

# PRODUCT INFORMATION: DISPENSEJET® DJ-9500 JET

## DISPENSEJET® DJ-9500 JET HIGH-SPEED JET DISPENSING

The new DispenseJet® DJ-9500 is Asymtek's latest jet design that further expands the list of jettable fluids for a wider range of applications. Incorporating over 15 years of jetting experience, the DJ-9500 jet provides even more capability than its DJ-9000 predecessor.

Asymtek's jetting technology offers many advantages over traditional needle dispensing to deliver speed, quality, flexibility and low cost of ownership. Common needle problems are eliminated (no bent needles, no chipped die, no effects from product warpage, and more).

### Speed:

- Patented "Jet-on-the-Fly" technology (*U.S. Patent 5,711,989 & 5,505,777*): In operation, the jet "flies" over the part or substrate, and shoots precise volumes of fluid in dots, lines and patterns. High flow rates up to 400 mg/second; high shot rate up to 200 dots per second; no Z-axis motion.
- Closed-loop fluid heating ensures constant viscosity throughout the fluid path, even at the highest flow rates.

### Quality:

- Patented Calibrated Process Jetting (CpJ) (*U.S. Patent 6,173,864*) closed-loop control maintains consistent dispense volume.
- High wet-dispense accuracy; smaller wet-out areas; round, uniform dots; improved line quality with no "dog-bones" and improved knit line.

### Flexibility:

- Patented "Dot-on-Dot" process technology (*U.S. Patent 5,747,102*): Jetting multiple shots in the same location creates large & small dot sizes with a single hardware set.
- Low cost of ownership: new wear component materials provide 10-times lifetime improvement.
- Advanced nozzle design further expands the list of compatible fluids and opens the jetting process window.
- Lines and complex shapes are constructed from adjacent dots.
- Robust jetting in the most extreme 24/7 production environments, up to 4000 UPH for flip chip underfill.
- Various configurations are available to meet specific application requirements.

You'll benefit from jetting capabilities beyond traditional needle dispensing:

- Jets in tight spaces as small as 175  $\mu\text{m}$ .
- Small fillet sizes as small as 250  $\mu\text{m}$ .
- Dot diameter as small as 200  $\mu\text{m}$ .
- Shot volumes as small as 1.0 nanoliter.
- Jet stream size as small as 50  $\mu\text{m}$ .
- Slim design increases dispense area.



## Features &

## Benefits:

- Jets a wide range of fluids including underfill, silicones, encapsulates, conformal coating, UV adhesives and conductive epoxies
- Fast – jetting eliminates z-axis motion
- Accurate – jetting is highly repeatable
- Easy to use and maintain
- Dot diameter as small as 200  $\mu\text{m}$  (0.008 in.)
- Optional fluid pre-heaters for low- and high-flow rate applications

# DJ-9500 SPECIFICATIONS:

## TYPICAL APPLICATIONS:

- Flip chip, chip scale package (CSP) & BGA Underfill
- No-flow underfill
- Phosphor filled silicones for bright white LEDs
- Die attach materials
- Conductive adhesives & epoxies
- Thermal interfaces
- Stacked die adhesives
- UV-cure adhesives
- Conformal coating
- Fluids used for Flat panel display assembly
- Many fluids from 1 to 250,000 mPa (cps)

Contact Asymtek for the current list of jettable fluids.

## JET:

Weight: 400 g (without syringe)

Syringe: 5, 10 or 30 cc or 6 oz cartridge

Platform Compatibility:

- Spectrum™ S-900 series
- DispenseMate® D-5xx series
- Spectrum™ S-820 series
- Axiom™ X-1000 series

## VALVE PRESSURE:

Air Solenoid Pressure: Minimum: 6.0 Bar (85 psi)

## FLUID PRESSURE:

Fluid Pressure: 0.3-2 Bar (5-30 psi)

## NOZZLE:

Orifice Diameter: 0.050 to 1.00 mm (0.002 to 0.039 in.)

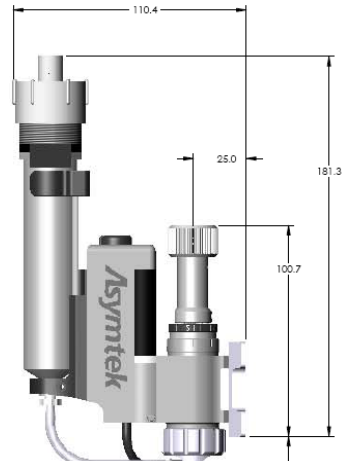
Min Shot Size: 1 nano liter = 1 micro gram of water

## SERVICE:

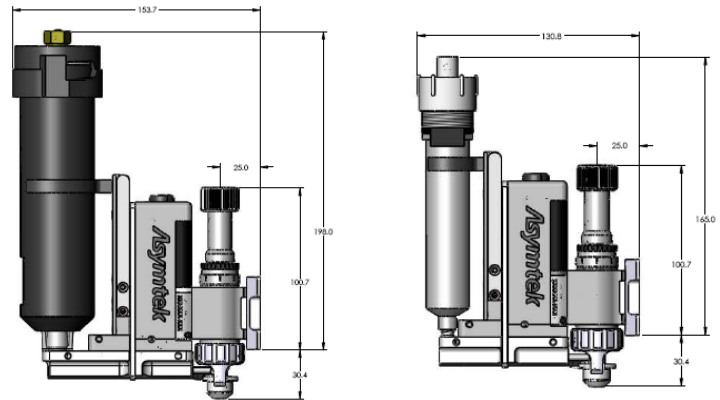
- Offline Cleaning: Approximately 10 minutes.
- Cleaning fluid: Solvents compatible with the fluids being dispensed (as specified by the material supplier)
- The DispenseJet® valve comes equipped with a protective case, cleaning kit, spare seals and nozzles, seat, needle, and fluid feed tube.

## CONSUMABLE PARTS:

Includes: Seals, nozzles, seat, needle, and fluid feed tube



Standard DJ-9500 with disposable feed tube



DJ-9500 with optional high flow & low flow fluid pre-heaters

Please contact us for the name of your local representative.

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*Asymtek reserves the right to make design changes to products to improve their function. These changes may occur between publishing.*

Contact Asymtek for your specific application requirements.

**Asymtek is ISO 9001:2000 Certified**  
**Recipient of Intel's 2003 - 2007 SCQI Award**