

 Made In Germany

www.thaletec.com

THALETEC

Glass-lined reactors, heat exchangers & columns

Tom Patnaik
VP, Sales & Service



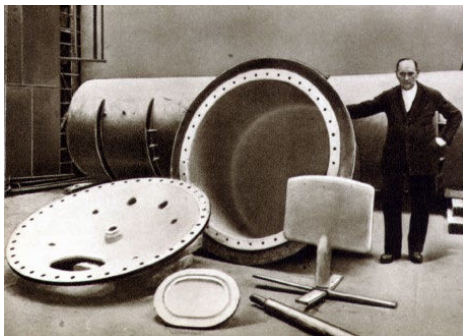
1. THALETEC: roots in 1686, merger of metal-working tradition and German technology
2. Glass-lined steel: provides the corrosion resistance of glass and the strength of steel
3. Glass-types: different glass-types for different applications
4. Glass-lined stirred reactors: from less than a gallon to 10,000 gal. in volume
5. Glass-lined storage vessels: up to 25,000 gal. in volume
6. Glass-lined heat-exchangers: game-changer for reactor cooling and waste-heat recovery
7. Glass-lined Columns: to 2 m ϕ and 5 m long per section
8. Glass-lined Pipes & Fittings

Started in 1686, THALE IRON WORKS has been a leader in metal working in the Saxony-Anhalt region of Germany for over 300 years! At one time, employing some 4400 skilled metal workers.

From the mid-1800s, THALETEC has been producing Enameled-(glass)-steel equipment for the chemical, pharmaceutical and food industry at the same location in a 44,000 m² (400,000 sft.) manufacturing facility.

THALETEC: Tradition + Excellence!

Tradition matters; Quality shows!



Yesterday



Today

- Company formed: 2007
- Publicly traded (new ownership): 2021
- Headquartered in Thale, Saxony-Anhalt
- Production area: approx. 400,000 sft.
- 200 employees
- R&D-centric: A culture of innovation
- Recent entrant into America!



THALETEC Glass-lined Product range

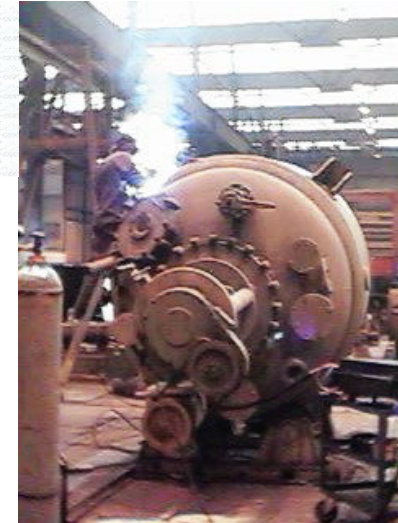
www.thaletec.com

- **Agitated Reactors** to 10000 gal.
- **Chemical storage vessels** to 25000 gal.
- **Glass-lined Columns:** 2 m Φ x 5 m
- **Glass-lined heat exchangers**
- **Other Glass-lined products:** Valves pipes & fittings.



Every step of glass-lining impacts outcome

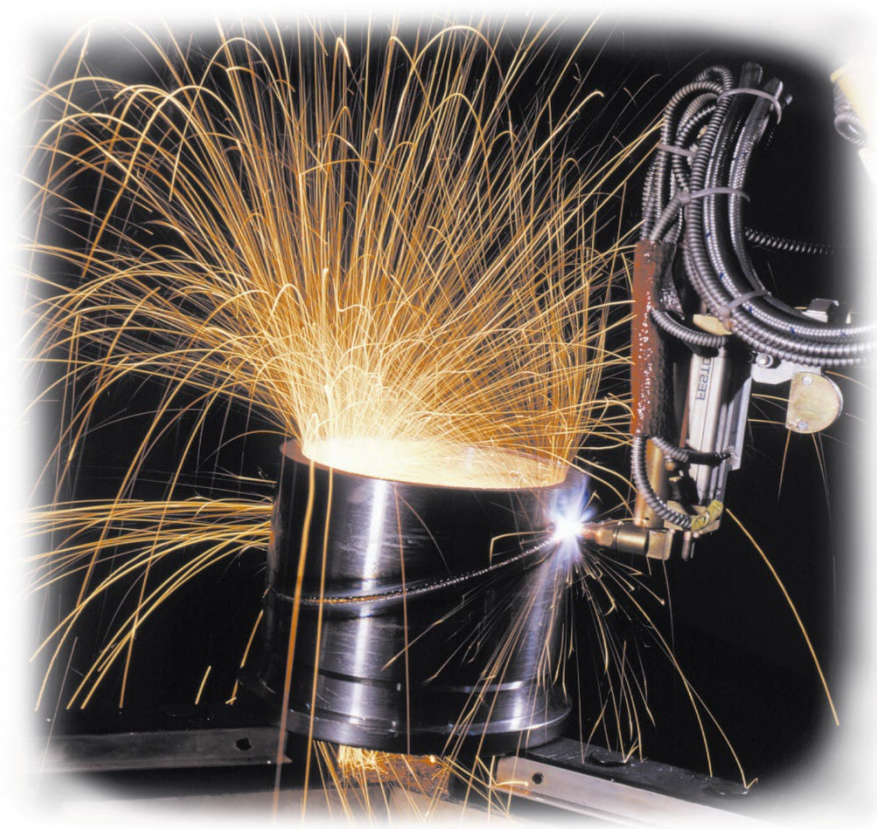
- Surface preparation of metal plates
- Computer controlled cutting and welding
- Polishing of internal welds and surfaces
- Preparation of glass frits
- Glass-lining: controlled application
- Final assembly and testing



