Data sheet DS/SERVICE/EMF/AUS–EN

Maintenance services
Electromagnetic flowmeter refurbishment | Australasia and Asia

Remove, refurbish and re-commission – good as new

Measurement made easy

Harsh processes cause flowmeters to wear
— A refurbished flowmeter fitted during routine maintenance reduces unscheduled maintenance ensuring maximum uptime of your plant and process

Harsh measuring environments can affect product accuracy
— a refurbished flowmeter ensures your measurement accuracy is maintained

Increase the lifespan of your Flowmeter
— implement a Routine Refurbishment Program

Refurbishment is often-cost effective for:
— large sizes
— custom sized or unusual flange types
— custom lay-lengths
— flowmeters over 15 years of age

Electronics upgrade to latest model
— a new electronics ensure the maximum reliability from your flowmeter
— buy a replacement electronics, same model as before to maintain continuity
— buy a retrofit electronics with the latest technology unlocking new features and functionality

A refurbishment comes with 1-year warranty
— peace of mind for your measurement security

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Overview

As products age they may require special attention or maintenance to ensure your measurement is accurate. Wear and tear affects the accuracy and integrity of any flow measuring device. Electromagnetic flowmeters have no moving parts, but they can still be affected by the harsh properties found in certain flowing fluids.

In some cases it is more economic for you to arrange for your flowmeter to be taken offline and refurbished rather than simply replacing it. During refurbishment why not replace the electronics or upgrade to the latest model, unlocking new features and enhancements that may improve your measurement experience.

Applications where refurbishment may be the answer

Electromagnetic flowmeters are the flow measurement of choice in tough applications like Mining, Dredging and Cement manufacture.

Liquids and chemicals containing high solids content such as sand, metal particles or rocks, can wear or coat flowmeter linings and electrodes – even the best linings and the hardest electrodes still wear over time.

The life span of your ABB flowmeter system when used in such harsh environments can be increased by implementing a routine refurbishment program on the primary flow sensor.

Fig. 1: Flowmeters typically sited in harsh environment

What can happen to a flowmeter if it is not replaced or refurbished in time?

Damage to the flow sensor lining affects not only the accuracy of the flow measurement, but also creates the possibility of the process leaking into the casing of the sensor and damaging the magnetic coils. Coil replacement is possible, but adds further costs that could be prevented.

Damage to the electrodes will create even greater errors in the flow measurement and can even cause total loss of the measurement signal. Heavily damaged electrodes create a path for the process fluid to enter the sensor casing and could again damage the magnetic coils.

Replacement vs. Refurbishment

Whilst the complete replacement of the flow sensor may be possible, a routine refurbishment program is recommended for the following installations.

— large flow sensors (> 250 mm in. diameter)
— custom-sized flange sizes/types
— custom sensor 'lay' lengths
— older flowmeters (> 15 years)

Our proposal

Depending on the process fluid type and application, an agreed refurbishment program will be established for routine removal of the flowmeter system and complete refurbishment of the flow sensor. The refurbishment period could range from between 6 months (for dredging applications) to 10 years.

Upon completion of the refurbishment work, a wet calibration (to ISO/IEC 17025 standards) is performed. Your flowmeter system is then returned together with a calibration certificate and 1-year warranty.

What if the product you want to refurbish is no longer available?

ABB uses a life-cycle management model with 4-phases to effectively manage products in the market, these phases are defined as Active, Classic, Limited and Obsolete.

During its lifetime, a product is successively transferred from the Active phase to the Classic, followed by the Limited and finally the Obsolete phase. A product remains in the Active phase as long as it is actively manufactured, marketed and sold. Spare parts availability is secured throughout the first three phases – Active, Classic and Limited. New Spare parts are actively manufactured in the Active and Classic phases. Depending on the phase your product is currently in will determine whether it is necessary to upgrade the electronics to a newer version.

