

# Robotics





## F1300N Rotary Table

The F1300N rotary table provides an efficient method of dispensing a circular pattern on areas that are difficult to access. The tilting Z-axis allows for controlled rotary dispensing at a fixed angle.

Used for dispensing adhesives, silicones, greases, and lubricants, the F1300N is fully adjustable in rotation speed, circle diameter, and dispensing time. Dispense from barrels, cartridges, or valves mounted on the Z-axis.

The Z-axis tilt is easily adjusted to dispense either on a vertical wall within a cylindrical part or on an outside wall. The system is fully programmable to control dispense delay, degree of rotation, and wait period before cycling.

### Features

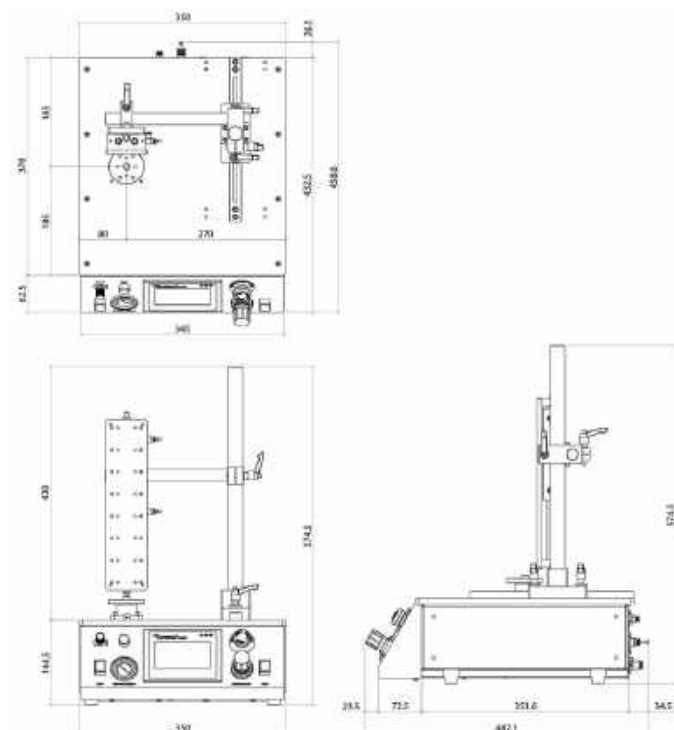
- Touch screen LCD display for easy set up and operation
- Fully programmable for accurate dispensing
- 9 user programmable memories
- Password-protected operator lock-out mode
- I/O interface



| Item Number | Description  |
|-------------|--------------|
| F1300N      | Rotary Table |

### Specifications

|                         |  |
|-------------------------|--|
| Item Number             | F1300N                                 |
| Cycle Initiation        | Manual or Automatic                    |
| Vertical Travel         | 50 mm (2") other lengths optional      |
| Rotation Speed          | 0 - 60rpm                              |
| Air Input               | 70 - 100 psi (5 - 7 bar)               |
| Air Output              | 1 - 100 psi (5 - 7 bar)                |
| Dimensions (WxDxH)      | 350 x 482 x 575 mm (13.8 x 19 x 22.6") |
| Work Load               | 2 kg (4.4 lb)                          |
| Tool Load               | 10 kg (22 lb)                          |
| Working Area (Diameter) | 300 mm (12")                           |
| Weight                  | 11 kg (24.3 lb)                        |



## F4200N.2 Compact Benchtop Robot

The F4200N.2 is a compact, ergonomic, and economically priced benchtop robot, to support most light-duty entry level dispensing applications which require a high performance standard.

Programming the F4200N.2 robot is simple with the included teach pendant and user-friendly proprietary software. This allows a sophisticated dispensing operation to be created and operational in minutes.

The optional automatic tip-alignment and height detect device further improve machine performance by increased productivity and process control.

The F4200N.2 robot can be supplied individually or as a complete stand-alone machine system by integrating into a safety enclosure.\*

\*Required to conform to European CE safety regulations (Machinery Directive 2006/42/EC).

### Features

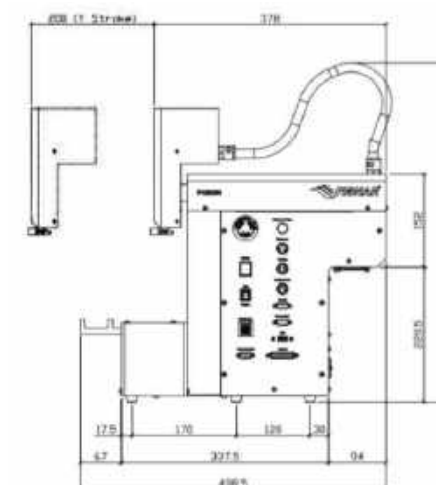
- Repeatability 0.02 mm
- Small footprint for bench space reduction
- Step and repeat functionality
- USB port for data transfer and back up
- Optional PC programming



| Item Number | Description            |
|-------------|------------------------|
| F4200N.2    | Compact Benchtop Robot |

### Specifications

|                       |   |
|-----------------------|---|
| Item Number           | F4200N.2                                      |
| Working Area (X/Y/Z)  | 200 x 200 x 50 mm                             |
| Maximum Speed (X&Y/Z) | 500 / 200 mm / secs                           |
| Work Load             | 3 kg  |
| Tool Load Z-Axis      | 2 kg  |
| Repeatability         | +/- 0.02 mm / axis                            |
| Resolution            | 0.001 mm / axis                               |
| Motion Control        | PTP & CP                                      |
| Drive System          | Micro stepping motors                         |
| Data Memory           | 1 - 100 programs<br>50,000 points/program     |
| I/O Signals           | 8 inputs / 8 outputs                          |
| External Interface    | USB / RS232                                   |
| Power Supply          | Auto-switching AC<br>100 - 240 VAC, 320 watts |
| Dimensions (WxDxH)    | 324 x 499 x 480 mm<br>(12.75 x 19.7 x 18.9")  |
| Weight                | 17 kg (37.5 lb)                               |



## F4000 ADVANCE Series 3-Axis Robot

Fisnar F4000 ADVANCE 3-axis benchtop robots are designed to ensure precise fluid placement and positioning. When configured with a syringe, cartridge, or valve system, a high level of accuracy and repeatability is achieved. Specifically built for fluid dispensing processes, the F4000 ADVANCE proprietary robot software is user friendly and enables the creation of complex dispensing routines (dots, lines, circles, arcs, and fills) that can be set up and operational in just minutes using the teach pendant (included).

The proprietary windows programming software allows for DXF files to be imported into the software and have dispense lines or dots quickly created from the imported CAD data. This feature dramatically reduces programming time for complex dispense patterns or when there is a high number of dispense positions.

The F4000 ADVANCE can be supplied individually or as a complete stand-alone machine system by integrating into a safety enclosure.\*

\*Required to conform to European CE safety regulations (Machinery Directive 2006/42/EC).

