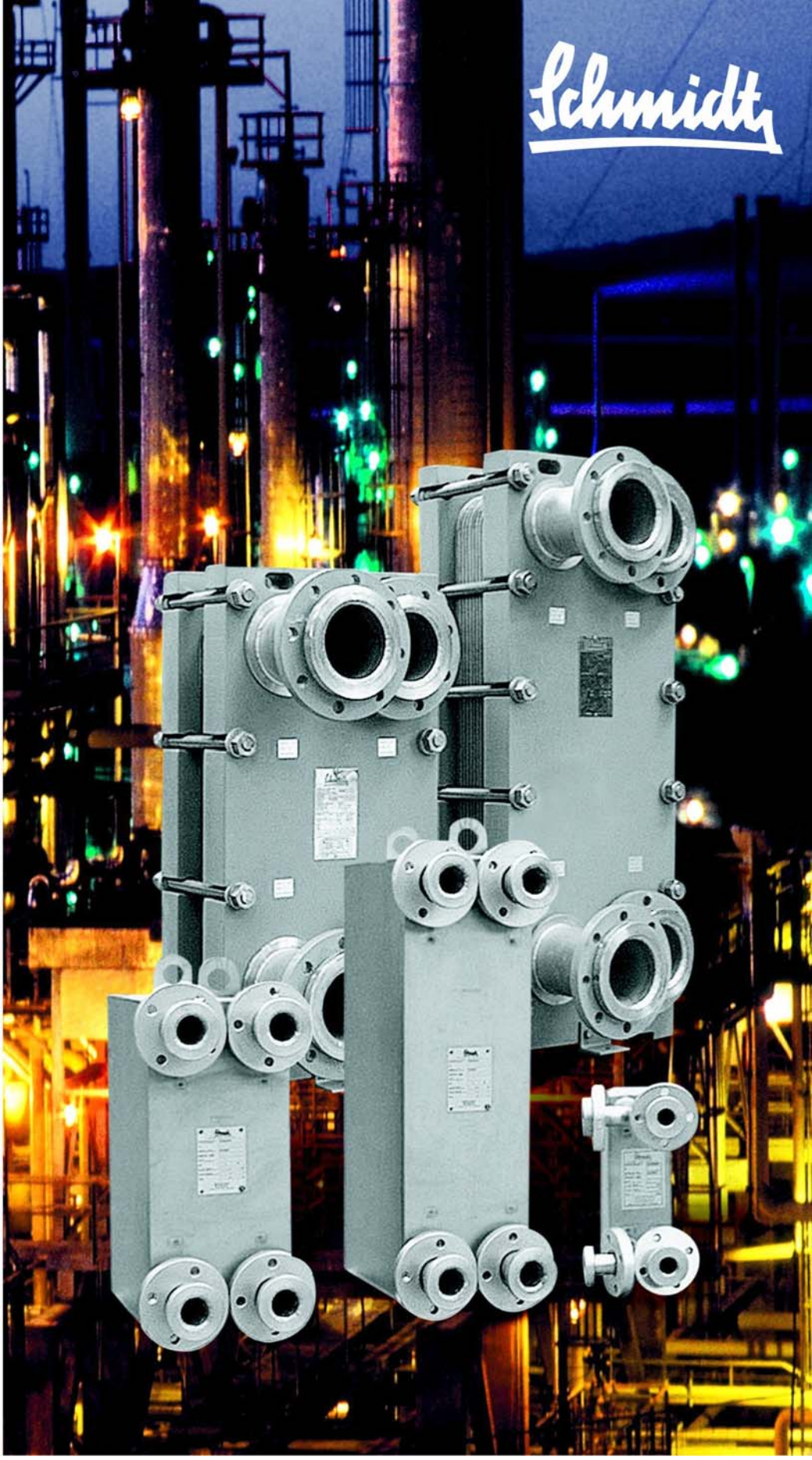


SIGMA**WIG**
ALL WELDED PLATE HEAT EXCHANGERS

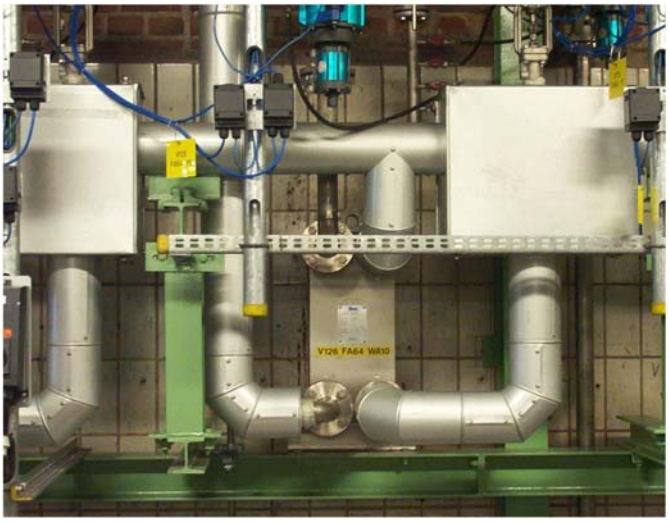
API Heat Transfer

... world leaders in heat transfer technology

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

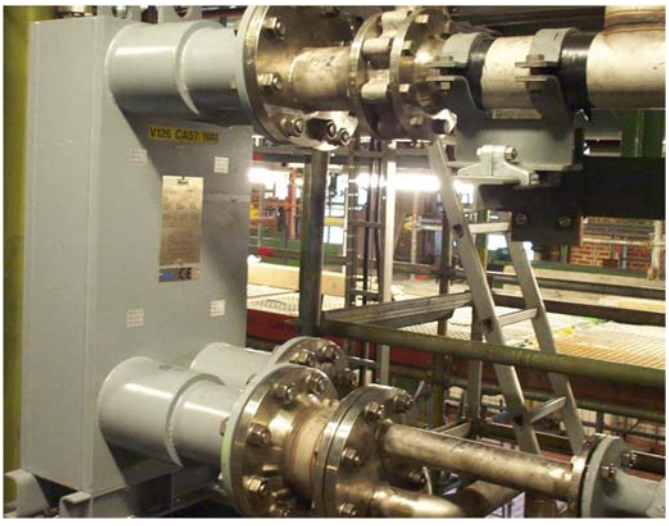
The SIGMA**WIG** construction makes it possible to extend noticeability the application of plate heat exchangers in respect