



- pigPRO™ Pig Passage Indicator
- Innovative Pig Design & Manufacturing
  - Advanced Cleaning Pigs
- Custom Urethane for Industrial Applications
  - Pig Accessories
  - Pig Tracking & Locating Products

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**OPTIONS** 

## PIG PASSAGE INDICATORS



pigPRO™ Info

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pigPRO™ Series 57

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Material List

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pigPRO™ *Flange* 

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Part # Selection

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pigPRO™

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Non-Intrusive

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Non-Intrusive

Portable Bandit

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### PIG PASSAGE INDICATORS pigPRO™ Series

The Intrusive Pig Signaler

The Apache pigPRO™ are manufactured in our Edmonton, Alberta, Canada facility, From Canadian workmanship to the patented fluid seal design, our pigPRO™ are depended upon by pipeline operators the world over.

#### When you see the pigPRO™ name, we guarantee it will indicate more than just quality.

#### Detecting cleaning pigs, accurately and reliably.

At Apache, we know that knowledge is power. That's why we want to make certain that when a customer is pigging a pipeline, they will always know when the pig has passed a critical point in the pipeline.

To achieve that, we designed the pigPRO™ Series, a patented line of intrusive pig passage indicators that reliably detect the precise location of a cleaning pig as it travels within the pipeline network.

#### How does it work?

The pigPRO™ indicator is permanently installed on pig launchers and receivers, or very close to a pump station. By doing so, operators are notified the instant that the pig has left the launcher or arrived in the receiver.

The system is fitted with a plunger that is then inserted into the pipe, physically penetrating the pipe bore. When a pipeline cleaning pig passes, it actuates the plunger, which activates either a visual or electrical indicator, or both. The instant that the indicator is displayed, the pipeline cleaner's precise location is revealed.

The Apache pigPRO™ are an INTRUSIVE model as the plunger actually penetrates the pipe bore. The protruding PLUNGER is actuated by the passage of a pipeline cleaner thereby activating an indicator.

- Bi-directional activation is a standard feature of all our indicator types
- All indicators are manufactured for a specific operating pressure and wall thickness
- Can be flange mounted or mounted using a 2" NPT thread-o-let
- All pigPRO™ can be modified to mount into most competitor's T.O.L.

#### Components:

Apache's unique patented FLUID SEAL DESIGN does not allow paraffin or other objects to obstruct the operational mechanisms thus ensuring positive indication of the pig's passage. There are no gears in the trigger mechanism and all materials conform to NACE standard MR0175 / ISO 15156.

# piqPRO<sup>TM</sup>

## PIG PASSAGE INDICATORS pigPRO™ Series

The Intrusive Pig Signaler

#### **EASILY INSTALLED WITHOUT DISRUPTING PRODUCTION**

Every model in the pigPRO<sup>™</sup> series is easily installed, even while the pipeline is on-stream. So preparing for critical pipeline cleaning doesn't disrupt critical production.

#### FEWER MOVING PARTS EASE INSTALLATION & REDUCE RISK

Most pig indicators feature trigger mechanisms with many moving parts that make it more difficult to align during installation. As a result they are frequently damaged. With the pigPRO<sup>TM</sup>'s hemispherical design, these issues are completely eliminated, saving time and money. To ensure that the indicator is properly adjusted for the individual pipeline, hemispherical plunger sensitivity adjustment and hemispherical plunger penetration adjustment are standard features.

#### **BI-DIRECTIONAL ACTIVATION**

Every pigPRO<sup>TM</sup> indicator is bi-directional, so it is triggered by a pig traveling in either direction. Although a pig is rarely required to travel in the opposite direction of the flow in a pipeline while it is on-stream, this capability can be useful when servicing offline pipelines.

#### DEBRIS OR NO DEBRIS, PIGPRO™ PERFORMS

When it comes to indicating pig passage, wax or debris in the line, most pig indicators simply can't operate. That's not the case with the pigPRO<sup>TM</sup>, which operates reliably, regardless of wax. It's specially designed to prevent debris from obstructing its operational mechanisms, so a passing pig is always indicated.

#### UNIVERSAL, ADAPTABLE

Our ability to retrofit to most mounts makes the Apache pigPRO™ completely versatile.

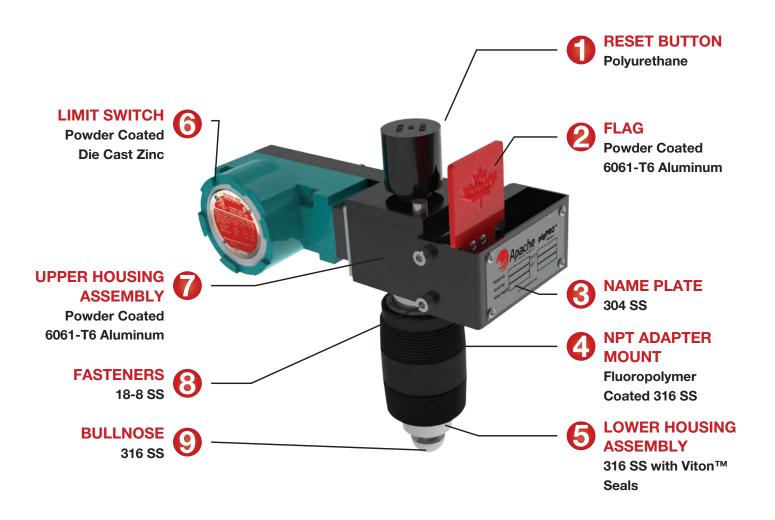
#### PRIMARY SYSTEM COMPONENTS

Ph: 780.416.4850

Every Apache pigPRO™ pig passage indicator includes a thread-mounting nipple, standard lower housing with fluorocarbon O-rings, and a hemispherical plunger with a flag assembly.

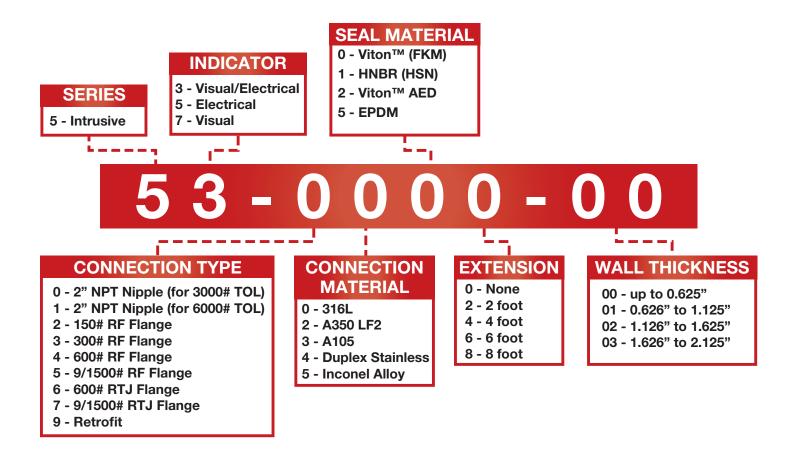
Designed for easy adjustment onsite, even while on-stream.

# **MATERIAL LIST**



Optional Materials Available

# p i g P R O TM PART NUMBER SELECTION



## Series 53

Visual/Electrical Indication

Manual/Auto Reset



#### THE MODEL 53 IS A COMBINATION VISUAL AND **ELECTRICAL INDICATOR WITH MANUAL AND AUTOMATIC RESET.**

Offering both visual and electrical indicator capabilities and manual and automatic reset features, the Model 53 is the most versatile member of Apache's pigPRO™ Series, a patented line of intrusive pig passage indicators that reliably detect the precise location of a cleaning pig as it travels within the pipeline network. When a cleaning pig passes the system's intruding plunger, it activates the plunger and triggers a visual flag indicator, signaling the pig's location.

Base Model 53 includes a thread mounting nipple, standard lower housing with fluorocarbon O-Rings, hemispherical plunger with a flag assembly and weather sealed & explosion proof limit switch. The switch employed on this model is NEMA rated, UL listed and CSA certified to suit most applications.

#### Options:

Flange Mount models are designed to connect to existing flanged connections and are available in ANSI Class 150, 300, 600 or 900/1500 flanges.

#### Extension Pole:

Aluminum extensions can be attached to enable detection of the pigs passage on buried pipelines. All pressure sealing components remain below the extension module. Available in lengths 2' to 8'.





Check out apachepipe.com/animations.html for videos on pigPRO™

# piqPRO<sup>TM</sup>





## THE MODEL 55 IS AN ELECTRICAL INDICATOR WITH MANUAL AND AUTOMATIC RESET.

With its optional manual and automatic reset capabilities, the Model 55 is a highly sought after member of Apache's pigPRO™ Series, a patented line of intrusive pig passage indicators that reliably detect the precise location of a cleaning pig as it travels within the pipeline network. When a cleaning pig passes the system's intruding plunger, it activates the plunger and triggers a visual flag indicator, signaling the pig's location.

#### Features:

Base Model 55 includes a thread mounting nipple, standard lower housing with fluorocarbon O-Rings, hemispherical plunger and weather sealed & explosion proof limit switch. The switch employed on this model is NEMA rated, UL listed and CSA certified to suit most applications.

#### Options:

Flange Mount models are designed to connect to existing flanged connections and are available in ANSI Class 150, 300, 600 or 900/1500 flanges.

#### Extension Pole:

Aluminum extensions can be attached to enable detection of the pigs passage on buried pipelines. All pressure sealing components remain below the extension module. Available in lengths 2' to 8'.





Check out apachepipe.com/animations.html for videos on pigPRO™

Series 57

Visual Indication

Manual Reset



#### THE BASE MODEL 57 IS A VISUAL FLAG INDICATOR WITH MANUAL RESET.

It is a popular member of Apache's pigPRO™ Series, a patented line of intrusive pig passage indicators that reliably detect the precise location of a cleaning pig as it travels within the pipeline network. When a cleaning pig passes the system's intruding plunger, it activates the plunger and triggers a visual flag indicator, signaling the pig's location.

#### Features:

Our most popular pigPROTM, the base Model 57 includes a thread mounting nipple, standard lower housing with fluorocarbon O-Rings, hemispherical plunger with a flag assembly.

#### Options:

Flange Mount models are designed to connect to existing flanged connections and are available in ANSI Class 150, 300, 600 or 900/1500 flanges.

#### Extension Pole:

Aluminum extensions can be attached to enable detection of the pigs passage on buried pipelines. All pressure sealing components remain below the extension module. Available in lengths 2' to 8'.





Check out apachepipe.com/animations.html for videos on pigPRO™

# p i g P R O TM FLANGE MOUNT

Flange Mount models are designed to connect to existing flanged connections.

Available in ANSI Class 150, 300, 600 or 900/1500 flanges.

Ph: 780.416.4850



# **EXTENSION POLE**



Aluminum extensions can be attached to enable detection of the pig's passage on buried pipelines.

All pressure sealing components remain below the extension module.

Available in lengths 2 to 8'.

Extension poles can be used with any Apache pigPRO™

# NON-INTRUSIVE CD52 BANDIT



#### Features & Benefits:

The CD52 Bandit provides quick and easy non-intrusive pig passage detection of any pig and transmitter moving between 0.1 and 20 meters per second. Non-intrusive means less maintenance and corrosion, and no possibilites of pipeline leaks.

Quick and Easy Installation: No hot-tapping required. The CD52 Bandit can be installed in minutes by any field technician.

Sensing means of the CD52 Bandit consist of a set of patented, non-intrusive proprietary noise-canceling antennas invented by CDI specifically for pig passage detection. This antenna system gives the Bandit its ability to reject nearby magnetic noise and halt costly false-positive triggering. A small, safe, permanent magnet or active transmitter installed on a pig is all it takes to put the Bandit to work!

Remote Signaling of a passage is easy with built-in flashing LCD visal display and dry-contact relays. These normally-open or normally-closed relays may be used in conjuction with existing SCADA systems to integrate the CD52 Bandit into a pipeline control and signalling network. An optional array of four high-luminosity LEDs can be seen over distances as great as 100 meters (328 feet).

- Sunshade helps protect the Bandit from intense sunlight by reducing overall temperature inside, thus prolonging
  the life of the electriconic components. 316 stainless steel construction guarantees long life in a harsh pipeline
  environment.
- Heater system recommended for operation below -22°F (-30°C).
- LineStat satellite radio for transmitting passage time, date, and GPS location via email or SMS message.
- Remote Indicator System provides passage indication up to 328 ft (100 meters).

# CD52 BANDIT - PORTABLE



#### Features & Benefits:

The CD52 Portable Bandit offers the added flexibility of quick takedown and relocation wherever/whenever a temporary signaler is needed.

Suspend Mode - A simple pushbutton temporarily suspends Portable Bandit opertion for removal and repositioning.

Compact & Light - At only 13 in. [330 mm] tall, 21 lb. [9.5 kg], and a lower CG than the Bandit, the Portable Bandit is easily picked up and secured in its own low-prfile carrying case for transport to the next job site.

Non-intrusive pig passage detection of any pig and transmitter moving between 0.01 and 20 meters per second means less maintenance and corrosion, and no possibilties of pipeline leaks.

Sensing Means of the CD52 Portable Bandit consist of a set of patented, non-intrusive proprietary noise-canceling antennas invented by CDI specfically for pig passage detection. This antenna system gives the Bandit its ability to reject nearby magnetic noise and halt costly false-positive triggering. A small, safe, permanent magnet or active transmitter installed on a pig is all it takes to put the Bandit to work!

- Sunshade helps protect the Portable Bandit from intense sunlight by reducing overall temperature inside, thus prolonging the life of the electriconic components. The 316 stainless steel construction guarantees long life in a harsh pipeline environment.
- Stainless steel antenna & mounting plate.
- Pelican™ case.

## STEEL MANDREL PIGS



LIGHT CLEANING

Pg. 2-2 to 2-12



MODERATE CLEANING

Pg. 2-13 to 2-25



AGGRESSIVE CLEANING

Pg. 2-26 to 2-30



**BATCHING** 

Pg. 2-31 to 2-42



Ph: 780.416.4850

**DISPLACEMENT** 

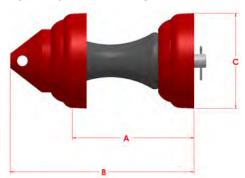
Pg. 2-43 to 2-47

UC2 2-4" (51-102mm)

The Series UC2 pig is another great example of how Apache provides the pipeline industry with tools that get the job done.

Let's face it, during the contruction phase, it can be a messy business, so it's important that the pipeline interior be kept clean throughout the process. Apache developed the Series UC just for this purpose. The Series UC is primarily used for light cleaning during the construction phase and can be used in all phases of pipeline cleaning.

At times it's necessary to clean a line more rigorously, which requires additional cups. With this in mind, the Series UC is available in three versions. The two-cup design of the UC2 pig provides a basic level of light cleaning capability. With each additional cup, the Series UC pig cleans more rigorously. Therefore, the UC3 three-cup and UC4 four-cup design pigs are progressively more effective cleaning tools. They are used to lightly clean pipelines, and are typically used for longer distances.



Size	Α	В	С	Weight	Part #
2"	3.00	4.375	2.125	1.0	70-3802-02
3"	4.250	6.500	3.375	2.0	70-3802-03
4"	5.500	8.250	4.375	3.0	70-3802-04

#### Features & Benefits:

- Every Series UC pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.

Designed to negotiate 1.5D bends, the Series UC2 pig moves reliably through piping systems.

- CARVER discs.
- Aluminum gauge plates in standard styles.
- Three (UC3) and four cup (UC4) configurations.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

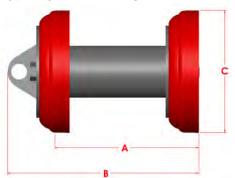
## UC2

6-14" (152-356mm)

The Series UC2 pig is another great example of how Apache provides the pipeline industry with tools that get the job done.

Let's face it, during the contruction phase, it can be a messy business, so it's important that the pipeline interior be kept clean throughout the process. Apache developed the Series UC just for this purpose. The Series UC is primarily used for light cleaning during the construction phase and can be used in all phases of pipeline cleaning.

At times it's necessary to clean a line more rigorously, which requires additional cups. With this in mind, the Series UC is available in three versions. The two-cup design of the UC2 pig provides a basic level of light cleaning capability. With each additional cup, the Series UC pig cleans more rigorously. Therefore, the UC3 three-cup and UC4 four-cup design pigs are progressively more effective cleaning tools. They are used to lightly clean pipelines, and are typically used for longer distances.



Size	Α	В	С	Weight	Part #
6"	7.750	11.750	6.375	11	70-3802-06
8"	10.125	14.000	8.500	20	70-3802-08
10"	12.500	16.750	10.625	35	70-3802-10
12"	15.000	19.000	12.500	46	70-3802-12
14"	17.375	21.000	13.875	54	70-3802-14

#### Features & Benefits:

- Every Series UC pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.

Designed to negotiate 1.5D bends, the Series UC2 pig moves reliably through piping systems.

- CARVER discs.
- UT Mandrel to accommodate electronic tracking equipment.
- Aluminum gauge plates in standard styles.
- Three (UC3) and four cup (UC4) configurations.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

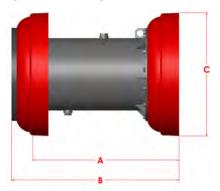
## UC2

16-48" (406-1219mm)

The Series UC2 pig is another great example of how Apache provides the pipeline industry with tools that get the job done.

Let's face it, during the contruction phase, it can be a messy business, so it's important that the pipeline interior be kept clean throughout the process. Apache developed the Series UC just for this purpose. The Series UC is primarily used for light cleaning during the construction phase and can be used in all phases of pipeline cleaning.

At times it's necessary to clean a line more rigorously, which requires additional cups. With this in mind, the Series UC is available in three versions. The two-cup design of the UC2 pig provides a basic level of light cleaning capability. With each additional cup, the Series UC pig cleans more rigorously. Therefore, the UC3 three-cup and UC4 four-cup design pigs are progressively more powerful cleaning tools. They are used to lightly clean pipelines, and are typically used for longer distances.



Size	А	В	С	Weight	Part #
16"	17.875	21.125	16.000	83	70-3802-16
20"	22.625	26.375	19.875	134	70-3802-20
22"	24.750	28.875	21.875	153	70-3802-22
24"	27.375	31.500	23.875	197	70-3802-24
30"	33.750	38.875	29.875	307	70-3802-30
36"	40.125	45.750	36.000	472	70-3802-36
42"	46.750	52.750	42.125	685	70-3802-42
48"	51.000	57.500	48.500	849	70-3802-48

#### Features & Benefits:

- Every Series UC pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.
- Every Apache UC2 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.

Designed to negotiate 1.5D bends, the UC2 Series pig moves reliably through piping systems.

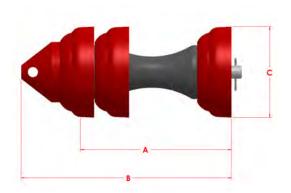
- CARVER discs.
- Rattlers.
- Transmitter housing to accommodate electronic tracking equipment.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Three (UC3) and four cup (UC4) configurations.

UC3 2-4" (51-102mm)

The Series UC3 pig is another great example of how Apache provides the pipeline industry with tools that get the job done.

Let's face it, during the contruction phase, it can be a messy business, so it's important that the pipeline interior be kept clean throughout the process. Apache developed the Series UC just for this purpose. The Series UC is primarily used for light cleaning during the construction phase and can be used in all phases of pipeline cleaning.

At times it's necessary to clean a line more rigorously, which requires additional cups. With this in mind, the Series UC is available in three versions. The two-cup design of the UC2 pig provides a basic level of light cleaning capability. With each additional cup, the Series UC pig cleans more rigorously. Therefore, the UC3 three-cup and UC4 four-cup design pigs are progressively more powerful cleaning tools. They are used to lightly clean pipelines, and are typically used for longer distances.



Size	А	В	С	Weight	Part #
2"	3.875	5.250	2.125	1.0	70-3803-02
3"	5.625	7.825	3.375	2.0	70-3803-03
4"	7.000	9.750	4.375	3.0	70-3803-04

#### Features & Benefits:

- Every Series UC pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.

Designed to negotiate minimum 1.5D and greater bends, the UC3 pig moves reliably through piping systems.

- CARVER discs.
- Aluminum gauge plates in standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Two (UC2) and four cup (UC4) configurations.

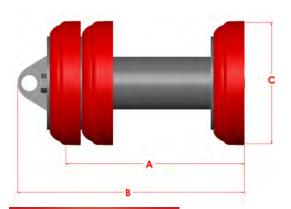
## UC3

6-14" (152-356mm)

The Series UC3 pig is another great example of how Apache provides the pipeline industry with tools that get the job done.

Let's face it, during the contruction phase, it can be a messy business, so it's important that the pipeline interior be kept clean throughout the process. Apache developed the Series UC just for this purpose. The Series UC is primarily used for light cleaning during the construction phase and can be used in all phases of pipeline cleaning.

At times it's necessary to clean a line more rigorously, which requires additional cups. With this in mind, the Series UC is available in three versions. The two-cup design of the UC2 pig provides a basic level of light cleaning capability. With each additional cup, the Series UC pig cleans more rigorously. Therefore, the UC3 three-cup and UC4 four-cup design pigs are progressively more powerful cleaning tools. They are used to lightly clean pipelines, and are typically used for longer distances.



Size	Α	В	С	Weight	Part #
6"	9.875	13.750	6.375	15	70-3803-06
8"	11.375	15.250	8.500	26	70-3803-08
10"	15.250	19.500	10.625	47	70-3803-10
12"	18.250	22.750	12.500	64	70-3803-12
14"	21.250	25.875	13.875	75	70-3803-14

#### Features & Benefits:

- Every Series UC pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.

Designed to negotiate minimum 1.5D and greater bends, the UC3 pig moves reliably through piping systems.

- CARVER discs.
- UT Mandrel to accommodate electronic tracking equipment.
- Aluminum gauge plates in standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Two (UC2) and four cup (UC4) configurations.

## LIGHT CLEANING

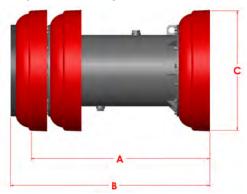
## UC3

16-48" (406-1219mm)

The Series UC3 pig is another great example of how Apache provides the pipeline industry with tools that get the job done.

Let's face it, during the contruction phase, it can be a messy business, so it's important that the pipeline interior be kept clean throughout the process. Apache developed the Series UC just for this purpose. The Series UC is primarily used for light cleaning during the construction phase and can be used in all phases of pipeline cleaning.

At times it's necessary to clean a line more rigorously, which requires additional cups. With this in mind, the Series UC is available in three versions. The two-cup design of the UC2 pig provides a basic level of light cleaning capability. With each additional cup, the Series UC pig cleans more rigorously. Therefore, the UC3 three-cup and UC4 four-cup design pigs are progressively more powerful cleaning tools. They are used to lightly clean pipelines, and are typically used for longer distances.



Size	Α	В	С	Weight	Part #
16"	22.500	25.875	16.000	115	70-3803-16
20"	28.500	32.375	19.875	187	70-3803-20
22"	31.375	35.500	21.875	215	70-3803-22
24"	34.375	38.250	23.875	269	70-3803-24
30"	42.125	47.125	29.875	426	70-3803-30
36"	49.250	54.750	36.000	644	70-3803-36
42"	56.500	62.500	42.125	942	70-3803-42
48"	61.625	68.125	48.500	1141	70-3803-48

#### Features & Benefits:

- Every Series UC pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup
  was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane,
  Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.
- Every Apache UC3 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.

Designed to negotiate minimum 1.5D and greater bends, the UC3 pig moves reliably through piping systems.

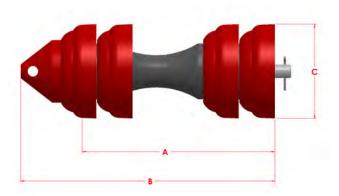
- CARVER discs.
- Rattlers
- Transmitter housing to accommodate electronic tracking equipment.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Two (UC2) and four cup (UC4) configurations.

UC4 2-4" (51-102mm)

The Series UC4 pig is another great example of how Apache provides the pipeline industry with tools that get the job done.

Let's face it, during the contruction phase, it can be a messy business, so it's important that the pipeline interior be kept clean throughout the process. Apache developed the Series UC just for this purpose. The Series UC is primarily used for light cleaning during the construction phase and can be used in all phases of pipeline cleaning.

At times it's necessary to clean a line more rigorously, which requires additional cups. With this in mind, the Series UC is available in three versions. The two-cup design of the UC2 pig provides a basic level of light cleaning capability. With each additional cup, the Series UC pig cleans more rigorously. Therefore, the UC3 three-cup and UC4 four-cup design pigs are progressively more powerful cleaning tools. They are used to lightly clean pipelines, and are typically used for longer distances.



Size	Α	В	С	Weight	Part #
2"	4.750	6.125	2.125	1.0	70-3804-02
3"	6.875	9.125	3.375	2.0	70-3804-03
4"	8.375	11.125	4.375	3.0	70-3804-04

#### Features & Benefits:

- Every Series UC pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.

