




CORROSIVE CHEMICALS

PROCESS
TECHNOLOGIES
PROVIDER





GLOBAL
EQUIPMENT
AND PROCESS
TECHNOLOGIES
PROVIDER FOR
CORROSIVE
ENVIRONMENTS



Since 1960, Mersen has strengthened its Process Technologies know-how, especially related to the use of HCl. The first skid-mounted turn-key solution was delivered 30 years ago in 1986.

You can rely on our extensive experience for design and manufacture of corrosion resistant process equipment and ancillaries. The home-made produced and impregnated isostatic graphite - Graphilor® - together with the in-house silicon carbide - Boostec® - materials are really key components to ensure the best corrosion resistance.



HCl BURNER AND HCl ABSORPTION
WITH STEAM GENERATION



HCl DISTILLATION
AND HCl GAS DRYING

FROM PROCESS KNOW-HOW TO SKID-MOUNTED TURN-KEY DELIVERY

Mersen is a global leader combining engineering and supply of equipment for corrosive fluids.

ENGINEERING

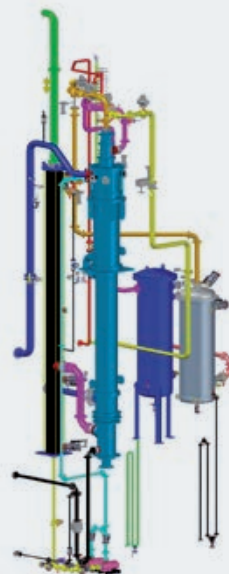
- Conceptual design
- P&ID
- Basic/detail engineering
- Main equipment supply

PROCUREMENT

- Instrumentation
- Piping and valves
- Automated control cabinet
- Main equipment supply

CONSTRUCTION

- Main equipment supply
- Modular assembly includes the installation of steel structure, equipment, piping & valves, instrumentation, cabling and junctions boxes = Skid-mounted turn-key solution



SERVICES

- Feasibility studies
- Project management
- Commissioning
- Control and monitoring
- Start-up and training
- After-sales service and maintenance solutions
- Repair and rehabilitation work

PROCESS TECHNOLOGIES PORTFOLIO

With our innovative range of process technologies, we can provide you an engineered solution to transform your corrosive feed stock according to your requests.

PROCESS FUNCTION	TECHNOLOGY	VARIANT	H ₂ SO ₄	HCl	Cl ₂	HBr	Br ₂	P ₂ O ₅	Brine	Flue Gas	FeCl ₃
Absorption	by falling film			✓		✓					
	by adiabatic			✓		✓				✓	
Burner	with hydrogen (H ₂)	without heat recovery		✓	✓	✓	✓				
		with heat recovery		✓	✓						
	with methane (CH ₄)			✓	✓						
Concentration	pre-concentration	(from 0 to 38%)	✓	✓		✓		✓			✓
		(from 20-60 to 75%)	✓			✓		✓			✓
	medium concentration	(from 70 to 85%)	✓								
	high concentration	(from 85-96%)	✓								
Dilution			✓	✓		✓		✓			
Distillation/ Desorption/ Stripping	without azeotrope breaker			✓	✓	✓					
	with azeotrope breaker	Pressure Swing (=Dual pressure)		✓							
		Salt (CaCl ₂ , H ₂ SO ₄ or MgCl ₂) effect			✓						
Gas Drying	with condensers			✓		✓					
	with molecular sieve tower (Zeolite)			✓							
	with packed tower (H ₂ SO ₄ drying)			✓	✓						
Gas cleaning / Vent treatment	with caustic soda scrubber			✓	✓	✓	✓				
	with water scrubber			✓		✓	✓				
	with quench and scrubber			✓	✓					✓	
Inorganic removal	debromination (Br- removal)								✓		
	dechlorination (Cl ₂ removal)		✓	✓					✓		✓
	defluorination (F- removal)							✓			
Organic removal	with packed tower	with Nitrogen (N ₂)	✓	✓		✓		✓	✓		✓
		with Air (O ₂ +N ₂)	✓	✓		✓		✓	✓		✓
		with live Steam		✓		✓		✓	✓		✓
		with vacuum	✓	✓		✓		✓	✓		✓
		with Reboiler	✓	✓		✓		✓	✓		✓
Production	from brine						✓				
	from Fe and Cl elements										✓
	from chlorine (Cl ₂)			✓							
	from bromine (Br ₂)					✓					
Temp. Control	by quench			✓						✓	
	by heat exchanger package		✓	✓		✓		✓			
Vaporizer			✓	✓	✓	✓					
Vacuum system	by ejector		✓	✓	✓	✓		✓	✓		✓