of new media, temperatures and operating pressures. Especially media with aggressive or environmental dangerous potential can be controlled with this new gasket-free plat heat exchanger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

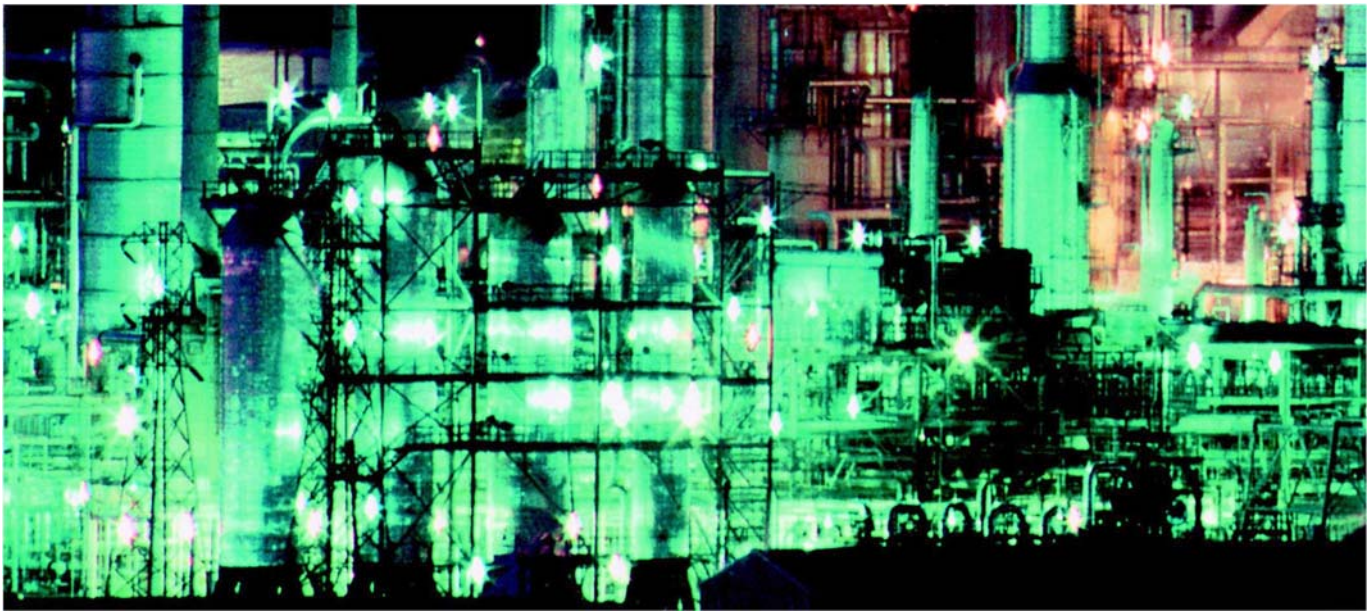
SIGMA**WIG** in standard design can be applied for operating pressures of up to 25 bar and operating temperatures of up to 250 °C.

