

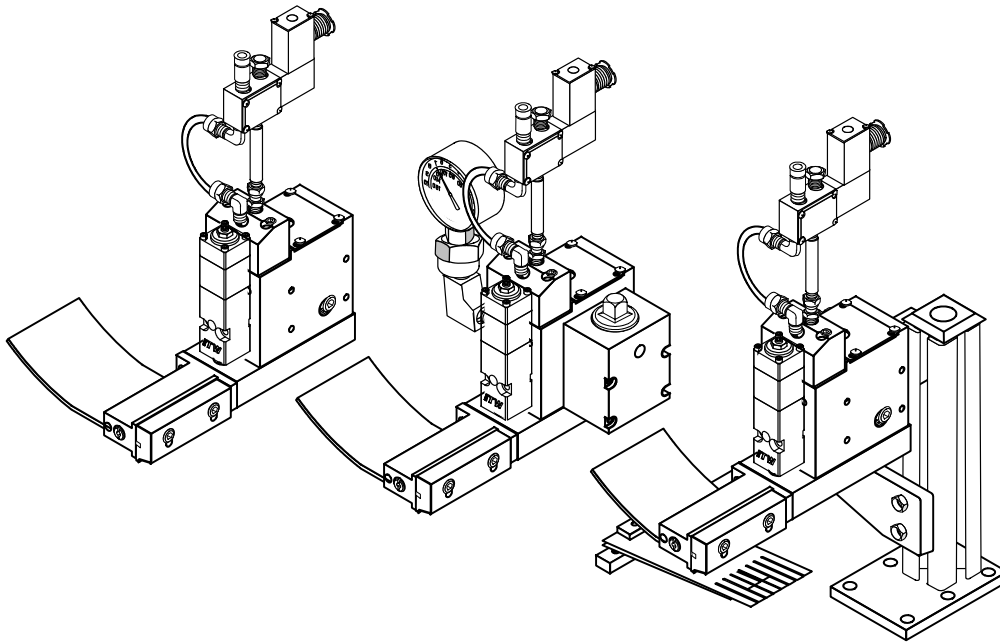


The Next Level of Technology

■ innovation ■ service ■ reliability

OPERATIONS AND SERVICE MANUAL

MR1300 HI FLOW SLOT DIE HOT MELT ADHESIVE APPLICATOR HEADS



IMPORTANT ! - READ ALL INSTRUCTIONS BEFORE OPERATING THIS EQUIPMENT

It is the customer's responsibility to have all operators and service personnel read and understand this information. Contact your ITW Dynatec customer service representative for additional copies.

NOTICE! Please be sure to include the serial number of your application system each time you order replacement parts and/or supplies. This will enable us to send you the correct items that you need.

**ITW Dynatec Service Parts Direct Dial: 1-800-538-9540
ITW Dynatec Technical Service Direct Dial: 1-800-654-6711**



SAFETY INSTRUCTIONS

GENERAL CONSIDERATIONS

1. Read and follow these instructions. Failure to do this could result in severe personal injury or death.
2. Additional safety instructions and/ or symbols are located throughout this manual. They serve to warn maintenance personnel and operators about potentially hazardous situations.
3. Inspect the machine for unsafe conditions daily and replace all worn or defective parts.
4. Keep work area uncluttered and well lit.
5. All covers and guards must be in place before operating this equipment.

For precautions and definitions of safety symbols, refer to the Safety Chapter of the service manual.

SERVICING EQUIPMENT

1. Only trained personnel are to operate and service this equipment.
2. Never service or clean equipment while it is in motion.

Shut off the equipment and lock out all input power at the source before attempting any maintenance.
3. Follow the maintenance and service instructions in the manual.

SIGNS

1. Read and obey all of the warning labels, signs and caution statements on the equipment.
2. Do not remove or deface any of the warning labels, signs and caution statements on the equipment.
3. Replace any warning labels, signs and caution statements which have been removed or defaced. Replacements are available from ITW Dynatec.

ADDITIONAL CONSIDERATIONS

1. To ensure proper operation of the equipment, use specified electrical and/ or air supply sources.
2. Do not attempt to alter the design of the equipment unless written approval is received from ITW Dynatec.
3. Keep all manuals readily accessible at all times and refer to it often for the best performance from your equipment.

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Adhesive Application Solutions

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Chapter 1 SAFETY PRECAUTIONS

All operators and service personnel must read and understand this manual before operating or servicing equipment.

All maintenance and service on this equipment must be performed by trained technicians.

Electrical



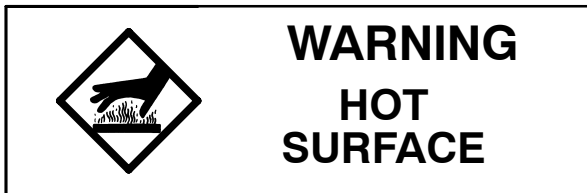
Dangerous voltages exist at several points in this equipment. To avoid personal injury, do not touch exposed connections and components while input

power is on. Disconnect, lockout and tag external electrical power before removing protective panels.

A secure connection to a reliable earth ground is essential for safe operation.

A disconnect switch with lockout capability must be provided in the line ahead of the unit. Wiring used to supply electrical power should be installed by a qualified electrician.

High Temperatures



Severe burns can occur if unprotected skin comes in contact with molten adhesive or hot application system parts.

Safety glasses, gloves and long-sleeved clothing must be worn whenever working with or around adhesive application systems.

High Pressure



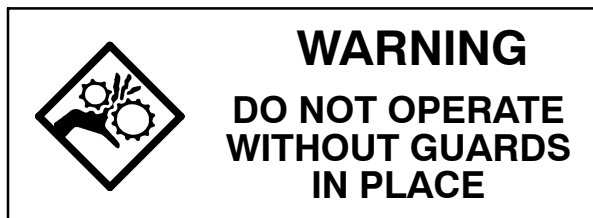
To avoid personal injury, do not operate the equipment without all covers, panels and safety guards properly installed.

To prevent serious injury from molten adhesive under pressure when servicing the equipment, disengage the pumps and relieve the adhesive system's hydraulic pressure (e.g., trigger the heads, hand-held applicators, and/or other application devices into a waste container) before opening any hydraulic fittings or connections.

IMPORTANT NOTE: Even when a system's pressure gauge reads "0" psig, residual pressure and trapped air can remain within it causing hot adhesive and pressure to escape without warning when a filter cap or a hose or hydraulic connection is loosened or removed. For this reason, always wear eye protection and protective clothing.

Either of the two High Pressure symbols shown may be used on equipment.

Protective Covers



Keep all guards in place!

To avoid personal injury, do not operate the application system without all covers, panels and safety guards properly installed.

Eye Protection & Protective Clothing



Wear safety glasses with side shields which conform to ANSI Z87.1 or EN166.

Failure to wear safety glasses could result in severe eye injury.

It is important to protect yourself from potential burns when working around hot melt adhesive equipment.

Wear protective gloves and long-sleeved, protective clothing to prevent burns that could result from contact with hot material or hot components.

Always wear steel-reinforced safety shoes.

It is very important that you PROTECT YOUR EYES when working around hot melt adhesive equipment!

Safe Installation and Operation

To avoid possible failure of hoses, make sure all hoses are routed to avoid kinking, tight radius turns (8" or less) and abrasive contact. Hot-melt hoses should not have prolonged contact with heat-absorbing surfaces such as cold floors or metal troughs. These heat-absorbing surfaces can alter adhesive flow and cause incorrect calibration. Hoses should never be covered with materials that prevent heat dissipation, such as insulation or sheathing.

Read this manual before applying electrical power to the equipment. Equipment may be damaged by incorrect electrical connections.

Do not use adhesive that is dirty or that may be chemically contaminated. Doing so can cause system

clogging and pump damage.

When adhesive hand-held applicators or other movable applicators are used, never point them at yourself or at any other person. Never leave a hand-held applicator's trigger unlocked when not actually in use.

Do not operate the hopper or other system components without adhesive for more than 15 minutes if the temperature is 150 degrees C (300 degrees F) or more. To do so will cause charring of the residual adhesive.

Never activate the heads, hand-held applicators and/ or other application devices until the adhesive's temperature is within the operating range. Severe damage could result to internal parts and seals.

Treatment for Burns From Hot Melt Adhesives

Burns caused by hot melt adhesive must be treated at a burn center.

Care should be used when working with hot melt adhesives in the molten state. Because they rapidly

solidify, they present a unique hazard.

Even when first solidified, they are still hot and can cause severe burns. When working near a hot melt application system, always wear safety gloves, safety glasses and long-sleeved, protective clothing.

Always have first-aid information and supplies available.

Call a physician and/or an emergency medical technician immediately.

Service

Refer all servicing to qualified personnel only.

Explosion/ Fire Hazard

Never operate this unit in an explosive environment.

Use cleaning compounds recommended by ITW Dynatec or your adhesive supplier only. Flash points

of cleaning compounds vary according to their composition, so consult with your supplier to determine the maximum heating temperatures and safety precautions.

Lockout/ Tagout

Follow OSHA 1910.147 (Lockout/ Tagout Regulation) for equipment's lockout procedures and other important lockout/ tagout guidelines.

Be familiar with all lockout sources on the equipment.

Even after the equipment has been locked out, there may be stored energy in the application system, particularly in the capacitors within the panel box. To ensure that all stored energy is relieved, wait at least one minute before servicing electrical capacitors.

Use of PUR (Polyurethane) Adhesives

PUR adhesives emit fumes (MDI and TDI) that can be dangerous to anyone exposed to them. These fumes cannot be detected by the sense of smell. ITW Dynatec strongly recommends that an exhaust hood or system be installed over any PUR system.

Consult with your adhesive manufacturer for specifics about required ventilation.



CAUTION: Because of the nature of PUR adhesives to strongly bond in the presence of moisture, care must be taken to prevent them from curing inside Dynatec equipment. If PUR adhesive solidifies in a unit, the unit must be replaced. Always purge old PUR adhesive from the system per your adhesive manufacturer's instructions and timetable. **ALLOWING PUR ADHESIVE TO CURE IN A UNIT VOIDS ITW DYNATEC'S WARRANTY.**

In This Manual

WARNINGS and CAUTIONS are found throughout this manual.

WARNINGS mean that failure to observe the specific

instructions may cause injury to personnel.

CAUTIONS mean that failure to observe the specific instructions may damage the equipment.

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Chapter 2 DESCRIPTION AND SPECIFICATIONS

Description

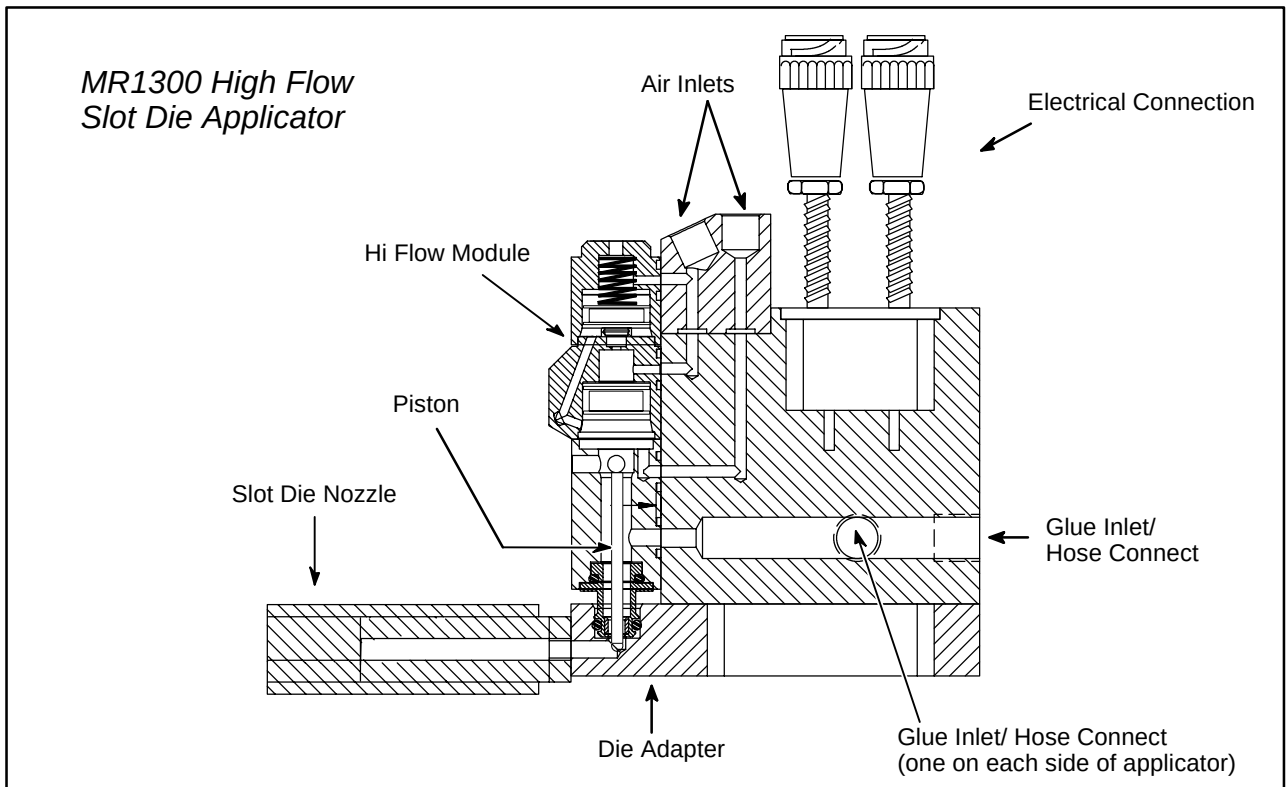
ITW Dynatec's MR1300 High Flow Slot Die Applicator Head is an air-operated, single-module, hot melt adhesive applicator assembly commonly used in the pinch-bottom bag industry. A choice of bracketry allows setup for right- or left-hand or up- or down-apply applications, depending on requirements.

