



# BINA ENGINEERING COMPANY

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Bina Engineering Company is a small (micro) engineering company which started its operation in February 2011 in Mumbai. It is a Proprietorship company owned and run by Shri. Subrata Chakraborty. The company's activities revolve around manufacture and supply of Oilfield Equipment and providing services to Oilfield, Petrochemical and Chemical Industry.

Starting with a small turnover in the F.Y. 2011-12, Bina Engineering Company has progressed significantly to already register a turnover of Rs90 lakhs in this FY 2018-19. In the field of manufacturing, Bina supplies Wireline Tools engineered by it to various Oil companies spread throughout India. Among its clients are Focus Energy Ltd, Parveen Industries Ltd, Baker Oil Tools (India) Ltd.

Bina also supplies Teflon Coated studs and bolts for use in marine conditions to Indian Oil Co. Ltd's terminals at Jamnagar and Paradip.

A significant part of Bina's revenues come from the sale of Pipeline Pigs engineered and manufactured by it to several companies in India. Pipeline Pigs are basically tools to be used inside Product Pipelines for cleaning and evacuation purposes. Bina Engineering manufactures and supplies several kinds of pigs for use in pipelines for particular purposes. These pigs are used in Oil Industry, Petrochemical Industry, Chemical Industry and Edible Oil Industry.

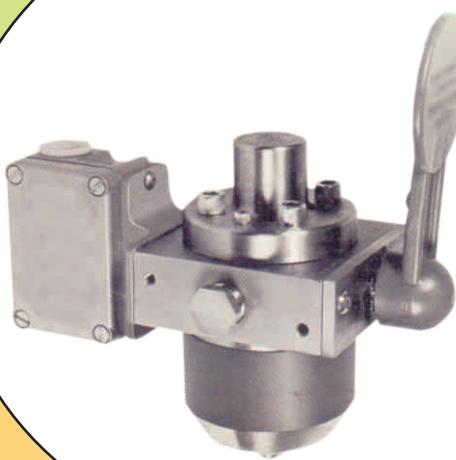
The use of Pipeline Pigs engenders the use of Pig Launchers, Pig Receivers and associated equipment like Pig Signalers, End Closures etc. Bina Engineering manufactures Pipeline Pig Launchers and Receivers from sizes 4" to 24" and End Closures and Pig Signalers for these sizes. These equipment are used for and in a pipeline to facilitate launching of and receiving the Pigs for cleaning and evacuation purposes. Bina's clients for Pigs and Pig Launchers include Haldia Petrochemicals Ltd, Bridge & Roof, IMC, IPWC, Artson Engineering (Tata Subsidiary), Tata Power, State Trading Corporation of India Ltd., M.P. Engineering Constructions etc.

In the Services sector, Bina Engineering Company provides Pipeline Pigging Services and Pipeline Hydrotesting Services. Clients include Haldia Petrochemicals, Bridge & Roof, STC Ltd, Ennore Tank Terminals Pvt Ltd etc.

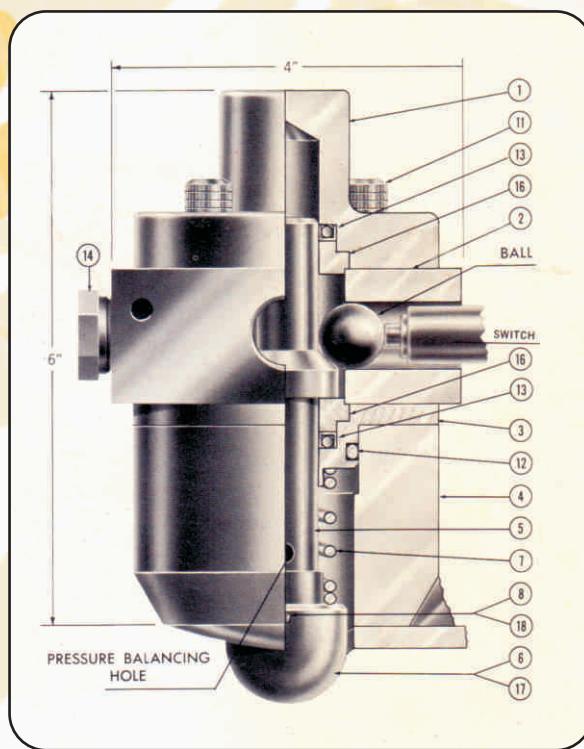
Bina Engineering Company is registered with MSME, SSI Maharashtra and NSIC.

