

Graphite block heat exchangers

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DESIGN AND MANUFACTURE OF BLOCK HEAT EXCHANGERS FOR OVER 50 YEARS

MERSEN HAS DESIGNED AND MANUFACTURED BLOCK HEAT EXCHANGERS FOR OVER 50 YEARS, WITH MORE THAN 10,000 UNITS IN SERVICE IN ALMOST 50 COUNTRIES.

MATERIAL EXPERTISE GRAPHILOR® 3

The only impregnated graphite with ultra-fine grain isostatic graphite.

PROPERTIES :

- High resistance to corrosion
- Resistance to temperature and thermal shock
- The highest mechanical resistance certified by TÜV.

IMPREGNATION

- BS: Phenolic highly cross-linked resin
- C: high-temperature treated carbon
→ Mersen exclusive
- TH: PTFE
→ Mersen exclusive

EXCEPTIONAL TÜV HOMOLOGATION

- XBS: up to 220°C: G20-00-200 for blocks
up to 220°C: G30-00-220 for tubes
- XC: up to 430°C: G18-00-400
- XTH: up to 250°C: G15-00-250

10,000 units
in service in almost
50 countries

430°C
maximum temperature
resistance of Graphilor® 3

In-house supplied
isostatic graphite

High corrosion resistance
with exclusive carbon (XC)
and PTFE (XTH) impregnation

Multi-applications design



GRAPHITE POLYBLOC® HEAT EXCHANGERS

LARGE AND MODULAR DESIGN

- Large exchange surface areas (up to 300 m²) and high thermal transfer
- Headers – available in Graphilor®, stainless steel and reactive metals, PTFE or rubber lined steel
- Large range of block size from 140 to 1,800 mm diameter
- Design for high pressure up to 16 barG (service) and 12 barG (process)
- PTFE Bellows - fitted to graphite nozzles to remove pipework stresses
- Drilling adapted to process constraints with large diameter holes for fouling process
- Multi-pass arrangements possible for both process and service sides

MATERIAL EXPERTISE

- Rigilor® consisting of a layer of carbon fiber which reinforces the graphite and improves the erosion and abrasion resistance

EASY MAINTENANCE - easily dismantled for overhaul, cleaning and validation

EXTENSIVE REFERENCE LIST available upon request for main market such as pickling baths, coolers, evaporators, absorbers, condensers.

GRAPHITE CUBIC BLOCK HEAT EXCHANGERS

COMPACTNESS - slots or double drilling on process side effectively doubling the process side surface area making units ideal for condensing duties

SPECIAL GMP DESIGN FEATURES - fully draining and no process to service gaskets

LARGE AND MODULAR DESIGN

- Headers – available in Graphilor®, carbon and stainless steel, PTFE or rubber lined steel
- No hidden gaskets – single piece core blocks (250mm, 400mm, 500mm and 600mm square and up to 1600mm long)
- Heat exchange areas – from 1m² to 100m²
- Drilling – adapted to process requirements (6.5mm, 10mm and 16mm holes in single or double drilling patterns)
- Design pressure – up to 10 Bar.G on process and service side
- PTFE Bellows – fitted to graphite nozzles to remove pipework stresses
- Interchanger – optimum solution for corrosive fluids on both process and service side
- Multi pass arrangement - on both process and service side gives the most efficient thermal design using true counter-current flow



EASY MAINTENANCE - easily dismantled for overhaul, cleaning and validation

EXTENSIVE REFERENCE LIST – available on request for main markets as fine chemical and pharmaceutical, H₂SO₄ dilution, interchanger for 2 corrosive fluids

