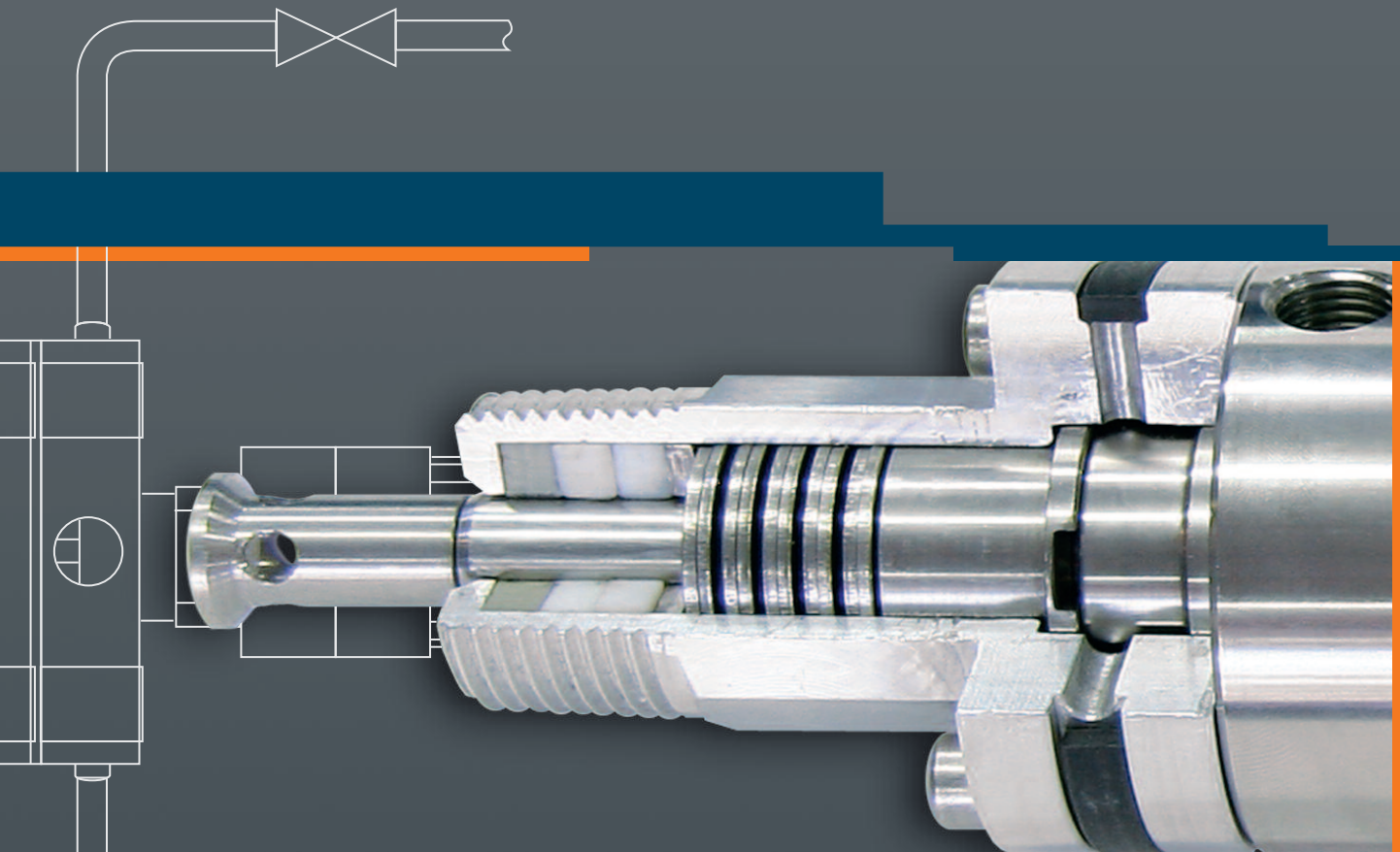


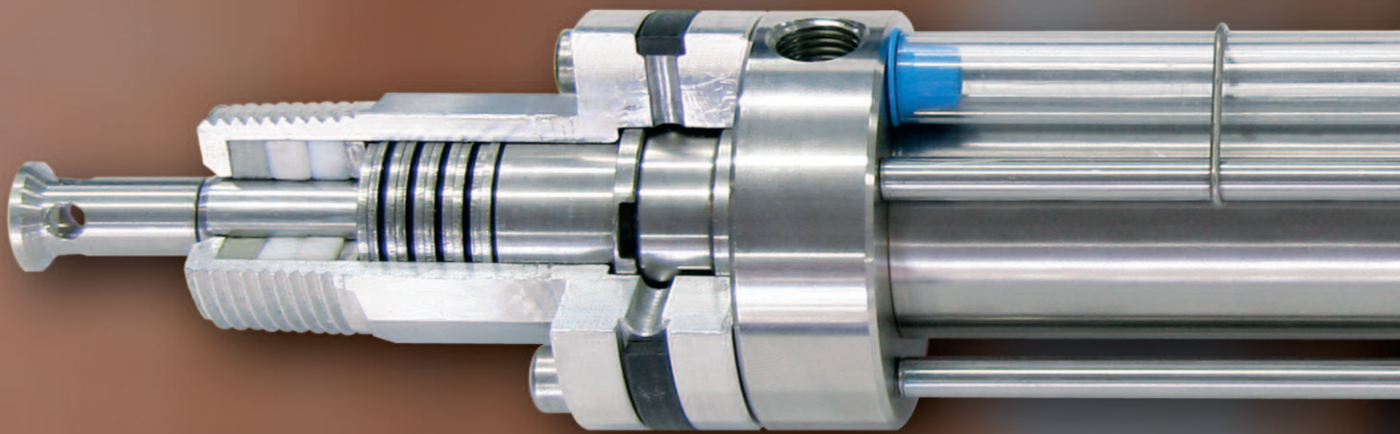
INNOVATIVE SOLUTION TO KEEP TAPPING POINTS CLEAR



CLEARGUARD PTY LTD

“ PARTIAL AND COMPLETELY BLOCKED TAPPING POINTS IN AN ALUMINA REFINERY ARE CURRENTLY "RODDED OUT" MANUALLY. THIS PROCESS EXPOSES WORKERS TO THE POTENTIAL RISK OF CAUSTIC BURNS. **CLEARGUARD® AUTO RODDERS ELIMINATE THIS PRACTICE**, THEREBY AVOIDING THE CONSEQUENCE OF INJURY BOTH IN THE ACUTE SETTING AND IN REHABILITATION COSTS... ”

-WORLD RECOGNIZED BURNS SPECIALIST.



