### **3L concept exclusively by**



With KEG you can save up to 4000 m<sup>3</sup> of water a year – per cleaning truck!

#### We will show you how you can really save money!

Take some time and calculate your savings:

4 hours of effective work a day

Consumption of water per truck per minute is about 330 litres or even more? At 330 lpm your daily consumption is 79.2 m<sup>3</sup> – adding up to **17,424 m<sup>3</sup> per year**!

Consumption of fuel per truck (at 1.200 RPM) is about 67.2 litres per day... – adding up to **14,784 litres of diesel fuel per year!** 

Working with KEG nozzles with patented fluid mechanics, your consumption will be reduced to about 13,200 m<sup>3</sup> water or 12,364 litres of diesel (at 1.000 RPM) a year – same cleaning efficiency guaranteed!

That sums up to 4,224 m<sup>3</sup> less water and 2,420 litres less fuel in just one year.

What is your cost for 1 m<sup>3</sup> of potable water or 1 litre of diesel fuel?

# Savings in water and fuel worth € 10,000 a year!



Less water Less fuel Less cost

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### **ClearWater**



### Which water would you prefer for cleaning your pipes?





reduction of

costs

### Then you need ClearWater - our innovative and patented water recycling system!

#### Advantages:

- new, simplified and more efficient water recycling system
- reduction of energy cost
- investment & operating reduction of maintenance and operating expenses
- eco-friendly
- optimum water quality
- available for any sewer cleaning truck & also as retrofit
- well-engineered, sophisticated & interestingly priced
- guarantees water quality required by pump manufacturers



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# Sighted Nozzle – small –

### Sewer cleaning and inspection all in one go - completely wireless

#### Advantages:

- cleaning nozzle for efficient sewer cleaning featuring KEG's patented fluid mechanics
- ideal for pipes from 200 mm
- supplies images also in slippery pipes, where conventional cameras encounter problems
- monitoring of the cleaning process thanks to simultaneous video recording by the nozzle
- proof of the proper condition of the pipe in terms of the Federal Self Control Regulations and the DIN EN 14654 Standards
- early detection of damages allows for dramatic decrease of pipe maintenance cost and prevents further damages



"Sighted Nozzle" for pipe diameters 200 - 500mm

no cables - no problems!



The most important information for all sewer authorities is provided without extra effort or cost:

• Is the pipe clean? • Is the pipe okay?

#### **Technical Specifications**

- range of operation: pipe diameters from 200 500 mm
   also available for pipes from 150 mm -
- pump performance: at
  - formance: at least 140 l/min, 100 bar
  - video recording: DURING cleaning process
    - completely WIRELESS –



#### Damages and deposits detected during the cleaning process...



...localized pipe damage





...deposits at the bottom of the pipe

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... root penetration

## **Sighted Nozzle**



### Sewer cleaning and inspection all in one go - completely wireless

#### Advantages:

- Internal power supply
- Smart pipe cleaning as cleaning efficiency is adjustable to the degree of soiling
- Thus savings in water, energy and time
- Continuous monitoring of the cleaning process, simultaneous video recording possible
- proof of the proper condition of the pipe in terms of the Federal Self Control Regulations and the DIN EN 14654 Standards
- Early detection of damages in the pipe while cleaning (localisation and documentation of early-stage damage during the cleaning process)
- In time detection of damages allows for dramatic decrease of pipe maintenance cost and prevents further damages/problems
- · Live footage / information availably anytime

The most important information for all sewer authorities is provided

without extra effort or cost:

• Is the pipe clean?

Is the pipe okay?

no cables - no problems!

#### **Technical Specifications**

- range of operation:
- : pipe diameters from 300mm
- transmitter range:
- > 300 m unlimited

20 – 28 kg

- operation time:weight:
- pump performance: from 160 l/min, 120bar
- WIRELESS transmission of video signal by radio DURING the cleaning process

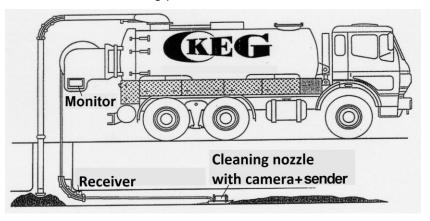
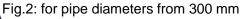




Fig.1: for pipe diameters from 500 mm





### product video on You Tube



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### Mini chain cutters for plumbing applications

KEG Chain Cutters are used if conventional cleaning tools fail to remove such hard obstructions as roots, scale, cement wash.

#### Advantages:

- 90° lateral applications possible (without swivel joint)
- efficient cleaning by self-sharpening chains
- replaceable nozzle inserts
- maintenance-free
- time and energy-saving operation

#### **Technical Specifications:**

- Nozzle body made of special steel
- Self-sharpening chains
- Maintenance-free bearing with 2-year warranty
- Suitable for working pressure from 60 bar

2-year warranty\* on 2-year warranty\* on maintenance-free slide bearings - entire equipment also for rent -



#### Hummingbird Chain Cutter DN 50

for pipe diameter 50 - 150 mm, with stainless steel drill point

- light, flexible, agile
- also available with pulling device
- with skids for pipe diameters 100, 125 and 150 mm



#### Mini Chain Cutter DN 75

NEW: with stainless steel drill point, suitable for pipes from 75 - 250 mm

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Part N°	Model	Pipe diameter (mm)	Flow rate (litre/min)	Pressure (bar)	Weight (kg/piece)
0020 0110	Hummingbird DN 50	50-150	from 28	from 60	0.6
0020 0344	Mini DN 75	75-250	from 50	from 60	2.5

Chain cutters must be operated with an HP swivel joint!

