction hose to pump down residual water.

item number	specification	weight
1 130 120	a ring nozzle suction injector, 1/2" with 40 litres at 140 bar	3.6 (5.5) kg
1 130 121	a ring nozzle suction injector, 1/2" with 60 litres at 140 bar	3.6 (5.5) kg
1 130 122	Flat suction box for ring nozzle injector R 1/2	1.80 kg
1 130 125	Suction hose for suction injector, 7.0 m long, with C couplings	5.60 kg

nozzle inserts



full ceramic inserts OXC70 – round design



ceramic inserts OXC70 – round design



flat jet nozzle inserts



Twister-nozzle inserts

High quality **nozzle inserts** are a basic requirement for a good nozzle. Whenever possible, we use ceramics nozzles made of OXC 70. The full ceramics components feature long service life and a perfect jet pattern.

 **More ceramic inserts similar to NG15; LG22; We can supply a M8 or adaptor if requested!**

threads	specification	jet type	from / to
M4	full ceramic inserts OXC70 with outer hexagonal flats SW3	Round jet nozzle	Ø 0.4 - 2.0 mm
M6	full ceramic insert OXC70 with outer hexagonal flats SW5	Round jet nozzle	Ø 0.4 - 3.3 mm
M10x1	ceramic inserts OXC70 inside a stainless steel housing with O ring, external hexagonal flats SW10	Round jet nozzle	Ø 0.4 - 3.3 mm
M6	inserts made of tempered steel with rectified brass support and O ring	Flat jet nozzle	36° 10.5 lpm
M10x1	inserts made of tempered steel with rectified brass support and O ring	Flat jet nozzle	45° 10 - 25 lpm
M14x1	inserts made of tempered steel with rectified brass support and O ring	Flat jet nozzle	45° 31 - 43 lpm
M22x1	Twister nozzle insert in brass housing with O ring	spinning, pointed jet	25 or 50 litres at 130 bar



sewer equipment and safety equipment

An absolute need for all sewer specialists!



sewer equipment and safety equipment

sewer equipment

Ergonomic design and safety are vital in this field. Our products are long-lasting and durable design, facilitate your daily operation and allow work without back strain or intervertebral disc damage – simply use our sewer cover lifter, universal sewer cleaner and/or sewer mirrors. Our products detect both faulty connections and leakages and have been proven in sewer maintenance and beyond. They are used by fire brigades and special service providers alike.

safety equipment

Our program includes all the tools and aids required to ensure optimum safety and protection while working underground in water and sewer systems. The tagout/lockout procedures of the construction and working site and their environment are of particular importance in times of heavy traffic, in order to avoid accidents. Our products will warn against hazards, help tagout and lockout construction sites and hazard areas, and protect your staff members.

Do you have questions?

Do you have questions about the use of the tools and equipment, or do you need more details? Please use our service hotline to contact our qualified engineer consultants:

Phone: +49 (0) 34 292.65 420

pictograms used

Symbols used in the specification



sewer equipment



safety equipment



ventilation units





manhole hook / manhole tongs



manhole hook



manhole tongs

Our **manhole hooks and tongs** are hand-forged and of extremely rugged design. They have a large handle to pull with both hands. Our manhole cover hooks and nippers have a diameter of 16 mm, making them a really rugged tool. They help to open sewer and manhole covers quickly and easily.

NOTE: - The manhole lifter length should be adapted to your body.

- More special hooks are available on request

item number	specification	version	weight
1 130 210	manhole hook with wide handle	40 cm long	1.10 kg
1 130 211	manhole hook with wide handle	60 cm long	1.45 kg
1 130 212	manhole hook with wide handle	70 cm long	1.50 kg
1 130 220	manhole hook with wide handle	70 cm long (round)	1.50 kg
1 130 213	manhole hook with wide handle	80 cm long	1.70 kg
1 130 221	manhole hook with wide handle	80 cm long (round)	1.70 kg
1 130 240	tongs for cable duct covers		1.70 kg
1 130 242	universal tongs with hook		1.80 kg



Alu-Manhole cover lifter



Alu-Fritz manhole cover lifter



Alu-Rolli manhole cover lifter with rolls

Our **aluminum manhole cover lifters** enable you to lift and handle tight covers with ease. Small dimensions, low weight and simple handling make these manhole cover lifters a helpful tool in daily use.

