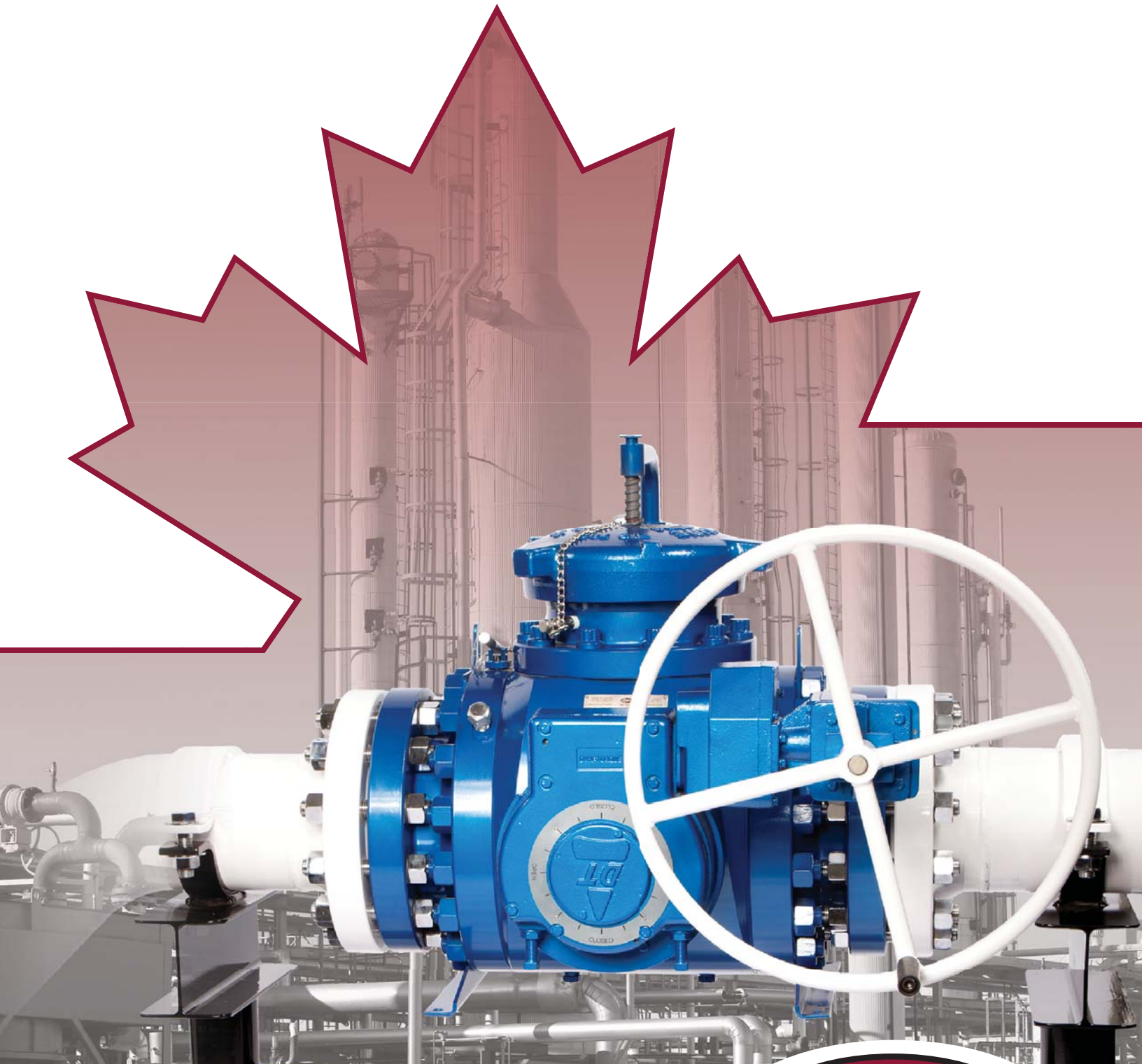


# PIGGING PRODUCTS



Safe and Efficient Pigging



# SPECIFICATIONS



Spec. 6D – 0225  
Edmonton, AB, Canada

We are committed to product safety and quality. Argus Pig Valves conform to the following standards:

## API

SPEC. 6D

SPEC. 6FA\*

STD. 607\*

STD. 598

SPEC. Q1

## American Petroleum Institute

Specification for Pipeline Valves

Fire Test for Valves

Fire Test for Quarter-turn Valves and Valves Equipped with Nonmetallic Seats

Valve Inspection and Testing

Specification for Quality Programs for the Petroleum and Natural Gas Industry

## ANSI/ASME

B1.20.1

B16.5

B16.10

B16.34

B31.3

## American National Standard Institute/

## American Society of Mechanical Engineers

Pipe threads, general purpose

Pipe flanges & flange fittings

Face-to-Face & End-to-End dimensions of Valves

Valves - Flanged, Threaded, and Welding End

Process Piping

## ISO

ISO 9001

ISO 15156

ISO 10497\*

## International Organization for Standardization

Quality Management System

Materials for use in H2S containing environments in oil & gas production

Testing of valves - fire type-testing

## NACE

MR0175

## National Association of Corrosion Engineers

Materials for use in H2S containing environments in oil & gas production

## CSA

Z245.12

Z245.15

Z662

## Canadian Standards Association

Steel Flanges

Steel Valves

Oil and Gas Pipeline Systems

## CRN†

0C02161.2

0C12579.2

## Canadian Registration Numbers

2" - 6" Pig Valves

6" - 16" Pig Valves

\* Model D, 300 Class and Larger.