### Additional equipment:

#### Hummingbird DN 50 Part N°

Mini DN 75 Part N° • Guide skid for pipe diameter · Guide skid for pipe diameter 100 mm 100 mm 0020 0065 0020 0111 125 mm 0020 0066 125 mm 0020 0066 0020 0067 150 mm 0020 0112 150 mm • HP swivel joint (*min.* 70l/*m*) 200 mm 0020 0068 0080 0010 for pipe diam. 225/250 mm: • 2 m replacement chain 0020 0021 guide skid for diam. 200 mm 0020 0068 chain breaker 0020 0360 + 4 skids 0021 0045 • hard metal tips for 0020 0350 • HP swivel joint 0080 0011 concrete-like deposits 2 m replacement chain 0020 0021 also available with pulling device chain breaker 0020 0360 hard metal tips for 0020 0350 concrete-like deposits

\* .. accord. to KEG's terms of warranty

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# Cutters Super PLUS 150/200

The Cutters SUPER PLUS 150/200 are efficient tools to handle the most hard obstructions. such as roots, lime, scaling, cement wash, tuberculation, and other types of deposits and **blockages** using self-sharpening chains. Chains can be adjusted for different pipe diameters. The optimum cutter for pumps of medium to high performance.

#### Advantages:

- application also in difficult pipes (offsets, pipe rips, protruding taps, etc.)
- replaceable penetrator and nozzle inserts •
- solid and reliable construction •
- maintenance-free bearings with 2-year warranty\* .
- efficient cleaning by self-sharpening chains



#### **Technical Specifications:**

- material of nozzle body: special stainless steel
- 4 (SFP150) or 6 (SFP200) self-sharpening cutting tools
- both cutters can be used in maintenance-free bearings egg-shaped pipes

with 2-year warranty - also for rent -



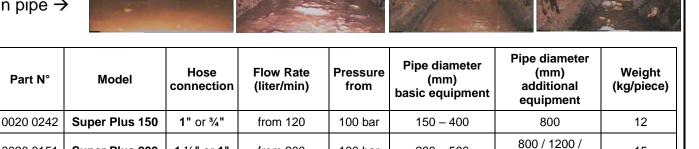
### Super Plus 150



#### Super Plus 200

root penetration in pipe  $\rightarrow$ 

0020 0151



100 bar

#### **Additional Equipment:**

Super Plus 200

1 ¼" or 1"

- HP swivel joint 1" (SFP150)
- HP swivel joint 1 <sup>1</sup>/<sub>4</sub>" (SFP200)
- cross cutter 32x45 made of special steel
- 5m replacement chain
- chain breaker
- pull-back device

- Chain cutters must be operated with an HP swivel joint!
  - hard metal tips for concrete-like deposits

200 - 500

Part N° 0021 0111

15

- sets of additional equipment for pipe diameters up to 800 / 1200 / 2000 mm
- spray bars for all-round pipe cleaning up to pipe diameter 800 / 1200 / 2000 / 3000 mm
- additional equipment for egg-shaped pipes
- \* ... accord. to KEG's terms of warranty

from 200

Part N° 0080 0012

Part N° 0080 0013

Part N° 0020 0070

Part N° 0021 0022

Part N° 0021 0239

Part N° 0021 0240

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2000 / 3000

### Additional Equipment for Cutter SUPER PLUS 150/200

also for rent

cutting & cleaning

### Additional equipment for cutter Super Plus 150 all devices

- up to pipe diameter 2000 mm
- for egg-shaped pipes 600 900 mm

Additional equipment for cutter Super Plus 200

- up to pipe diameter 800 mm
- for egg-shaped pipes 600 900 mm
- for pipe diameters from 800 mm to 1200 mm
- pulling device (see fig. below)
- extension sets for larger pipes upon request

# Cutter Super Plus 200 with pulling device universal tool for

- tailored for trucks with lower pump performance
- see fig. on the right for pipe diameter 1200 mm

### product video on You Tube













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#### Spray bars

Set of equipment for optimum all-round pipe cleaning - also in egg-shaped and special pipes - especially for pipe diameters

- up to 800 mm cutter Super Plus 150 / 200
- up to 3000 mm cutter Super Plus 200

The cutter is adjustable to the individual pipe diameter by means of tube extensions, rotation speed can be individually controlled.



spray bars incl. inserts pipe extensions 50 mm pipe extensions 100 mm pipe extensions 150 mm pipe extensions 250 mm pipe extensions 400 mm

Item



# **Cutter SUPER NOVA 4000**

An **extra robust cutter** of the newest generation with reinforced chains to efficiently handle **deposits and incrustations of all kinds in pipes and sewers, such as lime, concrete, extensive root growth, etc.** The optimum cutter for pumps of medium to high performance, also suitable for vehicles with **water recycling system!** 

#### Advantages:

- application also in difficult pipes (offsets, pipe rips, protruding taps, etc.)
- replaceable nozzle inserts
- solid and reliable construction
- maintenance-free bearings with 2-year warranty\*
- efficient cleaning by self-sharpening reinforced chains

#### **Technical Specifications:**

- Material of nozzle body: special stainless steel
- 4 self-sharpening cutting tools



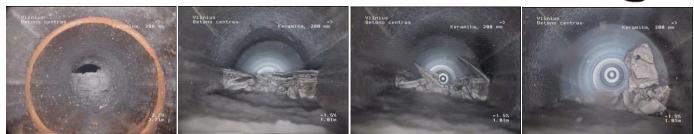
SUPER NOVA 4000

product video on

You Tube

NEW GENERATION - extra robust maintenance-free bearings with 2-year warranty\*





#### ...concrete deposits in the pipe

Part N°	Model	Hose connection	Flow rate (liter/min)	Pressure bar	Pipe diameter basic equipment (mm)	Pipe diameter add. equipment (mm)	Weight (kg/piece)
0020 0400	SuperNova4000	1 ¼" or 1"	from 180	from 100	150 – 400	600 / 800 / 1200	30
0020 0401	SuperNova4000 Recycling	1 ¼" or 1"	from 180	from 100	150 – 400	600 / 800 / 1200	30

#### Additional equipment:

- HP swivel joint 1 1/4"
- HP swivel joint 1 ¼" 1"
  5 m replacement chain
- chain breaker
- pull-back device
- Part N° 0080 0013 Part N° 0080 1141 Part N° 0020 0422 Part N° 0020 0409 Part N° 0021 0240
- Chain cutters must be operated with HP swivel joint!
  - hard metal tips
     Part N° 0021 0111
  - expansion kit for pipe diameters up to 600 / 800 / 1200 mm
  - spray bars for all-round pipe cleaning up to pipe diameter 1200 mm

\* ...accord. to KEG's terms of warranty

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### Aquapower 700 -

### rotor nozzle with controllable speed

Rotor nozzle - utilizing automatic rotation speed limitation - is perfect for all around pipe cleaning and primarily intended for grease removal. It will also remove scale, crusts and deposits of all kinds. Aqua Power 700 can also be operated with forward jet.

