AUTOMATIC PIG LAUNCHING

Production Optimization and Corrosion Mitigation for High Frequency and Remote Pigging Applications
We are committed to product safety and quality. Argus Pig Valves conform to the following standards:

**API**
- SPEC. 6D\(^2\) Specification for Pipeline Valves
- SPEC. 6FA\(^1,2\) Fire Safe for Valves
- STD. 607\(^1,2\) Fire Safe for Quarter-turn Valves and Valves Equipped with Nonmetallic Seats
- STD. 598 Valve Inspection and Testing
- SPEC. Q1 Specification for Quality Programs for the Petroleum and Natural Gas Industry

**ANSI/ASME**
- American National Standard Institute/ American Society of Mechanical Engineers
  - B1.20.1 Pipe threads, general purpose
  - B16.5 Pipe flanges & flange fittings
  - B16.10 Face-to-Face & End-to-End dimensions of Valves
  - B16.34\(^2\) Valves - Flanged, Threaded, and Welded End
  - B31.3 Process Piping
  - Section VIII Div. 1\(^3\) Boiler and Pressure Vessel Code – Rules for Construction of Pressure Vessels

**ISO**
- International Organization for Standardization
  - ISO 9001 Quality Management System
  - ISO 15156 Materials for use in H2S containing environments in oil & gas production
  - ISO 10497\(^1,2\) Testing of valves - fire type-testing

**NACE**
- National Association of Corrosion Engineers
  - MR0175 Materials for use in H2S containing environments in oil & gas production

**CSA**
- Canadian Standards Association
  - Z245.12 Steel Flanges
  - Z245.15 Steel Valves
  - Z662\(^3\) Oil and Gas Pipeline Systems

---

\(^1\) Model D, 300 Class and Larger.
\(^2\) Applies to pig valve only, not the Automatic Pig Launcher
\(^3\) Applies only to Model “D” Valves
The Argus automatic pig launcher allows for remote pigging operation for up to 11 launches. This system is ideally suited for remote well sites, limited access, offshore production platforms and environmentally sensitive locations.

CONSIDER THESE BENEFITS

1. Optimized production through effective liquids sweeping and debris removal
2. Reduced travel time and operator intervention resulting in lower operational costs
3. Remote pigging from the control room
4. Enhanced operator safety through reduced intervention
5. Reduced emissions by more than 85%
6. Reduce and prevent the formation of hydrates by effectively keeping moisture content in the pipeline at lower levels
7. Mitigate corrosion through frequent pigging
8. Maintain pipeline integrity
9. Small footprint and minimized weight for offshore applications
10. Pneumatic, onsite electric power supply, manually operated or self-contained solar actuation options
PRODUCTION OPTIMIZATION AND CORROSION MITIGATION

Flow rates and ultimately your bottom line are influenced by pipeline constrictions. Debris and extraneous fluid within the pipeline causes reduced flow and results in decreased production.

With increased pigging frequency comes successful debris removal and effective liquids sweeping allowing you to achieve lower pipeline pressures. This equates to more efficient flow rates and increased production.

REDUCE EMISSIONS BY MORE THAN 85%

Compared to conventional barrel-style launching and receiving, the automatic pig launcher is clearly more efficient, saving you time and money.

GAS EMISSION COMPARISON

Argus Automatic Pig Launcher vs. Fabricated Barrel-Style Launching & Receiving Traps

*Comparison criteria based on one cycle of the Automatic Pig Launcher compared to equivalent number of cycles required by the Barrel Launcher as dictated by total number pigs. Approximation uses the "ideal gas law", constant temperatures, and gas pressure @ 1480 psi.
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**
   Ensures pressure relief prior to cap removal.

3. **ENTRY CAP WRENCH**
   Designed to fit over the entry cap lugs, thus eliminating impact and sparking hazards associated with entry cap.

4. **ACTUATION LOCKOUT**
   Prevents inadvertent opening of valve.

