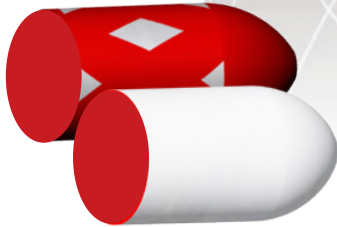


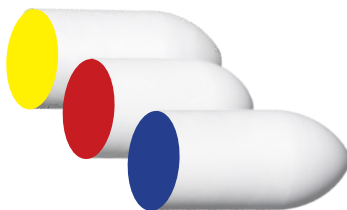
FOAM



Foam Pigs
2 - 60"
Pg. 5-2



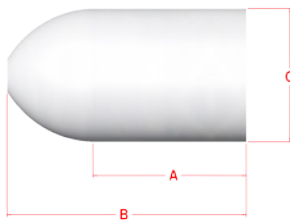
Foam Wiping/Cleaning
Pg. 5-8



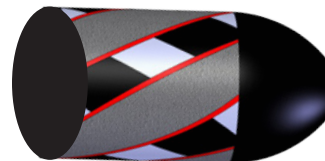
Foam Diameter
Pg. 5-3



Foam Scraping
Pg. 5-9



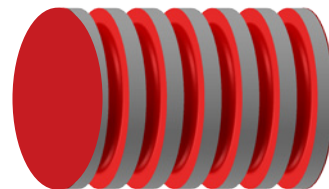
Foam Sizes
Pg. 5-4



Foam Plastic Brush
Pg. 5-10

Heavy Density			Medium Density		
Type	Image	Application	Type	Image	Application
HDPE (High Density Polyethylene)		Heavy Scrubbing	MDPE (Medium Density Polyethylene)		Medium Scrubbing
HDPE (High Density Polyethylene)		Heavy Scrubbing	MDPE (Medium Density Polyethylene)		Medium Scrubbing
HDPE (High Density Polyethylene)		Heavy Scrubbing	MDPE (Medium Density Polyethylene)		Medium Scrubbing
HDPE (High Density Polyethylene)		Heavy Scrubbing	MDPE (Medium Density Polyethylene)		Medium Scrubbing
HDPE (High Density Polyethylene)		Heavy Scrubbing	MDPE (Medium Density Polyethylene)		Medium Scrubbing
HDPE (High Density Polyethylene)		Heavy Scrubbing	MDPE (Medium Density Polyethylene)		Medium Scrubbing
HDPE (High Density Polyethylene)		Heavy Scrubbing	MDPE (Medium Density Polyethylene)		Medium Scrubbing
HDPE (High Density Polyethylene)		Heavy Scrubbing	MDPE (Medium Density Polyethylene)		Medium Scrubbing
HDPE (High Density Polyethylene)		Heavy Scrubbing	MDPE (Medium Density Polyethylene)		Medium Scrubbing