- ideal for vehicles with water recycling system
- nozzle body made of highly wear-resistant, stainless material
- individually adjustable to pipe diameter
- maintenance free, replaceable nozzle inserts
- rotation speed adjustable according to customer

#### Aquapower 700 – 1/2" Part N°. 0010 0270

#### incl. ceramic inserts

#### Accessories – optional

Guide skid DN 100 Guide skid DN 125 Guide skid DN 150 HP swivel joint 1/2" Can also be used without swivel joint!

#### Part N° 0010 0274

Part N° 0020 0111

Part N° 0020 0113

Part N° 0020 0112

Part N° 0080 0010

#### incl. ceramic inserts

Aquapower 700 – 3/4"

<u> Accessories – optional</u>	
Guide skid DN 100	ArtNr. 0020 0111
Guide skid DN 125	ArtNr. 0020 0113
Guide skid DN 150	ArtNr. 0020 0112
HP swivel joint ¾"	ArtNr. 0080 0011
Can also be used without a	wivel joint!

Can also be used without swivel joint!

#### Aquapower 700 – 1"

### Part N° 0010 0276

incl. skids and ceramic inserts

#### Accessories

extension kit for pipe diameter from 400 mm	Part N° 0010 0277
HP swivel 1"	Part N° 0080 0012
HP swivel 1¼"	Part N° 0080 0013
pull-back / anti-hook device	Part N° 0010 0290

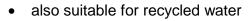
HP swivel joint stringently

### required for 1 ¼" hose! perfect for manhole cleaning!

Available sizes for hose connection	1/2"	3/4"	1" – 1 ¼"	
Part N°	0010 0270	0010 0274	0010 0276	
pipe diameter (mm)	from 50	from 75	from 150	



You Tube



- up to manhole diameter 2000 mm with a water flow of at least 300 lpm
- easy cleaning of very deep manholes without entering

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#### for vehicles with water recycling system with 2-year warranty\*









### Floor Cleaner - 5 up to 14 jets

KEG Floor Cleaners - utilizing patented fluid mechanics - provide considerably higher efficiency than conventional sewer cleaning nozzles. Due to optimum fluid mechanics, the entire flow from the high pressure hose is converted into maximum cleaning power. The side walls of the pipe are cleaned with different jet angles, which makes these Floor Cleaners **ideal for removing sludge, debris, mud, etc. Part N° 0010 0120 also suitable for slot drain cleaning.** 

#### Advantages of the patented fluid mechanics:

- reduced water and energy consumption by:
  - zero water turbulence inside nozzle body
  - efficiency rate of about 80 %
- time-saving operation by increased performance
- extra cost reduction by:
  - replaceable nozzle inserts
  - wear-resistant material of nozzle body







Extra weight container to be filled with lead in the event of high pump performance (from 1" hose connection)

Available sizes for hose connection	<sup>1</sup> /2" or <sup>3</sup> /4"	<sup>3</sup> ⁄4" or <b>1</b> "	<sup>3</sup> ⁄4" or <b>1</b> "	<sup>3</sup> ⁄4" - 1" - 1 <sup>1</sup> ⁄4"	1" - 1 ¼" - 1 ½"	1" - 1 ¼" - 1 ½"
Part N°	0010 0120	0010 0121	0010 0122	0010 0123	0010 0124	0010 0125
Weight (kg)	8.0	12.0	14.0	18.0	18.0	22.0
Number of inserts	5	6	8	10	12	14
Pipe diameter (mm)	from 100	from 200	from 250	from 300	from 400	from 500

Floor cleaners must be operated with HP swivel joint!

• lead balls

#### Additional equipment:

- Y-connector with 2 HP hoses (325 mm) Part N° 0010 0126 jet angle adapters Part N° 0010 0184 for simultaneously operating 2 floor cleaners for individually adjusting the water jets
- Y-connector with 2 HP hoses (500 mm) Part N° 0010 0126a for simultaneously operating 2 floor cleaners
- 2 supports for part 0100 0120 for slot drain cleaning

Part N° 0010 0119

for individually adjusting the water jets to the pipe diameter



Part N° 0010 0127

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# OMG High-Performance Nozzle

#### **OMG High-Performance Nozzle**

The OMG Nozzle is made of highly wear resistant, stainless steel. Utilizing the patented fluid mechanics and two different jet angles, it highly efficient, but still gentle to the pipe. Its exta long nozzle body makes it easy to overcome holes and cracks in the pipes. Hence the OMG Nozzle is perfect for cleaning pipes and sewers in poor condition (holes, decayed pipe material etc.) and in preparation of pipe relinings / rehabilitations.

#### Advantages:

- patented fluid mechanics
- replaceable nozzle inserts
- with forward jet
- highly wear resistant, stainless materal of nozzle body
- extra long

with patented fluid mechanics

Available sizes for hose connection	1"	1 ¼"	1 ½"
Part N°	0010 0266	0010 0267	0010 0268
Weight (kg)	16.2	16.2	16.2
Length / Diameter (mm)	450 / 108	450 / 108	450 / 108
Number of inserts	13	13	13
Pipe diameter (mm)	from 150 mm	from 150 mm	from 150 mm

#### Long Nozzle

The Long Nozzle is perfect for cleaning problematic pipes and sewers, especially for corrugated pipes. Thanks to its reduced turbulences inside the nozzle, it works with superior efficiency.

#### Advantages:

- replaceable nozzle inserts
- with forward jet

Available sizes for hose connection	1⁄2"	3/4 "	1"	1 ¼"
Part N°	0010 0262	0010 0263	0010 0264	0010 0265
Weight (kg)	0.6	6.2	6.2	6.2
Length / Diameter (mm)	100 / 35	290 / 64	290 / 64	290 / 64
Number of inserts	5	7	7	7
Pipe diameter (mm)	from 50 mm	from 100 mm	from 100 mm	from 100 mm

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# Royal Nozzle / Torpedo Nozzle

#### **Royal Nozzle**

The Royal Nozzle is made of special hardened stainless steel. Utilizing the patented fluid mechanics and two different jet angles it is mainly used for all around cleaning of pipe diameters from 300 to 1200 mm. KEG's Royal Nozzle boasts a maximum of performance so far unrivaled.

