



# STONEAGE

WATERBLAST TOOLS®

**NEW FOR 2013**

## TR 130

3-D TANK & VESSEL CLEANING



**PIPE CLEANING  
TUBE CLEANING  
CUSTOM SOLUTIONS  
MECHANIZED SYSTEMS  
SURFACE PREPARATION  
TANK AND VESSEL CLEANING**

**PROUD DISTRIBUTORS OF STONEAGE® WATERBLAST TOOLS**



### BLASTJET®

*Water Jetting equipment and rentals*

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Self rotating, speed controlled, lightweight shotgun tools.



At less than 3 pounds, the **BARRACUDA** is powerful yet easy to manage.



The **BARRACUDA** features 2 or 4 jets in controlled rotation.

BARRACUDA

Rotary Shotgun Tool

The **BARRACUDA** is the industry standard for speed controlled rotary shotgun tools. These lightweight tools adapt to any high pressure pump and are simple to maintain. The **BARRACUDA** is excellent for difficult and irregular surfaces, where an operator using a hand-held tool can more efficiently maneuver the cleaning head.

Our leak-free seal design and centrifugal speed control delivers more power to the surface for superior results. We recommend four-port heads for the removal of light or thin deposits and two-port heads for removal of thick deposits. **BARRACUDA** self-rotary tools eliminate the need for expensive compressed air drives. They are available in 15k, 22k, and 40k psi models.

Both the **BC-H9-C** and **BC-H9LF-C** feature 4 jets with controlled rotation speed. Choose the **BC-H9-C** for 4.5-8 gpm flows and the **BC-H9LF-C** for 3-4.5 gpm flows. See the jetting charts on the opposite page.

BARRACUDA

Up to 22k or 40k psi	1500 or 2800 bar
3-15 gpm	11-57 l/min
Controlled Rotation	

BENEFITS INCLUDE:

- Two or four jet configuration
- Easy field maintenance
- Replaceable nozzle tips
- Weighs under 3 pounds
- Impact-resistant polyurethane shield
- Optional inlet adapters for 15k or 22k psi (1000-1500 bar)

BARRACUDA SPECIFICATIONS				
MODEL	BC-K	BC-K-P2	BC-H9-C	BC-H9LF-C
Maximum Pressure	22k psi 1500 bar	22k psi 1500 bar	40k psi 2800 bar	40k psi 2800 bar
Maximum Flow	15 gpm 57 l/min	15 gpm 57 l/min	8 gpm 30 l/min	4.5 gpm 17 l/min
Inlet Connection	9/16 MP	9/16 MP	9/16 HP	9/16 HP
Nozzles	2 x AP4	4 x AP2	4 x OS7	4 x OS7
Diameter	1.8 in. 46 mm	1.8 in. 46 mm	1.8 in. 46 mm	1.8 in. 46 mm
Length	7.8 in. 200 mm	7.8 in. 200 mm	7.8 in. 200 mm	7.8 in. 200 mm

BARRACUDA JETTING 22K PSI (1500 BAR)

Pressure	AP2 & AP4 NOZZLE ID'S IN INCHES											
	.018	.020	.022	.024	.026	.029	.032	.035	.038	.042	.047	
10k psi							5.5	6.5	7.6	9.2	11	BC-K 2 x AP4 NOZZLES  GPM (L/MIN)
700 bar							21	25	29	35	43	
15k psi					4.4	5.5	6.7	8.0	9.4			
1000 bar					17	21	25	30	36			
22k psi				4.4	5.1	6.4	7.7					
1500 bar				17	19	24	29					BC-K-P2 4 x AP2 NOZZLES  GPM (L/MIN)
10k psi			5.2	6.1	7.2	8.8	11					
700 bar			20	23	27	33	40					
15k psi	4.3	5.2	6.3	7.5	8.8							
1000 bar	16	20	24	28	33							
22k psi	4.9	6.1	7.3									GPM (L/MIN)
1500 bar	19	23	28									

BARRACUDA JETTING 40K PSI (2800 BAR)

Pressure	OS7 NOZZLE ID'S IN INCHES											
	.014	.015	.016	.017	.018		.019	.020	.021	.022	.023	
32k psi		3.1	3.6	4.0	4.5		5.0	5.6	6.1	6.7	7.4	BC-H9LF-C GPM L/MIN
2200 bar		12	14	15	17		19	21	23	25	28	
36k psi	2.9	3.3	3.8	4.3	4.8		5.3	5.9	6.5	7.1		
2500 bar	11	12	14	16	18		20	22	25	27		
40k psi	3.0	3.5	4.0	4.5			5.6	6.2	6.9			
2800 bar	11	13	15	17			21	24	26			GPM L/MIN



Cuts through this 2x4 wooden block in seconds.



Utilizing next generation technology.



Radiused arms produce powerful and effective jets.



SG-30 works with our **BLASTRACK** automated drive rail – page 44.

SPITFIRE

Rotary Shotgun Tool

Our new **SPITFIRE** revolutionizes rotary shotgun tools. This patented design features an angled jet pattern combined with high-speed rotation to perform superior cleaning and surface preparation. The **SPITFIRE** is excellent for cleaning difficult and irregular surfaces where a hand-held operator can more efficiently maneuver the cleaning head.

It utilizes a 2-port jetting pattern and has 2 inlet options, either 1/2 NPT for up to 15k psi, or 9/16 MP for 22k psi. This new tool requires little maintenance, reducing down time.

<b>SPITFIRE</b>	5-22k psi	340-1500 bar
	2.3-15 gpm	9-58 l/min
	High Speed Rotation	

BENEFITS INCLUDE:

- Weighs under 2 pounds
- Low maintenance
- Lower operating costs
- No high pressure seats or seals
- Hardened stainless steel shroud

SPITFIRE SPECIFICATIONS

MODEL	SPF-P8	SPF-MP9
Maximum Pressure	15k psi 1000 bar	22k psi 1500 bar
Operating Pressure	5-15k psi 340-1000 bar	5-22k psi 340-1500 bar
Maximum Flow	15 gpm 58 l/min	13 gpm 49 l/min
Flow Coefficient	0.60 Cv	0.60 Cv
Rotation Speed	3000-5000 rpm	3000-5000 rpm
Inlet Connection	1/2 NPT	9/16 MP
Nozzles	2 x AP2	2 x AP2
Diameter	1.7 in. 43 mm	1.7 in. 43 mm
Length	4.8 in. 120 mm	4.8 in. 120 mm
Weight	1.6 lb 0.76 kg	1.6 lb 0.76 kg

FREE SPINNERS

Self-Rotary Cleaning Heads

**SG-30 FREE SPINNER** tools provide simple, self-rotating surface cleaning and preparation solutions. Four radiused jet arms provide excellent jet quality and a balanced, stable, self-rotating assembly.

Diverse Applications

**STONEAGE** has designed numerous systems for specialty cleaning operations. The image above shows one such application for cleaning conveyor belts. Other cleaning applications include boilers, airport runways, belts, screens and coatings, plus degreasing and decontaminating concrete.

<b>SG-30</b>	Up to 22k psi	1500 bar
	Up to 50 gpm	190 l/min
	Jet-Powered Rotation	

BENEFITS INCLUDE:

- No compressed air required
- Two head sizes available
- Radiused arms enhance jet quality
- Replaceable nozzle tips
- Includes universal mounting block
- Balanced, stable rotation

FREE SPINNER SPECIFICATIONS

MODEL	SG-30-P12	SG-30-MP12
Maximum Pressure	15k psi 1000 bar	22k psi 1500 bar
Maximum Flow	50 gpm 190 l/min	50 gpm 190 l/min
Rotation Speed	300-1000 rpm	300-1000 rpm
Jet Path Diameter	18 or 24 in. 460 or 620 mm	18 or 24 in. 460 or 620 mm
Inlet Connection	3/4 NPT	3/4 MP
Height	13 in. 330 mm	13 in. 330 mm
Weight	25 lb 11 kg	25 lb 11 kg



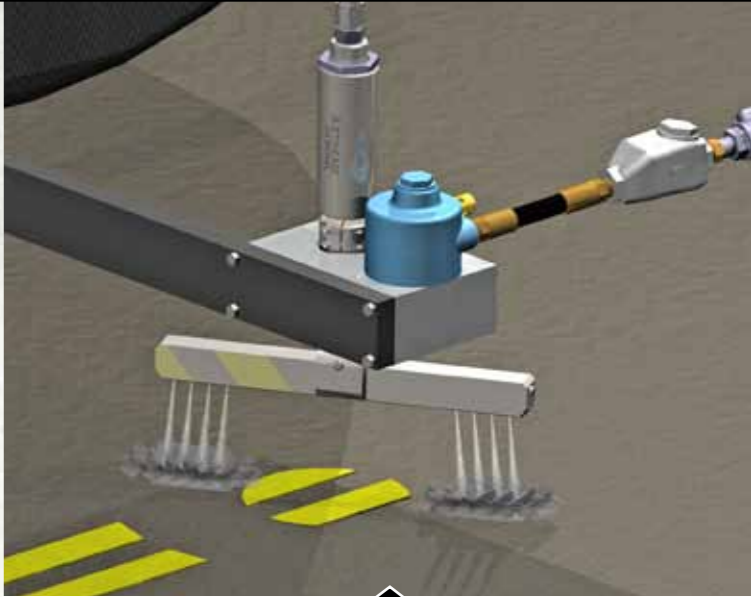
Air or hydraulic powered options.



Fast or slow rotation depending on the surface to be cleaned.



Air powered and hydraulic options.



Use in applications such as airport runway paint removal.

POWERED CLEANERS

Air or Hydraulic Powered Rotation

Controlled rotation allows the use of a wide variety of head configurations for diverse cleaning applications. The **SG-40** and **SG-50** are fast rotation tools and are belt driven to operate between 100-1000 rpm.

The **SG-E60** and **SG-E70** features slower powered rotation with two available speed options: 10-600 rpm. Slower rotation aids removal of thick deposits, particularly at long standoff distances.

SG-40 & SG-50

Up to 22k psi	1500 bar
50 gpm	190 l/min
FAST ROTATION	

SG-E60 & SG-E70

Up to 22k psi	1500 bar
110 gpm	420 l/min
SLOW ROTATION	

POWERED CLEANERS

Ultra High Pressure Cleaning Heads

The **UH-40** and **UH-50** tools feature the **UH-H9G12** swivel mated to a controlled rotation belt drive system for thorough and productive surface cleaning. Both tools feature high flow design and an optional 90° inlet.

Possible head configurations include a 4-arm jet assembly with up to a 20" jet path or a bar head with up to a 14" jet path. Replaceable **OS6** sapphire nozzles provide hard hitting jets for epoxy coating removal and other surface preparations.

UH-40 & UH-50

Up to 44k psi	3000 bar
Up to 20 gpm	76 l/min
Air or Hydraulic Powered	

APPLICATIONS INCLUDE:

- Cleans belts, screens and conveyors
- Removes epoxy coatings
- Cleans paint line carriers
- Prepares surfaces for coatings

FAST ROTATION SPECIFICATIONS

MODEL	SG-40	SG-50
15k psi Swivel	SG-CCN-P12K	SG-CCN-P12K
22k psi Swivel	SG-CCN-MP12K	SG-CCN-MP12K
Power Mode	Air Powered	Hydraulic Powered
Air Supply	60 cfm @ 80 psi 100 m³/hr @ 5.5 bar	N/A
Hydraulic Supply	N/A	4.2 gpm @ 1500 psi 1.0 m³/hr @ 100 bar
Maximum Flow	50 gpm 190 l/min	50 gpm 190 l/min
Rotation Speed	300-1000 rpm	100-950rpm
15k psi Inlet	3/4 NPT	3/4 NPT
22k psi Inlet	3/4 MP	3/4 MP
Weight	26 lb 12 kg	26 lb 12 kg

SLOW ROTATION SPECIFICATIONS

MODEL	SG-E60	SG-E70
15k psi Swivel	SG-P12KM	SG-P12KM
22k psi Swivel	SG-MP12KM	SG-MP12KM
Power Mode	Air Powered	Hydraulic Powered
Air Supply	60 cfm @ 80 psi 100 m³/hr @ 5.5 bar	N/A
Hydraulic Supply	N/A	4.2 gpm @ 1500 psi 1.0 m³/hr @ 100 bar
Maximum Flow	110 gpm 420 l/min	110 gpm 420 l/min
Rotation Speed	10-50 or 120-600 rpm	5-30 or 40-400 rpm
15k psi Inlet	3/4 NPT	3/4 NPT
22k psi Inlet	3/4 MP	3/4 MP
Weight	30 lb 18 kg	30 lb 18 kg

POWERED CLEANER SPECIFICATIONS

MODEL	UH-40	UH-50
Swivels	UH-H9G12	UH-H9G12
Power Mode	Air Powered	Hydraulic Powered
Air Supply	60 cfm @ 80 psi 100 m³/hr @ 5.5 bar	N/A
Hydraulic Supply	N/A	4.2 gpm @ 1500 psi 1.0 m³/hr @ 100 bar
Maximum Pressure	44k psi 3000 bar	44k psi 3000 bar
Maximum Flow	20 gpm 76 l/min	20 gpm 76 l/min
Rotation Speed	250-1000 rpm	250-1000 rpm
Inlet Connection	9/16 HP	9/16 HP
Weight	26 lb 12 kg	26 lb 12 kg



Wide jet path cleans large areas quickly.



Radiused arms for free-spinning jets.



Vacuum port (**FCSV** model shown).



Adjustable rotation and traverse speed.



**DECK BLASTER** with eight-jet bar head.



Height adjusts quickly and easily.

MECHANIZED SYSTEM

FLOOR CLEANERS  
Self-Rotary Floor and Grate Cleaning

The **FCSV** and **FCSG** are self-rotating floor cleaners and surface preparation machines. The **FCSV** is equipped with a 4" Camlock vacuum system while the **FCSG** does not. However, the **FCSG** can easily be converted to use a vacuum system. Both tools are made of corrosion resistant, zinc plated steel and utilize a **STONEAGE SG-30** free spinning swivel connected to four jet arms.

Clean garages, parking lots and other flat surfaces safely and effectively while eliminating operator hazard. These tools perform a wide range of functions, including cleaning paint from gratings and degreasing surfaces, as well as removing coatings, decontaminates and membranes. They can also scarify concrete, clean tanks and pit floors.

The optional vacuum port removes waste and debris through a standard 4" Camlock vacuum hose connection. A hand operated lever on the push handle actuates the dump valve.

**FCSG & FCSV**

Up to 15k or 20k psi	1000 or 1400 bar
Up to 28 gpm	110 l/min
Jet-Powered Rotation	

**BENEFITS INCLUDE:**

- No compressed air required
- Dump valve handle
- Optional vacuum compatibility
- Four jet radiused head
- Easy height adjustment
- Large 24" (610 mm) jet path

FLOOR CLEANER SPECIFICATIONS

MODEL	FCSG & FCSV	
Maximum Pressure	15k or 20k psi	1000 or 1400 bar
Maximum Flow	28 gpm	110 l/min
Jet Path Diameter	24 in.	610 mm
Rotation Speed	300-1000 rpm	
Nozzles	4 x <b>AP4</b>	
Weight	255 lb	116 kg

MECHANIZED SYSTEM

DECK BLASTER

Air Powered Deck and Surface Cleaning

The **DECK BLASTER** features air powered traverse and head rotation. Both drives are independently adjustable to maximize efficiency and decrease cleaning time. A 3" vacuum port pivots to either side for easy connection to an external vacuum system. A simple adjustment allows the height to be changed with ease.

PAINT GRATE CLEANER  
For Automotive Paint Booths

The **FCT-JS** features a maneuverable 3-wheel chassis with integral height adjustment designed specifically for cleaning automotive plant paint grates. We removed the vacuum, sized the dome for paint booth access and designed a 6-arm manifold with adjustable jet angles.

**DECK BLASTER**

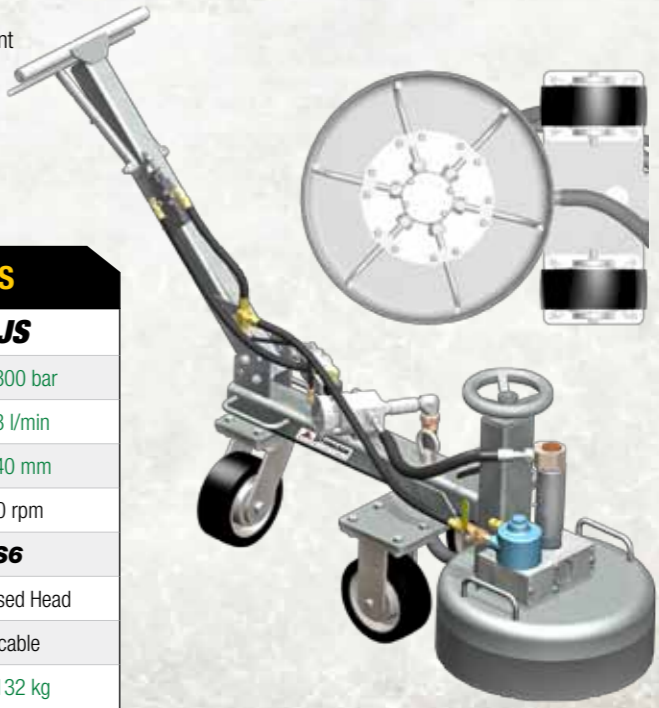
Up to 40k psi	2800 bar
6 gpm	20 l/min
Vacuum Compatible	

**PAINT GRATE CLEANER**

Up to 40k psi	2800 bar
10 gpm	38 l/min
Compact Design for Paint Booth Access	

DECK BLASTER & PAINT GRATE CLEANER SPECIFICATIONS

MODEL	DB	FCT-JS
Maximum Pressure	40k psi 2800 bar	40k psi 2800 bar
Maximum Flow	6 gpm 20 l/min	10 gpm 38 l/min
Jet Path Diameter	14 in. 350 mm	17.5 in. 440 mm
Rotation Speed	300-800 rpm	300-1000 rpm
Nozzles	Up to 8 x <b>OS6</b>	6 x <b>OS6</b>
Head Configuration	8-Port Bar Head	6-Port Radiused Head
Surface Speed	3-20 ft/min 0.9-6 m/min	Not Applicable
Weight	215 lb 98 kg	290 lb 132 kg





BADGER pipe cleaning tools.



Designed to clean pipes with bends.



BADGER blasts through wood in seconds.



Speed controlled rotation.



In use with a backout preventer.



Powerful enough to penetrate coke.

BADGER

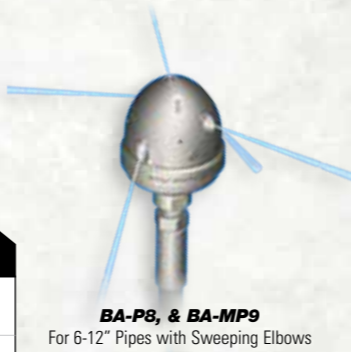
Rotary Cleaning for Pipes with Elbows

The **BADGER** family of tools makes cleaning pipes with elbows easy. The **BA-P4** and the **BA-MP9X** negotiate 2" sweep elbows and utilize our patented high speed, liquid bearing technology. The **BA-P6** and the **BA-TM12** handle 4" elbows while offering controlled rotation speed which is important in cleaning larger pipes. The operator can choose between two rotation speeds by selecting fast or slow viscous fluid.

