



REFCOMM

BLAC INC.
New Division for
FCCU / RFCCU VALVE SYSTEMS

WHO IS BLAC INC. ?

BLAC INC. was in Established 1990

Designed and constructed hydraulic control systems for FCCU / RFCCU applications

We sold directly to refineries, E&C Contractors and various valve companies

In 2015 BLAC INC. started the valve division to design and manufacture FCCU valves

Complete in-house design and manufacturing for valves/actuator systems

Rebuilding and upgrading capabilities for competitor valves and hydraulic control systems throughout the world

Our company is designed to provide high tech solutions to the refinery's problems in FCCU valves and actuator systems

INDUSTRY CHANGES IN FCC VALVE COMPANIES

Z&J ← IMI → REMOSA

TAPCO ← ENPRO →

TEI

CURTISS-WRIGHT

CW – SUN CAPITOL – CIRCO ENERGY

FACILITIES

Elmhurst / Chicago, IL

- Actuator and Valve Manufacturing
- Accessible from Chicago Midway / O'Hare Airports
- Port Access for Large Valves



Houston, TX

- Valve Manufacturing / Actuator Repair
- Accessible from Houston Hobby and Intercontinental Airports
- Port Access for Large Valves



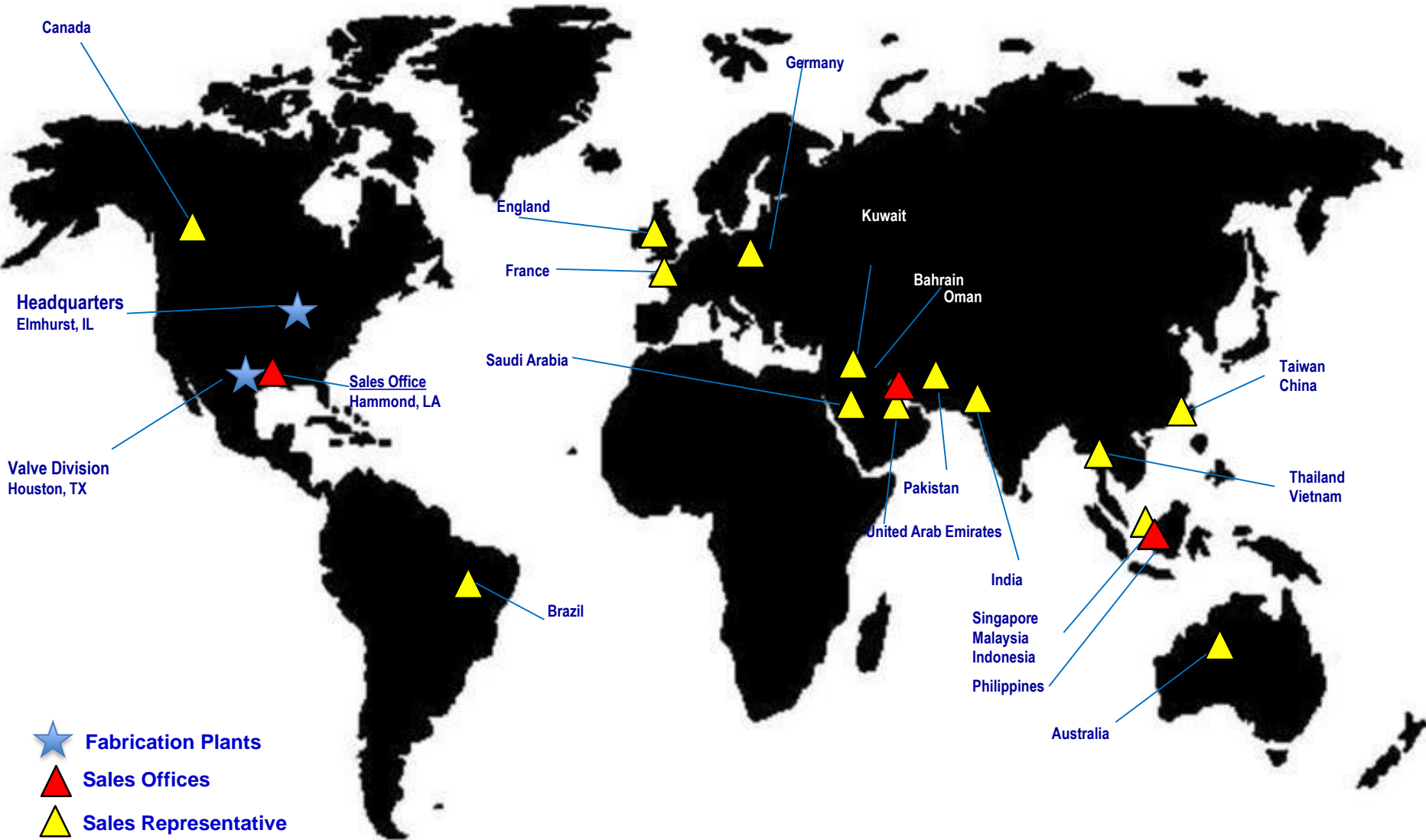
BLAC INC. VALVE PRODUCTS

REFINING – RFCCU AND FCCU UNITS

- Slide Valves
- Butterfly Valves
- Plug Valves
- Diverter Valves
- Goggle Valves
- Fractionator Isolation Valves
- Main Air Blower Suction Valves
- Main Air Blower Discharge Butterfly Valves
- Variable Orifice Valves
- Catalyst Dropout Valves