The applicator is heated by replaceable cartridge heating elements which are controlled by an integrated RTD sensor and electronic control. High Flow applicators are available configured for ITW Dynatec's DynaControl, MTC/ CompuVision or Allen-Bradley PLC controls.

Theory of Operation

Each applicator features one MR1300 high flow slot die adhesive valve mounted to a single service block. The valve (module) is opened and closed by air pressure. Springs are used to keep the stem closed when no air pressure is supplied to the head. The rate of adhesive flow from the applicator is determined by the adhesive pressure applied by the adhesive application system's (ASU's) pump and the stem stroke adjustment.

As shown in the illustration below, the heated adhesive supply hose may be connected at either side of the applicator or at the hose connect at the back. Adhesive flows from the hose into the service block and then to the module. Air pressure opens the adhesive valve, allowing adhesive to flow through the module's seat and into the slot die.



Specifications

Environmental:

Storage/ shipping temperature -40°C to 70°C (-40°F to 158°F)
Ambient service temperature -7°C to 50°C (20°F to 122°F)

Physical:

Dimensions see dimensional layout on following page
Weight (including module and solenoid valve) 3.52 kg (7.75 lb.)
Mounting M6 x 1 screws with insulators

Performance:

Temperature range 38°C to 218°C (100°F to 425°F)
Warm-up time 15 minutes for cold start/ 5 minutes for module change only
Adhesive viscosity 100 to 30000 mPa. sec. (100 to 30000 centipoise)
Adhesive pressure range 150 to 650 psi typical*
Noise emission 70 dB(A)

Air Requirements:

Air pressure range 4.1 to 6.9 bar (70 to 100 psi)

Electrical:

Supply voltage 200-240 VAC/ 1p/ 50-60 Hz
Power requirements service block: 500 watts
die adapter: 90 watts

Options

Filter Block Assembly PN 106720 (Hi Temperature Filter Block Assembly PNs 108892 & 108893)

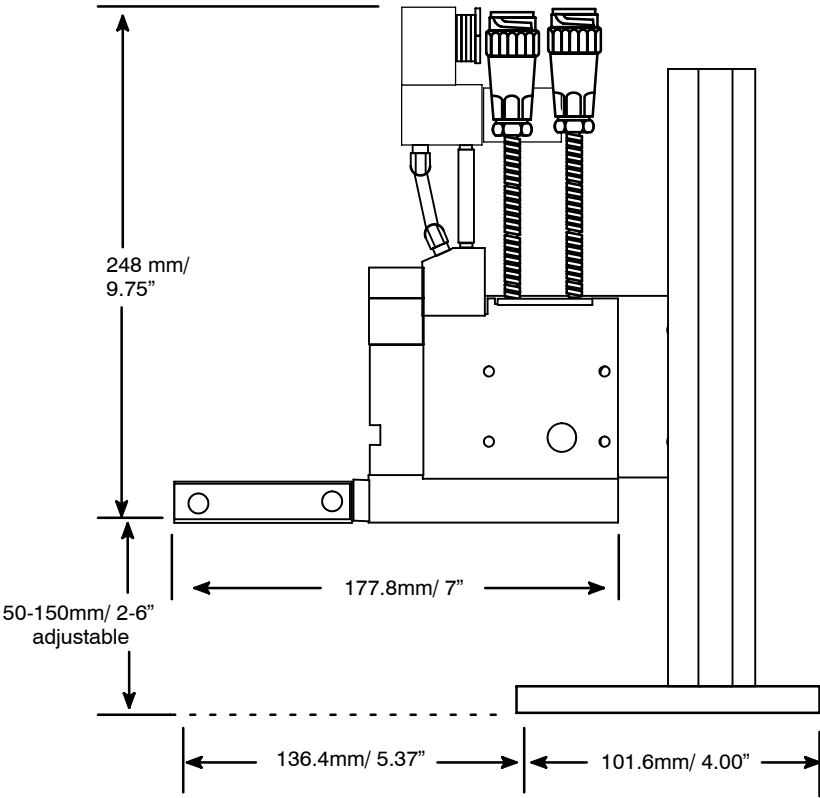
A filter block assembly allows adhesive to be filtered prior to entering the applicator's service block. Filter baskets are available in either 80 or 100 mesh and can be easily accessed for replacement or cleaning.

Pressure Gauge Assembly PN 101175

Installation of a pressure gauge allows monitoring of adhesive pressure inside the service block.

* Dependant on adhesive viscosity, hose length and diameter, and shim thickness.

Dimensions



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Adhesive Application Solutions

Chapter 3

INSTALLATION & START UP

Note: Re-read Chapter 1 “Safety Precautions” before performing any installation or start-up procedures. All installation and start-up procedures must be performed by qualified, trained technicians.

Handling and Shipping

MR1300 Hi Flow Slot Die applicator head assemblies are packaged within protective cushioning material in a fiber packing carton. This package may be shipped inside another carton along with other individual boxes containing components of the system.

Service Requirements

The service block’s incoming electrical power and temperature control is supplied through the flexible cable exiting the adhesive supply hose cuff. The applicator has a circular, plastic connector which mates with the connector attached to this cable.

Incoming (operating) air is supplied through a solenoid valve. It must be clean and unlubricated. It is controlled by a four-way solenoid valve and should be separately regulated and maintained at a pressure between 4.1 to 6.9 bar (60 to 100 psi). Head air inlet ports are G 1/8 threads (1/8 NPT).

Installation Instructions

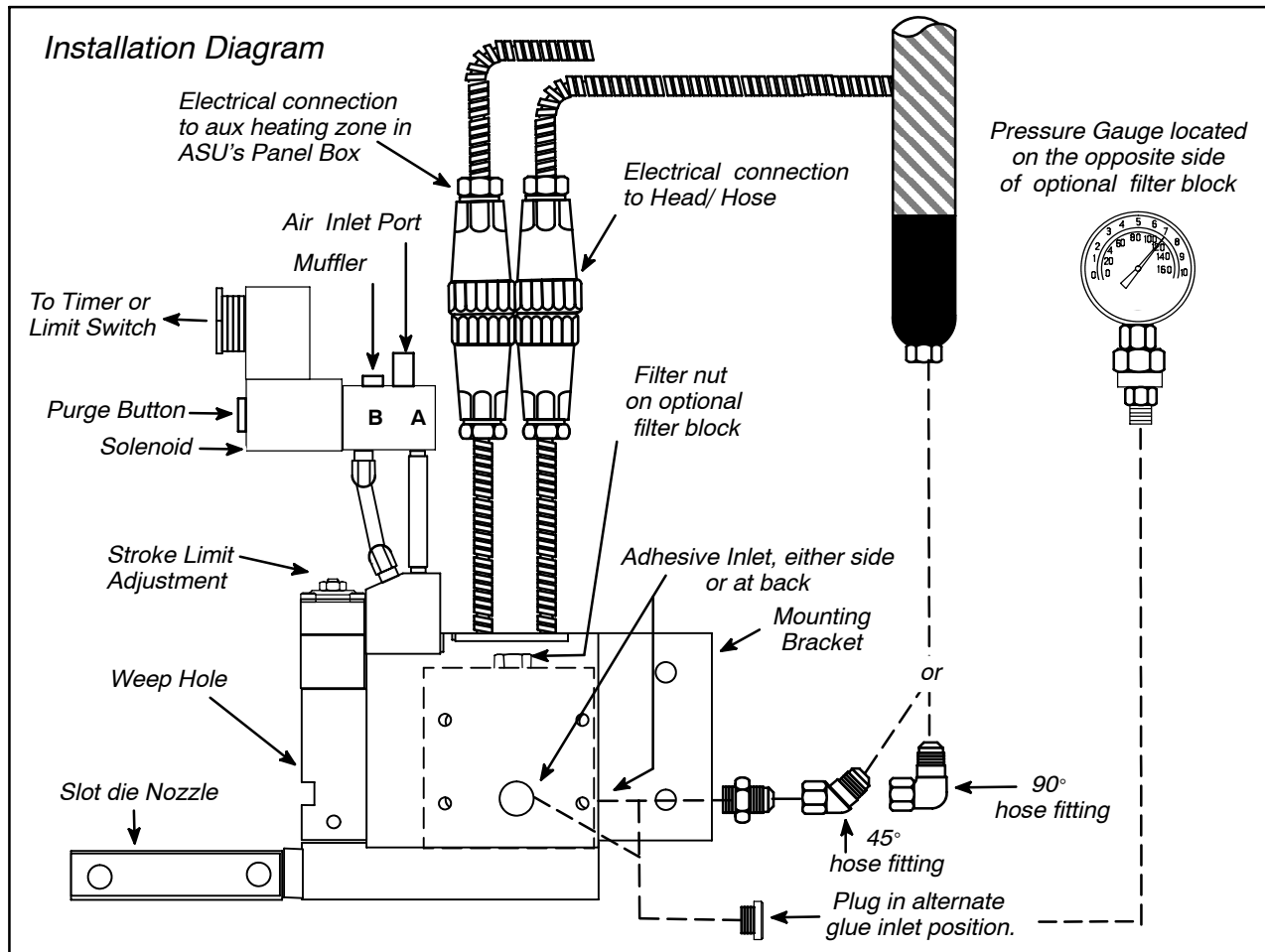
The applicator head has been tested at the factory and is ready for installation and operation.

Note: air lines and fittings must be capable of withstanding temperatures up to 218°C (425°F). ITW Dynatec supplies Air Control Filter Coalescing Kits (PN 100055) to be used with air-operated applicators (see the Air Control Filter Coalescing Kit Manual in the appendix of this manual).

See the diagram on the following page for location of the components referred to in the following section.

1. The applicator should be supported from brackets that permit lateral and vertical adjustments. Mount the applicator on bracketry using the M6 screws and insulators provided. Allow access to the (optional) filter, if installed. Be sure that the stroke limit adjustment screws are accessible and that the “weep” holes are visible for periodic inspection.
2. Before making the adhesive connection to the applicator, align the adhesive supply hose with its electrical connector oriented in relation to the electrical connector on the top of the applicator. Connect the swivel fitting of the hot melt hose to the adapter on the service block, using either one of the inlet ports located on either side of the applicator or the port located on the back of the applicator. When tightening the hose fitting, hold the hose cuff to prevent the hose core from rotating.

cont.



3. Make the two electrical connections:
 - a. Make one connection from the hose to the applicator by connecting the female connector of the hose to the male connector of the applicator.
 - b. Make the other connection (to heat the slot die nozzle) from the applicator to an auxiliary heating zone in the ASU's panel box by connecting the male connector of the applicator to the female connector on the auxiliary cable, which adapts to the female connection at the panel box.
4. Install the air line onto the air inlet port on the solenoid valve.



CAUTION: Do not use lubricating oil with the air supply as applicators are lubricated at the factory and do not require lubrication when used in production. Where oil is present in the air supply, a coalescing filter (Dynatec PN 100055) must be installed between the standard air regulator/ filter and the applicator.

5. If an (optional) pressure gauge is to be utilized, remove the plug in the pressure gauge port and thread the gauge into the port.
6. It is advisable to check the temperature of the applicator. This can be done through the temperature readout of the adhesive supply unit. Surface temperature may be checked with a

cont.

separate pyrometer and surface probe or with a dial thermometer. Turn the system power switch ON. Permit the applicator to warm up at least 15 minutes (5 minutes for module change) before reading temperature.

7. Purge the applicator of air and oil. Turn the applicator ON electrically and pneumatically.

	WARNING HIGH PRESSURE During the purging procedure, hot adhesive and oil can come out of the head under high pressure. Wear safety glasses, gloves and protective clothing.
	WARNING Use a stable, deep container to collect hot-melt adhesive and/ or oil.

8. Place a heat resistant container under the module to collect the material that drains from the applicator. Manually open the solenoid by pushing (with a small screwdriver or other tool) the purge button located on the solenoid coil. Continue to hold in the purge button until all air and oil have drained and only adhesive flows from the module.

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Adhesive Application Solutions

Chapter 4 MAINTENANCE

Note: Re-read Chapter 1 “Safety Precautions” before performing any maintenance procedures. All maintenance procedures must be performed by qualified, trained technicians.

The MR1300 High Flow Slot Die modular applicator requires no regular maintenance. Wipe the applicator clean of adhesive with a clean cloth while still hot at the end of each shift. Inspect the applicator periodically as outlined in the following table.