Bina Engineering Company's focus in the coming years is to expand its client base for supply of Wireline Equipment to Oil Companies, Pipeline Pigs, Launchers, Receivers, End Closures and Signalers. In the Services sector Bina intends to focus on providing Pigging and Hydrotesting of Pipelines services.

# BINA PIG SIGNALER



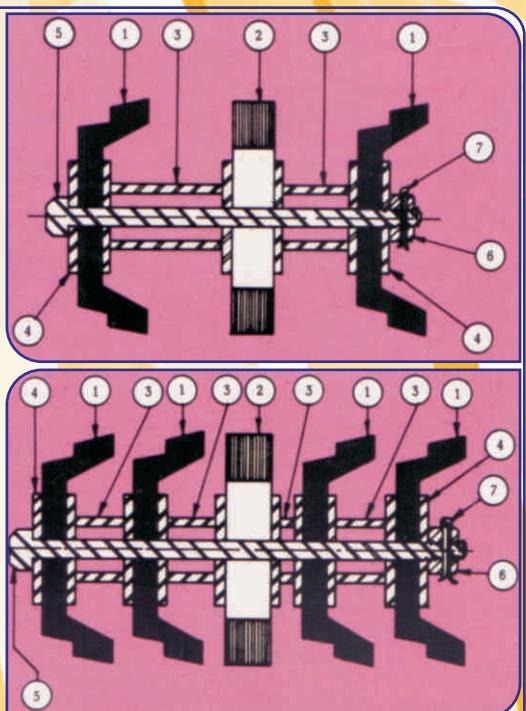
MARK X BASIC ASSEMBLY			
ITEM NO.	PART NO.	QUANTITY	DESCRIPTION
1	SH68-1	1	CAP
2	SH68-2	1	ACCESSORY PLATE
3	SH68-3	1	FLANGE
4	SH68-4	1	BASE
5	SH68-5	1	SHAFT
6	SH68-6	1	SMALL SHAFT END METER PROVER SERVICE
17	SH68-17	1	LARGE SHAFT END GENERAL PIPELINE SERVICE
7	SH68-7	1	SHAFT SPRING
8	SH68-8	1	SPRING PIN SMALL SHAFT END
18	SH68-18	1	SPRING PIN LARGE SHAFT END
9	SH68-9	2	CAP SCREW 10-24 NC X 1 1/2" (not shown)
10	SH68-10	2	CAP SCREW 10-24 NC X 7/8" (not shown)
11	SH68-11	4	CAP SCREW 3/8 - 24 NF X 3"
*12	SH68-12	1	"O" RING
*13	SH68-13	2	SHAFT SEALS
14	SH68-14	as req.	1/2" NPT HEX HEAD PIPE PLUG
15	SH68-15	1	5/16 ALLEN WRENCH FOR 3/8" SOCKET HEAD
			CAP SCREW (not shown) (to be used for pipeline installation)
16	SH68-16	2	RETAINER SEAL RING



**BINA ENGINEERING COMPANY**

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**CLEANING PIG (2 Cups)**



**CLEANING PIG (4 Cups)**

No.	DESCRIPTION
1	CUP
2	CIRCULAR STEEL WIRE BRUSH
3	SPACER SPOOL
4	BACK UP DISC
5	MANDREL
6	LOCK NUT
7	SPLIT PIN

# BINA

**BI-DIRECTIONAL CLEANING PIG**

No.	DESCRIPTION
1	GUIDING DISC
2	SEALING DISCS
3	CIRCULAR STEEL WIRE BRUSH
4	SPACER SPOOL
5	MANDREL
6	LOCK NUT
7	SPLIT PIN
8	BACK UP DISCS