† Contact Argus for details.



# PIG VALVES

*Designed to achieve optimal flow line and pipeline performance, the Argus Pigging Valve offers unsurpassed quality and reliability.*

## CONSIDER THESE BENEFITS

- Optimize production and mitigate corrosion through effective liquids sweeping and debris removal
- Reduce emissions by more than 80% compared to traditional launching method
- Significantly smaller footprint reduces the space required for pigging facilities
- Reduced requirement for infrastructure decreases field construction time
- Functionally simple design minimizes training and maintenance costs
- Double block and bleed construction facilitates use as a traditional block valve, thus reducing the number of valves required in the pigging facility
- Built in features enhance safety for operations personnel
- Adaptable to batch, corrosion inhibition programs
- Designed in accordance to NACE for sour service

### Temperature Range

-50°F to +250°F (-46°C to +121°C)

### End Connections

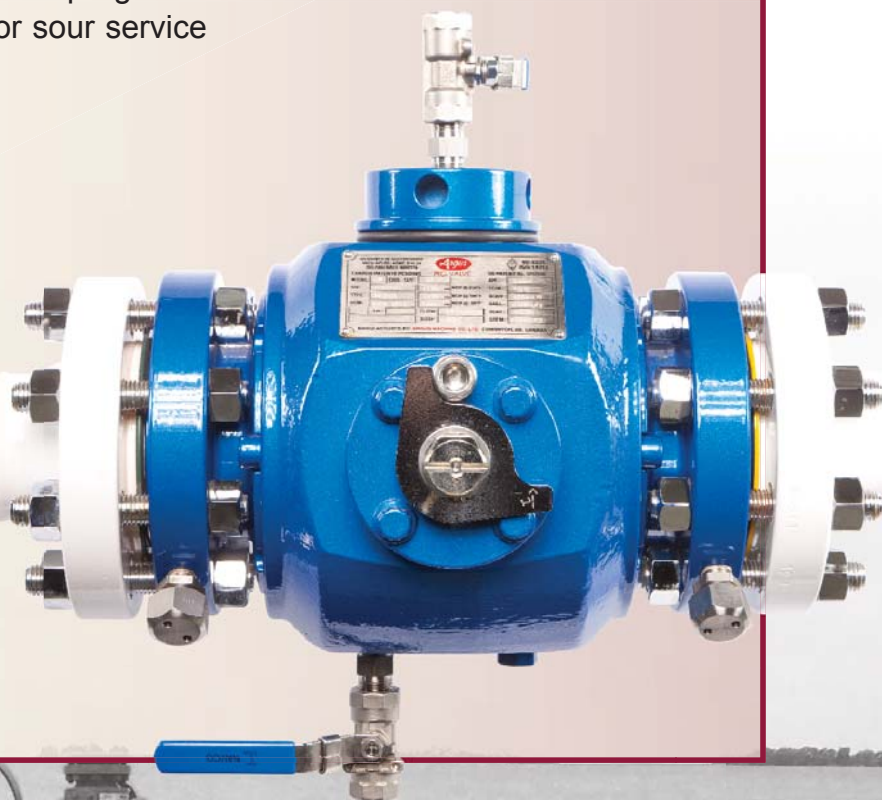
Raised Face (RF)  
Ring Joint (RTJ)

### Pressure Range

150-1500 ANSI Class

### Size Range

2" to 16" (DN50 to D400)

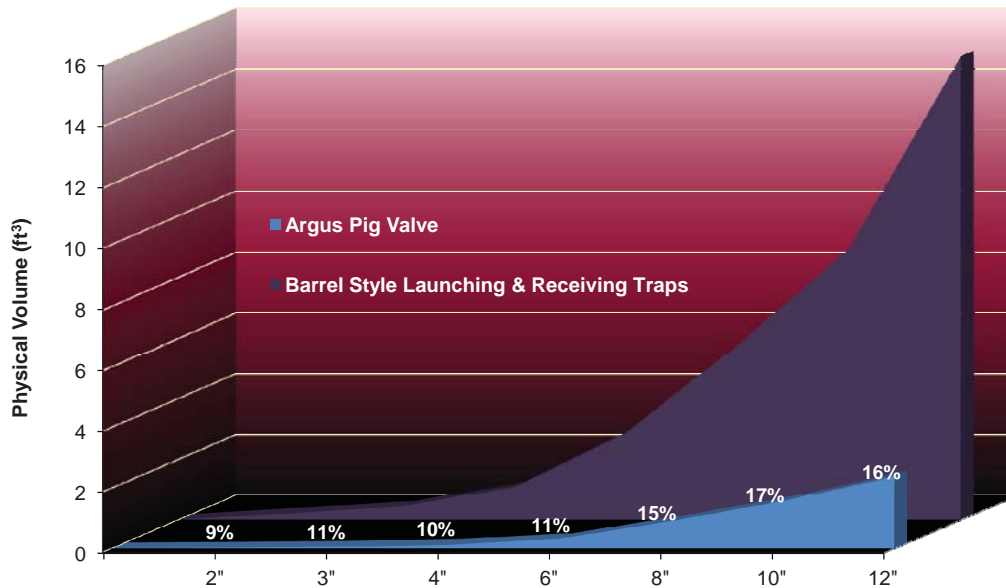




# REDUCE EMISSIONS BY MORE THAN 80%

## Emissions Comparison

Argus Pig Valve vs. Barrel Style Launching and Receiving Traps



## SIGNIFICANT SPACE AND COST SAVINGS

In addition to reduced emissions, the small footprint of the Argus Pig Valve minimizes environmental impact. Compared to conventional barrel style launching and receiving traps, Argus Pig Valves are also operationally more efficient, and require less space, ultimately decreasing infrastructure costs.