BLAC INC. WORLD



BLAC INC. VALVE DIVISION

ENGINEERING DESIGN CHANGES

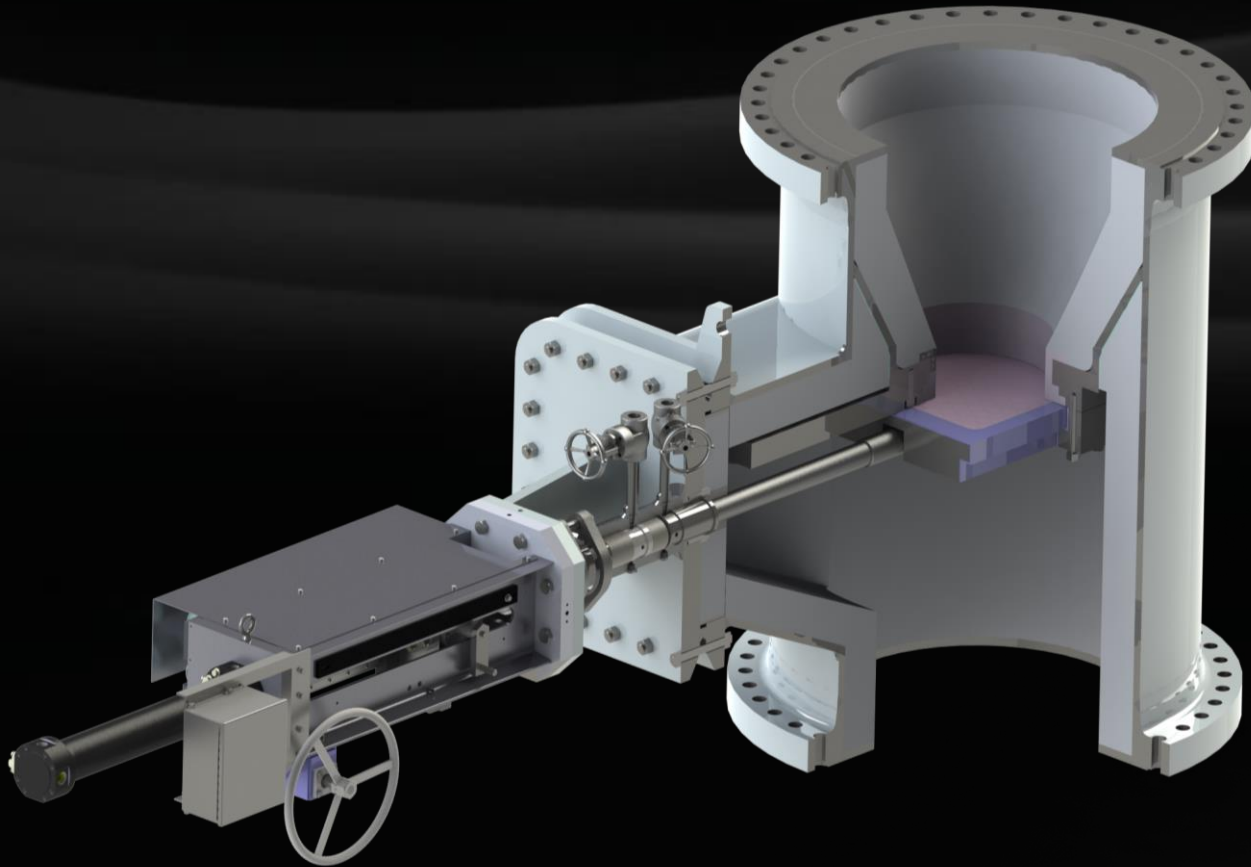
BLAC INC. TECHNOLOGIES

- **Actuator Built To The Valve Bonnet – No Lower Yoke**
- **Actuator Piloted Directly To The Bonnet Cover Of The Valve**
- **Stuffing Box Is Built Extra Heavy Duty**
- **Valve Inlet Cone Welded Into Valve Body**
- **Purge Control of Valve Stuffing Box**

