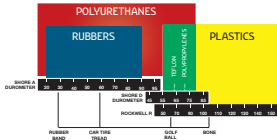
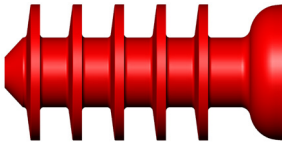


ALL URETHANE



Durometer Chart

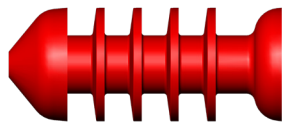
Pg. 3-2



Purger I

2 - 36"

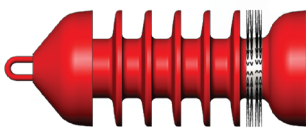
Pg. 3-3



Purger II

2 - 24"

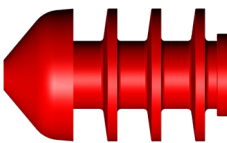
Pg. 3-4



5 Disc Purger II

3 - 16"

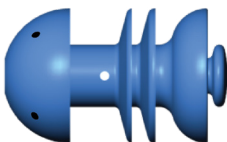
Pg. 3-5



Purger VP

2 - 16"

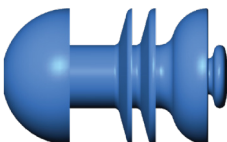
Pg. 3-6



Tsunami FP

3 - 6"

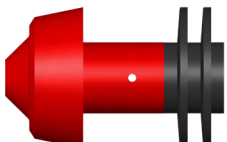
Pg. 3-7



Tsunami VP

3 - 6"

Pg. 3-8



Hurricane FP

3 - 12"

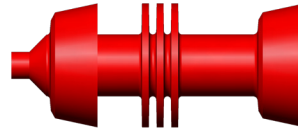
Pg. 3-9



Hurricane LP

3 - 12"

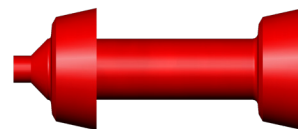
Pg. 3-10



Hurricane I

3 - 12"

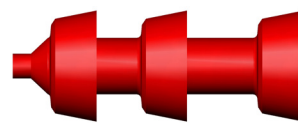
Pg. 3-11



Hurricane II

3 - 12"

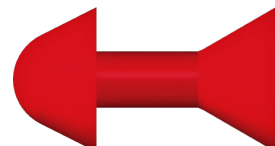
Pg. 3-12



Hurricane III

3 - 12"

Pg. 3-13



Tornado I

2 - 4"

Pg. 3-14



Tornado II

2 - 4"

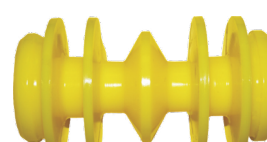
Pg. 3-15



Tornado III

2 - 4"

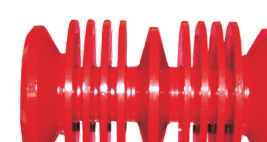
Pg. 3-16



VIPRS®

2 - 10"

Pg. 3-17



SUD®

2 - 10"

Pg. 3-18

60-63 DUROMETER

Very soft and pliable

70-75 DUROMETER

Somewhat firm, but quite flexible

80-85 DUROMETER

Firm with fair flexibility
Most common for solid-cast pigs

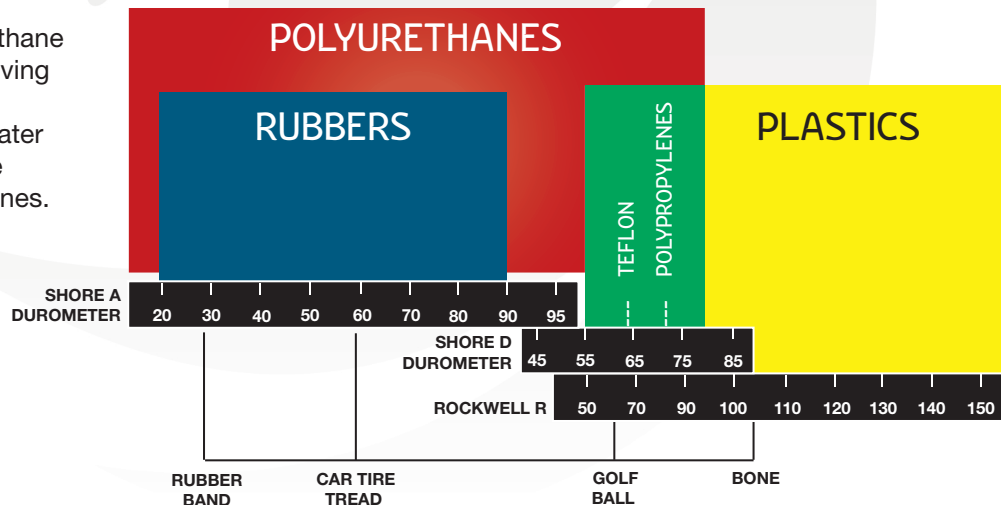
Durometer

What does “durometer” mean and why is it important? Pipeline pigs play many roles. From cleaning and removing debris to separating and batching dissimilar fluids, they’re essential tools of the trade, especially for maintaining pipelines. And because no two tasks – or pipeline - are exactly alike, the characteristics of the best pig for the job will vary.

For example, a long section of pipeline choked with debris will require much more aggressive cleaning and scraping by a rugged, hardwearing pig that can withstand the rigors of the process, as opposed to a shorter line in need of light cleaning.

