

## Product's Highlight:

- High quality granite base structure made for greatest stability and extreme's performance;
- SMEMA standard compliance, configurable either in-line or stand-alone operation;
- PC based control system, operated by NSW's most advanced operation software - NDisp3 WIN;
- Excellent dispensing levelness control between the main XYZ gantry axes and table chuck, it enable very close dispensing gap down to  $\geq 30\mu\text{m}$  consistently.
- Superior flexible dispensing capabilities, fully compatible with wide range of NSW's dispenser heads including Volumetric pump, Auger pump, Jetting pump, Squeezing Pump, Time pressure system and so on.
- X320mm - Y210mm large working envelope beneficial for wide range of dispensing applications;
- Built-in complete vision's calibration system for board's layout scanning and XY misalignment's correction;
- Integrated with automatic needle tip's calibration and cleaning function for obtaining the best dispensing quality;
- Excellent dispensed weight controlled by auto-weighing system;
- Optioned with non-contact laser height scanning function for board's warpage detection and compensation;
- Optioned with live mode dispense tip's enlarged view monitoring system;
- Optioned with vacuum chuck and heater plate functions.
- Compact foot print and easy maintenance.



\* Overview of i-DR A301 dispensing system

## i-DR A301 series platform features

### Standard

- Granite based structure with full enclosure covers.
- Primary XY gantry driven by precision ground ball screws with built-in  $0.5\mu\text{m}$  resolution linear encoder.
- PC based operating system and powered by NDisp3 WIN NSW's advanced dispensing Software.
- Vision system with full color RGB light source.
- Programmable electronic air pressure control system.
- Non-contact needle tip cleaning and purging features.
- Automatic needle XYZ position calibration features.
- Board's heating and vacuum suction function.
- Touch screen operation aided by keyboard and trackball mouse.

### Optional

- Segregs function and license.  
\*Please consult NSW Sales Personnel for the details.
- Automatic magazine's loading and unloading handlers.
- Non-contact laser height scanning function, either  $25\mu\text{m}$  (standard) or  $5\mu\text{m}$  (upgrade) accuracies.
- Automated dispense weight controlled function, weight resolution selectable either  $0.01\text{mg}$  (standard) or  $0.001\text{mg}$  (upgrade) depending on needs.
- Needle tip's enlarged view monitoring function.
- Hepa filter for clean working environment control.
- Base heating system for board's temperature control.
- Vacuum chuck features for board's holding.
- Customizable window clamp jigs for board's holding.



# i-DR A301 Basic Specifications



## Operating System

Windows® Operated (Industry PC)

## Handler Software

NDisp3 WIN

## Fluid Delivery System

Volumetric, Auger Screw, Squeezing, Jetting Pump

## Control Hardware Devices

Color Touch Screen, Mouse, Keyboard

## Main XYZ Gantry System

X-Y Accuracy	: ±0.010	mm
Z Accuracy	: ±0.010	mm
X-Y Repeatability	: ±0.005	mm
Z Repeatability	: ±0.005	mm
X-Y Resolution	: 0.001	mm
Z Resolution	: 0.001	mm
X-Y Max. Speed	: 800	mm/sec
Z Max. Speed	: 500	mm/sec

## Vision System

Number of Pixels	: 808 x 608	Pixels
FOV	: 4.5 x 3.5	mm
Light Source	: LED Shower Ring Light/Coaxial Light	

## Valve's Pitch Reference (X direction)

Minimum	: PP4+/HM2/SP - 36mm
Maximum	: PP4+/HM2/SP - 122mm
	PP4+/HM2/SP - 150mm (*Relocate Mounting)

## Conveyor System

Standard	: SMEMA
Flow Direction	: Left to Right
Transmission Speed	: Speed programmable
Transfer Belt Type	: 4mm Flat belt/0-ring Belt
Transfer Load	: 2 Kg
Board Fixing Method	: Side Pushing & Bottom Lifter Clamp
No.of Stoppers	: 2 (Buffer + Process)
Heater System	: Pre-Heat (Optional) Pro-Heat
Heater Block Temp.	: 100° C Max.
Max. Board Length	: 300 mm
Max. Board Width	: 210 mm
Min. Board Width	: 40 mm
Max. Board Thickness	: 5 mm
Max. Overboard Clearance	: 5 mm
Max. Underboard Clearance	: 4 mm