### Features

- Modular connectivity for easy installation of accessories at any time such as the CCD vision kit, tip-alignment, or height sensor
- USB port for data transfer and back up
- Program selector switch and fluid purge button
- True 3D interpolation and simultaneous motion control
- Teach pendant included for easy programming



### Models

| Item Number    | Description                              |
|----------------|--|
| F4303N ADVANCE | 3-Axis Robot<br>300x300x100 mm Work Area |
| F4403N ADVANCE | 3-Axis Robot<br>400x400x100 mm Work Area |
| F4503N ADVANCE | 3-Axis Robot<br>500x500x150 mm Work Area |
| F4603N ADVANCE | 3-Axis Robot<br>600x500x150 mm Work Area |

### Benefits

- High positional accuracy improves dispense results
- Proprietary user-friendly software allows programs to be easily and quickly set up using the teach pendant or PC
- Increased productivity due to faster cycle times and less rejects
- Windows software provides greater control and visibility of complete dispense program

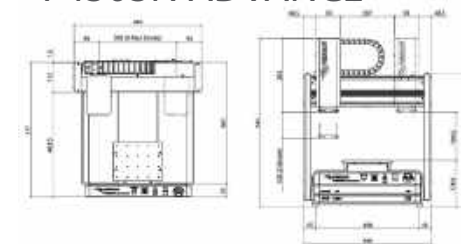
## F4000 ADVANCE Series 3-Axis Robots

### Specifications

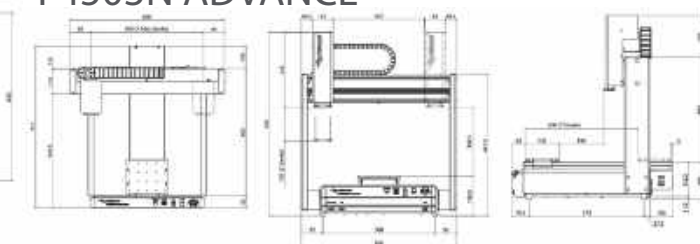
| Item Number                         | F4303N ADVANCE                                 | F4403N ADVANCE                        | F4503N ADVANCE                        | F4603N ADVANCE                        |
|-------------------------------------|--|---------------------------------------|---------------------------------------|---------------------------------------|
| <b>Maximum Working Area (X/Y/Z)</b> | 300 x 300 x 100 mm<br>(12 x 12 x 4")           | 400 x 400 x 100 mm<br>(16 x 16 x 4")  | 500 x 500 x 150 mm<br>(20 x 20 x 6")  | 600 x 500 x 150 mm<br>(24 x 20 x 6")  |
| <b>Maximum Speed (X&amp;Y/Z)</b>    | 800 / 320 mm / secs (31 / 13" / secs)          |                                       |                                       |                                       |
| <b>Work Load</b>                    | 10 kg (22 lb)                                  |                                       |                                       |                                       |
| <b>Tool Load</b>                    | 5 kg (11 lb)                                   |                                       |                                       |                                       |
| <b>Repeatability</b>                | +/- 0.008 mm**                                 |                                       |                                       |                                       |
| <b>Motion Control</b>               | PTP & CP                                       |                                       |                                       |                                       |
| <b>Drive System</b>                 | 3-phase micro stepping motors                  |                                       |                                       |                                       |
| <b>Data Memory</b>                  | 1 - 100 programs   1 - 50,000 points / program |                                       |                                       |                                       |
| <b>I/O Signals</b>                  | 8 inputs / 8 outputs                           |                                       |                                       |                                       |
| <b>External Interface</b>           | USB / RS232                                    |                                       |                                       |                                       |
| <b>Power Supply</b>                 | Auto-switching AC 100 - 240 VAC, 320 watts     |                                       |                                       |                                       |
| <b>Dimensions (WxDxH)</b>           | 490 x 517 x 645 mm<br>(19 x 20 x 25")          | 590 x 617 x 645 mm<br>(23 x 24 x 25") | 690 x 717 x 815 mm<br>(27 x 28 x 32") | 810 x 717 x 815 mm<br>(32 x 28 x 32") |
| <b>Weight</b>                       | 21 kg (46 lb)                                  | 39.5 kg (87 lb)                       | 44.5 kg (98 lb)                       | 47kg (104 lb)                         |
| <b>Approvals</b>                    | CE, RoHS, WEE                                  |                                       |                                       |                                       |

\*\*Repeatability value will vary depending on measurement method.

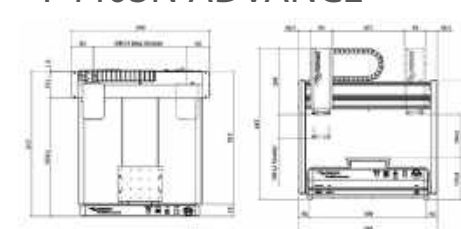
### F4303N ADVANCE



### F4503N ADVANCE



### F4403N ADVANCE



### F4603N ADVANCE





# F4000 ELITE Series 3-Axis Robot

Fisnar F4000 ELITE 3-axis benchtop robots are designed to offer the highest level of precise automated fluid placement and positioning.

The CCD camera vision system and laser height sensor (sold separately) allow the system to automatically adjust for changes in part position/orientation and height.

Specifically built for fluid dispensing processes, the F4000 ELITE proprietary robot vision software is user friendly and enables the set-up and running of complex dispensing routines to be created easily.

The additional auxiliary camera allows for real-time viewing, image capturing, and recording of the dispense path.

Additional functionality features CAD import and an offline measuring tool to further improve the user's control of the dispensing process.

The F4000 ELITE can be supplied individually or as a complete stand-alone machine by integrating into a safety enclosure.

*\*Required to conform to European CE safety regulations (Machinery Directive 2006/42/EC).*

## Features

- Dual linear guide and ball screw mechanism
- Servomotor drive control with closed loop encoder feedback
- CCD camera vision & PC kit with automated tip-alignment
- Laser Height Detect Kit included
- Fiducial Recognition System
- Real-time preview & recording of dispense cycle path
- Process functionality tools such as CAD import, measuring & image capture/recording



## Models

| Item Number  | Description                             |
|--------------|---|
| F4303N ELITE | 3-Axis Robot - 300x300x100 mm Work Area |
| F4403N ELITE | 3-Axis Robot - 400x400x100 mm Work Area |

## Benefits

- Highest level of positional repeatability +/- 0.003 mm improves dispense results
- Proprietary user-friendly camera vision software ensures a quicker and easier learning curve for users to set-up dispense programs
- Increased productivity due to faster cycle times and less rejects
- More precise and accurate dispense results regardless of dimensional variations of component parts
- Improved process control and quality due to additional software functionality tools

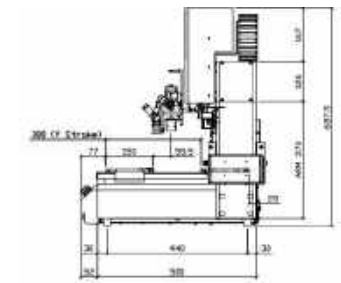
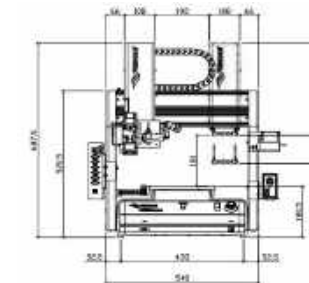
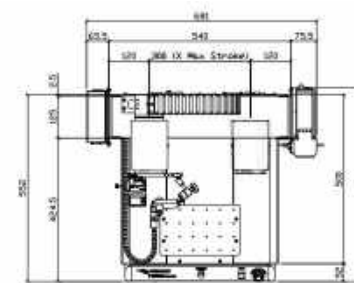
# F4000 ELITE Series 3-Axis Robots

## Specifications

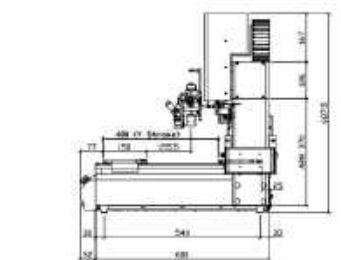
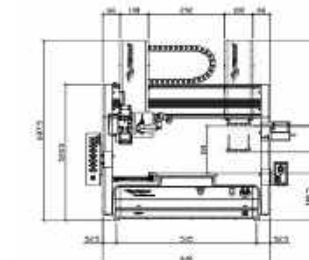
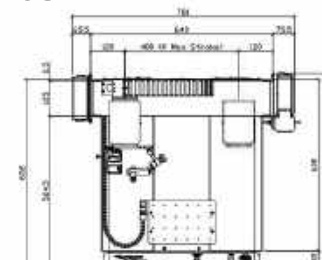
| Item Number                  | F4303N ELITE                               | F4403N ELITE                              |
|------------------------------|--|---|
| Maximum Working Area (X/Y/Z) | 300 x 300 x 100 mm<br>(12 x 12 x 4")       | 400 x 400 x 100 mm<br>(16 x 16 x 4")      |
| Maximum Speed (X&Y/Z)        | 800 / 250 mm / secs                        |   |
| Work Load                    | 25 kg (55 lb)                              |   |
| Tool Load                    | 6 kg (13 lb)                               |   |
| Repeatability                | +/- 0.003 mm**                             |   |
| Motion Control               | PTP & CP                                   |   |
| Drive System                 | Servo Motor                                |   |
| Data Memory                  | PC Storage                                 |   |
| I/O Signals                  | 8 inputs / 8 outputs                       |   |
| External Interface           | USB / RS232                                |   |
| Power Supply                 | Auto-switching AC 100 - 240 VAC, 320 watts |   |
| Dimensions (WxDxH)           | 681 x 575 x 687.5 mm<br>(27 x 23 x 27")    | 781 x 675 x 687.5 mm<br>(31 x 26.5 x 27") |
| Weight                       | 49 kg (108 lb)                             | 54 kg (119 lb)                            |
| Approvals                    | CE, RoHS, WEE                              |   |

\*\*Repeatability value will vary depending on measurement method.

