

The Multi-talented System for Deburring and Cleaning

EcoCvelox®



ECOCLEAN
technology that inspires

The Combination of High-pressure Water jet Deburring and Component Cleaning from a Single Source



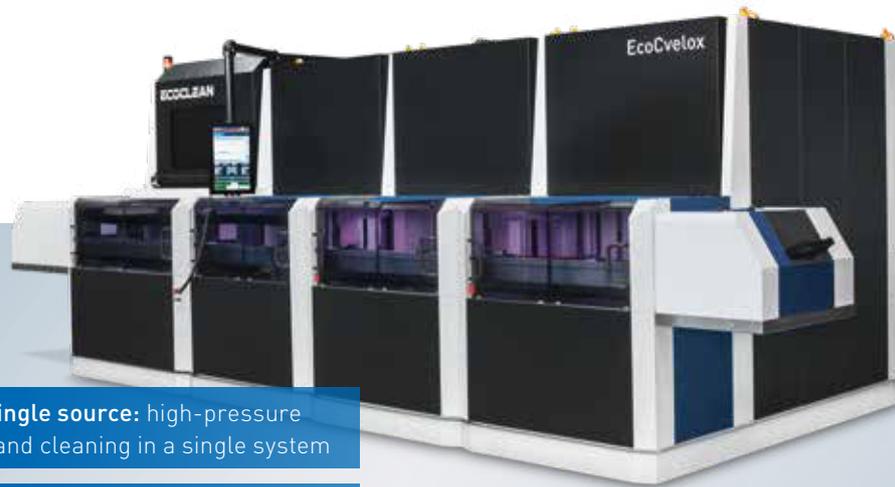
The EcoCvelox is a cost-efficient and powerful deburring and cleaning system with a modular design that can be configured depending on the process. It deburrs, cleans and dries components reliably and quickly in one unit.

The demand for burr-free and immaculate cleanliness of various components, such as hydraulic and pneumatic systems, engine, pump and valve housings, nozzles, transmission parts, steering and brake parts as well as other mechatronic components is constantly increasing. With EcoCvelox, Ecoclean offers an innovative concept that optimally and reliably meets these two requirements in one system. The combination of 5-axis high-pressure deburring with various processes for component

cleaning and drying is both efficient and space-saving. The modular concept allows for individual and expandable systems to be configured for combined high-pressure deburring, cleaning and drying. Complete lines with pre-cleaning and final cleaning using additional Ecoclean systems are also available, depending on the task and requirements. The system can be programmed quickly and easily via a CAD/CAM interface. Parts are handled via a highly dynamic transport system.

With the innovative combination of 5-axis high-pressure deburring with various processes for component cleaning and drying, the EcoCvelox sets the benchmark in terms of flexibility, ratio of cycle and process time, user and maintenance friendliness as well as unit accessibility.

The EcoCvelox has a modular design that can be easily equipped for combined high-pressure deburring, cleaning and drying according to customer needs and requirements (for configuration options, see page 5). The most varied requirements for flawless deburring and component cleanliness are thus reliably met. In the basic version, high-pressure deburring is performed with a single spindle. An HD turret, which can be equipped with various high-pressure tools, is available as an option. For cleaning processes, a choice can be made between injection flood washing, spray cleaning, targeted rinsing and ultrasonic cleaning. These processes are supplemented with optional high-speed blow and vacuum drying.



+ **Everything from a single source:** high-pressure water jet deburring and cleaning in a single system

+ **High flexibility:** in terms of system configuration and process sequence thanks to modular, space-saving unit design, which is individually expandable at any time

+ **Short down time:** fastest CNC axes on the market, cycle times of 15 seconds

+ **Reduced costs:** short changeover and conversion times, simple adaptation to new parts, 50 percent longer tool service life

+ **Flexible component handling:** manual or automatic loading possible, can be integrated into island production and transfer lines

+ **Intuitive system operation:** new HMI panel with touch display, CAD/CAM interface for fast and easy application programming

Your Benefits



TYPICAL APPLICATIONS

- High standards for the cleanliness of mechatronic components
- High throughput
- Part dimensions max. 200 x 200 x 200 mm
- High variety of components
- Deburring of complex component geometries

