

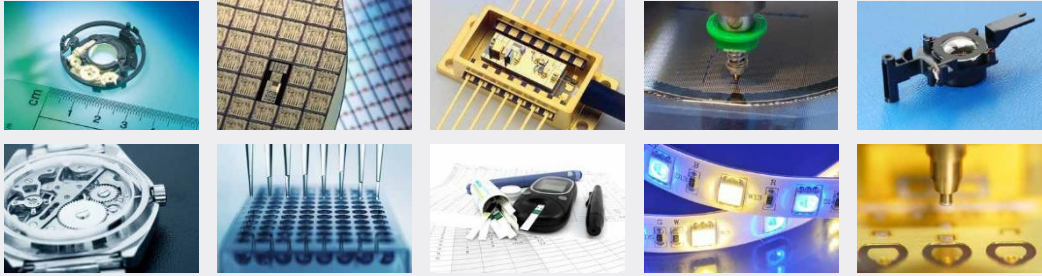
INFOTECH
automation
Systems Are Available Through:



DISPENSING SYSTEMS

Versatility without limits

APPLICATION RANGE



- Electronics
- Semiconductor
- Automotive Industry
- Watch Industry
- Micromechanics
- Optoelectronics
- Biotechnology
- Pharma

COMPONENT MATRIX

Infotech designs, produces and delivers high accuracy positioning systems for the automatic execution of precision processes. Featuring more than 1,000 peripheral options from the Infotech Component Matrix, Infotech systems offer unparalleled flexibility. Processes developed on the Desktop platform can be transferred to high speed production cells without modifications. Several cell sizes are available ranging from 900 x 900 mm up to 2000mm footprints, and can accommodate more than one robot gantry for parallel processing.

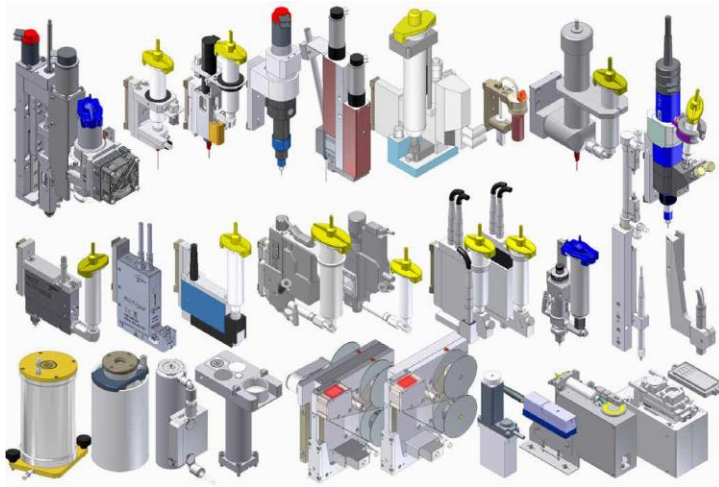
Component Matrix PLATFORMS

	IP-100	IP-500 Desktop	IP-500 Cell	IP-520 Cell	IP-620 Cell
					
Travel Range X	93 mm 150 mm	400 mm	400 mm	210 mm 270 mm 340 mm 400 mm 540 mm	210 mm 270 mm 340 mm 400 mm 540 mm
Travel Range Y	440 mm 550 mm 680 mm	400 mm	400 mm	400 mm	620 mm
Resolution X/Y	0.0002 mm (0.2µm)	0.0002 mm (0.2µm)	0.0002 mm (0.2µm)	0.0002 mm (0.2µm)	0.0002 mm (0.2µm)
Repeatability	±0.005 mm @ 3σ	±0.005 mm @ 3σ	±0.005 mm @ 3σ	±0.004 mm @ 3σ	±0.004 mm @ 3σ
Process Accuracy*	±0.010 mm @ 3σ	±0.010 mm @ 3σ	±0.010 mm @ 3σ	±0.009 mm @ 3σ	±0.012 mm @ 3σ
Cycle Time**	ca. 1.5s	4.4s	1.4s	1.0s	1.1s

* Accuracy definitions are based on glass flip chip tests. Depending on the machine configuration, accuracy results of <5µm @ 3σ can be achieved.

