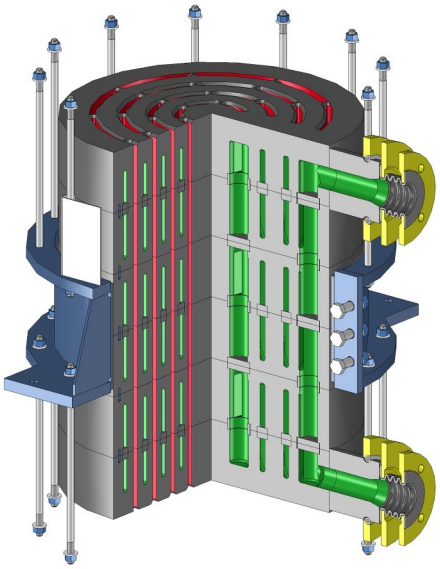
G

Graphite Annular Groove Heat Exchanger G Series

Product Information (RN-17)

Annular Groove Heat Exchanger for Direct, in-Column Installation

- Impregnated graphite heat exchanger for direct installation in columns made of glass-lined steel, glass or PTFE-lined steel
- Resistant against corrosion by virtually all leaches, acids, solvents, halogens and their alloys
- Applicable for condensing, dephlegmation, heating or cooling
- Resistant to corrosion on both product and service sides, i.e. useful for heat recovery during corrosive processes
- Installation between column segments (series G1) or equipped as head condenser (series G2) on top of column



Graphite annular groove heat exchanger for direct installation in column (cross section)

Design

- Cylindrical graphite discs with straight channels for the product
- Various channel widths (e.g. for sublimation processes)
- Gasket-free, completely fused annular groove discs
- Direct connection to column flange system, e.g. QVF, glass-lined according to DIN
- Carbon fiber reinforcement of main body (optional)
- Reflux separator (optional)
- GMP-compliant design (optional, for features see Product Information RN-9)

- Max. transfer area: 55 m² (592 ft²)
- Max. diameter of column: DN 800 (32”)

Potential Applications

- Use as a dephlegmator in the partial condensation of solvents (e.g. in solvent recovery plants)
- Heat input into a column (e.g. as an ”Robert” -type evaporator)
- Application as a head condenser in a column with a reflux separator

Features

Optimal corrosion resistance

Direct, in-column installation

Applicable as head condenser or dephlegmator

Direct access to product channels

Easy cleaning

Excellent heat transfer performance

Self-cleaning

No critical swelling or stress cracks caused by organic solvents

No cross-contamination

No gaskets and therefore no risk of leakage

Small overall height, compact design

Low maintenance cost

High plant availability

Design parameters

-1 bar to +6 (+10) bar
max. allowable pressure

Full vacuum to 90 psig
(150 psig)

-30 (-60)°C to +180 (+200)°C
-22°F (-74°F) to 356°F (392°F)
max. allowable temperature

GAB Neumann GmbH | Alemannenstrasse 29 | D-79689 Maulburg
T +49 (7622) 6751 0 | F +49 (7622) 6751 20 | info@gab-neumann.de

Graphite and SiC Heat Exchangers and Process Equipment

Graphite Annular Groove Heat Exchanger
G Series

Materials Used and Material Options

Graphite	Phenolic formaldehyde resin-impregnated graphite GAB GPX1 / GPX1T resp. GAB GPX2 with low resin content (optional)
Reinforcement	Carbon fiber fabric (standard at 90/45 and 90/90 psi design pressure)
Gaskets	None (fused discs) Optional flat gaskets (with detachable headers)
Steel parts	Pressure plates and flanges: carbon steel (optional stainless steel) Rods, nuts, springs: stainless steel

Design and Inspection

- Annular groove heat exchangers are designed, manufactured and inspected according to AD 2000 Merkblatt (in compliance with the European Pressure Equipment Directive, PED)
- Other design and manufacturing standards upon request

Dephlegmator product cannel view
(channel width 40mm)

Specifications and Price Quotes

For a detailed offer please provide the following data:

- Quantity and physical properties of the process and service medium
- Required inlet and outlet temperatures
- Operational pressure and allowed pressure drops
- Further process details (optional)
- Please fill out our questionnaire: WS 1550

Additional Information

- Data sheet RN-17 includes information on terminology and main dimensions
- Further precisions and complementary information (brochures, corrosion resistance charts, product information, data sheets,…) are available for download at www.gab-neumann.de.

Advantages

Robust design

Modular setup

Easy assembly

High operational safety

Easy mechanical cleaning

Technically Perfection

Application preferred in single-purpose and mono plants

Optimal thermal performance at compact dimensions

Long lifetime

Economically Outstanding

Low-cost alternative to shell & tube exchangers for small and medium-sized transfer areas

Low maintenance and spare part cost

Competitive pricing

Short lead times

GAB Neumann GmbH | Alemannenstrasse 29 | D-79689 Maulburg
T +49 (7622) 6751 0 | F +49 (7622) 6751 20 | info@gab-neumann.de

Graphite and SiC Heat Exchangers and Process Equipment