+ EFFICIENCY

- Deburring, component cleaning and drying from a single source
- Optimum ratio of process to system cycle time
- Short cycle times of only 15 seconds per pallet
- Compact layout suitable for workpiece dimensions
- Short changeover and conversion times

+ FLEXIBILITY

- Individually configurable modular system
- Suitable for a high variety of different components
- Easy adaptation to new components
- Various combinable cleaning processes such as injection flood washing, spray cleaning and targeted rinsing
- Unique component handling system for easy introduction of new components

+ FUTURE-ORIENTED

- Can be expanded at any time depending on customer requirements
- Component-specific spindle tools are 3D printed
- Intuitive operator guidance for quick and easy handling
- Easy & fast program creation through CAD/CAM interface
- Compact system design with the lowest possible footprint





➤ The EcoCvelox can be individually configured for a wide range of applications. Thanks to the modular concept, the system can be expanded at any time. Loading and unloading is possible on one or both sides.

Configuration Options



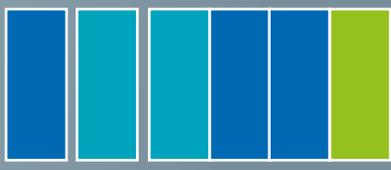
➤ Deburr



➤ Deburr & Clean



➤ Deburr, Clean & Dry



➤ Individually expandable



SMART PLANT OPERATION

- 19" flat touch screen (HMI)
- Intuitive control and operator guidance
- 3D images and animated process diagrams for easy understanding and fast, reliable status control of the system
- Integrated NC user interface
- Complete system documentation incl. wear and spare parts lists available via HMI

EcoCvelox – at a Glance

SYSTEM AND PROCESS*

- The EcoCvelox is a modular system for combined high-pressure water jet deburring, component cleaning and drying
- Reliable deburring, even of complex component geometries, as well as safe component cleaning for high quality standards
- Short cycle times of 15 seconds per pallet
- High system availability due to 50 percent longer tool life
- Individually configurable and flexible system equipment
- If required, equipped with energy-efficient circulating air system so that no exhaust air is produced

Deburring Module

- Translatory deburring with up to 8 axes
- 3-axis linear system & 1-fold HD spindle
- Tool change in 1.5 seconds
- 500l medium tank made of stainless steel with integrated pre-filtration
- Optional equipment: HD revolver with 4 tools, optional NC axes for component rotation & reduction of wait times, exhaust air system, cooling bath, heating, dosing, oil separator, pumping device, low pressure rinsing, compressed air pre-drying

Cleaning Module

- 450l medium tank made of stainless steel with integrated pre-filtering & heater
- Process vessel with linear injection system
- Process pump with double bag filter
- Optional equipment: Second process tank, injection flood washing (IFW), ultrasound, targeted rinsing, pre-drying by high-speed blow drying, exhaust-free system

Drying Module

- Process vessel for vacuum drying
- Rotary vane vacuum pump
- Optional equipment: Second process tank, pre-drying by high-speed blow drying, low-maintenance vacuum pumps with screw rotors

PARTS AND HANDLING*

- Components with dimensions of 200 x 200 x 200 mm, loaded on pallets
- Automatic loading with portal, robot or manual loading, optionally with one-sided or opposite-side loading and unloading
- Component recognition through an integrated camera system
- Integrated component handling with linear motor technology for fast loading and unloading
- Transport speed of the parts is between four up to five meters per second

OPERATION AND MAINTENANCE*

- 19" HMI flat touch screen for intuitive control and operator guidance
- Integratable CAD/CAM interface for quick and easy transfer of data from part design for programming high-pressure deburring
- Easy maintenance access
- Access to skimmers and level probes possible during production
- Rapid exchanges of high-pressure tools is possible due to separate maintenance openings

