servomold®

Servo MoldControl. The new generation.

Process control like never before with MoldControl, the new generation servo control system.

Servomold

Experienced partners and innovators supplying the medical & pharma manufacturing industry.

Over 25 years of experience
Demonstrating a proven track record in the industry.

Privatly owned
Flexibility in decision-making, fast responses to market changes, strong focus on long-term customer relationships.

Collaborative partnerships
Building long-term relationships with clients and partners for mutual growth and success.

Full commitment
To efficient, application-oriented solutions.

Bianca and Thomas Meister, Management

The universal standard for injection molding applications

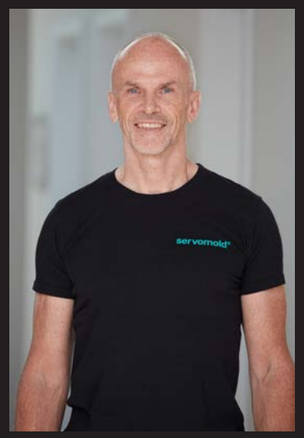
Our control unit for servo motors in injection mold tools has been shaping the market for 10 years now – the intuitively understandable operating concept as well as the universal applicability prevailed. From the very beginning, our aim was to build a mobile and easy-to-use control unit that can be adapted to different tasks and is based on uniform software.

In numerous projects, we gathered feedback and experience that is now being incorporated into a new generation of the proven control unit – for even more flexible, even more efficient and even more precise process control.

since 2012, our control unit has defined the de facto standard for servo automation of injection mold tools

over 700 control units in operation worldwide since then

proven in more than 1.100 projects and functionally enhanced through customer feedback



» *MoldControl is much more than a version update with a new housing – it realizes our vision of an all-round servo control unit without compromises.* «

Thomas Meister, Management & Development

Servo MoldControl. Proven functions. Intuitively extended.

More efficiency. More flexibility. More control. The new MoldControl servo control unit including touch panel offers an innovative operating concept with which all important parameters and functions are displayed clearly and quickly accessible. A fundamentally revised software and hardware allows editing even during operation – and makes the SMC an intuitive companion in dynamic production environments.

The advantages at a glance

- **More efficiency** –
  Now editable even while the injection molding process is running
- **More flexibility** –
  More individual and granular configuration of parameters
- **More control** –
  Optimal visualization of your parameters and settings

Software innovations at a glance

Focus on usability and flexibility

When redesigning our SMC software, the primary goal was to create exceptional ease of use – to this end, we completely rethought the operation of our control unit:

- Clarity and clear visualization of ongoing processes
- Flexibility and adaptability
- Easy to learn due to simplification of complex relations

Uniform operating concept

The consistent and easy-to-understand concept is based on function fields and segments:

- The selection of the functions or the motion segments is done in the main window
- In the side window, the parameters are displayed in the context of the specific function and can be edited or read only, depending on the operator level.
- Start of functions by short-stroke keys with context-controlled function description and colored LED.

» The new operating concept makes the complexity almost invisible to the user – and experts will find all the possibilities for designing even the most complex program sequences in the redesigned program and variable editor «

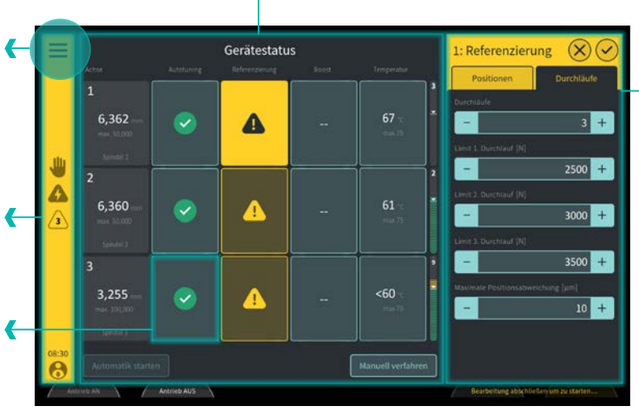
Matthias Lücke, Lead Software Engineer

Main window with information on device status, axis positions, motion segments, etc.

