SIGMA**WIG**
ALL WELDED PLATE HEAT EXCHANGERS

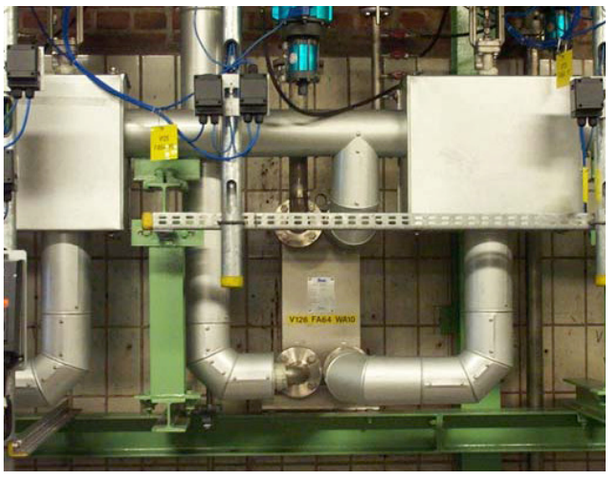
API HEAT TRANSFER

PERFORMANCE IS EVERYTHING

SIGMA**WIG** – opens up new fields of application

SIGMA plate heat exchangers are recognized worldwide for quality and reliability in thermal processes such as cooling, heating, pasteurising, evaporation and condensation. To meet the increasing requirements for plate heat exchangers in special applications, a new type of plate heat exchangers without gaskets called SIGMA**WIG** was conceived in a cooperation of Schmidt and Tenez particularly for

- chemical industry
- pharmaceutical industry
- industrial cooling
- heat balancing systems



SIGMA**WIG** ST12 in a heating-cooling circuit for tempering of chemical reactor

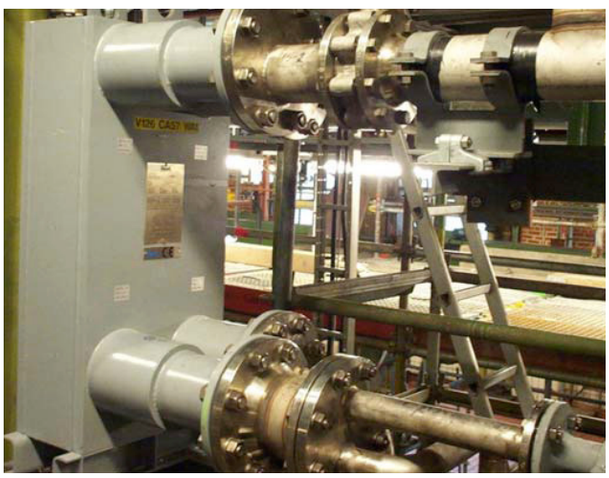
The SIGMA**WIG** construction makes it possible to extend noticeability the application of plate heat exchangers in respect of new media, temperatures and operating pressures. Especially media with aggressive or environmental dangerous potential can be controlled with this new gasket-free plat heat exchanger design.

TIG welding seams without filler eliminate the risks of leakage and diffusion. That is why more and more SIGMA**WIG** are used, where operational dependability is indispensable:

- control of chemical reaction processes
- temperature equalization of intermediate and final products
- cooling, heating or condensation of solvents
- cooling and heating of DEMI-water
- heat recovery in chemical or refining processes
- evaporation / condensation of refrigerants

SIGMA**WIG** in standard design can be applied for operating pressures of up to 25 bar and operating temperatures of up to 250 °C.

