

Pipe and Sewer Cleaning Nozzles & Equipment

# Manufacturer



TECHNOLOGY FOR THE ENVIRONMENT

CATALOGUE

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# Nozzles Information

The **Nozzle** is a device projected for splitting a liquid in drops creating a jet of a definite shape. It can be used for different applications.

The jet produced by the nozzle exploits the impact of the drops on a surface in order to wash it clear from the obstructions.

There is a wide range of specialized nozzles for this aim.

## CONSIDERATIONS

For a best results and, in relation to deposits type to be removed, it is very important to consider some basic parameters such as pump flow system (l/min), pump pressure (bar) & size type length of hose, besides the inclination of the jet nozzle taken into consideration.

It's necessary to examine the relationship between the inclination of the jets and the impact that has been created with deposits: increasing the angle jets decreasing the thrust, but the impact on the obstructions significantly increases.

The presence of a frontal jet permits to strengthen his effect.

Nozzles must be installed taking into consideration the specific setting of the pump and also, in order to optimize cleaning effect, it's recommended to use the nozzle with the most similar dimension to the pipe diameter.

Regarding the rotating nozzles, high rotation is appropriated for cleaning small pipes, slow rotation gives, instead, better results in large diameter pipelines.

For these devices, the use of centering guide permits to maintain central rotation into the pipe, ensuring an uniform cleaning.

## WARNING

Remember to strictly follow all use requirements settled by the actual norms. In order to avoid damages to things and people is recommended:

- the use of the product in a defined area, not accessible to external and not competent people;
- it must be used protective and safety devices such as goggles, gloves, and masks;
- the devices must be carefully handled by the operator. Once the nozzle is securely settled inside the pipe, let it gradually get in pressure;
- never remove the nozzle inside the pipe during work.

The company is not responsible for damages and accidents caused by improper use of device or different use foreseen by this one.

## FLOW RATE – HOLES CHART

HOLES DIAMETER CALCULATION: PRESSURE → L/MIN → HOLES Ø

Calculation example: having a pump of 200l/min at 150 bar, a 6 rear jets nozzle and a 10% pressure loss, it is possible to calculate holes diameter as follows:

$P=150 \text{ bar} - 10\% \text{ (pressure loss)} = 135 \text{ bar}$

$200 \text{ l/min} \div 6 \text{ holes} = 33,3 \text{ l/min}$  for each holes

See below schedule: 135 bar column corresponds to a value of 34,2 l/min (the nearest to 33,3 l/min), value refers to hole diameter, in this case the diameter of each hole is 2,20mm.

		HOLE Ø mm															
↳	0,50	0,60	0,70	0,80	1,00	1,20	1,40	1,60	1,80	2,00	2,20	2,40	2,60	2,80	3,00	3,20	
PRESSURE Bar	FLOW/min																
50	1,08	1,55	2,11	2,75	4,30	6,20	8,44	11,0	13,9	17,2	20,8	24,8	29,1	33,7	38,7	44,1	
55	1,13	1,62	2,21	2,89	4,51	6,50	8,85	11,6	14,6	18,1	21,8	26,0	30,5	35,4	40,6	46,2	
60	1,18	1,70	2,31	3,02	4,71	6,79	9,24	12,1	15,3	18,9	22,8	27,2	31,9	37,0	42,4	48,3	
65	1,23	1,77	2,40	3,14	4,91	7,07	9,62	12,6	15,9	19,6	23,7	28,3	33,2	38,5	44,2	50,2	
70	1,27	1,83	2,50	3,26	5,09	7,33	9,98	13,0	16,5	20,4	24,6	29,3	34,4	39,9	45,8	52,1	
75	1,32	1,90	2,58	3,37	5,27	7,59	10,33	13,5	17,1	21,1	25,5	30,4	35,6	41,3	47,4	54,0	
80	1,36	1,96	2,67	3,48	5,44	7,84	10,67	13,9	17,6	21,8	26,3	31,4	36,8	42,7	49,0	55,7	
85	1,40	2,02	2,75	3,59	5,61	8,08	11,00	14,4	18,2	22,4	27,2	32,3	37,9	44,0	50,5	57,5	
90	1,44	2,08	2,83	3,70	5,77	8,31	11,32	14,8	18,7	23,1	27,9	33,3	39,0	45,3	52,0	59,1	
95	1,48	2,14	2,91	3,80	5,93	8,54	11,63	15,2	19,2	23,7	28,7	34,2	40,1	46,5	53,4	60,7	
100	1,52	2,19	2,98	3,90	6,09	8,76	11,93	15,6	19,7	24,3	29,5	35,1	41,1	47,7	54,8	62,3	
105	1,56	2,25	3,06	3,99	6,24	8,98	12,22	16,0	20,2	24,9	30,2	35,9	42,2	48,9	56,1	63,9	
110	1,60	2,30	3,13	4,09	6,38	9,19	12,51	16,3	20,7	25,5	30,9	36,8	43,2	50,0	57,5	65,4	
115	1,63	2,35	3,20	4,18	6,53	9,40	12,79	16,7	21,1	26,1	31,6	37,6	44,1	51,2	58,7	66,8	
120	1,67	2,40	3,27	4,27	6,67	9,60	13,07	17,1	21,6	26,7	32,3	38,4	45,1	52,3	60,0	68,3	
125	1,70	2,45	3,33	4,36	6,80	9,80	13,34	17,4	22,0	27,2	32,9	39,2	46,0	53,3	61,2	69,7	
130	1,73	2,50	3,40	4,44	6,94	9,99	13,60	17,8	22,5	27,8	33,6	40,0	46,9	54,4	62,5	71,1	
135	1,77	2,55	3,47	4,53	7,07	10,18	13,86	18,1	22,9	28,3	34,2	40,7	47,8	55,4	63,6	72,4	
140	1,80	2,59	3,53	4,61	7,20	10,37	14,11	18,4	23,3	28,8	34,9	41,5	48,7	56,5	64,8	73,7	
145	1,83	2,64	3,59	4,69	7,33	10,55	14,36	18,8	23,7	29,3	35,5	42,2	49,5	57,5	66,0	75,0	
150	1,86	2,68	3,65	4,77	7,45	10,73	14,61	19,1	24,2	29,8	36,1	42,9	50,4	58,4	67,1	76,3	
155	1,89	2,73	3,71	4,85	7,58	10,91	14,85	19,4	24,6	30,3	36,7	43,6	51,2	59,4	68,2	77,6	
160	1,92	2,77	3,77	4,93	7,70	11,09	15,09	19,7	24,9	30,8	37,3	44,3	52,0	60,4	69,3	78,8	
165	1,95	2,81	3,83	5,00	7,82	11,26	15,32	20,0	25,3	31,3	37,8	45,0	52,9	61,3	70,4	80,1	
170	1,98	2,86	3,89	5,08	7,94	11,43	15,55	20,3	25,7	31,7	38,4	45,7	53,6	62,2	71,4	81,3	
175	2,01	2,90	3,95	5,15	8,05	11,59	15,78	20,6	26,1	32,2	39,0	46,4	54,4	63,1	72,5	82,4	
180	2,04	2,94	4,00	5,23	8,17	11,76	16,00	20,9	26,5	32,7	39,5	47,0	55,2	64,0	73,5	83,6	
185	2,07	2,98	4,06	5,30	8,28	11,92	16,23	21,2	26,8	33,1	40,1	47,7	56,0	64,9	74,5	84,8	
190	2,10	3,02	4,11	5,37	8,39	12,08	16,44	21,5	27,2	33,6	40,6	48,3	56,7	65,8	75,5	85,9	
195	2,12	3,06	4,16	5,44	8,50	12,24	16,66	21,8	27,5	34,0	41,1	49,0	57,5	66,6	76,5	87,0	
200	2,15	3,10	4,22	5,51	8,61	12,39	16,87	22,0	27,9	34,4	41,7	49,6	58,2	67,5	77,5	88,1	



# General Cleaning Round Head Nozzles

## Technical Features:

Round Head Nozzle is particularly suitable for general cleaning uses, for washing and for going forward bends and corners in domestic and private sewers. These Standard nozzles can be supplied with s/steel inserts and with ceramic inserts which are recommended using dirty or recycled water. Ceramic lifetime inserts is longer than s/steel ones.

- Material: high quality hardened and polished steel alloy or polished stainless/steel
- Holes nr: rear 5-6-8/ with or without front jet
- Jets angle: 35°
- Max Pressure: 250 bar
- Engraving: it's possible to engrave customer company name or lt/bar

## Application:




- Cleaning of domestic sewer
- Vertical columns and pipes
- Removal of oily debris, limestone, soap, grease
- Sanitary

Round Head - Standard							
Part n.	Description	Hose connection ☐	Rear jets ☐	Front jet ☐	Dimension ØxL (mm) ☐	Weight (Kg) ☐	Diameter Pipe (mm) ☐
13110.01	Round Head Nozzle	1/8"F	4-5-6 Drilled	1 - Drilled	14x17	0,01	25 - 50
13111.01	Round Head Nozzle	1/8"M	4-5-6 Drilled	1 - Drilled	14x21	0,01	25 - 50
13114.01	Round Head Nozzle	1/4"F	4-5-6 Drilled	1 - Drilled	18x27	0,03	25 - 60
13119.01	Round Head Nozzle	1/4"M	4-5-6 Drilled	1 - Drilled	18x31	0,03	25 - 60
13122.01	Round Head Nozzle	3/8"F	6-8 Drilled	1 - Drilled	23x35	0,04	40 - 80
13123.01FT	Round Head Nozzle	3/8"M	6-8 Drilled	1 - Drilled	20x34	0,04	40 - 80
13125.01FT	Round Head Nozzle	1/2"F	6-8 Drilled	1 - M6x8	28x42	0,08	50 - 100
13126.01FT	Round Head Nozzle	1/2"M	6-8 Drilled	1 - M6x8	28x53	0,16	50 - 100
13127.01FT	Round Head Nozzle	3/4"F	6-8 Drilled	1 - M6x8	32x62	0,25	60 - 130
13128.01FT	Round Head Nozzle	1" F	6-8 Drilled	1 - M6x8	45x66	0,38	80 - 200

For S/Steel nozzles write "I" after each part n. (ex.13.110.01I)



Round Head - S/Steel Inserts

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
13125.01A	Round Head Nozzle	1/2" F	6 M6x8	1 - M6x8	28x42	0,08	50 - 100
13126.01A	Round Head Nozzle	1/2" M	6 M6x8	1 - M6x8	28x53	0,16	50 - 100
13127.01A	Round Head Nozzle	3/4" F	6 M6x8	1 - M6x8	35x62	0,25	60 - 130
13128.01A	Round Head Nozzle	1" F	6 M6x8	1 - M6x8	45x66	0,38	80 - 200
13129.01A	Round Head Nozzle	1" F	8 M6x8	1 - M10x8	60x105	1,30	100 - 250
13140.01A	Round Head Nozzle	1" 1/4" F	8 M6x8	1 - M10x8	60x105	1,30	100 - 250

For S/Steel nozzles write "I" after each part n. (ex.13125.01AI)



Round Head - Ceramic Inserts

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
13125.01C	Round Head Nozzle	1/2" F	6 M6x8	1 - M6x8	14x17	0,08	50 - 100
13126.01C	Round Head Nozzle	1/2" M	6 M6x8	1 - M6x8	14x21	0,16	50 - 100
13127.01C	Round Head Nozzle	3/4" F	6 M6x8	1 - M6x8	18x27	0,25	60 - 130
13128.01C	Round Head Nozzle	1" F	6 M6x8	1 - M6x8	18x31	0,38	80 - 200
13129.01C	Round Head Nozzle	1" F	6 M6x8	1 - M10x16	60x105	1,30	100 - 250
13140.01C	Round Head Nozzle	1" 1/4" F	6-8 M6x8	1 - M10x16	60x105	1,30	100 - 250

For S/Steel nozzles write "I" after each part n. (ex.13125.01CI)



# General Cleaning Conical Head Nozzles

## Technical Features:

Conical Head Nozzle is particularly suitable for general cleaning uses, for washing and for breaking obstructions in domestic and private sewers. These Standard nozzles can be supplied with S/steel inserts and with ceramic inserts which are recommended using dirty or recycled water. Ceramic lifetime inserts is longer than s/steel ones.

