

*Engineering*

*Retrofit & Upgrade*

## Retrofits and Upgrades

The Life Cycle of an equipment begins with initial qualification and extends through ongoing operation up to the decommissioning process.

During operation, the qualified status is continuously influenced by external factors. This includes planned changes, regulatory adjustments, digitization, increasing requirements for equipment documentation as well as influences from day-to-day business such as wear, spare parts availability and increasing probability of failure on the equipment.

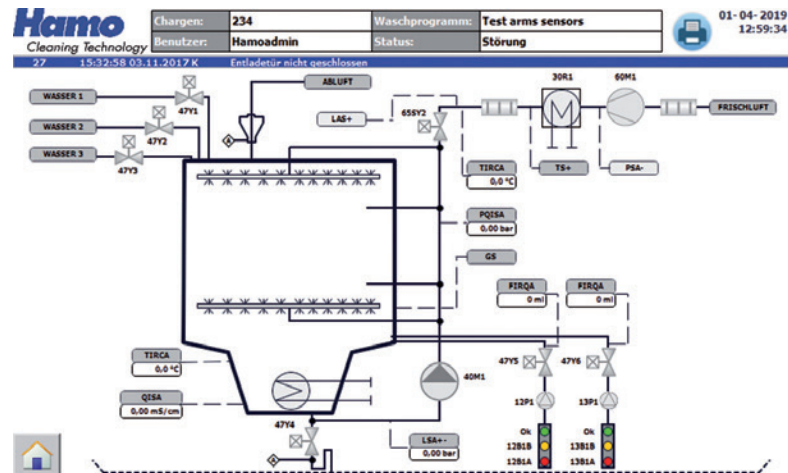
In order to meet these changing requirements continuously and to be state-of-the-art, not only technically but also in a regulatory manner, equipment adjustments are essential. In practice, so-called retrofits and upgrades have therefore proved their worth. Here, equipments are mechanically and electrically adapted where necessary and modern control systems are used and programmed, which can be implemented, for example, in a higher-level monitoring.

Following an overview of typical retrofits and preventative measures:

### Retrofit

Control and visualization systems:

- Siemens operator panels (HMI)
- Control unit on Siemens S7-15XX
- Printer for secure documentation



### Upgrade

Detergent supplies:

- Local dosing and distribution systems
- Direct connection to on-site supplies
- Additional cleaning agents or process additives

Cleaning tank independent direct flushing systems

Connection to on-site control systems:

- Media management
- Process data management
- Recipe management
- Batch documentation





## Services

- Professional consulting, planning and technical implementation
- Project Management
- Change Management and cGMP conform Support-Documentation
- Service, wear and calibration services
- Qualification (IQ/OQ) and PQ support
- Instruction and training for operators and maintenance staff



## Advantages of Retrofits and Upgrades compared to a new investment

Compared to a new investment, a retrofit or upgrade offers numerous advantages.

In addition to significant investment savings compared to the new purchase, a retrofit or upgrade variant get back the equipment much faster into the production process.

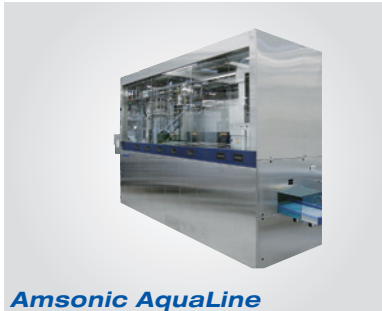
At the same time the following aspects and requirements can be fulfilled:

- Extension of the life time of the equipment
- Reducing downtime
- Improving productivity and product quality
- Availability of spare parts and support of discontinued product
- Collection of process and machine data for digitization
- Compliance with legal, regulatory and safety requirements

Amsonic Hamo is well prepared for the „Facility of the Future.“ Our long-standing experts will support you starting from the request until completion of the validation with the necessary manpower and target-orientated know-how. The Amsonic Hamo team is looking forward to getting in touch with you.



**Your center of competence for medical, pharmaceutical and industrial precision cleaning**



**Amsonic AquaLine**

**Water-Based Precision Cleaning Equipment (Ultrasonic)**

**Amsonic AquaLine / ModuLine**

High performance-Ultrasonic-Precision-Cleaning equipment



**Hamo P 640**

**Pharma-Conform Spray Cleaning systems (cGMP)**

**Hamo P 640**

Pharma-Conform (cGMP) Cleaning equipment in single or double door execution



**Hamo PG 800**

**Pharma-Conform Spray Cleaning systems (cGMP)**

**Hamo PG 800 / 1300**

Pharma-Conform (cGMP) Cleaning equipment in single or double door execution (Bio-Seal)



**Amsonic 400 R**

**Solvent-Based Precision Cleaning Equipment**

Amsonic 400 R Serie

Solvent-based Ultrasonic equipment (Class A3)

Cleaning under vacuum, above or below flash point



**Switzerland:**

**Amsonic AG (Headquarter)**

CH-2504 Biel/Bienne

Phone +41 (0)32 344 35 00

amsonic.ch@amsonic.com

**Germany:**

**Amsonic Hamo GmbH**

D-84453 Mühldorf am Inn

Phone +49 (0)7531 122 180

amsonic.de@amsonic.com

**France:**

**Amsonic SAS**

F-69970 Chaponnay/Lyon

Phone +33 (0)437 28 18 00

amsonic.fr@amsonic.com