SMALL & MEDIUM BADGER SPECIFICATIONS				
MODEL	BA-P4 (2 in.)	BA-MP9 (2 in.)	BA-P6 (4 in.)	BA-TM12 (4 in.)
Maximum Pressure	15k psi 1000 bar	22k psi 1500 bar	15k psi 1000 bar	22k psi 1500 bar
Maximum Flow	15 gpm 57 l/min	15 gpm 57 l/min	30 gpm 110 l/min	22 gpm 83 l/min
Flow Coefficient	0.50 Cv	0.40 Cv	1.6 Cv	0.80 Cv
Rotation Speed	High Speed	High Speed	20-80 rpm (Slow Fluid) 75-220 rpm (Fast Fluid)	20-80 rpm (Slow Fluid) 75-220 rpm (Fast Fluid)
Inlet Connection	1/4 NPT, 1/4 BSPP	9/16 LH, 9/16 RH	3/8 NPT, 3/8 BSPP	3/4 Type M male
Nozzles	7 x OD3M	7 x OD3M	5 x AP2	5 x AP2
Diameter	1.3 in. 33 mm	1.3 in. 33 mm	2.75 in. 70 mm	2.75 in. 70 mm
Length	2.0 in. 50 mm	2.0 in. 50 mm	3.5 in. 89 mm	3.5 in. 89 mm
Weight	0.45 lb 0.20 kg	0.45 lb 0.20 kg	2.5 lb 1.1 kg	2.5 lb 1.1 kg
BADGER HEAD FLOWS				
BA-R05 OFFSET	5-15 gpm 19-57 l/min	5-15 gpm 19-57 l/min		
BA-R22 OFFSET			10-19 gpm 38-72 l/min	9-15 gpm 34-57 l/min
BA-R16 OFFSET			18-30 gpm 68-110 l/min	14-22 gpm 53-83 l/min

BADGER

Up to 22k psi 1500 bar
5-30 gpm 19-110 l/min
2-6 in. ID Pipes 51-150 mm



BA-P8, & BA-MP9  
For 6-12" Pipes with Sweeping Elbows



BA-P6 & BA-TM12  
For 4" Pipes with Sweeping Elbows



BA-P4 & BA-MP9X  
For 2" Pipes with Sweeping Elbows

BADGER

Rotary Cleaning for Pipes with Elbows

The **BA-P8/MP9** features a revolutionary adjustable speed control which allows operators to meet the demands of the task at hand — slower speeds for tough deposits and faster rotation for easier plugs.

**STONEAGE** offers a centering device for the **BA-P8/MP9**. This device centers the **BADGER** in pipes ranging from 6-10" in diameter, providing more consistent cleaning and reducing head wear. The rigid lance increases operator safety by preventing tool turn around in pipes up to 12".

LARGE BADGER SPECIFICATIONS		
MODEL	BA-P8 (6 in.)	BA-MP9 (6 in.)
Maximum Pressure	15k psi 1000 bar	22k psi 1500 bar
Maximum Flow	55 gpm 210 l/min	43 gpm 160 l/min
Flow Coefficient	2.3 Cv	2.3 Cv
Rotation Speed	50-300 rpm (Adjustable)	50-300 rpm (Adjustable)
Inlet Connection	1/2 NPT	9/16 MP or M24
Diameter	3.75 in. 95 mm	3.75 in. 95 mm
Length	5.4 in. 140 mm	5.4 in. 140 mm
Weight	7.9 lb 3.6 kg	7.9 lb 3.6 kg
BADGER HEAD FLOWS		
BA-R40 OFFSET	15-23 gpm 57-87 l/min	14-21 gpm 53-80 l/min
BA-R31 OFFSET	23-33 gpm 87-125 l/min	21-30 gpm 80-110 l/min
BA-R21 OFFSET	33-55 gpm 125-210 l/min	30-43 gpm 110-160 l/min

BADGER

Up to 22k psi 1500 bar
14-55 gpm 53-210 l/min
6-12 in. ID Pipes 150-300 mm

BENEFITS INCLUDE:

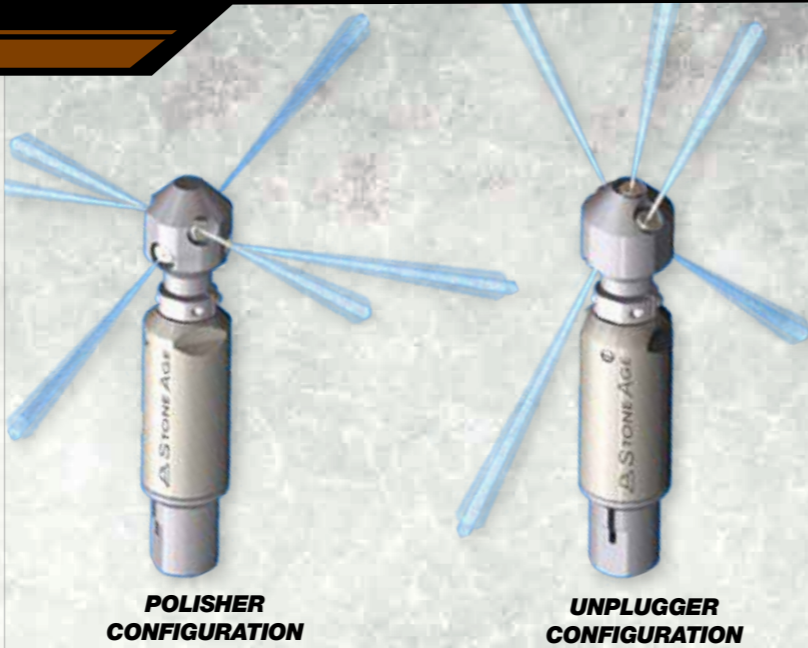
- Replaceable **ATTACK TIPS**
- Optional metric inlet connection
- Centralizer option (sold separately)
- Compact design for optimum maneuverability



BA-385 CENTRALIZER  
FOR THE BA-P8 & BA-MP9



Powerful rotary tools for cleaning straight pipes 2" or larger.



POLISHER CONFIGURATION

UNPLUGGER CONFIGURATION

Two jet patterns available.



Shown here with the **RPT 045** pulling ring.



Heads can be changed easily to allow for different configurations.

GOPHER

Rotary Cleaning for Straight Pipes

The **GOPHER** is ideal for cleaning pipe, evaporator tubes and removing concrete from drill pipe. It has the power to cut through coke, polymers, coatings and latex — anything clogging tubes or pipes 2" or larger.

The **GO-MP9** uses **AP2 ATTACK TIPS** and the **GO-H9-C** uses **OS4** sapphire nozzles. Choosing different jet configurations for unplugging or polishing allows for maximum productivity.



**GOPHER** in pipe with Unplugging Configuration.

GOPHER

Up to 40k psi	2800 bar
4-25 gpm	15-90 l/min
2-6 in. ID Pipes	51-150 mm (without centralizer)

CENTRALIZERS



**GO 070**

For 4", 5", 6", 8" and 12" pipes.



**GO 075**

For 3-4.5" pipes.

RAPTOR

Rotary Cleaning for Straight Pipes

The **RAPTOR** 2-D self-rotating tool is used to clean process drains, totes, closed head drums, water well screens, ducts and exhaust stacks. Combined with a centralizer, it cleans pipes from 3-12" in diameter and can clean straight tubes as small as 2.25" in diameter.

The **RAPTOR** uses viscous fluid speed control and operates with 2, 4 or 6 jets in balance. We recommend using a centralizer to protect the head and improve jet action on the wall being cleaned.

RAPTOR

Up to 22k psi	1500 bar
10-60 gpm	38-230 l/min
3-12 in. ID Pipes	76-300 mm

CENTRALIZERS



**RPT 070**

For 4", 5", 6", 8", 10" and 12" pipes.



**RPT 075**

For 3" or 4.5" pipes.

GOPHER SPECIFICATIONS

MODEL	GO-MP9	GO-H9-C
Maximum Pressure	22k psi 1500 bar	40k psi 2800 bar
Maximum Flow	25 gpm 90 l/min	12 gpm 40 l/min
Flow Coefficient	0.84 Cv	0.30 Cv
Rotation Speed	600-1000 rpm	600-1000 rpm
Inlet Connection	9/16 MP	9/16 HP
Nozzles	AP2	OS4
Diameter	1.6 in. 41 mm	1.6 in. 41 mm
Length	7.8 in. 200 mm	7.8 in. 200 mm
Weight	3.0 lb 1.3 kg	3.0 lb 1.3 kg

GOPHER HEAD SELECTION

MODEL	GO-MP9	GO-H9-C
Polisher LF	7-14 gpm 27-53 l/min	4-7 gpm 20-27 l/min
Model	GO 042-R.14	GO 342-R.14
Polisher HF	14-25 gpm 53-95 l/min	7-12 gpm 27-45 l/min
Model	GO 042-R.07	GO 342-R.08
Unplugging LF	8-15 gpm 30-57 l/min	4-7 gpm 20-27 l/min
Model	GO 043-R.17	GO 343-R.18
Unplugging HF	15-25 gpm 57-95 l/min	7-12 gpm 27-45 l/min
Model	GO 043-R.08	GO 343-R.08

RAPTOR SPECIFICATIONS

MODEL	RPT
Maximum Pressure	22k psi 1500 bar
Maximum Flow	60 gpm 230 l/min
Flow Coefficient	2.3 Cv
Rotation Speed	15-60 rpm (Slow Fluid) 50-250 rpm (Fast Fluid)
Inlet Connection	1/2 NPT, 9/16 MP or M24
Length	9.5 in. 240 mm
Weight	5.5 lb 2.5 kg

RAPTOR HEAD SPECIFICATIONS

HEAD	RPT 043-P2-6	RPT 044-P4-6
Diameter	2.0 in. 51 mm	2.5 in. 64 mm
Nozzles	6 or 7 x AP2	6 x AP4

RAPTOR HEAD SELECTION

HEAD OFFSET	R30	R18	R11
5k psi 350 bar	10-23 gpm 38-87 l/min	16-38 gpm 60-140 l/min	25-60 gpm 95-230 l/min
10k psi 700 bar	10-18 gpm 38-68 l/min	15-31 gpm 57-120 l/min	25-51 gpm 95-190 l/min
15k psi 1000 bar	10-17 gpm 38-64 l/min	16-28 gpm 60-110 l/min	26-47 gpm 98-180 l/min
22k psi 1500 bar	10-16 gpm 38-60 l/min	17-26 gpm 64-100 l/min	27-43 gpm 100-160 l/min



The **BJV** is our most versatile pipe cleaning tool.



We offer centralizers, nipple extensions and head options.

BJV  
Rotary Cleaning for Straight Pipes

The **BJV** is our most versatile pipe cleaning tool. A variety of head choices allow for a pulling ring connection, customized porting and multiple jetting options. Different viscous fluid options allow operators the ability to change the speed of rotation for hard or easy applications.

Multiple centering devices allow the **BJV** to work with extension arms — putting the jets close to the wall of the pipe being cleaned. See page 18 for centering devices and page 55 for nipple extensions.

Jetting configurations can be optimized to provide either more pulling power or more unplugging power. Our Technical Support team can assist you in the proper configuration of your tool.

<b>BJV</b>	Up to 40k psi	2800 bar
	3.4-200 gpm	13-200
	6-72 in. ID Pipes	150-1800 mm

BJV SPECIFICATIONS

MODEL	BJV-P16	BJV-P12	BJV-M24	BJV-MP12	BJV-H9
Maximum Pressure	10k psi 700 bar	15k psi 1000 bar	22k psi 1500 bar	22k psi 1500 bar	40k psi 2800 bar
Maximum Flow	200 gpm 760 l/min	100 gpm 380 l/min	100 gpm 380 l/min	60 gpm 230 l/min	20 gpm 76 l/min
Flow Coefficient	7.5 Cv	4.6 Cv	4.6 Cv	2.3 Cv	0.67 Cv
Rotation Speed	30-80 rpm (Slow Fluid)	5-80 rpm (Slow Fluid) 40-200 rpm (Fast Fluid)	5-80 rpm (Slow Fluid) 40-200 rpm (Fast Fluid)	15-50 rpm (Slow Fluid) 70-300 rpm (Fast Fluid)	20-60 rpm (Slow Fluid) 90-250 rpm (Fast Fluid)
Inlet Connection	1 NPT	3/4 NPT	M 24	3/4 MP	9/16 HP
Length*	7.3 in. 180 mm	7.3 in. 180 mm	7.3 in. 180 mm	8.4 in. 210 mm	8.4 in. 210 mm
Weight*	8.0 lb 3.6 kg	8.0 lb 3.6 kg	8.0 lb 3.6 kg	8.0 lb 3.6 kg	8.0 lb 3.6 kg

\*Tool only — does not include head.

FIVE BJV MODELS TO  
CLEAN PIPES FROM 6-72”

BJV HEAD SPECIFICATIONS

MODEL	BJV-P16	BJV-P12	BJV-M24	BJV-MP12	BJV-H9
Standard Head	BJ 041-P8-RX	BJ 044-P4-RX	BJ 144-P4-RX	BJ 144-P4-RX	BJ 444-S6-RX
Diameter	3.5 in. 89 mm	3.0 in. 76 mm	3.0 in. 76 mm	3.0 in. 76 mm	3.0 in. 76 mm
Nozzles	6 x OC8	6 or 7 x AP4	6 or 7 x AP4	6 or 7 x AP4	6, 7 or 8 x OS6
Head Weight	4.8 lb 2.2 kg	3.3 lb 1.5 kg	3.3 lb 1.5 kg	3.3 lb 1.5 kg	3.3 lb 1.5 kg
Extension Head	BJ 041-P12-RX	BJ 041-P8-RX	BJ 145-G12-RX	BJ 145-G12-RX	BJ 441-G9-RX
Diameter	3.5 in. 89 mm	3.5 in. 89 mm	3.5 in. 89 mm	3.5 in. 89 mm	3.5 in. 89 mm
Extension Ports	6 x 3/4 NPT	6 x 1/2 NPT	6 x G12	6 x G12	6 x G9
Head Weight	4.6 lb 2.1 kg	4.8 lb 2.2 kg	4.5 lb 2.0 kg	5.2 lb 2.4 kg	5.8 lb 2.6 kg

BJV HEAD SELECTION

BJV-P16

OFFSET			R20		R12		R09	
PRESSURE	10k psi	700 bar	50-85 gpm	190-320 l/min	85-120 gpm	320-450 l/min	150-200 gpm	570-760 l/min

BJV-P12

OFFSET			R60		R35		R20		R12	
PRESSURE	10k psi	700 bar	13-25 gpm	49-95 l/min	22-39 gpm	83-150 l/min	40-67 gpm	150-250 l/min	65-100 gpm	250-380 l/min
	15k psi	1000 bar	12-21 gpm	45-79 l/min	22-39 gpm	83-150 l/min	40-64 gpm	150-240 l/min	65-100 gpm	250-380 l/min

BJV-M24

OFFSET			R60		R35		R20		R12	
PRESSURE	15k psi	1000 bar	12-21 gpm	45-79 l/min	22-39 gpm	83-150 l/min	40-64 gpm	150-240 l/min	65-100 gpm	250-380 l/min
	22k psi	1500 bar	12-20 gpm	45-76 l/min	21-34 gpm	45-79 l/min	35-58 gpm	130-220 l/min	59-100 gpm	220-380 l/min

BJV-MP12

OFFSET			R60		R35		R20		R12	
PRESSURE	22k psi	1500 bar	10-15 gpm	38-57 l/min	15-24 gpm	57-91 l/min	24 - 40 gpm	91-150 l/min	40-60 gpm	150-230 l/min

BJV-H9

OFFSET			R70		R40		R25	
PRESSURE	30k psi	2100 bar	3.9-6.7 gpm	15-25 l/min	6.7-12 gpm	25-45 l/min	11-20 gpm	41-76 l/min
	35k psi	2400 bar	3.6-6.2 gpm	14-24 l/min	6.4-11 gpm	24-42 l/min	10-18 gpm	38-68 l/min
	40k psi	2800 bar	3.4-5.8 gpm	3-22 l/min	5.8-10 gpm	22-39 l/min	9.3-17 gpm	35-65 l/min



Interchangeable plastic runners.



Centralizers prevent tool turn around.



Models for pipes with ID's up to 60".



Cage styles are ideal for pipes with bends.



Use where obstructions may interfere with extensions.



**BJ-288** model with nipple extensions.

## BJV CENTRALIZERS

Centering Devices for Any Application



### BJ-070 SKID STYLE

This versatile system utilizes interchangeable plastic runners which can be easily replaced. The skid works well in elbows, can effectively clean up to 12" diameter pipes and works with all **BJV** models. *Tool not included.*



### BJ-286 FOR STRAIGHT PIPES

Designed for straight pipe runs only, these six-wheel centralizers feature an adjustable, scissor-style aluminum frame and tough plastic wheels. They are compatible with the entire **BJV** line of rotary tools. *Tool not included.*



### BJ-288 FOR PIPES WITH BENDS

With adjustable, telescopic steel legs and tough plastic wheels, these eight-wheel centralizers are designed to travel through elbows easily and can be used with all **BJV** models. *Tool not included.*

#### BJV CENTRALIZERS

Up to 40k psi 700-2800 bar  
Up to 200 gpm 750 l/min  
6-60 in. ID Pipes 150-1500 mm

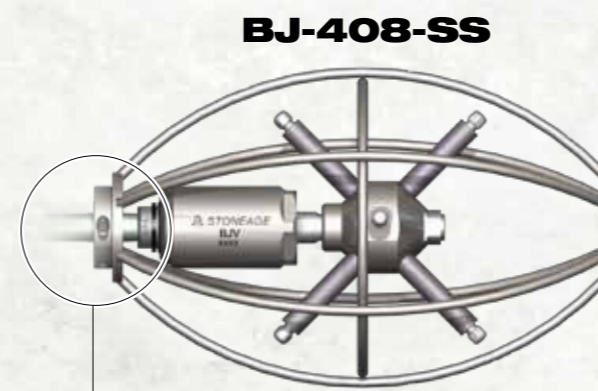
MODEL	SKID SIZES
<b>BJ-070-6</b>	6 in. 150 mm
<b>BJ-070-8</b>	8 in. 200 mm
<b>BJ-070-10</b>	10 in. 250 mm
<b>BJ-070-12</b>	12 in. 300 mm

MODEL	RANGE	WEIGHT
<b>BJ-286-S</b>	9-18 in. 230-460 mm	20 lb 9 kg
<b>BJ-286-M</b>	13-40 in. 330-1000 mm	32 lb 15 kg
<b>BJ-286-L</b>	16-60 in. 410-1500 mm	40 lb 18 kg

MODEL	RANGE	WEIGHT
<b>BJ-288-S</b>	16-21 in. 410-530 mm	12 lb 5.5 kg
<b>BJ-288-M</b>	22-29 in. 560-740 mm	13 lb 5.9 kg
<b>BJ-288-L</b>	30-37 in. 770-940 mm	16 lb 7.3 kg

## BJV CAGE STYLE CENTRALIZERS

We recommend using these stainless steel centralizers when negotiating complex piping arrangements and removing built-up debris while maintaining jet rotation.



### BJ-408-SS

DIFFERENT COLLAR SIZES ARE AVAILABLE FOR ALL MODELS



### BJ 100-SS BJ 100-SS-MP

DIFFERENT INLET PLATES ARE AVAILABLE FOR ALL MODELS

#### BJ CENTRALIZERS SPECIFICATIONS

MODEL	MAXIMUM PRESSURE	LENGTH	DIAMETER	MAXIMUM NIPPLE EXTENSION
<b>BJ-100-SS</b>	15k psi 1000 bar	24 in. 610 mm	20 in. 510 mm	6 in. 150 mm
<b>BJ 100-SS-MP*</b>	40k psi 2800 bar	24 in. 610 mm	20 in. 510 mm	6 in. 150 mm
<b>BJ 408-SS</b>	22k psi 1500 bar	20 in. 510 mm	12 in. 300 mm	3 in. 70 mm

\* Available in your choice of either 22k psi or 40k psi maximum ratings.



**BJ 305** is easy to set up.



**BJ 310** for pipe sizes from 4-8".



**VE-400** for flex lancing operations.



Collet adjusts easily for different hose sizes.



**PROTEX** for vertical hand-held flex lancing.

**BACKOUT PREVENTERS**  
Pipe Cleaning Safety

Our Backout Preventers increase operator safety by preventing the tool from backing out of the pipe. Several options are available including fixtures for small diameter pipes, pipes with various flange bolt circle diameters, and adapters for pipes with no-flange entry.

