

Automation solutions for
assembling and handling systems

We automate your success.

Manufacturing within a system. Systematically.



The requirements and needs of the assembly and handling industry are extremely diverse. The sheer variety of applications and the integration of robotics present particular challenges with regard to control solutions.

The requirements for perfect automation are the optimum interaction of all applied control components and processes, a customized safety concept included.

With highly specialized systems for virtually all stations of automated and semi-automated assembly and handling systems, Jetter AG for decades has been offering complete and partial solutions helping their customers achieve a decisive competitive edge.

Systems for diversity.



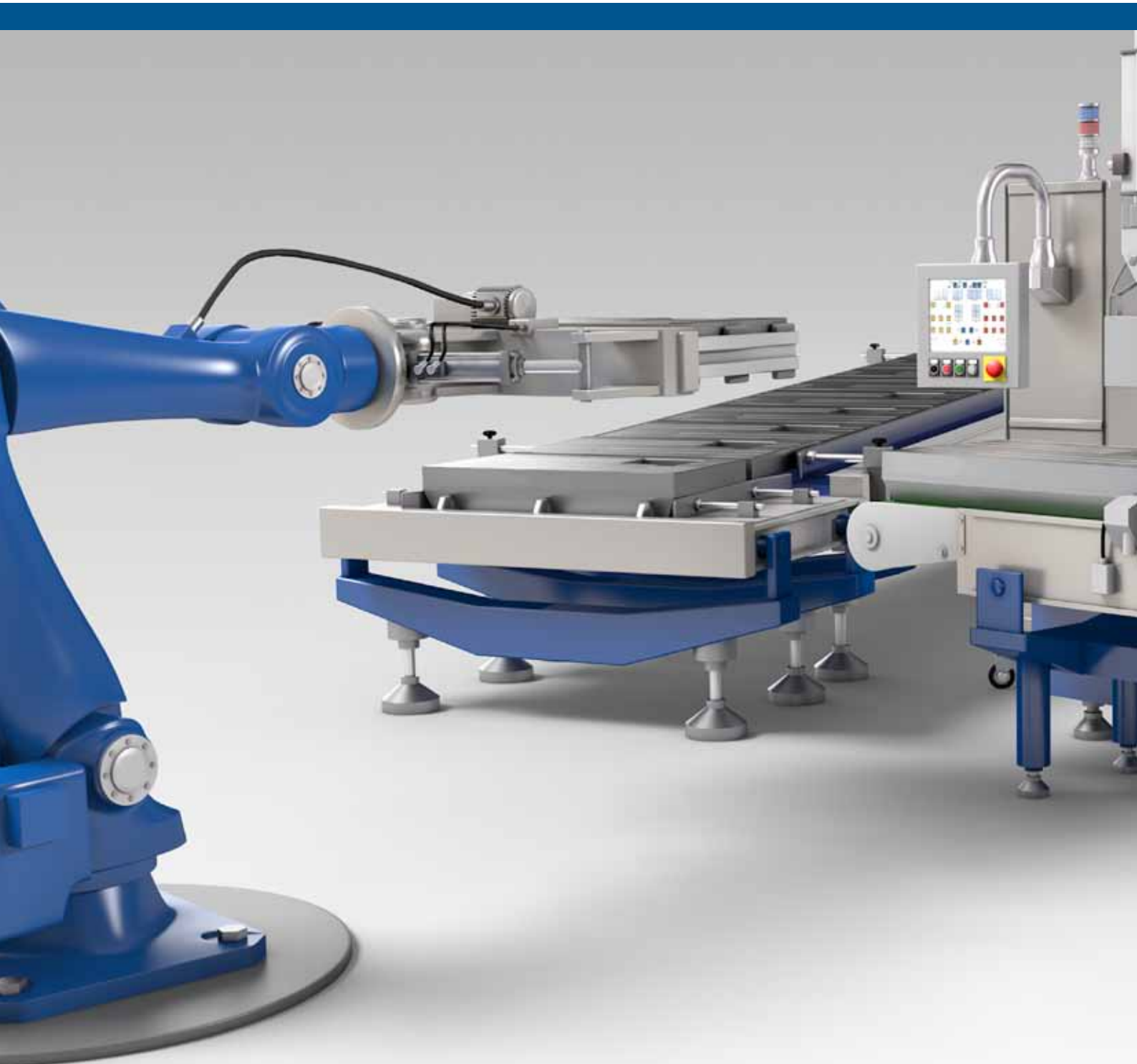
Fully automated one-piece-flow systems allow for a great variety of modular production units:

