BLASTMASTER

ConeBlast™ Junior

internal pipe blasting tool

Owner's Manual

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Specialist Suppliers to the Surface Preparation, Protective Coatings & Corrosion Control Industry

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Introduction

General Description

Internal pipe surface preparation is accomplished easier, faster and more economically by the use of Blastmaster's® ConeBlast™ Junior internal pipe blasting tool. The ConeBlast™ Junior is specially designed to blast clean pipes ranging in size from ¾" to 2" (20mm to 50mm) inside diameter *without the need to rotate the pipe*. Through highly powered abrasive impact, millscale, rust, old paint and any other contaminants are removed from the inside surface better than any other method. Precise surface profiles can be obtained, ensuring proper adhesion for long-life coatings.

Standard abrasive blast machines are used in conjunction with the ConeBlast™ Junior, which simply replaces the conventional blast nozzle at the end of the blast hose. The tool, which has no moving parts, utilizes a built-in short venturi nozzle to propel abrasive at high velocity at the deflection tip. When the abrasive hits the tip, it fans out into a wide, circular 360° blast pattern, achieving uniform coverage. A 'hex collar' centring carriage set is provided to hold the tool in position during passes, and allows the tool to fit various pipe diameters.

The ConeBlast™ Junior tool is constructed from the finest materials available, and is engineered to provide many hours of productive work. Tungsten carbide tip, stem sleeves and stem support ensure long wear life. The ConeBlast™ Junior is complemented by the Blastmaster® ConeSpray™ Junior pipe coating tool.

The Blastmaster® ConeBlast™ Junior: a highly efficient solution for a difficult job.

Set Up

Basic Equipment Required

Use of the ConeBlast™ Junior tool requires the same equipment as any other blast cleaning operation (an air compressor and an abrasive blast machine). The compressor must be able to supply 115 cfm at a pressure of 100 psi at the nozzle.

Abrasives

The abrasive must be well screened and dry. This is more important with the ConeBlast™ Junior than with most blasting operations, because of the small clearances involved. Any of the common blasting abrasives can be used, although softer abrasives give poor results as too much energy is lost in break-up on the deflection tip. Aluminium oxide and silicon carbide should be avoided unless required by job specifications, since these abrasives cause accelerated wear. Steel grit can be used if adequate recovery means are available. Garnet is highly recommended as the ideal media due to its low cost and high blasting efficiency.

Set Up for Blasting

The ConeBlast™ Junior tool must be used with a ⅜" pipe lance. The lance is usually as long as the pipe to be cleaned. It should be square cut to allow it to butt neatly against the parts of the tool it touches. Blastmaster® can supply a 6" long pipe lance if needed (IP C3013). Screw one end of the pipe lance into the reducer, and connect the other end to the stem support assembly, using the coupling and knurled lock ring provided. Never connect the stem support assembly directly to the reducer. Make sure the lance butts against the stem support assembly and bottoms against the tungsten carbide liner of the reducer. This will improve tool performance and increase the life of the parts. Select the pair of collars closest to the I.D. of the pipe being cleaned and attach them to the body. The set screws should be tightened into the grooves.

Centring Collars

A Centring Collar Set (Part No. IP C3110) is provided with the ConeBlast™ Junior. The tool without any centring device will fit into ¾" (20mm) pipe. The centring collars will adapt the ConeBlast™ Junior for 1” to 2” (25mm to 50mm) pipe.

The collars mount over the grooves in the body of the ConeBlast™ Junior and are held in place by allen head grub screws which tighten into the grooves. The allen key for these screws is provided with the ConeBlast™ Junior.

There are four sets of collars, as indicated by the chart below:

Collar Set	for	Pipe Size
IP C3111		1"
IP C3112		1 ¼"
IP C3113		1 ½”
IP C3114		2”

*Use ConeBlast™ Junior without collars for ¾" I.D. pipe.

Operation

General Instructions

The ConeBlast™ Junior is designed for manual travel through pipe.
To blast clean the interior of a pipe:

1) Fit the ConeBlast™ Junior in the appropriate collars.

2) Push the ConeBlast™ Junior through the pipe to the opposite end. **BE CAREFUL NOT TO HIT THE DEFLECTION TIP AGAINST THE PIPE**. Hold the tool firmly and pressurise the blast machine.

3) Begin blasting, pulling the tool through the pipe at a speed necessary to obtain the desired degree of cleaning. Abrasive and blasted material will be blown out the other end.

Proper Abrasive Feed

Too much abrasive seriously hampers the efficiency of the ConeBlast™ Junior and results in heavier wear on the parts with lower production. When blasting at 80 to 100psi with the standard ½" nozzle, 100kg of garnet should last 14 to 20 minutes and 100kg of steel grit should last 3 to 6 minutes. Adjust the abrasive feed if your rates differ significantly from these.

