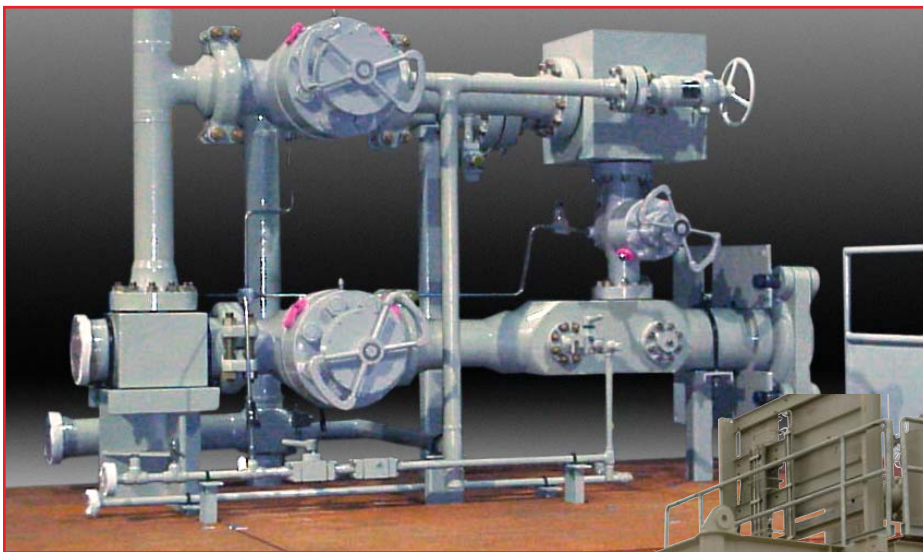
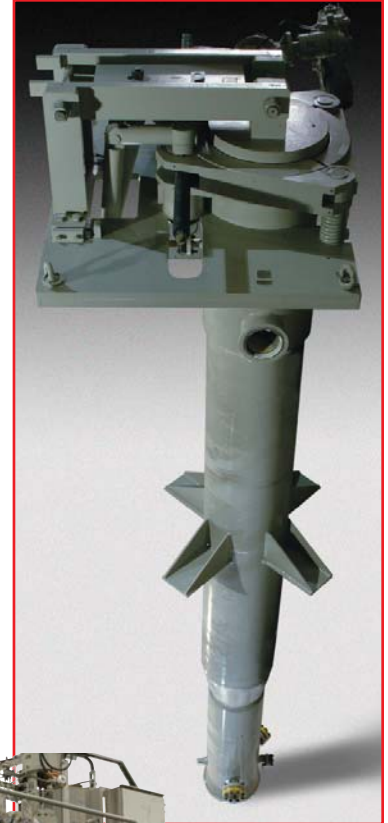


SCRAPER TRAPS



TAYLOR FORGE
Engineered Systems, Inc.

Traditionally Dependable

Taylor Forge Engineered Systems produces a range of special products and systems for the gas transmission industry. From a manufacturing and fabricating foundation based on extruded branch connections, we engineer, fabricate and oversee the installation of systems for pigging, metering, two- or three-phase separation & storage, and compressor pulsation control. Our engineered approach to manufacturing results in products and systems which combine the essential elements of safety, quality, durability, and economy.

Scraper Traps

A leader in scraper trap technology and fabrication for many years, Taylor Forge Engineered Systems has been one of the foremost suppliers of scraper traps, also known as launcher and receiver traps, or pig traps, throughout the world.

