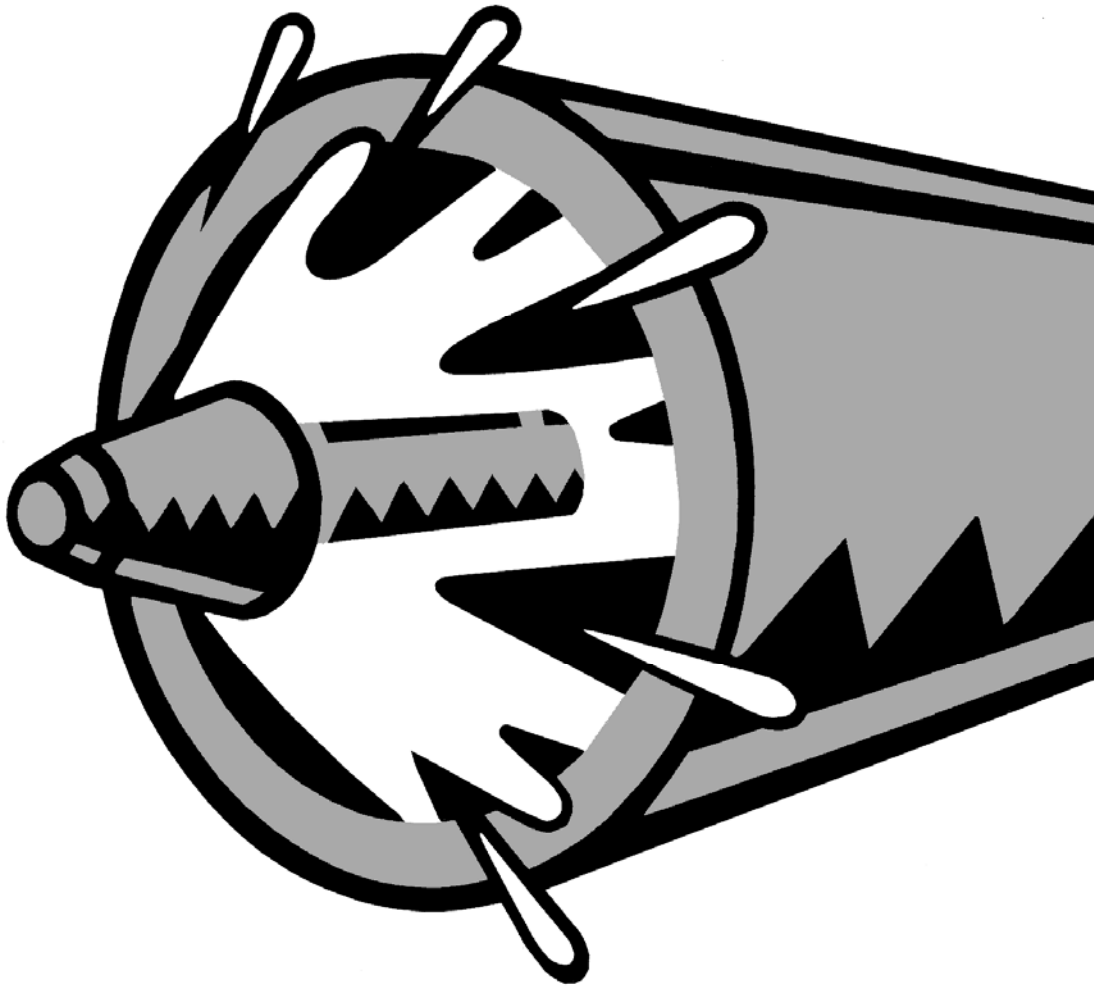


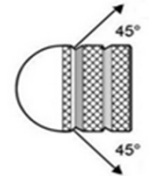


JETTING ACCESSORIES



844-VAC-RENT

BUTTON NOSE NOZZLES

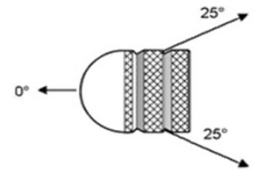


BUTTON NOSE FLUSHERS

Good general purpose cleaning nozzle. Also for follow up after cleaning out blockages to remove left over debris. For runs up to 100 ft. Button nose nozzles are made of heat treated 416 Stainless Steel.

| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|------------|-------------|-----------|-----------|-----|------|----------|
| 140215FL | 45° | 6 | 0 | 1.7 | 1500 | 1/4" |
| 380430BNFL | 45° | 6 | 0 | 4 | 3000 | 3/8" |
| 380530FL | 45° | 6 | 0 | 4.8 | 3000 | 3/8" |

NOTE: Only common configurations for our units are listed above. Call us if you require a different configuration.

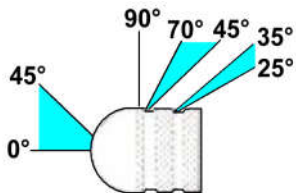


BUTTON NOSE PENETRATORS

Button Nose nozzles with a forward jet to bore through plugged lines. Made of heat treated 416 Stainless Steel.

| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|------------|-------------|-----------|-----------|-----|------|----------|
| 180215PE | 25° | 3 | 1 | 1.7 | 1500 | 1/8" |
| 180430PE | 25° | 3 | 1 | 4 | 3000 | 1/8" |
| 140215PE | 25° | 3 | 1 | 1.7 | 1500 | 1/4" |
| 380430BNPE | 25° | 4 | 1 | 4 | 3000 | 3/8" |
| 380530PE | 25° | 3 | 1 | 4.8 | 3000 | 3/8" |

NOTE: Only common configurations for our units are listed above. Call us if you require a different configuration.



Button Nose nozzles can be custom drilled to meet your specifications. The dual groove design permits a wide range of spray angles that can be utilized. The rear groove allows for high thrust angles from 25° to 35°. The forward groove accommodates flushing angles from 45° to 70°. The nose area permits angles of 0° (straight forward) to 45°. Made of Heat Treated 416 Stainless Steel. See caution note below.



A word of caution on custom drilled nozzles: Make sure all the information is correct when ordering as these nozzles will be drilled to order and are not returnable.

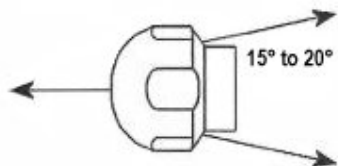


ROUND HEAD SUPER THRUSTERS

The wider head design of this nozzle allows for steeper jet angles which results in more puller power. Ideal for long runs. (HT416SS)

| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|------------|-------------|-----------|-----------|-----|------|----------|
| 180430PE | 15° | 3 | 1 | 4 | 3000 | 1/8" |
| 380530RHTH | 15° | 3 | 1 | 4.8 | 3000 | 3/8" |

NOTE: Only common configurations for our units are listed above. Call us if you require a different configuration.



Round Head Super Thruster nozzles can be custom drilled to meet your specifications. The 15° to 20° angle range allows for maximum pulling power with one forward jet to penetrate blockages. Pattern: 3 to 6 rear jets with one forward jet. Made of heat treated 416 SS. See caution note on page 1.