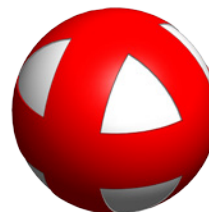
Foam Chart
Pg. 5-5



ProVex FD™
2 - 42"
Pg. 5-11



Foam Drying
Pg. 5-6



Foam Sphere/Balls
Pg. 5-12



Foam Drying/Cleaning
Pg. 5-7



Foam Options
Pg. 5-13

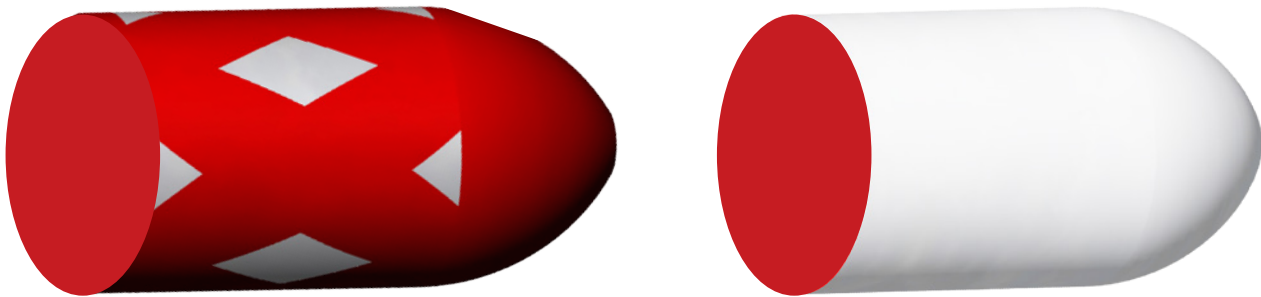
F O A M

FOAM PIGS

2-60" (51-1524mm)

Versatile. Economic. Field-proven. Known as the most common and cost-effective pigging solution for pipeline cleaning, Apache offers its line of multi-faceted foam pigs and spheres.

Not only do they remove liquids in natural gas pipelines, this specialist line reduces wax build-up in crude oil pipelines, de-waters lines following hydrostatic testing, dries pipelines, and provides light to moderate cleaning.



Features & Benefits:

- To perform effectively, all Apache foam pigs and spheres are manufactured from the highest quality open cell polyurethane foam. This special composition of polyurethane is very durable. It resists abrasion, making it hard wearing, offering maximum flexibility for use in a wide range of applications.
- Foam pigs are exceptionally flexible, which is critical to their ability to operate in a variety of the most complex pipeline networks. They can easily negotiate short radius bends, miter bends, tees, and multi-diameter lines.
- The basic foam pig design can be customized to include a number of tough urethane coatings. For example, by simply adding aggressive wire brushes into urethane coating, the pig acts as a durable, efficient cleaner for hard pipe scale applications.
- Apache offers a number of different profiles of foam pigs, each with its individual characteristics. Here are just a few of them:
 - Double Dish - Ideal for bi-directional operations and evacuating liquids.
 - Double Nose – Perfect for bi-directional operations and in multi-diameter pipeline.
 - Foam Balls – Excellent for bi-directional operations, and navigating short radius bends for drying, wiping and scraping.

Options Available:

- Polypropylene handling rope for one or both ends of the pig for easy handling.
- Transmitter housing to accommodate electronic tracking equipment.
- Custom designs and sizes are available. Please contact Apache for more details.

FOAM DIAMETERS

OUTSIDE DIAMETER OF BARE, UNCOATED FOAM PIGS

No two pipelines are alike. So when it comes to developing a custom foam pig solution to meet your needs, Apache offers some basic guidelines about foam pig diameter.

Apache recommends that the diameter of foam pigs be no less than 5% larger than the inside diameter of the pipe. Foam pigs are designed to navigate short radius bends and traverse up to a 35% anomaly in pipe bore.

At Apache, we manufacture foam pigs from 2" to 60". Our diameter range is in line with all standard pipe sizes, and features a finished diameter tolerance of +/- 2%. Bear in mind that applying a coating of polyurethane to the outside surface of a foam pig will increase the diameter by 0.125" to 0.250".

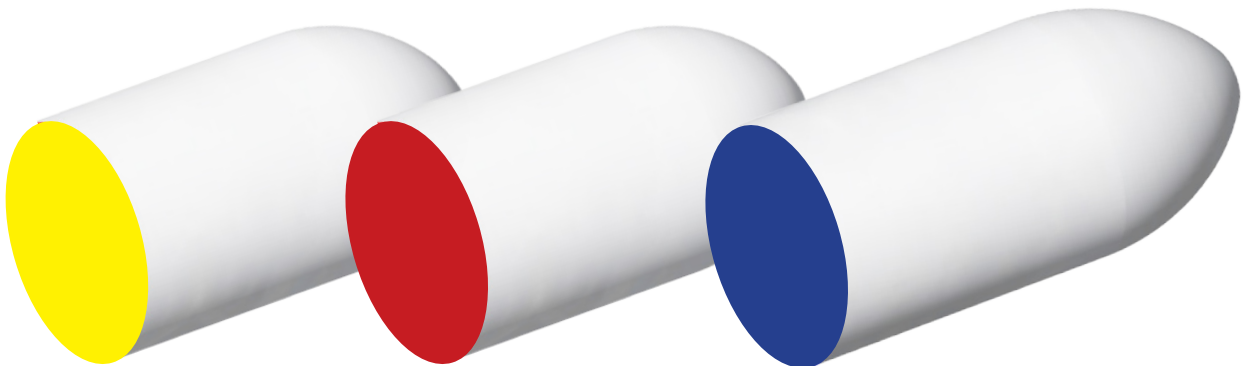
If you would like us to develop a custom solution for you, just get in touch.