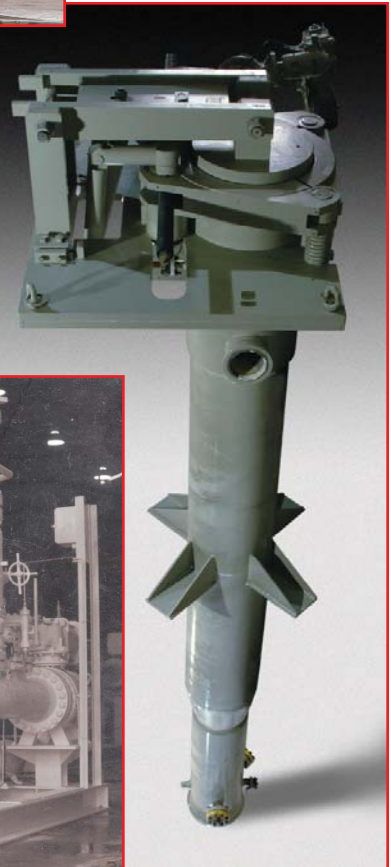
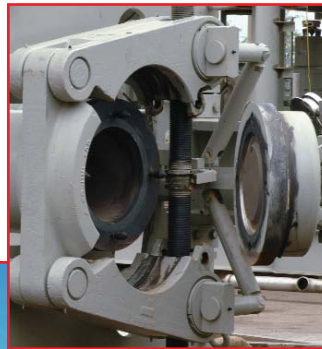
Scraper traps are normally located at compressor stations and at terminal points of the pipeline. During construction, temporary scraper traps can be located at convenient intervals in order to clean construction debris from the new pipeline. Scraper traps can be

designed to accommodate scraper pigs,

sphere pigs or "smart" pigs, or any combination of the three.

Traps can be supplied to any degree of packaging and fabrication required. The basic component is the barrel, or body, which is manufactured from either rolled & welded plate, or from seamless pipe with an attached reducer section. Branch outlets are integrally die-formed extrusions. All barrel openings are either beveled or flanged and are shipped ready for final installation.

Closures - Our traps can be supplied with any type of specified closure, from screwed, to clamp ring, to locking ring. We provide a range of designs from manually-operated to fully automated. We will supply any major manufacturers' closure upon request or you can choose one of our tested designs.



Features

From basic body only to a skid-mounted, fully-automated unit, Taylor Forge Engineered Systems can provide the right scraper trap to meet your exact requirements (see back page for standard launcher and receiver dimensions).

Optional features and accessory equipment include:

- Baskets
- Bi-directional Trap Systems
- Pig Signals (manual or automatic, remote or local)
- Handling Davits (with manual or electric hoist)
- Saddle Supports
- Pig Launching Systems (manual or automatic)
- Inclined, Declined or Vertical Construction
- Pig Storage
- All Controls, Drives and Instrumentation
- Liquid Handling System

Taylor Forge Engineered Systems is a single source for scraper trap systems, placing responsibility for proper operation on one dependable company, while simplifying procurement procedures. We welcome the opportunity to evaluate your needs and work with your engineers to recommend the most cost-effective scraper trap system.



Extruded Headers - Traps can experience fatigue stresses due to their pressure cycles. The application of the extruded outlet for the major operational connections results in a low stress joint configuration in a highly stressed area. All fabrication welds can then be radiographed ensuring their quality.



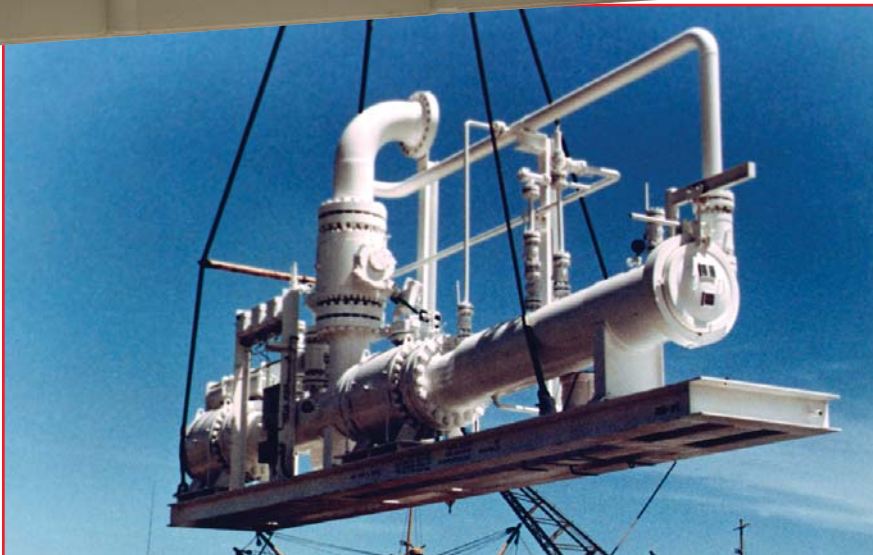
High Pressure Applications - Traps can be designed and fabricated for design pressures from ANSI 300 class ratings to 15,000 psi. New technology has allowed producers to go into deepwater regions to find gas and oil. TFES's design and fabrication capabilities and high pressure experience have allowed pigging technology to keep up with this ever evolving market. We have the capability to hydrostatically test assemblies to 50,000 psi.