Hamburger menu for access to setup programs, editors, messages and much more

Left menu band shows operating states, operating mode, user level and much more

Functional field



Context-controlled side window for editing the parameters

** Contents of the side windows and editability of the parameters can be flexibly adjusted.*

Device and process status – all information at a glance

Universal boost mode with power and soft start function

Referencing with extensive plausibility check

Movements as segments individually adjustable and monitorable

Process parameters and ramps of the individual motion segments can be edited during operation

Short-stroke keys with contextdependent function and color design

One universal panel

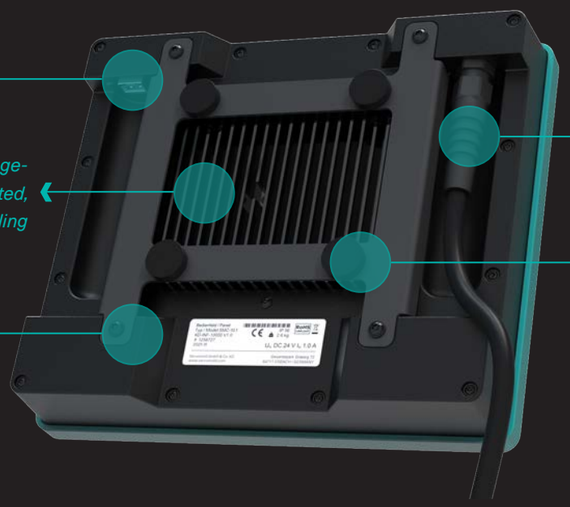
for maximum flexibility.

Panel on magnetic stand

Integrated RFID reader for easy user management

Capacitive 10.1" touch panel according to industry standard

Individually assignable short stroke keys for optimal haptic feedback



Modern program and data management via USB access

Optimal temperature management through integrated, efficient passive cooling

Universal mounting frame according to Vesa 100x100 standard for mounting arm connection

High-shielded control cable for maximum connection stability

***Optional:** instant mounting with magnetic feet*

SMC-Panel

Function meets intuition

With our new SMC panel, the integration of intuitive software and functional hardware takes usability to a new level.

Context-sensitive short-stroke keys complement colored LEDs and the function description on the user interface – operating safety at the highest level.

Manual Mode – Boost Start

» On the new user interface, the familiar functions of our current control units are still available and have been supplemented by a number of new features «

Till Schünemann, Control Technology

Proven functions

- Autotuning function for fast and safe adjustment of the specific control parameters to the mechanics
- Flexible program editor for individual creation of sequence programs
- Program management for up to 100 programs
- Application setup for defining the total gear ratio allows the input of real travel values and position data
- Different user levels and user management with RFID chip
- Monitoring of torque and force limits

Innovations in detail

- Devices and process status – all information at a glance
- All parameters (speed, acceleration, deceleration etc.) adjustable during the cycle
- Easily adjustable motion segments with individual monitoring of torque and force limits
- Advanced program and variable editor
- New boost mode for starting tool cycles
- Extended possibilities for homing control with plausibility check

Control panel	SMC-10.1 (SMC-Panel)
Operation and display	10.1" capacitive multitouch
Housing material	Aluminum plastic industrial design
Protection class	Front IP65 – Rear IP54
Cooling	Passively cooled and sealed
Software	Browser-based user interface
Data interfaces	USB / Ethernet
Supply voltage	24V via servo control system
Weight	2,9 kg

Four control unit variants

for multiple requirements.