Available sizes for hose connection	3⁄4"	1"	1 ¼"	1 ½"
Part N°	00100020	00100021	00100022	00100023
Weight (kg)	7.5	7.5	7.5	7.5
Length / Diameter (mm)	190 / 108	190 / 108	190 / 108	190 / 108
Number of inserts	12	12	12	12
Pipe diameter (mm)	300 - 1000	300 - 1200	300 – 1200	300 - 1200

# with patented fluid mechanics

#### Torpedo Nozzle

Torpedo Nozzle utilizing the patented fluid mechanics is mainly used for the removal of sand, silt, mud and debris etc. from the floor of pipes and in applications when **good traction capacity** is needed. Two different jet angles ensure a very **good mud and sand transport especially in pipe diameters from 150 – 400 mm**. The Torpedo Nozzle is made of special hardened stainless steel and boasts replaceable nozzle inserts

- optimum mud and sand transport in round pipes (Royal Nozzle Traction)
- optimum mud and sand transport in egg-shaped pipes

Available sizes for hose connection	3/4"	1"	1 ¼"	1 1⁄2"
Part N°	00100030	00100031	00100032	0010 0033
Weight (kg)	5.6	5.6	5.6	5.6
Length / Diameter (mm)	180 / 98	180 / 98	180 / 98	180 / 98
Number of inserts	8	8	8	8
Pipe diameter (mm)	150 - 400	150 - 400	150 - 400	150 - 400

#### Advantages of patented fluid mechanics

- Reduced water and energy consumption thanks to
  - zero water turbulence inside nozzle body
  - efficiency rate of about 90 %
- time-saving operation by increased performance
  - extra cost reduction thanks to:
  - replaceable nozzle inserts
  - wear resistant material of nozzle body
- less maintenance of pump & vehicle





product video on

- Royal Nozzle -





- Torpedo Nozzle -

product video on



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## Sewer Nozzle / Cleaning Nozzle

#### Sewer Nozzle

The Sewer Nozzle utilizing the patented fluid mechanics and two different jet angles was primarily designed for a **day to day all around pipe cleaning**. It is made of special hardened stainless steel and boasts replaceable nozzle inserts.

Available sizes for hose connection	3/4"	1"	1 1/4"	1 1⁄2"
Part N°	0010 0040	0010 0041	0010 0042	0010 0043
Weight (kg)	6.5	6.5	8.7	8.7
Length / Diameter (mm)	180 / 99	180 / 99	208 / 109	208 / 109
Number of inserts	10	10	12	12
Pipe diameter (mm)	150 - 500	150 - 500	150 - 600	150 – 600





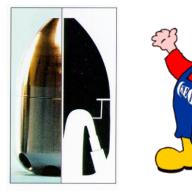
#### **Cleaning Nozzle**

The Cleaning Nozzle utilizing the patented fluid mechanics and two different jet angles is mainly used for **all around cleaning** of specifically **smaller pipe diameters**. Due to its **light design it will go round bends** and can be successfully used in different applications. It is made of special hardened stainless steel and boasts replaceable nozzle inserts.

Available sizes for hose connection	3/8"	1⁄2"	3/4"	1"	1" 30°/40°	1 ¼"
Part N°	00100004	00100001	00100002	00100003	0010 1103	0010 0005
Weight (kg)	0.3	0.3	1.7	2.7	2.7	2.7
Length / Diameter (mm)	45 / 44	45 / 44	105 / 64	125 / 74	125 / 74	125 / 74
Number of inserts	8	8	8	8	8	8
Pipe diameter (mm)	75 - 200	75 - 200	100 - 300	100 - 400	100 - 400	100 - 400

#### Advantages of patented fluid mechanics

- Reduced water and energy consumption thanks to
  - zero water turbulence inside nozzle bodyefficiency rate of about 80 %
- time-saving operation by increased performance
- extra cost reduction thanks to:
  - replaceable nozzle inserts
  - wear resistant material of nozzle body
- less maintenance of pump & vehicle



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- Sewer Nozzle -



- Cleaning Nozzle -

### **Traction Nozzle**

The Traction Nozzle with patented fluid mechanics and two different jet angles is an excellent tool to remove deposits and blockages (for example sand, debris, mud, etc.), in mainly difficult pipes and when tight traction is required, especially in smaller pipe diameters. This small maneuverable nozzle is also suitable for pipes with offsets and bends. The Traction Nozzle is made of highly wear-resistant special steel and equipped with replaceable inserts.

#### Advantages

- Reduced water and energy consumption thanks to:
  - patented fluid mechanics
  - zero water turbulence inside nozzle body
  - efficiency rate of about 80 %
- time-saving operation by increased performance
- extra cost reduction thanks to:
  - replaceable nozzle inserts
  - highly wear-resistant, stainless material of nozzle body
- available with or without forward jet
- less maintenance of pump and vehicle





- Floating Nozzle -

.. nozzle **without** forward jet ... nozzle **with** forward jet

Available sizes for hose connection	3/8"	1/2 "	3⁄4"	1"	1 ¼"		
Part N°	0010 0008	0010 0010	0010 0012	0010 0014	0010 0017		
	0010 0009	0010 0011	0010 0013	0010 0015	0010 0016		
Weight (kg)	0.3	0.3	1.1	1.6	2.7		
Length / Diameter (mm)	47 / 40	47 / 40	98 / 60	110 / 68	125 / 80		
Number of inserts	7	7	7	7	7		
Pipe diameter (mm)	40 - 150	40 - 150	60 - 200	75 - 250	75 - 300		





### Facts Worth Knowing About KEG Cleaning Nozzles

#### Recycled Water

KEG's cleaning nozzles are basically suitable for use with recycled water. On request we advise you on this particular issue and assist you in selecting the proper cleaning tool and its size according to pump performance and pipe diameter.