** Vision and pick, vision and place of the object. Cycle time may be slightly faster or slower depending on your process & machine layout.

Component Matrix **DISPENSING**



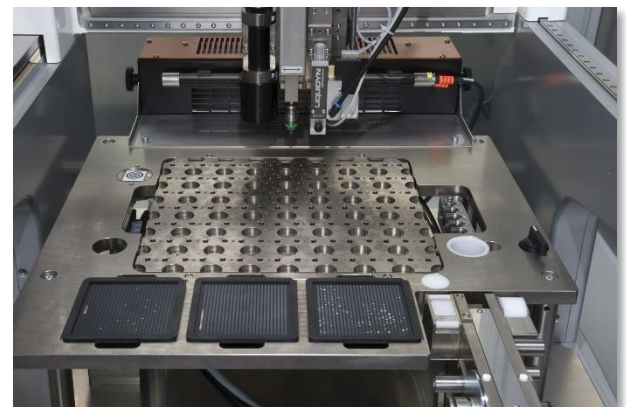
- Dots, lines, geometric patterns 2D / 3D
- X-, Y-, Z-axis and valve synchronized with continuous motion path control
- Time/pressure dispensing units
- Archimedes screw dispensing units
- Precision micro screw dispensing units
- Jet dispensing units
- Slider dispensing units
- Piston dispensing units 1C- and 2C- adhesive
- Syringe and needle heaters
- Automatic amount (parameter) adjustments
- Automatic Z-needle length calibrations
- Automatic X- and Y-offset calibrations
- Purge, scale, and calibration stations
- Dispensing purge and cleaning tape units
- Dispensing needle cleaning stations

IP-Desktop dispensers are available as a base for easy dispensing applications. With options available from the Infotech dispensing component matrix, the systems can be up-scaled for any possible complex dispensing applications. Synchronized 2D dispensing patterns as well as 3D patterns can be easily processed. Vision process can be configured for easy setup and verification purposes.

Desktop **DISPENSER**

The multifunctional, dispensing desktop system has a wide open application range for combined 2D (X, Y) and 3D (X, Y, Z) miniature fluid handling. Perform prototyping and small batch assembly and dispensing processes with semi automated or fully automated operations. Due to the open-architecture design, the platform is extremely easy to work with and set up processes, while maintaining high accuracy and process flexibility.

- Cartesian coordinate X-, Y-system with linear motors and linear encoders
- Distributed and synchronized closed loop motion system with optional GigE guided vision control system
- PC user interface with graphical dispensing pattern editor (optionally CAD-import and import based on Gerber-files)
- Vision support for teach operations, for fiducial reading, to calibrate needle positions or to verify dispensing results
- Time/pressure dispensing head included in the base package, optional precision micro screw- or different jet dispensing heads
- Purge station, strip off station and manual camera calibration unit included with the base package
- Automatic needle offset calibrations for X-, Y- and Z-directions
- Automatic viscosity change compensation
- Realtime parameter adjustments for manual setup of dispense processes
- Visual inspection, the dispensed pattern can be inspected directly after material deposition
- Optional needle cleaning unit, calibration and cleaning tape unit, up- and down-looking height probes or weight scale
- Optional flexible board or substrate carrier for single or multiple image support, easily adjustable for different dimensions
- Optional heating plate and force detection
- Assembly heads, bond tools, and more from the Infotech Component Matrix



Desktop Dispenser **BASE CONFIGURATION**



Desktop dispenser time/pressure base configuration:

The system is ready to dispense using an internal time/pressure control system. Both parameters time and pressure can be defined in the application program, as well as height, line speed, and several delays. The time/pressure valve is close to the syringe and includes hold back vacuum to prevent the syringe from dripping.