## F4303N ELITE



## F4403N ELITE



## F4000 ADVANCE Series 4-Axis Robot

Fisnar F4000 ADVANCE series 4-axis benchtop robots are designed to ensure precise fluid placement and positioning.

Specifically made for fluid dispensing processes, the F4000 ADVANCE proprietary robot software is user friendly and enables the creation of complex dispensing routines (dots, lines, circles, arcs, and fills) that can be set up and operational in just minutes using the teach pendant (included).

The additional 4th rotational (R) axis allows for dispensing at a user-specified, fixed angle around the 360° rotational plane, allowing it to access hard-to-reach areas and vertical surfaces.

The F4000 ADVANCE can be supplied individually or as a complete stand-alone system by integrating into a safety enclosure.\*

\*Required to conform to European CE safety regulations (Machinery Directive 2006/42/EC).



### Models

| Item Number    | Description                              |
|----------------|--|
| F4304N ADVANCE | 4-Axis Robot<br>300x300x150 mm Work Area |
| F4404N ADVANCE | 4-Axis Robot<br>400x400x150 mm Work Area |
| F4504N ADVANCE | 4-Axis Robot<br>500x500x150 mm Work Area |
| F4604N ADVANCE | 4-Axis Robot<br>600x500x150 mm Work Area |

### Features

- Integral tip position adjustment routine
- USB port for data transfer and back-up
- Program selector switch and fluid purge button
- True 3D interpolation and simultaneous motion control
- Modular connectivity design for the simple installation of productivity enhancement tools

### Benefits

- High positional accuracy improves dispense results
- Proprietary user-friendly software allows programs to be easily and quickly set up using the teach pendant
- Increased productivity due to faster cycle times and less rejects

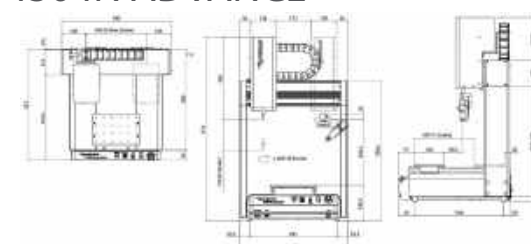
## F4000 ADVANCE Series 4-Axis Robots

### Specifications

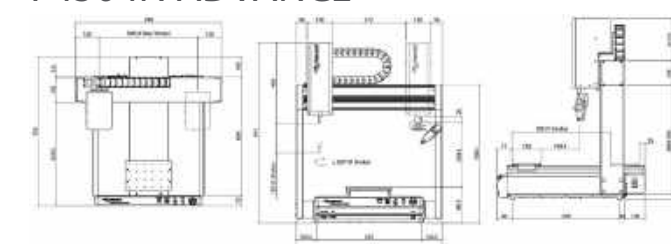
| Item Number                         | F4304N ADVANCE                                 | F4404N ADVANCE                        | F4504N ADVANCE                        | F4604N ADVANCE                        |
|-------------------------------------|--|---------------------------------------|---------------------------------------|---------------------------------------|
| <b>Maximum Working Area (X/Y/Z)</b> | 300 x 300 x 150 mm<br>(12 x 12 x 6")           | 400 x 400 x 150 mm<br>(16 x 16 x 6")  | 500 x 500 x 150 mm<br>(20 x 20 x 6")  | 600 x 500 x 150 mm<br>(24 x 20 x 6")  |
| <b>Max Working Area (R)</b>         | +/- 720°                                       |                                       |                                       |                                       |
| <b>Maximum Speed (X&amp;Y/Z)</b>    | 800 / 320 mm / secs (31 / 13" / secs)          |                                       |                                       |                                       |
| <b>Maximum Speed (R)</b>            | 720° / secs                                    |                                       |                                       |                                       |
| <b>Work Load</b>                    | 10 kg (22 lb)                                  |                                       |                                       |                                       |
| <b>Tool Load</b>                    | 5 kg (11 lb)                                   |                                       |                                       |                                       |
| <b>Repeatability</b>                | +/- 0.008 mm**                                 |                                       |                                       |                                       |
| <b>Motion Control</b>               | PTP & CP                                       |                                       |                                       |                                       |
| <b>Drive System</b>                 | 3-phase micro stepping motors                  |                                       |                                       |                                       |
| <b>Data Memory</b>                  | 1 - 100 programs   1 - 50,000 points / program |                                       |                                       |                                       |
| <b>I/O Signals</b>                  | 8 inputs / 8 outputs                           |                                       |                                       |                                       |
| <b>External Interface</b>           | USB / RS232                                    |                                       |                                       |                                       |
| <b>Power Supply</b>                 | Auto-switching AC 100 - 240 VAC, 320 watts     |                                       |                                       |                                       |
| <b>Dimensions (WxDxH)</b>           | 540 x 552 x 914 mm<br>(21 x 22 x 36")          | 640 x 652 x 914 mm<br>(25 x 30 x 36") | 740 x 752 x 914 mm<br>(29 x 30 x 36") | 860 x 752 x 914 mm<br>(32 x 30 x 36") |
| <b>Weight</b>                       | 41 kg (90 lb)                                  | 46 kg (101 lb)                        | 48 kg (106 lb)                        | 52 kg (115 lb)                        |
| <b>Approvals</b>                    | CE, RoHS, WEE                                  |                                       |                                       |                                       |

\*\*Repeatability value will vary depending on measurement method.

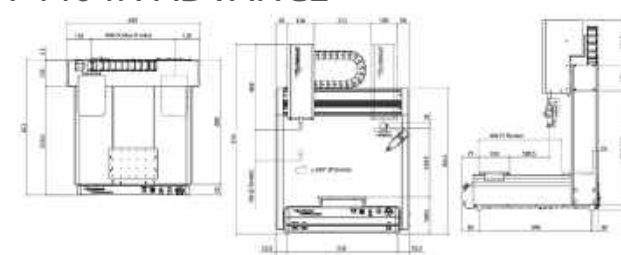
### F4304N ADVANCE



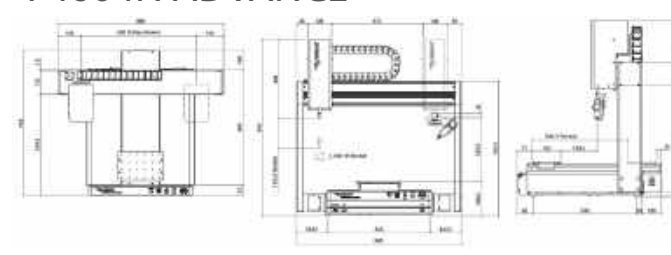
### F4504N ADVANCE



### F4404N ADVANCE



### F4604N ADVANCE



# F4000 ADVANCE 5-Axis Robot

Fisnar F4000 ADVANCE 5-axis benchtop robot provides both a rotational vertical (B) axis and horizontal (U) axis for applying adhesives and sealants on curved, vertical, or difficult to reach applications.