- Feeding unit - Pick&Place gripper unit
- Joining unit - Linear unit with pressure sensors
- Laser cutting - 3-axis handling portal
- Quality testing - Weighing, counting, measuring
- Parts placement - SCARA robot
- Welding - CNC path control
- Leak tightness test - Sensing methods, data collection
- Screw-driving threaded parts - Customized applications
- Labeling

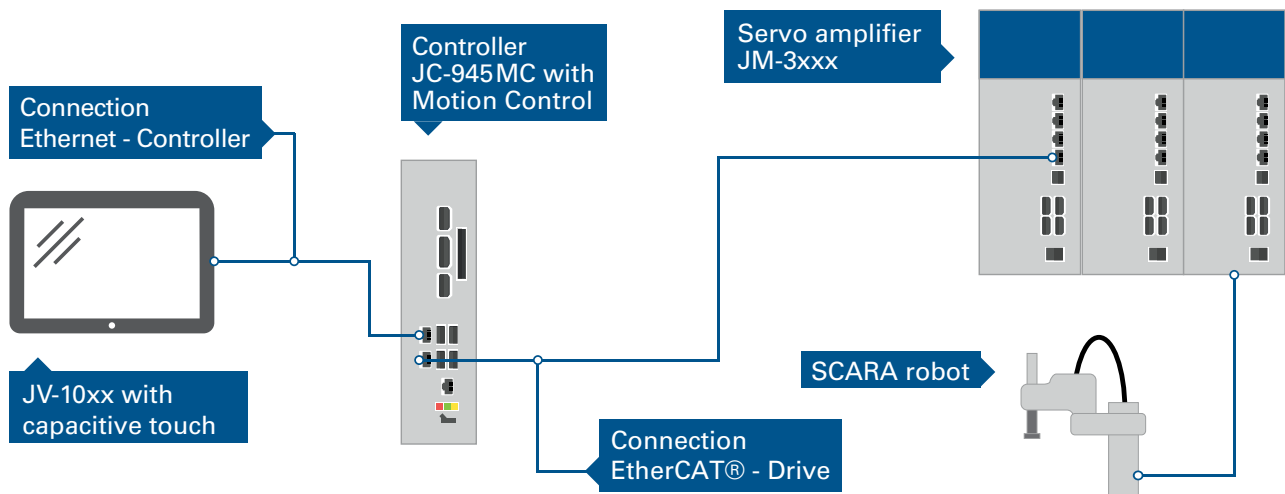
Pick&Place

Optimized feed right from the start

Efficient and flexibly applicable feeding of workpieces at the beginning of an automated manufacturing process is the core requirement to maintain process reliability of all production steps to follow. Pick&Place lets you position any kind of workpiece exactly and safely for mounting.



The Jetter solution



- Highly dynamic performance through professionally engineering the Pick&Place systems and optimizing the motions
- Durability of the Pick&Place mechanics due to power-efficient jerk-free motions
- Best coordinated components grant low engineering expenses
- Using just one programming language for both drives and controllers enables simpler and faster programming, because I/Os can directly be linked with axes