Designed to negotiate minimum 1.5D and greater bends, the UC4 pig moves reliably through piping systems.

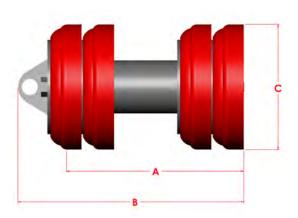
- CARVER discs.
- Aluminum gauge plates in standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Two (UC2) and three cup (UC3) configurations.

UC4 6-14" (152-356mm)

The Series UC4 pig is another great example of how Apache provides the pipeline industry with tools that get the job done.

Let's face it, during the contruction phase, it can be a messy business, so it's important that the pipeline interior be kept clean throughout the process. Apache developed the Series UC just for this purpose. The Series UC is primarily used for light cleaning during the construction phase and can be used in all phases of pipeline cleaning.

At times it's necessary to clean a line more rigorously, which requires additional cups. With this in mind, the Series UC is available in three versions. The two-cup design of the UC2 pig provides a basic level of light cleaning capability. With each additional cup, the Series UC pig cleans more rigorously. Therefore, the UC3 three-cup and UC4 four-cup design pigs are progressively more powerful cleaning tools. They are used to lightly clean pipelines, and are typically used for longer distances.



Size	А	В	С	Weight	Part #
6"	8.875	12.750	6.375	18	70-3804-06
8"	12.000	15.750	8.500	32	70-3804-08
10"	14.500	18.750	10.625	56	70-3804-10
12"	18.125	22.500	12.500	78	70-3804-12
14"	21.125	25.750	13.875	91	70-3804-14

#### Features & Benefits:

- Every Series UC pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.

Designed to negotiate minimum 1.5D and greater bends, the UC4 pig moves reliably through piping systems.

- CARVER discs.
- UT Mandrel to accommodate electronic tracking equipment.
- Aluminum gauge plates in standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Two (UC2) and three cup (UC3) configurations.

## 

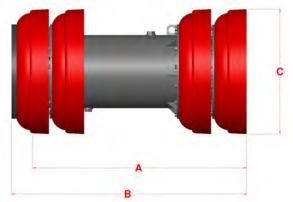
## UC4

16-48" (406-1219mm)

The Series UC4 pig is another great example of how Apache provides the pipeline industry with tools that get the job done.

Let's face it, during the contruction phase, it can be a messy business, so it's important that the pipeline interior be kept clean throughout the process. Apache developed the Series UC just for this purpose. The Series UC is primarily used for light cleaning during the construction phase and can be used in all phases of pipeline cleaning.

At times it's necessary to clean a line more rigorously, which requires additional cups. With this in mind, the Series UC is available in three versions. The two-cup design of the UC2 pig provides a basic level of light cleaning capability. With each additional cup, the Series UC pig cleans more rigorously. Therefore, the UC3 three-cup and UC4 four-cup design pigs are progressively more powerful cleaning tools. They are used to lightly clean pipelines, and are typically used for longer distances.



Size	Α	В	С	Weight	Part #
16"	27.375	30.625	16.000	148	70-3804-16
20"	34.625	38.375	19.875	240	70-3804-20
22"	37.875	42.000	21.875	277	70-3804-22
24"	40.875	45.000	23.875	342	70-3804-24
30"	50.500	55.500	29.875	544	70-3804-30
36"	58.250	63.750	36.000	815	70-3804-36
42"	66.125	72.125	42.125	1198	70-3804-42
48"	72.375	78.875	48.500	1432	70-3804-48

#### Features & Benefits:

- Every Series UC pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.
- Every Apache UC4 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.

Designed to negotiate minimum 1.5D and greater bends, the UC4 pig moves reliably through piping systems.

- CARVER discs.
- Rattlers.
- Transmitter housing to accommodate electronic tracking equipment.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Two (UC2) and three cup (UC3) configurations.

## LIGHT CLEANING

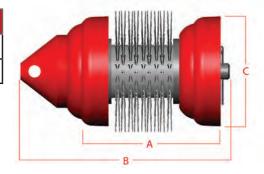
## SC2A

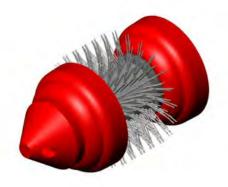
3-4" (76-102mm)

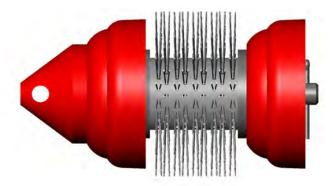
As the saying goes, "good things come in small packages." Apache developed the Series SC2A pig to give smaller gathering lines a moderate cleaning.

The result? The line is free of debris and flow rates improve. With the cleaning capability of the pitPRO™ steel brush and ability to negotiate sharp bends, the Series SCA is an extremely efficient cleaning tool.

Size	А	В	С	Weight	Part #
3"	5.750	7.750	3.375	3.0	60-3002-03
4"	5.875	8.375	4.375	5.0	60-3002-04







#### Features & Benefits:

- The SC2A pig features two cups and pitPRO™ stainless steel brush.
- Every Series SCA pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup
  was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane,
  Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.

Designed to negotiate 1.5D bends, the Series SC2A pig moves reliably through piping systems.

#### Options Available:

Aluminum Mandrel.

Ph: 780.416.4850

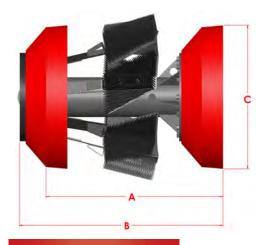
## LIGH

## UM2X

16-48" (406-1219mm)

The Series UM2X with block brush provides light cleaning during the construction phase, as well as regular pipeline operations.

How is this possible? The answer lies in the three versions of the UMX. While the two-cup design of the UM2X pig efficiently cleans and scrapes pipelines, the UM3X three-cup and UM4X four-cup design pigs. They are both used to gently clean pipelines. They are typically used for longer distance operations.



Size	А	В	С	Weight	Part #
16"	22.000	25.000	15.875	104	60-5142-16
20"	27.250	30.875	20.000	165	60-5142-20
22"	29.125	31.500	22.000	212	60-5142-22
24"	29.500	33.875	24.000	230	60-5142-24
30"	39.750	44.875	29.875	388	60-5142-30
36"	45.750	52.250	36.000	551	60-5142-36
42"	54.125	61.375	42.125	763	60-5142-42
48"	60.375	68.625	48.125	937	60-5142-48

#### Features & Benefits:

- Given that anomalies are a fairly common feature of a pipeline scheduled for maintenance, it's reassuring that pigs mounted with conical cups can traverse pipeline anomalies without damaging essential inline auxiliary equipment.
- Every Series UM pig is equipped with Apache Series M cups. As with all of Apache products, the Series M cup was especially developed to perform efficiently and reliably. To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- Every Apache UM2X 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and in-line auxiliary equipment, preventing damage.

Designed to negotiate 1.5D bends, the Series UM2X pig moves reliably through piping systems.

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic or tin-coated.
- Aluminum or steel gauging plates in slotted or standard styles.
- Transmitter housing to accommodate electronic tracking equipment.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Urethane Plow Blades Designed to replace a XB block brush, the 3-Rib urethane removes paraffin wax and similar deposits from the pipe wall that normally collect and cram between the bristles of a block brush. Our plow blade profile performs a similar function to the 3-Rib, but is used primarily for pipe sizes 16" - 18". Both blade types are also excellent tools for removing debris in non-metallic or internally coated pipe without damaging the pipe wall coating.
- Rattlers.

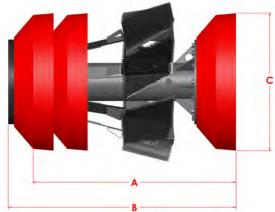
## EANING MODERATE

## UM3X

16-48" (406-1219mm)

The Series UM3X with block brush provides moderate cleaning during the construction phase, as well as regular pipeline operations.

How is this possible? The answer lies in the three versions of the UMX. While the two-cup design of the UM2X pig efficiently cleans and scrapes pipelines, the UM3X three-cup and UM4X four-cup design pigs each provide a positive seal between dissimilar fluids. They are both used to gently clean pipelines. They are typically used for longer distance operations.



Size	Α	В	С	Weight	Part #
16"	26.000	29.000	15.875	129	60-5143-16
20"	33.250	36.875	20.000	212	60-5143-20
22"	35.875	39.750	22.000	268	60-5143-22
24"	36.500	40.875	24.000	301	60-5143-24
30"	48.500	53.625	29.875	502	60-5143-30
36"	55.125	61.750	36.000	716	60-5143-36
42"	66.250	73.500	42.125	1015	60-5143-42
48"	74.625	83.000	48.125	1244	60-5143-48

#### Features & Benefits:

- Given that anomalies are a fairly common feature of a pipeline scheduled for maintenance, it's reassuring that pigs mounted with conical cups can traverse pipeline anomalies without damaging essential inline auxiliary equipment.
- Every Series UM pig is equipped with Apache Series M cups. As with all of Apache products, the Series M cup was especially developed to perform efficiently and reliably. To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- Every Apache UM3X 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and in-line auxiliary equipment, preventing damage.

Designed to negotiate 1.5D bends, the Series UM3X pig moves reliably through piping systems.

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic or tin-coated.
- Aluminum or steel gauging plates in slotted or standard styles.
- Transmitter housing to accommodate electronic tracking equipment.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Urethane Plow Blades Designed to replace a XB block brush, the 3-Rib urethane removes paraffin wax and similar deposits from the pipe wall that normally collect and cram between the bristles of a block brush. Our plow blade profile performs a similar function to the 3-Rib, but is used primarily for pipe sizes 16" - 18". Both blade types are also excellent tools for removing debris in non-metallic or internally coated pipe without damaging the pipe wall coating.
- Rattlers.

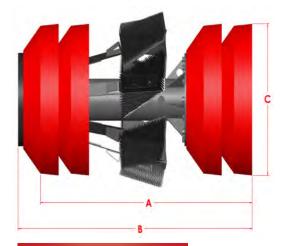
### MODERATE EANING

## UM4X

16-48" (406-1219mm)

The Series UM4X with block brush provides moderate cleaning during the construction phase, as well as regular pipeline operations.

How is this possible? The answer lies in the three versions of the UMX. While the two-cup design of the UM2X pig efficiently cleans and scrapes pipelines, the UM3X three-cup and UM4X four-cup design pigs are used to gently clean pipelines. They are typically used for longer distance operations.



Size	А	В	С	Weight	Part #
16"	30.000	33.125	15.875	154	60-5144-16
20"	39.250	42.875	20.000	257	60-5144-20
22"	42.500	46.375	22.000	324	60-5144-22
24"	43.500	47.875	24.000	372	60-5144-24
30"	57.250	62.375	29.875	613	60-5144-30
36"	64.625	71.125	36.000	879	60-5144-36
42"	78.500	85.750	42.125	1264	60-5144-42
48"	88.875	97.250	48.125	1550	60-5144-48

#### Features & Benefits:

- Given that anomalies are a fairly common feature of a pipeline scheduled for maintenance, it's reassuring that pigs mounted with conical cups can traverse pipeline anomalies without damaging essential inline auxiliary equipment.
- Every Series UM pig is equipped with Apache Series M cups. As with all of Apache products, the Series M cup was especially developed to perform efficiently and reliably. To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- Every Apache UM4X 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and in-line auxiliary equipment, preventing damage.

Designed to negotiate 1.5D bends, the Series UM4X pig moves reliably through piping systems.

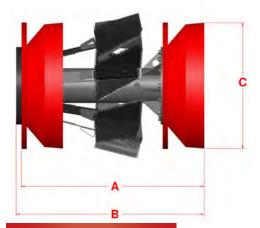
- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic or tin-coated.
- Aluminum or steel gauging plates in slotted or standard styles.
- Transmitter housing to accommodate electronic tracking equipment.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Urethane Plow Blades Designed to replace a XB block brush, the 3-Rib urethane removes paraffin wax and similar deposits from the pipe wall that normally collect and cram between the bristles of a block brush. Our plow blade profile performs a similar function to the 3-Rib, but is used primarily for pipe sizes 16" - 18". Both blade types are also excellent tools for removing debris in non-metallic or internally coated pipe without damaging the pipe wall coating.
- Rattlers.

### MODERAT EANING

## DMDX

16-48" (406-1219mm)

Looking for more effective cleaning and sealing capacity? Then look no further than the Series DMDX. Every DMDX is equipped with two sealing discs and two Series M Cups. What sets the DMDX apart is that it features brushes that further enhance cleaning performance. These multiple sealing components provide a bigger surface area. As a result, its sealing capacity, scraping capability, and overall cleaning ability is greatly improved.



Size	Α	В	С	Weight	Part #
16"	25.500	26.500	15.875	115	60-6900-16
20"	31.500	32.500	20.000	187	60-6900-20
22"	33.875	34.875	22.000	236	60-6900-22
24"	34.875	35.875	24.000	264	60-6900-24
30"	46.000	47.125	29.875	444	60-6900-30
36"	53.625	55.000	36.000	653	60-6900-36
42"	62.875	64.375	42.125	912	60-6900-42
48"	70.500	72.125	48.125	1106	60-6900-48

#### Features & Benefits:

- The DMDX pig is configured to offer a sealing arrangement that is used to separate dissimilar fluids, and to moderately scrape pipelines during longer distance operations.
- Given that anomalies are a fairly common feature of a pipeline scheduled for maintenance, it's reassuring that pigs mounted with conical cups can traverse pipeline anomalies without damaging essential inline auxiliary equipment.
- Every Series DMDX pig is equipped with Apache Series M cups. As with all of Apache products, the Series M cup was especially developed to perform efficiently and reliably. To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.
- Every Apache DMDX 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.

Designed to negotiate 1.5D bends, the DMDX pig moves reliably through piping systems.

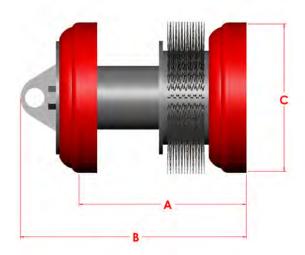
- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic or tin-coated.
- Aluminum or steel gauging plates in slotted or standard styles.
- Transmitter housing to accommodate electronic tracking equipment.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Urethane Plow Blades Designed to replace a XB block brush, the 3-Rib urethane removes paraffin wax and similar deposits from the pipe wall that normally collect and cram between the bristles of a block brush. Our plow blade profile performs a similar function to the 3-Rib, but is used primarily for pipe sizes 16" - 18". Both blade types are also excellent tools for removing debris in non-metallic or internally coated pipe without damaging the pipe wall coating.
- Rattlers.

### EANING MODERATE

## SC2R

6-14" (152-356mm)

The Series SC2R is one powerful cleaning tool. Apache developed the Series SCR pig to deliver a moderate cleaning capability to clean all types of pipelines. The result? The line is free of debris and flow rates improve. With the scrubbing capability of the sturdy pitPRO™ or circular flange brush, the Series SCR provides outstanding cleaning ability.



Size	А	В	С	Weight	Part #
6"	7.750	11.000	6.375	13	60-3075-06
8"	10.000	13.500	8.500	23	60-3075-08
10"	11.875	16.000	10.625	38	60-3075-10
12"	14.625	19.125	12.750	53	60-3075-12
14"	17.125	21.750	13.875	62	60-3075-14



#### Features & Benefits:

- The SC2R pig features two cups and one circular flange brush.
- Every Series SC2R pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.
- To use a Series SC2R pig for different applications, elements and brushes can simply be added or reconfigured.

Designed to negotiate 1.5D bends, the Series SC2R pig moves reliably through piping systems.

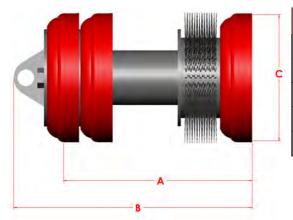
- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.
- UT Mandrel to accommodate electronic tracking equipment.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Three (SC3R) and four cup (SC4R) configurations.

## EANING MODERATE

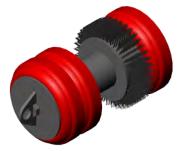
## SC3R

6-14" (152-356mm)

The Series SC3R is one powerful cleaning tool. Apache developed the Series SC3R pig to deliver a moderate cleaning capability to clean all types of pipelines. The result? The line is free of debris and flow rates improve. With the scrubbing capability of the sturdy pitPRO™ or circular flange brush, the Series SCR provides outstanding cleaning ability.



Size	А	В	С	Weight	Part #
6"	7.750	11.000	6.375	15	60-3076-06
8"	10.750	14.125	8.500	28	60-3076-08
10"	12.625	16.750	10.625	48	60-3076-10
12"	15.500	20.000	12.750	69	60-3076-12
14"	17.500	22.125	13.875	79	60-3076-14



#### Features & Benefits:

- The SC3R pig features three cups and one circular flange brush.
- Every Series SC3R pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.
- To use a Series SC3R pig for different applications, elements and brushes can simply be added or reconfigured.

Designed to negotiate minimum 3D and greater bends, the SC3R pig moves reliably through piping systems.

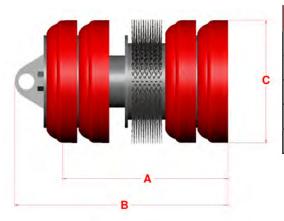
- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.
- UT Mandrel to accommodate electronic tracking equipment.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Two (SC2R) and four cup (SC4R) configurations.

## MODERATE EANING

## SC4R

6-14" (152-356mm)

The Series SC4R is one powerful cleaning tool. Apache developed the Series SC4R pig to deliver a moderate cleaning capability to clean all types of pipelines. The result? The line is free of debris and flow rates improve. With the scrubbing capability of the sturdy pitPRO™ or circular flange brush, the Series SCR provides outstanding cleaning ability.



Size	А	В	С	Weight	Part #
6"	8.750	12.000	6.375	19	60-3077-06
8"	10.875	14.375	8.500	33	60-3077-08
10"	13.875	18.000	10.625	60	60-3077-10
12"	16.875	21.375	12.750	84	60-3077-12
14"	18.375	23.000	13.875	97	60-3077-14



#### eatures & Benefits:

- The SC4R pig features four cups and one circular flange brush.
- Every Series SC4R pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.
- To use a Series SC4R pig for different applications, elements and brushes can simply be added or reconfigured.

Designed to negotiate minimum 3D and greater bends, the SC4R pig moves reliably through piping systems.

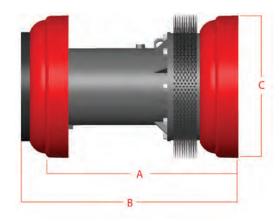
- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.
- UT Mandrel to accommodate electronic tracking equipment.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Two (SC2R) and three cup (SC3R) configurations.

## EANING MODERATE

## SCR

16-48" (406-1219mm)

The Series SCR is one powerful cleaning tool. Apache developed the Series SCR pig to deliver a moderate cleaning capability to clean all types of pipelines. The result? The line is free of debris and flow rates improve. With the scrubbing capability of a circular flange brush, the Series SCR provides outstanding cleaning ability.



Size	А	В	С	Weight	Part #
16"	21.000	24.250	16.000	95	60-3075-16
20"	25.875	29.625	19.875	152	60-3075-20
22"	28.000	32.125	21.875	175	60-3075-22
24"	30.500	34.625	23.875	222	60-3075-24
30"	37.000	42.125	29.875	337	60-3075-30
36"	43.500	49.000	36.000	530	60-3075-36
42"	50.000	56.000	42.125	767	60-3075-42
48"	54.250	60.750	48.500	944	60-3075-48

#### Features & Benefits:

- The SCR pig features two cups and one circular flange brush.
- Every Series SCR pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.
- Every Apache SCR 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.

Designed to negotiate 1.5D bends, the Series SCR pig moves reliably through piping systems.

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- Transmitter housing to accommodate electronic tracking equipment.
- Aluminum gauge plates in slotted or standard styles.
- Three- (SC3R) and four-cup (SC4R) configurations.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Rattlers.

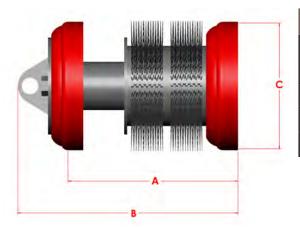
## EANING MODERATE

## DC2R

6-14" (152-356mm)

If your pipeline is in need of a good cleaning, the Series DC2R provides efficient cleaning capability. The DC2R pig features two Series C Cups and two circular brushes. These multiple sealing components create a positive seal, while simultaneously providing a bigger surface area. As a result, its sealing capacity and overall cleaning ability are greatly improved.

When product flows more freely through the pipeline, less energy is required to pump it, reducing operating costs. It also reduces maintenance and repair costs down the road. Thanks to Series DC2R, it's easy to keep your pipeline debris-free.



Size	А	В	С	Weight	Part #
6"	7.500	10.875	6.375	14	60-3082-06
8"	10.875	14.375	8.500	26	60-3082-08
10"	12.250	16.375	10.625	41	60-3082-10
12"	14.875	19.375	12.750	61	60-3082-12
14"	16.875	21.500	13.875	71	60-3082-14



#### Features & Benefits:

- Every Series DC2R pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform efficiently and reliably.
- To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- To use a Series DC2R pig for different applications, elements and brushes can simply be added or reconfigured.

Designed to negotiate minimum 3D and greater bends, the DC2R pig moves reliably through piping systems.

- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.
- UT Mandrel to accommodate electronic tracking equipment.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Three (DC3R) and four cup (DC4R) configuration.

# MODERATE CLEANING

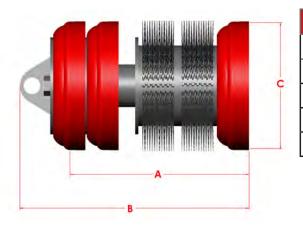
## DC3R

6-14" (152-356mm)

If your pipeline is in need of a good cleaning, the Series DC3R provides efficient cleaning capability.

The DC3R pig features three Series C Cups and two circular brushes. These multiple sealing components create a positive seal between dissimilar fluids, while simultaneously providing a bigger surface area. As a result, its sealing capacity and overall cleaning ability are greatly improved.

When product flows more freely through the pipeline, less energy is required to pump it, reducing production costs. It also reduces maintenance and repair costs down the road. Thanks to Series DCR, it's easy to keep your pipeline debris-free.



Size	А	В	С	Weight	Part #
6"	9.125	12.375	6.375	18	60-3083-06
8"	12.125	15.500	8.500	32	60-3083-08
10"	15.000	19.125	10.625	53	60-3083-10
12"	16.750	21.250	12.750	77	60-3083-12
14"	18.250	22.875	13.875	89	60-3083-14



#### Features & Benefits:

- Every Series DC3R pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup
  was specifically developed to perform efficiently and reliably. To enhance durability, it's made from Reliathane,
  Apache's special blend of wear-resistant polyurethane.
- To use a Series DC3R pig for different applications, elements and brushes can simply be added or reconfigured.

Designed to negotiate minimum 3D and greater bends, the DC3R pig moves reliably through piping systems.

- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.
- UT Mandrel to accommodate electronic tracking equipment.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Two (DC2R) and four cup (DC4R) configurations.

### MODERATE EANING

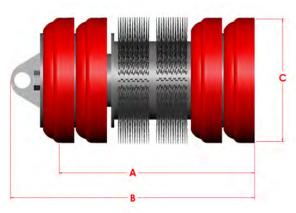
## DC4R

6-14" (152-356mm)

If your pipeline is in need of a good cleaning, the Series DC4R provides efficient cleaning capability.

The DC4R pig features four Series C Cups and two circular brushes. These multiple sealing components create a positive seal between dissimilar fluids, while simultaneously providing a bigger surface area. As a result, its sealing capacity and overall cleaning ability are greatly improved.

When product flows more freely through the pipeline, less energy is required to pump it, reducing production costs. It also reduces maintenance and repair costs down the road. Thanks to Series DCR, it's easy to keep your pipeline debris-free.



Size	А	В	С	Weight	Part #
6"	9.625	12.875	6.375	21	60-3084-06
8"	12.250	15.750	8.500	37	60-3084-08
10"	15.250	19.500	10.625	65	60-3084-10
12"	18.625	23.125	12.750	94	60-3084-12
14"	20.125	24.750	13.875	106	60-3084-14



#### Features & Benefits:

- Every Series DC4R pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- To use a Series DC4R pig for different applications, elements and brushes can simply be added or reconfigured.

Designed to negotiate minimum 3D and greater bends, the DC4R pig moves reliably through piping systems.

- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.
- UT Mandrel to accommodate electronic tracking equipment.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Two (DC2R) and three cup (DC3R) configurations.

### MODERATE EANING

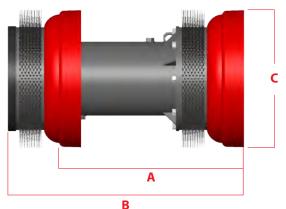
### DCR

16-48" (406-1219mm)

If your pipeline is in need of a good cleaning, the Series DCR provides efficient moderate cleaning capability.

