

# NOZZLES AND TOOLS

*for (high pressure) dirty jobs*



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## DISCLAIMER

Product data such as size, weight, technical characteristics and applications must be considered approximate and susceptible to changes.

Nuova Contec reserves the right to change the characteristics of its products at any time.

The products and the accessories provided may not be identical to those shown in the photos.

Updated data sheets are available on our website [www.nuovacontec.com](http://www.nuovacontec.com) for each nozzle series.



At the end of any high pressure cleaning process a **nozzle** is always required.  
It takes water from the pump through the pipe and turns it into a work tool.  
This tool may be used to unblock an obstructed pipe, to clean a storm drain, to break down an obstruction, to remove sand or roots.... or it simply helps you doing a good job.

**Nuova Contec** is aware of the importance that you give to your equipment  
and therefore invested years to develop and research the best solutions  
for the people who made high pressure a life choice.

Our **mission** is to help our customers make the right choice.

We provide you our **experience, research and development**  
and especially our ability to offer **quality products at the right price**.

This catalogue is for operators of the high pressure drain pipe cleaning industry.  
The aim of the catalogue is to guide you to the working tools that suite your needs.

The catalogue is very easy to consult and dynamic.

We added QR codes for direct connection with your smartphone or tablet;  
you can watch demo videos to visualize the actual functionality of our nozzles.  
Try it out now! The QR code below will connect you directly to the Nuova Contec YouTube channel.

Make your choice and enjoy your work!



# Nozzle Selection Guide

## Technical Specifications

In order to choose the right nozzle, technical specification must be carefully considered.

The **size** and **weight** must be proportionate to the pipe to be cleaned: a nozzle that is too small or light in a large pipe could easily invert flow, damaging the operator.

The effectiveness of the washing action and the nozzle traction depend on the **distribution and angle of the jets**.

Nozzles with high angled water jets (>30°) exert a greater cleaning force against the pipe walls compared to nozzles with lower angles (<30°), which guarantee greater force and traction, more efficient transport of sediment and a softer effect against the walls of the pipe (for this reason they are more ideal for use in older pipes or in unstable conditions).

### Relationship between pipe size/HP pump flow

Large diameters require more water and therefore bigger and heavier nozzles with an adequate number of holes. High pressure pump must have minimum requirements (flow) in relation to the pipe DN.

Pipe diameter (mm)	Approximate HP pipe flow (lt/min)
200-400	100-200
400-800	200-350
800-1200	350-500
>1200	>500

## Pressure

Operators are responsible for using the nozzles without exceeding the maximum pressure indicated by the producer for each nozzle, and they must take into consideration the pipe conditions. In damaged pipes, jets with too high pressure

could further deteriorate structural conditions.

With fixed or rotating jet **low drag** the choice of pressure has to be made referring to the consistency of the sediment or of the material to be removed.

For **general cleaning, sand or mud removal, or sediment transfer jobs**, a pressure of 150 bars adequate.

In case of **grease, limestone, industrial residue, or hard blockages**, the higher the jet pressure is, the quicker will be the removal.

In general, with **mechanical action** nozzles (milling or rotating head nozzles, root removal nozzles with chains, vibrating nozzles) pressures higher than 150 bars may not provide any benefit, but could lead to early wear and tear of the nozzles.

To enable the proper nozzles function, keep in mind that losses of pressure could occur due to the high pressure pipe diameter, material and length.

## Rotating Nozzles

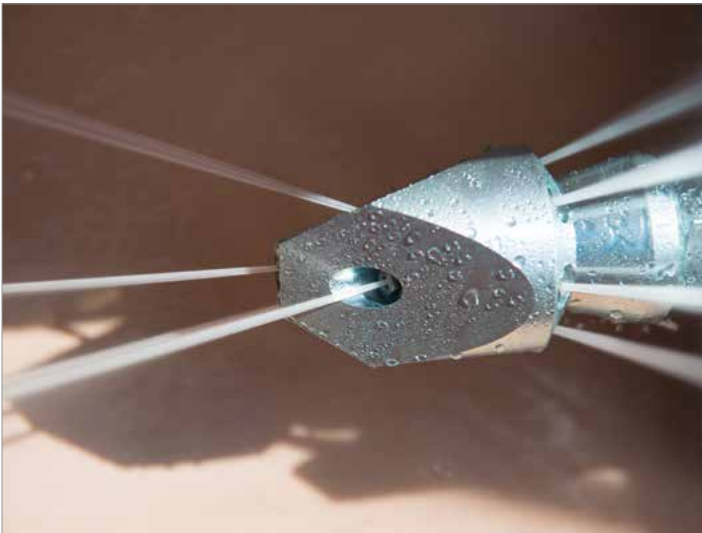
To guarantee a homogenous washing effect on the entire pipe, we suggest the usage of the rotating nozzles with centralizers adjusted to the diameter of the pipe to be worked on (compulsory for chain nozzles).

## Quality inserts

The nozzle openings are crucial points in which the force of the water meets with the nozzle shape and consistency.

For this reason, the material and the shape of the inserts are fundamental for determining the quality of the water jet.

Ceramic or carbide inserts make the water jet more compact and therefore more effective. For this reason, these last much longer than metal inserts or pierced nozzles, however it depends on pump pressure.





# USE AND SAFETY INSTRUCTIONS

*for the use of Nuova Contec nozzles*

## Safety above all

Nuova Contec nozzles must be used by trained and experienced professional operators.

For security purposes we discourage the use of these products to “Do-It-Yourself” users. We advise them to turn to professional, adequately equipped companies.

Damages and cracks caused by high pressure jets may have serious consequences on people and objects.

For this reason, when working with high pressure systems it is absolutely necessary to follow the instructions established by applicable workplace safety laws and use all the safety devices and necessary equipment.

## Become familiar with the product and its components

Before using any nozzle or product in general, the operator must read the general operating, maintenance and safety instructions provided, in order to prevent accidents and/or unexpected results. Check the nozzles before and after every use to check for any damages, their condition and loosening of components and inserts.

## Pump pressure and flow rate

Nuova Contec nozzles are sold specifically calibrated for specific pressure and flow indicated on the customer orders. Using the same nozzles with pumps that have different characteristics may lead to unexpected results, or to risk to people and objects. If the section of jets is larger than necessary, the pump may not be able to reach the correct

operating pressure. In the opposite case (too small jets), the pump will be subject to greater force. Do not ever exceed the maximum operating pressure indicated for each nozzle.

## Nozzle operation

The high pressure pump must be turned on only if the nozzle is completely and securely inserted in the pipe to be cleaned. Never extract the nozzle from the pipe when the pump is in use. To optimize cleaning and to avoid the risk of nozzle backflow, always choose and use the appropriate nozzle for the size of the pipe.

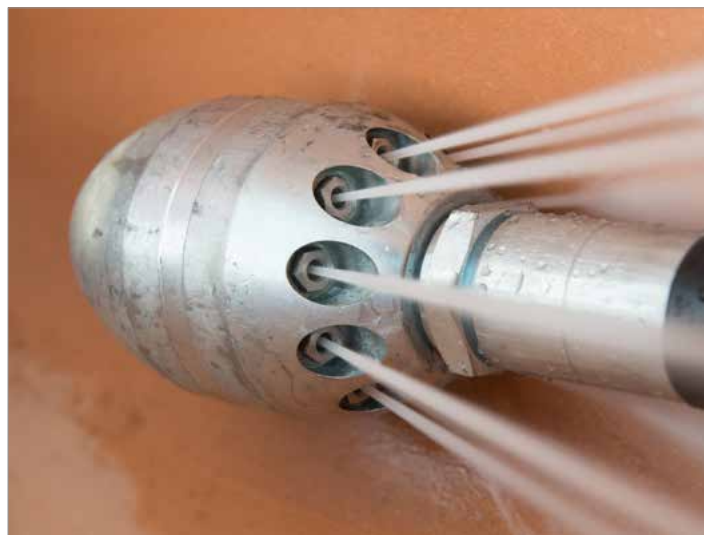
## Save hose devices

They reduce friction of high pressure hoses against sharp edges of the manhole, especially when pulling back the hose. They avoid early deterioration of the pipe and reduce the risk of explosions.

## CCTV inspection is better

Inspecting the pipes before, after (and if possible during) each intervention helps the operators to choose the most appropriate work solutions and verify the work done, as well as to be aware of the effective output of the nozzles.

Nuova Contec is not responsible for any dangerous situations or damage caused by improper use of its articles or for a use other than that for which they were designed and made.



# Nozzles Kit

Nozzle kits are a practical, compact and complete solution for those who want several different nozzles at their fingertips for daily cleaning, flushing and unblocking applications. Several solutions are available for each size, with different nozzle combinations contained in practical plastic cases with preformed shapes for each nozzle. Each case also includes the keys for the replacement of the inserts and general safety instructions.

**VALK18.30**     **1/8" kit wit 30 SILE nozzles**  
5 for each type

**VALK14.00**     **1/4" kit with 5 nozzles**  
Sile (2), Raut, Arzino, Tremol

**VALK13F4.00**     **3/8" kit with 4 nozzles**  
Sile (2), Arzino, Raut

**VALK1F.00**     **1/2" F kit with 8 nozzles**  
**VALK1.00**     **1/2" M kit with 8 nozzles**  
Cellina, Livenza, Meduna, Vortex, Arzino, Raut, Isonzo, Tremol

**VALK1F4I.00**     **1/2" F kit with 4 STAINLESS STEEL nozzles**  
**VALK1M4I.00**     **1/2" M kit with 4 STAINLESS STEEL nozzles**  
Arzino, Raut, Isonzo, Tremol

**VALK3F.00**     **3/4" kit with 6 nozzles**  
Raut, Arzino, Isonzo, Tremol, Vortex, Cellina

**VALK3F1.00**     **3/4" kit with 4 nozzles**  
Raut, Livenza, Isonzo, Tremol

**VALK6F.00**     **1" kit with 6 nozzles**  
Raut, Livenza, Isonzo, Tremol, Vortex, Cellina

**VALK6F2.00**     **1" kit with 5 nozzles**  
Raut, Livenza, Isonzo, Tremol, Bora

**VALK6F1.00**     **1" kit with 4 nozzles (ceramic inserts)**  
Raut, Livenza, Isonzo, Tremol

**VALK6F3.00**     **1" kit with 4 nozzles (ceramic inserts)**  
Raut, Arzino, Isonzo, Tremol

**VALK6F4.00**     **1" kit with 4 nozzles**  
Raut, Bora, Isonzo, Tremol

**VALK6F3I.00**     **1" kit with 4 STAINLESS STEEL nozzles (ceramic inserts)**  
Raut, Arzino, Isonzo, Tremol

**VALK7F.00**     **1" 1/4 kit with 4 nozzles**  
Raut, Livenza, Isonzo, Tremol



# SILE



Small nozzles with **conical** or **round head** and with or without front jet, to be used with portable, trailer or skid mounted jetters, sewer cleaning vehicles for domestic drain and pipe cleaning..

Configurations with multiple front jets are available to increase the unblocking capacity.

In case even smaller nozzles are required for an easier headway in bended pipes, nozzles with hose fitting for direct crimping to the hose are available.

For information about **mini-jet hoses**, couplings and ferrules, see page 41.