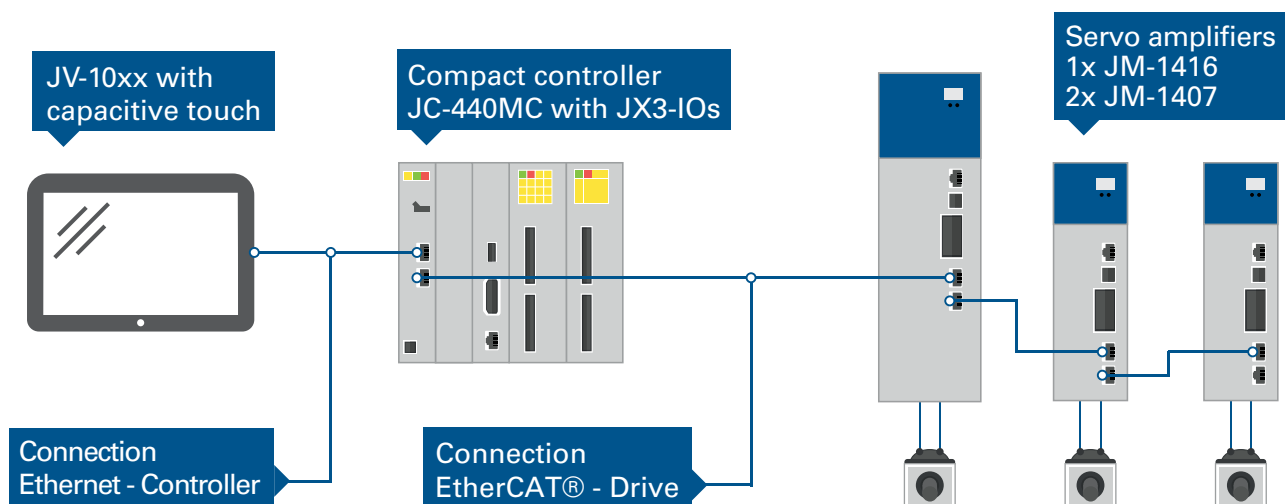
Joining unit

Flexible joining by motion systems

In order to reliably render absolutely precise and always reproducible joining solutions, controller technology must deal with the key requirements for parameterizing such as positioning time, feed force and velocity. There is a great number of options of where and how the respective workpieces are to be processed. These options help to meet these parameterizing requirements.



The Jetter solution



- High-precision joining technology makes use of position-, speed- and force-regulated servo drive technology. Force control during the joining process guarantees optimized results
- Force monitoring in the servo amplifier grants cost efficiency. No force sensor is necessary for this purpose
- The entire process is recorded in the controller via oscilloscope. Process data is stored directly in the PDA system
- A great number of customization tasks can be solved thanks to the great realm of servo drive technology

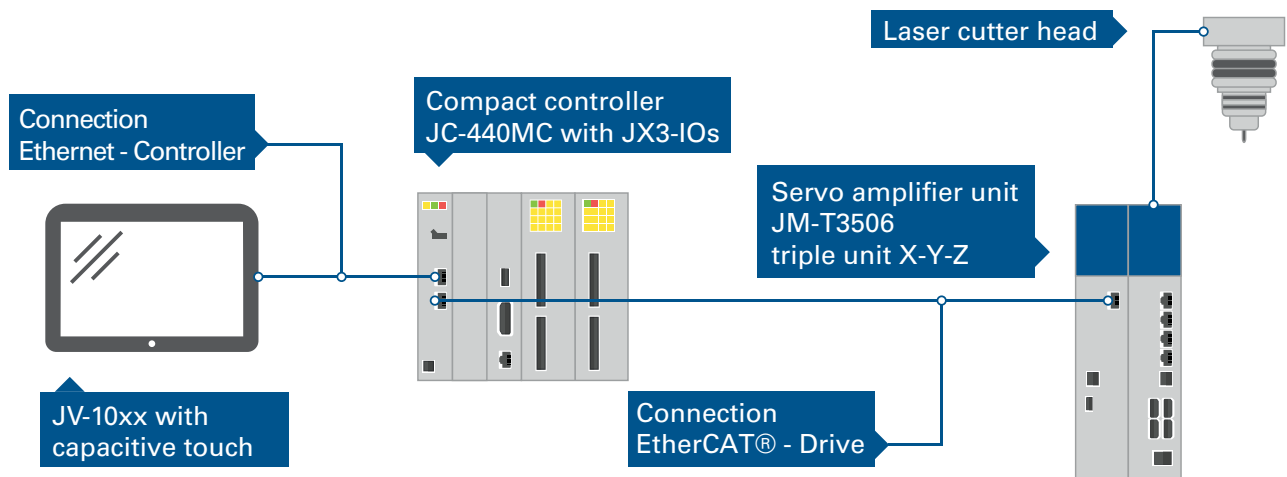
Laser cutting

The three-axis handling portal - Maximum productivity and flexibility

Laser cutting is applied in precise, careful, and burr-free processing of different kinds of material. Laser technology, integrated into automated handling systems and combined with sensor technology, optical systems and servo axis control, is one of the most flexible and effective means of production. Applying laser systems is cost-effective even for low-scale production. They are essential in modern production plants.