**BJ 305** for 2-6" pipes.  
User is responsible for securing to pipe.



**BJ 310** for 4-8" pipes.  
Includes clamp for securing to pipe.



**BJ 320** For 5-17" pipes with flanges.



**BJ 325** Extension for 8-36" pipes.  
**BJ 340** No-Flange Kit. Only for use with the **BJ 320**.

LINE MOLE BACKOUT PREVENTER SPECIFICATIONS					
MODEL	BJ 305	BJ 310	BJ 320	BJ 325	BJ 340
For Pipe Sizes	2-6 in. 51-150 mm	4-8 in. 100-200 mm	5-17 in. 130-430 mm	15-36 in. 380-910 mm	15-36 in. 380-910 mm
For Hose Sizes (ID)	0.12-0.32 in. 3-8 mm	0.32-0.75 in. 8-19 mm	0.32-0.75 in. 8-19 mm	0.32-0.75 in. 8-19 mm	0.32-0.75 in. 8-19 mm
Maximum Hose (OD)	0.7 in. 18 mm	1.5 in. 38 mm	1.5 in. 38 mm	1.5 in. 38 mm	1.5 in. 38 mm
Accepts These StoneAge Tools	Warthogs WV, WU, WT Badgers BA-P4 & P6 All Raptors & Gophers Banshees BN24, 27, 33	Warthogs WU, WS, WH, WG Badgers BA-P6, P8, M9 All Raptors & Gophers All BJVs	Warthogs WH, WG, WGP Badgers BA-P6, P8, M9 All Raptors & Gophers All BJVs	Warthogs WG, WGP Badgers BA-P6, P8 & M9 All Raptors & Gophers All BJVs	Warthogs WH, WG, WGP Badgers BA-P6, P8 & M9 All Raptors & Gophers All BJVs

**VE-400 SAFETY STOP**  
Tube Cleaning Safety

The **VE-400** is designed to protect the operator from a flex-lance exiting the tube sheet during cleaning operations. It adapts to both horizontal and vertical applications, and the wide range of adjustment easily accommodates different sizes of tube sheets. Pictured above, the one-piece collet system allows quick adjustment for a range of hose sizes. Simply open the compartment and rotate the collet to the proper hose size and re-insert. The **VE-400** is constructed from galvanized steel and anodized aluminum with a Lexan splash guard.

- For Use with **BANSHEE** Tools
- One Piece Collet System
- Horizontal or Vertical Applications

**VE-400**



**VE-400**  
Weight Complete  
20 lb 9.0 kg

**BANSHEE PROTEX**  
Vertical Splashguard

The **BANSHEE PROTEX** is a lightweight, durable splashguard built to keep operators safe from the potential hazards of manual flex-lancing.

The **PROTEX** is designed specifically for use with **BANSHEE** tube cleaning tools and the unique anti-withdrawal collet easily adjusts to fit many hose sizes. A removable insert easily centers smaller tools and we offer an optional three foot long tube for use with a stinger.

- For Use with **BANSHEE** Tools
- Adjustable System
- Prevents Tool Backout

**BPT-100**



**BPT-100**  
Weight Complete: 12 lb 5.5 kg  
Hose Range: 0.125-1.3" OD 3-33 mm



STONEAGE offers eight BANSHEE models.



BANSHEE rotary tools are the industry leader in tube cleaning.

BANSHEE  
Rotary Tube Cleaning

Our **BANSHEE** line of tube cleaning tools use high pressure water as a liquid bearing — replacing ball bearings, seals or lubricant used in conventional rotary tools. This patented design features a straight flow path that delivers the highest quality jets for maximum cleaning power.

**BANSHEES** clean effectively at a wide range of pressures from 2-40k psi. Each tool can be easily configured to suit any application by choosing from a variety of replaceable heads and inlet options. 40k psi **BANSHEE** specifications shown on pages 26-27.

<b>BANSHEE</b>	Up to 40k psi	2800 bar
	4.5-49 gpm	17-190 l/min
	0.5-2.4 in. ID Tubes	12-60 mm

**IMPORTANT!**

All **BANSHEE** tube cleaning tools require the use of a correctly sized open-end wrench to fit the flats provided on the inlet nut when attaching the tool to the lance.

**DO NOT USE A PIPE WRENCH OR PLIERS WITH TEETH**

This can crush and crack the hardened steel body, leading to tool breakage during operation. It is also recommended to flush the tool with WD-40® for storage.

BANSHEE SPECIFICATIONS 22K PSI (1500 BAR)

MODEL	BN9.5	BN13	BN18	BN24	BN33
Tube ID Range	0.47-0.63 in. 12-16 mm	0.60-1.0 in. 15-25 mm	0.87-1.3 in. 22-33 mm	1.1-2 in. 28-51 mm	1.5-2.4 in. 38-60 mm
Maximum Pressure*	22k psi 1500 bar	22k psi 1500 bar	22k psi 1500 bar	22k psi 1500 bar	22k psi 1500 bar
Maximum Pressure (BSPP Inlet)	N/A	18k psi 1250 bar	20k psi 1400 bar	22k psi 1500 bar	15k psi 1000 bar
Flow Coefficient	0.20 Cv	0.27 Cv	0.66 Cv	0.90 Cv	2.3 Cv
Flow Range	4.5-8 gpm 17-30 l/min	7-10 gpm 27-38 l/min	8-14 gpm 30-53 l/min	12-25 gpm 45-95 l/min	12-49 gpm 45-190 l/min
Inlet Connections	M7, 1/16 NPT 1/4 LH or 1/4 RH	1/8 NPT, 1/8 BSPP 1/4 LH, 1/4 RH, 3/8 LH or 3/8 RH	1/4 NPT, 1/4 BSPP 9/16 LH or 9/16 RH	3/8 NPT, 3/8 BSPP 9/16 LH or 9/16 RH	1/2 NPT, 1/2 BSPP or 9/16 MP
Diameter	0.37 in. 9.5 mm	0.50 in. 13 mm	0.69 in. 18 mm	0.93 in. 24 mm	1.3 in. 33 mm
Length	2.6 in. 65 mm	2.9 in. 74 mm	3.8 in. 97 mm	5.1 in. 130 mm	6.9 in. 180 mm

\* All NPT inlet connections have a maximum pressure rating of 15k psi 1000 bar.

8 MODELS AVAILABLE UP TO 40K PSI (2800 BAR)

All BANSHEE Tools on this Page are Actual Size

22 kpsi 1500 bar	STONEAGE BANSHEE 9.5	<b>BN9.5</b> 0.47-0.63 in. ID Tubes 12-16 mm		
22 kpsi 1500 bar	STONEAGE BANSHEE 13	<b>BN13</b> 0.60-1.0 in. ID Tubes 15-25 mm		
40 kpsi 2800 bar	STONEAGE BANSHEE 13 40K	<b>BN13-40K</b> 0.60-1.0 in. ID Tubes 15-25 mm		
15 kpsi 1035 bar	STONEAGE BANSHEE 18	<b>BN18</b> 0.87-1.3 in. ID Tubes 22-33 mm		
40 kpsi 2800 bar	STONEAGE BANSHEE 18 40K	<b>BN18-40K</b> 0.87-1.3 in. ID Tubes 22-33 mm		
L9	STONEAGE BANSHEE 24	<b>BN24</b> 1.1-1.8 in. ID Tubes 28-46 mm		
40 kpsi 2800 bar	STONEAGE BANSHEE 27 40K	<b>BN27-40K</b> 1.25-2.0 in. ID Tubes 32-51 mm		
15 kpsi 1035 bar	STONEAGE BANSHEE 33 US Pat. 7635096	<b>BN33</b> 1.5-2.4 in. ID Tubes 38-60 mm		

BANSHEE  
HEAD OPTIONS  
UP TO 22K PSI 1500 BAR

BN9.5 HEAD SELECTION				
PRESSURE	PART NUMBER	STYLE	FLOW RANGE	
10-15K PSI 700-1000 BAR	BN9.5 042-A	Polisher	4.5-5.5 gpm	17-21 l/min
	BN9.5 043-A	Unplugger	5-6 gpm	19-23 l/min
15-22K PSI 1000-1500 BAR	BN9.5 042-B	Polisher	5-6 gpm	19-23 l/min
	BN9.5 043-B	Unplugger	5.5-6.5 gpm	21-25 l/min
	BN9.5 044-1	Universal	7.0-8.0 gpm	27-30 l/min

BN13 HEAD SELECTION				
PRESSURE	PART NUMBER	STYLE	FLOW RANGE	
10-15K PSI 700-1000 BAR	BN13 042-A	Polisher	7-9 gpm	27-34 l/min
	BN13 043-A	Unplugger	7-9 gpm	27-34 l/min
	BN13 044-A	Universal	8-10 gpm	30-38 l/min
15-22K PSI 1000-1500 BAR	BN13 042-C	Polisher	7-9 gpm	27-34 l/min
	BN13 043-C	Unplugger	7-9 gpm	27-34 l/min
	BN13 044-C	Universal	8-10 gpm	30-38 l/min

BN18 HEAD SELECTION				
PRESSURE	PART NUMBER	STYLE	FLOW RANGE	
10-15K PSI 700-1000 BAR	BN18 042-A	Polisher	11-14 gpm	42-53 l/min
	BN18 042-B	Polisher	8-10 gpm	30-38 l/min
	BN18 043-A	Unplugger	11-14 gpm	42-53 l/min
	BN18 043-B	Unplugger	8-10 gpm	30-38 l/min
	BN18 044-A	Universal	11-14 gpm	42-53 l/min
	BN18 044-B	Universal	8-10 gpm	30-38 l/min
15-22K PSI 1000-1500 BAR	BN18 042-C	Polisher	11-14 gpm	42-53 l/min
	BN18 042-D	Polisher	8-10 gpm	30-38 l/min
	BN18 043-C	Unplugger	11-14 gpm	42-53 l/min
	BN18 043-D	Unplugger	8-10 gpm	30-38 l/min
	BN18 044-C	Universal	11-14 gpm	42-53 l/min

**POLISHERS**  
Designed to remove thin hard scale. Ideal for IRIS inspections.

**4 JETS**  
2 @ 85°  
2 @ 105°

**UNPLUGGERS**  
Designed to clear plugged tubes.

**5 JETS**  
1 @ 15°, 30°, 45°  
2 @ 135°

**UNIVERSALS**  
Simultaneously unplugs and polishes.

**7 JETS**  
1 jet @ 20°, 30°, 60°  
2 jets @ 90°, 140°

BN24 HEAD SELECTION				
PRESSURE	PART NUMBER	STYLE	FLOW RANGE	
10-15K PSI 700-1000 BAR	BN24 042-A	Polisher	20-25 gpm	76-95 l/min
	BN24 042-B	Polisher	15-19 gpm	57-72 l/min
	BN24 042-C	Polisher	12-14 gpm	45-53 l/min
	BN24 044-A	Universal	20-25 gpm	76-95 l/min
	BN24 044-B	Universal	15-19 gpm	57-72 l/min
	BN24 044-C	Universal	12-14 gpm	45-53 l/min
15-22K PSI 1000-1500 BAR	BN24 042-D	Polisher	18-21 gpm	68-80 l/min
	BN24 042-E	Polisher	15-17 gpm	57-64 l/min
	BN24 042-F	Polisher	12-14 gpm	45-53 l/min
	BN24 044-D	Universal	18-21 gpm	68-80 l/min
	BN24 044-E	Universal	15-17 gpm	57-64 l/min
	BN24 044-F	Universal	12-14 gpm	45-53 l/min

BN33 HEAD SELECTION				
PRESSURE	PART NUMBER	STYLE	FLOW RANGE	
10-15K PSI 700-1000 BAR	BN33 044-A	Universal	40-49 gpm	150-190 l/min
	BN33 044-B	Universal	33-39 gpm	130-150 l/min
	BN33 044-C	Universal	26-32 gpm	98-120 l/min
	BN33 044-D	Universal	20-25 gpm	76-95 l/min
	BN33 044-E	Universal	15-19 gpm	57-72 l/min
	BN33 044-F	Universal	22-26 gpm	83-98 l/min
15-22K PSI 1000-1500 BAR	BN33 044-G	Universal	18-21 gpm	68-80 l/min
	BN33 044-H	Universal	15-17 gpm	57-64 l/min
	BN33 044-I	Universal	12-14 gpm	45-53 l/min



The **BNS13** is protected by a shroud.



Designed specifically for powered flex-lancing.



Shown here with Peinemann® equipment.

SHROUDED  
BANSHEE  
Maximum Unplugging Power

The **SHROUDED BANSHEE** is ideal when using a powered flex-lancing machine to clean plugged tubes. The shroud keeps the head protected and rotating at all times. This superior design directs the power from all five jets forward for maximum unplugging. The shroud protects the head and allows the tool to keep rotating when pressed against a plug. This tool is available with a variety of inlet options, including NPT, BSPP, and LH & RH medium pressure threads.

**DUE TO THE NET BACKWARD THRUST CREATED BY THIS JET PATTERN, WE DO NOT RECOMMEND THE USE OF THIS TOOL FOR HAND FLEX-LANCING.**

BNS13 SPECIFICATIONS		
MODEL	BNS13	
Tube ID Range	0.60-1.3 in.	15-33 mm
Maximum Pressure	22k psi	1500 bar
Flow Range	6.5-8.5 gpm	25-32 l/min
Flow Coefficient	0.27 Cv	
Inlet Connections	1/8 NPT, 1/8 BSPP 1/4 LH, 1/4 RH, 3/8 LH or 3/8 RH	
Diameter	0.5 in.	13 mm
Length	2.9 in.	74 mm

<b>BNS13</b>	Up to 22k psi	1500 bar
	6.5-8.5 gpm	25-32 l/min
	0.60-1.3 in. ID	15-33 mm

- BENEFITS INCLUDE:**
- Excellent unplugging power
  - Designed to protect the rotating head
  - Several inlet options

IMPORTANT! //////////////

All **BANSHEE** tube cleaning tools require the use of a correctly sized open-end wrench to fit the flats provided on the inlet nut when attaching the tool to the lance.

**DO NOT USE A PIPE WRENCH  
OR PLIERS WITH TEETH**

This can crush and crack the hardened steel body, leading to tool breakage during operation. It is also recommended to flush the tool with WD-40® for storage.



BN13-40K with the new SPIR STAR® 3/6 Blast-Pro flex lance.

During this test, the **BANSHEE** cut through this polymer in seconds.

40K BANSHEE

The Industry's Only 40k psi 2800 bar Rotary Tube Cleaning Tools

We offer three 40k psi **BANSHEE** models. Two replaceable head designs provide either unplugging or polishing of tubes and feature our **OS2** sapphire nozzles.

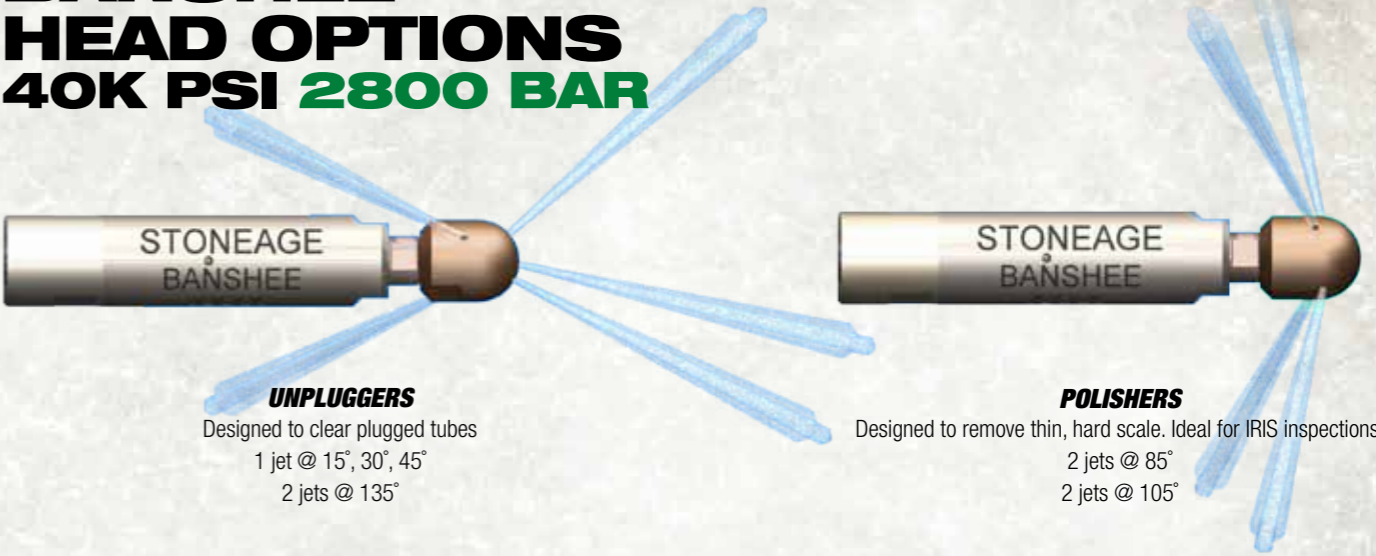
**NOTE:** Universal heads are not available for 40k psi models.

40K BANSHEE	Up to 40k psi	2800 bar
	4.5-8.5 gpm	17-32 l/min
	0.60-2.0 in. ID Tubes	15-51 mm

BANSHEE SPECIFICATIONS 40K PSI (2800 BAR)			
MODEL	BN13	BN18	BN27
Tube ID Range*	0.60-1.0 in. 15-25 mm	0.87-1.3 in. 22-33 mm	1.25-2.0 32-51 mm
Maximum Pressure	40k psi 2800 bar	40k psi 2800 bar	40k psi 2800 bar
Flow Coefficient	0.20 Cv	0.25 Cv	0.30 Cv
Flow Range	4.5-6 gpm 17-23 l/min	5-8.5 gpm 19-32 l/min	5-8.5 gpm 19-32 l/min
Inlet Connections	1/4-28 LH or 3/8-24 LH	3/8-24 LH or M14 LH	9/16-18 LH or M14 LH
Diameter	0.52 in. 13 mm	0.69 in. 18 mm	1.06 in. 27 mm
Length	3.5 in. 89 mm	4.7 in. 120 mm	5.5 in. 140 mm

\* When cleaning 5/8" diameter tubes at 40k psi please contact our Technical Support team for hose specifications.

BANSHEE HEAD OPTIONS 40K PSI 2800 BAR



Safety First — Powerful Tools Demand Respect!

Hand lancing with flexible high pressure hose is extremely dangerous. Precautions must be taken to safeguard operators from the dangers of high pressure water. **STONEAGE** and other manufacturers offer a variety of safety devices to protect operators. Please refer to pages 21 of our Safety Section for more information.

**STONEAGE** is a proud member and supporter of the Waterjet Technology Association. We encourage you to visit their website at [WWW.WJTA.ORG](http://www.wjta.org) and review their **Recommended Practices for Safe Waterblasting**.

BN18 HEAD SELECTION			
PRESSURE	PART NUMBER	STYLE	FLOW RANGE
30-40K PSI 2100-2800 BAR	BN18 442-A	Polisher	8-8.5 gpm 30-32 l/min
	BN18 442-B	Polisher	7-7.5 gpm 27-28 l/min
	BN18 442-C	Polisher	6-6.5 gpm 23-25 l/min
	BN18 442-D	Polisher	5-5.5 gpm 19-21 l/min
	BN18 443-A	Unplugger	8-8.5 gpm 30-32 l/min
	BN18 443-B	Unplugger	7-7.5 gpm 27-28 l/min
	BN18 443-C	Unplugger	6-6.5 gpm 23-25 l/min
	BN18 443-D	Unplugger	5-5.5 gpm 19-21 l/min

BN13 HEAD SELECTION			
PRESSURE	PART NUMBER	STYLE	FLOW RANGE
30-40K PSI 2100-2800 BAR	BN13 442-C	Polisher	5.5-6 gpm 21-23 l/min
	BN13 442-D	Polisher	4.5-5 gpm 17-19 l/min
	BN13 443-C	Unplugger	5.5-6 gpm 21-23 l/min
	BN13 443-D	Unplugger	4.5-5 gpm 17-19 l/min

BN27 HEAD SELECTION			
PRESSURE	PART NUMBER	STYLE	FLOW RANGE
30-40K PSI 2100-2800 BAR	BN27 442-A	Polisher	8-8.5 gpm 30-32 l/min
	BN27 442-B	Polisher	7-7.5 gpm 27-28 l/min
	BN27 442-C	Polisher	6-6.5 gpm 23-25 l/min
	BN27 442-D	Polisher	5-5.5 gpm 19-21 l/min
	BN27 443-A	Unplugger	8-8.5 gpm 30-32 l/min
	BN27 443-B	Unplugger	7-7.5 gpm 27-28 l/min
	BN27 443-C	Unplugger	6-6.5 gpm 23-25 l/min
	BN27 443-D	Unplugger	5-5.5 gpm 19-21 l/min



Mechanized operation improves results and safety.