Maintenance Schedule

ITEM	CHECK	FREQUENCY	ACTION
Adhesive supply hose fitting connection	Inspect for leaks	As required	Tighten if loose
Air supply connections	Inspect for leaks	As required	Tighten if loose
Weep holes	Inspect for adhesive	As required	Replace seal cartridge or valve module
Nozzle performance	Inspect all nozzles for proper operation	As required	Clean nozzle or re-adjust stroke limiter
Optional filter block assembly	Inspect for cleanliness	Monthly or as required by use	Replace filter element

Stroke Limit Adjustment

All applicators are equipped with a stroke limit adjustment. Whenever the module is disassembled, the stroke limit must be adjusted using the following procedure (see next page for illustration):

1. Bring applicator up to operating temperature.
2. Loosen the lock nut located on the top of the module.
3. Bottom the stroke adjustment screw lightly.



CAUTION: Tightening the stroke adjustment to shut OFF the nozzle will cause damage to the applicator.

4. Back off the screw one-half to one turn.

cont.

5. While holding the screw in position, tighten the lock nut.

Replacement of the Filter in the Optional Filter Block Assembly



**WARNING
HIGH PRESSURE**

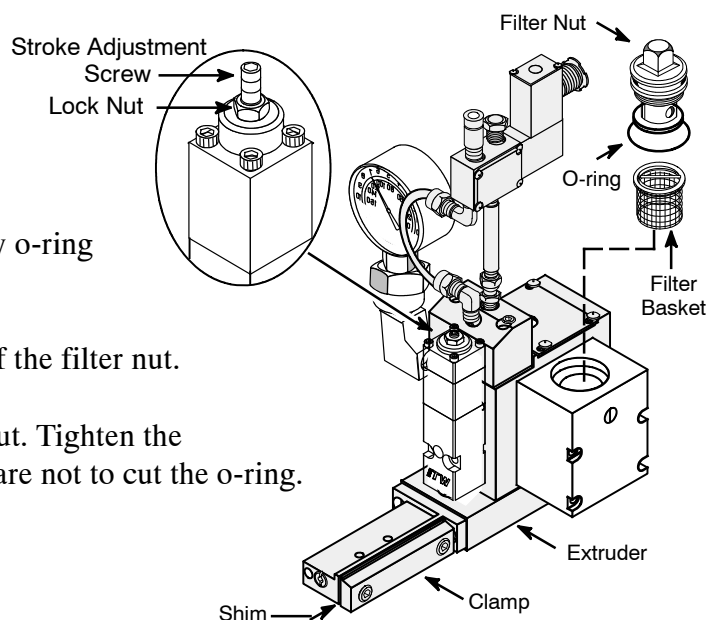


**WARNING
HOT SURFACE**

During this procedure, hot adhesive can come out of the applicator under high pressure. Wear safety glasses, gloves and protective clothing.

The applicator must be at operating temperature. Turn the ASU's pump/ motor OFF.

1. Place a heat-resistant container under the die lips.
2. Relieve the adhesive pressure by manually opening the modules. This is done by pushing the purge button located on the side of the air solenoid coil. Or, if the ASU is equipped with a drain, adhesive pressure may be relieved at the ASU.
3. Unscrew and remove the filter nut.
4. With needle nose pliers, pull the filter basket out of the manifold.
5. Replace the o-ring on the filter nut. Apply o-ring lubricant (PN N07588) to the new o-ring.
6. Apply a coat of anti-seize to the threads of the filter nut.
7. Re-install the filter basket and the filter nut. Tighten the filter nut until it is seated firmly, taking care not to cut the o-ring.



Shim Replacement

All slot die heads are equipped with shims, located between the clamp and the body of the extruder. To replace a shim:



WARNING HOT SURFACE

During this procedure, the applicator will be at operating temperature. Wear safety glasses, gloves and protective clothing to avoid injury from hot parts or adhesive.

1. Bring applicator up to operating temperature.
2. Loosen the M5 screws which attach the clamp and shim to the body of the extruder.
3. Wipe the body and clamp clean of all adhesive and char using a liquid cleaning solvent. Pay special attention to the surfaces that clamp the shim.
4. Inspect the new shim for any burrs or rough edges. Using 400 grit paper on a flat surface, sand as required to insure flatness.
5. Re-attach shim and clamp to the body, keeping the screws loose.
6. Hold a flat bar (steel or aluminum) against the leading edge of the extruder. This will align the shim to the clamp and the body. All components must be parallel for the entire length of the assembly. Tighten the screws to hold the components together. Remove the flat bar.
7. If required, wrap a piece of 400 grit sandpaper around a flat file and, going from end to end, sand the entire leading edge surface to remove any shim edges that are not in parallel with the clamp and body.
8. Test the applicator for proper performance. Adjust as required.

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Adhesive Application Solutions

Chapter 5 TROUBLESHOOTING & SERVICE

Note: Re-read Chapter 1 Safety Precautions” before performing any troubleshooting or repair procedures. All troubleshooting or repair procedures must be performed by qualified, trained technicians.

In General

If failure occurs, first check all the electrical and pneumatic connections. Verify that the main power switch is ON at the ASU. Verify that the pump is ON and the application heads have sufficient air pressure. Verify that the temperature controller is in operation and that the setpoints are correct for the application. Check to see if all components are heating properly.

Troubleshooting Guide

Problem	Possible Cause	Solution
Module does not open	1. Temperature adjustment of head is too low.	1. Check temperature adjustment.
	2. Inoperative solenoid.	2. Push the solenoid’s manual button. If it opens, the problem is electrical.
No adhesive flowing out of module	1. Nozzle is clogged.	1. Clean or replace nozzle.
	2. Optional filter element is dirty.	2. Replace filter, see instructions in Ch. 4 Maintenance.
	3. Module seals (o-rings) are inoperative.	3. Check module o-rings, see instructions in this chapter: “Module Assembly Instructions.”
	4. ASU’s hopper is empty.	4. Re-fill hopper.
	5. Adhesive is too cold.	5. Adjust temperature, see ASU manual.
	6. Solenoid valve is not opening.	6. Check solenoid valve.
	7. Piston stroke is too low.	7. Adjust the stroke limit, see Ch. 4 Maintenance.

Problem	Possible Cause	Solution
Hot melt is coming out of the module's "weep" holes	1. Module seals are damaged.	1. Replace seal cartridge or module, see instructions in this chapter.
Applicator does not reach operating temperature	1. Hopper temperature setpoint is too low. 2. Inoperative heater cartridge. 3. Inoperative temperature sensor.	1. Change setpoint, see ASU manual. 2. Check/ replace heater cartridge, see instructions in this chapter. 3. Check/ replace sensor, see instructions in this chapter.
Applicator is too hot	1. Applicator temperature setpoint is too high. 2. Inoperative temperature sensor.	1. Change setpoint, see ASU manual. 2. Check/ replace sensor, see instructions in this chapter.
Air escapes from module	1. Inoperative piston o-ring. 2. O-rings located between module and service block are inoperative.	1. Replace o-ring, see instructions in this chapter. 2. Remove module from block (see instructions in this chapter: "Replacement of Module") and replace o-rings.
Application pattern is erratic	1. Adhesive pressure is too low. 2. Adjust pattern controller or solenoid firing mechanism. 3. Finger pressure is incorrect.	1. a. <i>For units without speed control:</i> increase adhesive pressure at ASU. b. <i>For units with speed control (tach follower):</i> adjust pump speed control. 2. See pattern controller manual for proper adjustment. 3. Re-adjust finger pressure and/ or finger location over the slot.
Adhesive is bubbling	1. Adhesive is too hot. 2. Adhesive is below the pressure relief setting. 3. Moisture in the adhesive.	1. Lower adhesive temperature. 2. Add adhesive and allow time for it to melt. 3. Drain the ASU and fill with new batch of adhesive.

Replacement of the Module

Turn the ASU OFF. Turn all adhesive and air pressure OFF.



WARNING HIGH PRESSURE

During this procedure, hot adhesive can come out of the applicator under high pressure. Wear safety glasses, gloves and protective clothing.

1. Place a heat-resistant container under the manifold.
2. Relieve the adhesive pressure by manually opening the modules. This is done by pushing the purge button located on the side of the air solenoid coil. Or, if the ASU is equipped with a drain, adhesive pressure may be relieved at the ASU.
3. Remove the module from the service block by removing the two mounting screws on the front of the module with a hex key screwdriver (allen wrench). Make sure that the old o-rings located on the back of the module are also removed (the new module will include new o-rings).
4. Mount the new module using a 4mm (5/32") hex key on the mounting screws.

Module Assembly Instructions for the PN 115020 and PN 116249 Hi-Flow Modules

Use the component illustration and parts list on pages 6-2 and 6-3 as a reference with the following instructions for the MR1300 Hi-Flow module. ITW Dynatec has a Module Seal Kit available (see page 7-1 for part number) which contains the components necessary to rebuild one module, including the seal cartridge assembly, all o-rings, springs and seal lubricant.

1. During re-assembly, coat all o-rings with a liberal amount of High Temp Lube (PN N07588).



CAUTION: DO NOT SUBSTITUTE! Failure to use High Temp Lube (N07588) may result in premature seal breakdown and leakage of glue from the applicator.

2. Make sure all parts are clean.
3. The stroke adjusting set screw must be removed from the top cap before reassembly to avoid possible damage to stem.
4. Install stem seals in module body. Install washers and snap rings. Use care not to damage seal lips during installation.
5. Carefully insert stem through both seals.
6. While holding stem with wrench, screw the piston assembly onto stem. As piston goes into module body, make sure that the full circumference of the lower u-cup seal is engaged in the bore. Tighten the piston assembly to 15 in-lbs. Install lock nut and tighten to 15 in-lbs.

cont.

7. Place proper o-rings on seat assembly and install seat assembly in module body with attaching screws. Tighten to 15 in-lbs.
8. Place spring on top of piston. Install proper o-rings onto intermediate spring cap and top spring cap. Assemble these to module body with attaching screws. Tighten to 15 in-lbs.
9. Install set screw and sealing nut. Bottom screw lightly against stem and back out one turn. Tighten hex sealing nut to hold screw in this position.
10. Install proper external o-rings onto back of module.
11. Mount the module onto the service block and allow five minutes to heat. Adjust the stem stroke to the desired setting.

Testing Resistance of Heater Cartridges

1. Turn the ASU OFF or disable the head (applicator) at the control panel. Turn all pumps OFF and relieve system pressure before proceeding.
2. Unplug the electrical cable from the adhesive supply hose to expose the pins in the cable.
3. With an ohmmeter or multimeter, contact pins 7 and 8 and measure resistance. Compare the reading with the values given in the charts below.

Service Block Heaters

The service block of the High Flow applicators contains two heaters wired in parallel. The individual and parallel resistance values of these heaters is listed below:

Applicator Model	Individual Resistance	Parallel Resistance
High Flow	198.0 to 267.5 Ohms	99.0 to 133.8 Ohms

Die Adapter Heater

The die adapter contains one heater, wired in parallel with the two heaters in the service block. The resistance value of this heater is listed below:

Applicator Model	Individual Resistance	Parallel Resistance
High Flow	247.6 to 334.4 Ohms	not applicable

If one of the heaters is not functional, the parallel resistance measured at the contact pins will be *higher* than the range given in the chart. To determine which heater is not functional, remove the cover plate and test each heater independently.

Testing Resistance of the RTD Temperature Sensor

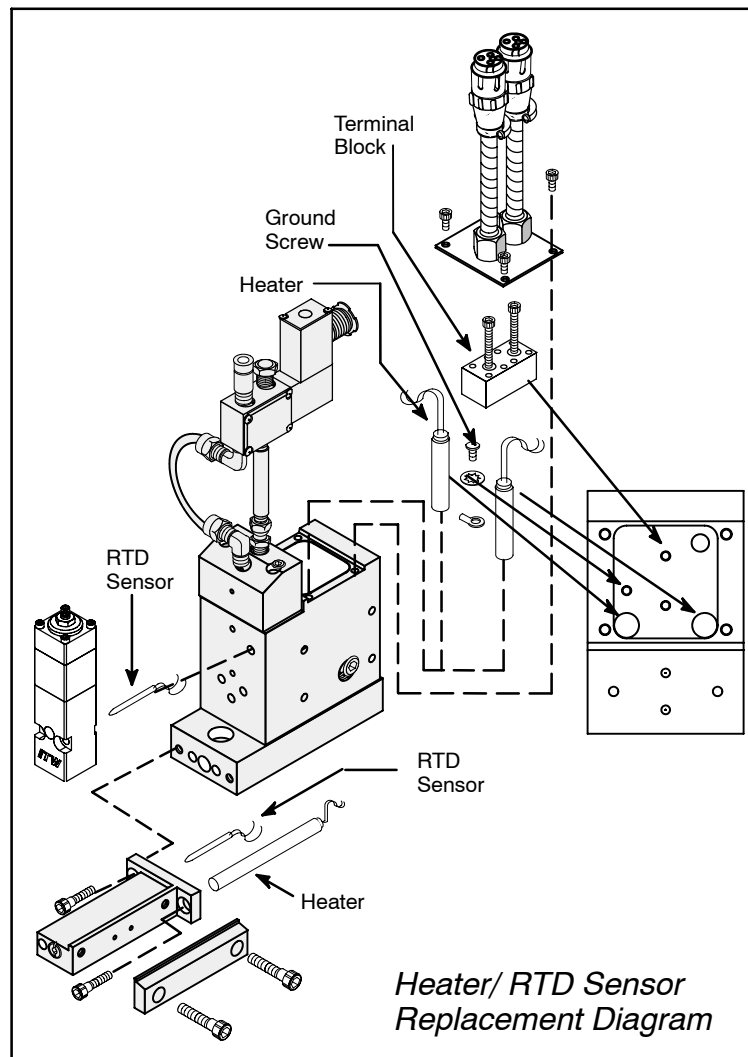
All M1300 applicators use platinum temperature sensors. The resistance value (Ohms) of the temperature sensor depends on the temperature of the sensor at the time it is being tested. At 25°C (77°F), the resistance of the sensor should be 110 Ohms.