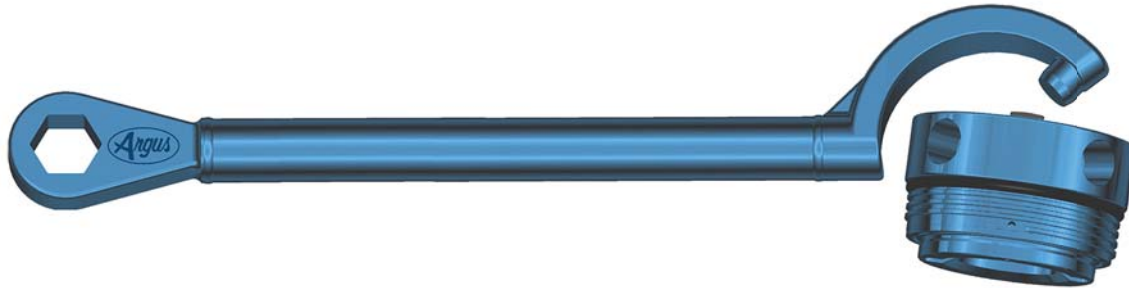
*Argus Receiving Valve*



*Barrel Style Receiving Trap*

## SAFETY FEATURES

The 2" - 6" Argus Pig Valves feature a non-impact cap and wrench. This design addresses two key safety concerns in the field - failure of the entry cap due to repeated hammering, and the generation of sparks in an explosive environment.



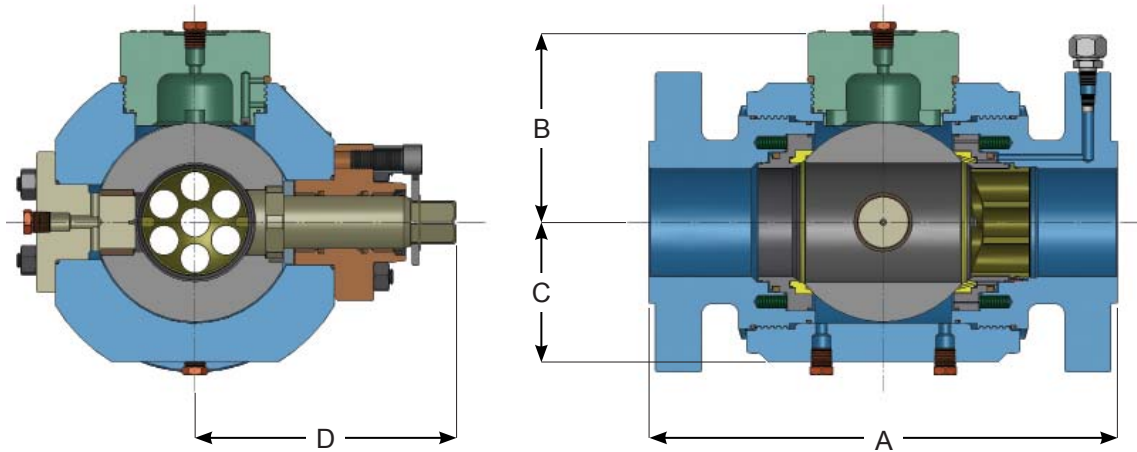
The cap is equipped with a pressure alert port. This enables pressure to be vented to the atmosphere in the event of incomplete venting or seat leakage, warning the operator that media is present.

## TRIM MATERIALS

STANDARD TRIM MATERIALS (6" 600 ANSI & BELOW)	
Body	A350-LF2, Class 1
End Connections	A350-LF2, Class 1
Ball	A350-LF2 c/w 0.001" high-phosphorus ENC
Entry Cap	A350-LF2, Class 1
Trunnion	A350-LF2 c/w 0.001" ENC
Seat Springs	Inconel X-750
Seat Support	AISI 1026 c/w 0.001" ENC (2") A350-LF2 c/w 0.001" (3", 4", & 6" 150-600 ANSI)
Seat Insert	Devlon 'V'
Primary Seals	HSN, Carboxylated Nitrile
Bolting – Pressure Containing	ASTM A320 L7M/ASTM A194 L7M

*Note: Alternative trim materials available upon request.*

## DIMENSIONS: 6" 600 ANSI & BELOW



2" PIG VALVE	A (OVERALL LENGTH)				B		C		D		VALVE BORE		BALL CORE ID		ENTRY PLUG BORE		APPROX. WT.	
	RF		RTJ															
ANSI	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
150 *	11.50	(292)	11.88	(302)	5.62	(143)	4.00	(102)	7.62	(194)	2.06	(52)	2.50	(64)	2.56	(65)	135	(61)
300/600 *	14.25	(362)	14.62	(371)	5.62	(143)	4.00	(102)	7.62	(194)	2.06	(52)	2.50	(64)	2.56	(65)	145	(66)
900	14.50	(368)	14.62	(371)	5.62	(143)	4.00	(102)	7.62	(194)	2.06	(52)	2.50	(64)	2.56	(65)	175	(79)

