



***Positive Displacement Dispenser
User's Guide***

Introduction



The IntelliSpense Dispensing System uses a positive displacement technology to provide precise, controlled fluid dispensing. This User's Guide will help you maximize the usefulness of your new dispensing system.

If you need fairly substantial deposits, the basic pneumatic shot meter with a 10-cc syringe is fine. However, time-pressure systems are not as accurate and they can be more stressful to the material, especially solder paste. Because each pulse of air affects all the material in the syringe, the size of the reservoir that can be used with time-pressure systems is limited. Variability from deposit to deposit can be as high as 10 percent. Another problem is material flow after pressure has been shut off. A material filled with a heavy metal is hard to stop once it starts moving.

This variation of dispensing system uses a motor-driven leadscrew to push the piston, instead of air. Based on the volume of the syringe and the dispense rate, the system automatically calculates how far the piston must travel to dispense the desired amount of paste. The amount dispensed remains constant, regardless of the viscosity of the material or the volume remaining in the syringe. In addition, the piston can be programmed to pull back after each dot is dispensed, which keeps material from oozing. It is always better to use Plastic Tapered Dispensing Tips than needles. Tips will not mar delicate substrates and give a smoother dispense.

Air-free fills of mechanical syringes will produce faster, more accurate and trouble free dispensing. Please consider having your formulations packaged professionally. Call us to arrange professional Custom Packaging.

Faster is not always better. Whether a bead or a dot, when the material is prone to separation or tunneling, a slower dispense rate can actually improve the performance of the material itself. Please remember that if the material separates or won't fully dispense, there is a corresponding cost in rework or material waste.

Because of the need to satisfy the strict requirement of TUV compliance, the user should always pause for 30 seconds before initiating a continuous dispense cycle. This delay should cause no inconvenience, as it usually takes at least 30 seconds to change syringes.

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Introduction



Introduction

Read and follow these safety instructions. Task- and equipment-specific warnings, cautions and instructions are included in equipment documentation where appropriate.

Make sure all equipment documentation, including these instructions, is accessible to persons operating or servicing equipment.

Qualified Personnel

Equipment owners are responsible for making sure that IDS equipment is installed, operated and serviced by qualified personnel. Qualified personnel are those employees or contractors who are trained to safely perform their assigned tasks. They are familiar with all relevant safety rules and regulations and are physically capable of performing their assigned tasks.

Regulations and Approvals

Make sure all equipment is rated and approved for the environment in which it is used. Any approvals obtained for IDS equipment will be voided if instructions for installation, operation and service are not followed.



High-Pressure Fluids

High-pressure fluids, unless they are safely contained, are extremely hazardous. Always relieve fluid pressure before adjusting or servicing high pressure equipment. A jet of high-pressure fluid can cut like a knife and cause serious bodily injury, amputation, or death. Fluids penetrating the skin can also cause toxic poisoning.

If you suffer a fluid injection injury, seek medical care immediately. If possible, provide a copy of the MSDS for the injected fluid to the health care provider. A copy of the hydraulic fluid used in this unit is included with this manual.

Fire Safety

To avoid a fire or explosion, follow these instructions.

- Shut down all equipment immediately if you notice static sparking or arcing.
- Do not smoke, weld, grind or use open flames where flammable materials are being used or stored.
- Provide adequate ventilation to prevent dangerous concentrations of volatile particles or vapors.

Action in the Event of a Malfunction

If a system or any equipment in a system malfunctions, shut off the system immediately and perform the following steps:

- Disconnect and lock out system electrical power.
- Slowly unscrew barrel retainer and remove barrel from actuator.
- Identify the reason for the malfunction and correct it before restarting the system.

Features



The IntelliSpense Dispensing System is designed to provide complete process control using a patented positive displacement technology.

There are four core variables to the system: Deposit Volume, Dispense Rate, Pause and Pullback. To achieve the ideal deposit size, adjust only one of these variables at a time, in small increments.

Key features include

- Repeatable, precise fluid control
- All electric; no requirement for compressed air
- Programmable Pullback to eliminate oozing
- Menu-driven touch pad
- 100 user-defined memory cells for storing barrel size, deposit volume, dispense rate, pause and pullback.

The IntelliSpense Dispensing System provides consistent results, regardless of changes in fluid volume, viscosity or temperature. It is ideal for use with 2-part epoxies and other fluids with changing viscosities, or where a specific flow rate is needed.

First Steps

1. Unpack the dispenser and use the enclosed checklist to identify all items. If there is any discrepancy, please call us immediately.
2. For step-by-step setup instructions, see the IntelliSpense Quick Start Guide.