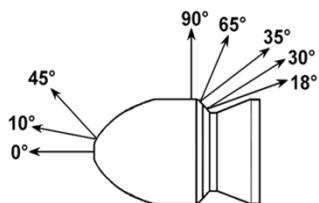
RADIAL NOZZLES



Typical O'Brien Styles



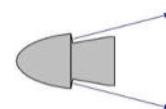
Typical Aquatech Style



Custom drilled O'Brien style Radial Nose (RN) nozzles are available to meet your specifications. They are designed to accommodate a range of spray angles from 18° for high trusting power up 65° for flushing action. Side wall jets of 90° are possible, as well as forward jets from 0° to 45°. 6 to 12 rear jets, 0 to 3 forward. Made of heat treated 416 Stainless Steel. See caution note on page 1.

RADIAL THRUST NOZZLES

Designed to for fast acceleration and long runs in small and medium sized pipes.

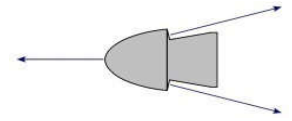


| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|------------|-------------|-----------|-----------|-----|------|----------|
| A136015 | 15° | 6 | 0 | 35 | 2000 | 3/4" |
| 344020RNTH | 15° | 6 | 0 | 40 | 2000 | 3/4" |
| A136001 | 15° | 6 | 0 | 60 | 2000 | 1" |
| A136000 | 15° | 6 | 0 | 65 | 2000 | 1" |
| A136423 | 15° | 6 | 0 | 65 | 2500 | 1" |
| A136002 | 15° | 6 | 0 | 80 | 2000 | 1" |
| A136023 | 15° | 6 | 0 | 80 | 2500 | 1" |
| A136007-1 | 15° | 6 | 0 | 100 | 2000 | 1" |
| A136063 | 15° | 6 | 0 | 80 | 2000 | 1-1/4" |
| A136003 | 15° | 6 | 0 | 100 | 2000 | 1-1/4" |
| A100190 | 15° | 6 | 0 | 125 | 2000 | 1-1/4" |

NOTE: Only common configurations for our units are listed above. Call us if you require a different configuration.

PENETRATING RADIAL THRUST NOZZLES

Radial Nozzles with a forward jet to break up blockages ahead of the nozzle.

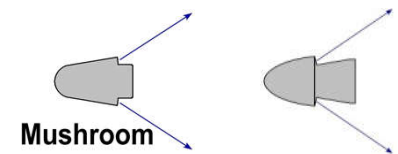


| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|------------|-------------|-----------|-----------|-----|------|----------|
| 121025PE | 25° | 6 | 1 | 10 | 2500 | 1/2" |
| 121230PE | 25° | 6 | 1 | 12 | 3000 | 1/2" |
| 121840PE | 25° | 6 | 1 | 18 | 4000 | 1/2" |
| 123030PE | 25° | 6 | 1 | 30 | 3000 | 1/2" |
| 341840PE | 25° | 6 | 1 | 18 | 4000 | 3/4" |
| 343030PE | 25° | 6 | 1 | 30 | 3000 | 3/4" |
| 344020RNTH | 18° | 6 | 1 | 40 | 2000 | 3/4" |
| 344020PE | 25° | 6 | 1 | 40 | 2000 | 3/4" |
| 344520PE | 18° | 6 | 1 | 45 | 2000 | 3/4" |
| J-1147 | 18° | 6 | 1 | 65 | 2000 | 1" |
| 018020PE | 25° | 6 | 1 | 80 | 2000 | 1" |
| A136023-F | 15° | 6 | 1 | 80 | 2500 | 1" |

NOTE: Only common configurations for our units are listed above. Call us if you require a different configuration.

RADIAL FLUSHER NOZZLES

Designed for general cleaning applications in small and medium sized pipes.

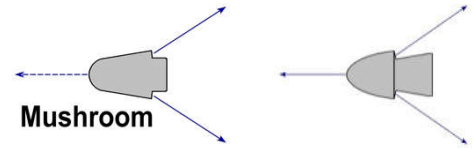


| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|-------------------|-------------|-----------|-----------|-----|------|----------|
| 121025FL | 35° | 6 | 0 | 10 | 2500 | 1/2" |
| 121536FL | 35° | 6 | 0 | 15 | 3600 | 1/2" |
| 121840FL | 35° | 6 | 0 | 18 | 4000 | 1/2" |
| 123030FL | 35° | 6 | 0 | 30 | 3000 | 1/2" |
| 343030FL | 35° | 6 | 0 | 30 | 3000 | 3/4" |
| A136020 | 35° | 6 | 0 | 35 | 2000 | 3/4" |
| 344020FL | 35° | 6 | 0 | 40 | 2000 | 3/4" |
| A136052 | 35° | 6 | 0 | 45 | 2000 | 3/4" |
| J-1015 (Mushroom) | 30° | 6 | 0 | 65 | 2000 | 1" |
| A136005 | 35° | 6 | 0 | 65 | 2000 | 1" |
| A136424 | 35° | 6 | 0 | 65 | 2500 | 1" |
| A136007 | 35° | 6 | 0 | 80 | 2000 | 1" |
| A136024 | 35° | 6 | 0 | 80 | 2500 | 1" |
| A136008 | 35° | 6 | 0 | 100 | 2000 | 1-1/4" |
| A100191 | 35° | 6 | 0 | 125 | 2000 | 1-1/4" |

NOTE: Only common configurations for our units are listed above. Call us if you require a different configuration.

PENETRATING RADIAL FLUSHER NOZZLES

Radial Nozzles with a forward jet to break up blockages ahead of the nozzle.

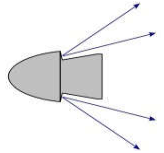


| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|-------------------|-------------|-----------|-----------|----------|--------------|----------|
| A136385 | 30° | 5 | 1 | 20 25 | 2500 4000 | 1/2" |
| 343520PE | 30° | 6 | 1 | 35 | 2000 | 3/4" |
| 344020RNFL | 30° | 6 | 1 | 40 | 2000 | 3/4" |
| J-1021 (Mushroom) | 30° | 6 | 1 | 65 | 2000 | 1" |
| J-1141 | 30° | 6 | 1 | 65 | 2000 | 1" |

NOTE: Only common configurations for our units are listed above. Call us if you require a different configuration.

RADIAL VORTEX (AKA MONSTER) NOZZLES

Vortex dual degree design incorporates powerful thrust and wide angle cleaning into one nozzle. For general cleaning applications in small and medium sized pipes.

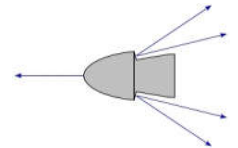


| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|------------|-------------|-----------|-----------|-----|------|----------|
| 121840RNMO | 25°/45° | 8 | 0 | 18 | 4000 | 1/2" |
| A136025 | 15°/35° | 6 | 0 | 40 | 2000 | 3/4" |
| 344020RNMO | 25°/45° | 8 | 0 | 40 | 2000 | 3/4" |
| A136010 | 15°/35° | 6 | 0 | 65 | 2000 | 1" |
| A136011 | 15°/35° | 6 | 0 | 80 | 2000 | 1" |

NOTE: Only common configurations for our units are listed above. Call us if you require a different configuration.

