

# LOCTITE®



## The Equipment Sourcebook



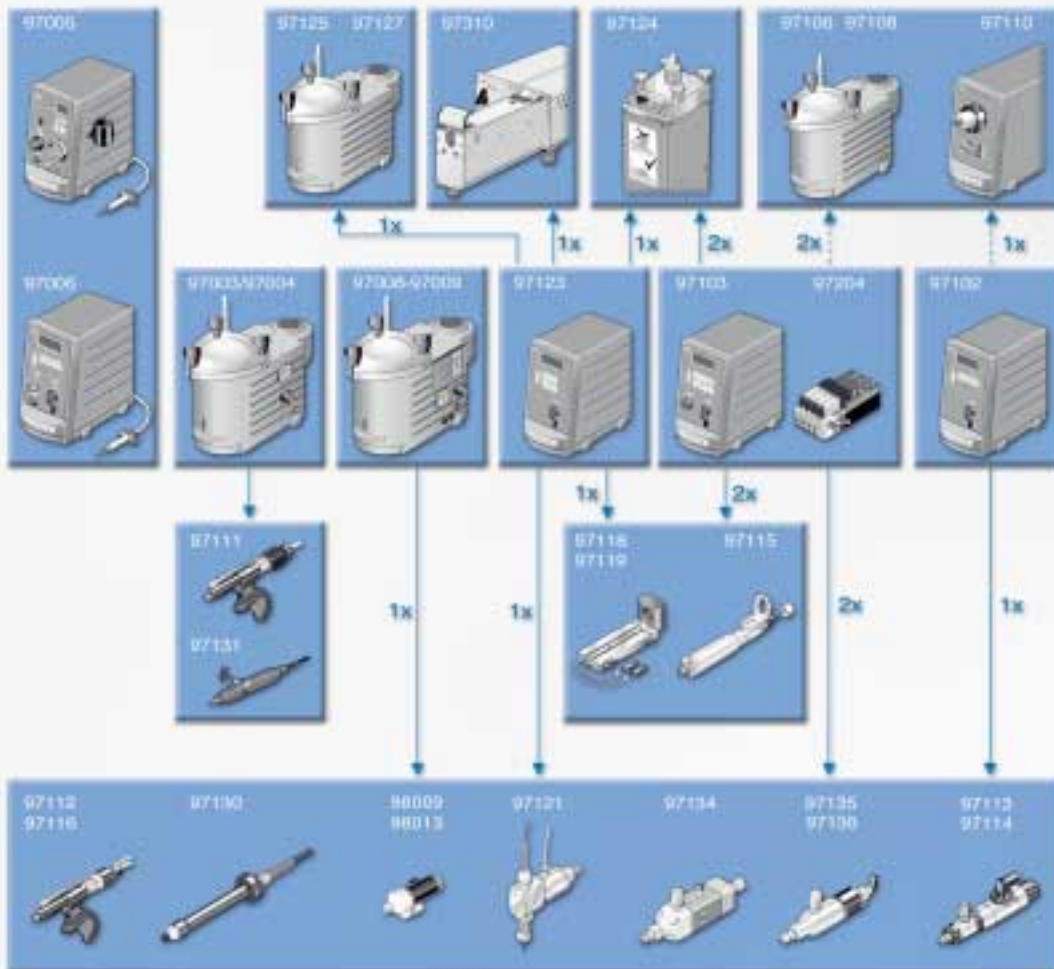


# The Equipment Sourcebook

Loctite® products are used for a wide variety of bonding, thread locking, retaining, gasketing and sealing applications. For some jobs it is sufficient to dispense product directly from the bottle or tube onto the surfaces to be joined. In other cases, however, more precise and automated dispensing is required.

To meet this need, Henkel Loctite has developed equipment especially designed to make application of Loctite® products economical, fast, precise and clean. Henkel Loctite's equipment technology enables our customers to apply beads, drops or continuous rings of adhesives, and spray, spin and screen print chemical sealants.

Henkel Loctite provides a complete line of dispensing equipment, ranging from simple hand-held dispensers to fully automated systems. Henkel Loctite also provides ultraviolet curing system to suit customer application curing needs. In addition to the standard equipment available, Henkel Loctite can design and build equipments based upon customers requirements to provide unique application solutions.



— Single tube connection

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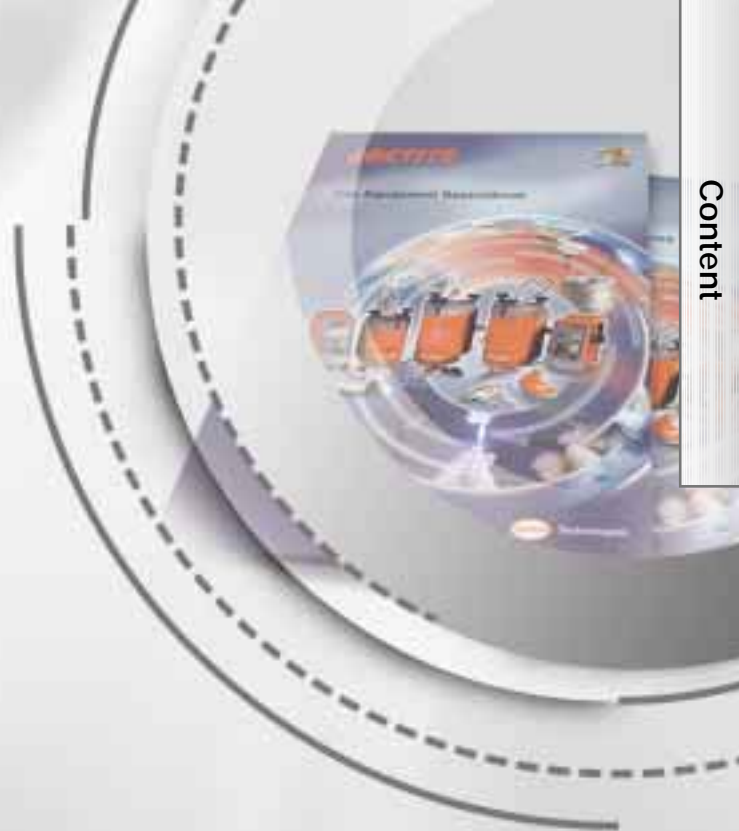
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# Dispensing

## Integrated Dispensing Systems

Loctite® Integrated Dispensing Systems are designed to offer the total package for fluid delivery.

Every time you use a Loctite® adhesive product, these systems are ready for immediate operation and offer the manufacturing flexibility and reliability you're looking for.

Selection of a Loctite® Integrated Dispensing System is based on the product being used, package size, and process requirements.

	Analogue Syringe Dispensing System	Digital Syringe Dispensing System	Integr. Manual Dispensing System 2 l Reservoir (1 bar)	Integr. Manual Dispensing System 2 l Reservoir (7 bar)	Integrated Semi-Automatic Dispensing System	Integrated Semi-Automatic Dispensing System with Low Level Sensor
						

Item #	97005	97006	97003	97004	97008	97009
Page Reference	3	3	4	4	5	5
Package Types and Sizes	10 ml & 30 ml syringes	10 ml & 30 ml syringes	250 ml bottle, 500 g bottle, 1 l bottle, 2 kg bottle	250 ml bottle, 500 g bottle, 1 l bottle, 2 kg bottle	250 ml bottle, 500 g bottle, 1 l bottle, 2 kg bottle	250 ml bottle, 500 g bottle, 1 l bottle, 2 kg bottle
Pressure Range [bar]	0.2-7	0.1-7	0.1-1	0.3-7	0.1-4	0.1-4

# Analogue Syringe Dispensing System

Item 97005

The Analogue Syringe Dispense System is a semi-automatic dispensing system for fluids and pastes directly from 10 or 30 ml syringes. It is intended for dispensing either dots, drops, or beads. Syringe dispensing offers quick and easy set up and clean up, resulting in minimal downtime. The use of pre-filled syringes offers additional online production ease and convenience.

## Technical Specifications

- Power Supply: 90–260 VAC; 47–63 Hz
- Air Input: 2–12 bar (30–175 psi), filtered to a maximum of 10 microns
- Air Output: 0.2–7 bar (3–100 psi)
- Vacuum Range: 0–1 bar (1–15 psi)
- Dimensions (W x H x D): 145 x 230 x 260 mm (5.7" x 9" x 10.2")
- Weight: 3.0 kg

## List of Parts Supplied

- |                        |                       |                           |
|------------------------|-----------------------|---------------------------|
| (1) Foot Switch        | (1) Clear Syringe Kit | (1) Syringe Accessory Kit |
| (1) Needle Variety Kit | (1) Air-Line Adapter  | (1) Power Cord            |
| (1) Black Syringe      | (1) Operating Manual  |                           |

## Theory of Operation

The system is a pressure-time-vacuum dispense system. It consists of a plastic disposable syringe filled with product, an air regulator and pressure gauge to control pressure, and an electrical timing circuit to control the dispense cycle. The vacuum suck-back feature allows the operator to control stringing and dripping between dispense cycles. When the dispense cycle is initiated by pressing the foot switch, a pulse of air, either timed or manually controlled, is transmitted to the top of the syringe barrel. This pushes a metered amount of product out of the dispense tip attached to the syringe. The amount of product dispensed is controlled by the amount of pressure applied to the product, the length of the dispense cycle, the size of the dispense needle, product viscosity, and temperature.

## Typical Fluids Handled

Any product packaged in a 10 ml or 30 ml syringe or suitable for decanting into empty syringes.



## Features

- Adjustable pressure regulator from 0.2–7 bar (3–100 psi).
- Timer Range 0.4–99.9.
- Timed and continuous.
- Vacuum suck-back feature to prevent dripping.
- Requires minimal bench space.

# Digital Syringe Dispensing System

Item 97006

The Digital Syringe Dispensing System offers the ultimate in process control. Both digital pressure and time control make this one of the most advanced dispensing systems available, allowing precise deposits to be made and minimising air pressure fluctuation during the dispense cycle. This system also contains an audible pressure alarm, anti-drip vacuum suck back and a stand-up design that ensures minimal foot print. It accurately dispenses adhesives or other fluids with viscosities ranging from water-thin to paste-like consistencies for a variety of assembly and repair applications. This system is effective at delivering precise dots of adhesive in a timed mode, or can be used for dispensing or potting, in a continuous mode. Typical applications are the assembly of electrical components, wire tacking, circuit board repair, and the locking of fasteners.

## Technical Specifications

- Power Supply: 90–260 VAC; 47–63 Hz
- Air Input: 2–12 bar (30–175 psi), filtered to a maximum of 10 microns
- Air Output: 0.1–7 bar (1–100 psi)
- Vacuum Range: 0–1 bar (0–15 psi)
- Dimensions (W x H x D): 145 x 230 x 260 mm (5.7" x 9" x 10.2")
- Weight: 3.0 kg

## List of Parts Supplied

- |                        |                       |                           |
|------------------------|-----------------------|---------------------------|
| (1) Foot Switch        | (1) Clear Syringe Kit | (1) Syringe Accessory Kit |
| (1) Needle Variety Kit | (1) Air-Line Adapter  | (1) Power Cord            |
| (1) Black Syringe      | (1) Syringe Holder    | (1) Operating Manual      |

## Theory of Operation

The Digital Syringe Dispensing System precisely regulates the air pressure applied to an adhesive or fluid contained within a 10 or 30 ml syringe. During idle time an adjustable vacuum is applied to the syringe barrel, preventing the adhesive or fluid from dripping from the needle. The system will automatically detect pressure fluctuations greater than 10% from the set pressure and alert the operator. This condition must be corrected before another dispense cycle can occur, ensuring the precise amount of adhesive or fluid is dispensed each time.

## Typical Fluids Handled

Any fluid products packaged in a 10 ml or 30 ml syringe or suitable for decanting into empty syringes.



## Features

- Precision air pressure regulator for precise application of small dots.
- Digital display of dispense pressure 0.1–7 bar (1–100 psi).
- Digital timer display, for precise timer settings, range 0.01–99.9 s.
- Vacuum suck-back feature to prevent dripping during idle time.
- "Stand-up" design, requires minimal bench space.
- Quick pressure setup feature.
- Process monitoring – air pressure sensor detects  $\pm 10\%$  variation from set pressure and alerts operator if detected.
- Operates in a timed or continuous mode.

## Items 97003 97004

# Integrated Manual Dispensing System



### Features

- Improves dispensing control, eliminates waste and reduces operator fatigue.
- Easy to read pressure gauge.
- Adjustable pressure regulator.

The Integrated Manual Controlled Dispensing System has been designed for applying precise beads, potting and "by-eye" deposits. These dispensing systems are reliable, low cost pneumatic systems for dispensing single-component adhesives. Each system includes a 2 litre pressure reservoir that is designed for use with hand-held applicators. These units have 0.1–1 bar (1–15 psi) (97003) or 0.3–8 bar (4–116 psi) (97004) pressure regulators, suitable for low viscosity (<3000 mPas) and high viscosity (>3000 mPas) fluids, respectively. The reservoirs accommodate all Loctite® bottles in 250 ml, 500 g, 1 litre, and 2 kg packages.

### Technical Specifications

- Air Input: max. 8 bar (116 psi), filtered to a maximum of 10 microns
- Air Output: 97003: 0.1–1 bar (1–15 psi),  
97004: 0.3–7 bar (4–110 psi)
- Max. distance from system to dispense point: 2 m (80")
- Dimensions (W x H x D): 360 x 335 x 235 mm (14.2" x 13.2" x 9.2")
- Weight: 6.5 kg

### List of Parts Supplied

- (1) Reservoir with Tank Fitting
- (1) Tube of Silicone Grease
- (3) Drip cups
- (1) Operating Manual

### Theory of Operation

Operation of this unit is easy. An operator will place a bottle of product in the reservoir and tighten the three handles on the lid. The unit is then pressurised to the appropriate setting for optimal flow control. The product is dispensed through a hand-held applicator, which when depressed, allows material to flow. A fully depressed finger switch maximises flow. By adjusting the flow screw on the finger switch, a consistent flow can be set for repeatable dispensing.

### Typical Fluids Handled

Cyanoacrylate Adhesives, Silicone Adhesives, Light Cure Adhesives, Anaerobic Adhesives

## Selector Charts

System	Viscosity Range (mPas)	Item #
Integrated Manual Dispensing System	0 - 1 500	97003
	1 000 - 10 000	97004
Hand-held Applicator	0 - 1000	97131
	500 - 5 000	97111
	5 000 - 25 000	97111 + 97220

Accessories	Item #
Airline filter / regulator	97120
Feedline kit 3/8" for high viscosity, high flow applications	97220
Applicator holder	97206

# Integrated Semi-Automatic Dispensing System

Items 97008  
97009

The Semi-Automatic dispenser combines both a controller and reservoir into a single unit. The controller provides digital timing control for any Loctite® automatic dispense valve or pneumatic hand-held applicator. Dispense time within the range 0.1-99.9 seconds is available. The controller can be actuated either by a footswitch or fingerswitch. It is also capable of operating in a continuous mode for bead dispensing applications. The reservoir will accommodate 50 ml, 250 ml, 500 g, 1 litre, and 2 kg packages.

## Technical Specifications

- Power Supply: 90–260 VAC; 47-63 Hz
- Power Consumption: 25 W
- Air Input: min 5 bar (70 psi), max. 10 bar (145 psi), filtered to a maximum of 10 microns
- Air Output: 0.1–4 bar (3–60 psi)
- Dimensions (W x H x D): 360 x 335 x 235 mm (14.2" x 13.2" x 9.2")
- Weight: 7.5 kg

## List of Parts Supplied

- |                          |  |               |
|--------------------------|--|---------------|
| (1) Reservoir/controller | (1) Tube of silicone grease            | (3) Drip cups |
| (1) Power Cord           | (1) Bottle nesting basket (97009 only) |               |
| (1) Operating Manual     |  |               |

## Theory of Operation

The semi-automatic Dispensing System is required to be connected to an external electrical and pneumatic supply. It regulates the dispensing pressure and controls the dispensing time. An uncovered bottle of Loctite® product is placed directly into the integrated reservoir and the reservoir lid is clamped in place. It is then pressurised using clean, filtered dry air. Air within the reservoir will push down on the liquid in the bottle and force it through the product feedline to the dispensing valve. The amount of product dispensed is controlled by three main factors: Amount of pressure in the reservoir, length of time the dispensing valve remains open and the dispensing needle size.

97009 only: The indication „empty“ appears as blinking text „\_U\_“ on the digital display of the controller. In addition it is signaled by an audible alarm.

Additional features available: external connection for empty and ready signal. The EMPTY signal is analysed by the internal controller. Additionally there is a relay contact for READY signal (end-of-cycle). Both signals are available as volt-free. These can be connected to a higher ranking controller or a warning light.

A higher ranking controller has to process the Empty-signal in a way, that prevents further dispensing cycles to be initiated.



## Features

- Integrated design for simple setup and space economy.
- Equipped with precision pressure regulator 0.1–4 bar for reliable dispensing, eliminating air pressure fluctuation.
- Matching pressure gauge 0–4 bar.
- Separate switches for electric and pneumatic on/off-switching.
- Timer-controlled solenoid valve for air-actuated applicator.
- Level sensor to give empty warning (97009).

## Selector Charts

System Components	Description	Item #
Integrated Semi-automatic Tank/Controller	without low level sensing	97008
	with low level sensing	97009

Accessories	Item #
Footswitch	97201
Airline filter / regulator	97120













# Dispensing

## Controllers and Reservoirs

Loctite® Controllers and Reservoirs can be used with a selection of Loctite® parts and accessories to create a complete customised dispensing system, designed to meet your specific needs and manufacturing goals.

Selection of a Loctite® Controller and Reservoir is based on the Loctite® adhesive or fluid being used, the package or container the adhesive or fluid is supplied in, and the overall requirements of the manufacturing process.