1	Motor
1-4	Motors
1-8	Motors
1-5	Motors

Plug-in unit – only in combination with MCS-servo from Feller Engineering

SMC-Mini

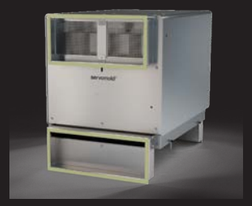
1 servo amplifier
20 A / 45 A

SMC-Standard

up to 4 servo amplifiers
20A / 45A / 100A

SMC-Rack

up to 8 servo amplifiers
20A / 45A / 100A



SMC-Feller

up to 5 servo amplifiers 20A / 45A / 100A for combined hot runner / servo control unit MCS-servo

Automatic position encoder changeover

A unique patent-pending technology allows the universal and flexible use of resolver or absolute encoder systems. This means that the most suitable position encoder system can be used depending on the application – without the need to reconfigure the control unit.

- Recognition of the position encoder systems via special motor data memory (MDS) or via the motor configuration file assigned to the program.
- Automatic switching of the encoder signals to the corresponding servo controller input.
- Additional function: software switchable gearing function for synchronous movement of up to 4 motors in master / slave mode.

SRCU modules on CORE board

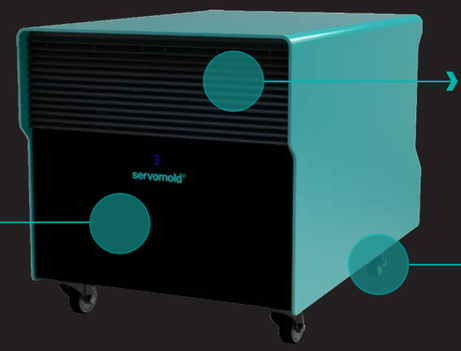
Safety first

and 100% control – at any time.

Safety is our top priority – that is why all Servomold control units are equipped with extensive safety technology in accordance with the EC Machinery Directive and are CE tested.

As with the development of the software, innovative new features have been implemented in the control hardware, helping to increase ease of use while ensuring maximum safety.

- Latest generation of highly dynamic servo controllers in 3 different power classes (20A / 45A / 100A)
- Active temperature monitoring of the interior and temperature-controlled ventilation of the separate functional areas
- New safety relays allow time-delayed emergency stop request and defined braking, e.g. when opening the safety doors.



Optimum temperature management through separation of brake resistors and interior, active fan control and efficient air flow management

Rugged industrial enclosure designed for dynamic production environments

Mobile and safe use due to electrically conductive solid rubber tires

Hinged rear panel for easy cleaning and maintenance

Easy and secure connection thanks to Speedtec quick-release fasteners

Separable power cord for maximum flexibility and mobility

Interface connection via modular Han-Yellock connector

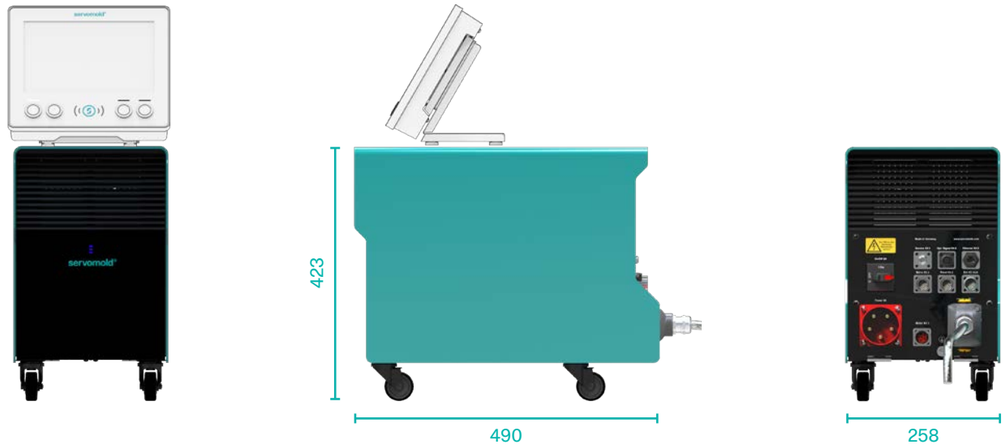
Interference-proof design due to separation of load and signal connections

SMC-Mini

The compact

The SMC-Mini is our smallest version of an all-round servo control system. It offers the same unique features as its big sisters with a minimal footprint. Thus, it also defines the entry point and is the optimal solution for those who need only one servo amplifier.