BLAC INC. OLDER STYLE OF VALVE ACTUATOR MOUNTING

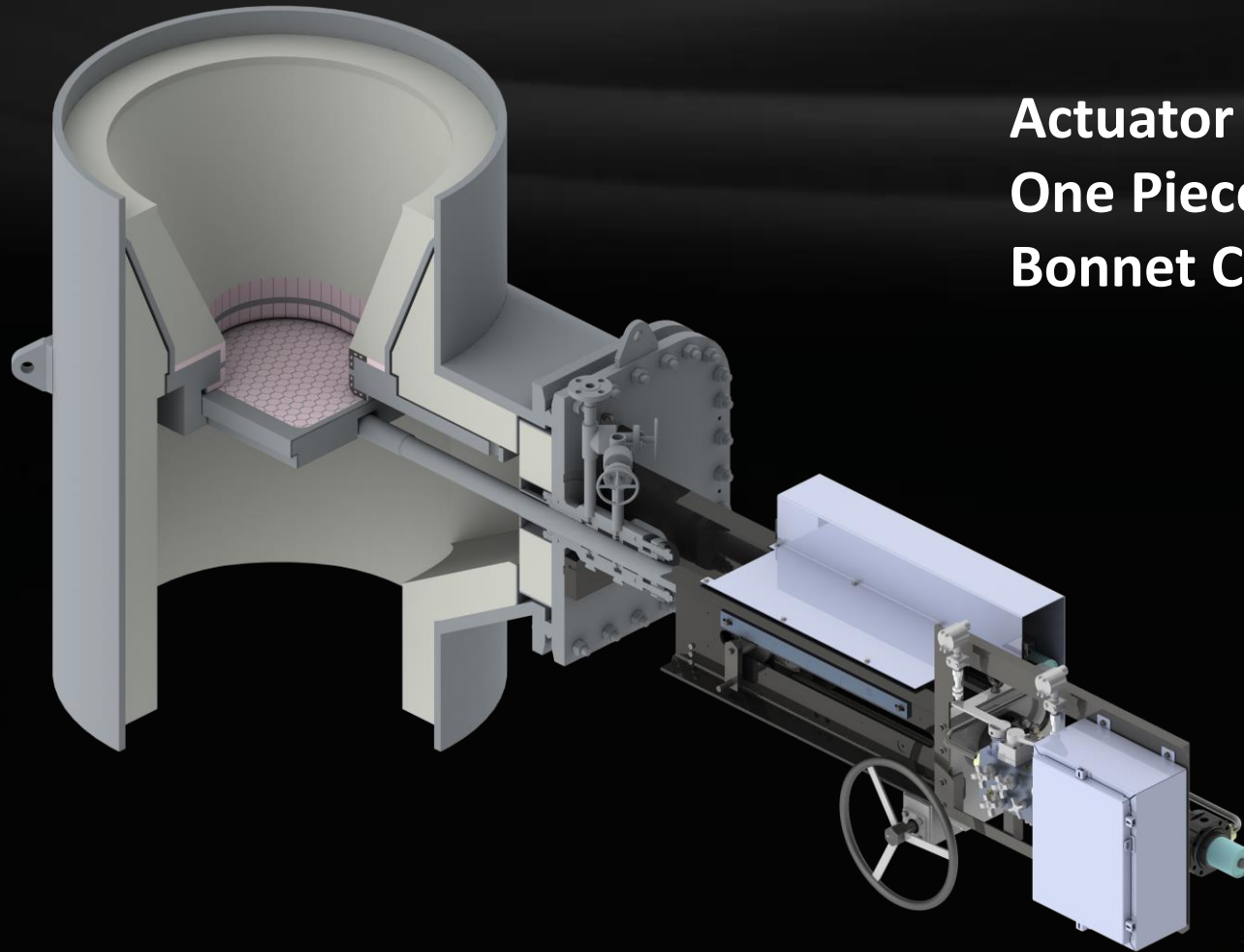


BLAC INC. OLDER STYLE LOWER YOKE ASSEMBLY



**Actuator is Mounted to Lower Yoke Which
is Mounted to Bonnet Cover Flange**

BLAC INC. ACTUATOR CONTINUOUS YOKE - IMPROVED DESIGN