# PIPELINE PIGS

**GAUGING PIG (4 Cups)**

**BATCHING PIG (2 Cups)**

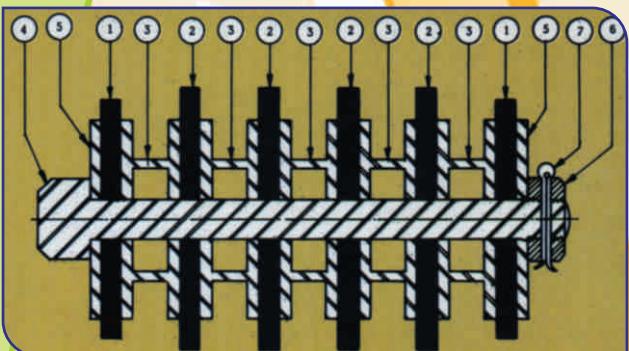
**GAUGING PIG (2 Cups)**

**BATCHING PIG (4 Cups)**

No.	DESCRIPTION
1	CUP
2	SPACER SPOOL
3	GUAGE PLATE
4	MANDREL
5	BACK UP DISC
6	LOCK NUT

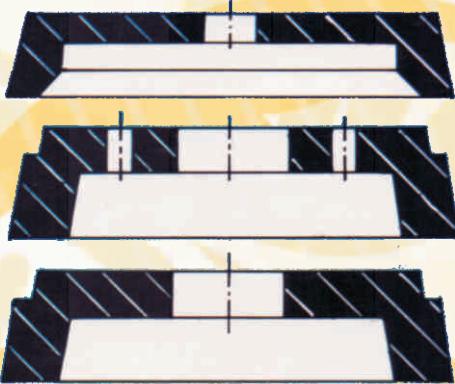
**No. DESCRIPTION**

1	CUP
2	CIRCULAR STEEL WIRE BRUSH
3	SPACER SPOOL
4	BACK UP DISC
5	MANDREL
6	LOCK NUT

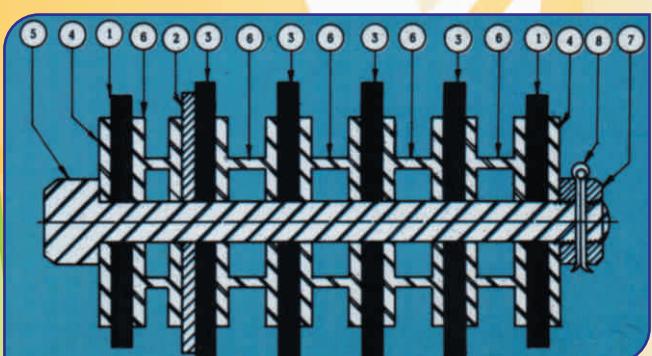


**BI-DIRECTIONAL BATCHING PIG**

No.	DESCRIPTION
1	GUIDING DISCS
2	SEALING DISCS
3	SPACER SPOOL
4	MANDREL
5	BACK UP DISCS
6	LOCK NUT
7	SPLIT PIN

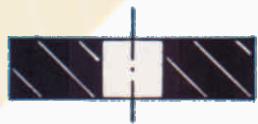


**CUPS FOR PIGS**



**BI-DIRECTIONAL GAUGING PIG**

No.	DESCRIPTION
1	GUIDING DISCS
2	GUAGE PLATE
3	SEALING DISCS
4	BACK UP DISCS
5	MANDREL
6	SPACER SPOOL
7	LOCK NUT
8	SPLIT PIN



**DISCS FOR BI-DIRECTIONAL PIGS**



#### Type P.S.C. (Polyurethane Scraper Cups) 2" - 48"

These cups, made of resilient wear resistant polyurethane, are designed to fit on standard types of pigs for pipeline cleaning. Upon request the cups can be supplied with other bolt circle and/or center hold to fit non-standard pipeline pigs.



#### Type SEP-3 (Separation Pigs) 16" - 48"

**Description:** Welded steel body with 4 polyurethane scraper cups.  
**Function:** Designed for separation, swabbing or displacement operations.  
**Bends:** 1.5 D radius bends. Full diameter branches.  
**Remarks:** Can be fitted with a gauging plate and/or discs.  
Can be equipped with a polyurethane protection nose.



#### Type P.C.C. (Polyurethane Conical Cups) 4" - 48"

These polyurethane conical cups are made of a special designed polyester polyurethane compound, with very high physical properties. The very special design with large wear surface promotes longer cup life compared to standard scraper cups. The polyurethane conical cups are easy to assemble and maintain. The 4"-14" (100mm - 350mm) range are extra equipped with cast external ribs.