Available Diameters:

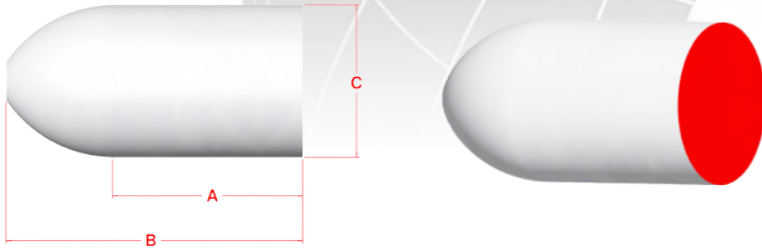
2", 3", 4", 5", 6", 7", 8", 10" & 12"
available in +1/4" or +1/2"

14" to 60"
even sizes only

Other diameters are available on a custom order basis.

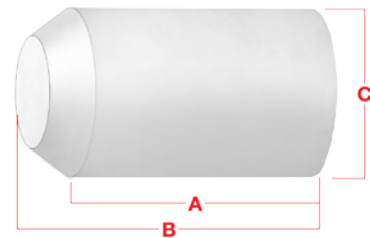


F O A M



Size	A	B	C
2"	2.500	4.000	2.000
2-1/4"	2.875	4.500	2.250
2-1/2"	3.250	4.875	2.500
2-3/4"	3.500	5.375	2.750
3"	3.750	5.750	3.000
3-1/4"	4.125	6.250	3.250
3-1/2"	4.500	6.750	3.500
3-3/4"	4.750	7.250	3.750
4"	5.000	7.750	4.000
4-1/4"	5.375	8.375	4.250
4-1/2"	5.625	9.000	4.500
4-3/4"	6.000	9.250	4.750
5"	6.375	9.750	5.000
5-1/4"	6.625	10.250	5.250
5-1/2"	7.000	10.750	5.500
5-3/4"	7.375	11.250	5.750
6"	7.625	11.750	6.000
6-1/4"	7.875	12.250	6.250
6-1/2"	8.500	12.875	6.500
6-3/4"	8.625	13.250	6.750
7"	8.875	13.750	7.000
7-1/4"	9.250	14.250	7.250
8"	10.125	15.500	8.000
8-1/4"	10.375	16.125	8.250
8-1/2"	10.750	16.375	8.500

Size	A	B	C
10"	12.500	19.500	10.000
10-1/4"	12.875	20.000	10.250
10-1/2"	13.250	20.500	10.500
12"	15.000	23.375	12.000
12-1/4"	15.325	23.875	12.250
12-1/2"	15.750	24.375	12.500
14"	17.500	24.500	14.000
16"	20.000	28.000	16.000
18"	22.500	31.500	18.000
20"	25.000	35.000	20.000
22"	27.500	38.500	22.000
24"	30.000	42.000	24.000



Sizes 26" to 60" use our Tapered Nose Pig design.