The DCR pig features two Series C Cups and two circular brushes. These multiple sealing components create a positive seal between dissimilar fluids, while simultaneously providing a bigger surface area. As a result, its sealing capacity and overall cleaning ability are greatly improved.

When product flows more freely through the pipeline, less energy is required to pump it, reducing production costs. It also reduces maintenance and repair costs down the road. Thanks to Series DCR, it's easy to keep your pipeline debris-free.



Size	А	В	С	Weight	Part #
16"	21.000	27.500	16.000	109	60-3143-16
20"	25.875	32.875	19.875	172	60-3143-20
22"	28.000	35.375	21.875	202	60-3143-22
24"	30.500	38.000	23.875	249	60-3143-24
30"	37.000	45.375	29.875	379	60-3143-30
36"	43.500	52.250	36.000	599	60-3143-36
42"	50.000	59.250	42.125	859	60-3143-42
48"	54.250	64.000	48.500	1046	60-3143-48

#### Features & Benefits:

- Every Series DCR pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- Every Apache DCR 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.

Designed to negotiate 1.5D bends, the Series DCR pig moves reliably through piping systems.

#### Options Available:

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- Transmitter housing to accommodate electronic tracking equipment.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Rattlers.

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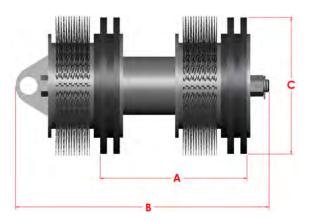
### MODERATE EANING

## **EDR**

6-14" (152-356mm)

Every newly constructed pipeline requires hydrostatic testing, but before that can take place, the line must be very clean. If you're in search of a pig that provides moderate cleaning capability, Apache offers the EDR.

Equipped with sturdy circular flange brushes that forcefully scrub away residue and debris, the primary function of the EDR is to moderately clean the line before testing, leaving it in a pristine condition, ready for assessment.



Size	Α	В	С	Weight	Part #
6"	7.875	15.750	6.375	18	60-7150-06
8"	10.250	18.250	8.375	31	60-7150-08
10"	11.250	19.750	10.500	51	60-7150-10
12"	14.125	22.750	12.500	71	60-7150-12
14"	16.625	25.250	13.875	80	60-7150-14

#### Features & Benefits:

- The Series EDR is extremely effective, providing a thorough and deep clean.
- With repeated use, sealing discs can experience wear and tear. The EDR pig can still reverse direction without compromising its sealing capabilities.
- To maximize durability, all discs are made from Reliathane, Apache's special blend of wear-resistant polyurethane.

Designed to negotiate 1.5D bends, the EDR pig moves reliably through piping systems.

- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.
- UT Mandrel to accommodate electronic tracking equipment.
- CARVER discs.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

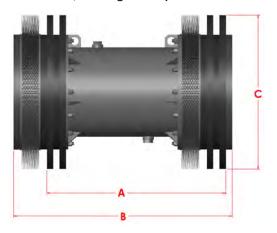
# MODERATE CLEANING

## **EDR**

16-48" (406-1219mm)

Every newly constructed pipeline requires hydrostatic testing, but before that can take place, the line must be very clean. If you're in search of a pig that provides excellent cleaning capability, Apache offers the EDR.

Equipped with sturdy brushes that forcefully scrub away residue and debris, the primary function of the EDR is to clean the line, leaving it in a pristine condition.



Size	А	В	С	Weight	Part #
16"	19.000	25.000	15.875	132	60-7150-16
18"	21.500	27.500	17.875	165	60-7150-18
20"	24.375	30.500	20.000	217	60-7150-20
22"	26.375	32.250	22.000	248	60-7150-22
24"	28.250	34.500	24.125	303	60-7150-24
30"	33.375	40.250	30.250	468	60-7150-30
36"	40.125	47.000	36.500	776	60-7150-36
42"	47.250	55.250	42.125	1093	60-7150-42
48"	53.250	62.000	48.875	1381	60-7150-48

#### Features & Benefits:

- The Series EDR is extremely effective, providing a thorough and deep clean.
- With repeated use, sealing discs can experience wear and tear. The EDR pig can still reverse direction without compromising its sealing capabilities.
- To maximize durability, all discs are made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- Every Apache EDR 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.

Designed to negotiate 1.5D bends, the EDR pig moves reliably through piping systems.

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- Transmitter housing to accommodate electronic tracking equipment.
- CARVER discs.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to
  provide a change in magnetic field required by non-intrusive pig signaler detection devices.

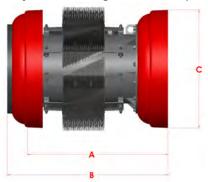
# AGGRESSIVE CLEANING

## UC2X

16-48" (406-1219mm)

The Series UC2X with block brush provides aggressive cleaning during the construction phase as well as regular pipeline operations. Let's face it, when a pipeline is being constructed, it's a messy business, so it's important that the pipeline interior be kept clean throughout the process. Apache developed the Series just for this purpose.

At times it's necessary to clean a line more rigorously, which requires additional cups. Bearing this in mind, the Series UCX is available in three versions. The two-cup design of the UC2X pig provides a basic level of aggressive cleaning capability. With each additional cup, the Series UCX pig cleans more rigorously. Therefore, the UC3X three-cup and UC4X four-cup design pigs are progressively more powerful cleaning tools. They are used to aggressively clean and scrape pipelines, and are typically used for longer distance operations.



Size	А	В	С	Weight	Part #
16"	18.875	22.000	16.000	118	60-3522-16
20"	24.500	28.375	19.875	187	60-3522-20
22"	26.750	30.875	21.875	210	60-3522-22
24"	28.375	32.500	23.875	269	60-3522-24
30"	33.750	38.875	29.875	391	60-3522-30
36"	40.125	45.750	36.000	572	60-3522-36
42"	46.750	52.750	42.125	819	60-3522-42
48"	51.000	57.500	48.500	987	60-3522-48

#### Features & Benefits:

- Every Series UCX pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the
- The UC2X is manufactured with block brushes that are available in a variety of trim options.
- Every Apache UC2X 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.

Designed to negotiate minimum 3D and greater bends, the UC2X pig moves reliably through piping systems.

- CARVER discs.
- Transmitter housing to accommodate electronic tracking equipment.
- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Urethane Plow Blades Designed to replace a XB block brush, the 3-Rib urethane removes paraffin wax and similar deposits from the pipe wall that normally collect and cram between the bristles of a block brush. Our plow blade profile performs a similar function to the 3-Rib, but is used primarily for pipe sizes 16" - 18". Both blade types are also excellent tools for removing debris in non-metallic or internally coated pipe without damaging the pipe wall coating.
- Three (UC3X) and four cup (UC4X configurations.

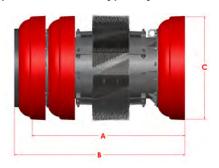
# AGGRESSIVE CLEANING

## UC3X

16-48" (406-1219mm)

The Series UC3X with block brush provides aggressive cleaning during the construction phase as well as regular pipeline operations. Let's face it, when a pipeline is being constructed, it's a messy business, so it's important that the pipeline interior be kept clean throughout the process. Apache developed the Series UCX just for this purpose.

At times it's necessary to clean a line more rigorously, which requires additional cups. Bearing this in mind, the Series UCX is available in three versions. The two-cup design of the UC2X pig provides a basic level of aggressive cleaning capability. With each additional cup, the Series UCX pig cleans more rigorously. Therefore, the UC3X three-cup and UC4X four-cup design pigs are progressively more powerful cleaning tools. They are used to aggressively clean and scrape pipelines, and are typically used for longer distance operations.



Size	А	В	С	Weight	Part #
16"	23.500	26.875	16.000	150	60-3523-16
20"	30.500	34.500	19.875	240	60-3523-20
22"	33.375	37.500	21.875	276	60-3523-22
24"	35.125	39.250	23.875	341	60-3523-24
30"	42.125	47.125	29.875	509	60-3523-30
36"	49.250	54.750	36.000	743	60-3523-36
42"	56.500	62.500	42.125	1058	60-3523-42
48"	61.750	68.125	48.500	1292	60-3523-48

#### Features & Benefits:

- Every Series UCX pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.
- The UC3X is manufactured with block brushes that are available in a variety of trim options.
- Every Apache UC3X 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be
  removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these
  openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.

Designed to negotiate minimum 3D and greater bends, the UC3X pig moves reliably through piping systems.

- CARVER discs.
- Rattlers.
- Transmitter housing to accommodate electronic tracking equipment.
- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Urethane Plow Blades Designed to replace a XB block brush, the 3-Rib urethane removes paraffin wax and similar deposits
  from the pipe wall that normally collect and cram between the bristles of a block brush. Our plow blade profile performs
  a similar function to the 3-Rib, but is used primarily for pipe sizes 16" 18". Both blade types are also excellent tools for
  removing debris in non-metallic or internally coated pipe without damaging the pipe wall coating.
- Two (UC2X) and four cup (UC4X) configurations.

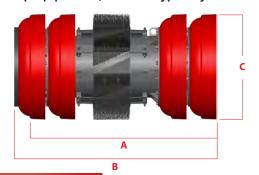
### EANING AGGRESSIVE CL

## UC4X

16-48" (406-1219mm)

The Series UC4X with block brush provides aggressive cleaning during the construction phase as well as regular pipeline operations. Let's face it, when a pipeline is being constructed, it's a messy business, so it's important that the pipeline interior be kept clean throughout the process. Apache developed the Series UCX just for this purpose.

At times it's necessary to clean a line more rigorously, which requires additional cups. Bearing this in mind, the Series UCX is available in three versions. The two-cup design of the UC2X pig provides a basic level of aggressive cleaning capability. With each additional cup, the Series UCX pig cleans more rigorously. Therefore, the UC3X threecup and UC4X four-cup design pigs are progressively more powerful cleaning tools. They are used to aggressively clean and scrape pipelines, and are typically used for longer distance operations.



Size	А	В	С	Weight	Part #
16"	29.250	32.500	16.000	184	60-3524-16
20"	36.625	40.500	19.875	295	60-3524-20
22"	39.875	44.000	21.875	340	60-3524-22
24"	41.875	46.000	23.875	414	60-3524-24
30"	50.500	55.500	29.875	614	60-3524-30
36"	58.250	63.750	36.000	900	60-3524-36
42"	66.125	72.125	42.125	1328	60-3524-42
48"	72.325	78.875	48.500	1588	60-3524-48

#### Features & Benefits:

- Every Series UCX pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was specifically developed to perform efficiently and reliably. To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.
- The UC4X is manufactured with block brushes that are available in a variety of trim options.
- Every Apache UC4X 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.

Designed to negotiate minimum 3D and greater bends, the UC4X pig moves reliably through piping systems.

- CARVER discs.
- Rattlers.
- Transmitter housing to accommodate electronic tracking equipment.
- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Two (UC2X) and three cup (UC3X) configurations.
- Urethane Plow Blades Designed to replace a XB block brush, the 3-Rib urethane removes paraffin wax and similar deposits from the pipe wall that normally collect and cram between the bristles of a block brush. Our plow blade profile performs a similar function to the 3-Rib, but is used primarily for pipe sizes 16" - 18". Both blade types are also excellent tools for removing debris in non-metallic or internally coated pipe without damaging the pipe wall coating.

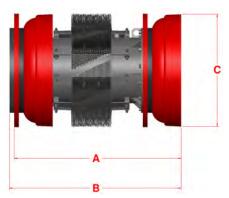
# AGGRESSIVE CLEANING

### DCDX

16-48" (406-1219mm)

Aggressive, effective cleaning is the name of the game for the Series DCDX pig.

The DCDX pig features two sealing discs, two Series C Cups and block brushes. These multiple sealing components create a positive seal, while simultaneously providing a larger sealing surface area. As a result, its sealing capacity, scraping capability, and overall cleaning ability is greatly improved. It is used to aggressively clean pipelines, and is typically used for longer distance operations.



Size	А	В	С	Weight	Part #
16"	24.000	25.000	16.000	132	60-3700-16
20"	30.875	31.875	19.875	212	60-3700-20
22"	33.375	34.375	21.875	246	60-3700-22
24"	35.500	36.500	23.875	307	60-3700-24
30"	42.250	43.375	29.875	459	60-3700-30
36"	49.875	51.250	36.000	682	60-3700-36
42"	57.875	58.750	42.125	999	60-3700-42
48"	62.750	64.500	48.500	1207	60-3700-48

#### Features & Benefits:

- Every Series DCDX pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup was
  specifically developed to perform efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's
  special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.
- The DCDX is manufactured with block brushes that are available in a variety of trim options.
- Every Apache DCDX 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.

Designed to negotiate minimum 3D and greater bends, the DCDX pig moves reliably through piping systems.

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- Transmitter housing to accommodate electronic tracking equipment.
- CARVER discs.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change
  in magnetic field required by non-intrusive pig signaler detection devices.
- · Rattlers.
- Urethane Plow Blades Designed to replace a XB block brush, the 3-Rib urethane removes paraffin wax and similar
  deposits from the pipe wall that normally collect and cram between the bristles of a block brush. Our plow blade
  profile performs a similar function to the 3-Rib, but is used primarily for pipe sizes 16" 18". Both blade types are also
  excellent tools for removing debris in non-metallic or internally coated pipe without damaging the pipe wall coating.

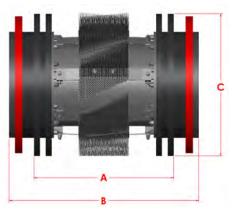
### AGGRESSIVE LEANING

## EDX

16-48" (406-1219mm)

Every newly constructed pipeline requires hydrostatic testing, but before that can take place, the line must be immaculate. To achieve this level of cleanliness, Apache offers the rugged EDX, a seriously aggressive cleaning pig.

Equipped with sturdy block brushes that forcefully scrub away residue and debris, the primary function of the EDX is to aggressively clean the line before testing, leaving it in a pristine condition, ready for assessment.



Size	А	В	С	Weight	Part #
16"	18.000	25.250	15.875	157	60-7228-16
18"	20.500	27.750	17.875	194	60-7228-18
20"	23.000	31.000	20.000	252	60-7228-20
22"	26.250	34.250	22.000	283	60-7228-22
24"	26.750	35.250	24.125	355	60-7228-24
30"	29.750	39.500	30.250	530	60-7228-30
36"	35.250	47.000	36.500	812	60-7228-36
42"	42.250	55.250	42.125	1209	60-7228-42
48"	46.500	61.750	48.875	1511	60-7228-48

#### Features & Benefits:

- The EDX pig is a very economical four-sealing, two-guide disc bi-directional pig. It not only provides a solid seal, its tough, spring-loaded brushes mean that it meticulously cleans line interiors, leaving them free of scale and debris. To enhance versatility, the EDX is manufactured with block brushes that are available in a variety of trim options.
- The pig's durable guide discs center the sealing discs in the line, forming a quadruple seal that virtually eliminates product by-pass.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.
- To maximize durability, all discs are made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- Every Apache EDX 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.

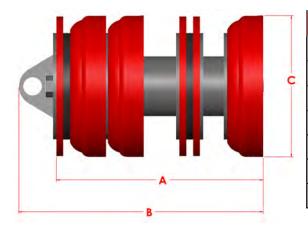
Designed to negotiate minimum 3D and greater bends, the EDX pig moves reliably through piping systems.

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- Transmitter housing to accommodate electronic tracking equipment.
- CARVER discs.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Urethane Plow Blades Designed to replace a XB block brush, the 3-Rib urethane removes paraffin wax and similar deposits from the pipe wall that normally collect and cram between the bristles of a block brush. Our plow blade profile performs a similar function to the 3-Rib, but is used primarily for pipe sizes 16" - 18". Both blade types are also excellent tools for removing debris in non-metallic or internally coated pipe without damaging the pipe wall coating.

XF 3-14" (76-356mm)

The Series XF is primarily used for batching dissimilar fluids.

With its standard three cup-three sealing disc design, the XF pig provides a positive seal between fluid interfaces for efficient batching and separating. It is typically used for longer distance operations.



Size	А	В	С	Weight	Part #
3"	7.625	9.000	3.375	3.0	70-6786-03
4"	8.250	9.000	4.375	6.0	70-6786-04
6"	10.250	12.500	6.375	18	70-6786-06
8"	12.000	14.375	8.500	33	70-6786-08
10"	15.125	18.000	10.625	58	70-6786-10
12"	18.125	20.875	12.750	82	70-6786-12
14"	20.750	23.500	13.875	92	70-6786-14

#### Features & Benefits:

- Every Series XF pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup and discs were specifically developed to perform efficiently and reliably.
- To maximize durability, all discs are made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.

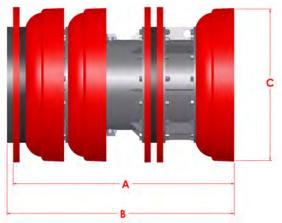
Designed to negotiate minimum 3D and greater bends, the XF pig moves reliably through piping systems.

- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.
- UT Mandrel to accommodate electronic tracking equipment.
- CARVER discs.
- Aluminum gauge plates in standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

XF 16-48" (406-1219mm)

The Series XF is primarily used for batching dissimilar fluids.

With its standard three cup-three sealing disc design, the XF pig provides a positive seal between fluid interfaces for efficient batching and separating. It is typically used for longer distance operations.



Size	Α	В	С	Weight	Part #
16"	23.375	24.375	16.000	140	70-6786-16
18"	27.625	28.625	17.875	174	70-6786-18
20"	30.000	31.000	19.875	231	70-6786-20
22"	32.500	33.500	21.875	267	70-6786-22
24"	35.500	36.500	23.875	359	70-6786-24
30"	45.375	46.500	29.875	541	70-6786-30
36"	53.500	54.875	36.000	823	70-6786-36
42"	62.125	63.625	42.125	1252	70-6786-42
48"	72.000	73.625	48.500	1519	70-6786-48

### Features & Benefits:

- Every Series XF pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup and discs were specifically developed to perform efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- Plus, the large wearing surface of the cup promotes longer life, while product pressure holds the cutting edge firmly against the pipe wall.
- Every Apache XF 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.

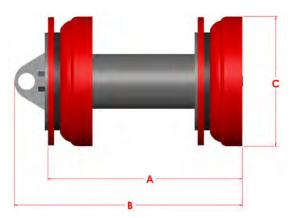
Designed to negotiate minimum 3D and greater bends, the XF pig moves reliably through piping systems.

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- Transmitter housing to accommodate electronic tracking equipment.
- CARVER discs.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Rattlers.

**DCD** 3-14" (76-356mm)

Effective batching and separating capability is the name of the game for the Series DCD pig.

Every pig in the series is equipped with two sealing discs and two Apache Series C Cups. These multiple sealing components create a positive seal between dissimilar fluids, while simultaneously providing a larger sealing surface area. As a result, its sealing capacity, and overall batching and separating capability is greatly improved.



Size	Α	В	С	Weight	Part #
3"	4.875	6.500	3.375	2.0	70-6830-03
4"	6.250	8.250	4.375	4.0	70-6830-04
6"	9.375	12.250	6.375	12	70-6830-06
8"	11.875	14.500	8.500	23	70-6830-08
10"	14.875	17.750	10.625	39	70-6830-10
12"	18.125	20.875	12.750	56	70-6830-12
14"	20.750	23.500	13.875	65	70-6830-14

### Features & Benefits:

- Every Series DCD pig is equipped with Apache Series C cups. As with all of Apache products, the Series C cup and discs were specifically developed to perform efficiently and reliably.
- To maximize durability, all discs are made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- The DCD pig is configured to offer a sealing arrangement that is used to separate dissimilar fluids during longer distance operations.

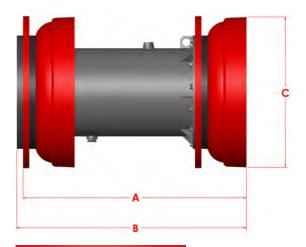
Designed to negotiate 1.5D bends, the Series DCD pig moves reliably through piping systems.

- UT Mandrel to accommodate electronic tracking equipment.
- CARVER discs.
- Aluminum gauge plates in standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

### DCD 16-48" (406-1219mm)

Effective batching and separating capability is the name of the game for the Series DCD pig.

Every pig in the series is equipped with two sealing discs and two Series C Cups. These multiple sealing components create a positive seal between dissimilar fluids, while simultaneously providing a bigger surface area. As a result, its sealing capacity, and overall batching and separating capability is greatly improved.



Size	А	В	С	Weight	Part #
16"	23.125	24.125	16.000	97	70-6830-16
20"	28.875	29.875	19.875	159	70-6830-20
22"	31.375	32.375	21.875	183	70-6830-22
24"	34.500	35.500	23.875	234	70-6830-24
30"	42.250	43.375	29.875	376	70-6830-30
36"	49.875	51.250	36.000	583	70-6830-36
42"	57.250	58.750	42.125	865	70-6830-42
48"	62.750	64.500	48.500	1077	70-6830-48

#### Features & Benefits:

- The DCD pig is configured to offer a sealing arrangement that is used to separate dissimilar fluids, and to lightly scrape pipelines during longer distance operations.
- Every Apache DCD 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.

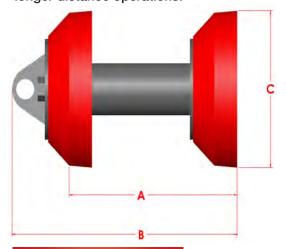
Designed to negotiate 1.5D bends, the Series DCD pig moves reliably through piping systems.

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- Transmitter housing to accommodate electronic tracking equipment.
- CARVER discs.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- Rattlers.

## UM2 3-14" (76-356mm)

Primarily used to batch dissimilar fluids, the Series UM2 conical cup pig is also very effective for pipelines in need of light cleaning.

How is this possible? The answer lies in the three versions of the Series UM. The two-cup design of the UM2 pig provides a positive seal between fluid interfaces for efficient batching. The UM3 three-cup and UM4 four-cup design pigs are both used to gently clean pipelines and for batching and separation operations. They are typically used for longer distance operations.



Size	Α	В	С	Weight	Part #
3"	4.625	6.625	3.375	2.0	70-5802-03
4"	5.875	8.000	4.375	3.0	70-5802-04
6"	8.250	11.625	6.500	10	70-5802-06
8"	10.500	14.125	8.375	15	70-5802-08
10"	12.750	17.125	10.500	27	70-5802-10
12"	15.125	19.625	12.500	39	70-5802-12
14"	17.500	22.125	14.000	48	70-5802-14

#### Features & Benefits:

- Given that anomalies are a fairly common feature of a pipeline scheduled for maintenance, it's reassuring that pigs mounted with conical cups can traverse pipeline anomalies of up to 20% without damaging essential inline auxiliary equipment.
- Every Series UM pig is equipped with Apache Series M cups. As with all of Apache products, the Series M cup was especially developed to perform efficiently and reliably. To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.

Designed to negotiate 1.5D bends, the Series UM2 pig moves reliably through piping systems.

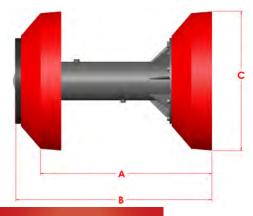
- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.
- Aluminum or steel gauging plates in slotted or standard styles.
- UT Mandrel to accommodate electronic tracking equipment.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

## UM2

16-48" (406-1219mm)

Primarily used to batch dissimilar fluids, the Series UM2 is also very effective for pipelines in need of light cleaning.

How is this possible? The answer lies in the three versions of the Series UM. The two-cup design of the UM2 pig provides a positive seal between fluid interfaces for efficient batching. The UM3 three-cup and UM4 four-cup design pigs are both used to gently clean pipelines and for batching and separation operations. They are typically used for longer distance operations.



Size	А	В	С	Weight	Part #
16"	21.000	24.000	15.875	63	70-5802-16
20"	23.750	27.375	20.000	98	70-5802-20
22"	27.625	31.625	22.000	137	70-5802-22
24"	29.500	33.875	24.000	161	70-5802-24
30"	36.750	41.875	29.875	273	70-5802-30
36"	45.750	52.250	36.000	421	70-5802-36
42"	54.125	61.375	42.125	614	70-5802-42
48"	60.375	68.625	48.125	754	70-5802-48

### Features & Benefits:

- Given that anomalies are a fairly common feature of a pipeline scheduled for maintenance, it's reassuring that pigs mounted with conical cups can traverse pipeline anomalies of up to 20% without damaging essential inline auxiliary equipment.
- Every Series UM pig is equipped with Apache Series M cups. As with all of Apache products, the Series M cup was especially developed to perform efficiently and reliably. To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- Every Apache UM2 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and in-line auxiliary equipment, preventing damage.

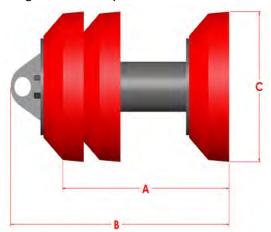
Designed to negotiate 1.5D bends, the Series UM2 pig moves reliably through piping systems.