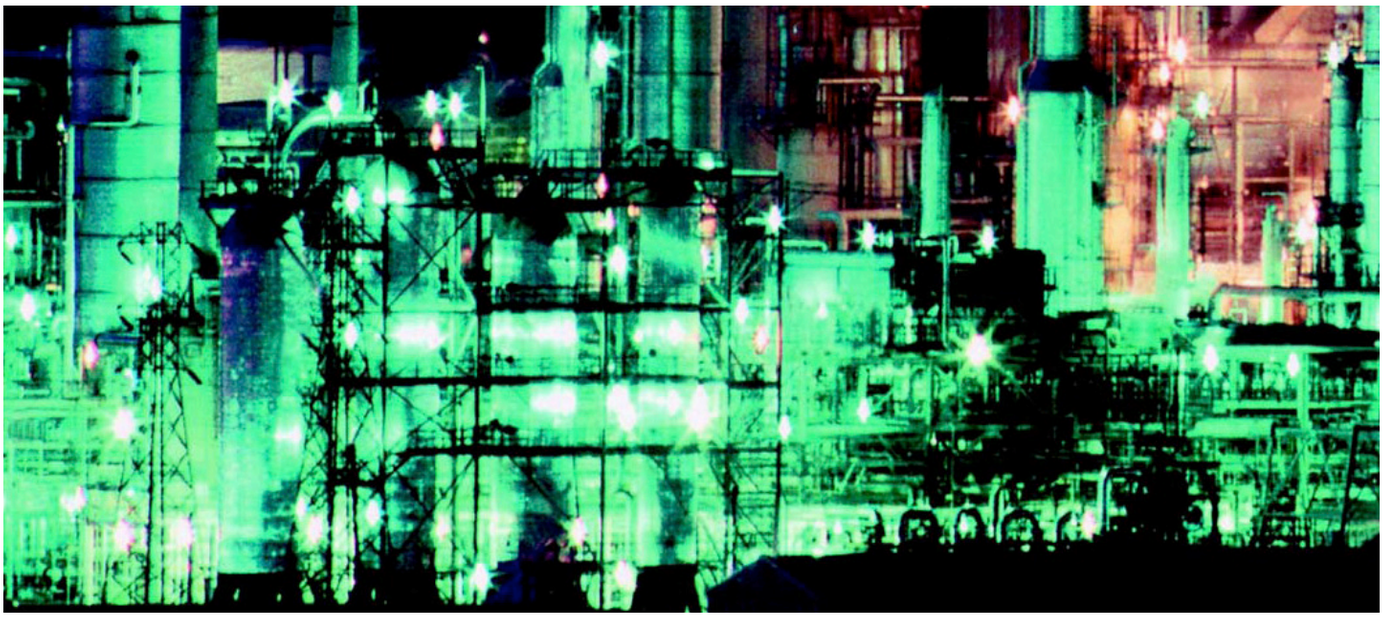
Special design for higher pressures and temperatures and in special alloys are available.



SIGMA**WIG** ST30 for steam condensation

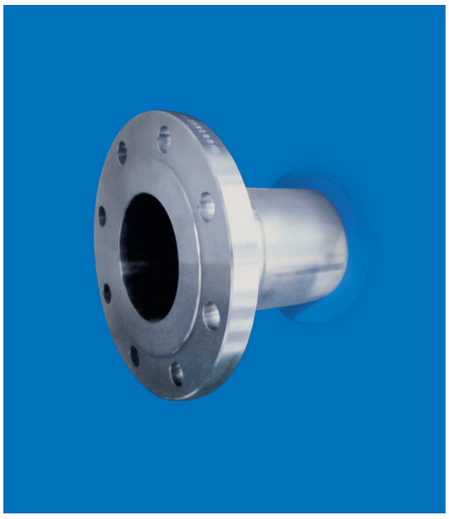
Schmidt TENEZ

SIGMA**WIG** – one application out of a vast multitude



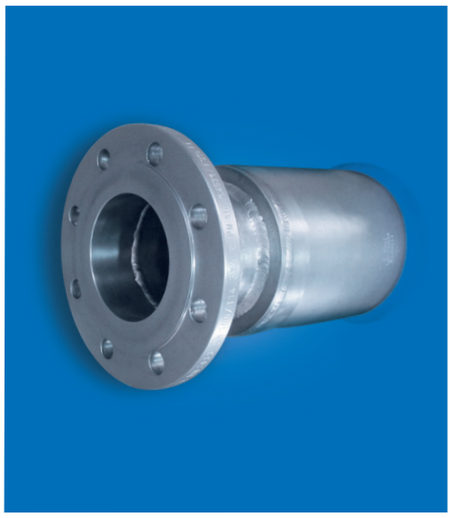
More than 10.000 SIGMA**WIG** prove under tough process conditions

SIGMA**WIG** – main connection types



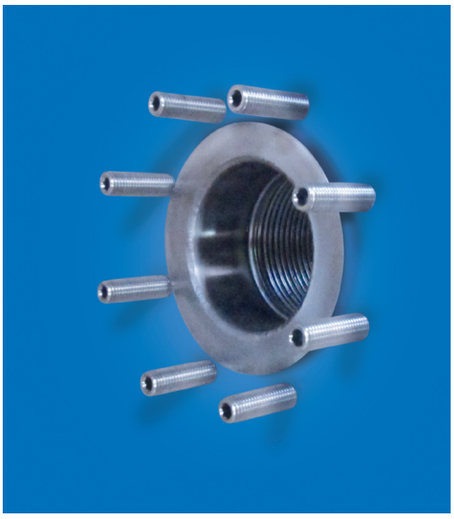
Standard Flanged Connection

Availability of a variety of flanges, ranging from standards such as EN 1092 to ASME 16.5, as well as a number of other standards upon request.



Flanged connection with internal expansion joints

A construction for applications with frequent temperature changes that is proven in more than 1,000 installations.



Studded Ports with O-ring sealing between plate pack and pressure frame

The advantages of this connection type are not only in its cost efficiency, but also in the possibility to change or extend the plate pack on site. Especially where non-standard plate materials are required, this construction offers an economical solution while allowing higher nozzle loads and higher temperature changes.