- Material: high quality hardened and polished steel alloy or polished stainless/steel
- Holes nr: rear 5-6-8/ with or without front jet
- Jets angle: 35°
- Max Pressure: 250 bar
- Engraving: it's possible to engrave customer company name or lt/bar

## Application:


- Cleaning of domestic sewer
- Vertical columns and pipes
- Oily debris, limestone, soap, grease
- Sanitary

Conical Head - Standard							
Part n.	Description	Hose connection 🔌	Rear jets 🔧	Front jet 🔧	Dimension ØxL (mm) 📏	Weight (Kg) ⚖️	Diameter Pipe (mm) 🌀
13130.01	Conical Head Nozzle	1/8"F	4-5-6 Drilled	1 - Drilled	14x17	0,01	25 - 50
13131.01	Conical Head Nozzle	1/8"M	4-5-6 Drilled	1 - Drilled	14x21	0,01	25 - 50
13134.01	Conical Head Nozzle	1/4"F	4-5-6 Drilled	1 - Drilled	18x27	0,03	25 - 60
13139.01	Conical Head Nozzle	1/4"M	4-5-6 Drilled	1 - Drilled	18x31	0,03	25 - 60
13142.01	Conical Head Nozzle	3/8"F	4-5-6 Drilled	1 - Drilled	23x35	0,04	40 - 80
13143.01	Conical Head Nozzle	3/8"M	4-5-6 Drilled	1 - Drilled	20x34	0,04	40 - 80
13145.01FT	Conical Head Nozzle	1/2"F	6-8 Drilled	1 - M6x8	28x42	0,08	50 - 100
13146.01FT	Conical Head Nozzle	1/2"M	6-8 Drilled	1 - M6x8	28x53	0,16	50 - 100
13147.01FT	Conical Head Nozzle	3/4"F	6-8 Drilled	1 - M6x8	32x62	0,25	60 - 130
13148.01FT	Conical Head Nozzle	1"F	6-8 Drilled	1 - M6x8	45x66	0,38	80 - 200

For S/Steel nozzles write "I" after each part n.(ex.13130.01I)




### Conical Head - S/Steel Inserts

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
13145.01A	Conical Head Nozzle	1/2"F	6 M6x8	1 - M6x8	28x42	0,08	50 - 100
13146.01A	Conical Head Nozzle	1/2" M	6 M6x8	1 - M6x8	28x53	0,16	50 - 100
13147.01A	Conical Head Nozzle	3/4" F	6 M6x8	1 - M6x8	35x62	0,25	60 - 130
13148.01A	Conical Head Nozzle	1"F	6 M6x8	1 - M6x8	45x66	0,38	80 - 200

For S/Steel nozzles write "I" after each part n.(ex.13145.01AI)



### Conical Head - Ceramic Inserts

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
13145.01C	Conical Head Nozzle	1/2"F	5-6 M6x8	1 - M6x8	14x17	0,08	50 - 100
13146.01C	Conical Head Nozzle	1/2"M	6 M6x8	1 - M6x8	14x21	0,16	50 - 100
13147.01C	Conical Head Nozzle	3/4"F	6 M6x8	1 - M6x8	18x27	0,25	60 - 130
13148.01C	Conical Head Nozzle	1"F	6 M6x8	1 - M6x8	18x31	0,38	80 - 200

For S/Steel nozzles write "I" after each part n. (ex.13145.01CI)



## Triangular Penetrator Nozzles



### Technical Features:







Nozzle with triple edges, 3 lateral jets and 1 front jet. This nozzle has an excellent high penetrating thrust and a very strong breaking and crushing action power on sedimented material. Ceramic inserts are recommended using dirty or recycled water.

- Material: high quality hardened and polished steel alloy or polished stainless/steel
- Holes nr: rear 6-8, lateral 3, front 1
- Jets angle: 35° rear – 10° lateral sides
- Max Pressure: 300 bar
- Engraving: it's possible to engrave customer company name or lt/bar
- Notes: is recommended to do not use this nozzle in sharp bends and in plastic pipes







### Application:

- Cleaning of pipes and columns full of sedimented obstructions
- Breaking of stones, ice, limestone, beton, concrete, small roots



Triangular Nozzle- S/steel Inserts							
Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12369.01	Triangular Nozzle	1/8"F	6-8 Drilled	4 - M4x5	18x30	0,03	20 - 60
12370.01	Triangular Nozzle	1/4"M	4-5-6 Drilled	4 - M4x5	20x35	0,04	25 - 80
12371.01	Triangular Nozzle	3/8" F	4-5-6 Drilled	4 - M4x5	25x45	0,07	30 - 120
12372.01	Triangular Nozzle	1/2"F	3 M6x6	4 - M6x6	30x55	0,14	40 - 100
12372.02	Triangular Nozzle	1/2"M	6 M6x6	4 - M6x6	30x55	0,20	40 - 100
12374.01	Triangular Nozzle	3/4"F	6 M6x8	4 - M8x10	48X80	0,50	60 - 200
12375.01	Triangular Nozzle	1"F	6-8 M8x10	4 - M8x10	58x110	1,00	70 - 300
12376.01	Triangular Nozzle	1" 1/4"F	6-8 M8x10	4 - M6x8	68x125	1,00	100 - 400

For S/Steel nozzles write "I" after each part n. (ex.12369.01I)

Triangular Nozzle- Ceramic Inserts							
Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12372.01C	Triangular Nozzle	1/2"F	3 - M6x6	4 - M6x6	30x55	0,14	40 - 100
12372.02C	Triangular Nozzle	1/2"M	6 - M6x6	4 - M6x6	30x55	0,20	40 - 100
12374.01C	Triangular Nozzle	3/4"F	6 - M6x8	4 - M6x8	48X80	0,50	60 - 200
12375.01C	Triangular Nozzle	1"F	6 - M8x10	4 - M8x10	58x110	1,00	70 - 300
12376.01C	Triangular Nozzle	1" 1/4"F	6 - M8x10	4 - M8x10	68x125	1,60	100 - 400

For S/Steel nozzles write "I" after each part n. (ex.12372.01CI)

## Ovoidal Shape Nozzles



### Technical Features:








Thanks to its particular shape, ovoidal nozzles have a great facility to go ahead inside bends and corners' pipe.

- Material: high quality hardened and polished steel alloy or polished stainless/steel
- Holes nr: rear 6-8/ with or without front jet
- Jets angle: 30°
- Max Pressure: 250 bar
- Engraving: it's possible to engrave customer company name or lt/bar

### Application:









- Cleaning of domestic sewer
- Suitable for hairpin bends
- Oily residues, limestone, soap, dirty and mud
- Sanitary

Ovoidal Nozzle - S/steel Inserts

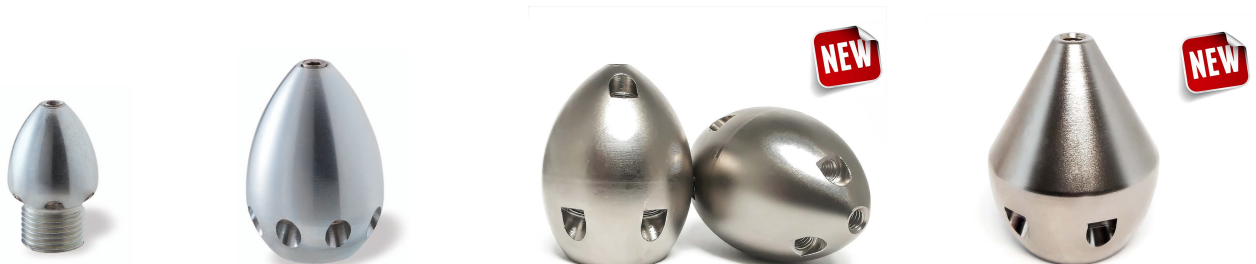
Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12351.01	Ovoidal Nozzle	1/2"M	6 M6x8	1 - M6x8	32x48	0,14	35 - 70
12352.01	Ovoidal Nozzle	1/2"F	6 M6x8	1 - M6x8	42x58	0,30	45 - 80
12353.01	Ovoidal Nozzle	3/4"F	6-8 M6x8	1 - M6x8	48x60	0,36	50 - 150
 12353F.01	Ovoidal Nozzle	3/4"F	6 M6x8	4 - M6x8	48x60	0,35	60 - 150
 12353L.01	Conical Nozzle	3/4"F	6 M6x8	1 - M6x8	48x60	0,35	60 - 150
12354.01	Ovoidal Nozzle	1"F	6-8 M6x8	1 - M6x8	60x78	0,80	100 - 300
12355.01	Ovoidal Nozzle	1" 1/4"F	8 M6x8	1 - M6x8	75x90	1,60	100 - 400

For S/Steel nozzles write "I" after each part n.(ex.12351.01I)

Ovoidal Nozzle - Ceramic Inserts

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12351.01C	Ovoidal Nozzle	1/2"M	6 M6x8	1 - M6x8	32x48	0,14	35 - 70
12352.01C	Ovoidal Nozzle	1/2"F	6 M6x8	1 - M6x8	42x58	0,30	50 - 100
12353.01C	Ovoidal Nozzle	3/4"F	6-8 M6x8	1 - M6x8	48x60	0,36	60 - 150
 12353F.01C	Ovoidal Nozzle	3/4"F	6 M6x8	4 - M6x8	48x60	0,35	60 - 150
 12353L.01C	Conical Nozzle	3/4"F	6 M6x8	1 - M6x8	48x60	0,35	60 - 150
12354.01C	Ovoidal Nozzle	1"F	6-8 M6x8	1 - M6x8	60x78	0,80	100 - 300
12355.01C	Ovoidal Nozzle	1"1/4"F	8 M6x8	1 - M6x8	75x90	1,60	100 - 400

For S/Steel nozzles write "I" after each part n.(ex.12351.01CI)





## Rotating Nozzles



### Technical Features:

This nozzle is equipped with thrusting rear jets and central rotating jets which can uniformly and completely clean all pipes and drains walls. Rotating Nozzles are available with 4 interchangeable heads: **Cover, Drilling, Carbide** and **Knives**.

- Material: polished tempered stainless/steel A420
- Holes nr: 6 rear +4 central rotating jets
- Jets angle: 35° rear jets, central rotating angle is different according to each model (see below schedule)
- Max Pressure: 250 bar
- Engraving: it's possible to engrave customer company name or lt/bar

### Application:

- Cleaning pipes completely obstructed by sand, compact soil, limestone (Drilling Head) or mineral deposit, concrete, gravel stones (Carbide Head)
- Suitable for removing roots growth (Knives Head)

### Note:




In order to extend nozzle life time and achieve the best cleaning result, we recommend to use it with **centering guides** and plunging it into a **lubricating liquid** after each use.

- For COVER Head write "T" after part n. (ex.12530.04T)
- For DRILLING Head write "A" after part n. (ex.12530.04A)
- For CARBIDE Head write "W" after part n. (ex.12530.04W)
- For KNIVES Head write "C" after part n. (ex.12530.04C)
- For part ns. 12530.01/02 only available Cover, Drilling and Carbide Heads.