3" PIG VALVE	A (OVERALL LENGTH)				B		C		D		VALVE BORE		BALL CORE ID		ENTRY PLUG BORE		APPROX. WT.	
	RF		RTJ															
ANSI	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
150 *	12.75	(324)	13.12	(333)	6.38	(162)	4.75	(121)	8.38	(213)	3.12	(79)	3.56	(90)	3.59	(91)	190	(86)
300*/600	14.00	(356)	14.12	(359)	6.38	(162)	4.75	(121)	8.38	(213)	3.12	(79)	3.56	(90)	3.59	(91)	210	(95)
900	15.00	(381)	15.12	(384)	6.38	(162)	4.75	(121)	8.38	(213)	3.12	(79)	3.56	(90)	3.59	(91)	230	(104)

4" PIG VALVE	A (OVERALL LENGTH)				B		C		D		VALVE BORE		BALL CORE ID		ENTRY PLUG BORE		APPROX. WT.	
	RF		RTJ															
ANSI	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
150 *	15.50	(394)	16.00	(406)	7.34	(186)	5.35	(136)	10.03	(255)	4.12	(105)	4.56	(116)	4.59	(117)	310	(141)
300 *	16.00	(406)	16.50	(419)	7.34	(186)	5.35	(136)	10.03	(255)	4.12	(105)	4.56	(116)	4.59	(117)	325	(147)
600	17.00	(432)	17.12	(435)	7.34	(186)	5.35	(136)	10.03	(255)	4.12	(105)	4.56	(116)	4.59	(117)	350	(159)
900	18.00	(457)	18.12	(460)	7.34	(186)	5.35	(136)	10.03	(255)	4.12	(105)	4.56	(116)	4.59	(117)	370	(168)
1500†	21.50	(546)	21.62	(549)	7.50	(191)	6.25	(159)	15.38	(391)	4.00	(102)	4.75	(121)	4.97	(126)	600	(272)

6" PIG VALVE	A (OVERALL LENGTH)				B		C		D		VALVE BORE		BALL CORE ID		ENTRY PLUG BORE		APPROX. WT.	
	RF		RTJ															
ANSI	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
150 *	18.00	(457)	18.38	(467)	9.50	(241)	7.12	(181)	12.12	(308)	6.12	(155)	6.75	(172)	6.72	(171)	580	(263)
300 *	18.88	(480)	19.38	(492)	9.50	(241)	7.12	(181)	12.12	(308)	6.12	(155)	6.75	(172)	6.72	(171)	620	(281)
600	22.00	(559)	22.12	(562)	9.50	(241)	7.12	(181)	12.12	(308)	6.12	(155)	6.75	(172)	6.72	(171)	700	(317)

\* Face to Face Length does not meet API Spec. '6D', ASME 'B16.10', or CSA Z245.15.

† Supplied with Gear Operator.

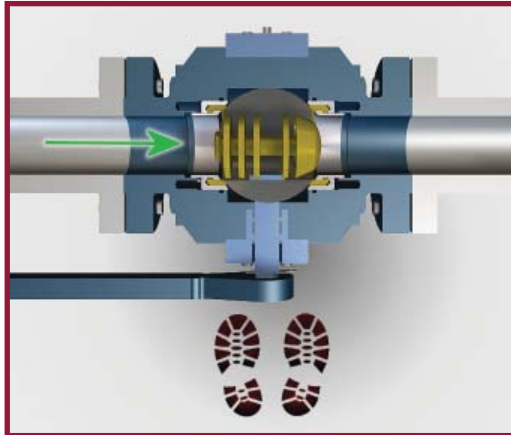
Note: Design specifications subject to change without prior notice.