TRIM MATERIALS

**STANDARD TRIM MATERIALS (6" 900 ANSI & ABOVE)**

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>A350-LF2, Class 1</td>
</tr>
<tr>
<td>End Connections</td>
<td>A350-LF2, Class 1</td>
</tr>
<tr>
<td>Ball</td>
<td>A350-LF2 c/w 0.001&quot; high-phosphorus ENC</td>
</tr>
<tr>
<td>Entry Cap</td>
<td>A350-LF2, Class 1</td>
</tr>
<tr>
<td>Trunnion Bearing Plate</td>
<td>A516-Gr. 70</td>
</tr>
<tr>
<td>Seat Springs</td>
<td>Inconel X-750</td>
</tr>
<tr>
<td>Seat Support</td>
<td>A350-LF2 c/w 0.001&quot; ENC</td>
</tr>
<tr>
<td>Seat Insert</td>
<td>Devlon ‘V’</td>
</tr>
<tr>
<td>Primary Seals</td>
<td>HSN</td>
</tr>
<tr>
<td>Bolting – Pressure Containing</td>
<td>ASTM A320 L7M/ASTM A194 L7M</td>
</tr>
</tbody>
</table>

Trim materials applicable to valve only
Note: Alternative trim materials available upon request.

**OPERATION/ACTUATION OPTIONS**

- Manual by lever for local hazardous locations
- Electric by power on site, 110, 220, 240, 480 VAC (3 phase), Class 1, Div. 1
- Electric by solar power with panels and batteries 12, 24 VDC (solar), Class 1, Div. 1
- Pneumatic Quarter Turn Actuation with clean and dry fuel gas, instrument quality air or nitrogen
OPERATING PROCEDURES

Steps 1-3

1. Close pig valve
2. For Pneumatic actuators install safety pin through actuator adaptor, preventing inadvertent opening of valve.
   For electric actuators install padlock to prevent inadvertent tripping of actuator and opening of valve.
3. Relieve pressure in pig launcher by opening blow-down valve.

Step 4

4. Open the drain valve on the bottom of the pig valve to bleed residual liquids.

Step 7

7. Install pigs “nose down” into the launcher and reinstall pig weight on top of the pigs.

Step 8

8. Re-install cap and pressure alert valve stem on cap.
5. Remove/open pressure alert valve stem on closure to verify that the launcher is fully depressurized.

6. Open the closure and remove the pig weight using the supplied pig weight retriever.

9. Close blow-down valve and drain valve. The spring return pressure equalization line should be closed.

10. Open pressure equalization line valve.

11. Disengage actuator lock out features.

12. When the closed signal is removed the valve rotates and the launcher will send the first pig that is located in the ball core of the pigging valve.
DIMENSIONS – 3” TO 16”

MODEL “P” 10+1 AUTOMATIC PIG LAUNCHERS

<table>
<thead>
<tr>
<th>SIZE AND PRESSURE RATING (ANSI)</th>
<th>A (Overall Length)</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF</td>
<td>RTJ</td>
<td>IN</td>
<td>MM</td>
<td>IN</td>
<td>MM</td>
<td>IN</td>
</tr>
<tr>
<td>3”-300</td>
<td>14.00</td>
<td>356</td>
<td>14.12</td>
<td>359</td>
<td>72.75</td>
<td>1850</td>
</tr>
<tr>
<td>3”-600</td>
<td>14.00</td>
<td>356</td>
<td>14.12</td>
<td>359</td>
<td>94.56</td>
<td>2405</td>
</tr>
<tr>
<td>4”-300</td>
<td>16.00</td>
<td>406</td>
<td>16.50</td>
<td>419</td>
<td>126.56</td>
<td>3215</td>
</tr>
<tr>
<td>4”-600</td>
<td>17.00</td>
<td>432</td>
<td>17.12</td>
<td>435</td>
<td>126.56</td>
<td>3215</td>
</tr>
<tr>
<td>6”-300</td>
<td>18.88</td>
<td>480</td>
<td>19.38</td>
<td>492</td>
<td>162.75</td>
<td>4190</td>
</tr>
<tr>
<td>6”-600</td>
<td>22.00</td>
<td>559</td>
<td>22.12</td>
<td>562</td>
<td>162.75</td>
<td>4190</td>
</tr>
</tbody>
</table>