## Opposite 90°



### Rotating Nozzle at Opposite 90° Jets with S/Steel Inserts

Part n.	Description	Hose connection 	Rear jets 	Rotating jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12530.01	Rotating Nozzle 90°	3/8"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
12530.02	Rotating Nozzle 90°	1/2"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
12530.04	Rotating Nozzle 90°	1/2"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12530.05	Rotating Nozzle 90°	3/4"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12530.06	Rotating Nozzle 90°	1"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12530.07	Rotating Nozzle 90°	1"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300
12530.09	Rotating Nozzle 90°	1" 1/4"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300







### Rotating Nozzle at Opposite 90° Jets with Ceramic Inserts

Part n.	Description	Hose connection 	Rear jets 	Rotating jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12530.01C	Rotating Nozzle 90°	3/8"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
12530.02C	Rotating Nozzle 90°	1/2"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
12530.04C	Rotating Nozzle 90°	1/2"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12530.05C	Rotating Nozzle 90°	3/4"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12530.06C	Rotating Nozzle 90°	1"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12530.07C	Rotating Nozzle 90°	1"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300
12530.09C	Rotating Nozzle 90°	1" 1/4"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300







## 45° Down



### Rotating Nozzle at 45° Down Jets with S/Steel Inserts

Part n.	Description	Hose connection 	Rear jets 	Rotating jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12540.01	Rotating Nozzle D45°	3/8"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
12540.02	Rotating Nozzle D45°	1/2"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
12540.04	Rotating Nozzle D45°	1/2"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12540.05	Rotating Nozzle D45°	3/4"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12540.06	Rotating Nozzle D45°	1"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12540.07	Rotating Nozzle D45°	1"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300
12540.09	Rotating Nozzle D45°	1" 1/4"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300







### Rotating Nozzle at 45° Down Jets with Ceramic Inserts

Part n.	Description	Hose connection 	Rear jets 	Rotating jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12540.01C	Rotating Nozzle D45°	3/8"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
12540.02C	Rotating Nozzle D45°	1/2"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
12540.04C	Rotating Nozzle D45°	1/2"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12540.05C	Rotating Nozzle D45°	3/4"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12540.06C	Rotating Nozzle D45°	1"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12540.07C	Rotating Nozzle D45°	1"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300
12540.09C	Rotating Nozzle D45°	1" 1/4"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300

## 45° Upper



### Rotating Nozzle at 45° Upper Jets with S/Steel Inserts

Part n.	Description	Hose connection 	Rear jets 	Rotating jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12550.01	Rotating Nozzle U45°	3/8"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
12550.02	Rotating Nozzle U45°	1/2"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
12550.04	Rotating Nozzle U45°	1/2"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12550.05	Rotating Nozzle U45°	3/4"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12550.06	Rotating Nozzle U45°	1"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12550.07	Rotating Nozzle U45°	1"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300
12550.09	Rotating Nozzle U45°	1" 1/4"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300







### Rotating Nozzle at 45° Upper Jets with Ceramic Inserts

Part n.	Description	Hose connection 	Rear jets 	Rotating jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12550.01C	Rotating Nozzle U45°	3/8"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
12550.02C	Rotating Nozzle U45°	1/2"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
12550.04C	Rotating Nozzle U45°	1/2"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12550.05C	Rotating Nozzle U45°	3/4"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12550.06C	Rotating Nozzle U45°	1"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12550.07C	Rotating Nozzle U45°	1"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300
12550.09C	Rotating Nozzle U45°	1" 1/4"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300

## 90 + 45° Down



### Rotating Nozzle at 90 + 45° Down Jets with S/Steel Inserts

	Part n.	Description	Hose connection 	Rear jets 	Rotating jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
<b>NEW</b>	12560.08	Rotating 90°- D45°	1/8"F	-	4 - Drilled	16x30	0,03	18-60
<b>NEW</b>	12560.10	Rotating 90°- D45°	1/4"F	-	4 - Drilled	29x43	0,12	35-100
	12560.01	Rotating 90°- D45°	3/8"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
	12560.02	Rotating 90°- D45°	1/2"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
	12560.04	Rotating 90°- D45°	1/2"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
	12560.05	Rotating 90°- D45°	3/4"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
	12560.06	Rotating 90°- D45°	1"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
	12560.07	Rotating 90°- D45°	1"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300
	12560.09	Rotating 90°- D45°	1" 1/4"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300

### Rotating Nozzle at 90 + 45° Down Jets with Ceramic Inserts

	Part n.	Description	Hose connection 	Rear jets 	Rotating jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
	12560.01C	Rotating 90°- D45°	3/8"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
	12560.02C	Rotating 90°- D45°	1/2"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
	12560.04C	Rotating 90°- D45°	1/2"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
	12560.05C	Rotating 90°- D45°	3/4"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
	12560.06C	Rotating 90°- D45°	1"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
	12560.07C	Rotating 90°- D45°	1"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300
	12560.09C	Rotating 90°- D45°	1" 1/4"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300

## 90 + 45° Upper



### Rotating Nozzle at 90 + 45° Upper Jets with S/Steel Inserts

Part.n.	Description	Hose connection ☰	Rear jets ⇄	Rotating jets ☐	Dimension ØxL(mm) 📏	Weight(Kg) ⚖	Diameter Pipe(mm) ⊘
12570.01	Rotating 90°- U45°	3/8"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
12570.02	Rotating 90°- U45°	1/2"F	6 - M6x8	4 - M6x6	35x77	0,358	50 - 150
12570.04	Rotating 90°- U45°	1/2"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12570.05	Rotating 90°- U45°	3/4"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12570.06	Rotating 90°- U45°	1"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12570.07	Rotating 90°- U45°	1"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300
12570.09	Rotating 90°- U45°	1" 1/4"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300

### Rotating Nozzle at 90 + 45° Upper Jets with Ceramic Inserts

Part.n.	Description	Hose connection ☰	Rear jets ⇄	Rotating jets ☐	Dimension ØxL(mm) 📏	Weight(Kg) ⚖	Diameter Pipe(mm) ⊘
12570.01C	Rotating 90°- U45°	3/8"F	6 - M6x8	4 - M6x6	35x77	0,35	50 - 150
12570.02C	Rotating 90°- U45°	1/2"F	6 - M6x8	4 - M6x6	35x77	0,358	50 - 150
12570.04C	Rotating 90°- U45°	1/2"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12570.05C	Rotating 90°- U45°	3/4"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12570.06C	Rotating 90°- U45°	1"F	6 - M6x8	4 - M6x6	50x100	0,80	100 - 200
12570.07C	Rotating 90°- U45°	1"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300
12570.09C	Rotating 90°- U45°	1" 1/4"F	6 - M6x8	4 - M6x6	70x158	2,80	100 - 300

## Chain Nozzles



### Technical Features:

Nozzles equipped with tempered high quality chains and available with 4 interchangeable heads: Cover, Drilling, Carbide and Knives. It's recommended to use ceramic inserts using dirty or recycled water. Ceramic inserts lifetime is longer than s/steel ones.

- Material: polished tempered stainless/steel A420
- Holes nr: 6 rear + 6 central rotating jets
- Jets angle: 35° rear jets, 90° central rotating jets
- Max Pressure: 250 bar
- Engraving: it's possible to engrave customer company name or lt/bar

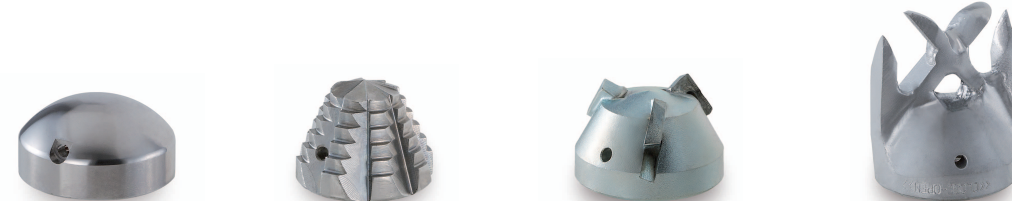
### Application:

- Cleaning pipes completed obstructed by sand, compact soil, limestone (drilling head) or mineral deposit, concrete, gravel stones (Carbide Head)
- Suitable for removing roots growth (Knives Head)







### Note:

In order to extend nozzle life time and achieve the best cleaning result, we recommend to use it with **centering guides** and plunging it into a **lubricating liquid** after each use.

- For COVER Head write "T" after part n. (ex. 12620.02T)
- For DRILLING Head write "A" after part n. (ex. 12620.02A)
- For CARBIDE Head write "W" after part n. (ex. 12620.02W)
- For KNIVES Head write "C" after part n. (ex. 12620.02C)
- For part ns. 12580.01/02 only available Cover, Drilling and Carbide Heads.









### Chain Nozzle - S/Steel Inserts

Part n.	Description	Hose connection 	Rear jets 	Rotating jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12580.01	Chain Nozzle Ø35mm	3/8"F	3 - M6x6	4 - M6x6	35x77	0,35	70 - 200
12580.02	Chain Nozzle Ø35mm	1/2"F	3 - M6x6	4 - M6x6	35x77	0,35	70 - 200
12620.01	Chain Nozzle Ø55mm	1/2"F	6 - M6x8	6 - M6x8	55x135	1,40	90 - 500
12620.02	Chain Nozzle Ø55mm	3/4"F	6 - M6x8	6 - M6x8	55x135	1,40	90 - 500
12620.03	Chain Nozzle Ø55mm	1"F	6 - M6x8	6 - M6x8	55x135	1,40	90 - 500
12630.01	Chain Nozzle Ø70mm	1"F	6 - M6x8	6 - M6x8	70x180	3,30	200 - 1000
12630.02	Chain Nozzle Ø70mm	1" 1/4"F	6 - M6x8	6 - M6x8	70x180	3,30	200 - 1000



### Chain Nozzle - Ceramic Inserts

Part n.	Description	Hose connection 	Rear jets 	Rotating jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12580.01C	Chain Nozzle Ø35mm	3/8"F	3 - M6x6	4 - M6x6	35x77	0,35	70 - 200
12580.02C	Chain Nozzle Ø35mm	1/2"F	3 - M6x6	4 - M6x6	35x77	0,35	70 - 200
12620.01C	Chain Nozzle Ø55mm	1/2"F	6 - M6x8	6 - M6x8	55x135	1,40	90 - 500
12620.02C	Chain Nozzle Ø55mm	3/4"F	6 - M6x8	6 - M6x8	55x135	1,40	90 - 500
12620.03C	Chain Nozzle Ø55mm	1"F	6 - M6x8	6 - M6x8	55x135	1,40	90 - 500
12630.01C	Chain Nozzle Ø70mm	1"F	6 - M6x8	6 - M6x8	70x180	3,30	200 - 1000
12630.02C	Chain Nozzle Ø70mm	1" 1/4"F	6 - M6x8	6 - M6x8	70x180	3,30	200 - 1000





## Vibrating Nozzles





### **Technical Features:**

Vibrant nozzle is characterized by an eccentric central body that produces bracking vibrations that crush sedimented obstructions.

- Material: polished tempered stainless/steel A420
- Holes nr: 3/6 rear + 4 central
- Jets angle: 30° rear jets, 90°+45° central vibrating jets
- Max Pressure: 250 bar
- Engraving: it's possible to engrave customer company name or lt/bar

### **Application:**







- Suitable for removing compact limestone, gravel, soil and concrete

### **Note:**

- In order to extend nozzle life time and achieve the best cleaning result, we recommend to plunge it into a lubricating liquid after each use.
- Do not use in gres pipes.