Use our **Alu-Rolli** to open and handle heavy and tight covers of sewers, manholes and gates without back strain or intervertebral disc damage. If two lifters are used, even large, squared covers or covers of elevated manholes can be lifted.

item number	specification	weight
1 130 230	Alu-Fritz manhole cover lifter	5.00 kg
1 130 231	Alu-Rolli - manhole cover lifter with rolls	8.50 kg

hydraulic manhole cover lifter

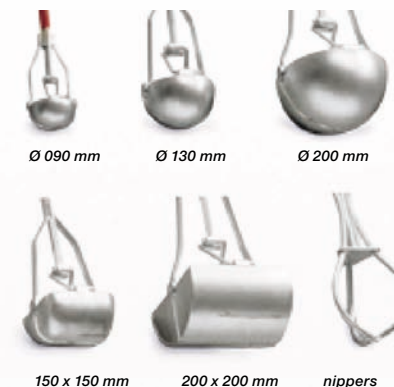


The **hydraulic manhole cover lifter** makes it easy to lift and handle manhole covers. Hydraulic cylinder and hand pump help to lift even the tightest manhole covers. The manhole cover lifter has a capacity of 1,000 kg, a lifting height of 250 mm, and is easy to operate. It may be split in 2 parts to fit in any luggage boot.

NOTE: Hooks distance adjustable between 260 mm and 980 mm, wheelbase 1,100 mm

item number	specification	weight
1 130 250	hydraulic manhole cover lifter with trolley, 2 halves	30.0 kg
1 130 251	wrench A - round hook, 1 set	0.30 kg
1 130 252	wrench B - Phillips head, 1 set	0.30 kg
1 130 253	eyelets for cable pits	0.60 kg

universal sewer cleaner



Our **universal sewer cleaner** helps to clean manholes, pump stations, pits, and small sewage treatment plants. It removes sand, stones, leaves, twiglets, sludge, dirt, grease and all larger objects, reliably and efficiently.

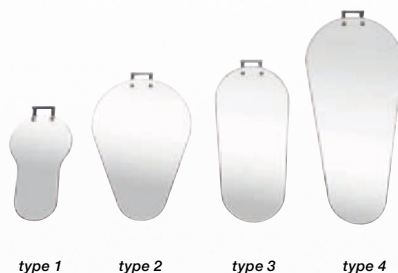
Our sewer cleaners are available in 2 versions. We offer a version with a fixed working depth of 2 meters and another one with variable working depths between 1.5 and 3.5 meters. Additional extensions are available to extend the working depth to 5.5 meters.

NOTE: We deliver the universal sewer cleaner as a complete set in a solid transport bag.

item number	specification	length	weight
101 880	universal sewer cleaner, round shape, Ø 090 mm	2 m	2.20 kg
101 881	universal sewer cleaner, round Ø 130 mm	2 m	2.60 kg
101 882	universal sewer cleaner, round Ø 200 mm	2 m	3.60 kg
101 883	universal sewer cleaner, square shape, 150 x 150 mm	2 m	2.70 kg
101 884	universal sewer cleaner, square shape, 200 x 200 mm	2 m	3.90 kg
101 885	universal sewer cleaner, nippers	2 m	3.30 kg
1 130 170	universal sewer cleaner, round shape, Ø 090 mm	1.5 - 3.5 m	6.70 kg
1 130 171	universal sewer cleaner, round Ø 130 mm	1.5 - 3.5 m	7.10 kg
1 130 172	universal sewer cleaner, round Ø 200 mm	1.5 - 3.5 m	8.20 kg
1 130 173	universal sewer cleaner, square shape, 150 x 150 mm	1.5 - 3.5 m	7.20 kg
1 130 174	universal sewer cleaner, square shape, 200 x 200 mm	1.5 - 3.5 m	8.60 kg
1 130 175	universal sewer cleaner, nippers	1.5 - 3.5 m	8.00 kg
1 130 176	extension	1.0 m	2.00 kg