A key characteristic of a pig lies in the type of material from which it is made. This is where “durometer” comes in. Durometer is the term used for one of several measures of the hardness of a material. We define hardness as a material’s resistance to permanent indentation. To illustrate, in the world of polyurethane pipeline pigs, the hardness scale used is called the “Shore A”. Our polyurethanes typically range from 60 to 90 on the Shore A Scale. That said, we can easily expand that range for special applications should a customer require it.

Compared with rubber, polyurethane is a harder, stronger product, giving it the ability to handle harsher conditions, higher load and greater impact. The chart illustrates the unique properties of polyurethanes.



With regard to pipeline pigs, each durometer has advantages and disadvantages. Each of the descriptive headings below also indicates Apache’s standard color for each durometer.

60-63 Durometer: Very soft and pliable; good for passing through restrictions and turning tight radius bends; can be used in non-steel pipelines (fiberglass, HDPE or lined pipe); less effective for cleaning and scraping due to its softness; a shorter pig lifespan due to wear and tear; lower resistance to extreme conditions, such as high hydrogen sulfide gas or chemicals. Pigs in this durometer are great for low pressure applications.

70-75 Durometer: Somewhat firm, but quite flexible; moderate cleaning and scraping effectiveness; medium-wear resistance.

80-85 Durometer: The most common durometer used for solid-cast pigs; firm with fair flexibility; very effective for cleaning and scraping; high level of wear resistance; moderate resistance to hydrogen sulfide gas or chemicals.

90-95 Durometer: Very hard with little to no flexibility; rarely used for solid cast pigs; primarily used for custom urethane applications (i.e. rollers, bumpers and spacers).

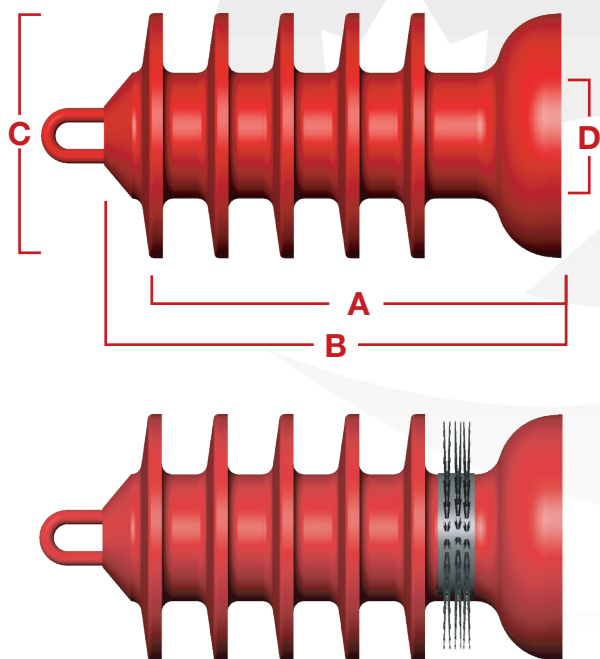
Options Available:

- Food grade.
- High temperature material.

Purger I™

2-36" (51-914mm)

The Purger™ Series pig is a tough, all urethane pipeline pig that requires absolutely no maintenance and is an excellent pig for product evacuation. The Purger I™ is also an efficient batching, cleaning and displacement pig. Its multi-disc design ensures that sealing elements are always centered in the pipeline, resulting in consistent wear over time.



Size	A	B	C	D	Part #
2"	4.500	5.000	2.250	0.500	71-0185-02
3"	6.750	7.500	3.375	1.000	71-0185-03
4"	7.500	8.500	4.375	1.250	71-0185-04
6"	11.500	13.250	6.375	1.500	71-0185-06
8"	15.250	17.000	8.625	3.000	71-0185-08
10"	17.500	19.750	10.625	3.875	71-0185-10
12"	20.500	23.000	12.500	4.750	71-0185-12
14"	23.500	26.000	14.250	5.750	71-0185-14
16"	25.750	28.500	16.375	5.875	71-0185-16
18"	29.000	35.000	18.000	7.750	71-0185-18
20"	29.500	33.750	20.000	7.875	71-0185-20
22"	32.750	37.250	22.000	9.000	71-0185-22
24"	35.750	39.750	24.000	9.875	71-0185-24
30"	44.000	52.000	30.000	12.875	71-0185-30
36"	48.500	61.000	36.000	18.625	71-0185-36

*Part numbers shown are for 85 Durometer (62 and 72 also available)

Designed to negotiate 1.5D or greater bends.

Features & Benefits:

- Lightweight.
- Improved sealing as a hollow core allows pressure to expand the body.
- Multiple seals.
- Standard hollow core for a transmitter.

Options Available:

- Solid core.
- Variety of durometers.
- Wrap brushes. See page 5-22.
- Magnets. Trip magnets available for sizes 4"-36".
- Rattler for 12" – 36" sizes only.
- Custom lengths available on request.

60-63 DUROMETER
 Very soft and pliable

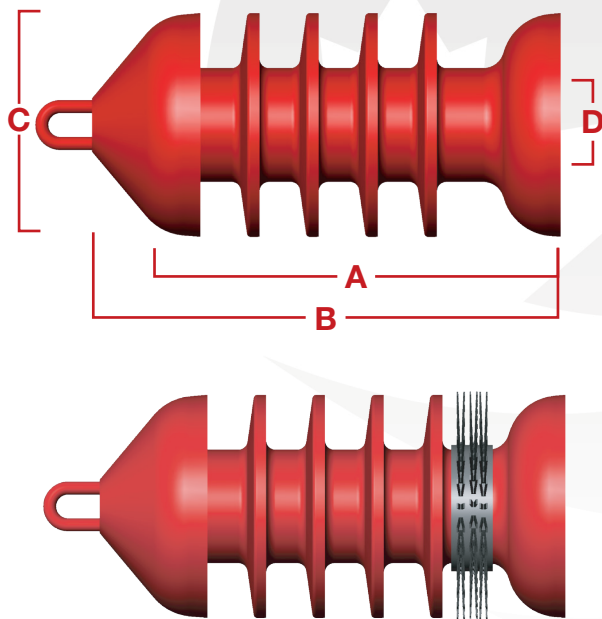
70-75 DUROMETER
 Somewhat firm, but quite flexible

80-85 DUROMETER
 Firm with fair flexibility. Most common for solid-cast pigs

Purger II™

2-24" (51-610mm)

The Purger™ Series pig is a tough, all urethane pipeline pig that requires absolutely no maintenance and is an excellent pig for product evacuation. The difference between the Purger I™ and Purger II™ is the added cup to the front of the pig for added effectiveness.



