

SRU SOLUTIONS: MECS® DYNAWAVE® REVERSE JET SCRUBBER

99.9+% Sulphur removal at the lowest cost and with the highest reliability

Claus sulphur recovery units (SRU) are found in various industries, such as refineries, natural gas processing plants, chemical plants, and coal gasification facilities.

The Claus process is widely used to recover sulphur from H₂S containing gas streams. However, a Claus SRU can typically recover only 95 – 98% of the sulphur present. Many times, tail gas treatment units (TGTU) are installed downstream of a Claus SRU to increase the overall sulphur recovery to 99 – 99.9% in order to comply with local environmental regulations.

These TGTUs may include amine-based TGTUs (*SCOT type*), cold-bed sub-dewpoint processes (*SULFREEN®*, *CBA*, *etc.*), or direct oxidation type processes (*SUPERCLAUS®*, *EUROCLAUS®*, *etc.*).

RECOVERY EFFICIENCY

Depending on the sulphur recovery efficiency provided by the SRU / TGTU combination, local environmental regulations for SO₂ emissions may be met normally. However, operations during start-up, shutdown and malfunction upsets may require further treatment downstream of the TGTU, or treatment as an alternate / redundant operation to the TGTU. This is where the DynaWave® wet gas scrubbing technology can provide reliable and worry-free operations, and guaranteed SO₂ removal to meet environmental regulations and good neighbour objectives.



WORRY-FREE, SIMPLE AND ROBUST DESIGN

The DynaWave® system is a unique open bore, reverse jet scrubber that utilises “Froth Zone” technology to perform desulphurisation in a wet gas environment. This proven technology will reduce total installed cost, simplify operations and deliver over 99.9+% sulphur removal.

Contact MECS, Inc. (MECS) for more information regarding environmental performance enhancements for your specific SRU application.

FEATURES AND BENEFITS

EMISSIONS REDUCTION

- 99.9+% sulphur removal
- Less than 25 ppm SO₂ emissions
- Meets environmental and “good neighbour” objectives

OPERATIONS AND RELIABILITY

- Low capital cost
- Less operating cost
- Meets start-up, shutdown and malfunction emissions regulations
- Alternate / redundant operation to the TGTU
- Simple controls, reliable operation

TECHNOLOGY

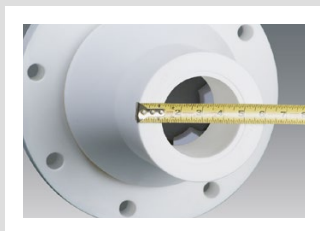
- Field proven
- Added flexibility:
 - Handles high SO₂ inlet
 - Can compensate for and complement SRU performance
 - Handles SRU tail gas if TGTU is shutdown or bypassed
 - Excellent polishing technology for very low SO₂ levels (10 ppm)
- Over 400 DynaWave® scrubbers installed worldwide

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TYPICAL DYNAWAVE® REVERSE JET SCRUBBER

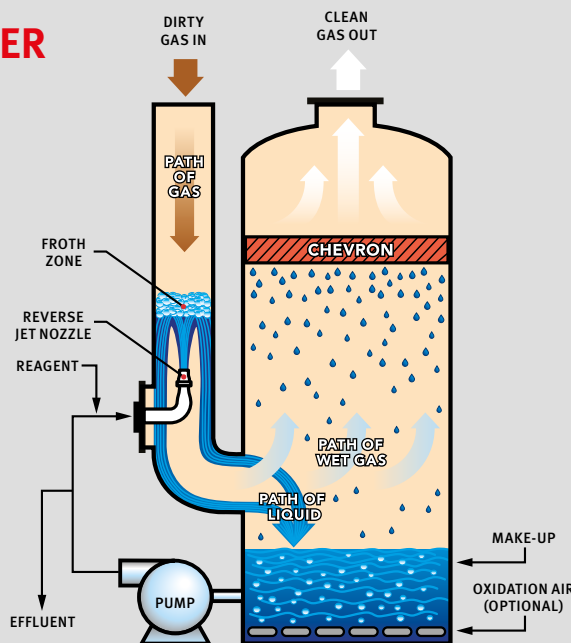
SRU SOLUTIONS
DYNAWAVE



REVERSE JET NOZZLE

SEE HOW IT WORKS

View a Quicktime® video on the MECS website at:
www.dynawavescrubber.com



HOW A REVERSE JET WET GAS SCRUBBER WORKS

The DynaWave® reverse jet scrubber is an open duct in which scrubbing liquid is injected, through a non-restrictive reverse jet nozzle, counter current to the dirty inlet gas. Liquid collides with down flowing gas to create the “Froth Zone,” a region of extreme turbulence with a high rate of mass transfer. The clean, water saturated gas continues through the scrubber vessel to mist removal devices. The liquid reverses direction and returns to the vessel sump for recycle back to the reverse jet nozzle. For SRU applications, DynaWave® technology is used after the incinerator and before the stack.

NUMEROUS APPLICATIONS CLAUS SRU

- CLAUS – Incinerator – DynaWave® technology
- CLAUS – TGTU – Incinerator – DynaWave® technology

OTHER SULPHUR APPLICATIONS

- H₂S scrubbing
- Sulphur pit or storage vents
- Flare gas H₂S scrubber
- Fuel gas treater
- Coal gasification

PROVEN PERFORMANCE

- Over 400 wet scrubbing systems installed worldwide
- Flow rates from 1’200 to over 2’000’000 Nm³/h
- SO₂ levels up to 200’000 ppm
- Can handle inlet temperatures up to 1’200° C

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