FOCUS ON SINTACLOR®

WORLD-LEADING HCl BURNER PROCESS TECHNOLOGY

MERSEN HCl SYNTHESIS UNIT DESIGN WITH TOP BURNER “Best available design for safety and environment”

1

HYDROGEN AND CHLORINE GAS ARE ALWAYS ABOVE THE PIPE RACK.

- Therefore Atex area is far above the ground to maximize the safety.

2

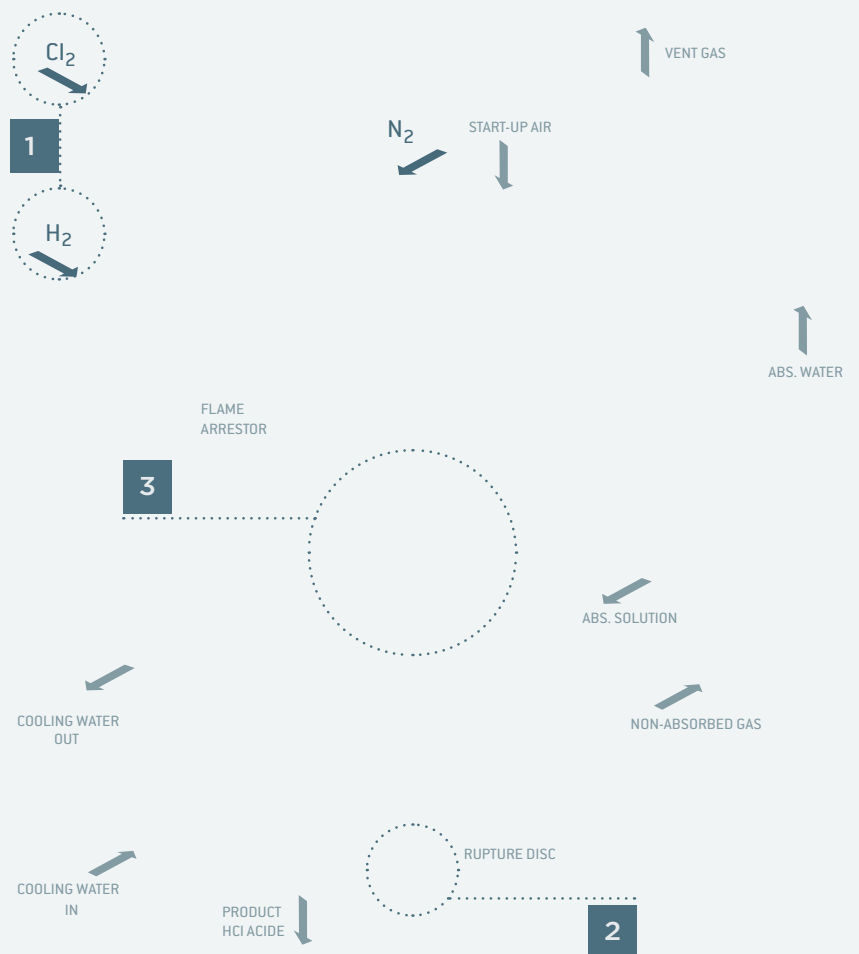
MERSEN TOP BURNER TECHNOLOGY MINIMIZES THE DISCHARGE OF HAZARDOUS & CORROSIVE GASES (HCl, H₂ & Cl₂) TO THE ATMOSPHERE WHEN A RUPTURE DISC BREAKS, WHEREAS BOTTOM BURNER TECHNOLOGY RELEASES ALL TO THE ATMOSPHERE.

