

Replaceable Seat

**LEADING
THROUGH
INNOVATION**

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WORLDWIDE OILFIELD MACHINE

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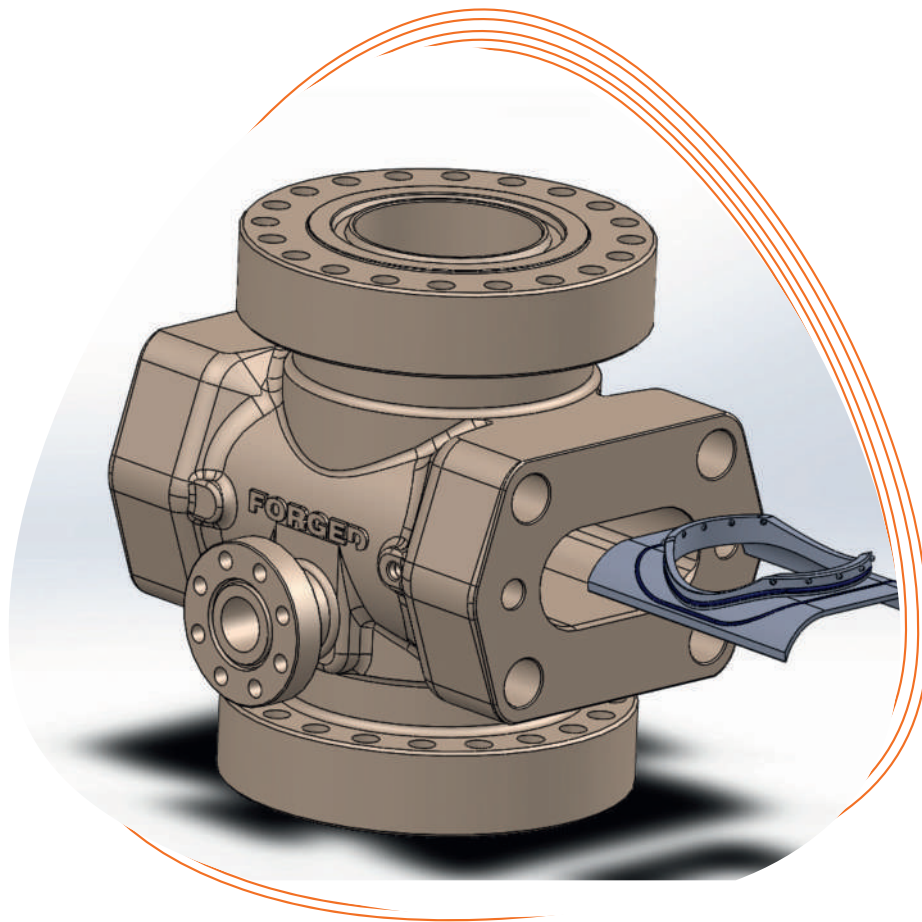
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Replaceable Seat for BOP

U type RAM BOP with No-Weld cavity and single-piece replaceable insert.

Background of invention

An extensive and prolonged process of Machining, Welding, Pre & Post Heat Treatment is required for successful repair and refurbishment of the used U type Ram BOP. Also, there is high chance of crack development if the procedure is not followed properly, directly affecting the performance of BOP. Overcoming this issue, Worldwide Oilfield Machine has come up with a new technology of **“Single-piece Replaceable Insert.”**



New Technology Breakthrough

- Owing to limited advancement in the U type RAM BOP design, WOM introduced next generation U type RAM BOP with No-Weld cavity for repair & refurbishment and easily replaceable single seat assembly.
- This technology helps in skipping the entire prolonged process, ensuring even higher performance level of the equipment.
- Single-piece Replaceable Insert is designed to perform with all types of Rams.
- This upgraded version of U type Ram BOP makes it possible to operate on the Rig for servicing and/or maintenance.
- Reduces the service time as it eliminates the need of sending it back to service/manufacturing facility.

