





CORROSIVE PROCESS ENVIRONMENT





Our delivery program offers the widest range of construction material for corrosive processes on the market.

Whatever your application demands we can offer the right material for your process.



"To have a very strong opinion all the time is corrosive to a person's intellect. It becomes your default position."

Denise Mina

Metals & Alloys



REACTORS

We supply reactors to a wide range of processes in markets like Polymers & Plastics, Petro Chemical, Base Chemical, Fine Chemical, API and others in accordance with international certifications like PED 97/23/EC, ASME U stamp and others.

Technical details:

Materials such as carbon and stainless steel, nickel alloys, titanium, zirconium and tantalum. From production sites in Europe, USA and China, capacities up to 50,000 tons/year can be handled as well as projects including over 100 single pieces of equipment.



COLUMNS & PRESSURE VESSELS

From production sites in Europe, USA and China we can supply pressure vessels and columns in accordance with international certifications like PED 97/23/EC, ASME U stamp and others.

Technical details:

Any design can be offered with either solid, clad or loose lined construction. The range of materials covers carbon and stainless steel, nickel alloys, titanium, zirconium and tantalum. Capacities up to 50,000 tons/year can be handled as well as projects including over 100 pressure vessels or columns.



HEAT EXCHANGERS

Standard S&T, coil, bayonet and tube-in-tube design. The welded plate heat exchanger is available in three different plate profiles: dimpled, corrugated and studded, depending on application and process.

Technical details:

Available in carbon steel, stainless steel, nickel alloys, titanium, zirconium and tantalum. Welding standards include GTAW, GMAW, SAW, PAW and others.



COLUMN INTERNALS

Metal structured and random packing in most standard shapes as well as internals such as liquid distributors, hold-down grids, support plates and re-distributors.

Technical details:

Structured packing can be delivered in both high capacity and standard design. All internals are available in materials such as carbon, stainless steel, nickel alloys, monel and exotic metals like zirconium and tantalum.



RUPTURE DISC

Properly designed and manufactured bursting discs offer your process equipment and piping an "engineered weak spot" to protect it from unexpected pressure variations.

Technical details:

The discs come in a wide range of dimensions, materials and bursting pressures from very low pressures up to very high pressures. Excellent corrosion resistance with tantalum discs.

Glass-lined & Borosilicate Glass



REACTORS

A glass-lined reactor is a cost-efficient solution for a pressure and corrosive resistant chemical reactor. Other materials such as steel alloys or reactive metal solutions (Ti, Ta, Zr) can be offered.

Technical details:

DIN range of glass-lined reactors of type AE, BE and CE covers nominal sizes from 63 l to 40 m3 and OPX (Optimix) range with three integrated baffles covers the same size range. Metal reactors are flexible in size and design.



COLUMNS & PRESSURE VESSELS

Glass-lined columns and vessels in different sizes and pressure ratings.

Technical details:

Columns with or without jacket in standard diameters from DN200 to DN2200.



HEAT EXCHANGERS

Range covering coil type and shell-& tube type heat exchangers.

Technical details:

Sizes from 0,2 m2 and upwards. Shell- & tube type with several options for tube material.

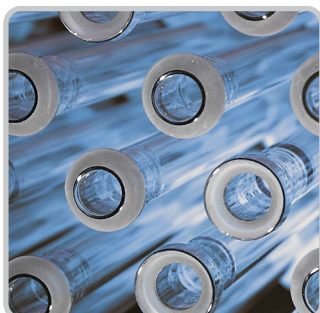


VALVES

The clean valve range offers glass-lined bottom outlet valves with only enamel and fluoropolymer (PTFE, PFA) in contact with the process. They are designed to be easy to clean and to minimize liquid hold-up.

Technical details:

Sizes from DN50/32 to DN150/100 with flanges PN16, ANSI 150 or JIS 10K. The valves can either be manually operated or with actuator, comply with the Directive 97/23/EC (PED) and are CE marked.



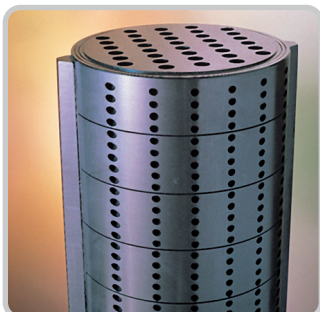
PIPINGS

Borosilicate glass is transparent, corrosion resistant, catalytically inert and has a smooth and easily cleaned surface. Therefore it is widely used as the basis for the construction of complete process systems or pipe lines.

Technical details:

Available in a wide range of standard items, e.g. straight pipes, elbows, reducers, in nominal sizes from DN15 to DN1000, many of them kept on stock. Special, customized pieces and jacketed pieces are also available.

Graphite & Ceramic



HEAT EXCHANGERS

An impregnated graphite heat exchanger gives significant resistance to corrosion, temperature and thermal shock. For extreme applications SiC heat exchangers are available with high thermal conductivity, high mechanical strength and excellent resistance to corrosion, temperatures and abrasion.

Technical details:

Surface area up to 1000 m², pressure resistance up to 16 bar (for graphite S&T) and temperatures up to 430°C. SiC heat exchangers are made upon customer request and can resist temperatures up to 430°C. Types of design are available in block (SiC or graphite) or shell & tube design (with gaskets for SiC).