Size	A	B	C
26"	39.00	45.00	26.00
28"	42.00	48.50	28.00
30"	45.00	52.00	30.00
32"	48.00	55.50	32.00
34"	51.00	59.00	34.00
36"	54.00	62.50	36.00
38"	57.00	66.00	38.00
40"	60.00	69.50	40.00
42"	63.00	73.00	42.00
48"	72.00	83.50	48.00
52"	74.00	86.00	52.00
56"	76.50	88.50	56.00
60"	90.00	104.50	60.00

*Custom Sizes Available Upon Request

F O A M

To perform effectively, all Apache foam pigs and spheres are manufactured from the highest quality open cell polyurethane foam. This special composition of polyurethane is very durable. It resists abrasion, making it hard wearing, offering maximum flexibility for use in a wide range of applications.


Foam pigs are exceptionally flexible, which is critical to their ability to operate in a variety of the most complex pipeline networks. They can easily negotiate short radius bends, miter bends, tees, and multi-diameter lines.

The basic foam pig design can be customized to include a number of enhancements. For example, by simply adding aggressive wire brushes into urethane coating, the pig acts as a durable, efficient cleaner for hard pipe scale applications.






Foam pigs and spheres: the most cost-effective, versatile pipeline cleaning solution available today. An excellent choice for progressive pigging scenarios.

Custom designs and sizes are available. Please contact Apache for more details.




Heavy Density (8-10 lb/ft³ or 128-160 kg/m³)

Style	Type	Function
	HDBS (Heavy Density Bare Squeegee)	Heavy Drying
	HDCC (Heavy Density Criss Cross)	Heavy Wiping
	HDWB (Heavy Density Wire Brush)	Heavy Scraping
	HDSC (Heavy Density Silicone Carbide)	Heavy Scraping
	Porcupine (Total Wire Brush)	Max Scraping

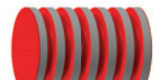
Medium Density (5-7 lb/ft³ or 80-112 kg/m³)

Style	Type	Function
	MDBS (Medium Density Bare Squeegee)	Regular Drying
	MDCC (Medium Density Criss Cross)	Regular Wiping
	MDWB (Medium Density Wire Brush)	Regular Scraping
	MDSC (Medium Density Silicon Carbide)	Regular Scraping
	MDPB (Medium Density Plastic Brush)	Regular Scraping in Lined or Plastic Pipe






Light Density

Style	Type	Function
	LDBS (Light Density Bare Squeegee)	Light Drying 2 lb/ft ³
	MLS (Medium Light Swab)	Light Drying 2 lb/ft ³
	SLS (Super Light Swab)	Light Drying 1 lb/ft ³

ProVex FD™ Pig

	Removes liquids in gas lines, wax in crude oil pipelines, de-waters after hydrostatic testing, nitrogen purge operations. Available with handling ropes or transmitter cavity.
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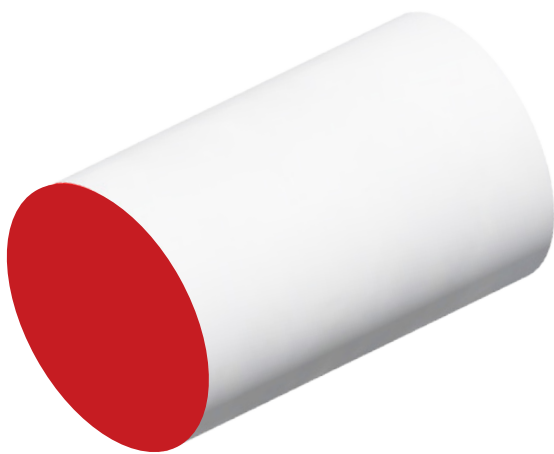
Options

Style	Type	Function
	Handling Rope	Polypropylene rope for one or both ends of the pig for easy handling.
	Transmitter Cavity	Standard and customized cavity for encasing transmitters for pig tracking.
	Double Dish	Ideal for bi-directional operations and evacuation of liquids.
	Foam Balls	Bi-directional, short radius bends for drying, wiping and scraping.
	Full Coat	Regular Scraping

Foam densities are approximations and can change depending on several different factors. Figures above are industry standards.

