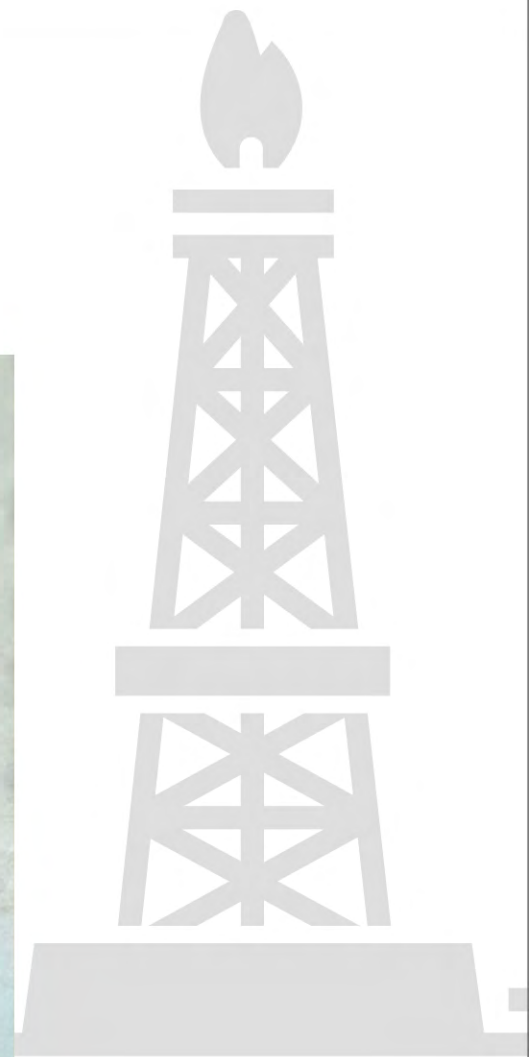


High Pressure **Access Fittings** for Oil, Gas, Refinery & Petrochemicals



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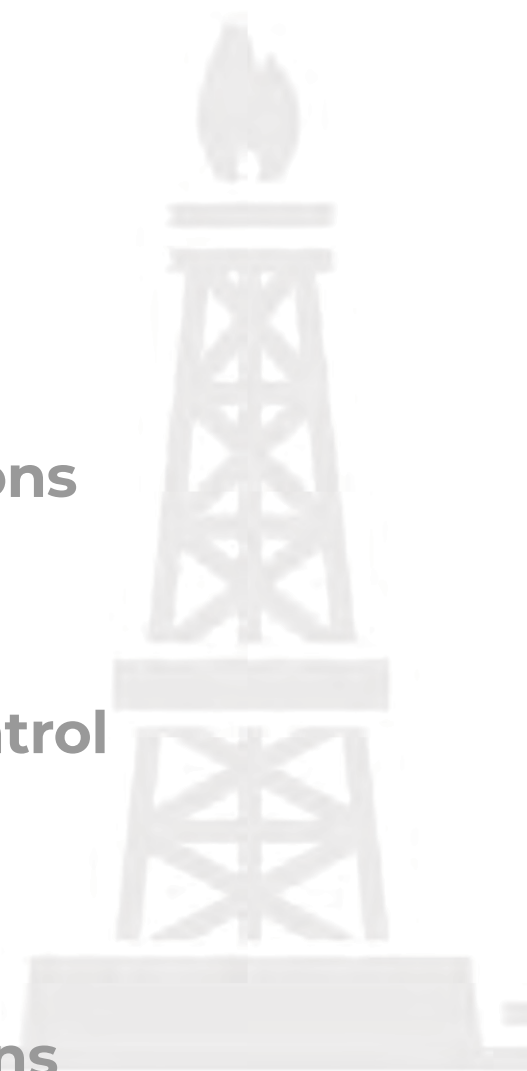
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ABOUT CRYSTAL INDUSTRIAL

[CONTACT](#)



25
YEARS
EXPERIENCE

Crystal Industrial Syndicate Pvt. Limited, incorporated in the year 1991, is an ISO 9001 : 2000, ISO 14001 : 2004, OHSAS 18001 : 2007

The company was started by two graduate engineers with the objective to serve the Indian industry with products like Steam Jet Ejectors & Wet Scrubbing Systems.