Skid Mounted Systems - Many offshore and some onshore applications require complete pigging packages, fully fabricated and automated ready to install on a platform. TFES has the capabilities and experience to provide fully operational packages, skid mounted with automated valves and instruments for most any application.

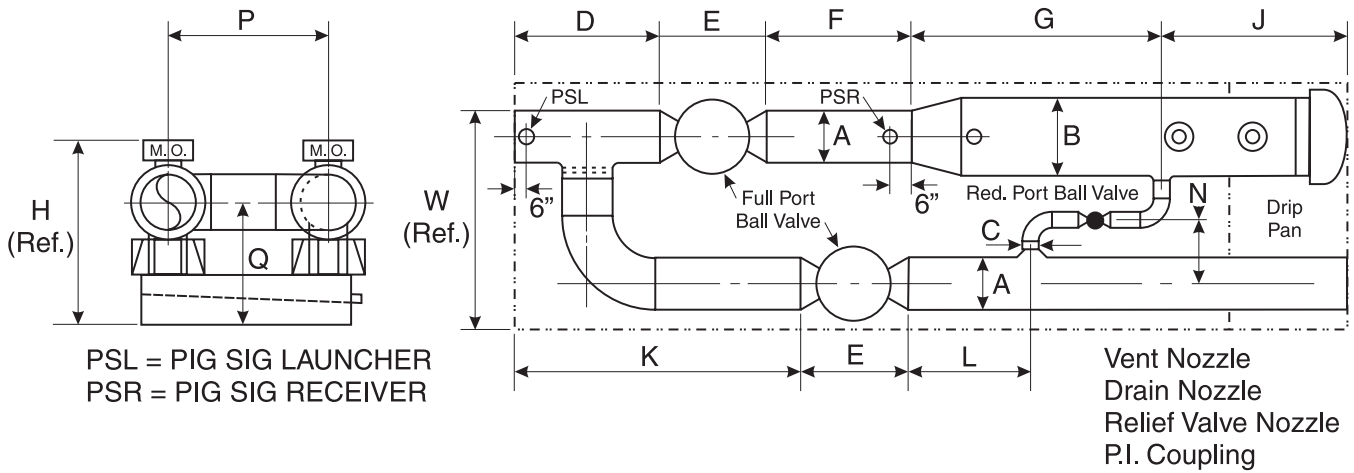
Metallurgical Expertise - With the expansion of deepwater applications, higher design and operating pressures have pushed the industry to higher strength materials. TFES is a leader in the gas transmission industry in developing new high strength, low alloy steels which meet all the metallurgical requirements of ductility, chemistry, cleanliness, and weldability at yield strengths up to 80,000 SMYS. We stock high strength material that can meet NACE and HIC standards. We have the ability to fabricate traps and assemblies from a variety of alloy materials for other applications including austenitic and duplex stainless steels, chromes, and high nickel alloys.

Engineering Design - A fully capable, degreed engineering staff can provide all the design disciplines necessary to complete scraper trap packages like structural design, pipe stress analysis, and instrumentation logic.