## MECHANIZED SYSTEM

# LANCING MACHINES

Mechanized Tube Lancing Systems

## LANCING MACHINES

**STONEAGE LANCING MACHINES** are the industry standard for both horizontal and vertical rigid lance cleaning of heat exchangers. These systems provide more forward jet power than flex-lancing and increase safety by removing the operator from the splash-back area. Follow our four-step guide to choose the ideal setup for your tube bundles.

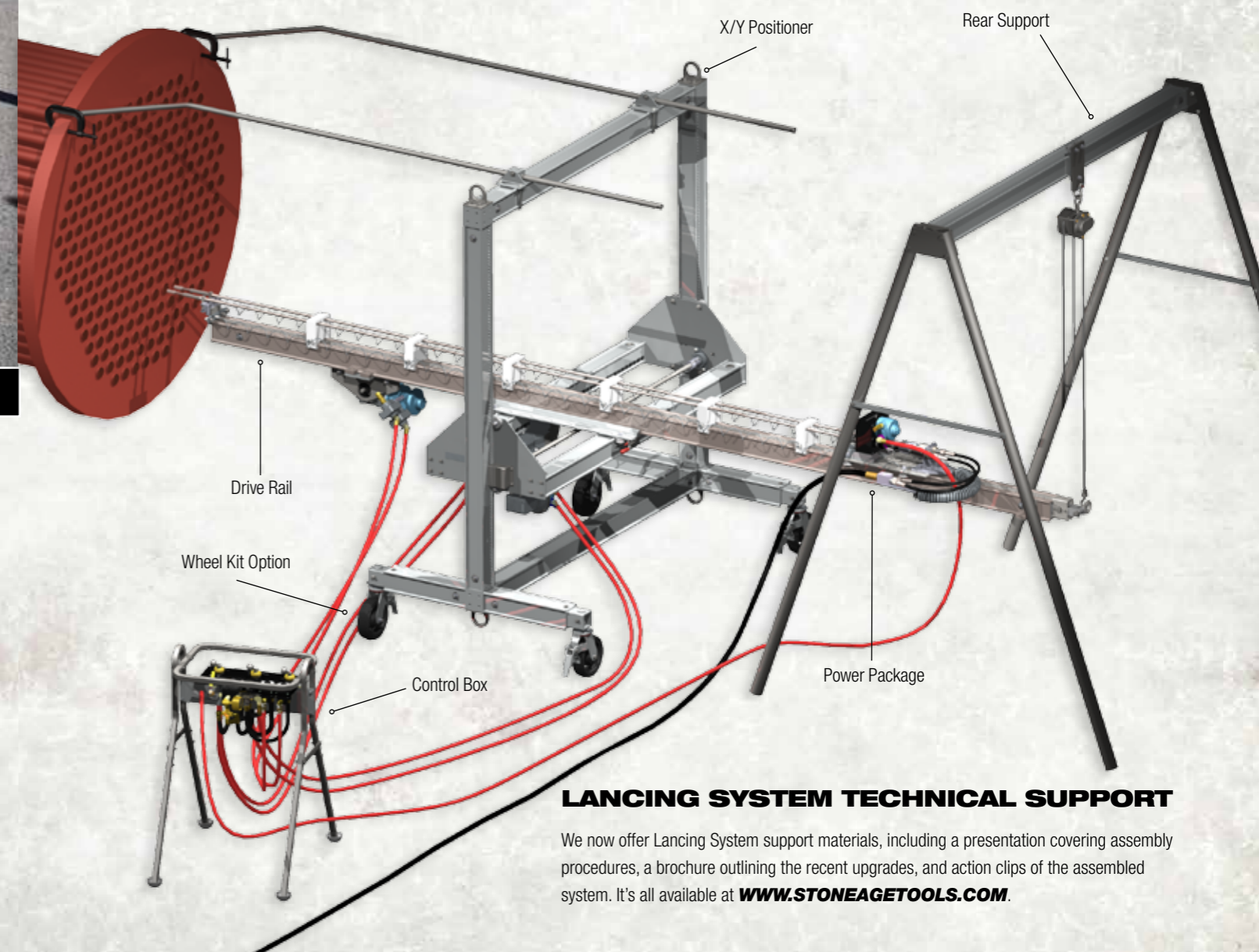
**NOTE:** We recommend ordering the dual or triple rotary package. Each may be modified to a single rotating lance, giving the system maximum versatility for different applications.

Up to 40k psi	2800 bar
Maximum Rail Length: 60 ft	18.3 m
Single, Dual or Triple Lancing Options	

## THE SAFEST, MOST PRODUCTIVE TUBE CLEANING EQUIPMENT AVAILABLE

### STEP BY STEP PROCEDURE FOR BUILDING YOUR STONEAGE LANCING SYSTEM

1. Select a drive rail and extensions long enough for a sufficient cleaning stroke.....Page 30
2. Choose a power package suited to your application.....Page 31
3. Specify the positioner, rear support and wheel kit options .....Page 32
4. Select the proper control box for either air or hydraulic power .....Page 32

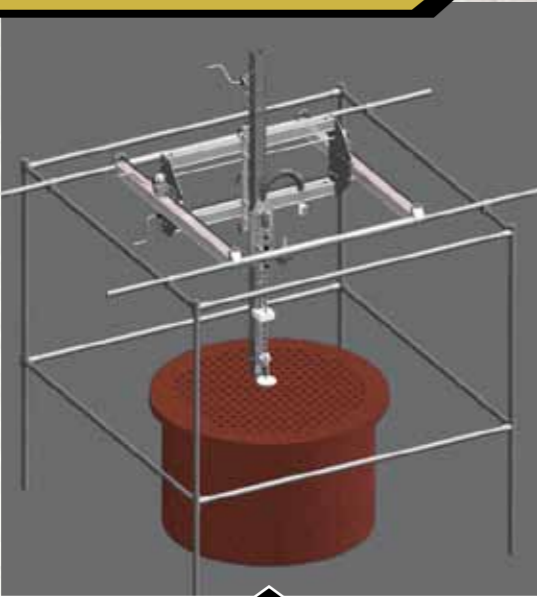


### LANCING SYSTEM TECHNICAL SUPPORT

We now offer Lancing System support materials, including a presentation covering assembly procedures, a brochure outlining the recent upgrades, and action clips of the assembled system. It's all available at [WWW.STONEAGETOOLS.COM](http://WWW.STONEAGETOOLS.COM).



Modular system adapts to any size bundle.



Vertical configurations also available.



Operator is away from the splash-back area.

1STEP ONE

Selecting Rails and Extensions for Sufficient Cleaning Stroke

Every Lancing Rail System from **STONEAGE** includes a basic 15 ft rail (**BRLM 500-15**). Additional stroke is available by specifying a Rail Extension Kit (**BRLM 580**). Extensions are available in 5 ft, 10 ft and 15 ft sections and can be configured up to 60 ft maximum stroke.



ASSEMBLY INSTRUCTIONS

Microsoft® Powerpoint™ Assistance

In addition to our Operator's Manuals, we have instructional videos and presentations on the web and DVD to help guide you through the assembly, maintenance and repair of our tools.

Each step explains proper assembly and function. Additional videos are available explaining maintenance and overhaul procedures for specific tools including high pressure seal replacement. Ask our Technical Support team for more details about our support materials.

RAIL SPECIFICATIONS

BASIC RAIL	WEIGHT	LENGTH	STROKE
BRLM 500-15*	122 lb 55 kg	15 ft 4.6 m	12 ft 3.7 m

\*Stroke is reduced by 16 in. (410 mm) when used with triple rotary power packages.

EXTENSION SPECIFICATIONS

EXTENSION KITS	WEIGHT	LENGTH	STROKE
BRLM 580-05*	26 lb 12 kg	5 ft 0.5 m	4.8 ft 1.5 m
BRLM 580-10*	45 lb 20 kg	10 ft 3.1 m	9.5 ft 2.9 m
BRLM 580-15*	65 lb 29 kg	15 ft 4.6 m	14 ft 4.3 m

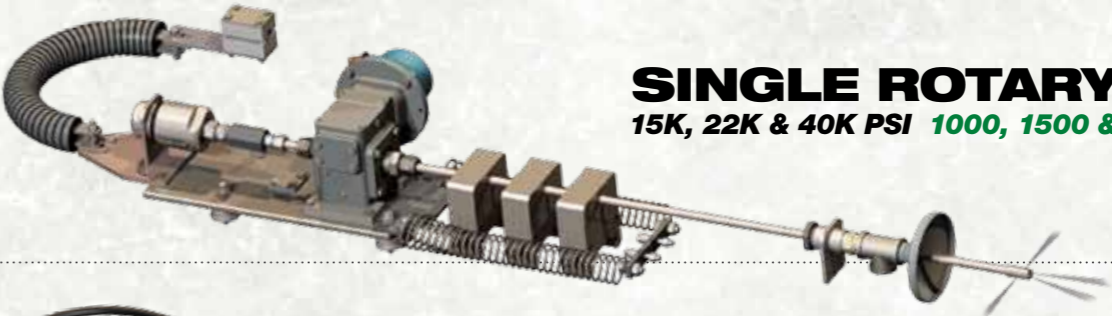
\*Includes Rail, Splice and Chain. Guide Blocks are sold separately.

2STEP TWO

Choosing a Power Package and Guide Blocks

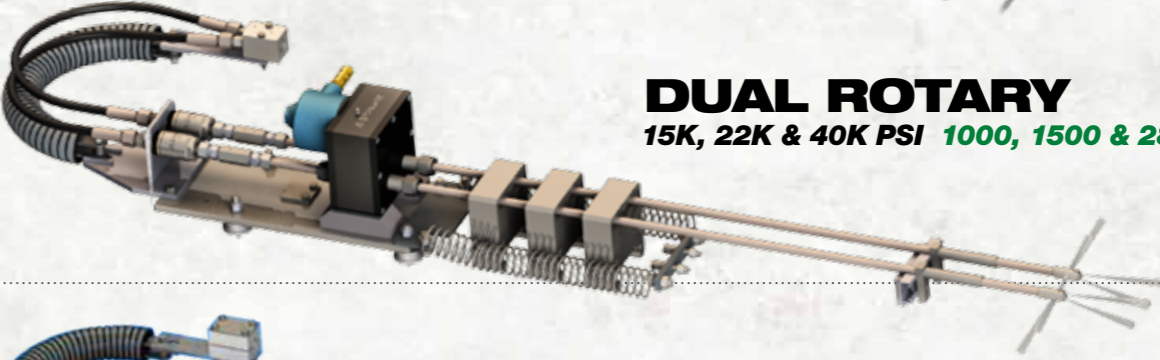
Select Power Packages from the chart below based on maximum operating pressure, desired number of lances and optimal rotation speed.

**NOTE:** We recommend ordering either the dual or triple rotary package. Each may be modified to operate with a single rotating lance, giving the system maximum versatility for different applications.



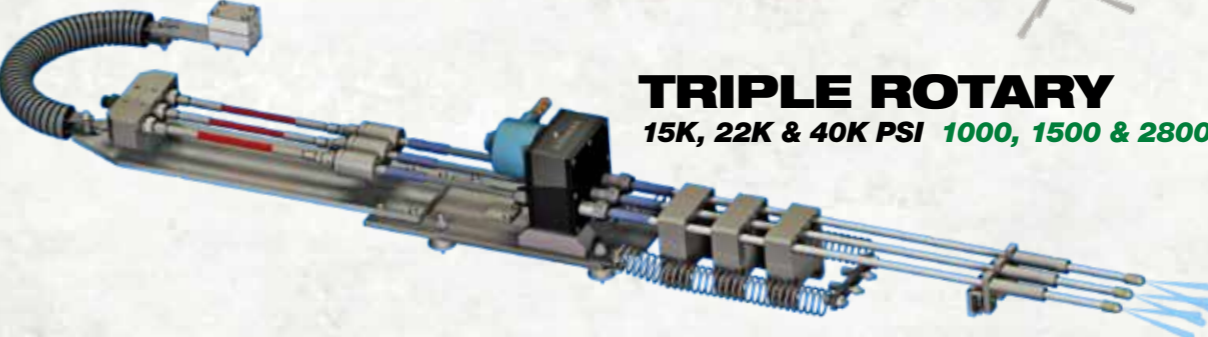
SINGLE ROTARY

15K, 22K & 40K PSI 1000, 1500 & 2800 BAR



DUAL ROTARY

15K, 22K & 40K PSI 1000, 1500 & 2800 BAR



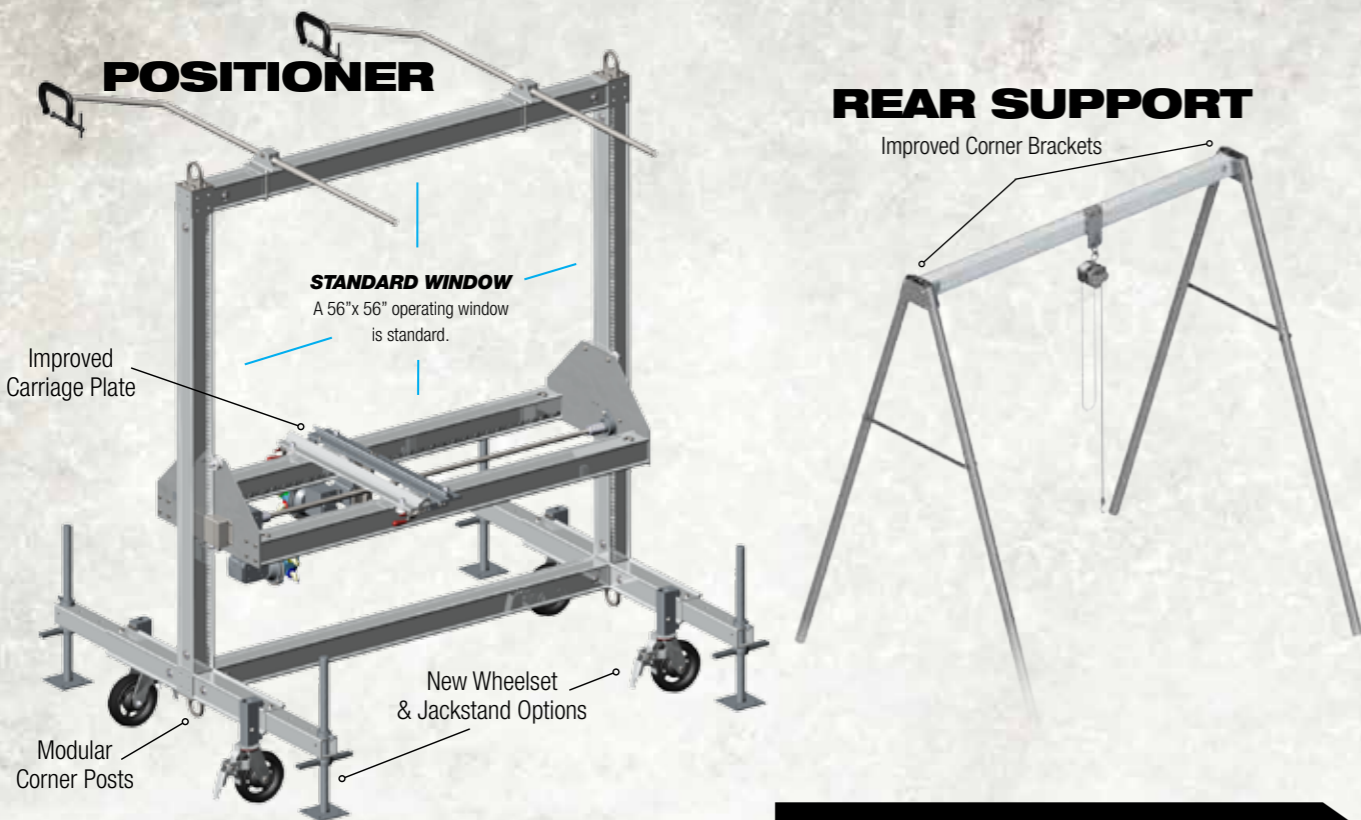
TRIPLE ROTARY

15K, 22K & 40K PSI 1000, 1500 & 2800 BAR

POWER PACKAGE SPECIFICATIONS

MODEL	PART NUMBER	MAXIMUM PRESSURE	INLET CONNECTION	LANCE CONNECTIONS	ROTATION SPEED*
SINGLE ROTARY	BRLM 310	15k psi 1000 bar	1/2 NPT	1/8 or 1/4 NPT	120-600 rpm
	BRLM 320	22k psi 1500 bar	3/4 MP	3/8 or 9/16 MP	120-600 rpm
	BRLM 330	40k psi 2800 bar	9/16 HP	3/8 or 9/16 HP	120-600 rpm
DUAL ROTARY	BRLM 341	15k psi 1000 bar	3/4 NPT	1/8 or 1/4 NPT	105-525 rpm
	BRLM 351	22k psi 1500 bar	3/4 MP	3/8 or 9/16 MP	105-525 rpm
	BRLM 361	40k psi 2800 bar	9/16 HP	3/8 or 9/16 HP	105-525 rpm
TRIPLE ROTARY	BRLM 343-CS	15k psi 1000 bar	3/4 NPT	1/8 or 1/4 NPT	125-620 rpm
	BRLM 353-CS	22k psi 1500 bar	3/4 MP	3/8 or 9/16 MP	125-620 rpm
	BRLM 363-CS	40k psi 2800 bar	9/16 HP	3/8 or 9/16 HP	125-620 rpm

\*Theoretical speeds shown — actual speeds will vary with operating conditions.



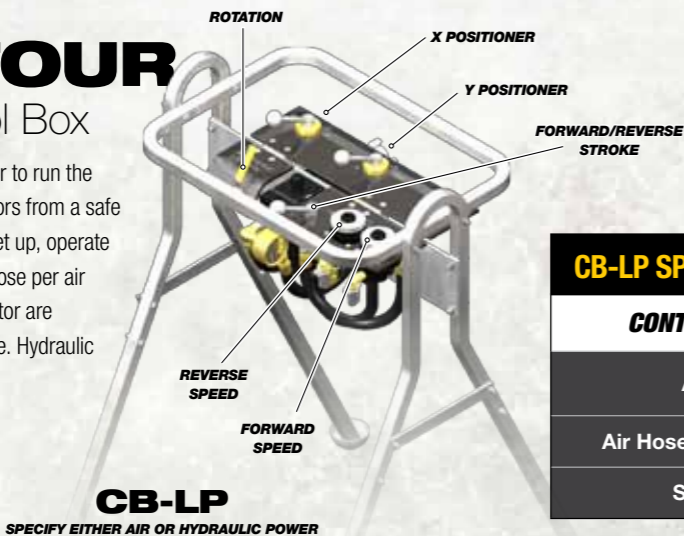
3 STEP THREE  
Selecting the Positioner and Options

We have made several upgrades to our Lancing System including a stronger carriage plate, universal corner brackets, a stiffer rear support and dual springs for the Power Packages. These upgrades are featured in a Powerpoint presentation and a brochure, available to our customers at no charge. Visit [WWW.STONEAGETOOLS.COM](http://WWW.STONEAGETOOLS.COM) for more information or contact our Technical Support team for details.