THE

MANUFACTURING THE AUTORODDER

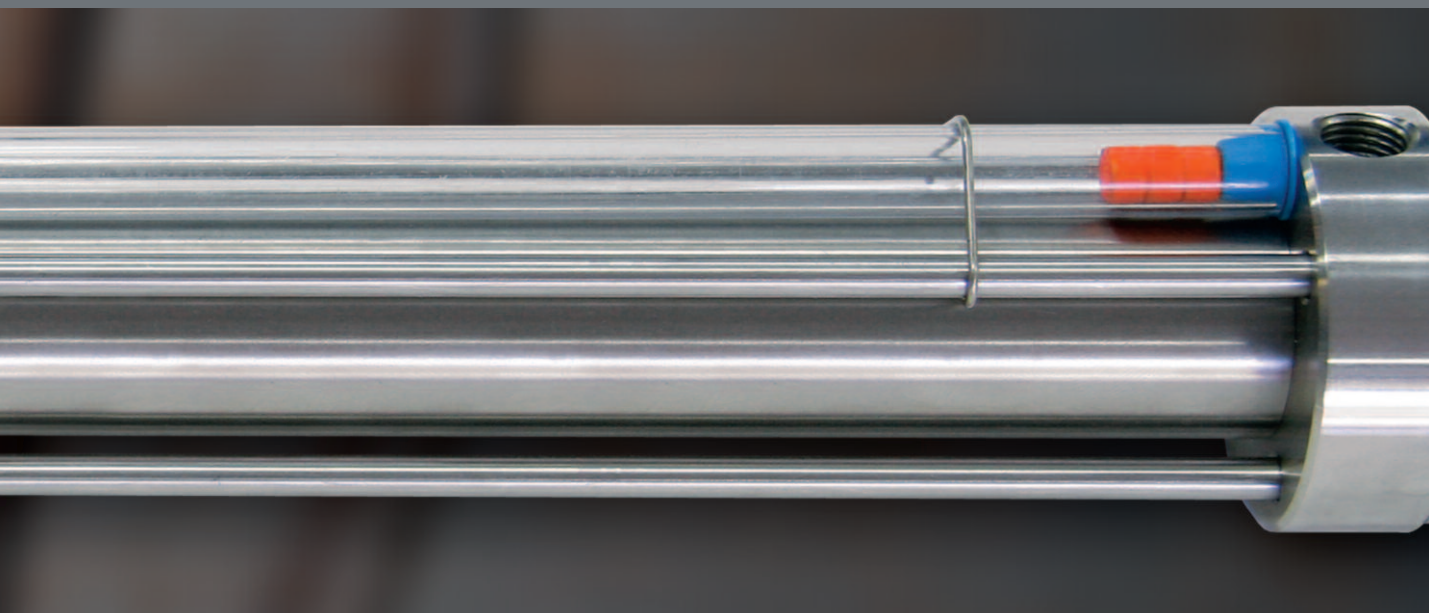
Patented in the USA, Canada, Australia and South Africa. With Patents pending in India, Brazil and the European Union, the **CLEARGUARD®** autorodder is manufactured in Australia and the U.S.A. Our Autorodder is designed in accordance with ASME and ANSI standards using ASTM and DIN specified materials and grades, manufactured in accordance with ISO 9001 Quality Assurance Standards. The device is safe, easy to operate and simple to maintain, using hand held tools. The **CLEARGUARD®** autorodder can be engineered and designed to suit most process installations. **CLEARGUARD®** autorodders are manufactured using the most modern manufacturing methods and tested to the highest standards.

The Standard autorodder is manufactured from Stainless Steel with energized process compatible packing materials, and sized to suit your application. Each autorodder is assigned a unique serial number allowing complete traceability on materials, testing and ease of spare part selection. **CLEARGUARD®** Pty Ltd is committed to providing on-time delivery and guarantees every autorodder against any defect in workmanship and/or materials.

CLEARGUARD® AUTORODDERS CAN BE APPLIED EVERYWHERE...

Wherever Pressure Instruments are currently being used on dirty processes. Wherever Pressure Transmitters COULD be used to measure the Process Variable. Wherever any measuring, sampling or testing point is inhibited by debris or scale accumulation in the tapping point.