Vibrating Nozzles with Ceramic Inserts + Cover

Part n.	Description	Hose connection 	Rear Jets 	Rotating Jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
18560.01T	Vibrating Nozzle 90°- 45°D + Cover	1/8"F	-	4 - Holes	16x30	0,03	18 - 60
18560.02T	Vibrating Nozzle 90°- 45°D + Cover	1/4"F	3 - M4x5	4 - M4x5	29x56	0,20	30 - 100
18560.03T	Vibrating Nozzle 90°- 45°D + Cover	3/8"F	3 - M4x5	4 - M4x5	29x56	0,20	30 - 100
18560.04TC	Vibrating Nozzle 90°- 45°D + Cover	3/8"F	3 - M6x6	4 - M6x6	38x77	0,40	50 - 150
18560.05TC	Vibrating Nozzle 90°- 45°D + Cover	1/2"F	3 - M6x6	4 - M6x6	38x77	0,40	50 - 150
18560.06TC	Vibrating Nozzle 90°- 45°D + Cover	1/2"F	3 - M6x8	4 - M6x8	50x100	0,90	100 - 200
18560.07TC	Vibrating Nozzle 90°- 45°D + Cover	3/4"F	3 - M6x8	4 - M6x8	50x100	0,90	100 - 200
18560.08TC	Vibrating Nozzle 90°- 45°D + Cover	1" F	3 - M6x8	4 - M6x8	50x100	0,90	100 - 200
18560.09TC	Vibrating Nozzle 90°- 45°D + Cover	1" F	6 - M8x8	4 - M6/8x8	70x160	2,90	100 - 400
18560.10TC	Vibrating Nozzle 90°- 45°D + Cover	1" 1/4" F	6 - M8x8	4 - M6/8x8	70x160	2,90	100 - 400
18560.11TC	Vibrating Nozzle 90°- 45°D + Cover	1" F	6 - M10x10	4 - M10x10	100x180	7,20	200 - 600
18560.12TC	Vibrating Nozzle 90°- 45°D + Cover	1" 1/4" F	6 - M10x10	4 - M10x10	100x180	7,20	200 - 600



Vibrating Nozzles with Ceramic Inserts + Crest Cover

Part n.	Description	Hose connection 	Rear Jets 	Rotating Jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
18560.02V	Vibrating Nozzle 90°- 45°D + Crest Cover	1/4"F	3 - M4x5	4 - M4x5	29x56	0,20	30 - 100
18560.03V	Vibrating Nozzle 90°- 45°D + Crest Cover	3/8"F	3 - M4x5	4 - M4x5	29x56	0,20	30 - 100
18560.04VC	Vibrating Nozzle 90°- 45°D + Crest Cover	3/8"F	3 - M6x6	4 - M6x6	38x77	0,40	50 - 150
18560.05VC	Vibrating Nozzle 90°- 45°D + Crest Cover	1/2"F	3 - M6x6	4 - M6x6	38x77	0,40	50 - 150
18560.06VC	Vibrating Nozzle 90°- 45°D + Crest Cover	1/2"F	3 - M6x8	4 - M6x8	50x100	0,90	100 - 200
18560.07VC	Vibrating Nozzle 90°- 45°D + Crest Cover	3/4"F	3 - M6x8	4 - M6x8	50x100	0,90	100 - 200
18560.08VC	Vibrating Nozzle 90°- 45°D + Crest Cover	1" F	3 - M6x8	4 - M6x8	50x100	0,90	100 - 200
18560.09VC	Vibrating Nozzle 90°- 45°D + Crest Cover	1"F	6 - M8x8	4 - M6/8x8	70x160	2,90	100 - 400
18560.10VC	Vibrating Nozzle 90°- 45°D + Crest Cover	1" 1/4"F	6 - M8x8	4 - M6/8x8	70x160	2,90	100 - 400
18560.11VC	Vibrating Nozzle 90°- 45°D + Crest Cover	1" F	6 - M10x10	4 - M10x10	100x180	7,20	200 - 600
18560.12VC	Vibrating Nozzle 90°- 45°D + Crest Cover	1" 1/4"F	6 - M10x10	4 - M10x10	100x180	7,20	200 - 600



## Propeller Nozzles



### Technical Features:

Nozzle equipped with cylindrical or conical cutting propeller, also available with carbide or drilling heads. Propeller permits to cut and mill all deposits and debris.

- Material: high quality hardened and polished steel alloy
- Holes nr: 3/6 rear – 3/5 frontal
- Jets angle: 35° rear jets
- Max Pressure: 250 bar
- Engraving: it's possible to engrave customer company name or lt/bar

### Note:

In order to achieve the best cleaning effect we recommend to slowly let the propeller advance and plunging it into lubricating liquid after each use.




### Application:

- Cleaning of limestone, soft blockage, compact soil Sand, foam, soap
- Removal of roots, wood


## Cylindrical Propeller



### Cylindrical Propeller Nozzle with S/Steel Inserts

	Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
	12700.01	Cylindrical Propeller	1/8"F	5-6 Drilled	5 Drilled	14x27	0,05	20 - 40
	12700.02	Cylindrical Propeller	1/2"M	5-6 Drilled	5 Drilled	28x77	0,18	40 - 80
	12700.03	Cylindrical Propeller	1/2"F	5-6 Drilled	5 Drilled	28x66	0,15	40 - 80
	12700.04	Cylindrical Propeller	3/4"F	6 - M6x8	5 Drilled	38x97	0,38	40 - 120
	12700.05	Cylindrical Propeller	1"F	6 - M6x8	5 Drilled	48x105	0,60	50 - 150
	12700.06	Cylindrical Propeller	1"F	6 - M6x8	5 - M6x8	68x140	1,90	75 - 150

### Cylindrical Propeller Nozzle with Ceramic Inserts




	Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
	12700.02C	Cylindrical Propeller	1/2"M	5-6 Drilled	5 Drilled	28x77	0,18	40 - 80
	12700.03C	Cylindrical Propeller	1/2"F	5-6 Drilled	5 Drilled	28x66	0,15	40 - 80
	12700.04C	Cylindrical Propeller	3/4"F	6 - M6x8	5 Drilled	38x97	0,38	40 - 120
	12700.05C	Cylindrical Propeller	1"F	6 - M6x8	5 Drilled	48x105	0,60	50 - 150
	12700.06C	Cylindrical Propeller	1"F	6 - M6x8	5 - M6x8	68x140	1,90	75 - 150



## Conical Propeller



### Conical Propeller Nozzle with S/Steel Inserts

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
<b>NEW</b> 12710.01	Conical Propeller	1/8"F	5-6 Drilled	5 Drilled	14x27	0,05	20 - 40
12710.02	Conical Propeller	1/2"M	5-6 Drilled	5 Drilled	28x77	0,18	40 - 80
12710.03	Conical Propeller	1/2"F	5-6 Drilled	5 Drilled	28x66	0,15	40 - 80
12710.04	Conical Propeller	3/4"F	6 - M6x8	5 Drilled	38x97	0,38	40 - 120
12710.05	Conical Propeller	1"F	6 - M6x8	5 Drilled	48x105	0,60	50 - 150
12710.06	Conical Propeller	1"F	6 - M6x8	5 - M6x8	68x140	1,90	75 - 150







### Conical Propeller Nozzle with Ceramic Inserts

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12710.02C	Conical Propeller	1/2"M	5-6 Drilled	5 Drilled	28x77	0,18	40 - 80
12710.03C	Conical Propeller	1/2"F	5-6 Drilled	5 Drilled	28x66	0,15	40 - 80
12710.04C	Conical Propeller	3/4"F	6 - M6x8	5 Drilled	38x97	0,38	40 - 120
12710.05C	Conical Propeller	1"F	6 - M6x8	5 Drilled	48x105	0,60	50 - 150
12710.06C	Conical Propeller	1"F	6 - M6x8	5 - M6x8	68x140	1,90	75 - 150

## Drilling Propeller



### Drilling Propeller Nozzle with S/Steel Inserts

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12760.02	Drilling Propeller	1/2"M	5-6 Drilled	5 Drilled	28x85	0,30	40 - 80
12760.03	Drilling Propeller	1/2"F	5-6 Drilled	5 Drilled	28x82	0,22	40 - 80
12760.04	Drilling Propeller	3/4"F	6 - M6x8	5 Drilled	38x113	0,50	40 - 120
12760.05	Drilling Propeller	1"F	6 - M6x8	5 Drilled	48x123	0,75	50 - 150
12760.06	Drilling Propeller	1"F	6 - M6x8	5 Drilled	68x175	2,50	75 - 150

### Drilling Propeller Nozzle with Ceramic Inserts







Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12760.02C	Drilling Propeller	1/2"M	5-6 Drilled	5 Drilled	28x85	0,30	40 - 80
12760.03C	Drilling Propeller	1/2"F	5-6 Drilled	5 Drilled	28x82	0,22	40 - 80
12760.04C	Drilling Propeller	3/4"F	6 - M6x8	5 Drilled	38x113	0,50	40 - 120
12760.05C	Drilling Propeller	1"F	6 - M6x8	5 Drilled	48x123	0,75	50 - 150
12760.06C	Drilling Propeller	1"F	6 - M6x8	5 Drilled	68x175	2,50	75 - 150



## Carbide Propeller



### Carbide Propeller Nozzle with S/Steel Inserts

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12770.02	Carbide Propeller	1/2"M	5-6 Drilled	5 Drilled	28x85	0,30	40 - 80
12770.03	Carbide Propeller	1/2"F	5-6 Drilled	5 Drilled	28x82	0,22	40 - 80
12770.04	Carbide Propeller	3/4"F	6 - M6x8	5 Drilled	38x113	0,50	40 - 120
12770.05	Carbide Propeller	1"F	6 - M6x8	5 Drilled	48x123	0,75	50 - 150
12770.06	Carbide Propeller	1"F	6 - M6x8	5 Drilled	68x175	2,50	75 - 150

### Carbide Propeller Nozzle with Ceramic Inserts

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12770.02C	Carbide Propeller	1/2"M	5-6 Drilled	5 Drilled	28x85	0,30	40 - 80
12770.03C	Carbide Propeller	1/2"F	5-6 Drilled	5 Drilled	28x82	0,22	40 - 80
12770.04C	Carbide Propeller	3/4"F	6 - M6x8	5 Drilled	38x113	0,50	40 - 120
12770.05C	Carbide Propeller	1"F	6 - M6x8	5 Drilled	48x123	0,75	50 - 150
12770.06C	Carbide Propeller	1"F	6 - M6x8	5 Drilled	68x175	2,50	75 - 150

## ET1 High Efficiency Nozzle 20°



### Technical Features:

Thanks to its rear 20° angle jet, this nozzle is excellent for applications which need a strong thrust inside high vertical columns.

- Material: tempered and polished stainless/steel
- Holes nr: 6
- Jets angle: 20° rear jets
- Max Pressure: 250 bar
- Engraving: it's possible to engrave customer company name or lt/bar

### Application:

- Cleaning of high pluvial columns
- Building drainpipes, gutter



### ET1 High Efficiency Nozzle 20°

	Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
	15110.05	ET1	3/8"F	6 Drilled	1 - M6 x 6	25x29	0,40	50 - 130
	15110.01	ET1	1/2"M	6 Drilled	1 Drilled	25x31	0,60	50 - 130
	15110.02	ET1	1/2"F	6 Drilled	1 - M6 x 6	28x32	0,65	50 - 130

## ET2 High Efficiency Nozzle 10°- 30°



### Technical Features:






Nozzle characterized by the presence of 8 rear jets at 2 different inclinations: 4 x 10° and 4 x 30°. 10° jets permits to have a considerable thrusting power in order to facilitate the passing through the pipe, 30° rear jets make an efficient washing. It's recommended to use ceramic using dirty or recycled water. Ceramic lifetime is longer than s/steel inserts.