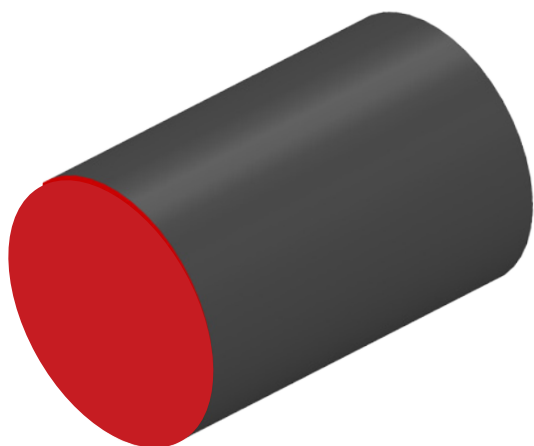
F O A M

DRYING



SLS

- Super Light Swab
- Light Drying

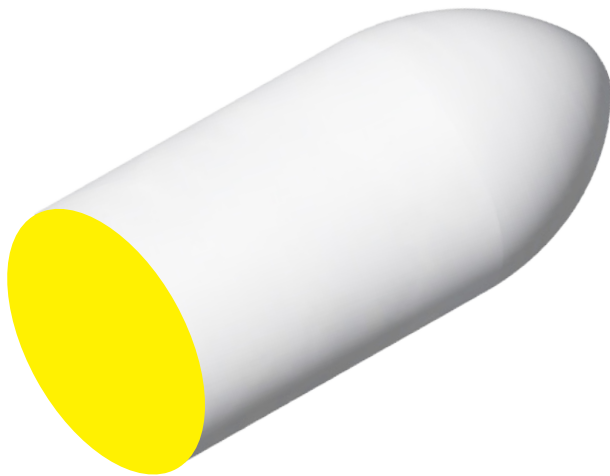


MLS

- Medium Light Swab
- Medium Drying

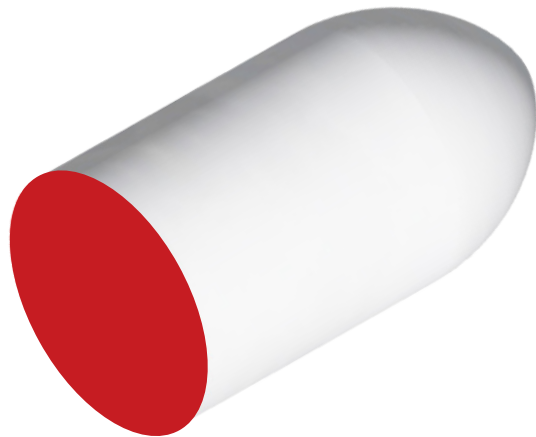
F O A M

DRYING & CLEANING



LDBS

- Light Density
- Bare Squeegee
- Light Drying



MDBS

- Medium Density
- Bare Squeegee
- Regular Drying

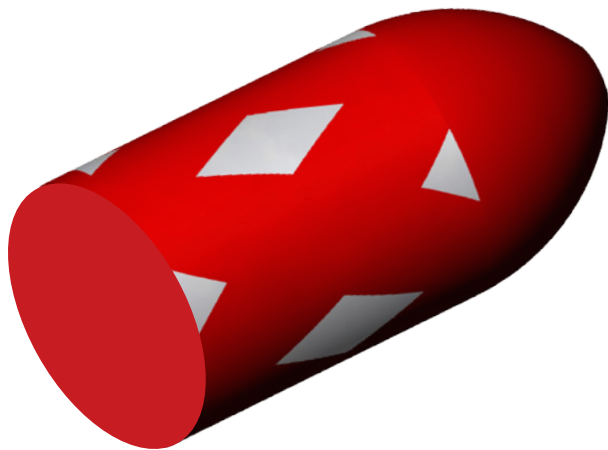


HDBS

- Heavy Density
- Bare Squeegee
- Heavy Drying

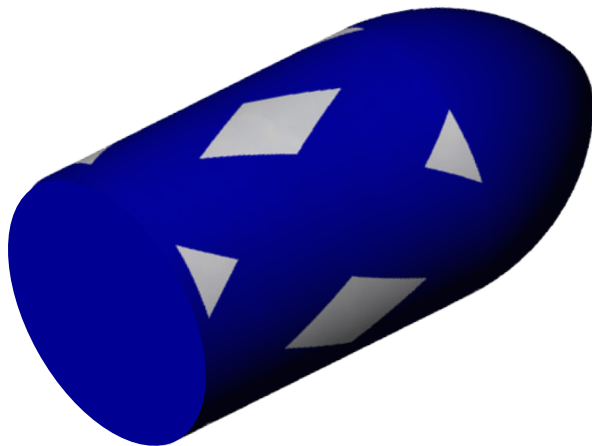
F O A M

WIPING & CLEANING



MDCC

- Medium Density
- Criss Cross
- Regular Wiping

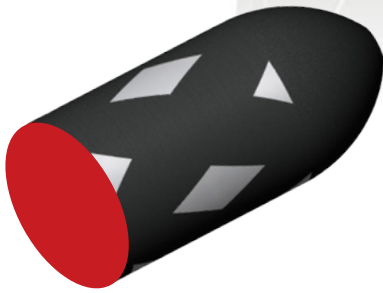


HDCC

- Heavy Density
- Criss Cross
- Heavy Wiping

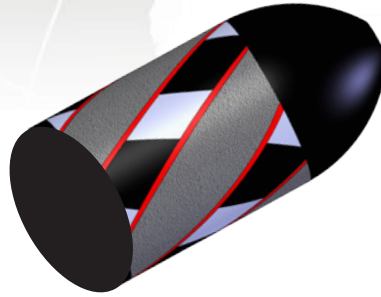
F O A M

SCRAPING



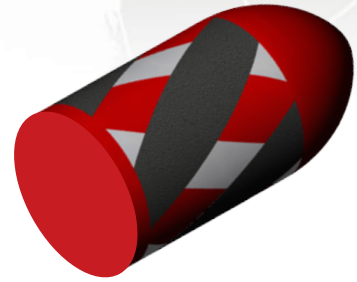