***** If you have any questions, please call +1-818-597-4300 *****

Getting Started



Air Free Dispensing System

Cabinet size: 7.25"W x 3.18"H x 12.73"D (18.4 x 8.1 x 32.3 cm)

Weight: 7.5 lbs (3.4 kg)

Flexible cable assembly length: 6 ft to end of handset (1.8 meters)

Flexible cable assembly weight: 4 oz (.113 kg)

Flexible cable assembly bend radius: 3 inches (7.62 cm)

Power supply: Input voltage range, 100-240 VAC

Max inrush current: 50A/264 VAC

Input frequency range: 47-63 Hz

3.18 " H [8.1 cm]

Output voltage: 24 VDC

Output current: 2.5A

Output power: 60W

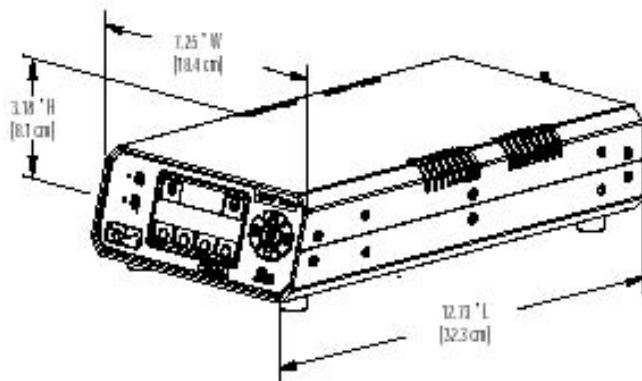
Fuse rating: 1.0A/250 VAC

(IDS part #28139 or equivalent)

Initiate circuit:

Foot pedal (dry contact to ground) or

Cycle Start button



Drive motor: 1.8° microstepping, 1,600 steps/rev

Control circuitry: CMOS microprocessor

Interface: Tactile keypad

Hydraulic fluid: Petroleum-based lubricant Enclosure rating: NEMA 1

Dispense rate: Exceeds 20 cycles per minute

Minimum dispense volume: 0.1 micro liters (with 3cc syringe barrel)

*** Meets or exceeds CE requirements**

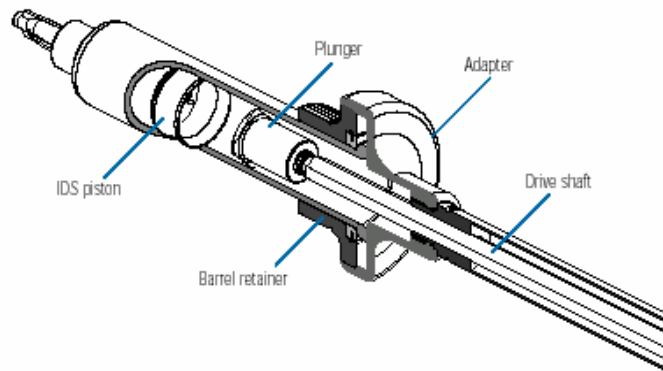
Getting Started



The IntelliSpense Air Free Dispensing System uses a flexible hydraulic link to transfer linear force from the drive motor to the syringe barrel. The motor lead screw and drive shaft are also linked mechanically. This link allows the transfer of up to 200 pounds of force from the motor to the assembly fluid.

Once a dispense cycle is complete, a programmed mechanical pullback retracts the plunger, attached to the IDS piston. The combined action of the plunger with the unit's Forward steps programmed Pause function and Pullback feature creates a consistent deposit and prevents fluid from oozing.

The bore and stroke of the syringe barrel are used to calculate deposit volume. For example, the inside diameter of a 5cc syringe barrel measures 1.27 cm. One step moves the plunger 0.00008 cm, resulting in 0.0001cc of fluid being displaced. With a 3cc barrel, it takes two steps to displace the same amount of fluid.



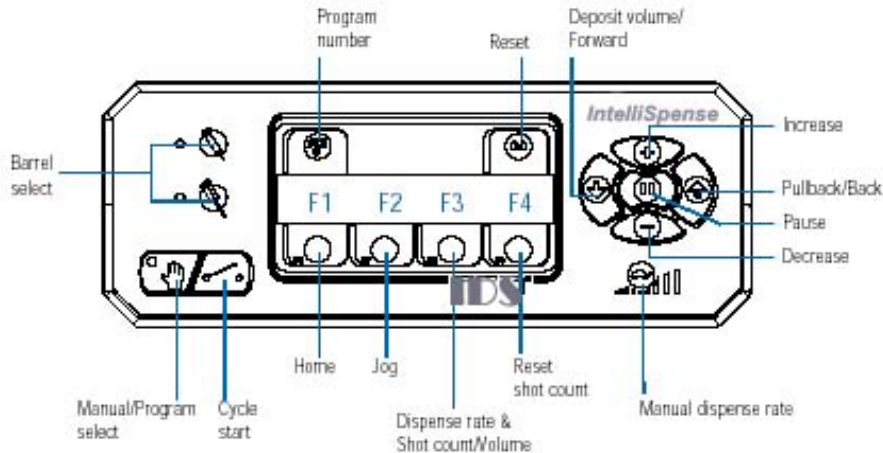
Flexible cable assembly

The force of the stepper motor is transferred to the syringe barrel by a flexible cable assembly. The plunger, attached at the end of the cable, drives into the IDS piston inside the syringe barrel. This action forces the fluid out to make the deposit.