Code Experience - B31.8, B31.3, ASME Sec. VIII, API 6A



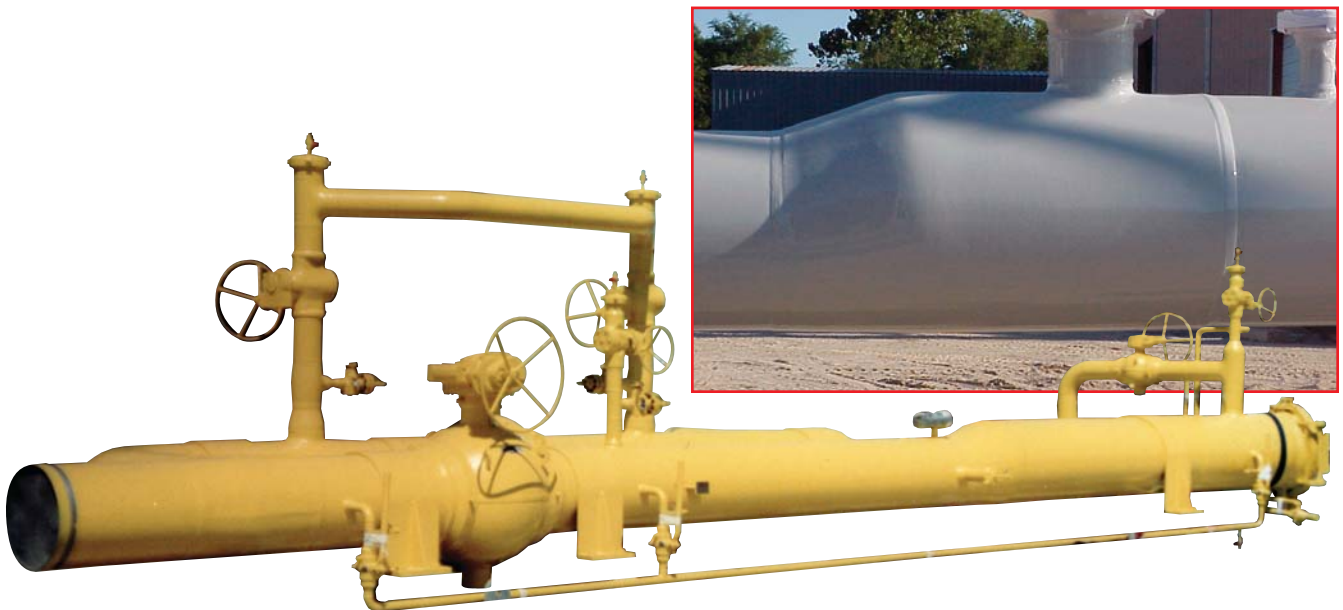
Standard Launcher/Receiver Sizes



SCHEDULE OF INFORMATION

Size	AØ	BØ	CØ	D	E	F	G	H	J	K	L	N	P	Q	W	Remark
16x20	16"	20"	6"	24"	*	2'-0"	6'-0"	5'-0"	2'-0"	5'-0"	3'-0"	1'-3"	3'-3"	4'-0"	6'-0"	Launcher
16x20	16"	20"	6"	24"	*	7'-0"	2'-0"	5'-0"	6'-0"	5'-0"	2'-0"	1'-3"	3'-3"	4'-0"	6'-0"	Receiver
18x22	18"	22"	6"	27"	*	2'-0"	6'-0"	5'-3"	2'-0"	6'-0"	3'-0"	1'-10½"	3'-9"	4'-0"	6'-6"	Launcher
18x22	18"	22"	6"	27"	*	8'-0"	2'-0"	5'-3"	6'-0"	6'-0"	2'-0"	1'-10½"	3'-9"	4'-0"	6'-6"	Receiver
20x24	20"	24"	8"	30"	*	2'-0"	10'-6"	6'-6"	2'-6"	6'-0"	4'-0"	2'-3"	3'-9"	4'-0"	7'-0"	Launcher
20x24	20"	24"	8"	30"	*	11'-0"	4'-0"	6'-6"	9'-0"	6'-0"	5'-6"	2'-3"	3'-9"	4'-0"	7'-0"	Receiver
24x28	24"	28"	8"	33"	*	2'-0"	10'-0"	8'-0"	3'-0"	7'-0"	2'-9"	2'-10"	4'-0"	4'-6"	7'-6"	Launcher
24x28	24"	28"	8"	33"	*	11'-0"	4'-0"	8'-0"	9'-0"	7'-0"	7'-9"	2'-10"	4'-0"	4'-6"	7'-6"	Receiver
30x34	30"	34"	10"	44"	*	2'-0"	11'-0"	8'-0"	4'-0"	8'-6"	2'-6"	2'-5"	5'-0"	4'-3"	9'-0"	Launcher
30x34	30"	34"	10"	44"	*	13'-0"	4'-0"	8'-0"	11'-0"	8'-6"	6'-6"	2'-5"	5'-0"	4'-3"	9'-0"	Receiver
36x42	36"	42"	12"	53"	*	2'-0"	13'-0"	8'-6"	4'-0"	10'-0"	3'-6"	3'-3"	6'-9"	4'-3"	11'-9"	Launcher
36x42	36"	42"	12"	53"	*	15'-0"	4'-0"	8'-6"	13'-0"	10'-0"	8'-6"	3'-3"	6'-9"	4'-3"	11'-9"	Receiver