- Material: high quality hardened and polished steel alloy or hardened polished stainless/steel
- Holes nr: 4+4 x rear jets + 1 x front jet
- Jets angle: 10°x 4 jets + 30°x 4 jets
- Max Pressure: 250 bar
- Engraving: it's possible to engrave customer company name or lt/bar

### Application:







- Cleaning of high pluvial columns
- Building drainpipes, gutter

**ET2 with S/steel Inserts 10°- 30°**

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15120.01A	ET2	1/2"F	4+4 M4x5	1 - M4x5	35x47	0,16	25 - 60
15120.03A	ET2	3/4"F	4+4 M6x8	1 - M6x8	48x58	0,60	60 - 200
15120.04A	ET2	1"F	4+4 M6x8	1 - M8x8	48x58	0,65	60 - 200

For S/Steel nozzles write "I" after each part nr. (ex. 15120.01AI)

**ET2 with Ceramic Inserts 10°- 30°**

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15120.01C	ET2	3/4"F	4+4 M6x8	1 - M6x8	48x58	0,60	60 - 200
15120.01C	ET2	1"F	4+4 M8x8	1 - M8x8	48x58	0,65	60 - 200

For S/Steel nozzles write "I" after each part nr. (ex. 15120.01CI)



## ET3 High Efficiency Nozzle with Plastic Body 30°



### Technical Features:

Nozzle in plastic body, with 8 rear jets at 30° + 4 front jets.








ET3 Special nozzle is recommended to be used for cleaning inner plastic pipes, supplied with s/s or ceramic inserts. Now also available ET3 plastic body with brass inserts and adapter, suitable for explosion-proof, fire hazard, inflammable jobs.

- Material: plastic body + s/steel or brass 1/2"F adapter
- Holes nr : 8 x rear jets + 4 frontal jets
- Jets angle: 30° x 8 rear jets + 10° x 3 lateral + 90° x 1 frontal jets Max
- Pressure: 150 bar

### Application:

- Cleaning of plastic pipe
- Vertical columns and pipes Explosion-proof jobs (brass version)



ET3 Plastic body 30°							
Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15130.01	ET3 Plastic body-S/S Inserts	1/2"F	8 - M6x8	3+1 - M6x8	51x49	0,12	60 - 150
15130.01C	ET3 Plastic body-Ceramic Inserts	1/2"F	8 - M6x8	3+1 - M6x8	51x49	0,12	60 - 150
 15130.01O	ET3 Plastic body-Brass Inserts	1/2"F	8 - M6x6	3+1 - M6x6	51x49	0,15	60 - 150

## ET4 High Efficiency Nozzle 20°



### Technical Features:

Its 8 x 20° rear jets have a great thrusting capacity to wash out sediments inside sewers. Thanks to its shape, weight and well fitted in orifices, ET4 is considered as a very popular, efficient and performing heavy nozzle with extended life time.

Available with S/Steel or Ceramic Inserts. Using dirty or recycled water fit in ceramic inserts.







- Material: high quality hardened and polished steel alloy or hardened polished stainless/steel
- Holes nr: 8 x rear jets
- Jets angle: 20° x 8 jets
- Max Pressure: 300 bar
- Engraving: it's possible to engrave customer company name or lt/bar

### Application:

- Removing and expulsion of strong blockages inside big pipes
- Flushing out calcareous deposits, sand, sludge, gravel, mud Long runs jobs









**ET4 with S/Steel Inserts 20°**

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15140.03A	ET4	3/4"F	8 - M10x12	1 - Tcei M10	70x98	1,60	80 - 300
15140.04A	ET4	1"F	8 - 1/4"M	1 - Tcei M10	88x145	3,70	150 - 500
15140.05A	ET4	1" 1/4" F	8 - 1/4"M	1 - Tcei M10	88x145	3,70	150 - 500

For S/Steel nozzles write "I" after each part nr. (Ex. 15140.03AI)

**ET4 with Ceramic Inserts 20°**

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15140.03C	ET4	3/4"F	8 - M10x12	1 - Tcei M10	70x98	1,60	80 - 300
15140.04C	ET4	1"F	8 - 1/4"M	1 - Tcei M10	88x145	3,70	150 - 500
15140.05C	ET4	1" 1/4" F	8 - 1/4"M	1 - Tcei M10	88x145	3,70	150 - 500






For S/Steel nozzles write "I" after each part nr. (Ex. 15140.03CI)



**ET4 in Brass with S/Steel Inserts**






Part n.	Description	Hose connection 	Rear jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15140.24A	ET4	1"F	8 - 1/4"M	88x145	4,10	150 - 500
15140.25A	ET4	1" 1/4"F	8 - 1/4"M	88x145	4,10	150 - 500

**ET4 in Brass with Ceramic Inserts**





Part n.	Description	Hose connection 	Rear jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15140.24C	ET4	1"F	8 - 1/4"M	88x145	4,10	150 - 500
15140.25C	ET4	1" 1/4"F	8 - 1/4"M	88x145	4,10	150 - 500



**ET4 in Aluminium with S/Steel Inserts**

Part n.	Description	Hose connection 	Rear jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15140.13A	ET4	3/4"F	8 - M10x12	70x98	0,70	80 - 300
15140.14A	ET4	1"F	8 - 1/4"M	88x145	1,50	150 - 500
15140.15A	ET4	1" 1/4"F	8 - 1/4"M	88x145	1,50	150 - 500

**ET4 in Aluminium with Ceramic Inserts**

Part n.	Description	Hose connection 	Rear jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15140.13C	ET4	3/4"F	8 - M10x12	70x98	0,70	80 - 300
15140.14C	ET4	1"F	8 - 1/4"M	88x145	1,50	150 - 500
15140.15C	ET4	1" 1/4"F	8 - 1/4"M	88x145	1,50	150 - 500



## ET5 High Efficiency Nozzle 4×5° + 4×10°



### Technical Features:

ET 5 distinctive feature is its double jets inclination at 5° and 10° which gives to this heavy nozzle a high traction power inside long pipes. Thanks to its weight and very well fitted in orifices this high efficiency nozzle has a very strong life time.







Available with S/Steel or Ceramic Inserts. Using dirty or recycled water fit in ceramic inserts.

- Material: high quality hardened and polished steel alloy or hardened polished stainless/steel Holes
- Holes nr: 4+4 x rear jets
- Jets angle: 5° x 4 jets +10° x 4 jets
- Max Pressure: 300 bar
- Engraving: it's possible to engrave customer company name or lt/bar

### Application:

- Removing and expulsion of strong blockages inside big pipes
- Flushing out of calcareous deposits, sand, sludge, gravel, mud Long runs jobs







**ET5 with S/Steel Inserts 4x5°- 4x10°**

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15150.03A	ET5	3/4"F	8 - 1/4"M	1 - Tcei M8	70x150	3,50	80 - 300
15150.04A	ET5	1"	8 - 1/4"M	1 - Tcei M8	98x172	4,80	150 - 500
15150.14A	ET5	1" 1/4"	8 - 1/4"M	1 - Tcei M8	98x172	4,80	150 - 500
15150.05A	ET5	1"	8 - 1/4"M	1 - Tcei M8	98x220	5,30	150 - 500
15150.15A	ET5	1" 1/4"	8 - 1/4"M	1 - Tcei M8	98x220	5,30	150 - 500

For S/Steel nozzles write "I" after each part nr( 15150.03AI)



**ET5 with Ceramic Inserts 4x5°- 4x10°**

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15150.03C	ET5	3/4"F	8 - 1/4"M	1 - Tcei M8	70x150	3,50	80 - 300
15150.04C	ET5	1"	8 - 1/4"M	1 - Tcei M8	98x172	4,80	150 - 500
15150.14C	ET5	1" 1/4"	8 - 1/4"M	1 - Tcei M8	98x172	4,80	150 - 500
15150.05C	ET5	1"	8 - 1/4"M	1 - Tcei M8	98x220	5,30	150 - 500
15150.15C	ET5	1" 1/4"	8 - 1/4"M	1 - Tcei M8	98x220	5,30	150 - 500

For S/Steel nozzles write "I" after each part nr( 15150.03CI)



## ET6 High Efficiency Nozzle 6×10° + 6×30°



### **Technical Features:**

Strong thrust 10° in combination with washing power 30°, high quality steel and heavy weight are the peculiar features of this excellent washing nozzle suitable for working out debris in long and big sewers.







Available with S/Steel or Ceramic inserts. Using dirty or recycled water fit in ceramic inserts.

- Material: high quality hardened and polished steel alloy or hardened polished stainless/steel
- Holes nr: 12
- Jets angle: 10° x 6 jets + 30° x 6 jets
- Max Pressure: 300 bar
- Engraving: it's possible to engrave customer company name or lt/bar.

### **Application:**







- Removing and expulsion of strong blockages inside big pipes.
- Flushing out calcareous deposits, sand, sludge, gravel, mud.
- Total obstruction.

**ET6 S/Steel Inserts 6x10° - 6x30°**

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15160.04A	ET6	1"F	12 - 1/4"M	----	118x188	10,00	200 - 800
15160.05A	ET6	1" 1/4"F	12 - 1/4"M	----	118x188	10,00	200 - 800

For S/Steel nozzles write "I" after each part nr. (Ex. 15160.04AI)

**ET6 Ceramic Inserts 6x10° - 6x30°**

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15160.04C	ET6	1"F	12 - 1/4"M	----	118x188	10,00	200 - 800
15160.05C	ET6	1" 1/4"F	12 - 1/4"M	----	118x188	10,00	200 - 800

For Ceramic nozzles write "I" after each part nr. (Ex. 15160.04CI)



## Ogive Nozzle



### Technical Features:







Ogive nozzle made in s/steel material with 8 rear jets at 10° and 30°. This double inclination gives, at the same time, significant traction power and washing inside sewers. This nozzle has an inner diffuser that improves flow efficiency. Supplied with s/steel inserts or ceramic ones.

- Holes nr: rear 8-10
- Jets angle: 10°+30°
- Max Pressure: 250 bar
- Engraving: it's possible to engrave customer company name or lt/bar







### Application:

- Great washing before inspection
- Vertical columns
- Oily debris, limestone, soap, grease
- Long run jobs

Ogive with S/Steel Inserts

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12310.01A	Ogive	1/2"F	8 M6x8	1 - M6x8	50x65	0,65	60 - 150
12310.02A	Ogive	3/4"F	8 M6x8	1 - M6x8	60x85	1,15	70 - 300
12310.03A	Ogive	1"F	8-10 M6x8	1 - M6x8	70x85	2,00	80 - 400

Ogive with Ceramic Inserts

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12310.01C	Ogive	1/2"F	8 M6x8	1 - M6x8	50x65	0,65	60 - 150
12310.02C	Ogive	3/4"F	8 M6x8	1 - M6x8	60x85	1,15	70 - 300
12310.03C	Ogive	1"F	10 M6x8	1 - M6x8	70x85	2,00	80 - 400



## Balanced Floor Cleaner Nozzles



### Technical Features:







Most of its total weight is based on its bottom side, this feature permits to this heavy nozzle to do not reverse inside sewers. Due to its jets oriented on the downside of the pipe, Balanced nozzle has a great capacity to wash out obstructions and deposits.

- Material: high quality steel alloy
- Holes nr: see below schedule
- Jets angle: 15°
- Max Pressure: 250 bar
- Note: in order to improve its performance use ceramic inserts and swivel joint.

### Application:

- Frequent bottom cleaning on big pipes
- Deposits such as mud, sludge, limestone
- Sand removal

**Balanced Floor Cleaner Nozzles with Ceramic Inserts**

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
12450.01C	Balanced Ø110	1"F	6 Inserts ¼"M	eyebolt	110x300	12	100 - 700
12450.02C	Balanced Ø140	1"F	6 Inserts ¼"M	eyebolt	140x380	25	180 - 1200
12451.02C	Balanced Ø140	1"1/4" F	6 Inserts ¼"M	eyebolt	140x380	25	180 - 1200
12450.03C	Balanced Ø160	1"F	6 Inserts ¼"M	eyebolt	160x450	31	250 - 1500
12451.03C	Balanced Ø160	1"1/4" F	6 Inserts ¼"M	eyebolt	160x450	31	250 - 1500





## Heavy Duty Sledge Nozzle



### **Technical Features:**

Sledge Shape let to do not sink into mud and overtake sediments and obstacles. Double inclination jets oriented to the downside and lateral sides of the pipe perfectly wash and clean it.

