

# R&D LABORATORY



PASSION TO PERFORM





The culmination of a multi-million Euro investment in technology and a long-standing intellectual collaboration with some of Italy's leading scientific institutions, MP Filtri's new state-of-the-art Research and Development Centre has been established as a centre of technical **excellence and innovation**.

Based in Pessano con Bornago, Milan, the 1,100 square-metre scientific research facility places a sharp focus on practical industrial applications. It has been created to spearhead the development of an innovative range of market-leading products; enhance the quality and reliability of the existing portfolio, and support the creation of bespoke customer-driven prototype designs.

MP Filtri's dedication to excellence in scientific research has been built on the close partnerships it has established with the Polytechnic of Milan, the University of Bologna and the University of Modena and Reggio Emilia.



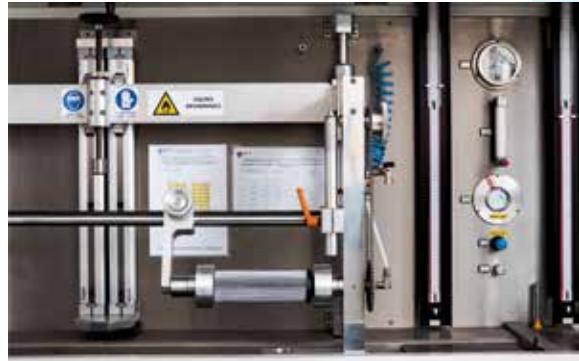
- ISO 10771-1** Fatigue pressure testing of metal pressure-containing envelopes
- ISO 16860** Test method for differential pressure devices
- ISO 16889** Multi-pass method for evaluating filtration performance of a filter element
- ISO 18413** Inspection document and principles related to contaminant extraction and analysis, and data reporting
- ISO 23181** Determination of resistance to flow fatigue using high viscosity fluid
- ISO 2941** Verification of collapse/burst pressure rating
- ISO 2942** Verification of fabrication integrity and determination of the first bubble point
- ISO 2943** Verification of material compatibility with fluids
- ISO 3724** Determination of resistance to flow fatigue using particulate contaminant
- ISO 3968** Evaluation of differential pressure versus flow characteristics
- ISO 4405** Determination of particulate contamination by the gravimetric method
- ISO 4406** Method for coding the level of contamination by solid particles
- ISO 4407** Determination of particulate contamination by the counting method using an optical microscope
- ISO 16232-7** Particle sizing and counting by microscopic analysis
- DIN 51777** Determination of water content using titration according to Karl Fischer



Supported by the latest technology, including scanning electron microscopes, MP Filtri's exhaustive testing programme is carried out with special emphasis on its comprehensive MULTIPASS analysis – which has been created in accordance with ISO16889. This method compares the amount of contaminant present upstream and downstream in the filter element – calculating the ratio of Beta filtration by the size of the particles and retention capacity. The maximum working pressure and the pressure drop through the filter according to the flow rate (ISO 3968) and the so-called bubble point (ISO 2942) are also examined, including the point of emergence of the first air bubble from the material of the filter element as a function of pressure.

Far more than just a test centre, facilities include: specialist training areas, comfortable meeting rooms and study areas – enabling customers to combine academic and theoretical training with hands-on practical work on state-of-the-art test benches.

This creates perfect opportunities for mastering how the equipment works in tackling fluid contamination; boosting the knowledge and expertise of delegates; and gaining experience in a realistic working environment.



- 16 test benches
- 8 laboratory equipment for analysing contamination

- 15 ISO and DIN International Standard
- 29 different test

Per year:

- More than 200 test request
- More than 1500 tested components
- More than 90 Multi-pass

The 'heart' of the centre is the test bench facility which has been specially designed to validate the operating characteristics and performance of elements and filters. These advanced work stations offer pinpoint accuracy in measuring the level of contamination from solid particles in oils under pressure.

All tests are carried out in accordance with international standards and reproduce the precise conditions of the pressure and flow of any hydraulic circuit inside controlled and filtered climate chambers.





## HEADQUARTERS

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