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

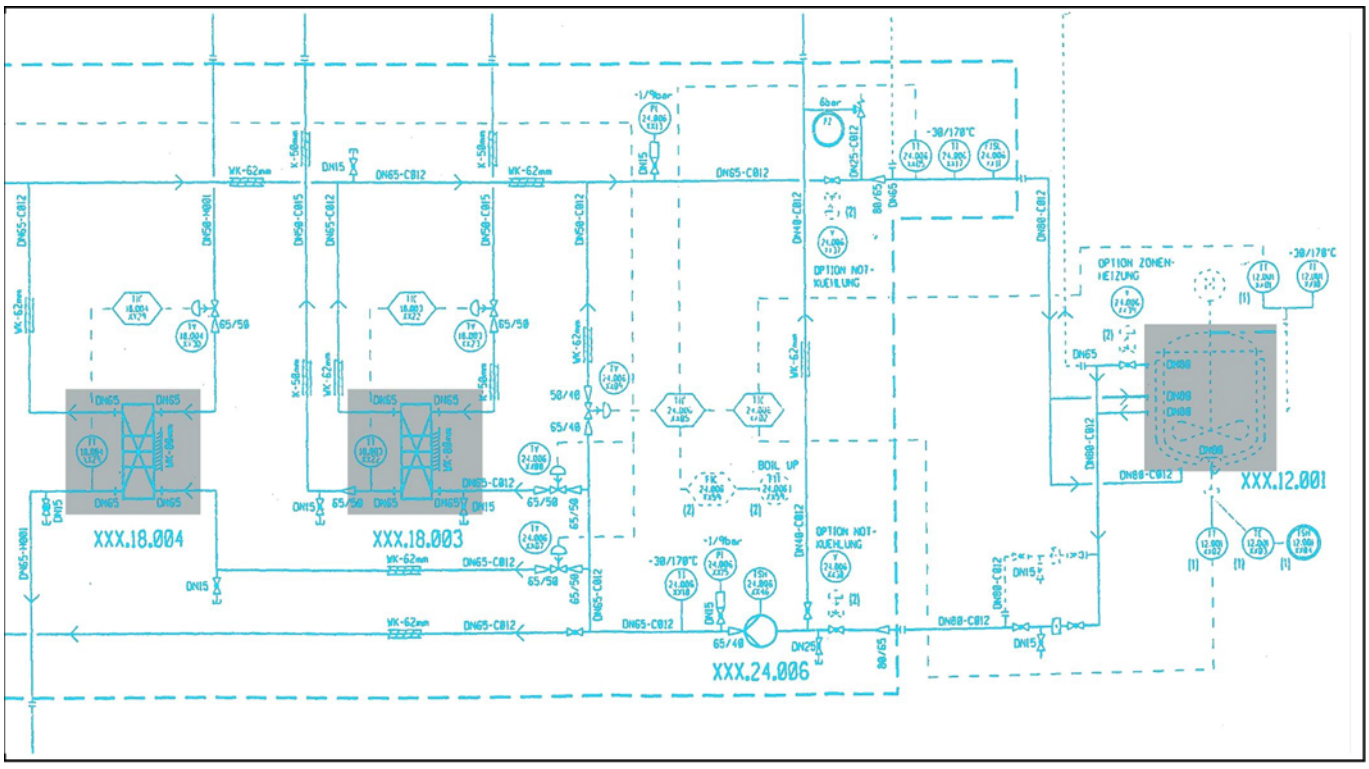


SIGMA**WIG** ST30 for steam condensation

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



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



Compact reactor heating-cooling module with SIGMA**WIG**

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

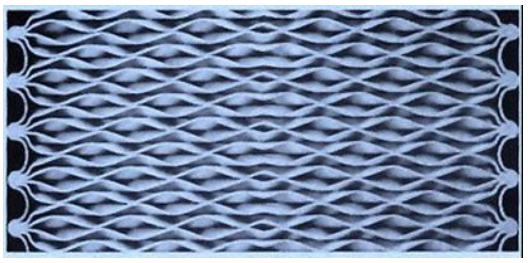
SIGMA**WIG** ST12 tempering of chemical reactor thermo-oil / ethylenglycol

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.

