

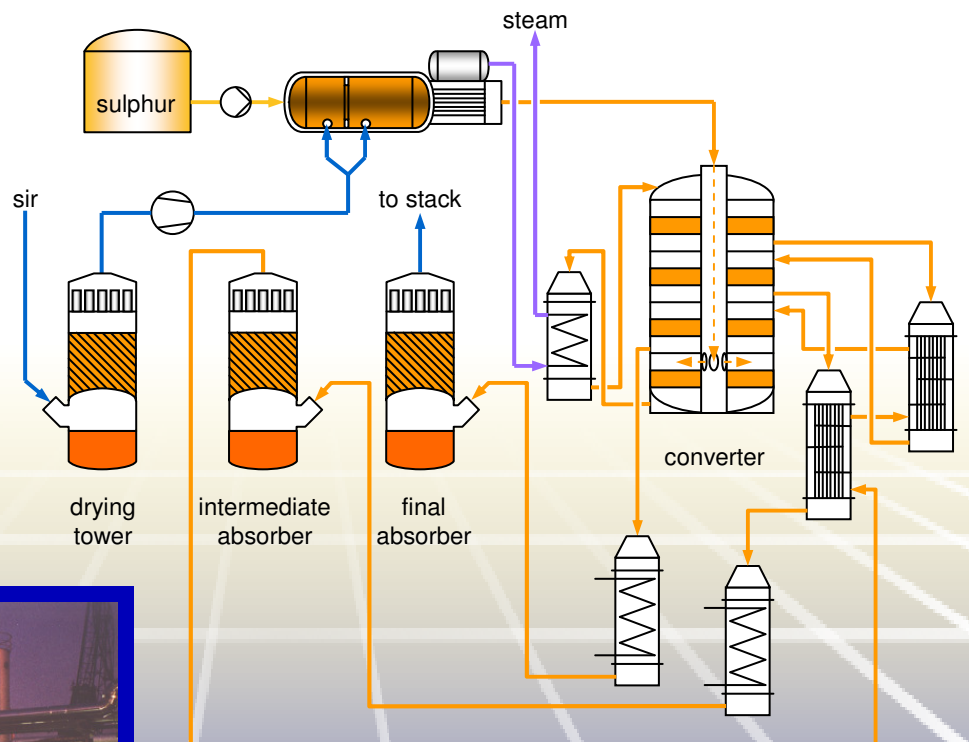
Since 1906 Petersen Technologies are and were used to build plants for the production of sulphuric acid.

HUGO PETERSEN
offers technologies for



- Production of oleum and sulphuric acid of high grade from elemental sulphur, sulphur dioxide containing gases from metallurgical sources, spent-acid-plants etc.
- Sulphur trioxide and sulphur dioxide in gaseous and liquid form
- Purification of sulphuric acid
- Heavy metal recovery as example:
 - arsenic removal from gases
 - mercury removal from gases

Typical process diagram



The company

HUGO PETERSEN located in Wiesbaden/Germany, came out of the same named company, founded 1906 in Berlin and is a company for engineering and construction. Many years of experience in plant engineering and construction, especially for sulphuric acid technology, ensure competent knowledge in a wide field of applications. Our process technologies for the production of oleum and sulphuric acid of high grade are well proven in several plants all over the world. HUGO PETERSEN offers turn key plants starting with the consulting up to the start-up with commissioning. Existing plants can be reengineered and revamped. Also general services can be offered.

- Consulting, plan of concept
- Process development and process engineering
- Process and profitability considerations
- Project management
- Engineering
- Procurement and supply
- Erection and supervision
- Commissioning / start-up
- Training of personnel
- Quality control
- Turnkey plants

The scope of services can either be offered within the scope of turnkey projects or separately as well as EPC or EPCM contracts.

Our experience in several technologies ensure competent knowledge in a wide field of application and allows us the efficient implementation of technologies and processes for revamps and new-plants.