sewer mirrors



type 1 type 2 type 3 type 4

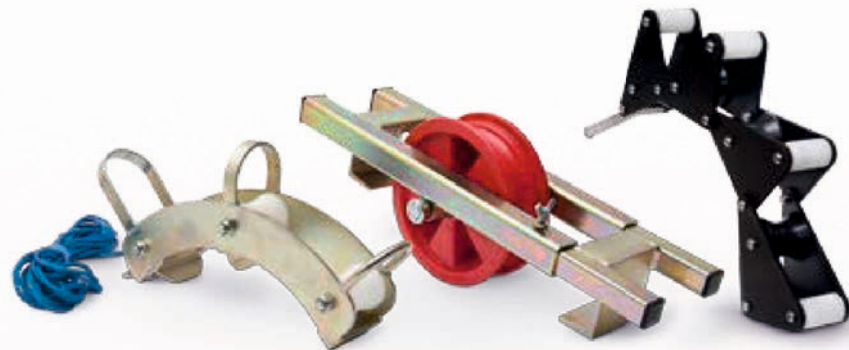
The latest generation **sewer mirrors** are made of polished stainless steel. Advantages are long service life and excellent optical characteristics. The easy-to-operate clamping and adjusting mechanism allows quick replacement and adjustment of sewer mirrors.

The telescope rod can be extended to 6m in combination with the EX-protected penlight, allowing easy inspection in even hard-to-reach points.

item number	specification	version	weight
1 130 150	telescopic mirror linkage	Length 4x1500 mm	1.80 kg
1 130 156	sewer mirrors Type 1	280 x 150 mm	0.39 kg
1 130 158	sewer mirrors Type 2	365 x 240 mm	0.76 kg
1 130 160	sewer mirrors Type 3	395 x 180 mm	0.73 kg
1 130 162	sewer mirrors Type 4	525 x 240 mm	1.10 kg
1 130 163	plastics mirror case	for type 1-2	0.85 kg
1 130 165	plastics mirror case	for type 2-4	3.40 kg
1 130 153	clamp for EX protected penlight	-	0.07 kg
1 130 155	EX-proof halogen penlight	-	0.18 kg



return units



working line type H-L return device Banana return unit for manhole crest Banana, flexible

Hose return units both reduce the strain on the HP hose and are indispensable for good traction and cleaning performance of your nozzle tools.

NOTE: All return units for the lower edge are supplied with a 10 m working line

item number	specification	HP hose	insert ND	weight
1 130 059	return unit Banana, flexible	1/2" - 3/4"	100 mm and above	1.90 kg
1 130 051	return device, Banana, short version	3/4" and above	200 mm and above	4.60 kg
1 130 052	return device, Banana long version	1" and above	200 mm and above	6.40 kg
1 130 054	return unit for manhole crest	1/2" and above	560 - 760 mm	8.70 kg
1 130 053	working line type H-L	-	-	0.40 kg

fog and smoke simulator type **FOG-Smoker 2F**



specifications - FOG-Smoker 2F	
rated voltage	230 V, 50 Hz 115 V, 60 Hz
evaporator capacity	1.2 kW
ventilation turbine power consumption	1.2 kW
air output	about 50 lps
fluid quantity of the unit	5 litres
hose connection	Storz C coupling
protection	IP44
Dimensions (LxWxH)	560 x 295 x 350 mm
Weight	21.5 kg