Nozzles suitable for cleaning large and long flat bottom pipes. Sledge Nozzles are available in 2 versions: 8 jets and 11 jets and supplied with M10x1mm (8 Jets) and 1/4"M (11 Jets).

- Material: high quality steel alloy
- Jets angle: see schedule
- Pressure: min 150 bar max 300 bar
- Note: to be used with swivel joint in order to avoid twisting of the hose.

### **Application:**

- Removing and washing out of sediments in flat bottom pipes
- Mud, soil, stones, sludge and sand



### Heavy Duty Sledge Nozzles with Ceramic Inserts

Part n.	Description	Hose connection ☒	Rear jets ☒	Jets Angle ☒	Dimension ØxL (mm) ☒	Weight (Kg) ☒	Diameter Pipe (mm) ☒
12500.01	Sledge Nozzle	1"F	8 - M10x1	0°/5°/20°	150x380x140	12	300 - 1000
12501.01	Sledge Nozzle	1" 1/4"F	8 - M10x1	0°/5°/20°	150x380x140	12	300 - 1000
12510.01	Sledge Nozzle	1"F	11 - 1/4"M	0°/5°/20°	200x480x185	22	400 - 3000
12511.01	Sledge Nozzle	1" 1/4"F	11 - 1/4"M	0°/5°/20°	200x480x185	22	400 - 3000

Possibility to increase weight as follows:  
 12500.01/12501.02 from 12 Kg up to 20 Kg  
 12510.01/12511.02 from 22 Kg up to 30 Kg



## Flat Aluminium and Steel Nozzles



### Technical Features:

Aluminum or steel wedge shape nozzles with jets completely bottom oriented are able to remove sand and settled debris in the lower part of squared and large pipes.

- Material: high quality aluminum mould or high quality steel alloy
- Jets angle: see schedule
- Pressure: 250 bar
- Engraving: it's possible to engrave customer company name or lt/bar
- Note: in order to improve its performance use ceramic inserts and swivel joint to avoid twisting of the hose.

### Application:

- Powerful floor cleaning
- Removal of sand, mud, sludge, settled debris



Flat Nozzles

Part n.	Description	Hose connection 	Rear jets 	Jet Angle 	Dimension ØxL 	Weight in Kg 	Diameter Pipe mm 
<b>S/Steel Inserts</b>							
12400.11A	Aluminium Flat Nozzle	1"F	6 - 1/4"M	15°	220x285x100	4-7	300 - 1000
12400.12A	Aluminium Flat Nozzle	1"F	6 - 1/4"M	15°	220x285x100	4-7	300 - 1000
<b>Ceramic Inserts</b>							
12400.11C	Aluminium Flat Nozzle	1"F	6 - 1/4"M	15°	220x285x100	10-14	300 - 1000
12400.12C	Aluminium Flat Nozzle	1"F	6 - 1/4"M	15°	220x285x100	10-14	300 - 1000
<b>Ceramic Inserts</b>							
 12520.01	Steel Flat Nozzle	1"F	8 - 1/4"M	0°/7,5°/15°	160x300x60	12,50	300 - 1000



# Nozzle Adapter for Remote Sonde Transmitter



## Technical Features:











Thanks to its shape and 20° rear thrusting jets this Nozzle Adapter permits to Remote Sonde Transmitter to properly advance inside pipe.

- Material: high quality stainless steel
- Jets angle: 20°
- Max Pressure: 200 bar
- Note: it's possible to engrave company name or lit/bar

## Application:

- Powerful floor cleaning
- Removal of sand, mud, sludge, settled debris

### Nozzle Adapter for Remote Sonde Transmitter

	Part n.	Description	Hose connection 	Rear jets 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 	
	13322.01	Nozzle Transmitter	3/8" F	Drilled	30x37	0,13	50 - 150	
	13323.01	Nozzle Transmitter	3/8" M	Drilled	30x34	0,11	50 - 150	
	13325.01/01	Nozzle Transmitter	1/2" F	Drilled	35x37	0,16	50 - 150	
	13326.01/01	Nozzle Transmitter	1/2" M	Drilled	35x41	0,14	50 - 150	
	13325.01	Nozzle Transmitter	1/2" F	6 - M6x6	28x51	0,12	50 - 150	
	13326.01	Nozzle Transmitter	1/2" M	6 - M6x6	28x51	0,09	50 - 150	

## Non Inflammable Big Bronze Nozzle



### Technical Features:

Big nozzle 1"F made in bronze material, supplied with 16 inner ¼"M ceramic inserts. Thanks to its bronze building material and mix of different inclination jets, this nozzle is excellent for cleaning inner tanks which have inside inflammable liquids such as fuel. Using this nozzle it's possible to completely washing tanks avoiding danger of fire spark.

- Material: bronze
- Holes nr. : 16 (6 x rear +6 x radial+4 x front) Jets angle: 30°/90 15°/0° 20°
- Max pressure: 100-250 bar
- Flow: 280 – 500 lt

### Application:

- Cleaning of Tanks full of inflammable liquids (ex. fuel)
- Explosion-proof, fire hazard, inflammable jobs

Big Bronze Nozzle							
Part.n.	Description	Hose connection ☐	Rear jets ☐	Radial & Front jets ☐	Dimension ØxL (mm) ☐	Weight (Kg) ☐	Diameter Pipe (mm) ☐
12330.01B	Big Bronze Nozzle	1"F	6x 1/4"M 30°	Radial 3x1/4"M 90° + 3x1/4"M 15° Front 1x1/4"M 0° + 3x1/4"M 20°	100x200	10,00	150 - 800

## Non Inflammable Brass Nozzles



### Technical Features:

Here below list of some nozzles we made in brass material. These nozzles are suitable for cleaning pipes which have inside inflammable liquid avoiding danger of fire spark. On demand and according to MOQ, it' possible to produce Cos.ma.s range nozzles in brass material.

### Application:

- Explosion-proof, fire hazard, inflammable jobs



Non Inflammable Brass Nozzles					
	Part n.	Description	Hose connection ☰	Rear jets ☰	Front jet ☰
	15140.04O	ET 4 High Efficiency	1"F	8 - 1/4"M S/S with Ceramic pill inside	----
	15140.05O	ET 4 High Efficiency	1"1/4" F	8 - 1/4"M S/S with Ceramic pill inside	----
					----
<b>NEW</b>	13840.11	Cover Hose Bushing	1/2"	----	----
<b>NEW</b>	13840.12	Cover Hose Bushing	3/4"	----	----
<b>NEW</b>	13840.13	Cover Hose Bushing	1"	----	----
					----
	13125.01O	Round Head	1/2"F	6-8 Drilled	1 - M6x8
	13126.01O	Round Head	1/2"M	6-8 Drilled	1 - M6x8
	13127.01O	Round Head	3/4"F	6-8 Drilled	1 - M6x8
	13128.01O	Round Head	1"F	6-8 Drilled	1 - M6x8
	12351.01O	Ovoidal	1/2"M	6 - M6x8 S/S	1 - M6x8
	12352.01O	Ovoidal	1/2"F	6 - M6x8 S/S	1 - M6x8
	12353.01O	Ovoidal	3/4" F	6 - M6x8 S/S	1 - M6x8
	12354.01O	Ovoidal	1"F	6 - M6x8 S/S	1 - M6x8
	12351.01OC	Ovoidal	1/2"M	6 - M6x8 Ceramic	1 - M6x8
	12352.01OC	Ovoidal	1/2"F	6 - M6x8 Ceramic	1 - M6x8
	12353.01OC	Ovoidal	3/4" F	6 - M6x8 Ceramic	1 - M6x8
	12354.01OC	Ovoidal	1"F	6 - M6x8 Ceramic	1 - M6x8
	15170.01O	ET7 External Launch	1/2"F	----	Drilled Ø 3-4-5-6-7mm





## ET7 Nozzle for External Lances



### Technical Features:

Nozzle to be set up on external lances. ET7 is available drilled on the top or with fan and ceramic inserts.






- Material: hardened steel alloy, stainless/steel or brass Max
- Pressure: 250 bar

### Application:

- Washing of high pluvial column
- Cleaning of floors and pavements



**ET7 External Lance Drilled on the Top**

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15170.01	ET7	1/2"F	-----	Drilled Ø 3-4-5-6-7mm	26x65	0,15	-----
15170.03	ET7	3/4"F	-----	Drilled Ø 6-7-8 mm	80x33	0,23	-----
15170.04	ET7	1"F	-----	Drilled Ø 6-7-8 mm	95x38	0,33	-----



For S/Steel nozzles write "I" after each part nr. (Ex. 15170.01I)

**ET7 External Lance Fan Shape Insert on the Top**

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15170.02	ET7	1/2"F	-----	Fan Shape Insert 1/4"M	26x65	0,15	-----
15170.05	ET7	3/4"F	-----	Fan Shape Insert 1/4"M	80x33	0,23	-----
15170.06	ET7	1"F	-----	Fan Shape Insert 1/4"M	95x38	0,33	-----



For S/Steel nozzles write "I" after each part nr. (Ex. 15170.02I)

**ET7 External Lance with Ceramic Insert on the Top**

Part n.	Description	Hose connection 	Rear jets 	Front jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15170.02C	ET7	1/2"F	-----	Ceramic Insert 1/4"M	26x65	0,15	-----
15170.05C	ET7	3/4"F	-----	Ceramic Insert 1/4"M	80x33	0,23	-----
15170.06C	ET7	1"F	-----	Ceramic Insert 1/4"M	95x38	0,33	-----



For S/Steel nozzles write "I" after each part nr. (Ex. 15170.02CI)

**ET7 External Lance in Brass - Explosion - proof jobs**

Part n.	Description	Hose connection 	Rear jets 	Central jet 	Dimension ØxL (mm) 	Weight (Kg) 	Diameter Pipe (mm) 
15170.01O	ET7	1/2"F	-----	Drilled Ø 3-4-5-6-7mm	26x65	1,80	-----



## Venturi MudSucker



### **Technical Features:**


Venturi Sucking Devices exploit The Venturi principle to suck liquids in depth injecting water inside sucking chamber cone. This device sucks various liquids, sludge, mud and stones.

It is supplied with 6×1/4" inner ceramic inserts.

Venturi Devices are essential equipment for plumbing or drainage jobs.

### Venturi Jet Pump DN 60


Venturi for DN 60 can be connected to high pressure washers or cleaning vehicles to fast suck various liquids such as water, sludge, mud in flooded areas or to fill up tankers and pools.

Part n.	Description	Hose connection	DN	Inner jets	Dimension ØxL (mm)	Weigh (Kg)
 23100.05	Venturi Jet Pump+Coupling	1/2"	60 - 2"1/2"	6 - 1/4" Ceramic	109x350	2,00



Max pressure 200 bar  
Capacity to suck up to 10mt in depth

### Venturi MudSucker

Part n.	Description	Hose connection	DN	Inner jets	Dimension ØxL	Weight (Kg)
 23100.06	Venturi MudSucker	1/2"	60 - 2"1/2"	6 - 1/4" M Ceramic	109x280	2,00
23100.01	Venturi MudSucker	1/2"	80 - 3"	6 - 1/4" M Ceramic	150x350	5,20
23100.02	Venturi MudSucker	1/2"	100 - 4"	6 - 1/4" M Ceramic	150x360	5,50
23100.03	Venturi MudSucker	1/2"	120 - 5"	6 - 1/4" M Ceramic	200x420	6,00
23100.04	Venturi MudSucker	1/2"	150 - 6"	6 - 1/4" M Ceramic	235x435	6,50



Max pressure 250 bar  
Capacity to suck up to 15 mt in depth

### Intermediate Venturi

Part n.	Description	Hose connection	DN	Inner jets	Dimension ØxL (mm)	Weight (Kg)
23200.01	Intermediate Venturi	1/2"	80 - 3"	6 - 1/4" M Ceramic	150x350	5,90
23200.02	Intermediate Venturi	1/2"	100 - 4"	6 - 1/4" M Ceramic	150x360	6,20
23200.03	Intermediate Venturi	1/2"	120 - 5"	6 - 1/4" M Ceramic	200x420	7,00
23200.04	Intermediate Venturi	1/2"	150 - 6"	6 - 1/4" M Ceramic	235x435	7,50



Max pressure 250 bar  
1 Venturi Sucker + 1 Intermediate Venturi: capacity to suck up to 22mt in depth

## Saving Hose Guides



### **Technical Features:**

Saving Hose Guides protect high pressure hoses against manhole sharp edge avoiding frictions, bursting and peeling of it. This Device permits a fluent advancement of hose inside pipe during cleaning operations.


