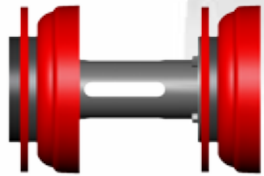


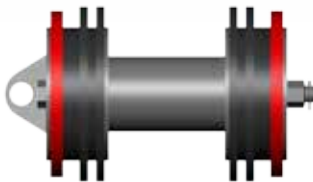
BI-DIRECTIONAL



**UT
OPTION**
Pg. 2-2



MDK-ED
16 - 48"
Pg. 2-8



ED
3 - 14"
Pg. 2-3



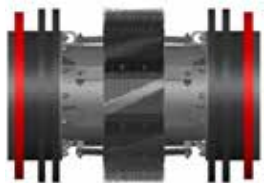
MD2
3 - 14"
Pg. 2-9



ED
16 - 48"
Pg. 2-4



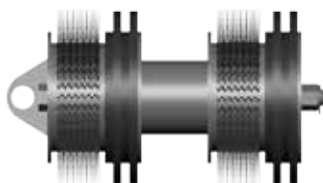
MD2
16 - 48"
Pg. 2-10



EDX
16 - 48"
Pg. 2-5



MD4
3 - 14"
Pg. 2-11



EDR
6 - 14"
Pg. 2-6



MD4
16 - 48"
Pg. 2-12



EDR
16 - 48"
Pg. 2-7

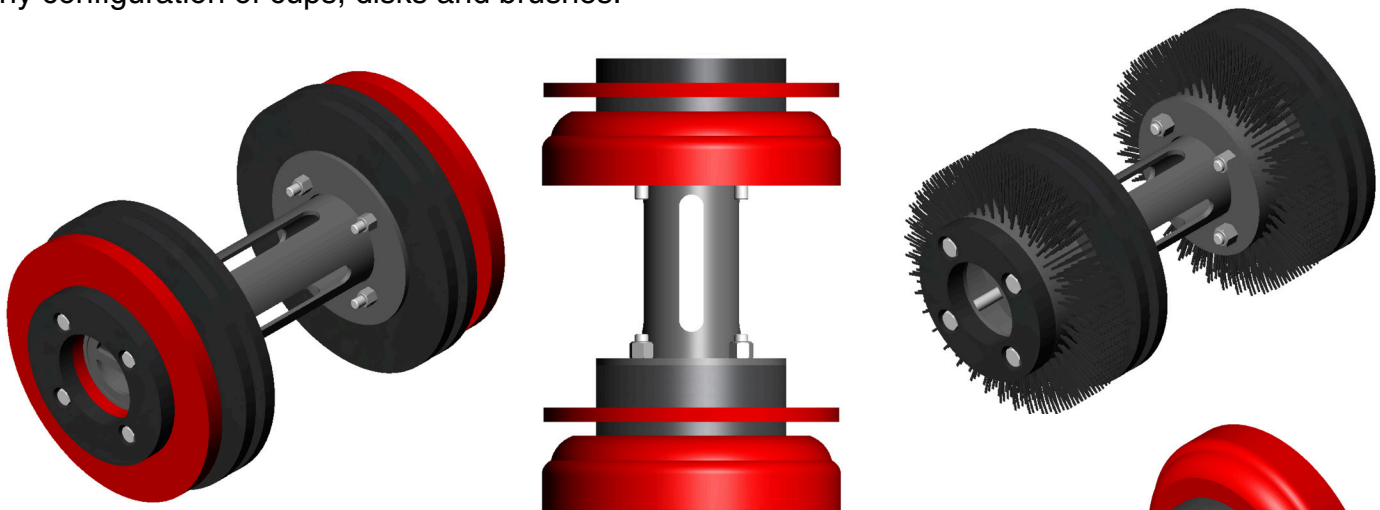
UNIVERSAL TRANSMITTER PIGS

UT MANDREL OPTION

6-14" (52-356mm)

Apache is pleased to introduce our newly revised Universal UT mandrel design. With the changes in design only one mandrel is required to make any configuration of pig. This can be accomplished with utilizing the same bolts that will accommodate the standard front and back bumpers.

The primary use for the UT pig is to house a transmitter located within the center of the mandrel. They can also be used for cleaning and batching of dissimilar fluids. The mandrel can accommodate any configuration of cups, disks and brushes.