## Magazine Handling System

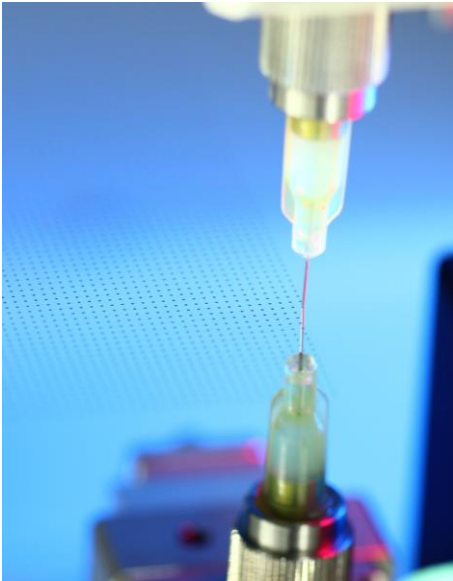
System Type	: Modular Attachment
Max. Magazine Length	: 300 mm
Min Magazine Length	: 50 mm
Max. Magazine Width	: 100 mm
Min. Magazine Width	: 50 mm
Max. Magazine height	: 200 mm
Overall Max. Load	: 5 Kg
Mag. Present Detection	: Included in each level
Mag. Holding Method	: Spring Gripper
Input Pusher Type	: Motorized actuator (Push force manual adjustable)

## Facilities Requirements

System Foot Print	: W935 x D1466 mm (*Excluding LUL) W1738 x D1466 mm (*Including LUL)
System Weight	: 800~1200 Kg (Approximately)
Air Pressure Supply	: 5 ~ 6 Bar (70 Psi) 0.5 CFM
Power Supply	: 110/250 VAC, 50/60HZ, 13A, 1 Phase



# High Precision & Ultimate Performance



\* i-DR A301 dispenser platform enable a wide range of extremely precision dispensing capabilities.

i-DR A301 series advanced-level dispenser platform is perfectly designed for various of electronics miniaturize-devices packaging needs. The system built in with full enclosed covers onto a solid granite base and come with full closed-loop linear encoding system onto the primary XY gantry system and it enable extremely stable operations and high performance not only in speed but also the overall accuracies.

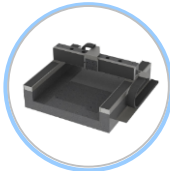
The i-DR A301 reserve a large in-line working platform supporting a wide range of product's sizes up to 300mm width x 210mm depth with superior excellent dispensing levelness control down to 30µm or better which is perfectly work well for micro-volume or fine line dispensing applications like Wafer-level packaging (WLP), MEMS device packaging and so on. Besides, this system also can be configurated with some optional features like closed-loop dispense weight control system, non-contact board's height scanning function, mapping, Secgems and other's advanced function to effectively increase the overall productivity and yield.

At flexibility aspect, the i-DR A301 could easily compatible with almost all of NSW's dispenser system type including Volumetric, Auger system, Jetting system, Squeezing pump, Time pressure system and so on which is extremely innovated and high adaptability for wide range of dispensing task.