	Conical Head	Round Head						With Hose Fitting
	1/8" F	1/8" F	1/4" F	3/8" F	3/8" M	3/16"	1/4"	
Ø x L (mm)	15 x 15	15 x 15	18 x 29	23 x 31	21 x 37	12 x 30	12 x 33	
Weight (gr)	8	8	25	40	50	12	10	
Jet angle	35°	35°	35°	35°	35°	35°	35°	
Maximum pressure (bar)	250	250	250	250	250	250	250	
Flow (lt/min)	20-60	20-60	25-80	30-90	30-90	20-60	20-60	
Working DN (mm)	20-60	20-60	30-100	30-150	30-150	20-60	20-60	
Part numbers								
With no frontal jet	<b>5500.07</b>	<b>5500.17</b>	<b>3518.00 (*)</b>	<b>3519.00 (*)</b>	<b>3519.00M (*)</b>	<b>5500.01</b>	<b>5500.012</b>	
With straight frontal jet	<b>5500.07A</b>	<b>5500.17A</b>	<b>3518.00 (*)</b>	<b>3519.00 (*)</b>	<b>3519.00M (*)</b>	<b>5500.01A</b>	<b>5500.012A</b>	
With frontal jet at 15°		<b>5500.07IN</b>						
With 2 frontal jets	<b>5500.07F2</b>							
With 4 frontal jets	<b>5500.07TR</b>		<b>3518.00TR</b>	<b>3519.00TR</b>	<b>3519.00MTR</b>			
Only frontal jets	<b>5500.07B</b>		<b>3518.00A</b>	<b>3519.00A</b>				

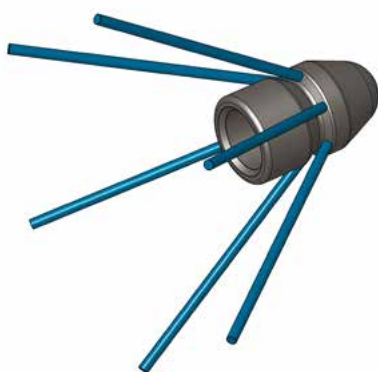
(\*) Nozzles with M4 port for front jet. They are delivered with plug and additional insert for front jet.





# CELLINA

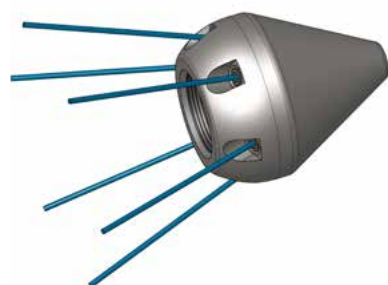
Standard cleaning nozzles, with 35° rear jets. Front jet available upon request.



	1/2" M	1/2" F	3/4" F	1" F
Ø x L (mm)	28 x 50	28 x 46	35 x 50	48 x 65
Weight (gr)	120	95	170	460
jet angle	35°	35°	35°	35°
Frontal jet	M6	M6	M6	M6
Maximum pressure (bar)	300	300	300	300
Flow (lt/min)	50-170	50-170	60-230	70-260
Working DN (mm)	50-100	50-100	60-200	100-300
Part numbers	5520.20	5520.30	5520.60	5520.70

# LIVENZA

Conical head nozzles with 20° rear jets with interchangeable inserts. Front jet available upon request.



	1/2" F	3/4" F	1" F
Ø x L (mm)	42 x 51	49 x 58	58 x 69
Weight (gr)	222	336	500
Jet angle	20°	20°	20°
Frontal jet	1 x M6	1 x M6	1 x M6
Rear jets	6 x M6	6 x M6	6 x M6
Max pressure (bar)	300	300	300
Flow (lt/min)	40-170	50-230	50-260
Working DN (mm)	50-200	85-250	100-300
Part Numbers	5515.300	5515.600	5515.700



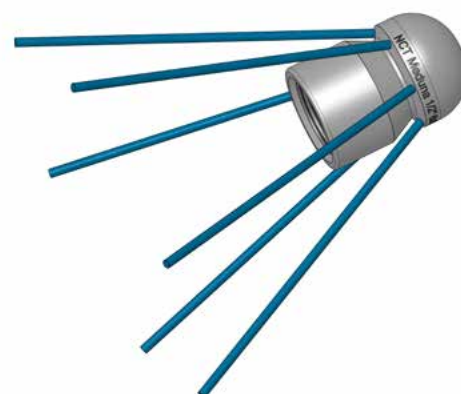
# MEDUNA

Short nozzles, round head shape, for vertical and bended pipes cleaning.



**NEW!**

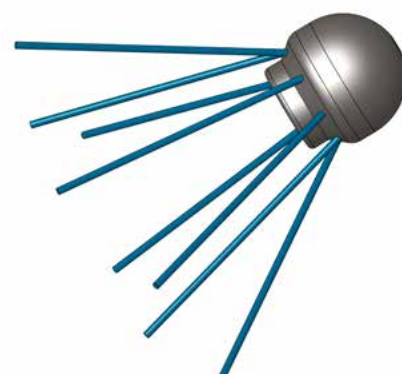
	1/2" M SS	1/2" M	1/2" F
Ø x L (mm)	25 x 36	25 x 43	25 x 43
Weight (gr)	60	70	65
Jet angle	30°	25°	25°
Frontal jet	n/a	M6	M6
Max pressure (bar)	300	300	300
Flow (lt/min)	40-170	40-170	40-170
Working DN (mm)	50-100	50-100	50-100
Part numbers	<b>3520.110I</b>	<b>3520.110</b>	<b>3520.210</b>



# VORTEX

Round head nozzles with 15° + 35° rear jets, for combined pulling and cleaning action.

	1/2" F	3/4" F	1" F
Ø x L (mm)	37 x 37	44 x 45	48 x 46
Weight (gr)	175	325	380
Jet angle	15/35°	15/35°	15/35°
Frontal jet	M6	M6	M6
Max pressure (bar)	300	300	300
Flow (lt/min)	80-170	95-230	95-260
Working DN (mm)	50-100	60-200	80-300
Part Numbers	<b>5528.50</b>	<b>5532.50</b>	<b>5533.50</b>



# ARZINO

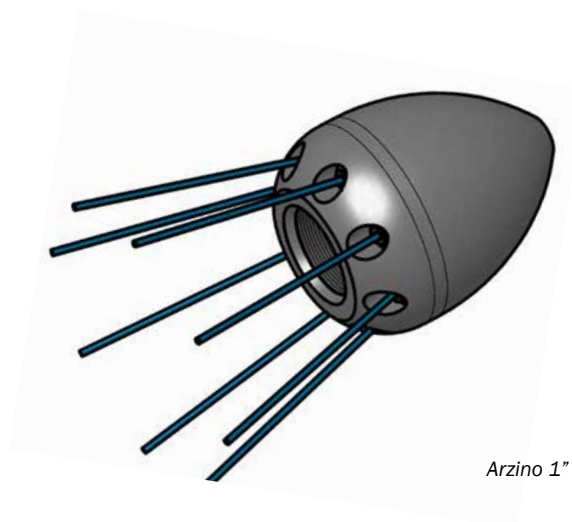


High traction nozzles with **interchangeable** (steel or ceramic) **inserts**.  
The egg shape allows an easy headway in bended pipes.

Made of stainless steel available upon request.

	1/4" F	3/8" F	1/2" M	1/2" F	3/4" F	1" F	1" 1/4 F
Ø x L (mm)	25 x 30	30 x 37	31 x 49	48 x 60	58 x 72	69 x 85	79 x 95
Weight (kg)	0,05	0,1	0,1	0,3	0,8	1,3	2,0
Rear jet angle	15°	15°	35°	15°	15°	15°	15°
Inserts	-	-	6 x M6	6 x M6	8 x M6	8 x M6	M10 X 1
Min flow (lt/min)	25-80	30-90	40-170	40-170	55-230	60-260	120-400
Max pressure (bar)	300	300	300	300	300	300	300
Working DN (mm)	30-80	60-120	60-200	60-200	100-250	150-350	150-400
Part numbers	<b>5526.00</b>	<b>5527.00</b>	<b>5529.00</b>	<b>5528.00</b>	<b>5532.08</b>	<b>5533.08</b>	
w/ceramic inserts			<b>5529.06C</b>	<b>5528.06C</b>	<b>5532.08C(*)</b>	<b>5533.08C(*)</b>	
Stainless Steel Nozzle				<b>5528.06I</b>	<b>5532.08I</b>	<b>5533.08I</b>	
SS w/ceramic inserts				<b>5528.06IC</b>	<b>5532.08IC(*)</b>	<b>5533.08IC(*)</b>	<b>5534.08I</b>
SS w/carbide inserts							<b>5534.08IW</b>

(\*) with M6 outer hexagonal inserts



Arzino 1"

# TREMOL



Cleaning nozzles with **spinning radial jets** (85°/90°). **Nozzle centralizers** are recommended for a better cleaning so the nozzle is lifted from the bottom of the pipe.

To be used for **removal of grease** and **limestone** from pipe walls, pipe cleaning before CCTV inspection or root cutter jobs.

	1/8" F	1/4" F	1/2" F 1/2" M	3/4" F	1" F	1" 1/4 F
Ø x L (mm)	14 x 39	22 x 46	35 x 60	50 x 83	70 x 105	70 x 105
Weight (kg)	30 gr	0,1	0,3	0,8	2,6	2,6
Jet angle						
• rotation/break	90°/85°	90°/85°	90°/85°	90°/85°	90°/85°	90°/85°
• rear	20°	20°	20°	20°	20°	20°
Inserts	-	-	10 x M4(*)	10 x M6(**)	10 x M6(**)	10 x M6(**)
Min flow (lt/min)	25	30	40	70	100	100
Max pressure (bar)	275	275	275	275	275	275
Working DN (mm)	20-60	30-60	50-150	100-300	150-400	150-400
Part numbers	<b>75510.19R</b>	<b>75510.23R</b>	<b>75510.14R</b> <i>75510.14M</i>	<b>75510.35R</b>	<b>75510.250R</b>	<b>75510.27R</b>

(\*) M4x5 steel inserts

(\*\*) M6 Hex head inserts

## Centralizer rings

For DN35 nozzles	
DN70	<b>5305.12A</b>
DN100	<b>5305.12B</b>
For DN50 nozzles	
DN125	<b>5350.34A</b>
For DN70 nozzles	
DN150-200	<b>5305.10</b>



Centralizer rings



Tremol 1/2" with DN 100 ring

# FARA AND DURANNO



These high traction grenade nozzles have been designed and manufactured with a lot of rear jets that enable adequate **cleaning in pipes up to DN 800**.

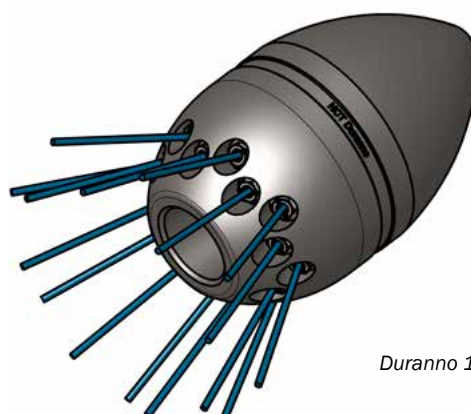
An internal deviator maximizes flow efficiency reducing pressure drops inside the nozzle.

Suitable for **sand removal and long runs jobs**.

With **ceramic inserts** as standard configuration, with **carbide inserts** (for water recycling units) upon request.

