

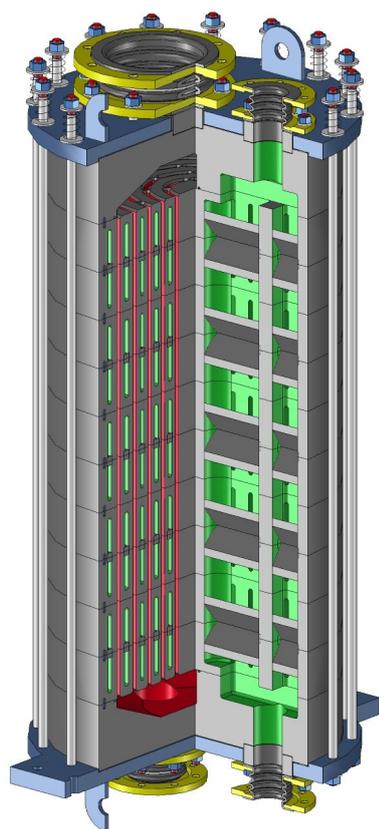
Graphite Annular Groove Condenser NB Series

NB

Product Information (RN-11)

Graphite Annular Groove Condenser

- Impregnated graphite heat exchanger for condensing duties in corrosive environments
- Resistant against corrosion by virtually all leaches, acids, solvents, halogens and their alloys
- Resistant to corrosion on both product and service sides, i.e. applicable to heat recovery in corrosive processes
- For vertical installation
- Applicable in dephlegmation processes
- Designed with large channel width for sublimation operations



Design

- Cylindrical graphite discs with straight channels for product condensation
- Various channel widths (e.g. for sublimation processes)
- Gasket-free, completely fused annular groove discs
- Carbon fiber reinforcement of main body (optional)
- Gas / liquid separation (optional)
- Detachable headers for easy cleaning (optional)
- GMP compliant design (optional, see Product Information RN-9)
- Max. transfer area: 55 m² (592 ft²)
- Max. disc diameter: 900 mm (36")

Graphite annular groove condenser
(cross section)

Potential Applications

- Chlorinated solvent and acidic chloride condensing in pharmaceutical, agrochemical or dyestuff industries
- Condensing vapors in inorganic processes (e.g. sulphur-acidic vapors, hydrochloric vapors)
- Active ingredient sublimation in batch production plants

Features

Optimal resistance to corrosion

Variable flow sections

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

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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



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

Graphite annular groove condenser NB7-10-C
with carbon fiber reinforcement

Additional Information

- Data sheet RN-11 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

Technical 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