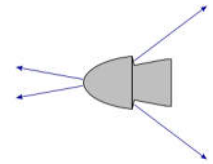
PENETRATING RADIAL VORTEX NOZZLE

Dual degree design with forward firing jet.



| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|------------|-------------|-----------|-----------|-----|------|----------|
| 121025RNMV | 18°/25° | 6 | 1 | 10 | 2500 | 1/2" |
| J-1132 | 18°/24° | 6 | 1 | 35 | 2000 | 3/4" |
| 016520RNMV | 18°/25° | 6 | 1 | 65 | 2000 | 1" |

NOTE: Only common configurations for our units are listed above. Call us if you require a different configuration.



RADIAL DEGREASER/DEICER NOZZLE

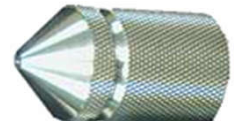
Same purpose as the above but for larger hoses. See information on page 3 for custom drilled radial nozzles.

| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|-----------|-----|------|----------|
| 344020DE | 35° | 6 | 3 @ 10° | 40 | 2000 | 3/4" |
| 016520DE | 35° | 6 | 3 @ 10° | 65 | 2000 | 1" |

NOTE: Only common configurations for our units are listed above. Call us if you require a different configuration.



OLD STYLE



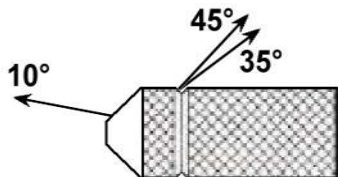
NEW STYLE

JUMPER DEGREASER/DEICER NOZZLES

Designed to penetrate heavy grease, soap, and ice filled lines. A great all-around nozzle! New style made of heat treated 416 SS. Note: Old style degreaser/deicer nozzles are being phased out as existing inventories are depleted.

| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|-----------|-----|------|----------|
| 380530DE | 45° | 6 | 3 @ 10° | 4.8 | 3000 | 3/8" |
| 121025DE | 45° | 6 | 3 @ 10° | 10 | 2500 | 1/2" |
| 121536DE | 45° | 6 | 3 @ 10° | 15 | 3600 | 1/2" |
| 121840DE | 45° | 6 | 3 @ 10° | 18 | 4000 | 1/2" |

NOTE: Only common configurations for our units are listed above. Call us if you require a different configuration.



Custom drilled Degreaser/Deicer nozzles are available to meet your machines specifications. Made of heat treated 416 stainless steel, they all feature three 10° forward jets and 6 to 8 rear jets at a choice of 35° or 45° angles. If higher thrust is desired, order a 25° button nose nozzle with three 10° forward jets (see Button Nose nozzles). See caution note on page 1.



GREASE REMOVER NOZZLES

More rear jets for removing grease and detergent from the pipe wall.

| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|-----------|-----|------|----------|
| A130197 | 35° | 10 | 0 | 25 | 4000 | 1/2" |
| A130196 | 35° | 12 | 0 | 25 | 4000 | 3/4" |
| A130195 | 35° | 12 | 0 | 65 | 2000 | 1" |
| A130198 | 35° | 12 | 0 | 80 | 2000 | 1" |



TRIAD PENETRATOR

Triangular shape allows for excellent penetration. Features three front faces with 15° orifices and a penetrating front tip orifice. Made of stainless steel. Used for cleaning calcium, dirt, grease, soap build up. Also very effective for ice penetration. Orifices are replaceable. Imported

| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|-----------|-----|------|----------|
| A135990 | 25° | 6 | 4 | 5 | 4000 | 1/4" |
| A135994 | 25° | 6 | 4 | 12 | 2000 | 1/2" |
| A135991 | 25° | 6 | 4 | 20 | 2000 | 1/2" |
| A135992 | 25° | 6 | 4 | 35 | 2000 | 3/4" |
| A135996 | 25° | 6 | 4 | 40 | 2000 | 3/4" |
| A135993 | 25° | 6 | 4 | 65 | 2000 | 1" |
| A135995 | 25° | 6 | 4 | 80 | 2000 | 1" |



ELLIPSE NOZZLES

This is the best long lasting nozzle made. Wear- Resistant high carbon steel construction. This smooth service nozzle will penetrate through blockages and is capable of being retrieved without binding on offset joints, broken pipes or tight bends. Orifices are replaceable.

| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|-----------|-----|------|----------|
| A136160 | 15° | 6 | 1 | 20 | 2000 | 1/2" |
| A136155 | 15° | 6 | 1 | 35 | 2000 | 3/4" |
| A136150 | 15° | 6 | 1 | 65 | 2000 | 1" |
| A136165 | 15° | 6 | 1 | 65 | 2500 | 1" |
| A136151 | 15° | 6 | 1 | 80 | 2000 | 1" |



PENETRATOR NOZZLES

The Penetrating Nozzle is effective when a line is plugged and break up the stoppage fast.

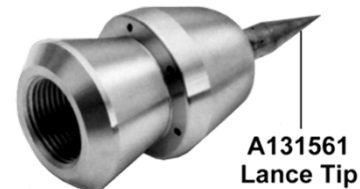
| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|-----------|-------------|-----------|-----------|-----|------|----------|
| J-1102 | 30° | 5 | 0 | 40 | 2000 | 3/4" |
| J-1104-80 | 30° | 5 | 0 | 80 | 2000 | 1" |



SPEAR POINT NOZZLES

Great for penetrating through and breaking up blockages in 6" to 12" Pipe.

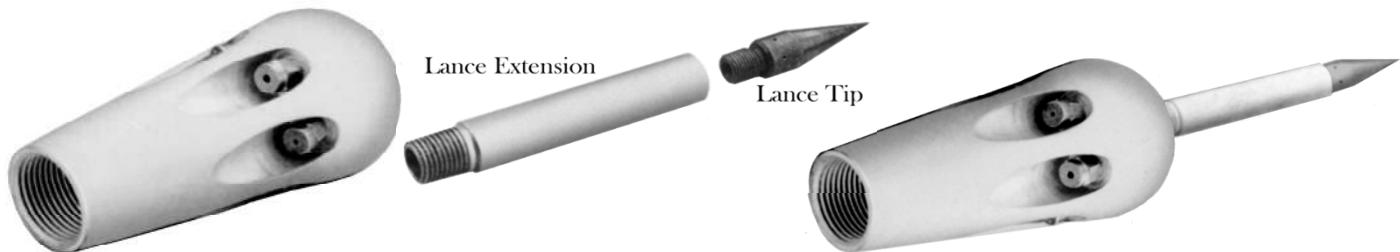
| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|------------|-----|------|----------|
| J-1134 | 12° | 6 | 1 | 35 | 2000 | 3/4" |
| J-1139 | 16° | 6 | 1 (4 side) | 35 | 2000 | 3/4" |