Power Input Receptacle

The IntelliSpense features a universal power supply. It automatically adjusts for input voltages ranging from 100 VAC to 240 VAC. There is no adjustment required by the user.

Features & Controls



Manual/Programmed Dispense Select



- Each mode allows you to access different features on the menu-driven display. Press the “hand” icon to change from Manual mode to **PROGRAMMED DISPENSE** mode.
- In **MANUAL** mode, you can use the foot pedal to dispense a continuous bead of fluid. You are in **MANUAL** mode when the red light next to the “hand” icon is on.
- In **PROGRAMMED DISPENSE** mode, you can set several variables, including Program Number, Syringe Barrel Size, Deposit Volume, Dispense Rate, Pause and Pullback. You can also use the foot pedal or the Cycle Start button to dispense a single dot of fluid. You are in **PROGRAMMED DISPENSE** mode when light next to the “hand” icon is off.

Cycle Start



In **PROGRAMMED DISPENSE** mode, pressing the Cycle Start button once will return you to the Home screen. Pressing it a second time will dispense a single deposit. **Note:** pressing the Cycle Start button accidentally while already in a dispense cycle can abort your program. Therefore, we recommend that you use the foot pedal (instead of Cycle Start) to activate the dispense cycle. In **Manual mode**, pressing the Cycle Start button once cancels the Manual selection and returns you to Programmed Dispense mode and the Home screen.

Program Number



In both **PROGRAMMED DISPENSE** and **MANUAL** mode, select the Program Number by pressing the **prg** button. The Program Number will flash. Use the (+) or (-) buttons to change or select the Program Number as needed. For more details, see the Program section on page 15.

Features & Controls



Barrel Select



In both **PROGRAMMED DISPENSE** and **MANUAL** mode, pressing the top Single Barrel Select button activates the screen for the barrel size menu and pre-set dispense rates. Press the F1 button to set barrel size. Use the (+) or (-) buttons to scroll through the various size options. Press the F3 button to set Dispense Rate. Select Low, Medium, or High. The dual barrel select button is not active.

Reset



In **PROGRAMMED DISPENSE** mode, press the Reset button to reset a range of variables, depending on the screen selected. Reset choices include syringe barrel volume level to 100%, Dispense Volume to 0cc, Pause to 0 ms, Pullback to 0 steps, and Dispense Rate to the lowest minimum value possible, depending on the selected syringe barrel size. (Note: to reset Shot Count, use the F4 button.)

In **MANUAL** mode, the Reset button is not active.

Home (F1)

In both **PROGRAMMED DISPENSE** and **MANUAL** mode, pressing the F1 button activates the "Retract to Home" screen. This step is required to remove the syringe barrel and/or when you want to prepare the unit for storage or shipping.

- Choose Yes by pressing the F3 button. This will fully retract the plunger.
- Choose No by pressing the F4 button. This will return you to the Home screen.

Jog (F2)

In **PROGRAMMED DISPENSE** mode, pressing the F2 button activates the Jog screen. Jog allows you to make small adjustments to the position of the plunger as it extends forward. Press and hold F2 until the "g" of Jog is highlighted. Use the FORWARD and BACK buttons to move the plunger slightly in either direction as needed.

In **MANUAL** mode, the F2 button is not active.

Features & Controls



Shot Count/Deposit Volume (F3)

In **PROGRAMMED DISPENSE** mode, pressing F3 button lets you toggle between Shot Count and Deposit Volume. In **MANUAL** mode, the F3 button is not active.

- Shot Count displays and tracks the number of deposit cycles. You can reset the Shot Count display to 0 by pressing the F4 button.
- Deposit Volume displays the current volume programmed in ccs.

Other F3 commands:

- From the Retract to Home screen, F3 allows you to select the Yes option.
- After you press the Barrel Select button, F3 allows you to set the Dispense Rate.
- From the Modify screen, F3 allows you to adjust the syringe barrel specification for diameter. (See MODIFY, page 17)

F4 Button

In both **PROGRAMMED DISPENSE** and **MANUAL** mode, the F4 button is not active until you are in the screens noted below.

- From the Shot Count screen (F3), the F4 button allows you to reset the Shot Count to 0.
- From the Retract to Home screen (F1), F4 allows you to select the No option.
- From the Modify screen, F4 allows you to adjust the syringe barrel specifications for stroke. (See MODIFY, page 17)

Deposit Volume/Forward



In **PROGRAMMED DISPENSE** mode, press the Forward button to activate the Deposit Volume screen. Use the (+) or (-) buttons to change the deposit volume as needed. Deposit volume, measured in cc's, is **automatically** linked to Forward steps in the IntelliSpense stepper motor. When you increase the cc setting, it automatically increases the number of Forward steps. The maximum number of Forward steps is 65,535. Deposit Volume is displayed when you press the F3/Shot Volume button.