	<b>Fara</b> <b>1" F</b>	<b>Duranno</b> <b>1" F</b>	<b>Duranno</b> <b>1" 1/4 F</b>
<b>Ø x L (mm)</b>	87 x 142	107 x 186	107 x 186
<b>Weight (kg)</b>	3.6	9.5	9.5
<b>Jet angle</b>	15°	20°/30°	20°/30°
<b>Rear jets</b>	10 x M10 x 1	16 x M10 x 1	16 x M10 x 1
<b>Front jet</b>	M10x1	-	-
<b>Max pressure (bar)</b>	300	300	300
<b>Flow (lt/min)</b>	>120	>240	>250
<b>Working DN (mm)</b>	150-500	300-800	300-1000
<b>Nozzles w/ceramic inserts</b>	<b>65540.600</b>	<b>65540.810</b>	<b>65540.800</b>
<b>Nozzles w/carbide inserts</b>	<b>65540.600W</b>	<b>65540.810W</b>	<b>65540.800W</b>

**NEW!**



*Duranno 1"*





**Very high traction nozzles**, torpedo shaped.

5° and 10° rear jets have a low impact on the pipe walls, so the nozzles can be used in old sewers.

In case of siphons or holes, they can be very helpful in emptying the water in order to avoid damages to the CCTV equipment.

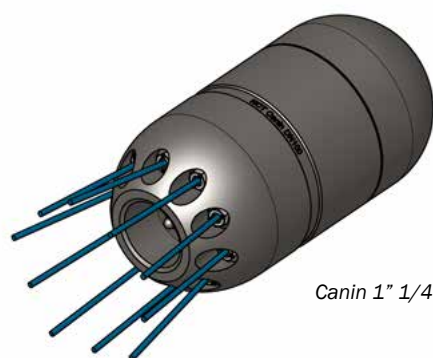
A **deviator set** inside the nozzle maximizes flow efficiency **reducing pressure drops** inside the nozzle.

Suitable for **sand removal** and **long runs jobs**.

With ceramic inserts as standard configuration, with carbide inserts (for water recycling units) upon request.

	3/4" F	1" F	1 1/4" F
Ø x L (mm)	68 x 125	98 x 210	98 x 210
Weight (kg)	2.5	5.6	5.6
Jet angle	3 x 5° + 3 x 10°	5 x 5° + 5 x 10°	5 x 5° + 5 x 10°
Inserts	M10 x 1	M10 x 1	M10 x 1
Front Jet	-	-	-
Max pressure (bar)	300	300	300
Flow (lt/min)	>80	>150	>150
Working DN (mm)	150-300	200-500	200-500
Nozzles w/ceramic inserts	<b>65540.760</b>	<b>65540.710</b>	<b>65540.750</b>
Nozzles w/carbide inserts	<b>65540.760W</b>	<b>65540.710W</b>	<b>65540.750W</b>

**NEW!**



Canin 1" 1/4



High efficiency cleaning nozzles with **double jet type and angle**:

- 45° fan jets ensure an all around cleaning action, covering the entire pipe section;
- 15° rear jets (w/ceramic inserts), to enable the nozzle to a proper traction.

Compatible for **domestic drains**, **condo vertical pipes** and **municipal sewer cleaning**, these nozzles can also be used before root cutter jobs or CCTV inspection.  
Using these nozzles with pipe centralizer you obtain a better cleaning action all around the pipe.

	1/2" F	3/4" F	1" F	1" F	1" 1/4 F
Ø x L (mm)	39 x 68	53 x 78	59 x 90	89 x 125	89 x 125
Weight (kg)	0,5	0,86	1,4	4,3	4,3
Jet angle	45° / 20°	45° / 20°	45° / 20°	45° / 20°	45° / 20°
Inserts	3 x M6	3 x M8	3 x M8	3 x M12	3 x M12
Max pressure (bar)	300	300	300	300	300
Flow (lt/min)	95-150	115-190	170-265	230-340	230-340
Working DN (mm)	60-150	70-350	200-400	300-800	300-800
Part numbers	<b>3580.01</b>	<b>3580.05</b>	<b>3580.10</b>	<b>3580.150</b>	<b>3580.20</b>



# ISONZO

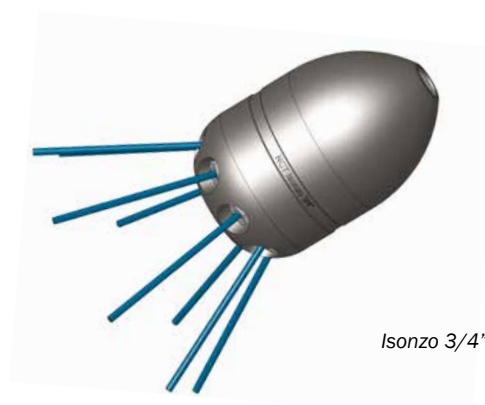


Grenade nozzles made by hardened stainless steel, for cleaning operation in concrete pipes. **Ceramic inserts** are set as standard configuration, **carbide inserts** (for water recycling units) upon request.

30° jets make these nozzles more efficient in cleaning operation rather than nozzles with lower angle jets.

A deviator set inside the nozzle maximizes flow efficiency reducing pressure drops inside the nozzle.

	1/2" F	3/4" F	1" F	1" 1/4
Ø x L (mm)	49 x 80	69 x 111	87 x 135	87 x 135
Weight (kg)	0,8	1,4	4,5	4,5
Jet angle	30°	30°	30°	30°
Inserts	6 x M6 (TE)	8 x M10 x 1	12 x M10 x 1	12 x M10 x 1
Max pressure (bar)	300	300	300	300
Flow (lt/min)	>60	>80	>250	>250
Working DN (mm)	80-200	150-400	200-600	200-600
Nozzles w/ceramic inserts	<b>65540.100</b>	<b>65540.200</b>	<b>65540.420</b>	<b>65540.421</b>
<b>New!</b> Nozzles w/carbide inserts		<b>65540.200W</b>	<b>65540.420W</b>	<b>65540.421W</b>





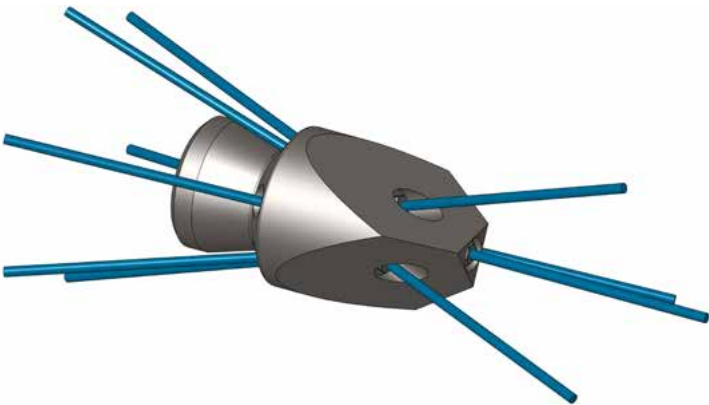
4 front jet nozzles with **high unblocking capacity** in case of grease, soap, limestone along the pipes.

They can also be used in this case where reverse cleaning is required (i.e. from the house to the sewer).  
With **ceramic inserts** as standard configuration, with steel inserts upon request.  
Smaller sizes (1/4" to 1/2") are only set with steel inserts or drilled jets.

NEW!

	1/4" F	3/8" F	1/2" F	1/2" M	3/4" F	1" F	1 1/4"
Ø x L (mm)	20 x 35	25 x 40	30 x 59	30 x 51	50 x 92	59 x 105	75 x 135
Weight (kg)	40 gr	80 gr	0.2	0.2	0.6	1.0	1.9
Front jets	-	5 x M4	4 x M4	4 x M4	4 x M6	4 x M6*	4 x M6
Rear jets	-	-	6 x M4	6 x M4	6 x M6	6 x M6*	8 x M10
Max pressure (bar)	300	300	300	300	300	300	300
Flow (lt/min)	35-80	35-90	70-170	70-170	85-250	100-350	200-500
Working DN (mm)	30-100	30-100	50-250	50-250	100-300	150-400	150-500
Part numbers							
w/ceramic inserts					5550.20C	5550.30C	5550.40C
w/steel inserts	5550.05	5550.08	5550.10	5550.10M	5550.20	5550.30	

(\*) the version is fitted with hexagonal external head ceramic inserts.



Raut 3/4"



Raut 1" with ceramic inserts

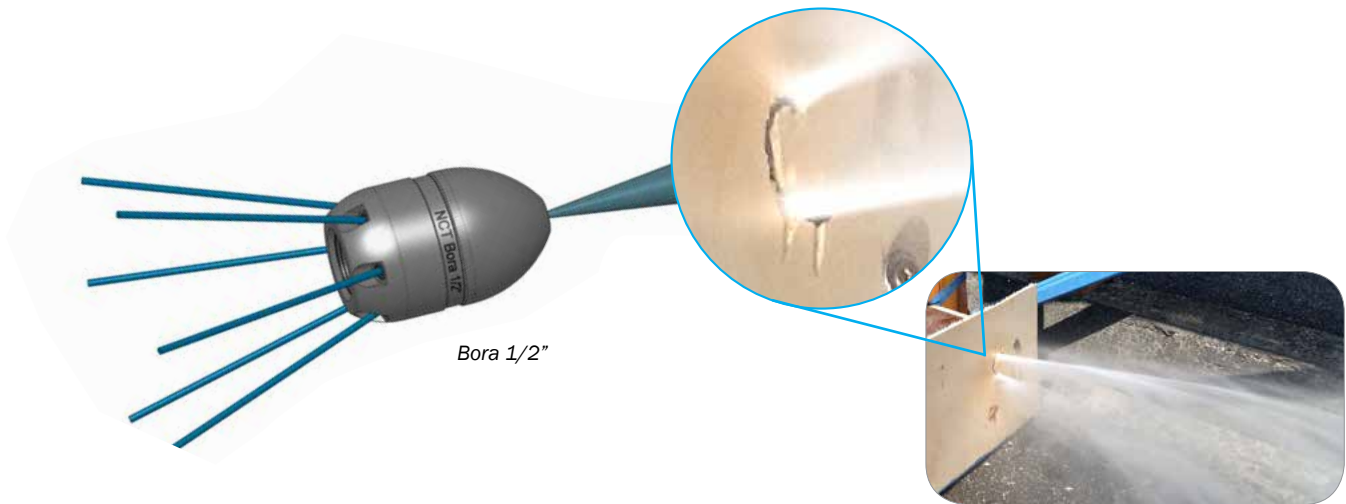




**Stainless Steel nozzles** with ceramic inserts and **rotating front jet** for strong impact and wide contact surface.

The rotating jet forms a **fast rotation water cone** with high breaking capacity for blockages and obstructions (grease, limestone, roots, foam, unsuccessful liners), much more efficient than a conventional front jet.  
A special tool for the replacement of front inserts is available.

	1/2" F	3/4" F	1" F
Ø x L (mm)	39 x 61	68 x 107	68 x 107
Weight (kg)	0,4	2,1	2,1
Jet angle	20°	20°	20°
Inserts	6 (M6 C)	8 (M10x1)	8 (M10x1)
Maximum pressure (bar)	220	250	250
Flow (lit/min)	>90	120-350	>160
Working DN (mm)	60-150	150-350	150-350
Part numbers	75150.01	75210.01	75350.01



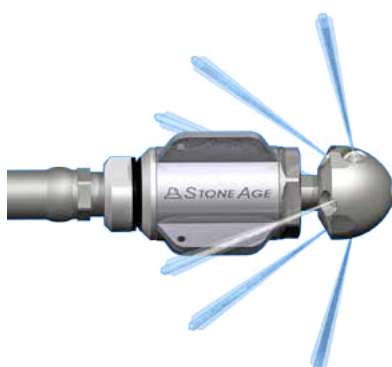
# WARTHOG



Strengths of Warthog nozzles are **controlled rotation** and **power of its jets**. All the water is sprayed out from the rough few, but high quality inserts with flow straightener. The combination of these features makes these nozzles unique and indispensable for most tough high pressure jobs.