# PIG VALVE ORIENTATION

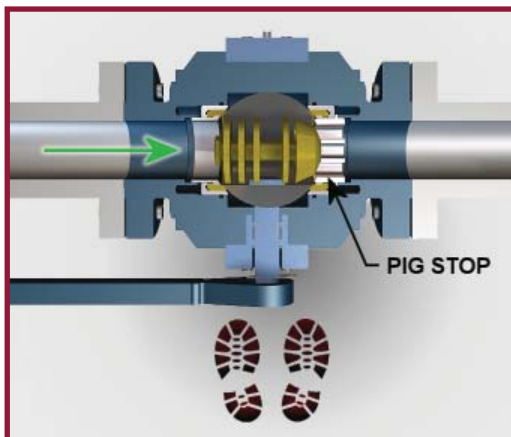
## ORIENTATION 1

Flow Direction: Left to Right

### Launcher



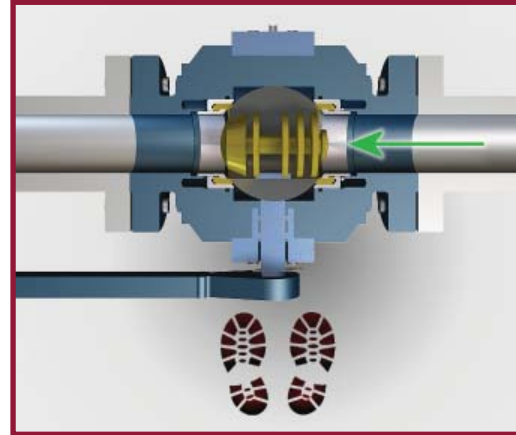
### Receiver



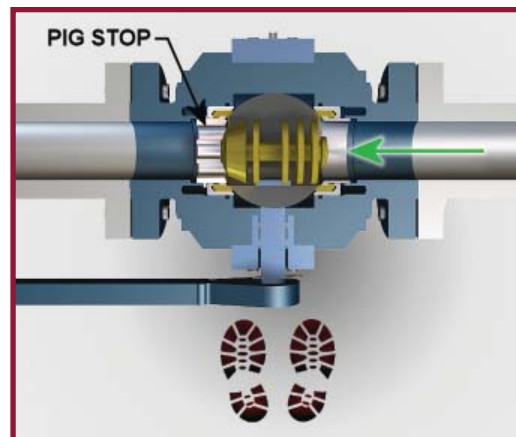
## ORIENTATION 2

Flow Direction: Right to Left

### Launcher

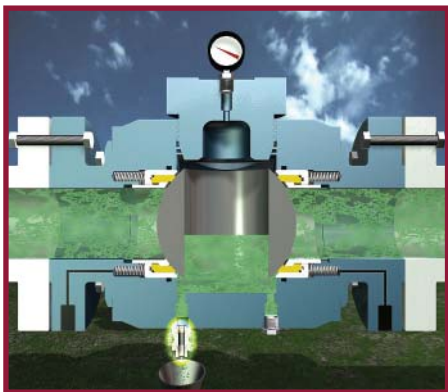


### Receiver



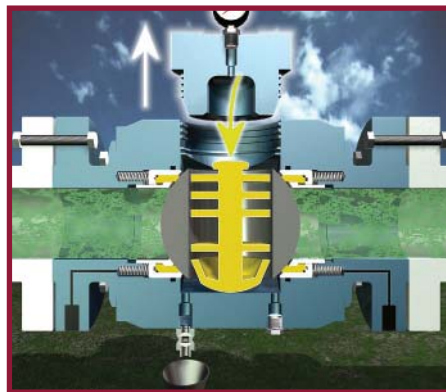
# OPERATIONAL SEQUENCE – 6" 600 ANSI & BELOW

## LAUNCHING



### Step 1

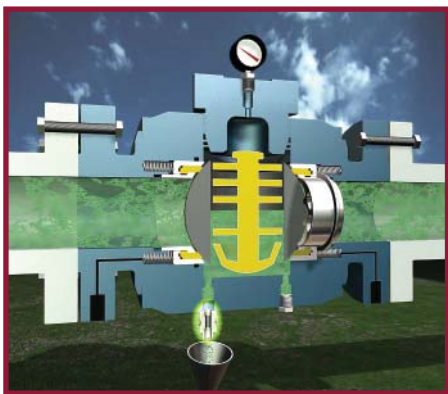
Close the pig valve to achieve positive shut-off in both directions. Vent the body cavity.



### Step 2

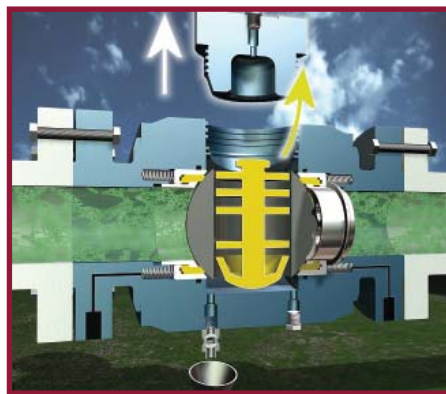
Remove the entry cap. Insert the pig into ball cavity.

## RECEIVING



### Step 1

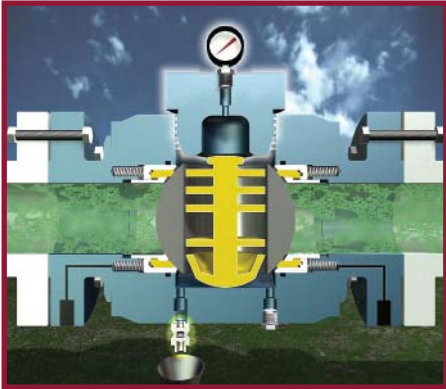
Close the pig valve to achieve positive shut-off in both directions. Vent the body cavity.



### Step 2

Remove the entry cap. Remove the pig from the ball cavity.

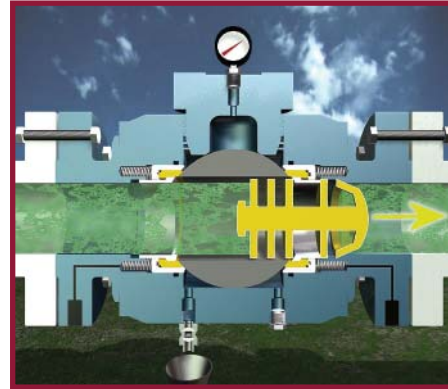




### Step 3

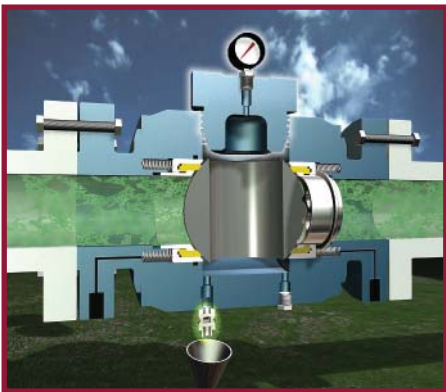
Reinstall the entry cap. Close all bleed valves.

