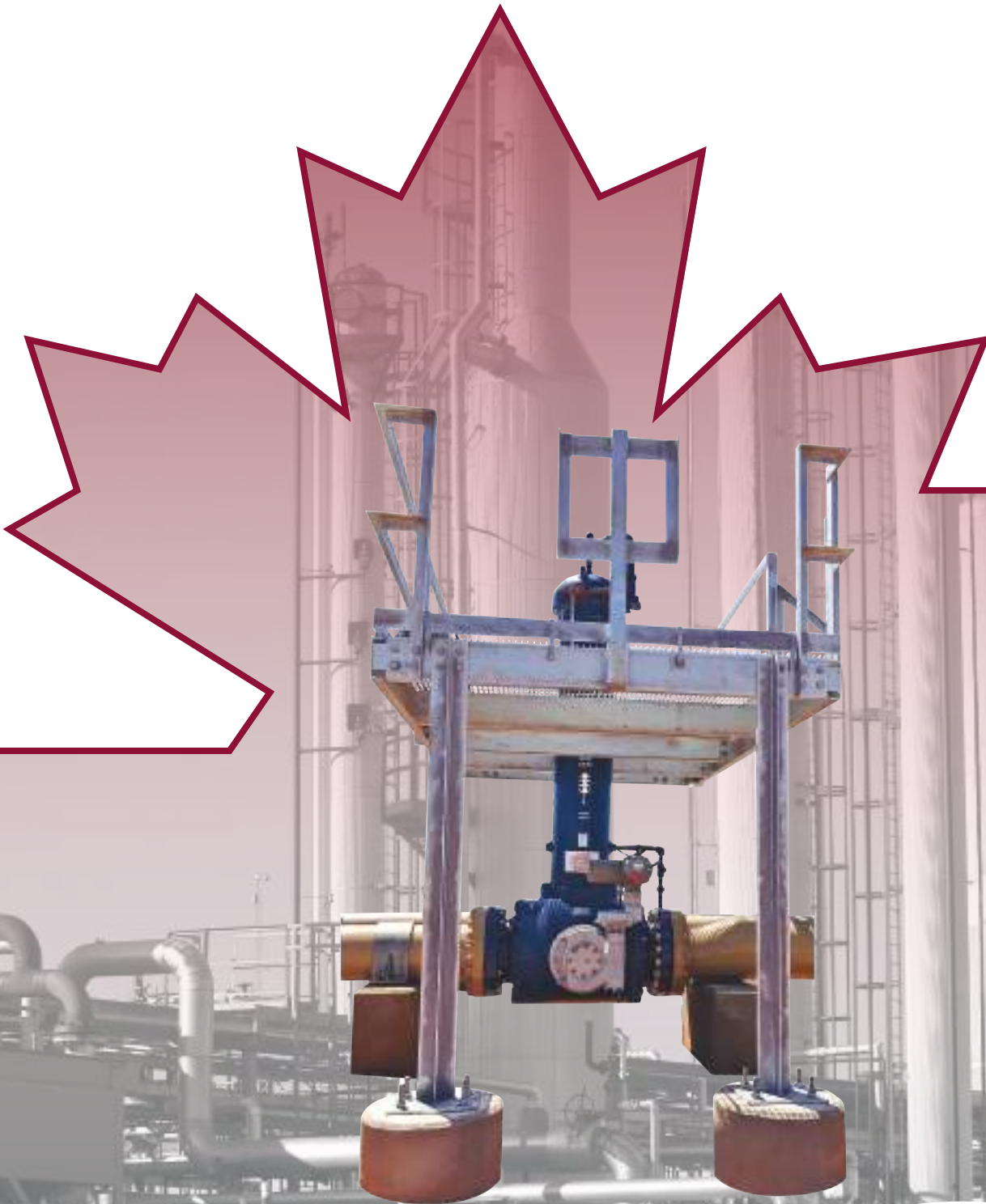


AUTOMATIC PIG LAUNCHING



Production Optimization and Corrosion Mitigation
for High Frequency and Remote Pigging Applications



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. 6D²
SPEC. 6FA^{1,2}
STD. 607^{1,2}
STD. 598
SPEC. Q1

American Petroleum Institute

Specification for Pipeline Valves
Fire Safe for Valves
Fire Safe 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
B16.34²
B31.3
Section VIII Div. 1³

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 Welded End
Process Piping
Boiler and Pressure Vessel Code – Rules for Construction of Pressure Vessels

ISO

ISO 9001
ISO 15156
ISO 10497^{1,2}

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
Z662³

Canadian Standards Association

Steel Flanges
Steel Valves
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



AUTOMATIC PIG LAUNCHING

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.