**DS WARTHOG** is **2 nozzles in 1**: with standard configuration it can be used for unblocking application (grease, soap, limestone...); with DS configuration (2 x 85° jets) the nozzle is very aggressive for cleaning and rescaling applications. These nozzles are offered as package in plastic case with double set of inserts and tools for a fast change of configuration. With special **service** and **overhaul kits**, these nozzles can be regularly serviced for long durability.

	3/8" F	1/2" F	3/4" F	1" F	1" 1/4 F
Ø x L (mm)	48 x 76	48 x 110	79 x 190	106 x 230	122 x 231
Weight (kg)	0,5	1,33	2,1	4,9	5,0
Front port	1 x 15°	1 x 15°	1 x 15°	1 x 15°	1 x 15°
Rear ports	2 x 30°	2 x 30°	2 x 30°	4 x 38°	6 x 35°
Radial ports (only in DS head)	-	2 x 85°	2 x 85°	2 x 85°	-
Flow (lt/min)	20-45	27-75	40-170	190-300	300-450
Max pressure (bar)	350	350	550	350	350
Working DN (mm)	60-200	60-200	150-500	200-900	200-900
Warthog classic nozzle	<b>75000.53</b>	<b>75000.50K</b>	<b>75000.55</b>	<b>75000.60</b>	<b>75000.61</b>
With whip hose (60 cm)		<b>75000.50B</b>			
With whip hose and swivel joint		<b>75000.50J</b>			
Warthog DS nozzle		<b>75000.50KD</b>	<b>75000.55DV</b>	<b>75000.60DV</b>	
Service kit	<b>ST.WT600</b>	<b>ST.WS600</b>	<b>ST.WH600</b>	<b>ST.WG600</b>	<b>ST.WD600</b>
Overhaul kit	<b>ST.WT610</b>	<b>ST.WS610</b>	<b>ST.WH610</b>	<b>ST.WG610</b>	<b>ST.WD610</b>



Warthog with DS head



Warthog 3/8"

# MAGNUM



Warthog MAGNUM nozzles have been designed and manufactured for **longer durability** (compared with the classic nozzles) and specific **use with water recycling units**.

Available in 3/4", 1" and 1" 1/4 sizes, they can be set with high quality steel inserts (AP2 type with flow straightener) or carbide ones. Jet configuration must be specifically ordered on the base of type (AP2 or carbide inserts) and cleaning action required (unblocking or rescaling).

The **WGR** with **SWITCHER head** is **two tools in one**. Switching between pulling or cleaning without removing the nozzle from the pipe. When the pump is idled down and brought back to pressure the tool will switch the water flow between two different sets of jets.

#### Advantages:

- Save water and time by eliminating the extra runs needed to swap nozzles.
- Run more jobs with one tank of water.
- Switch to pulling jets for maximum thrust.
- Switch to cleaning jets maximizes power to clear debris and cutting roots.

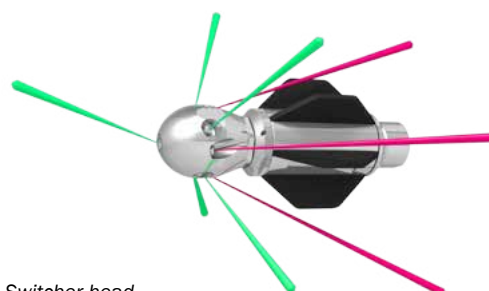
	3/4"	1"	1" 1/4
Ø x L (mm)	92 x 184	110 x 270	110 x 280
Weight (kg)	3,06	4,9	4,9
Front port	1 x 15°	1 x 15°	1 x 15°
Radial ports	2 x 55°	2 x 85°	n/d
Rear ports	2 x 28°	4 x 38°	6 x 38°
Max pressure (bar)	550	350	350
Flow (lt/min)	60 - 190	> 190	> 190
Working DN (mm)	150 - 400	200 - 900	200 - 900

#### Part numbers

Nozzle without inserts	<b>74996.01.SI</b>	<b>74997.01.SI</b>	<b>74998.00.SI</b>
Standard config. (AP2 ins.)	<b>TA.WHR</b>	<b>TA.WGR</b>	<b>TA.WGR125</b>
Standard config. (carbide ins.)	<b>TA.WHR.W</b>	<b>TA.WGR.W</b>	<b>TA.WGR125.W</b>
DS config. (AP2 ins.)		<b>TA.WGR.DS</b>	
DS config. (carbide ins.)		<b>TA.WGR.WDS</b>	
Switcher head (AP2 ins.)		<b>74997.01.TSA</b>	<b>74997.01.TSA</b>
Switcher head (carbide ins.)		<b>74997.01.TSW</b>	<b>74997.01.TSW</b>



3/4" WHR



Switcher head



**Self-balancing heavy nozzles**, torpedo shaped, for bottom cleaning and sand removal applications.

These nozzles are designed and manufactured so that the water is always oriented to the bottom of the pipe, just for sediments removal (and not for all around cleaning), **optimizing water consumption**.

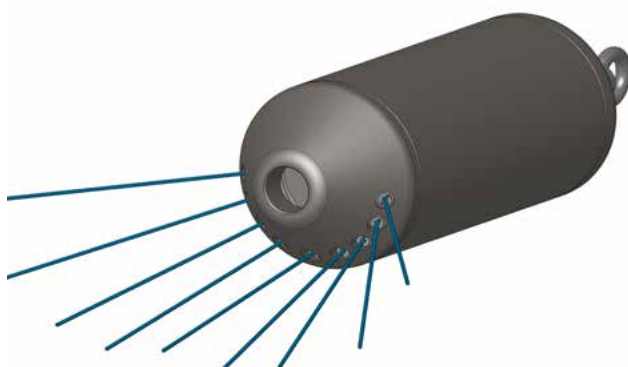
**Ceramic inserts** are set as standard configuration, **carbide inserts** (for water recycling units) upon request.

For a wider cleaning action, 18 and 32 kg nozzles have been designed with double angle (28°/15°) on the lateral jets.

A front eyebolt can be used to fix a rope for pulling and securing purposes.  
Suitable for egg profile pipes. To be used with rotary swivel.

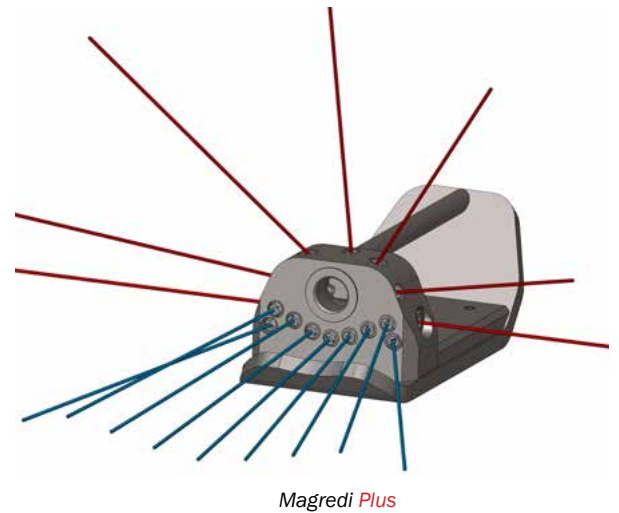
	3/4" F	1" F	1" F	1" 1/4 F
Ø x L (mm)	100 x 260	140 x 400	160 x 520	160 x 520
Weight (kg)	10	18	32	32
Jet angle	5 x 15°	7 x 28°/15°	9 x 28° / 15°	9 x 28°/15°
Inserts	M10x1	M10x1	M10x1	M10x1
Max pressure (bar)	250	250	250	250
Flow (lt/min)	80-160	100-240	180-400	180-400
Working DN (mm)	150-500	250-800	300-1000	300-1000
<b>Part numbers</b>				
with ceramic Inserts	<b>65500.800</b>	<b>65500.810</b>	<b>65500.820</b>	<b>65500.840</b>
with Carbide Inserts	<b>65500.800W</b>	<b>65500.810W</b>	<b>65500.820W</b>	<b>65500.840W</b>
Rotary swivel	<b>5030.20A</b>	<b>5030.25A</b>	<b>5030.25A</b>	<b>5030.32A</b>

► **NOVITÀ!**





# MAGREDI



Sledge shape nozzle with 9 rear jets for pipe bottom cleaning. Each jet has a different angle, so the water can easily reach lateral parts of big round or square pipes.

Because of shape, weight and jet configuration, Magredi nozzles can easily be adapted to high pressure pumps with 190-350 lt/min flow.

The sledge shape allows the nozzle to overtake obstacles and sediments, with less risks to get stuck in the mud. Ceramic inserts are set as standard configuration, carbide inserts (for water recycling units) upon request. To be used with rotary swivel.

**MAGREDI PLUS** is a special version of this nozzle with 7 additional jets, so the water is used for an **all-around pipe cleaning**, with a direct and closer effect than a conventional nozzle, increasing cleaning efficiency thanks to 75° and 90° angle of the additional jets.

With the double configuration of jets PLUS version makes it possible to get **2 nozzles in 1**.

	3/4"	1"	1"	1" 1/4
<b>Dimensions (mm)</b>	355x160x120	355x160x120	355x160x120	355x160x120
<b>Weight (kg)</b>	17	17	22	22
<b>Jet angle</b>	0°/5°/10°/15°/25°	0°/5°/10°/15°/25°	0°/5°/10°/15°/25°	0°/5°/10°/15°/25°
<b>Number of jets</b>	9	9	9	9
<b>Type of inserts</b>	TE M10x1	TE M10x1	TE M10x1	TE M10x1
<b>Minimum flow (lt/min)</b>	150	150	150	150
<b>Working DN (mm)</b>	400-1200	400-1200	400-1200	400-1200
<b>MAGREDI</b>				
<b>Nozzle w/ceramic inserts</b>	<b>65500.872</b>	<b>65500.87</b>	<b>65500.870</b>	<b>65500.871</b>
<b>Nozzle w/carbide inserts</b>	<b>65500.872W</b>	<b>65500.87W</b>	<b>65500.870W</b>	<b>65500.871W</b>
<b>Rotating swivel</b>	<b>5030.20A</b>	<b>5030.25A</b>	<b>5030.25A</b>	<b>5030.32A</b>
<b>MAGREDI PLUS</b> with 5 upper jets at 75° and 2 lateral jets at 90°				
<b>Nozzle w/ceramic inserts</b>	<b>65500.872R</b>	<b>65500.87R</b>	<b>65500.870R</b>	<b>65500.871R</b>
<b>Nozzle w/carbide inserts</b>	<b>65500.872RW</b>	<b>65500.87RW</b>	<b>65500.870RW</b>	<b>65500.871RW</b>

► **NEW!**

► **NEW!**

# POWERJET



Powerjet 500

This innovative **ejector nozzle** allows to remove sand and debris from water bearing canalizations and sewers from DN 400 up to the mega profiles.

Thanks to the **Venturi effect**, this nozzle uses the water running in the sewer to increase the cleaning capacity.

Due to the **soft cleaning method** (low jet angle) with low working pressure at the end of the injector-tube, also older sewer system can be serviced without any problem and can be preserved for a longer life time.

**Replaceable ceramic inserts.**

To be used with rotary swivel.