They later diversified into design, fabrication, and commissioning of equipment such as pressure vessels, heat exchangers, columns, plant pressure piping for various chemical, petrochemical, fertilizer and other process industries.

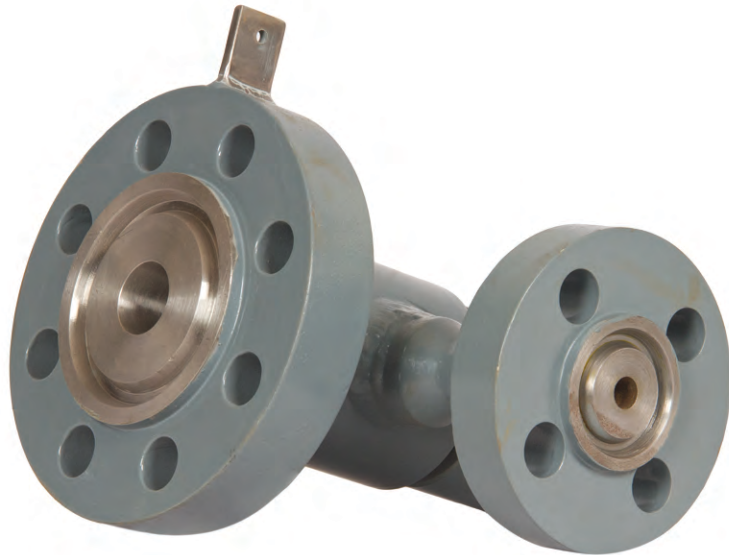
Crystal has also specialized into design and fabrication of various intricate and complex equipment, components, assemblies, and sub-assemblies, of cast, forged, welded and machined construction for Indian Defense and Nuclear Sector.



Crystal has now mastered the technology of carrying out Corrosion Resistance Weld Overlay of Monel, Inconel 625, Incoloy 825, Hastelloy B3, Hastelloy C-276, Hastelloy C-2000 and hard facing overlay on the inside surfaces of pipes, elbows, tees, flanges, including fabrication and welding of Cladded Vessels involving these materials.

Crystal's list of clients spans the most reputed industrial houses in India to top global firms. Engineering companies like Aker Kvaerner, Bechtel, Bindal Agro, Dr. Reddy's, GEA, Hindustan Petroleum, Indian Navy, Indian Oil, Jacobs, Larsen & Toubro, Mangalore Refineries, Mitsubishi Heavy Industries, Pfizer, Oswal Chemicals, Reliance Industries and Saint Gobain are some of Crystal's most distinguished clients.

OVERVIEW & APPLICATION



Crystal's high pressure access fittings from India are specialized piping arrangements that allow access internally to vessels of production plants and pipework being operated upon under full process conditions. For such access systems, the corrosion monitoring industry standard is based upon a nominal bore design of 2 inch.

These devices allow the installation and safe retrieval without plant shutdown, at working pressures of up to 3,600 psi. Most frequently, high pressure high pressure access fittings are used in oil and gas production. In these kind of high pressure operations, users are reluctant to shut down and depressurize process systems to allow removal or installation of corrosion monitoring devices.