With an ohmmeter or multimeter, contact pins 5 and 6 and measure the sensor resistance. A tolerance range of $\pm 5\%$ is allowed. A sensor that tests outside of this range must be replaced.

Replacement of Heater Cartridge or Sensor

Replacement of Service Block Heater Cartridges

1. Turn OFF the ASU and relieve all system pressure before proceeding.
2. Disconnect the service block's electrical cable assembly from the hose.
3. Remove the four screws holding the cover plate. Remove the plate. Disconnect the heater leads by removing the wire nuts.
4. Locate the non-functioning heater with a multimeter. Remove and replace the heater. Apply a thin film of thermal paste to the new heater before installation.
5. Reconnect the heaters using the wire nuts.
6. Replace the cover plate.



Replacement of Die Adapter Heater Cartridge

See illustration on page 5-6 for parts locations.

1. Turn OFF the ASU and relieve all system pressure before proceeding.
2. Disconnect the service block's electrical cable assembly from the hose.
3. Remove the three M4 screws from the wire cover. Remove the wire cover.
4. Disconnect the heater leads from the ceramic terminal block.
5. Check the heater with a multimeter.
6. If the heater is non-functioning, remove and replace it at this time. Apply a thin film of thermal paste to the new heater before installation.
7. Reconnect the heater to the terminal block, making sure that no strands of wire are protruding from the terminal block.
8. Replace the wire cover.

Replacement of Temperature Sensors

See illustration on page 5-6 for parts locations. There are two temperature sensors. One is located in the die adapter. The other is located in the service block.

To Replace the Die Adapter Sensor:

1. Disconnect the service block's electrical cable assembly from the hose.
2. Disconnect the die adapter's electrical cable assembly from the adapter cable.
3. Remove the three screws holding the die adapter cover plate. Remove the plate.
4. Pull the sensor out of the die adapter and disconnect its leads from the ceramic terminal block.
5. Apply a thin film of thermal paste to the new sensor and place it in the die adapter.
6. Wire the new sensor to the ceramic terminal block, making sure that no strands of wire are protruding from the terminal block.
7. Replace the die adapter cover.
8. Re-connect all cable assemblies.

To Replace the Service Block Sensor:

1. Disconnect the service block's electrical cable assembly from the hose.

cont.

2. Disconnect the die adapter's electrical cable assembly from the adapter cable.
3. Remove the top cover plate where the electrical cables are mounted.
4. Pull the sensor out of the service block and disconnect its leads from the ceramic terminal block.
5. Apply a thin film of thermal paste to the new sensor and place it in the service block.
6. Wire the new sensor to the ceramic terminal block, making sure that no strands of wire are protruding from the terminal block.
7. Replace the wiring cover.
8. Re-connect all cable assemblies.

Re-Assembly Procedures and General Cautions

Unless noted, head re-assembly is simply the reverse sequence of the disassembly procedures. However, the following "cautions" should be followed (whenever they apply) for proper re-assembly:



CAUTION: In general, all ***O-RINGS AND SEALS*** must be replaced whenever hot-melt equipment is re-assembled. All new o-rings must be lubricated with o-ring lube (PN N07588).

CAUTION: ***TAPERED PIPE THREADS*** are found on air line fittings used with the pump air supply and on the outlet filter manifold. Apply thread sealant (PN N02892) whenever tapered pipe threaded parts are re-assembled.

CAUTION: ***SOME FITTINGS*** used for adhesive on hot melt equipment have straight threads and o-ring seals. Use of thread sealant is not necessary with these parts, but the o-ring seals should be clean and lubricated. Tighten straight-threaded parts and fittings until their shoulders are firmly seated. Excessive torque may damage straight-threaded parts and the use of power wrenches is not recommended.

CAUTION: ***HOT-MELT RESIDUE*** must be cleaned from parts before they are re-assembled, particularly from threaded parts. As a precaution against adhesive residue preventing proper re-assembly, threaded parts must always be re-tightened at operating temperature.

Chapter 6

COMPONENT ILLUSTRATIONS & BILLS OF MATERIAL



WARNING

All parts must be periodically inspected and replaced if worn or broken. Failure to do this can affect equipment's operation and can result in personal injury.

The following pages provide exploded-view reference drawings to assist users of MR1300 Hi-Flow Slot Die applicators to identify parts and aid in servicing the equipment.

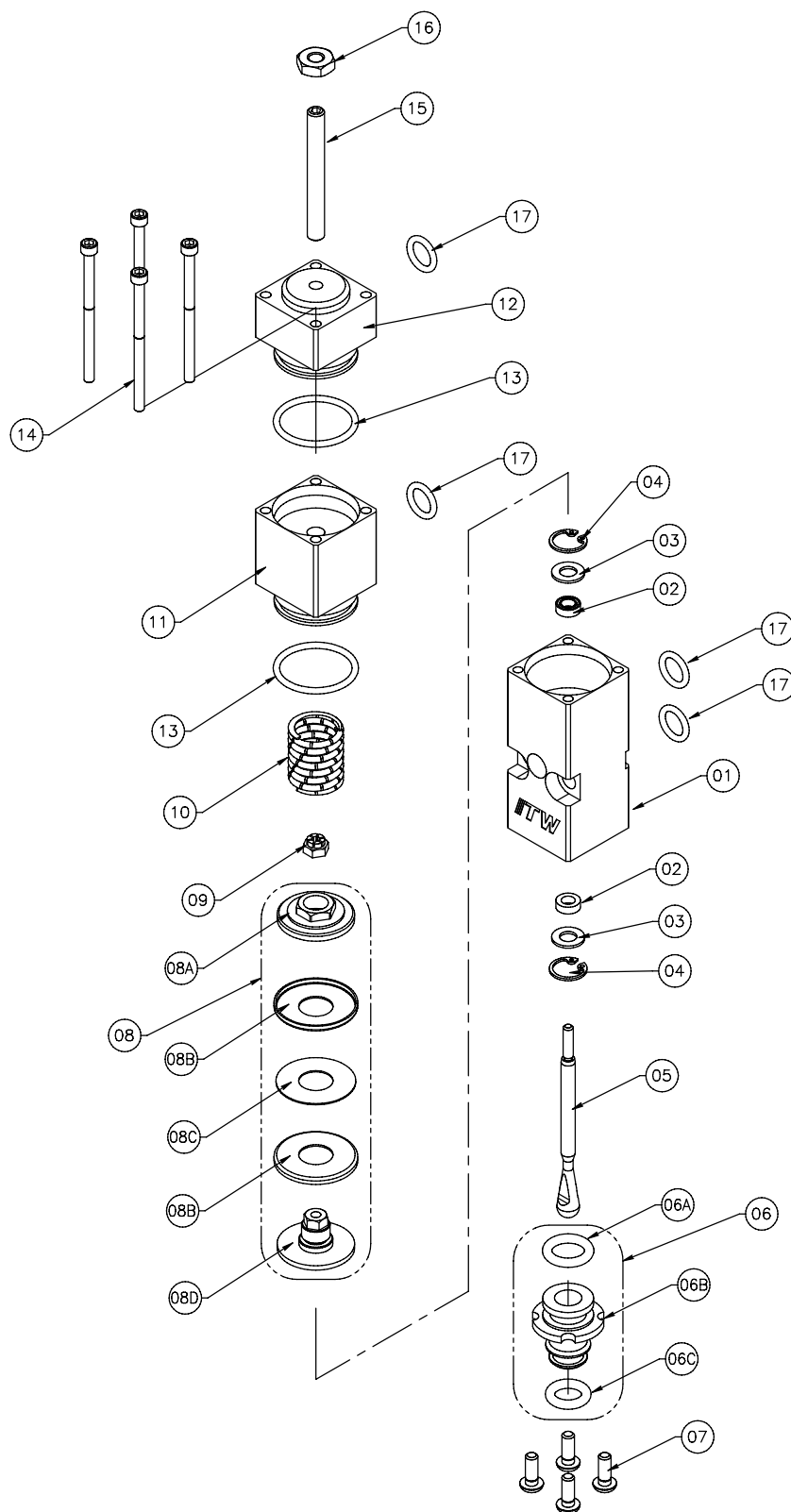
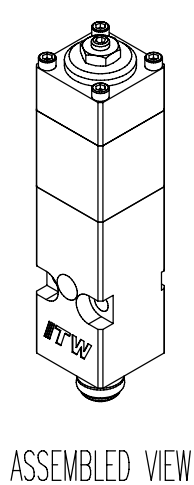
Note: most common nuts, bolts and fasteners can be obtained locally at your hardware store. Specialty fasteners are available by contacting Dynatec's Customer Service.

PN 115020 Hi-Flow Slot Module Assembly

Item No.	Part Number	Qty.	Description
17	N00178	4	EA O-RING, -011
16	078D078	1	EA NUT, HEX SEALING, #10-32
15	116247	1	EA SHSS, SPCL, #10-32 X 1.71
14	115021	4	EA SHCS, #4-40 X 1-3/4
13	N00186	2	EA O-RING, -019
12	111308	1	EA CAP, SPRING
11	115019	1	EA CAP, SPRING, INTERMEDIATE
10	111311	1	EA SPRING, COMPRESSION
09	110046	1	EA LOCKNUT, #4-40
08D	114135	1	EA PISTON
08C	111315	1	EA SPACER
08B	111314	2	EA PISTON SEAL
08A	114136	1	EA RETAINER
08	114137	1	EA PISTON ASSEMBLY
07	N02680	4	EA BHSCS, #6-32 X 3/8
06C	N05044	1	EA O-RING, 2-109, VITON
06B	110587	1	EA SEAT ASSEMBLY
06A	N00195	1	EA O-RING, 2-110, VITON
06	110589	1	EA ADPT ASY, SLOT, MR1300HF
05	111310	1	EA STEM
04	N05262	2	EA SNAP RING, INTERNAL, 3/8" BORE
03	111309	2	EA WASHER, SEAL
02	110417	2	EA SEAL, STEM
01	111307	1	EA MODULE BODY

PN 114321 Hi-Flow Slot Module Repair Kit

Item No.	Part Number	Qty.	Description
—	108700	1	EA LUBE, TFE, 1/4 OZ TUBE
—	N00174	1	EA O-RING, -007 (NOT USED THIS ASY)
—	N00176	1	EA O-RING, -009 (NOT USED THIS ASY)
17	N00178	5	EA O-RING, -011
16	078D078	1	EA NUT, HEX SEALING, #10-32
13	N00186	2	EA O-RING, -019
10	111311	1	EA SPRING, COMPRESSION
09	110046	1	EA LOCKNUT, #4-40
08	114137	1	EA PISTON ASSEMBLY
07	N02680	4	EA BHSCS, #6-32 X 3/8
06C	N05044	1	EA O-RING, -109
06A	N00195	1	EA O-RING, -110
04	N05262	2	EA SNAP RING, INTERNAL, 3/8" BORE
03	111309	2	EA WASHER, SEAL
02	110417	2	EA SEAL, STEM