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic or tin-coated.
- Transmitter housing to accommodate electronic tracking equipment.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- **CARVER Discs**
- **Rattlers**

## UM3 3-14" (76-356mm)

Primarily used to batch dissimilar fluids, the Series UM3 is also very effective for pipelines in need of light cleaning.

How is this possible? The answer lies in the three versions of the Series UM. The two-cup design of the UM2 pig provides a positive seal between fluid interfaces for efficient batching. The UM3 three-cup and UM4 four-cup design pigs are both used to gently clean pipelines and for batching and separation operations. They are typically used for longer distance operations.



Size	А	В	С	Weight	Part #
3"	4.875	6.750	3.375	3.0	70-5803-03
4"	6.125	8.625	4.375	4.0	70-5803-04
6"	9.250	12.625	6.500	13	70-5803-06
8"	12.000	15.625	8.375	20	70-5803-08
10"	14.875	19.250	10.500	36	70-5803-10
12"	16.625	21.250	12.500	52	70-5803-12
14"	19.500	24.250	14.000	64	70-5803-14

#### Features & Benefits:

- Given that anomalies are a fairly common feature of a pipeline scheduled for maintenance, it's reassuring that pigs mounted with conical cups can traverse pipeline anomalies of up to 20% without damaging essential inline auxiliary equipment.
- Every Series UM pig is equipped with Apache Series M cups. As with all of Apache products, the Series M cup was especially developed to perform efficiently and reliably. To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.

Designed to negotiate 1.5D bends, the Series UM3 pig moves reliably through piping systems.

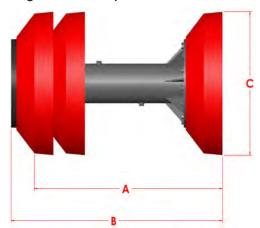
- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.
- Aluminum or steel gauging plates in slotted or standard styles.
- UT Mandrel to accommodate electronic tracking equipment.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

## UM3

16-48" (406-1219mm)

Primarily used to batch dissimilar fluids, the Series UM3 is also very effective for pipelines in need of light cleaning.

How is this possible? The answer lies in the three versions of the Series UM. The two-cup design of the UM2 pig provides a positive seal between fluid interfaces for efficient batching. The UM3 three-cup and UM4 four-cup design pigs are both used to gently clean pipelines and for batching and separation operations. They are typically used for longer distance operations.



Size	А	В	С	Weight	Part #
16"	25.000	28.000	15.875	89	70-5803-16
20"	29.750	33.375	20.000	145	70-5803-20
22"	34.375	38.250	22.000	197	70-5803-22
24"	36.500	40.875	24.000	231	70-5803-24
30"	45.500	50.625	29.875	385	70-5803-30
36"	55.125	61.750	36.000	586	70-5803-36
42"	66.250	73.500	42.125	860	70-5803-42
48"	74.625	83.000	48.125	1061	70-5803-48

#### Features & Benefits:

- Given that anomalies are a fairly common feature of a pipeline scheduled for maintenance, it's reassuring that pigs mounted with conical cups can traverse pipeline anomalies of up to 20% without damaging essential inline auxiliary equipment.
- Every Series UM pig is equipped with Apache Series M cups. As with all of Apache products, the Series M cup was especially developed to perform efficiently and reliably. To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- Every Apache UM3 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and in-line auxiliary equipment, preventing damage.

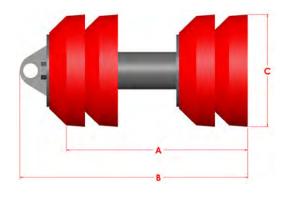
Designed to negotiate 1.5D bends, the Series UM3 pig moves reliably through piping systems.

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic or tin-coated.
- Aluminum or steel gauging plates in slotted or standard styles.
- Transmitter housing to accommodate electronic tracking equipment.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- **CARVER Discs**
- Rattlers

### UM4 3-14" (76-356mm)

Primarily used to batch dissimilar fluids, the Series UM4 is also very effective for separating fluids and looking after pipelines in need of light cleaning.

How is this possible? The answer lies in the three versions of the Series UM. The two-cup design of the UM2 pig provides a positive seal between fluid interfaces for efficient batching. The UM3 three-cup and UM4 four-cup design pigs are both used to gently clean pipelines and for batching and separation operations. They are typically used for longer distance operations.



Size	А	В	С	Weight	Part #
3"	6.000	8.000	3.375	3.0	70-5804-03
4"	7.000	9.500	4.375	5.0	70-5804-04
6"	10.250	13.625	6.500	15	70-5804-06
8"	13.500	17.125	8.375	25	70-5804-08
10"	17.000	21.250	10.500	45	70-5804-10
12"	18.750	23.750	12.500	65	70-5804-12
14"	21.625	26.375	14.000	81	70-5804-14

#### Features & Benefits:

- Given that anomalies are a fairly common feature of a pipeline scheduled for maintenance, it's reassuring that pigs mounted with conical cups can traverse pipeline anomalies of up to 20% without damaging essential inline auxiliary equipment.
- Every Series UM pig is equipped with Apache Series M cups. As with all of Apache products, the Series M cup was especially developed to perform efficiently and reliably. To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.

Designed to negotiate 1.5D bends, the Series UM4 pig moves reliably through piping systems.

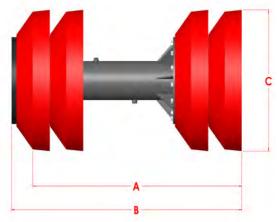
- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.
- Aluminum or steel gauging plates in slotted or standard styles.
- UT Mandrel to accommodate electronic tracking equipment.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

## UM4

16-48" (406-1219mm)

Primarily used to batch dissimilar fluids, the Series UM4 is also very effective for separating fluids and looking after pipelines in need of light cleaning.

How is this possible? The answer lies in the three versions of the Series UM. The two-cup design of the UM2 pig provides a positive seal between fluid interfaces for efficient batching. The UM3 three-cup and UM4 four-cup design pigs are both used to gently clean pipelines and for batching and separation operations. They are typically used for longer distance operations.



Size	А	В	С	Weight	Part #
16"	29.000	32.125	15.875	115	70-5804-16
20"	35.750	39.375	20.000	191	70-5804-20
22"	41.000	44.875	22.000	257	70-5804-22
24"	43.500	47.875	24.000	301	70-5804-24
30"	54.250	59.375	29.875	498	70-5804-30
36"	64.625	71.125	36.000	751	70-5804-36
42"	78.500	85.750	42.125	1118	70-5804-42
48"	84.875	93.250	48.125	1338	70-5804-48

#### Features & Benefits:

- Given that anomalies are a fairly common feature of a pipeline scheduled for maintenance, it's reassuring that pigs mounted with conical cups can traverse pipeline anomalies of up to 20% without damaging essential inline auxiliary equipment.
- Every Series UM pig is equipped with Apache Series M cups. As with all of Apache products, the Series M cup was especially developed to perform efficiently and reliably. To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- Every Apache UM4 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and in-line auxiliary equipment, preventing damage.

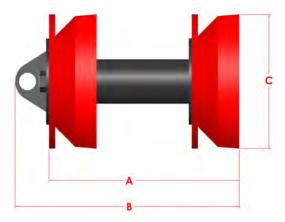
Designed to negotiate 1.5D bends, the Series UM4 pig moves reliably through piping systems.

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- Aluminum or steel gauging plates in slotted or standard styles.
- Transmitter housing to accommodate electronic tracking equipment.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- **CARVER Discs**
- Rattlers



Looking for more effective cleaning and sealing capacity? Then look no further than the Series DMD.

Every pig in the series is equipped with two sealing discs and two Series M Cups. These multiple sealing components create a positive seal between dissimilar fluids, while simultaneously providing a bigger surface area. As a result, its sealing capacity, scraping capability, and overall cleaning ability is greatly improved.



Size	А	В	С	Weight	Part #
3"	5.625	7.000	3.375	2.0	70-6850-03
4"	7.250	8.875	4.375	3.0	70-6850-04
6"	10.125	12.375	6.500	11	70-6850-06
8"	11.875	14.125	8.375	20	70-6850-08
10"	15.500	18.125	10.500	31	70-6850-10
12"	18.125	20.875	12.500	46	70-6850-12
14"	20.500	23.250	14.000	52	70-6850-14

### Features & Benefits:

- The DMD pig is configured to offer a sealing arrangement that is used to separate dissimilar fluids, and to lightly scrape pipelines during longer distance operations.
- Given that anomalies are a fairly common feature of a pipeline scheduled for maintenance, it's reassuring that pigs mounted with conical cups can traverse pipeline anomalies of up to 20% without damaging essential inline auxiliary equipment.
- Every Series DMD pig is equipped with Apache Series M cups. As with all of Apache products, the Series M cup was especially developed to perform efficiently and reliably. To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- To use a Series DMD pig for different applications, cups can simply be added or reconfigured.

Designed to negotiate 1.5D bends, the Series DMD pig moves reliably through piping systems.

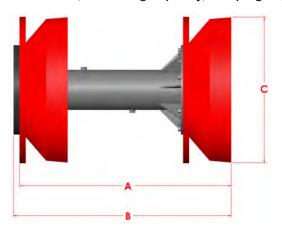
- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.
- Aluminum or steel gauging plates in slotted or standard styles.
- UT Mandrel to accommodate electronic tracking equipment.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- **CARVER Discs**



16-48" (406-1219mm)

Looking for more effective cleaning and sealing capacity? Then look no further than the Series DMD.

Every pig in the series is equipped with two sealing discs and two Series M Cups. These multiple sealing components create a positive seal between dissimilar fluids, while simultaneously providing a bigger surface area. As a result, its sealing capacity, scraping capability, and overall cleaning ability is greatly improved.



Size	А	В	С	Weight	Part #
16"	24.500	25.500	15.875	75	70-6850-16
20"	28.000	29.000	20.000	122	70-6850-20
22"	32.375	33.375	22.000	163	70-6850-22
24"	34.875	35.875	24.000	196	70-6850-24
30"	43.000	44.125	29.875	328	70-6850-30
36"	53.625	55.000	36.000	520	70-6850-36
42"	62.875	64.375	42.125	755	70-6850-42
48"	70.500	72.125	48.125	962	70-6850-48

#### Features & Benefits:

- The DMD pig is configured to offer a sealing arrangement that is used to separate dissimilar fluids, and to lightly scrape pipelines during longer distance operations.
- Given that anomalies are a fairly common feature of a pipeline scheduled for maintenance, it's reassuring that pigs mounted with conical cups can traverse pipeline anomalies of up to 20% without damaging essential inline auxiliary equipment.
- Every Series DMD pig is equipped with Apache Series M cups. As with all of Apache products, the Series M cup was especially developed to perform efficiently and reliably. To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- Every Apache DMD 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and in-line auxiliary equipment, preventing damage.
- To use a Series DMD pig for different applications, cups can simply be added or reconfigured

Designed to negotiate 1.5D bends, the Series DMD pig moves reliably through piping systems.

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- Aluminum or steel gauging plates in slotted or standard styles.
- Transmitter housing to accommodate electronic tracking equipment.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.
- **CARVER Discs**
- Rattlers

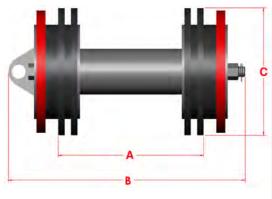
## DISPLACEMENT

ED

3-14" (76-356mm)

The Series ED pig is an extremely hardworking pig. With its bi-directional design, it can travel in either direction.

When it comes to displacing air and water during hydrostatic testing carried out during construction, the ED pig gets the job done, quickly and efficiently.



Size	А	В	С	Weight	Part #
3"	3.000	6.875	3.375	2.0	70-7056-03
4"	4.375	9.000	4.375	4.0	70-7056-04
6"	6.000	13.000	6.375	14	70-7056-06
8"	7.5000	15.250	8.375	26	70-7056-08
10"	10.500	18.750	10.500	44	70-7056-10
12"	12.250	23.250	12.500	72	70-7056-12
14"	14.500	23.500	13.875	77	70-7056-14

#### Features & Benefits:

- By using the ED pig comprised of four sealing discs and two guide discs, it provides an effective seal that's critical when separating dissimilar fluids or dewatering during hydrostatic testing.
- With repeated use, sealing discs can experience wear and tear. The ED pig will still reverse direction, without compromising its sealing capabilities.
- To maximize durability, all discs are made from Reliathane, Apache's special blend of wear-resistant polyurethane.

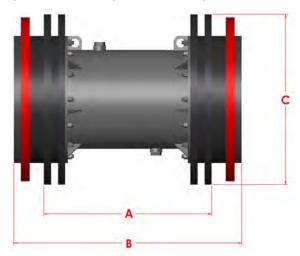
Designed to negotiate 1.5D bends, the ED pig moves reliably through piping systems.

- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.
- UT Mandrel to accommodate electronic tracking equipment.
- Aluminum gauge plates in slotted or standard styles.
- CARVER discs.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

16-48" (406-1219mm)

The Series ED pig is an extremely hardworking pig. With its bi-directional design, it can travel in either direction.

When it comes to displacing air and water during pressure testing carried out during construction, the ED pig gets the job done, quickly and efficiently.



Size	А	В	С	Weight	Part #
16"	15.000	22.250	15.875	118	70-7056-16
18"	17.000	24.250	17.875	142	70-7056-18
20"	19.250	27.250	20.000	191	70-7056-20
22"	21.500	30.250	22.000	215	70-7056-22
24"	23.750	32.250	24.125	277	70-7056-24
30"	29.750	38.500	30.250	442	70-7056-30
36"	35.250	47.000	36.500	704	70-7056-36
42"	41.250	55.250	42.125	1075	70-7056-42
48"	46.500	60.000	48.875	1360	70-7056-48

#### Features & Benefits:

- By using the ED pig in conjunction with four sealing discs and two guide discs, it provides an effective seal that's critical when separating dissimilar fluids or dewatering during hydrostatic testing.
- With repeated use, sealing discs can experience wear and tear. The ED pig can still reverse direction without compromising its sealing capabilities.
- To maximize durability, all discs are made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.
- Every Apache ED 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.

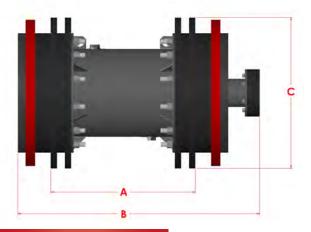
Designed to negotiate 1.5D bends, the ED pig moves reliably through piping systems.

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- Aluminum gauge plates in slotted or standard styles.
- Transmitter housing to accommodate electronic tracking equipment.
- CARVER discs.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

## MDK

16-48" (406-1219mm)

The rugged MDK pig was specifically developed for use during the testing stage of mainline pipeline construction projects.



Size	А	В	С	Weight	Part #
16"	15.000	28.250	15.875	161	70-7776-16
20"	19.250	34.750	20.000	264	70-7776-20
24"	23.750	38.500	24.000	372	70-7776-24
30"	29.750	48.875	30.250	632	70-7776-30
36"	35.250	52.500	36.500	816	70-7776-36
42"	41.250	65.500	42.125	1208	70-7776-42
48"	46.500	72.750	48.875	1500	70-7776-48

#### Features & Benefits:

- The MDK pig features an inner and outer mandrel. Because the inner mandrel withstands the punishing battering inflicted during the construction process, and the exterior disc carrying the outer mandrel remains untouched, the MDK dual mandrel is preferred by mainline contractors, every pig is equipped with a durable guide disc at each end. These discs center the sealing discs in the line, which allows the four sealing discs in the center to form a quadruple seal during displacement.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.
- To maximize durability, all discs are made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- Every Apache MDK 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required.

Designed to negotiate 1.5D bends, the MDK pig moves reliably through piping systems.

- Circular flange brushes or block brushes in the following types and trim materials (not available for testing):
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- Transmitter housing to accommodate electronic tracking equipment.
- CARVER discs.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

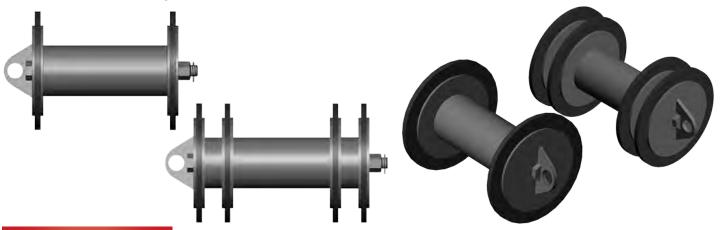
## **MD2 & MD4**

3-14" (76-356mm)

Versatile, economic and efficient. That sums up the MD pigs.

Its primary function is to displace water during the hydrostatic testing stage of construction. The operator simply fills the line with liquid, displacing the liquid without removing the pig.

With its bi-directional design, it can travel in either direction.



#### Features & Benefits:

- Every MD Series pig, up to 14", features a through-bolt mandrel design, complete with a pull hook. Typically, the longer the intended pig run is, the more discs are required. For maximum versatility, the pig can be fitted with two or four discs, depending on the application.
- To maximize durability, all discs are made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- With repeated use, sealing discs can experience wear and tear. The MD pig can still reverse direction without compromising its sealing capabilities.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.
- The MD Series is available in either the standard MD2 or the heavy duty MD4 design.

Designed to negotiate 1.5D bends, the MD2 and MD4 pigs move reliably through piping systems.

- UT Mandrel to accommodate electronic tracking equipment.
- CARVER discs.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

## DISPLACEMENT

# **MD2 & MD4**

16-48" (406-1219mm)

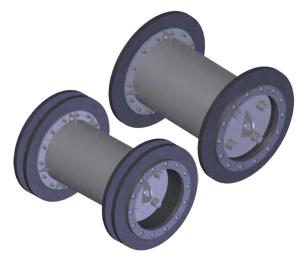
Versatile, economic and efficient. That's the MD pig.

Designed especially for medium to long pigging runs, its primary function is to displace water during the hydrostatic testing stage of construction. For example, the operator simply fills the line with liquid, displacing the liquid without removing the pig.

With its bi-directional design, it can travel in either direction.







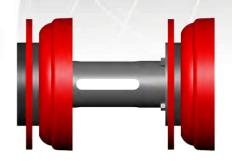
#### Features & Benefits:

- Every MD Series pig, up to 14", features a through-bolt mandrel design, complete with a pull hook. Typically, the
  longer the intended pig run is, the more discs are required. To address this, every MD Series pig larger than 16"
  is equipped with either two or four discs, and bolted to a rugged steel mandrel.
- To maximize durability, all discs are made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- With repeated use, sealing discs can experience wear and tear. The MD pig can still reverse direction without compromising its sealing capabilities.
- Every Apache MD2 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.
- The MD Series is available in either the standard MD2 or the heavy duty MD4 design.

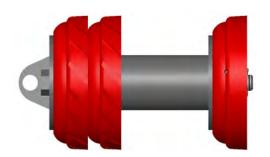
Designed to negotiate 1.5D bends, the MD2 and MD4 pigs move reliably through piping systems.

- Transmitter housing to accommodate electronic tracking equipment.
- CARVER discs.
- Custom-made gauging plates in aluminum, steel, slotted or standard style.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

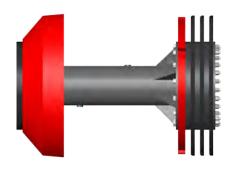
## SPECIALTY



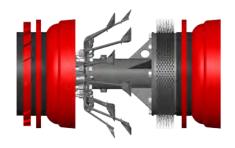
UT MANDREL Pg. 3-2



JETTED CUP Pg. 3-3 to 3-5



FILMING PIGS Pg. 3-6



Ph: 780.416.4850

KNIFE PIG Pg. 3-7

# SPECIA UT MANDREL OPTION

6-14" (52-356mm)

The UT mandrel is one very useful pig. Although it's primary design feature is to house a transmitter located in the center of the slotted universal mandrel, it can also accommodate virtually any configuration of cup, disc and brush. This also allows the pig to clean and batch many dissimilar fluids.



#### Features & Benefits:

- The UT is the only small diameter steel mandrel pig we manufacture that features a transmitter cavity in the middle of the mandrel to accommodate electronic pig tracking equipment.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.
- To maximize durability, all discs are made from Reliathane, Apache's special blend of wear-resistant polyurethane.

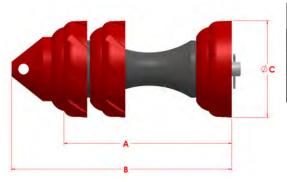
- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.
- CARVER discs.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

## SPECIALTY

## JETTED CUP

2-4" (76-102mm)

The JC Cup is a powerful pig that provides moderate cleaning. It combines all of the advantages of the Apache Series C Cup with the force of jetting action, essentially power-washing the pipeline. The grooves in the cup's surface create five times the cleaning surface, making it possible to aim a calibrated amount of fluid to pummel the pipe wall, jetting away – and suspending – stubborn wax, sand or other debris.



Size	А	В	С	Weight	Part #
2"	3.875	5.250	2.125	1.0	70-3803-02
3"	5.625	7.825	3.375	2.0	70-3803-03
4"	7.000	9.750	4.375	3.0	70-3803-04

### Features & Benefits:

- Every JC pig is equipped with two standard JC Series Cups and one rear-ported Series C Cup. This pig is very effective in low flow applications.
- As with all of Apache products, these cups were specifically developed to perform, efficiently and reliably.
- To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.

Designed to negotiate 1.5D bends, the JC3 pig moves reliably through piping systems.





- Circular flange brushes in various trim materials, carbon steel, stainless steel, plastic or pencil brushes.
- CARVER discs.
- Aluminum gauge plates in standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.





Ph: 780.416.4850

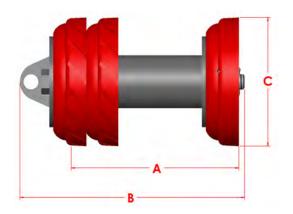
Check out apachepipe.com/animations/ for videos on jetted cups.

# SPEC

## JETTED CUP

6-14" (152-356mm)

The JC Cup is a powerful pig that provides moderate cleaning. It combines all of the advantages of the Apache Series C Cup with the force of jetting action, essentially power-washing the pipeline. The grooves in the cup's surface create five times the cleaning surface, making it possible to aim a calibrated amount of fluid to pummel the pipe wall, jetting away - and suspending - stubborn wax, sand or other debris.

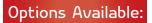


Size	А	В	С	Weight	Part #
6"	9.875	13.750	6.375	15	70-3803-06
8"	11.375	15.250	8.500	26	70-3803-08
10"	15.250	19.500	10.625	47	70-3803-10
12"	18.250	22.750	12.500	64	70-3803-12
14"	21.250	25.875	13.875	75	70-3803-14

#### Features & Benefits:

- Every JC pig is equipped with two standard JC Series Cups and one rear-ported Series C Cup. This pig is very effective in low flow applications.
- As with all of Apache products, these cups were specifically developed to perform, efficiently and reliably.
- To maximize durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.

Designed to negotiate 1.5D bends, the JC3 pig moves reliably through piping systems.





- Circular flange brushes in various trim materials, carbon steel, stainless steel, plastic or pencil brushes.
- UT Mandrel to accommodate electronic tracking equipment.
- CARVER discs.
- Aluminum gauge plates in standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.





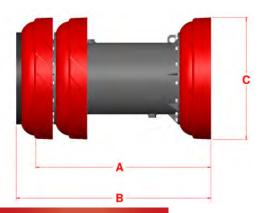
Check out apachepipe.com/animations/ for videos on jetted cups.

## SPEC

## JETTED CUP

16-48" (406-1219mm)

The JC Cup is a powerful pig that provides moderate cleaning. It combines all of the advantages of the Apache Series C Cup with the force of jetting action, essentially power-washing the pipeline. The grooves in the cup's surface create five times the cleaning surface, making it possible to aim a calibrated amount of fluid to pummel the pipe wall, jetting away - and suspending - stubborn wax, sand or other debris.



Size	А	В	С	Weight	Part #
16"	22.500	25.875	16.000	115	70-3803-16
20"	28.500	32.375	19.875	187	70-3803-20
22"	31.375	35.500	21.875	215	70-3803-22
24"	34.375	38.250	23.875	269	70-3803-24
30"	42.125	47.125	29.875	426	70-3803-30
36"	49.250	54.750	36.000	644	70-3803-36
42"	56.500	62.500	42.125	942	70-3803-42
48"	61.625	68.125	48.500	1141	70-3803-48

#### Features & Benefits:

- Every JC pig is equipped with two standard JC Series Cups and one rear-ported Series C Cup. This pig is very effective in low flow applications.
- Every Apache JC3 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that can be removed, should by-pass be required. By removing by-pass plugs, a portion of product flow is redirected through these openings. The debris is suspended in the turbulent flow and transferred ahead of the pig.
- Standard bumper noses cushion the pig and help to protect in-line auxiliary equipment, preventing damage.

Designed to negotiate 1.5 bends, the JC3 pig moves reliably through piping systems.