	0,5 l Reservoir Analogue/Digital Low Level Sensor	2 l Reservoir with Analogue Low Level Sensor	300 ml Cartridge Reservoir	2 l Bag Dispenser
				
Item #	97106/97125	97108	97110	97124
Page Reference	7	7	8	8
Package Types and Sizes	250 ml bottle, 500 g bottle	250 ml bottle, 500 g bottle, 1 l bottle, 2 kg bottle	300 ml plastic cartridge	2 kg Bag-in-box
Pressure Range [bar]	0 – 8	0 – 8	0 – 4	0 – 4

	Semi-Automatic Controller	Single-Channel Automatic Controller	Dual-Channel Automatic Controller	Solenoid Valve Module	Rotorspray	Advancing Slides
						
Item #	97102	97123	97103	97204	97115	97118/97119
Page Reference	9	9	10	10	11	11
Pressure Range [bar]	0.1 – 7	0.1 – 7	0.1 – 7	2 – 8	N/A	2 – 8



## 0.5 Litre Reservoirs

Items 97106  
97125

This Reservoir is equipped with a pneumatic connection for feedback control and simple setup with semi-automatic controller (97102), single channel Controller (97123), Dual Channel Controller (97103).

### Technical Specifications

- Air Input: 0–8 bar (0–116 psi), filtered to a maximum of 10 microns
- Dimensions (W x H x D): 170 x 255 x 315 mm (6.7" x 10" x 12.4")
- Weight: 3.75 kg

### List of Parts Supplied

- |                                 |                          |                           |
|---------------------------------|--------------------------|---------------------------|
| (1) 0.5 litre Product Reservoir | (1) Pneumatic Tubing Set | (1) Tank Cord (2 m) 97213 |
| (3) Drip cups                   | (1) Operating Manual     |                           |

### Equipment 97106:

- Coaxial pneumatic connection for feedback control and simple setup with 97102 and 97103.
- Integrated solenoid venting valve.
- Product low level display, clear view to operator (analogue).
- Empty and Refill signal for process control.
- Product low level display, clear view to operator or signal for process control.

### Equipment 97125:

- Single pneumatic feedline for simple setup with 97123.
- Empty signal for process control (digital).

### Selector Chart

Reservoirs/Spare Parts	Item #
0.5 litre product reservoir with „refill“ and „empty“ indications/signals	97106
0.5 litre product reservoir with „empty“ indication/signal	97125
0.5 litre product reservoir spare part kit (O-rings, handles, dripcups)	97250
Rupture Disc	97251
Tank Cord, 2 m	97213



### Features

- Reservoir lid holder with drip tray, eliminates feed line contamination when changing product container.
- Operational with semi-automatic and automatic controllers, provides customer flexibility when choosing process method.
- Product low level sensor to prevent air entrapment.
- Pressure safety rupture disc.

## 2 Litre Reservoir

Item 97108

This Reservoir is equipped with a coaxial pneumatic connection for feedback control and simple setup with semi-automatic controller (97102), single channel Controller (97123), Dual Channel Controller (97103) and an Integrated solenoid venting valve.

### Technical Specifications

- Air Input: 0–8 bar (0–116 psi), filtered to a maximum of 10 microns
- Dimensions (W x H x D): 205 x 335 x 360 mm (8.1" x 13.2" x 14.2")
- Weight: 6.5 kg

### List of Parts Supplied

- |                                 |                          |                          |
|---------------------------------|--------------------------|--------------------------|
| (1) 2 litre Product Reservoir   | (1) Pneumatic Tubing Set | (1) Tank Cord (2m) 97213 |
| (1) Bottle Nesting Basket 97202 | (3) Drip cups            | (1) Operating Manual     |

### Selector Chart

Reservoirs/Accessories	Item #
2 litre product reservoir with „refill“ and „empty“ indications/signals	97108
2 litre product reservoir spare part kit (O-rings, handles, dripcups)	97253
Rupture Disc	97251
Tank Cord, 2 m	97213
Bottle Nesting Basket	97202



### Features

- Reservoir lid holder with drip tray, eliminates feed line contamination threat when changing product container.
- Operational with semi-automatic and automatic controllers, provides customer flexibility when choosing process method.
- Product low level sensor to prevent air entrapment.
- Product low level display, clear view to operator or signal for process control.

## Item 97110

## 300 ml Cartridge Reservoir



### Features

- Adaptable to semi-automatic and automatic Loctite® Controllers to build required dispensing systems.
- Integral Forward/backward/off switch, allows operator control at product location.
- Ram Style product pressurizing.
- Front end loading allows easy cartridge changes.
- Product low level sensing with display of refill and empty signal.

The 300 ml Cartridge Reservoir is designed to dispense Loctite® Adhesives packaged in 300 ml plastic cartridges for reliable industrial use. The Cartridge Reservoir is used – in conjunction with an appropriate valve controller, e.g. 97102, 97103 or 97123 – with various Loctite® Dispensing Valves.

### Technical Specifications

- Pneumatic Supply: min. 2–max. 3.5 bar (30–50 psi), filtered to a maximum of 30 microns
- Over-pressure Valve: Preset to 4 bar (58 psi)
- Dimensions (W x H x D): 145 x 230 x 640 mm (5.7" x 9" x 25")
- Weight: 8.6 kg

### List of Parts Supplied

- |   |                          |
|---|--------------------------|
| (1) 300 ml Cartridge Reservoir with Level Sensing | (1) Pneumatic Tubing Set |
| (1) Tank Cord (2m) 97213                          | (1) Operating Manual     |

### Theory of Operation

A 300 ml Cartridge of Loctite® Adhesives is loaded into the sleeve of the reservoir, and then subsequently pressurised from a Loctite® Controller. The piston of the pneumatic cylinder presses the product out of the cartridge and forces it through the product feedline to the dispensing valve. The Cartridge Reservoir is pressurised automatically when the Controller is switched on and de-pressurised automatically when it is switched off. The indications „refill“ or „empty“ are visible on the LED's and also appear as blinking text on the digital display of the Controller.

### Selector Chart

Accessories and Spare Parts	Item #
Cartridge Connection Adapter	97255
Tank Cord, 2 m	97213

## Item 97124

## 2 Litre Bag Dispenser



### Features

- The bag package is ideal for anaerobics because of its highly permeable walls and its shallow profile.
- There is less packaging material to be disposed. The box can be recycled and the bag is very small when empty.
- Clean operation without risk of contamination.
- Operational with semi-automatic and automatic controllers, provides customer flexibility when choosing process method.
- Product low level sensors for “refill” and “empty” signal to prevent air entrapment.
- Pressure control feedback by dual feedline connectors.

The Bag Reservoir 97124 is designed for the original Loctite® 2 kg anaerobic bag-in-box-package. It can be used preferably in conjunction with Controller 97123, but also with models 97102, or 97103 for supplying Loctite® products to a dispensing valve.

### Technical Specifications

- Air Input: 4–8 bar (60–116 psi), filtered to a maximum of 30 microns
- Dimensions (W x H x D): 185 x 689 x 230 mm (7.3" x 27.1" x 9")
- Weight: 13 kg

### List of Parts Supplied

- |                          |                          |
|--------------------------|--------------------------|
| (1) Product Reservoir    | (1) Pneumatic Tubing Set |
| (1) Tank Cord (2m) 97213 | (1) Operating Manual     |

### Theory of Operation

After loading a 2 litre bag into the reservoir, it is pressurised from a Loctite® Controller using clear, dry air. The air pressure in the vessel presses the product out of the bag package without mechanical stress. The dispensing pressure (regulated air from the controller) squeezes the bag and transports the product through the piercing element, the product fitting and the feedline to the dispensing valve. An integrated pneumatic cylinder presses a pusher plate against the bag in a controlled way. This action avoids twisting and closing of the bag.

When the package is empty, a beeping tone is heard and the indication “EMPTY” appears as blinking text on the digital display of the controller and on the panel of the bag reservoir as a shining red LED. By this time, the reservoir is depressurised automatically by the Controller 97123. The return travel of the piston is performed manually on the hand lever valve.

### Selector Chart

Accessories	Item #
Wall Mounting Bracket	97277
Booster Pump	97128

# Semi-Automatic Controller

Item 97102

The semi-automated controller has been designed for precision dispensing. Together with the digital pressure display, a digital time ranging from 0.04 to 99.9 seconds allows the operator to make pin-point accurate deposits when applying a wide range of fluids from low to high viscosity.

## Technical Specifications

- Power Supply: 100–240 V AC; 47–63 Hz
- Power Consumption: 40 W
- Air Input: 2–12 bar (30–175 psi), filtered to a maximum of 10 microns
- Air Output: 0.1–7 bar (1–100 psi)
- Dimensions (W x H x D): 145 x 230 x 260 mm (5.7" x 9" x 10.2")
- Weight: 2.8 kg

## List of Parts Supplied

- (1) Control unit
- (1) Power Cord
- (1) Operating Manual

## Theory of Operation

The Semi-Automatic Controller 97102 controls the selected dispensing pressure in the product reservoir and the pneumatic opening of the dispensing valve according to the selected dispensing time. The start signal for dispensing is provided by an external footswitch or fingerswitch. Error messages are shown on a digital display and are accompanied by an audible alarm.



## Features

- Fitted with precision pressure regulator eliminating air pressure fluctuations.
- Digital pressure readout with electronic monitoring.

# Single Channel-Automatic Controller

Item 97123

A cost effective multi-functional system for operating one dispensing valve and controlling peripheral equipment such as an advancing unit, rotospray etc. Process functions are programmed by means of a keypad. A visual display on the front panel indicates each separate operational step. Faults are also indicated and signalled electrically. The quantity of product released is determined both by the product pressure and the length of time the dispensing valve is open. This system can be integrated into fully automated production lines using its PLC interface.

## Technical Specifications

- Power Supply: 90–260 VAC; 47–63 Hz
- Power Consumption: 60 W
- Air Input: 4–8 bar (60–116 psi), filtered to a maximum of 10 microns
- Air Output: 0.1–7 bar (1–100 psi)
- Dimensions (W x H x D): 145 x 230 x 260 mm (5.7" x 9" x 10.2")
- Weight: 3.0 kg

## List of Parts Supplied

- (1) Control unit
- (1) Power Cord
- (1) Pneumatic Tube, 2 m
- (1) Operating Manual

## Theory of Operation

Using the Automatic Controller 97123 dispensing of repeatable amounts of adhesive can be achieved. The amount of dispensed adhesive is determined by a pressure-time-system. This means the adhesive is put under pressure and the dispensing valve is opened for a certain time to provide the correct amount of adhesive. The program provides various selection menus for controlling connected peripheral units within the framework of a multi-functional dispensing system. Error messages are displayed in the digital display and signalled with an audible alarm in some cases. Error and ready messages are also made available as volt-free electrical signals.



## Features

- Permanent software setup.
- Integrated solenoid valves reduce airline complexity.
- Multilingual display.
- Fully programmable, independent controller.
- Fitted with precision pressure regulator.
- Digital pressure readout with electronic pressure monitoring.
- Reservoirs with low level sensing can be automatically vented by the controller.
- Capable of controlling an advancing slide 97118/97119, and a Rotospray 97115/97144 and dispense valves.
- Digital pressure display and timer for dispense cycle duration.



# Items 97103 97204

# Dual Channel-Automatic Controller and Solenoid Valve Module



### Features 97103

- Permanent software setup.
- Remote solenoid valve module for minimum airline lengths and maximum valve speed.
- Multilingual display.
- Fully programmable, independent controller.
- Fitted with dual precision pressure regulators for two independent dispense channels.
- Two channel digital pressure readout with electronic pressure monitoring.
- Reservoirs with low level sensing can be automatically vented by the controller.
- Capable of controlling 2 advancing slides, 2 rotorsprays, 2 dispensing valves and 2 pressure reservoirs.



### Features 97204

- 4 independent 5/2-way solenoid valves.
- 4 x 2 pneumatic outputs for dispensing valves, advancing slides, etc.
- 2 electrical outputs for rotorsprays.
- 4 electrical inputs for limit switches.
- 1 central multipole connector to automatic controller 97103 or PLC.

A flexible multi-functional system for operating one or two dispensing valves and controlling peripheral equipment such as advancing units, rotospray units etc. Process functions are programmed by means of a keypad. A visual display on the front panel indicates each separate operational step. Faults are also indicated and signalled electrically.

The quantity of product dispensed is determined both by the product pressure and by the length of time that the valve is opened. This system can be integrated into fully automated production lines using its PLC interface.

The Solenoid Valve Module 97204 brings pneumatic energy close to the dispensing valves which results in high reaction speeds and eliminates complex pneumatic lines. All signals are indicated by LED's.

### Technical Specifications

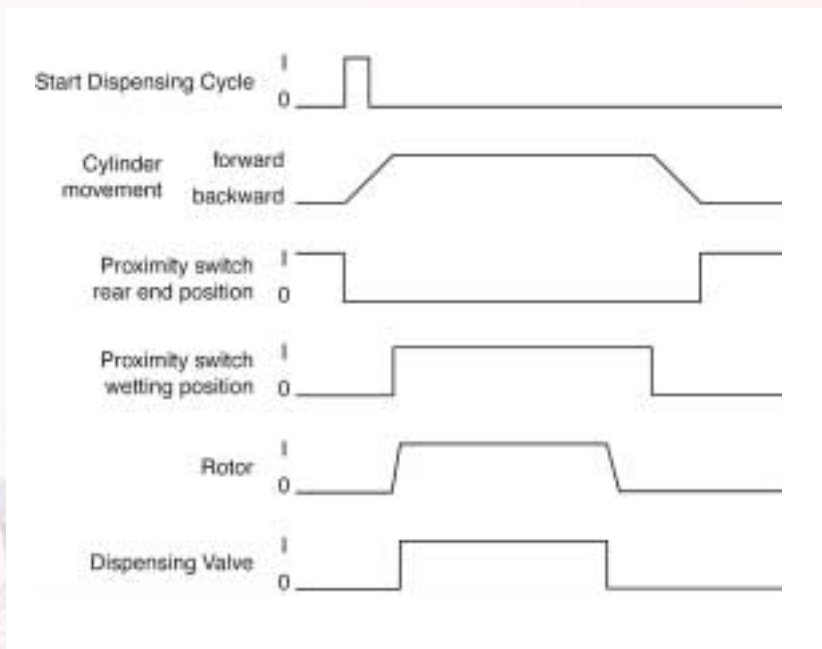
- Power Supply: 85–264 VAC; 47–440 Hz
- Power Consumption: 100 W
- Air Input: 2–12 bar (30–175 psi), filtered to a maximum of 10 microns
- Air Output: 0.1–7 bar (1–100 psi)
- Dimensions (W x H x D): 145 x 230 x 260 mm (5.7" x 9" x 10.2")
- Weight: 3.9 kg

### List of Parts Supplied

- (1) Power Cord
- (1) Operating Manual
- (1) Connection Cord (97204)

### Theory of Operation

Using the Dual Channel-Automatic Controller 97103 repeatable amounts of adhesive can be dispensed. The amount of dispensed adhesive is determined by a pressure-time-system. That means the adhesive is put under pressure and the dispensing valve is opened for a certain time to provide the correct amount of adhesive. The program provides various selection menus for controlling connected peripheral units within the framework of a multi-functional dispensing system. Error messages are displayed in the digital display and signaled with an audible alarm in some cases. Error and ready messages are also made available as volt-free electrical signals.



- In case a disturbance in the dispensing sequence occurs:
- The dispensing sequence is interrupted.
  - The advancing slide is moved to the rear end position (initial position).
  - An error message is signaled by the Controller with a beeping tone.

# Rotorspray

## Items 97115

With the Rotorsprays 97115, Loctite® Products can be applied to the interior cylindrical surfaces of workpieces. The Rotorsprays are operated in combination with Dispensing Valves 97134 or 97135/97136. The simultaneous control of these units requires the use of Loctite® Controller 97123 or 97103 with a Solenoid Valve module 97204. The special design of the drive assembly and rotor housing ensures that the rotospray is completely sealed to prevent contamination with adhesive. Low to medium viscosity anaerobic adhesives can be applied with the Rotorsprays.

### Technical Specifications

- Power Supply: 24 VDC
- Power Consumption: 10 W, for short periods 24 W
- Rated Speed: 8000 RPM
- Adjustable Speed Range: 4000–8000 RPM
- Dimensions (W x H x D):  $\varnothing$  35/40 x 305 x 70 mm ( $\varnothing$  1.38"/1.57" x 12" x 3.1")
- Weight: 600 g

### List of Parts Supplied

- (1) Rotorspray Assembly (1) Roto Cup Diameter 10 mm\* (1) Roto Cup Diameter 25 mm\*

\* Other rotor cup sizes available on request

### Theory of Operation

The Rotorspray 97115 is clamped in a fixture. The dispensing valve is clamped in the holder of the Rotorspray so that the tip of the flexible dispensing needle is directed at the inside of the wetting holes on the rotor disc. A Loctite® Controller 97123 or the 97103 (with Solenoid Valve Module 97204) controls the switching "ON" and "OFF" of the Rotorspray and the dispensing valve after the required rotor speed is reached. As long as the dispensing valve is open, the product is dispersed through the wetting holes by centrifugal force and uniformly distributed onto the cylindrical inner surface of the part. The head of the Rotorspray has longitudinal play of 5 mm. Within this distance, unintentional contact with an obstacle can be compensated without the rotor disc or the drive assembly and its shaft being damaged.



### Features

- Integrated rotor speed control.
- Integrated error check, controlled speed and overload shut-off.
- Status of Rotorspray indicated by LED's.
- High torque and high speed for large and small rotor cups.
- Reduced risk of damage by collision due to rotorhead spring-loaded design.
- Short cycle time and no overspray due to quick-stop capability.

# Advancing Slides

## Items 97118 97119

The Advancing Slide System consists of a double acting, dual piston cylinder. The mounting bracket eases a precise positioning of either dispensing valves or rotospray. Additionally the system is equipped with 2 integrated limit switches and a pneumatic dual tubing (2 m x dia. 4 mm).

