



**Real** People....

**Real** Work....

**Real** Rewards....



**ORIZON**  
**PETRO ENGINEERING LLP.**

## About

# Orizon Petro Engineering

### • INTRODUCTION

Orizon Petro Engineering is involved in design and manufacturing of pipeline Engineering products and pigging product. Orizon Petro Engineering' Quality Management System has been assessed and found to comply with the requirements of ISO 9001:2015

### • MISSION

To maximise Country's value by developing and operating Oil & Gas facilities to international standards through innovation, efficiency and development of local talent.

### • BUSINESS CORES

We have the proficiency and resources to support manufacturing following product and services.

## OUR PIPELINE ENGINEERING AND PIGGING PRODUCTS

- Pig Trap (launcher and receiver)
- Quick opening end closure(QOEC)
- Pig signeller
- Pig handling system
- Jib crane
- Pipeline leak repair clamp
- Pipeline Reinforcement sleeve
- Casing insulator
- Casing end seal
- Pipeline pig: Foam pig | Bi-directional pig |

Batching pig | Cleaning pig | Gauging pig

In-House availability of total product process reduce production and delivery time.Orizon Petro Engineering Design and Engineering team is available to fulfill all design requirements.

## QUALITY POLICY

Quality is the foundation of our company and is fully embedded in our purpose and values. Quality is an integral part of Orizon Petro Engineering Corporate Business Principles. These principles guide our actions to deliver products and services that are safe, compliant and preferred.

The quality policy applies to all levels in the organization. All deliveries will meet or preferably exceed our customer's expectations – through the entire business process, from orders to final deliveries and use of our products and services.

## QUALITY OBJECTIVES

**Orizon Petro Engineering identified the following Quality Objectives to provide a professional and ethical service to our clients.**

- Deliver our services to specification \ brief and provide a high overall performance.
- Provide a value for money service.
- Provide a high quality of service to satisfy our clients' requirements and get things right first time.
- Deliver our services on time.
- Deliver our service with full regard to Health & Safety.
- Maintain an effectively trained staff and management.
- Make a profitable return on our activities in order to fund ongoing development and growth.
- Improve efficiency through improvements in productivity.

Our Management Team will analyse customer feedback data, internal performance data, financial performance data and business performance data to ensure that our Quality Objectives are being met. We will conduct our business in an ethical and professional manner. However should we make a mistake, we will admit it and rectify the situation as quickly as possible.

## PIG LAUNCHER / RECEIVER

Pig Launchers and Receivers are pressure containing vessels or sections of piping within a pipeline system that are utilized for pipeline maintenance, cleaning, and inline inspection. The main function of a Pig Launcher and Receiver is to allow operators to launch and receive pipeline pigs without disrupting line contents or interrupting and shutting down pipeline operations. Often referred to as Pig Traps, Pig Launchers and Receivers are available in a wide variety of styles and customizable configurations dependent upon application and customer requirements.

Orizon Petro Engineering is a leading provider of Pipeline Pig Launchers and Receivers for the natural gas and oil industries. Our experience and knowledge of Conventional Pipeline Pigging Systems for oil and gas pipelines assures pipeline owners and operators of Orizon's commitment to reliability and safety. Every Pig Launcher and Receiver System is designed by our Engineering team and fabricated to all applicable codes and latest material/industry standards.

### Features :

Designed And Engineered By Our Engineering Staff To ASME B31.8

Can Accommodate And Design To ASME B31.3 / 31.4

Fully Skid Mounted (Also Available Without Skidding)

