MPFILTRI®

WiFi Enabled

Industry 4.0 READY

# ICM 4.0

Inline Contamination Monitor

# DISCOVER THE POWER OF CONNECTIVITY

Compatible with

MPFILTRI CONNECT

Available from

Download on the App Store

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Find out more:
**www.mpfiltri.com**

**PASSION TO PERFORM**

Designed, engineered & manufactured by MP Filtri UK

# ICM 4.0

## All the data - wherever you are, whenever you need it.

MP Filtri's highly-acclaimed Inline Contamination Monitor has raised the bar again - adding full wifi connectivity to its market-leading feature set, accuracy and repeatability.

A 24/7 real-time monitoring and critical early warning system, the ICM 4.0 delivers the ultimate in hydraulic health checks - with all data accessible via a sophisticated software suite and an innovative new mobile phone app.

## SIX REASONS

THE ICM 4.0 SETS THE STANDARD

### ACCURACY

Using the latest LED optical technology, the ICM 4.0 is accurate to ± 1/2 code for 4, 6, 14µm(c).

### CONNECTIVITY

Wifi-enabled for instant access to machine performance.

### ANALYSIS

Real-time monitoring and predictive maintenance. Full 8-channel measurement.

### INFORMATION

Measures particle contamination, moisture levels and temperature levels in hydraulic fluids.

### EFFICIENCY

Reduces costs and downtime, protects machinery and rapidly pays for itself.

### EASE OF USE

Sophisticated yet simple to use software that makes performance analysis easy.

**Live real-time monitoring**
Instant hydraulic health checks

**Large storage capacity**
Store up to 4000 tests on internal memory

**Robust and durable**
Die-cast aluminium body - IP 64 protection

**Fast, customisable test results**
Adjust test times and intervals to your personal specification

**Space efficient**
Perfect for confined environments

**Easy to master**
Simple, straightforward interface

**Outstanding connectivity**
Utilising the latest WiFi technology

**Detailed, accurate results**
Exceptional repeatability and full 8-channel measurement

**Predictive maintenance technology**
Identifying risks before they impact performance

**Accessibility**
Monitor your devices through a single app / webpage

**User-friendly**
Multi-coloured alert indicators for fast issue recognition

**Non-WiFi Connections also available.**
Modbus, Canbus, 4-20mA signal and switched alarm relay outputs.

# COMPREHENSIVE RANGE OF CONNECTION OPTIONS

Wifi connectivity ensures you can access and share real-time data and analysis instantly via a number of different platforms.

Available options include:

- **All connections from ICM 2.0:**
  Modbus, Canbus, 4-20mA signal and Switched alarm relay outputs (WiFi replaces the need for the remote connector).
- **Cloud based systems:**
  Capability to connect to customers own cloud-based systems via Modbus. User access to all ICMs on the same network, including remotely via VPN.
- **Web browser readouts:**
  Generated from the unique IP address of each ICM 4.0.
- **Mobile App:**
  Available for Apple iOS and Android devices.
- **MP Filtri's Software Systems:**
  - **MP Filtri Connect Software:**
    For a complete operational overview of the performance of every machine in the factory.
  - **LPA View software:**
    Monitors results and provides detailed trend analysis.

**The ICM 4.0 should be a key weapon in your fight against contamination.**

Industry 4.0 READY

## Cloud compatibility

The ICM 4.0 is fully Industry 4.0 compliant and when combined with a cloud package - enables you to track the performance and contamination levels of every single machine you operate in real time - wherever you are in the world.

## Designed for ease of use

Built around simple yet sophisticated software that can be mastered in hours, the ICM 4.0 has been created for ease of use, allowing you to customise settings and access all the information you need on a single screen.

## Accuracy for efficiency

Complete 8-channel measurement, accuracy to within ± 1/2 code and outstanding repeatability means that at any moment you can gather a precise snapshot of the health of your hydraulic fluid - preventing damage, downtime and high maintenance costs.

## Wide range of reporting formats

Wherever you are working and whatever standards you are using we've got you covered. International standards include: ISO 4406; NAS 1638; and AS4059 Rev E.



# MONITORING HAS NEVER BEEN EASIER

## The ultimate performance 'snapshot' for a wide range of different sectors

In addition to the convenient mobile phone app, MP Filtri has released a comprehensive new windows-based MP Filtri Connect software which gives you a complete overview of your entire operation. Benefits include:

- Monitor as many machines as you like in as much detail as you want - with colour coded conditions for early warning.
- Customise the information you'd like to see at a glance.
- Monitor contamination, temperature and the ISO code.
- Comprehensive results history with up to 4,000 tests stored on the machines internal memory.

MPFILTRI CONNECT

## Instant results delivered to your fingertips

At MP Filtri we deal in solutions - providing you with a purpose-built easy-to-use, mobile phone app that lets you access all the key information from your ICM 4.0 at the touch of a button. The app is free and is compatible with both Android and Apple devices.