The **Fog smoker 2F** is a compact but powerful unit with integrated fan. This unit is especially suited for professional inspections of tubes, sewers and tanks to locate leaks and faulty connections. Nevertheless, it is also helpful to detect caves and hollow areas in dams and dikes.

i Our assembly set includes: 1x fogging unit type FOG-Smoker, 1x telescopic rod max. 6 m long, 1x 7.5 m Flexible, spiral reinforced PVC hose DN50 with C coupling, 5 litres original fogging fluid

item number	specification	version	weight
2 004 301	FOG Smoker 2F fogging unit	230 V / 50 Hz	18.2 kg
2 004 305	FOG Smoker 2F fogging unit	115 V / 60 Hz	18.2 kg
2 004 302	rugged transport case for the FOG-Smoker	-	6.80 kg
2 004 309	fogging fluid Slow-Fog	5 litres tank	5.00 kg
2 004 315	telescopic rod	6m long	1.80 kg
2 004 312	spiral reinforced PVC hose with coupling	7.5m long	3.70 kg
2 004 313	extension hose with 2 C couplings	7.5m long	3.70 kg
2 004 314	extension hose with 2 C couplings	15m long	7.00 kg
2 004 307	cable remote control	10m long	1.70 kg

sewage stain



Whatever the problem will be - seepage water, leaky sewage tubes, damaged flat roofs, wet basements or location of sewage lines – often it will be essential to know water origin, direction, and flow characteristics.

i NOTE: The sewage stain agent provided is fluorescent in ultraviolet light.

item number	specification	version	weight
2 004 320	sewage stain concentrate	Red colour	0.24 kg
2 004 321	sewage stain concentrate	Blue colour	0.24 kg
2 004 322	sewage stain concentrate	Yellow colour	0.24 kg
2 004 324	sewage stain concentrate	Violet colour	0.24 kg
2 004 325	sewage stain concentrate	Orange colour	0.24 kg
2 004 323	sewage stain concentrate	Fluorescent	0.24 kg

construction site safety equipment



Our program includes all the tools and aids required to ensure optimum safety and protection while working underground in water and sewer systems.

The tagout and lockout procedures of the construction and working sites and their environment are of particular importance in times of heavy traffic to avoid accidents. Our products will warn against hazards, help tagout and lockout construction sites and hazard areas, and protect your staff members.

item number	specification	version	weight
1 130 010	folding sign VZ101 - sewer camera system	600 mm	2.30 kg
1 130 011	folding sign VZ101 - sewer maintenance	700 mm	2.60 kg
1 130 012	folding sign VZ101 - water mains burst	700 mm	2.60 kg
1 130 013	folding sign VZ101 - hazard area	600 mm	2.30 kg
1 130 030	reflex cones - according to the requirements for LT traffic cones	500 mm	2.50 kg
1 130 031	reflex cones - according to the requirements for LT traffic cones	750 mm	5.70 kg
1 130 033	flashing penlight for the reflex traffic cone H 500	-	1.10 kg
1 130 034	directed flashing light for the reflex beacon cone H 750	-	1.10 kg

manhole grates



manhole air inlet grates

air inlet grate and working platform

air inlet grates return pulley

We offer manhole safety and working grates for better sewer labor safety.

i NOTE: Our air inlet grates and working grates are supplied with 2 red/white warning flags.

item number	specification	version	weight
1 130 075	manhole air inlet grates	Ø 660 mm	6.90 kg
1 130 076	manhole air inlet grates	Ø 800 mm	9.50 kg
1 130 073	air inlet grate and working platform	Ø 660 mm	6.40 kg
1 130 078	air inlet grate and working platform	Ø 800 mm	9.00 kg
1 130 070	air inlet grates return pulley	Ø 660 mm	8.80 kg
1 130 072	air inlet grates return pulley	Ø 800 mm	10.0 kg
1 130 071	TV - air inlet grates return pulley	Ø 660 mm	8.80 kg

manhole safety equipment



Tripods and fall arrester equipment protect or rescue people and ensure safe access to sewer manholes, pits, cable ducts, tanks and vessels, or other underground working sites. Rugged and long-lasting design with simple and quick installation give these units their advantage.