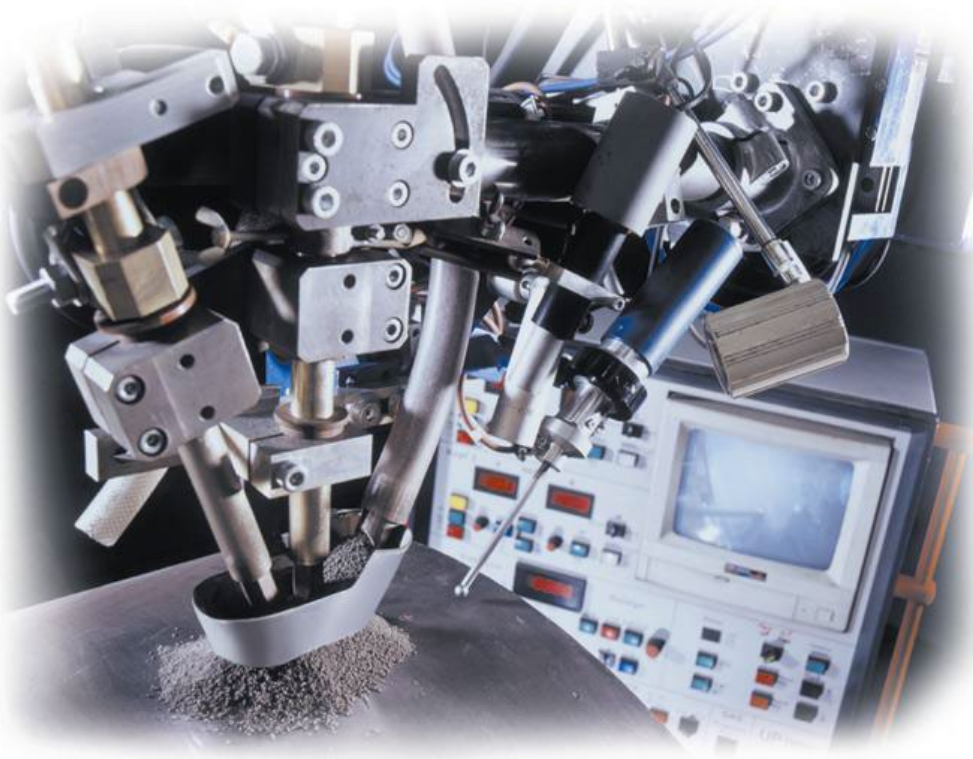
Range of production:

Vessels: 50 – 100000 l (25000 gal)
Reactors: 63 – 40000 l (10000 gal)
Weight: 40 tons
Dimension: Ø 4 m x 10 m





Computer-controlled automatic flame-cutting machine



- Submerged-arc automatic welding machine: minimal heat affected zone (HAZ) for up to 100 meters of weld seams per unit.
- Why is this important from a glassing perspective?
 - HAZ alters the properties of the base metal which then affects glassing quality during firing in the furnace

- Automatic internal grinding machine to polish body and dished ends.
- Perfectly prepped steel surfaces provide the perfect base for the glass-lining.

