

SNAPSHOT

Tema India has successfully designed, manufactured and supplied more than 250 of its patented Shrink Ring Screw Plug Exchangers (SRX™) over the past 20 years, all working to utmost satisfaction of refiners across the globe.

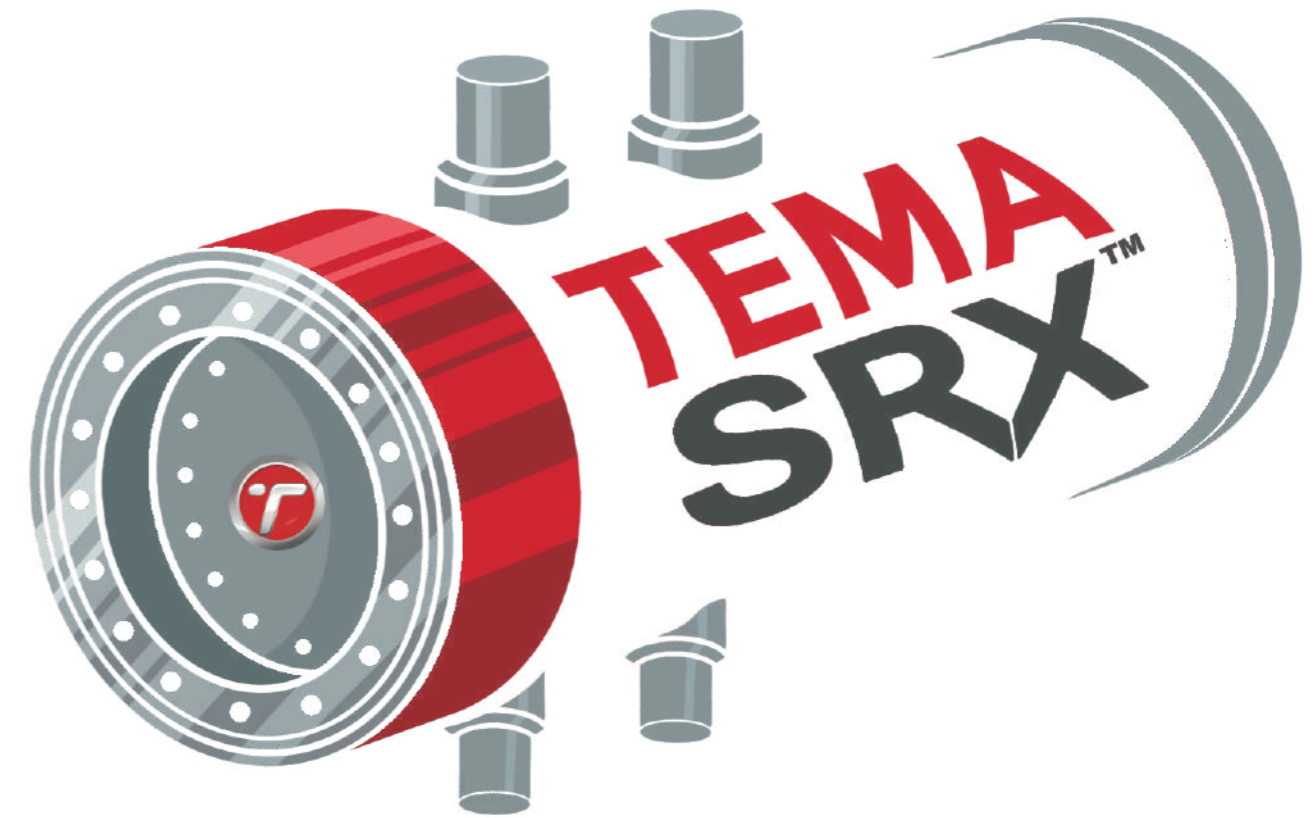


TYPES OF SCREW PLUG HEAT EXCHANGERS

TYPE	ID RANGE (mm)	PRESSURE (Kg/Cm ² g)	TEMPERATURE (°C)	Material of Construction	Process Licensors
HI-HI	355.6 to 2540	27 to 216 (Shell Side)	66 to 427 (Shell side)	Inconel, Hastelloy, Stainless Steels, Low Alloy Steels, Carbon Steels and a range of clad combinations.	UOP, Axens, Chevron Lummus, Shell, REG
		78 to 225 (Tube side)	65 to 454 (Tube Side)		
HI-LO	406.4 to 1805	7.0 to 173 (Shell Side)	69 to 445 (Shell Side)	Inconel, Stainless Steels, Low Alloy Steels, Carbon Steels and a range of clad combinations.	UOP, Axens, Chevron Lummus, Mobil
		91 to 185 (Tube Side)	120 to 454 (Tube Side)		