1 Motor



Control unit type	SMC-1 (SMC-Mini)
Servo-amplifier	400 V / 20 ampere to 45 ampere
Housing material	Aluminum – powder coated
Protection class	IP32
Cooling	Active cooling with automatic fan control
Control panel	SMC-Panel
Inputs / Outputs	6I / 6O via interface connector – 8I / 8O via additional connector with optional I/O module
Interface	25-pole Harting HAN-Yellock 30
Voltag	AC 400V 3/N/PE – 50-60Hz – 16 A alternative AC 400-500V 3/GND – 50-60Hz

SMC versions	Servo-amplifier configuration	Weight
SMC-1.1-20	1x 20 A	25 kg
SMC-1.1-45	1x 45 A	26 kg

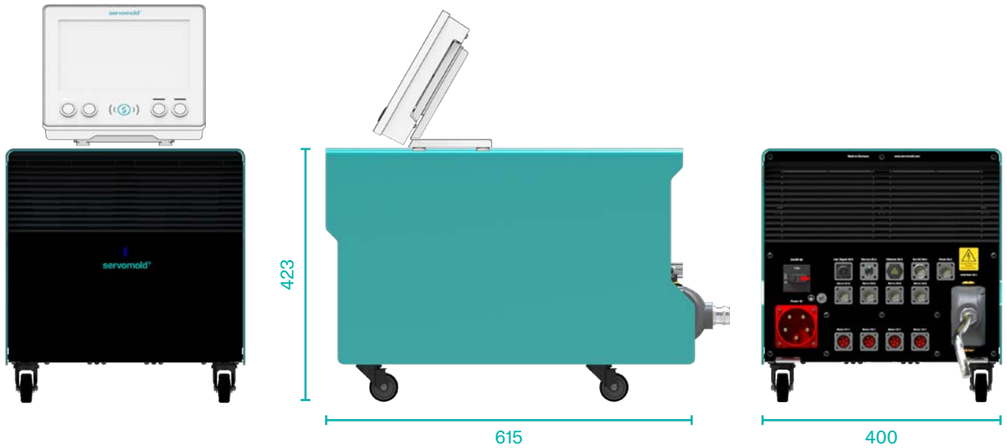
SMC-Standard

The universal

The SMC standard allows the universal use of different servo amplifier power classes up to the 100 Ampere controller for large motors.

Depending on the servo amplifier, it can drive up to 4 motors simultaneously and can be supplied in a wide range of power class combinations.

1-4 Motors



Control unit type	SMC-4 (SMC-Standard)
Servo-amplifier	400 V / 20 ampere to 100 ampere
Housing material	Aluminum – powder coated
Protection class	IP32
Cooling	Active cooling with automatic fan control
Control panel	SMC-Panel
Inputs / Outputs	From 6I / 6O via interface connector – 8I / 8O via additional connector with optional I/O module
Interface	50-pole Harting HAN-Yellock 60
Voltag	AC 400V 3/N/PE – 50-60Hz – 162 A / 32 A alternative AC 400-500V 3/GND – 50-60Hz

SMC versions	Servo-amplifier configuration	Weight
SMC-4.1-20	1x 20 A	25 kg
SMC-4.1-45	1x 45 A	26 kg
SMC-4.1-100	1x 100 A	27 kg
SMC-4.2-20	2x 20 A	27 kg
SMC-4.2-45-20	1x 45 A / 1x20 A	28 kg
SMC-4.2-45	2x 45 A	29 kg
SMC-4.3-20	3x 20 A	29 kg
SMC-4.3-45-2x20	1x 45 A / 2x 20 A	30 kg
SMC-4.3-2x45-20	2x 45 A / 1x 20 A	31 kg
SMC-4.4-20	4x 20 A	31 kg
SMC-4.4-45-3x20	1x 45 A / 3x 20 A	32 kg