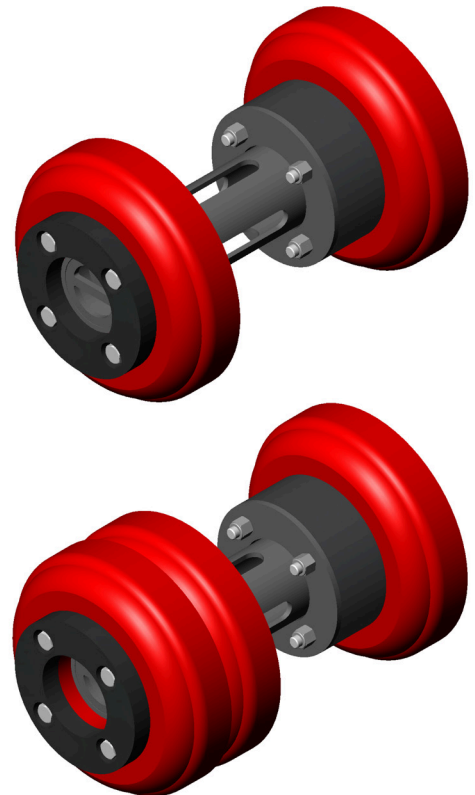


Features:

The UT are the only small diameter steel mandrel pig that Apache manufactures with a transmitter cavity in the middle of the mandrel to accommodate electronic pig tracking equipment. Standard bumper noses prevent damage to both the pig and in-line auxiliary equipment.

Options:

- Circular flat carbon steel, stainless steel, plastic or pencil brushes.
- Aluminum or steel gauging plates are available in either slotted or standard styles.
- Magnets are available.

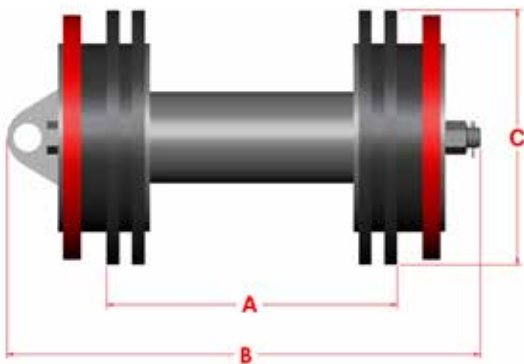


BI-DIRECTIONAL

ED

3-14" (76-356mm)

The Series ED pigs are bi-directional and used primarily for air and water displacement applications during the pressure test stage of construction. Designed to travel in either direction, the operator can fill the line with water and displace the water without removing the pig.



Size	A	B	C	Weight	Part #
3"	3.000	6.875	3.375	2.0	70705603
4"	4.375	9.000	4.375	4.0	70705604
6"	6.000	13.000	6.375	14	70705606
8"	7.5000	15.200	8.375	26	70705608
10"	10.500	18.700	10.500	44	70705610
12"	12.250	23.200	12.500	72	70705612
14"	14.500	23.500	13.875	77	70705614

Features:

The ED version, with a combination of 4 sealing discs and 2 guide discs, offers a sealing arrangement suitable for separation of dissimilar fluids or for dewatering during hydrostatic testing. Sealing discs experiencing wear can reverse direction without compromising sealing characteristics.

Designed to traverse 1.5D bends.

Options:

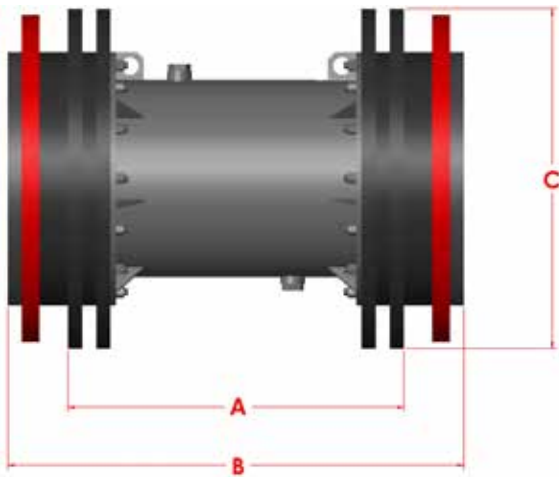
- Aluminum or steel gauging plates are available in either slotted or standard styles.
- Magnets are available.
- Available with UT configuration with internal transmitter housing for 6" - 14" pigs.