RADIAL WITH LANCE TIP NOZZLES

For cleaning totally blocked lines. 90° spray from lance tip opens a hole in blockage allowing the nozzle to jump forward.

| Part No. | Prop. Angle | Rear Jets | Lance Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|------------|-----|------|----------|
| A136018 | 15° | 6 | 6 | 65 | 2000 | 1" |



ASSEMBLE YOURSELF 11° THRUST NOZZLE

Lightweight, fast forward traveling nozzle. Also ideal for use in deteriorating concrete pipe because the 11° jet stream is directed rearward instead of against the pipe wall. An 1/4" pipe port if front can be equipped with lance, front orifice or just plugged. Order all indicated parts in the appropriate column.

| Part No. | Description | 3/4" 40@2000 | 1" 65@2000 | 1" 80@2000 |
|----------|------------------------------------|--------------|------------|------------|
| A131420 | 1"NPT blank cast aluminum body | 1 | 1 | 1 |
| A133740 | 1" to 3/4" pipe reducer | 1 | | |
| A131541 | 1/8"NPT #10 rear orifice | 6 | | |
| | 1/8"NPT #15 rear orifice | | 6 | 3 |
| A131544 | 1/8"NPT #30 rear orifice | | | 3 |
| A133365 | 1/4"NPT Front Plug | 1 | 1 | 1 |
| A131561 | 1/8"NPT lance tip | Optional | Optional | Optional |
| A131655 | 1/4"MNPT X 1/8"FNPT lance tip ext. | | | |
| A131520 | 1/4"NPT #6 front orifice | Optional | Optional | Optional |



ASSEMBLE YOURSELF AQUATECH™ STORM NOZZLES

25% more cleaning surface. This large 4¼ inch diameter nozzle places water closer to the pipe wall. Most efficient for grease, detergent, and removal of large volumes of sand in sanitary sewers and drains. Cast aluminum body. For pipes 8" to 36" in diameter. Order all indicated parts in the appropriate column.

| Part No. | Description | 3/4" 40@2000 | 1" 65@2000 | 1" 80@2000 |
|------------|--------------------------------|--------------|------------|------------|
| A131450 | 1¼"NPT Blank Storm Nozzle Body | 1 | 1 | 1 |
| A133790 | 1¼" to 3/4" pipe reducer | 1 | | |
| A133800 | 1¼" to 1" pipe reducer | | 1 | 1 |
| A131520 | 1/4"NPT #6 rear orifice | 4 | | |
| A131526 | 1/4"NPT #8 rear orifice | 4 | | |
| A131524 | 1/4"NPT #10 rear orifice | | 4 | |
| A131523-SS | 1/4"NPT #12 rear orifice | | | 4 |
| A131534 | 1/4"NPT #15 rear orifice | | 4 | |
| A131530-SS | 1/4"NPT #20 rear orifice | | | 4 |
| A133350 | 1/8"NPT Front Plug | 1 | 1 | 1 |
| A131543 | 1/8"NPT # 3 Front Orifice | Optional | Optional | Optional |



ASSEMBLE YOURSELF O'BRIEN VORTEX GANG NOZZLES

For moving sand and debris through larger pipes. Cast aluminum body with 16 rear jets set at 15° and 30° angles and 1 forward jet. Order all indicated parts in the appropriate column.

| Part No. | Description | 3/4" 40@2000 | 1" 65@2000 |
|-----------|-------------------------------|--------------|------------|
| J-1400 | 1¼"NPT Blank Gang Nozzle Body | 1 | 1 |
| A133790 | 1¼" to 3/4" pipe reducer | 1 | |
| A133800 | 1¼" to 1" pipe reducer | | 1 |
| J-JET-116 | 3/8"-24 1/16" Orifice | | 17 |
| J-JET-364 | 3/8"-24 3/64" Orifice | 17 | |



DOUBLE STORM NOZZLES

The water from the leading set of orifices dislodges debris accumulations while the trailing set flushes the debris back to the manhole. Ideal for the rapid cleaning of medium and large pipes. Orifices are replaceable. An 1/8" pipe plug can be removed and substituted with an optional front orifice (p/m A131543) to create a penetrator nozzle.

| Part No. | Prop. Angle | Rear Jets | Fwd. Jet | GPM | PSI | NPT Size |
|----------|-------------|-----------|----------|-----|------|----------|
| A130420 | 35° | 16 | Optional | 65 | 2000 | 1" |
| A130422 | 35° | 16 | Optional | 80 | 2000 | 1" |
| A130421 | 35° | 16 | Optional | 100 | 2000 | 1-1/4" |



SAND NOZZLES

Specially designed to lift and float sand that's otherwise difficult to move. For 4" to 18" pipes

| Part No. | Prop. Angle | Rear Jets | Fwd. Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|-----------|-----|------|----------|
| 016020SN | 15° | 6 | 2 @ 90° | 60 | 2000 | 1" |
| 016520SN | 15° | 6 | 2 @ 90° | 65 | 2000 | 1" |
| 018020SN | 15° | 6 | 2 @ 90° | 80 | 2000 | 1" |



TADPOLE NOZZLES

Our best all around cleaning nozzle for 8" to 24" pipes. Highly effective for removing grease from the pipe wall. Removes standing water. The orifices are replaceable.

| Part No. | Prop. Angle | Rear Jets | Front Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|------------|-----|------|----------|
| A136300 | 17°/24° | 12 | Optional | 65 | 2000 | 1" |
| A136299 | 17°/24° | 12 | Optional | 80 | 2000 | 1" |

Other configurations from 3/4"NPT to 1-1/4"NPT are available upon request.



AQUATECH™ TORPEDO NOZZLES

This bottom cleaning nozzle features, a towing eye, replaceable orifices, 360° rotating swivel to prevent hose from turning the nozzle, and a smooth hardened surface to allow the nozzle to glide over sand and debris. 4" diameter, 24 lbs. approx. Imported

| Part No. | Prop. Angle | Rear Jets | Front Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|------------|-----|------|----------|
| A136185 | 35° | 4 | 0 | 35 | 2000 | 3/4" |
| A136180 | 35° | 4 | 0 | 65 | 2000 | 1" |
| A136187 | 35° | 4 | 0 | 80 | 2000 | 1" |
| A136195 | 35° | 4 | 0 | 100 | 2000 | 1-1/4" |

ROTATING NOZZLES

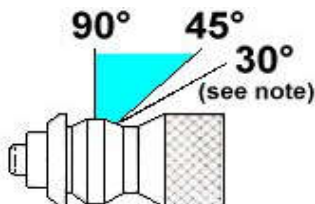
ROTOR-JET POLISHER NOZZLES

Revolving nozzle creates a sheet of water with 360 degrees of coverage for maximized wall cleaning. Typically used as a finishing tool to remove debris which might have been missed because of the spaces between jets on a fixed orifice nozzle.



| Part No. | Prop. Angle | Rear Jets | Side Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|-----------|-----|------|----------|
| 380530PO | 45° | 2 | 2 @ 90° | 4.8 | 3000 | 3/8" |
| 121840PO | 30° | 2 | 2 @ 90° | 18 | 4000 | 1/2" |
| 344020PO | 30° | 2 | 2 @ 90° | 40 | 2000 | 3/4" |

NOTE: Only common configurations for our units are listed above. Call us if you require a different configuration.