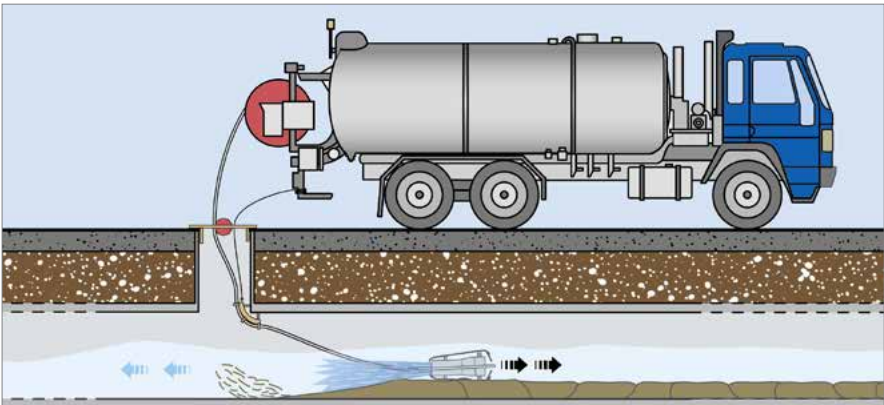
### APPLICATIONS

- Sand and gravel removal from water bearing big profile pipes.
- Egg profile pipes (Powerjet 100)

	Powerjet 100 1" 1/4 F	Powerjet 500 1" 1/4 F	Powerjet 600 1" 1/4 F	Powerjet 900 1" 1/2 F
Dimensions L x W x H (mm)	720 x 300 x 280	400 x 300 x 300	720 x 500 x 270	720 x 590 x 275
Weight (kg)	32	40	52	80
Inserts	M10x1	M10x1	M10x1	M10x1
Max pressure (bar)	200	200	200	200
Flow (lt/min)	> 280	> 280	> 280	> 500
Working DN (mm)	400-1200	500-1500	600-2000	1000-3600
Part numbers	65000.100	65000.500	65000.600	65000.900



Powerjet 100



# AVIAN TURBINE



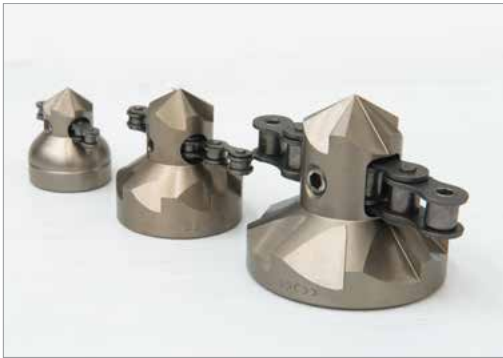
Turbine nozzle with **interchangeable rotating head**.

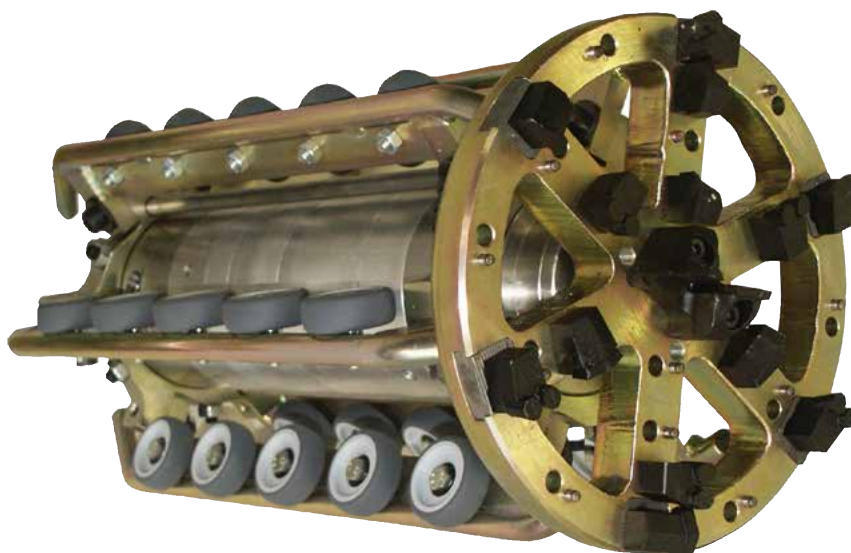
With carbide head it can be used for **milling** and **unblocking application**.

Chain supporting head and proper centralizers can be set for **root cutting** use.

Nozzle can also be ordered as package, including carbide and chain supporting heads, centralizers, chains, tools and plastic case.

	1/2" F	3/4" F	1" F
Ø x L (mm)	36 x 60	55 x 83	70 x 140
Weight (kg)	0,3	1	2,6
Rotation jets	3 x 90° (M4)	3 x 90° (M6 C)	3 x 90° (M6 C)
Rear jets	6 x 25° (M4)	4 x 20° (M6 C)	6 x 20° (TE M6)
Max pressure (bar)	250	250	250
Flow (lt/min)	60-160	80-240	90-270
Working DN (mm)	50-150	80-250	100-350
Avian Turbine pkg	<b>VALK1T.01</b>	<b>VALK3T.01</b>	<b>VALK6T.01</b>
Components:			
Carbide head nozzle	<b>75510.17TTW</b>	<b>75510.360TTW</b>	<b>75510.260TTW</b>
Chain supporting head	<b>75527.25C1</b>	<b>75527.27C</b>	<b>75527.30C</b>
Set of chains for DN	50, 70, 100	100, 125, 150	100, 150, 200
Centralizers for DN	70, 100	125	150-200





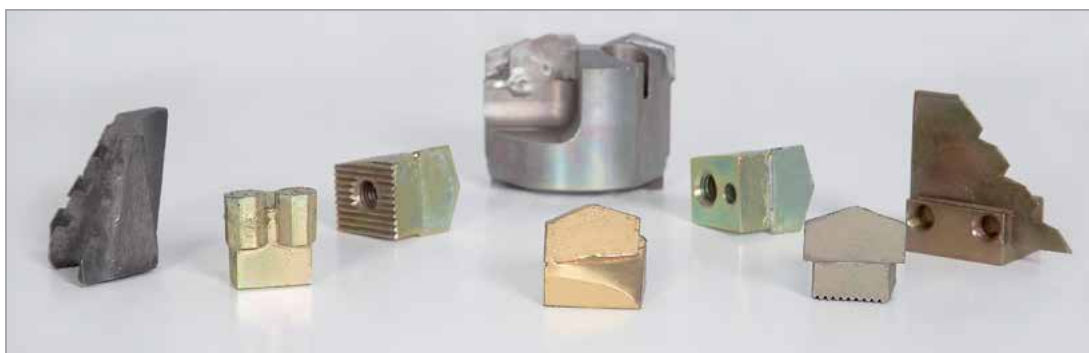
The **WAMAX hydraulic milling head** is particularly suitable for concrete and root obstruction removal and for the preparation of rehabilitation jobs. Depending on the request several tools are available (carbide teeth, knives, saws, ..) that can be installed on the milling head. The head rotation power is given by a turbine that absorbs 10% of the total flow. The residual flow provides the thrust required for the progress within the pipe and the impact of the milling head. **WAMAX 100** is delivered with a set of guides, heads and accessories that can be applied from DN 100 up to DN 200 mm. **WAMAX 200** and **300** are configured upon request.

	WAMAX 100	WAMAX 200	WAMAX 300
	1" F	1" ¼ F	1" ¼ F
Ø x L (mm)	75 x 240	125 x 460	150 x 500
Weight (kg)	7.9	27	40
Jet Angle	15°	15°	15°
Inserts	4 x M12 C	8 x TE ¼ C	8 x TE ¼ C
Working DN (mm)	100-200	150-500	300-800
Part numbers	77100.00	77200.00	77300.00

## Minimum flow according to working DN (lt/min)

	DN							
	100	150	200	300	400	500	600	800
WAMAX 100	> 75	> 75	> 75					
WAMAX 200	> 240	> 240	> 240	> 290	> 290			
WAMAX 300				> 265	> 265	> 290	> 295	> 390

## Tools and theet for milling head







Light vibrating nozzles with **crowned head**.

**Off-axis rotor** makes the nozzle vibrate, so the limestone or concrete debris get broken.

Due to the short length and compacted body diameter, these nozzles can be used in small pipes (1/4" nozzle starting from DN50 / 2" pipes).

Head is designed to avoid the nozzle to get stuck in the pipe junctions.

If possible, it is recommended to use this nozzle in combination with pipe inspection camera in order to check functionality and working progress.

**ATTENTION!** Never use these nozzles in gres or ceramic pipes.

	1/4" F	1/2" F	3/4" F	1" F
Ø x L (mm)	38 x 76	48 x 86	58 x 110	78 x 130
Weight (kg)	0,3	0,6	2	3
Rotation jets	1 x M4	1 x M6	1 x M6	1 x M6
Rear jets angle	25°	10°	10°	15°
Rear jets	3 x M4	6 x M6	6 x M6	6 x M6
Flow (lt/min)	25-70	50-120	130-250	>250
Working DN (mm)	50-125	80-250	125-300	150-400
Part numbers	77400.050	77400.250	77400.650	77400.750



# RDS-V



Rotating nozzle with off-axis rotor and cage with carbide teeth.  
Thanks to vibration and hammering action, these nozzles are suitable for **breaking and removal of hard sediments** (concrete, slags, building material ...) from the bottom of the pipe.  
Carbide teeth on the top of the head make the nozzle aggressive for hard frontal obstructions.  
Nozzle without the carbide teeth can be used to avoid damages to PVC bended pipes.  
**ATTENTION!** Never use vibrating nozzles in gres or ceramic pipes.

	1/2" F	3/4" F	1" F
Ø x L (mm)	65 x 108	77 x 116	95 x 130
Weight (kg)	1,1	1,7	3,2
Rotation jets	1 x M6	1 x M6	1 x M6
Rear jets angle	15°	15°	15°
Rear jets	6 x M6	6 x M6	6 x M8
Max pressure (bar)	250	250	250
Minimum flow (lt/min)	75	120	130
Working DN (mm)	100-200	150-300	150-400
Part numbers	<b>77400.20W</b>	<b>77400.60W</b>	<b>77400.70W</b>
Without carbide	<b>77400.20</b>	<b>77400.60</b>	<b>77400.70</b>





## Heavy nozzles with hammering head.

For removal of debris from the bottom of the pipe, RUMAX can be a fast alternative to milling nozzle. With aggressive vibration, it crushes the hard deposits on the bottom of the pipe.

Ready to be used, it does not require specific setting to be adapted to the pipe size.

For **RUMAX 75/85** optional HD head is available for heavy duty jobs when combined unblocking and hammering action is required.

For **RUMAX 100** optional hammering rings are available:

- HC ring for thick deposit, not to be used in PVC pipes;
- HB ring for light slay in PVC pipes.

If possible, it is recommended to use this nozzle combined with pipe inspection camera in order to check functionality and working progress.

**ATTENTION!** Never use these nozzles in gres or ceramic pipes.

	<b>RUMAX 75</b> <b>3/4" F</b>	<b>RUMAX 85</b> <b>3/4" F</b>	<b>RUMAX 100</b> <b>1" F</b>
<b>Ø x L (mm)</b>	69 x 188	69 x 188	120 x 260
<b>Weight (kg)</b>	3,7	3,8	8,8
<b>Jet angle</b>	20°	20°	20°
<b>Inserts</b>	6 x M10x1 C	6 x M10x1 C	6 x M10x1 C
<b>Max pressure (bar)</b>	200	200	200
<b>Flow (lt/min)</b>	130-265	150-340	150-340
<b>Working DN (mm)</b>	>150	>150	>200
<b>Part numbers</b>	<b>77475.00</b>	<b>77485.00</b>	<b>77410.50</b>



HD head



HC ring



HB ring



Stainless steel multi-functional nozzle with interchangeable rotating head.

With **chain-head** and pipe centralizers it can be used to remove roots, rust, unsuccessful liners or point reparations. For this application it can be supplied as package in plastic case, including nozzle, centralizers, sets of chains and tools.

With **steel** or **carbide heads**, it can be used as milling nozzle to break through hard obstructions.