The F4000 ADVANCE proprietary robot software is user friendly and enables the creation of complex dispensing routines (dots, lines, circles, arcs, and fills) that can be set up and operational in just minutes.

The 5-axis simultaneous positioning is also ideal for dispensing around ledges, lips, and inside channels with form-in-place gasketing materials or staking/ruggedizing electrical components on a PCB with a silicone RTV material. The F4000 ADVANCE can be supplied individually or as a complete stand-alone machine system by integrating into a safety enclosure.\*

*\*Required to conform to European CE safety regulations (Machinery Directive 2006/42/EC).*



| Item Number    | Description                              |
|----------------|--|
| F4505N ADVANCE | 5-Axis Robot<br>500x500x150 mm Work Area |

## Features

- Integral tip position adjustment routine
- USB port for data transfer and back-up
- Program selector switch and fluid purge button
- True 3D interpolation and simultaneous motion control
- Modular connectivity design for the simple installation of productivity enhancement tools

## Benefits

- High positional accuracy improves dispense results
- Proprietary user-friendly robot software allows programs to be easily and quickly set up using the teach pendant or PC
- Increased productivity due to faster cycle times and less rejects

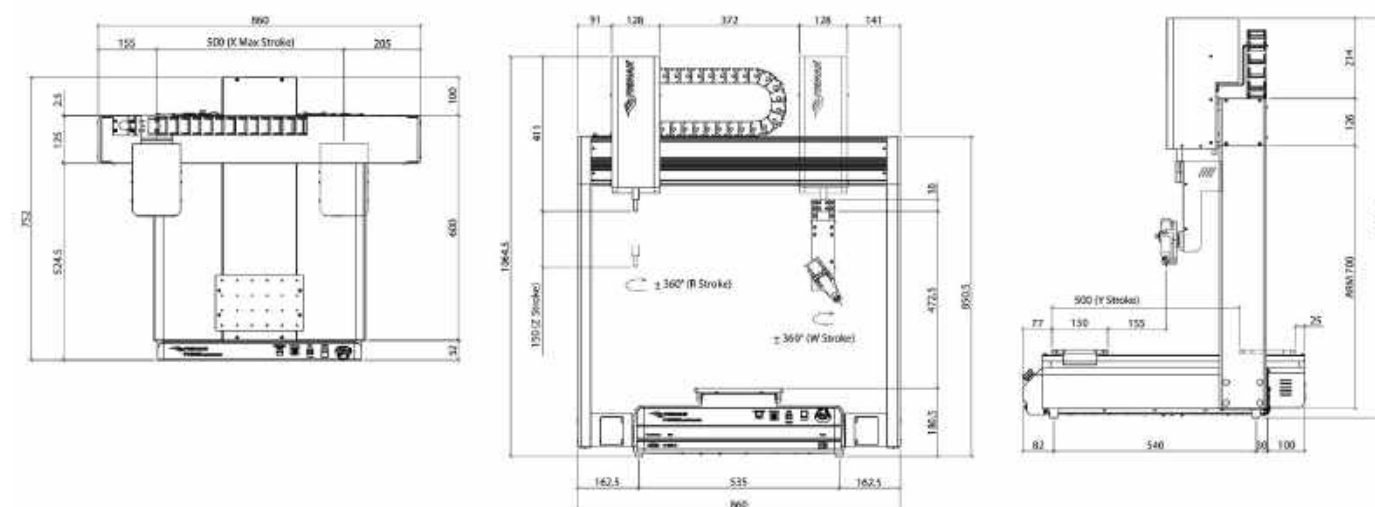
# F4000 ADVANCE Series 5-Axis Robots

## Specifications

|                              |   |
|------------------------------|---|
| Item Number                  | F4505N ADVANCE                                |
| Maximum Working Area (X/Y/Z) | 500 x 500 x 150 mm<br>(20 x 20 x 6")          |
| Max Working Area (R)         | +/- 720°                                      |
| Maximum Speed (X&Y/Z)        | 800 / 320 mm / secs (31 / 13" / secs)         |
| Maximum Speed (R)            | 720° / secs                                   |
| Work Load                    | 10 kg (22 lb)                                 |
| Tool Load                    | 1 kg (2.2 lb)                                 |
| Repeatability                | +/- 0.008 mm**                                |
| Motion Control               | PTP & CP                                      |
| Drive System                 | 5-phase micro stepping motors                 |
| Data Memory                  | 1 - 99 programs   1 - 50,000 points / program |
| I/O Signals                  | 8 inputs / 8 outputs                          |
| External Interface           | USB / RS232                                   |
| Power Supply                 | Auto-switching AC 100 - 240 VAC, 320 watts    |
| Dimensions (WxDxH)           | 860 x 752 x 1,065 mm<br>(34 x 30 x 42")       |
| Weight                       | 48 kg (106 lb)                                |
| Approvals                    | CE, RoHS, WEE                                 |

\*\*Repeatability value will vary depending on measurement method.

## F4505N ADVANCE





## F4000 ADVANCE Series Dual Table Robot

F4000 ADVANCE dual table benchtop robots are designed to ensure precise fluid placement and positioning.

The unique dual-table design allows for high speed manufacturing due to the elimination of part changeover and loading time. This is made possible with the removal of finished parts and the loading of new parts on the fixture of one table, while the other table is being processed by the robot.

Furthermore, the dual-table design provides users the option to carry out two different dispensing routines sequentially, thus eliminating the requirement for batch production.

The F4000 ADVANCE can be supplied individually or as a complete stand-alone machine system by integrating into a safety enclosure.\*

\*Required to conform to European CE safety regulations (Machinery Directive 2006/42/EC).



### Models

| Item Number    | Description                              |
|----------------|--|
| F4553N ADVANCE | 3-Axis Robot<br>500x500x100 mm Work Area |
| F4554N ADVANCE | 4-Axis Robot<br>500x500x150 mm Work Area |

### Features

- Unique dual-table design for high speed manufacturing
- USB port for data transfer and back-up
- Program selector switch and fluid purge button
- True 3D interpolation and simultaneous motion control
- Modular connectivity interface

### Benefits

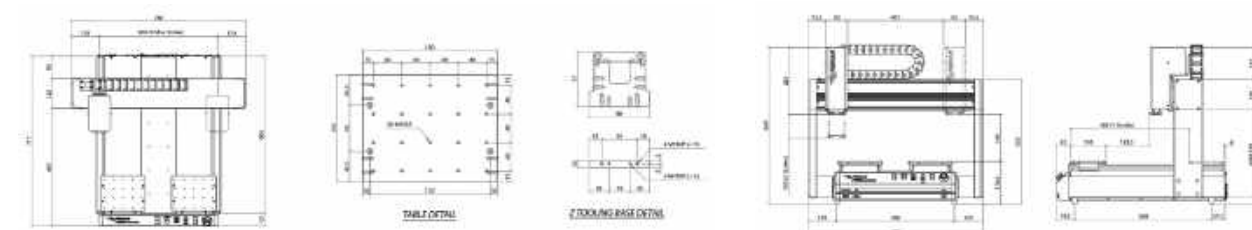
- Dual-table design increases production rates
- Independent control of each table
- High positional accuracy improves dispense results
- Proprietary user-friendly robot software allows programs to be easily and quickly set up using the teach pendant
- Increased productivity due to faster cycle times and less rejects