Description

WOM introduce next generation seat seal assembly titled as **“Single-piece Replaceable Insert.”**

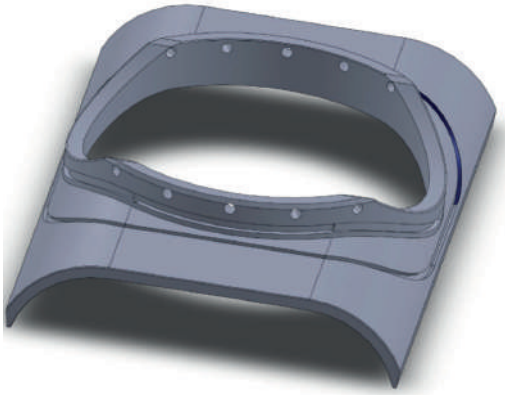
Newly developed WOM U type RAM BOP uses single-piece replaceable insert, a unique advancement to the equipment. This single piece replaceable Insert provides extraordinary sealing surface for the Ram top sealing area. The insert is energized to top cavity with special Grub Screw set.

Patent Claims

New design of U type Ram BOP with Single-piece Replaceable Insert.



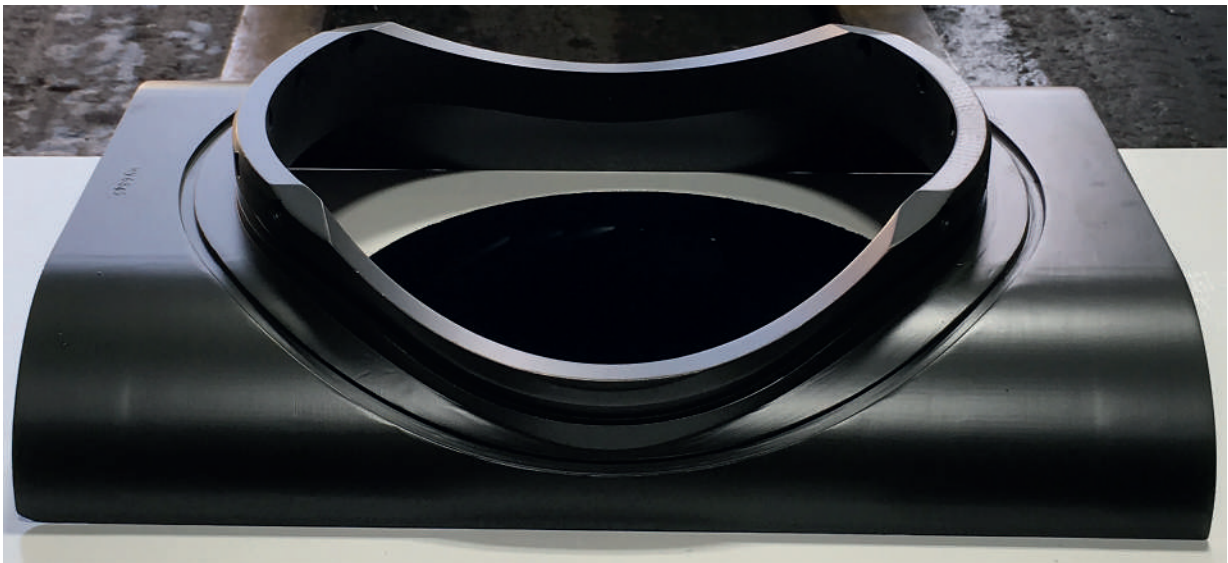
Single-Piece Replaceable Insert



Top View



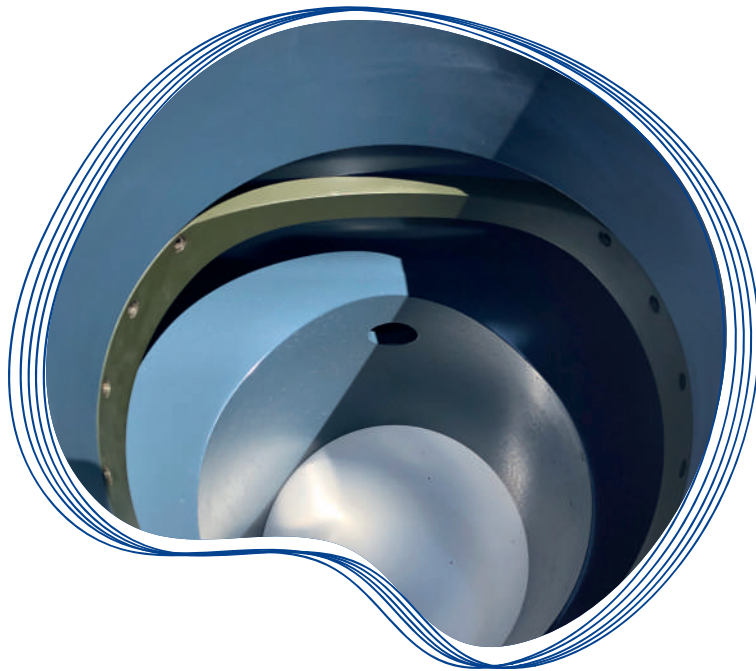
Bottom View



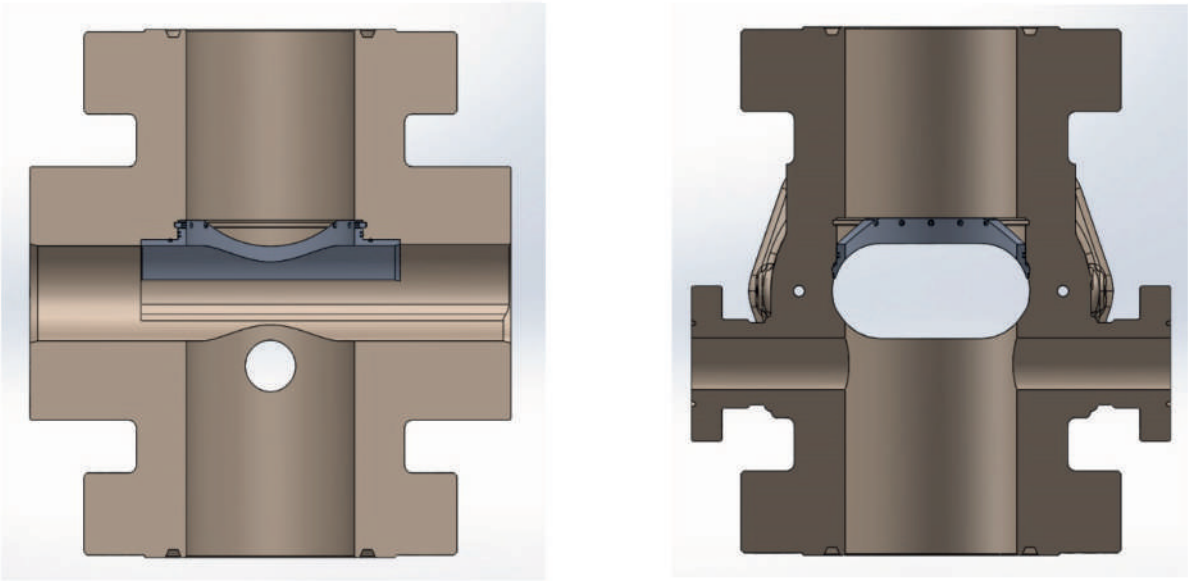
Actual Single Piece

Product Structure

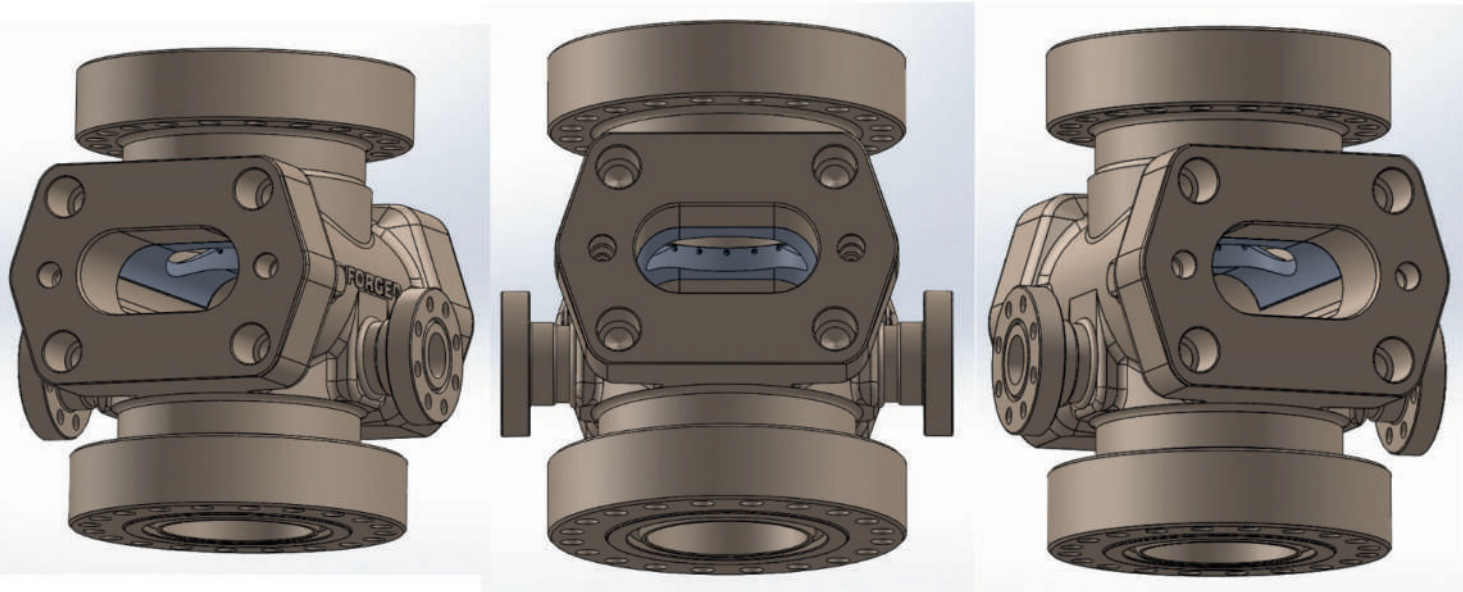
This one section assembly is designed to perfectly fit the Ram cavity shape.