Base configuration:

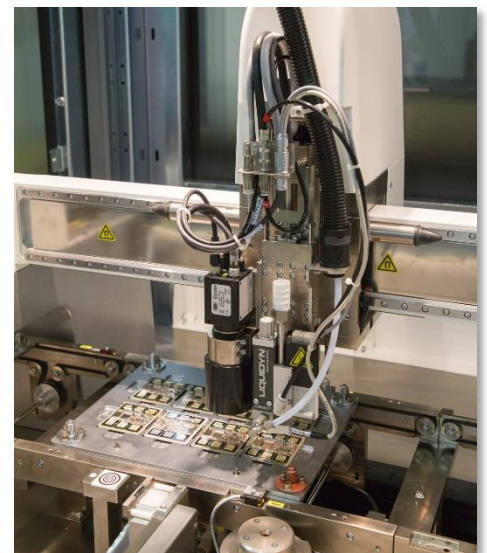
- Desktop with X 400 mm, Y 400 mm and Z 150 mm
- PC-Control module incl. touch screen monitor
- SW-License VisualMachines™ (desktop application software)
- Time/pressure dispensing unit with internal controller
- Time/pressure dispensing interface centered on the Z-axis
- Dispensing purge station incl. strip off wire
- Up looking touch probe integrated within purge station

*Substrate holder as shown is application specific and is not included within the base configuration!

Production Cell **DISPENSER**

The ultra rapid Inline Dispensing Production System with a wide open application range for combined 2D (X, Y) and 3D (X, Y, Z) miniature fluid handling for automated operations with up to four parallel working Jet dispensing valves. Configure as dispensing only or full assembly.

- Cartesian coordinate X-, Y-system with linear motors and linear encoders
- Distributed and synchronized closed loop motion system with optional GigE guided vision control system
- PC user interface with graphical dispensing pattern editor (optionally CAD-import and import based on Gerber-files)
- Vision support for teach operations, for fiducial reading, to calibrate needle positions or to verify dispensing results
- Time/pressure dispensing head included in the base package, optional precision micro screw- or different jet dispensing heads
- Automatic needle offset calibrations for X-, Y- and Z-directions
- Automatic viscosity change compensation
- Purge station, strip off station and manual camera calibration unit included with the base package
- Realtime parameter adjustments for manual setup of dispense processes
- Visual inspection, the dispensed pattern can be inspected directly after material deposition
- Optional optimized configuration with vision process camera and four independent single or parallel working jet dispensing valves with a distance between the single units of 21 mm ... 24 mm
- Optional three buffer transport system with manual width adjustment from 50 mm to 330 mm, or special conveyor upon request with force detection or heating plates
- Optional valve or needle cleaning unit, calibration and cleaning tape unit and down looking height probes or weight scale.
- Assembly heads, heaters, and more from the Infotech Component Matrix



Dispensing Cell BASE CONFIGURATION



Dispensing system time/pressure base configuration:

The system is ready to dispense using an internal time/pressure control system. The parameter time can be defined in the application program. The time/pressure valve is close to the syringe and includes hold back vacuum to prevent the syringe from dripping. Viscosity compensation included.

Base Configuration:

- Dispensing cell: X 270 mm, Y 400 mm and Z 60/68 mm
- PC-Control module incl. touch screen monitor and SSD
- SW-License VisualMachines™ (application software)
- Down looking vision system using “Vision Cognex Vpro” with a field of view of 12,3 x 9,8 mm (1280 x 1024 pixels)
- Time/pressure dispensing unit with internal controller
- Dispense purge station incl. strip off wire
- Up looking touch probe integrated within purge station

DISPENSING PERIPHERAL OPTIONS

Desktop Dispenser - Dispensing options:

The base configuration includes an internal time/pressure controller. This configuration can be upgraded with alternative dispensing head types. All dispensing valves use the standardized Luer-Lock® interface where needles are used. Different needle types, diameters, and lengths are available. Syringe sizes of 3cc, 5cc, 10cc, and 30cc (55cc on request) are supported. Third party dispensing controller can be adapted with an integrated special interface. Automatic calibration and compensation features are available.

VISION – Vision processing

The default option includes the Cognex Vision Pro license and down-looking camera unit. Additional cameras and several different field of view/resolution configurations are available depending on the application requirements.

