DISPENSING CELL

Stability and Performance

Swiss Engineering

APPLICATION RANGE

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

COMPONENT MATRIX

Due to major investments into the research and development of strategically needed peripherals, it was possible to build the Infotech Component Matrix. Based on these modules, reliable products can be realized as flexible as building special application machines, but with an extremely high quality level comparable with standard machines. Process specific, modular and nevertheless standardized:

PRODUCTION CELLS - PLATFORMS - ASSEMBLING - DISPENSING - FEEDING

Component Matrix PLATFORMS

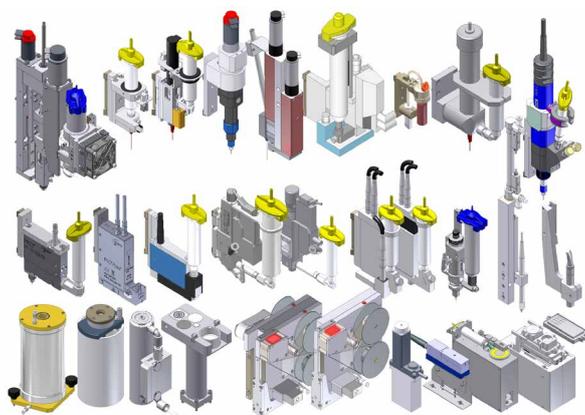IC-900   IC-1200   IC-1800   IC-2000

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 / 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
- Dispense purge and cleaning tape units
- Dispense needle cleaning stations

IC-Dispensing systems are the ideal solution for micro dispensing processes in combination with highest performance. With many options available out of the Infotech dispensing component matrix, the systems can be upgraded to any possible complex dispensing applications. Synchronized 2D dispensing patterns as well as 3D patterns can be processed easily.

DISPENSING CELL

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:
- 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 included in the base package (Vision Cognex Vpro)
- Automatic needle and valve offset calibrations for X-, Y- and Z-directions
- Visual inspection, the dispensed pattern can be inspected directly after material deposition
- 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 in the base package
- 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.

Dispensing Cell BASE AND TIMEPRE 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.
The following modules are included in this configuration:
- Dispensing cell: X 270 mm, Y 400 mm and Z 60/68 mm
- PC-Control module incl. TFT-monitor and RAID-controller
- 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
- Time/pressure dispensing interface centered on the Z-axis
- Dispense purge station incl. strip off wire
- Up looking touch probe integrated within purge station

Dispensing Cell DISPENSE VALVE OPTIONS

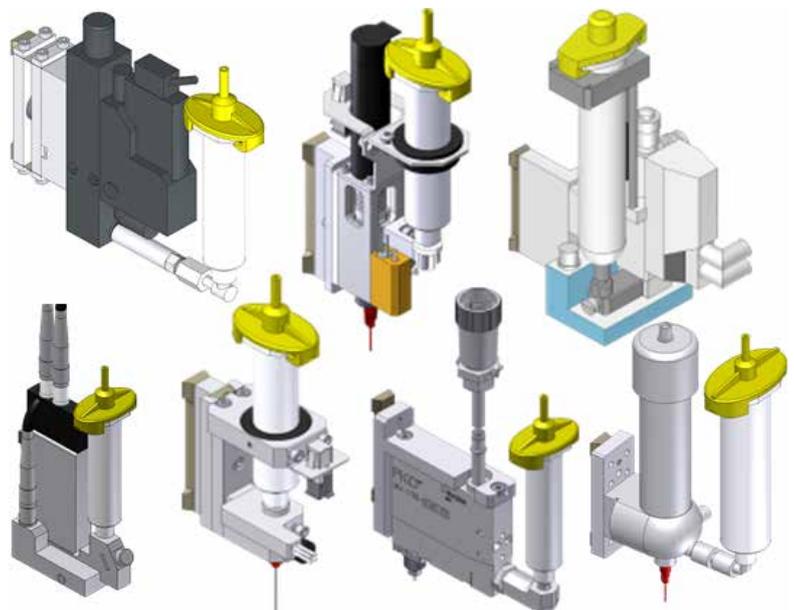Dispense valve options (multiple valves in parallel):
The base configuration includes an internal time/pressure controller. This configuration can be upgraded with alternative dispense head types:
- Time/Pressure syringe holder and needle heater
- Precision micro screw dispense unit with rotary drive
- Jet-dispense heads P-Dot, P-Jet, P-Jet CT (Nordson Liquidyn)
- Jet-dispense heads (Nordson Picodos, Vermes, Musashi)
Each dispense head type can be configured application specifically with multiple dispense head options.
All dispense valves use the standardized Luer-Lock® interface for the syringe and for the dispense needles, where needles are used. Different needle types, diameters and lengths are available. Syringe sizes of 3 cc, 5 cc, 10 cc or 30 (55 cc) are supported. Third party dispense controller can be adapted with an integrated special interface.
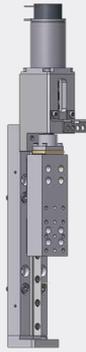Automatic calibration and compensation features available.