The Jetter solution



- Clean cuts thanks to integrated Motion Control
- Complex paths can be described by mathematical functions
- Multi-axis servo amplifiers by Jetter enable integration of all functions in the most confined of spaces such as control cabinets
- Integrated CNC path control permits easy implementation of complex graphs



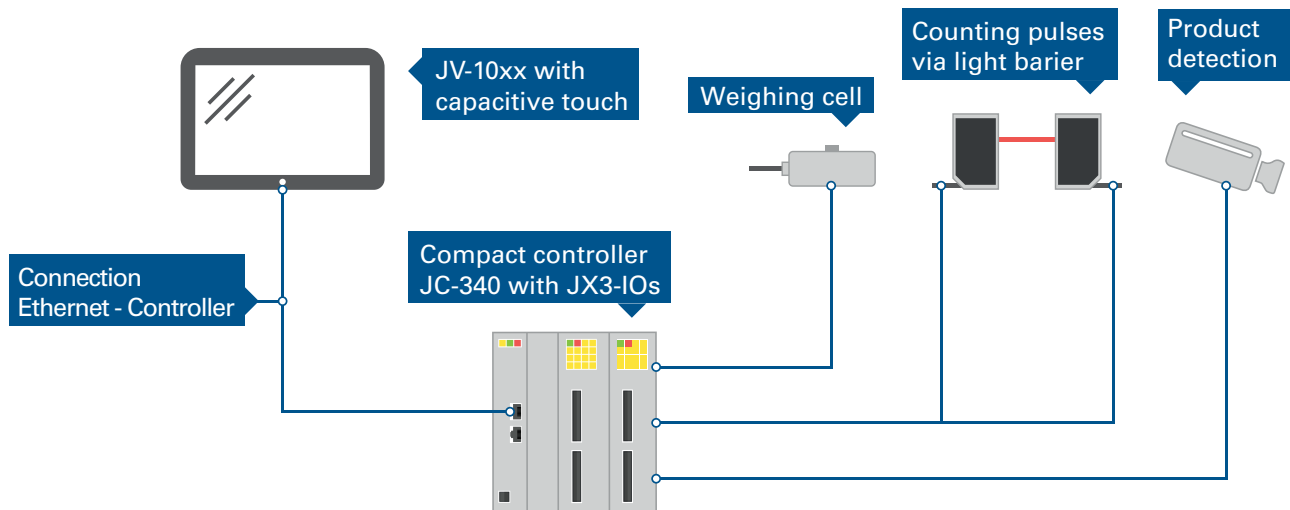
Quality testing

Weighing | Counting | Measuring

Observing the quality of automated installation and handling processes even in an early stage of manufacturing safeguards reliability and fault tolerance of the respective products. Defective outlines and wrong dimensions may easily result in malfunctioning. Integrated testing systems let you quickly determine all required dimensions and parameters. Only components diligently checked this way are admitted to further production processes.



The Jetter solution



- Simple integration of apt sensor technology and measuring systems
- Incorporation of autonomous imaging systems grants intelligent, flexible parts detection
- Database support grants easy documentation

Parts placement

Always at the right place



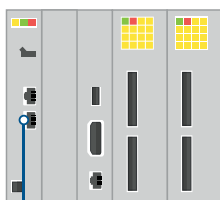
Parts placement puts utterly complex demands on automation. Most dissimilar devices such as multi-axis portals, CNC processing units or SCARA robots are there to solve a great variety of tasks: Fastening, gluing, joining, etc. Well-synchronized integration of parts placement into the overall production process requires perfect coordination and synchronization of the control features. This is achieved through programming by STX, a high-level language to IEC 61131-3.