**Actuator Side Rail is
One Piece to the
Bonnet Cover**

BLAC INC. ACTUATOR CONTINUOUS YOKE



VALVE BONNET COVER FLANGE PILOTED TO ACTUATOR

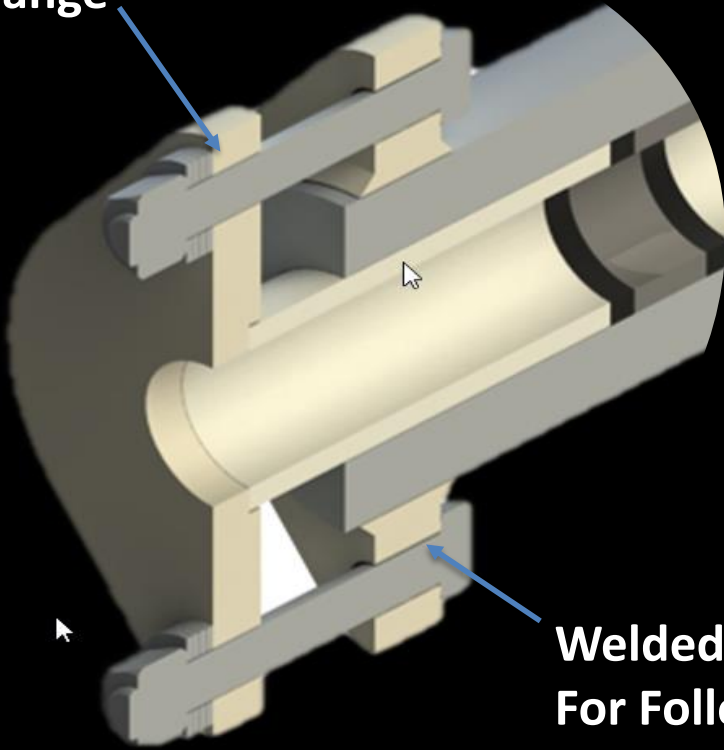
BLAC INC. ACTUATOR PILOTED YOKE



VALVE PACKING AND STUFFING BOX IMPROVED DESIGN