SIGMA**WIG** – the optimal choice for critical process parameters

Advantages	... by competence
weldings replace gaskets	higher security level at critical process conditions
temperatures ≥ 250 °C	e.g. steam, thermal oil edible oil
operating pressures ≥ 25 bar	e.g. condensation of refrigerants high pressure heating- or low temperature networks
compact design	minimum of space required, costs, savings and foundations, installation, piping
efficient heat transfer	homogeneous countercurrent flow
small liquid content	optimized control of process, higher level of security, when handling dangerous products
10.000 times proven	proven design, long-term experience in practice in a wide field of applications

... and experience

SIGMA**WIG** ST40 tempering of chemical reactor / Bayer Chemicals, Leverkusen

SIGMA**WIG** ST12 tempering of chemical reactor thermo-oil / ethylenglycol

Compact reactor heating-cooling module

SIGMA**WIG** – the all welded plate heat exchanger

Technical details

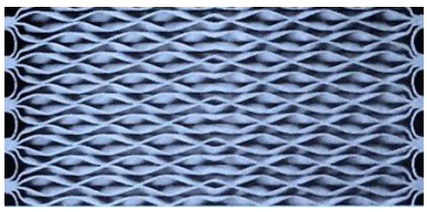
SIGMA**WIG** all welded plate heat exchangers consist similar to gasketed plate heat exchangers of a number of corrugated plates which are in this design not equipped with gaskets, but seal hermetically by TIG welding seams without filler against each other and to the outside. The loading capacity of this connection exceeds many times the crushing strength of gaskets.

The fishbone geometry of the flow channels built by the plates effects high turbulences on the fluids, which result in optimum heat transfer. The countercurrent flow arrangement allows most efficient heat transfer.

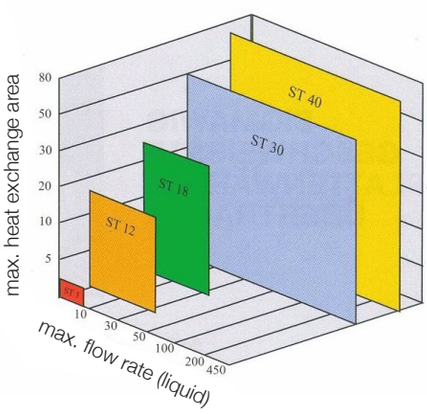
The welded plate pack is clamped into a pressure frame. Standard connections are flanges, smaller types also with threads.

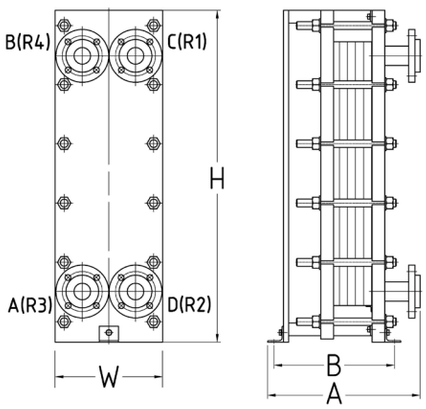
For the standard product line, all parts in contact with the product are made of stainless steel an free of nonferrous metal.

Special alloys are possible, too.



Cross section of plate pack





Main dimensions SIGMA**WIG**

	nozzle size	max. operating pressure *)	max. operating temperature *)	min. operating temperature *)	max. flow rate (liquid)	max. exchange surface	max. lenght A	max. lenght B	width W	height H
units	[DN]	[bar]	[°C]	[°C]	[m³/h]	[m²]	[mm]	[mm]	[mm]	[mm]
ST 3	25	25	250	-120	8,5	2,7	600	325	108	303
ST 12	50	25	250	-120	35	16,5	686	576	335	790
ST 18	50	25	250	-120	35	25	686	576	335	1035
ST 30	100/150	25	250	-120	450	60	1385	935	550	1180
ST 40	100/150	25	250	-120	450	90	1385	935	550	1480

*) variations on request

A world of heat transfer solutions

API Heat Transfer's global presence includes manufacturing facilities, R&D locations, and sales support throughout the world, all aimed at one goal – to better serve our customers.

For more information about our heat transfer products, contact our API Heat Transfer sales representative or visit **apiheattransfer.com** and **apiheattransfer.de**

Germany
API Schmidt-Bretten GmbH & Co. KG
Langenmorgen 4
75015 Bretten

+49.7252.53.0
info@apiheattransfer.de

USA
API Heat Transfer Inc.
2777 Walden Avenue
Buffalo, NY, 14225,

+1.716. 684.6700

China
API Heat Transfer (Suzhou) Co., Ltd.
156 Qing Qui Street, 3rd District
369 Wuzhong Road,
Suzhou Industrial Park
Suzhou, Jiangsu 215126

+86.512.881 68 000

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