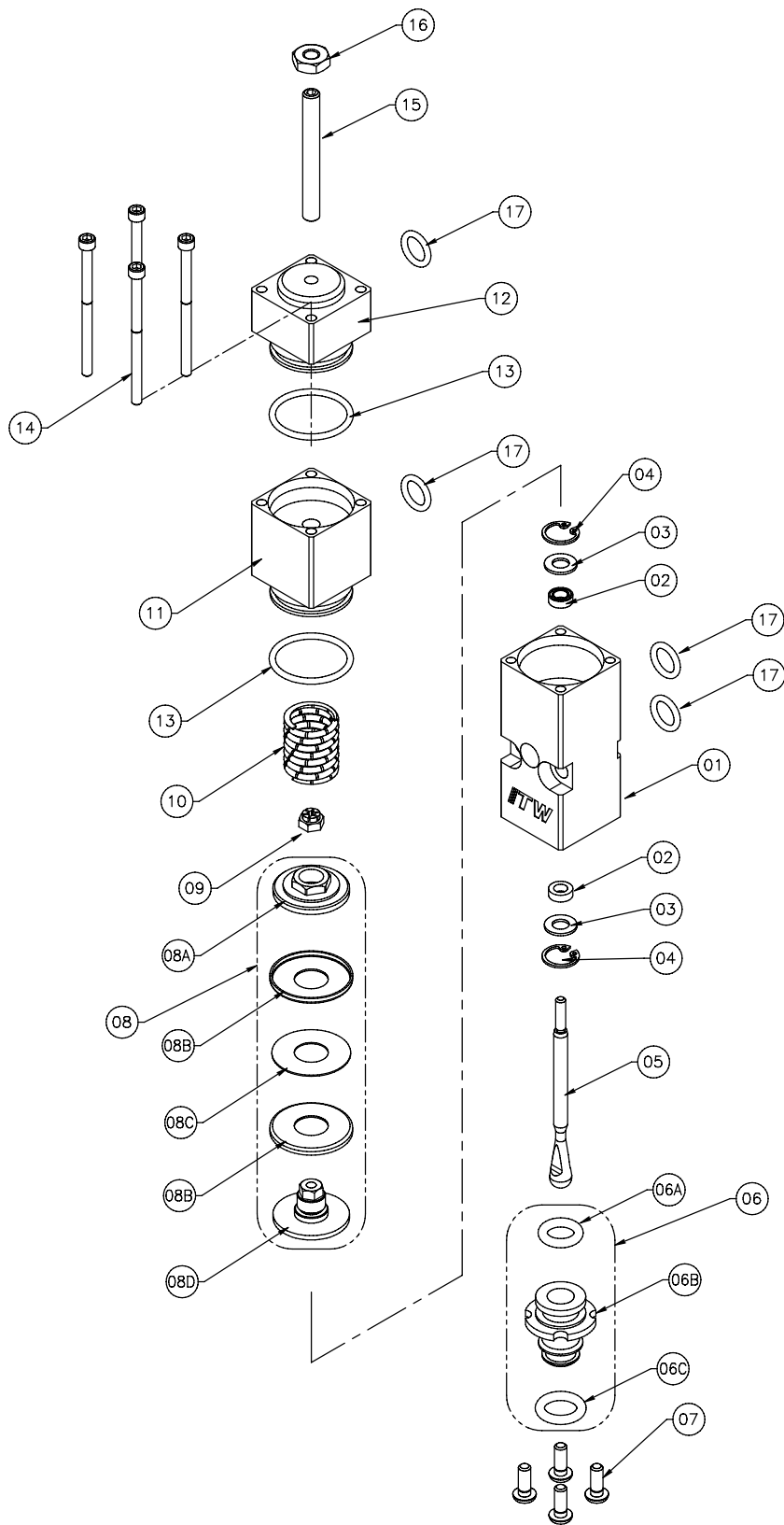
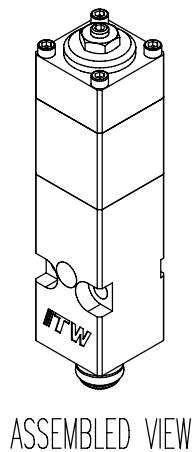
PN 115020 Hi-Flow Slot Module Assembly

PN 116249 Hi-Flow, Hi-Temp Slot Module Assembly

Item No.	Part Number	Qty.	Description
17	N07079	4	EA O-RING, -011, PAROFLUOR
16	078D078	1	EA NUT, HEX SEALING, #10-32
15	116247	1	EA SHSS, SPCL, #10-32 X 1.71
14	115021	4	EA SHCS, #4-40 X 1-3/4
13	N07083	2	EA O-RING, -019, PAROFLUOR
12	111308	1	EA CAP, SPRING
11	115019	1	EA CAP, SPRING, INTERMEDIATE
10	111311	1	EA SPRING, COMPRESSION
09	110046	1	EA LOCKNUT, #4-40
08D	114135	1	EA PISTON
08C	111315	1	EA SPACER
08B	111314	2	EA PISTON SEAL
08A	114136	1	EA RETAINER
08	114137	1	EA PISTON ASSEMBLY
07	N02680	4	EA BHSCS, #6-32 X 3/8
06C	069X206	1	EA O-RING, 2-109, PAROFLUOR
06B	110587	1	EA SEAT ASSEMBLY
06A	108788	1	EA O-RING, 2-110, PAROFLUOR
06	110613	1	EA ADPT ASY, SLOT, HI-TEMP
05	111310	1	EA STEM
04	N05262	2	EA SNAP RING, INTERNAL, 3/8" BORE
03	111309	2	EA WASHER, SEAL
02	110417	2	EA SEAL, STEM
01	111307	1	EA MODULE BODY

PN 116306 Hi-Flow, Hi-Temp Slot Module Repair Kit

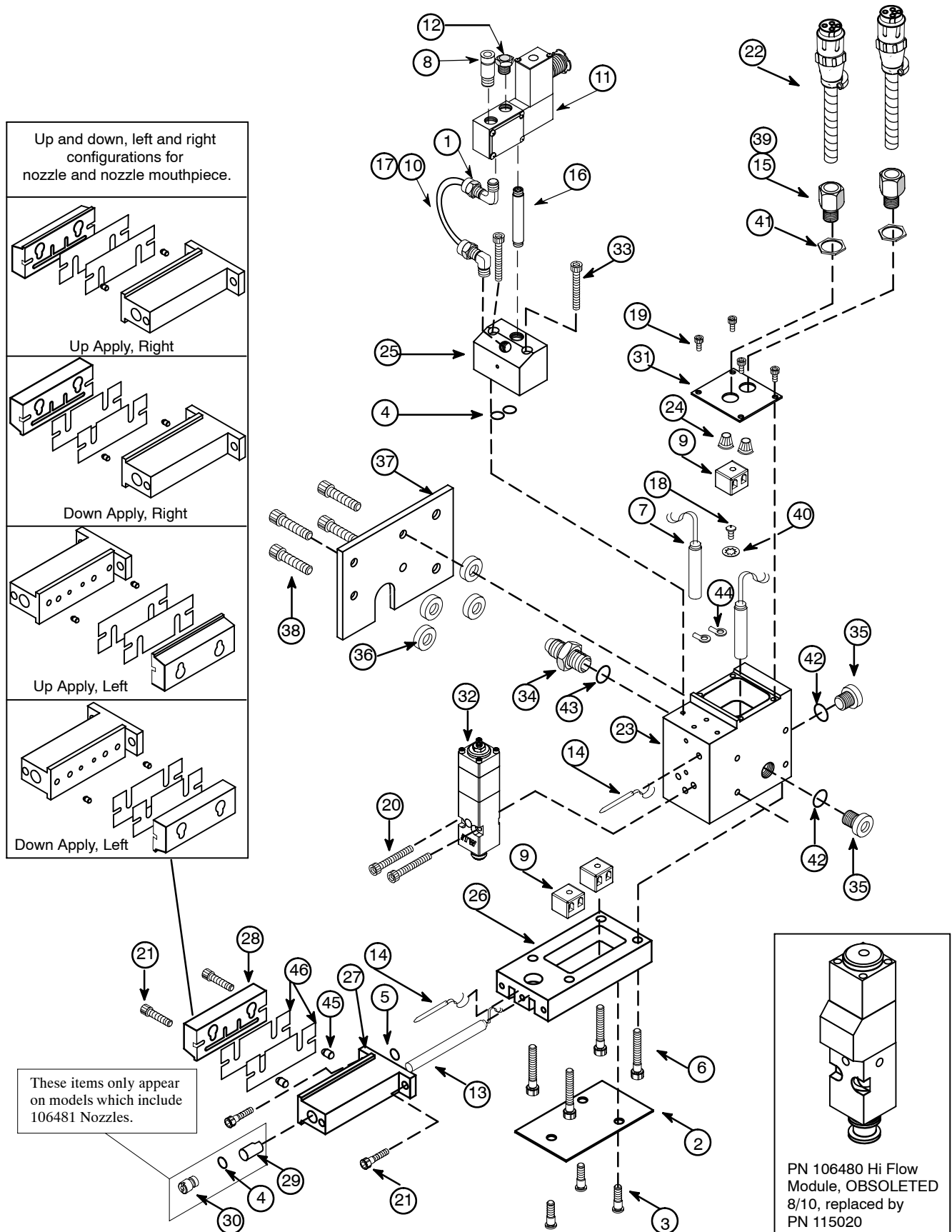
Item No.	Part Number	Qty.	Description
-	108700	1	EA LUBE, TFE, 1/4 OZ TUBE
17	N07079	4	EA O-RING, -011, PAROFLUOR
16	078D078	1	EA NUT, HEX SEALING, #10-32
13	N07083	2	EA O-RING, -019, PAROFLUOR
10	111311	1	EA SPRING, COMPRESSION
09	110046	1	EA LOCKNUT, #4-40
08	114137	1	EA PISTON ASSEMBLY
07	N02680	4	EA BHSCS, #6-32 X 3/8
06C	069X206	1	EA O-RING, -109, PAROFLUOR
06A	108788	1	EA O-RING, -110, PAROFLUOR
04	N05262	2	EA SNAP RING, INTERNAL, 3/8" BORE
03	111309	2	EA WASHER, SEAL
02	110417	2	EA SEAL, STEM



PN 116249 Hi-Flow, Hi-Temp Slot Module Assembly

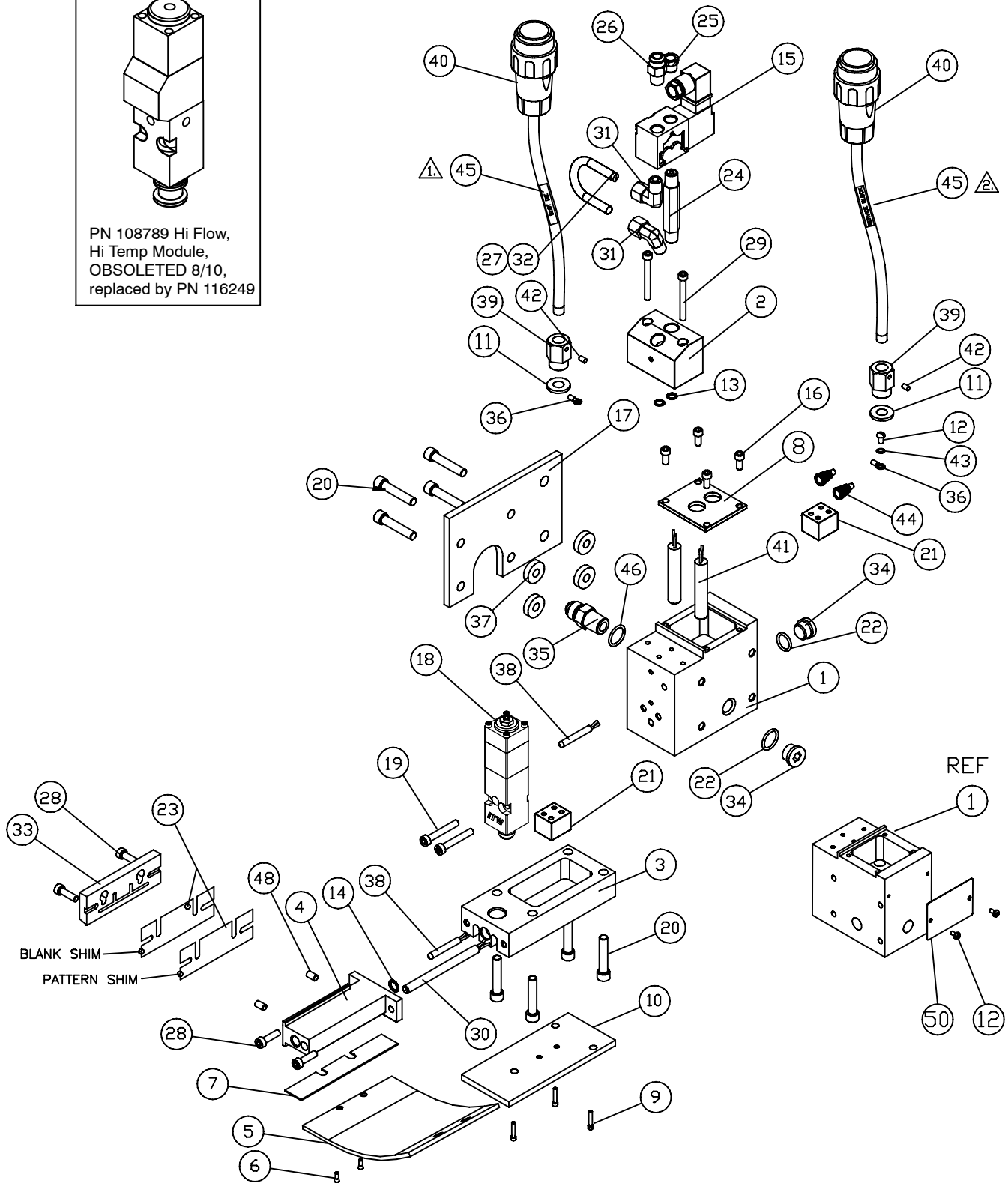
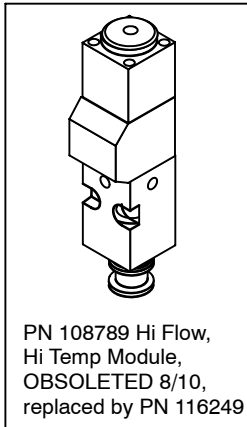
MR1300 Hi-Flow Slot Die Applicator Assembly # 106500 DCL & 106485 MTC/ CV