*(If valve is equipped with a pressure equalization line, open the Eq. Valve to equalize pressure).*



### Step 4

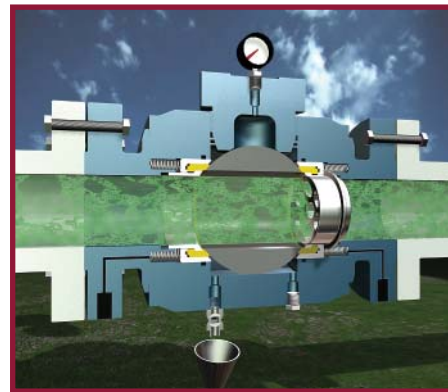
Open the pig valve. Flow and pressure moves the pig downstream.



### Step 3

Reinstall the entry cap. Close all bleed valves.

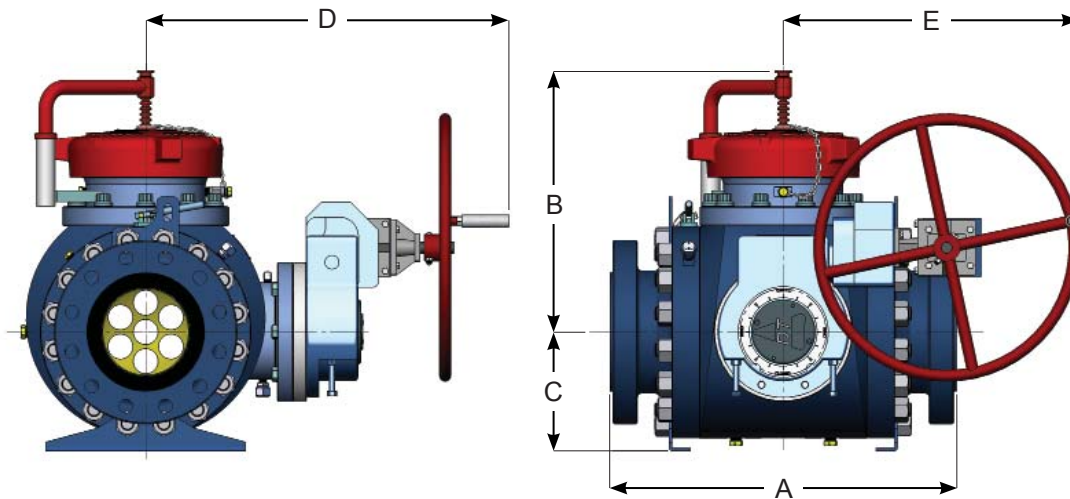
*(If valve is equipped with a pressure equalization line, open the Eq. Valve to equalize pressure).*



### Step 4

Open the pig valve into the flowing position.

# DIMENSIONS – 6" 900 ANSI & ABOVE



6" PIG VALVE	A (OVERALL LENGTH)*				B		C		D		E		VALVE BORE		BALL CORE ID		ENTRY PLUG BORE		APPROX. WT.	
	RF		RTJ																	
ANSI	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
900	29.00	(737)	29.12	(740)	22.38	(568)	8.79	(223)	29.97	(761)	24.65	(626)	6.00	(152)	6.62	(168)	6.75	(171)	1460	(662)
1500	Consult with Argus for 1500 ANSI Data																			

8" PIG VALVE	A (OVERALL LENGTH)*				B		C		D		E		VALVE BORE		BALL CORE ID		ENTRY PLUG BORE		APPROX. WT.	
	RF		RTJ																	
ANSI	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
150	Consult with Argus for 150 ANSI Data																			
300	28.50	(724)	29.00	(737)	23.37	(594)	10.67	(271)	32.70	(831)	26.72	(679)	8.00	(203)	9.00	(229)	8.75	(222)	2075	(941)
600	31.20	(792)	31.32	(796)	23.37	(594)	10.67	(271)	32.70	(831)	26.72	(679)	8.00	(203)	9.00	(229)	8.75	(222)	2225	(1009)
900	35.00	(889)	35.12	(892)	24.65	(626)	11.24	(285)	33.34	(847)	31.72	(806)	8.00	(203)	8.88	(226)	8.75	(222)	2785	(1263)
1500	42.00	(1067)	42.38	(1076)	31.51	(800)	12.74	(324)	35.61	(904)	32.33	(821)	8.00	(203)	8.88	(226)	8.75	(222)	4145	(1880)

10" PIG VALVE	A (OVERALL LENGTH) *				B		C		D		E		VALVE BORE		BALL CORE ID		ENTRY PLUG BORE		APPROX. WT.	
	RF		RTJ																	
ANSI	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
150	35.36	(898)	35.86	(911)	26.09	(663)	12.00	(305)	34.56	(878)	32.33	(821)	10.00	(254)	11.00	(279)	10.75	(273)	2985	(1354)
300	35.36	(898)	35.86	(911)	26.09	(663)	12.00	(305)	34.56	(878)	32.33	(821)	10.00	(254)	11.00	(279)	10.75	(273)	3325	(1463)
600	37.12	(943)	37.25	(946)	26.09	(663)	12.00	(305)	34.56	(878)	32.33	(821)	10.00	(254)	11.00	(279)	10.75	(273)	3400	(1542)
900, 1500	Consult with Argus for 900 and 1500 ANSI Data																			