Saving Hose Guide is an essential and safety device equipment to be used.

A proper use of saving guide reduces hose bursting and increases its life time.

Upper & Lower Saving Hose Guides			
Part n.	Description	Dimension ØxL (mm)	Weight (Kg)
20500.02	Upper Saving Hose Guide	600x250	3,00
20500.03	Lower Saving Hose Guide	350x350	3,30
20500.06	Shaft L=1mm	Ø20x1000	3,80
20500.00	Kit 1xUpper +1xLower+2x Shaft	-----	3,90



Upper Saving Hose guide has to be fixed on lateral sides of manhole; Lower one, has to be placed on the inner bottom part of manhole by 2 shafts (see photo).



Curved Saving Hose Guides				
Part n.	Description	Hose connection 	Dimension ØxL (mm) 	Weight (Kg) 
21500.02	Saving Curved Lower Guide	1/2"	400x160	2,20
21500.03	Saving Curved Lower Guide	3/4" - 1"	430x170	2,70
21500.04	Saving Curved Lower Guide	1" - 1 1/4"	510x180	3,10
21500.05	Saving Curved Lower Guide	1"1/4" - 1 1/2"	510x180	3,10

Curved Saving Hose Guide has to be placed on the inner lower part of manhole.



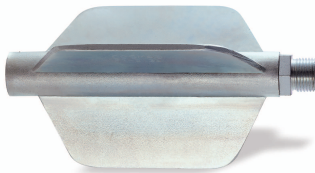
Tiger Protection Hose			
Part n.	Description	DN 	Dimension ØxL (mm) 
21500.10	Tiger Hose	3" for 3/4" - 1" hoses	75(inner) x 900

Supplied with 2mts polyethylene rope and collar for easily installation and removal.

Extremely Flexible Tiger hose is a device used to protect high pressure sewer hose against manhole edges, avoiding frictions, bursting and peeling of it.



## Fixed Centering Guides



1/2"



3/4" - 1" - 1 1/4"

### Technical Features:

Fixing Centering Guides are used for maintaining nozzles in central position inside pipe. Guides permits Nozzles to do not lay on the bottom pipe and clean it at 360°. Equipment to be used with rotating and chains nozzles.

Fixed Centering Guides					
Part n.	Description	Hose connection 🗉	DN 🌀	Dimension ØxL (mm) 📏	Weight (Kg) ⚖️
22510.01	Fixed Centering Guide	1/2"	80 - 3"	70x60x100	0,40
22510.02	Fixed Centering Guide	1/2"	100 - 4"	80x70x100	0,50
22510.03	Fixed Centering Guide	1/2"	120 - 5"	100x90x160	0,90
22550.01	Kit x 3 Fixed Centering Guides	1/2"	3" - 4" - 5"	-	1,80
22500.02	Fixed Centering Guide	3/4" - 1" - 1 1/4"	150 - 200 (6" 8")	190x135	1,70
22500.03	Fixed Centering Guide	3/4" - 1" - 1 1/4"	250-300 (10"- 12")	225 x 310	3,00
22500.04	Fixed Centering Guide	3/4" - 1" - 1 1/4"	350-400 (14"- 16")	315 x 490	5,00
22550.02	Kit x3 Fixed Centering Guides	3/4"	6"- 8"/10"- 12"/14"- 16"	-	9,70
22550.03	Kit x3 Fixed Centering Guides	1"	6"- 8"/10"- 12"/14"- 16"	-	9,70
22550.04	Kit x3 Fixed Centering Guides	1 1/4"	6"- 8"/10"- 12"/14"- 16"	-	9,70



## Extensible Centering Guides



### Technical Features:

Extensible Guide made in high quality steel is particularly suitable for centering rotating and chain nozzles. Supplied with an hexagonal "T" key which permits a rapid widening and narrowing of the guide, saving operator time.

Versatile equipment for different DN sewers.

Extensible centering guides					
Part n.	Description	Hose connection ☰	DN ⊘	Dimension ØxL (mm) ☰	Weight (Kg) ⚖
22600.01	Extensible Guide for DN 8" - 24"	3/4" - 1" - 1 1/4"	200 - 600	Closed L770x180 - Open L770x600	13,00
22600.02	Extensible Guide for DN 14" - 60"	3/4" - 1" - 1 1/4"	350 - 1500	Closed L1720x230 - Open L1720x1500	22,00

## Manhole Washing Device



### Technical Features:





Flushing ring to be fixed on steel suction pipe, made in high quality steel and supplied with ceramic inserts. This device washes sides and bottom of manhole.

Great combination of suction made by suction pipe, and washing, made by this equipment.

Manhole Washing Device					
Part n.	Description	Hose connection 🗉	DN 🗉	Front jet 🗉	Weight (Kg) 🗉
24100.01	Manhole Washing Device	1/2"	80 - 3"	6 - 1/4"M Ceramic	3,00
24100.02	Manhole Washing Device	1/2"	100 - 4"	6 - 1/4"M Ceramic	3,30
24100.03	Manhole Washing Device	1/2"	120 - 5"	6 - 1/4"M Ceramic	3,80
24100.04	Manhole Washing Device	1/2"	150 - 6"	6 - 1/4"M Ceramic	3,90
24100.05	Manhole Washing Device	1/2"	200 - 8"	6 - 1/4"M Ceramic	5,50







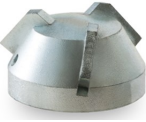


## Spare Parts for Chain & Rotating Nozzles

Part n.	Description	
13640.02	Cover for Nozzle Ø 35mm	
13640.03	Cover for Nozzle Ø 50mm	
13640.04	Cover for Nozzle Ø 70mm	
13650.02	Drilling Head for Nozzle Ø 35mm	
13650.03	Drilling Head for Nozzle Ø 50mm	
13650.04	Drilling Head for Nozzle Ø 70mm	
13660.02	Carbide Head for Nozzle Ø 35mm	
13660.03	Carbide Head for Nozzle Ø 50mm	
13660.04	Carbide Head for Nozzle Ø 70mm	
13670.03	Knives Head for Nozzle Ø 50mm	
13670.04	Knives Head for Nozzle Ø 70mm	

Part n.	Description	
13679.00	1 mt chain for Nozzle Ø 35 mm	
13679.01	2 pcs chain for Nozzle Ø 35mm DN 150	
13679.02	2 pcs chain for Nozzle Ø 35mm DN 200	
13679.03	2 pcs chain for Nozzle Ø 35mm DN 250	
13679.04	2 pcs chain for Nozzle Ø 35mm DN 300	
13680.00	1 mt chain for Nozzle Ø 50mm	
13680.01	3 pcs chain for nozzle Ø50mm DN 150	
13680.02	3 pcs chain for nozzle Ø50mm DN 200	
13680.03	3 pcs chain for nozzle Ø50mm DN 300	
13680.04	3 pcs chain for nozzle Ø50mm DN 400	
13690.00	1 mt chain for Nozzle Ø 70mm	
13690.01	3 pcs chain for nozzle Ø70mm DN 200	
13690.02	3 pcs chain for nozzle Ø70mm DN 300	
13690.03	3 pcs chain for nozzle Ø70mm DN 400	
13690.04	3 pcs chain for nozzle Ø70mm DN 500	

## Spare Parts for Propeller Nozzles

Part n.	Description	
17710.01	Cylindrical Propeller for nozzle Ø 14mm	
17710.02	Cylindrical Propeller for nozzle Ø 28mm	
17710.03	Cylindrical Propeller for nozzle Ø 38mm	
17710.04	Cylindrical Propeller for nozzle Ø 48mm	
17710.05	Cylindrical Propeller for nozzle Ø 68mm	
17720.01	Conical Propeller for nozzle Ø 14mm	
17720.02	Conical Propeller for nozzle Ø 28mm	
17720.03	Conical Propeller for nozzle Ø 38mm	
17720.04	Conical Propeller for nozzle Ø 48mm	
17720.05	Conical Propeller for nozzle Ø 68mm	
17730.02	Propeller for Drilling or Carbide Head Ø28mm	
17730.03	Propeller for Drilling or Carbide Head Ø38mm	
17730.04	Propeller for Drilling or Carbide Head Ø48mm	
17730.05	Propeller for Drilling or Carbide Head Ø68mm	
17740.01	Shaft + Screw for Propeller Ø14mm	
17740.02	Shaft + Screw for Propeller Ø28mm	
17740.03	Shaft + Screw for Propeller Ø38mm	
17740.04	Shaft + Screw for Propeller Ø48mm	
17740.05	Shaft + Screw for Propeller Ø68mm	
17700.01	Body for Propeller Ø14mm	
17700.02	Body for Propeller Ø28mm	
17700.03	Body for Propeller Ø38mm	
17700.04	Body for Propeller Ø48mm	
17700.05	Body for Propeller Ø68mm	
17750.02	Drilling Head for Propeller Ø28mm	
17750.03	Drilling Head for Propeller Ø38mm	
17750.04	Drilling Head for Propeller Ø48mm	
17750.05	Drilling Head for Propeller Ø68mm	
17760.02	Carbide Head for Propeller Ø28mm	
17760.03	Carbide Head for Propeller Ø38mm	
17760.04	Carbide Head for Propeller Ø48mm	
17760.05	Carbide Head for Propeller Ø68mm	

## Stainless Steel Orifices & Inserts



Orifice M4x5	Orifice M6x6	Orifice M6x8	Orifice M8x10	Orifice M10x12	1/4" M Round Linear Jet	1/4" M Fan Shape Jet	Ø mm
13835.00	13836.00	13838.00	13841.00	13842.00	13801.00	13802.00	Cover
13835.05	13836.05	13838.05	13841.05	13842.05	13801.05	13802.05	Ø 0,50
13835.08	13836.08	13838.08	13841.08	13842.08	13801.08	13802.08	Ø 0,80
13835.10	13836.10	13838.10	13841.10	13842.10	13801.10	13802.10	Ø 1,00
13835.12	13836.12	13838.12	13841.12	13842.12	13801.12	13802.12	Ø 1,20
13835.14	13836.14	13838.14	13841.14	13842.14	13801.14	13802.14	Ø 1,40
13835.15	13836.15	13838.15	13841.15	13842.15	13801.15	13802.15	Ø 1,50
13835.16	13836.16	13838.16	13841.16	13842.16	13801.16	13802.16	Ø 1,60
13835.18	13836.18	13838.18	13841.18	13842.18	13801.18	13802.18	Ø 1,80
13835.20	13836.20	13838.20	13841.20	13842.20	13801.20	13802.20	Ø 2,00
-	13836.22	13838.22	13841.22	13842.22	13801.22	13802.22	Ø 2,20
-	13836.24	13838.24	13841.24	13842.24	13801.24	13802.24	Ø 2,40
-	13836.25	13838.25	13841.25	13842.25	13801.25	13802.25	Ø 2,50
-	13836.26	13838.26	13841.26	13842.26	13801.26	13802.26	Ø 2,60
-	13836.28	13838.28	13841.28	13842.28	13801.28	13802.28	Ø 2,80
-	13836.30	13838.30	13841.30	13842.30	13801.30	13802.30	Ø 3,00