OUR GLOBAL FOOTPRINT

CLIENT	QTY	PROCESS LICENSORS	COUNTRY	CLIENT	QTY	PROCESS LICENSORS	COUNTRY
REG Geismar Refinery	07	REG	USA	HMEL Bathinda Refinery	17	Axens	India
DUQM Refinery	19	Chevron Lummus	OMAN	CPCL Chennai Refinery	29	Axens	India
KNPC Al-Zour Refinery	20	Haldor Topsoe	Kuwait	BPCL Mumbai Refinery	24	Chevron Lummus	India
Yansab Yanbu Refinery	03	Chevron Lummus	Saudi Arabia	HPCL Mumbai Refinery	21	UOP	India
KNPC Mina Abdullah Refinery	21	UOP	Kuwait	BPCL Bina Refinery	10	Chevron Lummus	India
Ultramar ULSD Project	06	Chevron Lummus	Canada	IOCL Gujarat Refinery	15	UOP, Axens	India
REG Geismar Refinery	08	UOP	USA	IOCL Haldiya Refinery	09	Mobil	India
Osum Tiaga Oil Sands	03	Chevron Lummus	Canada	BPCL Kochi Refinery	03	Shell	India
KNPC Mina Al-Ahmadi Refinery	02	Chevron Lummus	Kuwait	IOCL Numaligarh Refinery	05	Chevron Lummus	India
CITGO Lake Charles Refinery	02	-	USA	NOCL Cuddalore Refinery	05	Chevron Lummus	India
KNPC-(KSC)	08	Chevron Lummus	Kuwait	IOCL Panipat Refinery	16	Chevron Lummus	India



TEMA India also has a successful track record of servicing and overhauling 100+ of these proprietary heat exchangers to help refiners with time critical turnaround operations

**TEMA'S SHRINK RING SCREW PLUG
HEAT EXCHANGERS (SRX™)**

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ENGINEERING EMPOWERED BY INNOVATION



CUSTOM SOLUTIONS

- THERMAL AND MECHANICAL DESIGN
- ENGINEERING AND MANUFACTURING
- DESIGN MODIFICATION
- OPERATIONAL MAINTENANCE
- OPERATIONAL SPARES
- ON-SITE SUPERVISION

ABOUT US

Tema India specialises in Design, Fabrication and Service of Shell and Tube Heat Exchangers catering to Oil, Gas, Petrochemicals, Speciality Chemicals, Fertilizer, Pharmaceutical, Food Processing, Hydrogen, Polysilicon and Power industries.

Our Shrink Ring Screw Plug Heat Exchangers (SRX™) are known all over the world for patented Shrink Ring technology used for high pressure, high temperature, corrosive, hazardous and dirty service applications in Hydrocrackers, Hydrotreaters and Desulphurization plants of a refinery.

One-stop solution for your process needs

THE NEED FOR INNOVATION

Clean Fuels have created a demand for the refiners to add new modules to their existing Hydrocracker and Hydrotreater facilities, which will enable them to produce fuel with Sulphur content of 5 ppm or less as per Euro VI / EPA 10 emission standards.

This in turn has given rise to the requirement of a unique heat exchanger that is not only capable of withstanding high pressure, high temperature and dirty service conditions; but prevents intermixing between the shell and tube side fluids.

The obvious choice is Screw Plug design with threaded lock enclosure. We at Tema have mastered this design and our claims can easily be verified by 250+ Shrink Ring Screw Plug Exchangers (SRX™) in service globally.