BI-DIRECTIONAL

ED

16-48" (406-1219mm)

The Series ED pigs are bi-directional and used primarily for air and water displacement applications during the pressure test stage of construction. Designed to travel in either direction, the operator can fill the line with water and displace the water without removing the pig.



Size	A	B	C	Weight	Part #
16"	15.000	22.250	15.875	118	70705616
18"	17.000	24.250	17.875	142	70705618
20"	19.250	27.250	20.000	191	70705620
22"	21.500	30.250	22.000	215	70705622
24"	23.750	32.250	24.125	277	70705624
30"	29.750	38.500	30.125	442	70705630
36"	35.250	47.000	36.500	704	70705636
42"	41.250	55.250	42.625	1075	70705642
48"	46.500	60.000	48.875	1360	70705648

Features:

The ED version, with a combination of four sealing and two guide discs, offers a sealing arrangement suitable for separation of dissimilar fluids or for dewatering during hydrostatic testing. Sealing discs experiencing wear can reverse direction without compromising sealing characteristics. Standard bumper noses prevent damage to both the pig and in-line auxiliary equipment. All Apache 16"-48" pigs are manufactured with by-pass ports. The ports have threaded plugs that can be removed if by-pass is required.

Designed to traverse 1.5D bends.

Options:

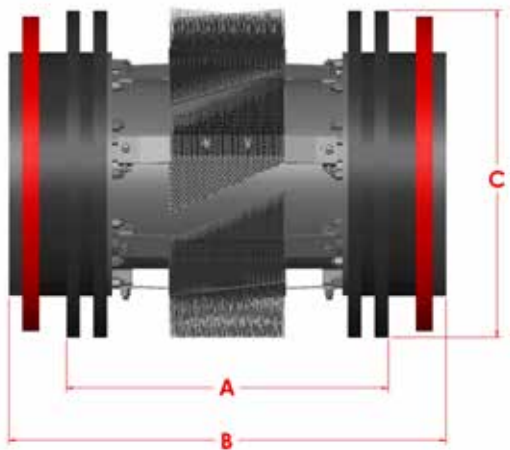
- Circular flat carbon steel, stainless steel, pencil or plastic brushes.
- Transmitter housing to accommodate electronic tracking equipment.
- Aluminum or steel gauging plates are available in either slotted or standard styles.
- Magnets are available.

BI-DIRECTIONAL

EDX

16-48" (406-1219mm)

The Series EDX cleaning pigs are designed for bi-directional cleaning of newly constructed lines or for existing lines where scale and debris are present. It is also an excellent choice for air and water displacement applications during the pressure test stage of construction.



Size	A	B	C	Weight	Part #
16"	18.000	25.250	15.875	157	60722816
18"	20.500	27.750	17.875	194	60722818
20"	23.000	31.000	20.000	252	60722820
22"	26.250	34.250	22.000	283	60722822
24"	26.750	35.250	24.125	355	60722824
30"	29.750	39.500	30.250	530	60722830
36"	35.250	47.000	36.500	812	60722836
42"	42.250	55.250	42.625	1209	60722842
48"	46.500	61.750	48.875	1511	60722848

Features:

EDX are an economical four sealing and two guide disc bi-directional pig which offers an optimum seal and also allows for aggressive cleaning with wear compensating, spring loaded brushes. The pig is equipped with durable guide disks designed to center the sealer discs in the line, forming a quadruple seal that virtually eliminates product by-pass. Standard bumper noses prevent damage to both the pig and in-line auxiliary equipment. All Apache 16"-48" pigs are manufactured with by-pass ports. The ports have threaded plugs that can be removed if by-pass is required.

Designed to traverse 3D bends.

Options:

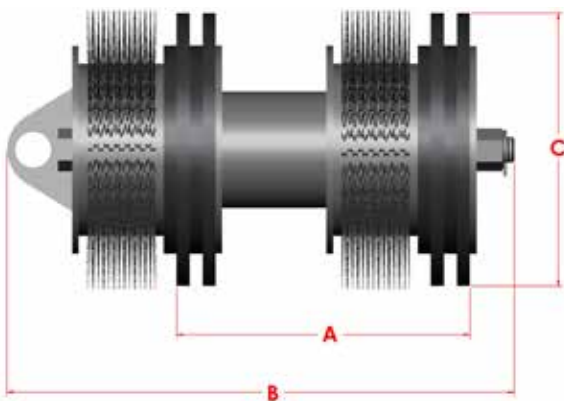
- Carbon steel, stainless steel, pencil or plastic brushes.
- Transmitter cavity for electronic tracking equipment.
- Aluminum or steel gauging plates are available in either slotted or standard styles.
- Magnets are available.
- Plow blades.

