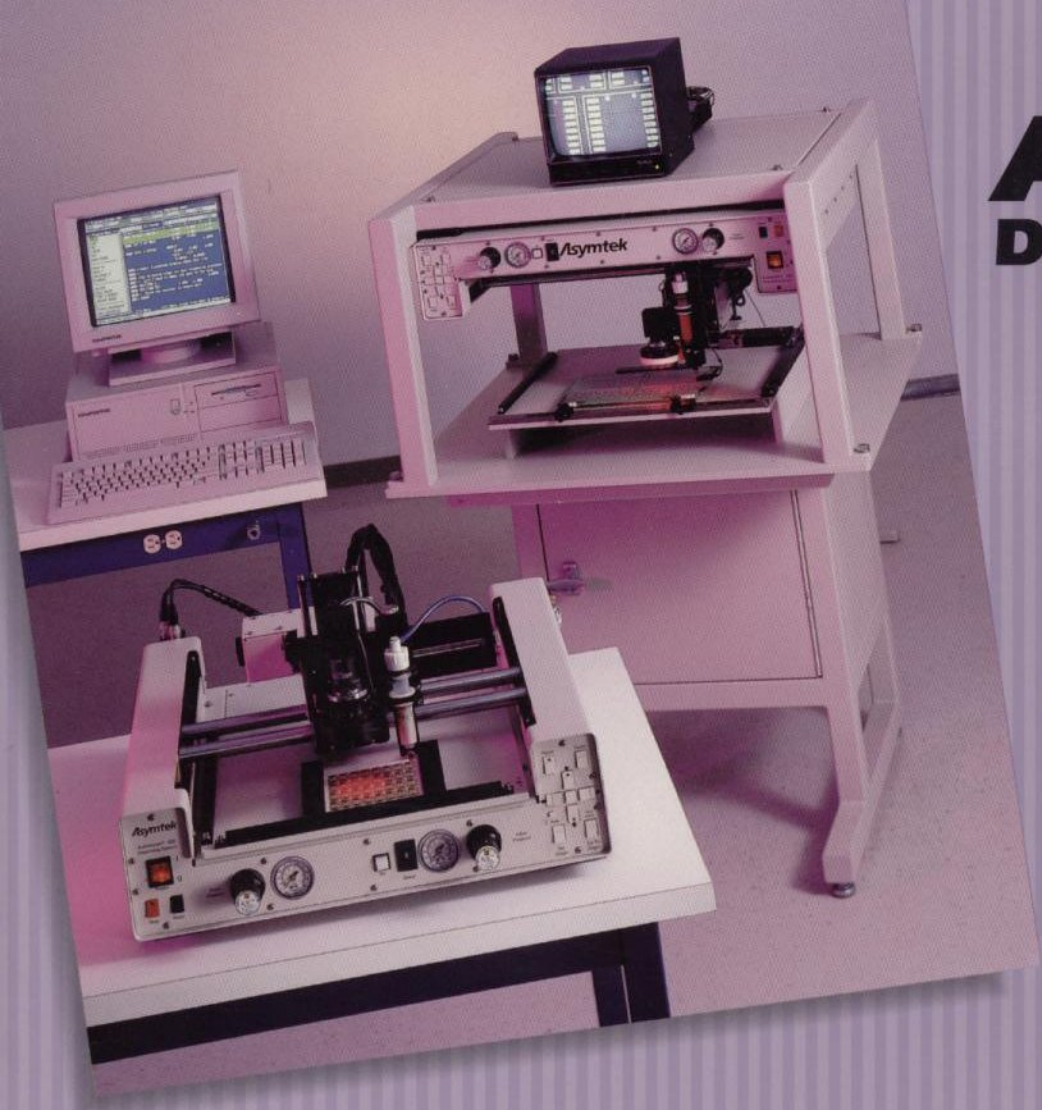


A-400 DISPENSER™



Asymtek®
TOTAL DISPENSING SOLUTIONS

AUTOMATED FLUID DISPENSER

Improve Manufacturing Quality and Productivity with Automove 400

The Automove 400 system is a highly configurable, automatic fluid dispensing system capable of handling the full range of dispensing applications. Where ever hand-held dispensers are currently used, automating with the A-400 will increase both accuracy and throughput. The A-400 can be programmed to dispense dots or continuous lines precisely and consistently using a wide variety of fluids. This flexibility makes it ideal for applications ranging from surface mount electronics to form-in-place gasketing. By eliminating material waste and reducing rework as it increases throughput, the Automove 400 is a must for organizations concerned with productivity and Total Quality Control.