Size	A	B	C	D	Part #
2"	4.250	5.375	2.250	0.500	71-0285-02
3"	6.750	8.375	3.375	1.000	71-0285-03
4"	7.500	9.500	4.375	1.250	71-0285-04
6"	11.500	15.000	6.375	1.500	71-0285-06
8"	15.500	19.250	8.625	3.000	71-0285-08
10"	18.250	22.000	10.625	3.875	71-0285-10
12"	22.000	26.500	12.500	4.750	71-0285-12
14"	24.000	31.000	14.250	5.750	71-0285-14
16"	24.500	33.000	16.375	5.875	71-0285-16
18"	27.000	36.000	18.000	8.750	71-0285-18
20"	30.375	39.000	20.000	7.875	71-0285-20
22"	33.625	43.000	22.000	9.000	71-0285-22
24"	36.750	46.000	24.000	9.875	71-0285-24

*Part numbers shown are for 85 Durometer (62 and 72 also available)

Designed to negotiate 1.5D or greater bends.

Features & Benefits:

- Lightweight.
- Improved sealing as hollow core allows pressure to expand the body.
- Multiple seals.
- Standard hollow core for a transmitter.

Options Available:

- Solid core.
- Variety of durometers.
- Wrap brushes. See page 5-22.
- Magnets. Trip magnets available for sizes 4"-36". See page 6-3.
- Rattler for 12" – 36" sizes only.
- Custom lengths available on request.

60-63 DUROMETER
 Very soft and pliable

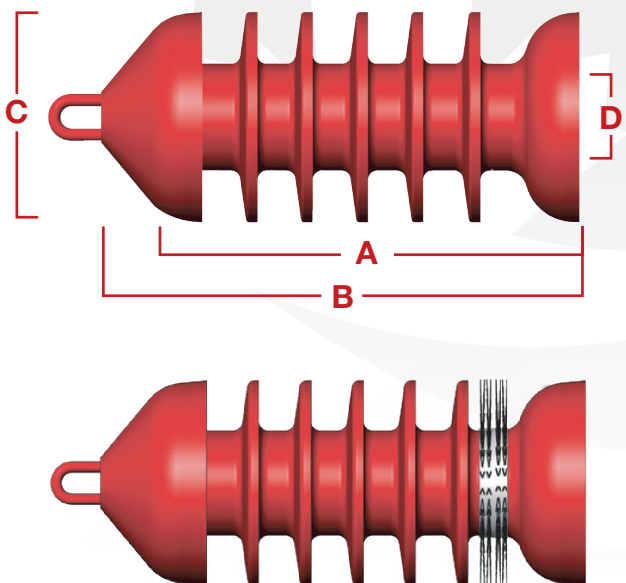
70-75 DUROMETER
 Somewhat firm, but quite flexible

80-85 DUROMETER
 Firm with fair flexibility. Most common for solid-cast pigs

5 Disc Purger II™

3-16" (76-406mm)

The Apache 5 Disc Purger II™ was designed to have five sealer discs and two cups. The additional components enhance sealing, cleaning and batching over the standard Purger II™. The additional length of this pig helps improve navigation of Wye Laterals and Tee's.



Size	A	B	C	D	Part #
3"	7.800	9.500	3.400	1.000	71-0685-03
4"	8.600	10.800	4.370	1.250	71-0685-04
6"	13.600	16.900	6.370	1.500	71-0685-06
8"	17.200	22.000	8.650	3.000	71-0685-08
10"	20.000	25.200	10.680	3.875	71-0685-10
12"	23.200	29.700	12.500	4.750	71-0685-12
14"	27.500	33.750	14.250	5.750	71-0685-14
16"	30.000	37.357	16.375	5.875	71-0685-16

Designed to negotiate 1.5D or greater bends.

Features & Benefits:

- Lightweight.
- Improved sealing as hollow core allows pressure to expand the body.
- Multiple seals.
- Standard hollow core for a transmitter.

Options Available:

- Solid core.
- Variety of durometers.
- Wrap brushes. See page 5-22.
- Magnets. Trip magnets available for sizes 4"-36". See page 6-3.
- Rattler for 12" – 36" sizes only.
- Custom lengths available on request.

60-63 DUROMETER
 Very soft and pliable

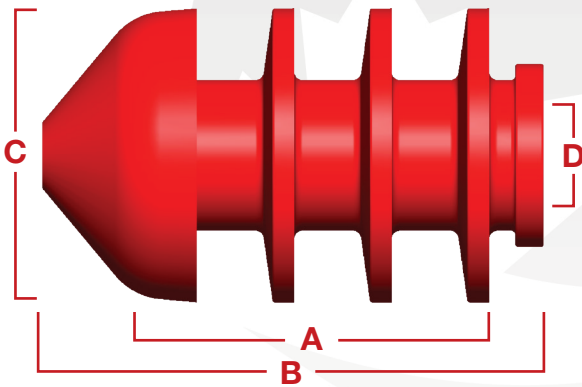
70-75 DUROMETER
 Somewhat firm, but quite flexible

80-85 DUROMETER
 Firm with fair flexibility. Most common for solid-cast pigs

Purger VP™ (Valve Pig)

2-12" (51-305mm)

The Purger VP™ can be launched and received by nearly any pigging valve on the market today. As it moves steadily through the line, the discs clean away debris and residue from the pipe wall.