The Jetter solution

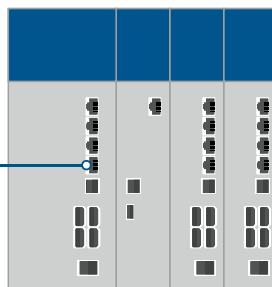
- Implementing - faster, more precise, even for complex motion sequences
- Simple line integration
- Short retooling times, low-wear motion sequences
- Especially apt for frequently changing processes



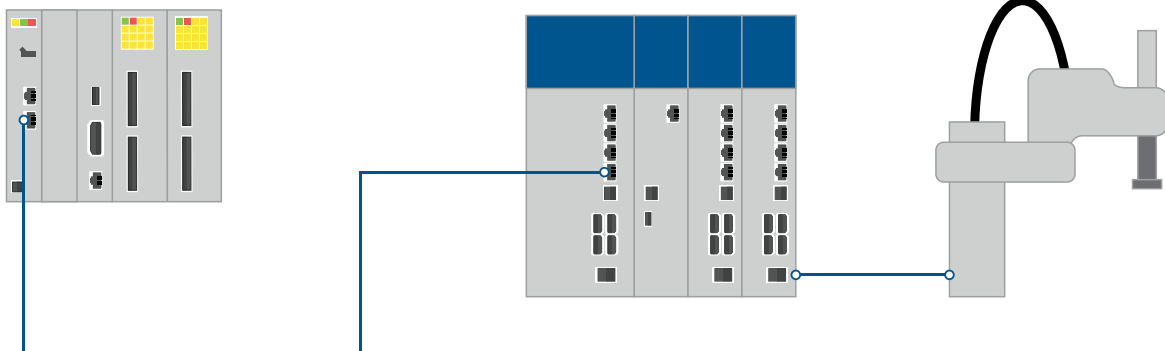
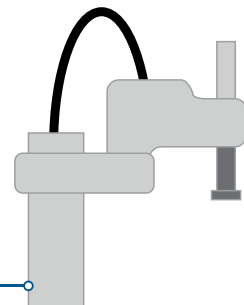
Compact controller
JC-440MC with JX3-IOs



Servo amplifier
JM-3xxx



SCARA robot



Welding

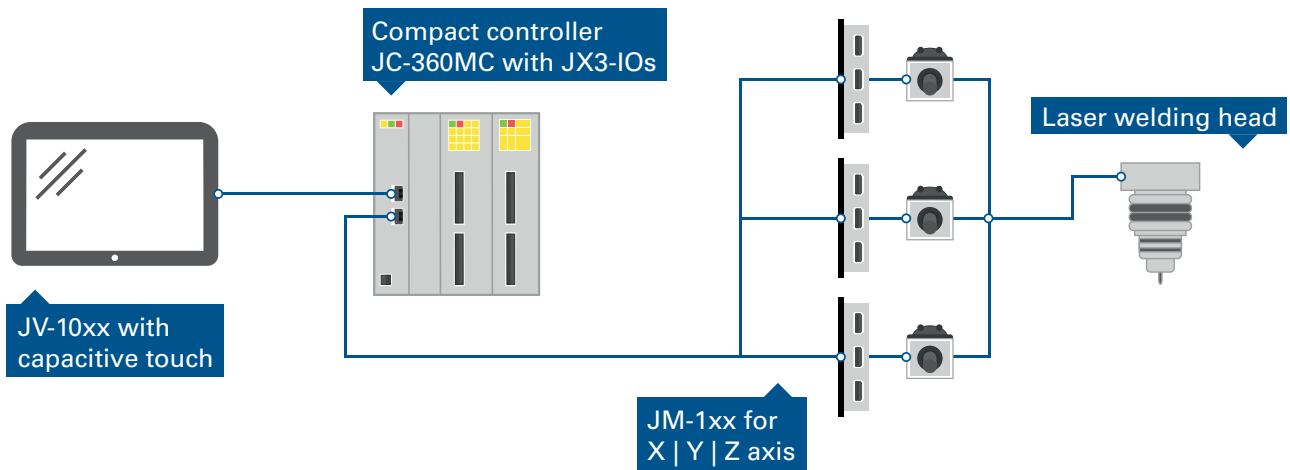
Every seam fits

Laser welding is an excellent choice for automated installation and handling systems, as it enables high-speed welding rendering slim seams. Another advantage of laser welding is low thermal material distortion. This way, even closest tolerances are preserved. Laser welding supports high flexibility in processing all kinds of material. Moreover, it makes production extremely precise and cost-effective.