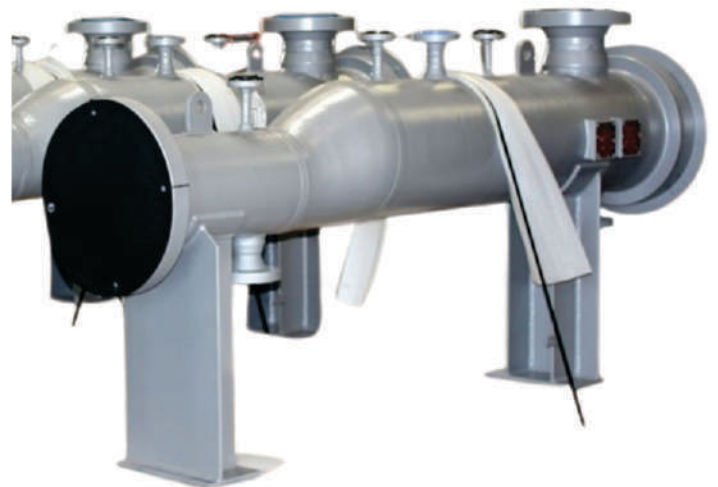
Painted To Customer Specification

100% Hydro Tested

100% X-Ray Tested

Available In Orizon Standard Design

Fully Customizable To Meet Your Needs And Requirements



# Pipeline Engineering Equipment

## Quick Opening End Closures

### • Technical Design Specification

Available Sizes	2" To 60"
ANSI Rating	ASME 150# To 2500#
Design Codes	ASME Sec-VII Div-1,UG-35(2) PD 5500
Closure Orientation	Horizontal & Vertical
Vessel/Ttrap Design Codes	ASME B31.3 ASME B31.4 ASME B31.8 ASME Sec. VII Div. 1 Etc....
Type Of Connection	Butt Welded, Flanged Ended
Material Of Construction	ASME A/SA 105 ASME A/SA 516 Gr.70 ASME A/SA 350 Lf2 Cl. 1 Or 2 ASME A 694 F GR.42/46/52/56/60/65/70 Stainless Steel Grade 304I Or 316I
Elastomeric Sealing	Buna-N, Viton Other Material Options Available on Request.
Standard Closure Finish	Red Oxide Primer (Standard) any Other Coating Can be Provided on Request.



### • Available Option (on Request):

- Limit Switch
- Inconel /Stainless Steel Weld Overlay
- Opening By Gear Operation.



## Pig Signalers (Intrusive Type)

### • Description

Pig Signals are used to detect the passage of a pig and then inform the operators about pig passage at points where signal is installed on the pipeline. Pig signals are located at the pig launching, pig receiving and other critical points along the pipeline. Orizon pig signals are easy to operate and installation for pigging operation and more efficient.

### • Reliability

visual indication with a single action reset. Simple to install and operate, the Techfield pig signal is an economically priced unit and giving the operator simple.

### • Installation

Standard models are supplied ready for mounting on a base to be welded to the pipeline or vessel. Flange mounted models up to ANSI Class 2500 are also available. All standard units require a 38mm diameter access through both the mountings and the line pipe. Models MVW and MLVW are Removal under pressure using a jacking bracket tool.

### • Range of Models

All models are bi - directional and available with either mechanically operated signal flags, electrical auto resetting switches or mechanical and electrical signals into combination. Also available in extension length as per your requirement.

### • MODELS OF PIG SIGNAL

- MW            M = Mechanical Flag
- MLW        L = Electrical limit Switch
- MVW        W = Welded Base
- MLVW      V = Valve Model
- MWX        X = Extension Model (state length)
- MLWX
- MVWX
- MLVWX

Class	Height (Flange+ weld-o-let)	Height (welded Boss)
150#	106mm	80mm
300#	112mm	80mm
600#	121mm	80mm
900#	167mm	80mm
1500#	167mm	80mm
2500#	192mm	80mm

### • OPTION FOR BASE MOUNTING

- Welded base
- Flange + weld - o - let
- Flange + pipe + sockolet
- Flange + pipe + sweeplet
- Flange + pipe + Threadolet
- Flange + pipe + RF pad



# Pig Handling Equipment

## Pig Handling Crane (Jib Crane)

Orizon Petro also manufacture pig handling cranes (jib crane). These systems, which help you to handle, load, and unload the pigs without using man power and minimize the work accidents, can be mechanical and automatic. It installed near pig handling system.

### • Technical design Features:

Available Range	: 0.5 ton to 5 ton
Design Code	: ASTM/BS/ASME/IS
Swing (Rotate)	: 360 degree
Column Material	: API 5L/A - 36
Other Structure Material	: A-36 OR Equivalent
Operation	: Manual or Electric



**DIMENSION OF STANDARD JIB CRANES**

Sr.No.	Capacity (MT)	Pig size	Swing Radius (mtr)	Total Height (mtr)	Lift Height (mtr)
1	0.5	4"-8"	1-3	3-5	2.5-4.1
2	1	10"-16"	2.4-5	3-5	2.5-4.2
3	2	18"-24"	2.4-6	3-5	2.5-4.3
4	3	26"-30"	2.4-7	3-5	2.5-4.4
5	4	32"-40"	2.4-8	3-5	2.5-4.5
6	5		2.4-9	3-5	2.5-4.6

## Pig Handling Trolley

Pig Handling trolley is used for insert and removal of Pipeline Pigs /sphere from Pig Launcher / Pig Receiver. Available in manual and automatic.

Pig Trolleys consist of a robust frame which holds the pig loading/unloading tray. Pipeline Pigs are placed on the tray and pushed into the Pig Launcher or from the Pig Receiver by hand or winch. The height of the pig tray is designed to align with the bore of the Pig Launcher/Receiver major barrel to facilitate a smooth transition during loading/unloading procedures.

