



## POTENTIAL ADJUSTMENT PROTECTION™ Proven Corrosion Prevention Technology for Wet FGD Scrubbers\*

*Pitting is described as, “one of the most destructive and insidious forms of corrosion”.[1]*

*Wetted surfaces of FGD scrubbers suffer from pitting, crevice corrosion, and other forms of corrosion. Corrosion Service’s Potential Adjustment Protection™ (PAP™) system mitigates all forms of corrosion and halts further scrubber deterioration that can result in expensive repair costs.*

*To date, 20 scrubber systems have been installed in addition to over 120 PAP™ Systems installed in other industries since 1979.*

*Corrosion Service has mitigated corrosion in scrubbers constructed of:*

- 2205
- 904L
- 316L
- 317LMN
- AL-6XN

<sup>[1]</sup>Fontana, M. & Greene, N., *Corrosion Engineering*, 2nd Ed., McGraw-Hill, 1978, Pg. 48.

**\*Patent Pending**



Unprotected scrubbers can experience severe pitting (shown around weld above right) after only a few months in service.

### Features:

- May be installed in newly constructed or existing scrubbers
- Fully automatic electronic control to compensate for changing operating conditions
- Effective on scrubbers with cladding, “stainless steel wall-papering” and solid stainless steel construction
- Effective on austenitic and duplex stainless steels
- Optimal anode & reference electrode layout based on decades of experience and computer simulations
- Low power consumption
- Low maintenance cost
- Remote monitored by specialists - operating parameters monitored via the internet

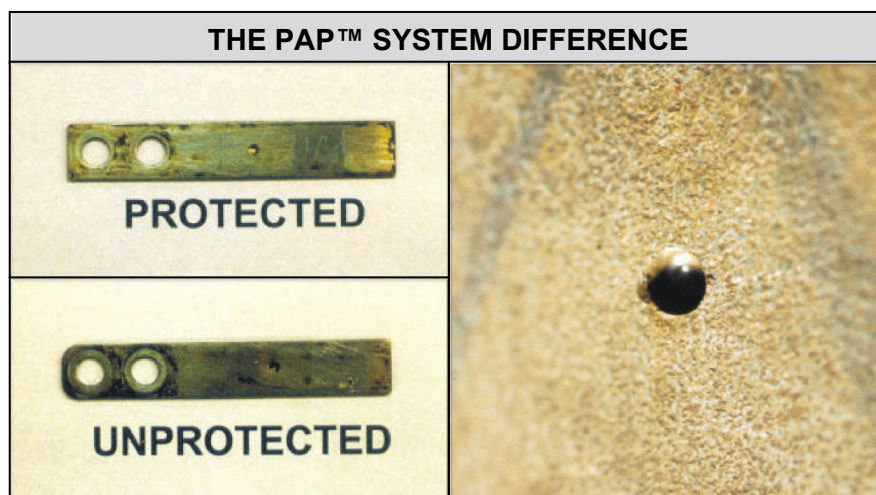
### Benefits:

- Halts corrosion
- Halts further propagation of existing pits
- Prevents initiation of new pits
- Effective at welds, heat affected zone (HAZ), and base metals
- Extends scrubber life
- Cost effective corrosion control
- Eliminates unplanned scrubber outage
- Increases scrubber reliability and personnel safety
- Lowers maintenance costs and increases productivity
- Equivalent to metallurgy upgrade at a much lower cost

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**CORROSION  
SERVICE**



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Coupons (above left) made of the same stainless steel as the scrubber were used to monitor corrosion. After 8 months of exposure in the scrubber, the PAP™ “protected” coupon remained in pristine condition while the “unprotected” coupon showed severe corrosion. Note that the dimple at the center of the “protected” coupon remained sharp and distinct.

After 8 months of PAP™ protected service, a simulated pit (above right) made by drilling a hole on the scrubber wall showed no sign of corrosion. The hole edge remained sharp and distinct. There was no increase in pit depth.

PAP™ PROTECTED SCRUBBER CASE HISTORIES				
Material of Construction	Date Installed	No. of Systems	Effective Today	Status
904L	1979	10	Yes	Protected
316L Wallpaper	1995 / 1998	2	Yes	Protected
317LMN	1998	2	Yes	Protected
AL-6XN	2009	2	Yes	Protected
2205	2010	2	Yes	Protected
2205	2011	3	Yes	Protected
2205	2012	2	In Progress	

#### Other PAP™ Systems since 1979:

- 120 Bleach plant washer drums
- 2 Salt Concentrators

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