Fast, Accurate and Versatile

The A-400 offers several value added standard features. At speeds of up to 20 inches per second (508 mm/sec), the Automove 400 provides .001" (.025 mm) resolution with a teach accuracy of $\pm .001$ " (.025 mm). It is available in benchtop, benchtop-gantry, or gantry configurations with either a 12 x 12 inch or 18 x 18 inch (305 x 305 mm or 457 x 457 mm) work area.

Once programmed with a PC, the A-400 stores up to 10 separate dispensing programs in on-board memory thus allowing the computer to be removed during production dispensing.

Asymtek also includes semi-automatic skew correction, pattern origin placement and eight opto-coupled inputs and outputs as standard features on the Automove 400. These features eliminate the need for expensive fixturing as well as allowing the A-400 to be easily interfaced with conveyors or other I/O triggered devices to further automate the production process.



Automatic Pattern Locator and Teach Camera

The AV-3000 solves part misalignment with correlated gray scale fiducial recognition and correction. Working with the Fluidmove, the AV-3000 automatically locates pre-determined fiducial marks and makes adjustments in milliseconds. Asymtek also offers the AV-500 teach camera (separately) for applications where accuracy is a must.

Valves

Asymtek offers a wide range of valves for a variety of fluids and applications. From our exclusive reversible rotary positive displacement pump to valve diaphragm and time-pressure valves, Asymtek provides specially valves for many different fluid types.

Fluidmove

IBM PC compatible fluid dispensing software. (See text below.)

Needle Heater

The HT-XX needle heater controls the viscosity of adhesives or other materials that may "string" while dispensing. Heating the fluid enables consistent dispensing for higher quality parts. The needle heater only heats the material in the dispensing tip, protecting the fluid from chemical reactions and property changes that can occur during long periods of heating.

Needle Sensor

The Needle Sensor is designed to maximize the repeatable accuracy of any dispensing application. Because the Needle Sensor automatically compensates for needle variations, it eliminates operator error and provides greater process control during needle changes.

Tooling Fixtures

Asymtek offers affordable printed circuit fixturing tools, the TF-1200 and TF-1800, to control board height and location. These fixtures ensure precise and consistent alignment needed in critical production applications.

Height Sensor

Asymtek offers both contact and non-contact height sensing systems. The exclusive non-contact height sensing system, the AV-1000V, (shown) accurately locates the work surface and improves dispensing consistency. The non-contact height sensing system is insensitive to work surface color. Asymtek's light touch retractable tactile height sensor is available for high throughput applications (not shown).

Dual and Triple Valve Brackets

(see application photo)
The DB-02 and DB-03, double and triple valve brackets, can double or triple the output of the Asymtek dispenser for applications where multiple identical parts are used.

Applications

As the industry's leader in both dispensing experience and installed customer base, Asymtek has the right dispensing solution for any application. A few examples of automated fluid dispensing applications are:

- 1) Solder paste for fine pitch component bonding in PCB assembly
- 2) Ultra violet (UV) curable adhesive for structural bonding in medical device assembly
- 3) Adhesive for chip bonding in surface mount assembly
- 4) Gasketing compound for form-in-place gasketing in transmission assembly
- 5) Conductive epoxy for die attachment in multi-chip-module (MCM) assembly
- 6) Glob top adhesive for chip-on-board (COB) encapsulation in MCM or Hybrid circuit technology (HCT) assembly
- 7) Silicone RTV for sealing in electromechanical housing assembly
- 8) Solder masking for temporary solder stop in PCB assembly
- 9) UV gel for potting of transducers in electronics assembly
- 10) Grease for lubrication in bearing assembly
- 11) Silver epoxy for die attachment in MCM or HCT assembly
- 12) Enamel for decorative filling in jewelry manufacturing

By working closely with major fluid formulators, Asymtek keeps constantly abreast of the latest technology development, ensuring that the right valve is always selected for each application.