Size	A	B	C	D	Part #
2"	2.375	4.000	2.250	-	71-0985-02S
3"	3.750	5.750	3.375	-	71-0985-03S
4"	3.875	7.375	4.375	-	71-0985-04S
6"	5.750	10.250	6.375	-	71-0985-06S
8"	8.375	14.750	8.625	2.875	71-0985-08
10"	9.250	15.250	10.500	3.875	71-0985-10
12"	11.250	18.500	12.500	4.500	71-0985-12

*Part numbers shown are for 85 Durometer (62 and 72 also available)

Note: Sizes 2" - 6" come standard as solid core, but are available in hollow core as well. Sizes 8" - 12" come standard as hollow core.

Designed to negotiate 1.5D or greater bends.

Features & Benefits:

- Lightweight.
- Improved sealing as hollow core allows pressure to expand the body.
- Can be utilized in Argus™, Masterflo™, and Meridian™ valves.

Options Available:

- Solid core available in 8" - 12".
- Variety of durometers.
- Wrap brushes. See page 5-22.
- Custom lengths available on request.

60-63 DUROMETER
Very soft and pliable

70-75 DUROMETER
Somewhat firm, but quite flexible

80-85 DUROMETER
Firm with fair flexibility. Most common for solid-cast pigs

* Trademark names

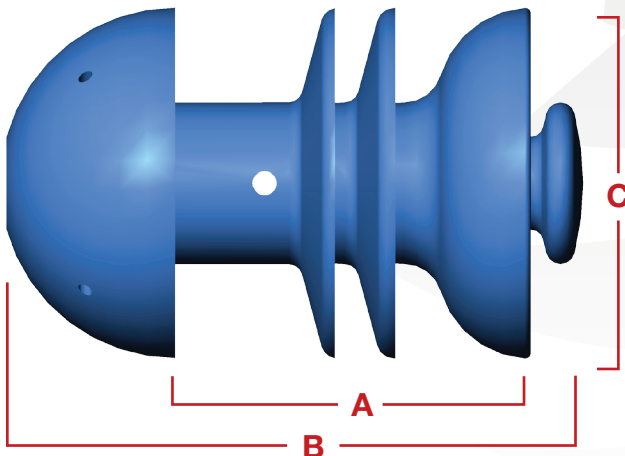
Tsunami FP

(Filming Pig)

3-6" (76-152mm)

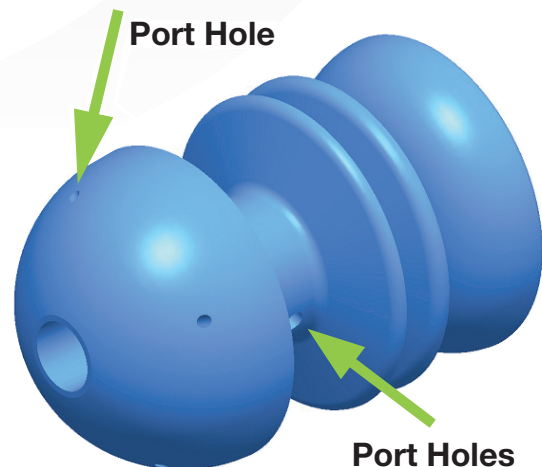
The Tsunami FP was designed to apply inhibitor 360-degrees around the interior pipe wall. The Tsunami FP features a port holes on the front cup as well as the sides of the body. It also has a hollow core to allow the inhibitor to travel through the body.

The Tsunami FP is designed to be pliable and is typically made from 70 Shore A durometer Reliathane. It also may be launched in a pigging valve.



Size	A	B	C	Part #
3"	4.10	5.70	3.38	75-0472-03
4"	5.40	7.50	4.38	75-0472-04
6"	7.40	10.50	6.38	75-0472-06

Designed to negotiate 1.5D or greater bends.



How It Works:

Inhibitor travels through the hollow front vanity and port holes, ultimately leaving a film of protective corrosion inhibitor on the pipe wall.

Features & Benefits:

- Lightweight - no metal components.
- Multiple seals provide excellent product interface.
- Can be utilized in Argus™, Masterflo™ and Meridian™ valves.

Check
out our
videos!

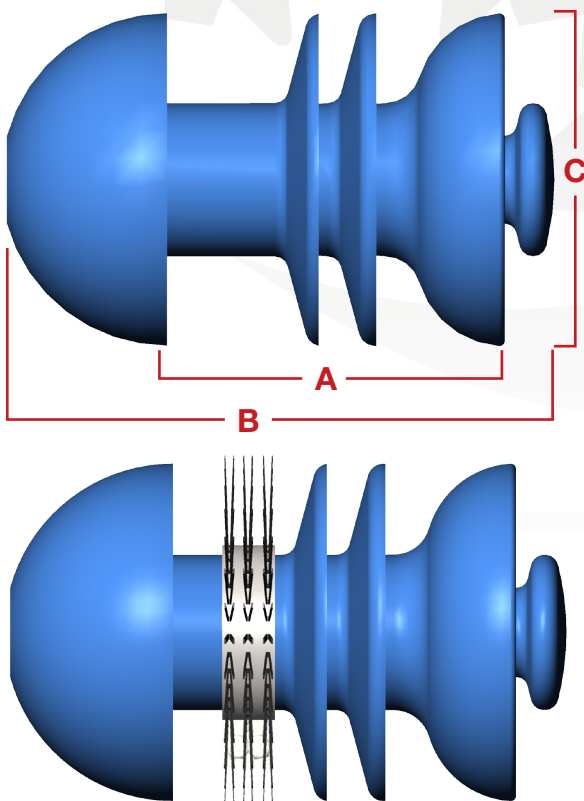


Tsunami VP *(Valve Pig)*

3-6" (76-152mm)