Custom drilled Rotor-Jet nozzles are available to meet your specifications. All Rotor-Jet can accommodate spray angles between 45° to 90°. NOTE: 1/2"NPT Rotor-Jets can accommodate a higher thrusting angle of 30°.

Pattern: 2 jets (one angle) or 4 jets (two angles) within available range.
Made of Heat Treated 416 Stainless Steel. See caution note on page 1.



A NOTE ABOUT ALL OF OUR ROTATING NOZZLES: In order to extend the life of these nozzles, we recommend submerging them in lubricating oil after each use.



SPIN CLEAN NOZZLES

This stainless steel rotating nozzle scours the pipe wall loosening hard debris. Ideal for pipes with limestone and other mineral deposits. Also effective for removing grease build-up. Centering skids are recommended to achieve the best cleaning action. Imported

| Part No. | Prop. Angle | Rear Jets | Side Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|-----------|-----|------|----------|
| A136070 | 30° | 6 | 4 @ 90° | 25 | 4000 | 1/2" |
| A136065 | 30° | 6 | 4 @ 90° | 35 | 2000 | 3/4" |
| A136060 | 30° | 6 | 4 @ 90° | 65 | 2000 | 1" |
| A136062 | 30° | 6 | 4 @ 90° | 80 | 2000 | 1" |



CONICAL DRILL NOZZLES

Designed to cut, drill and penetrate difficult obstructions in 3" and larger pipes. Centering skids are recommended. 60° carbide flutes can be re-sharpened. Imported

| Part No. | Prop. Angle | Rear Jets | Rotor Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|------------|-----|------|----------|
| A136345 | 25° | 6 | 6 | 35 | 2000 | 3/4" |
| A136135 | 25° | 6 | 8 | 65 | 2000 | 1" |



PROPELLER NOZZLES

Designed to cut through solid blockages and roots. Centering skids are recommended. Imported.

| Part No. | Prop. Angle | Rear Jets | Rotor Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|------------|-----|------|----------|
| A136105 | 25° | 6 * | 5 | 35 | 2000 | 3/4" |
| A136100 | 25° | 6 * | 5 | 60 | 2000 | 1" |
| A136102 | 25° | 6 * | 5 | 80 | 2000 | 1" |

* Replaceable



A NOTE ABOUT ALL OF OUR ROTATING NOZZLES: In order to extend the life of these nozzles, we recommend submerging them in lubricating oil after each use.



ROTATING CHAIN NOZZLES

Chains rotate at a high speed removing hard deposits, such as slag, calcium and limestone. Also good for paint, epoxy, and other accidental spills. Will open blockages caused by grease, sand and roots. Square profile chain made of high quality steel. Centering skids are recommended. Orifices are replaceable. Imported.

| Part No. | Prop. Angle | Rear Jets | Rotor Jets | GPM | PSI | NPT Size |
|----------|-------------|-----------|------------|-----|------|----------|
| A136240 | 20° | 4 | 4 | 35 | 2000 | 3/4" |
| A136245 | 20° | 6 | 6 | 65 | 2000 | 1" |
| A136244 | 20° | 6 | 6 | 80 | 2000 | 1" |



WARNING: In order to avoid possible property damage and personal injuries when handling these tools, we recommend that the nozzle be exposed to gradual system pressure only after it has been set and secured inside the pipe, away from the operator. Hi-Vac Corporation is not responsible for situations resulting from the improper use of this tool and for different operation from that it has been designed and intended for.

REPLACEMENT CHAIN FOR ROTATING CHAIN NOZZLES

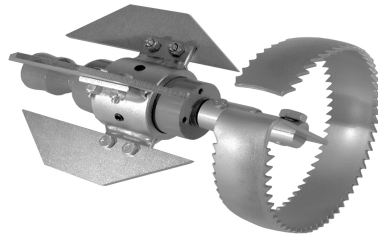
Three required per nozzle (except for bulk replacement chain)

| Length | For 1/2" & 3/4" Nozzles | | For 1" & 1-1/4" Nozzles | |
|------------------|-------------------------|--------------------------|-------------------------|--------------------------|
| | Part Number | Approx. Working Diameter | Part Number | Approx. Working Diameter |
| 6" Long (150mm) | A136241 * | 4" to 6" | N/A | |
| 12" Long (300mm) | A136251 | 8" to 12" | | |
| 16" Long (400mm) | N/A | | A136246 | 14" to 18" |
| 20" Long (500mm) | | | TBA | 18" to 22" |
| 36" Long (900mm) | A136241-6 | Bulk Replacement Chain | A136242-6 | Bulk Replacement Chain |

* standard length supplied with nozzle



A NOTE ABOUT ALL OF OUR ROTATING NOZZLES: In order to extend the life of these nozzles, we recommend submerging them in lubricating oil after each use.

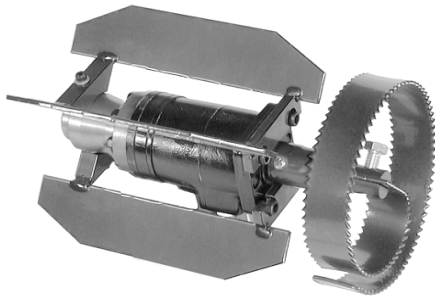


LATERAL LINE ROOT CUTTER KITS

Powered by the jetter's water pressure, these fierce root cutters spin at extremely high torque. Kits include tool box and all necessary hardware. 5/8" output shaft

| Part No. | GPM | PSI | NPT Size | Saws & Skids Included |
|-----------|---------|-----------|----------|---------------------------------|
| J-1469-34 | 35 - 50 | 900-1400* | 3/4" | 4", 6", 8" & 10" (concave saws) |
| J-1469 | 50 - 80 | 900-1400* | 1" | 4", 6", 8" & 10" (concave saws) |

* Provides the best cutting performance between 900 and 1400 PSI (700 RPM @ 575 in. lbs. torque).