### Technical Specifications

- Air Supply: min. 4 bar (60 psi), filtered to a maximum of 10 microns
- Max. Stroke: 97118: 50 mm (2"), 97119: 100 mm (4")
- Dimensions (W x H x D): 97118: 80 x 65 x 30 mm, 97119: 150 x 65 x 30 mm

### Theory of Operation

The forward movement of the advancing slide is initiated by the start signal. The Loctite® Controller 97103 or 97123 controls the forward and backward movement of the advancing slide (the 97103 by means of the Solenoid Valve Module 97204). By means of the magnetic field of a permanent magnet that is located on both pistons of the pneumatic cylinder, the electrical proximity switches are actuated without contact at the end positions.







### Features

- Allows simple precise positioning of valves and Rotosprays.
- Air flow controls to adjust advance and retract speed.
- Easy installation with automatic Controller 97123 or 97103 + 97204.

# Dispensing Valves – Hand-Held

Loctite® Hand-Held Dispensing Valves are used where ergonomic design for hand dispensing of fluids is desired. These hand held valves utilise passive wetted components for universal compatibility with many fluids. Selection of a Loctite® Hand-Held Valve is based on the desired dispensing controls, the dispense principal of the delivery system, and other process requirements.

	ErgoLOC Valve	Vari-Drop™ Applicator	Hand-Held Applicator	Pinch Valve Applicator
				
<b>Item #</b>	97130	97131/97132	97112	97121
<b>Page Reference</b>	13	13	14	15
<b>Dispense Control</b>	Pneumatic	Manual	Pneumatic	Pneumatic
<b>Viscosity (mPas)</b>	Low	Low to Medium	Medium to High	Low to Medium
<b>Dispense Patterns</b>	DR, DT, B	DR, DT, B	DR, DT, B	DR, DT, B
<b>Used to Dispense</b>	IA, RC, TL	IA, LC, RC, TL	LC, RC, TL	IA, RC, TL, LC
<b>Valve Type</b>	P/T	Manual	P/T	P/T
<b>Suck-Back</b>	No	No	Yes	No
<b>Finger/Foot Actuated</b>	Foot/ Finger	Finger	Foot	Foot/ Finger
<b>Wetted Components</b>	PTFE	PTFE	POM, PTFE	PTFE

B = Bead  
 LC = Light Cure/Acrylics  
 DR = Drop  
 P/T = Pressure Time Dispense  
 DT = Dot  
 RC = Retaining Compounds  
 IA = Instant Adhesives  
 TL = Threadlockers



# ErgoLOC Valve

Item 97130

The Loctite® ErgoLoc Valve provides excellent compatibility with a wide range of Loctite® products including cyanoacrylates. Valve body and stem are all PTFE to prevent premature curing. It is suitable for dispensing small drop sizes of low viscosity products up to 10 000 mPas (Max. product pressure of 2 bar 30 psi). The comfortable hand application control eliminates hand fatigue.

### Technical Specifications

- Air Input: 4–7 bar (60–100 psi), filtered to a maximum of 10 microns
- Dimensions (W x H x D): Ø 40 x 170 mm (Ø 1.6" x 7")
- Weight: 140 g

### List of Parts Supplied

- (1) Dispense valve (1) 1/4" size product feed line 2 m long
- (1) Airline fittings and pneumatic tubing 2 m long (1) Needle Variety Kit 97262
- (1) Operating Manual

### Theory of Operation

The Loctite® ErgoLoc Valve is a normally closed seat valve that is specifically designated for handheld applications. It is suitable for all cyanoacrylate and low to medium viscosity anaerobic adhesives when used with a semi-automatic or automatic controller.

### Selector Chart

Accessories and Spare Parts	Item #
Fingerswitch for ErgoLOC Valve	97293
Reservoir Fitting 1/4" x 1/4"	8900064
Tubing, PTFE-lined, OD 1/4", length 10 m	97972



### Features

- Slim ergonomic design.
- Forward closing
  - in order to avoid air entrapment and thus curing of CA.
  - for optimum drop transfer of low viscosity products.
- Stroke adjustment for fine tuning dispense characteristic.
- Minimum cycle time: 0.5 s (depending on product).
- Quantity: 0.005 g up to continuous bead (depending on product).

# Vari-Drop™ Applicators

Items 97131  
97132

The Loctite® Vari-Drop™ applicator is a low cost hand-held, manually controlled valve, suitable for dispensing low to medium viscosity products. This valve is designed for pressure-time applications. The adjusting screw (stroke) allows repeatable dispensing from drops to heavy beads. The quantity applied is dependent upon the stroke set for the trigger, the pressure of the adhesive reservoir and the time the operator holds down the trigger.

### Technical Specifications

- Fluid Inlet: 1/4" Tube
- Fluid Viscosity Range: 100–80 000 mPas
- Dimensions (W x H x D): 20 x 36 x 165 mm (0.8" x 1.4" x 6.5")
- Weight: 40 g

### List of Parts Supplied (97131)

- (1) Vari-Drop™ Dispenser (1) 1/4" OD PTFE-lined Hose (1) Reservoir fitting
- (1) Operating Manual

### Theory of Operation

Use the Loctite® Vari-Drop™ Applicator to manually dispense Loctite® products at a controlled rate of flow. The valve is capable of dispensing various sizes of beads and drops. The design is cost effective and user friendly. The operator will manually push the finger switch down for flow and release the switch to discontinue flow.

### Typical Fluids Handled

Cyanoacrylates, Acrylics, Anaerobics, Light Curing Adhesives



### Features

- Accepts a variety of dispensing needles to apply precise amounts of product.
- Low Cost.
- Designed with UV resistant materials for light curing adhesives.
- Field serviceable.
- **97131** includes product feedline and reservoir fitting.
- **97132** includes only the applicator, e.g. for replacement purpose.

# Item 97112

# Hand-Held Applicator



Loctite® Hand-Held Applicator 97112 is suitable for dispensing Loctite® products in semi-automatic or automatic processes. This ergonomically designed applicator provides hand comfort and application control to eliminate hand fatigue and improve dispensing accuracy. The applicator can also be mounted in a stationary manner to allow easy production line integration and fulfill many dispense needs. The 97112 Hand-Held Applicator is pneumatically controlled and operated with the use of a foot switch.

### Technical Specifications

- Air Input: min. 4 bar (60 psi), filtered to a maximum of 10 microns
- Product Inlet: 1/4"
- Dimensions (W x H x D): Ø 28.5 x 162 mm (Ø 1.12" x 6.4")
- Weight: max. 340 g

### List of Parts Supplied

- (1) Applicator
- (1) Needle Variety Kit
- (1) Pencil Holder
- (1) Operating Manual

### Theory of Operation

The hand-held valve is a modular design made up of a product shut-off valve and valve actuator. This type of design provides quick on-line serviceability. The adjustable suck-back feature eliminates stringing and dripping. The shut-off of the hand-held applicator takes place mechanically with the spring return of the shut-off piston to the rest position. Loctite provides a selection of product reservoirs that can be used with the hand-held applicator.

### Typical Fluids Handled

Acrylics, Anaerobics

### Features

- Pistol grips provide comfort and control.
- Suck-back feature ensures accuracy and control.
- Dispenses products up to 15000 mPas with 1/4" feedline (standard).
- Dispenses products up to 80000 mPas with 3/8" feedline (optional).
- Operational with semi-automatic and automatic controllers.

### Selector Chart

Accessories	Item #
Finger switch	97236
Pencil Holder	97206
Feedline Upgrade Kit 3/8"	97220

# Pinch Valve Applicator

Item 97121

The Pinch Valve Applicator provides excellent compatibility with all Loctite® products including cyanoacrylates. It can dispense small drop sizes of low to medium viscosity products. The comfortable hand applicator eliminates hand fatigue when tank mounted and supports customers flexibility for easy changing of products.

## Technical Specifications

- Air Input: min. 5 bar (72 psi), filtered to a maximum of 10 microns
- Dimensions (W x H x D): Valve: 120 x 97 x 32 mm (4.7" x 3.8" x 1.26")  
Handgrip: Ø 28.5 x 162 mm (Ø 1.12" x 6.4")
- Weight: Valve: 240 g  
Handgrip: 100 g

## List of Parts Supplied

- |  |  |
|--|--|
| (1) Pinch Valve with pneumatic actuator  | (1) Hand-held Applicator                 |
| (1) Product feed line (2 m, dia. 1.7 mm) | (1) Product feed line (2 m, dia. 2.4 mm) |
| (1) Pneumatic tubing (2 m, dia. 4 mm)    | (1) Needle Variety Kit                   |
| (1) Operating Manual                     |  |

## Theory of Operation

The Loctite® product is transported through a product feedline of PTFE to the Pinch Valve by the dispensing pressure in the product reservoir. An additional tubing protects this product feedline. The dispensing takes place by the opening of the Pinch Valve. A single action cylinder is used as actuator. The control unit controls the dispensing either according to a set dispensing time or as long as the start signal is present. In the inactive position, the Pinch Valve is closed. The cylinder piston of the actuator assembly pinches the product feedline together with spring force.

The Pinch Valve is capable of dispensing the smallest quantities. For this purpose, the stroke of the cylinder piston can be limited with the hexagon socket set screw.



## Features

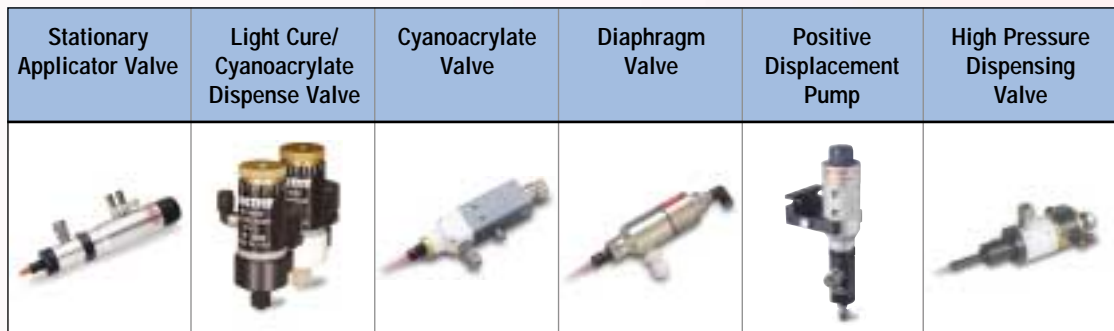
- Set-up options: Dispense needle is directly fitted to the valve tip. Feedtube connected to tank reservoir using tank fitting.
- Dispense valve is screwed onto tank lid. Dispense needle is fitted to lightweight, ergonomically designed pencil applicator. Both are connected by a double-walled product feedline.



# Dispensing

## Valves/Pumps – Automatic

Loctite® Automatic Dispensing Valves and Pumps are value-adding, robust, dispensing valves for adhesive or fluid delivery. Each valve is uniquely designed to meet different manufacturing needs. These valves should be combined with a Loctite® reservoir and/or a controller. Selection of a Loctite® Automatic Valve or Pump is based on the chemistry and viscosity of the adhesive or fluid being used, and process requirements.



	Stationary Applicator Valve	Light Cure/Cyanoacrylate Dispense Valve	Cyanoacrylate Valve	Diaphragm Valve	Positive Displacement Pump	High Pressure Dispensing Valve
Item #	97113/97114	98009/98013	97134	97135/97136	983330	97645
Page Reference	17	17	18	18	19	19
Viscosity Range	Low to Medium	Low	Low to Medium	Low to Medium	Low to Medium	Medium to High
Dispense Patterns	DT, DR, B	LC DT, MD, DR, B	DT, DR, B	DT, DR, B	DR	B, DR
Suck-Back	Yes	No	No	No	No	Yes
Adjustable Stroke	Yes	Yes	Yes	No	Yes	Yes
Valve Type	P/T	P/T	P/T	P/T	P/D	P/T
Wetted Components	POM and PTFE	Acetal & UHMW-PE	PTFE	PTFE	POM, Stainless Steel, PTFE	POM
Inlet	1/4" OD / 3/8" OD	1/8" NPT	R 1/8	R 1/8	3/8" OD	3/8" OD
Outlet	1/4" UNF Luer Lok Tip	1/4" UNF Luer Lok Tip	R 1/8 Luer Lok Tip	M10 x 1 Luer Lok Tip	1/4" OD	1/4" UNF Luer Lok Tip

B = Bead  
DR = Drop  
P/D = Positive Displacement  
LC = Light Cure/Acrylics  
MD = Microdots  
P/T = Pressure Time Dispense  
DT = Dot

# Stationary Applicator Valves

Items 97113  
97114

The Stationary Applicator Valve is a slim, lightweight, patented seal-less dispense valve, designed for pressure-time applications. These Stationary Valves are modular in design and made up of a product shut-off valve and valve actuator, providing quick on-line serviceability. These valves have an adjustable suck-back feature to eliminate stringing, and dripping. The 97113 Stationary valve is fitted with a 1/4" tube fitting for viscosities up to 15 000 mPas and the 97114 is fitted with a 3/8" tube fitting for viscosities up to 80 000 mPas. These Stationary Valves are engineered to be a reliable, durable, and accurate way to dispense Loctite® products.

## Technical Specifications

- Air Input: min. 5 bar (72 psi), filtered to a maximum of 10 microns
- Product Pressure: max. 12.5 bar (180 psi)
- Fluid Outlet: 1/4"-26 UNF Luer Lock Output Fitting
- Dimensions (W x H x D): 180 x 64 x 35 mm (7" x 2.5" x 1.38")
- Weight: 340 g

## List of Parts Supplied

- (1) Dispense Valve
- (1) Needle Variety Kit
- (1) Operating Manual
- (1) Accessory Kit (Feedline, Air Line, Spiral Wrap)
- (1) Anti-Bubbler Adapter & Sleeve

## Theory of Operation

Product flows to the dispense valve from the reservoir. Adjusting the double-acting cylinders allows control of the valve opening and closing rates. Use the adjustable suck-back feature to eliminate dripping and stringing. These valves can be used in both the stationary or advancing modes.

## Typical Fluids Handled

Acrylics, Anaerobics, Cyanoacrylates



## Features

- Slim, lightweight, patented seal-less dispense valve.
- Modular design of product shut-off valve & valve actuator provides on-line serviceability.
- Fail safe – spring assisted close.
- Suck-back feature eliminates product stringing.
- Double-acting cylinder allows adjustable opening and closing speed for process control.
- Cycle rate exceeds 360/minute.
- Operational with pressure time applications.
- Dispenses fluids up to 15 000 mPas (97113) or 80 000 mPas (97114).

# Light Cure/ Cyanoacrylate Dispense Valve

Items 98009  
98013

The Loctite® Light Cure / Cyanoacrylate Dispense Valve is a normally closed, diaphragm valve that provides high-resolution stroke adjustment resulting in consistent flow control and bubble-free, no-drip dispensing. This valve is suitable for all low to medium viscosity adhesives as specified in the Typical Fluids Handled section below. The valve has a small profile with a 0.9" diameter and 2.5" length, and has a modular design to facilitate field repairs. This valve is designed for pressure time applications and must be used in conjunction with a controller and product reservoir.

## Technical Specifications

- Max. Input Fluid Pressure: 5 bar (70 psi)
- Fluid Inlet: 1/8" NPT
- Air Inlet Port: 1/4" Tube Fitting
- Air Input: 5–6 bar (70–90 psi), filtered to a maximum of 10 microns
- Dimensions (W x H x D): Ø 78.5 x 30 mm (Ø 61.06" x 3.09")
- Mounting Hole: (1) 10–32 UNF
- Weight: 130 g

## List of Parts Supplied

- (1) Valve Assembly
- (1) Valve Mount Screw
- (1) Needle Variety Kit
- (1) 1.5 m, 5 ft. Air Line Tubing (attached to valve)
- (1) 1.8 m, 6 ft. Product Tubing, 1/4" O.D., PTFE-lined
- (1) Operating Manual

## Theory of Operation

Product flows to the dispense valve from the reservoir. Flow rate is adjusted by turning the flow control dial on top of the valve. The valves can be used in both the stationary or advancing modes.

## Typical Fluids Handled

**98009:** Light Cure Adhesives, Anaerobic Retaining Compounds, Anaerobic Threadlockers

**98013:** Cyanoacrylate Adhesives, Cyanoacrylate Gel Adhesives, Anaerobic Retaining Compounds, Anaerobic Threadlockers



## Features

- Compact size and weight.
- Adjustable fluid flow control.
- Fail safe, air to open, spring close.
- Positive shut-off, no seals.
- Bubble free, no-drip dispensing.
- Field serviceable.
- Cycle rate exceeds 500/minute.

## Item 97134

## Cyanoacrylate Valve



## Features

- Forward closing in order to avoid air entrapment and thus curing of CA.
- For optimum drop transfer of low viscosity products, thus ideal for drop dispensing.
- Stroke adjustment for fine tuning dispense characteristic especially in multiple valve applications.
- Minimum cycle time: 0.02 s (depending on product).
- Quantity: 0.003 g up to continuous bead (depending on product).

The Loctite® Cyanoacrylate Adhesive Valve is a normally closed seat valve that provides high-resolution stroke adjustment that results in consistent flow control and no-drip dispensing. This valve is suitable for all cyanoacrylate and low to medium viscosity anaerobic adhesives when interfaced with a semi-automatic or automatic controller. Valve body and stem are all PTFE to prevent premature curing.