#### Options Available:

- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel, plastic, or tin-coated.
- CARVER discs.
- Aluminum gauge plates in slotted or standard styles.
- Magnets can be used to either collect ferrous and other construction debris, or they can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.





Check out apachepipe.com/animations/ for videos on jetted cups.

# SPEC

## FILMING PIGS

16-48" (406-1219mm)

Stop corrosion in its tracks. That's what we set out to do when we developed the Apache Filming Pig. As every pipeline engineer knows, coating the interior of the line with a quality corrosion inhibitor is one of the best ways to prevent corrosion. The challenge? How to apply inhibitor in a controlled manner.

The Filming Pig was designed for one purpose: to apply a film of inhibitor with 360-degree coverage on the interior pipe wall.

The unique design of the 16" - 48" Filming Pig features a hollow front mandrel with two equalization ports that are removed from the center of the mandrel. By doing so, inhibitor is allowed to travel through the hollow front mandrel and two port holes located on either side. Inhibitor becomes trapped between the front conical cup, back three soft filming discs and support disc, leaving a film of inhibitor on the pipe wall.

Every Apache FP 16"- 48" pig is manufactured with by-pass ports. These ports feature threaded plugs that need to be removed, should by-pass be required. By removing the by-pass plugs, a portion of product flow is redirected through these openings.

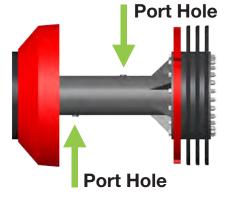
Designed to negotiate 1.5D bends, the Filming Pig moves reliably through piping systems.



**Front** With hollow cavity



**Back** Flange plate with eyelet for lifting



**Port Hole** 

Inhibitor travels through the hollow front mandrel and two port holes located on either side of the mandrel, ultimately leaving a film of protective corrosion inhibitor on the pipe wall.





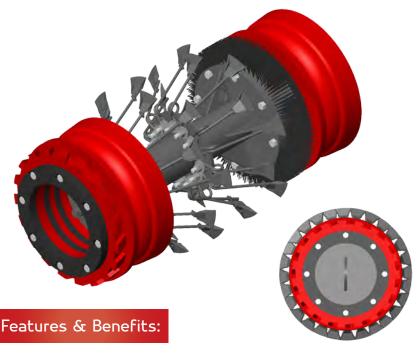
Check out apachepipe.com/animations.html for videos on filming pigs.

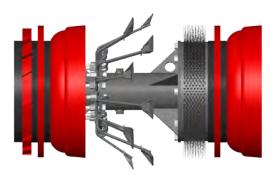
# SPECIALTY

# KNIFE PIG

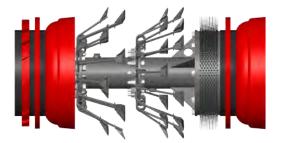
# HEAVY DUTY AND DURABLE METAL/CARBIDE SCRAPING KNIVES PROVIDE THE ULTIMATE CLEAN.

Individually spring mounted Apache knives distribute force evenly to the pipe wall.





3D TOOL



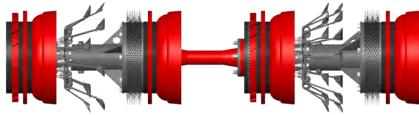
**5D TOOL** 

- Extremely aggressive cleaning/scraping
- 5D tools provide 360° knife coverage
- 3D tools provide about 70% knife coverage
- Single row provides 3D capabilities

#### Options Available:

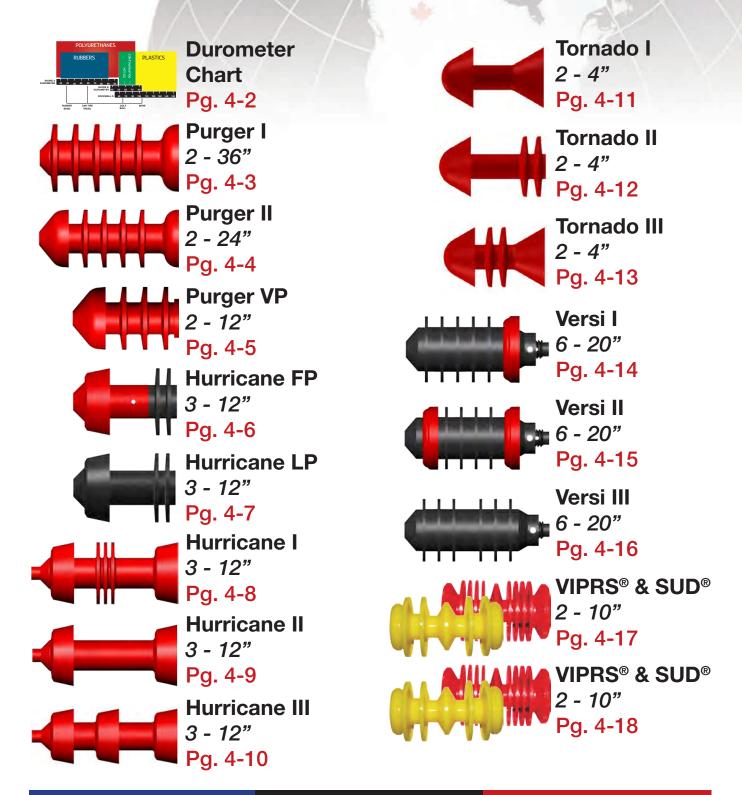
- CARVER Disc
- Gauge Plate
- Transmitter Cavity
- Knuckle Joint to Tether Two Pigs

Ph: 780.416.4850



**KNUCKLE JOINT** 

## ALL URETHANE



**60-63 DUROMETER**Very soft and pliable

Ph: 780.416.4850

**70-75 DUROMETER**Somewhat firm, but quite flexible

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

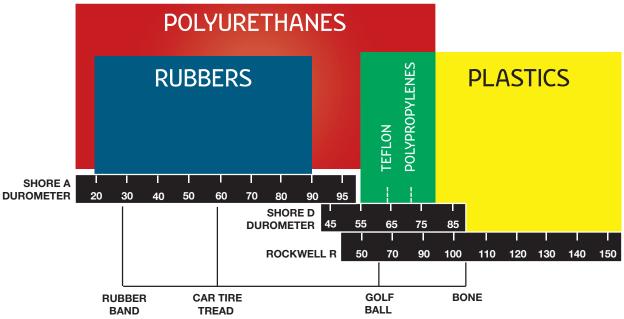
What does "durometer" mean and why is it important? Pipeline pigs play many roles. From cleaning and removing debris to separating and batching dissimilar fluids, they're essential tools of the trade, especially for maintaining pipelines. And because no two tasks - or pipeline - are exactly alike, the 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 resis-
- 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).

- Food grade.
- High temperature material.

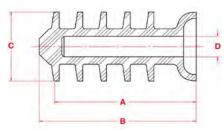
## ALL URETHANE

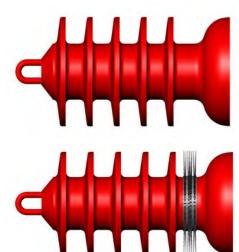
# PURGER ITT - solid cast

2-36" (51-914mm)

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







Size	А	В	С	D	Weight	Part #
2"	4.500	5.000	2.250	0.500	0.5	71-0185-02
3"	6.750	7.500	3.375	1.000	1.0	71-0185-03
4"	7.500	8.500	4.375	1.250	2.0	71-0185-04
6"	11.500	13.250	6.375	1.500	7.0	71-0185-06
8"	15.250	17.000	8.625	3.000	15	71-0185-08
10"	17.500	19.750	10.625	3.875	26	71-0185-10
12"	20.500	23.000	12.500	4.750	44	71-0185-12
14"	23.500	26.000	14.250	5.750	56	71-0185-14
16"	25.750	28.500	16.375	6.750	84	71-0185-16
18"	29.000	35.000	18.000	7.750	92	71-0185-18
20"	30.000	37.000	20.375	9.750	118	71-0185-20
22"	32.500	36.000	22.125	12.500	183	71-0185-22
24"	35.750	39.750	24.000	12.500	208	71-0185-24
30"	44.000	52.000	30.000	12.875	337	71-0185-30
36"	48.500	61.000	36.000	18.625	505	71-0185-36

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

#### Features & Benefits:

- Lightweight no metal components.
- Improved sealing as hollow core allows pressure to expand the pig body.
- Multiple seals provide excellent product interface.
- Standard hollow core to accommodate an electronic transmitter.

Designed to negotiate 1.5D bends, the Purger I • moves reliably through complex lines. •

#### Options Available:

- Solid core.
- Variety of durometers.
- Wrap brushes in the following types and trim materials:
  - 1. Trim types flat wire.
  - 2. Trim material carbon steel, stainless steel or plastic.
- Magnets can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices. Trip magnets are available for 4" - 36".
- Rattler 16" 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

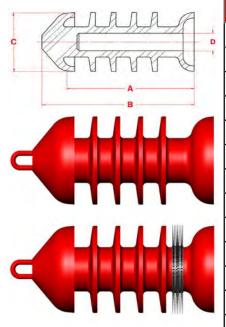
Most common for solid-cast pigs

# PURGER II - solid cast

2-24" (51-610mm)

The Apache Purger II™ is very lightweight and easy to launch. Designed standard with four sealer discs and two cups, back and front, it is very effective and versatile for both cleaning and batching.

Its one-piece molded design features multiple seals, making it an extremely efficient batching, cleaning and displacement pig. Unlike metal pigs, the solid urethane construction means that parts are never lost. Also, the sealing elements are always centered in the pipeline, resulting in consistent wear over time.



Size	Α	В	С	D	Weight	Part #
2"	4.250	5.375	2.250	0.500	0.5	71-0285-02
3"	6.750	8.375	3.375	1.000	1.3	71-0285-03
4"	7.500	9.500	4.375	1.250	3.0	71-0285-04
6"	11.500	15.000	6.375	1.500	7.8	71-0285-06
8"	15.500	19.250	8.625	3.000	18	71-0285-08
10"	18.250	22.000	10.625	3.875	28	71-0285-10
12"	22.000	26.500	12.500	4.750	50	71-0285-12
14"	24.000	31.000	14.250	5.750	58	71-0285-14
16"	24.500	33.000	16.375	6.750	75	71-0285-16
18"	27.000	36.000	18.000	8.750	109	71-0285-18
20"	32.000	37.000	20.375	9.750	126	71-0285-20
22"	37.500	42.500	22.125	12.500	223	71-0285-22
24"	36.750	46.000	24.000	12.500	247	71-0285-24

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

#### Features & Benefits:

- Lightweight no metal components.
- Improved sealing as hollow core allows pressure to expand the pig body.
- Excellent for nitrogen purging applications.
- Standard hollow core to accommodate an electronic transmitter.

Designed to negotiate 1.5D bends, the Purger Il moves reliably through piping systems.

#### Options Available:

- Solid core.
- Variety of durometers.
- Circular flange brushes or block brushes in the following types and trim materials:
  - 1. Trim types flat wire.
  - 2. Trim material carbon steel, stainless steel or plastic.
- Magnets can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices. Trip magnets are available for 4" - 24".
- Rattler 16" 24" 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

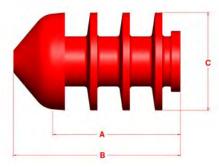
Firm with fair flexibility Most common for solid-cast pigs

# ALL URETHANE

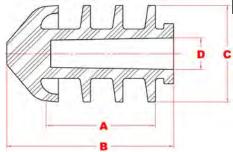
# PURGER VP™ - valve pig

2-12" (51-305mm)

Looking for a way to optimize your pipeline maintenance program? Apache has the answer. It's called the Purger VP™, and it's the latest addition to the Purger™ 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 Purger VP will arrive in the receiver on schedule.



Size	А	В	С	D	Weight	Part #
2"	2.375	4.000	2.250	ı	0.5	71-0985-02S
3"	3.750	5.750	3.375	ı	1.1	71-0985-03S
4"	3.875	7.375	4.375	ı	2.4	71-0985-04S
6"	5.750	10.250	6.375	ı	6.0	71-0985-06S
8"	8.375	14.750	8.500	2.875	12	71-0985-08
10"	9.250	15.250	10.500	3.875	19	71-0985-10
12"	11.250	18.500	12.500	4.500	33	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.

#### Features & Benefits:

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

Designed to negotiate 1.5D bends, the Series Purger VP moves reliably through piping systems.

### Options Available:

- Solid core. (Note: sizes 8"- 12" come standard as hollow core, but are available in solid core.)
- Variety of durometers.
- Circular wrap brushes in the following types and trim materials:
  - 1. Trim types flat wire.
  - 2. Trim material carbon steel, stainless steel or plastic.
- 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

# HURRICANE FILMING PIGS - solid cast

3-12" (76-305mm)

Stop corrosion in its tracks. That's what we set out to do when we developed the Hurricane LP-FP double-pig train method. As every pipeline engineer knows, coating the interior of the line with a quality corrosion inhibitor is one of the best ways to keep it from corroding. The challenge? How to apply inhibitor in a controlled manner.

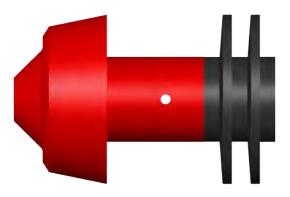
#### THE LP ROLE

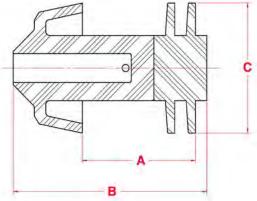
The Hurricane Lead Pig (LP) acts as the lead pig of a double-pig train. It carries inhibitor or biocide treatment, allowing minimal by-pass. The inhibitor is contained between the LP and the Hurricane Filming Pig (FP) pig. As the train moves through the line, the FP leaves a film of inhibitor on the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

#### THE FP ROLE

The design of the dual-durometer Hurricane FP is truly unique. It features a hollow front mandrel with two port holes in the center of the mandrel. This allows the inhibitor to travel to the front hollow mandrel and through the two port holes on either side of the mandrel. The inhibitor is then trapped between the front conical cup, and back two soft discs to leave a film of inhibitor on the pipe wall.

The Hurricane LP-FP method: the ideal solution for controlled, efficient pipe wall filming.





Size	А	В	С	Weight	Part #
3"	2.500	4.875	3.375	1.0	74-0462-03
4"	3.625	6.250	4.375	2.0	74-0462-04
6"	5.375	8.750	6.500	4.0	74-0462-06
8"	7.625	11.750	8.500	10	74-0462-08
10"	9.625	14.125	10.625	20	74-0462-10
12"	10.125	15.375	12.500	32	74-0462-12

#### Features & Benefits:

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

Designed to negotiate 1.5D bends, the Filming Pig moves reliably through piping systems.





Check out apachepipe.com/animations.html for videos on filming pigs.

### HURRICANE LEAD PIGS - solid cast

3-12" (76-305mm)

Stop corrosion in its tracks. That's what we set out to do when we developed the Hurricane LP-FP double-pig train method. As every pipeline engineer knows, coating the interior of the line with a quality corrosion inhibitor is one of the best ways to keep it from corroding. The challenge? How to apply inhibitor in a controlled manner.

#### THE LP ROLE

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) pig. As the train moves through the line, the FP leaves a film of inhibitor on the pipe wall.

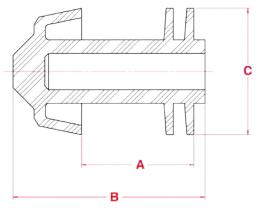
#### THE FP ROLE

The design of the dual-durometer Hurricane FP is truly unique. It features a hollow front mandrel with two port holes in the center of the mandrel. This allows the inhibitor to travel to the front hollow mandrel and through the two port holes on either side of the mandrel. The inhibitor is then trapped between the front conical cup, and back two soft discs to leave a film of inhibitor on the pipe wall.

Similar in appearance to the Hurricane Filming Pig, the Hurricane LP is manufactured with 72 durometer urethane and has a rear hollow cavity.

The Hurricane LP-FP method: the ideal solution for controlled, efficient pipe wall filming.





Size	А	В	С	Weight	Part #
3"	2.500	4.875	3.375	0.7	74-0572-03S
4"	3.625	6.250	4.375	1.2	74-0572-04S
6"	5.375	8.750	6.500	3.4	74-0572-06S
8"	7.625	11.750	8.500	9.3	74-0572-08S
10"	9.625	14.125	10.625	15	74-0572-10S
12"	10.125	15.375	12.500	25	74-0572-12S

#### Features & Benefits:

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

Designed to negotiate 1.5D bends, the Lead Pig moves reliably through piping systems.





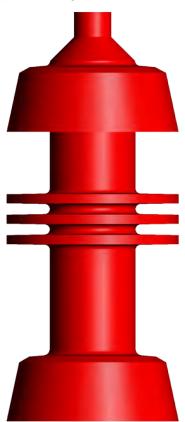
Ph: 780.416.4850

Check out apachepipe.com/animations.html for videos on lead pigs.

# HURRICANE I - solid cast

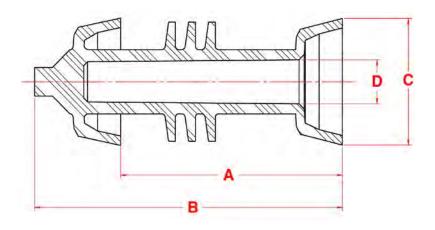
3-12" (76-305mm)

The Hurricane I is a single-mold urethane cup-disc pig. It is very lightweight, making it easy for maximum cleaning. Strategically placed cups and discs make it possible for the Hurricane to navigate through restrictions in valves and pass through tees.



Size	А	В	С	D	Weight	Part #
3"	5.750	7.750	3.375	1.000	1.0	74-0185-03
4"	7.375	9.625	4.500	1.500	1.7	74-0185-04
6"	10.125	13.125	6.500	2.000	5.2	74-0185-06
8"	13.125	17.500	8.625	2.875	13	74-0185-08
10"	16.000	20.500	10.750	3.750	21	74-0185-10
12"	20.500	23.000	12.625	4.625	48	74-0185-12

<sup>\*</sup>Part numbers shown are for 85 Durometer (62 and 72 also available)



#### Features & Benefits:

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

Designed to negotiate 1.5D bends, the Hurricane I moves reliably through piping systems.

#### Options Available:

- Solid core.
- Variety of sizes durometers.
- Wrap brushes in the following types and trim materials:
  - 1. Trim types flat wire.
  - 2. Trim material carbon steel, stainless steel or plastic.
- Magnets can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

**60-63 DUROMETER** Very soft and pliable

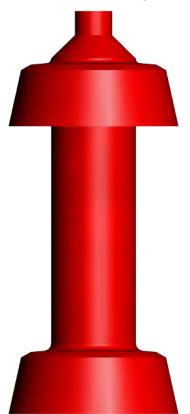
70-75 DUROMETER Somewhat firm, but quite flexible **80-85 DUROMETER** 

# ALL URETHANE

# HURRICANE II - solid cast

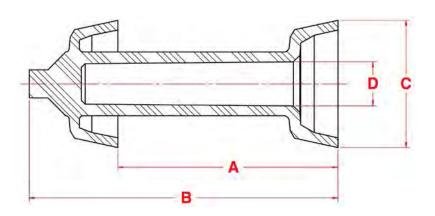
3-12" (76-305mm)

The solid-cast Hurricane II is a single-mold urethane cup pig. It is very lightweight, making it easy for maximum cleaning. The strategically placed cups makes it possible for the Hurricane II to navigate through restrictions in valves and pass through tees.



Size	Α	В	С	D	Weight	Part #
3"	6.250	7.875	3.375	1.000	0.8	74-0285-03
4"	8.000	9.750	4.500	1.500	1.4	74-0285-04
6"	10.750	13.000	6.500	2.000	3.7	74-0285-06
8"	14.000	16.750	8.625	2.875	9.7	74-0285-08
10"	16.000	20.500	10.750	3.750	21	74-0285-10
12"	20.500	23.000	12.625	4.625	48	74-0285-12

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



#### Features & Benefits:

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

Designed to negotiate 1.5D bends, the Hurricane II moves reliably through piping • systems.

#### Options Available:

- Solid core.
- Variety of durometers.
- Wrap brushes in the following types and trim materials:
  - 1. Trim types flat wire.
  - 2. Trim material carbon steel, stainless steel or plastic.
- Magnets can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

**60-63 DUROMETER**Very soft and pliable

Ph: 780.416.4850

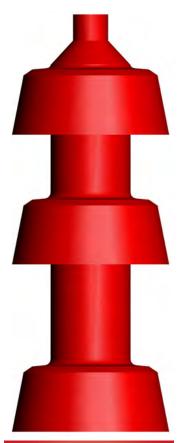
**70-75 DUROMETER**Somewhat firm, but quite flexible

80-85 DUROMETER

# HURRICANE III - solid cast

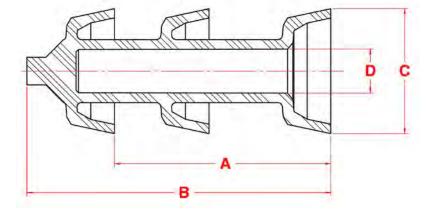
3-12" (76-305mm)

The solid-cast Hurricane III is a single-mold urethane cup pig. It is very lightweight, making it easy for maximum cleaning. The strategically placed cups make it possible for the Hurricane III to navigate through restrictions in valves and pass through tees.



Size	А	В	С	D	Weight	Part #
3"	5.750	7.750	3.750	1.000	1.0	74-0385-03
4"	7.125	9.625	4.500	1.500	1.8	74-0385-04
6"	9.875	12.500	6.500	2.000	4.6	74-0385-06
8"	12.375	16.250	8.625	2.875	12	74-0385-08
10"	15.750	20.750	10.750	3.750	19	74-0385-10
12"	20.500	23.000	12.625	4.625	48	74-0385-12

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



#### Features & Benefits:

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

Designed to negotiate 1.5D bends, the Hurricane III moves reliably through piping systems.

#### Options Available:

- Solid core.
- Variety of durometers.
- Wrap brushes in the following types and trim materials:
  - 1. Trim types flat wire.
  - 2. Trim material carbon steel, stainless steel or plastic.
- Magnets can be used to provide a change in magnetic field required by non-intrusive pig signaler detection devices.

**60-63 DUROMETER** Very soft and pliable

**70-75 DUROMETER** 

Somewhat firm, but quite flexible

**80-85 DUROMETER** 

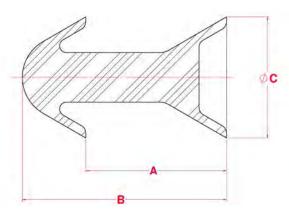
# TORNADO

2-4" (51-102mm)

Never underestimate the tiny Tornado I. Its compact size is a must for cleaning small diameter pipelines. The fieldproven Tornado I effectively cleans small diameter lines, such as those found in crude oil gathering systems.

Time and time again, flow rates rise after being cleaned with a Tornado I.

How is this possible? 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. Its strength lies in proving a line in a pipe network prior to operational pigging, as opposed to clearing solids or aggressive cleaning.



Size	А	В	С
2"	3.000	4.500	2.125
3"	4.125	5.875	3.250
4"	4.875	7.250	4.375

Size	62 Durometer	72 Durometer	85 Durometer
2"	72-0162-02S	72-0172-02S	72-0185-02S
3"	72-0162-03S	72-0172-03S	72-0185-03S
4"	72-0162-04S	72-0172-04S	72-0185-04S

#### Features & Benefits:

- Solid cast urethane.
- Lightweight.

Designed to negotiate 1.5D bends, the Tornado I moves reliably through piping systems.

Ph: 780.416.4850

#### Options Available:

Available in different durometers.



### 60-63 DUROMETER

Very soft and pliable

#### 70-75 DUROMETER

Somewhat firm, but quite flexible

#### 80-85 DUROMETER

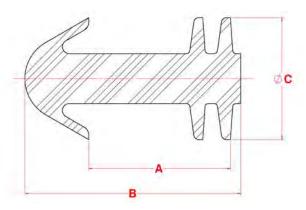
# TORNADO II

2-4" (51-102mm)

Never underestimate the tiny Tornado II. Its compact size is a must for cleaning small diameter pipelines.

Time and time again, flow rates rise after being cleaned with the Tornado II.

How is this possible? The discs featured on the Tornado II make it easy for it to traverse through any line with maximum efficiency. Designed for use in non-metallic pipe and steel lines, its strength lies in proving a line in a pipe network prior to operational pigging, as opposed to clearing solids or aggressive cleaning.



Size	А	В	С
2"	3.000	4.500	2.125
3"	4.125	5.875	3.250
4"	4.875	7.250	4.375

Size	62 Durometer	72 Durometer	85 Durometer
2"	72-0262-02S	72-0272-02S	72-0285-02S
3"	72-0262-03S	72-0272-03S	72-0285-03S
4"	72-0262-04S	72-0272-04S	72-0285-04S

#### Features & Benefits:

- Solid-cast urethane.
- Lightweight.