MDSC

- Medium Density
- Silicone Carbide
- Regular Scraping



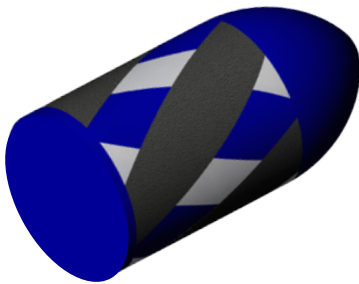
MDPB

- Medium Density
- Plastic Brush
- Lined Plastic Pipe
- Regular Scraping



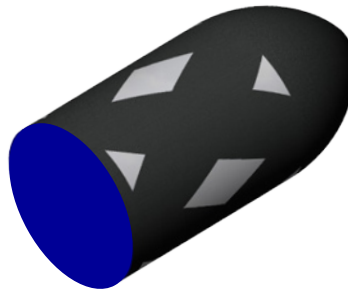
MDWB

- Medium Density
- Wire Brush
- Regular Scraping



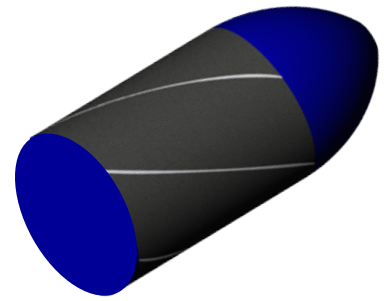
HDWB

- Heavy Density
- Wire Brush
- Heavy Scraping



HDSC

- Heavy Density
- Silicone Carbide
- Heavy Scraping



PORCUPINE

- Heavy Density
- Total Wire Brush
- Maximum Scraping

F O A M

MEDIUM DENSITY PLASTIC BRUSH

The latest addition to Apache's world-class line of pipeline cleaners is the Medium Density Plastic Brush. It is manufactured with exclusive material that allows it to clean as thoroughly as a tough steel brush without damaging lined pipe.