#### KEG Warranty

All KEG pipe cleaning tools utilizing patented fluid mechanics and equipped with titanium ceramic inserts are available with **3-year warranty**\* on nozzles and inserts (\*according to KEG's Terms of Warranty).

#### Material/Nozzle Inserts

Our cleaning nozzles are made of highly wear-resistant special hardened stainless steel. They come with replaceable threaded inserts (except for Ball and Standard Nozzles) and are individually configured according to pump performance.

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# **Stainless Steel Nozzles**

### Egg Nozzle

Light and agile all-round nozzle

- with forward jet
- replaceable nozzle inserts front and rear

Available sizes for hose connection	1⁄4 "	3/8"	1⁄2"	3⁄4"	1"	1 ¼"
Part N°	00100210	00100211	00100212	00100213	00100214	00100215
Length / Diameter (mm)	30 / 28	30 / 28	50 / 37	60 / 40	70 / 55	85 / 65
Weight (kg)	0.06	0.06	0.3	0.4	0.7	1.2
Pipe diameter (mm)	from 30	from 30	from 40	from 70	from 80	from 100

#### Devastator Egg Nozzle (Poking Nozzle)

Light and agile all-round nozzle

- with forward jet
- replaceable nozzle inserts front and rear

Available sizes for hose connection	1⁄4 "	3/8"	1⁄2"	3⁄4"	1"	1 ¼"
Part N°	00100218	00100219	00100220	00100221	00100222	00100223
Length / Ø (mm)	22 / 22	22 / 22	50 / 34	60 / 45	66 / 54	85 / 65
Weight (kg)	0.2	0.2	0.2	0.4	0.6	1.0
Pipe diameter (mm)	from 30	from 30	from 40	from 50	from 70	from 70

#### **Twister Nozzle**

Light and agile all-round nozzle

- with rotating forward jet
- with or without replaceable rear inserts

Available sizes for hose connection	1⁄2"	<sup>3</sup> ⁄4"	1"
Part N°	0010 1320	0010 0321	0010 0322
Length / Ø (mm)	64 / 40	84 / 40	100 / 55
Weight (kg)	0.3	0.4	0.8
Pipe diameter (mm)	from 50	from 60	from 80

#### Nozzle Display

- Available for all sizes & hose connections
- Nozzles can be set up individually
  - according to customer requirements



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### **Standardized Nozzles**

Standardized sewer cleaning nozzles for different applications.

#### Ball Nozzle

- with or without forward jet
- small, maneuverable and very agile
- suitable for all plumbing applications
- made of stainless steel



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Available s for hose con		1/8"	1⁄4 "	3/8"	1/2"
Part N°.	w/o forward jet	0010 0110	0010 0114	0010 0112	0010 0116
	with forward jet	0010 0111	0010 0115	0010 0113	0010 0117
Length / Di	iameter (mm)	15 / 15	24 / 20	24 / 24	30 / 30
Weight (kg	)	0.02	0.05	0.08	0.1
Pipe diame	eter (mm)	20 - 100	25 - 125	25 - 125	40 - 150

#### Standard Nozzle

- with or without forward jet
- light, maneuverable version
- made of stainless material

					11260 2,3	
Available for hose c	e sizes connection	1/8"	1⁄4 "	3/8"	1⁄2"	1"
Part N°	w/o forward jet	0010 0081	0010 0085	0010 0083	0010 0087	0010 0091
	with forward jet	0010 0082	0010 0086	0010 0084	0010 0088	0010 0092
Length /	Diameter (mm)	15 / 15	24 / 20	24 / 24	50 / 30	80 / 50
Weight (I	kg)	0.02	0.03	0.08	0.2	0.6
Pipe diar	neter (mm)	20 - 100	25 - 100	25 - 100	40 - 150	75 - 250

#### Sewer Flush Nozzle

- made of wear-resistant, hardened material
- solid and reliable all-round nozzle
- with replaceable propulsion inserts
- 1/4" and 3/8" version available with forward jet



Available sizes for hose connection	1/4 "	3/8"	1⁄2"	<sup>3</sup> ⁄4"	1"	1 ¼"
Part N° w/o forward jet	0010 0100	0010 0098	0010 0101	0010 0102	0010 0103	0010 0104
with forward jet	0010 0099	0010 0097	-	-	-	-
Length / Diameter (mm)	30 / 28	30 / 28	52 / 38	98 / 64	148 / 88	178 / 98
Weight (kg)	0.06	0.06	0.25	1.5	4.6	6.2
Pipe diameter (mm)	30 - 100	30 - 100	50 - 150	75 - 400	100 - 500	125 - 600

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### Special Nozzles for Line Blockages

#### Quattro Nozzle with forward jet

#### Special nozzle for clogged pipes.

The front water jets loosen the blockages, the sharp edges provide additional assistance in clearing flow off obstacles

- replaceable nozzle inserts
- nozzle body made of highly wear-resistant and stainless material

#### Quattro Nozzle with drill point

is excellently suitable for application in the case of **total blockages and compressed material** in lines. The replaceable tip deeply penetrates the blockage, the deposits being immediately washed to the rear. As the nozzle stays centered in the pipe, it is excellently suitable for applications in offsets and bends.

- nozzle inserts and drill point replaceable
- nozzle body made of highly wear-resistant and stainless material
- excellent traction, as there is no forward jet working

Available sizes for hose connection		1⁄4"	3/8"	1⁄2"	3⁄4"	1"	1 ¼"
Part N°	with forward jet	0010 0052	0010 0050	0010 0054	0010 0056	0010 0058	0010 0060
	with drill point	0010 0053	0010 0051	0010 0055	0010 0057	0010 0059	-
Weight (kg)		0.1	0.1	0.15	0,4	0.9	2.7
Length / Ø (mm)	w/o drill point	30 / 22	30 / 22	55 / 30	70 / 45	95 / 57	170 / 75
Pipe diameter (n	nm)	from 50	from 50	from 75	from 75	from 100	from 100

#### Rambo Nozzle –



#### Quattro Nozzle with drill point and forward jet *and compressed m* Special nozzle for total line blockages and compressed material.