BI-DIRECTIONAL

EDR

6-14" (152-356mm)

The Series EDR pigs are bi-directional and used primarily for air and water displacement and debris removal applications during the pressure test stage of construction and day-to-day maintenance. Designed to travel in either direction, the operator can fill the line with water and displace the water without removing the pig. EDR are designed to traverse 1.5D bends in either direction.



Size	A	B	C	Weight	Part #
6"	7.875	15.700	6.375	18	60715006
8"	10.250	18.200	8.375	31	60715008
10"	11.250	19.750	10.500	51	60715010
12"	14.125	22.750	12.500	71	60715012
14"	16.625	25.250	13.875	80	60715014

Features:

Simple replacement of a disc with a circular wire brush enhances the versatility of the ED Series. This EDR version offers a sealing arrangement suitable for separation of dissimilar fluids or for dewatering during hydrostatic testing. Sealing discs experiencing wear can reverse direction without compromising sealing characteristics.

Designed to traverse 1.5D bends.

Options:

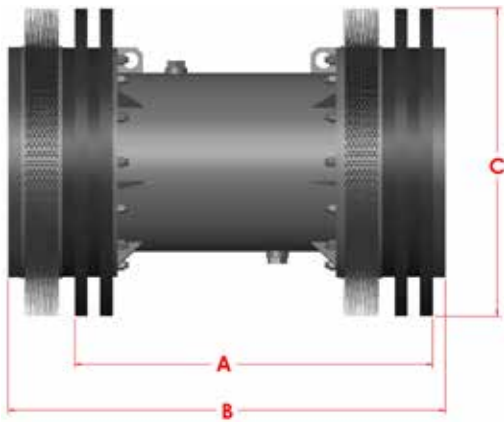
- Circular flat carbon steel, stainless steel, pencil or plastic brushes.
- Aluminum or steel gauging plates are available in either slotted or standard styles.
- Magnets are available.
- Available with UT configuration with internal transmitter housing for 6" - 14" pigs.

BI-DIRECTIONAL

EDR

16-48" (406-1219mm)

The Series EDR pigs are bi-directional and used primarily for air and water displacement and debris removal applications during the pressure test stage of construction and day-to-day maintenance. Designed to travel in either direction, the operator can fill the line with water and displace the water without removing the pig. EDR are designed to traverse 1.5D bends in either direction.



Size	A	B	C	Weight	Part #
16"	19.000	25.000	15.875	132	60715016
18"	21.500	27.500	17.875	165	60715018
20"	24.370	30.500	20.000	217	60715020
22"	26.370	32.250	22.000	248	60715022
24"	28.250	34.500	24.125	303	60715024
30"	33.375	40.200	30.125	468	60715030
36"	40.125	47.000	36.500	776	60715036
42"	47.250	55.250	42.625	1093	60715042
48"	53.250	62.000	48.875	1381	60715048

Features:

This EDR version offers a sealing arrangement suitable for separation of dissimilar fluids or for dewatering during hydrostatic testing. Sealing discs experiencing wear can reverse direction without compromising sealing characteristics. Standard bumper noses prevent damage to both the pig and in-line auxiliary equipment. Most Apache 16"-48" pigs are manufactured with by-pass ports. The ports have threaded plugs that can be removed if by-pass is required.

Designed to traverse 1.5D bends.

Options:

- Circular flat carbon steel, stainless steel, pencil or plastic brushes.
- Transmitter housing to accommodate electronic tracking equipment.
- Aluminum or steel gauging plates are available in either slotted or standard styles.
- Magnets are available.