MAINLINE ROOT CUTTER KIT



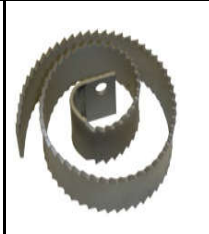
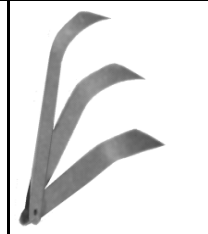
Powered by the jetter's water pressure, these fierce root cutters spin at extremely high torque. Kits include tool box and all necessary hardware. 1" output shaft.

| Part No. | GPM | PSI | NPT Size | Saws & Skids Included |
|----------|---------|----------|----------|----------------------------------|
| J-1603-P | 35 - 80 | 900-1500 | 1" | 6", 8", 10" & 12" (concave saws) |

REPLACEMENT AND OPTIONAL ROOT CUTTER SKIDS

| ROOT CUTTER ATTACHMENTS |  |  |  |
|-------------------------|---|--|---|
| | Skids for Lateral Line RC | Skids for Mainline RC | Optional Skids w/Wheels |
| 6" pipe | J-1469-6 | J-1603-6S | -- |
| 8" pipe | J-1469-8 | J-1603-8S | J-1603-8SW |
| 10" pipe | J-1469-10 | J-1603-10S | J-1603-10SW |
| 12" pipe | J-1469-12 | J-1603-12S | J-1603-12SW |
| 15" pipe | -- | J-1603-15S | J-1603-15SW |

REPLACEMENT AND OPTIONAL ROOT CUTTER BLADES

| ROOT CUTTER ATTACHMENTS |  |  |  |  |
|-------------------------|---|---|---|--|
| | Flat Saws | Concave Saws | Tapered Saws | Cutter Blades * |
| 3" pipe | M-1003 | -- | -- | -- |
| 4" pipe | M-1004 | M-2004 | M-3004 | -- |
| 6" pipe | M-1006 | M-2006 | M-3006 | A131010 |
| 8" pipe | M-1008 | M-2008 | M-3008 | A131020 |
| 10" pipe | M-1010 | M-2010 | M-3010 | A131030 |
| 12" pipe | M-1012 | M-2012 | M-3012 | A131040 |
| 15" pipe | M-1015 | M-2015 | M-3015 | A131050 |
| 18" pipe | M-1018 | M-2018 | M-3018 | -- |

* Root cutters with 1" output shafts only, requires a chuck from below.



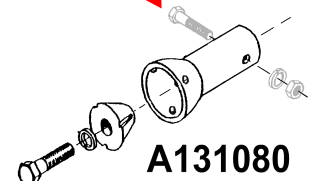
J-1469-BH



J-1700-P



J-7000



A131080

| Part No. | Description |
|-----------|--|
| J-1469-BH | Root cutter saw chuck for Lateral Line (5/8" output shaft) root cutters |
| J-1700-P | Root cutter saw chuck for Mainline (1" output shaft) root cutters |
| J-7000 | Cutter blade chuck for obsolete O'Brien™ (1" output shaft) root cutters |
| A131080 | Cutter blade chuck for obsolete Aquatech™ (1" output shaft) root cutters |

Note: Either of the above cutter blade chucks will fit the newer mainline root cutter if user wishes to use the cutter blades.



CENTERING SKIDS (AKA NOZZLE GUARDS)

Centers nozzle in the pipe. Cuts nozzle wear by 50%. A must for all rotating nozzles. Maximizes cleaning efficiency for any nozzle that sprays in a 360° (radial) pattern. Female NPT on the inlet end for the hose and male NPT on the outlet end for the nozzle.

| Part No. | 1/2" NPT | 3/4" NPT | 1" NPT |
|-------------|-----------|-----------|-----------|
| 4" ID Pipe | J-4012-04 | J-4034-04 | J-4001-04 |
| 6" ID Pipe | J-4012-06 | J-4034-06 | J-4001-06 |
| 8" ID Pipe | J-4012-08 | J-4034-08 | J-4001-08 |
| 10" ID Pipe | J-4012-10 | J-4034-10 | J-4001-10 |
| 12" ID Pipe | J-4012-12 | J-4034-12 | J-4001-12 |
| 15" ID Pipe | -- | -- | J-4001-15 |

NOZZLE EXTENSIONS

Prevents the sewer hose from reversing direction in larger pipes. Also prevents nozzle from entering a lateral pipe. Helps reduce wear on sewer hose.

| Part No. | Length | NPT Size |
|----------|--------|----------|
| J-40-3 | 12" | 1/2" |
| A130004 | 12" | 3/4" |
| A130005 | 10" | 1" |
| A130001 | 12" | 1" |
| A130002 | 12" | 1-1/4" |



T-M STYLE 90° HOSE REEL SWIVELS

American made with investment cast steel process.

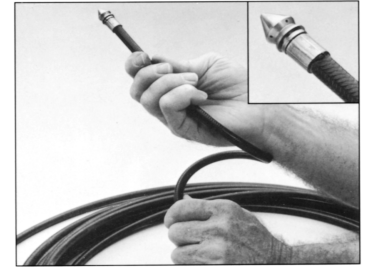
| Part No. | Input | Output |
|-----------|-------------|-------------|
| A130729 | 3/4" FNPT | 3/4" FNPT |
| J-2405-2 | 1" FNPT | 1" FNPT |
| A130727-1 | 1-1/4" FNPT | 1-1/4" FNPT |



TRAP HOSE

For cleaning residential and industrial "S" traps and other small diameter lines.

| Part No. | Hose Size | Hose Length | NPT Hose Ends | Hose PSI |
|-----------|-----------|-------------|---------------|----------|
| 15030-025 | 1/8" | 25' | 1/8"M x 1/8"M | 3000 |



TRAP HOSE KITS

Trap hose with nozzle.

| Part No. | Hose Size | Hose Length | NPT Hose Ends | Hose PSI | Nozzle | NPT Adapter |
|-----------|-----------|-------------|----------------|----------|--------------|----------------|
| OBJ-1723K | 1/8" | 25' | 1/8"M x 1/8"M | 4000 | 1/8" 4gpm | 1/8"F to 1/4"F |
| OBJ-1722K | 3/16" | 75' | 1/4"M x 1/8"M | 4000 | 1/8" 4gpm | 3/8"F to 1/4"F |
| A136260 | 1/4" | 65' | 1/4"FS x 1/8"M | 5800 | 1/8" 3-20gpm | None |



COBRA SEWER CLEANING HOSES

Constructed from materials selected to provide rugged and reliable service under even the most severe and demanding conditions found in high pressure sewer cleaning. These sewer cleaning hoses are constructed with a polyolefin tube which provides maximum resistance to the hydrolysis commonly associated with other thermoplastic tube materials. Reinforcement with high tensile polyester fiber contributes to an exceptionally low volumetric expansion rate and eliminates loss of strength from moisture absorption. A polyether-urethane cover provides exceptional cut, abrasion and fungus resistance. And, lastly, all components are bonded together to maximize fitting retention and wear resistance, and to provide smaller minimum bend radii.