- Automatic camera and offset calibrations
- Separately control coaxial and ring light illumination
- Automatically adjust Z-height for focus
- Can be used to teach positions
- Multi-point vision routines for components and substrates larger than the field of view
- Read barcodes
- Read fiducials or shapes for orientation
- Inspect dispensed patterns
- Custom scripting and logic for vision processes



Zheight – Z-Height measurement

This option includes a single pneumatic Z-slide and down looking touch probe which are combined together on the robot head.

- Automatic touch probe XYZ calibration
- Automatic Z-height teaching on substrates for dispensing and assembly processes
- Teach 3D planes and maintain dispense height across a substrate
- Repeatable accuracy of 0.003 mm @ σ
- Combine with an up looking touch probe on the application plate to teach needle length automatically and precisely maintain dispense heights
- Optional Laser Distance Sensor

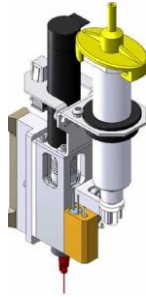


AUGER/MICROSCREW dispensing unit

The Auger/Microscrew dispenser offers precision dispensing of media with fillers. Volume based pressing through the needle results in extremely precise and repeatable dispensing results.

- Pump can be removed easily together with the syringe; fast and simple to clean
- 3cc, 5cc, 10cc, or 30cc cartridges
- 10 mm Luer-Lok style® needles (optional ¼", ½", 1" or ceramic precision needles)
- Optional heater for maintaining viscosity

Various screw pitches and plastic screw for different materials and filler sizes

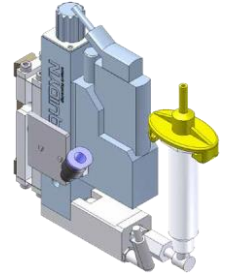


JET dispensing unit

The Jet dispenser can be used to jet lubricants, grease or oils, colors, silicones, gels, organic solvents, epoxies, adhesives, and many other liquids. The Jet dispenser type also allows for touchless dispensing of any pattern.

- Easy exchange of the valve together with the syringe.
- With nozzle heating for maintaining viscosity
- 3ccc, 5cc, 10cc, or 30 cc cartridges

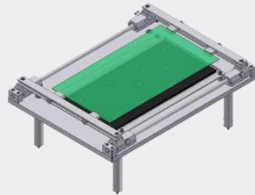
JET LIQUIDYN, PICODOS, PICOPULSE, VERMES, MUSASHI, DELO PN3



CARRIER – Substrate/Circuit board holder

The option CARRIER includes a flexible support and clamping mechanism for different dimensions of substrates, circuit boards, or other objects.

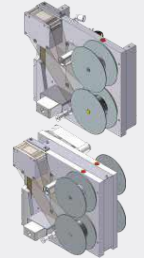
- Easy clamping of objects
- Supports sizes of 300 x 400 mm
- Spring loaded clamping
- Preheater module as option



CALIBRATION – Calibration, Purge, and Cleaning tape

The dispense calibration tape unit can be used for all dispense unit types as a purge and calibration unit.

- Automatic tape feed
- Automatic 2D Dot or matrix measurements
- Optional cleaning tape for Jet dispensers with flat nozzles
- Easily exchange tape reels



PROCESS CONTROL – Cleaning Stations & Weight Scale

In order to automate and control the process, several different options are available to automatically clean the dispense needle.

- Strip-off wire cleaning station with purge cup
- Air Cleaning Station that uses compressed air to clean the needles
- „Pinch“ style tape cleaning station that used a contact method and optional solvent to clean a dispense needle.
- Weight Scale for controlling and regulating the dispensing quantity
- Automatically validate and adjust dispense parameters to maintain dispense size and amount

FURTHER OPTIONS – Infotech Component Matrix

The Infotech Component Matrix includes more than 1,000 peripheral options for assembling, dispensing, bonding, material handling/feeding and more. Please let us know your process requirements! We can adapt/customize the machine layout and peripherals based on the application.

- (Desktop) Welded machine table to minimize vibrations
- (Desktop) Workspace with safety shields
- (Cell) Material transport systems and conveyors
- Wafer chucks, ejectors, and handling systems
- Full Traceability
- CAD-Data import
- SECS/GEM and other communication protocols
- Custom application plates
- Heating & UV Curing