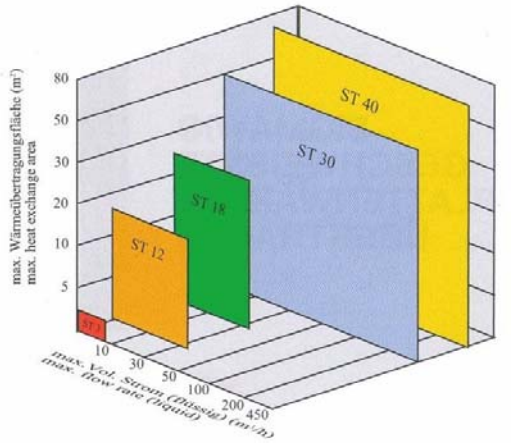


Cross section of plate pack

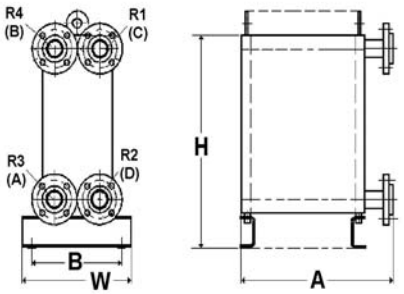
The fishbone geometry of the flow channels built by the plates effects high turbulences on the fluids, which result in optimum heat transfer. The countercurrent flow arrangement allows most efficient heat transfer.

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.



Technical Data		**ST 3**	**ST 12**	**ST 18**	**ST 30**	**ST 40**
max. operating pressure	[bar]	25	25	25	25	25
max. oper. temperature	[°C]	250	250	250	250	250
min. oper. temperature	[°C]	-120	-120	-120	-120	-120
max. flow rate (liquid)	[m^3/h]	8,5	35	35	450	450
max. exchanger surface	[m^2]	2,7	16,5	25	60	90
max. length A	[mm]	600	485	485	930	930
max. length B	[mm]	-	330	330	400	400
width W	[mm]	195	400	400	550	550
height H	[mm]	303	770	1015	1210	1520
nozzle size	[-]	DN 25	DN 50	DN 50	DN 150	DN 150



Main dimensions SIGMA**WIG**

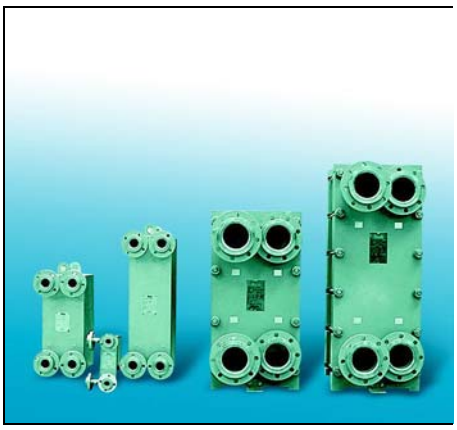
API Heat Transfer... the competent, innovative and flexible partner

First class technology from an up-to-date plant

API Schmidt-Bretten is a market leader in thermal process technology since decades because of its extensive know how. Almost 100.000 SIGMA plate heat exchangers with varying constructions and a large number of thermal systems are well proven in many industrial sectors for the processing of all kinds of thermal liquids. Most updated production equipment, perfected know how and high quality levels ensure first class products.

A worldwide network of subsidiaries and representations keep close contact to our customers to give them the best possible service. Being part of the API Heat Transfer Group in Buffalo / US, Schmidt-Bretten participates in the widespread engineering capabilities of the group and with the complementing products opens up a wide field for thermal process solutions.

SIGMA -
gasketed plate heat exchanger



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

systems for the
thermal treatment of liquids

API Schmidt-Bretten GmbH & Co. KG

Langenmorgen 4 ● D-75015 Bretten-Gölshausen ● Phone +49 (7252) 53-0 ● Facsimile +49 (7252) 53-200
http://www.APISchmidt-Bretten.de ● E-Mail: info@apischmidt-bretten.de

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