- If and when a rupture disc breaks, Mersen’s top burner technology, by nature of design, ensures that minimal HCl gas is released to the atmosphere. HCl liquid is safely collected in a catch tank.

3

TOP BURNER (MERSEN TECHNOLOGY) IS SAFER THAN BOTTOM BURNER TECHNOLOGY

- The volume of explosive and corrosive gas within a bottom burner technology assembly is three to ten times that of a Mersen top burner assembly, making the Mersen design inherently much safer.



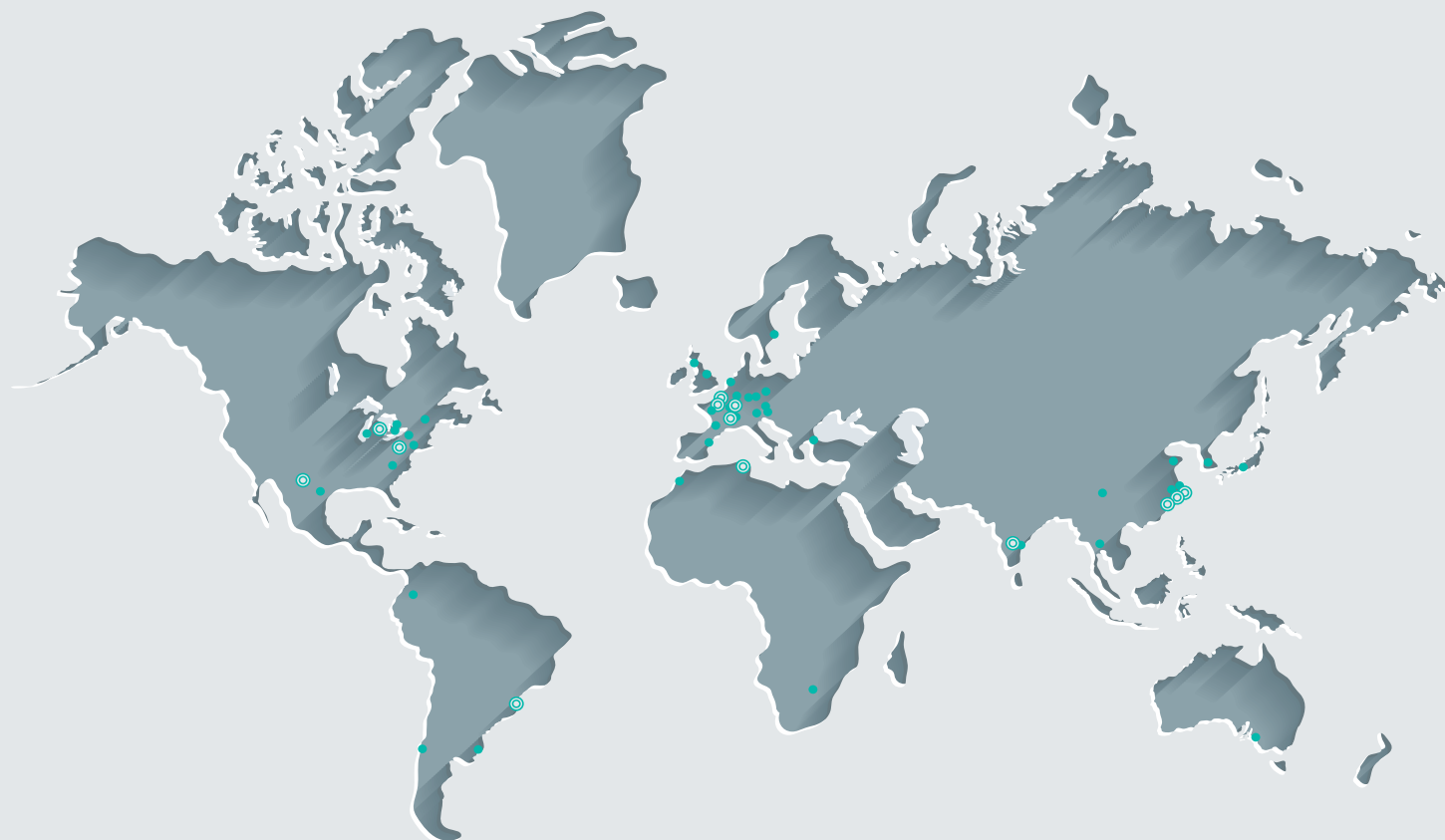
Safety

Exclusivity : Mersen’s Burner Management System (BMS) is the only safety protection according to EN 746-2 “industrial thermo-processing equipment / Safety requirements for combustion and fuel handling systems” or NFPA 86. Mersen’s BMS is TUV certified.



Global experience & references

- More than 600 Sintaclor® units in production in the world
- More than 50 skid-mounted projects managed during the last 10 years



GLOBAL EXPERT IN ELECTRICAL
POWER AND ADVANCED MATERIALS

EUROPE

FRANCE

Mersen France Py S.A.S.
Tel : +33 (0)3 83 81 60 81
info.pagny@mersen.com

GERMANY

Mersen Deutschland
Linsengericht GmbH
Tel : +49 (0) 6051 71 037
info.lsg@mersen.com

ITALIA

Mersen Italia S.p.A.
Tel : +39 02 82 681 31
ace.italia@mersen.com

SPAIN

Mersen Iberica fma, S.A.
Tel : +34 93 685 7800
contact.iberica@mersen.com

THE NETHERLANDS

Mersen Benelux B.V.
Tel : +31(0)10 298 30 30
contact.schiedam@mersen.com

UNITED KINGDOM