## Supporting Options



Auto-Magazine Handler



High Stability Granite Base



High Productivity Dispenser Head



Laser Height Scanning



Vision Calibration System



Needle XYZ Calibration



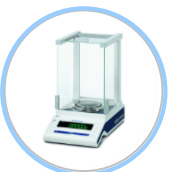
Board's Heating System



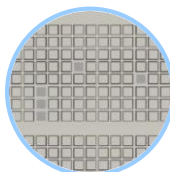
Needle Tip Cleaning



Live Mode Monitoring View



Closed-loop Weighing System

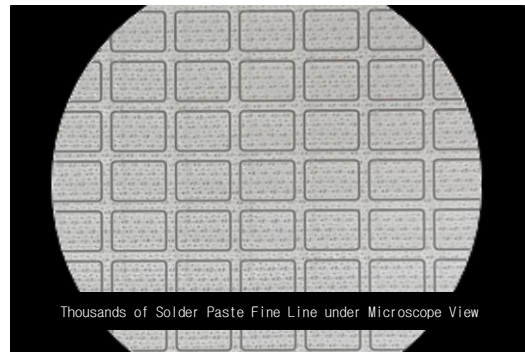


Line Scanning/Mapping



Data Transfer/In-line Function

## Superior Versatile



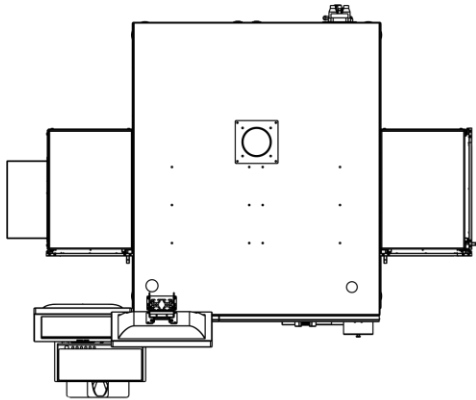
Thousands of Solder Paste Fine Line under Microscope View

Dispensed Material: **ALPHA OM-338 Series**  
 (Solder Paste fine line dispensing for Lid-Attach applications)  
 Powder Size: **Type 4** (20-38µm per IPC J-STD-005)  
 Dispensed Line Width: **120 µm ± 10 µm**  
 Equipment's Config: **NSW SynchroPULSE squeezing pump adapted at i-DR A301 system**

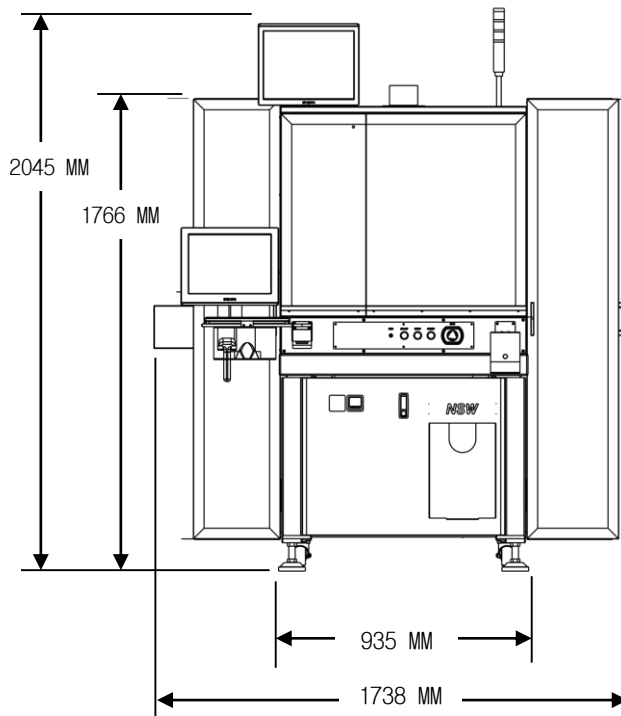


# Physical Size

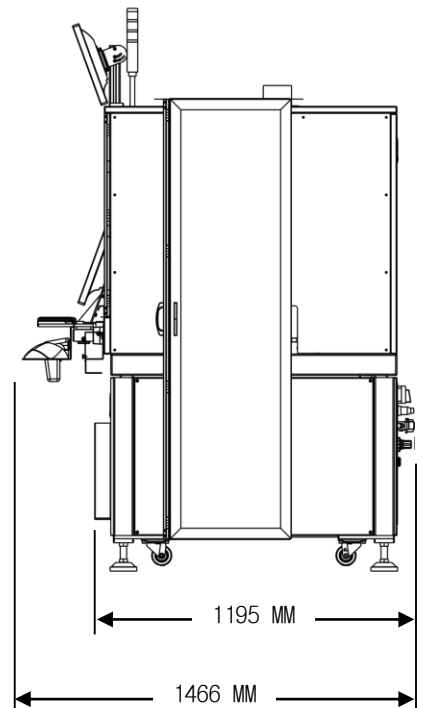
Top View



Weight: 800 ~ 1200 KG  
(Subjective to spec selected)



Front View



Side View

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