**Round head** can be installed for pipe cleaning operation.

	1/2" F	3/4" F	1" F
<b>Ø x L (mm)</b>	36 x 60	55 x 83	70 x 140
<b>Weight (kg)</b>	0.3	1	2.6
<b>Rotation jets</b>	3 x 90° (M4)	3 x 90° (M6 C)	3 x 90° (TE M6 C)
<b>Rear jets</b>	6 x 25° (M4)	4 x 20° (M6 C)	6 x 20° (TE M6 C)
<b>Max pressure (bar)</b>	250	250	250
<b>Flow (lt/min)</b>	60-160	80-240	150-270
<b>Working DN (mm)</b>	50-150	80-250	100-350
<b>Avian (root cutter pkg)</b>	<b>VALK1A1.01</b>	<b>VALK3A1.01</b>	<b>VALK6A1.01</b>
<i>Components:</i>			
Avian with chain head (nozzle)	<b>75510.17RTC</b>	<b>75510.360RTC</b>	<b>75510.260RTC</b>
Chain sets for DN	50, 70, 100	100, 125, 150	100, 150, 200
Centralizers for DN	70, 100	125	150÷200
<b>Avian with steel head</b>	<b>75510.17RTA</b>	<b>75510.360RTA</b>	<b>75510.260RTA</b>
<b>Avian with carbide head</b>	<b>75510.17RTW</b>	<b>75510.360RTW</b>	<b>75510.260RTW</b>
<i>Spare parts:</i>			
<b>Steel head</b>	<b>75527.24B</b>	<b>75527.26/1</b>	<b>75527.29B</b>
<b>Carbide head</b>	<b>75527.25B</b>	<b>75527.27B</b>	<b>75527.30B</b>
<b>Round head</b>	<b>75527.20B</b>	-	<b>75527.28</b>
<b>Chain supporting head</b>	<b>75527.24C</b>	<b>75527.27C</b>	<b>75527.30C</b>
<b>Chain kit</b>	<b>75001.10-K1</b>	<b>75001.11-K1</b>	<b>75001.15-K1</b>

## Accessories

<b>For Avian 1/2"</b>	
<b>5305.12A</b>	DN 70 centralizer ring
<b>5035.12B</b>	DN 100 centralizer ring
<b>For Avian 3/4"</b>	
<b>5305.34A</b>	DN125-150 centralizer ring
<b>For Avian 1"</b>	
<b>5305.10</b>	DN150-200 centralizer ring





# SOLO

NEW!



Rotating nozzle with **circular chains** head top.

Thanks to the fast rotation and **special carbide plates welded on the chains**, roots, limestone, rust or any material on the pipe wall is easily cutted away.

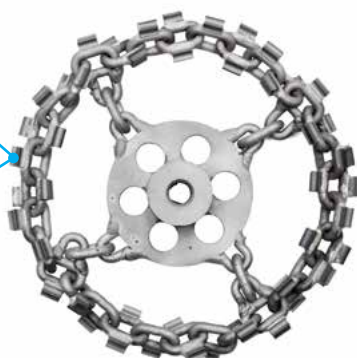
This nozzle is also effective for tough jobs like removal of unsuccessful liners and patch repairs or limestone from cast iron pipes.

**SOLO** is offered as a package including nozzle, 2 sets of chains and centralizers for multiple working DN.

	1/2" F	1" F
<b>Ø x L (mm)</b>	36 x 60	70 x 140
<b>Weight (kg)</b>	0.3	2.6
<b>Max pressure (bar)</b>	250	250
<b>Flow (lt/min)</b>	60-160	150-270
<b>Working DN (mm)</b>	70-150	100-250
<b>Root Cutter Solo pkg</b>	<b>VALK1A2.01</b>	<b>VALK6A2.01</b>
<i>Components:</i>		
Centralizers for DN	70, 100	150-200
Circular chains for DN	70, 100	150, 200
<i>Spare parts:</i>		
<b>DN 70 circular chains (w/carbide)</b>	<b>50.CC070-8</b>	
<b>DN 100 circular chains (w/carbide)</b>	<b>50.CC100-8</b>	<b>50.CC100-12</b>
<b>DN 150 circular chains (w/carbide)</b>	<b>50.CC150-8</b>	<b>50.CC150-12</b>
<b>DN 200 circular chains (w/carbide)</b>		<b>50.CC200-12</b>
<b>DN 225 circular chains (w/carbide)</b>		<b>50.CC225-12</b>
<b>DN 250 circular chains (w/carbide)</b>		<b>50.CC250-12</b>



Circular chain  
with carbide teeth



# CARNIA AND FRIULI



Chain rotating nozzles with interchangeable heads.

Nozzles can be ordered with round, steel, carbide, knife head or as package.

Each package contains the nozzle with round and knife head, set of chains and tools. Steel and carbide heads can be ordered as optional.

## APPLICATIONS

Root removal, scaling, rust, damaged inliners.

Nozzles must always be used with **pipe centralizer** and proper set of chains on the base of pipe DN.

	Carnia ¾"	Friuli 1"	Friuli 1"¼
<b>Dimensions (ØxL in mm)</b>	60 x 150	74 x 170	74 x 170
<b>Weight (kg)</b>	1.5	2.9	2.9
<b>Rotation jets</b>	6 x M6	6 x M6	6 x M6
<b>Rear jets</b>	6 x M6 TE	6 x M6 TE	6 x M6 TE
<b>Max pressure (bar)</b>	250	250	250
<b>Working DN (mm)</b>	100-350	150-500	150-500
<b>Root cutter pkg</b>	<b>VALK3C.01</b>	<b>VALK6C.01</b>	<b>VALK7C.01</b>
<i>Components:</i>			
Nozzle w/round head	<b>75000.100</b>	<b>75000.07</b>	<b>75000.08</b>
Knife head	<b>75000.35</b>	<b>75000.40</b>	<b>75000.40</b>
Chain sets for DN	150, 200, 300	200, 300, 400	200, 300, 400
<i>Spare parts:</i>			
<b>Steel head</b>	<b>75527.26B/2</b>	<b>75527.29B</b>	<b>75527.29B</b>
<b>Round head</b>	<b>75527.21/1*</b>	<b>75527.28*</b>	<b>75527.28*</b>
<b>Carbide cutting head</b>	<b>75527.27/1</b>	<b>75527.30B</b>	<b>75527.30B</b>
<b>Chain set DN 150</b>	<b>75000.085K*</b>		
<b>Chain set DN 200</b>	<b>75000.086K*</b>	<b>75000.075K*</b>	<b>75000.075K*</b>
<b>Chain set DN 250</b>	<b>75000.088K</b>	<b>75000.076K</b>	<b>75000.076K</b>
<b>Chain set DN 300</b>	<b>75000.087K*</b>	<b>75000.077K*</b>	<b>75000.077K*</b>
<b>Chain set DN 350</b>	<b>75000.089K</b>	<b>75000.079K</b>	<b>75000.079K</b>
<b>Chain set DN 400</b>	<b>75000.090K</b>	<b>75000.078K*</b>	<b>75000.078K*</b>
<b>Chain set DN 500</b>	<b>75000.092K</b>	<b>75000.081K</b>	<b>75000.081K</b>
<b>Chain (1mt)</b>	<b>75001.09</b>	<b>75001.07</b>	<b>75001.07</b>

(\*) included in thekit



**WITH CENTRALIZER**



**NO CENTRALIZER**



# MANIAGO



Maniago  
w/sprocket chains



## Stainless steel root-cutter chain rotating nozzle.

Maniago has been designed in order to be used with different types of chains (ring, motor or double-bladed chains), to be selected referring to thickness and size of roots to remove.

Supplied as **package in plastic case**, it includes nozzle with ceramic inserts, flat and knife heads, sets of chains and tools. Suitable to remove roots, unsuccessful liners, rust.

It must be used with **pipe centralizer** and specific chains according to pipe DN.

1" F	
Ø x L (mm)	88 x 140
Weight (kg)	3
Rotation Inserts	3 x 90° (TE M6)
Rear inserts	6 x 20° (TE M6)
Max pressure (bar)	250
Flow (litri/min)	150÷280
Working DN (mm)	200-600
Part numbers	
Nozzle w/flat head (no chains)	75000.06
Maniago kit	VALK6C1.01
Chain sets	RingSprocketWith blades
DN 200	75000.095K-20 (*)75000.095KM-20 (*)
DN 250	75000.095K-2575000.095KM-25
DN 300	75000.095K-30 (*)75000.095KM-30 (*)75000.095KL-30
DN 350	75000.095K-3575000.095KM-35
DN 400	75000.095K-40 (*)75000.095KM-40 (*)75000.095KL-40
DN 500	75000.095K-5075000.095KM-5075000.095KL-50
DN 600	75000.095K-6075000.095KM-6075000.095KL-60 (*)

(\*) included in the Maniago Kit



Chain sets  
(ring and blades)



# CENTRALIZERS

For root cutters and rotating nozzles.

**DN 150-300 centralizer** with a set of adjustable position skids. Suitable for 3/4" nozzles (Tremol, Rondò, Warthog, Avian, Carnia).

	3/4" F/M
DN (mm)	150-300
Weight (kg)	3,4
Length (mm)	250
Max Pressure (bar)	300
Part number	5023.02



**DN 200-450 centralizer** with 2 sets of adjustable position skids. Steel wheels are set on bigger skids. Suitable for 1" nozzles (Tremol, Rondò, Warthog, Friuli, Maniago).

	1" F/M
DN (mm)	200-450
Weight (kg)	7,5
Length (mm)	325
Max Pressure (bar)	300
Part number	5023.01-1



**DN 225-600 centralizer** with pantograph opening, and rubber wheels. Adjustable ring can be fixed along marked positions in order to open the centralizer at required DN. Suitable for 1" nozzles (Warthog, Friuli, Maniago).

	1" F/M
DN (mm)	225-600
Weight (kg)	9,3
Length (mm)	600
Max Pressure (bar)	300
Part number	5025.01





# SLUDGE PUMP

The Venturi-effect liquid sucker can be connected to pressure washers, high pressure washing systems, or to cleaning vehicles secondary reels, to quickly suck liquids and mud from flooded basements, manholes, pools, working areas, or to fill tanks and vessels.

It is able to suck up to 6 mt in depth. The suction capacity varies according to the pump flow, to the depth and to the working pressure.

It is provided with a piece of suction hose DN40 5 mt long.



Part number	Inlet	Nominal Pressure (bar)	ØxL (mm)	Max Flow (l/min)	Nominal Temperature (°C)
5100.00	3/8" F	250	107x115	25	90 °C

## VENTURI DEVICE

This system allows to suck mud and liquids in depth, thanks to the Venturi-effect generated by the water jets within the cone.

Suction hoses of sewer cleaning vehicles can be attached to the DN80 or DN100 inlets.

An intermediate device allows a serial connection in order to increase suction depth.



Part no.	Item	ØxL (mm)	Weight (kg)
5100.10	Venturi DN80	150x270	4,4
5100.12	Venturi DN100	170x290	5,5
5110.01	Venturi DN80, interm.	150x350	4,7
5110.02	Venturi DN100, interm.	170x370	5,7

### Accessories

Part no.	Item
221403	Male Ball Joint DN80 w/Quill 3" F
221404	Male Ball Joint DN100 w/Quill 4" F
221303	Female Ball Joint DN80 w/Quill 3" F
221304	Female Ball Joint DN100 w/Quill 4" F



# MEDUSA



**Medusa** is a flushing device to be fixed on the steel suction pipe. At the same time it cleans bottom and walls of the manhole and sucks sediments. It can also be used for hydro excavation applications.