Mersen UK Teesside Ltd.
Tel : +44 (0)1642 790100
ace.uk@mersen.com

RUSSIA & EASTERN EUROPE

Tel : +7 (964) 768 14 05
info.pagny@mersen.com

TURKEY

Mersen Istanbul San. Ür. A. Ş.
Tel : +90 262 751 0262
sales.istanbul@mersen.com

ASIA

CHINA

Mersen XIANDA
Tel : +86 21 5752 7777
info.xianda@mersen.com

INDIA

Mersen India
Tel : +91 9845331292
/+91 9840078844
sales.ace.india@mersen.com

JAPAN

MERSEN FMA JAPAN K.K.
Tel : +81 (3) 5368-3250
ace.japan@mersen.com

KOREA

Mersen Korea Co., Ltd.
Tel : +82 (0)2 598 0071
sales.korea@mersen.com

SOUTH EAST ASIA

Tel : +91 9500041487
graphite.sales@framet.com

NORTH AMERICA

USA

Mersen USA Salem
Tel : +1 540 389-7535
sales.salem@mersen.com

Mersen USA Gonzales

Tel : +1 225 647-6752
graphiterepairs.gonzales@mersen.com

AFRICA

MOROCCO

Mersen Maroc S.A.R.L.
Tel : + 212 (0) 523 38 30 12
contact.maroc@mersen.com

SOUTH AFRICA

Mersen South Africa, (Pty) Ltd.
Tel : +27 011 474 0000
marketing.za@mersen.com

MIDDLE EAST & AFRICA

Tel : +33 (0)3 83 81 60 81
Info.pagny@mersen.com

SOUTH AMERICA

ARGENTINA

Mersen Argentina, S.A.
Tel : +54 11 49 18 21 21
infos.latam@mersen.com

BRAZIL

Mersen Do Brasil, Ltda.
Tel : +55 (11) 4529 1160
vendas.ace.brasil@mersen.com

CHILE

Mersen Chile
Tel : +56 22 621 5680
ventas.chile@mersen.com

COLOMBIA

Mersen Colombia
Tel : +57 (1) 3684588
ace.latam@mersen.com

MEXICO & LATIN AMERICA

Mersen Mexico Monterrey
Tel : +52 (81) 8127 2812
ace.latam@mersen.com