Dispensing Cell DISPENSE PERIPHERAL OPTIONS

ZAXIS

One Z-axis is included in the base package. It is possible to install up to four independent working Z-axes on the system:

- Mounting of dispense valves, according to the width of the dispense valves and the size of the cartridge used, up to four dispense valves can be mounted in parallel (valve width <=21 mm)
- Mounting of optional Z-Height measurement
- Mounting of optional laser distance sensor (ZLASER)

ZHEIGHT - Z-Height measurement
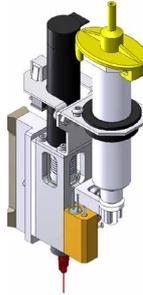
The option ZHEIGHT is installed on the Z-axis:

- Automatic touch probe calibration
- Automatic Z-height calibration e.g. on substrates
- Height measurements including 2.5D processes
- Repeatable accuracy 0.003 mm @ 3σ
- Moves in Z-direction onto different heights
- Optimal when using dispense needles to calibrate the difference in length automatically
- Can be calibrated automatically

MICROSCREW - Micro precision screw dispense unit

The option MICROSCREW allows the handling of dispense media with fillers. Volume based pressing through the needle results in precise repeatable dispense results.
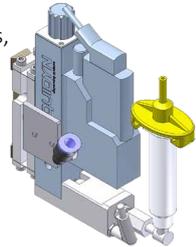
- Pump can be removed easily together with the syringe, fast and simple to clean
- Optional with pump heating
- 3 cc, 5 cc, 10 cc or 30 cc cartridges
- 10 mm Luer-Lok® style needles (optional ¼", ½", 1" or ceramic precision needles)
- The option SCREW is using a plastic screw

JET - Jet-dispense unit for micro dispensing

- The option JET can be used to jet lubricants grease or oils, colors, silicones, gels, organic solvents, epoxies, adhesives and many other liquids. Allows touchless dispensing of any dispense patterns.
- Easy exchange of the valve together with the syringe, fast and simple to clean
- Optional with nozzle heating
- 3 cc, 5 cc, 10 cc or 30 cc cartridges

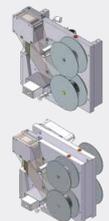|	
- JET LIQUIDYN	- JET VERMES
- JET PICODOS	- JET MUSASHI
- JET PICOPULSE	- JET DELO PN3

TRANSPORT

The option TRANSPORT contains a three buffer transport system with manual width adjustment, with an input buffer, an output buffer and a centering station.

- Manual width adjustment from 50 mm to 330 mm
- For the direct transport of substrates, printed circuit boards, lead frames, master cards and boats
- Optional with ID-reading unit
- Optional with application specific centering stations

CALIBTAPE - Calibration-, Purge- and Cleaning tape

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

- 2D Dot or matrix measurement
- With automatic tape feed
- Optional CALIBTAPECLEAN with the cleaning tape for Jet-dispense units with flat nozzles
- Easy removable to exchange tapes

NEEDLECLEAN - Dispense needle cleaning station

- Cleans needles touchless
- Can be removed easily, fast and simple to clean
- Based on compressed air, no vacuum needed

SCALE - Dispense process control weight scale

- Controls and regulates the dispensing quantity
- Parts in contact with media can be easily removed, fast and simple to clean
- Process area is protected from the environment

FURTHER OPTIONS - Infotech Component matrix

- IC-1200, IC-1800, IC-2000 also with two dispense platforms
- Heating– or UV-process station
- SW-License Traceability
- SW-License CAD-Data import
- Different transport systems and centering stations Loading / unloading systems for magazines

Please ask for further options for your requirements!

INFOTECH
automation

Exceeding your expectations