**PIG HANDLING TROLLEY DIMENSION TABLE**

Sr.No.	Size of PHS	Total Length TL(mm)	Width (mm)
1	4" x 6"	3200	400
2	6" x 8"	3200	425
3	8" x 10"	4500	480
4	10" x 12"	4800	540
5	12" x 14"	4800	625
6	14" x 16"	5200	625
7	16" x 18"	5600	670
8	18" x 20"	5650	725
9	20" x 24"	5650	825
10	24" x 28"	6200	925
11	28" x 32"	6600	1025



## Scraper / Flow Tees

Orizon flow tees are specialized design that facilitates the passage of pipeline past tee connections where flow bypass often leaves pigs stranded. Flow Tees are used to ensure a safe passage to Pipeline Pigs across branch connection.

### Unrestricted flow:

- 1) The flow in the flow tees are unrestricted due to slots in internal sleeve and annular cavity.
- 2) The provide area of flow in slots are higher than the branch area to avoid any pressure buildup in flow tee cavity.
- 3) The fluid flow in normal operation is through a flow tee branch towards flow direction and through launcher/receiver trap during pigging operation.

### Unrestricted pig passage:

The flow tee internal sleeve are provided with same inner diameter as connecting line pipe. This feature of flow tee allows easily pig passage.

Flow Tee	
Technical Specification	
Available Sizes	3" To 48"
ANSI Rating	ASME 150# To 2500#
Design Codes	ASME Sec-VII Div-1& ASME B 31.4/31.8/31.3
Type Of Connection	Bevel Ended /Flanged Ended
Material Of Construction	Tee: Mss SP 75 GR 42/46/52/56/60/65/70 , 234 GR WPB
	Forging ASTM A 694 GR 42 TO 70/ A 105
	Sleeve API 5L GR B,42 TO 70/A106 GR B Stainless Steel Grade 304L Or 316L
NDT	UT of finished bevel ends
	RT of butt welds
	MPT/PT of fillet welds
Finishing	Red Oxide Primer or as Requested.



## Leak Repair Clamps

### • Introduction

Orizon Petro Engineering Pipeline Leak Repair Clamps are installed to Seal the leak age of Pipeline. Clamps are designed as per ASME SEC. VII DIV. 1 UG-27. Orizon Petro Engineering manufactures a full range of leak repair clamps Including:

- Standard clamp
- Tee Clamp
- Elbow Clamp
- Solid Clamp
- Flange Clamp
- Pin Hole Clamp
- Enclosure Clamp
- Encapsulation Clamp
- Mechanical Repair Coupling