* Refer to ASME Specification B 16.10



Can We Be of Assistance?

Inquiry Data Form

Launcher Receiver Bi-Directional

Company Name: _____
Address: _____

Date: _____
Project Name: _____

Contact Name: _____
Telephone: _____
Fax: _____
E-Mail: _____

Project Location: _____
Quantity Required: _____
Reference No: _____
Desired Quote Date: _____
Shipment Required By: _____

Design Information:

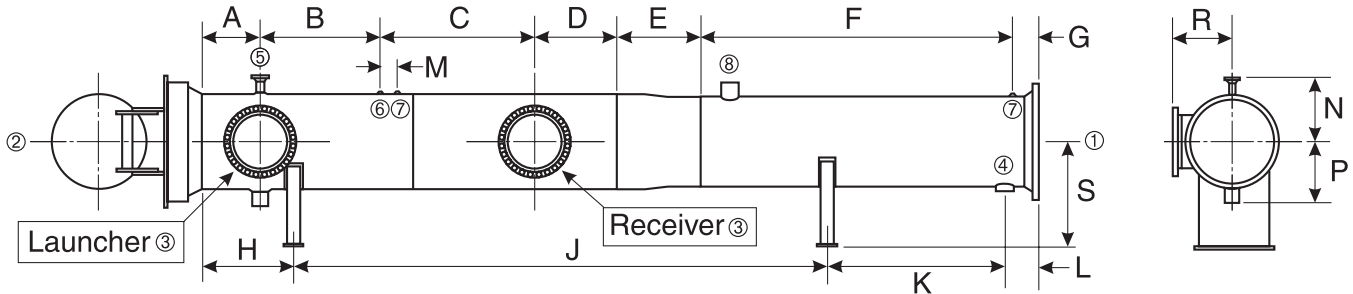
Design Code: _____ Safety Factor: _____ Corrosion Allowance: _____
Design Pressure _____ psig Design Temperature: _____ ° F MDMT (if required): _____
Special Service (NACE, Sour, Low Temperature) _____
Material Required: Barrel: _____ Inlet Pipe: _____

Manufacturing Information:

Type of Closure: Threaded Clamp Bandlock Other: _____
NDE: Full Radiograph UT MT PT Other: _____
Shop Hydro Test: Yes No Reducers: Concentric Eccentric
Supports: Wear Pads Supports Skids (Skid Size) _____
Internal Trays: Yes No Pig Handling Equipment: Yes No
External Paint: Primer Special Paint (Advise) _____

Other Equipment:

Pig Signals: Trigger Type Magnetic Type
Corrosion Equipment: _____



Dimensions:

A:	D:	G:	K:	N:	S:
B:	E:	H:	L:	P:	
C:	F:	J:	M:	R:	

Nozzle Schedule:

Tag	Size	Service	Qty
1		Inlet	1
2		Closure	1
3		Kicker/Blowdown	
4		Drain	
5		Vent	

Tag	Size	Service	Qty
6		P. I.	
7		Equalizer Line	2
8		Pig Signal	1



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