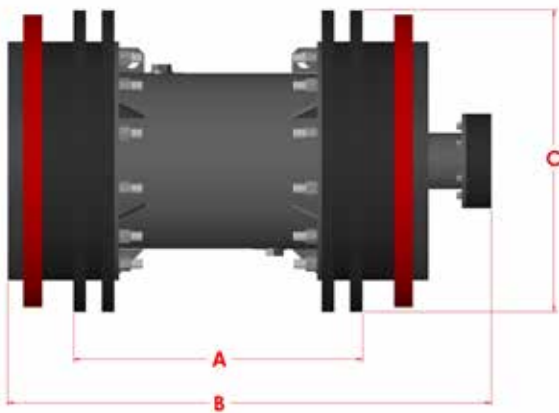
BI-DIRECTIONAL

MDK ED

16-48" (406-1219mm)

MDK-ED bi-directional pigs are designed for use in long-run pipeline construction applications during the hydrostatic test stage. Designed to travel in either direction, the operator can fill the line with water and displace the water without removing the pig. The MDK-ED mandrels are engineered to easily be adapted to a cleaning pig by the addition of flat steel wire brushes.

MDK-ED pigs have both an inner mandrel and outer mandrel. The MDK-ED dual mandrel are favoured by contractors, as the inner mandrel withstands the battering inherent during construction phases, while the outer disc carrying mandrel remains untouched.



Size	A	B	C	Weight	Part #
16"	15.500	28.250	15.875	161	70777616
20"	19.000	34.750	20.000	264	70777620
24"	23.000	38.500	24.000	372	70777624
30"	30.250	48.875	30.000	632	70777630
36"	35.000	52.500	36.000	816	70777636
42"	41.500	65.500	43.125	1208	70777642
48"	47.500	72.750	49.000	1500	70777648

The pigs are equipped with durable guide discs, one at each end. They provide a positive centering affect which allow the four sealing discs in the center to effectively seal during the displacement period. Bumper noses are also included with MDK-ED pigs. They prevent damage of expensive in-line auxiliary equipment. Handling hooks are standard features on the MDK-ED.



Designed to traverse 1.5D bends.

Options:

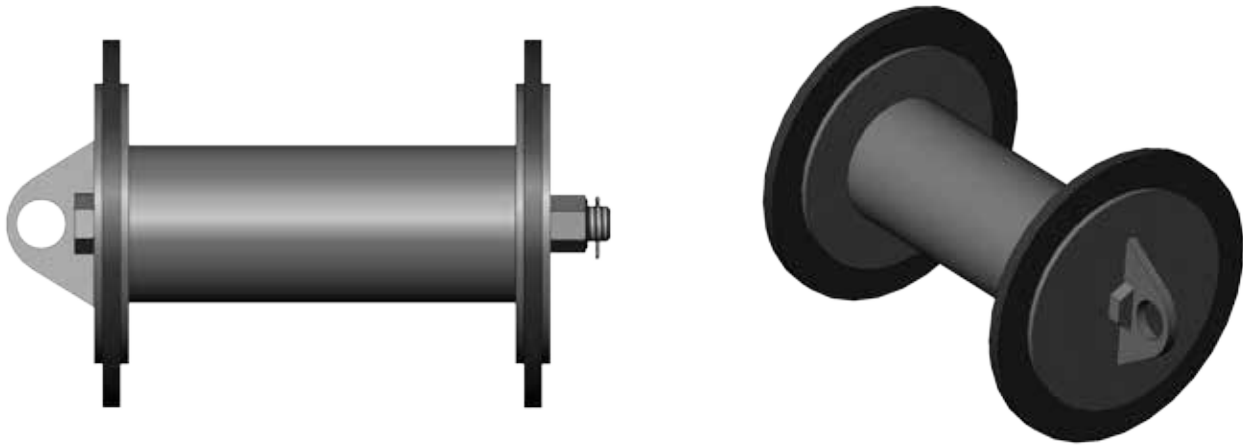
- Circular flat carbon steel, stainless steel, pencil or plastic brushes.
- Transmitter housing to accommodate electronic tracking equipment.
- Aluminum or steel gauging plates are available in either slotted or standard styles.
- Magnets are available.

BI-DIRECTIONAL

MD2

3-14" (76-356mm)

The MD2 bi-directional pigs are designed to be both economical and efficient. They have multiple uses including separation of dissimilar fluids, batching and light cleaning, however, the primary use for the MD2 is water displacement during the hydrostatic testing stage of construction. The steel bodied pigs are designed to travel in either direction in the pipeline.



MD Series, in sizes 14" and smaller, have a through bolt mandrel design, complete with a pull hook. Sealing discs experiencing wear after traveling one direction, can reverse direction without compromising their sealing characteristics. All discs are produced from Apache's special blend of wear resistant Reliathane.