## F4000 ADVANCE Series Dual Table Robot Specifications

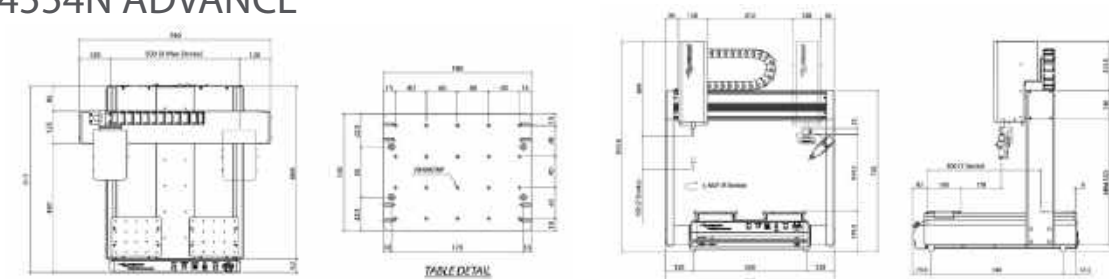
| Item Number                  | F4553N ADVANCE                                 | F4554N ADVANCE                     |
|------------------------------|--|------------------------------------|
| Maximum Working Area (X/Y/Z) | 500 x 500 x 100 mm (20 x 20 x 4")              | 500 x 500 x 150 mm (20 x 20 x 6")  |
| Maximum Working Area (R)     | +/- 720°                                       |                                    |
| Maximum Speed (X&Y/Z)        | 800 / 320 mm / secs (31 / 13" / secs)          |                                    |
| Maximum Speed (R)            | 720° / secs                                    |                                    |
| Work Load                    | 10 kg (22 lb)                                  |                                    |
| Tool Load                    | 5 kg (11 lb)                                   |                                    |
| Repeatability                | +/- 0.008 mm**                                 |                                    |
| Motion Control               | PTP & CP                                       |                                    |
| Drive System                 | 3-phase micro stepping motors                  |                                    |
| Data Memory                  | 1 - 100 programs   1 - 50,000 points / program |                                    |
| I/O Signals                  | 8 inputs / 8 outputs                           |                                    |
| External Interface           | USB / RS232                                    |                                    |
| Power Supply                 | Auto-switching AC 100 - 240 VAC, 320 watts     |                                    |
| Dimensions: (WxDxH)          | 740 x 717 x 659 mm (30 x 28 x 26")             | 740 x 717 x 916 mm (30 x 28 x 36") |
| Weight                       | 52 kg (115 lb)                                 | 56 kg (123 lb)                     |
| Approvals                    | CE, RoHS, WEE                                  |                                    |

\*\*Repeatability value will vary depending on measurement method.

### F4553N ADVANCE



### F4554N ADVANCE



## F5000 3-Axis Series Gantry Robots

The F5000 series robots are compact and cost-effective gantry style robots with all moving axes above the work piece. The Unitop™ design is suitable for dispense applications requiring a configuration that provides open access under the robot.

These robots are ideal for conveyor-fed automation lines or installed into automated work cells. They are also advantageous when component weight or size prevent a conventional benchtop robot from being used.

Programming and control can be carried out via teach pendant, RS232, or proprietary PC software (sold separately).



| Item Number | Description                |
|-------------|----------------------------|
| F5200N.2    | 3-Axis Inline Gantry Robot |
| F5300N.2    | 3-Axis Inline Gantry Robot |

### Features

- Compact and lightweight gantry-style design
- Work area up to 300 x 300 mm
- Axis repeatability 0.02 mm
- Durable linear belt drive system for industrial applications
- USB port for data transfer
- RS232 port for remote operation
- Modular connectivity interface

### Benefits

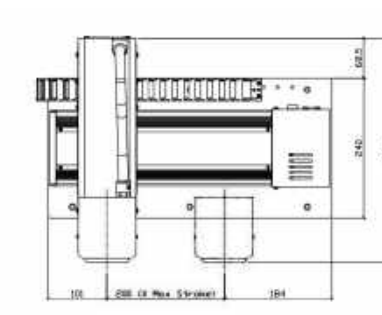
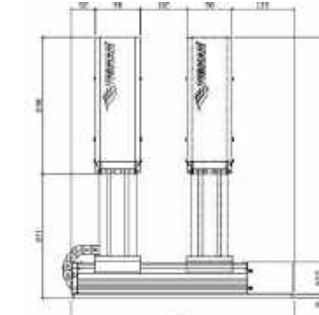
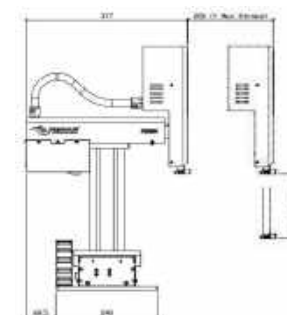
- Separate control box reduces robot footprint
- Separate control box allows robot to be used in vacuum chamber and glovebox work environments
- Open access under robot for dispensing onto oversize and heavy components
- Can be used as part of a conveyor-fed automation solution for increased throughput
- Proprietary offline robot PC software allows for basic programming, editing of robot programs plus a CAD import utility tool

## F5000 3-Axis Series Gantry Robots

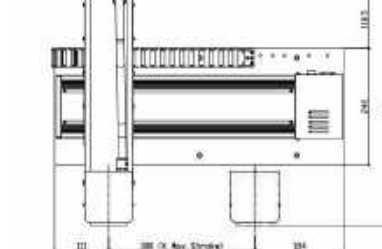
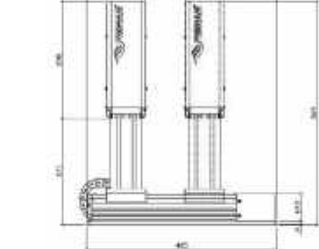
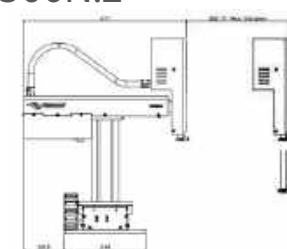
### Specifications

| Item Number                         | F5200N.2                                   | F5300N.2                                  |
|-------------------------------------|--|---|
| <b>Maximum Working Area (X/Y/Z)</b> | 200 x 200 x 150 mm<br>(8 x 8 x 6")         | 300 x 300 x 150 mm<br>(12 x 12 x 6")      |
| <b>Maximum Speed (X&amp;Y/Z)</b>    | 500 / 320 mm / secs (20 / 13" / secs)      |   |
| <b>Tool Load</b>                    | 2 kg (4.4 lb)                              |   |
| <b>Repeatability</b>                | +/- 0.02 mm / axis                         |   |
| <b>Resolution</b>                   | 0.001 mm / axis                            |   |
| <b>Motion Control</b>               | PTP & CP                                   |   |
| <b>Drive System</b>                 | Micro stepping motors                      |   |
| <b>Data Memory</b>                  | 1 - 100 programs   50,000 points / program |   |
| <b>I/O Signals</b>                  | 8 inputs / 8 outputs                       |   |
| <b>External Interface</b>           | USB / RS232                                |   |
| <b>Power Supply</b>                 | Auto-switching AC 100 - 240 VAC, 320 watts |   |
| <b>Dimensions (WxDxH)</b>           | 485 x 384 x 569 mm<br>(19 x 15 x 22.5")    | 595 x 483 x 569 mm<br>(23.5 x 19 x 22.5") |
| <b>Weight</b>                       | 25 kg (55 lb)                              | 28 kg (62 lb)                             |
| <b>Approvals</b>                    | CE, RoHS, WEE                              |   |

### F5200N.2



### F5300N.2





## F6000 ADVANCE Series Gantry Robots

The F6000 ADVANCE gantry robotic systems can be easily integrated with in-line industrial automation. Gantry industrial robots have all their axes above the work area making them ideal for large dispensing applications.

The modular connectivity design allows Fisnar CCD vision system, tip alignment, and height detect kits to be easily incorporated onto the robot for increased productivity and performance.

Programming and control can be carried out via teach pendant, RS232, or proprietary PC software (sold separately).