Technological milestones

- 1906 First patent of Hugo Petersen for sulphuric acid process
- 1916 First contract sulphuric acid plant
- 1923 Start up of the first Petersen sulphuric acid plant
- 1938 Erection of the first sulphuric acid contact plant
- 1962 First contract for the in house designed Petersen Pressure Drop Absorber (DSA)
- 1964 First sulphuric acid double contact plant
- 1982 Supply of the first Petersen Turbo Agglomerator (PTA)
- 1985 Introduction of the new Wet Electrostatic Precipitator (WESP)
- 1989 Start up of a Petersen Activate Carbon Adsorption Process for a central power station
- 1994 Erection of a SCR plant for NOx removal after a petrochemical crack process
- 1996 Supply of a gas cleaning plant after a incineration of radioactive waste
- 1996 Certification of the quality control system "DIN ISO 9001" by "TÜV-Bayern-Sachsen"
- 1997 Modernization of a wood incineration with a dry sorption process and a combined catalytic removal of dioxins and NOx
- 1998 EPCM contract for a chemical plant for catalyst production
- 1999 Turnkey project of a reduction plant for a chemical process under hydrogen atmosphere
- 2000 End of commissioning of the first Petersen stream absorber (PSA)
- 2002 Start up of a sulphuric acid plant with nearly no emissions in South Africa
- 2003 Successful introduction of the first Super^{OX} scrubber. High efficient separation of SO₂ with similar production of sulphuric acid (up to 60 weight-%)

Extract of the Main References

Client, Country	Place of installation	Capacity	Process
Rikkihappo Oy Finland	Siilinjärvi	750 t/d	pyrrhotine roasting gases from fluidized bed sulphur
Phosphoric Fertilizers Industry Ltd., Greece	Kavala	500 t/d	pyrite roasting gases from fluidized bed sulphur
Union Explosivos Rito Tinto S.A. Spain	Cartagena	650 t/d	pyrite roasting gases from fluidized bed sulphur
Kemira Oy Finland	Harjavalta	480 t/d	mixed gas from flash smelter and copper converter sulphur
Wasag-Chemie AG Germany	Asia	6 t/d	low concentrated off gases containing 1,5 - 2,5 Vol.% SO ₂ sulphur
Kaohsiung Chemical Taiwan	Kaohsiung	25 t/d	pyrite roasting gases and zinc sulfide concentrate roasting gases from fluidized bed sulphur
Zorka Yugoslavia	Sabac	1000 t/d	pyrite roasting gases and zinc sulfide concentrate roasting gases from fluidized bed sulphur
Uhde Germany	Iran	30 t/d Oleum	low concentrated off gases containing 1,5 - 2,5 Vol.% SO ₂ sulphur
Climax Molybdenum B.V. Netherlands	Rozenburg	160 t/d	low concentrated off gases containing 1,5 - 2,5 Vol.% SO ₂ sulphur
PRVA ISKRA Yugoslavia	-	50 t/d	pyrite roasting gases and zinc sulfide concentrate roasting gases from fluidized bed sulphur
Th. Goldschmidt AG Germany	Mannheim	150 t/d	pyrite roasting gases and zinc sulfide concentrate roasting gases from fluidized bed sulphur
Kemira Oy Finland	Kokkola	2500 t/a	ZnS-roasting
ENAMI Chile	Las Ventanas	920 t/d	copper-converter gas
Cinkarna Celje d.d. Slovenia	Celje	200 t/d	FeSO ₄ -decomposition
Pasminco-Metals Australia	Boolaroo	665 t/d	zinc/lead gases from sintering plant
Palabora Mining Corp. South Africa	Phalaborwa	1300 t/d	copper converter gas
Anglo Platinum South Africa	Rustenburg	900 t/d	platinum smelter electric furnace off-gases
Cinkarna Celje d.d. Slovenia	Celje	650 t/d	pyrite roasting gases and zinc sulfide concentrate roasting gases from fluidized bed sulphur
Chemical Plant Gomel Belarus	Gomel	2120 t/d	pyrite roasting gases and zinc sulfide concentrate roasting gases from fluidized bed sulphur
Crimea Titan CJSC Ukraine	Armyansk	1818 t/d	pyrite roasting gases and zinc sulfide concentrate roasting gases from fluidized bed sulphur
BASF Antwerpen N.V. Belgium	Antwerp	1200 t/d SO ₃ as Oleum	pyrite roasting gases and zinc sulfide concentrate roasting gases from fluidized bed sulphur