

# SELECT Dosing System

## Select-640 SSD Single Shot Doser



# Instructions for Use

Ref: 22.3 IFU 640-SSD Jan '16  
640-099

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Silicone tube details  
highlighted in red




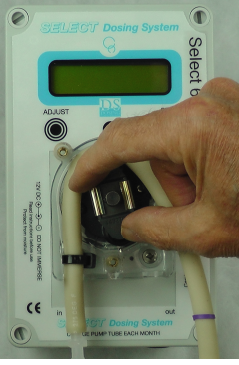




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**DS**  
DOSING  
SOLUTIONS

			
<p>Remove the cover from the pump head.</p> <p>This picture shows beige coloured Santoprene pump tube fitted.</p>	<p>Either 3m of <b>silicone</b> tubing or beige coloured tubing are supplied with the pump. If 3m silicone tube, use the black clip in a convenient position on the tubing to prevent the tube from moving during dosing.</p>	<p>Place the black clip in the pump head as shown. Turn the rotor by hand to fully load the tube.</p> <p><b>CARE – MIND YOUR FINGERS</b></p>	<p>Continue to load the tube until it is fully in position as shown.</p>
		<p>Connect the 12V power supply and follow on-screen instructions.</p>	
<p>Replace the cover on the pump as shown.</p>	<p>Connect the foot switch BEFORE you connect the power supply.</p>		

### Description

The Select-640 dosing system is a proportional additive pump designed to incorporate medications, vaccines, nutritional products acidifiers, and sanitisers into the drinking water of domestic livestock. The components are: the main pump unit, a foot switch or activation lead and delivery tube. There are no user serviceable parts inside the Select-640 doser.

### Changing Pump Tubes

**ENSURE EITHER THE POWER SUPPLY OR FLOW SENSOR LINE IS DISCONNECTED BEFORE CHANGING THE PUMP TUBE.**

**OTHERWISE ROTOR TURNING IS POSSIBLE – MIND YOUR FINGERS**

Removal of pump tube – Remove the clear pump cover (3 screws). Unclip the pump tube at the inlet. Lift out the pump tube whilst rotating the pump rotor by hand in a clockwise direction. When the pump tube is clear of the rotors, completely remove the tube. For the beige coloured Santoprene tube, pull the old (soft) pump tube from the tube connectors.

If a long length of **silicone** tubing is being used, lift out the tube whilst turning the rotor by hand in a clockwise direction.

For the beige Santoprene tube, push the new pump tube onto the tube connectors WITH THE BLACK TUBE RESTRAINT (ZIP TIE) ON THE INLET (LEFT) SIDE. See instructions (above) to install new tube in the pump-head.

For **silicone** tubing, you may wish to re-use the same length of tubing after cleaning. Cut off the existing tube clip and place the tube into the pump head in a new position from that used previously. Wear will then be applied evenly along the length of tube to maximise tube life.

Ensure that all connectors between the pump tube and delivery tubes are securely fitted. If necessary, warm the delivery tube with warm air or water to soften it to make fitting more easy.

#### Pump Tube Life

The life of the pump tube will depend on many factors including the product being dosed, the back pressures under which the pump is working, and the amount of time the pump needs to run to perform correctly. It is suggested that, in order to maintain dosing accuracy, the pump tube is replaced on a BI-MONTHLY BASIS or sooner if wear or disfiguration of the tube is apparent. Spare tubes are available from your pump supplier. Note: Only tubes supplied by Dosing Solutions Ltd are recommended for use in the Select-640 dosing system to ensure accuracy of operation.

#### Safety

The Select-640 doser is an extremely safe unit. However, the following points should be observed:

Normal electrical safety precautions apply. Avoid water contact with any pump parts apart from the pump tube in normal working. Do not immerse the Select-640 doser.

Take precautions to ensure the Select-640 doser can not fall into the stock solution. Consider extra tethering if necessary. Cover stock solution at all times. If immersion does happen accidentally, isolate the Select-640 Doser from the electrical supply immediately.

The use of safety circuit breakers is recommended. If in doubt seek advice from a qualified electrician.

#### Accuracy

The Select-640 doser is factory set to give accurate dosing. If, during normal operation, the output needs to be increased or decreased slightly, this can be achieved via the screen command "Adjust %".

#### Electrical Supply

The Select-640 doser uses a 12V DC power supply. This can either be supplied from a 12V battery or via a transformer power supply from the mains electricity supply.

A 3.8A maximum current power supply is recommended. The Select-640 doser normally runs below 2A although starting currents are larger and dependant on the pumping conditions encountered.

#### Operation

When the electric supply is first connected, the version of the programming will be shown.

<p>This is the <b>Welcome Screen</b> Press Adjust to start the set-up procedure.</p>	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Select SSD</p> <p>Press Adjust</p> </div>
<p>To adjust the dosed amount that will be given each time the Select-640 SSD is activated, press adjust repeatedly until the correct amount is shown. The amount shown will normally be ml. Press Set when the correct amount</p>	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Dose amount?</p> <p>100</p> </div>