Item No.	Part Number	Description	Qty.
1	N00099	Fitting, Elbow, 90°	2
2	106645	Cover Plate, Die Adapter	1
3	105113	Screw, Cover Plate, Die Adapter	3
4	N00175	O-ring, #-008 (appears with 106481)	3
5	N00178	O-ring, #-011	1
6	104663	M6-1,0 x 25mm SHC Screw	4
7	108699	Heater, Cartridge, 250w, 240v, 3/8 x 2	2
8	N06435	Fitting connector, Push-in	1
9	107881	Terminal block, 2 Pos, Ceramic	3 or 5
10	N07677	Tubing Teflon, .25OD x .125 ID	4"
11	109402	Valve Solenoid, Mac 45, 1/8, 24DC	1
12	030B108	1/8 NPT Breathing Vent	1
13	113365	Heater, 1/4 x 3, 240v, 200w	1
14	N07958	Temperature Sensor (106500 DCL)	2
	104912	Temperature Sensor (106485 MCV)	2
	N07864	Temperature Sensor (113288 Upgrade)	2
15	048J049	1/4 Conduit Fitting	2
16	072X254	2.5" Solenoid Nipple, 1/8 NPT	1
17	072X383	3/16 Tube Support	2
18	105162	M3-0,5 x 6mm Phil. Screw	1
19	102446	M4-07 x 10mm SHC Screw	4
20	078A111	10-24 x 1 1/4 SHC Screw	2
21	106242	M5-0,8 x 16mm SHC Screw	4
22	106648	Cable Assembly, 240v, DCL (106500 DCL)	2
	106655	Cable Assembly, 240v, MTC (106485 MCV)	2
	113287	Cable Assembly, (113288 Upgrade)	2
23	106477	Service Block, MR13HF	1
24	N02540	Wire Nut	2
25	106478	Solenoid Adapter, 1 port, MR13HF	1
26	106479	Die Adapter, 1 port, MR13HF	1
27	106481	Nozzle, 1 port, MR13HF (appears on earlier models)	1
	107132	Nozzle, 1 Port, MR13HF	1
28	107133	Die (used with Shim Pack)	1
29	106952	Plug (appears with 106481)	1
30	106483	Pressure Screw (appears with 106481)	1
31	106486	Wire Cover, Service Block	1
32	115020	Module, MR13HF, Slot	1
	106480	Module, MR13HF, Slot (<i>OBSOLETE, Do Not Re-Order</i>)	1
33	101691	M4-0,7 x 40mm SHC Screw SHC Screw	2
	107461	Machinable Die (option)	
34	110901	1/4 BSPP, #12	1
35	101625	Fitting, Plug, 1/4 BSPP	2
36	L00006	Insulated Spacer	4
37	106508	Mounting Plate	1
38	104663	M6-1,0 x 25mm SHC Screw	4
39	078A055	10-24 x 3/16 SH Set Screw	2
40	106245	M3 Lock Washer, Int Tooth	1
41	N06883	Nut, Hex, Jam, 9/16-18	2
42	069X024	O-ring, -014	2
43	N00196	O-ring, -111	1
44	N07430	Terminal Ring	2
45	107144	Dowel Pin, 1/8 Dia. x 3/16	2
46	107138	Shim Kit (to be modified with customer's pattern)	1
	107134	Shim, Blank, .020	1
	107135	Shim, Blank, .015	1
	111682	Shim, Blank, .025	1
	111683	Shim, Blank, .031	1
Note: the following parts are shown with the bracket assembly pages 6-10:			
see #57	107031	Shim Slide	1
see #59	106509	Skid Plate	1



**MR1300 Hi Temp, Hi-Flow Slot Die Applicator,
Right Down Apply, 240V PN's # 108790 DCL, 108791 MTC/CV**

Item No.	Part Number	Description	Qty.
1	106477	Service Block, MR13HF	1
2	106478	Solenoid Adapter, 1 port, MR13HF	1
3	106479	Die Adapter, 1 port, MR13HF	1
4	107132	Nozzle, 1 Port, MR13HF	1
5	106509	Skid Plate	1
6	106470	M4 x 8mm, FH Screw	
7	107031	Shim Slide	1
8	106486	Wire Cover, Service Block	1
9	105113	Screw, Cover Plate, Die Adapter	3
10	106645	Wire Cover, Die Adapter	1
11	078C137	Washer	2
12	105162	M3-0,5 x 6mm Phil. Screw	1
13	N07077	O-ring, -008 (Hi-Temp)	2
14	N07079	O-ring, -011	1
15	109402	Valve Solenoid	1
16	102446	M4-07 x 10mm SHC Screw	4
17	106508	Mounting Plate	1
18	116249	Module, MR13HF, Hi Temp.Slot	1
	108789	Module, MR13HF, Hi Temp.Slot (<i>OBSOLETE, Do Not Re-Order</i>)	1
19	078A111	10-24 x 1 1/4 SHC Screw	2
20	104663	M6-1,0 x 25mm SHC Screw	4
21	107881	Terminal Block, 2 Pos, Ceramic	3 or 5
22	N07081	O-ring, -014	2
23	107138	Shim Kit (to be modified with customer's pattern)	1
24	072X254	2.5" Solenoid Nipple, 1/8 NPT	1
25	030B108	1/8 NPT Breathing Vent	1
26	N06435	Fitting connector, Push-in	1
27	072X383	3/16 Tube Support	2
28	106242	M5-0,8 x 16mm SHC Screw	4
29	101691	M4-0,7 x 40mm SHC Screw SHC Screw	2
30	113365	Heater, 1/4 x 3, 240v, 200w	1
31	N00099	Fitting, Elbow, 90°	2
32	N07677	Tubing Teflon, .25OD x .125 ID	4
33	107133	Die	1
	107461	Machinable Die (Option)	
34	101625	Fitting, Plug, 1/4 BSPP	2
35	110901	1/4 BSPP, #12	1
36	N07430	Terminal Ring	2
37	L00006	Insulated Spacer	4
38	104912	Temperature Sensor (106485 MCV)	2
39	048J049	1/4 Conduit Fitting	2
40	106655	Cable Assembly, 240v, MTC (106485 MCV)	2
41	108699	Heater,, Cartridge, 250w, 240V, 3/8 x 2"	2
42	078A055	10-24 x 3/16 SH Set Screw	2
43	106245	M3 Lock Washer, Int. Tooth	1
44	N02540	Wire Nut, Ceramic	2
45	105282	Marker, Tie	2
46	100097	O-ring, -111 (Hi Temp)	1
47			
48	107144	Dowel Pin, 1/8 Dia. x 3/16	2
49			
50	108878	Data Tag	1

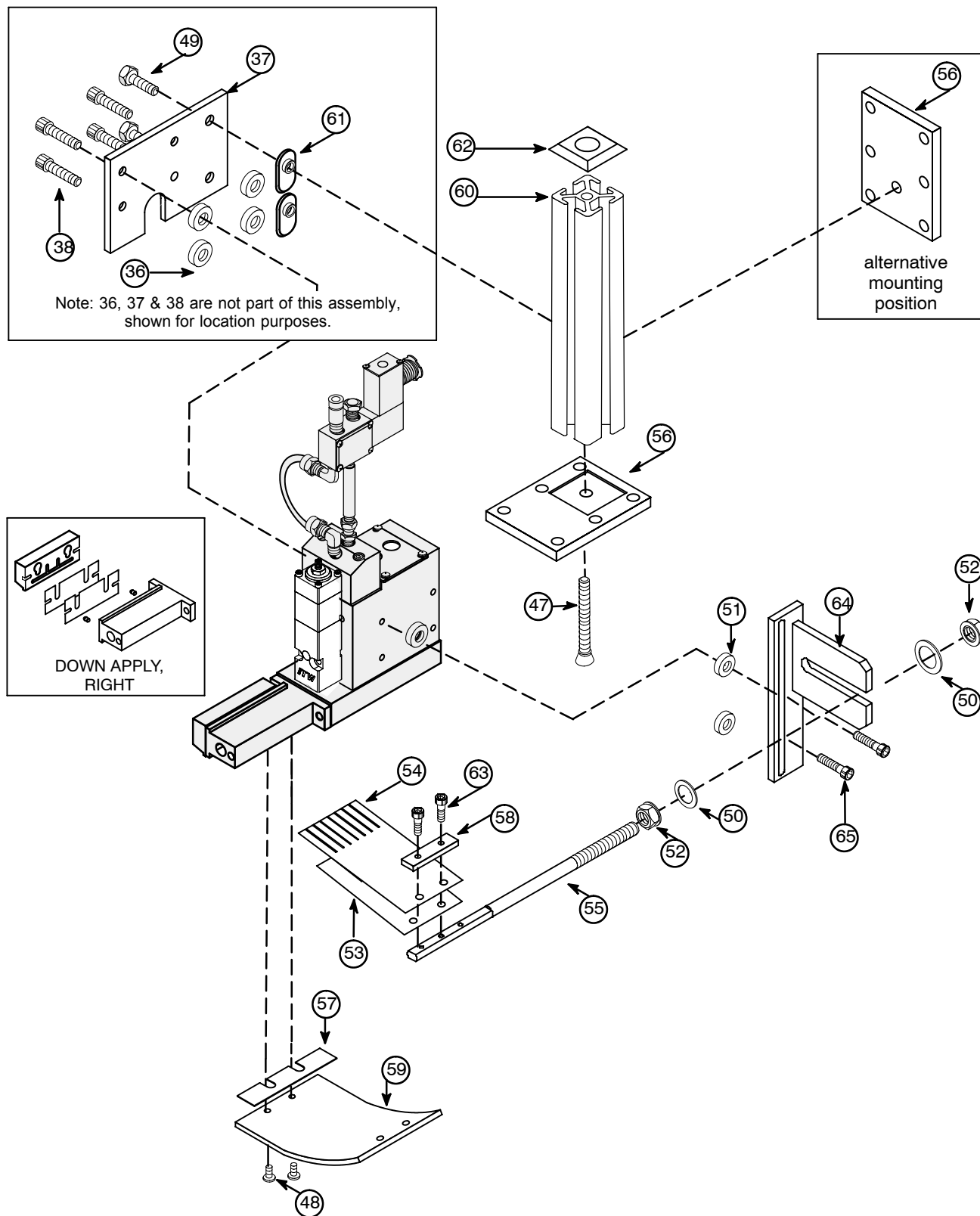


MR1300 Hi Temp, Hi-Flow Slot Die Applicator,
 Right Down Apply, 240V PN's # 108790 DCL, 108791 MTC/CV

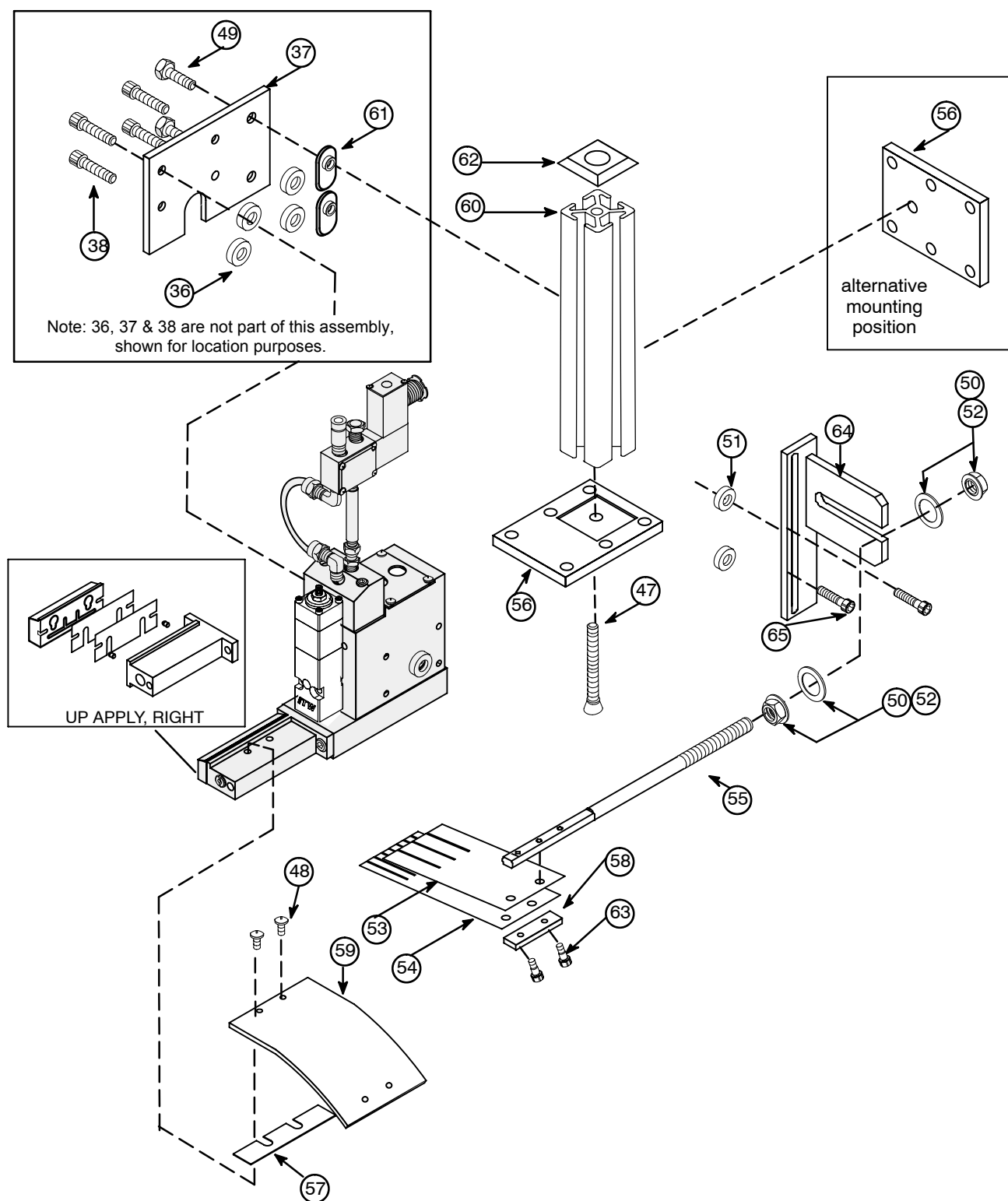
MR1300 Hi-Flow Applicator Bracket Assembly # 106653