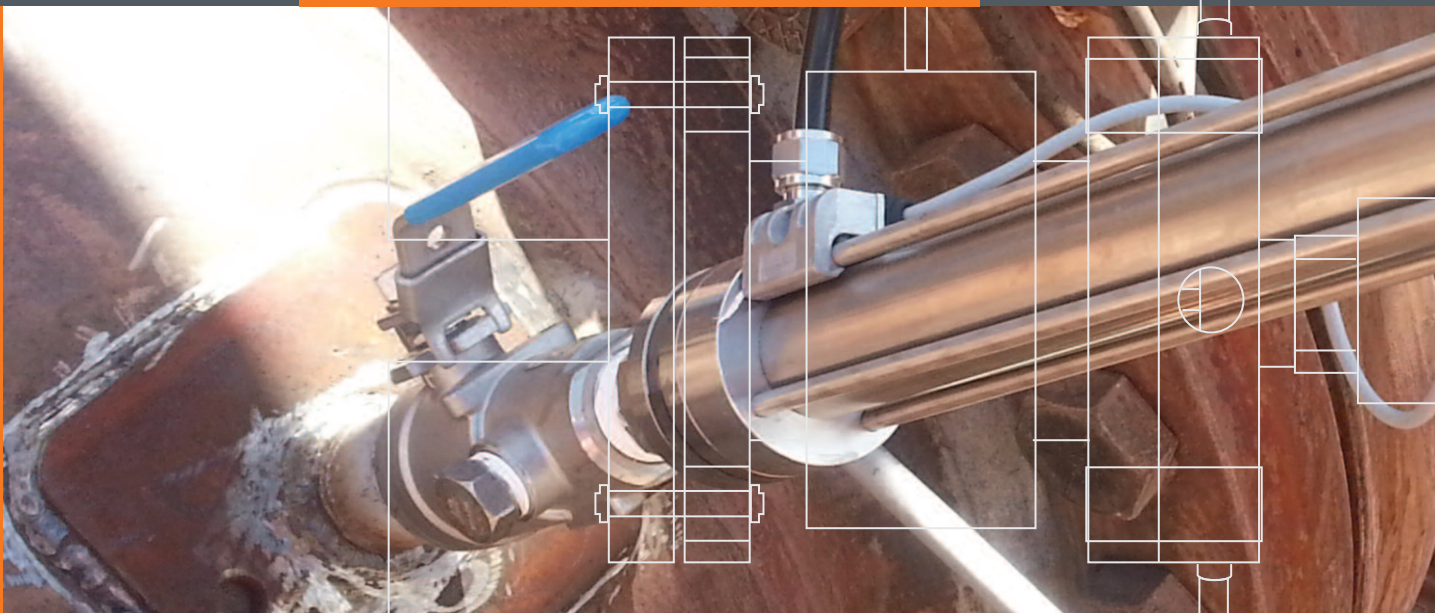
CLEARGUARD® AUTORODDERS have been used in Mineral Refining, Petrochemical, Pulp and Paper, Steel Making and Oil Refining throughout the world in Australia, Jamaica, India, New Zealand, Scotland, Ireland and USA.



AUTORODDER

BENEFITS SEEN WITH THE TAPPING POINT AUTORODDER

- SAFETY - Reduce injuries from burns and/or falls from costly manual rodding.
- PROCESS - Purge media reduced by up to 80%.
- ACCURATE MEASUREMENT READINGS - No spikes or false readings with clear tapping points.
- PRODUCTION - No process interruptions or disturbances due to incorrect instrument feedback.
- MAINTENANCE - Optional battery pack lasts for one year or the control system can be hard wired.
- P.M. REDUCTION - No need to clean taps manually.
- EASY INSTALLATION - Needs only instrument air.
- ROBUST DESIGN - Engineered and Designed for long service life.
- PATENTED APPARATUS - Does not effect pressure measurement signal.



“ If we did not have the autorodders keeping our taps clear, (on the two out of three safety shutdown system) this vessel would automatically shut down and this place just wouldn't be running... ”

MAINTENANCE PLANNER – STEEL PLANT.

AUTORODDERS TECHNOLOGY

Blocked or plugged tapping points (taps) have been a curse on accurate and reliable process variable measurement for decades.

Now that problem has been solved. Designed in Western Australia and manufactured in Australia and the U.S.A., the **CLEARGUARD®** autorodder keeps your tapping points clear at all times. Operating in applications where process temperatures can reach 1400 degrees Celsius (2552 degrees Fahrenheit) and pressures up to 100 BAR (1450psi), the **CLEARGUARD®** autorodder has proven itself to be reliable and effective in keeping the tapping point open, allowing for accurate and unimpeded process variable measurement.

HOW DOES THE AUTORODDER WORK?