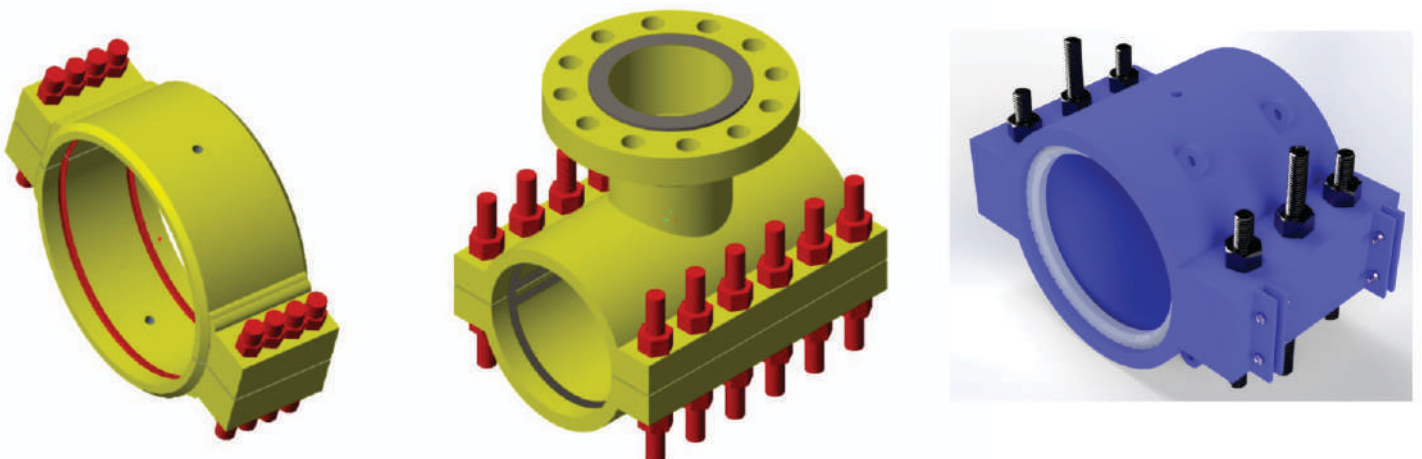
### Material of construction for clamp

Shell	ASTM A 516 GR.70
Stiffner	ASTM A 105
Stud	ASTM A 193 GR.b7
Nut	ASTM A 194 GR.2h
Seal	Buna N/Fluoroelastomer/FKM
Lifting Hook	ASTM A 516 GR.70
Hinge Assembly	ASTM A 516 GR.70
Heat Insulation Cord	PTFE (Teflon)
Vent Plug	ASME A 105
Protective Sheet	SS 304
Sacrificial Anode	Zinc

Note: Other Material Provided On Request

### Option for Stud Nut coating

a	Hot Dip Galvanized		
c	PTFE Coated		
b	Xylan Coated		
d	Fluoro Carbon Coated		



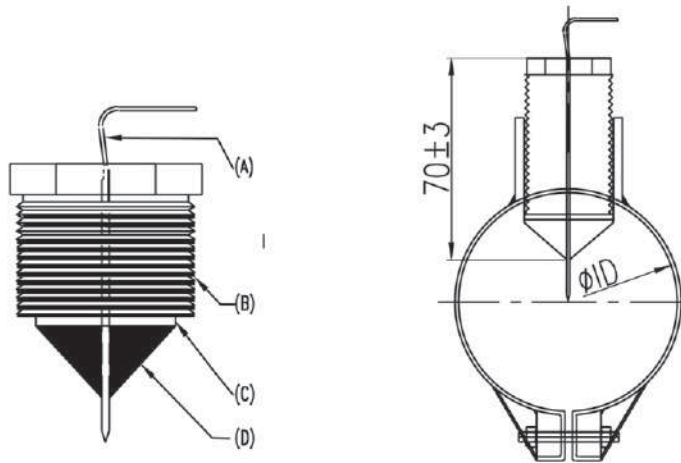
## NEEDLE CLAMP(PIN HOLE REPAIR CLAMP)

The ORIZON Needle Clamp is light weight and easy to handle which makes using it to shut off high pressure pit-hole leaks simple and sensible. The pilot pin makes it possible to locate pit-hole leaks and the force screw exert pressure directly on the sealing cone. This product can be used while the pipeline is in service.

Available in standard sizes 1" to 60"; 2000 MAOP. Custom sizes available upon request.



- **Standard Body Material:** Mild Carbon Steel with A 193 B7 studs A 194 2H nuts.  
-Stainless Steel options are available upon request.
- **Standard Packing Cone Material:** Buna-N  
-Viton, and other packing options are available upon request



- A.** Pilot pin (1/16" diam. stainless steel wire). Goes down through center of force screw and cone, locates hole, guides cone point (D) to trouble spot.
  - B.** Steel packing force-screw. Turned with wrench, it forces point of cone into leaking hole.
  - C.** Thrust washer. Permits force-screw (B) to turn without rotating cone.
  - D.** Pointed cone. Serves as leak packing.
- Pressure rating up to 2000 MAOP  
working pressure, depending upon  
leak area and temperature.**

# Reinforcement Sleeves

## • Introduction

Reinforcing Sleeves are used for reinforce non-leaking or damaged pipe while the line remains on line. But the pressure must be reduced to a safe level

## • NDT Testing

- 100% UT testing of Raw material of sleeve
- All material shall be Impact tested
- Other NDT procedures available on client request

## • Sleeve Design

Reinforcing Sleeves are designed as per ASME B31.4/ ASME B 31.8

$$\text{Sleeve thickness } T = \frac{P D}{2SFETF} + st$$

P=Design Pressure

S=Specified minimum Yield strength

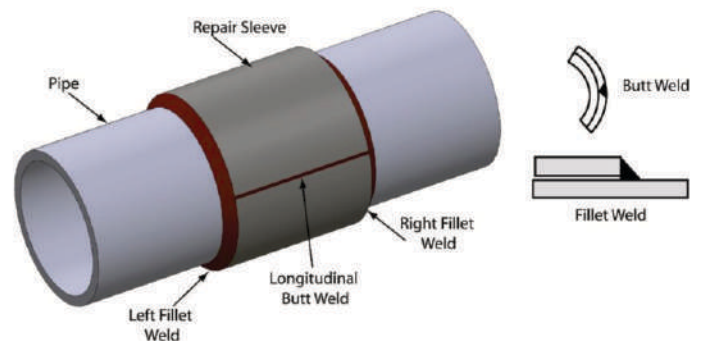
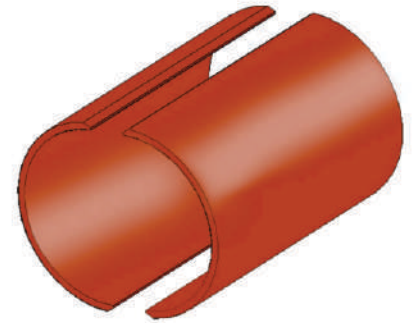
E=Longitudinal Joint Factor