New U Type Ram BOP With Single-Piece Replaceable Insert



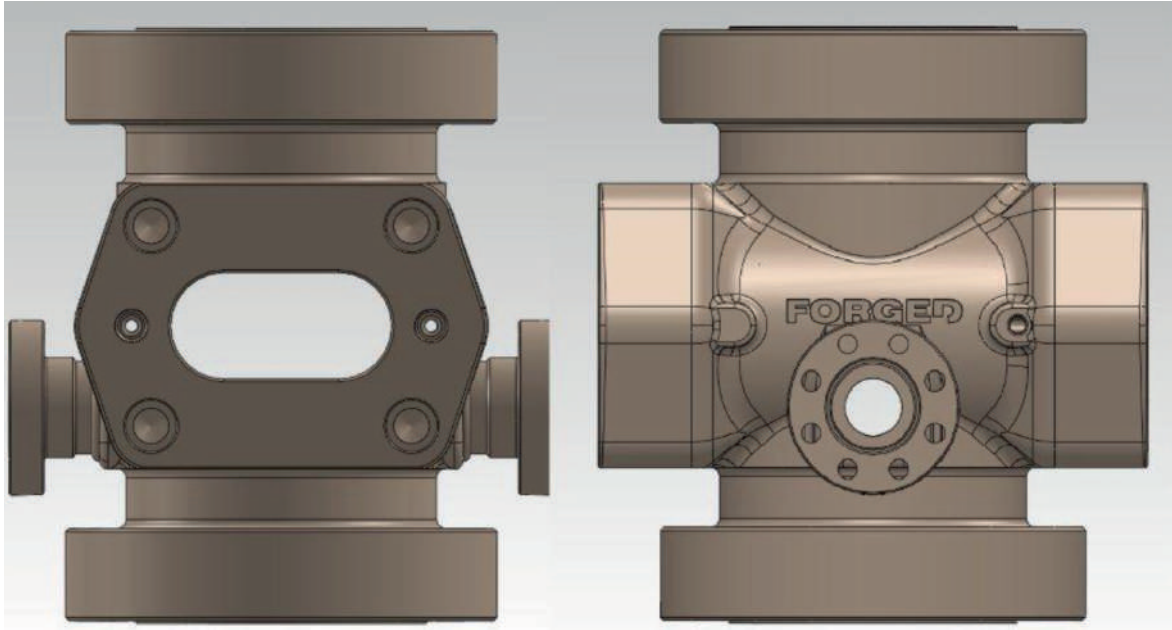
Cut Section-Front and Side



Isometric Views



Graphical Representation



U Type Ram Body

Features and Benefits

- **BODY STYLES** Designed to perform with all types of Rams. Replaceable Seat offered on Repair and Re-manufactured equipment for faster delivery.
- **RELIABILITY** Provides extraordinary sealing surface for the Ram sealing areas. Also, the Anti-vibration cup point grubbing set screws avoid loosening of seat insert carrier.
- **BLIND RAM TEST** Total 8 Cycles: Low pressure 10 minutes and High pressure 10 minutes (3 repetitions of close open performed before testing, and also in between low pressure and high-pressure seat test).
- **SHEAR RAM TEST** Total 6 Cycles: Low pressure 10 minutes and high pressure 10 minutes (3 repetitions of close and open performed before testing, and also in between low pressure and high-pressure seat test).
- **4-1/2" PIPE RAM TEST** Total 6 Cycles: Low pressure 10 minutes and high pressure 10 minutes (3 repetitions of close and open performed before testing, and also in between low pressure and high-pressure seat test).
- **COST EFFECTIVE** Saves production downtime on service. No-weld cavity of repair and refurbishment, and ease of on-board installation (replaceable single seat assembly).
- **REPLACEABLE SEAT (PATENT PENDING)** Offered on Repair and Re-manufactured equipment for faster delivery and reduced maintenance.



Product Testing

- **BLIND RAM - TOTAL 8 CYCLES**

Low pressure 10 minutes & High pressure 10 minutes. (3 repetitions of close open performed before testing & also in between low pressure & high pressure seat test)

- **SHEAR RAM - TOTAL 6 CYCLES**

Low pressure 10 minutes & High pressure 10 minutes. (3 repetitions of close open performed before testing & also in between low pressure & high pressure seat test)

- **4 ½" PIPE RAM - TOTAL 6 CYCLES**

Low pressure 10 minutes & High pressure 10 minutes. (3 repetitions of close open performed before testing & also in between low pressure & high pressure seat test)



Machine Requirements



Vertical Turret Lathe

Max. Swing Over Bed	1200 mm