Looking for a way to optimize your pipeline maintenance program? Apache has the answer. It's called the Tsunami VP, and it's the latest addition to our series of solid-cast urethane pigs. The "VP" stands for "valve pig". This means that it is specially designed so that it can be launched and received by nearly any pigging valve on the market today. As it moves steadily through the line, clearing away troublesome debris and residue, rest assured that the line is being thoroughly cleaned, and the Tsunami VP will arrive in the receiver on schedule.

The Tsunami VP is designed to be pliable and is typically made from 70 Shore A Durometer Reliathane.



Size	A	B	C	Part #
3"	4.10	5.70	3.38	75-0572-03
4"	5.40	7.50	4.38	75-0572-04
6"	7.40	10.50	6.38	75-0572-06

Designed to negotiate 1.5D or greater bends.

Features & Benefits:

- Lightweight - no metal components.
- Multiple seals provide excellent product interface.
- Can be utilized in Argus™, Masterflo™ and Meridian™ valves.

Options Available:

- Wrap Brushes in the following types and trim materials:
 1. Trim types - flat wire.
 2. Trim material - carbon steel or stainless steel.

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out our
videos!

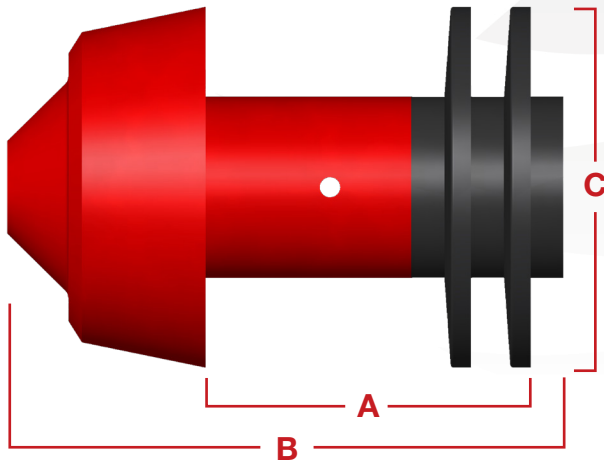


Hurricane FP *(Filming Pig)*

3-12" (76-305mm)

The Hurricane filming and lead pig combination makes for efficient filming system.

The Hurricane Lead Pig (LP) acts as the lead pig of a double-pig train. It carries inhibitor or biocide treatment, allowing minimal by-pass. The inhibitor is contained between the LP and the Hurricane Filming Pig (FP). As the train moves through the line, the FP leaves a film of inhibitor on the pipe wall.



Size	A	B	C	Part #
3"	2.500	4.875	3.375	74-0462-03
4"	3.625	6.250	4.375	74-0462-04
6"	5.375	8.750	6.500	74-0462-06
8"	7.625	11.750	8.500	74-0462-08
10"	9.625	14.125	10.625	74-0462-10
12"	10.125	15.375	12.500	74-0462-12

Designed to negotiate 1.5D or greater bends.

Features & Benefits:

- Lightweight – no metal components.
- Can be launched in most common pigging valves.

Check
out our
videos!

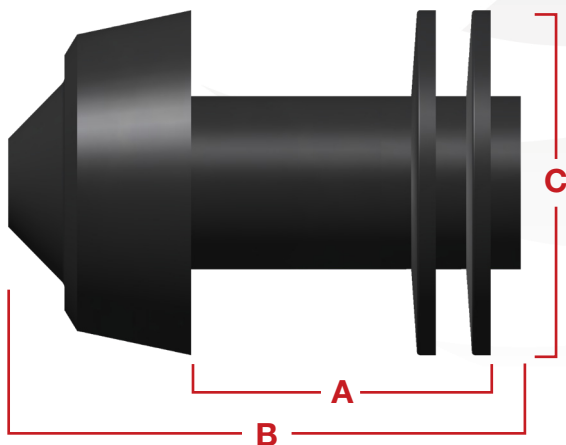


Hurricane LP

3-12" (76-305mm)

The Hurricane filming and lead pig combination makes for efficient filming system.

The Hurricane Lead Pig (LP) acts as the lead pig of a double-pig train. It carries inhibitor or biocide treatment, allowing minimal by-pass. The inhibitor is contained between the LP and the Hurricane Filming Pig (FP). As the train moves through the line, the FP leaves a film of inhibitor on the pipe wall.



Size	A	B	C	Part #
3"	2.500	4.875	3.375	74-0572-03S
4"	3.625	6.250	4.375	74-0572-04S
6"	5.375	8.750	6.500	74-0572-06S
8"	7.625	11.750	8.500	74-0572-08S
10"	9.625	14.125	10.625	74-0572-10S
12"	10.125	15.375	12.500	74-0572-12S

Designed to negotiate 1.5D or greater bends.

Features & Benefits:

- Lightweight – no metal components.
- Can be launched in most common pigging valves.
- Standard hollow core to house electronic transmitter.