This multi-edged nozzle combines the advantages of two nozzles in one tool: Quattro Nozzle with forward jet and Quattro Nozzle with drill point. The replaceable tip deeply penetrates the blockage and water jets loosen blocking material and wash it away to the rear. The nozzle stays centered inside the pipe and is therefore also able to cope with offsets and to go into bends.

- drill point and nozzle inserts replaceable
- nozzle body made of highly wear-resistant and stainless material





Available sizes for hose connection	1⁄4"	3/8"	1⁄2"	3/4 "	1"	1 ¼"
Part N°	0010 0067	0010 0067a	0010 0066	0010 0065	0010 0063	0010 0064
Weight (kg)	0.1	0.15	0.15	0.95	2.7	2.7
Length / diameter (mm)	40 / 22	40 / 22	55 / 30	120 / 52	170 / 75	170 / 75
Pipe diameter (mm)	from 50	from 50	from 75	from 75	from 100	from 100

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### **Vibration Nozzle**

#### Vibration Nozzle

This nozzle is particularly suitable for the removal of hard deposits

- intended for pipes from 30 mm diameter
- due to vibrations of the nozzle hard deposits fall off the pipe walls
- highly wear-resistant stainless material of nozzle body
- maintenance free, replaceable nozzle inserts

→ applications under TV monitoring only!





- Vibration Nozzle -

Available sizes for hose connection	1⁄4"	3/8"	½" small	1/2"	3/4"	1" small	1"	1 ¼"
Part. N°	0010 0199	0010 0105	0010 1106	0010 0106	0010 0107	0010 1108	0010 0108	0010 0109
Weight (kg)	0.18	0.18	0.18	0.78	2.6	2.6	6.3	6.3
Length / diameter (mm)	50 / 30	50 / 30	50 / 30	90 / 50	125 / 76	125 /76	165 /110	165 /110
Number of inserts	4	4	4	5	5	6	6	6
Pipe diameter (mm)	> 30	> 30	> 75	> 75	> 100	> 150	> 150	> 150

Please make sure that the Vibration Nozzle is extremely tightly connected/fixed to the hose or use an extra piece of hose as link between the main hose and the nozzle.

#### Vibration Nozzle for recycled water

This nozzle is particularly suitable for the removal of hard mineral deposits

- intended for pipes from diameter 150 mm
- due to vibrations of the nozzle hard deposits fall off the pipe walls
- highly wear-resistant stainless steel of nozzle body
- replaceable nozzle inserts
- boasting two circulator turbines

#### → Applications under TV monitoring only!

Available sizes for hose connection	1"	1¼"	
Part N°	0010 0197	0010 0198	
Pipe diameter (mm)	> 150 mm	> 150 mm	



Vibration Nozzle - Recycling -



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# Safety – the novelty by

Do you also have problems with blowing up toilets and extreme air current in the pipe?

#### The solution: Safety Nozzle

- KEG special nozzle with optimized jet angles utilizing patented fluid mechanics
- prevents blowing up toilets
- reduces air current in pipe by approx. 80%
- based on the findings of Oldenburg University of Applied Sciences and TU Dresden
- suitable for pipe diameters from 150 mm
- comes with a guide skid

Available sizes for hose connection	1"	1¼"	Safety Nozzle by K
Part N°	0010 0045	0010 0046	urrent
Pipe diameter (mm)	from 150	from 150	a loss air cuironn
Additional equipment: • HP swivel joint 1" • HP swivel joint 1 ¼" • Pull-back device	Part N° 0080 00 Part N° 0080 00 Part N° 0010 029	12 app 13 app 90 a	rox. 80% less air current nd water atomization!

#### Additional equipment:

- HP swivel joint 1"
- HP swivel joint 1 1/4"
- Pull-back device

### **Rotor Nozzle**

#### **Rotor Nozzle**

Due to its high cleaning performance the Rotor Nozzle allows for a perfect all around pipe cleaning. The constant rotary movement ensures a continuous cleaning of the interior wall of the pipe. The Rotor Nozzle is mainly used to with 2-year warranty\* remove grease and scale deposits as well as minor root penetrations.

#### Advantages:

- no maintenance required
- replaceable nozzle inserts
- highly wear-resistant stainless steel

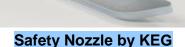
Available sizes for hose connection	1⁄4 "	3/8"	1⁄2"	3/4 "	1" small	1"	1 ¼"
Part N°	0010 0070	0010 0069	0010 0071	0010 0072	0010 0073a	0010 0073	0010 0074
Weight (kg)	0.3	0.3	0.6	2.1	2.1	3.8	3.8
Length / diameter (mm)	62/30	62/30	77 / 42	110 / 60	110 / 60	140 / 78	140 / 78
Number of inserts	4	4	7	7	8	9	9
Pipe diameter (mm)	50-150	50-200	75-250	100-300	150-400	150-400	150-400

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**Rotor Nozzle** 





### **Special Nozzles**



#### Pendlous

Optimum tool for cleaning the bottom of heavily soiled sewers and pipes

- replaceable nozzle inserts
- available with front jet on request
- available with special set-up on request



Use with HP swivel joint only!

hose connection	part N°.	length / Ø (mm)	weight in kg	nozzle inserts	pipe diam. (in mm)
1"	00100235	345 / 148	19.3	5	from 200
1"	00100236	345 / 148	19.3	7	from 200

#### Pendlous with special set-up

e.g. for slot drain cleaning



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### **Channel Cleaner**



- Efficient cleaning nozzle for increased water flow and better transport of deposits from the channels
- Less staff required for cleaning, as no water sprays on top of the drainage area
- Large version infinitely adjustable in width to fit channels from 150 200 mm



### product video on You Tube

Part N°	0010 0400	0010 0401
Model	Channel Cleaner 90 - 110	Channel Cleaner 150 – 200
Hose connection	3/4"	3/4"
Channel width (mm)	90 - 110	150 – 200

### **Slot Drain Cleaner**

- especially designed for cleaning slot drains and other narrow drains
- can be operated with any HP cleaner with at least 20 bar and 15 lpm
- no dirt or water sprays on top of the surface

#### **Technical Specifications:**

- in VA design
- ergonomic length
- spray gun with quick coupling
- hose connection
- included in delivery:
- 4 guide pins, 1 nozzle insert
- 1 spray gun 90cm incl. insert,
- 1 spray gun 70 cm incl. insert



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### **Ejector Nozzles**



#### Suitable for cleaning of water-bearing pipes only!

The special arrangement of the nozzle inserts results in the "soft" cleaning effect, which makes the Ejector Nozzles suitable for cleaning older sewer networks. They use the available water in the sewer to aid the water coming from the pressurized hose thus utilizing the advantages of both cleaning methods.