Max. Turning Diameter	1600 mm
Max. Height between Table to Turret	1500 mm
X-Axis	400 mm
Z-Axis	1000 mm
Under Rail Height	1300 mm
Machining Time (including setting time)	24 hrs.

Horizontal Boring Machine



Table Size	1400 x 1600 mm
Table Carrying Capacity	8000 KG
Spindle Type	BT50
X-Axis	1000 mm
Y-Axis	1000 mm
Z-Axis	1000 mm
Machining Time (including setting time)	20 hrs.

Quality Products

WOM products are manufactured by the highest applicable standards. Computer controlled machine tools are used for dimensional accuracy, precision machining and consistent high quality. Each product is inspected, assembled and tested prior to shipment. This attention to detail ensures product quality and on time delivery.

WOM can also provide all buyouts such as fittings, elastomers "O" rings and stem packing. The assembly and testing of BOPs is performed in a controlled area, free from contamination, and it follows strictly enforced procedures in order to maintain the high quality of our products.

“Attention to detail ensures product quality and on-time delivery”



Patents Pending

- WOM-40-PCT: PCT Application (Number to be Assigned)—REPLACEABLE SEAT SEAL ASSEMBLY
- WOM-40-CIP: US Provisional Patent Application No. 15/909,307—SINGLE PIECE REPLACEABLE SEAT SEAL ASSEMBLY
- WOM-40: US Patent Application No. 15/909,307—REPLACEABLE SEAT SEAL ASSEMBLY





WORLDWIDE OILFIELD MACHINE



VALVES & CONTROLS
A WOM group company



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We are Worldwide Oilfield Machine (WOM) - a global company pioneering Flow Control Solutions for the Surface & Subsea sectors of the oil & gas industry. Headquartered in Houston, Texas, we have manufacturing facilities, engineering centers, sales offices and assembly/testing workshops all over the world.

Our strength is our robust infrastructure that allows us complete control over quality, costs and delivery. With more than 20 patents and noted accreditations, our very own R&D facilities and 24x7 service centers across the globe we have the required capabilities & resources to deliver all your manufacturing needs for the industry.

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