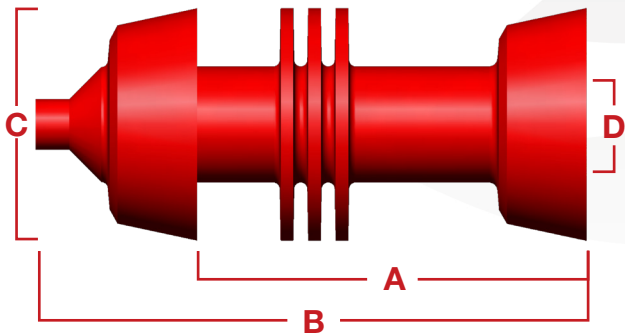
Check
out our
videos!



Hurricane I

3-12" (76-305mm)

The Hurricane I is an all urethane cup-disc pig. It is lightweight and versatile. Strategically placed cups and discs make it possible for the Hurricane to navigate through restrictions in valves and pass through tees.



Size	A	B	C	D	Part #
3"	5.750	7.750	3.375	1.000	74-0185-03
4"	7.375	9.625	4.500	1.500	74-0185-04
6"	10.125	13.125	6.500	2.000	74-0185-06
8"	13.125	17.500	8.625	2.875	74-0185-08
10"	16.000	20.500	10.750	3.750	74-0185-10
12"	20.500	23.000	12.625	4.625	74-0185-12

*Part numbers shown are for 85 Durometer (62 and 72 also available)

Designed to negotiate 1.5D or greater bends.

Features & Benefits:

- Solid-cast urethane.
- Lightweight.
- Standard hollow cavity to house transmitter.

Options Available:

- Solid core.
- Variety of durometers.
- Wrap brushes. See page 5-22.
- Magnets. See page 6-2.

60-63 DUROMETER
 Very soft and pliable

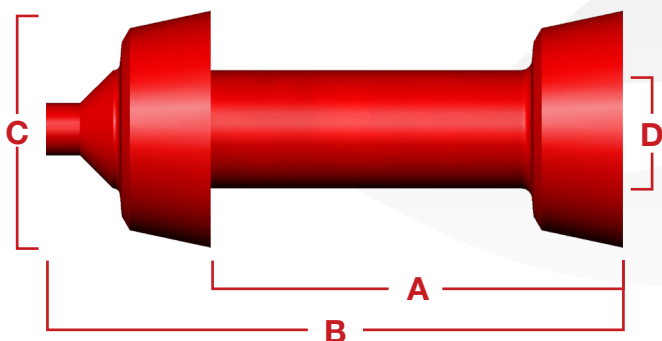
70-75 DUROMETER
 Somewhat firm, but quite flexible

80-85 DUROMETER
 Firm with fair flexibility. Most common for solid-cast pigs

Hurricane II

3-12" (76-305mm)

The Hurricane II is an all urethane pig designed to be lightweight and versatile. Strategically placed cups and discs make it possible for the Hurricane to navigate through restrictions in valves and pass through tees.



Size	A	B	C	D	Part #
3"	6.250	7.875	3.375	1.000	74-0285-03
4"	8.000	9.750	4.500	1.500	74-0285-04
6"	10.750	13.000	6.500	2.000	74-0285-06
8"	14.000	16.750	8.625	2.875	74-0285-08
10"	16.000	20.500	10.750	3.750	74-0285-10
12"	20.500	23.000	12.625	4.625	74-0285-12

*Part numbers shown are for 85 Durometer (62 and 72 also available)

Designed to negotiate 1.5D or greater bends.

Features & Benefits:

- Solid-cast urethane.
- Lightweight.
- Standard hollow cavity to house transmitter.

Options Available:

- Solid core.
- Variety of durometers.
- Wrap brushes. See page 5-22.
- Magnets. See page 6-2.

60-63 DUROMETER
 Very soft and pliable

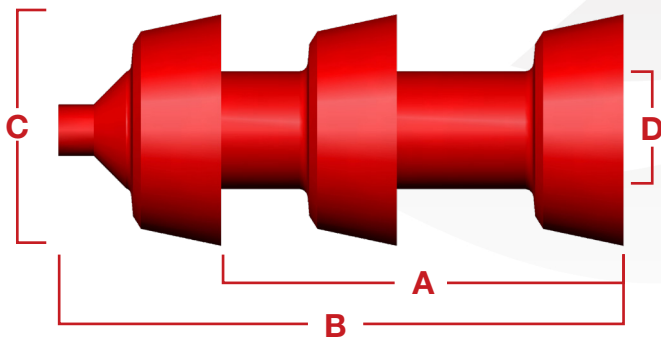
70-75 DUROMETER
 Somewhat firm, but quite flexible

80-85 DUROMETER
 Firm with fair flexibility. Most common for solid-cast pigs

Hurricane III

3-12" (76-305mm)

The Hurricane III is an all urethane pig designed to be lightweight and versatile. Strategically placed cups and discs make it possible for the Hurricane to navigate through restrictions in valves and pass through tees. The additional cup gives it additional cleaning power over the Hurricane II.



Size	A	B	C	D	Part #
3"	5.750	7.750	3.750	1.000	74-0385-03
4"	7.125	9.625	4.500	1.500	74-0385-04
6"	9.875	12.500	6.500	2.000	74-0385-06
8"	12.375	16.250	8.625	2.875	74-0385-08
10"	15.750	20.750	10.750	3.750	74-0385-10
12"	20.500	23.000	12.625	4.625	74-0385-12

*Part numbers shown are for 85 Durometer (62 and 72 also available)

Designed to negotiate 1.5D or greater bends.

Features & Benefits:

- Solid-cast urethane.
- Lightweight.
- Standard hollow cavity to house transmitter.

Options Available:

- Solid core.
- Variety of durometers.
- Wrap brushes. See page 5-22.
- Magnets. See page 6-2.