Fall arresters type HRA come with a rescue lift and winch. In case of a rescue operation, the winch can be operated by your buddy.

item number	specification	weight
1 140 050	complete assortment: Tripod & fall arrester with 12 m V2A cable	29.0 kg
1 140 051	complete assortment: Tripod & fall arrester with 18 m V2A cable	34.0 kg
1 140 052	complete assortment: Tripod & fall arrester with 24 m V2A cable	36.0 kg
1 140 055	aluminum tripod, short version (DB-A1 short version) telescopic design	16.0 kg
1 140 053	aluminum tripod (DB-A2), telescope design	19.0 kg
1 140 056	aluminum tripod (DB-AR), telescopic and portable design (on rolls)	28.0 kg
1 140 060	load winch capacity 250 kg	7.00 kg
1 140 062	support for load winch	1.00 kg
1 140 061	tripod return pulley with snap hook	1.10 kg
1 140 063	cover lifter with load winch	5.50 kg
1 140 057	fall arrester harness acc. to EN361 universal Standard, arrester eyelets at front / back	1.10 kg

gas warning units



The **gas warning units** protect the health and safety of the sewer cleaner. The units monitor environment permanently according to the diffusion principle and trigger optical and acoustic alarms to warn users in case of an existing gas hazard.

The units are easy to operate, have a waterproof (IP67) rubber case, and have small dimensions and weight.

item number	specification	O ₂	CH ₄	H ₂ S	CO	CO ₂	IR	weight
1 140 110	G450/3 - sewage	●	●	●	-	-	-	0.35 kg
1 140 111	G450/4 - sewage	●	●	●	●	-	-	0.35 kg
1 140 113	G460/4 - sewage CO ₂ -IR	●	●	●	○	●	-	0.35 kg
1 140 116	G460/4 - sewage CO ₂ + CH ₄ Kombi-IR	●	●	●	○	●	●	0.35 kg

● sensor series assortment
○ optional sensors

NOTE: If you buy the gas warning unit from us, the first annual maintenance is included.

Further information available at our website at www.ehle-hd.com



sewer ventilation unit - radial type **MWM 200 E / ex**



specifications - MWM 200 E / ex	
rated voltage	230 V, 50 Hz
rated power	0.75 kW
air flow / DIN 24163	2,000 m³/h
total pressure increase	850 pa (35m hose)
hose connection	Ø 200 mm
protection	IP55
dimensions (LxWxH)	610 x 600 x 550 mm
weight	28.0 kg

The portable radial fan **MWM200 E** (also as EX-proof version) with AC motor and starting capacitor is the ideal choice for small power packs or connections to the residential grid.

The fan **MWM200 E ex** is explosion-proof according to VDMA 24169, and may be used in zones 1 and 2.

item number	specification	version	weight
1 140 300	radial fan MWM 200 E	230 V	28.0 kg
1 140 301	radial fan MWM 200 E ex	230 V, Ex proof	28.0 kg
1 140 305	suction hose with connection Ø 200 mm	7.5m long	8.00 kg
1 140 306	pressure hose with connection Ø 200 mm	20m long	9.50 kg
1 140 307	quick stretch tape	-	0.90 kg



sewer ventilation unit - radial type **MWM 300 E / ex**



specifications - MWM 300 E / ex / D ex		
rated voltage	230 V	400 V
rated power	0.75 kW	1.1 kW
air flow / DIN 24163	2,400 m³/h	3,000 m³/h
total pressure increase	800 pa (35 m hose)	
hose connection	Ø 300 mm	
protection	IP55	
dimensions (LxWxH)	610 x 600 x 580 mm	
weight	28.0 - 36.0 kg	

The portable radial fan **MWM300 E** (also available as explosion-proof version or with 3-phase electric motor) includes an AC motor and starting capacitor, and is even more powerful than the MWM 200 series motors.