## Ceramic Orifices & Inserts





### Ceramic Orifices & Inserts

Orifice M6x6	Orifice M6x8		Ø mm
14836.05	14838.05		Ø 0,50
14836.075	14838.075		Ø 0,75
14836.10	14838.10		Ø 1,00
14836.12	14838.12		Ø 1,20
14836.14	14838.14		Ø 1,40
14836.16	14838.16		Ø 1,60
14836.18	14838.18		Ø 1,80
14836.20	14838.20		Ø 2,00
14836.22	14838.22		Ø 2,20
14836.24	14838.24		Ø 2,40
14836.25	14838.25		Ø 2,50





Orifice M8x10x1,25mm	Orifice M10x12x1,5mm	TE M10x10x1mm 	Ø mm	
14841.05	-	-	Ø 0,50	
14841.075	-	-	Ø 0,75	
14841.10	-	-	Ø 1,00	
14841.12	-	-	Ø 1,20	
-	14842.13	14805.13	Ø 1,30	
14841.14	-	-	Ø 1,40	
-	14842.15	14805.15	Ø 1,50	
14841.16	-	-	Ø 1,60	
14841.18	14842.18	14805.18	Ø 1,80	
14841.20	14842.20	14805.20	Ø 2,00	
14841.22	14842.22	14805.22	Ø 2,20	
14841.24	14842.24	14805.24	Ø 2,40	
14841.25	14842.25	14805.25	Ø 2,50	
-	14842.26	14805.26	Ø 2,60	
-	14842.28	14805.28	Ø 2,80	
-	14842.30	14805.30	Ø 3,00	
-	14842.32	14805.32	Ø 3,20	

1/4"M Insert			Ø mm	
14801.13			Ø 1,30	
14801.15			Ø 1,50	
14801.18			Ø 1,80	
14801.20			Ø 2,00	
14801.22			Ø 2,20	
14801.24			Ø 2,40	
14801.25			Ø 2,50	
14801.26			Ø 2,60	
14801.28			Ø 2,80	
14801.30			Ø 3,00	
14801.32			Ø 3,20	
 14801.40			Ø 4,00	

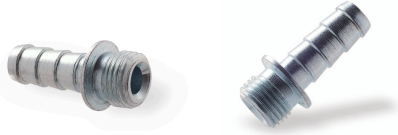
## Hoses – Couplings – Bushings

### Synthetic & Rubber Hoses



High Pressure Hoses suitable for cleaning small domestic and industrial pipes.

Part n.	Description	m	DN		
52100.01	SAE 100 R7 SYNTHETIC	L=20m	3/16"	with Coupling - 1/8" Thread	
52100.02	SAE 100 R7 SYNTHETIC	L=20m	3/16"	with Coupling - Nozzle	
52200.01	SAE 100 R7 SYNTHETIC	L=20m	1/4"	with Coupling - 1/8" Thread	
52200.02	SAE 100 R7 SYNTHETIC	L=20m	1/4"	with Coupling - Nozzle	
52300.01	SAE 100 R1AT RUBBER	L=20m	3/16"	with Coupling - 1/8" Thread	
52300.02	SAE 100 R1AT RUBBER	L=20m	3/16"	with Coupling - Nozzle	
52400.01	SAE 100 R1AT RUBBER	L=20m	1/4"	with Coupling - 1/8" Thread	
52400.02	SAE 100 R1AT RUBBER	L=20m	1/4"	with Coupling - Nozzle	



### Couplings

	Part n.	Description	
	13810.01	Coupling for 3/16" hose with 1/8" M thread	
	13810.02	Coupling for 1/4" hose with 1/8" M thread	
	13810.05	Coupling for 1/4" hose with 1/4" M thread	
<b>NEW</b>	13810.03	Coupling for 3/8" hose with 1/4" M thread	
<b>NEW</b>	13810.04	Coupling for 3/8" hose with 3/8" M thread	

### Bushings

	Part n.	Description	
	13840.01	Bushing for synthetic hose R7 - 3/16"	
	13840.02	Bushing for synthetic hose R7 - 1/4"	
<b>NEW</b>	13840.05	Bushing for synthetic hose R7 - 3/8"	
	13840.03	Bushing for rubber hose R1AT - 3/16"	
	13840.04	Bushing for rubber hose R1AT - 1/4"	
<b>NEW</b>	13840.06	Bushing for rubber hose R1AT - 3/8"	


### Accessories

Part n.	Description	DN	
13110.01	Ø 14 Round Nozzle	1/8"F	
13131.01	Ø 14 Conical Nozzle	1/8"F	
13820.01	Coupling - Nozzle	3/16"	
13820.02	Coupling - Nozzle	1/4"	



## Nipples - Adapters - Collars

### Nipples

	Part n.	Description	Thread
	17100.01	Nipple	1/8"M - 1/8"M
	17100.02	Nipple	1/8"M - 1/4"M
	17100.03	Nipple	1/4"M - 1/4"M
	17100.04	Nipple	1/4"M - 1/2"M
	17100.05	Nipple	1/4"M - 3/4"M
	17100.06	Nipple	3/8"M - 1/4"M
	17100.07	Nipple	3/8"M - 3/8"M
	17100.08	Nipple	3/8"M - 1/2"M
	17100.09	Nipple	3/8"M - 3/4"M
	17100.10	Nipple	3/8"M - 1"M
	17100.11	Nipple	1/2"M - 1/2"M
	17100.11S	Small Nipple	1/2"M - 1/2"M
	17100.12	Nipple	1/2"M - 3/4"M
	17100.13	Nipple	1/2"M - 1"M
	17100.14	Nipple	3/4"M - 3/4"M
	17100.15	Nipple	3/4"M - 1"M
	17100.16	Nipple	1" M - 1" M
	17100.17	Nipple	1" M - 1" 1/4" M
	17100.18	Nipple	1" M - 1" 1/2" M
	17100.19	Nipple	1" 1/4"M - 1" 1/4" M
	17100.20	Nipple	1" 1/4"M - 1" 1/2" M
	17100.21	Nipple	1" 1/2"M - 1" 1/2" M




## Adapters

Part n.	Description		Thread
17200.01	Adapter		3/8"M - 1/8"F
17200.02	Adapter		3/8"M - 1/4"F
17200.03	Adapter		3/8"M - 1/2"F
17200.04	Adapter		1/4"M - 1/8"F
17200.05	Adapter		1/4"M - 3/8"F
17200.06	Adapter		1/4"M - 1/2"F
17200.07	Adapter		1/4"M - 3/4"F
17200.08	Adapter		1/2"M - 1/8"F
17200.09	Adapter		1/2"M - 1/4"F
17200.10	Adapter		1/2"M - 3/8"F
17200.11	Adapter		1/2"M - 3/4"F
17200.12	Adapter		1/2"M - 1"F
17200.13	Adapter		3/4"M -1/4"F
17200.14	Adapter		3/4"M -3/8"F
17200.15	Adapter		3/4"M -1/2"F
17200.16	Adapter		3/4"M - 1"F
17200.17	Adapter		1"M - 3/8"F
17200.18	Adapter		1"M - 1/2"F
17200.19	Adapter		1"M - 3/4"F
17200.20	Adapter		1"M - 1" 1/4"F
17200.21	Adapter		1" 1/4"M - 3/4"F
17200.22	Adapter		1" 1/4"M - 1"F
<b>Adapters in S/Steel</b>			
Part n.	Description		Thread
17200.15I	Adapter		3/4"M -1/2"F
17200.18I	Adapter		1"M - 1/2"F
17200.19I	Adapter		1"M - 3/4"F
17200.20I	Adapter		1"M - 1" 1/4"F
17200.22I	Adapter		1" 1/4"M - 1"F



## Collars

Part n.	Description	Thread
17300.01	Collar	1/8"F - 1/8"F
17300.02	Collar	1/4"F - 1/4"F
17300.03	Collar	3/8"F - 3/8"F
17300.04	Collar	1/2"F - 1/2"F
17300.05	Collar	3/4"F - 3/4"F
17300.06	Collar	1" F - 1" F
 17300.07	Collar	1" F - 3/4" F
17300.08	Collar	1 1/4"F - 1 1/4" F



## Straight Rotating Swivel Joint




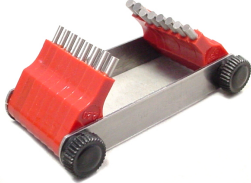
### Technical Features:

Suitable for Balanced, Flat and Sledge Nozzles.  
Swivel Joint avoids twisting of the hose inside pipe.

Part n.	Description	Thread
GG12G	Rotating Swivel	1/2"
GG34G	Rotating Swivel	3/4"
GG1G	Rotating Swivel	1"
GG11/4G	Rotating Swivel	1 1/4"



## Ø Holes Measuring Tool – Glue – Hexagonal Key

Part n.	Description	
G35A77	Threadlocker Glue 35A77 (Yellow)	
G56A38	Strong Threadlocker Glue 56A38 (Green)	
HK14	Hexagonal Key Ø14 for 1/4" M inserts	
DHT045150	Holes Measuring Tool from Ø0,45 to Ø1,50mm	
DHT150300	Holes Measuring Tool from Ø1,50 to Ø3,00 mm	

# Nozzles Case

Personalized Nozzles Cases according to each Countries Needs.

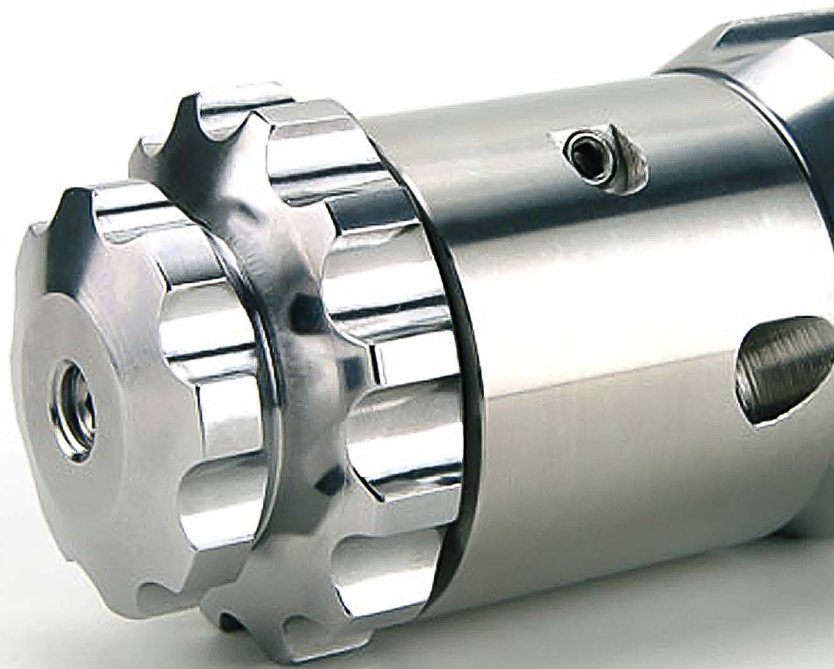
Available 1/2"M, 1/2"F, 3/4"F, 1"F or mixed on demand

Case 1	
Part n.	Description
VAL1A	Case 330 x 210 x 90 mm with 8 Nozzles 1/2"F
VAL1B	Case 330 x 210 x 90 mm with 8 Nozzles 1/2"M



Case 2	
Part n.	Description
VAL2A	Case 380 x 260 x 130 mm with 14 Nozzles 1/2"F
VAL2B	Case 380 x 260 x 130 mm with 14 Nozzles 1/2"M





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