In **MANUAL** mode, pressing and holding the Forward button will extend the plunger from the cable assembly.

Features & Controls



Pause



The Pause function “pauses” the action of the plunger during a dispense cycle, acts as a settling period and allows the relief of back pressure between Forward and Pullback steps. Pause is helpful when you are dispensing a large amount of material with a very small tip. In most cases you will not need to use the Pause function.

In **PROGRAMMED DISPENSE** mode, press the Pause button to insert an end-of-cycle pause. Use the (+) or (-) buttons to set the Pause time.

In **MANUAL** mode, the Pause button is not active.

- Pause is measured in milliseconds. The maximum Pause is 60,000 ms (one minute).
- The default setting for Pause is 0 ms.

Pullback/Back



Pullback sets the number of steps that the plunger will retract into the cable assembly, in preparation for the next dispense cycle. Be conservative when setting the Pullback. With thick fluids, too much Pullback can disengage the plunger from the piston. With thin fluids, excess Pullback can introduce air into the syringe barrel.

In **PROGRAMMED DISPENSE** mode, press the Back button to activate the Pullback screen. Use the (+) or (-) buttons to change the number of Pullback steps as needed.

- Use Pullback to eliminate dripping and oozing. We recommend a minimum Pullback of 200 steps for low viscosity fluids.
- For thicker fluids, set the Pullback to 300 steps or more.
- In general, adjust Pullback in small increments of 50 steps at a time for best results. Press the foot pedal to dispense, and visually check the deposit. Adjust Pullback again if necessary. When setup is correct, there should be no oozing or dripping.
- The maximum number of Pullback steps is 20,000. The default setting for Pullback is 200 steps.

In **MANUAL** mode, press and hold the Back button to manually retract the plunger as needed.

Features & Controls



Dispense Rate

In both **PROGRAMMED DISPENSE** and **MANUAL** mode, pressing the Turtle button allows you to manually set the Dispense Rate. Use the (+) or (-) buttons to change the speed manually if needed. In most cases, however, we recommend that you simply use one of the preset Dispense Rates.

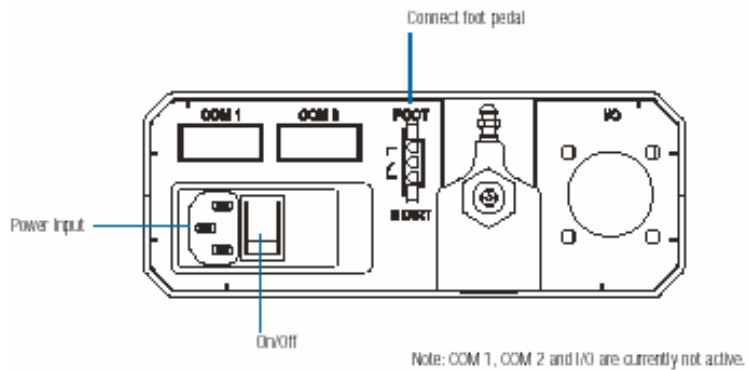
- Press the Single Barrel Select button.
- Press F3 to access the Dispense Rate options.
- Select Low, Medium or High.

Dispense Rate is based on cc's per second. For best results, use the slowest Dispense Rate practical to your application. In general, start with the preset default rate of Medium. Slower dispense rates give you better repeatability, since they create less fluid compression. This helps prevent oozing.

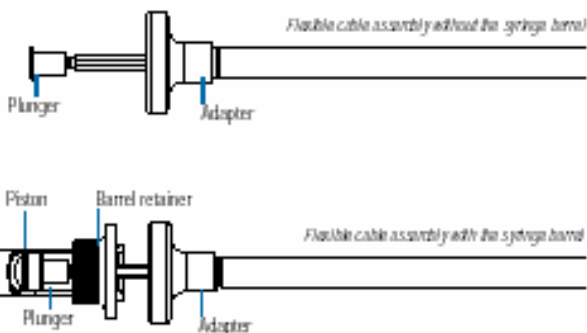
Increase and Decrease

In both **PROGRAMMED DISPENSE** and **MANUAL** mode, press the (+) or (-) button to change a number of variables, including Program Number, Deposit Volume, Dispense Rate, Pause milliseconds, Pullback steps and more. When the (+) or (-) buttons are pressed briefly, the settings will adjust slowly. When the (+) or (-) buttons are pressed and held, the settings will adjust faster.