Especially suitable for culvert cleaning!

Ejector Nozzle

#### **Deep-Sucker Ejector**

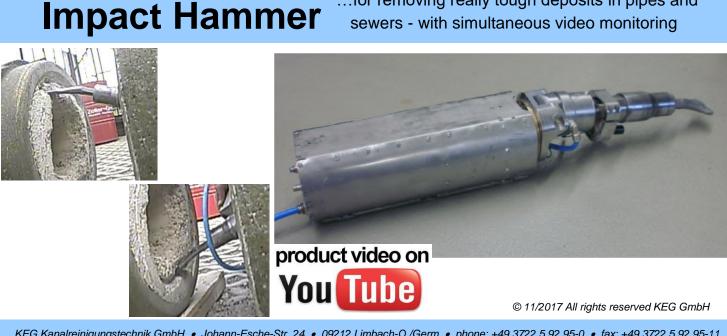
#### in connection with high pressure jetters

For sludge suction at discharge heads of more than 8m to aid the vacuum pump and in combination with the high pressure pump. The suction hose couplings are screwed to a 1" thread. It is therefore possible to use different coupling systems.

• HP connection with 1" union nut

#### Part N° 0080 0210

... for removing really tough deposits in pipes and sewers - with simultaneous video monitoring



### Special Nozzles / Nozzle Inserts

#### Manual Spraying Device

made of stainless steel - with one nozzle inserts

- length / Ø in mm: 75 / 30
- weight in kg:
- applications: manhole cleaning

0.4

manual cleaning

0010 0136

34/30

0010 0118

0.4

1/2" hose connection

manhole cleaning

1/2" hose connection

with forward water jets (7x)

- available sizes:
- Part N°

#### Forward Jet Nozzle

made of stainless steel - with 7 nozzle inserts

- length / Ø in mm:
  - weight in kg:
- applications:
  - ....
- available sizes:
- Part N°

#### **Nozzle Inserts**

- ceramic:
- titanium ceramic:

\*MOHS scale consists of 10 levels of hardness of selected minerals e.g. 7 = quartz, 10 = diamond

increased wear resistance compared to steel inserts (hardness 7.5 on MOHS scale\*)

extraordinary wear resistance due to a more compact structure (hardness 9 on MOHS scale\*: = approx. twice as wear-resistant as 7.5)

#### considerably influence efficiency and lifetime of your cleaning tools

#### KEG Quality Warranty

KEG provides a 3 year warranty\* on nozzles and nozzle inserts for all cleaning tools utilizing patented fluid mechanics and equipped with titanium ceramic inserts.

(\*according to KEG's Terms of Warranty)

Size	Material	Internal Diameter (mm)	Part N°
M6	steel	0,6 - 3,0	0010 0134
M6	ceramic	0,6 - 3,0	0010 0172
M6	titanium ceramic	0,6 - 3,0	0010 0175
M8	steel	0,9-4,0	0010 0135
M8	ceramic	0,9-4,0	0010 0171
M8	titanium ceramic	0,9-4,0	0010 0173
M10x1	steel	0,6-4,0	0010 0168
M10x1	ceramic	0,6-4,0	0010 0160
SW14	special, hardened steel	1,0-4,0	0010 0130
SW14	ceramic	1,0-4,0	0010 0170
SW14	titanium ceramic	1,0-4,0	0010 0174

Inserts for M12 and 1/8" threads available on request!

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### **Nozzle Kits**



#### Nozzle kits in handy cases

#### **Application**

#### Nozzle Kit ¼" or 3/8" 6 items

Quattro nozzle with forward jet Quattro nozzle with drill point Rotor nozzle Standard nozzle without forward jet Standard nozzle with forward jet Sewer flush nozzle

all blockages etc. total blockages, offsets fat, grease, scale light, maneuverable version light, maneuverable version solid and reliable all-round nozzle

#### Nozzle kit ½"

Cleaning nozzle  $- p.f.m.^*$ Traction nozzle w. forw. jet  $- p.f.m.^*$ Quattro nozzle with forward jet Rotor nozzle

#### (without picture)

all around pipe cleaning, sludge, sand, grease long pipe sections, sand, stones all blockages etc. fat, grease, scale

#### Nozzle kit 1/2"

Cleaning nozzle  $-p.f.m.^*$ Traction nozzle w. forw. jet  $-p.f.m.^*$ Quattro nozzle with forward jet Quattro Nozzle with drill point Rotor nozzle

#### 5 items

4 items

all around pipe cleaning, sludge, sand, grease long pipe sections, sand, stones all blockages etc. total blockages, offsets fat, grease, scale

#### Nozzle kit ¾"

5 items

Torpedo nozzle –  $p.f.m.^*$ Cleaning nozzle –  $p.f.m.^*$ Traction nozzle w. forw. jet –  $p.f.m.^*$ Rambo nozzle Rotor nozzle long pipe sections, sand, stones, good traction all around pipe cleaning, sludge, sand, grease long pipe sections, sand, stones, for smaller pipes diam. special nozzle for total blockages, compressed material fat, grease, scale

#### Nozzle kit 1"

Nozzle kit 1<sup>1</sup>/<sub>4</sub>"

6 items

6 items

Royal nozzle – *p.f.m.*\* Torpedo nozzle – *p.f.m.*\* Cleaning nozzle – *p.f.m.*\* Traction nozzle w. forw. jet – *p.f.m.*\* Rambo nozzle Rotor nozzle for larger pipe diameters, sand, sludge, scale long pipe sections, sand, stones, good traction all around pipe cleaning, sludge, sand, grease all around pipe cleaning, sand, stones, for smaller pipe diam. special nozzle for total blockages, compressed material fat, grease, scale

#### (without picture)

Royal nozzle –  $p.f.m.^*$ Torpedo nozzle –  $p.f.m.^*$ Traction nozzle w. forw.jet –  $p.f.m.^*$ Rambo nozzle Rotor nozzle Cleaning nozzle –  $p.f.m.^*$  for larger pipe diameters, sand, sludge, scale long pipe sections, sand, stones, good traction long pipe sections, sand, stones, for smaller pipe diameters special nozzle for total blockages, compressed material fat, grease, scale all around pipe cleaning, sludge, sand, grease

\*...nozzle with patented fluid mechanics

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### **Swivel Joints**

# KEG

#### **HP Swivel Joints**

#### for traction load

HP swivel joints serve to stabilize chain root cutters and floor cleaners.