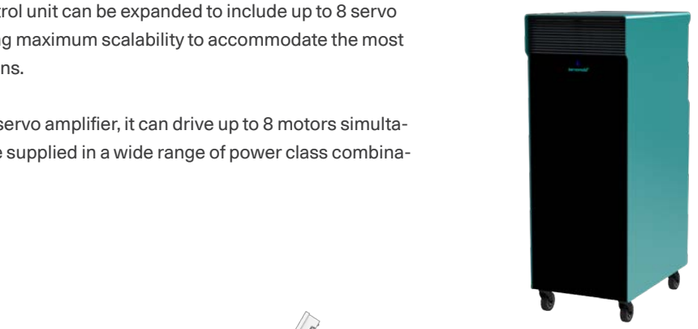
SMC-Rack

The scalable

The SMC rack control unit can be expanded to include up to 8 servo amplifiers, providing maximum scalability to accommodate the most complex applications.

Depending on the servo amplifier, it can drive up to 8 motors simultaneously and can be supplied in a wide range of power class combinations.

1-8 Motors



Control unit type	SMC-8 (SMC-Rack)
Servo-amplifier	400 V / 20 ampere to 100 ampere
Housing material	Aluminum – powder coated
Protection class	IP32
Cooling	Active cooling with automatic fan control
Control panel	SMC-Panel
Inputs / Outputs	16I / 16O via interface connector – 8I / 8O via additional connector with optional I/O module
Interface	50-pole Harting HAN-Yellock 60
Voltag	AC 400V 3/N/PE – 50-60Hz – 32 A / 64 A alternative AC 400-500V 3/GND – 50-60Hz

SMC versions	Servo-amplifier configuration	Weight
SMC-8.5-20	5x 20 A	120 kg
SMC-8.5-45-4x20	1x 45 A / 4x 20A	122 kg
SMC-8.6-20	6x 20 A	123 kg
SMC-8.6-45-5x20	1x 45 A / 5x 20A	125 kg
SMC-8.7-20	7x 20 A	125 kg
SMC-8.7-45-6x20	1x 45 A / 6x 20A	127 kg
SMC-8.8-20	8x 20 A	128 kg
SMC-8.8-45-7x20	1x 45 A / 7x 20A	130 kg

Special configurations on request

SMC-Feller

The combined

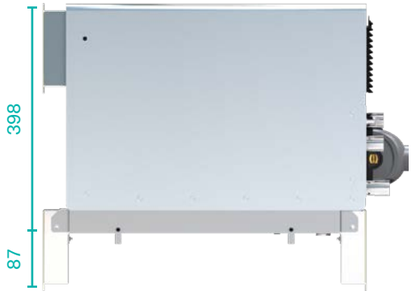
The SMC-Feller is a fully integrable control unit developed in close cooperation with Feller Engineering for installation in the MCS-servo hot runner controller.

The multiple MCS-servo combination unit can be equipped with up to 5 servo amplifiers of different performance classes as well as with up to 60 hot runner control zones.

The SMC panel can be switched between servo control system and hot runner temperature control at the touch of a button.

1-5 Motors

The fan concept and air routing keep the temperature constantly low even at maximum load.