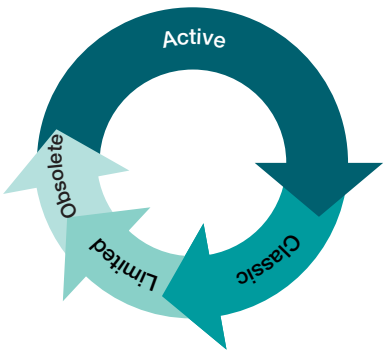

Fig. 2: 4-Phase life-cycle management model

Assured quality

All refurbishment work is carried out in our approved manufacturing and repair facility in accordance with international quality procedures (ISO 9001). All flowmeters are calibrated on NATA accredited calibration rigs to provide the end-user with complete assurance of both quality and performance of the flowmeter.

ABB workshop repairs process

ABB's state-of-the-art workshop operates a standardized process for all equipment repairs, as shown in Fig. 3, with tight control of response times that are monitored continuously to maintain operational excellence standards.

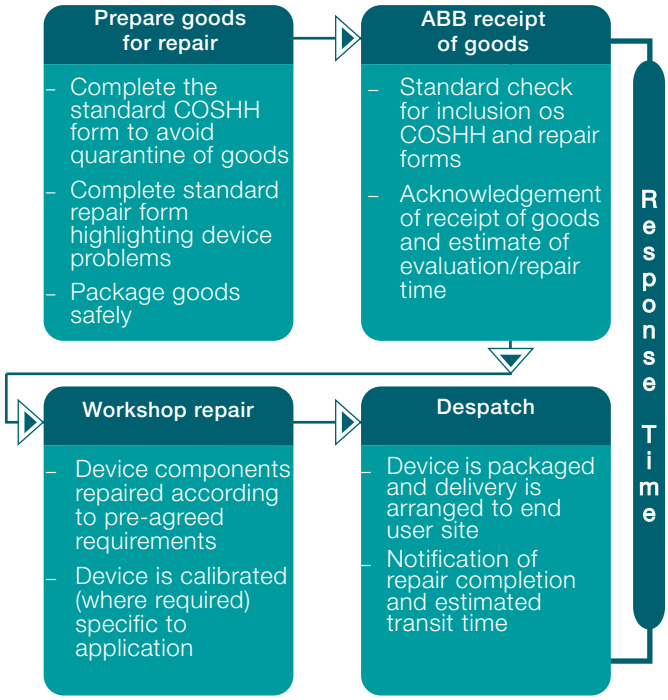

Fig. 3: ABB workshop repairs process

The flow sensor refurbishment process

To ensure your product is returned in perfect condition, we perform a number of processes during the refurbishment. Below is a list of the processes we typically perform (items marked with an * are optional extras):

1. De-commission and prepare for transport to ABB site*
2. Strip down and clean
3. Remove wiring and electrodes
4. Re-line sensor with same material or better (as new technology allows)
5. Perform Hydrostatic Pressure test*
6. Replace all electrodes and wiring with same metal or better (as new technology allows)
7. Paint all exposed surfaces with Marine grade primer and topcoat
8. If product is now obsolete prepare for upgrade*
9. Perform a 1-, 3-, or 6-point wet calibration on an ABB NATA accredited calibration rig
10. Package and return product together with 12-month Warranty extension and new calibration certificate
11. Perform on-site commissioning*

Refurbishment options

Standard sensor lining materials

- basalt
- alumina ceramic
- polyurethane
- PTFE
- rubber
- Linatex

Standard electrode materials

- 316SS
- Hastelloy B
- Tantalum
- Titanium
- Tungsten

Sensor sizes

All sizes up to 750 mm (30 in.).

Calibration uncertainty

In accordance with original factory calibration, least uncertainty +/- 0.15%

Useful information

To discuss your refurbishment requirements, please contact one of our experts.

An example of the type of information that can help us to support you more efficiently is given below:

Product serial number (if known):		
Application (tick):		
Dredging		
Mining		
Process /Chemical		
Water		
Waste Water		
Other		
Approximate diameter:		
Lining material:		
Electronics type:		

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Note
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Flow service catalog

Replace or retrofit

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Power and productivity for a better world™