St=Groove thickness for backing strip

D=Outer diameter of sleeve

F=Design Factory

TF=Temperature Derating factory(only for Gas Line)



## REINFORCEMENT TABLE OF DIMENSIONS

SLEEVE SIZE		SLEEVE ID (MM) +4 -0	THK(mm) as per		LENGTH (mm)
(INCH)	DN		Asme B 31.4/ Asme B 31.8 SLEEVE		
4"	114.3	115.3	6.4		500mm -3000mm
6"	168.3	169.3	6.4		
8"	219.1	220.1	6.4		
10"	273.1	274.1	9.5		
12"	323.9	324.9	9.5		
14"	355.6	356.6	9.5		
16"	406.4	407.4	9.5		
18"	457.2	458.2	9.5		
20"	508	509	12.7		
22"	559	560	12.7		
24"	610	611	12.7		
26"	660.4	661.4	12.7		
28"	711.2	712.2	12.7		
30"	762	763	12.7		
32"	813	814	19.1		
34"	864	865	19.1		
36"	914	915	19.1		
38"	965	966	19.1		
40"	1016	1017	19.1		
42"	1067	1068	19.1		
44"	1118	1119	19.1		
46"	1168	1169	19.1		
48"	1219	1220	19.1		

## Material of construction

sleeve	ASTM A 516 GR.60	
	ASTM A 516 GR.70	
	API 5I GR. B	
	API 5L GR. X 42	
	API 5L GR. X 46	
	API 5L GR. X 52	
	API 5L GR. X 56	
	API 5L GR. X 60	
	API 5L GR. X 65	
	API 5L GR. X 70	
	ASTM A 516 GR.60	
	ASTM A 516 GR.70	
	Backing Strip	ASTM A 36

**Note:** Higher sizes, Length, Thickness and Special Material Available on client Request

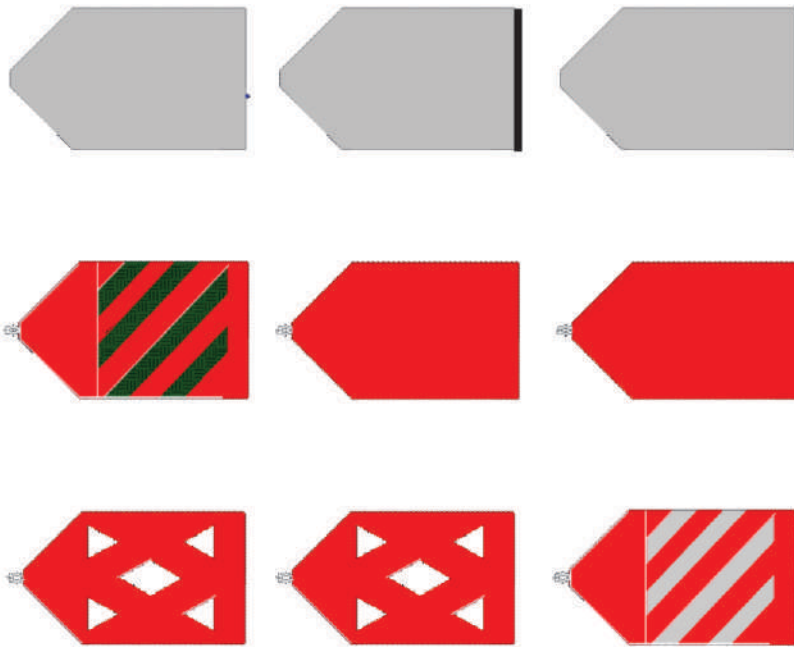


## Foam Pigs

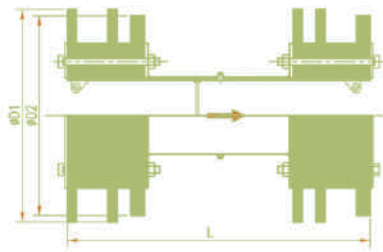
Orizon Petro manufactures many models and sizes of polyurethane foam pigs, which are used for various pigging applications including: proving, Swabbing, Drying, Wiping, De-watering, Scraping, Product Removal, Debris Removal, Cleaning, Aggressive Cleaning.