Control unit type	SMC-5 (SMC-Feller)
Servo-amplifier	400 V / 20 ampere to 100 ampere
Housing material	Aluminum – blank
Protection class	IP32
Cooling	Active cooling with automatic fan control
Control panel	SMC-Panel
Inputs / Outputs	From 6I / 6O via interface connector – 8I / 8O via additional connector with optional I/O module
Interface	50-pole Harting HAN-Yellock 60
Voltag	AC 400V 3/N/PE – 50-60Hz – 32 A / 64 A alternative AC 400-500V 3/GND – 50-60Hz

SMC versions	Servo-amplifier configuration	Weight
SMC-5.1-20	1x 20 A	25 kg
SMC-5.1-45	1x 45 A	26 kg
SMC-5.1-100	1x 100 A	27 kg
SMC-5.2-20	2x 20 A	27 kg
SMC-5.2-45-20	1x 45 A / 1x20 A	28 kg
SMC-5.2-45	2x 45 A	29 kg
SMC-5.3-20	3x 20 A	29 kg
SMC-5.3-45-2x20	1x 45 A / 2x 20 A	30 kg
SMC-5.3-2x45-20	2x 45 A / 1x 20 A	31 kg
SMC-5.4-20	4x 20 A	31 kg
SMC-5.4-45-3x20	1x 45 A / 3x 20 A	32 kg
SMC-5.5-20	5x 20 A	33 kg
SMC-5.5-45-4x20	1x 45 A / 4x 20 A	34 kg

Interfaces

Product safety first!

In order to meet product safety requirements in accordance with the Machinery Directive 2006/42/EC, the control unit must be integrated into the emergency stop and safety gate system of the injection molding machine. Options for this are provided by different standard interfaces (Euromap), special emergency stop and safety door interfaces or an individual extension of the emergency stop and safety door circuit by means of safety relays.

Control unit type	Interface connector
SMC-Mini	25-pole Harting HAN-Yellock 30
SMC-Standard / Rack / Feller	50-pole Harting HAN-Yellock 60

Connection made easy

Servomold control units can be connected to the injection molding machine via a variety of interfaces:

Euromap 74 Interface

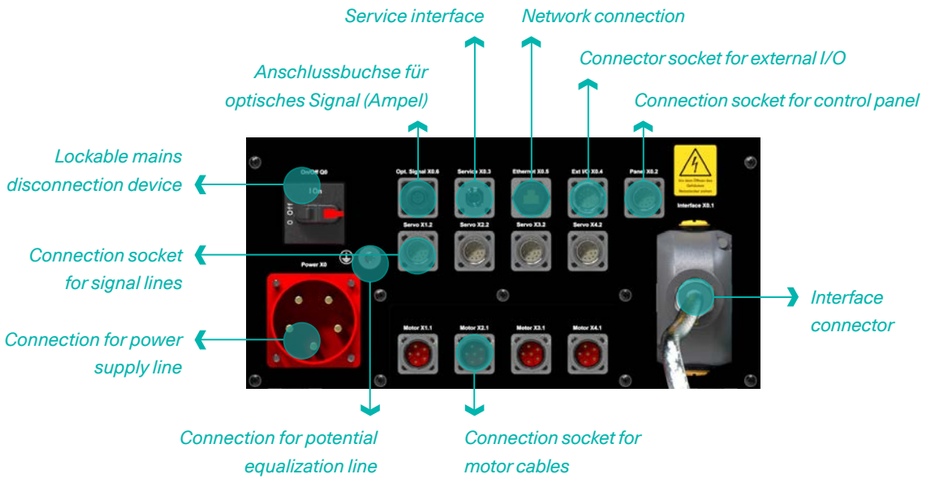
This optional interface is specifically designed for use with electric core pulls and provides appropriate signals for both communication and product safety.

Digital inputs and outputs

These are usually available as freely programmable inputs and outputs and can be used variably for communication.