Designed to negotiate 1.5D bends, the Tornado II moves reliably through piping systems.

### Options Available:

Available in different durometers.



### 60-63 DUROMETER

Very soft and pliable

#### 70-75 DUROMETER

Somewhat firm, but quite flexible

#### 80-85 DUROMETER

# ALL URETHANE

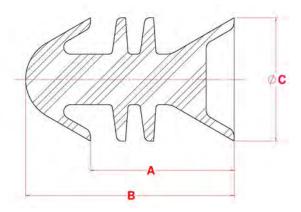
# TORNADO III

2-4" (51-102mm)

Never underestimate the tiny Tornado III. Its compact size is a must for cleaning small diameter pipelines.

Time and time again, flow rates rise after being cleaned with the Tornado III.

How is this possible? The discs and cups featured on the Tornado III make it easy for it to traverse through any line with maximum efficiency. Designed for use in non-metallic pipe and steel lines, its strength lies in proving a line in a pipe network prior to operational pigging, as opposed to clearing solids or aggressive cleaning.



Size	А	В	С
2"	3.000	4.500	2.125
3"	4.125	5.875	3.250
4"	4.875	7.250	4.375

Size	62 Durometer	72 Durometer	85 Durometer
2"	72-0362-02S	72-0372-02S	72-0385-02S
3"	72-0362-03S	72-0372-03S	72-0385-03S
4"	72-0362-04S	72-0372-04S	72-0385-04S

#### Features & Benefits:

- Solid-cast urethane.
- Lightweight.

Designed to negotiate 1.5D bends, the Tornado III moves reliably through piping systems.

Ph: 780.416.4850

#### Options Available:

Available in different durometers.

### **60-63 DUROMETER**Very soft and pliable

**70-75 DUROMETER**Somewhat firm, but quite flexible

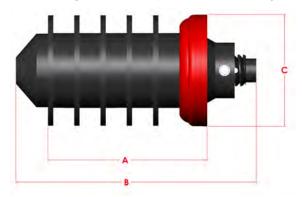
80-85 DUROMETER

# VERSI I - modular cast

6-20" (152-508mm)

Versatility is the name of the game for the durable, lightweight Series Versi I. Because it can do so many jobs, this all-urethane pipeline pig is extremely economical. By fitting it with a combination of a sealer and cup, it is very effective and versatile for cleaning, batching, and displacement operations.

The solid urethane shaft of the Versi I is very flexible. This means that over time, sealing elements wear evenly, addressing an inherent problem with heavy steel mandrel shafts.



Size	А	В	С	Part #
6"	9.125	14.000	6.375	73-0551-06
8"	12.250	18.625	8.500	73-0551-08
10"	15.125	22.875	10.625	73-0551-10
12"	18.875	26.375	12.500	73-0551-12
14"	20.675	27.625	13.875	73-0551-14
16"	24.500	33.875	16.000	73-0551-16
20"	29.000	38.375	19.875	73-0551-20

#### Features & Benefits:

- There are no metal parts to bend, corrode or damage pipe lining.
- Rather than replacing the entire assembly when individual parts become worn, they are easily removed and replaced, saving time and money.
- Every Series Versi I pig is equipped with Apache cups and discs. As with all of Apache products, they were specifically developed to perform, efficiently and reliably. To maximize durability, they're made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- To use a Series Versi I pig for different applications, cups can simply be added or reconfigured.

Designed to negotiate 1.5D bends, the Versi I pig moves reliably through piping systems.

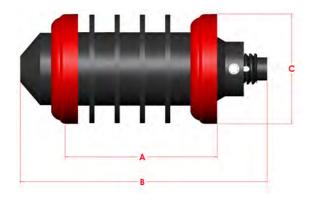
- Variety of configurations and durometers.
- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.

# VERSI II - modular cast

6-20" (152-508mm)

Versatility is the name of the game for the durable, lightweight Series Versi II. Because it can do so many jobs, this all-urethane pipeline pig is extremely economical. By fitting it with a combination of a sealer and cup, it is very effective and versatile for cleaning, batching, and displacement operations.

The solid urethane shaft of the Versi II is very flexible. This means that over time, sealing elements wear evenly, addressing an inherent problem with heavy steel mandrel shafts.



Size	Α	В	С	Part #
6"	9.250	15.375	6.375	73-0552-06
8"	12.625	19.875	8.500	73-0552-08
10"	15.000	24.375	10.625	73-0552-10
12"	18.625	27.625	12.500	73-0552-12
14"	21.500	30.750	13.875	73-0552-14
16"	24.000	33.875	16.000	73-0552-16
20"	30.125	43.125	19.875	73-0552-20

#### Features & Benefits:

- There are no metal parts to bend, corrode or damage pipe lining.
- Rather than replacing the entire assembly when individual parts become worn, they are easily removed and replaced, saving time and money.
- Every Series Versi II pig is equipped with Apache cups and discs. As with all of Apache products, they were specifically developed to perform, efficiently and reliably. To maximize durability, they're made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- To use a Series Versi II pig for different applications, cups can simply be added or reconfigured.

Designed to negotiate 1.5D bends, the Versi II pig moves reliably through piping systems.

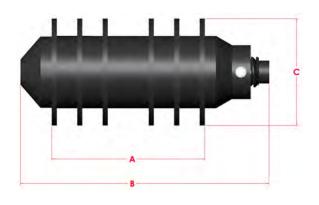
- Variety of configurations and durometers.
- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.

# VERSI III - modular cast

6-20" (152-508mm)

Versatility is the name of the game for the durable, lightweight Series Versi III. Because it can do so many jobs, this all-urethane pipeline pig is extremely economical. By fitting it with a combination of a sealer and cup, it is very effective and versatile for cleaning, batching, and displacement operations.

The solid urethane shaft of the Versi III is very flexible. This means that over time, sealing elements wear evenly, addressing an inherent problem with heavy steel mandrel shafts.



Size	А	В	С	Part #
6"	9.250	15.375	6.375	73-0553-06
8"	12.000	19.875	8.375	73-0553-08
10"	15.000	24.375	10.500	73-0553-10
12"	17.500	27.625	12.500	73-0553-12
14"	21.250	30.750	13.875	73-0553-14
16"	24.000	36.125	15.875	73-0553-16
20"	29.750	43.125	20.000	73-0553-20

#### Features & Benefits:

- There are no metal parts to bend, corrode or damage pipe lining.
- Rather than replacing the entire assembly when individual parts become worn, they are easily removed and replaced, saving time and money.
- Every Series Versi III pig is equipped with Apache cups and discs. As with all of Apache products, they were specifically developed to perform, efficiently and reliably. To maximize durability, they're made from Reliathane, Apache's special blend of wear-resistant polyurethane.
- To use a Series Versi III pig for different applications, cups can simply be added or reconfigured.

Designed to negotiate 1.5D bends, the Versi III pig moves reliably through piping systems.

- Variety of configurations and durometers.
- Circular flange brushes in the following types and trim materials:
  - 1. Trim types flat wire or pencil.
  - 2. Trim material carbon steel, stainless steel or plastic.

# VIPRS® & SUD® PIG

2-10" (51-254mm)





#### 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 and piping.

#### Features:

- Provides a smooth, tight squeegeeing action while traversing elbows with radius as sharp as 1.5D.
- Batching and liquid removal at pressures as low as 15 PSI.
- Accommodates variations in pipe IDs of the same nominal size.

Designed to traverse 1.5D bends.

#### Technical Benefits:

- Less wasted product means reduced BOD 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.

- 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.



# VIPRS® & SUD® PIG

2-10" (51-254mm)

### **VIPRS® PIG**

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"

### SUD® PIG

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"



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



**Foam Pigs** 2 - 60" Pg. 5-2



Foam Wiping/Cleaning Pg. 5-8



**Foam Diameter** Pg. 5-3



**Foam Scraping** Pg. 5-9



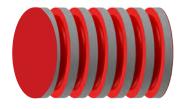
**Foam Sizes** Pg. 5-4



**Foam Plastic Brush** Pg. 5-10



**Foam** Chart Pg. 5-5



ProVex FD™ 2 - 42" Pg. 5-11



Foam **Drying** Pg. 5-6



**Foam** Sphere/Balls Pg. 5-12



Ph: 780.416.4850

**Foam Drying/Cleaning** Pg. 5-7



**Foam Options** Pg. 5-13

# 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.

- 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:**

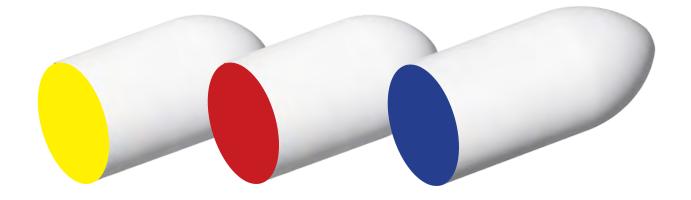
Ph: 780.416.4850

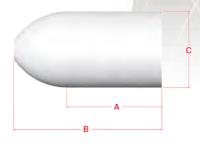
2", 3", 4", 5", 6", 7", 8", 10" & 12" available in +1/4" or +1/2"

14" to 60"

even sizes only

Other diameters are available on a custom order basis.

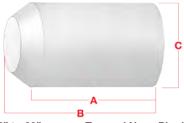






Size	А	В	С
2"	2.500	4.000	2.000
2-1/4"	2.875	4.500	2.250
2-1/2"	3.250	4.875	2.500
2-3/4"	3.500	5.375	2.750
3"	3.750	5.750	3.000
3-1/4"	4.125	6.250	3.250
3-1/2"	4.500	6.750	3.500
3-3/4"	4.750	7.250	3.750
4"	5.000	7.750	4.000
4-1/4"	5.375	8.375	4.250
4-1/2"	5.625	9.000	4.500
4-3/4"	6.000	9.250	4.750
5"	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	Α	В	С
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.

Α	В	С
39.00	45.00	26.00
42.00	48.50	28.00
45.00	52.00	30.00
48.00	55.50	32.00
51.00	59.00	34.00
54.00	62.50	36.00
57.00	66.00	38.00
60.00	69.50	40.00
63.00	73.00	42.00
72.00	83.50	48.00
74.00	86.00	52.00
76.50	88.50	56.00
90.00	104.50	60.00
	39.00 42.00 45.00 48.00 51.00 54.00 57.00 60.00 63.00 72.00 74.00 76.50	39.00     45.00       42.00     48.50       45.00     52.00       48.00     55.50       51.00     59.00       54.00     62.50       57.00     66.00       60.00     69.50       63.00     73.00       72.00     83.50       74.00     86.00       76.50     88.50

<sup>\*</sup>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	Туре	Function
	HDBS (Heavy Density Bare Squeegee)	Heavy Drying
	HDCC (Heavy Density Criss Cross)	Heavy Wiping
	<b>HDWB</b> (Heavy Density Wire Brush)	Heavy Scraping
	HDSC (Heavy Density Silicone Carbide)	Heavy Scraping
	Porcupine (Total Wire Brush)	Max Scraping

### Light Density

Style	Туре	Function
	LDBS (Light Density Bare Squeegee)	Light Drying 2 lb/ft3
	MLS (Medium Light Swab)	Light Drying 2 lb/ft3
	SLS (Super Light Swab)	Light Drying 1 lb/ft3

#### ProVex FDTM Pig



Ph: 780.416.4850

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.

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

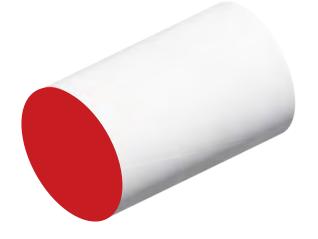
Style	Туре	Function
	MDBS (Medium Density Bare Squeegee)	Regular Drying
	MDCC (Medium Density Criss Cross)	Regular Wiping
	MDWB (Medium Density Wire Brush)	Regular Scraping
	MDSC (Medium Density Silicon Carbide)	Regular Scraping
	MDPB (Medium Density Plastic Brush)	Regular Scraping in Lined or Plastic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

#### **Options**

Style	Туре	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.
0	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.

# **DRYING**



### **SLS**

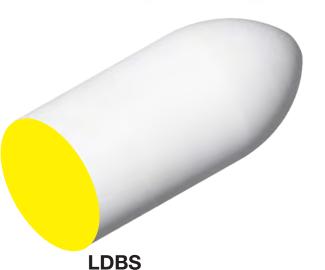
- Super Light Swab
- Light Drying



#### **MLS**

- Medium Light Swab
- Medium Drying

# F O A M DRYING & CLEANING



- **Light Density**
- Bare Squeegee
- **Light Drying**



### **MDBS**

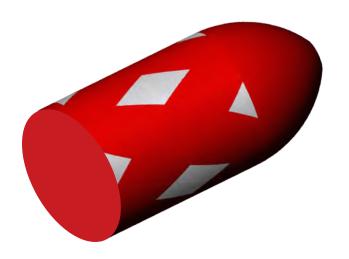
- **Medium Density**
- Bare Squeegee
- Regular Drying



### **HDBS**

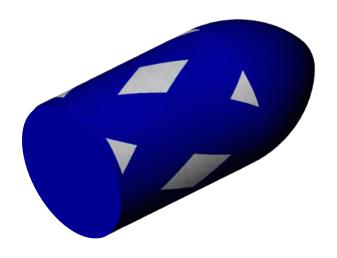
- **Heavy Density**
- Bare Squeegee
- **Heavy Drying**

# **WIPING & CLEANING**



#### **MDCC**

- **Medium Density**
- **Criss Cross**
- **Regular Wiping**



#### **HDCC**

- **Heavy Density**
- **Criss Cross**
- **Heavy Wiping**

# **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**



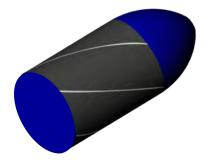
#### **HDWB**

- **Heavy Density**
- Wire Brush
- **Heavy Scraping**



### **HDSC**

- **Heavy Density**
- Silicone Carbide
- **Heavy Scraping**



#### **PORCUPINE**

- **Heavy Density**
- **Total Wire Brush**
- **Maximum Scraping**

# FOAM 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 nonmetallic, 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.

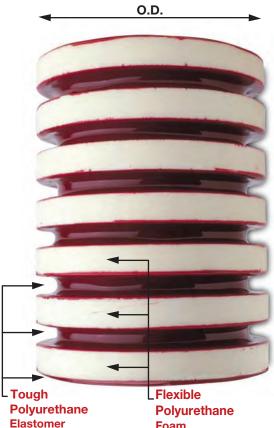


# ProVex FD<sup>TM</sup>

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, dewaters lines following hydrostatic testing, and executes nitrogen purging. In fact, it's one of the most multi-purpose pigs on the market today.





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

Ph: 780.416.4850

#### 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.

- 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
5	3.40"	85800300
4"	4.00"	85810400
4	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

# 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:

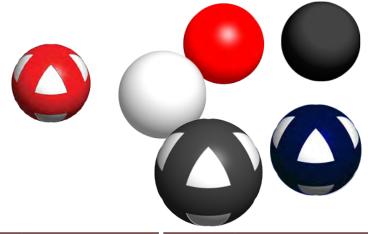
- Bi-directional, short radius bends for drying.
- Light wiping and scraping.

### Options Available:

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

### **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"



### **CLEAN OUT BALLS**



Applications:

LAY FLAT WATER LINES **IRRIGATION LINES CONCRETE TRUCK LINES MANURE LINES** 

Size	Part #	
3.50"	02-SPNG-0350	
4.50"	02-SPNG-0450	
6.30"	02-SPNG-0630	
7.87"	02-SPNG-0787	

Size	Part #
8.66"	02-SPNG-0866
10.24"	02-SPNG-1024
12.30"	02-SPNG-1230
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#### 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

# **OPTIONS**



#### **HANDLING ROPE**

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



#### **FULL COAT**

**Regular Scraping** 



#### TRANSMITTER CAVITY

Standard and customized cavity for encasing transmitters for pig tracking.



#### **DOUBLE DISH**

Ideal for bi-directional operations and evacuation of liquids.

#### REPLACEME PARTS

### **CUPS**



C - Scraper 2-14" Pg. 6-2 16-48" Pg. 6-3



JC - Jetted 2-14" Pg. 6-4 16-48" Pg. 6-5

M - Conical 3-14" Pg. 6-6 16-48" Pg. 6-7

### **DISCS**



C - Sealer 3-14" Pg. 6-8 16-48" Pg. 6-9



C - Guide 3-14" Pg. 6-10 16-48" Pg. 6-11



M - Sealer 3-14" Pg. 6-12 16-48" Pg. 6-13



M - Guide 3-14" Pg. 6-14 16-48" Pg. 6-15



MDK 16 - 48" Pg. 6-16



UT 6 - 14" Pg. 6-17



**Carver Disc** 4 - 48" Pg. 6-18



**Butterfly Disc** 3 - 10" Pg. 6-19



**Polyurethane** Blade Pg. 6-19

### **BRUSHES**



**Brushes** Pg. 6-20



**Wrap Brush** Model BB Pg. 6-21



Circular Flange Model RB Pg. 6-22



**Block Brush** Model XB Pg. 6-24



**Integrity XB** 20 - 56" Pg. 6-25

# SCRAPER CUP

2-14" (51-356mm)

Durable, Reliable, Effective,

The unique design of the Series C Cup offers the cleaning advantages of a scraper cup and the flexibility inherent in a conical cup.

To provide a longer cup life, Apache made certain that the wear surface of the cup is three times larger than any other scraper cup on the market. Plus, the pressure of the pipeline product presses the cutting edge firmly against the pipe wall, ensuring an optimum seal.

Another advantage is that the flex area between the shank and the cleaning surface allows the cup to traverse reductions in the pipe bore caused by buckling of, or anomalies in, the pipeline. This means that runs go as planned, without delay.

As with all of Apache products, the Series C cup was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.



Size	O.D	I.D	Weight	Part #
2"	2.125	0.50	0.1	91-3015-02
3"	3.375	0.50	0.2	91-3015-03
4"	4.375	0.50	0.4	91-3015-04
6"	6.375	1.00	1.1	91-3015-06
8"	8.500	1.00	1.9	91-3015-08
10"	10.625	1.00	3.7	91-3015-10
12"	12.750	1.00	6.1	91-3015-12
14"	13.875	1.00	8.0	91-3015-14

- Custom I.D. and bolt patterns available on request.
- Different durometers available on request.
- High temperature material.

# SCRAPER CUP

16-48" (406-1219mm)

Durable, Reliable, Effective,

The unique design of the Series C Cup offers the cleaning advantages of a scraper cup and the flexibility inherent in a conical cup.

To provide a longer cup life, Apache made certain that the wear surface of the cup is three times larger than any other scraper cup on the market. Plus, the pressure of the pipeline product presses the cutting edge firmly against the pipe wall, ensuring an optimum seal.

Another advantage is that the flex area between the shank and the cleaning surface allows the cup to traverse reductions in the pipe bore caused by buckling of, or anomalies in, the pipeline. This means that runs go as planned, without delay.

As with all of Apache products, the Series C cup was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.

Size	O.D	I.D	Weight	Part #
16"	16.000	8.750	8.9	91-3015-16
18"	17.875	10.875	11	91-3015-18
20"	19.875	10.875	18	91-3015-20
22"	21.875	10.875	25	91-3015-22
24"	23.875	14.125	30	91-3015-24
26"	25.875	14.125	37	91-3015-26
28"	27.875	16.125	43	91-3015-28
30"	29.875	16.125	50	91-3015-30
32"	32.000	20.125	52	91-3015-32
34"	34.000	20.125	69	91-3015-34
36"	36.000	22.125	74	91-3015-36
42"	42.125	24.125	117	91-3015-42
48"	48.500	32.125	156	91-3015-48



### Options Available:

- Custom I.D. and bolt patterns available on request.
- Different durometers available on request.

Ph: 780.416.4850

High temperature material.

# JETTED CUP

2-14" (51-356mm)

Put simply, the Jetted Cup is a jetting, scraping cleaning machine.

It works extremely well in oil, gas and products pipelines. For example, it efficiently breaks up large volumes of accumulated pipeline wax by directing bypass product through it's jetted grooves. Debris is suspended in the turbulent flow and transferred ahead of the pig. It's a great option for low flow applications, along with removal of sand and other debris.



Size	O.D	I.D	Weight	Part #
2"	2.125	0.50	0.1	91-3998-02
3"	3.375	0.50	0.2	91-3998-03
4"	4.375	0.50	0.4	91-3998-04
6"	6.375	1.00	1.1	91-3998-06
8"	8.500	1.00	1.9	91-3998-08
10"	10.625	1.00	3.7	91-3998-10
12"	12.750	1.00	6.1	91-3998-12
14"	13.875	1.00	8.0	91-3998-14



The design of the jetting grooves on the lip of the cup promote the pig to rotate as it travels, ensuring even wear of the cup. This increases cup life and reduces operating costs.

The turbulence created dislodges the debris collected around either the cups or discs, and transfers it ahead of the pig. As a result, these grooves in the cup's surface create five times the scraping surface, making it possible to aim a calibrated amount of fluid to pummel the pipe wall, jetting away - and suspending stubborn wax, sand or other debris.





Check out apachepipe.com/animations.html for videos on jetted cups.

### JETTED CUP

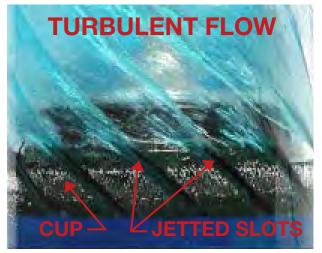
16-48" (406-1219mm)

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Size	O.D	I.D	Weight	Part #
16"	16.000	8.750	8.9	91-3998-16
18"	17.875	10.875	11	91-3998-18
20"	19.875	10.875	18	91-3998-20
24"	23.875	14.125	30	91-3998-24
26"	25.875	14.125	37	91-3998-26
30"	29.875	16.125	50	91-3998-30
34"	34.000	20.125	69	91-3998-34
36"	36.000	22.125	74	91-3998-36
42"	42.125	24.125	117	91-3998-42
48"	48.500	32.125	156	91-3998-48





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# CONICAL CUP

3-14" (76-356mm)

Given that anomalies are a fairly common feature of a pipeline scheduled for maintenance, it's reassuring that pigs mounted with Series M conical cups are engineered to elongate and can traverse pipeline anomalies of up to 20% without damaging the pig. This means that runs go as planned, without delay.

As with all of Apache products, the Series M cup was specifically developed to perform, efficiently and reliably during batching operations. To enhance durability, it's made from Reliathane, Apache's special blend of wearresistant polyurethane.

The heavy design and large wearing surface provide an excellent and effective seal in displacement and batching operation while still offering unsurpassed flexibility

To enhance cup life, conical cups are available with a variety of wear-resistant additives. In fact, Apache developed a proprietary chemical resistant urethane to help protect against conditions, such as hydrogen sulphide, encountered in severe environments.



Size	O.D	I.D	Weight	Part #
3"	3.375	0.500	0.1	91-5010-03
4"	4.375	0.500	0.2	91-5010-04
6"	6.500	1.000	1.0	91-5010-06
8"	8.375	1.000	1.7	91-5010-08
10"	10.500	1.000	3.0	91-5010-10
12"	12.500	1.000	4.1	91-5010-12
14"	14.000	1.000	6.3	91-5010-14

- Custom I.D. and bolt patterns available on request.
- Different durometers available on request.
- High temperature material.

# CONICAL CUP

16-48" (406-1219mm)

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Size	O.D	I.D	Weight	Part #
16"	15.875	6.750	8.2	91-5010-16
18"	18.000	8.375	12	91-5010-18
20"	20.000	8.375	14	91-5010-20
22"	22.000	10.375	21	91-5010-22
24"	24.000	10.375	27	91-5010-24
26"	26.000	12.375	32	91-5010-26
28"	28.000	12.375	42	91-5010-28
30"	29.875	15.375	50	91-5010-30
32"	32.000	15.375	59	91-5010-32
34"	34.000	17.375	79	91-5010-34
36"	36.000	17.375	90	91-5010-36
38"	38.000	20.375	105	91-5010-38
40"	40.000	20.375	148	91-5010-40
42"	42.000	20.375	213	91-5010-42
48"	48.125	24.375	246	91-5010-48



### Options Available:

- Custom I.D. and bolt patterns available on request.
- Different durometers available on request.
- High temperature material.

6-7

# SEALER DISCS

3-14" (76-356mm)

Durable. Reliable. Effective.

Apache sealer discs are also extremely versatile and can perform in bi-directional or uni-directional applications.

To meet your unique requirements, simply order custom dimensions, durometer or material composition of the discs. Standard 72 durometer discs are used for sealing and have the ability to flip over easily for bi-directional travel. 86 durometer discs are used for scraping and cleaning the line.

As with all of Apache products, the Series C disc was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.

To enhance disc life, sealer discs are available with a variety of wear-resistant additives. In fact, Apache developed a proprietary chemical resistant urethane to help protect against conditions, such as hydrogen sulphide, encountered in severe environments.

\*Series C parts mount on different style pigs than our Series M.