The discs are manufactured from a special blend of wear resistant polyurethane but inevitably wear will occur. The advantage of a bi-directional pig is that after traveling in one direction, the pig can be run in the other direction and still maintain a positive seal.

Designed to traverse 1.5D bends.

Options:

- Aluminum or steel gauging plates are available in either slotted or standard styles.
- Magnets are available.
- Available with UT configuration with internal transmitter housing for 6" - 14" pigs.

BI-DIRECTIONAL

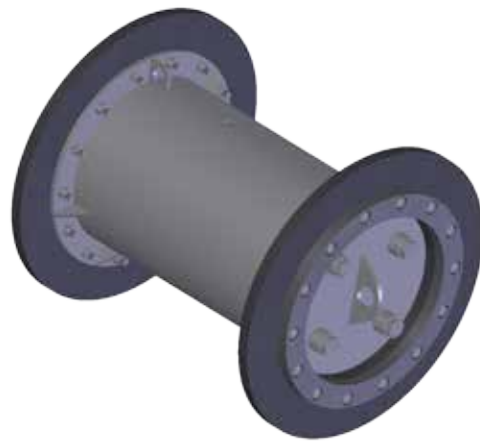
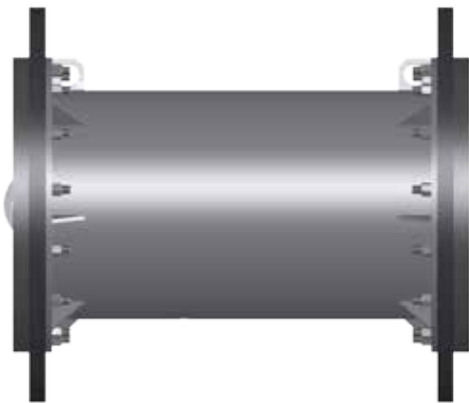
MD2

16-48" (406-1219mm)

The MD2 bi-directional pigs are designed to be both economical and efficient. They have multiple uses including separation of dissimilar fluids, batching and light cleaning however the primary use for the MD2 is water displacement during the hydrostatic testing stage of construction. The steel bodied pigs are designed to travel in either direction in the pipeline.

MD Series, in sizes 16" and larger, are equipped with either two or four disc combinations, bolted to a rugged steel mandrel. Typically, the longer the pig run the more discs you would install. Sealing discs experiencing wear after traveling one direction, can reverse direction without compromising their sealing characteristics. The discs are made from a special blend of wear resistant polyurethane. The advantage of a bi-directional pig is that after traveling in one direction, the pig can be run in the other direction and still maintain a positive seal. Bumper noses prevent damage to both the pig and in-line auxiliary equipment. The MD Series are available in either the standard MD2 or the heavy duty MD4 design.

Designed to traverse 1.5D bends.



Options:

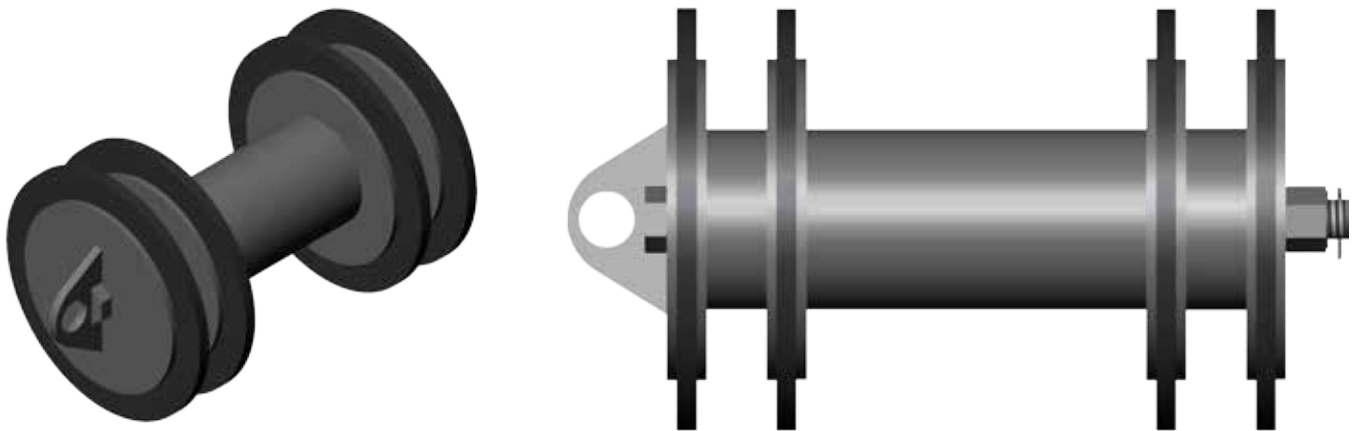
- Transmitter cavities for electronic tracking equipment.
- Gauging plates can be custom made to suit your application and are available in aluminum or steel, slotted or standard.
- Magnets are available.