### Models

| Item Number        | Description                                       |
|--------------------|---|
| F6603N ADVANCE-110 | 3-Axis Gantry Robot<br>600x600x150 mm Work Area   |
| F6603N ADVANCE-220 | 3-Axis Gantry Robot<br>600x600x150 mm Work Area   |
| F6123N ADVANCE-110 | 3-Axis Gantry Robot<br>800x1,200x150 mm Work Area |
| F6123N ADVANCE-220 | 3-Axis Gantry Robot<br>800x1,200x150 mm Work Area |

### Features

- Work area up to 800 x 1,200 mm
- Axis repeatability +/- 0.02 mm
- 20 kg Z-axis payload
- Z-axis motor brake mechanism
- Dual linear guide and ball screw mechanism
- AC servo motor drive system with closed loop encoder feedback
- Modular connectivity interface

### Benefits

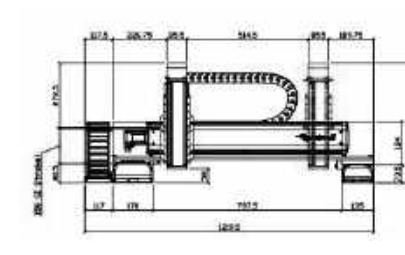
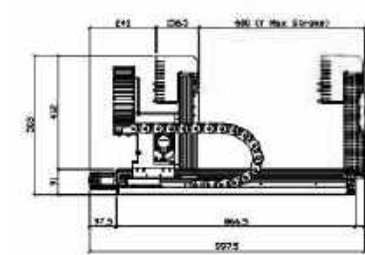
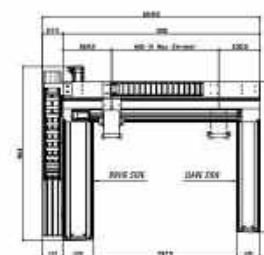
- Open access design for easy integration into conveyor-fed/inline automation lines
- Automating dispense applications on oversize and heavy components is possible due to unlimited workload
- Optional CCD camera vision system can be easily installed for easier programming & more precise dispense results
- Heavy duty rigid frame structure for use in industrious environments

## F6000 ADVANCE Series Gantry Robots

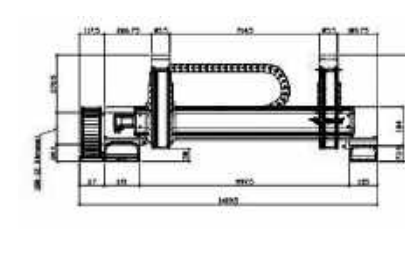
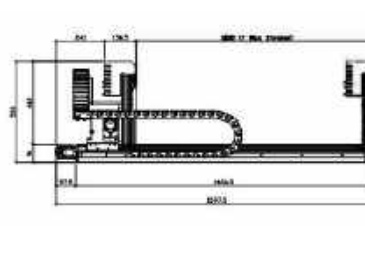
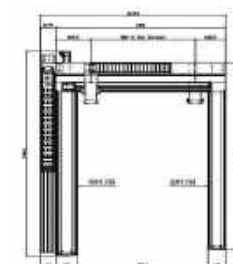
### Specifications

| Item Number                         | F6603N ADVANCE-110<br>F6603N ADVANCE-220   | F6123N ADVANCE-110<br>F6123N ADVANCE-220  |
|-------------------------------------|--|---|
| <b>Maximum Working Area (X/Y/Z)</b> | 600 x 600 x 150 mm<br>(24 x 24 x 6")   | 800 x 1,200 x 150 mm<br>(32 x 32 x 6")    |
| <b>Maximum Speed (X&amp;Y/Z)</b>    | 800 / 320 mm / secs  |   |
| <b>Tool Load</b>                    | 20 kg (44 lb)  |   |
| <b>Repeatability</b>                | +/- 0.02 mm  |   |
| <b>Drive Mechanism</b>              | Dual Linear Guide / Ball Screw   |   |
| <b>Drive System</b>                 | AC Servo Motor   |   |
| <b>Data Memory</b>                  | 1 - 100 programs   50,000 points / program   |   |
| <b>I/O Signals</b>                  | 8 inputs / 8 outputs   |   |
| <b>External Interface</b>           | USB / RS232  |   |
| <b>Power Supply</b>                 | 110 - 130 VAC (F6603N-110 & F6123N-110)<br>220 - 240 VAC (F6603N-220 & F6123N-220) |   |
| <b>Dimensions (WxDxH)</b>           | 1,220 x 957 x 682 mm<br>(48 x 38 x 27")  | 1,420 x 1,557 x 682 mm<br>(56 x 62 x 27") |
| <b>Weight</b>                       | 117 kg (258 lb)  | 162 kg (378 lb)                           |
| <b>Approvals</b>                    | CE, RoHS, WEE  |   |

### F6603N ADVANCE



### F6123N ADVANCE



## F8000 Series Gantry Robots

The F8000 series of robots are servo motor-driven, ball screw design, gantry robots. A heavy duty aluminum structure prevents flexing and vibration while maintaining functionality. Ideal for conveyor-fed applications.

Where applications require all moving axes to be above the workstation, the F8000 series provides the capability.



Custom robot sizes available upon request.

### Models

| Item Number | Description                               |
|-------------|---|
| F8100N      | 3-Axis Robot - 1,000x800x200 mm Work Area |
| F8104N      | 4-Axis Robot - 1,000x800x200 mm Work Area |
| F8800N      | 3-Axis Robot - 800x600x200 mm Work Area   |
| F8804N      | 4-Axis Robot - 800x600x200 mm Work Area   |

### Features

- AC servo motors
- Available in three and four axis models
- Repeatability of 0.02 mm
- Highly rigid frame structure
- Open access design for in-line operation
- 100 programs on board

### Specifications

| Item Number                    | F8100N Series  | F8800N Series  |
|--------------------------------|--|--|
| <b>Working Area (X/Y/Z)</b>    | 1,000 x 800 x 200 mm (+/- 360°)                                    | 800 x 600 x 200 mm (+/- 360°)                                    |
| <b>Maximum Tool Load (R)</b>   | 5 kg (11 lb)   |  |
| <b>Maximum Speed X&amp;Y/Z</b> | 1,000 & 500 mm / secs (360°)                                       |  |
| <b>Repeatability (R)</b>       | +/- 0.02 mm / axis (+/- 0.058 <sup>3</sup> )                       |  |
| <b>Resolution (R)</b>          | 0.001 mm (+/- 0.001°)  |  |
| <b>Data Memory</b>             | 100 programs / 20,000 steps / 20,000 points                        |  |
| <b>Drive System</b>            | AC servo motor   |  |
| <b>Motion Control</b>          | PTP & CP   |  |
| <b>System I/O, User I/O</b>    | 24 inputs / 6 outputs, 32 inputs / 6 outputs                       |  |
| <b>Dimensions (WxDxH)</b>      | 1,425 x 1,630 x 627 mm<br>(56 x 64 x 25")                          | 1,110 x 1,380 x 565 mm<br>(44 x 54 x 22")                        |
| <b>Weight</b>                  | F8100N: 115 kg, F8104N: 124 kg<br>(F8100N: 254 lb, F8104N: 273 lb) | F8800N: 72 kg, F8804N: 81 kg<br>(F8800N: 159 lb, F8804N: 179 lb) |

## F9000 Series Gantry Robots

The F9000 gantry robotic systems can be easily integrated with in-line industrial automation.

Gantry industrial robots have all their axes above the work area making them ideal for large dispensing applications and jobs requiring a fourth axis, such as when using a spray valve.

These robots can be manufactured to accommodate custom sizes up to 8 m x 6 m.



Custom robot sizes available upon request.