Back Panel



Attaching the Syringe



Attach Barrel/Purge Tip

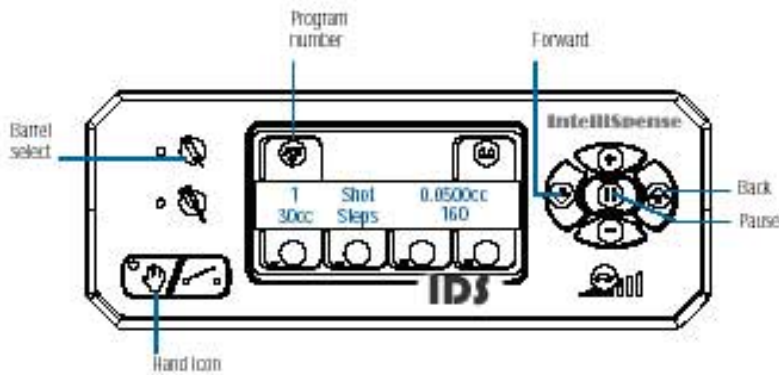
1. Unscrew and remove the barrel retainer from the adapter.
2. Put a tip cap on the syringe barrel and hold barrel next to the flexible cable assembly.
3. From **MANUAL** mode (hand icon light on), advance the plunger by pressing the Forward button, just until the plunger reaches past the piston.
4. By hand, insert the plunger into the barrel, pressing it snugly into the piston.
5. Press the Pullback button to retract barrel, until there is just a small gap between barrel and adapter.
6. Slide barrel retainer over the barrel and thread one turn onto the adapter.
7. Replace tip cap with dispense tip. Tighten barrel retainer.
8. Still in **MANUAL** mode, press the foot pedal to purge dispense tip. Press until fluid almost fills the tip and dispenses. Be sure not to overfill the tip since this results in excess back pressure, which can cause oozing.

Note: See the handout provided with your IntelliSpense dispenser, Syringe Barrel Attachment Guide, for simple, step-by-step instructions.

Removing the syringe barrel

1. Select **PROGRAMMED DISPENSE** mode (hand icon light off)
2. Press F1 to get the Retract to Home screen. Select Yes. This will retract the plunger into the cable assembly.
3. Unscrew the barrel retainer from the adapter.
4. Slide the syringe barrel off the plunger.
5. Discard the barrel, or if storing later use, replace the dispense tip with a tip cap.
6. Screw the barrel retainer back onto the adapter.

Attaching the Syringe



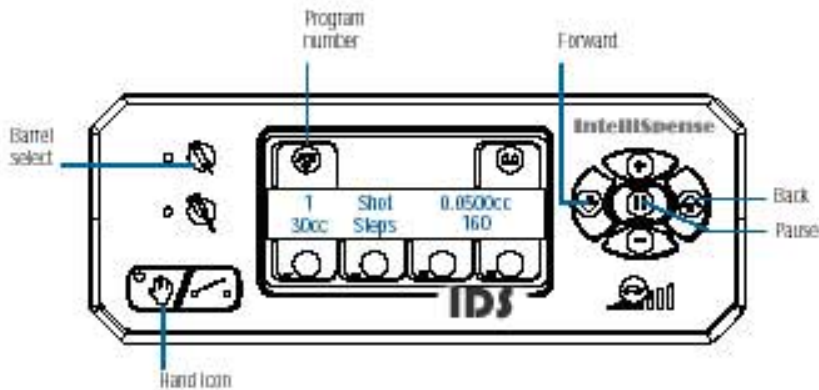
The **IntelliSpense** Dispensing System offers 100 user-defined memory programs, ranging from 0-99. The programs store the following information:

Syringe barrel size • Deposit volume • Dispense rate • Pause • Pullback

Follow these steps to define a program

1. Select **PROGRAMMED DISPENSE** mode. (Press "hand" icon so red light is off.)
2. Press **prg** to highlight the program number. Use the (+) or (-) buttons to assign or select the program number.
3. Select Syringe Barrel size by pressing the icon for Single Barrel Select. Press the F1 button. Use the (+) or (-) buttons to scroll through and select the proper syringe barrel size.
4. Set Dispense Rate from this screen by pressing F3 for Rate, then selecting Medium.
5. Select Deposit Volume by pressing the **FORWARD** button. Use the (+) or (-) buttons to set volume.
6. Insert an end-of-cycle Pause by pressing the **PAUSE** button. Use the (+) or (-) buttons to set Pause in milliseconds. Start with Pause set to 0 ms, and then adjust if needed.
7. Select Pullback by pressing the **BACK** button. Use the (+) or (-) buttons to set Pullback.
8. Press the foot pedal once to return to the Home screen. The settings are automatically saved.
9. Press the foot pedal again to dispense the first deposit.