<p>Fit the correct tube colour as detailed above. Then press Set</p> <p>For <b>Silicone</b> pump tube, this will generally be designated as "Grey"</p>	<div>100</div> <div>Use Purple tube</div>
<p>There will be a Tube Adjust % written on the packet that the tube was supplied in. Press Adjust repeatedly until the correct Tube Adjust is shown.</p> <p>This facility can be used to trim the output in use if necessary.</p> <p>Press Set when the correct Tube Adjust is shown.</p> <p>With a long length of <b>silicone</b> pump tube, no Tube Adjust will be given as the cross sectional area may vary along the length of tubing. Test the output of the pump into a measuring cylinder, and then use the Tube Adjust function to correct the output as necessary.</p>	<div>Adjust %</div> <div>+5%</div>
<p>The Select-640 SSD will show the number of doses generated as an N number on-screen.</p> <p>Choose the desired option.</p>	<div>Zero dose count?</div> <div>No                      Yes</div>
<p>If the delivery tube needs to be filled with product, press Yes, the pump will turn continuously until:</p>	<div>Prime pump?</div> <div>No                      Yes</div>
<p>This is the screen shown during priming. Press Stop when the delivery tube is full.</p>	<div>Priming...</div> <div>Stop</div>
<p>This is the operating screen. The dose amount is 100 (ml), the Purple tube is fitted, the Tube Adjust is +5%, and 3 doses have been achieved since the counter was last set to zero.</p>	<div>100 Ppl+5%</div> <div>3N</div>
<p>When the electric power is disconnected, and then re-connected, all set values including the dose count will be retained.</p>	

To make any adjustments to settings, return to the Welcome Screen and progress through the options. To return to the Welcome Screen, press and hold **Adjust** from the Operational Screen.

On the Operational Screen, the following colour abbreviations are used for pump tubes:



Grey	GRY
Purple	Ppl
Brown	Brn

#### Constant Pumping

If the priming option is selected from the menu on the control screen (see above) the pump rotor will turn continuously regardless of the flow in the drinking line. This can be useful for filling the suction and delivery lines prior to proportional dosing. It can also be used if a particular product needs to be dosed quickly within a given period. The following pumping rates will be achieved when the Select-640 doser is set to "prime":

Pump Tube Colour	Priming pump rate
Grey / <b>silicone</b>	72 litres / hour
Purple	36 litres / hour
Brown	4.92 litres / hour

It is not recommended to use the Select-640 doser for more than 2 hours at a time in the priming mode, as tube and motor life will be reduced.

#### Rotor Adjustment

The rotors in the Select-640 pump-head are not adjustable.

#### Encoding

Under the rotor assembly, there is a magnet holder plate that turns with the rotor on the drive shaft. This plate should be fitted so that the magnets are uppermost. The translucent washer should be under the magnet holder plate.

#### Installation

The Select-640 doser can be powered from a 12V DC battery or via a transformer from the mains electricity supply. Position the dosing point so as to be convenient for a power source if power is to be taken via a transformer from the mains. Ensure that the Select-640 doser is properly secured to prevent it becoming immersed in water or stock additive solution.

Connect the signal cable from the foot switch into the Select-640 doser unit. Connect the Select-640 doser to either battery or transformer. Choose program options from the control screen. Ensure pump tube fitted and connected to inlet and outlet delivery tubes. Place inlet tube weight into additive liquid. Connect delivery outlet tube into quick-fit connector clamp.

Note: The pump will self prime. The pump can also be run dry without damaging any parts although it is not recommended to run the pump dry for extended periods.

#### Pumping Problems / Errors

If the Select-640 doser fails to operate correctly, check the following: (If the problem can not be resolved – contact your Distributor)

Problem	Solution
Incorrect dosing.	<ol style="list-style-type: none"> <li>1. Check for low battery power (If external battery is in use)</li> <li>2. Pump tube should be replaced regularly. Replace if necessary</li> <li>3. Is correct dosing amount selected?</li> <li>4. Water pressure in the drinking water line should not exceed 2 bar. Fit pressure reduction device if necessary.</li> <li>5. Incorrect Tube Adjust Factor entered on the control screen. Check and re-enter.</li> <li>6. Incorrect pump tube fitted. Are screen details correct?</li> </ol>
Medication not being pumped from stock container.	<ol style="list-style-type: none"> <li>1. Check all tube connections are firmly in place.</li> <li>2. Inlet tube could be blocked. Clear as necessary.</li> <li>3. If a knife has been used to free a tube connector on the inlet side of the pump, the connector could be damaged and letting air into the suction line.</li> </ol>

Sudden loss of pumping pressure (with possible return of fluid into stock container)	<ol style="list-style-type: none"> <li>1 Check if there is any lateral movement in the rotor. It is possible the rotor shaft bearings may have worn. Consult Distributor.</li> <li>2 Check for physical damage to pump head fixing screws.</li> <li>3 Check that non-return valve is fitted in delivery line</li> </ol>
Error message "pump error"	A failure of the motor or data encoder is indicated. Check that connections to circuit board from motor are in place. Consult Distributor.

### Maintenance

#### **Weekly**

Inspect the pump tube for signs of wear.

Check doser output. Adjust as necessary via the control screen.

#### **Monthly**

Replace pump tube monthly or sooner if any of the following occur:

- Sharply increased rate of dosing
- Split tube

#### **Each 6 Months**

After disconnecting from electric supply, remove cover from Select-640 doser and inspect interior of pump enclosure. Ensure no ingress of moisture or other contaminant. In case of difficulty, contact your supplier.

### Spare Parts and Accessories

Item		Code
Select-640 Single Shot doser	Unit	010CA90
Replacement pump (Santoprene) tube pack – 5 tubes	Grey	011CA63/REP
Replacement pump (Santoprene) tube pack – 5 tubes	Purple	011CA48/REP
Replacement pump (Santoprene) tube pack – 5 tubes	Brown	011CA16/REP
Delivery (PVC) tube (3m) plus end weight	unit	152CA05
Quick-fit male/female connector	unit	153CA02
Power supply 12V-DC 3.8A UK style	unit	019CA00
Power supply 12V-DC 3.8A EU style	unit	019CA10
Silicone pump tube (3m)	unit	012CA63