### Models

| Item Number | Description                             |
|-------------|---|
| F9300N      | 3-Axis Robot - 300x300x200 mm Work Area |
| F9304N      | 4-Axis Robot - 300x300x200 mm Work Area |
| F9600N      | 3-Axis Robot - 600x600x200 mm Work Area |
| F9604N      | 4-Axis Robot - 600x600x200 mm Work Area |
| F9800N      | 3-Axis Robot - 800x600x200 mm Work Area |
| F9804N      | 4-Axis Robot - 800x600x200 mm Work Area |

### Features

- AC servo motors
- Available in three and four axis models
- Repeatability of 0.02 mm
- Highly rigid frame structure
- Open access design for in-line operation
- 100 programs on board

### Specifications

| Item Number                        | F9300N Series                                 | F9600N Series                           | F9800N Series                             |
|------------------------------------|---|---|---|
| <b>Working Area (X/Y/Z)</b>        | 300 x 300 x 200 mm<br>(+/- 360°)              | 600 x 600 x 200 mm<br>(+/- 360°)        | 800 x 600 x 200 mm<br>(+/- 360°)          |
| <b>Maximum Speed X&amp;Y/Z (R)</b> | 1,000 & 500 mm / secs (360°/secs)             |   |   |
| <b>Maximum Tool Load (R)</b>       | 7 kg (15 lb)                                  |   |   |
| <b>Resolution (R)</b>              | 0.001 mm (+/- 0.001°)                         |   |   |
| <b>Data Memory</b>                 | 100 programs / 20,000 steps / 20,000 points   |   |   |
| <b>System I/O, User I/O</b>        | 24 inputs / 6 outputs, 32 inputs / 32 outputs |   |   |
| <b>External Interface</b>          | USB / RS232                                   |   |   |
| <b>Power Supply</b>                | 220 - 240 VAC                                 |   |   |
| <b>Dimensions (WxDxH)</b>          | 679 x 696 x 505 mm<br>(27 x 27 x 20")         | 979 x 1,022 x 505 mm<br>(39 x 40 x 20") | 1,179 x 1,022 x 505 mm<br>(46 x 40 x 20") |
| <b>Weight</b>                      | 29 kg (64 lb)                                 | 37 kg (81 lb)                           | 43 kg (95 lb)                             |



## CCD Camera Vision System

A powerful and intelligent CCD vision programming and auto adjustment system for creating both simple and complex dispense routines. This results in improved quality due to precise dispense positioning alongside improved production yield and reduced processing time and costs.

Dispense programs are created quickly and easily in the Fisnar proprietary vision-controlled Fluid-In-Motion (FIM) software by using the displayed camera image to jog the robot to the exact required dispense location, and then selecting the operation wished to be carried out (dispense dot, line start, etc).

Vision system software is supplied with an auto-part alignment function to guarantee fluid is being dispensed at the exact required location. This is achieved by the system capturing an image of two separate fiducial locations on the component and using pattern recognition software to compare the live image against a stored image. Any difference found in X or Y position results in the dispense coordinates being automatically adjusted to suit.

Dispense positional accuracy and repeatability is further optimized by the simple auto-calibration routine and part alignment function.



### Item Number

F4000AKIT-VISION

F6000AKIT-VISION

## Features

- Auto 3-axis tip calibration function
- Auxillary camera to monitor dispense process live
- High resolution CCD camera
- LED Light & Brightness Controller
- Simple & fast transfer of CAD data (.DXF/Gerber) into software
- Quick set up, easy to program/operate using proprietary software
- Industrial Windows based PC system included
- Glue check/verification function\*

## Benefits

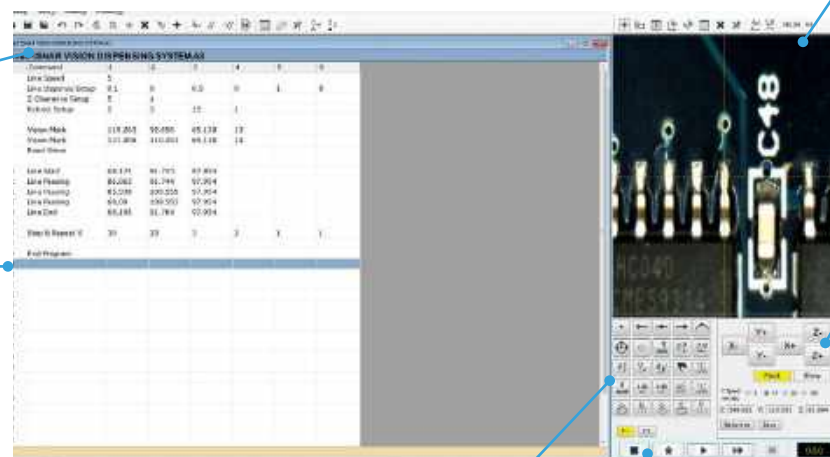
- Vision system can be easily installed at any time onto a F4000 or F6000 ADVANCE 3-axis robot
- Plug and play system design
- Peripheral hardware is mounted directly onto robot reducing space envelope taken up
- Images can be captured and stored for quality and process control purposes
- QR codes can be scanned by the camera, causing the relating program to be automatically selected

## Proprietary User Interface

For simple user setup, programming, and operation.

**Tool Ribbon**  
Used for quickly accessing program setup and management functions.

**Programming Window**  
Gives full and simple view of complete dispense program. Values can be edited directly by clicking on the line.



**Camera Display**  
Real time view of camera viewing area. Cross hair designates dispense location to ensure precise positional control. Clicking on imaging area will jog robot to position clicked on.

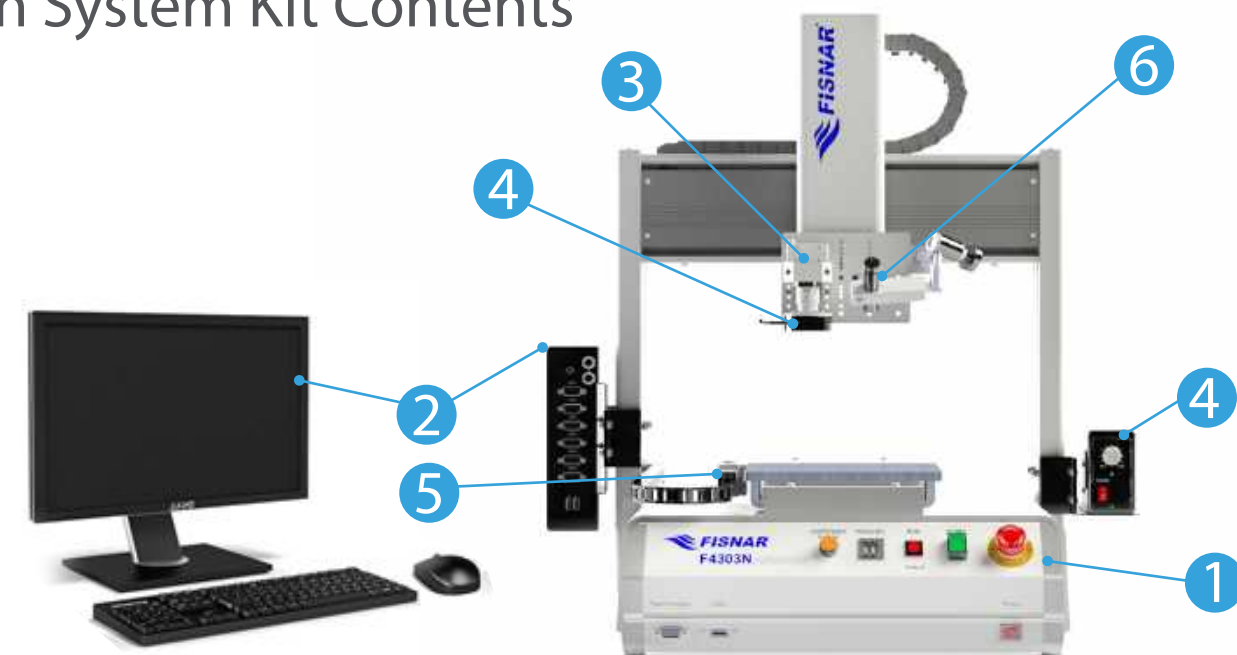
**Robot Movement**  
Icons used to control robot movement and speed while also displaying absolute/relative dispense coordinates.

**Dispense Function**  
Graphical icons used for quick robot programming.

**Robot Actuation**  
Icons used to start, stop, and view robot program.

\*Glue check function not suitable for all applications. To be certified by Fisnar application team.

## Vision System Kit Contents



\*Height sensor sold separately

### 1 F4000 ADVANCE Benchtop Robot

Highly robust and durable based on their cast aluminium base and heavy duty extruded aluminum twin vertical side pillars supporting the horizontal X-axis. This rigid design concept allows for long term precision dispensing and dependable repeatability.