Making a Bead

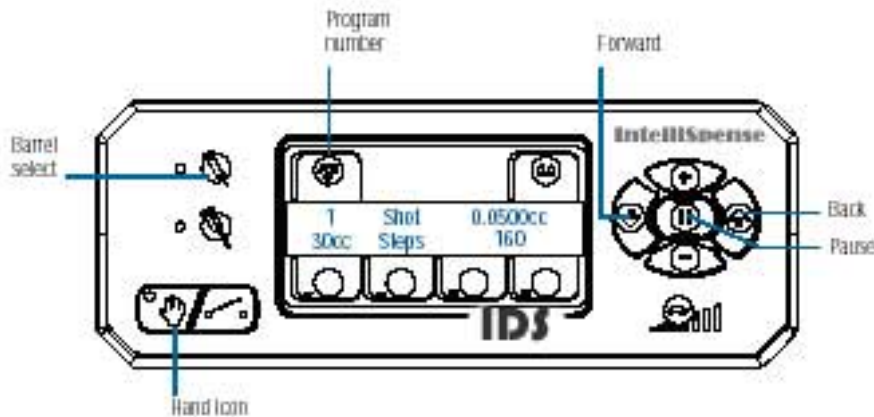


How To Make A Bead

To deposit a continuous bead of fluid, instead of a single dot, follow these steps:

1. Select **PROGRAMMED DISPENSE** mode. (Press "hand" icon so red light is off.)
2. Set Dispense Volume to lowest setting (0.0001cc).
3. As a beginning point, keep Pause set to 0 ms and Pullback at 200 steps, then adjust as needed to eliminate drooling.
4. For best results, set Dispense Rate to the preset of Slow, to minimize back pressure in the syringe barrel.
5. Select **MANUAL** mode. (Press "hand" icon so red light is on.)
6. Press and hold the foot pedal until the required amount is dispensed. (Note: the Cycle Start button is not active in Manual mode, so use the foot pedal to activate the dispense cycle.)

Modifying Functions



The *IntelliSpense* Dispensing System includes pre-set specifications based on industry-standard IDS syringe barrel dimensions. In most cases, you will want to use these pre-set specifications. However, you have the option to adjust the settings with the **Modify Function**.

Modify Function

1. From either the **PROGRAMMED DISPENSE** mode or the **MANUAL** mode, press the Single Barrel Select button. The MOD (Modify) option will appear.
2. If needed, press F1 to highlight the syringe barrel size. Use the (+) or (-) buttons to select the correct barrel size — for example, 3cc, 5cc, 10cc, or 30cc.
3. Press F4. This activates the Modify screen.
4. Press F3 to highlight specifications for the diameter of the syringe barrel. This is displayed in centimeters. The settings will vary according to the syringe barrel size you have selected. Use the (+) or (-) buttons to adjust as needed.
5. Press F4 to highlight the specifications for the stroke of the syringe barrel, also listed in centimeters. Again, the settings will vary depending on the syringe barrel size you have selected. Use the (+) or (-) buttons to adjust as needed. **Note:** The stroke should reflect the distance the IDS piston will travel to dispense all of the fluid in the syringe barrel. For example, if the barrel is loaded half-full, a certain stroke length (measured in centimeters) will be required to empty it. By adjusting the stroke for a specific barrel fill level, you will ensure that the "Level" display on the Home screen provides an accurate reading.
6. When finished, press the foot pedal once to return to the Home screen.

Helpful Hints



Helpful Hints

- Faster dispense rates require more Pullback steps. That's because you are putting more pressure on the fluid, creating compression inside the syringe.
- For best results, use the preset default dispense rate of Medium. If you are making small deposits, you are likely creating a lot of pressure trying to force the fluid through a small dispense tip.
- Begin with the largest tip practical to your application, with a slow dispense rate. Depending on how thick your fluid is, you may also need to increase Pullback to relieve back pressure in the syringe barrel.
- **Changing the dispense rate changes the deposit size.** The IntelliSpense provides a metered deposit based on Forward steps at a specific dispense rate. When you change the dispense rate, the deposit size also changes, even though the number of Forward steps remains the same.
- **For example, 25 Forward steps at the high dispense rate produces a smaller deposit than 25 Forward steps at the low rate.** That's because the slower rate gives the fluid more time to dispense, while the faster rate compresses the fluid and restricts the flow path. For optimum consistency, stay at the same dispense rate once you have stabilized your deposit settings.

Setting up the First Shot

- Go through the steps outlined in the *IntelliSpense* Quick Start Guide to establish your initial deposit. Work first with the IDS test material, included with your dispensing kit. Check the *IntelliSpense* Settings Grid for recommended settings, including Forward steps, Pause, Dispense Rate and Pullback. The grid is included in your dispensing kit.
- Keep your Pullback setting low to reduce the risk of introducing air into your syringe barrel. Experiment with different values for each variable. Change only one value at a time and allow the deposit to stabilize before adjusting or changing another value.