Here are just some of its many benefits:

- No metal parts so no risk of scratching pipe.
- Cleans without damaging lined pipe.
- Cleans as well as a steel brush.
- Easily negotiates short radius bends.
- Acceptable for cleaning non-metallic, lined or internally coated pipe.
- Brush bristles are set farther apart than on a steel brush, eliminating "clogging."
- Available in all common sizes and configurations.



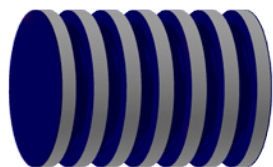
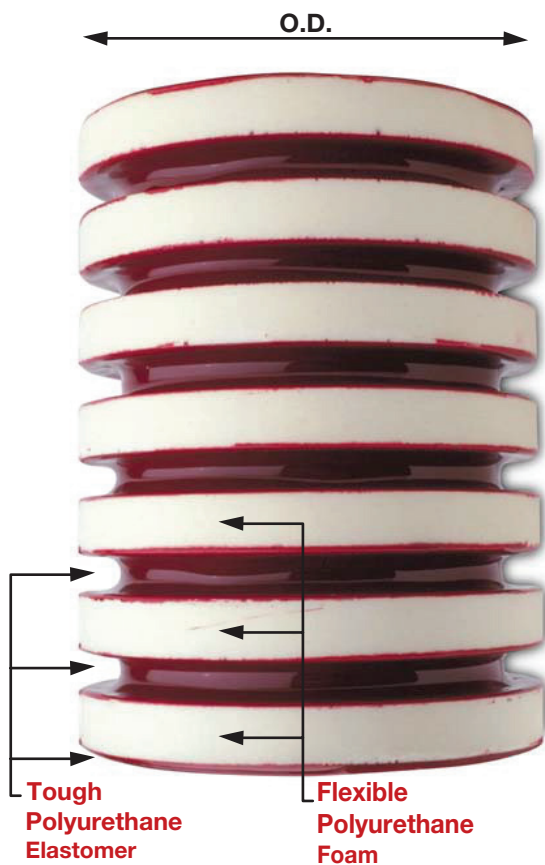
FOAM

ProVex FD™ Pig

2-42" (51-1067mm)

Versatile. Effective. Field-proven. To remove liquids from a pipeline, Apache offers the multi-faceted ProVex FD™ pig. Known throughout the pipeline industry as the ultimate pigging solution for achieving a liquid-free line, the durable ProVex FD is a particularly versatile bi-directional pig.

Not only does it remove liquids in natural gas lines, the ProVex FD successfully reduces wax build-up in crude oil pipelines, dewateres lines following hydrostatic testing, and executes nitrogen purging. In fact, it's one of the most multi-purpose pigs on the market today.



ProVex FD™
Heavy Density

Features & Benefits:

- Made from tough, flexible foam, the ProVex FD uses an engineered series of molded channels that provide multiple wiping discs. Each channel is coated with durable Apache Reliathane polyurethane elastomer to form a cutting edge on each disc, facilitating longer runs.
- It is bi-directional, so that it can run in either direction.

With its single piece construction, the ProVex FD pig easily negotiates 1.5D bends, allowing it to move reliably through piping systems.

Options Available:

- Polypropylene handling rope for one or both ends of the pig for easy handling.
- Transmitter housing to accommodate electronic tracking equipment.
- 3" and 4" sizes are for low flow applications or non metallic pipelines

Size	O.D.	Part #
2"	2.30"	85800200
3"	3.00"	85810300
	3.40"	85800300
4"	4.00"	85810400
	4.50"	85800400
6"	6.50"	85800600
8"	8.50"	85800800
10"	10.50"	85801000
12"	12.50"	85801200

Size	O.D.	Part #
14"	14.00"	85-8014-00
16"	16.00"	85-8016-00
18"	18.00"	85-8018-00
20"	20.00"	85-8020-00
24"	24.00"	85-8024-00
30"	30.00"	85-8030-00
34"	34.00"	85-8034-00
36"	36.00"	85-8036-00
42"	42.00"	85-8042-00

FOAM

SPHERE/BALLS

Apache foam balls are fabricated from the highest quality open cell polyurethane foam. The flexible nature of these pigs allows for the negotiation of both short radius bends and unexpected reductions in pipe bore. Solid urethane spheres are available in a variety of different durometers.