Part number	DN suction hose (mm)	HP hose inlet	Weight (kg)
000D.080	80 mm / 3"	1/2"(*)	3,0
000D.100	100 mm / 4 "	1/2"(*)	3,3
000D.120	120 mm / 5"	1/2"(*)	3,8
000D.150	150 mm / 6"	1/2"(*)	3,9
000D.200	200 mm / 8"	1/2"(*)	5,5

(\*) M or F available on request.

# BRONZE NOZZLES

With rear, frontal and radial jets for tank cleaning.

1" F	
Diameter (mm)	99
Height (mm)	200
Weight (kg)	10
Rear jets	8 x M10x1 @ 30° ceramic
Lateral jets	3 x M10x1 @ 90° ceramic
	3 x M10x1 @ 75° ceramic (foreward)
Frontal jets	1 x M10x1 central ceramic
	3 x M10x1 @ 20° from central axis ceramic
Part number	65500.540



# THRUST NOZZLES

for push rod cameras

They make the progress of push cameras within pipelines smooth. 1/2" F inlet with M10 ceramic inserts. A selection of several adapters is available according to the thickness of the camera cable.

Part numbers	Item
5540.101-068	Nozzle with adapter for DN 6,8 push rod
5540.101-08	Nozzle with adapter for DN 8 push rod
5540.101-09	Nozzle with adapter for DN 9 push rod
5540.101-11	Nozzle with adapter for DN 11 push rod
5540.101-15	Nozzle with adapter for DN 15 push rod

# ROTOJET

Nozzle with a rotating front jet at an extremely high speed.  
Three versions are available with a different pressure limit:  
255, 310, 400 and 600 bar.

For each version several nozzles are available differing for the orifice dimension, which corresponds to the flow (gpm), necessary to get a pressure of 276 bar. In order to select the proper orifice size it is recommended to check the table that you can download at [www.nuovacontec.com](http://www.nuovacontec.com)

Specific repair kits are available for the replacement of the internal rotation device.

Part number (*)	Max Pressure (bar)	Thread	Equiv. Diam. (mm)	Flow (l/min)
75000.93/120	255	1/4" F	2,12	43
75000.92/060	310	1/4" F	1,5	28
75000.90/200	400	1/4" F	2,7	91
75000.96/080	600	1/4" F	1,7	45

(\*) Nozzles with different flow values are available upon request.



## FLUSHING NOZZLES

For lances or directly connected to a HP hose.

Part number	Max Pressure (bar)	Thread	Ø x L (mm)	Weight (kg)	Orifice
3560.00	250	1/2" F	31x70	0,19	For insert 1/4" (*)
3560.60	250	3/4" F	32x80	0,27	5 mm
3560.70	250	1" F	40x95	0,39	5 mm

(\*) The insert is to be ordered separately according to pressure and flow values.



## FAN JET INSERTS

For lances and industrial plants.

15°	25°	40°	65°	Part Number	Thread	Equiv. DN	Nozzle Capacity at various pressure values (lpm)						
FBB	FBD	FBL	FBR			mm	20 bar	30 bar	50 bar	70 bar	100 bar	150 bar	200 bar
	•	•		1460.C2	1/4" M	0,70	2,0	2,4	3,1	3,7	4,4	5,4	6,2
	•	•		1686.C2	1/4" M	1,12	3,0	3,6	4,7	4,7	6,6	8,1	9,3
				2103.C2	1/4" M	1,35	4,6	5,6	7,3	7,3	10,3	12,6	14,6
•	•	•	•	2116.C2	1/4" M	1,42	5,1	6,2	8,1	8,1	11,4	14,0	16,1
	•	•		2138.C2	1/4" M	1,54	6,1	7,4	9,6	11,4	13,6	16,7	19,2
•		•		2160.C2	1/4" M	1,66	7,2	8,8	11,3	13,4	16,0	19,6	22,6
		•		2181.C2	1/4" M	1,76	8,1	9,9	12,8	15,1	18,1	22,2	25,6
		•		2230.C2	1/4" M	1,98	10,1	12,4	16,0	16,0	22,6	27,7	32,0
		•		2341.C2	1/4" M	2,40	15,2	18,6	24,0	24,0	34,1	41,5	47,9

(\*) Inserts with other jet angles are available upon request.



# SPRAY GUNS AND LANCES



<b>310 BAR SPRAY GUN</b> Spray gun suitable for use up to 310 bar. No fluid passage upon trigger release. Zinc-plated insulated lance, with tip protector and nozzle holder.	<b>3801.115-01</b>
Rated pressure (bar)	310
Allowed pressure (bar)	350
Rated flow rate (lt/min)	40
Rated temperature ( °C)	160
<b>INLET</b>	
IN	3/8" F SWIVEL
OUT	1/4" F
Weight (kg)	0,75

ACCESSORIES FOR SPRAY GUN W/SWIVEL	
<b>3801.12-1200</b>	Molded lance 1200 mm, bent
<b>3801.12-900</b>	Molded lance 900 mm, bent
<b>3801.12-500</b>	Molded lance 500 mm, bent
<b>3802.500</b>	Vented lance, 500 mm, SS

<b>WASHING LANCE</b> w/spray pattern adjustment	<b>3804.720-01</b>
Rated pressure (bar)	250
Allowed pressure (bar)	280
Rated flow rate (lt/min)	45
Rated temperature ( °C)	150
Inlet	1/2" F
Length (mm)	720
Weight (kg)	1.6



<b>LONG RANGE WASHING LANCE</b> w/spray pattern adjustment	<b>3804.700-01</b>
Rated pressure (bar)	60
Rated flow rate (lt/min)	45
Rated temperature ( °C)	110
Inlet	1/2" M
Length (mm)	700
Weight (kg)	1.6





# COMPENSATED GUNS

<b>SS COMPENSATED SPRAY GUN</b> for large flow with minimum pressure drop	<b>3803.RL84</b>	<b>3803.RL204</b>
Rated pressure (bar)	500	200
Allowed pressure (bar)	560	220
Rated flow rate (lt/min)	80	200
Rated temperature (°C)	100	100
INLET	1/2" F	3/4" F
OUT	1/2" F	1/2" F
Weight (kg)	1,4	1,3

<b>ACCESSORIES FOR RL204</b>	
<b>3803.800RL204</b>	SS lance with handle, 800 mm
<b>3803.1250RL204</b>	SS lance with handle, 1200 mm
<b>3803.CP</b>	Shoulder rest



<b>SS COMPENSATED SPRAY GUN 400 bar</b>	<b>3803.NOVA400</b>
Rated pressure (bar)	400
Allowed pressure (bar)	440
Rated flow rate (lt/min)	40
Rated temperature (°C)	160
INLET	3/8" F
OUT	1/4" F
Weight (kg)	0,6

<b>ACCESSORIES FOR NOVA400</b>	
<b>3803.1200NOVA</b>	SS lance, 1200 mm



<b>SS COMPENSATED SPRAY GUN 600 bar</b>	<b>3803.RL600</b>
Rated pressure (bar)	600
Allowed pressure (bar)	660
Rated flow rate (lt/min)	60
Rated temperature (°C)	100
INLET	3/8" F
OUT	3/8" F
Weight (kg)	1,3

<b>ACCESSORIES FOR RL600</b>	
<b>3803.800RL600</b>	SS lance with handle, 800 mm
<b>3803.1200RL600</b>	SS lance with handle, 1200 mm
<b>3803.CP</b>	Shoulder rest



# SAVE HOSE DEVICES

Save hose devices protect the integrity of high pressure hoses, reducing friction with sharp edges. A regular and proper use reduces the risk of pipe bursting, increases safety for the operators and the equipment around the job site.

## LOWER GUIDE

It can be used in the lower part of the manhole, at the start of the pipeline. Robust and resistant, they are equipped with teflon wheels that make the scrolling of the hose easier. The open arches guide (5900.05A) can be used also when the cleaning operation has already started, with the pipe and the nozzle already inside the pipeline. 5 meters of rope are provided for each guide.

Part number	Description
<b>5900.05A</b>	Save hose device in SS with open arches for 3/4" and 1" hoses. Length.: 580 mm   Weight 4,1 kg
<b>5900.051</b>	Spare roller for 5900.05A
<b>5900.01</b>	Galvanized steel save hose device for 3/8" - 1/2" hoses. Length: 300 mm   Weight: 2,5 kg
<b>5900.011</b>	Spare roller for 5900.01
<b>5900.07</b>	Galvanized steel save hose device for 1" - 1 1/4 hoses Length.: 590 mm   Weight 8,6 kg
<b>5900.071</b>	Spare roller for 5900.07

## TIGER TAIL

This 90 cm long flexible guide can be used either in the lower or upper part of the manhole. Available in different sizes (DN50/80/100) and materials (smooth or rugged PVC) to better adapt to the size and type of HP hose. They can also be used to protect CCTV camera cables. 5 meters of rope are provided for each guide.

Part number	Description
<b>5900.10</b>	Tiger tail 4"/DN50 for 1/2" and 3/4" hoses
<b>5900.15</b>	Tiger tail 3"/DN80 for 3/4" and 1" hoses
<b>5900.20</b>	Tiger tail 3"/DN80 (rugged)
<b>5900.25</b>	Tiger tail 4"/DN100 for hoses up to 1 1/4"

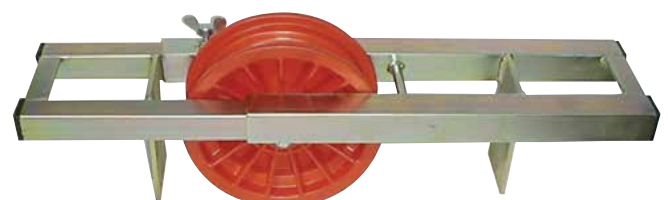
## UPPER GUIDE

It can be used when the reel of the sewer cleaning vehicle is not placed over the manhole. Made with galvanized steel with red plastic wheel.

Part number	Description
<b>5300.01B</b>	Upper save-hose guide
<b>5300.201</b>	Spare roller for 5300.01B



Tiger Tail Guides



5300.01B



## MAGNETIC KEY

with hook and hammer



5400.25-01

Manhole Key STRONG (130 kg)

5400.25-02

Manhole Key SUPER STRONG (180 kg)

## MANHOLE COVER HOOKS



5400.047I

Manhole cover lifter Titan-Alu

5400.00

3 Hooks Kit for Titan-Alu

5400.24

Manhole cover lifter in tempered steel with hook

## EMERGENCY LED



The most practical, innovative and creative solution to properly signal roadworks, checkpoints, car accidents, emergency stops.

They are provided in a resistant plastic case that can include 6 lights, that can be easily recharged together.

9301.50-01

Emergency LED Kit (Orange)

9301.50-02

Emergency LED Kit (blue)

## MANHOLE COVER DETECTOR



2000.50

Metal detector CS880

2000.50-5

Carrying Case

## WARNING SIGNS



9304.03-00 Pyramid h. 70 cm

9304.03-01 Pyramid h. 90 cm

9304.03-02 Pyramid h. 70 cm

9304.03-03 Pyramid h. 90 cm

9304.03-04 Pyramid h. 70 cm,

3 x

+ +

3 x





# STRAIGHT ROTATING SWIVEL

For heavy and balanced nozzles, centralizers, spray guns.

Part no.	Inlet	Max Pressure (bar)	Speed (rpm)
5030.06A	1/4"	400	6
5030.10A	3/8"	400	6
5030.15A	1/2"	300	6
5030.20A	3/4"	300	6
5030.25A	1"	300	6
5030.32A	1" 1/4	250	6
5030.38A	1" 1/2	200	6



# 90° ROTATING SWIVEL

For intermittent rotations, or at medium/low speed.