FCCU SLIDE VALVE STUFFING BOX ASSEMBLY

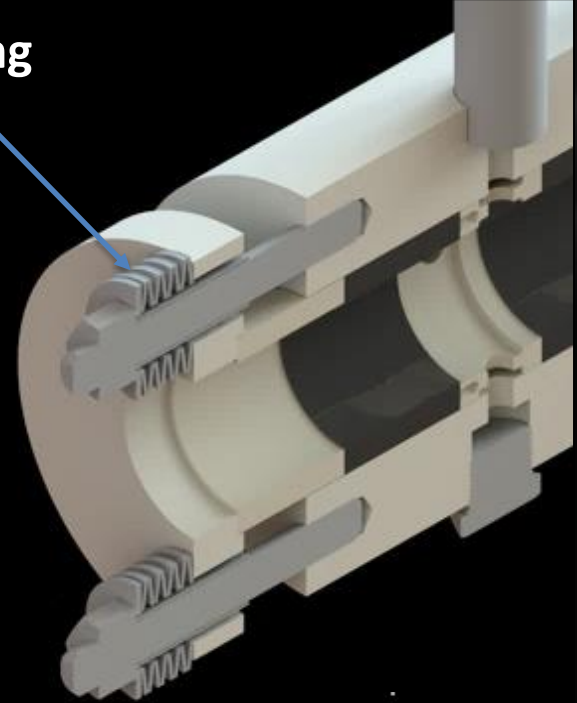
Following
Flange



Welded On Tab
For Following
Flange Bolts

Older Style Stuffing Box

Following
Flange

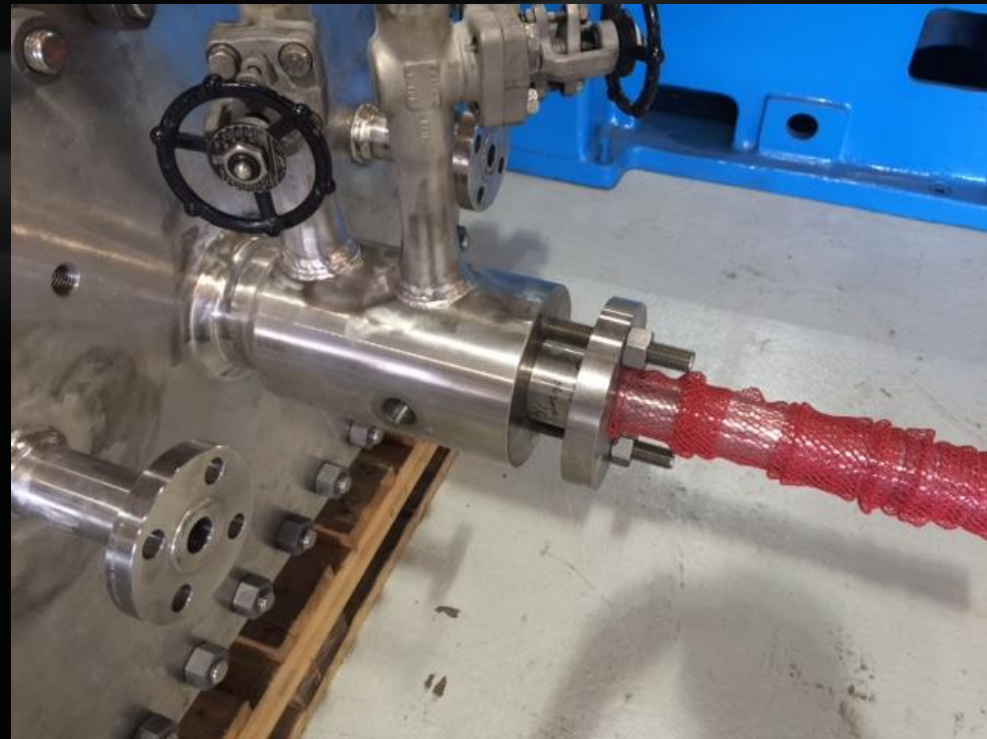
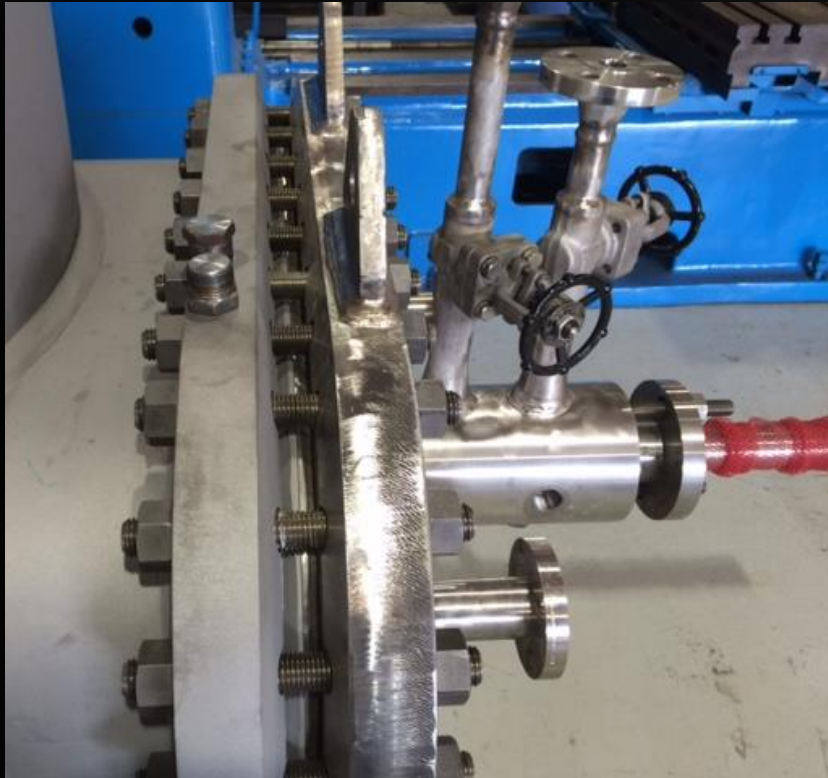