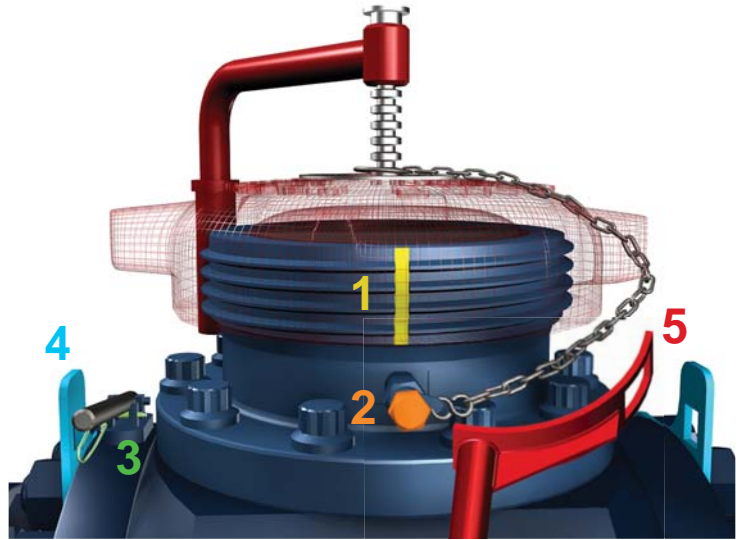
12" PIG VALVE	A (OVERALL LENGTH)*				B		C		D		E		VALVE BORE		BALL CORE ID		ENTRY PLUG BORE		APPROX. WT.	
	RF		RTJ																	
ANSI	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
150	40.75	(1035)	41.25	(1048)	29.15	(740)	14.17	(360)	38.88	(988)	36.67	(931)	12.00	(305)	13.00	(330)	12.75	(324)	4840	(2200)
300	40.75	(1035)	41.25	(1048)	29.15	(740)	14.17	(360)	38.88	(988)	36.67	(931)	12.00	(305)	13.00	(330)	12.75	(324)	5120	(2322)
600	42.06	(1068)	42.19	(1071)	29.15	(740)	14.17	(360)	38.88	(988)	36.67	(931)	12.00	(305)	13.00	(330)	12.75	(324)	5300	(2400)
900	47.00	(1194)	47.12	(1197)	32.15	(817)	15.38	(391)	37.67	(957)	32.33	(821)	12.00	(305)	13.00	(330)	12.75	(324)	6340	(2875)
1500	Consult with Argus 1500 ANSI Data																			

16" PIG VALVE	A (OVERALL LENGTH) *				B		C		D		E		VALVE BORE		BALL CORE ID		ENTRY PLUG BORE		APPROX. WT.	
	RF		RTJ																	
ANSI	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	in	(mm)	lbs	(kg)
300	54.00	(1372)	54.50	(1384)	48.51	(1232)	17.12	(435)	41.57	(1056)	36.67	(931)	15.25	(387)	16.25	(413)	16.25	(324)	9035	(4098)
600	54.00	(1372)	54.12	(1375)	48.51	(1232)	17.12	(435)	41.57	(1056)	36.67	(931)	15.25	(387)	16.25	(413)	16.25	(324)	9035	(4098)
150, 900, 1500	Consult with Argus for 150, 900, and 1500 ANSI Data																			

\* Face to Face Length does not meet API Spec. '6D', ASME 'B16.10', or CSA Z245.15.  
Note: Design specifications subject to change without prior notice.

## SAFETY FEATURES

- 1 PRESSURE WARNING GROOVE**  
Allows the media to easily communicate with the atmosphere, warning the operator prior to removal of the entry cap under pressure.
- 2 PRESSURE ALERT VALVE**  
The operator must check and confirm that the body cavity has been successfully bled down or vented.
- 3 PRESSURE EQUALIZATION VALVE SAFETY PIN**  
Prevents accidental operation of the equalization valve during the pigging process.
- 4 LIFTING LUGS**  
Provides for safe handling of the pig valve during installation or repair.
- 5 ENTRY CAP WRENCH**  
Designed to fit over the entry cap lugs, thus eliminating impact and sparking hazards associated with entry cap.



## TRIM MATERIALS

STANDARD TRIM MATERIALS (6" 900 ANSI & ABOVE)	
Body	A350-LF2, Class 1
End Connections	A350-LF2, Class 1
Ball	A350-LF2 c/w 0.001" high-phosphorus ENC
Entry Cap	A350-LF2, Class 1
Trunnion Bearing Plate	A516-Gr. 70
Seat Springs	Inconel X-750
Seat Support	A350-LF2 c/w 0.001" ENC
Seat Insert	Devlon 'V'
Primary Seals	HSN
Bolting – Pressure Containing	ASTM A320 L7M/ASTM A194 L7M

*Note: Alternative trim materials available upon request.*

# OPERATIONAL SEQUENCE – 6" 900 ANSI & ABOVE

## LAUNCHING



### Step 1

Close the pig valve to achieve positive shut-off in both directions. Vent the body cavity.



### Step 2

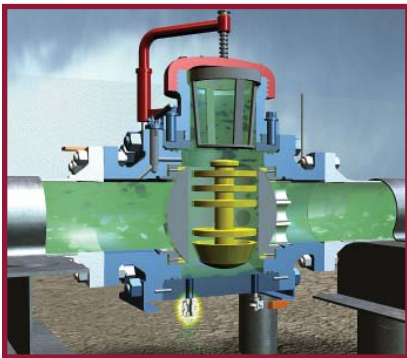
Remove the pressure alert valve stem.



### Step 3

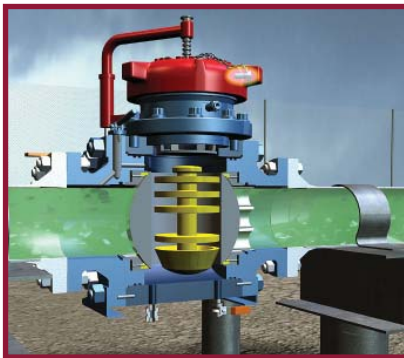
Remove the entry cap and pig restrictor. Insert the pig into the ball cavity.

