



# Window Manufacturing Machines

Automation solutions for manufacturing systems

We automate your success.

### Integrated Automation of Window Manufacturing Machines



For over 30 years, Jetter AG has been developing and manufacturing customized, integrated automation solutions for window manufacturing machines.

Thanks to their modular and scalable configuration possibilities, these control concepts can be adapted to any and all requirements of complete systems or individual machines. With combined and synchronizable axis groups, the integrated Motion Control guarantees the highest flexibility when designing your plant. In addition to the highest possible degree of automation, the following requirement profiles are particularly decisive in attaining the highest system productivity:

- Great ease of operation
- Multiple axis control and CNC-controlled axes
- Integrated handling and transport systems
- Interactive dialog systems with process visualization and diagnostic feature
- Continuous monitoring of production processes

### All under one roof: Project planning | Setup | Service



- User-programmable control of displays and dialogs
- Modular system structure

To ensure an optimum selection of automation components, we develop the desired layout of the facilities together with you. The visualization, PLC and peripheral systems are programmed and commissioned by our industry experts. On request, we can also assemble all of the control cabinets in-house and supply the necessary cabling.

Fully developed automation solutions are available for all areas of window manufacturing machines:

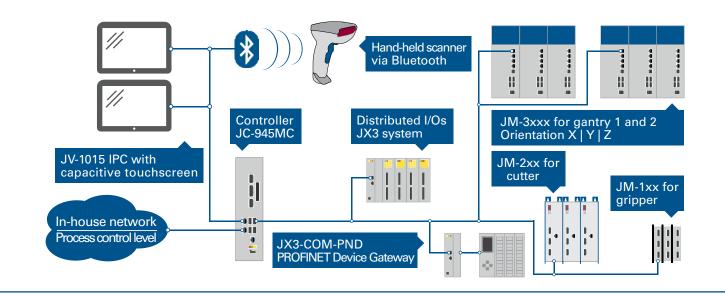
- Machining centers
- Welding machines
- Cleaners
- Automatic installation of fittings
- Glass storage technology

### Machining centers

Individual and versatile



Machining on the frame or casement usually require individual solutions. The specific control concepts differ accordingly. The decisive advantage of the holistic consideration here is that the machining centers can still be integrated into the production process smoothly and incorporated into the overall automation concept. Jetter AG thereby enables a high level of flexibility with due consideration of your requirements for multifaceted profile machining.



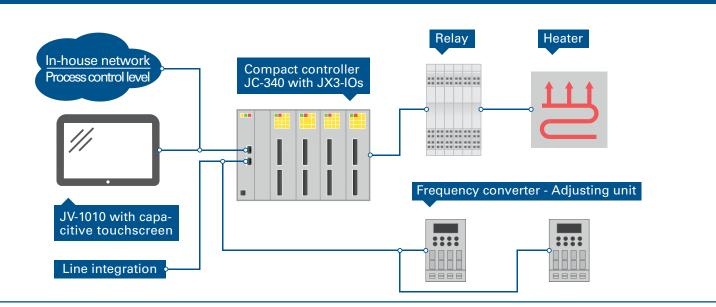
- Implementation of highly complex requirements by means of scalable and flexible system design
- Up to 64 servo axes synchronizable via Motion Control
- Direct connection to the process control level
- Simple remote maintenance via Ethernet TCP/IP
- Great ease of operation in the entire system area thanks to the connection of several HMIs

### Welding machines

Pinpoint accuracy in every direction



Plastic profiles are welded in a versatile way with up to eight welding heads in vertical or horizontal orientation. There are also many manual and fully automatic machining solutions available for this production step.



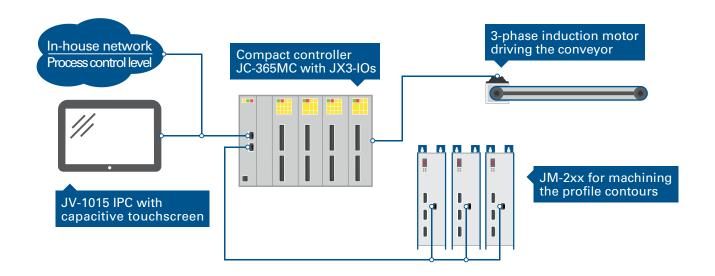
- During welding, the contact pressure is controlled by means of torque control
- Simple line integration via Ethernet TCP/IP
- Direct connection to the process control level
- Modular and compact system design

### Cleaners

A clean solution



Cleaning machines machine and clean the window profiles after the welding process. For example, weld seams are removed and additional machining of posts and floating mullion casements is performed optionally. Hand-operated individual machines up to fully automatic CNC-controlled cleaning machines are in use here.