The fan **MWM 300 E ex /D ex** is explosion-proof according to VDMA 24169 and may be used in zones 1 and 2.

item number	specification	version	weight
1 140 320	radial fan MWM 300 E	230 V	28.0 kg
1 140 321	radial fan MWM 300 E ex	230 V, Ex proof	28.0 kg
1 140 322	radial fan MWM 300 D ex	400 V, Ex proof	36.0 kg
1 140 325	suction hose with connection Ø 300 mm	7.5m long	11.0 kg
1 140 326	pressure hose with connection Ø 300 mm	20m long	13.0 kg
1 140 307	quick stretch tape	-	0.90 kg

sewer ventilation unit - radial type **MWM 300 Petrol**



specifications - MWM 300 B	
motor	4 cycles, Briggs & Stratton
rated power	3.0 HP
air flow / DIN 24163	3,600 m³/h
total pressure increase	1,000 pa (35 m hose)
hose connection	Ø 300 mm
protection	Petrol lead-free
dimensions (LxWxH)	610 x 600 x 640 mm
weight	30.0 kg

The portable radial fan **MWM300 B** with petrol engine provides maximum independence from the electrical grid.

This unit is suitable for applications far away from any power supply.

item number	specification	version	weight
1 140 310	radial fan MWM 300 B	Petrol engine	30.0 kg
1 140 325	suction hose with connection Ø 300 mm	7.5m long	11.0 kg
1 140 326	pressure hose with connection Ø 300 mm	20m long	13.0 kg
1 140 307	quick stretch tape	-	0.90 kg

sewer ventilation unit - radial type **MWM 400 D ex**



specifications - MWM 400 D ex	
rated voltage	400 V, 50 Hz
rated power	2.5 kW; 4.9 A
air flow / DIN 24163	6,000 m³/h
total pressure increase	700 pa (35 m hose)
hose connection	Ø 400 mm
protection	IP55
dimensions (LxWxH)	660 x 810 x 860 mm
weight	50.0 kg

The portable radial fan **MWM400 D ex** with 3-phase AC motor is our most powerful portable standard fan.

The fan **MWM400 D ex** is explosion-proof according to VDMA 24169, and may be used in zones 1 and 2. This unit also has an explosion-proof plug.

item number	specification	version	weight
1 140 330	radial fan MWM 400 D ex	400 V, Ex proof	50.0 kg
1 140 331	suction hose with connection Ø 400 mm	5m long	11.0 kg
1 140 332	suction hose with connection Ø 400 mm	7.5m long	13.0 kg
1 140 333	pressure hose with connection Ø 400 mm	10m long	9.50 kg
1 140 334	pressure hose with connection Ø 400 mm	20m long	18.0 kg
1 140 307	quick stretch tape	-	0.90 kg



Sewer ventilation unit - axial

Type VM 315 ex



Technical data - VM 315 ex	
rated voltage	230 V, 50 Hz
rated power	0.75 kW
air flow / DIN 24163	2,200 m³/h
total pressure increase	300 pa (10 m hose)
hose connection	Ø 200 mm including Transition adaptor
protection	IP55
dimensions (LxWxH)	408 x 340 x 355 mm
weight	23.0 kg

The portable axial fan **VM315 ex** with AC motor and start-up capacitor is the ideal choice for confined spaces and for its small weight.

The van **VM315 ex** is explosion-proof according to VDMA 24169 and may be used in zones 1 and 2.