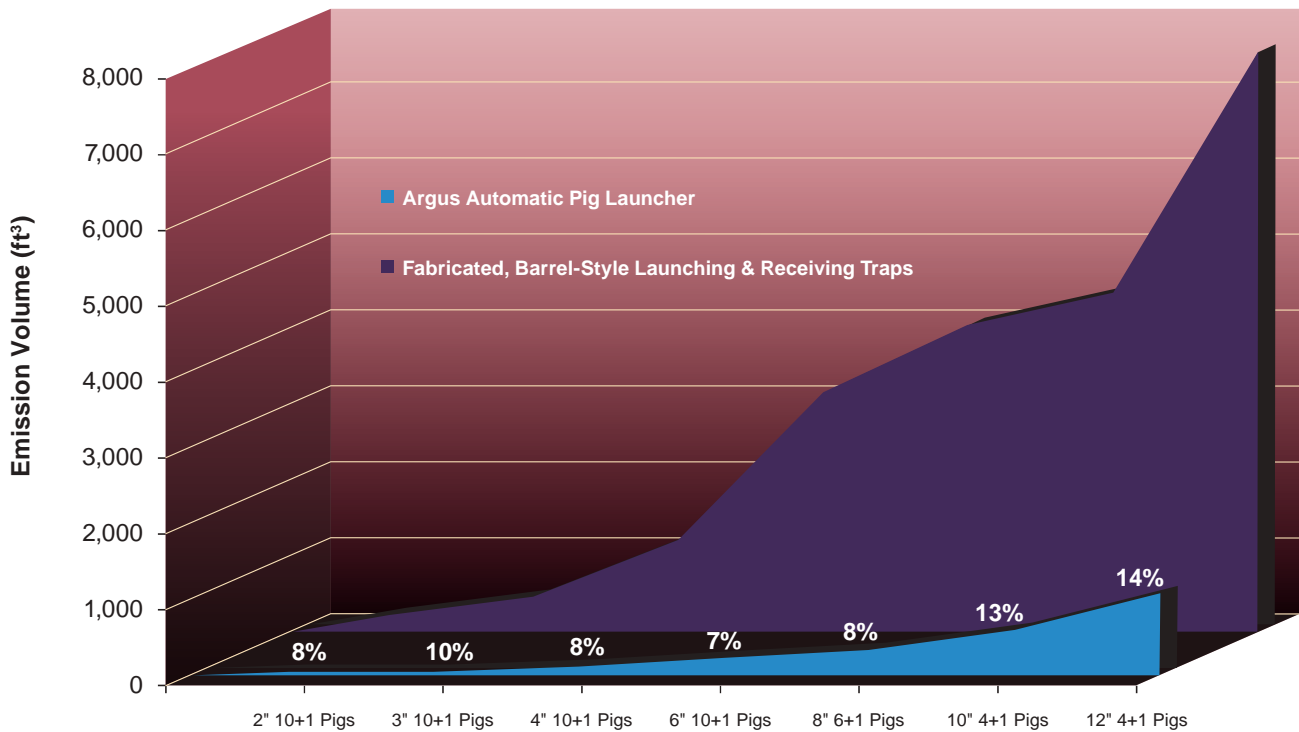


REDUCE EMISSIONS BY MORE THAN 85%

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**
 Ensure 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)	
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

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.



Step 5

5. Remove/open pressure alert valve stem on closure to verify that the launcher is fully depressurized.



Step 6

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



Steps 9-10

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



Steps 11-12

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

SIZE AND PRESSURE RATING (ANSI)	A (Overall Length)				B		C		D		E		Weight	
	RF		RTJ		IN	MM	IN	MM	IN	MM	IN	MM	LB	KG
	IN	MM	IN	MM										
3"-300	14.00	356	14.12	359	72.75	1850	4.75	121	8.38	213	6.18	157	310	141
3"-600	14.00	356	14.12	359									310	141
4"-300	16.00	406	16.50	419	94.56	2405	5.62	143	10.75	273	7.83	199	540	245
4"-600	17.00	432	17.12	435									560	254
6"-300	18.88	480	19.38	492	126.56	3215	7.12	181	12.12	308	9.20	234	1120	508
6"-600	22.00	559	22.12	562									1200	544