## Technical Specifications

- Air Input: min. 4–max. 7 bar (60–100 psi), filtered to a maximum of 10 microns
- Dispensing Pressure Range: 0.2–4 bar (3–60 psi)
- Fluid Outlet: Luer Lock Output Fitting
- Viscosity Range: Up to 10000 mPas
- Dimensions (W x H x D): 30 x 54 x 146 mm (1.18" x 2.12" x 5.8")
- Weight: 275 g

## List of Parts Supplied

- |                      |                        |                            |
|----------------------|------------------------|----------------------------|
| (1) Dispense Valve   | (1) Needle Variety Kit | (1) Product feedline (2 m) |
| (1) Operating Manual |                        |                            |

## Theory of Operation

The Loctite® product is fed through a product feedline to the dispensing valve by the dispensing pressure in the product reservoir. The feedline has a PTFE-liner to prevent curing of adhesives in this area. The opening of the dispensing valve takes place by pressurizing an internal single acting cylinder. In the inactive position, the dispensing valve is closed by spring force. The dispensing valve is capable for dispensing small quantities of adhesive by stroke adjustment of the cylinder piston.

Items 97135  
97136

## Diaphragm Valve



## Features

- Slim, lightweight, seal-less dispense valve.
- Modular design of product shut-off valve & valve actuator provides on-line serviceability.
- Fail safe – spring assisted close.
- Operational with pressure time applications.
- Cost effective.

This valve is a normally closed diaphragm valve that results in consistent flow control and bubble free dispensing. It is suitable for all low to medium viscosity anaerobic and light curable adhesives when interfaced with a semi-automatic or automatic controller.

Internal components in the valve are all PTFE to prevent premature curing. The diaphragm can be easily serviced and exchanged.

## Technical Specifications

- Air Input: min. 5–max. 7 bar (73–100 psi), filtered to a maximum of 10 microns
- Fluid Outlet: Tip Adapter, Luer Lock Output Fitting
- Max. Product Pressure: 12 bar (180 psi)
- Dimensions (W x H x D): Ø 32 x 127 mm (Ø 1.26" x 5")
- Weight: 300 g

## List of Parts Supplied

- |                      |                        |                            |
|----------------------|------------------------|----------------------------|
| (1) Dispense Valve   | (1) Needle Variety Kit | (1) Product feedline (2 m) |
| (1) Operating Manual |                        |                            |

## Theory of Operation

The Loctite® product is transported through a product feedline to the diaphragm valve by the dispensing pressure in the product reservoir.

The opening of the diaphragm valve takes place by pressurizing an internal single acting cylinder. In the inactive position, the diaphragm valve is closed by spring force. Sealing in idle position is achieved by a piston pushing against a diaphragm which seals off the product bore in the valve.

The floating mounted diaphragm enables easy repair and service. The diaphragm valve is not suitable for moisture sensitive products like CAs.

For the use with the Loctite® Online Preamplifier 97211, special versions of the Diaphragm Valves are available on request.

## Typical Fluids Handled

Acrylics, Anaerobics



# Positive Displacement Pump

Item 983330

The Loctite® Positive Displacement Pump features a patented displacement chamber and seal-less design. It is specifically designed for use with the Loctite® Rotospray System. The rotospray system is made up of a 4 litre gravity feed reservoir, positive displacement pump, and a rotospray centrifugal force dispensing head. The positive displacement pump applies a metered amount of Loctite® anaerobic product to a rotospray head. This gravity feed self-priming pump has a dispense range capability of 0.02 - 0.4 cc, and a modular design for easy maintenance.

## Technical Specifications

- Air Input: 4–6 bar (60-90 psi), filtered to a maximum of 10 microns
- Product Feed-Line: 3/8" OD before pump, 1/4" OD after pump
- Fluid Capacity: 0.02–0.40 cc per shot
- Cycle Speed: 2 cycles per second maximum (adjustable)
- Dimensions (W x H x D): 107 x 232 x 47.8 mm (4.2" x 9.15" x 1.88")
- Weight: 800 g

## List of Parts Supplied

- |                                |                      |                            |
|--------------------------------|----------------------|----------------------------|
| (1) Positive Displacement Pump | (1) Mounting Bracket | (1) Feedline Accessory Kit |
| (1) Airline Kit                | (1) Operating Manual |                            |

## Theory of Operation

Use the Loctite® Positive Displacement Pump for roto-spraying low to medium viscosity fluids. Typically, this unit is used in conjunction with a gravity feed reservoir. The gravity feed reservoir will transfer the material from the storage tank to the pump, which supplies material to the dispensing area.

## Typical Fluids Handled

- Low to medium viscosity anaerobic threadlockers.
- Low to medium viscosity anaerobic retaining compounds.
- Any single-component, non moisture-curing, low to medium viscosity fluid (<100 000 mPas).



## Features

- Positive displacement.
- Pneumatically operated.
- Designed for compatibility with Loctite® Rotospray workstations.
- Modular design of product shut-off valve & valve actuator provides on-line serviceability.
- Cycle rate for low viscosity products exceeds 120/minute.
- Small, easy-to-use design.
- Adjustable stroke to control the amount of material dispensed.
- Compatible with a wide range of fluids.
- Repeatable and consistent delivery of product.

# High Pressure Dispensing Valve

Item 97645

The Loctite® Poppet Valve is designed to dispense Loctite® high viscosity anaerobic form-in-place gasketing products and structural acrylics. It features a suck-back capability and can operate at fluid pressures up to 40 bar (625 psi). This valve uses dispensing nozzles with a Luer Lok style mounting that improves nozzle end location and can withstand the high fluid pressures required of high viscosity fluid dispensing. The valve is made of high strength plastic material treated with a proprietary Loctite cleaning process to prevent premature adhesive curing. It can be used in conjunction with a positive displacement pump or a pressure time system. This valve is engineered to be a reliable, durable, and accurate way to dispense medium to high viscosity fluids.

## Technical Specifications

- Max. Product Pressure Limit: Should not exceed 40 bar (625 psi)
- Air Input: 4 bar (60 psi), filtered to a maximum of 10 microns
- Inlet: 3/8" diameter
- Wetted Components: POM treated with a proprietary Loctite process
- Dimensions (W x H x D): 135 x 50.8 mm (5.28" x 2.00")
- Weight: 590 g

## List of Parts Supplied

- |                      |                        |                      |
|----------------------|------------------------|----------------------|
| (1) Dispense Valve   | (2) Control Air Tubing | (1) Product Feedline |
| (1) Operating Manual | (1) Accessory Kit      |                      |

## Theory of Operation

Use the Valve to apply product in drops and beads with a semi or fully automatic dispensing system. The valve can be used in both the stationary or advancing modes.



## Features

- Poppet design gives valve "suck-back" feature.
- Luer Lok type mounting of nozzles provides end location repeatability.
- Handles product pressures up to 40 bar (625 psi).
- Positive mounting surface.
- High strength plastic material specially treated to be inert to Loctite® products.

# Item 97211

# On-line Preamplifier



### Features

- The essential tool for quality assurance.
- Suitable for many types of work stations.

The integrated flow monitor of a Loctite® Controller in connection with the Preamplifier Online Monitor 97221 is used for monitoring the quality and quantity of adhesives dispensed on parts, i.e. the flow monitor recognizes and evaluates dispensing defects with respect to quality and quantity. Such defects include air bubbles or pressure changes in the dispensing system, a lost or clogged dispensing nozzle and a touch down of the dispensing nozzle onto the substrate. The Online Preamplifier has been specifically designed for applications requiring high accuracy in dispensing Loctite® Adhesives. It's an ideal tool for quality assurance.

The flow monitor is mainly used in the following types of work stations:

- Manual work stations handling precision manufacturing jobs or safety relevant parts
- Assembly lines with robot stations
- Assembly lines with automatic in-feed and out-feed
- CNC work stations

Necessary Loctite® Controllers:

- Automatic Controller 97123 (see page 9) or
- Dual Channel Automatic Controller 97103 (see page 10)

In order to integrate such a monitor system in the production process a special dispensing valve with an integrated pressure sensor is required.

### Technical Specifications

- Power Input: 24 VDC
- Power Output: 1–10 V
- Protection Grade: IP 65
- Dimensions (W x H x D): 80 x 57 x 141 mm (3.14" x 2.24" x 5.55")
- Weight: 240 g
- Sensor Cable: max. length 8 m

### List of Parts Supplied

- (1) Preamplifier 97211                      (1) Connection Cable Preamplifier to Controller                      (1) Operating Manual

### Theory of Operation

The integrated flow monitor of the Loctite® Controller in connection with the Preamplifier 97211 measures the dispense pressure characteristics by means of a pressure sensor and stores this parameter. The pressure sensor is integrated in the dispensing valve. The measuring time corresponds with the dispense timing sequence. The controller compares the measured pressure characteristics with a previously stored reference characteristic, based on four different criteria: dispensing time, integral of pressure characteristic (corresponds to quantity of product dispensed), length of envelope curve for pressure characteristic, and center of gravity.

If the measured values are within the pre-set tolerance band, this dispensing cycle is recognized as „ok“ and the ready signal will be available. If the deviation is out of tolerance, it is classified as an error and a fault is signalled. This message is indicated on the display at the controller.

The Online Preamplifier measures the last preceding dispensing cycle relative to a reference measurement previously recorded and found to be correct. All adjustments have to be done in the setup menu of the controller, to make sure that this reference value can be stored by authorized staff. The tolerance can be adjusted in 3 pre-adjusted ranges (low=15 %, middle=35 %, high=55 %) or from 1 to 99 % to define the optimum between frequent false alarms and reliable fault detection.

An air bubble, a clogged needle or a needle touch-down – all create a very strong effect on the envelope curve length of the pressure characteristic resulting in a potential failure.

Ten different dispense quantities can be monitored by the controller. The advantage is that different quantities on various workpieces can be pre-selected according to the user's requirements via the serial interface.

The complete system is fail-safe when linked to a Loctite® Controller, because no dispensing cycle will pass unchecked!

### Selector Chart

Spare Parts	Item #
Pressure Sensor 3.5 bar, coated for anaerobic products	8952025
Pressure Sensor 35 bar, coated for anaerobic products	8952026
Pressure Sensor 70 bar, uncoated version for silicones	8952027
Preamplifier Cord	8951179
Diaphragm Valve ID 2 mm for monitoring	on request
Diaphragm Valve ID 3 mm for monitoring	on request
Adapter for CA Dispensing Valve 97134	97296
Adapter for Stationary Valve 97113/97114	97295
Adapter for Dispensing Valve 98009/98013	97294

# Air Filterrolley

The Filterrolley is an essential device for health- and environment protection at bonding workplaces. It is a robust device for the mobile and stationary workshop- and industrial use. It is suitable to exhaust and filter gases, vapors and malodors at the workplaces. Released, partly unhealthy gases and vapors, are captured by suction elements immediately at the place of their origin and thereafter filtered with the Filterrolley. The clean air can be supplied back to the working premises. Not valid for carcinogenic substances!

### Technical Specifications

- Power Supply: 230 V AC, 50 Hz
- Power Consumption: 150 W
- Protection Class: I acc. to EN 60 335
- Degree of Protection: IP 54
- Max. Air Flow: 170 m³/h
- Constant Air Flow: 80 m³/h at 1,400 Pa
- Max. Vacuum: 2,800 Pa
- Dimensions (w x h x d): 450 \* 530 \* 340 mm / 17.7" \* 20.9" \* 13.4"
- Weight: 18 kg
- Noise Level: 49 dB (A)

### Theory of Operation

The suction hose or the suction arm has to be placed near the bonding place. The unit exhausts the polluted air and blows out the cleaned air at the air outlet. The combination of pre-filter and activated carbon guarantees a high filtration efficiency of unhealthy gases, vapors and fumes. The huge layer and the tiny pieces of activated carbon make a long contact time between the polluted air and the adsorption substance possible. In this process the gases, vapors and fumes are adsorbed with high efficiency.

# Air Filter System LAS 250

The generation of hazardous vapors, gases and odorous can often not be avoided in working processes. Exhaust and filter systems of the LAS 250 can be used for cleaning the air directly at the worker's place. This will safely avoid harmful effects on both people and machines. The high filtering efficiency makes it possible to run ventilation systems in recirculating mode and thus help reduce energy costs. Not valid for carcinogenic substances!

### Technical Specifications

- Power Supply: 230 V AC, 50 Hz
- Power Consumption: 370 W
- Protection Class: I acc. to EN 60 335
- Degree of Protection: IP 54
- Max. Air Flow: 450 m³/h
- Constant Air Flow: 250 m³/h at 2,200 Pa
- Max. Vacuum: 2,800 Pa
- Dimensions (w x h x d): 370 \* 780 \* 500 mm / 14.6" \* 30.8" \* 19.7"
- Weight: ~ 30 kg
- Noise Level: 52 dB (A)

### Theory of Operation

The suction hose or the suction arm has to be placed near the bonding place. The unit exhausts the polluted air and blows out the cleaned air at the air outlet on the backside of the unit. The combination of pre-filter and activated carbon guarantees a high filtration efficiency of unhealthy gases, vapors and fumes. The huge layer and the tiny pieces of activated carbon make a long contact time between the polluted air and the adsorption substance possible. In this process the gases, vapors and fumes are adsorbed with high efficiency.

### Selector Chart 97612/97603

Accessories	Item #
Suction Arm, 3 cardans, max. range 950 mm, with hood	8991090
Suction Hose, length 2 m	8991091
Filter, new	97968
Replacement filter	97969
Y-Splitter to connect 2 hoses, 97612 only	8991096

# Item 97612



### Features

- Material is an impact-resistant ABS.
- Resistant to chemicals.
- Resistant to corrosion.
- Blow-out direction is adjustable.
- Low noise level.
- Compact design.
- High performance fan with minimum energy consumption.
- Recyclable filter of high capacity.
- Easy operation, maintenance and filter change.
- Two possibilities of exhausting polluted air: Suction arm with hood or suction hose (has to be ordered separately).






# Item 97603



### Features

- Low noise level.
- High performance fan with minimum energy consumption.
- Recyclable filter of high capacity.
- Easy operation, maintenance and filter change.
- Two possibilities of exhausting polluted air: Suction arm with hood or suction hose (has to be ordered separately).
- Intake flange: 2 pcs. for exhaust hose Dia. 50mm.

## Dispense Needles Selector Chart

Product	Item No.	Description	Size (mm)	Colour	Pack Size
	97221	PPC16	1.19	Grey	50 pcs./case
	97222	PPC18	0.84	Green	50 pcs./case
	97223	PPC20	0.61	Pink	50 pcs./case
	97224	PPC22	0.41	Blue	50 pcs./case
	97225	SSS15	1.37	Amber	50 pcs./case
	97226	SSS18	0.84	Green	50 pcs./case
	97227	SSS20	0.61	Pink	50 pcs./case
	97228	SSS25	0.25	Red	50 pcs./case
	97229	PPF15	1.37	Amber	50 pcs./case
	97230	PPF18	0.84	Green	50 pcs./case
	97231	PPF20	0.61	Pink	50 pcs./case
	97232	PPF25	0.25	Red	50 pcs./case
	97262	Needle Variety Kit	all	all	2 of Each Above
	97290	PPS20	0,60	Transparent	50 pcs./case
	97238	TLC25	0.25	Pink	50 pcs./case
	97233	Luer-Lok Adapter Kit			20 Luer Loks, 5 Adapters
	97248	Barrel Tip Caps			50 pcs./case

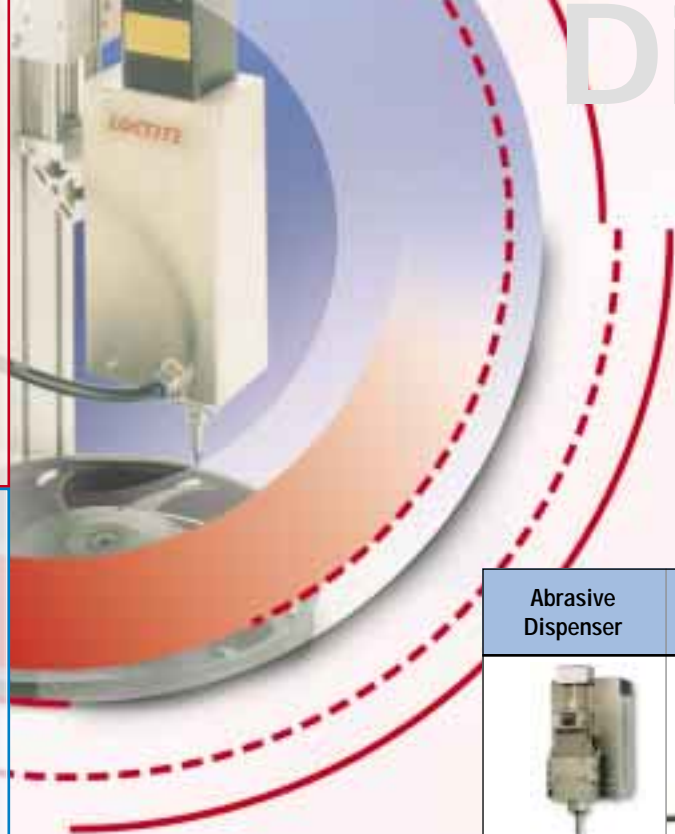







# Fluid Compatibility Selector Chart for Loctite® Valves & Pumps

	Item No.	Accelerators	Acrylics	Activators	Anaerobics	Cyanoacrylates	Gasketing Anaerobics	Non Abrasive Greases	Lubricants	One-Part Epoxies	Primers	Reagents	Solvents	UV & Light Cure Fluids	UV Anaerobics
	97113 97114		●		●	●	●		●					●	●
	98009	●	●	●	●					●	●	●	●	●	●
	98013	●	●	●	●	●				●	●	●			●
	983330				●										
	97645		●		●	●	●	●	●						
	97134		●		●	●									
	97135 97136		●		●								●		●

# Dispensing

## Special Dispensers



	Abrasive Dispenser	Gear Pump Dispenser	VoluDrop Dispenser	Volumetric Mix Dispenser	Eccentric Rotor Pump
					
<b>Item #</b>	97635	97686	97650	97640	97660, 97663/ 97669, 97665 see page 27 for details
<b>Page Reference</b>	24	25	25	26	
<b>Product Types</b>	Filled Silicones and Balancing Pastes, Epoxies	Non abrasive Silicones and UV-Acrylics, Epoxies	UV-Acrylics	Two Part Acrylics, Epoxies	

### Item 97635

### Abrasive Dispenser



#### Features

- Very precise dispensing of filled silicones and balancing pastes and epoxies.
- For integration into semi-automatic or automatic balancing and testing machines.