| SIZE | 3/8" | 1/2" | 3/4" | | 1" | |
|--------|-----------------|------------------|------------------|-------------------|---------------|-------------------|
| Ends | 3/8" MNPT | 1/2" MNPT | 3/4" MNPT | | 1" MNPT | |
| Press. | 4000 PSI | 4000 PSI | 2500 PSI | 3000 PSI | 2500 PSI | 3000 PSI |
| Color | GREEN | GREEN | ORANGE | BLUE | ORANGE | BLUE |
| 100' | available | J-1942-100-COBRA | A175150-10-COBRA | available | available | available |
| 150' | 20032-150-COBRA | J-1942-150-COBRA | A175150-11-COBRA | available | available | available |
| 200' | 20032-200-COBRA | J-1942-200-COBRA | available | available | A175213-COBRA | available |
| 250' | available | available | available | available | available | available |
| 300' | available | J-1942-300-COBRA | available | available | available | available |
| 400' | available | J-1942-400-COBRA | A175150-21-COBRA | A175166-3000-COBR | A175231-COBRA | A175233-3000-COBR |
| 500' | available | J-1942-500-COBRA | A175150-27-COBRA | A175150-22-COBRA | A175241-COBRA | A175241-3000-COBR |
| 600' | available | J-1942-600-COBRA | A175150-23-COBRA | A175167-3000-COBR | A175252-COBRA | A175252-3000-COBR |
| 700' | | J-1942-700-COBRA | A175150-24-COBRA | A175168-3000-COBR | A175261-COBRA | A175261-3000-COBR |
| 750' | | available | A175150-26-COBRA | available | available | available |
| 800' | | J-1942-800-COBRA | A175150-25-COBRA | A175169-3000-COBR | A175271-COBRA | A175271-3000-COBR |
| 900' | | available | available | available | available | available |
| 1000' | | available | J-1940-1000P | A175171-3000-COBR | A175269-COBRA | A175269-3000-COBR |
| 1100' | | | | available | available | available |
| 1200' | | | | available | available | available |



COBRA DIE SETS

For embossing the barrel end of swage fittings

| Part No. | Size |
|---------------|------|
| A255078-1/2-D | 1/2" |
| A255078-3/4-D | 3/4" |
| A255078-1-D | 1" |



COBRA SWAGE TOOL

| Part No. | Description |
|-----------|----------------------|
| A255078 | Hydraulic Swage Tool |
| A255078-M | Manual Swage Tool |



COBRA PUSHERS

Protects threads on male swage end fittings

| PN for Male | PN for Female | Size |
|---------------|---------------|----------|
| A255078-1/2-P | TBA | 1/2"MNPT |
| A255078-3/4-P | TBA | 3/4"MNPT |
| A255078-1-P | A255078-1-FP | 1"MNPT |

COBRA SEWER HOSE SWAGE FITTINGS

These swage fittings are specifically designed for the sewer hose we sell. Note: Manufacturer's swaging equipment required to install these ends. Use of other fittings and equipment is at users own risk. Due to the higher pressures involved with 3/8" and smaller hoses, the manufacturer does not supply replacement fittings for them.



Male End Female End Hose Mender

| Hose Size | 1/2" | 3/4" | 1" | Required Tooling |
|-------------|----------------|----------------|----------------|-------------------------|
| Working PSI | 3000 & 4000 | 2500 & 3000 | 2500 & 3000 | |
| Male End | J-1942-1-COBRA | A170040-COBRA | A170020-COBRA | Die set & male pusher |
| Female End | J-1942-2-COBRA | J-1940-4-COBRA | J-1941-4-COBRA | Die set & female pusher |
| Mender | J-1942-3-COBRA | A170035-COBRA | A170030-COBRA | Two die sets |



LEADER HOSES

Most of the wear on a sewer cleaning hose occurs on the first several feet working through the sewer. By adding a leader hose one can extend the life of the main roll of hose. Female fitting on hose end to male fitting on nozzle end.

| Part No. | NPT Size | Length | Max Working | Cover Material | Stocking Status |
|---------------|----------|--------|-------------|----------------|------------------|
| J-1909 | 3/8" | 20' | 4000 psi | Thermoplastic | Normally Stocked |
| J-1910 | 1/2" | 20' | 4000 psi | Thermoplastic | Normally Stocked |
| J-1931 | 3/4" | 10' | 3000 psi | Thermoplastic | Special Order |
| A176105 | 3/4" | 10' | 2500 psi | Rubber | Special Order |
| J-1905 | 3/4" | 20' | 2500 psi | Rubber | Normally Stocked |
| A176106 | 3/4" | 20' | 3000 psi | Rubber | Normally Stocked |
| A249253 | 3/4" | 25' | 3000 psi | Rubber | Special Order |
| J-1933 | 1" | 10' | 2000 psi | Thermoplastic | Special Order |
| A176100 rev B | 1" | 10' | 3000 psi | Rubber | Normally Stocked |
| J-1924 | 1" | 15' | 3000 psi | Thermoplastic | Normally Stocked |
| A176110 | 1" | 20' | 2000 psi | Rubber | Normally Stocked |
| A176115 | 1" | 25' | 2000 psi | Rubber | Special Order |
| J-1934 | 1" | 25' | 2500 psi | Thermoplastic | Normally Stocked |
| A176101 | 1-1/4" | 10' | 2000 psi | Rubber | Special Order |

"LIVE" SWIVELS

Allows attachments to swivel freely without twisting the hose. Male pipe to female pipe

| Hose Size | 1/2" Hose | 3/4" Hose | 1" Hose |
|-------------|-----------|-----------|---------|
| Part Number | A130847 | A130848 | A130849 |



SWIVEL UNIONS

Female pipe to female pipe swivel unions for joining two sections of hoses together.

| Hose Size | 3/16" Hose | 1/4" Hose | 3/8" Hose | 1/2" Hose | 3/4" Hose | 1" Hose |
|-------------|------------|-----------|-----------|-----------|-----------|---------|
| Part Number | 9255X2X2 | 9255X4X4 | 9255X6X6 | A381980 | A338105 | A130690 |



STEP DOWN SWIVEL UNIONS

For joining a smaller size sewer hose to a larger size. For attaching lateral line kits, pressure wands, etc. Note: Be careful not to exceed the pressure rating of your unit.

| Hose Sizes | 3/8" to 1/4" | 1/2" to 3/8" | 3/4" to 1/2" | 1" to 3/4" |
|-------------|--------------|--------------|--------------|------------|
| Part Number | 9255X6X4 | 9255X8X6 | 9255X8X12 | A249058 |





FOOT CONTROL

For auxiliary hose reels and lateral line kits. Note: "Dry Shut" foot controls will dead head the inlet when pedal is not depressed.

| Part No. | Style | Inlet Port NPT | Outlet Port NPT | Dump Port NPT | Max GPM | Max PSI |
|----------|----------|----------------|-----------------|---------------|---------|---------|
| 10000407 | Dry Shut | 3/8" F | 1/4" F | none | 12 | 3000 |



AUXILIARY HOSE REELS

| Part No. | Hose Size | Adapter Req. * | Reel Capacity | Spool Width | Max PSI |
|----------|-----------|----------------|---------------|-------------|---------|
| A130560 | 1/4" | A133640 | 200' | 6" | 3000 |
| | 3/8" | A133650 | 150' | | |
| | 1/2" | none | 100' | | |
| 30018 | 1/4" | A133640 | 400' | 12" | 3000 |
| | 3/8" | A133650 | 300' | | |
| | 1/2" | none | 200' | | |

* Reducers: A133640 - 1/2" x 1/4" A133650 - 1/2" x 3/8"

