



Discover how we can help you

CONTACT US TO LEARN MORE



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Sulphuric Acid Plants and Equipment

Sulphur Burning Acid Plants • Metallurgical Acid Plants • Sulphuric Acid Concentration Plants • Sulphuric Acid Regeneration Plants

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Sulphuric Acid Plants

Our standard of excellence in the sulphuric acid industry has been established on a world basis for over 60 years. From our headquarters in Vancouver, BC and our fabrication facility in Pickering, ON, Worley Chemetics (Chemetics®) services customers in the non-ferrous metallurgical, fertilizer and chemical industries around the globe, by providing engineering, equipment and complete turnkey plants for sulphuric acid manufacture and sulphuric acid concentration.



Sulphuric Acid Regeneration Plant



INNOVATION AND EXPERIENCE

Leaders in process technology and equipment design

R&D at our Technology Center in Burnaby, BC and fabrication and materials experts at our Fabrication Facility in Pickering, ON. Extensive capabilities from engineering or maintenance studies through to equipment replacement or full turnkey plants.



CUSTOMIZATION AND SERVICE

Specifically tailored to our customers' needs

Our continued success depends on our focus towards understanding and meeting our customers' unique requirements.



QUALITY AND RELIABILITY

From concept to start-up and beyond

We provide services in the engineering, design, construction, maintenance, modification and operation of industrial facilities, as well as technology products.

SAFETY, RELIABILITY, EASE OF OPERATION, COMPLIANCE WITH EMISSION STANDARDS

We specialize in custom acid plants to treat sulphurous feeds from a wide range of sources, for many industries:

- Sulphur-containing off-gases from roasters, smelters, refineries or gas processing plants
- Liquid and solid sulphur for acid manufacture for fertilizers and metal leaching
- Spent acids from alkylation, methyl methacrylate (MMA) processes and waste water from acrylonitrile (AN) manufacturing



4400 MTPD Sulphur Burning Acid Plant

Energy efficient, sustainable and high-quality units

- Single/double absorption contact plants
- CORE-SO₂[™] oxygen-based plants
- CORE-FGD[™] plants for converting <3% SO₂ emissions to acid
- Wet gas cleaning systems and effluent treatment plants
- SO₂ scrubbing systems (hydrogen peroxide/caustic/ammonia/Blacktail[™])
- Oleum production systems
- Liquid SO₂ plants
- Sulphur melting and filtration systems, sulphur/acid storage
- Energy recovery systems (ALPHA[®])
- Regenerative SO₂ scrubbing systems

350+

Specialists in chemical plants' design, supply and operations

5000+

Installations of Worley Chemetics proprietary equipment for chemical plants

More than 60 years

Meeting the chemical production demands of the future

Sulphuric Acid Plant Equipment

RADIAL FLOW STAINLESS STEEL CONVERTER



RADIAL FLOW GAS/GAS HEAT EXCHANGER



SARAMET® / ANODICALLY PROTECTED ACID COOLER



ISO-FLOW® WITH SWIFT-LOCK™ ACID DISTRIBUTOR



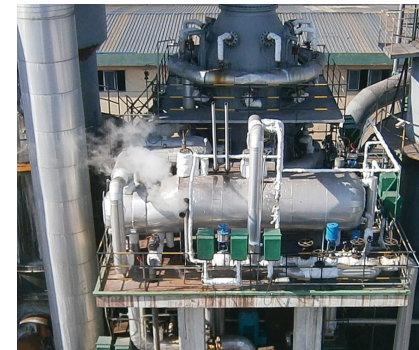
BRICK LINED / SARAMET® ALLOY ACID TOWERS



SARAMET® ACID PIPING



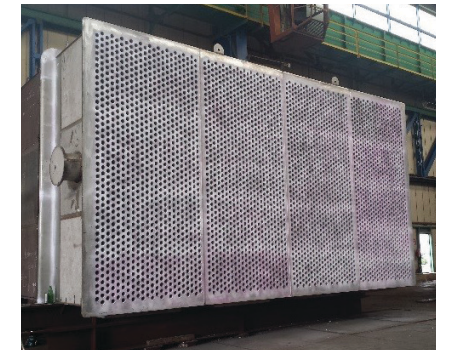
CES-ALPHA™ SYSTEMS FOR HEAT RECOVERY



CES-DSW™ DESALINATED WATER HEAT RECOVERY



CORE™ AND CORE-S™ CONVERTERS



SARAMET® ACID PUMP TANKS



TAIL GAS SCRUBBERS AND BLACKTAIL™



SULPHUR AND REGENERATION FURNACES



From our modern, purpose-built fabrication facility in Canada, we provide custom design and fabrication of process equipment.

DETAILS MATTER

Sulphuric Acid Concentration (SAC)

Over the years, Worley Chemetics has developed and proven a number of technologies to recover, treat and recycle spent sulphuric and nitric acids produced in many chemical processes. We offer our customers tailored solutions for removing organic and inorganic compounds from the spent sulphuric and nitric acids, and concentrating the resulting weak acid to be recycled to the process.

AVAILABLE WORLEY CHEMETICS SAC/NAC TECHNOLOGIES

- Removal of organic contaminants
- Removal of nitrate, chloride and/or fluoride contaminants
- Vacuum concentration of dilute sulphuric acid — maximum concentration of 96wt%
- Concentration of weak HNO_3 to 65% HNO_3



SAC Plant

We work closely with our customers to develop and customize the optimal solution for particular acid compositions. The resulting plant designs and required product strengths heavily depend on the acid feed and the type and level of contaminant.



SAC Plant



SAR Furnace

Sulphuric Acid Regeneration (SAR)

For heavily contaminated spent acids, sometimes the only solution is to thermally decompose the spent acid first, and then produce premium grade sulphuric acid and/or oleum from the resulting SO_2 gas.

Worley Chemetics' Sulphuric Acid Regeneration (SAR) plants incorporate the following features:

- Pre-concentration of the spent acid to reduce fuel consumption
- Efficient decomposition furnace design with low fuel consumption
- Optional oxygen enrichment or oxygen combustion to reduce fuel consumption and plant size
- Optional fully integrated NO_x removal system, generally required when the spent acid contains high levels of nitrogen compounds
- Gas cleaning system tailored to remove the contaminants entering with the spent acid, which ensures long catalyst life
- Integrated energy recovery producing high-pressure (superheated) steam.



SAR Plant