The Loctite® Abrasive Dispenser 97635 is a positive displacement dispensing module designed to dispense very precise amounts of filled products with abrasive characteristics.

#### Technical Specifications

- Power Supply: depends on the controller
- Air Input: min. 4, max. 8 bar (60–116 psi), filtered to a maximum of 10 microns
- Product Supply Pressure: 5–6 bar (73–87 psi)
- Max. Volume/Stroke: 0.706 ml
- Min. Dispense Volume: 0.01 ml
- Max. Flow Rate: 0.117 ml/s
- Dimensions (W x H x D): 110 x 317 x 148 mm (4.3" x 12.5" x 5.9")
- Weight: 5.1 kg

#### Theory of Operation

The Abrasive Dispenser 97635 is a dispense module that has to be integrated into a system. A control unit, e.g. PLC, is required to operate the module. Programming of the control unit has to be done by the customer. The product has to be supplied by a pressurized product reservoir such as a pressure pot or cartridge dispenser. The 97635 should be under product pressure only when dispensing or purging. The 2 possibilities for integrating 97635 into a control system are:

1. The customer PLC controls the dispenser, i.e. the dispenser's program runs is a subroutine of the PLC programming and valves and motor are controlled by the PLC. For this solution a power control unit and power supply are recommended.
2. The dispenser motor is driven by a positioning control unit. The customer PLC controls the program run via fieldbus. For this solution a positioning control unit and power supply are recommended.

# Gear Pump Dispenser

Item 97686

The Gear Pump Dispenser 97686 is a positive displacement dispensing module designed to dispense very precise amounts of not-filled UV-curing products and epoxies. It is not suitable for products with anaerobic properties.

## Technical Specifications

- Power Supply: 24 V / 5 A
- Max. Reservoir Pressure: 1.5 bar (22 psi)
- Dispense Volume: 0.005 g – continuous dispensing
- Dispensing Accuracy:  $\pm 1.5$  mg
- Dimensions (W x H x D): 353 x 103 x 78 mm (13.9" x 4" x 3")
- Weight: 4 kg

## List of Parts Supplied

- |                         |                                    |                           |
|-------------------------|------------------------------------|---------------------------|
| (1) Gear Pump Dispenser | (1) Power Cord                     | (1) Syringe Accessory Kit |
| (1) Nozzle Adapter      | (1) Inlet Fitting for product tube | (1) Operating Manual      |

## Theory of Operation

The Gear Pump Dispenser 97686 is a dispensing module that has to be integrated into a system. A control unit, e.g. PC, is required to configure and start the module. Programming of the control unit can be done by the customer, using the supplied software. The product has to be supplied by a pressurised product reservoir such as a pressure pot or a cartridge dispenser.

The Gear Pump Dispenser Loctite® 97686 should be under product pressure only while dispensing or purging. During periods of non-using e.g. over-night, weekend, the product supply has to be de-pressurised. Before starting again the needle has to be wiped and approx. 80 g of the product has to be dispensed to clean the needle.

## Typical fluid handled

Any non anaerobic acrylates packaged in 1–2 litre bottles or 300 ml cartridges.



# VoluDrop Dispenser

Item 97650

The VoluDrop Dispenser is suitable for the exact drop application of Loctite® UV-Acrylics up to a viscosity of 15 000 mPas and for precise spit of Loctite® Adhesives up to a viscosity of 5 000 mPas (spitting of 3  $\mu$ l–15  $\mu$ l, touching drop transfer of 0.8  $\mu$ l–3  $\mu$ l). Adhesive can be "spit" over a distance of 50 mm therefore a feed motion of valve to the workpiece is not necessary. Interfaced with a Loctite® Control Unit, the VoluDrop Dispenser is used as a stationary applicator unit and mounted directly at the dispensing position. The free end of the product feedline is connected to the product reservoir (0.5 litre and 2 litre versions are available).

**The VoluDrop Dispenser is not suitable to dispense UV-acrylics with anaerobic component, cyanoacrylates, abrasive adhesives and anaerobics!**

## Technical Specifications

- Air Input: min. 6 bar (90 psi), filtered to a maximum of 10 microns
- Dispensing Rate: 10 shots/sec. with smallest amount  
4 shots/sec. with biggest amount
- Dimensions (W x H x D): 162 x 42 x 20 mm (6.4" x 1.65" x 0.78")
- Weight: 260 g

## List of Parts Supplied

- |                          |                        |                                    |
|--------------------------|------------------------|------------------------------------|
| (1) Dispense valve       | (1) Needle Variety Kit | (1) Product Feedline incl. Fitting |
| (1) Tool for Maintenance | (1) Operating Manual   |                                    |

## Theory of Operation

The Loctite® adhesive is transported through a product feedline to the dispenser by the dispensing pressure into the product reservoir. When the ejector piston moves back, the dispensing chamber will be filled. The adhesive is spat under high pressure by very fast movement of the piston. During dispensing a non-return valve prevents back-flow of the adhesive to the reservoir. The amount of product dispensed is controlled by the volume of the dispensing chamber. The amount can be limited between 0.8  $\mu$ l to 15  $\mu$ l per shot via the valve stroke adjustment.



## Item 97640

## Volumetric Mix Dispenser



### Features

- Exact application of 2 component acrylic and epoxy products.
- High repetition accuracy.
- Various mixer types and sizes are available to suit different products and applications.

The Volumetric Mix Dispenser is suitable for exact application of 2 components acrylic and epoxy products (up to 20 000 mPas). The dispenser can be integrated into automatic workplaces such as transfer lines etc. It is a compact dispenser designed to suit robotic applications. The ratio is fixed to 1:1. A very precise amount of product can be adjusted with high repetition accuracy. The maximum dispense volume is ~10 ml. For each product and corresponding application of the dispenser, various mixer types and sizes are available.

### Technical Specifications

- |                      |   |                           |  |
|----------------------|---|---------------------------|--|
| • Power Supply:      | 24 V DC   | • Repetition Accuracy:    | ± 3 %                                      |
| • Power Consumption: | 84 W  | • Dispensing Frequency:   | depends on mixer type                      |
| • Air Input:         | min. 5–max. 8 bar<br>(73–115 psi), filtered to<br>a maximum of 10 microns | • Product Pressure:       | required 3 bar (44 psi)                    |
|                      |   | • Dimensions (W x H x D): | 152 x 190.5 x 140 mm<br>(6" x 7.5" x 5.5") |
| • Flow Rate:         | depends on mixer type   | • Weight:                 | 3.0 kg                                     |

### List of Parts Supplied

- |                                 |                      |
|---------------------------------|----------------------|
| (1) Volumetric piston dispenser | (1) Operating Manual |
|---------------------------------|----------------------|

### Theory of Operation

The Volumetric Mix Dispenser includes a volumetric dual piston dispenser driven by a DC motor, a valve mechanism driven by air pressure, electronic control of the motor and a 4 pin I/O, 15 pin PLC and 9 pin RS 232 interface for optional PC communication. When filling, the product inlet is opened, the outlet is closed. The product chambers are filled up to an adjustable volume simultaneously with product components A and B by product pressure from a reservoir. The products are then dispensed out of the chambers at a ratio of 1:1 through a static mixer nozzle. The dispensing is controlled by means of a DC drive with ballscrew transmission. The maximum volume of each product chamber is fixed at 5 ml.

**Approved Loctite® Products:** 3292, 3250, 3252, 3255, 3271, 3421

### Selector Chart

Accessories	Item #
Mixer, blue, 3.2 mm, 16 elements	97286
Mixer, yellow, 4.2 mm, 16 elements	97287

## Item 97610

## Precision Metering Dispenser



### Features

- Very precise amount can be adjusted (PC necessary).
- High repetition accuracy.
- 0.5 and 2 litre product reservoirs are available.
- Syringes from 1.25 ml to 2.5 ml are available.
- Precision is 24 000 increments for a full syringe stroke.

The Precision Metering Dispenser is designed for manual or automatic applications. It is a programmable volumetric dispenser, that can be synchronized to rotary indexing tables and linear axis (from ISEL in connection with the software SynchroValve 97615). It is suitable for exact application of Loctite® products such as UV-curing products, solvent less activators and primers up to a viscosity of 700 mPas (**not for Cyanoacrylates**).

### Technical Specifications

- |                        |                                     |                           |  |
|------------------------|-------------------------------------|---------------------------|--|
| • Power Input:         | 100–240 V AC, 50–60 Hz              | • Repeating Accuracy:     | ± 1 %                                  |
| • Power Consumption:   | max. 60 W                           | • Feedlines to reservoir: | 1/4"                                   |
| • Protection Class:    | IP 23                               | and to dispensing needle: | 1/8", AWG11                            |
| • Syringes Volumes:    | 1.25 ml, 2.5 ml                     | • Dimensions (W x H x D): | 295 x 120 x 352 mm<br>(12" x 5" x 14") |
| • Dispensing Quantity: | min. 0.004 ml<br>(freefalling drop) | • Weight:                 | 6.2 kg                                 |

### List of Parts Supplied

- |  |   |
|--|---|
| (1) Precision Metering Dispenser 97610 | (1) Operating Manual Precision Metering Dispenser |
| (1) Power cable                        | (1) Software WinPump + Operating Manual           |
| (1) RS 232 cable                       |   |

### Theory of Operation

The programmable Precision Metering Dispenser includes a syringe and valve mechanism driven by stepper motors and the electronics required to control the motors. Included are the necessary I/O interfaces, PLC and RS 232 interface for the PC communication. One stepper motor controls the pull up and squeeze out of the syringe, the second one the 3-way-valve. Both are controlled by the user program. When using the Dispenser 97610, all adjustments (product amount, syringe size, etc.) have to be made with the supplied software WinPump. For this data, the software generates a command string to the Dispenser (data terminal protocol is supported), enabling dispensing to be started.

**Approved Loctite® Products:** Loctite® Adhesives 3002, 3003, 3004, 3301, 3311, 3341, FMD743 and Activators 7091, 7380



# Eccentric Rotor Pumps

Items 97660  
97663  
97669  
97665

Self-priming, rotating displacement pump for relatively small capacities. The pump is ideal for dosing and pumping liquids with various viscosities up to pasty consistency. The operation direction is reversible, and capacity proportional to speed. All parts in contact with the medium are stainless steel; the driveshaft is sealed by two (double action) sealing rings made from UHMW-PE and PTFE compound and fitted with lock-fluid connection. A distinctive advantage is the clear design, which ensures easy cleaning and maintenance. The integrated shaft bearings prevent radial or axial forces on the drive.

## Technical Specifications

Item #	97660	97663/97669	97665
Approved Loctite® Silicone Products	5900,5970	5083, 5699, 5900, 5910, 5960, 5970	
Approved Loctite® Anaerobic Products	N.A.	<b>only for 97669:</b> 510, 518, 5203, 5205, 5206, 5209	510, 518, 5203, 5205, 5206, 5209
Maximum Inlet Pressure	20 bar dynamic, 30 bar static		
Pressure Control for Silicones	Tube length between inlet of the pump and pressure regulator maximum 2 meter with inner diameter min. 16 mm. Adjustment of the pressure regulator is typically set to 20–30 bar.		
Capacity for Loctite® 5900	3.0 g/s at 20 °C, 150 rpm 3 mm nozzle	0.6 g/s at 20 °C. 150 rpm 2 mm nozzle	0.3 g/s at 20 °C 200 rpm 2 mm nozzle
Capacity for Anaerobic Gasketing Products	N.A.	<b>only for 97669:</b> 0.5 g/s at 20 °C, 150 rpm 2 mm nozzle	0.3 g/s at 20 °C, 200 rpm 1.5 mm nozzle
Typical Rotary Speed	100 rpm up to 150 rpm: at more than 150 rpm the wear rises disproportionate. Limit the rotary speed to 150 rpm at the drive controller.		
Material Stator	EPDM*	97663: EPDM* 97669: DAI-EL**	DAI-EL**

\* EPDM is applicable for silicones only.

\*\* DAI-EL is predominantly applicable for anaerobics, but also for silicones.

## Theory of Operation

Eccentric Rotor Pumps are positive displacement pumps. Thereby this kind of pump dispenses volumetrically and nearly free of pulsation. The volume flow depends on the size of the pump and the number of revolutions. Each Pump can be used with either a digital AC drive or a DC drive. Pump and drive are fixed together with a clamping nut to enable a fast assembly resp. disassembly. Generally the pumps are used with a shut-off valve at the product outlet, because the capability of self-sealing gets lost with increasing life span.



## Features

- Ideally for dosing and pumping liquids with various viscosities up to pasty consistency.
- Reversible operation direction.

# Dispensing Frekote® Applicators

Loctite® Frekote® Applicators are state of the art dispensing units designed for the application of mould release agents. These units combine ergonomics, user-friendly design, and reliability.

The equipment includes spray guns, pressure control units and material feed systems. The supply of fluid is to be achieved via pressure tanks. Mechanical valves control the individual impulses of fluid emission. The efficient valves and tank reservoirs have a very solid construction suited to industrial applications. The spray-guns are suited to intermittent application jobs. The different extensions of the valves allow installation into machines with limited inner space or in narrow recessed areas.

High grade materials allow application with spray materials of difficult nature.

The spray valves are provided with two connections to allow separate supply of release agent and atomizing air. The atomizing air and release agent can be adjusted individually to produce the required spray profile. Supply hoses for air and fluid must always be installed with sufficient size of diameter. When a number of valves are grouped together the hose lengths should be consistent for all valves to provide equal flow.

Items 97706  
97707  
97712  
97713

## Pressure Pots 3 litre / 5 litre / 10 litre / 30 litre



The Loctite® equipment range includes pressure tanks for all sorts of applications. The safety of each individual tank is based on tests in keeping with the strict rules of the German Pressure Tank Ordinance before they are cleared for the markets at home and abroad. Tanks are designed and produced according to virtually all applicable European standard specifications. The Loctite® Frekote® tanks are made of stainless steel in order to guarantee robustness and compatibility to a wide range of chemical agents. Other pressure pots are usually galvanized or cast iron or aluminum. These materials WILL REACT with release agents causing corrosion and contamination.

- Pressure Pot 10 litre 97712 and Pressure Pot 30 litre 97713 are designed for Spray Cart 97701.

### Features

- Wide opening lid for easy refilling.
- Safety relief valve.
- 2 pressure regulators with gauges.
- Automatic de-pressurising air inlet valve.

Item 97740

## HVLP Spray Gun



This model is a heavy duty spray gun, suited to spraying Loctite® Frekote® 1-Step. High Volume Low Pressure (HVLP) spraying is more efficient, cost effective and produces the same fine finish at the same speed as conventional compressed air spray guns, without all the 'over spray', 'bounce back' and air pollution.

### Technical Specification

- Weight: 650 g

### Features

- Nozzle and needle made from stainless steel.
- Duo-feed hose, 3 m.

# Finespray Gun

Item 97715

The Loctite® Frekote® FINESPRAY gun is designed specially to handle sprayable fluids of very low viscosities. Fine co-ordination of precision made nozzle, needle and aircap produce an atomizing result which, particularly when applying release agents gives an extreme smooth "lay" on moulds and dies. In accordance to latest regulations, release agents free of CFC are recommended for use with these guns. These agents provide a smooth finish of fine droplets to the surface, when applied with this gun. Worldwide, this very handy gun is most popular within the field of thermoplastic industries and the foundry industries. The short, lightweight gun body and the Duo-feed hose, which passes fluid as well as atomizing air through the grip, allows comfortable handling.

### Technical Specification

- Weight: 245 g

### Selector Charts

Accessories	Item #
Repair Set (2 extension tip O-rings, gaskets, counter nut, needle spring, 1 set of nozzle cleaning needles)	97730
Nozzles	
0.3 mm	8991501
0.5 mm	8991502
0.8 mm	8991503
Finespray Gun Extensions	
200 mm 90° fl.fan	97716
400 mm 90° fl.fan	97717
500 mm 90° fl.fan	97718
600 mm 90° fl.fan	97719
600 mm 45° fl.fan	97720
500 mm ringspray	97721



### Features

- 0.3; 0.5; 0.8 mm nozzles and needles made from stainless steel.
- Different nozzle extensions available.
- Aircaps for different spray angles available.
- Duo-feed hose, 3 m.



Extensions

# Spray Cart

Item 97701

This spray cart is designed to easily transport the 10 l / 30 l pressure pot 97712/97713 to the relevant place of application.

### Features:






- Robust stainless steel design.
- 4 wheels on wide distance to avoid flip over.
- Ergonomic height.
- Stowaway case to store spraygun after use.
- Sprayguns can be locked safely to avoid misuse.








# Dispensing

## Hand Held Applicators

Loctite® Hand Held Applicators are ergonomically designed for the hand delivery of Loctite® adhesives and fluids directly from their original package. Whether pneumatic or manual, each item is designed for the simple, clean, hand held dispensing of fluids, to reduce waste and operator contact over other methods. The selection of a Loctite® Hand Held Applicator is based on the product type, package configuration, and process requirements.