#### Type GAU-1 (Gauging Pigs) 2" - 14"

**Description:** Welded steel body with 2 polyurethane scraper cups and a hard faced gauging plate.  
**Function:** Designed for construction testing and commissioning.  
**Bends:** 1.5 D radius bends.  
**Remarks:** Can be fitted with a steel or aluminium gauging plate.  
Can be equipped with a polyurethane protection nose.



#### Type P.S.R.D. (Polyurethane Scraper Discs) 4" - 48"

These bidirectional scraper discs, made of resilient wear resistant polyurethane, are designed to fit on standard types of pipeline bi-directional pigs. The reinforced middle center of the scraper discs prevents the active working part from tearing during the runs. Upon request the discs can be supplied with different outside diameter other bolt circle and/or center hole.



#### Type GAU-2 (Gauging Pigs) 16" - 48"

**Description:** Welded steel body with 2 polyurethane scraper cups and a hard faced gauging plate.  
**Function:** Designed for construction testing and commissioning.  
**Bends:** 1.5 D radius bends.  
**Remarks:** Can be fitted with a steel or aluminium gauging plate.  
Can be equipped with a polyurethane protection nose.



#### Type CLE-1 (Cleaning Pigs) 4" - 14"

**Description:** Welded steel body with 2 polyurethane scraper cups and 2 circular crimped wire bristle brushes.  
**Function:** Designed for in-service cleaning.  
**Bends:** 1.5 D radius bends.  
**Remarks:** Can be fitted with steel or nylon brushes.  
Can be equipped with a polyurethane protection nose.



#### Type CLE-2 (Cleaning Pigs) 16" - 48"

**Description:** Welded steel body with 2 polyurethane scraper cups and with brushes, either steel wire or nylon bristles.  
The brush-unit are placed on spring saddles which cover 360 degrees inside pipewall and guarantee superior cleaning.  
**Function:** Designed for in-service cleaning.  
**Bends:** Most effective in lines with 3D radius bends.  
**Remarks:** Can be equipped with a polyurethane protection nose.



#### Type SEP-1 (Separation Pigs) 2" - 8"

**Description:** Compact short steel body equipped with 4 polyurethane scraper cups.  
**Function:** Designed for separation, swabbing or displacement operations.  
**Bends:** 4"-8" 1.5 D radius bends. Full diameter branches.  
2"-3" 3 D radius bends. Full diameter branches.  
**Remarks:** Can be fitted with a gauging plate and/or discs.  
Can be equipped with a polyurethane protection nose.



#### Type SEP-2 (Separation Pigs) 10" - 14"

**Description:** Welded steel body with 4 polyurethane scraper cups.  
**Function:** Designed for separation, swabbing or displacement operations.  
**Bends:** 1.5 D radius bends. Full diameter branches.  
**Remarks:** Can be fitted with a gauging plate and/or discs.  
Can be equipped with a polyurethane protection nose.



#### Type CLE-2 (Cleaning Pigs) 16" - 48"

**Description:**

Welded steel body with 3 polyurethane scraper cups and with brushes, either steel wire or nylon bristles. The brush-unit are placed on spring saddles which cover 360 degrees inside pipewall and guarantee superior cleaning

**Function:**

Designed for in service cleaning.

**Bends:**

Most effective in lines with 3D radius bends

**Remarks:**

Can be equipped with a polyurethane protection nose.



#### Type C.S.P. 2 (Long run conical separation Pigs) 16" - 48"

**Description:**

Welded steel body with a polyurethane protection nose equipped with 2 polyurethane conical drive cups. These conical pigs are equipped with spring steel fingers on the inside of the cups which assures that no bypass occurs between pipewall and the cuplips. They also provides tighter wall seal and continued wall contact.

**Function:**

Designed to operate for long distance runs either separation, swabbing or displacement and testing.

Will seal in, out of round pipe, providing a continuous seal.

**Bends:**

1.5 D radius bends.

**Remarks:**

Can be fitted with a gauging plate.



#### Type C.C.P. 1 (Long run conical cleaning pigs) 4" - 14"

**Description:**

Welded steel body with a polyurethane protection nose equipped with 2 polyurethane conical drive cups and 2 circular crimped wire bristle brushes.

**Function:**

Designed to operate for long distance cleaning runs

**Bends:**

Most effective in lines with 3D radius bends

**Remarks:**

Can be equipped with steel wire or nylon brushes.