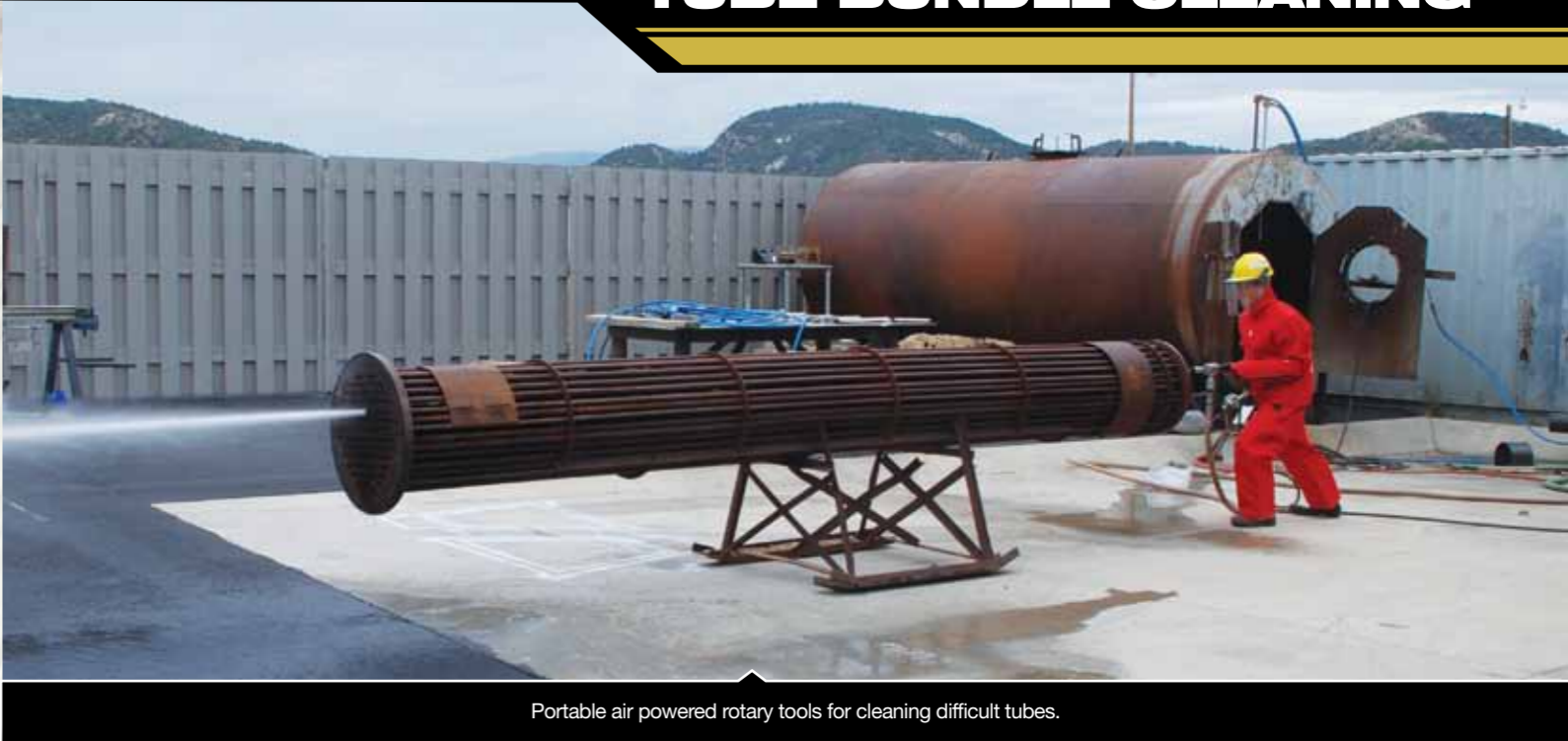
POSITIONER SPECIFICATIONS		
MODEL	DESCRIPTION	WEIGHT
LP 300-78	Lance Positioner	310 lb 140 kg
LP 320	Rear Support	96 lb 44 kg
WHEEL KIT OPTIONS		
LP 335-WE	Swivel Wheel	20 lb 9 kg
LP 335-JE	Jack Stand Kit	24 lb 11 kg
LP 335-JWE	Swivel Wheel & Jack Stand Kit	35 lb 16 kg

4 STEP FOUR  
Adding a Control Box

The Control Box allows an operator to run the Lancing System and position motors from a safe working distance. It is simple to set up, operate and move. We supply 25 feet of hose per air motor, and an air filter and lubricator are included for improved air motor life. Hydraulic option is also available.



CB-LP SPECIFICATIONS	
CONTROL	STANDARD
Air Supply	180 cfm @ 80 psi 300 m³/hr @ 5.5 bar
Air Hoses Included	7 x 25 ft
Ship Weight	60 lb 27 kg



Portable air powered rotary tools for cleaning difficult tubes.

PORTA-LANCES  
Portable Tube Cleaning

STONEAGE offers three portable high pressure lancing models. PORTA-LANCE tools are an economical alternative to operating mechanized lancing systems for cleaning heat exchanger bundles. Each PORTA-LANCE includes a heavy-duty air motor, high pressure swivel, and your choice of adapters.



PORTA-LANCE SPECIFICATIONS			
MODEL	SA-1900	SA-1909	SA-1940
Swivel	HI-P6P6	HI-MP9MP9	UHS-H9H9
Maximum Pressure	15k psi 1000 bar	20k psi 1400 bar	40k psi 2800 bar
Maximum Flow	20 gpm 76 l/min	20 gpm 76 l/min	10 gpm 38 l/min
Rotation Speed	400 rpm	400 rpm	400 rpm
Air Supply	30 cfm @ 80 psi 51 m³/hr @ 5.5 bar	30 cfm @ 80 psi 51 m³/hr @ 5.5 bar	30 cfm @ 80 psi 51 m³/hr @ 5.5 bar
Inlet Connection	3/8 NPT	9/16 MP	9/16 HP
Weight	12 lb 5.4 kg	13 lb 5.9 kg	13 lb 5.9 kg
Service Kit	HI 600	HI 600	UHS 600
Overhaul Kit	HI 610	HI 610	UHS 610

- BENEFITS INCLUDE:**
- Quick setup for small bundles
  - Compact for congested areas
  - More productive and thorough than non-rotary methods



**NEW FOR 2013**  
**TR 130**

THE LATEST TECHNOLOGY IN 3-D  
TANK AND VESSEL CLEANING

The **TR 130** is ideal for cleaning tanks, vessels, autoclaves, ducts and reactor interiors.

It's designed to be disassembled and assembled with common hand tools — easy maintenance means reduced downtime.

Improved design protects gearing and internal components from external water intrusion. If the arms hit an obstruction, the tool simply stops rotating so there are no broken gears to repair.

One tool handles pressures up to 22,000 psi and flows up to 80 gpm.

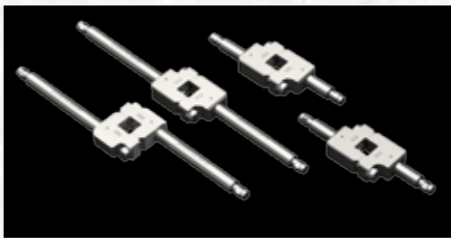
**TR 130 SPECIFICATIONS**

Maximum Pressure	22k psi 1500 bar
Maximum Flow	80 gpm 303 l/min
Power	30-1000 hp
Cycle Time	4-24 minutes
Rotation Speed	Adjustable
Inlet Connections	3/4 NPT, 1 NPT, 3/4 MP, 1 MP and M24
Entry Diameter	5.12 in. 130 mm
Outlet Ports	1/4 NPT*
Weight Complete	35 lbs 16 kg

\*We recommend the use of **OCV CARBIDE NOZZLES**.

**KEY FEATURES**

- All external parts are now machined and bolt together increasing overall strength and improving impact resistance from debris and dropping.
- Improved seal design protects gearing and internal components from water intrusion.
- New internal design reduces pressure loss allowing more power at the nozzles.
- Both high-pressure seals are accessible by removing only 4 cap screws.
- Synthetic 5W-20 oil is now used to lubricate the brake rather than conventional ATF — decreasing temperatures and improving brake life.
- Weep locations have been relocated to easily identify a worn seal.



**MAXIMUM FLEXIBILITY - ONE TOOL DOES IT ALL**

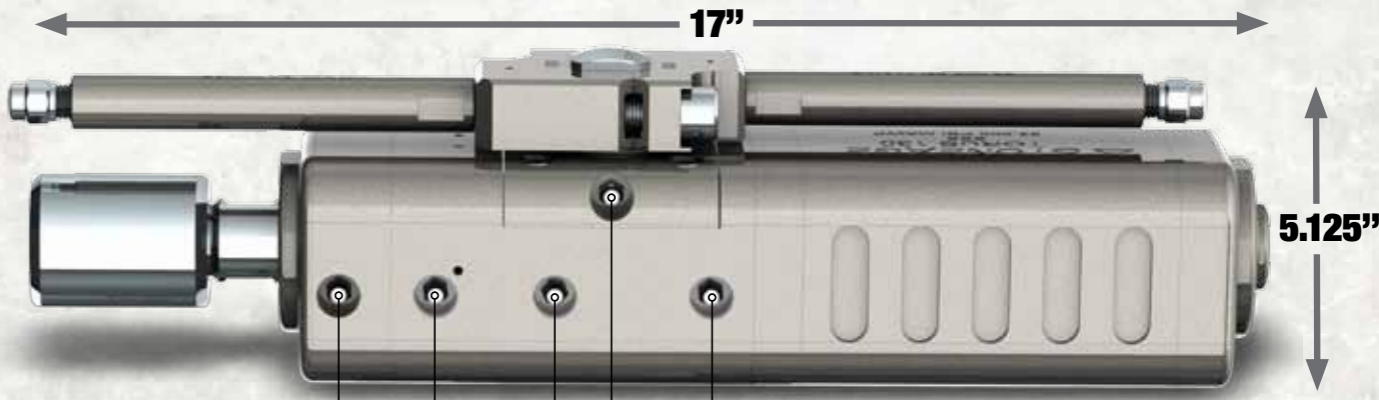
Four inlet couplings and four bolt-on manifolds allow for quick and easy adaptation to different pumps, working pressures and cleaning applications. Interchangeable stainless steel nipple extensions optimize jet quality and debris removal by placing the nozzles close to the target surface.

**INTELLI-TORQ GEARING**

If the arms hit an obstruction, the tool simply stops rotating so there are no broken gears to repair. The result is longer tool life and less maintenance.

**OCV CARBIDE NOZZLES**

The highest quality, longest lasting nozzles available ensure excellent jetting results and hours of trouble-free operation. Visit our website for the nozzle selection guide.



**ALL GREASE FITTINGS ARE DIRECTLY ACCESSIBLE**

EXTENSION NIPPLES FOR YOUR TORUS

We offer Extension Nipples, Centralizer Cages and Positioning Booms — all designed to improve cleaning results. Longer extension nipples are recommended for vessels over 12 feet in diameter or where maximum jet quality is desired.

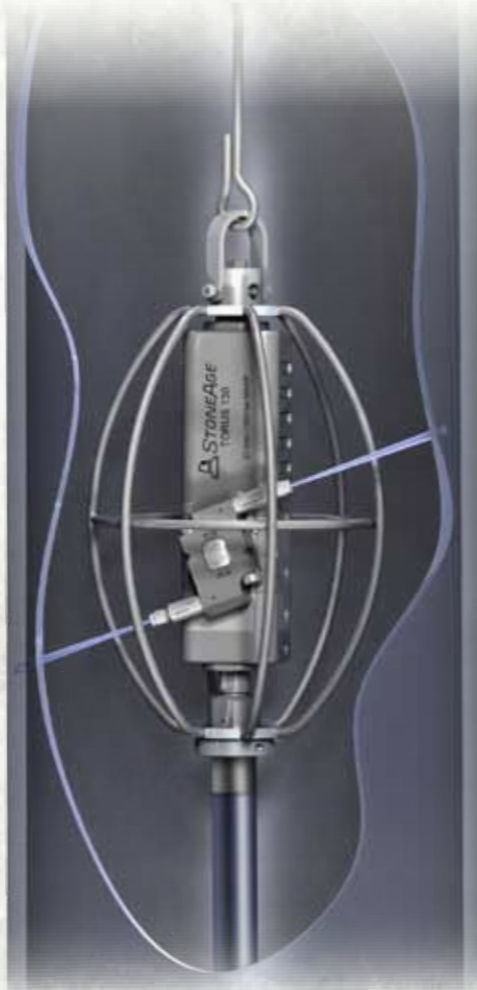
Included with each **TR 130** are 6" nipple arms. Longer nipples (up to 36") are also available. Please see page 55 for available options.



TR 408-SS CAGE CENTRALIZER

The **TR 408-SS** Cage Centralizer is ideal for applications where debris or internal structures may interfere with the cleaning operation. Nipples over 2" in length cannot be used with this centralizer.

11.75 in. 300 mm  
Maximum Diameter



TORUS POSITIONING BOOMS

SIMPLE BOOMS

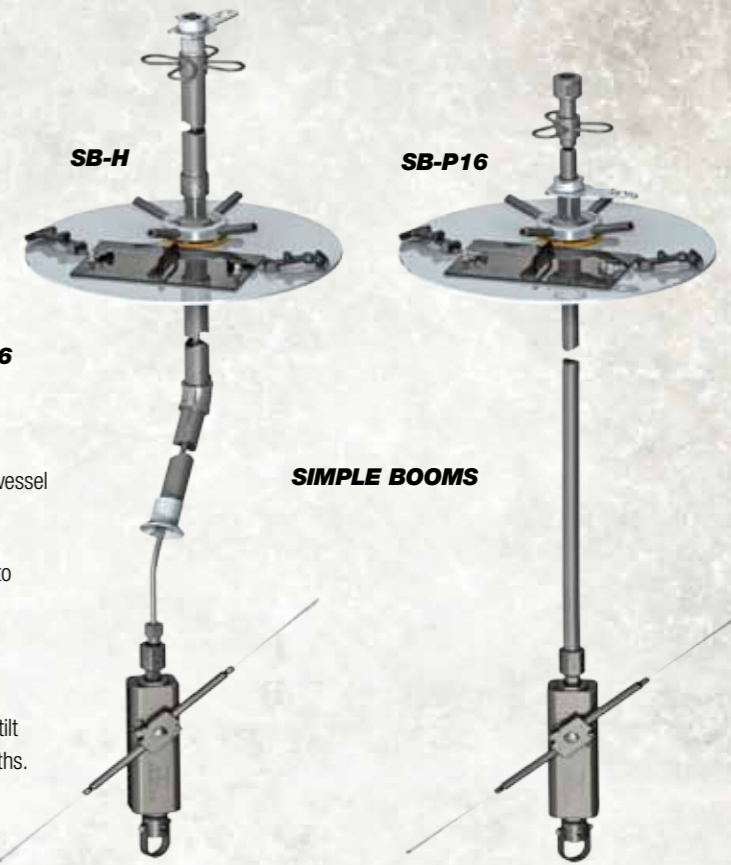
The **SIMPLE BOOM** is an economical, versatile positioner. The **SB-P16** features adjustable pipe and ball locks for depth control and a 75° tilt range.

The **SB-H** features adjustable hose and ball locks, 45° hose elbows, and an inspection hatch. Both models include a 24" aluminum mounting plate for the vessel opening and an inspection hatch for operator viewing. Hose not included.

The **SB-200 CONVERSION KIT** allows you to adapt the rigid model to accept flexible hose.

TELEBOOMS

The **TELEBOOM** features telescoping reach of up to 25 feet in addition to tilt and rotation adjustments. Easy to set up and is available in three different lengths.



Telescoping arm can reach up to 25 feet.

SIMPLE BOOM SPECIFICATIONS

MODEL	SB-H	SB-P16
Maximum Pressure	N/A	20k psi 1400 bar
Maximum Flow	50 gpm 190 l/min	150 gpm 570 l/min
Inlet Connections	1/2 NPT or 1-12 "M"	1 NPT
Maximum Hose ID	0.5 in. 13 mm	N/A
Maximum End Fitting	1.5 in. 38 mm	N/A
Weight	80 lb 36 kg	80 lb 36 kg

TELEBOOM SPECIFICATIONS

MODEL	TB-6-TR	TB-8-TR	NEW TB-10-TR
Maximum Pressure	22k psi 1500 bar	22k psi 1500 bar	22k psi 1500 bar
Maximum Flow	100 gpm 380 l/min	100 gpm 380 l/min	100 gpm 380 l/min
Inlet Connections	3/4 NPT, 3/4 MP or M24	3/4 NPT, 3/4 MP or M24	3/4 NPT, 3/4 MP or M24
Maximum Hose ID	3/4 in. 19 mm	3/4 in. 19 mm	3/4 in. 19 mm
Collapsed Length	6.5 ft 2.0 m	8.5 ft 2.6 m	10.5 ft 3.2 m
Maximum Reach	13 ft 4.0 m	19 ft 5.8 m	25 ft 7.6 m
Weight	120 lb 55 kg	130 lb 59 kg	140 lb 63 kg

NEW FOR 2013

# TR 200

With Flow Rates up to 220 Gallons per Minute the **TR 200** is the Most Powerful 3-D Tool Available

The **STONEAGE TORUS TR 200** is ideal for cleaning tanks, vessels, autoclaves, ducts and reactor interiors with thick, heavy deposits.

## MAXIMUM FLEXIBILITY

The **TORUS TR 200** quickly adapts to different pumps and working pressures up to 15k psi with four bolt-on manifolds and easily exchangeable inlet couplings.

## SUPERIOR JET QUALITY

Highest quality, long lasting nozzles ensure excellent jetting results and hours of trouble-free operation. Interchangeable stainless steel nipple extensions improve jet quality and optimize debris removal by placing the nozzles close to the target surface.

## LESS PRESSURE LOSS

The **TORUS TR 200** maintains more power at higher flows. StoneAge offers an optional Y-manifold proven to reduce pressure loss when running two separate hoses to the tool.

## EASY EXTERNAL SPEED CONTROL

Allows operators to quickly adjust the rotation speed for different applications: decrease rotation for removing difficult deposits, or increase rotation speed for faster removal of lighter material.

## QUICK MAINTENANCE = REDUCED DOWN TIME

The Torus line of 3-D tools can be disassembled and assembled with common hand tools.

## LONGER TOOL LIFE AND LESS MAINTENANCE

Improved seal design protects gearing and internal components from water intrusion. If the arms hit an obstruction, the tool simply stops rotating so there are no broken gears to repair.

## SMALL ENTRY DIAMETER

The Industry's most powerful tank cleaner can fit openings as small as 8 in. (200 mm) in diameter.

## TR 200 SPECIFICATIONS

Maximum Pressure	15k psi 1000 bar
Maximum Flow	220 gpm 833 l/min
Power	30-1900 hp
Cycle Time	10-88 minutes
Rotation Speed	Adjustable
Inlet Connections	1 NPT (up to 12k psi MAWP) 1 MP (up to 15k psi MAWP)
Entry Diameter	8 in. 200 mm
Outlet Ports	3/4 NPT Male
Weight Complete	100 lbs 45 kg



Heavy duty design.



Convenient control box.



Adjustable air powered motion.



## MECHANIZED SYSTEM

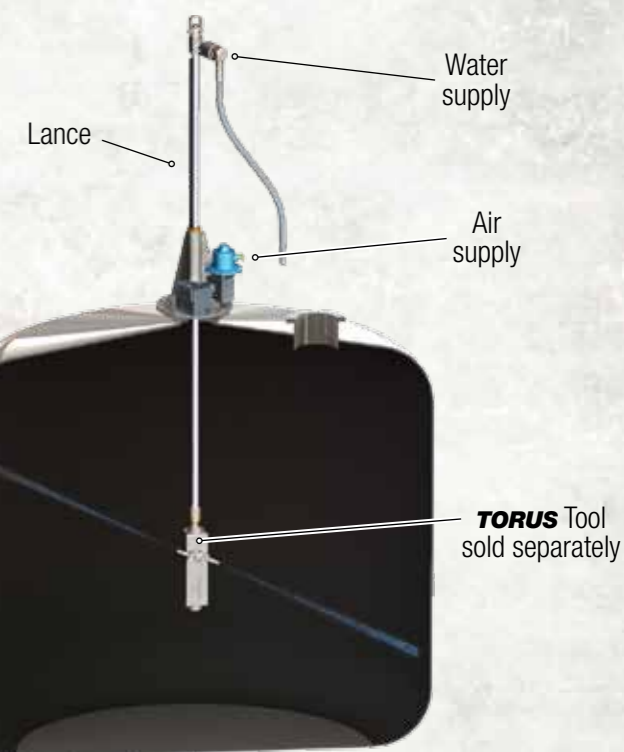
# AIR POWERED EXTENSION BOOM

Precision Tank Cleaning

**STONEAGE** now offers an air powered boom for positioning our **TORUS** 3-D Tank Cleaning Tool. This rugged yet simple boom allows the operator the ability to raise and lower the **TORUS** at different speed rates. The **EB-100** boom utilizes a durable rack and pinion drive to position the vertical lance. The lance can be stopped at any height and offers a maximum stroke length of 12 feet, and the mounting flange can be customized to fit your tank opening.