	30 ml Syringe Manual Applicator	Peristaltic Hand Pump	300 ml Cartridge Man./ Pneum. Dispenser	50 ml Dual Cartridge Manual Applicator	50 ml Dual Cartridge Pneum. Applicator
					
Item #	98026	97001	97040/97002	96001	97042
Page Reference	31	31	32	33	33
Adhesive Components	1	1	1	2	2
Used to Dispense	ALL	TL, RC	S, G	E, U, M	E, U, M
Viscosity Range	Low to High	Low to Medium	Medium to High	High to Paste	High to Paste
Manual/ Pneumatic	Manual	Manual	Manual/ Pneumatic	Manual	Pneumatic

	200 ml Dual Cartridge Manual Applicator	200 ml Dual Cartridge Pneum. Applicator	400 ml Dual Cartridge Repair Dispenser	400 ml Dual Cartridge Manual Applicator	400 ml Dual Cartridge Pneum. Applicator
					
Item #	96003	983437	32185	983438	983439
Page Reference	33	34	34	35	35
Adhesive Components	2	2	2	2	2
Used to Dispense	E, U, M	E, U, M	RR	E, U, M	E, U, M
Viscosity Range	High to Paste	High to Paste	Medium to High	High to Paste	High to Paste
Manual/ Pneumatic	Manual	Pneumatic	Manual	Manual	Pneumatic

ALL = All fluids in Approved Packages  
 E = Two-Component Epoxies  
 U = Two-Component Urethanes

M = Two-Component Methacrylates  
 RR = Rapid Rubber Repair Urethane  
 G = Gasketing Products

RC = Retaining Compounds  
 S = RTV sealants and adhesives

TL = Threadlockers



## 30 ml Syringe Manual Applicator

Item 98026

The Loctite® 30 ml Manual Syringe Dispenser is a hand-held, manually operated dispenser, for use with any product package in a standard 30 ml syringe. This dispenser provides a convenient, cost-effective method to apply product.

### List of Parts Supplied

- (1) 30 ml Manual Syringe Dispenser
- (1) Operating Manual

### Typical Fluids Handled

Any product package in a standard 30 ml syringe



### Features

- Pistol configuration for ease of application.
- Ergonomic design minimises operator fatigue.
- Easy syringe loading.
- Smooth dispensing.

## Peristaltic Hand Pump

Item 97001

The Loctite® Peristaltic Hand Pump is the "world's standard" for volumetric bottle-top applicators. It mounts easily on any Loctite® 50 ml or 250 ml bottle. It will not leak, regardless of the orientation of the bottle, minimising waste and converting the product package into a portable dispenser. Use this item for any application requiring single shots of product. It is especially useful for applications where freedom from product feed-lines is desirable.

### Technical Specifications

- Compatibility: Loctite® 50 ml or 250 ml anaerobic bottles
- Dimensions (W x H x D): 38 x 102 x 146 mm (1.5" x 4.0" x 5.75")

### List of Parts Supplied

- (1) Peristaltic Hand Pump
- (1) Set of Dispensing Needles
- (1) Operating Manual

### Theory of Operation

Each squeeze of the trigger will dispense single shots of Loctite® Threadlockers and Retaining Compounds from 0.01 to 0.40 ml, with viscosities up to 30 000 mPas. This unit requires no flushing, electricity, or air source.

### Typical Fluids Handled

Loctite® Threadlockers,  
Loctite® Retaining Compounds,  
Loctite® Low Viscosity Thread Sealants



### Features

- Adjustable positive displacement, 0.01 ml to 0.40 ml of product.
- Allows user to control amount and positioning of the adhesive.
- Converts product package into portable dispenser.
- Applicator nozzle accepts a variety of dispensing needles.

## Item 97040 300 ml Cartridge Manual Dispenser



The Loctite® Hand-Held 300 ml Cartridge Dispenser is a manually operated unit for dispensing product packaged in 300 ml cartridges. It is especially useful for applications where larger systems and packages, such as a pail pump system, is not desirable.

### Technical Specifications

- Dimensions (W x H x D): 203 x 343 x 38 mm (8" x 13.5" x 1.5")
- Weight: 800 g

### Typical Applications

The amount of product dispensed is controlled by the trigger is pressed.

### List of Parts Supplied

- (1) 300 ml Cartridge Manual Dispenser
- (1) Operating Manual

### Typical Fluids Handled

Loctite® Structural Acrylics, Loctite® Silicones, Loctite® Anaerobic Flange Sealants, 1K-Epoxies

### Features

- Optimal power transmission.
- Ergonomic shape for safe and easy handling in areas difficult to reach.
- Fiberglass-reinforced plastic housing for long-lasting reliability.
- Rapid-loading system to change cartridges clean and easy.
- Can be used with all standard cartridges.

## Item 97002 300 ml Cartridge Pneumatic Dispenser



The Loctite® Hand-Held 300 ml Cartridge Dispenser is a pneumatically operated unit for dispensing product packaged in 300 ml cartridges and 250 ml squeeze tubes. It is especially useful for applications where larger systems and packages, such as a pail pump system, is not desirable.

### Technical Specifications

- Air Inputs:
  - max. 8.5 bar (125 psi) with 300 ml cartridge
  - max. 1.5 bar (22 psi) with 250 ml squeeze tubes, filtered to a maximum of 10 microns
- Pneumatic Connection:
  - Thread diameter: R 1/4
  - Pneumatic hose: Inner diameter 6 mm minimum
- Dimensions (W x H x D): 203 x 343 x 38 mm (8" x 13.5" x 1.5")
- Weight: 800 g

### Typical Applications

The rate of application is controlled by the integrated air pressure regulator. The amount of product dispensed is controlled by the duration that the trigger is pressed.

### List of Parts Supplied

- (1) Hand-held 300 ml Cartridge Dispenser
- (1) Operating Manual
- (1) Adapter for 250 ml Squeeze Tubes
- (1) Two Spare Membranes

### Typical Fluids Handled

Loctite® Structural Acrylics, Loctite® Silicones, Loctite® Anaerobic Flange Sealants, 1K-Epoxies

### Features

- Integrated pressure regulator.
- Quick pressure relief.
- Use with 300 ml cartridges and 250 ml squeeze tubes.

## 50 ml Dual Cartridge Manual Applicator

Item 96001

The Loctite® 50 ml Dual Cartridge Manual Applicator is a hand-held, manually operated meter-mix dispenser. This dispenser provides a convenient, cost-effective method of applying product with minimal waste. The dispensers are compatible with 1:1 and 2:1 ratio products.

**List of Parts Supplied**

- (1) 50 ml Dual Cartridge Applicator
- (1) combined 1:1 / 1:2 Plunger
- (1) Operating Manual

**Typical Fluids Handled**

Loctite® 2-part Epoxies and Acrylics packaged in 50 ml dual cartridge syringes.



## 50 ml Dual Cartridge Pneumatic Applicator

Item 97042

The Loctite® 50 ml Dual Cartridge Pneumatic Applicator is a hand-held, pneumatically operated dispenser. This applicator provides a convenient, cost-effective method for applying product with minimal waste. The adjustable dispense rate is set via the integral air pressure regulator. The applicator is available for 1:1 / 1:2 mix ratio products. Mix nozzles are sold separately.

**Technical Specifications**

- Air Pressure Supply: max. 8 bar (125 psi), filtered to a maximum of 30 microns

**Typical Fluids Handled**

Loctite® 2-Part Adhesives packaged in 50 ml dual cartridges



## 200 ml Dual Cartridge Manual Applicator

Item 96003

The Loctite® 200 ml Dual Cartridge Manual Applicator is a hand-held, manually operated dispenser. This applicator provides a convenient, cost-effective method of applying product with minimal waste. It fits 1:1 and 2:1 mix ratio products.

Mix nozzles are sold separately.

**Typical Fluids Handled**

Loctite® 2-Part Adhesives packaged in 200 ml dual cartridges



Item 983437

## 200 ml Dual Cartridge Pneumatic Applicator



The Loctite® 200 ml Dual Cartridge Pneumatic Applicator is a hand-held, pneumatically operated dispenser. This applicator provides a convenient, cost-effective method for applying product with minimal waste. The adjustable dispense rate is set via the integral air pressure regulator. The applicator fits 1:1 and 2:1 mix ratio products.

Mix nozzles are sold separately.

**Technical Specifications**

- Air Pressure Supply: 125 psi (8.5 bar) maximum, filtered to a maximum of 30 microns

**Typical Fluids Handled**

Loctite® 2-Part Adhesives packaged in 200 ml dual cartridges

Item 32185

## 400 ml Dual Cartridge Repair Dispenser



The 400 ml Dual Cartridge Repair Dispenser is a hand-held, manually operated dispensing gun designed specifically for use with Fixmaster® Rapid Rubber Repair, a two component adhesive packaged in 400 ml cartridges.

**Theory of Operation**

Depress the thumb lever on the back of the dispenser and pull the plungers back. Insert the cartridge, equipped with a static mix nozzle, and push the plungers forward until they seat onto the cartridge. Dispense product by squeezing the trigger.

**Typical Fluids Handled**

Rapid Rubber Repair (400 ml cartridges)

**Features**

- Wide front opening to fit specific cartridges.
- Dedicated 1:1 Mix Ratio.
- 2 x 200 ml Cartridges.
- Bottom support straps provide secure cartridge location within frame.
- Ability to handle high viscosity materials.



## 400 ml Dual Cartridge Manual Applicator

Item 983438

The Loctite® 400 ml Dual Cartridge Manual Applicator is a hand-held, manually operated dispenser. This applicator provides a convenient, cost-effective method of applying product with minimal waste. It fits 1:1 and 2:1 mix ratio products.

Mix nozzles are sold separately.

### Typical Fluids Handled

Loctite® 2-Part Adhesives packaged in 400 ml dual cartridges



## 400 ml Dual Cartridge Pneumatic Applicator

Item 983439

The Loctite® 400 ml Dual Cartridge Pneumatic Applicator is a hand-held, pneumatically operated dispenser. This applicator provides a convenient, cost-effective method for applying product with minimal waste. The adjustable dispense rate is set via the integral air pressure regulator. The applicator fits 1:1 and 2:1 mix ratio products.

Mix nozzles are sold separately.

### Technical Specifications

• Air Pressure Supply: 125 psi (8.5 bar) maximum

### Typical Fluids Handled

Loctite® 2-Part Adhesives packaged in 400 ml dual cartridges.



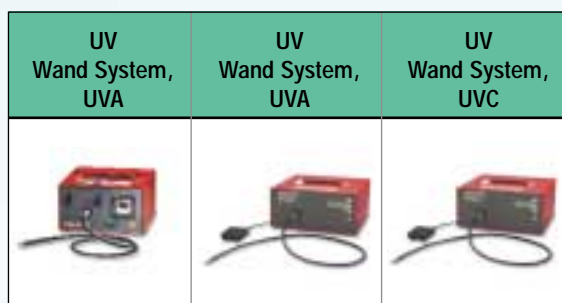
## Static Mix Nozzles Selector Chart

Product	Item No.	Description
	984569	50 ml Square Mix Nozzle, Luer/Stepped Combo Tip, 4.5" Overall Length, 5.3 mm, 1:1, 2:1, 4:1 mix ratios, (10 pk)
	983441	50 ml Mix Nozzle, Stepped Tip, 6" Overall Length, 6.3 mm, 1:1, 2:1, 4:1 mix ratios, (10 pk)
	984570	200/400 ml Square Mix Nozzle, Stepped Tip, 5.125" Overall Length, 7.5 mm, 1:1, 2:1 mix ratios, (10 pk)
	983443	200/400 ml Mix Nozzle, Stepped Tip, 8.75" Overall Length, 8 mm, 1:1, 2:1 mix ratios, (10 pk)
	983444	Luer-Lok Adapter for Mix Nozzles 983443, Allows for Dispense Needle Attachment, (10 pcs)
	97298	Luer-Lok Adapter for Mix Nozzles 984570 and 983441 Allows for Dispense Needle Attachment, (10 pcs)

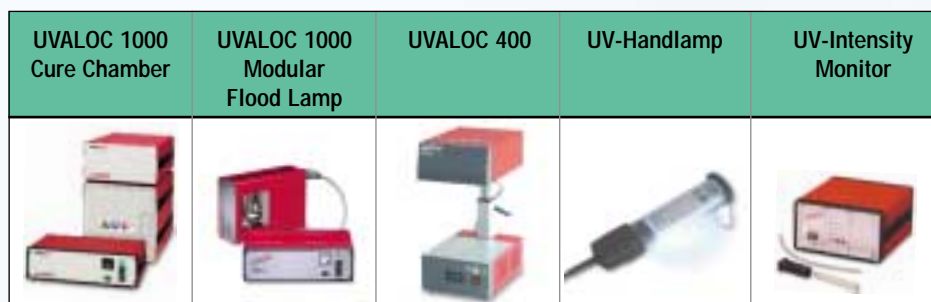
# Light Curing

## UV-Curing Systems

Loctite® UV-curing systems are state of the art units designed for the fast and reliable curing of UV-adhesives. These units combine safety, user-friendly design and reliability. The lamp is the heart of a light curing system. Selecting the correct lamp for the job is a matter of technical requirements and/or economic constraints. Loctite® light curing adhesives are cured by UVA light or UVA/visible light. Acceleration of surface (tack free) cure can be achieved with UVC light.



Item #	97032	97033	97034
Page Reference	37	37	38
Output Intensity	Medium	High	High
Power Consumption [W]	200	200	200
Spectral Wavelength (Standard Bulb)	320–410 nm	310–500 nm	250–500 nm
Optimized Spectral Output Range	UVA	UVA	UVA/UVC



Item #	97035	97036	97039	97050/97051	97037
Page Reference	38	39	40	41	41
Output Intensity	High	High	Medium	Low	–
Power Consumption [W]	1000	1000	400	9	N/A
Spectral Wavelength (Standard Bulb)	200 nm–400 nm	200 nm–400 nm	300–450 nm	350–400 nm	–
Optimized Spectral Output Range	UVA/UVC	UVA/UVC	UVA	UVA	N/A

## Medium Intensity UVA Wand System AC

Item 97032

The medium intensity UV Wand System AC is a spot curing system, designed to emit UVA and visible light (blue light). It is ideal for short production runs and manual processing.

### Technical Specifications

- Power Supply: 230 VAC  $\pm$ 10 %, 50 Hz
- Power Consumption: Max. 380 VA
- Lamp Type: 200 W high pressure mercury arc AC lamp
- Dimensions (W x H x D): 265 x 150 x 255 mm (10.4" x 5.9" x 10")
- Weight: 7.5 kg
- Emission Spectrum: 320–410 nm

### List of Parts Supplied

- (1) High intensity UV light source (UVA + UVB) (1) Operating Manual  
Flexible UVA-Lightguide has to be ordered separately.

### Theory of Operation

The UV Wand System is a medium-power lamp system for the curing of UV adhesives. The light proof design ensures a high degree of occupational safety. The lamp's emission spectrum and radiant power capacity were designed specifically to meet the requirements of UV-curable Loctite® Adhesives and Coating compounds. The shutter is driven by a DC motor. High reliability and short exposure times (shortest is 0.1 s) are the benefits of this design.

This light source is generally used to achieve depth of cure where a "tack-free" surface is not required.



### Features

- Economically priced.
- Medium Intensity UVA and visible light source.
- Choice of light guides.
- Variable time exposure controllable to 0.1 sec.
- Safety shutter.
- up to 600 hour bulb life.
- Ideal for short production and manual processing.

## High Intensity UVA Wand System DC

Item 97033

The Loctite® High Intensity UV Wand System DC is a high intensity spot curing system, designed to emit UVA and visible light (blue light) for extremely fast curing. It is ideal for high-volume production and short cycle times.

### Technical Specifications

- Power Supply: 110–240 VAC  $\pm$ 10 %, 50–60 Hz
- Power Consumption: Max. 380 VA
- Lamp Power Stabilisation: Better than 1 %
- Lamp Type: 200 W high pressure mercury arc DC lamp
- Dimensions (W x H x D): 340 x 160 x 310 mm (13.4" x 6.3" x 12.2")
- Weight: 7.5 kg
- Emission Spectrum: 310–500 nm

### List of Parts Supplied

- (1) High intensity UV light source (UVA + UVB) (1) Operating Manual  
Flexible UVA-Lightguide has to be ordered separately

### Theory of Operation

The High Intensity UV Wand System is a high-power lamp system for the curing of UV adhesives. The light proof design ensures a high degree of occupational safety. The lamp's emission spectrum and radiant power capacity were designed specifically to meet the requirements of UV-curable Loctite® Adhesives and Coating compounds.

The shutter is driven by a stepper motor. High reliability and very short exposure times (shortest is 50 ms) are the benefits of this design. This system offers capability for internal monitoring of the intensity of UV-radiation emitted by the lamp. This function provides additional safety in the production process as lamp performance is monitored on a continuous basis.

Calibration of the internal UV-meter on the „UV CALIBRATION“ menu (custom-desired percentage) can be done with the light guide installed by using an external radiometer.

This light source is generally used to achieve large cure through volume and rapid cure where a "tack-free" surface is not required.



### Features

- High Intensity UVA and visible light source.
- Choice of light guides.
- Variable time exposure controllable to 50 ms.
- Safety shutter.
- up to 1500 hour bulb life.
- Ideal for high-volume production and short cycle times.

## Item 97034

## High Intensity UVC Wand System DC



## Features

- High Intensity UVC, UVA and visible light source.
- Choice of light guides.
- Variable time exposure controllable to 50 ms.
- Safety shutter.
- up to 1500 hour bulb life.
- up to Ideal for very fast surface cure.

This high intensity spot curing system is designed to emit UVC light for fast surface cure as well as UVA and visible light (blue light) for cure through volume. The DC powered UV lamp is comparatively stable as opposed to AC powered UV lamps.

## Technical Specifications

• Power Supply	110–240 VAC $\pm$ 10 %, 50–60 Hz
• Power Consumption	Max. 380 VA
• Lamp Power Stabilisation	Better than 1 %
• Lamp Type	200 W high pressure mercury arc DC lamp
• Dimensions (W x H x D):	340 x 160 x 310 mm (13.4" x 6.3" x 12.2")
• Weight:	7.5 kg
• Emmision Spectrum:	250–500 nm

## List of Parts Supplied

(1) High intensity UV light source (UVA + UVB + UVC) (1) Operating Manual  
Flexible UVC Lightguide has to be ordered separately

## Theory of Operation

The High Intensity UV Wand System is a high-power lamp system for the curing of UV adhesives. The light proof design ensures a high degree of occupational safety. The lamp's emission spectrum and radiant power capacity were designed specifically to meet the requirements of UV-curable Loctite® Adhesives and Coating compounds. Absolutely dry and tack-free surfaces can be obtained very quickly.