Core pull signals

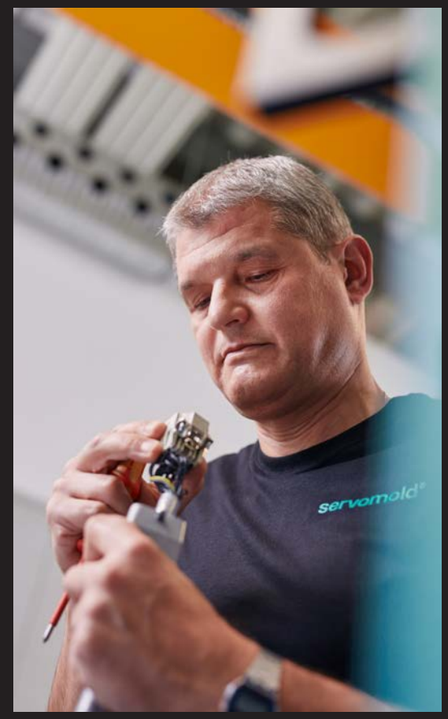
You use the 24 V switching signals of a hydraulic core pull (core retract / core extend) and report the end positions (core is retracted / core is extended) at the end of the specific movement.



Service

Ready for your challenge

Extensive technical support for individual adaptations and for integration into your processes is an integral part of our system solutions. Commissioning is carried out by our qualified technicians on site worldwide and supplemented by remote services. With spare parts, maintenance and repair services, we guarantee many years of worry-free operation of our systems and are always available to answer questions by phone and online support.



Telephone and online support

Injection molding applications are often in operation around the clock. Our support team therefore provides direct and competent assistance in eliminating malfunctions and immediately answers all questions regarding operation and process optimization.

Programming and program adjustments

We create a sequence program optimized for your project including adjustment to your process sequence during commissioning. The operation of our control unit is facilitated by simple parameterization.

Commissioning and training

We help to convey and deepen the know-how for the operation of our systems through practice-oriented training courses. In many cases, this can already take place during commissioning and creates a direct link to practical application.

WILD & KÜPFER

» At our state-of-the-art facility in Schmerikon, we continuously invest in cutting-edge technology and top performance – that's why we were early adopters and have relied on Servomold technology since then. «

Daniel Wild, CTO
Wild & Küpfer, Schmerikon – Switzerland

IGS GeboJagema

» Our strong focus on injection mould tools for the medical industry requires the use of clean and sustainable technologies, such as those made possible by servo systems. With Servomold as a partner, we are consciously relying on an ownermanaged company with clear focus, strong team spirit and the courage to innovate. This matches the core DNA of IGS GeboJagema. «

Rob Doorakkers, CIO
IGS GeboJagema – Netherlands

BRAUN®

» We are committed to helping our customers increase their production efficiency and implement more sustainable production processes. That is why we have strategically relied on Servomold system components and control units in more than 25 projects since 2014. «

ppa. Volker Dreher, Head of Process Technology
Braunform – Bahlingen

Aptar pharma

» With Servomold system components, we realize durable, low-maintenance and highly efficient moulds. In addition, the professional support of a highly motivated team for us the main reasons for the long-standing, cooperative partnership. «

Volker Kiene, Teamlead Project Management Industrialization Moulds
Aptar – Radolfzell

FRESENIUS KABI

» The key factors for us are the ease of operation, safety and the individual adaptability of Servomold control units to our processes. With its unique technology and extensive support, Servomold offers the best concept currently available for the use of servo motors in injection mould tools. «

Thomas Rübsam, Senior Director Technology, Plant Manager, Mihla Competence Center Injection Molding, Pharmaceuticals and Devices Division
Fresenius Kabi – Mihla

Röchling

» For us, Servomold is the de facto standard in the servo automation of injection mould tools. Maximum production reliability and performance, sophisticated technology and outstanding service speak for themselves. «

Christopher Heyd, Manager Tool Shop
Röchling Medical – Brensbach

Distribution

Servomold GmbH & Co. KG
Gewerbepark Gräsig 72
64711 Erbach I Germany

servomold®

T +49 (0) 6062 80933-0
E info@servomold.com
W www.servomold.com