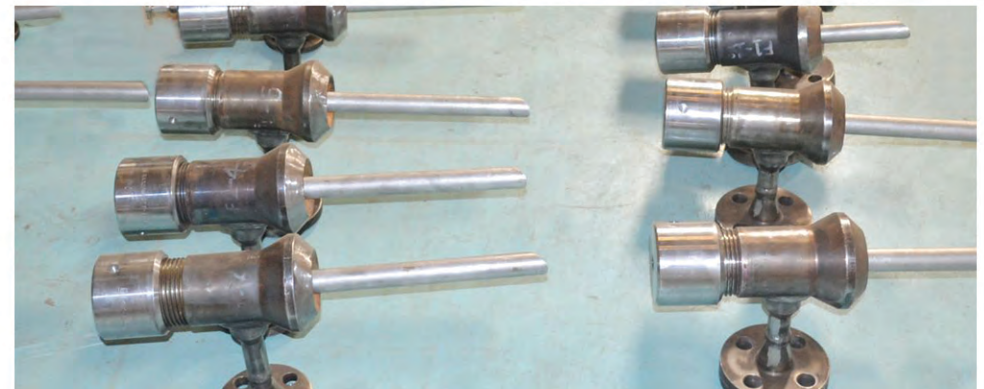
Access Fittings could be Inconel 625, Stainless Steel, Copper, Hestalloxy C, Nitronic Stainless Steel and other exotic metals depending on the applications.

APPLICATION:

A variety of devices have been designed for use with high pressure high pressure access fittings. Typically the following equipment can be installed into process lines using standard access fitting assemblies:

The following functions can be additionally undertaken with the use of access fitting bodies which incorporate a side-tee.

- Process Sampling
- Chemical Injection
- Sand Monitoring



PRODUCT RANGE



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Crystal Industrial Access Fittings operate up to 450 to 500 bar pressure.

Crystal Industrial offers two different styles of high pressure high pressure access fittings:

GENERIC DESIGN

This system is compatible and interchangeable with access fitting equipment produced by leading manufacturers.

PROPRIETARY DESIGN

Incorporates various unique features which are an improvement on the generic design.



TYPES & COMPONENTS



FLANGED

ANSI flange fittings are manufactured in accordance with ANSI B16.5 – Specification for Flanges and Flanged Fittings.

FLARE WELD

Flareweld bodies are the most widely used. These bodies incorporate a reinforced welding neck and also have a radius machined into the base to accommodate the curvature of the pipe or vessel to which the body is welded.

High pressure access fittings consist of five basic components:

- 1) Cover
- 2) Access Fitting Body
- 3) Plug Assembly
- 4) Service Valve
- 5) Retrieval Tool

Access fitting body is permanently attached with the process plant vessel or pipework. It is a specialized pipe fitting. Access fitting bodies can also be flange mounted or welded.

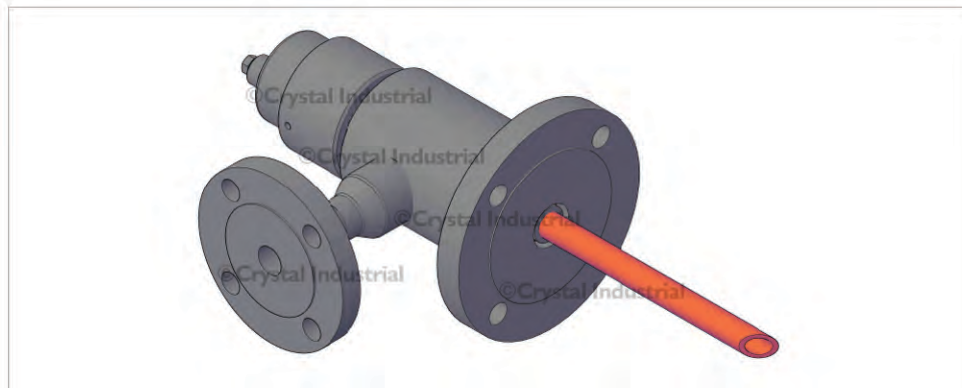
For the installed device, the Plug assembly is the carrier. Based on the type of device being used, a solid plug assembly or a hollow plug assembly is chosen. The plug assembly screws into the access fitting body and seals the fitting's bore to restrict line pressure. Together with its plug assembly, the access fitting body and cover (designed to protect the external thread) is called access fitting assembly.

The retrieval tool and service valve are components needed to perform online installation and retrieval of the plug assembly. When the plug assembly is removed during the retrieval procedure, the service valve is used to restrict line pressure. Just one service valve and one retrieval tool can be used to maintain multiple access fitting assemblies.