The shutter is driven by a stepper motor. High reliability and very short exposure times (shortest is 50 ms) are the benefits of this design. This system offers capability for internal monitoring of the intensity of UV radiation emitted by the lamp. This function provides additional safety in the production process as lamp performance is monitored on a continuous basis.

Calibration of the internal UV meter on the „UV CALIBRATION“ menu (customer desired percentage) can be done with the light guide installed by using your external radiometer.

Lightguide	Item #	Lightguide	Item #
UVA Ø 5 x 1500 mm	97323	UVC Ø 5 x 1000 mm	97326
UVA Ø 8 x 1500 mm	97324	UVC Ø 8 x 1000 mm	97327
UVA 2 x Ø 3 x 1500 mm	97325	UVC 2 x Ø 3 x 1000 mm	97328

## Item 97035

## UVALOC 1000 Cure Chamber



## Features

- Can be used at manual and automatic workstations.
- Repeatable and exact curing results due to adjustable opening times of the shutter.
- Provides capability for tack-free cure of UV adhesives
- Effectively shielded UV-lamp.
- High degree of occupational safety.
- up to 800 hours of expected UVC bulb life (with proper handling and maintenance)

The UVALOC 1000 Cure Chamber is a high-intensity, bench top modular light cure system. It is equipped with a 1000 W medium pressure mercury arc lamp to provide good tack-free and depth of cure. The expected bulb life is 800 hours. Visible light bulbs for deep penetration or fe-doped mercury arc bulbs for combined tack-free and in depth curing are possible options.

The lamp is shielded by an automatic shutter, preventing operators from exposure during loading and unloading. The door is also safety interlocked which terminates the cycle and closes the shutter.

## Technical Specifications

• Power Supply:	230 VAC $\pm$ 4 %, 50 Hz
• Power Consumption:	approx. 1200 W
• Emmision Spectrum	200-400 nm with standard bulb (Pure Mercury vapour)
• Dimensions (W x H x D):	
Controller	471 x 150 x 262 mm (18.5" x 5.9" x 10.3")
Curing Cabinet with Lamp Housing	295 x 468 x 420 mm (11.6" x 18.4" x 16.5")
Internal Dimensions of Curing Chamber	230 x 240 x 270 mm (9.0" x 9.4" x 10.6")
• Weight:	
Controller	13 kg
Curing Cabinet with Lamp Housing	12.5 kg

## List of Parts Supplied

(1) Controller with Lamp Housing and Curing Cabinet (1) Footswitch 97201  
(1) Lamp Housing Connector Cord (1) Power Cord (1) Operating Manual

## Theory of Operation

The UVALOC System is a high-power lamp system for curing UV adhesives. This version is used for applications permitting manual loading of the curing cabinet. The lamp's emission spectrum and radiant power capacity were designed specifically to meet the requirements of UV-curable Loctite® Adhesives and Coating compounds. Absolutely dry and tack-free surfaces can be obtained very quickly. Exposure times can be preset to ensure precise repeatability of curing results.



# UVALOC 1000 Modular Flood Lamp

Item 97036

The UVALOC 1000 Modular Flood Lamp is a high intensity modular light cure system, designed for integration into an automated, customised cure system, e.g. conveyor system. It is equipped with a 1000 W medium pressure mercury arc lamp to provide good tack-free and depth of cure. The expected bulb life is 800 hours.

Visible light bulbs for deep penetration or Fe-doped bulbs for enhanced UVA output are possible options for special applications. The lamp is shielded by an automatic shutter, preventing excessive exposure during conveyor downtimes.

## Technical Specifications

• Power Supply:	230 VAC $\pm$ 4 %, 50 Hz
• Power Consumption:	approx. 1200 W
• Emission Spectrum	200–400 nm with standard bulb (Pure Mercury vapour)
• Dimensions (W x H x D):	
Controller	471 x 150 x 262 mm (18.5" x 5.9" x 10.3")
Lamp Housing	295 x 152 x 420 mm (11.6" x 6.0" x 16.5")
• Weight:	
Controller	13 kg
Lamp Housing	6.4 kg

## List of Parts Supplied

(1) Controller with Lamp Housing    (1) Lamp Housing Connector Cord    (1) Power Cord  
(1) Operating Manual

## Theory of Operation

The UVALOC System is a high-power lamp system for curing UV adhesives. This version is used for applications permitting automatic loading, e.g. via a transfer line. The lamp's emission spectrum and radiant power capacity were designed specifically to meet the requirements of UV-curable Loctite® Adhesives and Coating compounds. Absolutely dry and tack-free surfaces can be obtained very quickly.

## Selector Charts

Spare Parts	Item #
UVA bulb (Fe-doped)	97329
UVC bulb standard (pure mercury)	97330
UV-Visible Light bulb (Ga-doped)	97331

Accessories	Item #
UV Intensity Monitor (enhancement option)	97037
Lamp Housing Connection Cord	97332
Shutter Replacement Assembly	97333
Starter	97334
Ignition Capacitor with Integrated Starter	8952190
Temperature Switch	8952191



## Features

- For integration into automated, customised cure systems.
- Repeatable and exact curing results due to adjustable opening times of the shutter.
- Effectively shielded UV-lamp.

## Item 97039

## UVALOC 400

**Features**

- Contains a 10 cm (4"), 400 W Metal Halide bulb.
- Optimised to emit in the UVA region.
- Typical curing area of 10 x 19 cm (4" x 7").
- up to 1000 hours of expected UV bulb life (with proper handling and maintenance).
- Power supply can be separated from the lamp base assembly.
- Lamp height is adjustable.
- Contains a glass filter to prevent the short UVB/UVC lamp emission.

The UVALOC 400 is only suitable for UVA and visible light curing Loctite® Adhesives. It can be used at manual workstations in batch manufacturing processes, shops and laboratories. The emission spectrum (UVA) and radiant power capacity were designed to meet the requirements of UV curable Loctite® Adhesives and Coating compounds. The UVALOC 400 is a modular system that includes a power unit with integrated power switch, hour meter, ballast, lamp housing with bulb, reflector and ignition capacitor/starter unit.

**Technical Specifications**

- Power Supply: 230 VAC  $\pm$  4 %, 50 Hz
- Power Consumption: approx. 450 W
- Warm-up time of UV Lamp: 3 min
- Lamp Type: 400 W high performance halogen metal vapour bulb, double sided plug-type socket
- Lamp Life: approx. 1000 hours
- Intensity: Typical 60 mW/cm<sup>2</sup>
- Emission Spectrum: 300–450 nm with standard bulb
- Dimensions (W x H x D): 220 x 472 x 300 mm (8.7" x 18.6" x 12")
- Weight: 11.5 kg

**List of Parts Supplied**

- |                      |                               |  |
|----------------------|-------------------------------|--|
| (1) UVALOC 400       | (1) Power Cord                | (1) UV Protective Glasses                  |
| (1) Silicone Pad     | (1) Pair of Protective Gloves | (1) Protective Curtain with Mounting Parts |
| (1) Operating Manual |                               |  |

**Theory of Operation**

The UVALOC system is a UVA lamp system for curing UV adhesives. It is used for applications permitting manual loading. Exposure times must be controlled with an external timer to ensure precise repeatability of curing results. The lamp has an expected operating life time of 1000 hours. The UV lamp intensity deteriorates gradually with time, that means, that the lamp life depends extremely on the operating intervals' length, as each ignition process wears the lamp considerably.

**Selector Chart**

Accessories/Spare parts	Item #
UVA Bulb 400 W	97246
UV Protection Curtain	97302
UV Protection Box	97300
UV Prtective Glasses	97210
Silicone Pads (2 pcs.)	97304
UVB/UVC Filterglass	97303

# UV-Handlamp

Item 97050  
Item 97051

The UV-Handlamp for curing UV and visible light curable adhesives and coatings is specially designed for hand-held operation, e.g. mobile use. It can also be used for hands free operation when required.

### Technical Specifications

- Power Supply: 230 VAC  $\pm$  4 %, 50 Hz
- Power Consumption: 9 W
- Emission Spectrum: 350–400 nm
- Dimensions (W x H x D): 210 x 50 x 40 mm (8.3" x 2" x 1.6")
- Weight: 170 g

### List of Parts Supplied

- (1) UVA Handlamp with remote Power Supply/Ballast
- (1) Lamp stand
- (1) Operating Manual

### Theory of Operation

Since the UV-Handlamp is not equipped with a switch, the ballast unit has to be plugged into the socket to switch on and disconnected again to switch off the lamp. The lamp is only for curing UV and visible light curable adhesives and coatings.



### Features

- Ideal for mobile use, e.g. repair.
- Hand-held or hands-free operation possible.
- UV and visible light curing.
- Lamp lifetime up to 3000 hours.
- 97050: Continental plug version
- 97051: UK plug version

# UV-Intensity Monitor

Item 97037

The UV-Intensity Monitor is a monitoring system designed for use with the UVALOC 1000 systems. A UV-sensor with light guide continuously registers the intensity of the UV-lamp in the UVALOC system lamp housing. One UV-Intensity Monitor is designed to monitor one UV-lamp but can be upgraded with another measuring channel to monitor a second UV-lamp.

### Technical Specifications

- Electrical Power: 230 VAC, 50 Hz
- Dimensions (W x H x D): 260 x 155 x 270 mm (8.7" x 18.6" x 12")
- Weight: 7.0 kg

### The system consists of:

- (1) Monitor unit
- (1) UV-sensor
- (1) Light Guide
- (1) Adaptor for Integration in a UVALOC 1000 System
- (1) Operating Manual

### Theory of Operation

The UV-sensor with light guide continuously monitors the intensity of the UV-lamp in the UVALOC system lamp housing. It interpretes the signal and converts it in a "Positive/Negative" display. The threshold limit of the intensity loss can be preselected dependent on particular process requirements.



# Custom

## Custom Equipment Systems

The Henkel Loctite Equipment Engineering Group can modify any of our standard dispensing or curing systems, or custom develop a system which combines our technology with your current manufacturing process. To access these services or obtain more information, call your Henkel Loctite Adhesives and Sealants Specialist.

One of the most significant factors in making a process work is getting the adhesive to the part efficiently and effectively. Since 1971, the Henkel Loctite Equipment Engineering Group has specialised in the design, manufacture, and testing of custom equipment systems and processes for applying and curing Loctite® Adhesives. Henkel Loctite equipment and application engineers partner with customers to ensure the correct selection of adhesive is achieved and the optimum process equipment is implemented onto the production line. The following are just some of the custom systems the Henkel Loctite Equipment Engineering Group can provide.

- **Dispense Workstations**
- **Silicone Pumping Systems**
- **UV Curing Systems**
- **Turnkey Bonding, Curing, Material Handling**
- **Porosity Sealing Systems**
- **Robotic X-Y-Z Gasketing Systems**
- **Silkscreen and Stencil Systems**
- **Pre-Applied Sealant Dispense Systems**

Loctite® custom equipment systems provide optimal compatibility with Loctite® products. The Henkel Loctite total systems approach of offering customers a "one-stop shop" for adhesive and equipment, ensures that the system will meet or exceed expectations. No one is more capable of designing a system to apply and cure adhesives than the manufacturer of the adhesives. Our experience and unique partnership between customer, application engineering, and equipment engineering guarantees the highest level of expertise in the field of adhesive applications.



# Global Rotor Spray System (Volumetric Version)

With the Rotorspray system Loctite® products can be applied to the interior surface of cylindrical parts. The Rotorspray system is operated in combination with either a dispense valve or a positive displacement pump. The simultaneous control of these units is provided by a customer PLC or a Loctite® Controller. The Rotorspray 97145 is additionally equipped with an integrated safety switch. When a disturbance occurs during the forward movement of the advancing slide the safety switch switches off the dispensing cycle before the rotorspray starts. This will happen only in conjunction with an advancing slide. The integrated electronic can be adjusted according to the necessities of the application. Owe to the special design, the drive assembly and the rotor housing cannot stick together, in case of the product's flowing back. Only low viscose anaerobic adhesives or oil can be applied with the Rotorsprays.

## Technical Specifications for 97144/97145

- Power Supply: 24 VDC
- Power Consumption: 0.2 A, for short periods 2 A
- Rated Speed: 8000 RPM
- Adjustable Speed Range: 3500–8000 RPM
- Dimensions (W x H x D): 35 x 305 x 70 mm (1.38" x 12" x 3.1")  
(with standard rotor disk)
- Weight: 600 g
- Clamping diameter: 35 mm (1.38")
- Rotor disk range: dia. 10–90 mm

## List of Parts Supplied

(1) Operating Manual

## Theory of Operation

The Rotorsprays 97144/97145 are designed to be clamped in fixtures. The dispensing valve is clamped in the holder of the rotorspray so that the tip of the flexible dispensing needle is located at the inside of the wetting holes on the rotor disc.

A PLC is required to control:

- The switching on of the rotorspray.
- The dispensing after the rated rotor speed is reached and during the pre-selected dispensing time.
- The switching off of the rotorspray.

As long as the dispensing valve is open, the product is dispensed through the wetting holes by centrifugal force and uniformly distributed onto the cylindrical inner surface of the part.

The head of the rotorspray has longitudinal play of 5 mm. Within this distance, unintentional contact with an obstacle can be compensated without the rotor disk or the drive assembly and its shaft being damaged. Furthermore the drive assembly is designed that in case the product flows back, the drive assembly and the rotor housing cannot bond together. With longitudinal play and with the special design of the drive assembly a perfect function is guaranteed. When a disturbance occurs in a dispensing sequence:

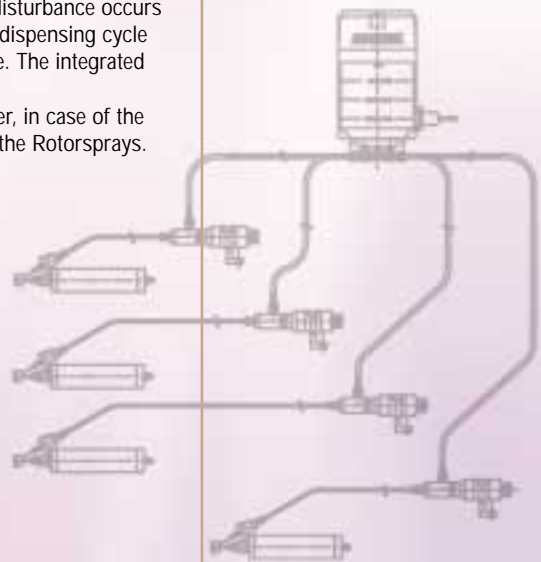
- The dispensing sequence is stopped.
- The rotorspray is switched off then the advancing slide retracts.
- The Loctite® Controller signals a error message with an audible alarm.
- When controlled by a PLC, a customised error signal can be implemented.

## Typical fluids handled

Low and medium viscosity anaerobic, UV products and oil.

## Selector Chart

Accessories	Item #
Online Flow Monitor	Z6200/Z6224
Fluid Waveform Analyser Series 4	900986
Special dispensing valves	–
Rotor prolongation with special dispense nozzle	–
Precision Metering Dispenser	97610
Standard rotor disk dia. 10 mm	8950659
Standard rotor disk dia. 15 mm	8952150
Standard rotor disk dia. 20 mm	8952551
Standard rotor disk dia. 25 mm	8950664
Standard rotor disk dia. 30 mm	8952552
Standard rotor disk dia. 40 mm	8952553
Sensor adapter by using Z6200 Z6224 900968	8964230
Standard rotor prolongation 150 mm	8952119



Items 97144  
97145



## Features

- Either volumetric dispensing with gravity feed reservoir and positive displacement pump or pressure/time system with pressure tank.
- Fully conform to Automotive production requirements.
- Easily integrated into robotic dispensing stations, directly controlled by a robot or PLC station.
- No additional control unit necessary.
- Protection grade IP54.
- Rated monitored time to reach speed.
- Adjustable monitored time to reach speed.
- Integrated safety switch (97145).
- UL and CSA approval (NRTL certification).

# Global Customized Silicone System

The Silicone Dispensing System in connection with a dispense valve or eccentric rotor pump can be used in automatic assembly lines or other partly or fully automated work places. It is designed for Loctite® products in 20 l pails or 200 l drums. Maximum feed pressure is 250 bar (750 psi).



### Technical Specifications

- System supply pressure: min. 5 bar–max. 8 bar
- Quality of Air: Filtered 10 µm, oil-free, non-condensing
- Feed pump radiation: 55:1
- Dimensions (W x H x D):
  - Single pail system 20 L: 740 x 785 x 2075 mm
  - Double pail system 20 L: 1320 x 785 x 2075 mm
  - Double pail system 200 L: 2394 x 1730 x 2780 mm
- Power supply with Loctite® Standard Motor: 230 VAC / 50 Hz
- Weight: 200 kg / 400 kg

### List of Parts Supplied

- (1) Drum pump system
- (1) Operating Manual

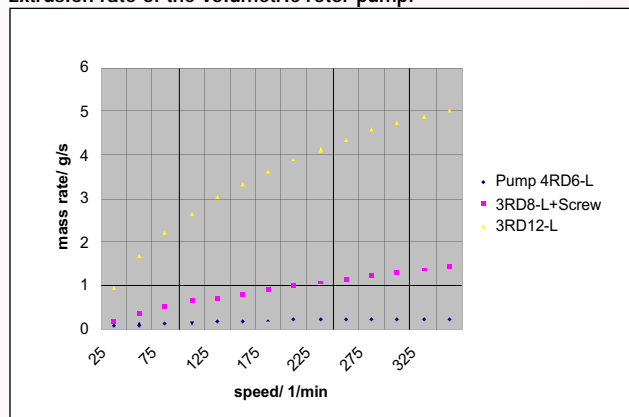
### Theory of Operation

The Loctite® product is conveyed by the extrusion pump from a 20 l pail or 200 l drum. The output pressure of the product can be continuously regulated by control of the air pressure on the motor. The product is conveyed from the pump through a recommended optional material filter and a reinforced moisture impermeable maximum 10 m high-pressure hose to the material pressure regulator. This regulator reduces the high conveying pressure to the operational pressure required for dispensing. This has the effect of smoothing the pressure peaks that are created by the drum pump. The product, regulated to the operational pressure, is conveyed through a maximum 2 m long high pressure and highly flexible feedline to the eccentric rotor pump. This pump is a volumetric dispense pump that provides an output quantity that is proportional to the rate of rotation. This ensures accurate and repeatable dispensed quantities can be achieved.