**FOAM PIG BALLS AND URETHANE SPHERES
ARE THE MOST COST EFFECTIVE, VERSATILE DESIGN
OF PIPELINE CLEANER IN THE MARKET TODAY.**

Features & Benefits:

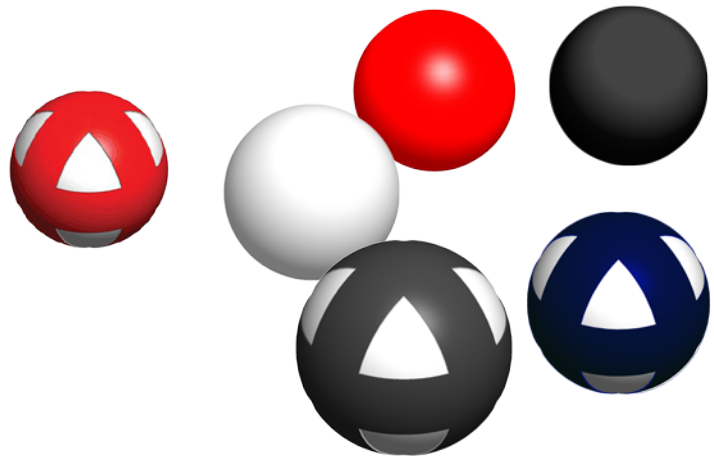
- Bi-directional, short radius bends for drying.
- Light wiping and scraping.

Available Sizes:

2.00"	3.00"	4.00"	6.00"
2.25"	3.25"	4.25"	8.50"
2.50"	3.50"	4.50"	10.50"

Options Available:

- Bare Foam:
 - Light
 - Medium
 - Heavy Density
- Criss Cross Foam Balls
- Wire Brush Foam Balls
- Full Coat Foam Balls
- Silicone Carbide



CLEAN OUT BALLS



Applications:

LAY FLAT WATER LINES
IRRIGATION LINES
CONCRETE TRUCK LINES
MANURE LINES

Size	Part #	Size	Part #
3.50"	02-SPNG-0350	8.66"	02-SPNG-0866
4.50"	02-SPNG-0450	10.24"	02-SPNG-1024
6.30"	02-SPNG-0630	12.30"	02-SPNG-1230
7.87"	02-SPNG-0787		

SOLID URETHANE SPHERES ARE AVAILABLE IN ALL DUROMETERS

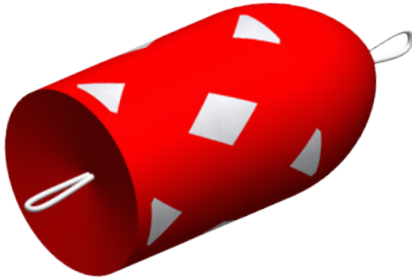
60-63 DUROMETER
Very soft and pliable

70-75 DUROMETER
Somewhat firm, but quite flexible

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

F O A M

OPTIONS



HANDLING ROPE

- Polypropylene rope for one or both ends of the pig for ease of handling.



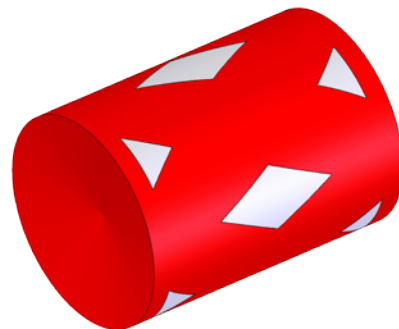
TRANSMITTER CAVITY

- Standard and customized cavity for encasing transmitters for pig tracking.



FULL COAT

- Regular Scraping



DOUBLE DISH

- Ideal for bi-directional operations and evacuation of liquids.