## Optional Control Box

We also offer a dual function Control Box which manages the air supply to the boom. The **CB-2S** controls the vertical position and linear speed of the lance. This Control Box can be modified to fit your specific application.



**CB-2S**  
CONTROL BOX



## EXTENSION BOOM SPECIFICATIONS

MODEL	EB-100
Maximum Pressure	12k psi 830 bar
Linear Speed	8-45 in./min 0.2-1.1 m/min
Maximum Stroke Length	12 ft 3.7 m
Inlet Connection	3/4 NPT



MECHANIZED SYSTEM

BIG FLOW WATERLANCER

High Flow Boiler Cleaning

Designed for online boiler cleaning, contractors can reduce down time by cleaning at high temperatures. With a 300 gpm flow capability, the **BFW-100** can effectively clean any large vessel with limited entry access.

The **BFW-100** features an adjustable cart with an air-powered boom positioner and provides excellent cleaning for pulp plant boilers, refinery and chemical plant vessels, as well as furnace radiant sections.

<b>BFW-100</b>	Up to 10k psi	700 bar
	Up to 300 gpm	1140 l/min
	Air Powered Stroke and Rotation	



**OPTIONS UP TO 24 FT.**  
Longer stroke lengths are possible with the cantilever **BOILER LONG SNOOT** system shown here.



BFW-100 SPECIFICATIONS

MODEL	BFW-100
Maximum Pressure	10k psi 700 bar
Maximum Flow	300 gpm 1140 l/min
Flow Coefficient	13 Cv
Rotation Speed	10-50 rpm
Linear Speed	8-35 ft/min 2.4-11 m/min
Maximum Stroke Length	13 ft 4.0 m
Inlet Connection	1 NPT

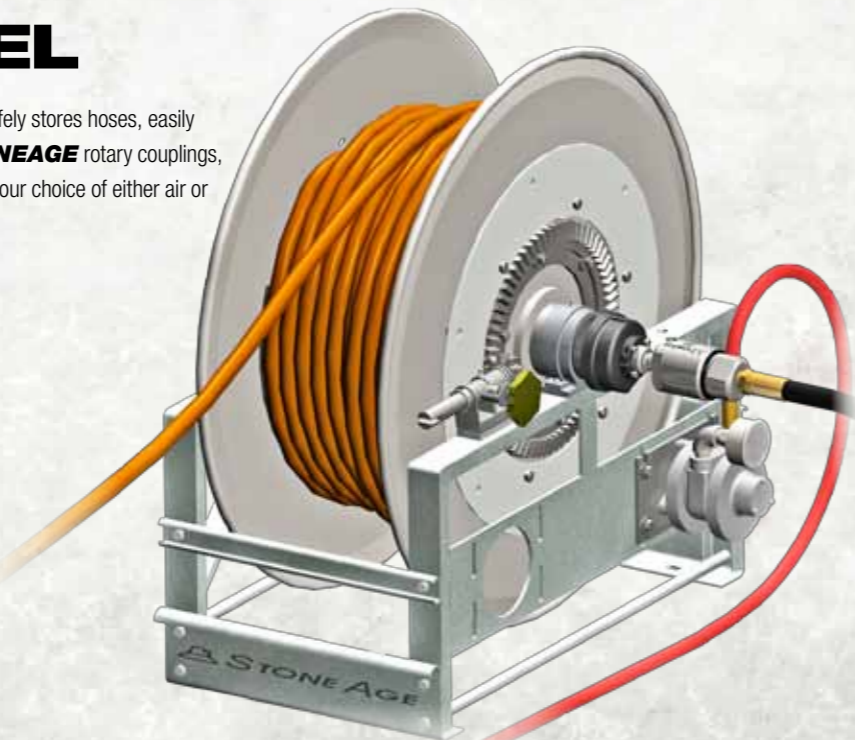
HOSE STORAGE REEL

Protect your hoses while improving job site safety. The **HWB** safely stores hoses, easily moves from job to job and reduces trip hazards. Featuring **STONEAGE** rotary couplings, these reels can accommodate a full range of pressures — with your choice of either air or hydraulic powered rewind systems.

HWB SPECIFICATIONS

MODEL	HWB
Diameter	32 in. 810 mm
Height	34 in. 860 mm
Width	18 in. 460 mm
Hose Bend Radius	10 in. 810 mm
Weight*	170 lb 77 kg
HOSE O.D.	MAXIMUM LENGTH
0.8 in. 20 mm	440 ft 134 m
1.0 in. 25 mm	275 ft 84 m
1.2 in. 30 mm	167 ft 51 m

\*Excluding hose.



Flows up to 170 gallons per minute.



Excellent for boiler cleaning applications.

CABLE SWIVEL TOOL

Furnace and Boiler Cleaning

The patented, hollow-shaft **CST-AIR** slides on a 3/8" diameter stretched cable (not supplied) and can be moved by either jet reaction or by a pulling cable. Head rotation is powered by an air motor.

It includes a 6-port head arranged as follows: 2 ports @ 90°, 2 ports @ 80°, 1 port @ 70° and 1 port @ 110° — simply select the ports you want to use and plug the others. Extension nipples further adapt the tool to various vessel sizes and improve jet quality by reducing stand-off distance.

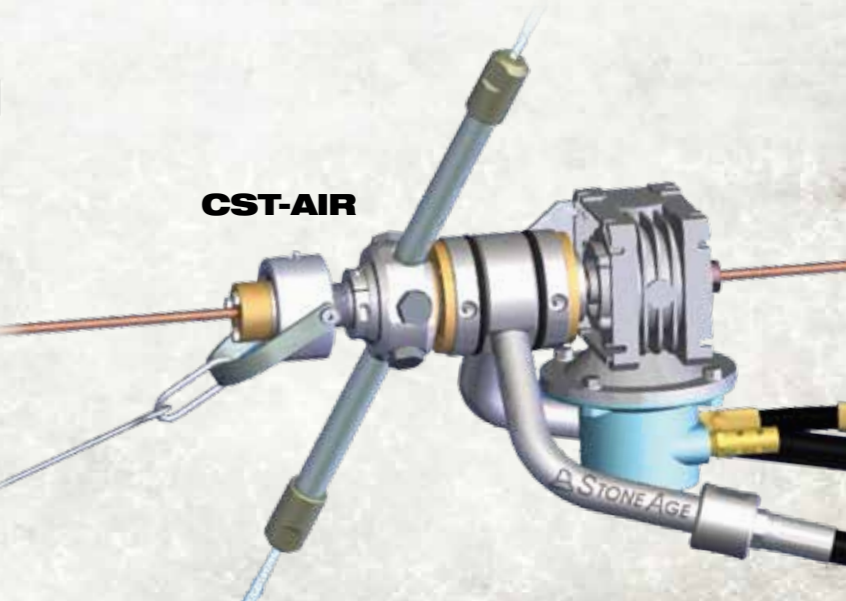
<b>CST-AIR</b>	Up to 10k psi	700 bar
	Up to 170 gpm	640 l/min
	Air Powered Rotation	

APPLICATIONS INCLUDE:

- Cable-guided cleaning for difficult to reach locations
- Excellent for direct fired furnaces superheater and economizer sections
- Effectively cleans boilers and re-boilers reformers, cokers and precipitators

CST-AIR SPECIFICATIONS

MODEL	CST-AIR-P12
Maximum Pressure	10k psi 700 bar
Maximum Flow	170 gpm 640 l/min
Flow Coefficient	5.2 Cv
Rotation Speed	5-60 rpm
Rotation Range	360°
Inlet Connection	2 x 1 NPT
Outlet Ports	6 x 3/4 NPT
Nozzles	OC8
Length	21 in. 530 mm
Weight	46 lb 21 kg





Extension nipples are available for large tanks and vessels. Please see page 55.

LARGE TANK CLEANER

High Flow Tank Cleaning

The **SM-AIR** offers air powered rotation at high flows for effective jet power over long distances. We recommend **OC8 NOZZLES** for high flow operations. Extension nipples from 1-4 ft.

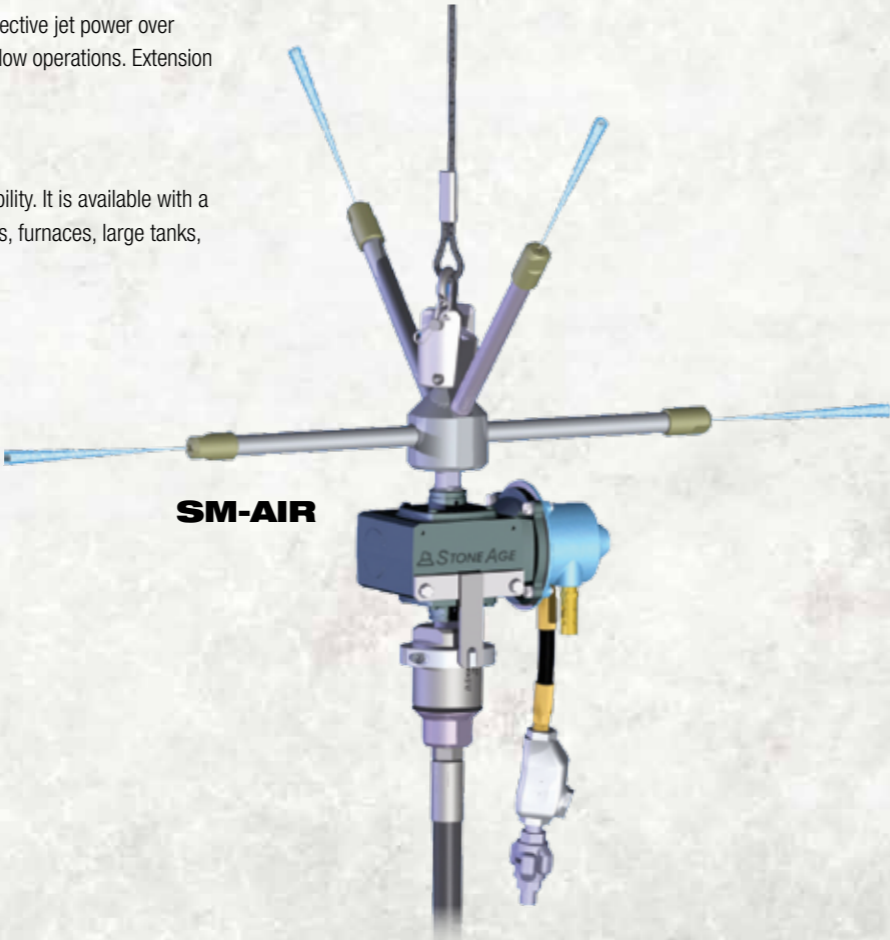
Upgraded Gearbox

We have upgraded the **SM-AIR** gearbox for increased durability. It is available with a variety of head options for custom applications such as: boilers, furnaces, large tanks, cyclones and cokers.

<b>SM-AIR</b>	Up to 12k psi	830 bar
	Up to 300 gpm	1140 l/min
	Air Powered Rotation	

SM-AIR SPECIFICATIONS		
MODEL	SM-AIR	
Maximum Pressure	12k psi	830 bar
Maximum Flow	300 gpm	1140 l/min
Flow Coefficient	13 Cv	
Rotation Speed	10-50 rpm	
Inlet Connection	1 NPT	
Outlet Ports	3/4 NPT	
Nozzles	OC8	
Length	25 in.	640 mm
Weight*	78 lb	35 kg

\*Without extension nipples.



STONEAGE  
SOLUTIONS™

StoneAge Bundle Blaster™ for Veolia® Environmental Services

StoneAge Solutions is the professional service division of StoneAge, Inc. It provides the following:

CUSTOM ENGINEERED WATERBLASTING SOLUTIONS

StoneAge offers a dedicated resource group for handling your difficult waterblast applications. StoneAge Solutions are available for a wide range of support from simple modifications to turn key comprehensive accessory packages. These services are available directly to our dealers, contractors, and end users.

TECHNICAL SUPPORT ON ALL STONEAGE PRODUCTS

If you have a question about any StoneAge product or custom system, call us. Our Customer Service team is here to help our dealers, contractors, and end users with technical support on all our product offerings. And when you contact StoneAge Solutions you can have direct access to our Engineering department for answers to your challenging applications.

PRODUCT REPAIRS

If you have a product that needs to be repaired, you can work with our Repairs Department either through a dealer of your choice or directly with us. Just call our Customer Service team for instructions on how to send your tools back to the StoneAge factory for repair.

NEW PRODUCT FIELD TESTING

StoneAge prides itself on new product development. We work with our dealers and contractors in our field testing program to provide the best tools in the industry. Contact our Solutions team if you have a need for a new tool or are interested in testing our new designs.

CUSTOM SOLUTIONS  
FOR DIFFICULT CLEANING APPLICATIONS

- Cyclone Cleaning
- Large Tunnel Cleaning
- Online Boiler Cleaning
- Automotive Paint Grate Cleaning
- Portable, External Bundle Blasting
- Internal & External Drill Pipe Cleaning
- Piers & Pilings, Above and Below Sea Level



Air or hydraulic powered options.



This system was designed, manufactured and field proven by Proserv™ Offshore utilizing a **STONEAGE CIRCULAR BLASTRACK**.



Air or hydraulic powered options.



Two standard lengths available to fit most heat exchangers.

BLASTRACK

Performance Meets Versatility

The **BLASTRACK** offers mechanized, controlled linear motion and features independent speed and rotation controls. Versatile box rail track can be spliced to any length, while moveable stops define the travel distance and engage the auto-reverse feature. The **BLASTRACK** can be adapted to almost any application with a variety of different swivels and rotary power options (shown on pages 7, 8 and 9).

Shown in the photo above on the right, the powerful **BLASTRACK** can be designed to clean round surfaces like pilings and columns. Contact **STONEAGE SOLUTIONS** for a quotation as tracks are custom made to match your application.

BLASTRACK SPECIFICATIONS	
MODEL	BUD-100
Maximum Pressure	44k psi 3000 bar
Maximum Flow	110 gpm 420 l/min
Rotation Speed	10-1000 rpm
Linear Speed	7-40 ft/min 2-12 m/min

BLASTRACK

Up to 44k psi 3000 bar
Up to 110 gpm 420 l/min
Mechanized Tractors

BENEFITS INCLUDE:

- Straight or circular drive rail options
- Works with any StoneAge rotating assembly
- Adjustable rotation and speed control
- More efficient than hand-held methods
- Air or hydraulic powered



BUNDLE BLASTER

Automated Tube Cleaning Tools

The **BUNDLE BLASTER** offers a powerful and affordable alternative for external or “shell side” cleaning of heat exchangers and tube bundles. This system is ideal for low maintenance, low cost operations.

The **BUNDLE BLASTER** is offered in two lengths (20 ft or 32 ft) to fit common heat exchanger lengths. The “A” frames are adjustable to meet different diameter bundles and come with locking caster wheels. The entire assembly is modular and can be taken apart for easy transportation. Rotation speed and traverse speed are independently adjustable with our **CB-2D CONTROL PANEL** (see page 39).

Includes your choice of powered rotating assemblies (see pages 7-9) and style of rotating head assembly.

BUNDLE BLASTER

Up to 22k psi 1500 bar
Up to 40 gpm 150 l/min
Modular Design

KEY FEATURES:

- Portable automated rail system
- Air or hydraulic powered
- Set up as needed for operations that are fast, efficient and safer than manual cleaning
- Eliminates need for large, expensive systems; highly adaptable to size of tube bundle
- Can be adapted to a variety of pressures and flows for highest level of efficiency
- Adjusts to bundle diameter and ensures 360° penetration deep between tubes
- Adjustable rollers (not included)





Modular systems designed to fit your specific application.



Customized options available for unique applications.



Portable design for maximum accessibility.



Remote Sabertooth controls keeps operator at a safe distance.

ID & OD PIPE CLEANERS

Mechanized Pipe Cleaning

When several thousand linear feet of pipe lengths set on racks require cleaning, the **ID & OD PIPE CLEANERS** offer safe and effective results. Adjustable rotation and stroke controls help clean each pipe effectively while operators are kept at a safe distance from the high pressure water.

The modular design cleans pipes up to 55 feet in length at pressures up to 40k psi. The complete package includes adjustable jack stands, control panel, rigid lance, rail and cleaning heads.

ID & OD PIPE CLEANERS

Up to 15k, 22k & 40k psi
1000, 1500 & 2800 bar
Up to 50 gpm 190 l/min
Custom Modular Design

APPLICATIONS INCLUDE:

- Remove concrete linings, drill mud deposits and coatings
- Clean pipe by sections on racks
- Clean scale and NORM from well tubing

ID & OD PIPE CLEANER SPECIFICATIONS		
MODEL	ID CLEANER	OD CLEANER
Maximum Pressure	Up to 40k psi 2800 bar	Up to 40k psi 2800 bar
Maximum Flow	50 gpm 190 l/min	50 gpm 190 l/min
Rotation Speed	50-300 rpm	50-1000 rpm
Linear Speed	0.50-2.0 ft/s 0.15-0.60 m/s	7-40 ft/min 2.1-12 m/min
Air Supply	60 cfm @ 80 psi 100 m³/hr @ 5.5 bar	60 cfm @ 80 psi 100 m³/hr @ 5.5 bar
Rail Length	Up to 60 ft 18.3 m	Up to 60 ft 18.3 m
Stroke Length	Up to 55 ft 16.7 m	Up to 55 ft 16.7 m
Weight	350 lb 160 kg	350 lb 160 kg



AVAILABLE SPRING 2013

SABERTOOTH

Dual Lance, Portable Heat Exchanger Cleaning

The **SABERTOOTH** tube cleaning system offers a safer, more productive alternative to hand held flex lancing and other automated hose feeding devices. The dual hose system is self-contained and has up to 50' of usable stroke. This means twice the cleaning power than hand held lancing and increased safety by moving the operator away from the hoses.

The entire system is remotely operated providing better visibility and greater safety. Remote shotgunning capabilities are also available using the **BARRACUDA/SPITFIRE** mounting bracket, allowing for safe cleaning of exterior bundle faces.

Unique to the **SABERTOOTH** is our autostroke feature which recognizes when the Banshee has reached a blockage — automatically retracting the hose slightly to keep the tool rotating. This allows the operator to keep continuously cleaning without binding the tool. The positioner window has a large working area — adjustable up to 15' and capable of handling both horizontal and vertical applications. The entire assembly is quickly dismantled to fit through 24" man ways (excluding cart) and can access areas where a traditional lancing positioner cannot be used.

SABERTOOTH SPECIFICATIONS	
MODEL	SRT-100
Operating Pressure	22k psi 1500 bar
Maximum Flow	40 gpm 150 lpm
Inlet Connection	3/4 MP
Hose	8mm, 63 ft length, 50 ft usable stroke
Feed Rate	0.3-1.2 ft/s (high/low speed switchable, adjustable forward force)
Required Air Supply	78 cfm @ 100 psi
Weight	550 lbs 250 kg

SABERTOOTH

Up to 22k psi 1500 bar
Up to 40 gpm 150 l/min
Modular Design

KEY FEATURES:

- Drive can be removed/replaced without tools
- Set up using only two open end wrenches
- Covers may be removed without tools for ease of inspection
- Separately adjustable high/low speed circuits
- Optimized pneumatic filtration system including water separation, filtration to 1µm as well as dedicated dry air pilot circuit and separate lubricated drive circuits
- Mounted on a versatile cart for easy maneuverability





SG swivel used in our **SG-40** Cleaner.