Part number	Inlet	Max Pressure (bar)
5035.10A	3/8"	210
5035.15A	1/2"	210
5035.20A	3/4"	210
5035.25A	1"	210
5035.32A	1" 1/2	180



# ROTARY SWIVELS FOR HOSE REELS

Straight and 90°, Stainless Steel



5040.32A



Giunti a 90°

	1/2"	3/4"	1"	1" 1/4
Maximum Working Pressure (bar)	400	400	400	400
Maximum Speed (rpm)	95	64	48	40
Part Numbers:				
Swivel M/M	5040.15AM		5040.25AM	5040.32AM <sup>(*)</sup>
Swivel M/F		5040.20A	5040.25A	
90° Swivel F/F		5041.20A		
90° Swivel M/F			5041.25A	5041.32A <sup>(*)</sup>
Seal kit	5040.00-01	5040.00-02	5040.00-03	5040.00-04

(\*) with greaser



# MINIJET KIT HOSES

Three types of hoses are available to clean domestic or industrial discharges up to DN100 sized either 3/16" or 1/4" with the standard lengths of 10, 15 or 20 mt:

- thermoplastic;
- rubber hoses;
- with external metal braid.

They can be connected with a nozzle directly at the hose (A), either with a 1/8" M (B) or 1/4" M thread (C, only for 1/4" hoses).

From the reel side the standard connection is 1/4" F swivel. Upon request the hoses can be delivered with 1/2" M or F connection.

The ferrules of the front fitting are shorter compared to the standard ones, in order to facilitate the hose to go through bends.



Part number	Internal Diameter (inches)	Working Pressure (bar)	Ext. Diameter (mm)	Bending Radius (mm)	Weight (g/mt)	Max Temperature (° C)
<b>THERMOPLASTIC HOSES, with one synthetic fiber braid</b>						
<b>5913.15B</b>	3/16"	175	8,5	25	45	+60
<b>5914.20B</b>	1/4"	175	10,6	40	65	+60
<b>5917.20B</b>	1/4"	210	12,2	35	100	+90
<b>RUBBER HOSES, with one internal metal braid</b>						
<b>5995.15B</b>	3/16"	120	9,1	20	90	+60
<b>5996.20B</b>	1/4"	120	11,0	25	120	+60
<b>PTFE HOSES, with external metal braid</b>						
<b>5926.15B</b>	3/16"	210	8,0	35	90	+260(*)
<b>5927.20B</b>	1/4"	175	9,2	45	90	+260(*)

(\*) The high thermal resistance value make these hoses particularly suitable for hydropneumatic applications.

## ACCESSORIES AND FITTINGS

HOSE		NOZZLE					REEL			
Hose code	ID	Nozzle w/HF <sup>(1)</sup>	Nozzle w/HF w/FJ <sup>(2)</sup>	1/8" M thread	1/4" M thread	Short ferrule	Standard ferrule	1/4" F thread	1/2" M thread	1/2" F thread
		A		B	C				2M	2F
5913.__	3/16"	<b>5500.01</b>	<b>5500.01A</b>	<b>5911.04</b>	<i>n/a</i>	<b>5912.05B</b>	<b>4303.01B</b>	<b>4305.00F</b>	<b>4105.04M</b>	<i>n/a</i>
5914.__	1/4"	<b>5500.012</b>	<b>5500.012A</b>	<b>5911.05B</b>	<b>5911.055</b>	<b>5912.06C</b>	<b>5912.06</b>	<b>4105.01F</b>	<b>4105.05M</b>	<b>4105.05F</b>
5917.__	1/4"	<b>5500.012</b>	<b>5500.012A</b>	<b>5911.05B</b>	<b>5911.055</b>	<b>5912.06C</b>	<b>5912.06</b>	<b>4105.01F</b>	<b>4105.05M</b>	<b>4105.05F</b>
5995.__	3/16"	<b>5500.01</b>	<b>5500.01A</b>	<b>5911.04</b>	<i>n/a</i>	<b>5912.20</b>	<b>5912.10</b>	<b>4104.01F</b>	<b>4105.04M</b>	<i>n/a</i>
5996.__	1/4"	<b>5500.012</b>	<b>5500.012A</b>	<b>5911.05B</b>	<b>5911.055</b>	<b>5912.21</b>	<b>5912.11</b>	<b>4104.02F</b>	<b>4104.02-01</b>	<b>4104.02F-01</b>
5926.__	3/16"	<b>5500.01</b>	<b>5500.01A</b>	<b>5911.04</b>	<i>n/a</i>	<b>5912.05B</b>	<b>4303.02B</b>	<b>4305.00F</b>	<b>4105.04M</b>	<i>n/a</i>
5927.__	1/4"	<b>5500.012</b>	<b>5500.012A</b>	<b>5911.05B</b>	<b>5911.055</b>	<b>5912.06B</b>	<b>4305.12B</b>	<b>4105.01F</b>	<b>4105.05M</b>	<b>4105.05F</b>

(1) Nozzle w/hose fitting

(2) Nozzle w/hose fitting w/front jet



### Quick couplings for pressure washer

Part number	Description
<b>3800.14M</b>	Quick coupling - 1/4" M
<b>3800.14F</b>	Quick coupling - 1/4" F
<b>3800.12M</b>	Quick coupling - 1/2" M
<b>3800.12F</b>	Quick coupling - 1/2" F

# INSERTS



## INSERTS WITH HEXAGONAL INTERNAL HEAD

MATERIAL	STEEL			CERAMIC			
Size	M4	M6	M6	M8	M10	M10x1	M12
0.60	85990.060 (*)	85992.060 (*)	85993.06				
0.80	85990.080 (*)	85992.080 (*)	85993.08	85994.08			
1.00	85990.10 (*)	85992.10 (*)	85993.10	85994.10	85995.10	85997.10	85996.10
1.20	85990.12 (*)	85992.12 (*)	85993.12	85994.12	85995.12	85997.12	85996.12
1.40	85990.14 (*)	85992.14 (*)	85993.14	85994.14	85995.14	85997.14	85996.14
1.60	85990.16 (*)	85992.16 (*)	85993.16	85994.16	85995.16	85997.16	85996.16
1.80	85990.18 (*)	85992.18 (*)	85993.18	85994.18	85995.18	85997.18	85996.18
2.00		85992.20 (*)	85993.20	85991.20	85995.20	85997.20	85996.20
2.20		85992.22 (*)	85993.22	85994.22	85995.22	85997.22	85996.22
2.40		85992.24 (*)	85993.24	85994.24	85995.24	85997.24	85996.24
2.60		85992.26 (*)	85993.26	85994.26	85995.26	85997.26	85996.26
2.80		85992.28 (*)			85995.28	85997.28	85996.28
3.00		85992.30 (*)					
3.10					85995.31	85997.31	85996.31
3.40					85995.34	85997.34	85996.34
4.00					85995.40	85997.40	85996.40
<b>PLUG (*)</b>	<b>85990.00</b>	<b>85992.00</b>	<b>85992.00</b>	<b>85994.00</b>	<b>85995.00</b>	<b>85997.00</b>	<b>85996.00</b>
Key	B2	B3	B3	B4	B5	B5	B6

(\*) 10 pcs



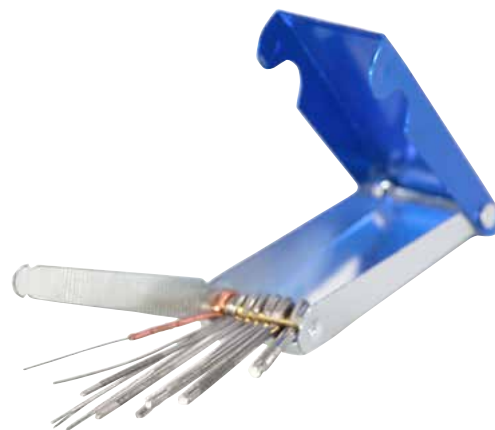
## INSERTS WITH HEXAGONAL EXTERNAL HEAD

**NEW!**

MATERIAL	CERAMIC	CERAMIC	CERAMIC	CARBIDE
DN orifice (mm)	M6	M10x1	1/4"	M10x1
0.60	85511.06			
0.80	85511.08			
1.00	85511.10	85510.10	85506.10	85510.W10
1.20	85511.12	85510.12	85506.12	85510.W12
1.40	85511.14	85510.14	85506.14	85510.W14
1.60	85511.16	85510.16	85506.16	85510.W16
1.80	85511.18	85510.18	85506.18	85510.W18
2.00	85511.20	85510.20	85506.20	85510.W20
2.20	85511.22	85510.22	85506.22	85510.W22
2.40	85511.24	85510.24	85506.24	85510.W24
2.60	85511.26	85510.26	85506.26	85510.W26
2.80		85510.28	85506.28	85510.W28
3.10		85510.31	85506.31	85510.W31
3.40		85510.34	85506.34	85510.W34
4.00		85510.40	85506.40	85510.W40
<b>PLUGS</b>	<b>85511.00</b>	<b>85510.00</b>	<b>85506.00</b>	<b>85510.00</b>
Key size	6 mm	10 mm	14 mm	10 mm

# ACCESSORIES FOR INSERTS

Part number	Description
<b>Cleaning and measuring sets</b>	
<b>85500.600</b>	Tip cleaning set
<b>85500.605-1</b>	Orifices measuring kit 0,45 - 1,50 mm
<b>85500.605-2</b>	Orifices measuring kit 1,50 - 3,00 mm



Tip cleaning set



Orifices measuring kit

<b>Keys for inner hexagonal inserts</b>	
<b>85500.510L</b>	Hexagonal L key 2 mm (B2) for M4
<b>85500.510</b>	Hexagonal T key 2 mm (B2) for M4
<b>85500.512L</b>	Hexagonal L key 3 mm (B3) for M6
<b>85500.512</b>	Hexagonal T key 3 mm (B3) for M6
<b>85500.514L</b>	Hexagonal L key 4 mm (B4) for M8
<b>85500.514</b>	Hexagonal T key 4 mm (B4) for M8
<b>85500.516L</b>	Hexagonal L key 5 mm (B5) for M10
<b>85500.516</b>	Hexagonal T key 5 mm (B5) for M10
<b>85500.517L</b>	Hexagonal L key 6 mm (B6) for M12
<b>85500.517</b>	Hexagonal T key 6 mm (B6) for M12
<b>85500.518</b>	Hexagonal L key 3/16" for ODP inserts



Hexagonal L keys

<b>Keys for outer hexagonal inserts</b>	
<b>85500.506-03</b>	Tubular box wrench (6 mm) for TE M6
<b>85500.506-01</b>	Tubular box wrench (10 mm) for TE M10
<b>85500.501</b>	Tubular box wrench (14 mm) for TE 1/4" inserts
<b>85500.505</b>	Hexagonal socket 1/4" for M10x1 (10 mm)
<b>85500.500</b>	Hexagonal socket 1/2" for TE 1/4"
<b>85500.503</b>	Hexagonal socket 3/8" for AP2 inserts



Hexagonal socket

<b>Containers</b>	
<b>VAL.11-001</b>	Twistpack (D.35x80)
<b>VAL.11-002</b>	Twistpack (D.50x80)
<b>VAL.2</b>	Plastic container (6 compartments)



Container for inserts



## Nuova Contec srl

Zona Industriale 2/1  
33086 Montereale V. (PN)

Tel.: +39 0427 799505  
Fax: +39 0427 799381

mail: [info@nuovacontec.com](mailto:info@nuovacontec.com)  
web: [www.nuovacontec.com](http://www.nuovacontec.com)