EMC-tested and certified automation technology made by Jetter is highly reliable at constant quality.



The Jetter solution



- High flexibility by integrated Motion features
- High precision due to exact position capturing
- Automation technology for highest EMC requirements

Leak tightness test

Full pressure testing



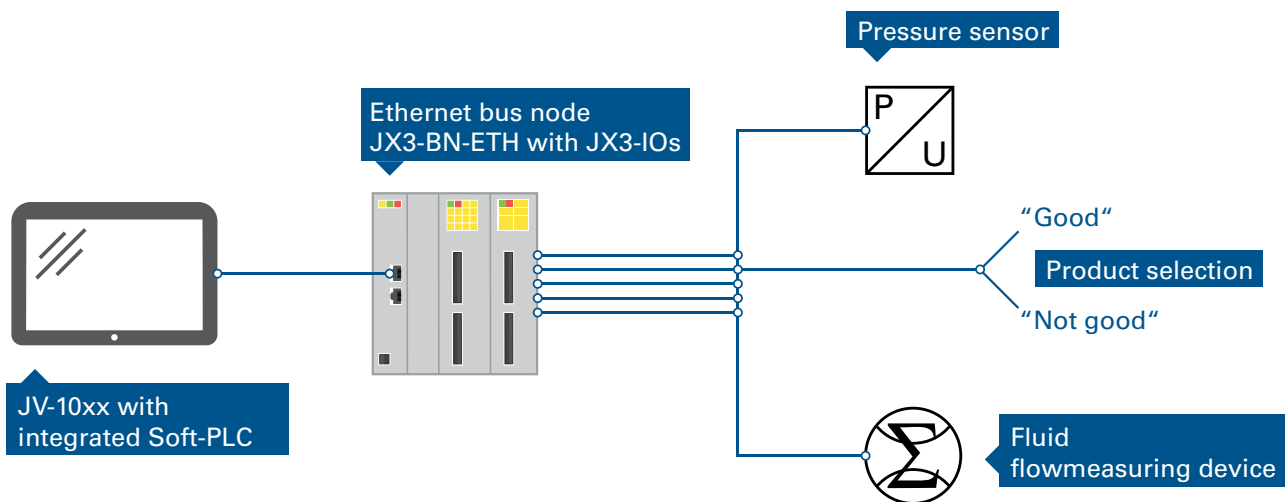
Leak tightness testing is based on pressure change and fluid flow measuring.

In pressure change measuring, a leakage can be determined by pressure change. A leakage will cause pressure change, the value of which can be converted into a leakage rate by means of the testing volume and the measuring time.

Fluid flow measuring renders a measuring signal, which is independent of testing volume and measuring time. This measuring signal indicates a possible leakage.

In both procedures, exact reading and interpretation of measuring data is paramount for providing the frequently required 100 % control.

The Jetter solution



- Soft-PLC for cost-optimized systems solutions
- HMI for visualization and control at pressure or fluid flow measuring
- For simple procedures, only a reduced amount of hardware will be needed.