#### Type C.C.P. 2 (Long run conical cleaning pigs) 16" - 48"

**Description:**

Welded steel body with a polyurethane protection nose equipped with 2 polyurethane conical drive cups and with brushes, either steel wire or nylon bristles.

The brush-units are placed on spring saddles which cover 360 degrees inside pipewall and guarantee an utmost cleaning

**Function:**

Designed to operate for long distance cleaning runs

**Bends:**

Most effective in lines with 3D radius bends.



#### Type C.C.P. 3 (Long run conical cleaning pigs) 16" - 48"

**Description:**

Welded steel body with a polyurethane protection nose equipped with 2 polyurethane conical drive cups and with brushes, either steel wire or nylon bristles.

The blade-units are placed on spring saddles which cover 360 degrees inside pipewall and guarantee an utmost cleaning

**Function:**

Designed to operate for long distance cleaning runs

**Bends:**

Most effective in lines with 3D radius bends.



#### Type BID-1 (Bi-directional Pigs) 4" - 14"

**Description:**

Welded steel body with 4 polyurethane scraper disc.

**Function:**

Filling and emptying, hydrostatic testing and special bi-directional applications.

**Bends:**

3 D radius bends.

**Remarks:**

Can be equipped with a polyurethane protection nose.



#### Type N.M.F. 4 (Non Metallic Flexipig) 3" - 16"

**Description:**

Casted polyurethane body equipped with 4 polyurethane scraper cups

**Function:**

Designed for special separation, swabbing and displacement operations whereby metal to metal contact must be prevented.

**Bends:**

1.5 D radius bends. Full diameter branches.

**Remarks:**

Can be fitted with nylon brushes.



#### Type N.M.F. 6 (Non Metallic Flexipig) 3" - 16"

**Description:**

Casted polyurethane body equipped with 6 polyurethane scraper cups

**Function:**

Designed for special separation, swabbing and displacement operations whereby metal to metal contact must be prevented.

**Bends:**

1.5 D radius bends. Full diameter branches.

**Remarks:**

Can be fitted with nylon brushes.



#### Type C.S.P. 1 (Long run conical separation Pigs) 4" - 14"

**Description:**

Welded steel body with a polyurethane protection nose equipped with 2 polyurethane conical drive cups

**Function:**

Designed to operate for long distance runs either separation, swabbing or displacement and testing.

Will seal in, out of round pipe, providing a continuous seal.

**Bends:**

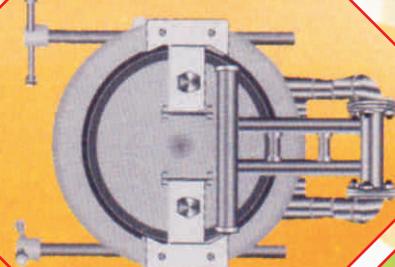
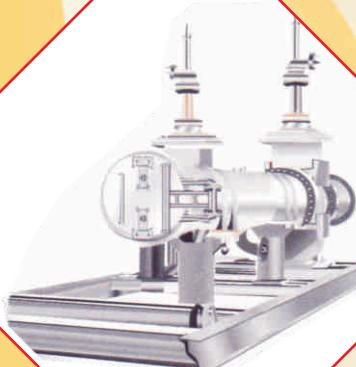
1.5 D radius bends.

**Remarks:**

Can be fitted with a gauging plate.

# BINA

## PIG LAUNCHER AND RECEIVERS



### **PIG LAUNCHER AND RECEIVERS**

*BINA Pig Launchers and Receivers are simple in design, safe in operation and made from field proven equipment.*

*The Receivers can be designed to facilitate receipt of two or more pigs simultaneously without having to open the barrel. From our experience this becomes necessary at time during batching operations.*