## RECEIVING



### Step 1

Close the pig valve to achieve positive shut-off in both directions. Vent the body cavity.



### Step 2

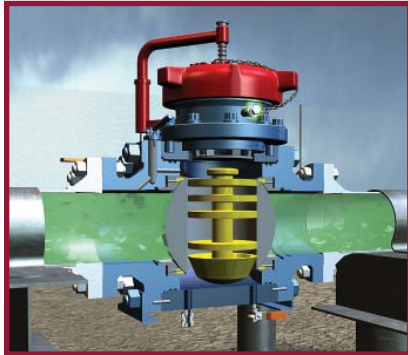
Remove the pressure alert valve stem.



### Step 3

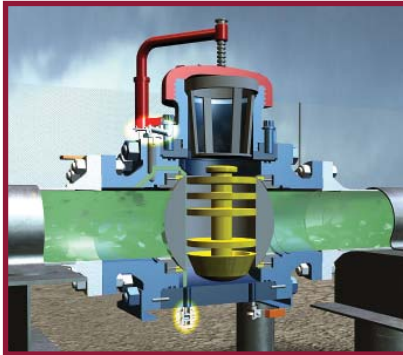
Remove the entry cap. Then remove the pig restrictor and pig from the ball cavity.





#### Step 4

Reinstall the pig restrictor, then entry cap, and finally the pressure alert valve stem.



#### Step 5

Close all bleed valves. Remove the safety release pin from the pressure equalization valve. Depress the operating lever.



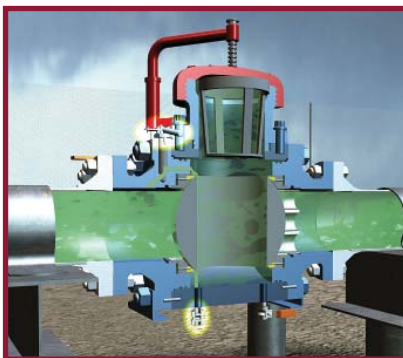
#### Step 6

Replace the safety release pin. Open the pig valve into the flowing position.



#### Step 4

Reinstall the pig restrictor, then entry cap, and finally the pressure alert valve stem.



#### Step 5

Close all bleed valves. Remove the safety release pin from the pressure equalization valve. Depress the operating lever.



#### Step 6

Replace the safety release pin. Open the pig valve into the flowing position.

# ARGUS URETHANE PIGS

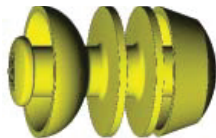
## Features

- Cup and disc style
- Compatible with fiber reinforced line pipe products
- Can be supplied with rare earth magnets for non-intrusive passage indication
- Filming pigs also available (for batch, corrosion inhibition programs)



## Argus Low Flow Pigs

- 2 cup design allows for launching at low differential pressures
- Multiple sealing points and maximized length make it ideal for passing through pipeline fittings such as check valves, Y-laterals, and T's
- Can be supplied with rare earth magnets for non-intrusive passage indication
- Flexibility allows for negotiation of the majority of standard radius bends and minor pipeline deformities



*Note: Contact Argus for low flow sizes and specifications.*

NOMINAL PIG SIZE	PIPE WALL THICKNESS		PIG LENGTH		COLOUR	DUROMETER (SHORE 'A')
	in	(mm)	in	(mm)		
2 INCH	.154-.188	(3.91-4.78)	4.50	(114.3)	Grey	60
					Yellow	70
					Blue	80
					Black	90
3 INCH	.109-.125	(2.77-3.18)	5.75	(146.1)	Purple	60
					Green	70
					Red	80
					Orange	90
	.156-.188	(3.96-4.78)	5.75	(146.1)	Grey	60
					Yellow	70
					Blue	80
					Black	90
4 INCH	.109-.125	(2.77-3.18)	7.50	(190.5)	Purple	60
					Green	70
					Red	80
					Orange	90
	.156-.188	(3.96-4.78)	7.50	(190.5)	Grey	60
					Yellow	70
					Blue	80
					Black	90
6 INCH	.109-.125	(2.77-3.18)	10.50	(266.7)	Purple	60
					Green	70
					Red	80
					Orange	90
	.156-.280	(3.96-7.11)	10.50	(266.7)	Grey	60
					Yellow	70
					Blue	80
					Black	90
8 INCH	.250-.375	(6.35-9.53)	14.25	(362.0)	Grey	60
					Yellow	70
					Blue	80
					Black	90
10 INCH	.250-.438	(6.35-11.13)	17.25	(438.0)	Grey	60
					Yellow	70
					Blue	80
					Black	90
12 INCH	.250-.500	(6.35-12.70)	20.00	(508.0)	Grey	60
					Yellow	70
					Blue	80
					Black	90
16 INCH	.500-1.125	(6.35-12.70)	24.63	(625.6)	Grey	60
					Yellow	70
					Blue	80
					Black	90

# APPLICATIONS

## SMALL DIAMETER



**3" 600 ANSI Bahia, Brazil**



**6" 600 ANSI with 6" bypass line Tamaulipas, Mexico**

## LARGE DIAMETER



**8" 600 ANSI Haynesville Shale Gas, Louisiana**



**12" 600 ANSI Eagleford Shale Gas, Texas, USA**

# SINCE 1958

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