60-63 DUROMETER
 Very soft and pliable

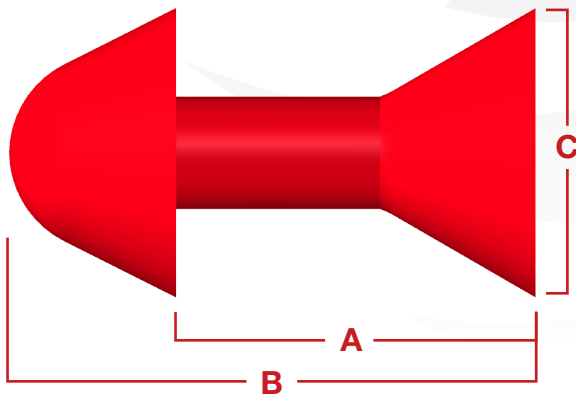
70-75 DUROMETER
 Somewhat firm, but quite flexible

80-85 DUROMETER
 Firm with fair flexibility. Most common for solid-cast pigs

Tornado I

2-4" (51-102mm)

The Tornado I is compact pig designed for small diameter pipelines such as those found in crude oil gathering systems. The unique cup design permits this pig to travel through short radius bends. The Tornado I is designed for use in both non-metallic pipe and steel lines. Typically the Tornado's strength lies in proving a line in a pipe network prior to operational pigging.



Size	A	B	C	Part #
2"	3.000	4.500	2.125	72-0185-02S
3"	4.125	5.875	3.250	72-0185-03S
4"	4.875	7.250	4.375	72-0185-04S

Designed to negotiate 1.5D or greater bends.

Features & Benefits:

- Solid cast urethane.
- Lightweight.

Options Available:

- Available in different durometers.

60-63 DUROMETER
 Very soft and pliable

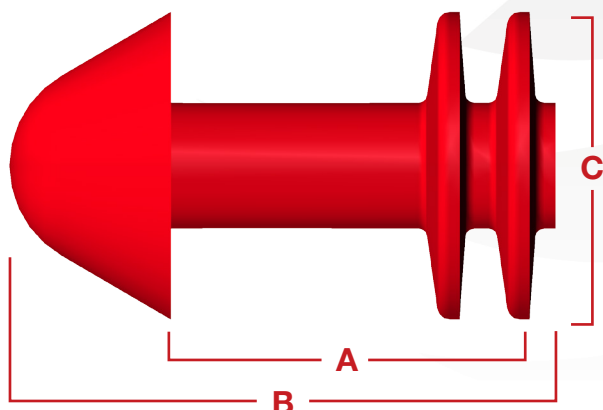
70-75 DUROMETER
 Somewhat firm, but quite flexible

80-85 DUROMETER
 Firm with fair flexibility. Most common for solid-cast pigs

Tornado II

2-4" (51-102mm)

The Tornado II is compact pig designed for small diameter pipelines such as those found in crude oil gathering systems. The unique cup design permits this pig to travel through short radius bends. The Tornado II is designed for use in both non-metallic pipe and steel lines. Typically the Tornado's strength lies in proving a line in a pipe network prior to operational pigging. The discs on the Tornado II helps provide a better seal over the Tornado II.



Size	A	B	C	Part #
2"	3.000	4.500	2.125	72-0285-02S
3"	4.125	5.875	3.250	72-0285-03S
4"	4.875	7.250	4.375	72-0285-04S

Designed to negotiate 1.5D or greater bends.

Features & Benefits:

- Solid-cast urethane.
- Lightweight.

Options Available:

- Available in different durometers.

60-63 DUROMETER
 Very soft and pliable

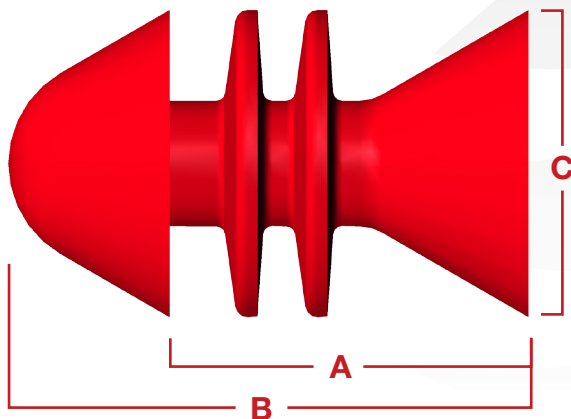
70-75 DUROMETER
 Somewhat firm, but quite flexible

80-85 DUROMETER
 Firm with fair flexibility. Most common for solid-cast pigs

Tornado III

2-4" (51-102mm)

The Tornado III is compact pig designed for small diameter pipelines such as those found in crude oil gathering systems. The unique cup design permits this pig to travel through short radius bends. The Tornado III is designed for use in both non-metallic pipe and steel lines. Typically the Tornado's strength lies in proving a line in a pipe network prior to operational pigging. The combination of discs and two cups make it superior to all other Tornado pigs.



Size	A	B	C	Part #
2"	3.000	4.500	2.125	72-0385-02S
3"	4.125	5.875	3.250	72-0385-03S
4"	4.875	7.250	4.375	72-0385-04S

Designed to negotiate 1.5D or greater bends.

Features & Benefits:

- Solid-cast urethane.
- Lightweight.

Options Available:

- Available in different durometers.