Maintenance

General Instructions

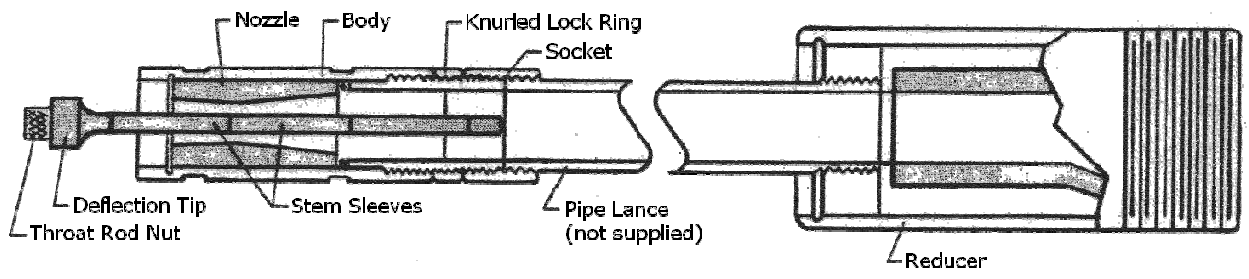
Always take care not to drop the ConeBlast™ Junior or any of its internal wear parts. They are quite brittle due to their extreme hardness and break easily. When inspecting or replacing parts, keep the ConeBlast™ Junior clean and brush abrasive out of cracks, threads, etc.

Deflection Tip and Sleeve Replacement

The deflection tip should be replaced before the head becomes 75% worn away. The stem sleeves should be replaced before they wear through. These parts can be easily reached by removing the knurled throat rod nut, unscrewing the body, and lifting off the nozzle and nozzle gasket. When replacing the sleeves, make sure that no abrasive or dirt particles get between them. Do not use great force when tightening the throat rod nut (hand tightening is preferable).

Nozzle Replacement

The nozzle should be replaced when the throat is worn to 0.330" I.D.



Replacement Parts

ConeBlast™ Junior

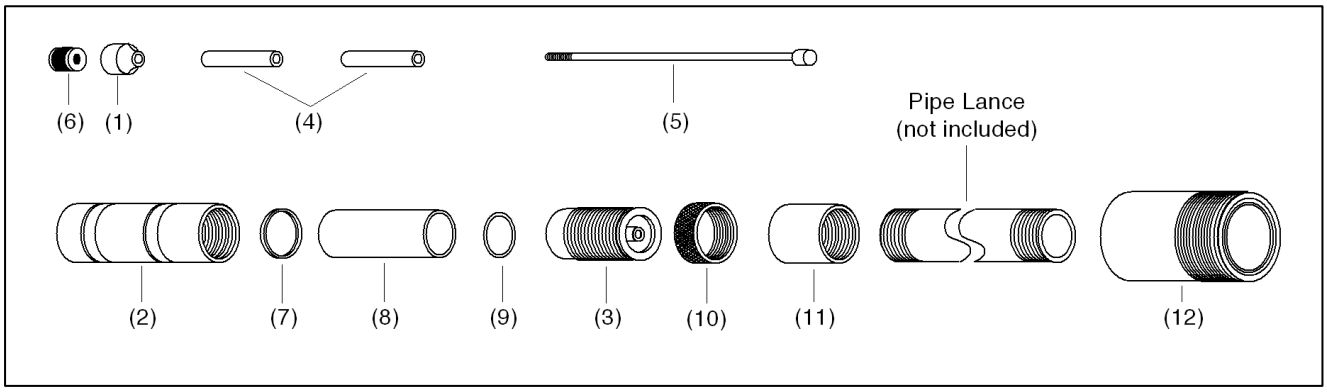
Item	Description	Part No.
-	ConeBlast™ Junior without reducer	IP C3000
	(includes centring collar set)	
-	ConeBlast™ Junior with ¼" reducer (tungsten carbide)	IP C3100
	(includes centring collar set)	

ConeBlast™ Junior Parts

Item		Description	Part No.
1	*	Deflection tip (tungsten carbide)	IP C3001
2		Body	IP C3002
3	*	Stem support assembly (includes item 5)	IP C3003
4	*	Stem sleeve (tungsten carbide) – 2 required	IP C3004
5	*	Throat rod and tip assembly	IP C3005
6	*	Throat rod nut	IP C3006
7		Retaining Ring	IP C3007
8		Nozzle 9/32" (tungsten carbide)	IP C3008
9		Nozzle gasket 9/16"	IP C3009
10		Knurled lock nut	IP C3010
11		Socket ⅜"	IP C3011
12		Reducer (tungsten carbide)	IP C3012
		Pipe Lance (⅜" x 6") – not included	IP C3013
		*Recommended spares	

ConeBlast™ Junior Centring Collar Set

Item	Description	Part No.
-	Centring Collar Set 1" – 2" I.D.	IP C3110
	(includes all four sets listed below)	
-	Collar set for 1" I.D. pipe	IP C3111
-	Collar set for 1 ¼" I.D. pipe	IP C3112
-	Collar set for 1 ½" I.D. pipe	IP C3113
-	Collar set for 2" I.D. pipe	IP C3114



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