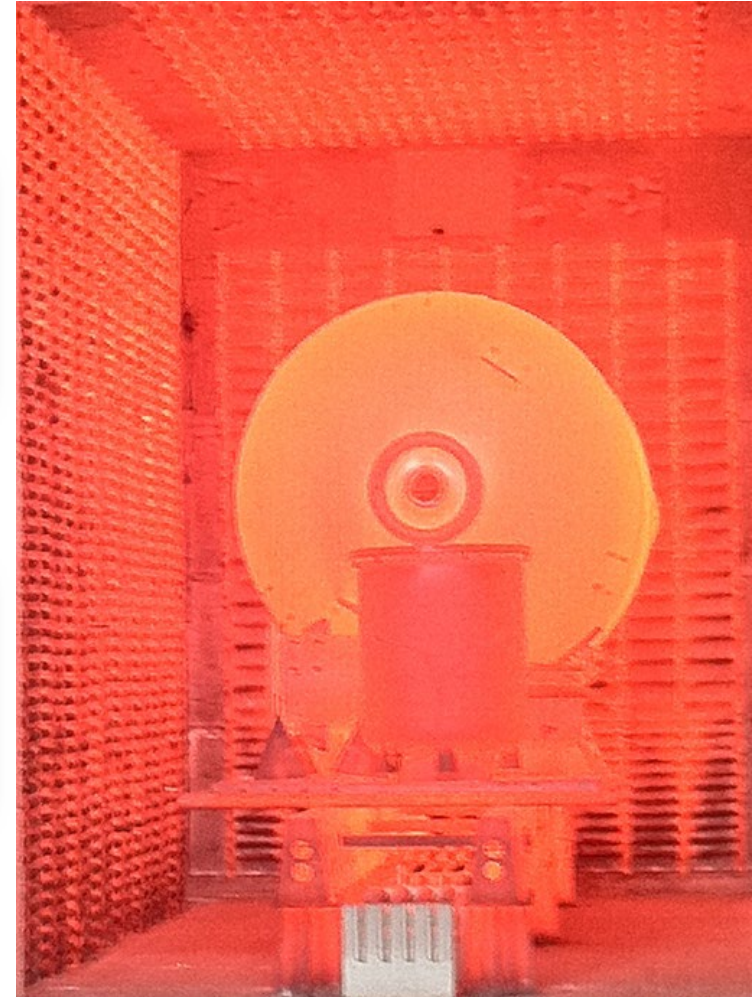
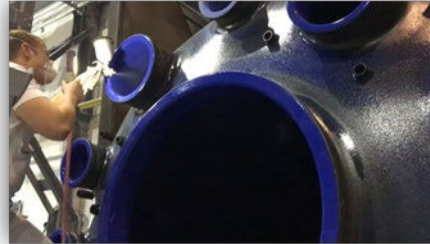


Optimal surface qualities

- Good chemical resistance
- Thermal stability
- Mechanical strength
- Biologically neutral
- No contamination from leaching of trace elements
- Excellent smoothness and release properties
- Steam sterilizable
- Impervious to gases

Glass-lined Steel has naturally excellent properties and is very strong!

- Glasslining: bonding of glass to a metallic substrate
- Application procedure
 - Wet: Spraying a water-based slurry
 - Dry: Electrostatic application (PUESTA)
- Layer drying and firing process up to 930°C
- Fusion of glass/steel = composite (non-porous)
- Multiple repetition of the firing process (layer thickness from 35 to 90 mils)
- Quality checks after each firing



- Better control over
 - Quality
 - Costs
 - Delivery
- Flexibility: work with customers and design/build to your needs!
- Made in Germany