60-63 DUROMETER
 Very soft and pliable

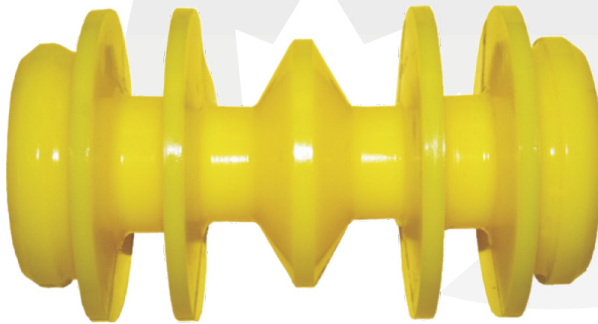
70-75 DUROMETER
 Somewhat firm, but quite flexible

80-85 DUROMETER
 Firm with fair flexibility. Most common for solid-cast pigs

VIPRS® Pig

2-10" (51-254mm)

The VIPRS® was designed to act as an effective squeegee while being able to traverse elbows with a radius as sharp as 1.5D. It will batch and remove liquid at pressures as low as 15PSI. The VIPRS® will accommodate variations in pipe IDs of the same nominal size.



Size	Pipe I.D.	Description	Seal Discs O.D.	Overall Length
2"	1.870"	For SS Tubing	1.900"	3.400"
2"	2.067"	For S/40	2.100"	3.400"
2"	2.157"	For S/10	2.200"	3.400"
2.5"	2.370"	For SS Tubing	2.400"	4.600"
2.5"	2.637"	For S/10	2.700"	4.600"
3"	2.870"	For SS Tubing	2.900"	5.500"
3"	3.068"	For S/40	3.100"	5.500"
3"	3.260"	For S/10	3.300"	5.500"
3"	n/a	For S/5	3.400"	5.500"
4"	3.834"	For SS Tubing	3.900"	6.380"
4"	4.026"	For S/40	4.100"	7.500"
4"	4.260"	For S/10	4.320"	7.500"
6"	5.782"	For SS Tubing	5.900"	9.500"
6"	6.357"	For S/10	6.450"	9.500"
10"	n/a	For S/40	10.340"	17.360"

Applications:

- Terminal loading lines.
- Chemical processing.
- Petrochemical.
- Wood pulp and paper.
- Food and beverage.
- Water and wastewater treatment plants.
- Packaging, loading, process and product lines, piping.

Features & Benefits:

- Less wasted product means reduced BOC load charges.
- Reduced power costs mean greater efficiencies of flow and pressure.
- Cleaner product as a result of decreased product intermix.
- Reduced overtime through more efficient, faster clean-up.

Designed to negotiate 1.5D or greater bends.

Options Available:

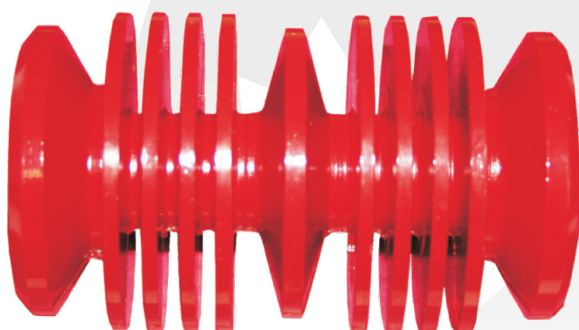
- Trip Magnets for non- intrusive pig indicators.
- Available in polyurethane compounds for pipe and tubing sizes through 12" Nitrile, Viton® and other compounds available on request.
- Food grade material available.

*Apache Pipeline Products acknowledges the design contribution from Inline Services.

SUD® Pig

2-10" (51-254mm)

The SUD® was designed to act as an effective squeegee while being able to traverse elbows with a radius as sharp as 1.5D. It will batch and remove liquid at pressures as low as 15PSI. The SUD® will accommodate variations in pipe IDs of the same nominal size.



Applications:

- Terminal loading lines.
- Chemical processing.
- Petrochemical.
- Wood pulp and paper.
- Food and beverage.
- Water and wastewater treatment plants.
- Packaging, loading, process and product lines, piping.

Features & Benefits:

- Less wasted product means reduced BOC load charges.
- Reduced power costs mean greater efficiencies of flow and pressure.
- Cleaner product as a result of decreased product intermix.
- Reduced overtime through more efficient, faster clean-up.

Options Available:

- Trip Magnets for non- intrusive pig indicators.
- Available in polyurethane compounds for pipe and tubing sizes through 12" Nitrile, Viton® and other compounds available on request.
- Food grade material available.

Size	Pipe I.D.	Description	Seal Discs O.D.	Overall Length
2"	1.870"	For SS Tubing	1.900"	3.800"
2"	2.067"	For S/40	2.100"	3.800"
2"	2.157"	For S/10	2.200"	3.800"
2.5"	2.370"	For SS Tubing	2.400"	4.600"
2.5"	2.469"	For S/40	2.500"	4.600"
2.5"	2.637"	For S/10	2.700"	4.600"
3"	2.870"	For SS Tubing	2.900"	5.500"
3"	3.068"	For S/40	3.150"	5.500"
3"	3.260"	For S/10	3.300"	5.500"
3"	n/a	For S/5	3.400"	5.500"
4"	3.834"	For SS Tubing	3.900"	7.750"
4"	4.026"	For S/40	4.150"	7.750"
4"	4.260"	For S/10	4.300"	7.750"
4"	4.334"	For S/5	4.460"	7.750"
6"	5.782"	For Tubing	5.900"	10.760"
6"	6.065"	For S/40	6.200"	10.760"
6"	6.357"	For S/10	6.400"	10.760"
8"	7.981"	For S/40	8.150"	15.420"
8"	8.329"	For S/10	8.450"	15.420"
8"	n/a	For S/5	8.625"	n/a
10"	n/a	For S/5 or S/10	10.220"	17.180"
12"	n/a	For S/40	12.250"	16.930"

Designed to negotiate 1.5D or greater bends.

*Apache Pipeline Products acknowledges the design contribution from Inline Services.