PRODUCT SPECIFICATIONS

PRODUCT RANGE	RETRIEVABLE	NON-RETRIEVABLE	FORGED	QUILL WITH DBB VALVES
Header Size	12" to 36"	Up to 60"	6" to 36"	Upto 30"
Quill Size	¾" to 2"	¾" to 6"	6" to 36"	½" to 3"
MOC	CS, SS304, SS316L, UNS NO 4400, UNS NO 6625, UNS NO 8825, Hastelloy C276, Duplex Steel	CS, SS304, SS316L, UNS NO 4400, UNS NO 6625, UNS NO 8825, Hastelloy C276, Duplex Steel	CS, SS304, SS316L, UNS NO 6625, UNS NO 8825	CS, SS304, SS316L, UNS NO 4400, UNS NO 6625, UNS NO 8825, Hastelloy C276, Duplex Steel
Design Pressure (kg/cm ² g)	10 to 100	10 to 200	50 to 300	Up to 200
Design Temperature (°C)	150 to 500	150 to 500	100 to 500	Up to 350



QUALITY CONTROL SYSTEM

Crystal follows a stringent quality control system so that all parameters are complied with and the customer gets a high quality product.



Ultrasonic Testing



Hydrostatic testing



Dye Penetrant Testing



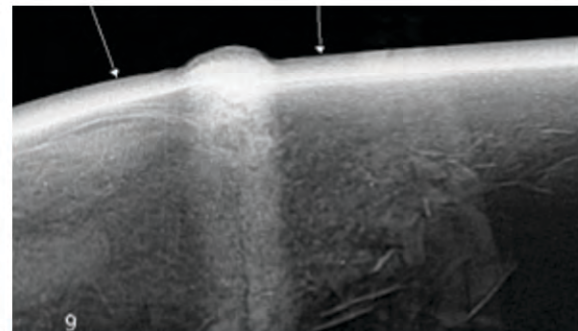
Hardness Testing



Positive Material Identification



Magnetic Particle Inspection



Radiography



Dimensional Inspection

CERTIFICATIONS



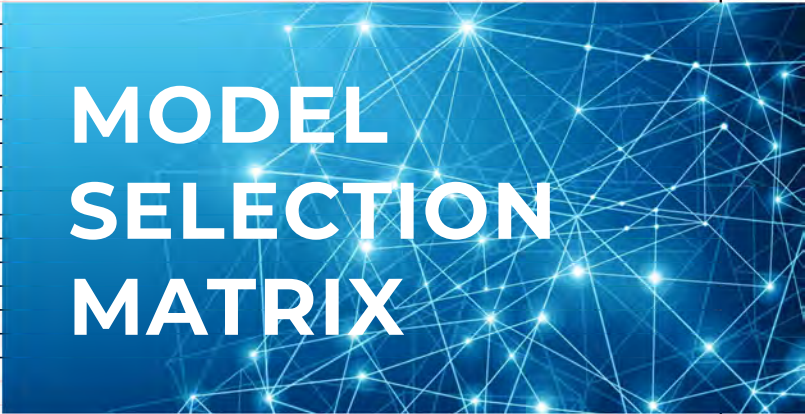
- ISO 9001 : 2015 Certificate
- ISO 14001 : 2015 Certificate
- OHSAS 18001 : 2007 Certificate
- Stamp Certificate
- National Board Registration
- IBR Approved