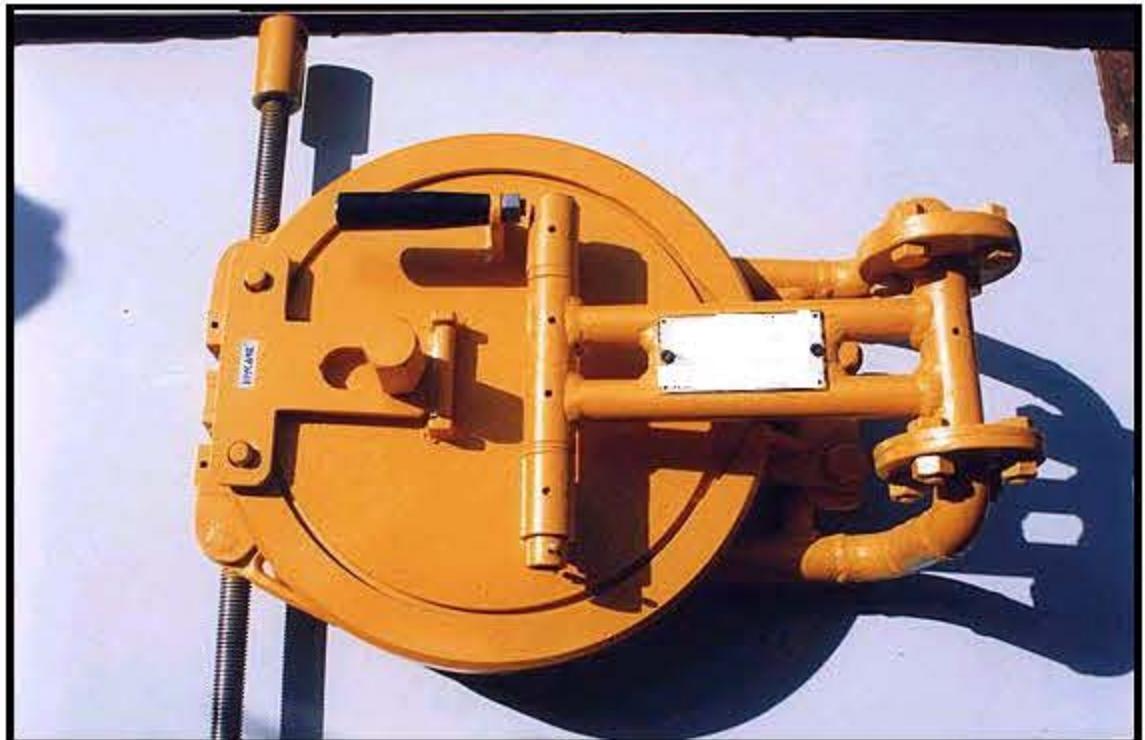
### **BINA BRAND END CLOSURES**

*BINA end closures are designed to accommodate dual clamp lock with tell-tale port for detection of leakage if any. The safety feature incorporate a mechanical locking device which prevents the operator from opening the barrel till it is completely depressurised. The Opening and closing of the barrel is easy, smooth and quick. The mechanism incorporates two square threaded studs made of alloy steel for strength and long life*

## QUICK OPENING CLOSURES

"BINA" end closures are designed to accommodate single clamp lock with tell-tale port for detection of leakage if any. The safety feature incorporates a mechanical locking device, which prevents the operator from opening the barrel till it is complete depressurized.

The opening and closing of the barrel is easy, smooth and quick. The mechanism incorporates one square threaded studs made of alloy steel for strength and long life.



## PIG LAUNCHER RECEIVER

"BINA" Pig Launchers and Receivers are simple in design, safe in operation and made from field proven equipment.

The receivers can be designed to facilitate receipt of two or more pigs simultaneously without having to open the barrel. From our experience, this becomes necessary at times during batching operations.

"BINA" Pig Launchers and Receivers are designed and fabricated as per the required specifications.



# BINA WIRELINE TOOLS



PEAR DROP  
ROPE SOCKET



BLIND BOX



IMPRESSION  
BOX



TUBING END  
LOCATOR



DISC & SPRING  
ROPE SOCKET



STEM BAR



LEAD FILLED  
BAR



TUBING  
SWAGE



TUBING  
BROACH



SAMPLE BAILER  
(FLAPPER TYPE)



SAMPLE BAILER  
(BALL TYPE)

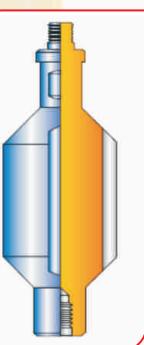
Sometimes referred to as sinker bar, stem is used to provide additional weight to the tool string which may be required to run into the well bore against high-pressure and stuffing box friction.

Increasing the stem weight increases the impact force delivered by a jar.

Flats for wrenches are provided and should be used, never grip on the fishing neck or this will damage the sharp edges.

All connections should be clean and dry. Do not lubricate down hole threads since they may unscrew down hole during extended jarring.

The stem is available in standard lengths of 2 ft, 3 ft and 5 ft.