MODEL “D” 6+1 AUTOMATIC PIG LAUNCHERS

SIZE AND PRESSURE RATING (ANSI)	A (Overall Length)				B		C		D		E		Weight	
	RF		RTJ		IN	MM	IN	MM	IN	MM	IN	MM	LB	KG
	IN	MM	IN	MM										
8"-300	28.50	724	29.00	737	113.50	2885	10.67	271	32.70	831	12.00	305	2556	1160
8"-600	31.20	792	31.32	796									2702	1226

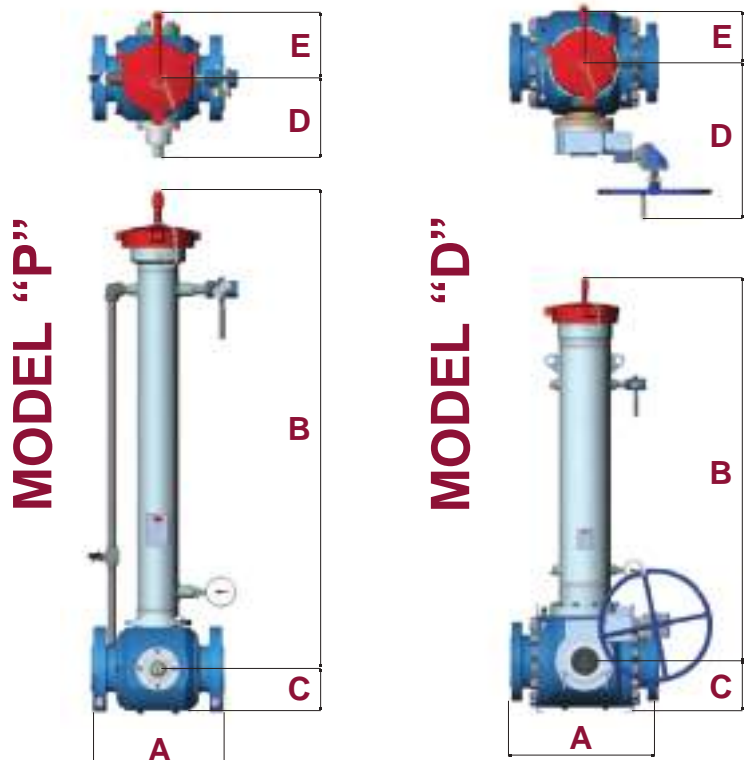
MODEL “D” 4+1 AUTOMATIC PIG LAUNCHERS

SIZE AND PRESSURE RATING (ANSI)	A (Overall Length)				B		C		D		E		Weight	
	RF		RTJ		IN	MM	IN	MM	IN	MM	IN	MM	LB	KG
	IN	MM	IN	MM										
10"-300	35.36	898	35.86	911	99.63	2530	12.00	305	34.56	878	13.62	346	3747	1700
10"-600	37.12	943	37.25	946									3916	1776
12"-300	40.75	1035	41.25	1048	123.75	3145	14.17	360	38.88	988	15.66	398	6302	2859
12"-600	42.06	1068	42.19	1071									6463	2932
16"-600	54.00	1372	54.12	1375	133.60	3355	17.12	435	41.57	1056	19.55	497	10220	4636

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



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	.250-.563	(6.35-14.30)	24.63	(625.6)	Grey	60
					Yellow	70
					Blue	80
					Black	90

APPLICATIONS



Colorado, USA
12 inch 600 ANSI, five pig capacity
Pneumatically actuated



Alberta, Canada
6 inch 600 ANSI, eleven pig capacity
Self-contained solar electrically actuated



Alberta, Canada
8 inch 600 ANSI, seven pig capacity
Pneumatically 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

Houston

8637 Windfern Road
Houston, Texas 77064
Phone: (713) 962-6840

5820 - 97th Street, Edmonton, AB Canada T6E 3J1
Phone: (780) 434-9451
Toll Free: 1-888-434-9451

Calgary

1450, 540 - 5th Avenue SW
Calgary, AB T2P 0M2
Phone: (403) 263-3517

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

ARGUS GROUP OF COMPANIES
Calgary • Edmonton • Houston