SG swivel on our **FCSG** floor cleaner.



SL swivels mounted on our Lancing System.

SG SWIVEL

The Industry's Widest Selection

**SG SWIVELS** are reliable, easy to maintain and are widely used in our surface preparation tools (shown on pages 7-9). Heavy-duty ball bearings with external grease fittings, stainless steel construction and long lasting high pressure seals combine to make these the best swivels in the industry. The **CCN** models use carbide full seals for high rpm. All other models use plastic HD seals. All **SG SWIVELS** are available with either 0° or 90° inlets.

SG SWIVEL

- Up to 22k psi 1500 bar
- Up to 110 gpm 1140 l/min
- Up to 2000 rpm

BENEFITS INCLUDE:

- Multiple inlet options available
- Long lasting high pressure seals
- External grease fittings for easy maintenance



SG-P12P12M SG-MP12AV12 SG-CCN MP12K

SG SWIVEL SPECIFICATIONS

MODEL	SG-P8P8	SG-P12P12M	SG-MP12AV12	SG-MP16MP16	SG-CCN P12K	SG-CCN MP12K
Maximum Pressure	15k psi 1000 bar	15k psi 1000 bar	22k psi 1500 bar	22k psi 1500 bar	15k psi 1000 bar	22k psi 1500 bar
Maximum Flow	50 gpm 190 l/min	110 gpm 420 l/min	50 gpm 190 l/min	110 gpm 420 l/min	50 gpm 190 l/min	50 gpm 190 l/min
Rotation Speed	0-600 rpm	0-600 rpm	0-600 rpm	0-600 rpm	0-2000 rpm	0-2000 rpm
Flow Coefficient	2.3 Cv	4.6 Cv	2.0 Cv	4.6 Cv	2.3 Cv	2.0 Cv
Inlet Connection	1/2 NPT, 1/2 BSPP	3/4 NPT, 3/4 BSPP	3/4 MP	1 MP	3/4 NPT	3/4 MP
Shaft Connection	1/2 NPT	3/4 NPT	3/4 MP	1 MP	1-1/8 K	1-1/8 K
Diameter	3.0 in. 76 mm	3.0 in. 76 mm	3.0 in. 76 mm	3.0 in. 76 mm	3.0 in. 76 mm	3.0 in. 76 mm
Length	6.6 in. 170 mm	6.6 in. 170 mm	7.9 in. 200 mm	9.0 in. 230 mm	7.0 in. 180 mm	7.0 in. 180 mm
Weight	8.4 lb 3.8 kg	8.4 lb 3.8 kg	8.8 lb 4.0 kg	8.8 lb 4.0 kg	8.4 lb 3.8 kg	8.4 lb 3.8 kg

SH SWIVEL

Prevents Hose Twist

**SH SWIVELS** can be installed between a tool's inlet connection and the high pressure hose to prevent hose twist and ease hose handling. They can also provide compact rotary motion for a variety of low speed applications.

SH SWIVEL SPECIFICATIONS

MODEL	SH-P8P8
Maximum Pressure	15k psi 1000 bar
Maximum Flow	50 gpm 190 l/min
Rotation Speed	0-250 rpm
Flow Coefficient	2.3 Cv
Inlet Connection	1/2 NPT
Shaft Connection	1/2 NPT
Diameter	2.25 in. 57 mm
Length	4.13 in. 105 mm
Weight	1.9 lb 0.86 kg



SH-P8P8

SH SWIVEL

- Up to 15k psi 1000 bar
- Up to 50 gpm 190 l/min
- Up to 250 rpm



SH swivels help prevent hose twist.

SL SWIVEL

Lightweight and Compact

**SL SWIVELS** feature replaceable seals, smooth ball bearings, stainless steel construction and low static torque for easy rotation. They are installed as standard equipment on our Lancing Machines and are available with either 0° or 90° inlets.

SL SWIVEL SPECIFICATIONS

MODEL	SL-P8P4	SL-MP9AV9
Maximum Pressure	15k psi 1000 bar	22k psi 1500 bar
Maximum Flow	35 gpm 130 l/min	25 gpm 95 l/min
Rotation Speed	0-1000 rpm	0-800 rpm
Flow Coefficient	1.6 Cv	1.1 Cv
Inlet Connection	1/2 NPT	9/16 MP
Shaft Connection	1/4 NPT	9/16 MP
Diameter	1.75 in. 45 mm	1.75 in. 45 mm
Length	4.6 in. 120 mm	5.9 in. 130 mm
Weight	1.63 lb 0.74 kg	2.0 lb 0.89 kg



SL-P8P4-O

SL-MP9AV9-O



SM swivel with optional 90° inlet connection.

SM SWIVEL  
High Flow Rotation

Constructed similarly to our **SG SWIVELS**, the heavy-duty **SM** series is built to handle up to 3500 hp. Featuring stainless steel construction, heavy duty bearings, and long lasting high pressure seals, **SM SWIVELS** are excellent for boilers, furnaces, tube bundles, large tanks and vessels cleaning applications. Either 0° or 90° inlet connections are available.

SM SWIVEL SPECIFICATIONS			
MODEL	SM-P16		SM-P20
Maximum Pressure	12k psi	830 bar	10k psi 700 bar
Maximum Flow	300 gpm	1100 l/min	600 gpm 2300 l/min
Flow Coefficient	13 Cv		18 Cv
Rotation Speed	0-300 rpm		0-300 rpm
Inlet Connection	1 NPT		1-1/4 NPT
Shaft Connection	1 NPT		1-1/4 NPT
Diameter	3.5 in.	8.9 mm	3.5 in. 8.9 mm
Length	7.3 in.	190 mm	*7.3 in. *190 mm
Weight	10 lb	4.5 kg	*11 lb *5.0 kg

\*For 0° inlet.



SM-P16-0

SM-P20-90

SM SWIVEL

- Up to 12k psi 830 bar
- Up to 600 gpm 2300 l/min
- Up to 300 rpm



UH swivel with optional 90° inlet connection.

UH SWIVEL  
Ultra High Pressure Rotation

Considered the benchmark of high pressure rotary couplings, **UH SWIVELS** lead the industry in durability. The **UH-H9H6** is available in either a 0° or 90° inlet connection.

**NOTE:** The G12 shaft option is designed specifically for use with our surface preparation tools shown on page 9.

UH SWIVEL SPECIFICATIONS			
MODEL	UHS-H9H9		UH-H9H6
Maximum Pressure	40k psi	2800 bar	44k psi 3000 bar
Maximum Flow	10 gpm	38 l/min	20 gpm 76 l/min
Flow Coefficient	0.30 Cv		0.50 Cv
Rotation Speed*	0-1500 rpm		0-1000 rpm
Inlet Connection	9/16 HP		9/16 HP
Shaft Connection	9/16 HP		3/8 HP, G12
Diameter	1.75 in.	45 mm	2.5 in. 64 mm
Length	5.9 in.	130 mm	8.8 in. 220 mm
Weight	2.0 lb	0.90 kg	7.5 lb 3.4 kg

\*NOTE: Break in new seals for 1/2 hour at 500 rpm max.



UHS-H9H9

UH-H9H6

UH SWIVEL

- Up to 44k psi 3000 bar
- Up to 20 gpm 76 l/min
- Up to 1500 rpm

HARDENED & POLISHED  
STAINLESS STEEL TIPS

Due to our high efficiency nozzle design and our unique 7-step manufacturing process, **STONEAGE ATTACK TIPS** are the highest quality, longest lasting nozzles available for low and medium pressure applications. Flow straighteners correct turbulence, ensuring excellent jetting results.



Shown larger than actual size. Flow straighteners are installed in most **ATTACK TIPS**.

ATTACK TIP NOZZLE FLOW CHART GPM														
ORIFICE ID in.    mm		PRESSURE - KPSI & BAR											FLOW RATING	
		2 140	4 280	6 410	8 550	10 700	12 830	14 970	15 1000	16 1100	18 1200	20 1400		22 1500
.018	0.46	0.39	0.55	0.68	0.78	0.87	0.96	1.0	1.1	1.1	1.2	1.2	1.3	0.6
.020	0.51	0.48	0.68	0.83	0.96	1.1	1.2	1.3	1.3	1.5	1.5	1.5	1.6	0.7
.022	0.56	0.58	0.82	1.0	1.2	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9	0.8
.024	0.61	0.69	0.98	1.2	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	1.0
.026	0.66	0.81	1.2	1.4	1.6	1.8	2.0	2.1	2.2	2.3	2.4	2.6	2.7	1.1
.029	0.74	1.0	1.4	1.7	2.0	2.3	2.5	2.7	2.8	2.9	3.0	3.2	3.4	1.4
.032	0.81	1.2	1.7	2.1	2.5	2.8	3.0	3.3	3.4	3.5	3.7	3.9	4.1	1.7
.035	0.89	1.5	2.1	2.6	3.0	3.3	3.6	3.9	4.0	4.2	4.4	4.7	4.9	2.1
.038	0.97	1.7	2.5	3.0	3.5	3.9	4.3	4.6	4.8	4.9	5.2	5.5	5.7	2.5
.042	1.07	2.1	3.0	3.7	4.2	4.7	5.2	5.6	5.8	6.0	6.4	6.7	7.0	3.0
.047	1.19	2.7	3.8	4.6	5.3	5.9	6.5	7.0	7.3	7.5	8.0	8.4	8.8	3.8
.052	1.32	3.3	4.6	5.6	6.5	7.3	8.0	8.6	8.9	9.2	9.8	10	11	4.6
.057	1.45	3.9	5.5	6.8	7.8	8.7	9.6	10	11	11	12	12	13	5.5
.063	1.60	4.8	6.8	8.3	9.6	11	12	13	13	14	14	15	16	6.8
.069	1.78	5.7	8.1	9.9	12	13	14	15	16	16	17	18	19	8.1
.075	1.91	6.8	9.6	12	13	15	17	18	19	19	20	21	23	9.6
.082	2.08	8.1	12	14	16	18	20	21	22	23	24	26	27	12
.090	2.29	9.8	14	17	20	22	24	26	27	28	29	31	32	14
.098	2.49	12	16	20	23	26	28	31	32	33	35	37	38	16
.106	2.69	14	19	23	27	30	33	36	37	38	41	43	45	19
.115	2.92	16	23	28	32	36	39	42	44	45	48	50	53	23
.125	3.18	17	27	33	38	42	46	50	52	53	56	60	62	27
.135	3.43	22	31	38	44	49	54	58	60	62	66	69	73	31
.145	3.68	25	36	44	51	57	62	67	69	72	76	80	84	36
.155	3.94	29	41	50	58	65	71	77	79	82	87	92	96	41
.165	4.19	33	46	57	66	73	80	87	90	93	98	104	109	46

THE BEST NOZZLE  
FOR HIGH FLOW  
APPLICATIONS

OC8 NOZZLE	Up to 22k psi	1500 bar
	Up to 168 gpm	640 l/min
	High Flow Carbide Nozzle	



We recommend using our **OC8 HOLDERS** and **OC8 CARBIDE INSERTS** where filtration is poor, abrasive solids are present or for very high flow applications. Replaceable carbide inserts are available in large orifice diameters to handle high flows and contain a long taper to provide excellent jet quality.

OC8 NOZZLE FLOW CHART    GPM														
ORIFICE ID  in.    mm		PRESSURE - KPSI & BAR												FLOW RATING
		2 140	4 280	6 410	8 550	10 700	12 830	14 970	15 1000	16 1100	18 1200	20 1400	22 1500	
.063	1.60	4.8	6.7	8.2	9.5	11	12	13	13	14	14	15	16	7
.075	1.91	6.8	9.6	12	14	15	17	18	19	19	20	21	22	10
.085	2.16	8.7	12	15	17	19	21	23	24	25	26	28	129	12
.095	2.41	11	15	19	22	24	27	29	30	31	33	33	36	15
.105	2.67	13	19	23	27	30	33	35	36	38	40	42	44	19
.125	3.18	19	27	33	38	42	46	50	52	53	56	60	62	27
.145	3.68	25	36	44	50	57	62	67	69	72	76	80	84	36
.165	4.19	33	46	56	66	73	80	87	90	93	98	104	109	46
.175	4.45	37	52	64	74	82	90	98	101					52
.190	4.83	43	61	75	87	97	106	115	119					61
.200	5.08	48	68	83	96	108	118	127	132					68
.215	5.46	56	79	96	111	124								78
.235	5.97	66	94	115	133	149								94
.250	6.35	75	106	130	150	168								106

SAPPHIRE NOZZLES FOR HIGH PRESSURE APPLICATIONS



STONEAGE NOZZLE & TOOL GUIDE			
OS4 NOZZLES	1/4-28 NF	Gopher GO-H9-C	
OS6 NOZZLES	3/8-24 NF	Deck Blasters, BJV-H9 with BJ 444-S6 or BJ 441-G9 Head UH-40/UH-50 Powered Cleaners	
OS7 NOZZLES	7/16-20 NF	Barracuda BC-H9-C	

These nozzles are used for 40k psi jetting applications where water filtration of 10 micron or better is required. Jeweled orifices make the best quality, longest lasting jets possible, especially for ultra-high pressures. Available in three holder sizes (see the chart below).

SAPPHIRE NOZZLE FLOW CHART GPM												
ORIFICE ID in. mm	PRESSURE KPSI & BAR											AVAILABILITY OS4 OS6 OS7
	20 1400	22 1500	24 1700	26 1800	28 1900	30 2100	32 2200	34 2300	36 2500	38 2600	40 2800	
.009 0.23	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	• • •
.010 0.25	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.34	0.4	• • •
.011 0.28	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	• • •
.012 0.30	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	• • •
.013 0.33	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7	• • •
.014 0.36	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8	• • •
.015 0.38	0.6	0.7	0.7	0.7	0.7	0.8	0.9	0.8	0.8	0.9	0.9	• • •
.016 0.41	0.7	0.7	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.0	• • •
.017 0.43	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.1	• • •
.018 0.46	0.9	0.9	1.0	1.0	1.1	1.1	1.1	1.2	1.2	1.2	1.3	• • •
.019 0.48	1.0	1.0	1.1	1.1	1.9	1.2	1.3	1.3	1.3	1.4	1.4	• • •
.020 0.51	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.6	• • •
.021 0.53	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	• • •
.022 0.56	1.3	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	• • •
.023 0.58	1.5	1.5	1.6	1.7	1.7	1.7	1.8	1.9	1.9	2.0	2.0	• • •
.024 0.61	1.6	1.7	1.7	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.2	• • •
.025 0.64	1.7	1.8	1.9	2.0	2.0	2.1	2.2	2.2	2.3	2.4	2.4	• • •
.026 0.66	1.9	1.9	2.0	2.1	2.2	2.3	2.3	2.4	2.5	2.6	2.6	• • •
.027 0.69	2.0	2.1	2.2	2.3	2.4	2.5	2.5	2.6	2.7	2.8	2.8	• • •
.028 0.71	2.2	2.3	2.4	2.5	2.6	2.5	2.7	2.8	2.9	3.0	3.1	• • •
.031 0.79	2.6	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	• • •
.033 0.84	3.0	3.1	3.3	3.4	3.5	3.7	3.8	3.9	4.0	4.1	4.2	• • •
.034 0.86	3.2	3.3	3.5	3.6	3.8	3.9	4.0	4.2	4.3	4.4	4.5	• • •
.035 0.89	3.4	3.5	3.7	3.8	4.0	4.1	4.3	4.4	4.5	4.6	4.8	• • •

PUT YOUR NOZZLES CLOSER TO THE SURFACE

Durable Stainless Steel Construction

Maximize jet power and removal rates by placing nozzles close to the target surface. Extension nipples also enhance jet quality by improving upstream conditions. Standard lengths in stock for all **STONEAGE** tools. Custom lengths available.



BJV cleaning pipe with four extension nipples.



SA 567-P4P2

Fits 1/4 NPT ports

AP2 ATTACK TIPS

15k psi 1000 bar

SA 356-P8P4

Fits 1/2 NPT ports

AP4 ATTACK TIPS

15k psi 1000 bar

SA 577-G12P4

Fits G12 ports

AP4 ATTACK TIPS

22k psi 1500 bar

SA 569-G9S6

Fits G9 ports

OS6 SAPPHIRE TIPS

40k psi 2800 bar

NIPPLE EXTENSION SPECIFICATIONS


TYPE	PART NUMBER	MAWP	THREADS	OD	ID
9/16 MP Tubing	SA 567-P4P2*	22k psi 1500 bar	1/4 NPTM x 1/8 NPTF	.56 in. 14 mm	.31 in. 8 mm
9/16 MP Tubing	SA 567-MP9P2	22k psi 1500 bar	9/16 MP x 1/8 NPTF	.56 in. 14 mm	.31 in. 8 mm
9/16 MP Tubing	SA 567-MP9MP9	22k psi 1500 bar	9/16 MP x 9/16 MP	.56 in. 14 mm	.31 in. 8 mm
1/2 Sched.160 Pipe	SA 356-P8P4**	15k psi 1000 bar	1/2 NPTM x 1/4 NPTF	.84 in. 21 mm	.47 in. 12 mm
1/2 Sched.160 Pipe	SA 356-P8P8	15k psi 1000 bar	1/2 NPTM x 1/2 NPTM	.84 in. 21 mm	.47 in. 12 mm
3/4 Sched.160 Pipe	SA 366-P12P12	15k psi 1000 bar	3/4 NPTM x 3/4 NPTM	1.1 in. 27 mm	.61 in. 16 mm
3/4 MP Tubing	SA 577-MP12LMP12L-19	22k psi 1500 bar	3/4 MP x 3/4 MP	.75 in. 19 mm	.44 in. 11 mm
3/4 MP Tubing	SA 577-MP12LP4-10	22k psi 1500 bar	3/4 MP x 1/4 NPTF	.75 in. 19 mm	.44 in. 11 mm
3/4 MP Tubing	SA 577-G12P4**	22k psi 1500 bar	3/4 G12 x 1/4 NPTF	.75 in. 19 mm	.44 in. 11 mm
9/16 HP Tubing	SA 569-G9S6*	40k psi 2800 bar	9/16 G9 x 3/8-24 F	.56 in. 14 mm	.19 in. 5 mm

NOTES: See page 60 for abbreviation definitions.



\* Standard Lengths - 2, 3, 4, 8 in. 51, 76, 101, 203 mm \*\* Standard Lengths - 3, 4, 6, 8, 10, 12 in. 76, 101, 152, 203, 254, 305 mm

MAXIMUM PRESSURES 15-40K PSI 1000-2800 BAR


All of our stainless steel fittings and adapters are designed to meet the highest standards.