COLUMNS

For corrosive or exothermic processes such as HCl stripping, HCl absorption and gas cleaning the use of a graphite column is a good solution showing excellent corrosion resistance and thermal conductivity, as well as high temperature resistance and mechanical properties.

Technical details:

Design range up to 80" (2000 mm) in diameter, temperatures up to 430°C, design pressure from full vacuum up to 3 bar.

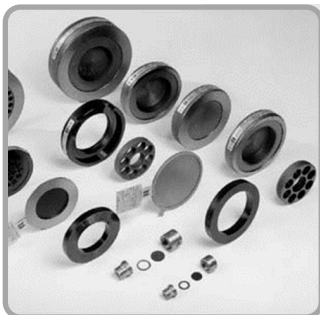


COMPACTED INTEGRATED SYSTEMS - SKID PACKAGE

In addition to single stand-alone units such as heat exchangers, columns and pipework we also supply compact integrated skid systems, Sintaclor® HCl synthesis units, Sulphuric acid dilution systems, Hydrofluoric dilution systems and Heating/Cooling systems for pickling baths.

Technical details:

Packed systems include basic and/or detailed engineering and design, major equipment, instrumentation & control, piping & valves, structural steel support frame and pre-assembly of named pieces into skid package.



RUPTURE DISCS

For corrosive processes, graphite bursting discs are a good alternative. They are available in different graphite grades and the connections suit all typical flange sizes on the market.

Technical details:

The discs come in a wide range of dimensions, materials and bursting pressures from very low pressures up to >100 bar.



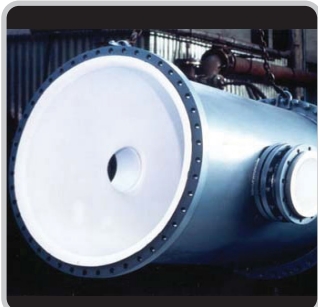
RANDOM PACKINGS & INTERNALS

With excellent corrosion and temperature resistance graphite Rashig rings and internals are good alternatives to metal and plastic internals in applications like HCl absorption and other processes.

Technical details:

Graphite Rashig rings are available in dimensions ½", 1", 1"1/4, 1"1/2, 2", 3" and 4". All graphite internals are custom made on request.

PTFE-lined Steel & Plastic



COLUMNS & PRESSURE VESSELS

PTFE is resistant to almost all corrosive fluids in a very wide temperature range. Therefore a PTFE lined column or pressure vessel is commonly used as an alternative to other materials for many chemical applications.

Technical details:

Design range up to 64" (1600 mm) in diameter without joints, temperatures up to 230°C and up to 10 mm thickness.



PIPINGS

PTFE/PFA-lined steel piping system offer exceptional anti-corrosion features. The performance of these products is a result of mastering the process of high performance fluorinated polymer applications: PTFE/PFA.

Technical details:

Available in a wide range of standard items, e.g. straight pipes, elbows, reducers, in nominal sizes from DN15 to DN600, many of them kept on stock. Special, customized pieces and jacketed pieces are also available.

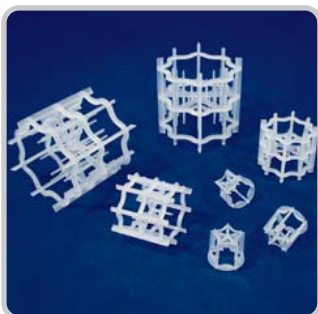


BELLOWS

Bellows and compensators remove mechanical stress on piping and equipment and make installation procedures easier. Bellows made in PTFE are excellent for use in any pipelines for aggressive liquids or gases.

Technical details:

Standard sizes available in DN20 to DN600 with various flange sizes. Different models with internal and/or external reinforcements for full vacuum resistance and high pressure resistance.



RANDOM PACKINGS

With a large stock of the most common types of plastic random packing, production in Germany and 24/7 availability we can cover a wide range of applications such as absorption, gas cleaning scrubbers, odor control etc.

Technical details:

Plastic materials: PP, PE, GFPP, PVDF, PFA and others. Both standard and high performance packing is available such as Pall Rings, Novalox Saddles, VSP, NetBall, Igel, etc.



INTERNALS

A packed column needs additional key internals such as liquid and vapor feeder, liquid distributor, support plate, hold-down grid, liquid collector and others. We supply internals to a variety of applications for both new projects and revamping of existing columns.

Technical details:

Produced in plastic materials such as PP, PE, PVDF, PVC etc.



SUPPLIERS

Corrosive Process Environment



Some equipment may not be available from Thurne Teknik in certain geographical areas.

SOLUTIONS WITH PROCESS UNDERSTANDING.

Since the start of the company in 1962 we have strong focus on process equipment for corrosive processes in construction materials such as borosilicate glass, glass-lined steel, graphite, PTFE and Alloys.

Over the years we have built up a comprehensive expertise in choosing the right material for challenging process environments. Today we can supply the widest range of construction materials on the market.

Our advice will guide you to the best choice of material to be used in every specific application taking into consideration: corrosion protection, process performance, production possibilities, maintenance profile and investment cost.

We are proud to present our partners below:



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