

# Safe & Productive Pipe Cleaning

## ToolTalk™ - Pipe Cleaning Tool Choices

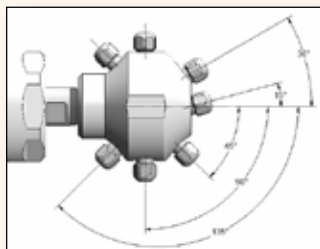
### The Right Tool for Your Job

The first step in selecting a pipe cleaning tool to determine what tool will fit into the pipe being cleaned, and whether the pipe is straight or has elbows. The next consideration is the deposit to be cleaned and selecting a tool that is capable of the pressure and flow rate to be used. Depending on the difficulty of the material to be removed, the use of centralizers and extension arms may be needed to decrease stand-off distance, improving jet impact in larger pipes. Once the tool is selected, determine jet placement in the head of the tool. How much pulling force is required to make the run and whether the pipe has scale or is partially or fully blocked will determine the location and number of orifices in the cleaning head. Finally, select the rotation speed of the head based on the size of the pipe and the nature of the deposit to be removed. Typically use faster rotation speeds in pipes up to 36 in, and slower rotation speeds in larger pipes or if the deposit is very thick and hard requiring more dwell time.



### Jetting Configuration

All **StoneAge**® tools rotate and clean. Self-rotary tools have the advantage of using fewer and thus larger orifices than non-rotary heads while achieving complete coverage of the walls of the pipe being cleaned. The location and quantity of the orifices in the rotary head are dependent on whether the pipe is blocked requiring forward facing jets, or has scale on the walls, requiring outward jets, and how much pulling force is needed, requiring rearward facing jets. Orifices of equal sizes should be installed opposite each other to balance the head from side to side. At **StoneAge**®, we refer to jet angles from the front to the back as shown in the illustration. When a tool is making a horizontal run, each pound of pulling force from the jets will pull between 1.5 and 3 m (5 and 10 ft) of hose, depending on the weight of the hose and the vibration created by the pump pulsations. If a tool must climb straight up, the jet pull must be at least equal to the weight of the tool and the weight of the length of hose being lifted.



### Safety

We have recommended limits on cleaning large pipe diameters for each tool as a safety precaution. Operators must be very cautious to not run a tool in a pipe that is small enough to turn itself around and come directly back at him. To prevent this, add a rigid lance to the inlet of the tool or choose a larger tool. We recommend a device that is 1-1/2 times the inner diameter of the pipe. **StoneAge**® also offers safety devices called **Back-Out Preventors** (detailed on pg 19) which will also provide protection from hydraulic-ing.

### Cleaning Large Pipes

The most important task to manage is reducing the distance from the end of the nozzle to the surface being cleaned. We offer **Extension Nipples**, detailed on page 51, and **Centralizers** on page 18. Extension Nipples not only reduce the stand off distance but also reduce turbulence which improves jet quality. Centralizers keep the tool centered in the pipe which allows for equal and effective cleaning. Additional accessories can be found on page 18.



### Pipe Cleaning Tool Selection Guide

		Pipe Diameter in Centimeters													
		5	7	10	15	25	50	100	150						
40k	2800	BJV-H9™													
		GO-H9™													
20k psi	1400 bar	BJV-20k™													
		RPT-M9™													
		GO-M9™													
		BA-M9™ *													
		BA-20k™ *													
15k psi	1000 bar	BJV-M™													
		RPT-M9™													
		GO-M9™													
		BA-P8™ *													
		BA-15k™ *													
Pressure	Pressure	BA-P4™ *													
		2	3	4	5	6	8	10	18	20	40	50	60		
		Pipe Diameter in inches													