Patent No: 101-3330

Filtration Systems

John Crane Indufil
Duiven, The Netherlands
Tel: +31-26-319-0800
Fax: +31-26-319-0808

Europe
Slough, UK
Tel: +44-1753-224000
Fax: +44-1753-224224

North America
Morton Grove, IL
Tel: +1-847-967-2400
Fax: +1-847-967-3915

Latin America
São Paulo, Brazil
Tel: +55-11-3371-2500
Fax: +55-11-3371-2599

Middle East & Africa
Dubai, United Arab Emirates
Tel: +971-481-27800
Fax: +971-488-62830

Asia Pacific
Singapore
Tel: +65-6512-5200
Fax: +65-6512-5233

Global leadership in design expertise and technical support

From its origins more than 90 years ago John Crane has become a world leader in the design, development and manufacture of an increasingly wide range of products and services for the world's process and industrial markets.

John Crane Indufil offers a comprehensive range of filtration products which include filters specifically designed for oils, liquid hydrocarbons and water through to specialist coalescing filters to remove liquids from seal gas and fuel gas steams. Whatever the duty, John Crane Indufil filters will ensure optimum reliability from your machine.

Three perfect reasons to choose a John Crane filtration system

Unique Filter Design

All Indufil filters have a forged body construction, providing a compact weld free design which complies with all international pressure vessel design codes without the necessity for detailed weld certification. Perfect sealing is achieved via an "O" ring and back-up ring arrangement, alleviating any issues with gasket bolting forces and potential leakage.

Each Indufil filter can be configured as required with associated vents / drains; valving / porting; flanges and fittings to suit every application.

Filter Element Design

Combination of design concepts and materials used have a major influence on the performance and pressure drop of the filter unit, maximising running time between change outs.

Our fluid cartridge design is patented, ensuring the performance of the element cannot be matched by others. As a consequence, Indufil filters typically exceed all industry requirements including API standards.

- Particle filtration down to 3µm and efficiencies to 99.9% (β3>1000)
- Liquid removal down to 1µm and efficiencies to 99.9% (β1>1000)

Aftermarket Support

Performance of a filter depends entirely on the elements fitted making it essential to fit genuine Indufil filter elements.

Competitor replacements for Indufil products do not incorporate patented Indufil design features and therefore cannot provide comparable performance.

Indufil hold replacement elements for all of their filters in stock and can dispatch within hours of receiving an order.

Patent No: 102-1728

Liquid Filtration

Indufil liquid filters are typically used on all oil and water duties and can be applied to almost any liquid application.

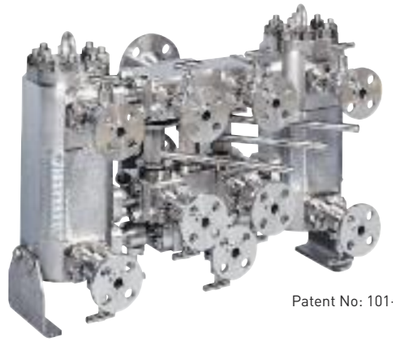
Indufil liquid filters can be applied to almost any liquid application, they are typically used on oil and water duties. These include:

- Lube oil filtration – gas turbines / steam turbines / gearboxes / compressors
- Water – gas turbines / injection / machine cooling

Duplex filters are recommended to ensure adequate filtration of the process flow whilst the filter is changed.

Seal Gas Filtration

Almost every centrifugal compressor in use uses dry gas seals to contain the high pressure gas, whether it is on a high pressure re-injection duty or on a low pressure pipeline machine. These seals can only be relied upon if fed with a continuous supply of clean, dry gas.



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Indufil gas filtration systems are the industry preferred solution as the filter design can be specifically tailored to the application.
Features include:-

- Coalescing stages to remove liquids in the gas stream ensuring the gas is suitably dry
- Double "O" ring sealing at every joint
- Indufil's positive gate changeover system ensures the correct changeover sequence is followed and that there is no interruption to the flow
- Flange up to 4"
- Patented double block and bleed arrangement
- The filter assembly can be a panel or skid mounted for convenience. Liquid collection reservoirs, level gauges and switches can be easily incorporated onto the filter skid, this can be hard wired to an on board terminal box with fully certified wiring

Fuel Oil Filtration

Adequate filtration of fuel oil is essential to reach levels of reliability demanded by modern applications, whether onboard a ship or on a land based power generation application.

Indufil manufacture complete fuel oil filtration systems which are fitted as standard to leading brands of gas turbines.

Features include:

- Inlet and outlet connections up to 8" in diameter
- Material specification tailored to suit application (carbon steel is sometimes applied)
- Fuel oil filters can be skid mounted with all control and monitoring instrumentation incorporated as standard and hard wired to an on-board terminal box
- Liquid to liquid filtration

Fuel Gas Filtration

Throughout the oil & gas and power generation industries, natural gas has become the preferred fuel for providing motive power. Effective filtration systems help ensure the demands of modern engines are met by providing clean, dry gas. Failure to provide this can quickly cause a reduction in efficiency or even worse, an unscheduled outage.

Indufil fuel gas filtration units are individually tailored to maximise reliability whatever the condition of the supply gas. They are fitted as original equipment by most of the major gas turbine suppliers.

Design features typically include:

- Filtration performance to 1µm and efficiencies to 99.9% (β3>1000)
- Inlet and outlet sizes up to 14" internal diameter
- Liquid level indicators, switches and transmitters
- Integrated thermal relief and shut off valves
- Plug and play filtration unit mounted on its own skid

Other Speciality Products

Ball Valves

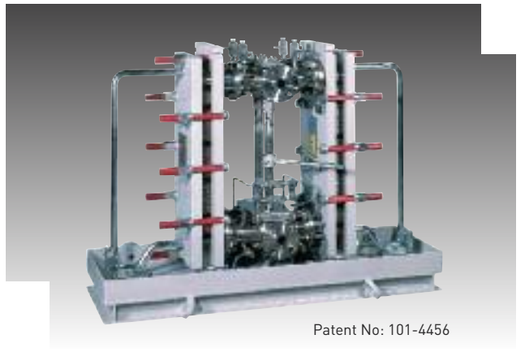
John Crane Indufil design and produce their own valves. Similar to filters, all valves feature a non-welded forged body, plus a trans-flow design that ensures both a continuous flow and a minimal pressure drop during the switchover operation with no interruption to the flow.

Indufil valves also incorporate a unique spring loaded ball / seat design that prevents leakage and an anti blow out design on the valve stem.

Patent No: 101-1161

The range of valves includes mono block, double three way and double six way transfer valve designs, with flange sizes up to 12" and bore sizes up to 8".

A full range of materials and porting arrangements are available to suit.



Patent No: 101-4456

Coolers

The Indufil plate cooler system incorporates a patented pair of double six way ball transfer valves. They are uniquely coupled together, allowing simultaneous changeover with no interruption in flow.

The compact valve design and changeover system minimises the overall footprint of the cooler in an innovative way, minimising demands on both weight and space.

Local customer support - from a global company

Global Support

A constantly expanding international network of support facilities in over 50 countries provides customers with easy, local access to our global service capability. These facilities provide a wide variety of application, engineering and design expertise plus extensive sales and commercial support services. Many also boast manufacturing, assembly and refurbishment capabilities plus the provision of round-the-clock emergency support.

They have instant access to John Crane's global database of drawings, inventory, delivery and technical data, and this ensures that customers receive a rapid and accurate response to their enquiries no matter where they are located.

The experience of expertise in John Crane Indufil builds on this network ensuring that whatever your filtration problem or where ever you are located, we support you, maximising the reliability of your operation and minimising downtime.