BLAC INC. Stuffing Box –
Following Flange Bolts
Into Stuffing Box

Differences of BLAC's Stuffing Box Continuous Purge Type Design

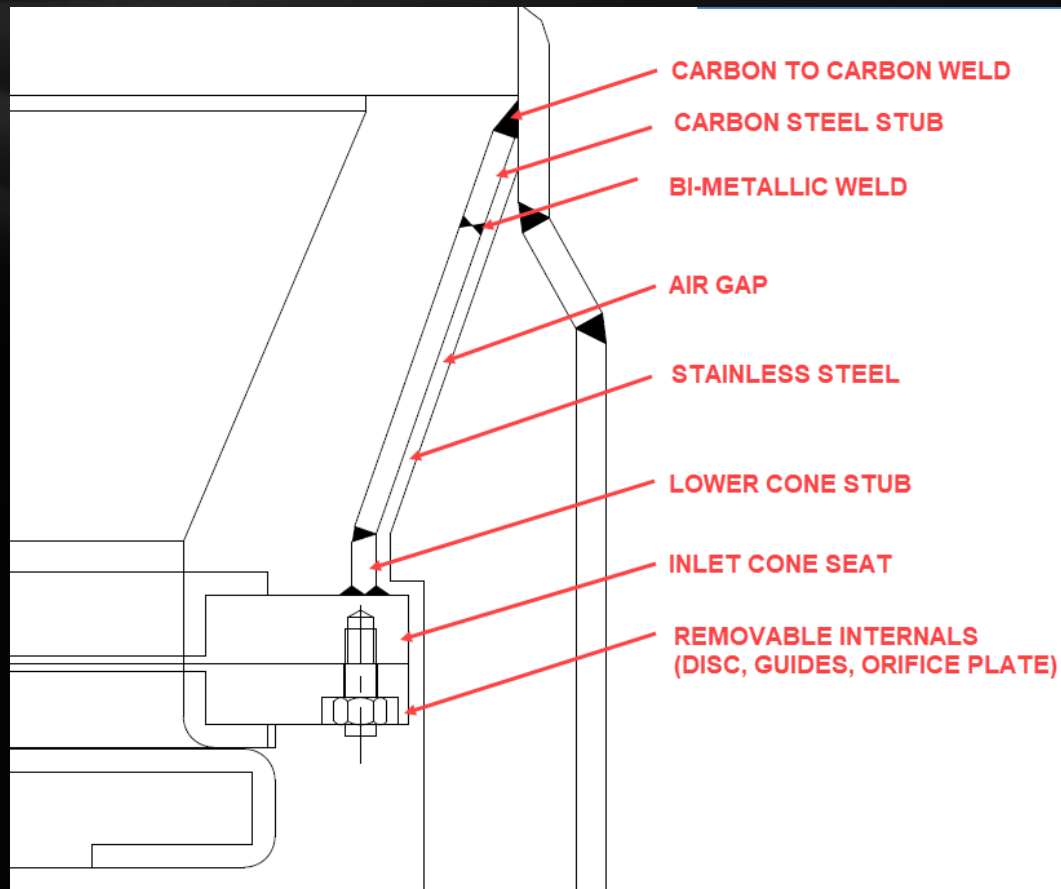
- **BLAC's stuffing box barrels are designed with extra heavy wall thickness - following flange bolting is threaded into barrel wall**
- **Results in the following flange bolting and spring washers to be located closer to the stem centerline**
- **Reduces ability for following flange to be over-torqued**
- **Eliminates the conventional welded-on ears or brackets that are wider apart from valve shaft centerline**
- **Reduces leakage potential for stuffing box**

FCCU SLIDE VALVE STUFFING BOX ASSEMBLY



CONE WELDMENT TO VALVE BODY

BLAC INC. COLD SHELL VALVE INLET CONE WELDMENT



INTELLIGENT PURGE CONTROL

REV	DATE	BY	APVD	REV	DATE	BY	APVD
0	07SEP12	AJP	RAJ				

SLIDE VALVES

3.6 Stuffing Box

- a. Design of the stuffing box shall permit replacement of the gland packing during operation of the valve without changing the normal position of the disc. Replaceable gland packing shall be John Crane style 1625G, 1600N, 235 or Slade 3300G.