MODEL “D” 6+1 AUTOMATIC PIG LAUNCHERS

<table>
<thead>
<tr>
<th>SIZE AND PRESSURE RATING (ANSI)</th>
<th>A (Overall Length)</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF</td>
<td>RTJ</td>
<td>IN</td>
<td>MM</td>
<td>IN</td>
<td>MM</td>
<td>IN</td>
</tr>
<tr>
<td>8”-300</td>
<td>28.50</td>
<td>724</td>
<td>29.00</td>
<td>737</td>
<td>113.50</td>
<td>2885</td>
</tr>
<tr>
<td>8”-600</td>
<td>31.20</td>
<td>792</td>
<td>31.32</td>
<td>796</td>
<td>113.50</td>
<td>2885</td>
</tr>
</tbody>
</table>

MODEL “D” 4+1 AUTOMATIC PIG LAUNCHERS

<table>
<thead>
<tr>
<th>SIZE AND PRESSURE RATING (ANSI)</th>
<th>A (Overall Length)</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF</td>
<td>RTJ</td>
<td>IN</td>
<td>MM</td>
<td>IN</td>
<td>MM</td>
<td>IN</td>
</tr>
<tr>
<td>10”-300</td>
<td>35.36</td>
<td>898</td>
<td>35.86</td>
<td>911</td>
<td>99.63</td>
<td>2530</td>
</tr>
<tr>
<td>10”-600</td>
<td>37.12</td>
<td>943</td>
<td>37.25</td>
<td>946</td>
<td>99.63</td>
<td>2530</td>
</tr>
<tr>
<td>12”-300</td>
<td>40.75</td>
<td>1035</td>
<td>41.25</td>
<td>1048</td>
<td>123.75</td>
<td>3145</td>
</tr>
<tr>
<td>12”-600</td>
<td>42.06</td>
<td>1068</td>
<td>42.19</td>
<td>1071</td>
<td>123.75</td>
<td>3145</td>
</tr>
<tr>
<td>16”-600</td>
<td>54.00</td>
<td>1372</td>
<td>54.12</td>
<td>1375</td>
<td>162.75</td>
<td>4190</td>
</tr>
</tbody>
</table>

SIZE | PRESSURE CLASS | PIG CAPACITY
--- | --- | ---
3 inch | 300 and 600 ANSI | 11
4 inch | 300 and 600 ANSI | 11
6 inch | 300 and 600 ANSI | 7
8 inch | 300 and 600 ANSI | 7
10 inch | 300 and 600 ANSI | 5
12 inch | 300 and 600 ANSI | 5
16 inch | 300 and 600 ANSI | 5

Stairs and catwalks not provided
Optional bi-directional pigging through 180 degree actuation
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.
COLORADO, USA
12 inch 600 ANSI, five pig capacity
Pneumatically actuated

ALBERTA, CANADA
8 inch 600 ANSI, seven pig capacity
Self-contained solar electrically actuated

ALBERTA, CANADA
6 inch 600 ANSI, eleven pig capacity
Self-contained solar electrically actuated

ALBERTA, CANADA
6 inch 600 ANSI, seven pig capacity
Pneumatically actuated
SINCE 1958

ARGUS MACHINE CO. LTD.
1.780.434.9451
info@argusmachine.com

Alberta Canada, 6" 600 ANSI, eleven pig capacity, self-contained solar electric actuation

argusmachine.com

© Copyright 2017 Argus Machine Co. Ltd.
Design specifications subject to change without prior notice.

ARGUS GROUP OF COMPANIES
Calgary • Edmonton • Houston