NOTE: Please keep in mind that you need reducing adaptors for hoses.

item number	specification	version	weight
1 140 350	axial fan VM315 ex	230 V, Ex proof	23.0 kg
1 140 305	suction hose with connection Ø 200 mm	7.5m long	8.00 kg
1 140 325	suction hose with connection Ø 300 mm	7.5m long	11.0 kg
1 140 324	suction hose with connection Ø 300 mm	15m long	22.0 kg
1 140 306	pressure hose with connection Ø 200 mm	20m long	9.50 kg
1 140 326	pressure hose with connection Ø 300 mm	20m long	13.0 kg
1 140 351	adaptor sleeve from Ø 320 mm to Ø 200 mm	-	1.30 kg
1 140 352	adaptor sleeve from Ø 320 mm to Ø 300 mm	-	1.30 kg
1 140 307	quick stretch tape	-	0.90 kg



Sewer ventilation unit - axial

Type VL 400 D ex



Specifications - VL 400 D ex	
rated voltage	400 V, 50 Hz
rated power	2.5 kW; 4.9 A
air flow / DIN 24163	6,000 m³/h
total pressure increase	800 pa (35 m hose)
hose connection	Ø 400 mm
protection	IP55
dimensions (LxWxH)	472 x 400 x 655 mm
weight	52.0 kg

The radial fan **VL 400 D ex** is ideal for higher supply pressures, e.g. if multiple hoses are connected.

The fan **VL 400 D ex** is explosion-proof according to VDMA 24169 and may be used in zones 1 and 2. This unit also has an explosion-proof plug.

item number	specification	version	weight
1 140 355	axial fan VL 400 D ex	400 V, Ex proof	52.0 kg
1 140 331	suction hose with connection Ø 400 mm	5.0m long	11.0 kg
1 140 332	suction hose with connection Ø 400 mm	7.5m long	13.0 kg
1 140 333	pressure hose with connection Ø 400 mm	10m long	9.50 kg
1 140 334	pressure hose with connection Ø 400 mm	20m long	18.0 kg
1 140 307	quick stretch tape	-	1.00 kg

Sewer ventilation unit - axial Type **VL 500 D ex**



Specifications - VL 500 D ex	
rated voltage	400 V, 50 Hz
rated power	2.5 kW; 4.9 A
air flow / DIN 24163	7,000 m³/h
total pressure increase	800 pa (35 m hose)
hose connection	Ø 400 mm
protection	IP55
dimensions (LxWxH)	472 x 500 x 655 mm
weight	58.0 kg

The axial fan **VL 500 D ex** is technically identical with the VL 400 ex fan, but has a larger flow rate thanks to the larger suction and output area.

The **VL 500 D ex** motor is explosion-proof according to VDMA 24169 and may be used in zones 1 and 2. This unit also has an explosion-proof plug.

item number	specification	version	weight
1 140 356	axial fan VL 500 D ex	400 V, Ex proof	58.0 kg
1 140 360	suction hose with connection Ø 500 mm	5.0m long	12.0 kg
1 140 361	suction hose with connection Ø 500 mm	7.5m long	20.0 kg
1 140 362	pressure hose with connection Ø 500 mm	10m long	9.50 kg
1 140 363	pressure hose with connection Ø 500 mm	20m long	21.5 kg
1 140 307	quick stretch tape	-	22.0 kg

Sewer ventilation unit - axial Type **VM 600 D ex**



Specifications - MWM 600 D ex	
rated voltage	400 V, 50 Hz
rated power	2.5 kW; 4.9 A
air flow / DIN 24163	14,000 m³/h
total pressure increase	40,000 m³/h
hose connection	-
protection	IP55
dimensions (LxWxH)	619 x 700 x 910 mm
weight	55.0 kg