Components

- Always use new barrels and tips. Carefully dispose of after use. This procedure ensures maximum cleanliness, prevents contamination and provides proper safety. You **must** use a piston with the IntelliSpense. Besides being required to connect with the plunger, the piston makes barrel loading, dispensing and fluid handling cleaner, safer and more accurate.
- Use the largest tip size possible. Smaller tips require more pressure, which can compress the fluid and cause oozing, and more time. For best results when working with thick fluids, use IDS tapered tips. Tapered tips are specially designed to reduce the amount of pressure needed and are available in a range of sizes. They also help prevent drooling and oozing.

Helpful Hints



Cycle Start & Abort

The Cycle Start button serves the same purpose as the foot pedal. Pressing either of these once will return you to Home. However, pressing the Cycle Start button twice can abort your program. Therefore we recommend that you use the foot pedal to dispense from Programmed mode. A dispense cycle can be stopped at any time by pressing the Cycle Start button.

Pre-load Adjustment

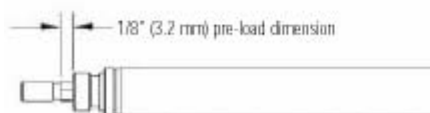
The pre-load adjustment block allows the user to make corrections to the pre-load due to cable stretch. If this happens, turn the pre-load plug clockwise to readjust the hex shaft to the 1/8-inch (3.2 mm) pre-load setting. The pre-load adjustment block can compensate for approximately 1.5cc's of hydraulic fluid volume. However, only a small portion of this volume should ever need to be used. In addition, the pre-load typically needs to be adjusted just once during the early operation of the unit, and depending on use, may never be required.



Pre-loading Adjustments

Follow these steps to make the adjustment

1. Turn unit over.
2. Use slotted screwdriver to turn plug clockwise.
3. Turn until the actuator extends to the 1/8-inch pre-load dimension, as shown in the figure below.



Actuator pre-load dimension

Syringe Filling



Avoid air in the syringe barrel

Air in the fluid is a **critical issue** with the *IntelliSpense* Dispensing System. It can create problems with inconsistent deposits and drooling. For best results, allow us to prepackage your material in our syringes. Failing that, use an IDS barrel filling station (see below), or bottom fill the syringe barrel.

Simply insert the red piston and push it all the way inside the barrel, flush to the dispense tip. Then fill through the tip, pushing the piston down as the fluid enters. This prevents air from entering the syringe barrel. If needed, eliminate air in the syringe barrel by using centrifuge or a vacuum chamber.

If the fluid being dispensed is pourable, attach an orange tip cap to the syringe barrel and pour the fluid in. Insert the piston and carefully press it down until it contacts the fluid. The syringe barrel is now ready for use.

If the fluid is thick or non-leveling, it can be spooned into the barrel with a spatula. Or, if the fluid comes packed in a 1/10 gallon cartridge, the barrel can be loaded with a caulking gun. After loading, press in the piston to move the fluid to the bottom of the barrel and to remove trapped air. **Caution:** Do not completely fill syringe *Piston* barrels. The optimum fill is 2/3 of the barrel capacity.

If you are working with assembly fluids with a short pot life, you may want to fill to 1/2 of the syringe barrel.



The IDS Automatic Syringe Filler provides consistent filling for all types of nonpourable assembly fluids. It features built-in flow controls to prevent spillage and air entrapment. If you receive frozen epoxies or other fluids in medical type syringes with a manual plunger, order the IDS luer-to-luer fitting to transfer the material from the original syringe to the IDS syringe barrel. Another option is the IDS Barrel Loader. Pack the fluid into a 12-ounce cartridge, place the prefilled cartridge into the barrel loader and using air pressure, the barrel loader fills the syringe barrel (with piston) from the bottom up. If the fluid comes prepackaged in a 1/10 gallon (300 ml.) caulking type cartridge, use the IDS 1/10 Gallon Barrel Loader. For additional assistance please contact an IDS Fluid Application Specialist.

Troubleshoot



No power - Check the fuses and replace as needed. Follow these steps:

Disconnect the power to the unit prior to performing this service:

1. Locate the power entry module on the lower left corner of the rear panel. 3. If the electrical cord is still connected to the back of the unit, remove it now. 4. There is a small vertical slot just to the right of the red window on the power entry module.
2. Insert a small screwdriver in the slot to pry latch open. Door swings open to the left.
3. Pull out the red fuse tray. Note the location and orientation of the fuses.
4. Pull both fuses out of the fuse tray and discard.
5. Replace both with 1.0A/250 VAC 5x20mm fuses (IDS part #28139 or equivalent). Orient the fuses in the same manner as the fuses that were removed. Insert fuse tray back into power module, close fuse door and reconnect power.

Blow by - If you are dispensing a watery-thin fluid, request the IDS yellow wiper piston, available for the IntelliSpense-30 model only. Specify IDS part # A678-B.

Oozing - There is too much fluid compression in the syringe barrel.