FLUTED  
CENTRALISER

## BINA ENGINEERING COMPANY

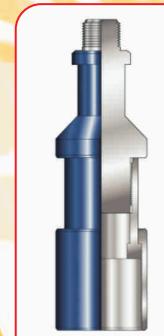
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SKIRTED MAGNET



SKIRTED MAGNET



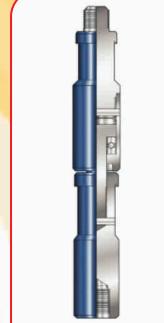
QUICK CONNECT



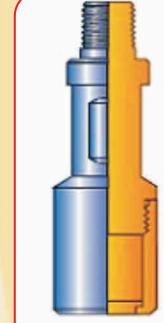
WIRE FINDER



SOLID FINDER



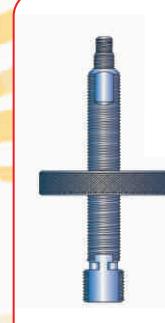
SWIVEL JOINT



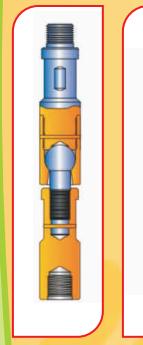
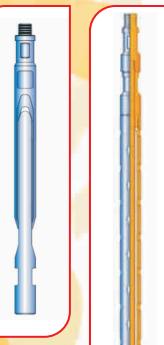
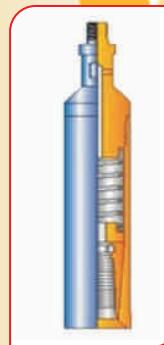
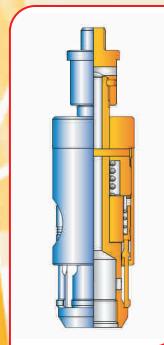
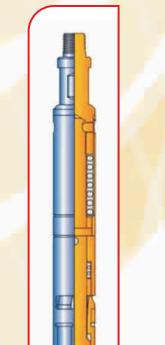
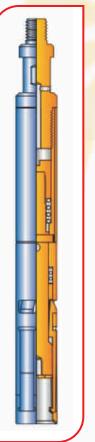
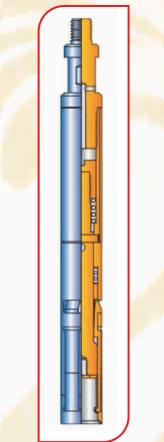
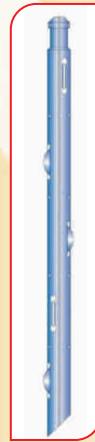
FISHING MAGNET



CROSSOVER

PINNING  
TOOLSRELEASING  
TOOLS

GU ADAPTER

KNUCKLE  
JOINT  
(THREAD  
TYPE)KNUCKLE  
JAR  
(FORGED  
TYPE)ROLLER  
STEMSPANG  
JARTABULAR  
JARWIRELINE  
OVERSHOTGS PULLING  
TOOLR PULLING  
TOOLS PULLING  
TOOLUNIVERSAL  
PULLING  
TOOLFLAT  
BOTTOM  
GO DEVILANGLE  
BOTTOM  
GO DEVILROLLER  
GO DEVILWIRELINE  
GRABCENTER  
SPEARWIRE  
FINDER  
GRAB

## **BINA'S BARE FOAM PIG DETAILS**

Bina's Bare Poly Foam Pigs are made of durable, resilient flexible polyurethane foam ranging in density from 32 Kg/M3 ( Low Density) to 85 Kg/M3 (High Density). These foam pigs are used for mild scraping, final drying or water removal. The foam pigs are resistant to mild acids, caustic solutions and Hydrocarbons. The Bare Foam Pigs are cylindrical with a bullet nose and dished end.

Bina's Bare Foam Pigs are industrial pipeline and product recovery devices. The basic design consists of a flexible , bullet shaped polyurethane foam cylinder. The rear end of Bina's Foam Pig is concave in order to allow more pressure to be exerted and create a tighter seal against the pipe wall. This helps to prevent bypass of the propelling agent (water, air or product) and virtually eliminates product contamination. Overall length of Bina's Foam Pigs are approximately 2 times the diameter of the pipeline and oversize of the bare pigs varies between 0.25" and 0.75" depending on size of pig and pipe grade.