PIPE COUPLINGS 15K PSI (1000 BAR)						
	PIPE SIZE	PART ID	PIPE SIZE	PART ID	PIPE SIZE	PART ID
	1/8 NPTF x 1/2 NPTF	GP 052-P2P8	1/4 NPTF x 1/2 NPTF	GP 052-P4P8	1/2 NPTF x 3/4 NPTF	GP 052-P8P12
	1/8 NPTF x 1/4 NPTF	GP 052-P2P4	3/8 NPTF x 3/8 NPTF	GP 052-P6P6	3/4 NPTF x 3/4 NPTF	GP 052-P12P12
	1/4 NPTF x 1/4 NPTF	GP 052-P4P4	3/8 NPTF x 1/2 NPTF	GP 052-P6P8	3/4 NPTF x 1 NPTF	GP 052-P12P16*
	1/4 NPTF x 3/8 NPTF	GP 052-P4P6	1/2 NPTF x 1/2 NPTF	GP 052-P8P8	1 NPTF x 1 NPTF	GP 052-P16P16*


\*12K PSI 830 BAR


PIPE PLUGS 15K PSI (1000 BAR)		
	PIPE SIZE	PART ID
	1/8 NPTM	GP 025-P2SS
	1/4 NPTM	GP 025-P4SS
	3/8 NPTM	GP 025-P6SS
	1/2 NPTM	GP 025-P8SS
	3/4 NPTM	GP 025-P12C
	3/4 NPTM	GP 026-P12C
	1 NPTM	GP 026-P16SS*

\*12K PSI 830 BAR

PSI PIPE BUSHINGS 15K PSI (1000 BAR)		
	PIPE SIZE	PART ID
	1/4 NPTF x 1/2 NPTM	GP 051-P4P8
	1/4 NPTF x 3/8 NPTM	GP 051-P4P6
	3/8 NPTF x 1/2 NPTM	GP 051-P6P8
	1/2 NPTF x 3/4 NPTM	GP 051-P8P12
	3/4 NPTF x 1 NPTM	GP 051-P12P16*


\*12K PSI 830 BAR


HOSE ADAPTERS						
	9/16-18 "M"	PART ID	3/4-16 "M"	PART ID	1-12 "M"	PART ID
	1/4 NPT	AF 060-P4	1/4 NPT	AF 061-P4	9/16 MP	AF 063-MP9
	1/2 NPT	AF 060-P8	1/2 NPT	AF 061-P8	3/4 MP	AF 063-MP12
	3/8 MP	AF 060-MP6	3/8 MP	AF 061-M6	1-12 "M"	AF 063-063
	9/16 MP	AF 060-MP9	9/16 MP	AF 061-MP9	1/2 NPT	AF 063-P8
	3/4 MP	AF 060-MP12	3/4 MP	AF 061-MP12	7/8 "M"	PART ID
	1/4 HP	AF 060-H4	3/4 MP	AF 061-063	9/16 HP	AF 062-H9
	3/8 HP	AF 060-H6				
	9/16 HP	AF 060-H9				

PIPE NIPPLES 15K PSI (1000 BAR)		
	PIPE SIZE	PART ID
	1/2 NPTM x 1/2 NPTM	GP 055-P8P8
	3/4 NPTM x 3/4 NPTM	GP 055-P12P12
	3/4 NPTM x 1 NPTM	GP 055-P12P16*
	1 NPTM x 1 NPTM	GP 055-P16P16*


\*12K PSI 830 BAR


METRIC & BSPP ADAPTERS	
PIPE SIZE	PART ID
3/8 BSPP to 1/4 BSPP	GP 255-BSPP6BSPP4C
3/8 BSPP to 1/2 BSPP	GP 255-BSPP6BSPP8C
3/8 BSPP to M24x1.5x24	GP 255-BSPP6M24C
M24x1.5 O-Ring to 3/4 BSPP	GP 255-M24OBSPP12C
M24x1.5 O-Ring to 1/2 BSPP	GP 255-M24OBSPP8C
M24x1.5 O-Ring to M24x1.5x24	GP 255-M24OM24C
M24x1.5 O-Ring to M36x2x24	GP 255-M24OM36C
O-Ring, M24 Adapter	GP 259


COUPLINGS 20K PSI (1400 BAR)		
	TUBING OD	PART ID
	1/4 x 3/4	AF 073-MP4MP12
	1/4 x 9/16	AF 073-MP4MP9
	3/8 x 3/8	AF 073-MP6
	3/8 x 9/16	AF 073-MP6MP9
	3/8 x 3/4	AF 073-MP6MP12
	9/16 x 9/16	AF 073-MP9
	9/16 x 3/4	AF 073-MP9MP12
	3/4 x 3/4	AF 073-MP12
	1 x 1	AF 073-MP16


GLANDS 20K PSI (1400 BAR)		
	TUBING OD	PART ID
	1/4 in.	AF 070-MP4
	3/8 in.	AF 070-MP6
	9/16 in.	AF 070-MP9
	3/4 in.	AF 070-MP12


BUSHINGS 20K PSI (1400 BAR)		
	TUBING OD	PART ID
	1/4 F x 3/8 M	AF 074-MP4MP6
	1/4 F x 9/16 M	AF 074-MP4MP9
	3/8 F x 9/16 M	AF 074-MP6MP9
	9/16 F x 3/4 M	AF 074-MP6MP9


PIPE ADAPTERS 20K PSI (1400 BAR)		
	CONNECTION	PART ID
	9/16 MPM x 3/8 NPTF	AF 065-MP9P6
	9/16 MPM x 1/2 NPTF	AF 065-MP9P8
	3/4 MPM x 1/2 NPTF	AF 065-MP9P8


COLLARS 20K PSI (1400 BAR)		
	TUBING OD	PART ID
	1/4 in.	AF 071-MP4
	3/8 in.	AF 071-MP6
	9/16 in.	AF 071-MP9
	3/4 in.	AF 071-MP12
	14 mm	AF 071-M14LH
	1 in.	AF 071-MP16


MP-HP ADAPTER 20K (1400 BAR)		
	CONNECTION	PART ID
	9/16 HPM x 9/16 MPF	AF 074-H9MP9

ANTI-VIBE GLANDS 20K PSI (1400 BAR)		
	TUBING OD	PART ID
	1/4 in.	AF 072-MP4
	3/8 in.	AF 072-MP6
	9/16 in.	AF 072-MP9
	3/4 in.	AF 072-MP12
	1 in.	AF 072-MP16

40K PSI (2800 BAR)		
COUPLINGS 40K PSI (2800 BAR)		
	TUBING OD	PART ID
	1/4 x 3/8 in.	AF 073-H4H6
	3/8 x 3/8 in.	AF 073-H6
	3/8 x 9/16 in.	AF 073-H6H9
	9/16 x 9/16 in.	AF 073-H9

COLLARS 40K PSI (2800 BAR)		
	TUBING OD	PART ID
	1/4 in.	AF 071-H4
	3/8 in.	AF 071-H6
	9/16 in.	AF 071-H9

GLANDS 40K PSI (2800 BAR)		
	TUBING OD	PART ID
	1/4 in.	AF 070-H4
	3/8 in.	AF 070-H6
	9/16 in.	AF 070-H9

ANTI-VIBE GLANDS 40K PSI (2800 BAR)		
	TUBING OD	PART ID
	1/4 in.	AF 072-H4
	3/8 in.	AF 072-H6
	9/16 in.	AF 072-H9

NOTE: High Pressure (40k psi 2800 bar) fittings are similar in appearance to Medium Pressure (20k psi 1400 bar) fittings but are not interchangeable.

AIR MOTORS

Our most commonly used air motors are listed below. Use the information in the chart to the right to plan your compressed air requirements.



SG 055      LM 016-4      LM 016-6

MODEL	SG 055 & LM 016-4		LM 016-6	
At Peak				
Rotation Speed	3000 rpm		3000 rpm	
Power	1.7 HP	1.3 kW	4.0 HP	3.0 kW
Torque	36 in-lb	4.1 Nm	84 in-lb	9.5 Nm
Air Consumption	72 cfm	120 m³/hr	130 cfm	220 m³/hr
Air Pressure	100 psi	7 bar	100 psi	7 bar
At Minimum				
Rotation Speed	600 rpm		600 rpm	
Power	0.35 HP	0.26 kW	0.75 HP	0.56 kW
Torque	32 in-lb	3.6 Nm	68 in-lb	7.7 Nm
Air Consumption	16 cfm	27 m³/hr	27 cfm	46 m³/hr
Air Pressure	60 psi	4.1 bar	60 psi	4.1 bar

HYDRAULIC MOTORS  
LM 121 & LM 122

Use the information in the chart to the right to help you plan oil pumping and control requirements for hydraulic powered applications. Available with either 0° (LM 121) or 90° (LM 122) ports.



LM 121 & 122	CONTINUOUS	INTERMITTENT
Maximum Rotation Speed	1960 rpm	2430 rpm
Minimum Rotation Speed	50 rpm	N/A
Power	2.3 HP 1.7 kW	3.5 HP 2.6 kW
Torque	95 in-lb 4.1 Nm	135 in-lb 10.0 Nm
Oil Flow	4.2 gpm 1 m³/hr	5.3 gpm 1.2 m³/hr
Oil Pressure	1450 psi 100 bar	2000 psi 140 bar

LUBRICANTS

MSDS sheets are available for all lubricants.



LUBRICANT	PART NUMBER	QTY	SOURCE	SPECIFICATION
Viscous Fluid	BJ 048-X	6 oz.	STONEAGE	Synthetic Silicone Lubricant
Air Motor Oil	GP 041	32 oz.	Mobil	Almo 525/ISO 46/SAE 10
Auto Trans. Fluid	GP 042	32 oz.	NAPA	Mercon/Dexron ATF
Anti-Seize	GP 043	2 oz.	Swagelok	Blue Goop
Motor Oil	GP 044	32 oz.	NAPA	10W-40
Gearbox Lube	GP 046	32 oz.	NAPA	80W-85W-90
Thread Sealant	GP 047	4 oz.	Parker	ThreadMate
Grease	GP 048	14 oz.	Mobil	Synthetic Grease SHC 100

THREADED CONNECTIONS

PIPE THREADS BELOW 4K PSI 280 BAR

For pressures below 4k psi use Parker® ThreadMate™ alone for gall-free, leak-free connections.

PIPE THREADS ABOVE 4K PSI 280 BAR

Use ThreadMate™ and fluorocarbon tape for gall-free, leak-free pipe connections.

MEDIUM & HIGH PRESSURE FITTINGS  
UP TO 40K PSI 2800 BAR

For 20-40k psi connections, just use anti-seize. We recommend Swagelok® Blue Goop™.



GALLING

Stainless steel threaded connections tend to gall when tightened, potentially resulting in an expensive problem. To prevent galling use an anti-seize compound whenever stainless steel threads are tightened.

TAPE, BY ITSELF, DOES NOT PREVENT GALLING.

MAINTENANCE SUPPLIES AND KITS

STONEAGE TOOL	SERVICE KIT	SEAL KIT	OVERHAUL KIT	TOOL KIT	LUBRICANT
BARRACUDA - BC-K - 20K PSI	BC 600	BC 602	BC 610	BC 612	GP 042
BARRACUDA - BC-H9-C - 40K PSI	BC 600-H9-C	BC 602-H9-C	BC 610-H9-C	BC 612	GP 042
BJV	BJ 600-X	BJ 602	BJ 610-X	BJ 612	BJ 048-X
BJV-P12	BJ 600-P12-X	BJ 602-P12	BJ 610-P12-X	BJ 612	BJ 048-X
BJV-M24	BJ 600-M24-X	BJ 602-M	BJ 610-M24-X	BJ 612	BJ 048-X
BJV-P16	BJ 600-P16-X	BJ 602-P16	BJ 610-P16-X	BJ 612	BJ 048-X
BJV-MP12	BJK 600-X	BJK 602	BJK 610-X	BJK 612	BJ 048-X
BJV-H9	BJ 600-H9-X	BJ 602-H9	BJ 610-H9-X	BJ 612-H9	BJ 048-X
GOPHER - GO-MP9 - 20K PSI	GO 600	GO 602	GO 610	GO 612	GP 044
GOPHER - GO-H9-C - 40K PSI	GO 600-H9-C	BC 602-H9-C	GO 610-H9-C	GO 612	GP 044
RAPTOR - RPT	RPT 600-X	RPT 602	RPT 610-X	RPT 612	BJ 048-X
BADGER - 15K PSI	BA 600-X	BA 602	BA 610-X	BA 612	BJ 048-X
BADGER - 20K PSI	BA 600-TM12-X	BA 602-TM12	BA 610-TM12-X	BA 612	BJ 048-X
BADGER - BA-MP9-R21 & BA-MP9	BA 600-P8/MP9	BA 602-P8/MP9	BA 610-P8/MP9	BA 612-P8/MP9	BJ 048-F
CST	CST 600		CST 610		GP 048
TORUS - TR130	TR130 600	TR130 602	TR130 610		GP 044-S
TORUS - TR200	TR200 600	TR200 602	TR200 610		GP 042
SA 1900, SA 1909	HI 600		HI 610		GP 048
SA 1940	UHS 600		UHS 610		GP 048
SL-P8P4	SL 600-P		SL 610-P	SL 612	GP 048
SL-MP9AV9	SL 600-K		SL 610-K	SL 612	GP 048
SG-P8P8 & SG-M12M12	SG 600		SG 610	SG 612	GP 048
SG-P12P12-M & SG-MP16MP16	SG 600-62		SG 610-62	SG 612	GP 048
SG-CCN	SG 600-CCN		SG 610-CCN	SG 612	GP 048
SH-P8P8	SH 600		SH 610		GP 048
SM-P16	SM 600-P16		SM 610-P16		GP 048
SM-P20	SM 600-P20		SM 610-P20		GP 048
HI	HI 600		HI 610		GP 048
UH-H9H6	UH 600		UH 610	UH 612	GP 048
UHS-H9H9	UHS 600		UHS 610	UHS 612	GP 048

NOTE: -X indicates fast or slow rotation speeds available. Please specify when ordering.

SERVICE KITS Kits contain everything you need for routine maintenance including: high pressure seals, critical o-rings, a seat for the high pressure seal (where applicable), 6 oz. of viscous fluid for rotation control (where applicable) and a fill tube or syringe. Call for specific details regarding your tool.

SEAL KITS Identical to the Service Kits, but does not include viscous fluid, fill tube and syringe. These kits are for customers who already have these items.

OVERHAUL KITS Kits contain normal wear items including: a single high pressure seal and seat, shaft seals, bearings and 6 oz. of viscous fluid (where applicable). Call for the contents of your specific kit.

TOOL KITS These kits differ for every STONEAGE tool. They contain special tools for seating shaft seals or performing other tool-specific maintenance.

LUBRICANTS Lubricants are available in each manufacturer's packaging for your convenience.

MEASUREMENT CONVERSION TABLE

FROM	TO	MULTIPLY BY	FROM	TO	MULTIPLY BY
Meters	Feet	3.281	Bar	psi	4.5
Feet	Meters	0.3048	psi	Bar	0.0689
Millimeters	Inches	0.0394			
Inches	Millimeters	25.4	Kilograms	Pounds (Mass)	2.205
			Pounds (mass)	Kilograms	0.4536
Liters/min	GPM (US)	0.2624			
Liters/min	GPM (Brit)	0.2200	Newtons	Pounds (Force)	0.2248
GPM (US)	Liters/min	3.785	Pounds (Force)	Newtons	4.448
GPM (Brit)	Liters/min	4.546			
GPM (US)	GPM (Brit)	0.8327	Kilowatts	Horsepower	1.341
GPM (Brit)	GPM (US)	1.201	Horsepower	Kilowatts	0.7457

PRESSURE AND FLOW EQUATIONS

Q = Flow in gpm	$Q = 29.92 \times d^2 \times P^{1/2} \times Cd$	<b>FOR ALL EQUATIONS:</b> <ul style="list-style-type: none"><li>L = Tube length in feet</li><li>D = Tube ID in inches</li><li>d = Orifice diameter in inches</li><li>Cd = Discharge Coefficient<ul style="list-style-type: none"><li>Cd = 0.90 for long cone orifice</li><li>Cd = 0.70 for drilled steel orifice</li><li>Cd = 0.65 for sapphire orifice</li></ul></li></ul>
V = Velocity in ft/sec	$V = 12.186 \times P^{1/2} = Cd \times .4085 \times Q/d^2$	
P = Pressure in psi	$P = .00112 \times Q^2/(d^4 \times Cd^2)$	
Hp = Horsepower	$Hp = .0174 \times d^2 \times P^{3/2} \times Cd, \approx P \times Q/1714$	
Cv = Flow Coefficient	$Cv = Q/ \Delta P^{1/2}, = 53 \times (D^{2.5}/L^{1/2})$	
ΔP = Pressure Drop	$\Delta P = (Q/Cv)^2$	
F = Thrust in lb	$F = \pi/2 \times d^2 \times P \times Cd, = .052 \times P^{1/2} \times Q, \approx .0018 \times (Q/D)2 \times Cd$	
ΔT = Temp Change °F	$\Delta T = \Delta P/337.6$	

STANDARD THREAD ABBREVIATIONS

NPT = National Pipe Thread	MP = Medium Pressure Cone & Thread Connection	G9 = 9/16" Thread with O-ring Groove Face Seal
NPTM = National Pipe Thread Male	HP = High Pressure Cone & Thread Connection	G12 = 3/4" Thread with O-ring Groove Face Seal
NPTF = National Pipe Thread Female	LH = Left-hand Direct Tube-end Thread Connection	K = 1-1/8" Thread with O-ring Groove Face Seal
BSPP = British Standard Parallel Pipe	RH = Right-hand Direct Tube-end Thread Connection	

STONEAGE CUSTOMER SERVICE  
1-866-795-1586 (TOLL FREE IN THE U.S.)

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HOURS: 8:00 AM - 5:00 PM MONDAY - FRIDAY (USA MOUNTAIN TIME)

TECHNICAL SUPPORT

STONEAGE offers the products listed in this catalog through its dealer network only. For a list of our current dealers please visit [WWW.STONEAGETOOLS.COM](http://WWW.STONEAGETOOLS.COM). Our Technical Support team is available during the hours listed above. They are also available for custom projects, see **STONEAGE SOLUTIONS** below.

SOLUTIONS

STONEAGE SOLUTIONS is the professional service division of **STONEAGE INC.** It provides the following: Custom Engineered Waterblasting Solutions, Technical Support on all **STONEAGE** Products, Product Repairs, and New Product Field Testing. Contractors and other end users work directly with **STONEAGE** or through a certified **STONEAGE SOLUTIONS** Dealer. **STONEAGE** requires direct communication with the end user to ensure our engineers have all required information to design the best equipment possible.

MANUALS

**OPERATOR'S MANUALS** for all equipment are available online. They illustrate tools, identify parts, and detail maintenance and overhaul procedures. Additional copies of the manuals, repair videos and CD's are available at a nominal charge.

REPAIRS

**REPAIR & MAINTENANCE SERVICE** is available by the same technicians who build and test our tools. We try to complete repairs and test every tool within three days of receipt. Call first so we can record all the information necessary to begin work as soon as the tool arrives. Make sure you include contact information. Send tool to:

STONEAGE INC. Attention Repairs, 466 S. Skylane Dr., Durango CO 81303, USA

**SERIAL NUMBER DATABASE** is maintained on all equipment sold. If a serial number is provided when ordering parts, we can verify that the right parts are specified.

LEAD TIME

**PARTS AND SERVICE KITS** are available to ship same day as ordered. Standard tools can usually be shipped the next day. Custom porting of heads usually requires 3-4 days to schedule through the factory. More complicated systems like Lancing Machines are built when ordered, which can take several weeks depending on factory backlog. Check availability and place orders early enough to avoid scheduling conflicts.

RENTALS

**NOT AVAILABLE FROM STONEAGE.** Check our web site for a list of **STONEAGE** Authorized Dealers who may rent equipment.

ORDERING

**CALL, E-MAIL, OR FAX YOUR ORDER** to an authorized dealer with purchase order number, shipping and billing addresses, and delivery date. Check datasheet to ensure specifications are complete. Advise whether we should hold shipment until all items are available.

SHIPPING

**SHIPPING IS PRE-PAID** and invoiced with order but may be charged directly to the customer's account with selected courier by special instruction. Most orders are shipped via UPS or Fed Ex couriers; specify a preference if you wish. Lancing Systems, Floor Cleaners, Telebooms and other large equipment must be shipped by truck or air freight. Either party may make the arrangements. Airline counter-to-counter delivery is not reliable from our mountain location.

PAYMENT

**MAJOR CREDIT CARDS OR BANK TRANSFERS ARE ACCEPTED.** Pre-payment is required to ship custom equipment.

RETURNS

Any parts returned for credit or warranty must be accompanied by a StoneAge RMA number. Please contact a Customer Service Specialist to obtain an RMA number. A minimum restocking fee of 15% applies to standard items returned unused. Returns will only be accepted on unused items returned 6 months or less from invoice date. All returns and restocking fees are subject to StoneAge final decision. Returns of custom products and obsolete items are not accepted.

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slightly textured appearance, typical of standard office paper. There is no handwriting or other markings on the page.This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slightly textured appearance and some minor discoloration or faint smudges, particularly towards the bottom edge.



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