1. Change to a fresh dispense tip and start over. If needed, switch a slower dispense rate.
2. The plunger has become disengaged from the piston. To check, unscrew the retainer from the adapter and turn the syringe barrel upside down. If the syringe barrel falls off, the plunger is disengaged. See the handout, "Syringe Barrel Attachment Guide," for step-by-step instructions on how to properly engage the plunger and piston.

Inconsistent shot size - There is air in the syringe barrel, either entering the barrel during filling, or from excessive Pullback. Eliminate air from the barrel, or adjust the Pullback.

1. The Dispense Rate may be too fast for the combination of fluid viscosity and dispense tip. Reduce the Dispense Rate.
2. The plunger is fouled. Remove syringe and clean as needed. Check dispensing tip, barrel and material for clogging. For best results, change the dispense tip. You may need to adjust the pre-load adjustment block. **See page 19.**

Troubleshoot



Dispense Rate - If nothing seems to happen when you press the (+) or (-) button to manually adjust **does not adjust** the Dispense Rate, the rate may already be set to a very low speed. Try switching to the preset default for Medium.

Service - The interior mechanics of the IntelliSpense system are not field serviceable. Attempting to repair or service the unit by removing the enclosure cover voids factory warranty. Please contact your IDS service representative for assistance.

Other Tools



Choose from several optional productivity tools to maximize your IntelliSpense dispensing kit.

Barrel Hand Grip - Ergonomic hand grip is available for the 2800-30 model only and easily holds 30cc syringe barrels. Specify IDS part #2441.

Safety Shield - Large, acrylic shield mounts on a flexible arm to either side of the IntelliSpense cabinet and provides splash guard protection when adhesives and toxic fluids are used. Specify IDS part #2436 plus the assembly mount (#2800AM).

Magnifying Lens - 1.7x magnification ensures more accurate deposit placement, improves repeatability and reduces operator strain. Mounts to either side of the IntelliSpense cabinet. Specify IDS part #2442 plus the assembly mount (#2800AM).

Syringe Barrel Production Stand - Holds syringe barrel in a fixed position for bringing the production part to the dispense tip. Specify IDS part #7300A.

Parts



Part #	Description
Barrel/Piston Sets	
5109CPD-B	3cc Barrel&Piston Kits Clr/Red(50)
5110CPD-B	5cc BP Kits Clr/Red (40)
5111CPD-B	10cc BP Kits Clr/Red (30)
5112CPD-B	30cc BP Kits Clr/Red (20)
5109LBPD-B	3cc BP Kits LB/Red (50)
5110LBPD-B	5cc BP Kits LB/Red (40)
5111LBPD-B	10cc BP Kits LB/Red (30)
5112LBPD-B	30cc BP Kits LB/Red (20)
Pistons	
5109PDP-B	3cc red pistons (50)
5110PDP-B	5cc red pistons (40)
5111PDP-B	10cc red pistons (30)
5112PDP-B	30cc red pistons (20)
A678-B	30cc yellow wiper pistons (20)
Part #	
Flexible Cable Assembly	
IntelliSpenseP-3	3cc plunger
2800P-5	5cc plunger
2800P-10	10cc plunger
2800P-30	30cc plunger
2800R-3	3cc retainer
2800R-5	5cc retainer
2800R-10	10cc retainer
2800R-30	30cc retainer
2800A	3/5/10cc adapter
2800A-30	30cc adapter

Parts



Replacement Kits

2800PS-KIT	Power Supply Kit
2800CL-KIT	Cable Assembly Kit
2800FPL-KIT	Front Panel Kit,-3cc/5cc
2800FPH-KIT	Front Panel Kit,-10cc/30cc
2800CP3-KIT	Microprocessor Kit, 3cc
2800CP5-KIT	Microprocessor Kit, 5cc
2800CP10-KIT	Microprocessor Kit, 10cc
2800CP30-KIT	Microprocessor Kit, 30cc

Productivity Tools

2427-B	Replacement sleeve/5 pk
2436	Safety Shield
2441	Barrel Hand Grip (for 2800-30 only)
2442	Magnifying Lens
7300A	Syringe Barrel Production Stand
2800AM	Accessory Mount
2800BH	Syringe Barrel Holder
2800CG	Cable Guide Holder

IMPORTANT SAFETY NOTE: To accommodate smaller syringe barrels, the IntelliSpense-3 and IntelliSpense-5 systems use a stepped-down motor.

Manufacturer Two Year Limited Warranty

This dispenser is warranted to the original end user for two years from date of purchase. Within the period of this warranty, the Manufacturer will repair or replace any defective component, or the entire dispenser at Manufacturer's option, on authorized return of the part or the complete dispenser, prepaid to the factory.

In no event shall any liability or obligation of Manufacturer arising from this warranty exceed the purchase price of the equipment. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith.

Manufacturer makes no warranty whatsoever of merchantability or fitness for a particular purpose. In no event shall Manufacturer be liable for incidental or consequential damages.