CLIENTS

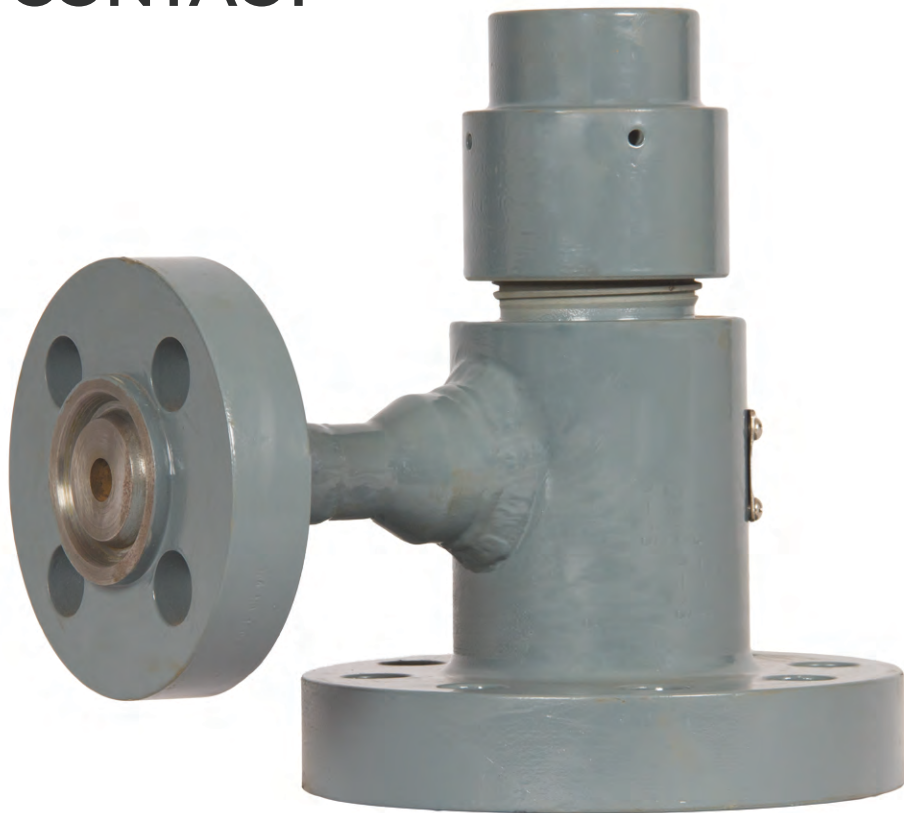


Model	High Pressure Access Fitting Assembly							
CISPL-10	Flare weld							
Model	Flare weld with Tee							
CISPL-10	Flanged							
CISPL-10	Flanged with Tee							
Code 1 XX	Type (1st digit)	Alloy Material (2nd digit)						
	N - Not Required	0 - Not Required						
	R - Solid	1 - 316/316L Stainless Steel						
		2 - 304 Stainless Steel						
		3 - Hastelloy						
		4 - Nitronic 60						
		5 - Carbon steel						
		6 - Inconel 625						
	7 - 2205 Duplex Stainless Steel							
Code 2	Side Tee Size							
0	Non- Tee							
1	¼" Tee							
2	½" Tee							
3	¾" Tee							
4	1" Tee							
Code 3	Optional Side Tee Configuration (omit for standard NPT)							
xx	For Flare Weld							
A1	150#RF							
A2	300#RF							
A3	400/600#RF							
A4	900/1500#RF							
A5	2500#RF							
B1	150#RJ							
B2	300#RJ							
B3	400/600#RJ							
B4	900/1500#RJ							
Code 4	Optional Side Tee Configuration (for standard NPT)							
A1	150#RF							
A2	300#RF							
A3	400/600#RF							
A4	900/1500#RF							
A5	2500#RF							
B1	150#RJ							
B2	300#RJ							
B3	400/600#RJ							
B4	900/1500#RJ							
Code 5	Pipeline Size							
XX	For Flanged							
02	2"							
03	3"							
04	4"							
06	6"							
10	8-10"							
18	12-18"							
36	20-36"							
Code 6	Alloy Material							
0	Not Required							
1	316/316L Stainless Steel							
2	304 Stainless Steel							
3	Hastelloy							
4	Nitronic 60							
5	Carbon steel							
6	Inconel 625							
7	2205 Duplex Stainless Steel							
Code 7	Secondary Pressure							
PR	Pressure Retaining Cover							
NP	Non-Pressure Retaining Cover							
CISPL-20	R1	2	XX	A1	10	1	PR	



MODEL SELECTION MATRIX

CONTACT



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Crystal
industrial

The logo for Crystal Industrial, featuring a stylized globe icon with blue and green segments.

ABOUT US