### • Feature :

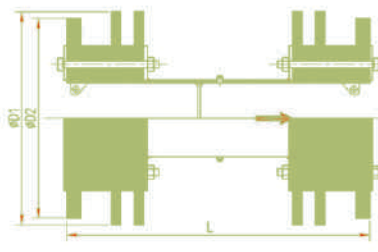
- Available in 3 standard foam density, light (1-2 lbs/ft<sup>3</sup>), medium (5-7 lbs/ft<sup>3</sup>), and heavy (8-10 lbs/ft<sup>3</sup>) density foam.
- Common configurations include bare, criss-cross, both wire & nylon brush, and silicon carbide. With various design options such as double-nose, various coating patterns (single-spiral, fully coated, etc.), extra lengths and custom diameters, pulling ropes, bypass jets, and transmitter cavities.
- Standard sizes range from 2" to 60",



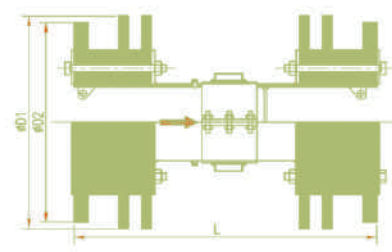
## BI-DI PIGS :



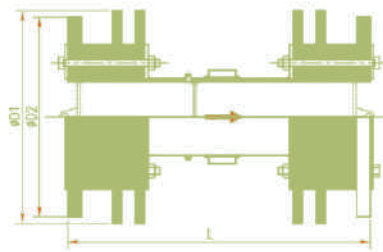
**BI-DIRECTIONAL PIG (OPTION-1)**



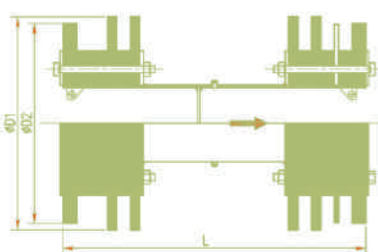
**BI-DIRECTIONAL PIG**



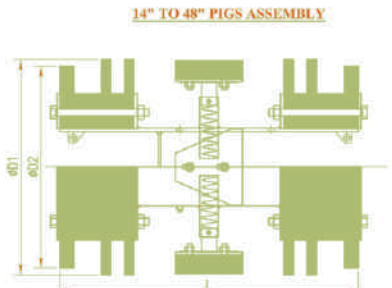
**BI-DIRECTIONAL MAGNETIC PIG**



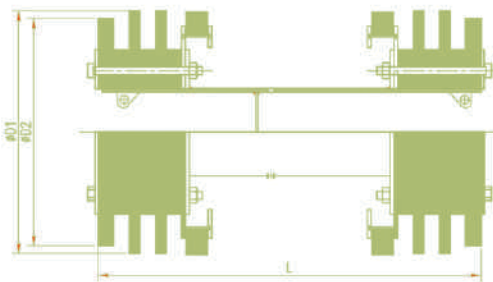
**BI-DIRECTIONAL MAGNETIC PIG  
4" TO 12" PIGS ASSEMBLY**



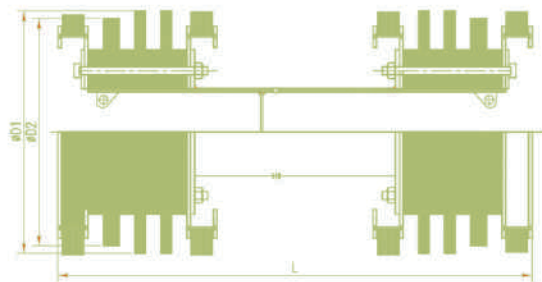
**BI-DIRECTIONAL GAUGING PIG**



**BI-DIRECTIONAL CLEANING PIG**



**BI-DIRECTIONAL CLEANING PIG  
WITH CIRCULAR BRUSH(OPTION-1)**



**BI-DIRECTIONAL CLEANING PIG  
WITH CIRCULAR BRUSH**

Bi-directional pig Primarily used for standard pigging bi-directional operation such as, Cleaning, Gauging, Water filling, Dewatering, Magnetic, Cleaning and Operational pigging.