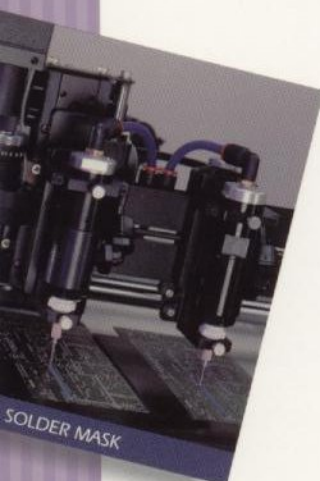
Simple to Program

The Automove 400 includes Fluidmove, the Asymtek IBM PC compatible fluid dispensing software. From the initial setup, Fluidmove uses an easy, step-by-step programming approach, using pull-down menus easily accessed by a mouse. Full or partial programs can be easily saved and retrieved from the macro library, making it a snap to create new programs.

On line fluid parameter adjustment allows fine tuning of the dispensing program. The user can program any combination of functions such as dots, lines, circles, arcs, pots, and area paints at variable heights in one dispensing program. The continuous path function ensures that connected shapes will be dispensed at one constant velocity, eliminating material build-up.

Technical Support

Asymtek brings the full focus of its technical knowledge and production expertise right to each customer's production floor. Our trained and experienced staff works with the customer's engineers from the initial stages of product selection, through the installation and all the way to ongoing production. Asymtek customer service representatives are always just a phone call away at 1-800-ASYMTEK.



400 Series Specifications

The Automove is available in Model 402 (12 x 12 inch 305 x 305 mm) work area or Model 403 (18 x 18 inch or 457 x 457 mm) work area, in the benchtop, benchtop gantry or gantry stand. Please see ordering information.

XY Axes Specifications inches (mm)

Resolution
0.001 inch (0.025 mm)

Velocity
0-20 inches/second
(0-508 mm/sec) programmable

Repeatability
±0.001 inch (+0.025 mm)

Teach Accuracy
±0.001 inch (+0.025 mm)

Z Axis Specifications

Resolution
0.001 inch (0.025 mm)

Velocity
8 inches/second (203 mm/sec)

Travel
3.5 inches (89 mm)

Adjustment Range
3 inches (76 mm)

General Specifications

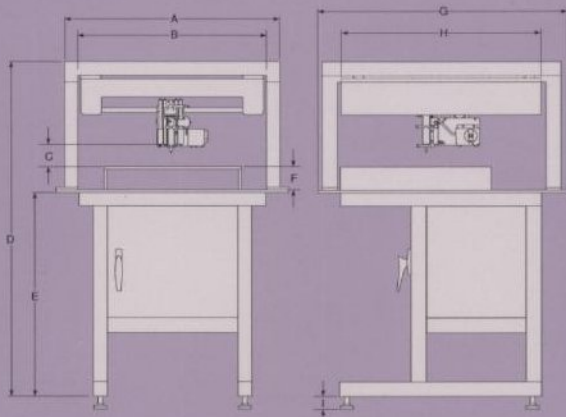
Drivers
(3) 6 Watt 24 Vdc each

I/O
8 opto-coupled inputs and outputs

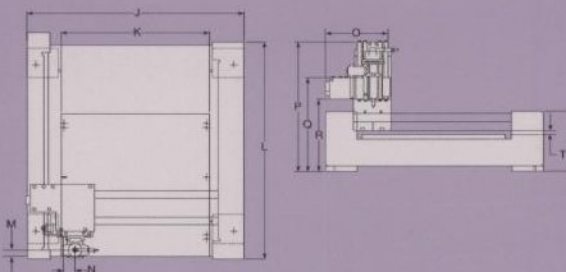
Power
110/120/220/240 Vac +5%-10%
47-447 Hz, 150 VA

Environmental Range
5-55°C, 5%-95% RH (below 40°C)