ADVANTAGES

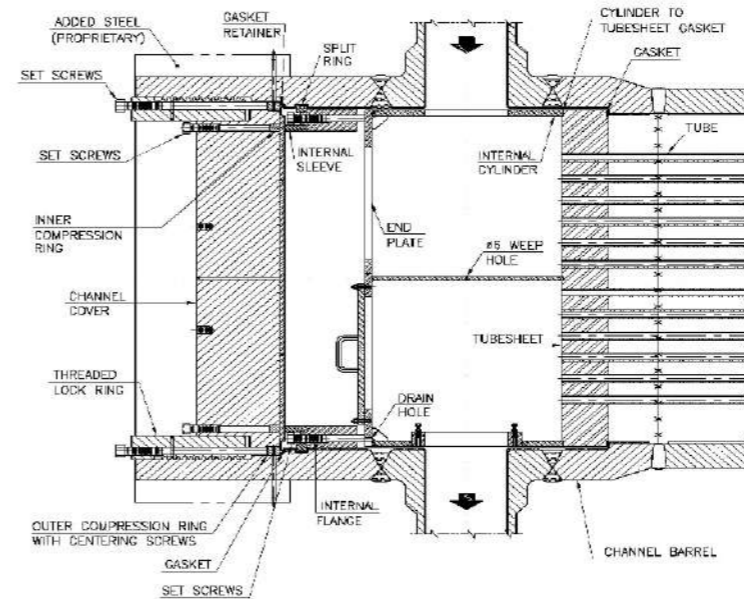
Our unique Shrink Ring Screw Plug Heat Exchangers (SRX™) technology with Screw Plug enclosure offers exceptional safety and maintenance advantages over other Breech Lock enclosures:

- Prevents bell-mouthing of the threaded portion to guarantee quick opening of the plug during time critical turnaround operations.
- Use of latest technology to ensure there is no intermixing of fluids from the gasketed joint between the shell side and tube side.

OUR UNIQUE DESIGN

Our Shrink Ring Screw Plug Heat Exchangers (SRX™) are designed and fabricated in accordance with the ASME Code. In addition, analysis is carried out to determine the differential thermal expansion between the channel wall and channel internals to counter additional stresses on the gasket, leading to its premature failure.

The exchangers are further designed to counter any operational stresses over the threaded portion at the end of the channel. This is achieved by addition of a shrink fit steel ring that prevents flaring along the radial component of the channel, a phenomenon more commonly known as bell mousing.



A TYPICAL CHANNEL CLOSURE ASSEMBLY



EQUIPMENT SUPPLY

Our Shrink Ring Screw Plug Heat Exchangers (SRX™) are manufactured in two variants:

- Hi-Hi Type (channel integrated with shell): These are designed based on the differential pressure of the shell side and tube side of the exchanger.
- Hi-Low Type (channel integrated with tubesheet): These are designed considering full pressure on both shell side and tube side of the exchanger.

TRAINING & MAINTENANCE

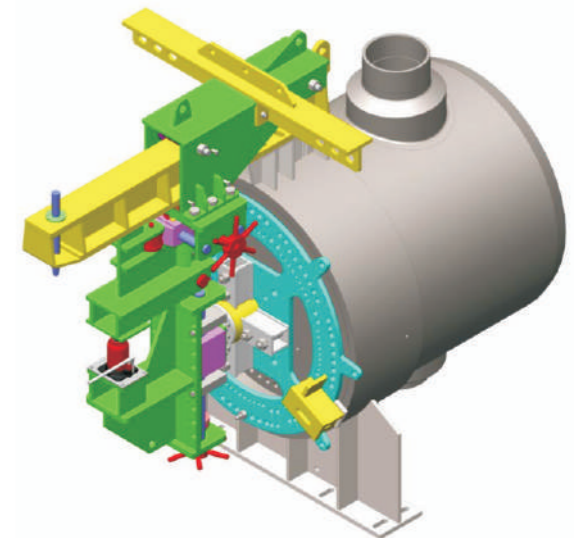
Tema India provides technical training, maintenance support and site supervision services during periodic maintenance and turnaround operations at client site. These services have been provided to all our esteemed clients across the globe.

OPERATIONAL SPARES

Tema India specialises in the supply of critical operational spares, including replacement gaskets, tube bundles, channels, and shells.

PROPRIETARY JIG FIXTURE

Tema India has a proprietary equipment mounted jig fixture for smooth assembly and dis-assembly of the channel cover along with internals.



AUTOMATED EQUIPMENT MOUNTED JIG FIXTURE