BI-DIRECTIONAL

MD4

3-14" (76-356mm)

The primary use for the MD4 is liquid displacement during the hydrostatic testing stage of construction; however the 4 disc design allows the pig to be used for light cleaning, separation and batching. Designed to be run in either direction in the pipeline the operator can fill the line with liquid and displace the liquid with out removing the pig from the line. The sealing discs experiencing wear after traveling in one direction can reverse the direction without compromising their sealing characteristics.



Features:

MD Series, in sizes 14" and smaller, have a through bolt mandrel design, complete with a pull hook. The pigs can be equipped with two or four discs to suit the application. Typically the longer the pig run the more discs you would install. The MD4 are available in sizes 3" – 14" in diameter and comes with a single through bolt mandrel design, complete with a pull hook. The discs are manufactured from a special blend of wear resistant polyurethane.

Designed to traverse 1.5D bends.

Options:

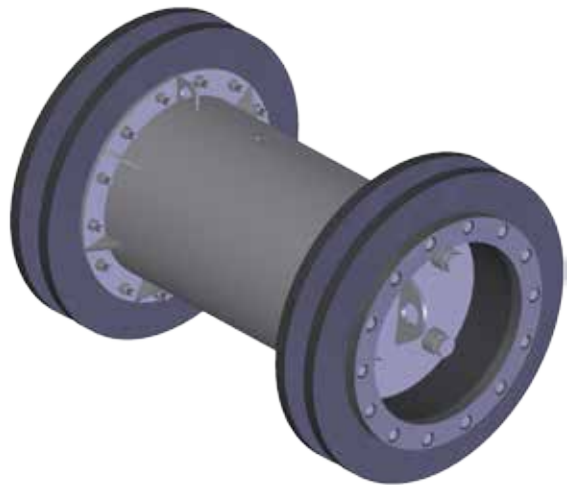
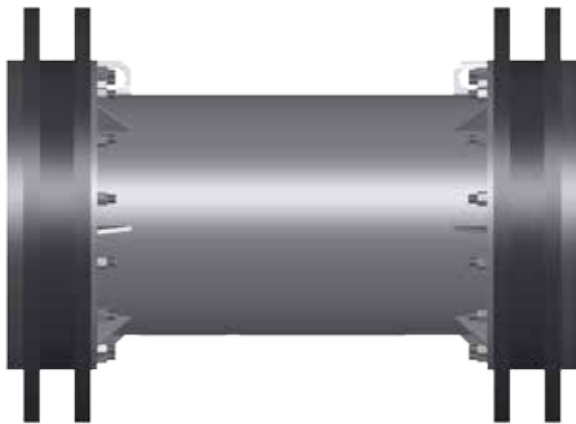
- Gauging plates can be custom made to suit your application and are available in aluminum or steel, slotted or standard.
- Magnets are available.
- Available with UT configuration with internal transmitter housing for 6" - 14" pigs.

BI-DIRECTIONAL

MD4

16-48" (406-1219mm)

MD4 are very economical and efficient and are manufactured for medium to long pigging runs and vary in size from 16" to 48" in diameter. Although the primary use for the MD4 is liquid displacement during the hydrostatic testing stage of construction they can be used for cleaning, separation and batching as well. All Apache discs are manufactured from a special bend of wear resistant polyurethane and the MD pigs are designed to traverse in either direction in the pipeline.



Features:

These pigs can be equipped with two or four discs to suit the application. Typically the longer the pig run the more discs you would install. Standard bumper noses prevent damage to both the pig and in-line auxiliary equipment. All Apache 16"-48" pigs are manufactured with by-pass ports. The ports have threaded plugs that can be removed if by-pass is required.

Designed to traverse 1.5D bends.

Options:

- Transmitter cavities for electronic tracking equipment.
- Gauging plates can be custom made to suit your application and are available in aluminum or steel, slotted or standard.
- Magnets are available.