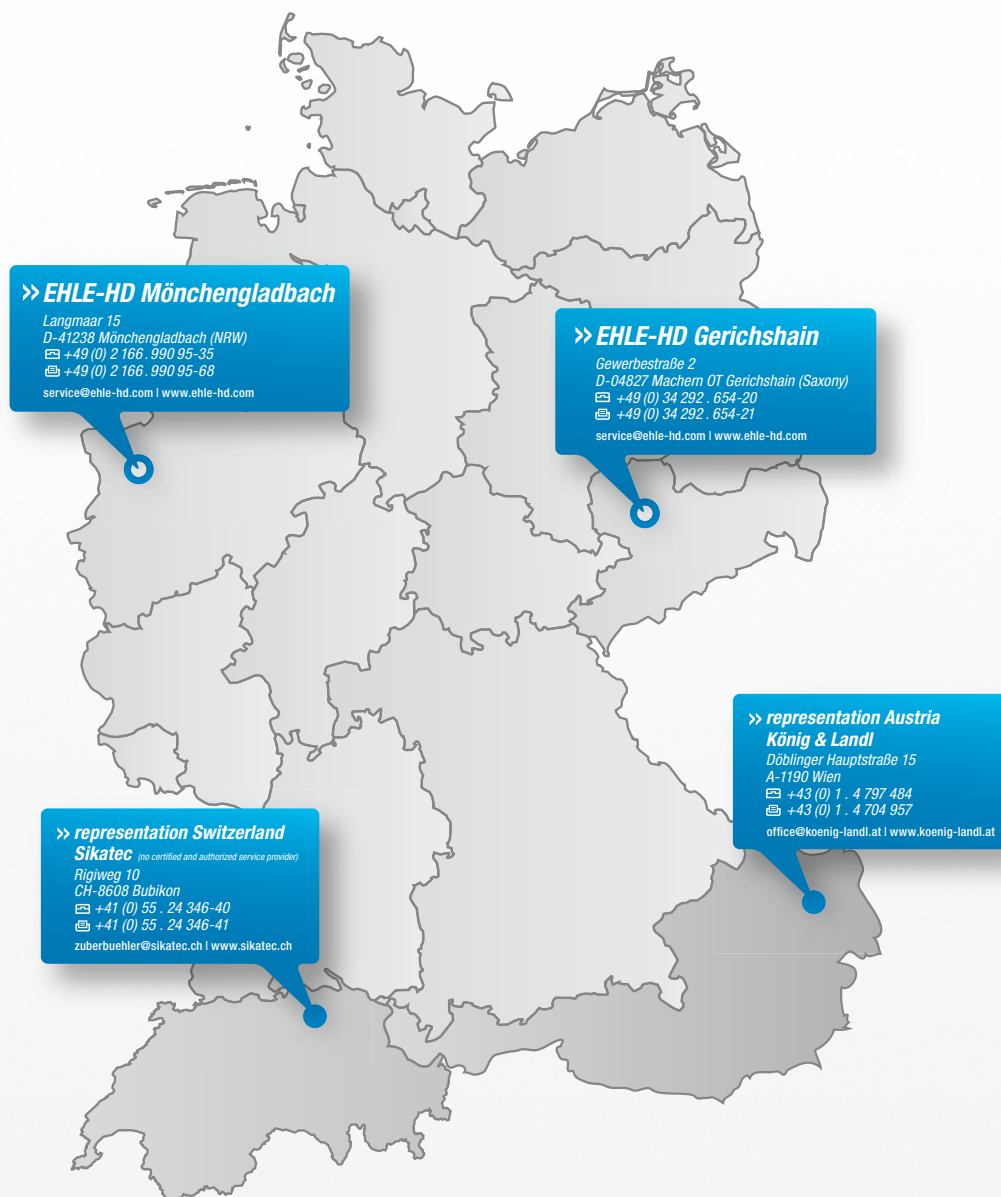
The axial fan **VM600 D ex** is a special design for the ventilation and exhaust of large sewers. Simple transfer thanks to solid rolls, rugged metal construction and reliable operation are some of its advantages.

The stable support platform makes it possible to place the unit directly onto the opened sewer manholes - no diffuser required.

The fan **VM600 D ex** is explosion-proof according to VDMA 24169 and may be used in zones 1 and 2. This unit also has an explosion-proof plug.

item number	specification	version	weight
1 140 370	axial fan VM 600 D ex	400 V, Ex proof	55.0 kg

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