### 2 PC

Industrial specification PC installed with Windows 7 and Fluid-In-Motion (FIM) software ready to use. Unit mounted directly onto robot to reduce overall space envelope. TFT LCD monitor, keyboard, and mouse included.

### 3 CCD Camera

For high resolution color and grayscale image capturing.

### 4 LED Ring Light & Controller

For optimizing image contrast and definition. Adjustable light brightness controller is mounted directly onto the robot to reduce the overall space envelope.

### 5 Tip Calibration Module

Works by the camera capturing an image of the purged fluid and uses pattern recognition to compare it against a pre-defined datum image. Any difference found between the center positions result in the X and Y coordinate values being automatically adjusted and dispense program re-aligning to suit. The Z-axis is automatically calibrated by the dispense tip contacting a touch pad.

### 6 Aux Camera

Displays a live image on the TFT LCD monitor allowing the user to clearly monitor the fluid being dispensed onto the component part while a dispense cycle is taking place.

## Mechanical Tip Alignment

The TA360U-KIT is a mechanical tip adjustment kit allowing the mounting hardware attached to the robot to be mechanically adjusted in the X, Y, and Z axis.

The TA360U-KIT allows the dispense tip to be quickly and easily adjusted by re-aligning it to a known location of the robot program.

Re-alignment can be carried out remotely to the program and adjustments can be easily made by users not trained in robot programming.



Item Number

TA360U-KIT

## Automatic Tip Alignment

A series of tip alignment modules designed for precise dispensing applications that require frequent material or tip changes, which could alter the position of the dispensing needle.

With the tip alignment module installed, the user can simply run a function on the robot that will automatically offset the program based on the new dispense tip position. This ensures consistent dispense results and minimal production downtime.

This functionality can also be run through an external control making it simple for use in a production environment.



| Item Number   | Description  |
|---------------|--|
| TA4200N.2     | Tip Alignment Module for F4200N.2 & F5000N.2 Robots  |
| F4000AKIT-TA3 | Tip Alignment Module for F4000 ADVANCE 3-Axis Robots |
| F4000AKIT-TA4 | Tip Alignment Module for F4000 ADVANCE 4-Axis Robots |
| F6000AKIT-TA3 | Tip Alignment Module for F6000 ADVANCE 3-Axis Robots |
| TA9000N       | Tip Alignment Module for F8000 & F9000 3-Axis Robots |

## Auxiliary Rotation Axis

The Auxiliary Rotation Module allows an additional axis to be quickly and easily mounted onto a F4000 ADVANCE 3-axis robot. Mounting options:

**Horizontal Mounting:** When 4-axis (R) rotation is required but not possible due to size or weight of the dispense equipment that is normally attached to the robot Z-axis that typically rotates on a conventional 4-axis robot. With this configuration the workpiece rotates instead, achieving the same end result. Horizontal mounting allows the CCD vision system to be used in applications requiring 4-axis motion.

**Vertical Mounting:** For applications that require dispensing onto multiple planes on a single workpiece. Dispensing onto cylindrical components can be made easy with the device mounted in either a horizontal or vertical position depending on the specific application process.



Item Number

F4000AKIT-AUX

## Height Sensor

The height sensor automatically adjusts the dispense tip height in the event of any variation of the height of workpiece being dispensed upon. Setup and programming of the height sensor is carried out by following a user friendly step-by-step procedure pre-installed onto the robot software.

By comparing the actual workpiece height against the original stored datum value in the robot program, any deviation found in the workpiece height results in the Z-axis coordinate data being automatically offset accordingly. Multiple height checks can be made within one robot program in the event of multiple workpieces being processed or a single workpiece with differing heights.



Item Number

F4000AKIT-HDS

F6000AKIT-HDS

## I/O Expansion Module

The I/O expansion module increases the number of inputs and outputs while simplifying connection of external devices (e.g. sensors) to the robot.

The I/O expansion module increases the number of robot inputs to 16 channels and outputs to 20 channels. Two different models (NPN or PNP) are available depending on the I/O signal type of the external devices. The use of this device also prevents any damage caused to the PCB inside the robot due to incorrect wiring or failure of the external device.

| Item Number     | Description                       |
|-----------------|-----------------------------------|
| F4000AKIT-IONPN | I/O Expansion Module - NPN Signal |
| F4000AKIT-IOPNP | I/O Expansion Module - PNP Signal |



## Remote Operation Box

The remote operation box allows users to operate the robot from a safe distance or in instances when the robot is housed within a safety enclosure.

A version is also available with a safety relay (Category 3, PL d) incorporated directly inside allowing a light curtain or safety switch to be easily connected to the control box. This eliminates the need for additional cost for an unnecessary electrical control panel to be fitted.

| Item Number         | Description                            |
|---------------------|--|
| F4000AKIT-EXTBOX    | Remote Operation Box                   |
| F4000AKIT-EXTBOX-SR | Remote Operation Box with Safety Relay |





## Robot Accessories Compatibility Chart

| Robots         | Accessories      |                  |            |           |               |               |               |         |               |               |               |                 |                 |
|----------------|------------------|------------------|------------|-----------|---------------|---------------|---------------|---------|---------------|---------------|---------------|-----------------|-----------------|
|                | F4000AKIT-VISION | F6000AKIT-VISION | TA360U-KIT | TA4200N.2 | F4000AKIT-TA3 | F4000AKIT-TA4 | F6000AKIT-TA3 | TA9000N | F4000AKIT-AUX | F4000AKIT-HDS | F6000AKIT-HDS | F4000AKIT-IONPN | F4000AKIT-IOPNP |
| F1300N         |                  |                  | •          |           |               |               |               |         |               |               |               | •               | •               |
| F4200N.2       |                  |                  | •          | •         |               |               |               |         |               |               |               | •               | •               |
| F5200N.2       |                  |                  | •          |           |               |               | •             |         |               |               | •             | •               | •               |
| F5300N.2       |                  |                  | •          |           |               |               | •             |         |               |               | •             | •               | •               |
| F4303N ADVANCE | •                |                  | •          |           | •             |               |               |         | •             | •             |               | •               | •               |
| F4403N ADVANCE | •                |                  | •          |           | •             |               |               |         | •             | •             |               | •               | •               |
| F4503N ADVANCE | •                |                  | •          |           | •             |               |               |         | •             | •             |               | •               | •               |
| F4603N ADVANCE | •                |                  | •          |           | •             |               |               |         | •             | •             |               | •               | •               |
| F4304N ADVANCE |                  |                  |            |           |               | •             |               |         |               | •             |               | •               | •               |
| F4404N ADVANCE |                  |                  |            |           |               | •             |               |         |               | •             |               | •               | •               |
| F4504N ADVANCE |                  |                  |            |           |               | •             |               |         |               | •             |               | •               | •               |
| F4604N ADVANCE |                  |                  |            |           |               | •             |               |         |               | •             |               | •               | •               |
| F4505N ADVANCE |                  |                  |            |           |               |               |               |         |               |               |               | •               | •               |
| F4553N ADVANCE |                  |                  | •          |           | •             |               |               |         |               |               |               | •               | •               |
| F4554N ADVANCE |                  |                  |            |           |               | •             |               |         |               |               |               | •               | •               |
| F4303N ELITE   |                  |                  |            |           |               |               |               |         |               |               |               | •               | •               |
| F4403N ELITE   |                  |                  |            |           |               |               |               |         |               |               |               | •               | •               |
| F6603N ADVANCE | •                | •                |            |           |               |               | •             |         |               |               | •             | •               | •               |
| F6123N ADVANCE | •                | •                |            |           |               |               | •             |         |               |               | •             | •               | •               |
| F8000 SERIES   |                  |                  |            |           |               |               |               | •       |               |               |               |                 |                 |
| F9000 SERIES   |                  |                  |            |           |               |               |               | •       |               |               |               |                 |                 |





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