### Features

- Volumetric dispensed beads and drops.
- Two hand push button to comply with safety regulations.
- Special high pressure, high flexible product hose.
- Integrated silicone filter.
- Manual or pneumatic driven ball valves to ventilate the system.
- Product flow control with hardened seat and ball.
- Single or double pail system available.
- Two different types of volumetric rotor pumps available 3 RD8-L/ 3 RD12-L
- Special shut off valve with spring return 97664

### Extrusion rate of the volumetric rotor pump:



**Typical fluids handled:** Medium and high viskose silicones. Other products on request.

### Selector Chart

Options	Item #
Volumetric rotor pump 3 RD 8-L/RD 12-L	97663
Volumetric rotor pump 3 RD 12-L	97660
Shut off valve for silicones	97664
Special shut off valve for abrasive silicones	984594
Protective encasement	97660
Online Flow Monitor	Z6200/Z6224
Fluid Waveform Analyser Series 4	900986

# Global Customized Twin Cartridge System

The Twin Cartridge Dispenser 97630 interfaced with a dispensing valve or eccentric rotor pump can be used in transfer lines or other automatic work stations.

## Technical Specifications

- Power Input: 24 VDC/ 230 VAC 50 Hz
- Pneumatic supply: min. 4 bar (min. 58 psi)
- Maximum feed pressure: 3.5 bar (51 psi)
- Overpressure safety valves: Preset to 4 bar (58 psi)
- Connections
  - Pneumatic hose: OD 6 mm, ID 4 mm
  - Product Feedline: ID 1/2", high pressure flexible PTFE hose, maximum length 5 m
  - Product Fitting Thread: G3/4"
- Dimensions (W x H x D): 2000 x 350 x 600 mm (80" x 14" x 24") without rack

## List of Parts Supplied

- (1) Twin cartridge system
- (1) Operating Manual

## Theory of Operation

It is built as a two channel dispenser (A and B) whereas only one channel can be pressurized the same time. If the pressurized dispenser is empty the other one must be pressurized automatically. In the same time the tap valve needs to be switched over to the corresponding dispenser.

Optional it is possible to equip the twin cartridge dispenser with 2 manual ball valves for bleeding the feedlines. All electrical connections were subsumed to two ready to connect interface boxes (6-way) as interfaces to the controller.

The system is available for 300 ml cartridges and 850 ml cartridges.

## Typical fluids handled

Medium and high viscosity anaerobic product in their "robotic" version.

## Selector Chart

Options	Item #
Volumetric rotor pump 3 RD 8-L with DAI-EL stator	97669
Volumetric rotor pump 4 RD 6-L	97665
Manual or pneumatic driven ball valves to ventilate the system	-
Special mounting rack	-
Online Flow Monitor	Z6200/Z6224
Fluid Waveform Analyser Series 4	900986
High Pressure Dispensing Valve	97645
Stationary Applicator Valve	97114



## Features

- Volumetric dispensed beads and drops.
- Special high pressure, high flexible product hose.
- Conforms to automotive requirements.
- Manual or pneumatic driven ball valves to ventilate the system.
- Easily integrated into robotic dispensing stations.
- Single or double cartridge system available.
- Two different types of volumetric rotor pumps available.
- High Pressure Dispensing Valve 97645



Item Z6200  
Z6224

# Online Flow Monitor



The Loctite® Online Flow Monitor is designed for inspection and detection work, such as check of product quantity and bubble. The accuracy of the measurement can be simply adjusted by a tolerance setting knob at the front panel. It is equipped with a Statistical Process Control (SPC) interface, optimised software for the use of the eccentric rotor pump. The Loctite® Online Flow Monitor is limited to constant extrusion of the rotor pump within the pre-selected reference track.

**Z6200:** Used with supply voltages 100–240 VAC, 47-63 HZ

**Z6224:** 24 V version with 24 V power supply DC-DC converter

### Technical Specifications

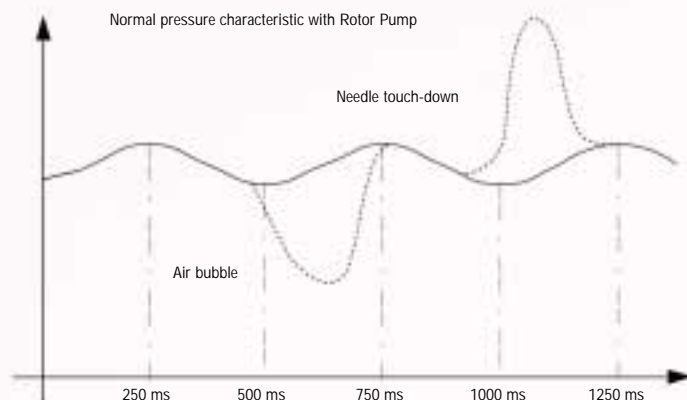
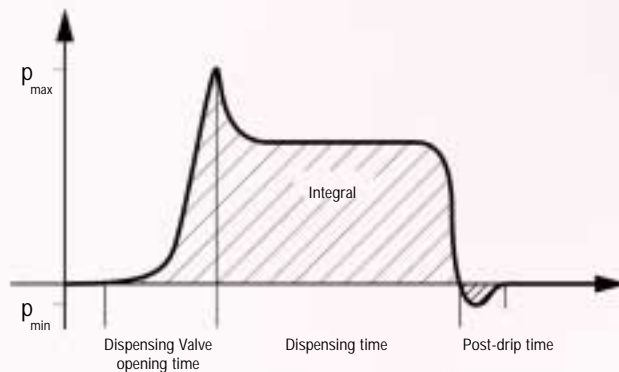
- Bench-top housing 19" technology
- Modular power supply
- Analogue-digital converter
- Measuring amplifier
- Interface analogue output
  - Parallel interface digital IN/OUT
  - Serial interface
  - Input for sensor signal
- Dimensions (W x H x D): 262 x 165 x 180 mm (10.5" x 6.6" x 7.2")
- Weight: 4 kg

### List of Parts Supplied

(1) Online Flow Monitor (1) Operating Manual

### Selector Chart

Options	Item #
Pressure Sensor 3.5 bar, maximum length of the sensor cable 8 m	8952025
Pressure Sensor 35 bar, maximum length of the sensor cable 8 m	8952026
Pressure Sensor 70 bar, maximum length of the sensor cable 8 m	8952027





# Fluid Waveform Analyzer

Item 900986

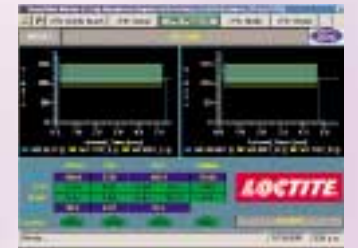
The Loctite® Fluid Waveform Analyzer Signature Series 4 equipment is industry proven, state of the art fluid detection equipment, for use where high quality production and data inspection is desired. It uses "real time" data acquisition to detect plugged and broken dispense nozzles, nozzle voids, no dispense, low pressure (under sized beads), high pressure (over sized beads), blocked nozzles and air bubbles. The units can be used with fluids of water thin viscosity to thick pastes. The resulting output is a waveform, which when compared to a pre-programmed standard waveform, determines whether the process is in or out of control. Data acquisition can be stored locally or to a LAN.

### Technical Specifications

- Capable of 4 synchronous analogue channels
- Monitoring of drops or beads longer than 1 second
- InspecXion® Software with built in statistically based "learn" mode and SPC analysis to easily establish product test limits and process control limits
- Uses the latest Intel Pentium™ processing technology, internal measurement and control modules for signal conditioning and interfacing.
- Includes hard disk, CD writer, power supplies, cooling fans and sensor termination panel.
- Configurable for test sequencing, data acquisition, waveform analysis, pass/ fail reporting, data storage, and PLC communications
- 8 digital I/ O channels
- 1 encoder input channel
- Optional VGA monitor
- Dimensions (W x H x D): 500 x 500 x 800 mm (20" x 20" x 32")
- Weight: 40 kg

### List of Parts Supplied

- (1) Fluid Waveform Analyser
- (1) Operating Manual
- (1) Pressure sensor 3.5 bar or 70 bar, maximum length of the sensor cable 8 m.



# Shut Off Valve

Item 97664

The shut off valve is used in combination with the Eccentric-Rotor-Pump 3RD8-L / 4RD6-L / 3RD12-L for dispensing Loctite silicones. It is opened and closed by a double acting cylinder, which is controlled by the controller of the eccentric rotor pump.

### Technical Specifications

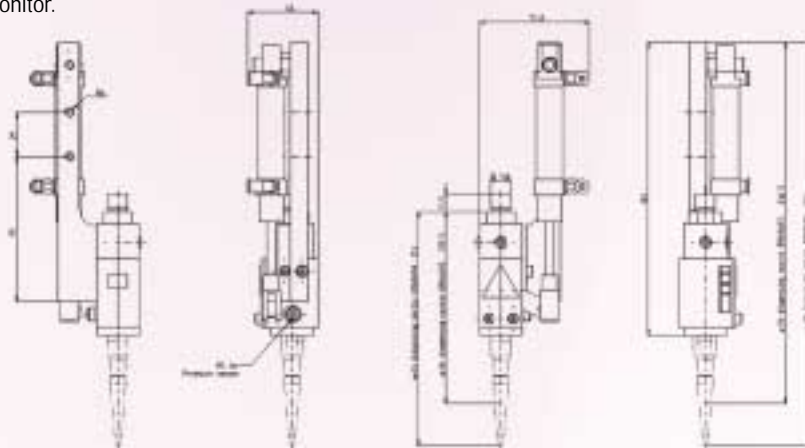
- Product Pressure max.: 40 bar (580 psi)
- Supply Air Pressure: min 5 bar (73 psi), max. 10 bar (145 psi)
- Quality of Air: Filtered non-oiled or filtered oiled
- Dimensions (W x H x D): 142 x 75 x 50 mm (5.7" x 3" x 2")
- Weight: 0.500 kg

### List of Parts Supplied

- (1) Shut-off valve
- (1) Operating Manual

### Theory of Operation

The valve is mounted between the eccentric rotor pump and the dispensing nozzle. A pressure sensor can be directly screwed into the valve body to monitor dispensing pressure when using a Fluid Waveform Analyser or Flow monitor.



### Features

- The product flow is straight from the outlet of the rotor pump through the shut off valve
- Simple, fast and easy maintenance, due to clever design
- Replacement of the shut off valve without correction of the robot TCP
- Safety close with integrated spring return

# Equipment Applications

Henkel Loctite is not only supplier of state-of-the-art dispense modules, but can also design and build complete customized assembly stations. These can include robots, x/y-axis, rotary index tables and fully automatic feed systems or a combination of standard modules and customized equipment.

## Standard Equipment



Turntable for bonding of solid gaskets



UV-curing station for power plant components



Dispense and assembly station for car engine parts

# Special Equipment

Assembly line for sensors



Global Silicone System



Automatic silicone gasketing  
dispensing with x-/y-robot



Dispense an UV-curing station  
for medical bonding application



# Impregnation System (LIS)

With its Loctite Vacuum Impregnation System (LIS), Henkel Loctite has many years of experience providing an approved system for sealing microporosity in castings and powder metal parts by means of appropriate resins.

Loctite porosity sealed parts increase production, decrease scrap and eliminate costly inspections. They allow designers the greater use of powder metal parts and thin-walled, lighter materials such as aluminium and magnesium castings. These metals are easier to shape, less costly to produce and reduce the weight of assemblies. Loctite resins not only seal parts but enhance the quality of plating, painting and powder coating.

Henkel Loctite offers both:

- Impregnation services world-wide either in Loctite-operated Service Centres or through authorised contractors
- Engineering, manufacturing and delivery of tailor-made LIS installations, turn-key, for in-house impregnation

Consequently, the benefits for customers are:

- High flexibility in projects
- Dealing with only one competent partner for in-house and service impregnation
- Extensive customer consulting
- Delivery of turn-key LIS installations including process control (PLC), erection, start up, training and after sales service
- Engineering, projects being executed via 3D-design
- Continuous development of advanced Loctite resin formulations
- Environmental impact minimised by the Loctite recycling system

With so many systems installed and operating in the field, Henkel Loctite has accumulated a wealth of experience in impregnation technology. Customer feedback translates directly into continuous improvement of our products.

Henkel Loctite impregnation sealants meet specification requirements for most major vehicle manufacturers and automotive subsuppliers as well as other OEM manufacturers (e.g. sanitary equipment).

More detailed information is available from:

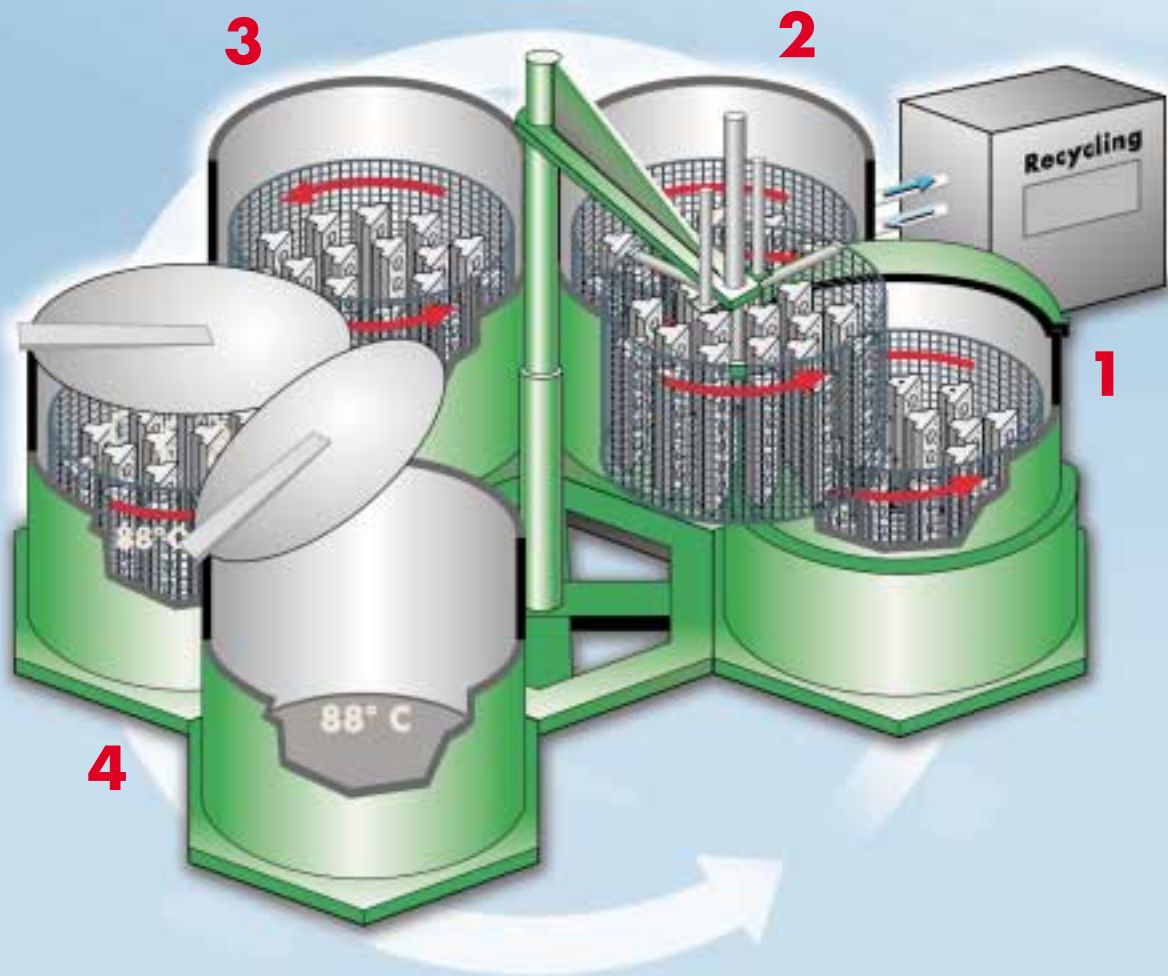
- the local Loctite sales organisations
- the European LIS Group based in Garching (near Munich), Germany
- Internet ([www.loctite.com](http://www.loctite.com))





# The Loctite Impregnation Process

The parts are stacked in processing baskets and positioned in the loading station of the impregnation system. Then the fully automated processing cycle for impregnation of the parts begins.



- 1** ■ Dry vacuum  
■ Wet vacuum  
■ Allow sealant to fill porosities, shrinkage cavities, capillary pores and cracks  
■ Centrifuge batch to remove excess sealant from part surfaces

- 2** ■ Wash parts  
■ Centrifuge batch to prepare for the rinse step

- 3** ■ Rinse parts  
■ Centrifuge batch to prepare for the cure step

- 4** ■ Cure the sealant within part porosities  
■ Centrifuge to remove surface water, and dry parts.

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For more information about the adhesive application systems, dispensing equipment, and ordering information, please contact your local specialist Henkel Loctite support group.

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