- stabilize tools inside the pipe
- facilitate tool assembly

#### **Elbow Swivel Joints**

new generation for hose reels

- without losses in pressure and efficiency
- optimized in terms of fluid mechanics, hence no extra load for sealing gasket
- extremely durable





Description	Available Sizes	Weight (kg)	Part N°
HP swivel joint, straight	1⁄2"	0.3	0080 0010
	3⁄4"	0.5	0080 0011
	1"	0.9	0080 0012
	1 ¼"	1.3	0080 0013
	1 ½"	1.7	0080 0014
HP elbow swivel joint	1⁄2"	0.5	0080 0100
	3⁄4"	0.7	0080 0101
	1"	2.7	0080 0102
	1¼"	2.7	0080 0103
	11⁄2"	2.8	0080 0104
HP swivel joint, reduced	<sup>3</sup> ⁄ <sub>4</sub> " outside thread -> <sup>1</sup> ⁄ <sub>2</sub> " inside thread	0.5	0080 3412
	1" o.t> ¾" i.t.	0.5	0080 1034
	1¼" o.t> 1" i.t.	1.5	0080 1141

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### Manhole & Sewer Accessories

#### **Guide Rollers**

Guide Rollers are valuable to help reduce wear of and damage to high pressure hoses. That's why you should use this kind of equipment.

#### Guide Roller - Underground

Small for laterals and service lines	0080 0001
Spare roller small	0080 0006a
Medium LE 19/25	0080 0002
Spare roller medium	d0000 0800
Large LE 25/32	0080 0003
Spare roller large	0080 0006c

#### Guide Roller – for large manholes

Guide roller for large manholes	0080 0004
with ball-bearing rollers	0080 1004
Spare roller	0080 0006

#### Guide Roller – Upper Edge

Guide roller upper edge	0080 0005
Spare roller	0080 0006

#### Guide Roller flexible

Guide roller flexible	0080 1005
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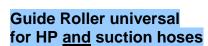
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Guide roller universal	0080 1005
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#### High Pressure Hose Guide – Bottom Edge

for hose connections up to 1"	0080 0082
for hose connections up to 11/4"	0080 0083

#### **Hose Protector**

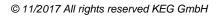
Hose protector made of plastics incl. safety rope 7.5 m

2" x 24"	0080 0043
3" x 36"	0080 0042

#### Safety Rope

- with snap hook to secure to the guide roller
- length approx. 10 m
- Part N° 0040 0044





### **Pipe Plugs / Pipe Stoppers**

KEG

- strong and robust construction
- easy and uncomplicated handling
- high degree of safety and long life is achieved if the allowable operating pressure is closely observed
- also available for egg-shaped and other non-round pipes
- further sizes available on request



**Pipe Plugs** 

Additional equipment available on request



Pipe Plugs	D7/15	D10/20	D15/30	D20/40	D30/60	D50/100	D50/120	D60/120	D80/150
Part N°	00300001	00300002	00300045	00300003	00300004	00300005	00300006	00300058	00300310
Built-in length (mm)	330	510	550	580	730	1050	970	1290	2100
Total length (mm)	380	570	610	640	790	1130	1020	1360	2400
Diameter (mm)	67	96	135	190	290	450	460	560	590
Weight (kg)	0.6	1.5	2.5	3.5	8.5	22	50	32	85
Pipe diameter (mm)	70-150	100-200	150-300	200-400	300-600	500-1000	500-1200	600-1200	800-1500



Pipe Test Stoppers



>>> upon request

Pipe Plugs with Bypass

Pipe Test Stoppers	PD 7/15	PD 10/20	PD 20/50	PD 50/80	PD 50/120	PD80/150
Part N°	0030 0008	0030 0009	0030 0010	0030 0011	0030 0012	0030 0311
Built-in length (mm)	330	510	580	680	970	2100
Total length (mm)	450	610	690	720	1000	2400
Bag diameter	67	96	190	450	450	590
Bypass (inch)	1/2"	1/2"	2"	3"	4"	2"
		1/4"	1"	1"	1"	
Coupling	D-Storz	D-Storz	C-Storz	B-Storz	A-Storz	C-Storz
		Rectus	D-Storz	2 x D-Storz	2 x D-Storz	Rectus
Weight (kg)	2.1	5.2	12.5	38	48	90
Pipe diameter (mm)	70 - 150	100 - 200	200 - 500	500 - 800	500 - 1200	800 – 1500

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### **Products on request**

#### Hoses

- suction hoses
- cassette hoses
- high pressure hoses
  - rubber with textile reinforcement
  - rubber with steel reinforcement
  - plastic (PVC) with textile reinforcement
- available in all common hose diameters / sizes

#### Knuckle couplings

#### Tanker couplings, hose barbs & clamping sleeves

available in all common sizes

available in all common sizes



#### Perrot couplings

available in all common sizes



#### Sewer shovel

• total length approx. 90 cm







#### Manual excavator

- facilitates cleaning wells and sluices
- fast & efficient removal of mud, stones, debris, sand, twigs and other coarse material
- model 20 R, round shape 20 cm

part N	2.0 m	length of handle
part N	3.0 m	length of handle
part N	4.0 m	length of handle

#### part N° 00400031 part N° 00400032 part N° 00400033

#### Portable supply and extract air handling units

#### Ventilators for normal use & with explosion protection

- · for extracting fumes / vapours
- for supplying fresh air
- portable and easy to handle
- different sizes and models available on request





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