Download on the App Store

GET IT ON Google Play

# ICM 4.0 Specification

| | |
|---|---|
| Technology | LED based light extinction automatic optical particle counter |
| Particle Sizing | >4, >6, >14, >21, >25, >38, >50, >70 µm(c) |
| Analysis Range | SO 4406: Code 0 to 24; NAS 1638 Class 00 to 12; AS4059/ISO11218 Rev E, Table 1 Size Codes 2-12; AS4059/GJB420B Rev E, Table 2 Size Codes A-F 000-12*; AS4059 Rev F, Table 1 Size Codes 2-12; AS4059 Rev F, Table 2 Size Codes, cpc[000 to 12]* (Lower limits test dependent) |
| Accuracy | ± 1/2 code for 4, 6, 14µm(c) ± 1 code for larger sizes |
| Calibration | Individually calibrated with ISO Medium Test Dust (MTD) based on ISO 11171, on equipment certified by I.F.T.S. ISO 11943. |
| Viscosity Range | Up to 1000cSt |
| Fluid Temperature | Minimum: -25°C / -13°F Maximum: +80°C / +176°F |
| Ambient Temperature | Minimum: -10°C / +14°F Maximum: +55°C / +135°F |
| Pressure | Minimum: 0.5 bar / 7 PSI Maximum: 420 bar / 6091 PSI |
| Sample Volume | Adjustable 10 - 3600 seconds. Factory set to 120 seconds. Start delay & programmable test intervals available as standard |
| Data Storage | Up to 4000 tests |
| Environmental Protection | IP 64 versatile IK04 Impact Protection |
| Power | Voltage 9-36V DC |
| Weight | 1.6 kg / 3.85lbs |
| Product Dimensions | Width: 123mm / 4.8" Height: 142mm / 5.6" Depth: 65mm / 2.6" |

*See product literature for analysis range per size

## TAKE YOUR ICM 2.0 TO THE NEXT LEVEL

All the advantages of WiFi connectivity can be enjoyed via your existing ICM 2.0 with a simple upgrade.

MP Filtri's new WiFi extender (WFXI) is fully compatible with ICM 2.0 devices and can be connected quickly and easily to your existing machine, bringing all the advantages of the new machine to your business at a stroke.

The WiFi extender enables you to connect, not only to the new mobile app, but also to the new CMPView Software, LPAView, and even generates full information to your web browser thanks to its unique IP address.

The WiFi extender delivers high-speed connectivity while being highly space efficient, ensuring it can still be fitted in cramped environments.

For more details, check out our latest product updates at **www.mpfiltri.com**

Please note: To ensure your version of the ICM 2.0 can be upgraded to wifi, please contact **technical@mpfiltri.co.uk** informing us of your serial number.

## Why choose MP Filtri as your partner for contamination control solutions?

MP Filtri prides itself on being the original and the best when it comes to Inline Contamination Monitors and Portable Particle Counters.

The celebrated ICM set new standards in the industry at launch - and this new incarnation enhances and improves the original machine's market-leading functionality - delivering faster results, greater accuracy, more storage, extensive customisation options, and a more robust and portable design.

MP Filtri has a proud heritage spanning more than 50 years as an innovator in the hydraulic filtration industry and has forged a growing reputation for the quality of its products and its customer service.

When the vast majority of hydraulic failures are caused by contamination - can you afford not to team up with MP Filtri and ensure your machinery is maximising its efficiency and potential?

## Key Industry Sectors

### Mobile

Portable and precise, the ICM is ideal for applications where accuracy is vital even in challenging and variable conditions.

### Offshore

Capable of handling aerospace phosphate ester, mineral and synthetic oil, subsea/ offshore water based fluids and more....

### Industrial

Keeps production lines working at full capacity – ensuring the best in performance and productivity.

### Renewable energy

Minimises unplanned downtime, dramatically reducing operational and maintenance costs.

### Test rigs

Delivers accurate and reliable comprehensive hydraulic health checks to a host of international standards.

### Military

Ideal for precision tooling, injection moulding, presses and power packs - supports a wide range of industries.

# ICM How to order

| Order example | ICM | W | M | K | U | G1 | 4.0 |
|---|---|---|---|---|---|---|---|

**1. Contamination Monitoring Product**

| | |
|---|---|
| ICM= | Inline Contamination Monitor |

**2. Sensor Options: Moisture**

| | |
|---|---|
| 0= | Without moisture and temperature sensor |
| W= | With moisture and temperature sensor |

**3. Fluid Compatibility**

| | |
|---|---|
| M= | Mineral Oil and Synthetic Fluids |
| N= | Subsea and water-based fluids * |
| S= | Phosphate, ester and aggressive fluids * |

**4. Display Option**

| | |
|---|---|
| 0= | Without LCD and keypad control |
| K= | With LCD and keypad control |

**5. Output Option**

| | |
|---|---|
| R= | With relays /external alarm outputs |
| U**= | Test record transfer (direct to USB stick) plus relays/external alarm outputs |

**6. Hydraulic Connection Option**

| | |
|---|---|
| G1= | M16x2 test points |
| G3= | 1/4"BSPP female ports |
| G4= | 7/16th UNF female ports |

**7. Design Reference**

| | |
|---|---|
| 2.0= | ICM 2.0 |
| **4.0=** | **ICM 4.0 with integral WiFi** |

**ICM 2.0 WiFi Enabling Option**

| | |
|---|---|
| ICM-WFXI= | ICM 2.0 Wifi Extender*** |

* N & S version, moisture sensor (W) not available ** U version not available in 4.0 design reference *** Please check with MP Filtri UK quoting your ICM 2.0 serial number to ensure compatibility.


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All information stated in this brochure is correct at time of printing and subject to change without notice.

Contamination Monitoring Products