- Excellent cleaning results due to consistent path accurate movements
- High machining speeds due to optimized motion sequences
- Significantly reduced tool wear due to optimized, material-preserving machining
- Direct connection to the process control level

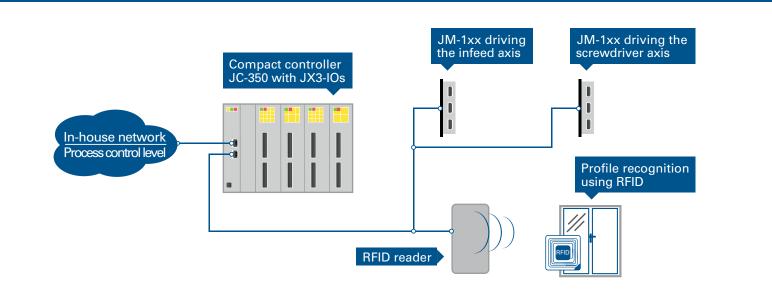
### Automatic installation of fittings

Versatile drilling and bolting



The essential tasks of automatic installation of fittings are drilling and bolting components of all kinds, e.g. fittings and reinforcements.

Here again there are not only well equipped individual machines but also fully automatic machines available. Automation of the specific machining steps with process precision and their incorporation into the overall production flow can be implemented in the control concept.



- Optimum results in bolting and high speeds due to speed and torque settings or torque control
- Seamless incorporation of different identification systems
- Direct connection to the process control level

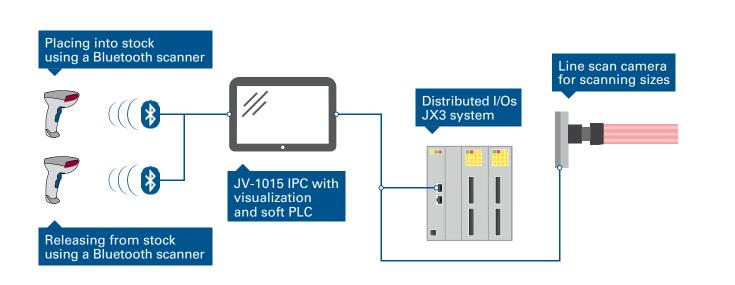
### Glass storage technology

Joins what fits



The logistical challenges for glass panels are especially high. Along with enormous transport weights and different formats, it must be possible to store and transport the material safely without any damage. Window and glass elements are then joined in an automated process.

In order to guarantee that this part of the production process runs smoothly and safely, fully automatic glass buffers and order pickers incorporated into the control concept are often available.



- Flexible, decentralized data collection and coordination by means of incorporating different identification systems
- Optimum implementation of storage algorithms
- Compact industrial PCs with soft PLC can be expanded by distributed peripheral systems to suit specific requirements
- Simple line integration via EthernetTCP/IP

# The Jetter automation solutions for window manufacturing machines – Your benefits

#### The complete range

Solutions for all window manufacturing machines and all machining sectors. Profit from our decades of experience implementing complex end-to-end automation solutions in window manufacturing.

#### Full performance

- Servo motors from 0.1 to 115 Nm for all drive tasks in the machine. Available in a wide range of sizes and with numerous options
- Scalable CPUs the right performance for every type of machine
- Optimum usability HMIs from 5" to 22" with modern touch operation

#### Comprehensive service

- Programming in STX a high-level language to IEC-61131-3 perfect for machining processes and drive control
- Commissioning of hardware and software
- Planning and installing control cabinets

# 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



#### Assembly | Handling systems



#### Glass container industry



### Municipal vehicles



#### Filling



#### Window manufacturing



#### Agricultural technology





### Jetter AG at a Glance

For over 30 years, Jetter AG has been developing, producing and engineering 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.

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