Recommended Supplier: John Crane, Inc.
6400 West Oakton Street
Morton Grove, IL 60053
USA
www.johncrane.com

- b. Purge and injection ports shall be provided for slide valves. Contractor will provide piping detail for the purge connections as shown in UOP P&ID Unit Specific Details & Notes. The stuffing box shall have the ports listed below as a minimum:

- (1) One purge port, equipped with a 1 inch (25 mm) valve and corresponding drain with plug.
- (2) One sealant injection port, equipped with a 1 inch (25 mm) valve and corresponding drain with plug.



- c. Purgeless stuffing box on slide valves is not acceptable

PURGE RELATED FAILURES

Excessive Purge Rates



Stem damage due to excessive packing gland purging



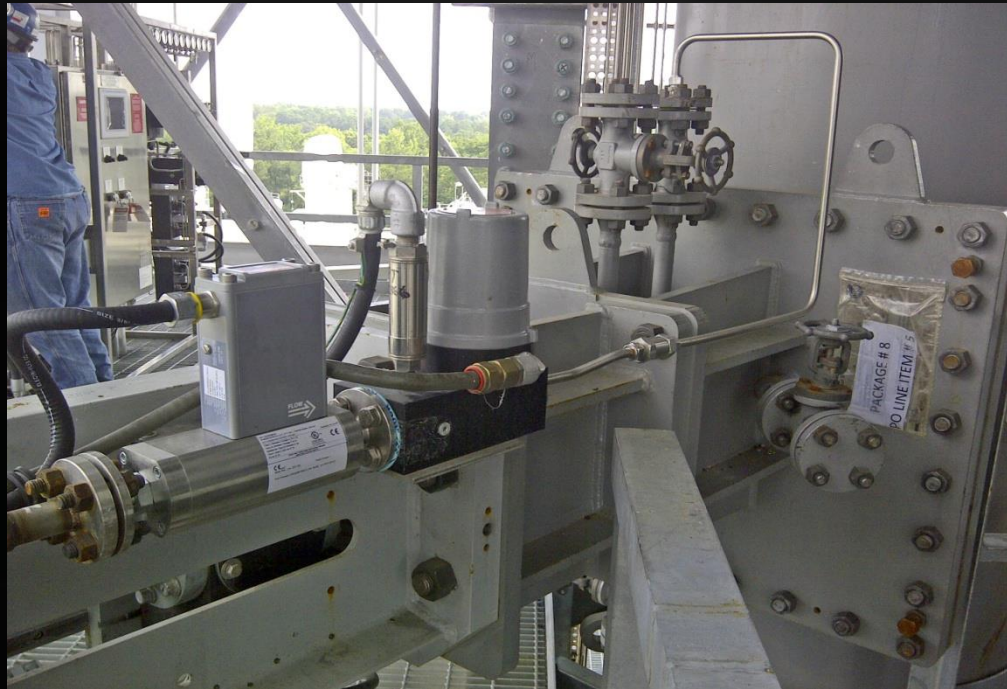
Seating Plate damage due to excessive purging



Disc damage due to excessive packing gland purging

EXTENDED RUN TECHNOLOGY

Optimized Intelligent Purge Control



- Setpoint for flow is adjustable remotely
- Pressure loss is provided as an output alarm
- Flow is controlled accurately and adjustable on line
- Actual flow and pressures with setpoints are continuously recorded

FCCU SLIDE VALVE STEM AND STANDPIPE PURGE SYSTEM

- Replaces the Restriction Orifices on Stuffing Box – There is No Orifice Plugging
- Flow is Controlled Accurately to Setpoint – Thus Guarantee Can Be Provided
- Flows and Pressures for Setpoints Are Recorded for up to 6 Years
- Control Valve is Fully Opened for 10 Seconds Every 8 Hours to Clear Catalyst
- For Blast Ports – Timed Pulse for 20 Seconds Every 24 Hours

THANK YOU FOR YOUR TIME