* List includes all equipment variants incl. options

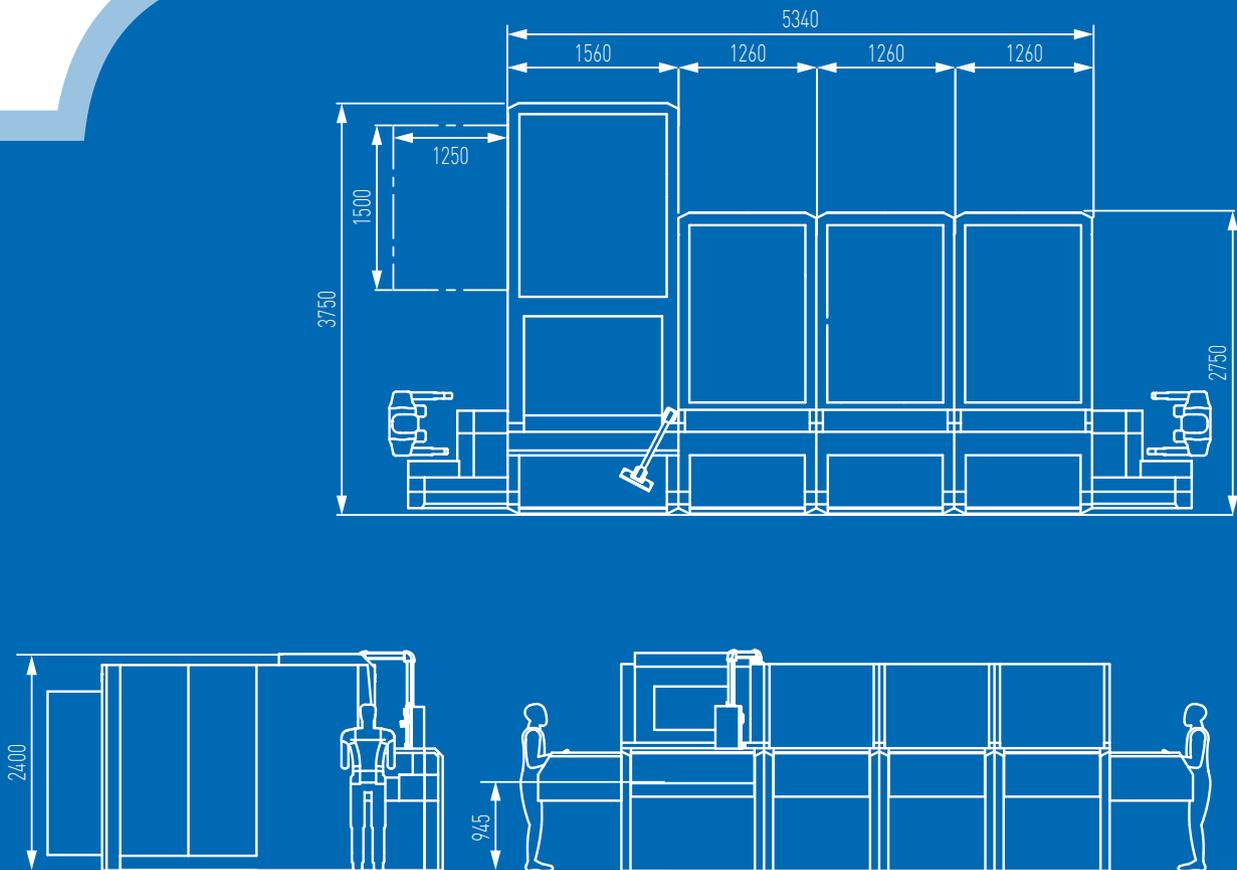
Technical Data

DEBURRING MODULE	
Dimensions (l x w x h)	3750 x 1,560 x 2,400 mm
Weight	5,000 kg
Treatment pressure	400 – 670 bar
Volume	20 – 38 l/min

CLEANING MODULE	
Dimensions (l x w x h)	2,750 x 1,260 x 2,300 mm
Weight	1,800 kg

DRYING MODULE	
Dimensions (l x w x h)	2,750 x 1,260 x 2,300 mm
Weight	1,500 kg

PARTS DATA	
Dimensions (l x w x h)	200 x 200 x 200 mm (larger upon request)
Weight	up to 5 kg (larger upon request)



Our Locations Worldwide



SBS ECOCLEAN GROUP