### • NOTES:

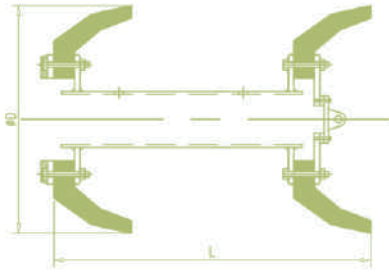
- The foam Pig shall designed to navigate 3D and above 90 bend.
- The foam Pig shall designed to navigate full Bore Barred/flow tees.
- The foam Pig shall designed to navigate full bore Gate/ Ball valve.
- Provide by-pass facilities are built into pig to allow velocity Control and Increase Cleaning Efficiency.
- Pig is ideal for Construction pigging and for operational pigging.
- Orizon Petro Engineering pigs are suitable for with transmitters of any make. Please inform/provide transmitter mounting details with order



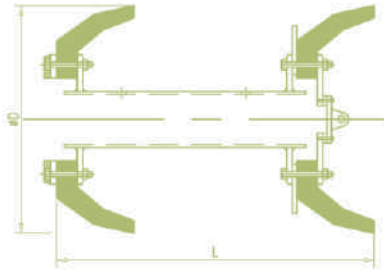
# TWO Cup Pigs

1.2C- TWO CUP | 2.2CG- TWO CUP GAUGE PLATE | 3.2CGD- TWO CUP GUIDE DISC | 4.2CSB- TWO CUP SPRING LOADED BRUSH

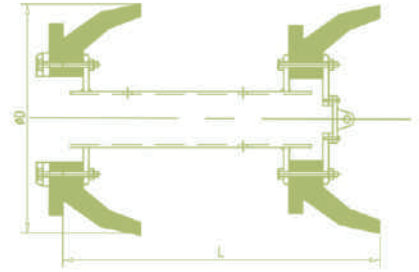
5.2CM- TWO CUP MAGNET | 6.2CMB- TWO CUP COMBO PIG | 7.2CB- TWO CUP CIRCULAR BRUSH



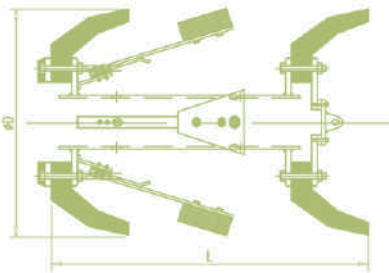
TWO CUP HATCHING FIG  
2C



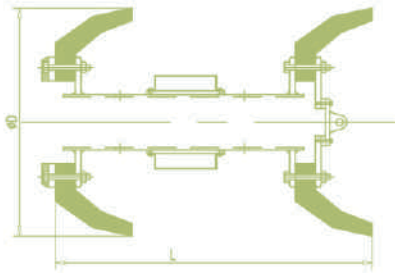
TWO CUP GAUGING FIG  
2CG



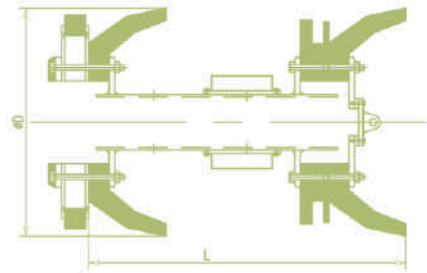
TWO CUP HATCHING FIG WITH GUIDE DISC  
2CGD