The **CLEARGUARD®** autorodder is a simple device. By using proven pneumatic cylinders, operating on instrument air, a special scraper is periodically stroked through the tapping point, scraping all scale and debris from inside the tapping point. The scraping/cleaning stroke takes less than a few seconds and even during the stroke, your field instrument/pressure transmitter is on-line, measuring your process variable. Able to be operated locally or remotely, you get to dictate how often you would like the scraper to clean the tap!

PROVEN SAVINGS

With clean tapping points allowing accurate and reliable process variable measurement from your trustworthy, robust and proven field transmitter, you can;

- Eliminate exposing any personnel to the risky and often difficult practice of manually rodding out tapping points – **Saving on potential injury, Saving on manhours.**
- Eliminate reduced process production due to unreliable process variable measurement – **Saving on inefficient production, maximizing unit production.**
- Eliminate unnecessary parasitic purge – **Saving on purge flow, Saving on diluted process.**
- Eliminate spurious shut downs and unplanned outages – **Saving \$\$\$ on lost production, Saving \$\$\$ on unnecessary maintenance.**

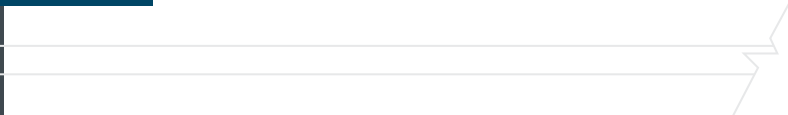


DIAGRAM A

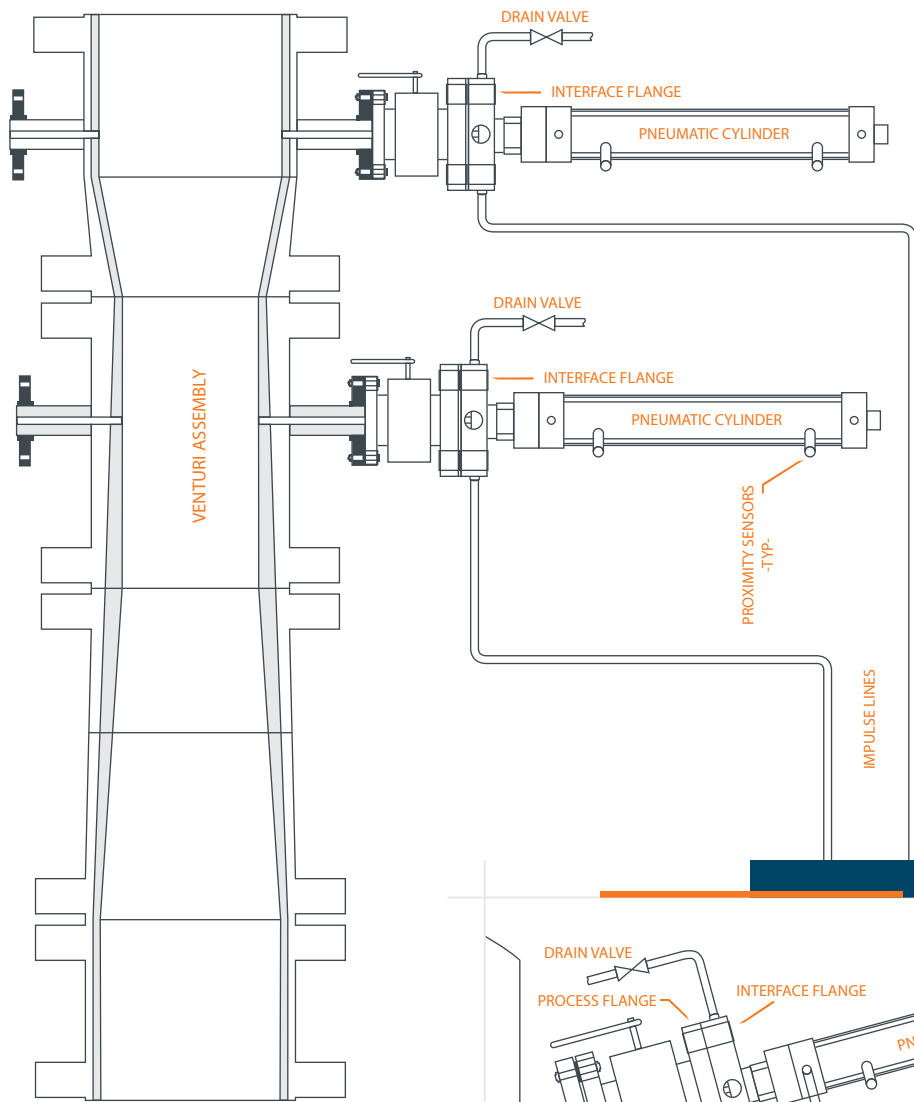


DIAGRAM B

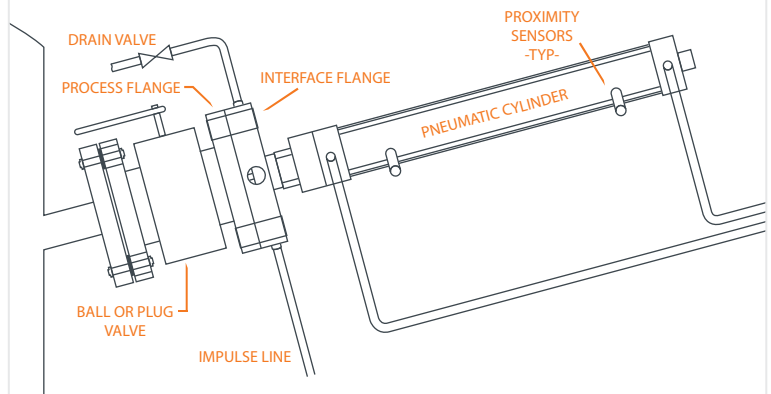


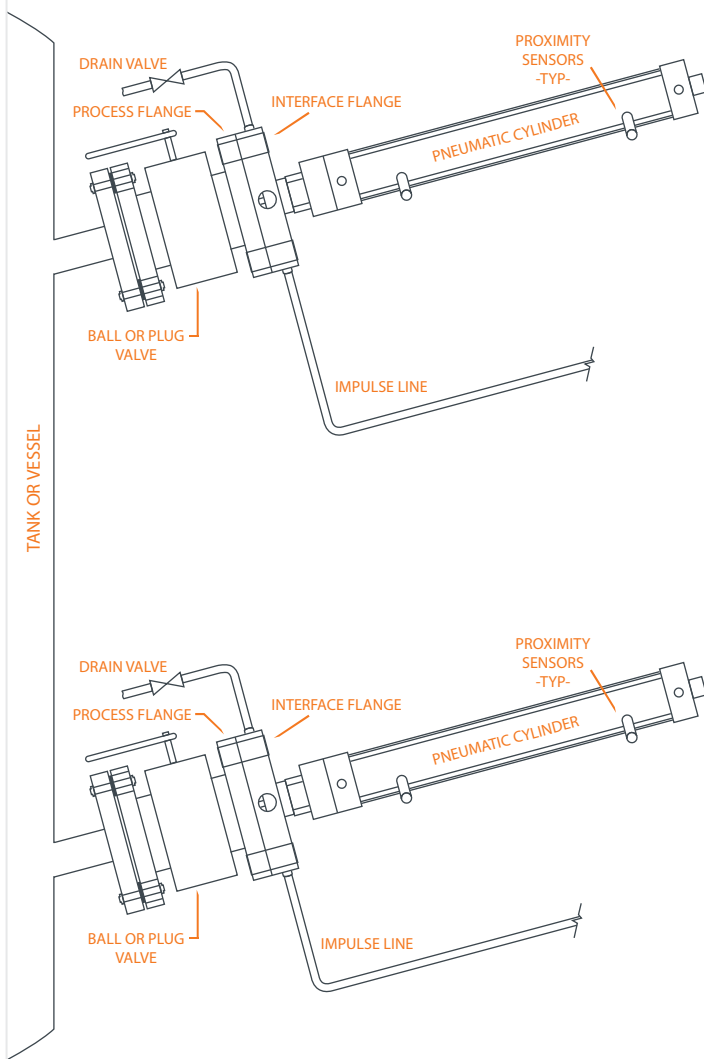
DIAGRAM A - FLOW MEASUREMENT APPLICATION