Gantry		
	A-402 G	A-403 G
A	27.2 (690.9)	31.5 (800.1)
B	23.2 (589.3)	27.5 (698.5)
C	4.02 (102.1)	3.9 (99.1)
D	48.37 (1228.6)	48.37 (1228.6)
E	29 (736.6)	29 (736.6)
F	3.38 (85.8) MAX 1.88 (47.8) MIN	3.38 (85.8) MAX 1.88 (47.8) MIN
G	28.87 (733.3)	34.75 (882.6)
H	19 (482.6)	29.43 (747.5)
I	2.75 (69.8) MAX 1.00 (25.4) MIN	2.75 (69.8) MAX 1.00 (25.4) MIN



Benchtop		
	A-402	A-403
J	20.92 (531.4)	26.92 (693.8)
K	14.32 (363.7)	20.00 (508)
L	22 (558.8)	28 (711.2)
M	.48 (12.2)	.48 (12.2)
N	1.22 (31)	1.00 (25.4)
O	6.2 (157.5)	6.2 (157.5)
P	13.2 (335.3)	13.2 (335.3)
Q	9.58 (243.3)	9.58 (243.3)
R	7.48 (190)	7.48 (190)
S	5.92 (150.4)	5.92 (150.4)
T	.55 (13.0)	.51 (13.0)



* For more detailed dimensions, please contact factory.

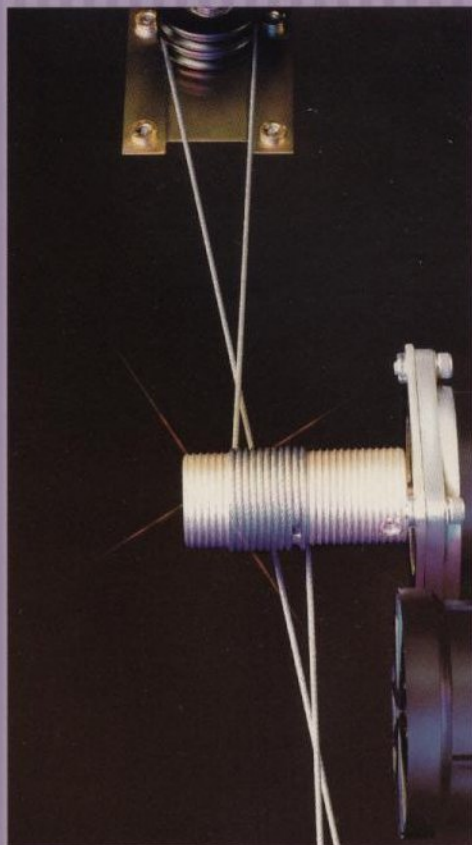
Ordering Information

402	G
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402 - 12" x 12" - Benchtop
403 - 18" x 18" - B - Benchtop Gantry
G - Gantry
A - Configured for a Gantry

Valves

Asymtek offers a broad range of valves for a variety of fluids and applications. From our exclusive rotary positive displacement valve to diaphragm and time pressure valves, Asymtek provides the right valve for your application. For more information please ask for our Valve Specification Guide.

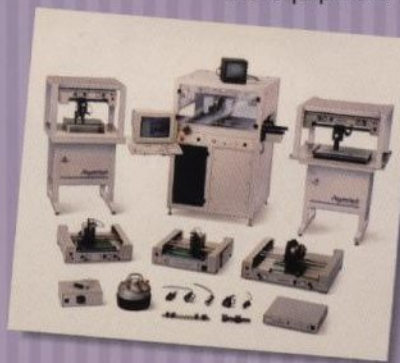


Exclusive Asymtek Design

The frictionless cable drive of the Automove 400 replaces conventional leadscrew technology, thereby giving the Automove system the lowest inertia in the industry. The low inertia system design works best with the fast, short, repetitive moves required in automated fluid dispensing and is inherently safe and reliable.

Asymtek's advanced design results in superior precision. The entire work area is factory calibrated at the dispense tip to assure that the effects of linearity, parallelism, perpendicularity and lead errors are eliminated. The exclusive automatic mapping routine provides the ability to perform periodic calibration of the equipment for ISO 9000 compliance,

resulting in a positioning system that remains dependable and accurate for years. And Asymtek's unique cable drive enables the Automove to maintain a class 100 clean room rating! *Thousands of customers worldwide already enjoy the proven failure-free advantage of the exclusive Asymtek cable drive.*



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