Size	O.D	I.D	Weight	Part #
3"	3.375	0.500	0.1	91-3210-03
4"	4.375	0.500	0.2	91-3210-04
6"	6.375	1.000	0.5	91-3210-06
8"	8.375	1.000	1.2	91-3210-08
10"	10.500	1.000	1.9	91-3210-10
12"	12.500	1.000	3.3	91-3210-12
14"	13.875	1.000	4.1	91-3210-14

- 72 durometer or 86 durometer.
- Wear-resistant additives.
- Custom I.D./O.D. bolt pattern and thickness available on request.
- High temperature material.

# SEALER DISCS

16-48" (406-1219mm)

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\*Series C parts mount on different style pigs than our Series M.

Size	O.D	I.D	Weight	Part #
16"	15.875	8.750	4.5	91-3210-16
18"	17.875	10.875	5.2	91-3210-18
20"	20.000	10.875	8.4	91-3210-20
22"	22.000	10.875	11	91-3210-22
24"	24.125	14.125	13	91-3210-24
26"	26.125	14.125	17	91-3210-26
28"	28.250	16.125	21	91-3210-28
30"	30.250	16.125	25	91-3210-30
32"	32.375	20.125	27	91-3210-32
34"	34.375	20.125	33	91-3210-34
36"	36.500	22.125	40	91-3210-36
38"	38.500	22.125	47	91-3210-38
40"	40.625	22.125	54	91-3210-40
42"	42.125	24.125	63	91-3210-42
48"	48.875	32.125	81	91-3210-48



#### Options Available:

- 72 durometer or 86 durometer.
- Wear-resistant additives.
- Custom I.D./O.D. bolt pattern and thickness available on request.
- High temperature material.

world class world wide

### **GUIDE DISCS**

3-14" (76-356mm)

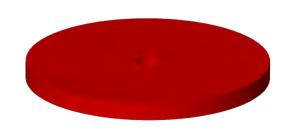
Durable, Reliable, Effective,

Apache guide discs are extremely versatile and can perform in bi-directional or uni-directional applications.

As with all of Apache products, the Series C disc was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.

To enhance disc life, guide discs are available with a variety of wear-resistant additives. In fact, Apache developed a proprietary chemical resistant urethane to help protect against conditions, such as hydrogen sulphide, encountered in severe environments.

\*Series C parts mount on different style pigs then our Series M.



Size	O.D	I.D	Weight	Part #
3"	3.000	0.500	0.1	91-3220-03
4"	4.000	0.500	0.2	91-3220-04
6"	6.000	1.000	0.7	91-3220-06
8"	8.000	1.000	1.6	91-3220-08
10"	10.000	1.000	2.5	91-3220-10
12"	12.000	1.000	4.2	91-3220-12
14"	13.750	1.000	5.2	91-3220-14

- Wear-resistant additives.
- Custom I.D./O.D. bolt pattern and thickness available on request.
- High temperature material.

### **GUIDE DISCS**

16-48" (406-1219mm)

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\*Series C parts mount on different style pigs then our Series M.

Size	O.D	I.D	Weight	Part #
16"	15.250	8.750	6.0	91-3220-16
18"	17.250	10.875	6.9	91-3220-18
20"	19.250	10.875	11	91-3220-20
22"	21.250	10.875	14	91-3220-22
24"	23.250	14.125	15	91-3220-24
26"	25.250	14.125	19	91-3220-26
28"	27.250	16.125	25	91-3220-28
30"	29.250	16.125	31	91-3220-30
32"	31.250	20.125	32	91-3220-32
34"	33.250	20.125	39	91-3220-34
36"	35.250	22.125	45	91-3220-36
38"	37.250	22.125	54	91-3220-38
40"	39.250	22.125	63	91-3220-40
42"	41.250	24.250	76	91-3220-42
48"	47.250	32.125	97	91-3220-48



- Wear-resistant additives.
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- High temperature material.

### SEALER DISCS

3-14" (76-356mm)

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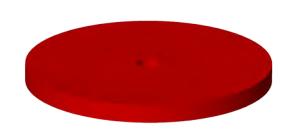
Apache sealer discs are extremely versatile and can perform in bi-directional or uni-directional applications.

To meet your unique requirements, simply order custom dimensions, durometer or material composition of the discs. Standard 72 durometer discs are used for sealing and have the ability to flip over easily for bi-directional travel. 86 durometer discs are used for scraping and cleaning the line.

As with all of Apache products, the Series M disc was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.

To enhance disc life, sealer discs are available with a variety of wear-resistant additives. In fact, Apache developed a proprietary chemical resistant urethane to help protect against conditions, such as hydrogen sulphide, encountered in severe environments.

\*Series M parts mount on different style pigs then our Series C.



Size	O.D	I.D	Weight	Part #
3"	3.375	0.500	0.1	91-5210-03
4"	4.375	0.500	0.2	91-5210-04
6"	6.375	1.000	0.5	91-5210-06
8"	8.375	1.000	1.2	91-5210-08
10"	10.500	1.000	1.9	91-5210-10
12"	12.500	1.000	3.3	91-5210-12
14"	13.875	1.000	4.1	91-5210-14

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

- 72 durometer or 86 durometer.
- Wear-resistant additives.
- Custom I.D./O.D. bolt pattern and thickness available on request.
- High temperature material.

### Series M

### SEALER DISCS

16-48" (406-1219mm)

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\*Series M parts mount on different style pigs then our Series C.

Size	O.D	I.D	Weight	Part #
16"	15.875	6.750	5.1	91-5210-16
18"	17.875	8.375	6.4	91-5210-18
20"	20.000	8.375	9.7	91-5210-20
22"	22.000	10.375	11	91-5210-22
24"	24.125	10.375	16	91-5210-24
26"	26.125	12.375	18	91-5210-26
28"	28.250	12.375	25	91-5210-28
30"	30.250	15.375	26	91-5210-30
32"	32.375	15.375	34	91-5210-32
34"	34.375	17.375	37	91-5210-34
36"	36.500	17.375	44	91-5210-36
38"	38.500	20.875	44	91-5210-38
40"	40.625	20.875	51	91-5210-40
42"	42.125	20.875	64	91-5210-42
48"	48.875	24.875	90	91-5210-48



- 72 durometer or 86 durometer.
- Wear-resistant additives.
- Custom I.D./O.D. bolt pattern and thickness available on request.
- High temperature material.

<sup>\*</sup>Part numbers shown are for 85 Durometer (72 also available)

### **GUIDE DISCS**

3-14" (76-356mm)

Durable, Reliable, Effective,

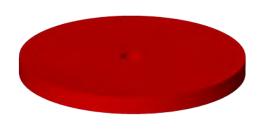
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To meet your unique requirements, simply order custom dimensions, durometer or material composition of the discs.

As with all of Apache products, the Series M disc was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.

To enhance disc life, guide discs are available with a variety of wear-resistant additives. In fact, Apache developed a proprietary chemical resistant urethane to help protect against conditions, such as hydrogen sulphide, encountered in severe environments.

\*Series M parts mount on different style pigs then our Series C.



Size	O.D	I.D	Weight	Part #
3"	3.000	0.500	0.1	91-5220-03
4"	4.000	0.500	0.2	91-5220-04
6"	6.000	1.000	0.7	91-5220-06
8"	8.000	1.000	1.6	91-5220-08
10"	10.000	1.000	2.5	91-5220-10
12"	12.000	1.000	4.2	91-5220-12
14"	13.250	1.000	5.2	91-5220-14

- Wear-resistant additives.
- Custom I.D./O.D. bolt pattern and thickness available on request.
- High temperature material.

### **GUIDE DISCS**

16-48" (406-1219mm)

Durable, Reliable, Effective,

Apache guide discs are extremely versatile and can perform in bi-directional or uni-directional applications.

To meet your unique requirements, simply order custom dimensions, durometer or material composition of the discs.

As with all of Apache products, the Series M disc was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.

To enhance disc life, guide discs are available with a variety of wear-resistant additives. In fact, Apache developed a proprietary chemical resistant urethane to help protect against conditions, such as hydrogen sulphide, encountered in severe environments.

\*Series M parts mount on different style pigs then our Series C.

Size	O.D	I.D	Weight	Part #
16"	15.250	6.750	7.2	91-5220-16
18"	17.250	8.375	8.7	91-5220-18
20"	19.250	8.375	13	91-5220-20
22"	21.250	10.375	15	91-5220-22
24"	23.250	10.375	19	91-5220-24
26"	25.250	12.375	21	91-5220-26
28"	27.250	12.375	30	91-5220-28
30"	29.250	15.375	32	91-5220-30
32"	31.250	15.375	41	91-5220-32
34"	33.250	17.375	45	91-5220-34
36"	35.250	17.375	56	91-5220-36
38"	37.250	20.875	57	91-5220-38
40"	39.250	20.875	66	91-5220-40
42"	41.250	20.875	86	91-5220-42
48"	47.250	24.875	131	91-5220-48



- Wear-resistant additives.
- Custom I.D./O.D. bolt pattern and thickness available on request.
- High temperature material.

### SEALER DISC

16-48" (406-1219mm)

Size	O.D	I.D	# Holes	Weight	Part #
16"	15.875	8.750	12	4.5	91-7200-16
20"	20.000	10.875	12	7.9	91-7200-20
24"	24.125	14.125	12	14	91-7200-24
30"	30.250	18.125	12	22	91-7200-30
36"	36.500	22.250	12	38	91-7200-36
42"	42.125	26.250	12	55	91-7200-42
48"	48.875	28.250	12	71	91-7200-48



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

Apache sealer discs are also extremely versatile and can perform in bi-directional or uni-directional applications.

As with all of Apache products, the Series MDK disc was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.

To enhance disc life, guide discs are available with a variety of wear-resistant additives. In fact, Apache developed a proprietary chemical resistant urethane to help protect against conditions, such as hydrogen sulphide, encountered in severe environments.

### GUIDE DISC

The Series MDK sealer disc consists of a metric bolt pattern and features 12 holes.

16-48" (406-1219mm)

Size	O.D	I.D	# Holes	Weight	Part #
16"	15.250	8.750	12	5.9	91-7205-16
20"	19.250	10.875	12	8.8	91-7205-20
24"	23.250	14.125	12	19	91-7205-24
30"	29.250	18.125	12	30	91-7205-30
36"	35.250	22.250	12	48	91-7205-36
42"	41.250	26.250	12	83	91-7205-42
48"	47.250	28.250	12	123	91-7205-48



These discs center the sealing discs in the line, which allows the four sealing discs in the center to form a quadruple seal during displacement.

As with all of Apache products, the Series MDK disc was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane.

To enhance disc life, guide discs are available with a variety of wear-resistant additives. In fact, Apache developed a proprietary chemical resistant urethane to help protect against conditions, such as hydrogen sulphide, encountered in severe environments.

### SEALER DISC

6-14" (152-356mm)

Size	O.D	I.D	Weight	Part #
6"	6.375	2.500	0.5	91-4210-06
8"	8.375	3.000	1.1	91-4210-08
10"	10.500	3.625	1.7	91-4210-10
12"	12.500	4.625	3.1	91-4210-12
14"	13.875	4.625	3.6	91-4210-14

<sup>\*</sup>Part numbers shown are for 85 Durometer (72 also available)

### GUIDE DISC

6-14" (152-356mm)

Size	O.D	I.D	Weight	Part #
6"	6.000	2.500	0.6	91-4220-06
8"	8.000	3.000	1.3	91-4220-08
10"	10.000	3.625	2.4	91-4220-10
12"	12.000	4.625	4.0	91-4220-12
14"	13.750	4.625	5.0	91-4220-14

#### Options Available:

- 72 durometer or 86 durometer.
- Wear-resistant additives.
- High temperature material.





\*These parts are to be used on the Universal Transmitter Mandrel.

Durable. Reliable. Effective. Apache guide discs are extremely versatile and can perform in bi-directional or unidirectional applications. All UT-style cups, discs, and sealers come with a standard bolt pattern and are designed solely for the Universal Transmitter Mandrel. Standard 72 durometer discs are used for sealing and have the ability to flip over easily for bi-directional travel. 86 durometer discs are used for scraping and cleaning the line. Guide discs are utilized to centralize and support the pig during any phase of pipeline operation.

To meet your unique requirements, simply order custom dimensions, durometer or material composition of the discs.

As with all of Apache products, the Series UT disc was specifically developed to perform, efficiently and reliably. To enhance durability, it's made from Reliathane, Apache's special blend of wear-resistant polyurethane. To enhance disc life, sealer discs are available with a variety of wear-resistant additives. In fact, Apache developed a proprietary chemical resistant urethane to help protect against conditions, such as hydrogen sulphide, encountered in severe environments.

#### UT CUP

Size	I.D	Weight	Part #
6"	2.500	0.8	91-4015-06
8"	3.000	1.8	91-4015-08
10"	3.625	3.0	91-4015-10
12"	4.625	5.4	91-4015-12
14"	4.625	8.0	91-4015-14



The UT Cup offers the cleaning advantages of a scraper cup and the flexibility of a conical cup. To provide a longer cup life, the wear surface of the cup is three times larger than any other UT-style cup on the market. The pressure of the pipeline product presses the cutting edge firmly against the pipe wall, ensuring an optimum seal. The flex area between the shank and the cleaning surface allows the cup to traverse reductions in the pipe bore caused by buckling of, or anomalies in, the pipeline.

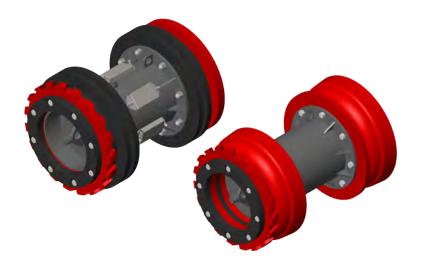
### BI-DIREC

### CARVER DISC

4-48" (102-1219mm)

#### APACHE PIPELINE'S CARVER DISC ARE NOW AVAILABLE IN 4" - 48" SIZES AND CAN BE INSTALLED ON ANY OF APACHE'S MANDREL STYLE PIGS.

The diagonal grooves provide unmatched cleaning capabilities as the numerous edges scrape the pipe wall removing wax, scale and other pipeline debris. Similar in design to Apache's Jetted Cup, the cavity between the carving edges permits bypass and creates turbulent flow which allows fluid to pass along the wall of the pipe to jet away wax, sand and other debris.



Size	O.D	I.D	Part #
4"	4.000	0.50	91-3230-04
6"	6.000	1.00	91-3230-06
8"	8.000	1.00	91-3230-08
10"	10.000	1.00	91-3230-10
12"	12.000	1.00	91-3230-12
14"	13.250	1.00	91-3230-14
16"	15.250	8.750	91-3230-16
20"	19.250	10.875	91-3230-20
24"	23.250	14.125	91-3230-24
30"	29.250	16.125	91-3230-30
36"	35.250	22.125	91-3230-36
42"	41.250	24.125	91-3230-42
48"	47.250	32.125	91-3230-48



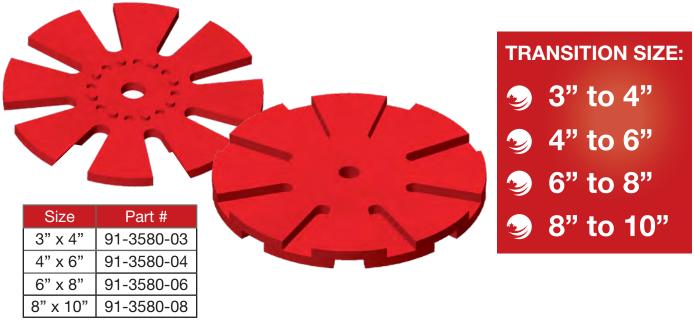




## BI-DIRECTIONAL BUTTERFLY DISC

3-10" (76-254mm)

Apache Butterfly Discs allow the operator to run pigs in pipelines with changes in inside diameter and can be used in both Bi-Directional and Uni-Directional applications. The durometer or composition of the discs can vary to meet any special requirements.



<sup>\*</sup>Other Sizes Available On Request

### POLYURETHANE BLADE

Available for most 16-48" Apache Pigs

Ph: 780.416.4850





They scrub. They scour. The humble brush works incredibly hard. Apache cleaning pigs rely heavily upon brushes to clean pipelines. Here are just a few examples of the types of cleaning they do and materials they clear away when installed on a cleaning pig:

- MODERATE TO AGGRESSIVE CLEANING OF ALL OIL, GAS AND PRODUCT PIPELINES.
  - REMOVE HARD INTERNAL DEPOSITS, INCLUDING SCALE AND CORROSION.
    - ELIMINATE PARAFFIN WAX AND BLACK POWDER BUILD-UP.

Because no two pipelines have identical cleaning requirements, we offer brushes in a wide variety of materials, sizes and configurations to make certain that when the final run is completed, your pipeline receives a world class cleaning.

At Apache, we specialize in designing and manufacturing pipeline products, so we're committed to providing you with the perfect cleaning solution. We're extremely flexible, so if you would like us to create custom brushes for you, just let us know. Our standard brush designs include Wrap, Circular Flange, or Block Style

### BRUSHES WRAP BRUSH - MODEL BB

Look no further. Apache offers a comprehensive range of wrap brushes for your cleaning needs. All Apache Wrap Brushes mount around a pig body and secure themselves between sealing elements with fasteners. Used commonly on solid cast, all urethane pigs, the wrap brush can be quickly and easily installed.

Effective. Reliable. Durable.

#### Features & Benefits:

#### **FLAT**

- Effective when moderate to heavy cleaning is required.
- Provides 360 degree coverage with tandem installation.
- Easily negotiates bends and anomalies in the pipe bore.

#### **PENCIL**

- Individual wires reach into pipeline pits, cleaning them thoroughly.
- Extremely durable, so it can be used repeatedly.

#### Options Available:

- Carbon Steel or Stainless Steel trim material available for Flat wire profile.
- Plastic material available for Flat only.
- Custom trim lengths available on request.
- Custom-manufactured to suit all pig requirements.

#### **Model BB Flat**



Size	Part #
3"	94-0100-03
4"	94-0100-04
6"	94-0100-06
8"	94-0100-08
10"	94-0100-10
12"	94-0100-12
14"	94-0100-14
16"	94-0100-16
18"	94-0100-18
20"	94-0100-20
22"	94-0100-22
24"	94-0100-24

### BRUSHES CIRCULAR FLANGE - MODEL RB

Effective. Reliable. Durable. Our Model RB brush is the best general purpose pipeline cleaning solution today. With years of experience, Apache will even custom-design the optimal brush for you. The RB Brush mounts to a pig body's flange by either single or multiple bolts. Brush trims are secured to a strong, custom-made plate, not preperforated sheets.

#### Features & Benefits:

#### **FLAT**

- Effective when moderate to heavy cleaning is required
- Provides 360 degree coverage installation
- Excellent for bidirectional applications
- Act as centering guide in the pipeline
- Can be stacked for more aggressive cleaning
- Easily negotiates bends and anomalies in the pipe bore.

#### **PENCIL**

- Individual wires reach into pipeline pits, cleaning them thoroughly.
- Generally used before ILI runs to ensure a 360 degree clean.
- Extremely durable, so it can be used repeatedly
- Available in Carbon Steel or Stainless Steel trim
- Available in sizes ranging from 6" 56"-plus.
- Its flexibility and ability to negotiate varying internal diameters make the pencil brush an excellent choice for cleaning multi diameter pipelines.

**Bolt Pattern RB** 

Centre Hole RB 6-14" Flat/Pencil





#### Options Available:

- Custom trim lengths available on request.
- Trim Material Carbon Steel, Stainless Steel & Plastic (Flat only).
- Flanges that carry the pencil brushes can be manufactured to use shorter trim lengths for scale or other problems that require a short strong brush with less flexibility.
- Alternatively, pencil brushes can feature longer trim to clean a pipeline that is, for example, partially obstructed by wax or dents or has design issues that call for the brush to flex, then resume cleaning.
- Can be custom-manufactured to suit all pig requirements.

#### **CENTRE HOLE**

Size	Material			
OIZE	Flat Wire*	Pencil Wire**		
6"	94-0940-06	94-0941-06		
8"	94-0940-08	94-0941-08		
10"	94-0940-10	94-0941-10		
12"	94-0940-12	94-0941-12		
14"	94-0940-14	94-0941-14		

<sup>\*</sup> Available in SS or Plastic Trim

#### CIRCULAR BOLT PATTERN

Size	Ma	terial
Size	Flat Wire*	Pencil Wire**
6"	94-0950-06	94-0951-06
8"	94-0950-08	94-0951-08
10"	94-0950-10	94-0951-10
12"	94-0950-12	94-0951-12
14"	94-0950-14	94-0951-14
16"	94-0940-16	94-0941-16
18"	94-0940-18	94-0941-18
20"	94-0940-20	94-0941-20
22"	94-0940-22	94-0941-22
24"	94-0940-24	94-0941-24
26"	94-0940-26	94-0941-26
28"	94-0940-28	94-0941-28
30"	94-0940-30	94-0941-30
32"	94-0940-32	94-0941-32
34"	94-0940-34	94-0941-34
36"	94-0940-36	94-0941-36
42"	94-0940-42	94-0941-42
48"	94-0940-48	94-0941-48
56"	94-0940-56	94-0941-56

<sup>\*</sup> Available in SS or Plastic Trim

<sup>\*\*</sup> Available in SS

<sup>\*\*</sup> Available in SS

#### pitPRO™ CIRCULAR FLANGE -

3-16" (76-406mm)

Effective. Reliable. Durable. Our newest model of cleaning brush delivers incredible cleaning performance with outstanding durability.

With its high-density polyethylene core that features 304 stainless steel pencil brushes, the pitPRO™ pencil brush is a highly effective cleaning brush.

Size	Pattern			
OIZO	Centre Hole	Bolt Pattern		
3"	94-0150-03	n/a		
4"	94-0150-04	n/a		
6"	94-0150-06	94-0152-06		
8"	94-0150-08	94-0152-08		
10"	94-0150-10	94-0152-10		
12"	94-0150-12	94-0152-12		
14"	94-0150-14	94-0152-14		
16"	n/a	94-0152-16		

#### Features & Benefits:

- Available in stock sizes ranging from 3" to 16".
- Cleans powerfully, removing wax and scale.
- Individual wires reach into pipeline pits, cleaning them thoroughly.
- Extremely durable, so it can be used repeatedly.
- Its flexibility and ability to negotiate varying internal diameters make the pitPRO™ the great choice for cleaning multi diameter pipelines.

\*18" to 56" Available On Request

- Custom trim lengths available on request.
- Custom OD's and flange sizes available.
- We can design a solution for you by simply adjusting wire diameter and length, and the number of brushes on the pig.





### BRUSHES BLOCK BRUSH - MODEL XB

Effective. Reliable. Durable. Designed to mount on a fixed or cantilever spring, the XB brush maintains a continuous scraping force for the removal of rust, scale and other contaminants adhering to the pipe wall. Trims are secured to a strong, custom-made plate, not pre-perforated sheets.

#### Features & Benefits:

#### **FLAT**

- Excellent for moderate to heavy cleaning
- Cleans powerfully, removing wax and scale.
- Effective in multi diameter pipelines
- Navigate through pipeline anomalies
- Model XB fits 20" to 56" pigs (XB-S for 16"-18")

#### **PENCIL**

- Excellent for moderate to heavy cleaning
- Each wire acts with independent force, entering the pit and removing debris.
- Best choice for cleaning multi diameter pipelines.
- Navigate through pipeline anomalies.
- Model XB fits 20" to 56" pigs (XB-S for 16"-18")











Model XB **Fixed Assembly** 





Pig Size	Model	Material				
Fig Size   Wodel		Flat Wire	Flat Wire - SS	Flat Plastic	Pencil Wire	
16" - 18"	XB-S	94-0400-00	94-0404-00	94-0408-00	94-0409-20	
20" - 56"	XB	94-0410-00	94-0414-00	94-0418-00	94-0419-20	

- Trim Material Carbon Steel, Stainless Steel & Plastic (Flat only).
- Custom trim lengths and diameters are available.
- XB fitted to a fixed spring assembly.
- XB fitted to a cantilever-style spring.

### BRUSHES BLOCK BRUSH - INTEGRITY XB

20-56" (508-1422mm)

Apache designed the Integrity XB specifically to help operators thoroughly clean any internal pits in preparation for ILI runs or Inhibitor applications.

Also proven as a proficient and aggressive cleaning tool for day to day operations, it utilizes unique Pencil Brush Technology. Each brush features stiff 22 gauge memory wire bristles at the front for heavy scraping and longer, flexible 25 gauge bristles at the rear for deep cleaning. High grade tinned hardened & tempered steel memory wire provide excellent cleaning performance & corrosion resistance.