Item No.	Part Number	Description	Qty.
	106653	Pinch Bottom Bracket Assembly	1
47	078A028	3/8-16 x 1 1/4 FHSC Screw	1
48	105278	M4-0,7 x 6 FHSC Screw	2
49	N00732	5/16-18 x 3/4 HHC Screw	2
50	078C012	1/2" Flat Washer SAE	2
51	L00006	Spacer, Insulating	2
52	109848	M12 Hex Nut, Flange Lock	2
53	106499	Guide, Finger	1,
54	106501	Guide, Finger	1
55	106502	Finger, Bar	2
56	106504	Base Plate	1
57	107031	Shim Slide (Part Of Head Assembly 106500)	1
58	106507	Finger, Holdown	2
59	106509	Skid Plate (Part Of Head Assembly 106500)	1
60	106510	T-Slotted, Stud	1
61	106657	T-Slot, Fastener	2
62	106656	T-Slot End Cap	1
63	101626	M5-0,8 x 12 SHC Screw	2
64	107255	Finger Guide Support	1
65	104663	M6 x 25mm SHC Screw	2

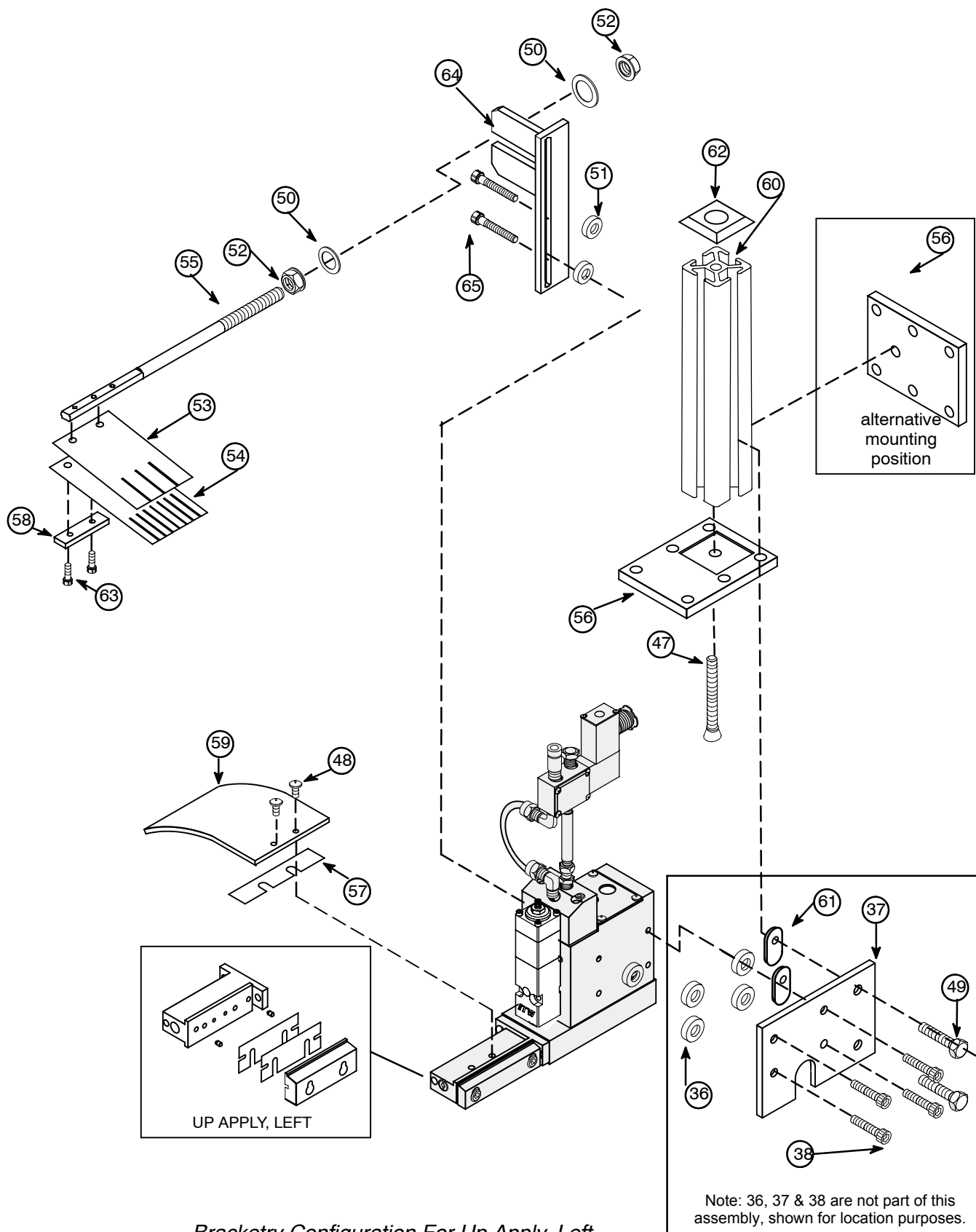
Note: The following pages show alternative bracketry set-ups for the Left and Right, Up and Down applicatons.



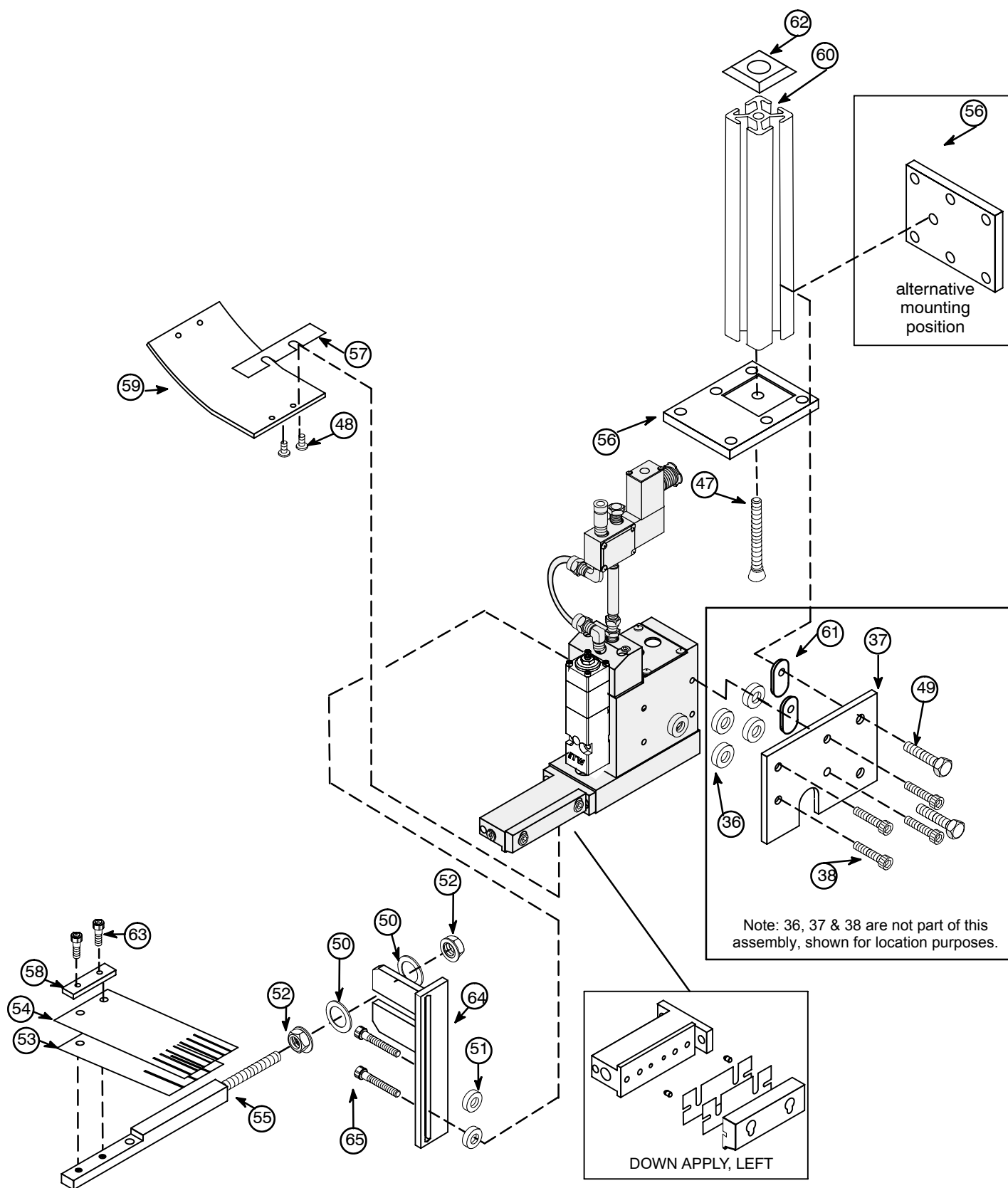
*Bracketry Configuration For Down Apply, Right
(See page 6 of this chapter for BOM)*



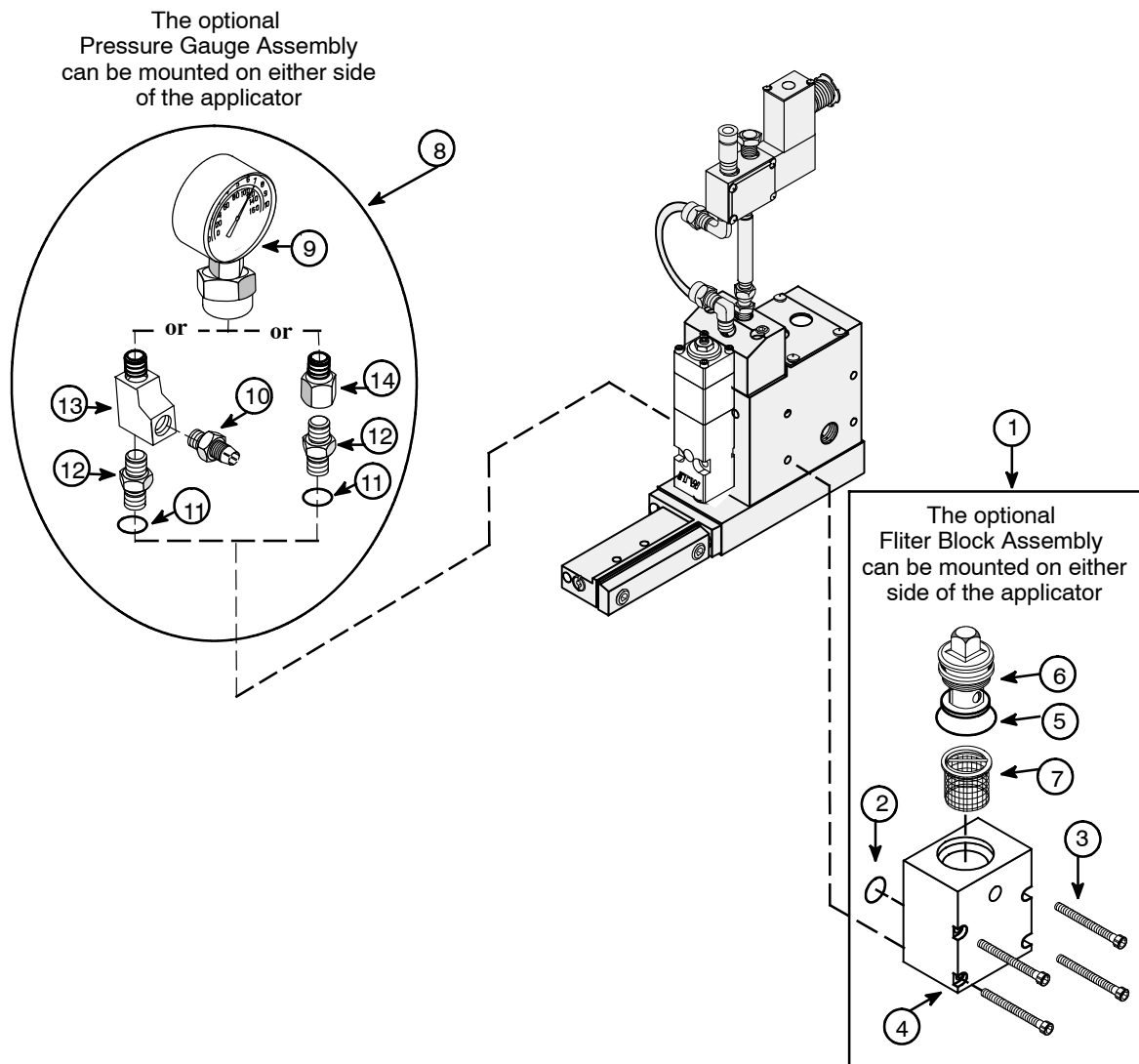
*Bracketry Configuration For Up Apply, Right
(See page 6 of this chapter for BOM)*