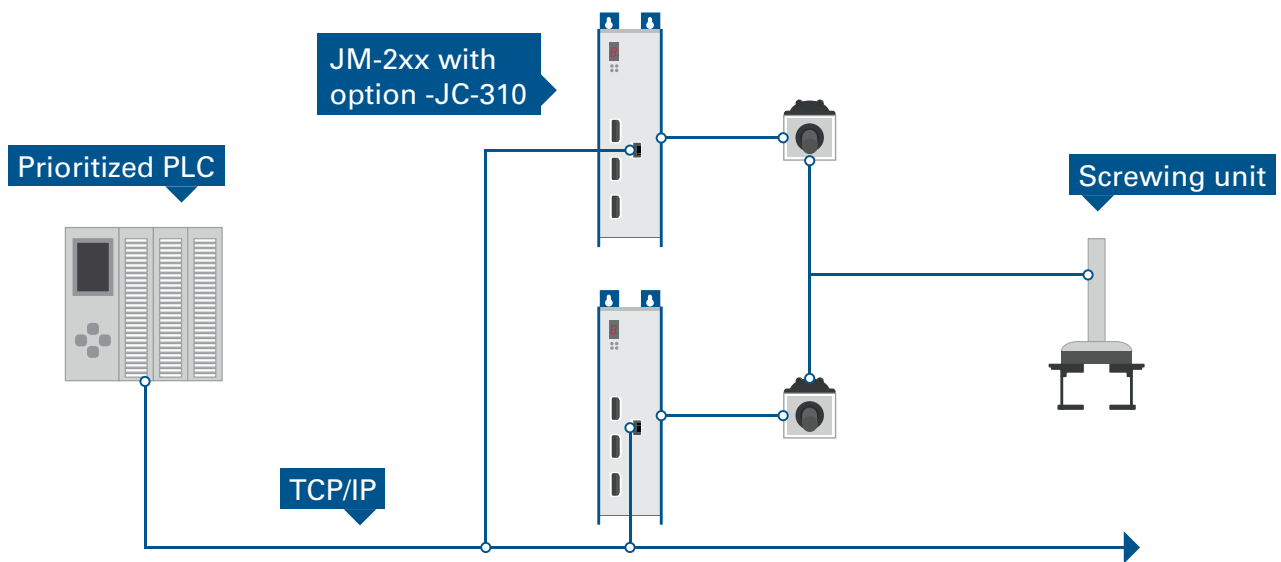


Fastening threaded parts

Professional fastening

Fully automated fastening by screw driving means high flexibility and efficiency. The screw driving process is cyclical or continual. Both the feeding unit and the respective threaded parts have to be exactly positioned, aligned and checked as required.

Jetter automation solutions support simple and quick customized configuration of fastening by screw driving parameters, torque, angle position, number of rotations and speed of a format change.



The Jetter solution

- Servo amplifiers with built-in controllers JC-310 allow remote use
- Specific fastening by screw driving applications can already be found in the servo amplifier firmware
- The Look-Ahead limit stop detection feature without sensors allows for shorter cycle times as well as rapid and precise fastening by screw driving thanks to active braking before the limit stop
- User-programmable screw driving modes stored to the controller offer know-how protection
- Consistent use of servo drive technology enables highly dynamic and ultra-precise fastening by screw driving
- Torque control with or without torque sensors allows the production of class A, B and C fastening by screw driving on the same system
- The ability to synchronize the fastening device with the machine cycle using Motion Control offers further reduction of cycle times
- Each screw driving sequence is documented in a database to ensure seamless quality assurance even in networked systems