Pig Size in inches	Bare Foam Dia in mm	Nose Length in mm	Barrel Length in mm	Overall Length in mm
8	213	100	320	420
6	163	70	250	320
4	108	45	155	200



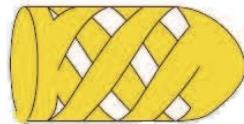
**BARE FOAM PIG**

## **TYPES OF FOAM PIGS OFFERED BY BINA ENGINEERING COMPANY**

### **LOW DENSITY SERIES**



**BARE FOAM FOR DRYING**



**YELLOW CRISS CROSS FOR LIGHT CLEANING**

### **HIGH DENSITY SERIES**



**BARE FOAM FOR DRYING**



**SCC FOAM PIG FOR CLEANING**



**FULLY COATED FOAM PIG FOR CLEANING**



**SCC-WB FOR SCRAPING (WIRE BRUSH)**



**SCC-SC FOR SCRAPING (SILICON CARBIDE)**

**PIGGING EXPERIENCE OF BINA ENGINEERING COMPANY, MUMBAI**

Sl.No.	Client	Line Name	Line size in Inches	Line Length in Kms	No. of runs	Total pigging in Kms	Year
1	Haldia Petrochemical	6" NB Butadiene Pipelines	6"	7	4	28	2019
2	Haldia Petrochemical	8" NB Butene Pipeline	8"	7	4	28	
3	Haldia Petrochemical	24" Naptha Pipeline	24"	7	1	7	
4	Haldia Petrochemical	16" MS Pygas Pipeline	16"	7	3	21	
5	Haldia Petrochemical	8" Benzene Line	8"	7	7	49	
6	Haldia Petrochemical	8" Methanol Line	8"	7	4	28	
7	Haldia Petrochemical	8" Line - HOJ1(Oil Jetty) to CFGO HPL Plant	8"	7	4	28	
8	Haldia Petrochemical	8" Line - HOJ1(Oil Jetty) to CFGO HPL Plant	8"	7	4	28	
9	Haldia Petrochemical	8" Line - HOJ1(Oil Jetty) to CFGO HPL Plant	8"	7	5	35	
10	Bridge & Roof Haldia	12" HOJ-1 to NCR	12"	4.99	7	34.93	2019
11	Bridge & Roof Haldia	12" NCR to HOJ-1	12"	4.99	3	14.97	2019
12	Bridge & Roof Haldia	8" NB Benzene Pipeline	8"	6.079	5	30.395	2019
13	State Trading Corporation, Mumbai	from Jetty to Mallet Bunder, Mumbai	12"	2.5	2	5	2015
14	MP Engg, Pune	18" GAIL Gas Pipeline	18"	30	1	30	2015
15	Agrawal Industries, Dighi	14" Bitumen Pipeline	14"	1	3	3	2017
16	IPWC, Mangalore	Bitumen Pipeline	10"	2	3	6	2017
17	B&R MAFFL, Mumbai	250NB BPCL/HPCL Pipeline for Integrated Aviation Fuel Farm at CSIA, Mumbai, Maharashtra	10"	0.3	9	2.7	2019
18	Integrated Service Pvt Ltd., Ratnagiri	Angre Port to Angre Terminal	16"	0.75	6	4.5	2019
19	Bridge & Roof Haldia	18" Pipeline	18"	9.15	7	64.05	2020
20	Bridge & Roof Haldia	12" Pipeline	12"	4.99	7	34.93	2020
21	Agrawal Industries, Dighi	14" Bitumen Pipeline	14"	1	3	3	2019
22	Integrated Service Pvt Ltd., Ratnagiri	Angre Port to Angre Terminal	16"	0.75	6	4.5	2019
23	Bridge & Roof Haldia	18" Pipeline	18"	11	7	77	2020
24	Bridge & Roof Haldia	18" Pipeline	18"	4.88	7	34.16	2020
25	Bridge & Roof Chennai	20" Pipeline	20"	0.7	1	0.7	2018
26	Bridge & Roof Chennai	16" Pipeline	16"	0.7	1	0.7	2018
27	Suraj Agro, Mangalore	10" Bitumen Line	10"	2.5	2	5	2019
28	Integrated Service Pvt Ltd., Ratnagiri	Angre Port to Angre Terminal	16"	1.5	6	9	2020