*Bracketry Configuration For Up Apply, Left
(See page 6 of this chapter for BOM)*



*Bracketry Configuration For Down Apply, Left
(See page 6 of this chapter for BOM)*



MR1300 Hi-Flow Slot Die Applicator Options

Item No.	Part Number	Description	Qty.
1	106720	Optional Filter Block Assembly	1
2	N00185	O-ring, #-018	1
3	106721	M6 x 60mm SHC Screw	4
4	108892	Filter Block	1
5	069X058	O-ring, #-028	1
6	006C024	Filter Nut	1
7	101247	Filter Basket, 100 mesh (standard)	1
	102693	Filter Basket, 80 mesh (option)	1
	101246	Filter Basket, 40 mesh (option)	1
8	101175	Optional Pressure Gauge Assembly	1
9	101174	Pressure Gauge	1
10	N00104	Fitting Adapter, M, 37 JICM	1
11	N00196	O-ring, -111	1
12	103330	Fitting, Adapter, 1/4 BPSS x 1/4 NPT	1
13	N04531	Fitting, Street Tee, Brass, 1/4 NPT	1
14	101172	Fitting Adapter, 1/4 MPT x 1/4 FPT	1

ITW Dynatec
An Illinois Tool Works Company



Adhesive Application Solutions

Chapter 7 ORDERING GUIDES

Hi Flow Applicator Heater Cartridges

Part No.	Description	Location	Qty.
113365	3" long, 200w	die adapter	1
108699	3/8x2", 250w	service block	2

Hi Flow Applicator RTD Sensors

Applicator	Part No.	Description	Location	Qty.
106500	N07958	Pt 100	die adapter service block	1 1
106485	104912	Pt, dual	die adapter service block	1 1
113288	N07864	Ni120	die adapter service block	1 1

Module Repair Kits

PN 114321 Hi-Flow Seal Repair Kit, Viton

The Hi-Flow module seal repair kit contains all the parts necessary to rebuild one High Flow MR1300 module, including the seals, high temperature lubricant, springs and all o-rings.

PN 116306 Hi-Flow, Hi-Temp Seal Repair Kit

The Hi-Flow, Hi-Temp module repair kit contains all the parts necessary to rebuild one High Flow, High Temp MR1300 module, including the seals, high temperature lubricant, springs and all o-rings.

MR1300 High Flow Shim Kit PN 107138

All slot die applicators require that a shim be modified (cut) per the user's application pattern. The shim kit contains four shims of various widths (0.015, 0.020, 0.025 and 0.031), one of which should be selected for the modification. Important note: No other shim on the applicator should be cut.

Recommended Service Parts List

Part Number	Description	Qty. per Applicator
114321	Hi-Flow Module Seal Kit	as required
116306	Hi-Flow, Hi-Temp Module Seal Kit	as required
<i>See Ordering Guide</i>	Heaters	as required
<i>See Ordering Guide</i>	RTD Sensor	1
109402	Solenoid Valve	1
N00195	O-ring 110	1
N00178	O-ring 011	1
N00181	O-ring 014	2
N00198	O-ring 113	1
N00175	O-ring 008	3
N00177	O-ring 010	1
N00196	O-ring 111	1
N00176	O-ring 009	1
N07588	Lubricant	1
001V061	Thermal Paste	1

Recommended Service Parts List for Options

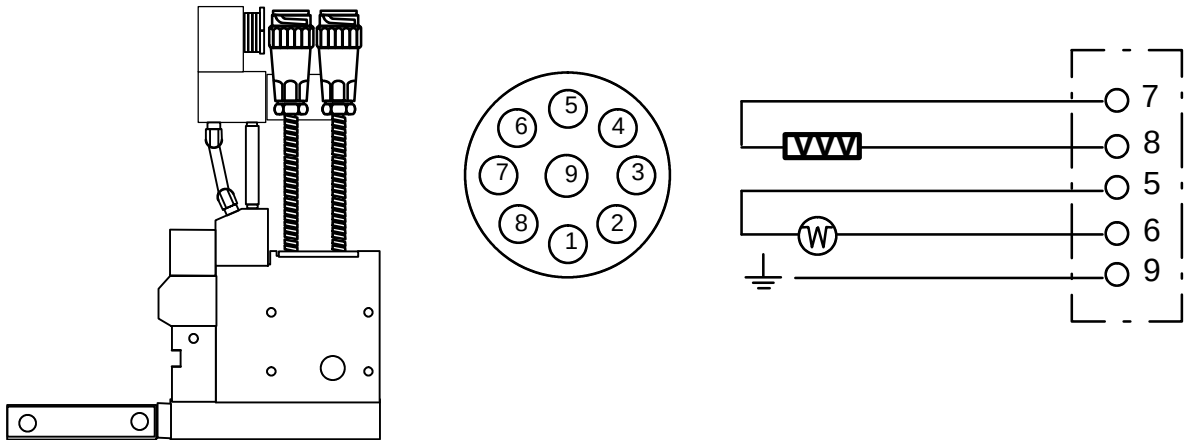
069X058	O-ring 028 (filter block option)	1
N00185	O-ring 018 (filter block option)	1
102693	Filter Basket, 80 mesh (filter block option)	2
101247	Filter Basket, 100 mesh (filter block option)	2
N00196	O-ring 111 (pressure gauge option)	1

Chapter 8 ENGINEERING DRAWINGS & SCHEMATICS

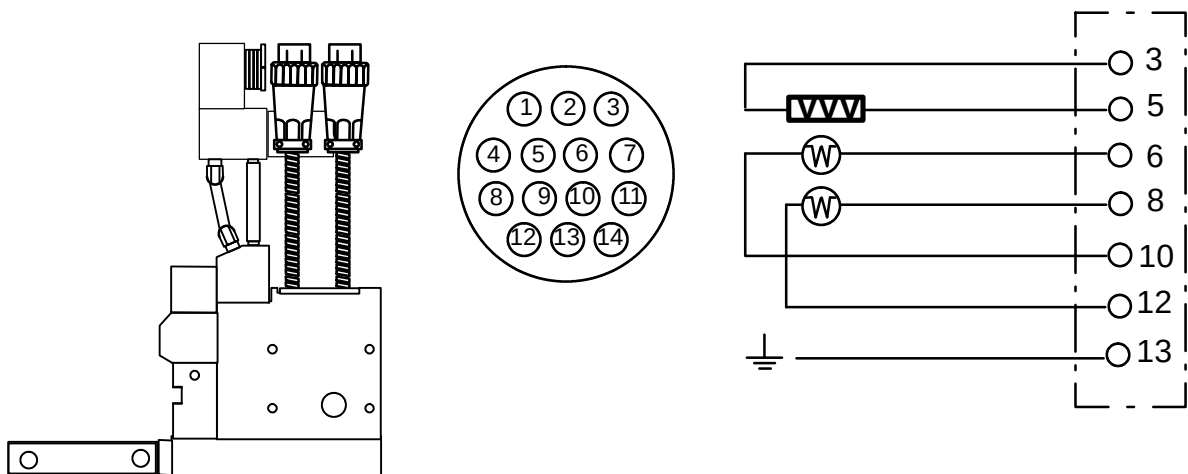
Pin Connectors & Electrical Schematics

Note: Pin connectors are viewed from the exposed end. Pins not shown on schematics are not used.

DynaControl (DCL) or PLC Control Scheme PN 103117

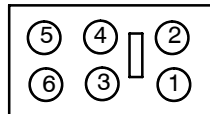
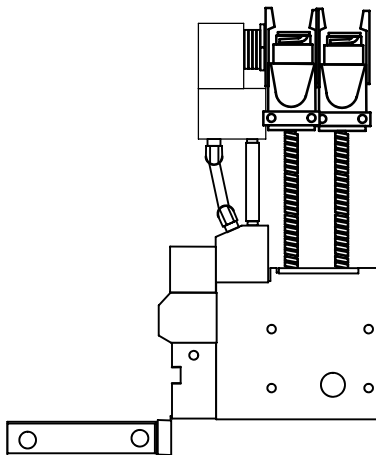


Microprocessor Temperature Control or CompuVision (MCV) Control Scheme PN 045X144

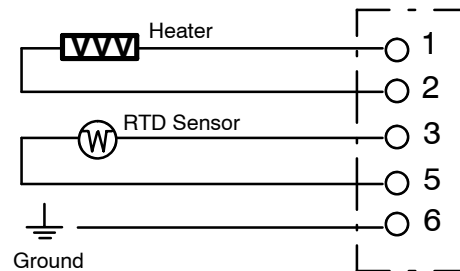


Symbols Used:  Heater
 RTD Sensor  Ground

Upgrade (Nickel RTD) Control Scheme PN 104551



Note: pin out numbers
are not labeled on the
Upgrade connector.

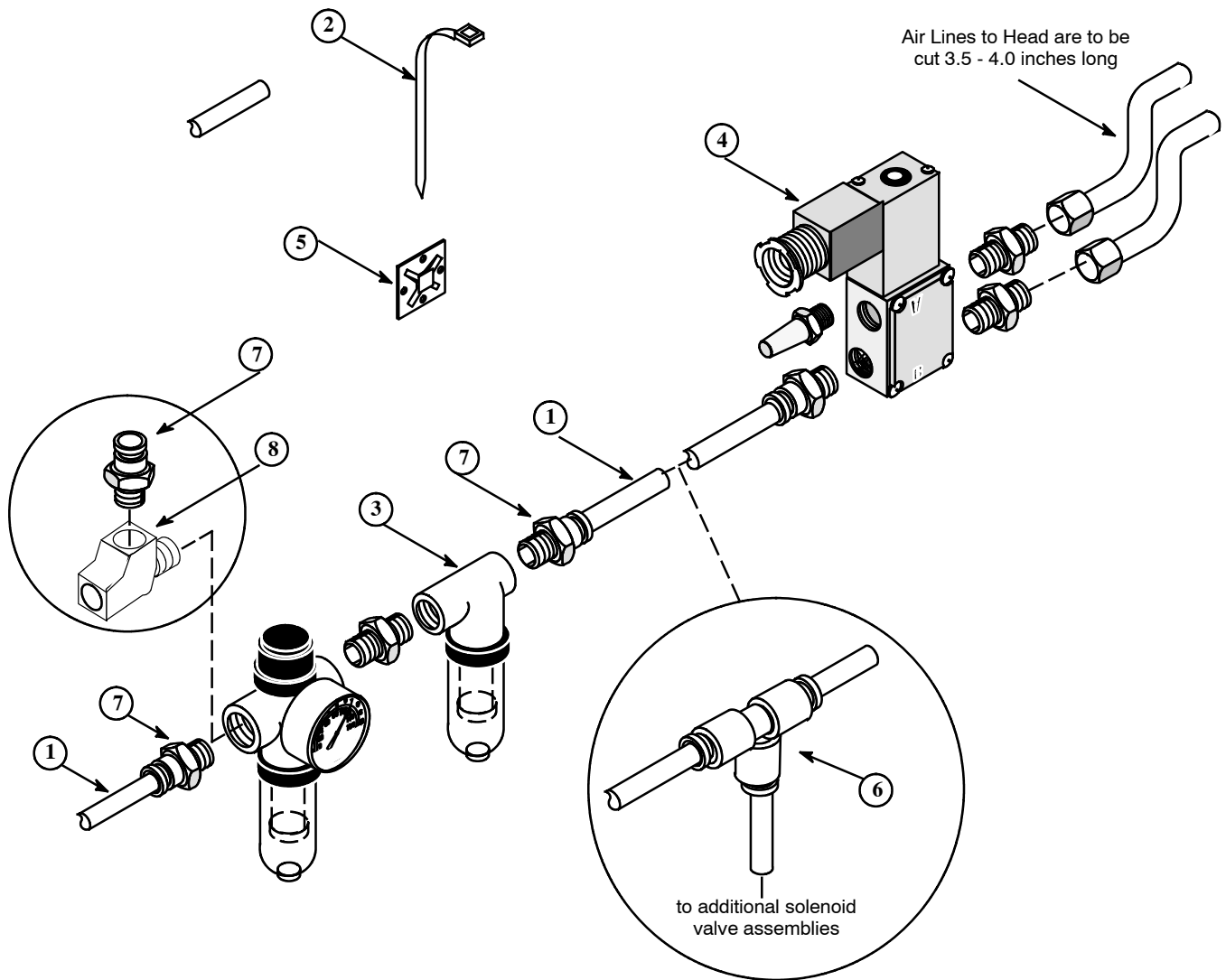


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Appendix COMPONENT ILLUSTRATION: PN 100055 AIR CONTROL KIT



Item No.	Part Number	Description	Qty.
1	N06438	Nylon Tubing, .250 Dia.	10 '
2	N00318	Cable Tie, .09 x 3.62 Lg	10
3	100380	Filter Assembly	1
4		Solenoid Valve Assembly	1
5	N04264	Cable Tie Anchor	3
6	N06504	Push-in Union Tee Fitting	1
7	N06430	Male Connect Fitting	3
8	N04531	1/4 Treet T, Brass	1

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