CART FOR AUXILLIARY HOSE REEL

| Part No. | DESCRIPTION |
|------------|-----------------------------|
| A130555 | Cart for 12" Wide Hose Reel |
| A130555-18 | Cart for 18" Wide Hose Reel |



FLEXIBLE HOSE GUIDE (TIGER TAIL)

Protects the sewer cleaning hose from chafing against the edge of the pipe inside a manhole. Includes a rope for lower and securing the guide thus eliminating the need to enter the manhole.

| With Rope | I.D. | Length | Rope Length |
|-----------|------|--------|-------------|
| J-2203 | 3" | 36" | 24' |

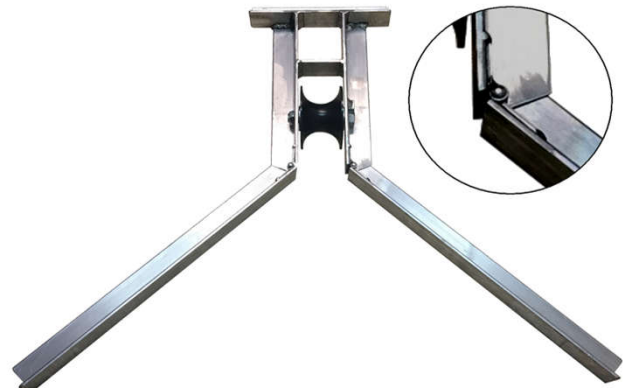




TOP MANHOLE ROLLER

Used when manholes are not in line with the reel. Protects hose from scuffing and allows hose to glide over manhole edge.

| Part No. | Width | Length |
|----------|-------|--------|
| J-2401 | 12" | 38" |



HINGED TOP MANHOLE ROLLER

The legs of this manhole roller are hinged which allows them to spread out to make room for boom hose to enter manhole

| Part No. | Width | Length |
|----------|-------|--------|
| J-2402 | 13" | 41" |



ALUMINUM MANHOLE SAFETY COVER

The wire grid safely covers the manhole but still allows for good visibility below. Bolts on the rim allow for adjustment to keep the cover centered in the opening.

| Part No. | Description |
|----------|---------------------|
| J-2026 | 20" to 26" Manholes |
| J-2634 | 26" to 34" Manholes |



MANHOLE HOOK

| Part No. | Description |
|----------|------------------------------|
| A221800 | 29" w/Perpendicular T-Handle |



MANHOLE LIFTER & PICK

| Part No. | Description |
|----------|--------------------------------|
| J-4000 | 36"L Manhole Pick & Hook Combo |



MANHOLE GRAPPLE TONG

Used to retrieve large objects in manholes and catch basins. Eliminates the need to enter the hole.

| Part No. | Length |
|-----------|-------------------|
| A234585-P | Extends 6' to 12' |



MANHOLE DEBRIS GRABBER

Three sections, each 5 feet long, easily collapsible. Equipped with 20' of rope. Made of rugged steel for long life

| Part No. | Length |
|----------|-----------------------|
| OBJ-299 | 5' to 15' Telescoping |



CATCH BASIN SPOON

| Part No. | Length |
|----------|------------------------|
| A220081 | 10' 1-Pc Wooden Handle |

Other length handles, ranging from 6' to 20', are also available upon special request. Longer length handles are 2 or 3 piece.



CATCH BASIN CLEANER

For cleaning debris out of catch basins. Will pick up large objects like bricks, stones and wet leaves. The over-center lever mechanism locks the jaws during lifting to prevent dropping the load.

| Part No. | Handle Length |
|----------|---------------|
| A220070 | 12 foot |
| A220080 | 16 foot |

6', 8', 18', 20' and 25' lengths are available upon special request.



CATCH BASIN SCRAPER

High-visibility yellow fiberglass handle.

| Part No. | Length |
|----------|---------|
| A220082 | 60" OAL |

GRIT CATCHERS

With a debris catcher at the manhole opposite the hose entrance, you can remove cobble and other debris before it's carried further downstream by your flush water. Uses the quick connect fiberglass poles (sold separately) to lower the grit catcher into place.

| Part No. | Description |
|----------|-------------------|
| J-2006 | 6" Debris Catcher |
| J-2008 | 8" Debris Catcher |

10", 12", 15", 18" and 24" grit catchers are available upon special request.

| | |
|-----------|------------------------------------|
| J-2100-3 | 3' Fiberglass Extension Pole |
| J-2100-6 | 6' Fiberglass Extension Pole |
| J-2100-6R | 6' Fiberglass Pole with Rubber End |



PIPE TO FIRE HOSE ADAPTER

| Part No. | Description |
|----------|----------------------|
| A388275 | 2.5"FNPT to 2.5"FNST |



2.5"NST HYDRANT FILL HOSE

| Part No. | Description |
|----------|----------------|
| A176150 | 2-1/2"ID x 25' |
| A176154 | 2-1/2"ID x 50' |



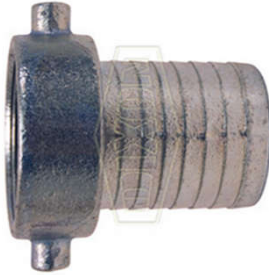
HYDRANT WRENCH

| Part No. | Description |
|----------|----------------|
| A220330 | Hydrant Wrench |



FILL PIPE COUPLER

| Part No. | Description |
|----------|---------------------------------|
| A140090 | 2"FNPT steel flange adapter |
| A140080 | 2.5"NST brass swivel nut w/gskt |
| A190830 | Gasket only |



2.5" ADAPTER NST TO HOSE

| Part No. | Description |
|----------|---------------------------|
| A388284 | 2-1/2" FNST to Hose Shank |



2.5" ADAPTER NPSH TO NST

| Part No. | Description |
|----------|-------------------------|
| A388283 | Female NPSH to Male NST |

The most frequently used fire hoses today come with NH / NST or NPSH threads.

The most common thread type in use by fire departments today is NST or National Standard Thread. It is often referred to as "fire hose thread". NST also goes by the initials NH or National Hose. It can even be referred to as NHT or National Hose Thread but NST or NH is more common these days. NH = NST.

Fire hoses with National Pipe Straight Hose Thread (NPSH) has the same threads per inch as National Pipe Thread (NPT) but the threads do not taper. This allows a female coupling to thread onto a NPT fitting without being a permanent connection.



SAFETY CONES

| Part No. | Height | Color | Traffic Speed | Night Use | Comment |
|------------|--------|--------|---------------|-----------|---|
| A225004 | 18" | Orange | ≤ 40 mph | No | Plain (min. ht. for low speed traffic) |
| A225005 | 28" | Orange | ≥ 45 mph | No | Plain (min. ht. for high speed traffic) |
| A225005-36 | 36" | Orange | ≥ 45 mph | Yes | 2 Reflective Stripes |

NOTE: Usage specs are per Federal DOT regulations, Section 6F.63 as of Dec 2009.

MacAllister
HYDROVAC

844-VAC-RENT