#### Features & Benefits:

- 360° coverage of rebound memory wire.
- For use in 20" through 56" pipelines.
- Premier brush for pre-inspection cleaning and inhibitor applications.
- Each brush uses more than 7,000 hardened, tempered steel wires to deliver outstanding cleaning performance.
- To enhance cleaning effectiveness and brush life, all parts are corrosion resistant. The back plate is powder coated, every individual steel wire is tin-coated, and the base consists of high-grade urethane.
- Designed to remove deposits from internal pits while insuring excellent general purpose cleaning.
- Pit cleaning bristles improve effectiveness of corrosion inhibitors.



Size	Part #	
20" - 56"	94-0419-50	



#### Options Available:

- Trim Material Carbon Steel or Stainless Steel.
- Custom trim lengths and diameters are available.
- XB fitted to a fixed spring assembly.
- XB fitted to a cantilever-style spring, wearcompensating assembly.
- The innovative, Integrity XB is truly unique. If you would like us to provide a customized Integrity XB brush for you, just let us know.

6-25

### OPTIONS & ACCESSORIES







CD52 TRIP MAGNETS Pg. 7-3



ENVIRONMENTAL BAGS Pg. 7-6



GAUGE PLATES/ SIZING RINGS/ ACCESSORIES

Pg. 7-4

#### OPTIONS ACCESSORIES

### **MAGNETS**





The addition of magnets to a pig is often used to remove iron-sulfides and ferrous debris in gas and hydrocarbon pipelines. Brushes can often be used in conjunction with magnets to assist in the ferrous debris being removed from the pipe wall. The resulting ferrous debris can then be collected with the magnets mounted on the pig. Magnets can also be utilized to trip a magnetic non-intrusive pig signaler (CD52 Bandit). Detection devises are looking for a change in magnetic field to indicate to an operator when a pig has passed a critical section in the line or has arrived at the launcher/receiver.

#### **NEODYMIUM IRON BORON MAGNETS**

Temperature Rating: 100°C / 212°F suggested maximum

Туре	Pig Size	Part Number
Cased, Small Block	6-14"	95-0113-14
Cased, Large Block	16-56"	95-0113-48
Circular Rare Earth Magnet	3-4"	95-1382-14

# OPTIONS & ACCESSORIES CD52 TRIP MAGNETS

There are three compact and powerful permanent magnets for use with the CD52 Bandit Non-Intrusive Pig Passage Signaler. These magnets may be attached to or placed inside almost any type of pipeline pig and detected at both low and high speeds by the CD52 system.

#### CD52-M1

- The CD52-M1 Trip Magnet is a very small and very powerful trip magnet designed to be used with the CD52 Bandit Non-Intrusive Pig Passage Signaler in pipelines 4" to 12" to indicate passages to the CD52 Bandit system.
- The CD52-M1 is an epoxy-encased magnet with a PVC jacket and a ½-13 UNC mounting stud.
- Max Operating Temp: 200°C
- Magnet Type: Neodymium

#### **CD52-M2**

- The CD52-M2 Trip Magnet is a small and very powerful trip magnet designed to be used with the CD52 Bandit Non-Intrusive Pig Passage Signaler in pipelines 14" to 30" to indicate passages to the CD52 Bandit system.
- The CD52-M2 is an epoxy-encased magnet with a PVC jacket and a ½-13 UNC mounting stud.
- Max Operating Temp: 200°C
- Magnet Type: Neodymium

#### CD52-M3

- The CD52-M3 Trip Magnet is a large and very powerful trip magnet designed to be used with the CD52 Bandit Non-Intrusive Pig Passage Signaler in pipelines 32" to 48" to indicate passages to the CD52 Bandit system.
- The CD52-M3 is an epoxy-encased magnet with a aluminum jacket and a ½-13 UNC mounting stud.
- Max Operating Temp: 200°C
- Magnet Type: Neodymium





#### OPTIONS & ACCESSORIES

### GAUGE PLATES

2-48" (51-1219mm)

Gauge plates are used to check ovality of the I.D. of pipelines. Typically used in either progressive pigging applications or new pipeline construction. Gauge plates are usually cut to 95% of pipe I.D., but can be custom made to any O.D.

Size	I.D. (in)	Weight (lbs)
2"	0.563	0.1
3"	0.563	0.2
4"	0.563	0.4
6"	1.063	0.8
8"	1.063	1.3
10"	1.063	2.0
12"	1.063	2.8
14"	1.063	4.0



2" - 14" Standard Plates

- 1/4" Thick
- **Bevelled Edge**
- Non-Slotted

Size	I.D.	Bolt Circle	# Holes
	(in)	Diameter (in)	
16"	8.750	11.00	8
18"	10.875	12.75	8
20"	10.875	13.50	12
22"	10.875	13.50	12
24"	14.125	16.50	14
26"	14.125	16.50	14
28"	16.125	19.50	16
30"	16.125	19.50	16
32"	20.125	24.00	24
34"	20.125	23.00	18
36"	20.125	25.00	22
38"	22.125	27.00	24
40"	22.125	26.00	24
42"	24.125	30.00	24
48"	32.125	36.00	24



16" - 48" Standard Plates

- 3/8" Thick
- Non-Bevelled
- Slotted

### SIZING RINGS

Apache can manufacture Pig Sizing Rings to any customer supplied dimensions, quickly and cost effectively. Sizing Rings are used to slide over a worn used pipeline pig to be used as an indication that the pig needs to be replaced by the operator. These rings should not be used as a go-no-go and only part of the operators decision making process if the used pig needs to be discarded.



- 2" 14" Sizing Rings
- No handles



16" - 48" Sizing Rings

Four (4) handles

**OTHER ACCESSORIES**  Rattler

**Transmitter Housing** Custom design for any transmitter



### OPTIONS & ACCESSORIES

### PIG POLE/PUSHER COMBO

### THE ONLY TOOL ON THE MARKET THAT HAS BEEN DESIGNED, MANUFACTURED, AND TESTED SPECIFICALLY FOR THIS PURPOSE.

The Pigging Poles consist of three sections pinned together for a total length of 18'. One end of the pole has a four-inch round ram, making it easy to seat the pig, and the other end has a hook for easy pig retrieval. An optional handle makes handling the pigs even easier. The poles are made of all aluminum, so they never create sparks. The rams, hooks, and poles are all attached using pins and can be separated into 6 foot lengths for easy transportation.



### SAFE PIG RETRIEVAL IN FLAMMABLE GAS PIPELINES

#### Features & Benefits:

- Manufactured from durable, high strength, non-spark producing aluminum
- Limited flexibility ensures hitting the target every time
- Drilled with exacting tolerances for a precision fit
- Additional pole(s) can be utilized for added length
- Wheeled dolly can be used to increase stability
- Indexed parts allow the operator to know hook orientation for a trouble-free catch each time
- Modular components allow for multiple attachments and special orders
- The most durable and safest tool to use in a natural gas environment
- Multiple lengths available for different barrel lengths

### STANDARD SET OF PIGGING POLES INCLUDES:

- 3 x 6' POLES
- 3 x LOCKING PINS
- 1 x RAM
- 1 x ALUMINUM ALLOY HOOK



#### HOGGING POLES

FOR LAUNCHING & RETRIEVING 24" AND LARGER PIGS

- #1 Pole
- #2 Pole (Extension Pole)
- Hook (Plastic Coated Steel)
- Ram
- Push/Pull Adapter
- Locking Pin
- Dolly (2 Wheel)

Custom sizes available upon request.

### OPTIONS & ACCESSORIES

### ENVIRONMENTAL CONTAINMENT BAGS





Environmental Containment Bags eliminate pollution arising from pigging a pipeline with air or nitrogen by trapping and containing dust particles as small as five microns, along with mill scale and construction debris. The heavy-duty polyester bags are secured around the discharge pipe with a drawstring type closure.

Operation is continuous and no change in standard pigging practice is required. Reinforced pulling and lifting handles facilitate positioning and subsequent emptying of the bag into the bed of dump trucks or other type containers for disposal. They can also double as a pig catching bag.

Size	Package Dimensions	Weight (lbs)
12" x 10'	19" x 6" x 5"	3
12" x 25'	19" x 9" x 8"	8
12" x 50'	20" x 14" x 11"	17
24" x 50'	39" x 14" x 10"	35
48" x 50'	81" x 13" x 12"	68

Bags come in 10, 25, 50 or 100 ft blanks.

**Custom sizes available** upon request.

### RACK



**RECEIVERS** Pg. 8-2



**ABOVE GROUND MARKER** Pg. 8-7



**TRANSMITTERS** Pg. 8-3 to 8-5



**GEOPHONE** Pg. 8-8



**DELRIN CANS** 

Pg. 8-6



### TRACK

### RECEIVERS

#### **TRAXALL 500 & 501**

The TRAXALL 500 and TRAXALL 501 receivers differ in their ability to support add-on accessories. The TRAXALL 501 system monitors the 22 Hz transmitter frequency and supports the use of remote electromagnetic antennas and strobe lights with two external connectors while the 500 system does not. TRAXALL 500 is CDI's lowest-cost receiver.

Signal strength is intuitively indicated on a horizontal row of scrolling LEDs, while a single knob adjusts the reception sensitivity of each frequency.

#### **TRAXALL 620**

With TRAXALL 620, up to three transmitter frequencies are represented as scrolling rows of LEDs. The 620 works with CDI's transmitter family and the new TRAXALL X-Series multi-frequency transmitters, as well as transmitters from competitive systems. The TRAXALL 620 supports the use of remote electromagnetic antennas and strobe lights.

#### **TRAXALL 720**

The TRAXALL 720 tracks two programmable frequencies as well as 22Hz and MFL. A high-speed GPS system is built in, allowing arbitrary points of interest to be waypointed and stored in memory as GPS coordinates. Trackpoiting records breadcrumb trails showing routes taken to and from hard-to-find locations.

Bluetooth communication allows remote viewing of the system from a vehicle in inclement weather. LineStat provides the 720 with the capability to autonomously monitor for pig passages and send remote notifications as emails or text messages. LineStat requires no cellular telephone network, and funtions anywhere in the world.

#### **TRAXALL 770**

The TRAXALL 770 tracks as many as 7 different transmitter frequencies simultaneously with a unique color assignment for each on the bright, wide temperature display. A high-speed GPS system is built in, allowing arbitrary points of interest to be waypointed and stored in memory as GPS coordinates. Trackpoiting records breadcrumb trails showing routes taken to and from hard-tofind locations.

Bluetooth communication allows remote viewing of the system from a vehicle in inclement weather. LineStat provides the 720 with the capability to autonomously monitor for pig passages and send remote notifications as emails or text messages. LineStat requires no cellular telephone network, and funtions anywhere in the world.





#### **OPTIONS**



### TRAC

### **TRANSMITTERS**

#### X-Series Programmable **Multi-frequency Transmitters**

X-Series Transmitters are TRAXALL-compatible electromagnetic pipeline pig-tracking devices offering both programmable frequency and power control through CDI's proprietary FieldLink wireless communications system.

Frequency Control allows you to configure the transmitter to one of TRAXALL's seven colorized frequencies, or 22 Hz legacy frequency for backward compatibility with CDI's CD42 receiver or competitive receivers.

Power Control allows the operator to directly manage a trade-off between transmitter range vs. battery life. You can set output power to maximum for short runs/long range, or reduce output power for long runs/long battery life. Requires USB for programming.

FieldLink is CDI's proprietary wireless communications network. Each X100 transmitter comes with a built-in radio frequency antenna. By connecting an optional radio frequency USB key, any Windows PC or laptop can be used to configure a transmitter.



#### CD42 22Hz Transmitters

CDI Transmitters are manufactured in-house to exacting tolerances, operate on the principles of magnetics, and emit electromagnetic fields at a frequency near 22Hz.

The 22Hz Transmitters have pressure housings that allow them to be mounted directly in or on a pipeline pig and can withstand pressures of up to 2,500 PSI.

Most transmitters have an on-board computer that allows you to switch between two pulse modes and continuous, or, if tracking a train of pigs, the transmitter can be programmed to create any number of unique and easily identifiable patterns.

22Hz Transmitters are available in a wide variety of sizes to fit every application.

Pressure switch modules and flange kits are also available for most models.







### TRACKI

### TRANSMITTERS

Feature	CD42-T1A	X200-2AA	X200-3AA	X300-3C	X300-4C
Recommended Diameters	8" - 28"	6" - 24"	8" - 28"	8" - 28"	12" and larger
Length	10.19" (259mm) 11.00" (279mm)	5.00" (127mm)	7.07" (179mm)	7.74" (196mm)	9.61" (244mm)
Diameter	2.00" (51mm) 3.00" (76mm)	1.125" (28.5mm)	1.125" (28.5mm)	1.74" (44mm)	1.74" (44mm)
Pressure	2,500 PSI (172 bar)	2,500 PSI (172 bar)*	2,500 PSI (172 bar)*	2,500 PSI (172 bar)*	2,500 PSI (172 bar)*
Range (Alkaline)	45' (13.7m)	37' (11.3m)	49' (14.9m)	62' (18.9m)	67' (20.5m)
Range (Lithium)	65' (19.8m)	42' (12.8m)	56' 17.1m)	75' (22.98m)	83' (25.3m)
Run Time (Pulse)	500 hrs	500 hrs	500 hrs	1,000 hrs	1,000 hrs
Run Time (Constant)	125 hrs	188 hrs	188 hrs	288 hrs	288 hrs
Available in ATEX	No	Coming Soon	Coming Soon	Yes	Yes
Programmable Patterns	No	Yes	Yes	Yes	Yes
Programmable Frequencies	No	Yes	Yes	Yes	Yes
Pressure Activation Available	Yes	Yes	Yes	Yes	Yes
Battery Cell Count	6 AA	2 AA	3 AA	3 C	4 C

Feature	CD42-T3	X100-4N	X100-5N	X200-2AA	X200-3AA
Recommended Diameters	2" - 8"	6" - 12"	6" - 14"	6" - 24"	8" - 28"
Length	6.3" (160mm)	5.7" (145mm)	6.9" (175mm)	5.0" (127mm)	7.07" (179mm)
Diameter	0.875" (22.2mm)	0.995" (25.3mm)	0.995" (25.3mm)	1.125" (28.5mm)	1.125" (28.5mm)
Pressure	2,500 PSI (172 bar)	2,500 PSI (172 bar)*	2,500 PSI (172 bar)*	2,500 PSI (172 bar)*	2,500 PSI (172 bar)*
Range (Alkaline)	30' (9.1m) *T3 Lithium Only	28' (8.5m)	30' (9.1m)	37' (11.3m)	49' (14.9m)
Range (Lithium)	30' (9.1m) *T3 Lithium Only	28' (8.5m)	30' (9.1m)	42' (12.8m)	56' (17.1m)
Run Time (Pulse)	110 hrs	16 hrs	16 hrs	500 hrs	500 hrs
Run Time (Constant)	N/A	5 hrs	5 hrs	188 hrs	188 hrs
Available in ATEX	No	Coming Soon	Coming Soon	Coming Soon	Coming Soon
Programmable Patterns	No	Yes	Yes	Yes	Yes
Programmable Frequencies	No	Yes	Yes	Yes	Yes
Pressure Activation Available	No	Yes	Yes	Yes	Yes

\*Titanium Version to 7,500 PSI (517 bar) available.

### TRACKI TRANSMITTERS

Feature	CD42-T4	X100-1N	X100-2N	X100-3N
Recommended Diameters	2" - 8"	2" - 8"	3" - 10"	4" - 12"
Length	3.0" (76mm)	1.96" (50mm)	3.35" (49.7mm)	4.53" (115mm)
Diameter	1.375" (35mm)	0.995" (25.3mm)	0.995" (25.3mm)	0.995" (25.3mm)
Pressure	2,500 PSI (172 bar)*			
Range (Alkaline)	23' (7m)	22' (6.7m)	24' (7.3m)	26' (7.9m)
Range (Lithium)	N/A	N/A	N/A	N/A
Run Time (Pulse)	65 hrs	16 hrs	16 hrs	16 hrs
Run Time (Constant)	N/A	5 hrs	5 hrs	5 hrs
Available in ATEX	No	No	Coming Soon	Coming Soon
Programmable Patterns	No	Yes	Yes	Yes
Programmable Frequencies	No	Yes	Yes	Yes
Pressure Activation Available	Yes	Yes	Yes	Yes

Feature	CD42-T2	X300-5C	X400-4D	X400-5D
Recommended Diameters	30" and larger	14" and larger	14" and larger	16" and larger
Length	12.85" (326mm)	11.5" (293mm)	11.5" (291mm)	13.83" (351mm)
Diameter	4.375" (111mm)	1.74" (44mm)	2.5" (63.5mm)	2.5" (63.5mm)
Pressure	2,500 PSI (172 bar)	2,500 PSI (172 bar)*	2,500 PSI (172 bar)*	2,500 PSI (172 bar)*
Range (Alkaline)	92' (28m)	74' (22.6m)	75' (22.9m)	77' (23.5m)
Range (Lithium)	99' (30.2m)	91' (27.7m)	99' (30.2m)	110' (33.5m)
Run Time (Pulse)	375 hrs	1,000 hrs	1,344 hrs	1,344 hrs
Run Time (Constant)	100 hrs	288 hrs	336 hrs	336 hrs
Available in ATEX	No	Yes	Yes	Yes
Programmable Patterns	No	Yes	Yes	Yes
Programmable Frequencies	No	Yes	Yes	Yes
Pressure Activation Available	No	Yes	Yes	Yes

\*Titanium Version to 7,500 PSI (517 bar) available.

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### TRACK **DELRIN CANS**

#### **ELECTRONIC TRANSMITTER PROTECTION**

Our Delrin Cans feature a threaded cap with hex head and pressure vent. In addition to the pressure vent built into the cap there is a bleed bolt threaded into the cap designed as the primary pressure relief. Delrin Cans come standard with grooves to accommodate various sizes of rings for a secure fit in any size transmitter cavity. OD rings allow the same Delrin/transmitter combination to be quickly and easily modified to fit in a variety of pig and/or cavity sizes.

#### Features & Benefits:

- Explosive de-compressive O-rings for bleed bolt and cap
- Threaded base for securing to various pig cavities
- Hexagonal base of canister body allows the operator to easily secure the canister for cap removal

Size	Part Number
2.0" Assembly	95-2010-20
2.5" Assembly	95-2010-25
3.0" Assembly	95-2010-30
3.5" Assembly	95-2010-35





#### FOUR STANDARD SIZES TO FIT MOST CDI TRANSMITTERS:

- 2.0" OD fits CD42-T3, X200-2AA, X100-1N, X100-2N
- 2.5" OD fits CD42-T4, CD42-T0
- 3.0" OD fits X300-2C, CD42-T1A, X300-3C, X300-4C
- 3.5" OD fits X400-3D, X400-3D ATEX

\*\*ID's can be customized upon request to fit all CDI transmitter sizes.

### T R A C K I N G ABOVE GROUND MARKER

The CD47-C Above Ground Marker (AGM) time-based benchmarker is designed to record within just a few milliseconds the GPS time of a passing intelligent inspection tool. This precise time coupled with the physical pipeline location is correlated with the data recorded by the inspection tool. This correlated data provides a major increase in the accuracy of a smart pig's feature location callouts.

Utilizing precision time synchronization provided by its onboard Global Positioning System (GPS), the CD47-C is able to provide tool passage time accuracy that is guaranteed to be within 250 milliseconds over the 7 day battery life.

With its ability to record passages of both transmitter-equipped and magnetic (MFL) inspection tools without transmitters, the CD47-C provides users with a comprehensive, well-tested and field hardened system for their benchmarking requirements.

#### Features & Benefits:

- Detects transmitter equipped and MFL tools without transmitters
- GPS standard in every system
- Wide temp graphics LCD display
- Custom ABS plastic with urethane bumpers
- -40°C to +85°C operating temperature
- Optional swamp antenna
- Subsea version available
- LCD display provides operator with immediate access to information about the pig run in English, Spanish or German.



#### Options Available:

- Subsea ROV/Diver Housing
- Provides subsea AGM capability to 150m depth
- Swamp Antennas
- Provides shallow water and swamp antennas for use with the CD47-C without the bulkier subsea packaging

#### LineStat:

CD47-C has the option of satellite radio for worldwide global service of automatic pig passage status reporting by email and text message with viewing passage locations in Google Maps. This is your best option for remote onshore locations to offshore platform work as cellular signals are not reliable or even available. This solution works anywhere in the world and relies upon the Globalstar network of earth orbit satellites. No cellular access is required for LineStat to function.

CDI's SR100 satellite radios are ATEX and Class 1 Div 1 rated and are designed for field use. These devices are rugged and built to withstand virtually any outdoor temperature extremes.



### TRACKIN GeoEAR GEOPHONE

The GeoEAR acoustic amplifier system allows a listener to hear extremely faint sounds at great distances using a geophone probe which is either inserted into the soil or placed in direct contact with the pipeline.

The GeoEAR has the ability to amplify the sound of an approaching pipeline pig's cups striking welds of a pipeline to an easily discernable level and under normal circumstances a pig can be heard approaching for miles.

#### Features & Benefits:

- Hear pigs in pipelines up to 2 miles away
- Separate volume control for speaker and headphones
- Pushbutton keypad interface
- Rugged machined aluminum geophone housing
- Durable Pelican carrying case with built-in 5" waterproof speaker
- Optional auxiliary cable allows a vehicle 12V system to provide power
- Headphones and geophone probe supplied
- Optional auxiliary output to vehicle sound system for even greater audio clarity
- Long cables available loose or on convenient takeup reels



### TRACKING

### RENTALS

### **NOW AVAILABLE TO RENT**



#### **Equipment Available:**

- X100-1N Transmitter
- X300-2C Transmitter
- X400-3D Transmitter
- CD42-T0 22Hz Transmitter
- CD42-T1A 22Hz Transmitter
- CD42-T3 22Hz Transmitter
- CD42-T4 22Hz Transmitter

Ph: 780.416.4850

Swamp Antenna

- TRAXALL 770 Receiver
- TRAXALL 720 with Linestat Receiver
- TRAXALL 620 Receiver
- CD43 GeoEar
- CD47 AGM with Linestat
- CD52-P Portable Bandit Detector
- Strobe Light

### CUSTOM URETHANE



### CUSTOM CAST URETHANE

Pg. 9-2



#### **DIG TUBE ENDS**

Pg. 9-3



BRIDGE GATE GASKETS

Pg. 9-4

### CUSTOM URETHANE CUSTOM CAST URETHANE

Urethane products deliver many advantages over conventional elastomers, plastics, and rubbers. They are stronger, tougher, more durable, and more versatile. With greater versatility and durability, polyurethane is the material of choice for some of the most demanding industrial applications.

**Custom Cast Urethane Products** are avaible in various sizes, colors, and durometers (hardness).

Our process provides us with the ability to bond a layer of any thickness or diameter of polyurethane to any steel surface.



#### WE CAN MEET YOUR NEEDS FOR **VARIOUS PRODUCTS SUCH AS:**

- **Sheets**
- **Parts**
- Rollers
- Scrapers
- Pads
- **Bumpers**
- Design and manufacture molds
- Use existing molds to produce various products



# CUSTOM URETHANE DIG TUBE ENDS

6-8" (152-203mm)

Apache's rugged, durable Dig Tube Ends are used on Hydro Vac systems to reduce cost by extending the wear life of the Dig Tube.

## APACHE DIG TUBE PROTECTORS ADAPT EASILY TO STANDARD 6" AND 8" DIG TUBES



Size	Part Number
6.00"	02-VAC-060
8.00"	02-VAC-080

**Custom Color Options Available** 

Ph: 780.416.4850

### CUSTOM URETHANE BRIDGE GATE GASKETS

6-12" (152-305mm)

Apache Pipeline Products can design and manufacture most molds, or use existing molds to produce current required products in a variety of custom sizes, shapes and durometers.

Our standard Bridge Gate Gaskets are poured in Reliathane 72 Durometer Shore A Polyurethane material.



Size	Part Number
6.00"	02-APAC-00
8.00"	02-APAC-01
10.00"	02-APAC-02
12.00"	02-APAC-04





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apachepipe.com

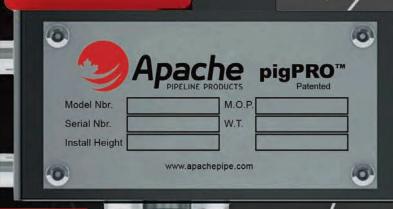
world class world wide



## PIG PASSAGE INDICATOR

The patented Apache pig passage indicator is designed to accurately detect the passage of a pig travelling in the pipeline system. Standard features include bi-directional activation, on-stream installation or removal capability and adjustable plunger sensitivity and penetration.

vorld class world wide



pigPRO™ Series 57 pigPRO™ Series 55 Electrical Indication pigPRO™ Series 53 isual/Electrical Indication

Apache Pipeline Products is a major supplier of cleaning and maintenance equipment for oil, natural gas and industrial pipelines around the world. Our product line includes a wide range of pipeline pigging and custom urethane products.

Distributor Inquires Welcome

1575 - 90 Ave Edmonton, AB Canada T6P 0E2

Ph: 780.416.4850 | Fax: 780.416.4829 | Email: sales@apachepipe.com