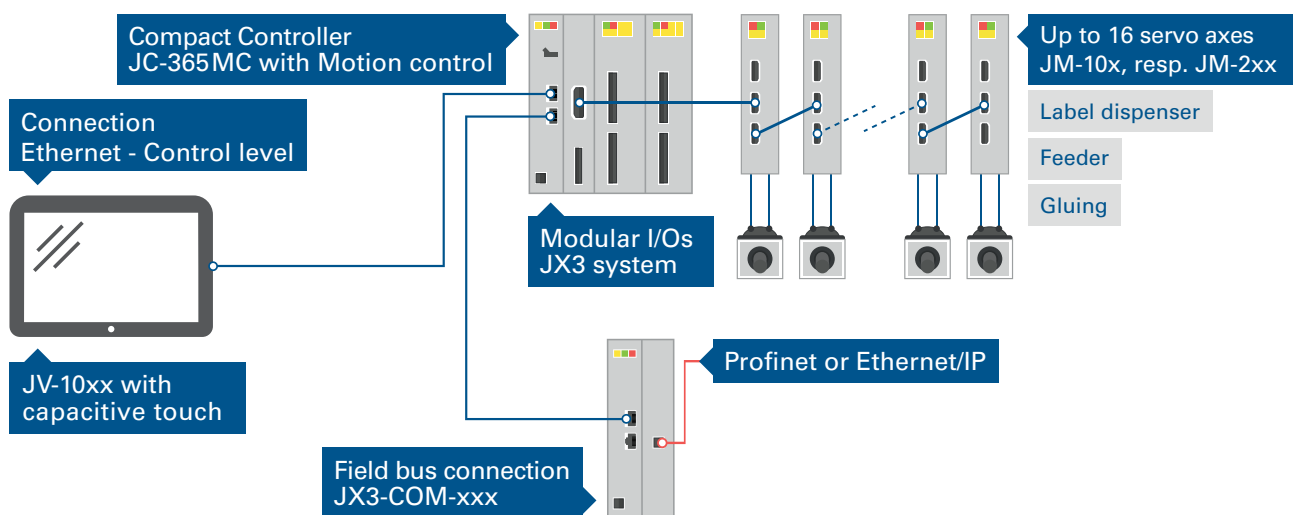
Labeling

Flexibility meets accuracy

Round and special forms pose a great challenge to the automation of labeling machines. Here, circumferential labels adapted to the design and size are frequently affixed, which requires a special construction of the machine. At the same time, retooling the system should be as quick as possible in order to flexibly realize the labeling of small and medium piece counts as well.



The Jetter solution



- Correct positioning throughout by synchronization with the conveyor belt and print-mark recognition
- Individual labeling functions by free combination of position offsets, triggers and print-marks
- Scalable in price and performance through flexible drive selection: Stepper motor, DC/AC motor or servo motor at identical programming

Jetter automation solutions for mounting and handling systems – Your advantages

■ Shorter cycle times

Our special solutions for Pick&Place, screw driving, cam discs and joining, let you further improve the cycle rates of your machines. They help you significantly boost productivity at consistently high-process reliability.

■ Seamless systems integration

Seamless integration of control, drive and operating functions helps you conserve important resources even at the programming stage. You can also benefit from this during commissioning and reduce service costs.

■ Mastering process optimization | Fit for Industry 4.0

The machines used in the handling sector are becoming increasingly faster, more efficient, economical and intelligent. However, this creates a growing volume of process data that must be recorded and evaluated. ERP/PDA/MES systems need to access process data as easily and quickly as possible and, if necessary, change process parameters. Jetter AG software tools for calculating and optimizing cam disks always give you optimized parameters. Consequently, your machine runs smoothly but responsively at all times. Energy consumption and wear can therefore be kept to a minimum.

■ Easy maintenance

Profit from the advantages of modern, sophisticated systems, also with regard to maintenance. No specialized programming skills are required. A screwdriver and a USB flash drive or SD card are all you need. Easy access via remote maintenance is possible.

■ Generating a competitive edge

Secure your competitive edge with our highly specialized technology functions such as Motion Control or screw driving algorithms. This lets you easily save process data locally on the controller. From there, you can copy the data via FTP or onto an SD card.

The Jetter industry competence

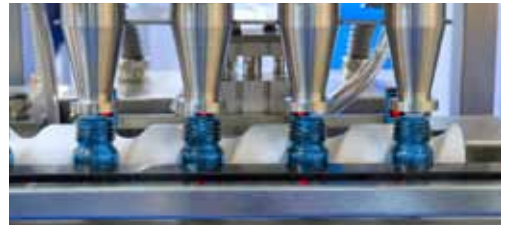
Our solutions for your systems

Jetter AG offers company-wide and scalable automation solutions for a great number of industries. Our specialist teams have extensive expertise in the specific production requirements actively take a share in technical further development. They pay special attention to continuously optimizing the processing operations.

Packaging



Filling



Assembly | Handling systems



Window manufacturing



Glass container industry



Agricultural technology



Municipal vehicles



Jetter AG at a glance

For over 30 years, Jetter AG has developed, produced, and engineered both integrated and open automation solutions for various lines of business. These solutions comprise perfectly coordinated software and hardware components, which, whether being part of a system or cooperating with other components, contribute to a remarkable increase in efficiency. Consistently supporting both open and classic standards of Jetter AG products guarantees maximum flexibility at any time.

Jetter AG
Graeterstrasse 2
71642 Ludwigsburg | Germany

Phone +49 7141 2550-0
Fax +49 7141 2550-425
info@jetter.de
www.jetter.de