



CUSTOM-ENGINEERED SOLUTIONS IN KNITTED WIRE MESH

For forty years, Metex design, development, and manufacturing engineers have been producing engineered components that take maximum advantage of the unique characteristics and robust nature of knitted wire mesh. Its interlocked looped structure, which offers excellent resiliency, memory—even when subjected to high temperatures as well as high-tensile or compressive stress—and strength, make knitted wire the ideal choice in materials when both performance and cost are paramount.

Metex products now meet a wide range of critical needs—from providing flexible, yet durable, seals and joints to noise attenuation, thermal insulation, and filtration—in some of the most demanding industrial applications and environments.



Complete in-house design, R&D, and test facilities



Flexibility in manufacturing for JIT requirements



TECHNICAL BULLETIN NUMBER 112



KNITTED WIRE MESH SEPARATORS

Peak Output Performance and Long Service Life With Wire Mesh for Compressors

For peak output performance from a compressor, blower, engine, or vacuum pump, air must be able to flow unrestricted. Selection of the proper media must be considered as it affects air velocity, and hence, the operating condition of the equipment. Metex designed and manufactured mesh separators provide long-lasting performance, and high efficiencies in separating liquids from air and gas streams by means of the three capture mechanisms of separation: impaction, interception and diffusion.

Due to our unique ability to manufacture products from a wide range of ferrous and non-ferrous metals, plastics and composites, Metex separators can be found in equipment designed for use in highly corrosive and high-temperature environments that require cost-effective process efficiency, low pressure drop, long service life, and peak performance.

Knitted mesh separators are designed to handle all specific CFM of a compressor and can be made using a broad range of materials, sizes, densities and shapes—allowing immediate changes in key performance criteria to match your process.

Engineered Solutions for Separation Problems

Metex separators, which are manufactured from knitted wire, have a high surface area and the series of interlocking loops allow excellent flexibility and structural support. In addition, wire mesh provides the lowest-cost solution—especially when installed inside compressors that are sized for other process considerations.

To ensure maximum performance and to prevent flooding, we recommend that the housing or cavity into which the separator is installed be properly reviewed, as it is an integral part of the overall design. Otherwise, the separator itself will be compromised and the system will not function properly. Metex offers complete one-source support for both element and housing design and production.



Engineered Solutions for Separation Problems *(continued)*

Metex products allow the liquids to be separated while permitting the air or gas to pass through the separator and into the equipment. The liquids are then drained and removed by the return lines, and then re-compressed in a continuous cycle.

Metex designs are based on, among other design principles, the Souders-Brown correlation factor. This factor measures the point at which the separator will flood based on a specific load-point velocity through the separator. The Metex separator is then designed at 80% of the maximum flooding velocity to ensure maximum efficiency over the life-time of the engine.

When specifying a separator for your application, other factors that need to be considered are:

- Particle size distribution
- Compressor volume in CFM, CFH or liters per minute
- The pressure drop that can be tolerated
- Cost of the separator
- Whether the separator will be installed inside existing equipment or if a stand-alone vessel is required
- Liquid handling capability of the separator
- Material availability, compatibility with the process

In-house Testing Capabilities and Equipment

Metex uses the very latest test equipment and procedures to optimize the design of each separator. Variables such as flow rate, temperature, and pressure drop can be measured and controlled in our custom-designed laboratory.

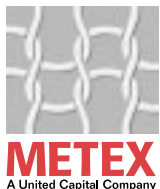
From initial design, prototype and testing to full production, our ISO9001 and QS9000 Quality System ensures that we only provide products that offer high quality, performance, durability, and value.

Product Benefits

- Long service life
- Cost effective—can withstand temperatures between -45C to 650C depending upon material selection
- High separation efficiencies
- Easy to install in existing or new housing spaces
- Can vary element density and surface area to solve the most difficult separations problems
- Reduction in noise due to high mechanical damping characteristics and non-linear spring rates of knitted materials

visit us at
www.metexcorp.com

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