TWO CUP CLEANING FIG  
14" TO 48"  
2CSB



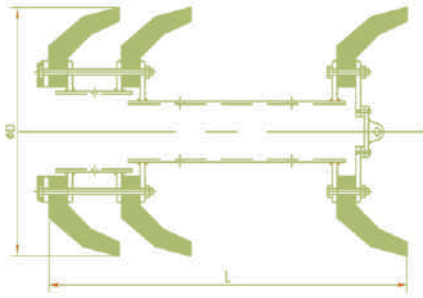
TWO CUP MAGNETIC FIG  
2CM



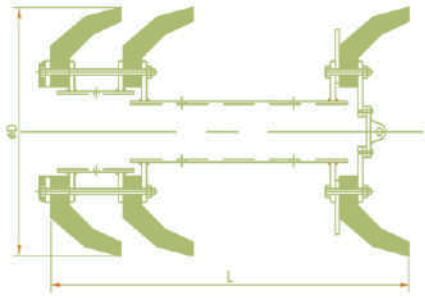
TWO CUP COMBO FIG  
2CMB



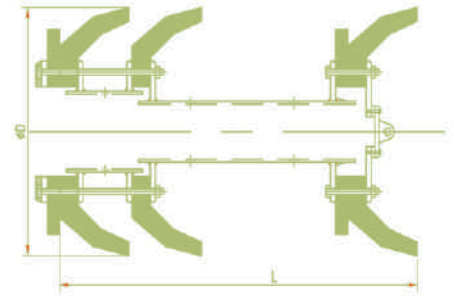
# THREE Cup Pigs



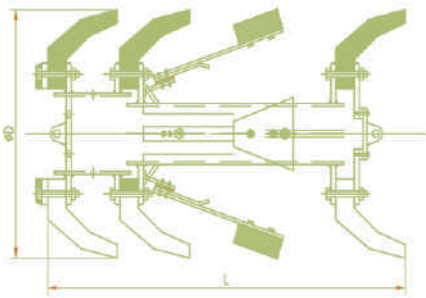
THREE CUP BATCHING PIG  
3C



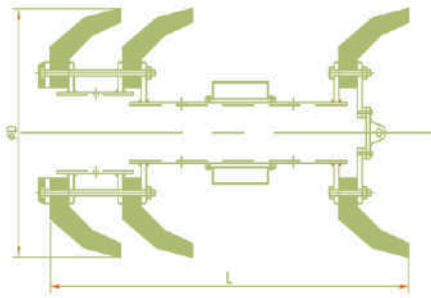
THREE CUP GAUGING PIG  
3CG



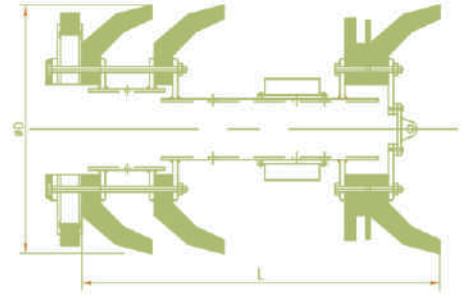
THREE CUP BATCHING PIG WITH GUIDE DISC  
3CGD



THREE CUP CLEANING PIG



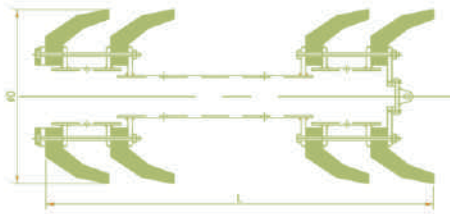
THREE CUP MAGNETIC PIG



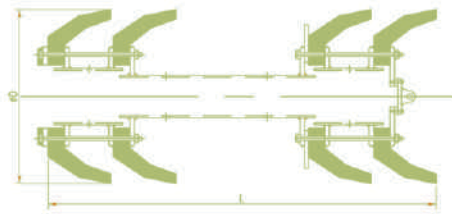
THREE CUP COMBO PIG



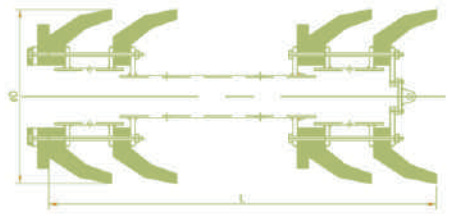
## FOUR Cup Pigs



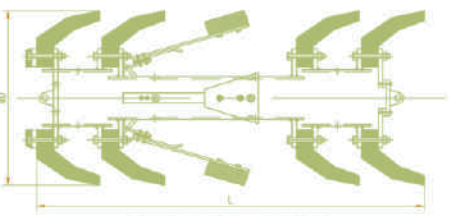
FOUR CUP BATCHING PIG  
4C



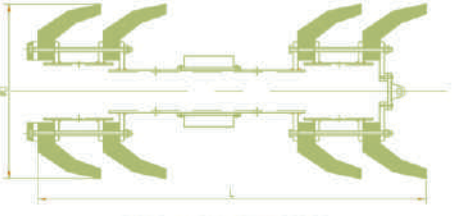
FOUR CUP GAUGING PIG  
4CG



FOUR CUP BATCHING PIG WITH GUIDE DISC  
4CGD



FOUR CUP CLEANING PIG  
14" TO 48"  
4CSB



FOUR CUP MAGNETIC PIG  
4CM



FOUR CUP COMBO PIG  
4CMB



### NOTES:

- 1.The foam Pig shall designed to navigate 3D and above 90 bends for 4" to 12" dia pipelines.
- 2.The foam Pig shall designed to navigate 1.5D and above 90 bends for 14" and above dia pipelines.
- 1.The foam Pig shall designed to navigate full Bore Barred/flow tees.
- 2.The foam Pig shall designed to navigate full bore Gate/ Ball valve.
- 3.Provide by-pass facilities are built into pig to allow velocity Control and Increase Cleaning Efficiency.
- 4.Pig is ideal for Construction pigging and for operational pigging.
- 5.conical cups ensure effective sealing, long run performance and the flexibility to navigate localized bore restrictions of up to 20%.
- 6.Orizon Petro Engineering pigs are suitable for with transmitters of any make. Please inform/provide transmitter mounting details with order.



# ORIZON

PETRO ENGINEERING LLP.



**OFFICE:**

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