Using a differential pressure transmitter that measures the pressure difference between the two tapping points.

DIAGRAM B - PRESSURE MEASUREMENT APPLICATION

A pressure transmitter is used to measure the pressure inside the vessel or pipe.

DIAGRAM C



TECHNICAL FEATURES

- Blow out proof stem
- Seal wear tell tale
- Lightweight and robust
- Custom engineered
- Fail safe manual extraction

OPTIONAL FEATURES

- Remote position indication
- Pressure sealed packing box
- Dual sealing feature
- "Bubbler" installation design
- Integral Scraper

CONFIGURATIONS

- Process Connection sizes from
- 15mm (1/2 inch) to 80mm (3 inch)
ANSI Class 150 up to 600
- Screwed NPT, BSPT
and Flanged Connections
- Stroke lengths of 50mm (2 inches)
to 1200 mm (48 inches)
- Optional Isolation Valve complete
with Integral impulse/vent
connections
- Pressure assisted packing
- Low temp, ambient and high
temp versions available
- Toxic service versions available
- Manufactured in a wide variety
of process compatible materials

DIAGRAM C - LEVEL MEASUREMENT

Using a differential pressure transmitter that measures the hydrostatic head and allows the level to be determined.



“

WHERE WE HAVE THEM INSTALLED AT THE MOMENT, IS ON OUR CLEAR FILTRATE TANKS, AND THIS IS PROBABLY, IN OUR PLANT, THE MOST HOSTILE TYPE OF ENVIRONMENT – STEAM, FOAM, HIGH TEMPERATURES, VERY RAPID FLOW CHANGES, SMALL TANKS AND HUGE, HUGE VOLUMES GO THROUGH THEM. WE’VE GOT THEM INSTALLED THERE AND WE’RE IN THE PROCESS OF INSTALLING THEM FOR THE LEVEL OF OUR CAUSTICIZER TANKS. THEY LOOK AFTER CALCIUM CARBONATE IN THE PRODUCT, SO IT’S SORT OF A LIME-ISH TYPE TANK... WE INTEND TO PUT THEM ON ALL OF OUR FLASH VESSELS AND PROBABLY SOME OF OUR PRESSURE VESSELS BECAUSE WE RECKON WE’RE ON A WINNER.

-INSTRUMENT/ELECTRICAL MAINTENANCE MANAGER – MAJOR ALUMINA REFINERY.

WE HAVE TO SEND OUT GUYS TO ROD OUT TAPS IN MINUS 40 DEGREE TEMPERATURES AND THEY DON’T LIKE IT AND NEITHER DO WE.

-MAINTENANCE MANAGER – MAJOR OIL REFINERY.

WITH THINGS THE WAY THEY ARE, WE HAVE TO WAIT UP TO 3 OR 4 DAYS BEFORE A MAINTENANCE TECH CAN GET TO A BLOCKED TAP, IN THAT TIME, WE HAVE TO REDUCE PROCESS THROUGHPUT BY 20%...SO YOU CAN IMAGINE, OPERATING AT ONLY 80% FOR 3 OR 4 DAYS AND THAT COULD OCCUR EVERY MONTH!

-SENIOR PROCESS CONTROLLER – ALUMINA REFINERY.

”



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DNV

QUALITY ASSURED
ISO9001

DNV Certification Pty Ltd