1. Mixing:

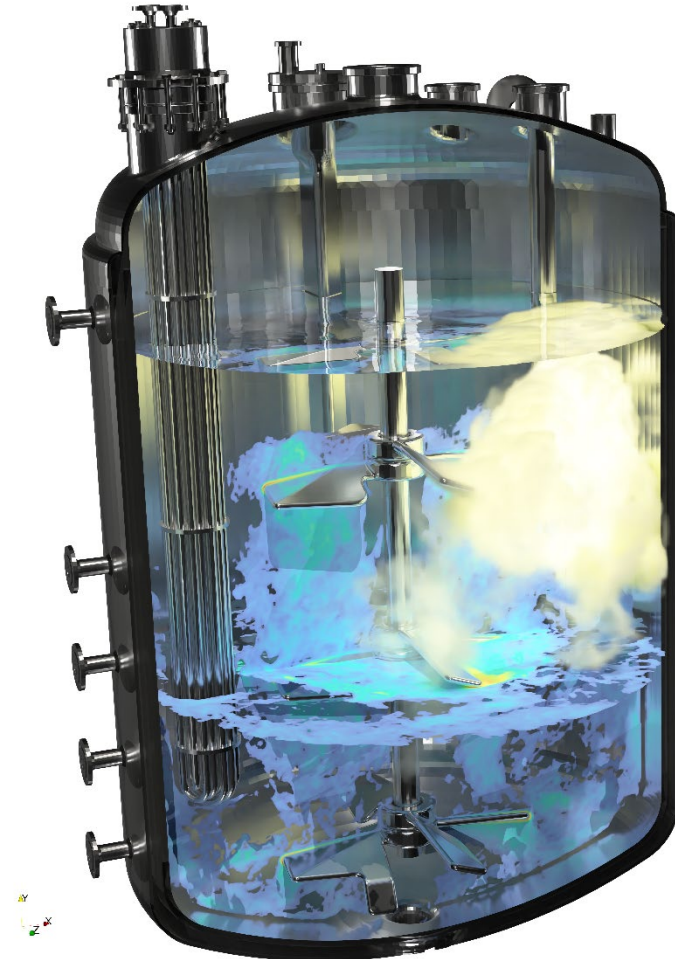
- Agitation-creates motion
- Baffling –creates turbulence

2. Heat Transfer Area:

- Jacket design
- Agitating Nozzles
- Power-Baffle

3. Glass-lining

- Standard Glass
- Thermal Glass
- Alkali Glass
- Abrasion glass
- Conductive (Static Dissipating) glass
- Polymer Glass



Themenposter Begasung
Theme Poster Gassing



Nutzen Sie den QR-Code oder den Link
<https://thaletec.com/en/downloads>,
um detaillierte Informationen herunterzuladen.



Use this QR-Code or follow the Link
<https://thaletec.com/en/downloads> to
download detailed product information.



Oberflächenbegasung / Surface Gassing

SEGTEC 9034

- Oberflächenbegasung
- zuführende Feststoffe und Flüssigkeiten
- Surface Gassing
- Floating Particles and Liquids

Empfohlenes 2-stufiges Rührsystem / Recommended 2-stage agitator

Diffuser Concentrator Turbine DCT 8030

- Mittlere Scherwirkung
- Axial-/Radialförderer

ohne SEGTEC / without SEGTEC

mit SEGTEC / with SEGTEC

Average Shear rate

Axial-/Radial flow turbine

Tauchrohr / Dip Pipe

Gerades Tauchrohr / Straight Dip Pipe 5014

Gebogenes Tauchrohr mit PTFE-Beschichtung / Bended Dip Pipe with PTFE-lining

Stromstörer / Baffles

Multi Tube 9027 5013

- Paßblechstromstörer
- Tauchrohr
- opt. mit Temperatursensoren
- Bovental
- Dip Pipe
- Optional with Temperature probe

Premium Tube 9027 5013

- Paßblechstromstörer
- Tauchrohr
- Einleitstützen
- opt. mit Temperatursensoren
- Bovental
- Dip Pipe
- Inlet nozzle
- Optional with Temperature probe

PowerBaffle 9018 9014

- Zusätzlicher Wärmeaustausch
- Stromstörer
- Temperatursensor
- optional/Heat Flow
- Baffle
- Temperature probe

Bodenauslaufventile / Bottom Outlet Valves

Gassing Valve 9081

Sparger Valve

Spezialisierte Rührer / Specialised Turbines

Smith Gassing Turbine SGT 9034

Gas Dispersion Turbine (Rührer) GDT

Multipurpose-Rührer / Multipurpose Turbines

Curved X-shaped Universal CBU 9034

Curved X-shaped Bended CBU 9024

THALETEC GmbH
Steinbachstraße 3
D-96162 Thale Germany
☎ +49 (0) 3947 778-0
☎ +49 (0) 3947 778-110

Hotline:
☎ +49 (0) 3947 778-111
✉ service@thaletec.com
www.thaletec.com

K180 01DE
© 2023 THALETEC GmbH
Alle Rechte vorbehalten. Alle Rechte vorbehalten.
Produkte sind in Deutschland, Österreich, der Schweiz
produziert und sind in der jeweiligen Sprache
☎ ● ● ● Made In Germany