



## eDART Installation and Maintenance Manual – Tri/iDart Valve

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Babcock Business Park · Cnr Jet Park and North Reef Roads · Jet Park · Gauteng · South Africa  
Landline: +27.11.823.6620 · info@edart.co.za · sales@edart.co.za · www.edart.co.za



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Manufacturer	eDART Slurry Valves (Pty) Ltd Reg No: 2000/023276/07 cnr Jet Park and North Reef Roads Jet Park Gauteng Tel. +27.11.823.6620 www.edart.co.za info@edart.co.za
Contact	eDART Tel. +27.11.823.6620 email: <b>maintenance@edart.co.za</b>



### **WARNING**

eDART Slurry Valves (PTY) LTD will in no way be liable for any loss or injury or death caused to any person or persons or property following this installation and maintenance manual.



**TABLE OF CONTENTS**

1. Introduction..... 3

2. Nomenclature ..... 3

3. Installation Guidelines ..... 4

    3.1. Rigging and Lifting ..... 4

    3.2. Installation ..... 4

4. Routine Maintenance And Inspection ..... 5

5. Expected Wear Items ..... 5

6. Isolating the Valve ..... 6

7. Replacing of Components ..... 6

    7.1. Replacing the plug and seat ..... 6

8. Setting Pre-Compression and Stem Clamp Assembly ..... 7

9. eDART Safety ..... 8

10. Problems..... 8



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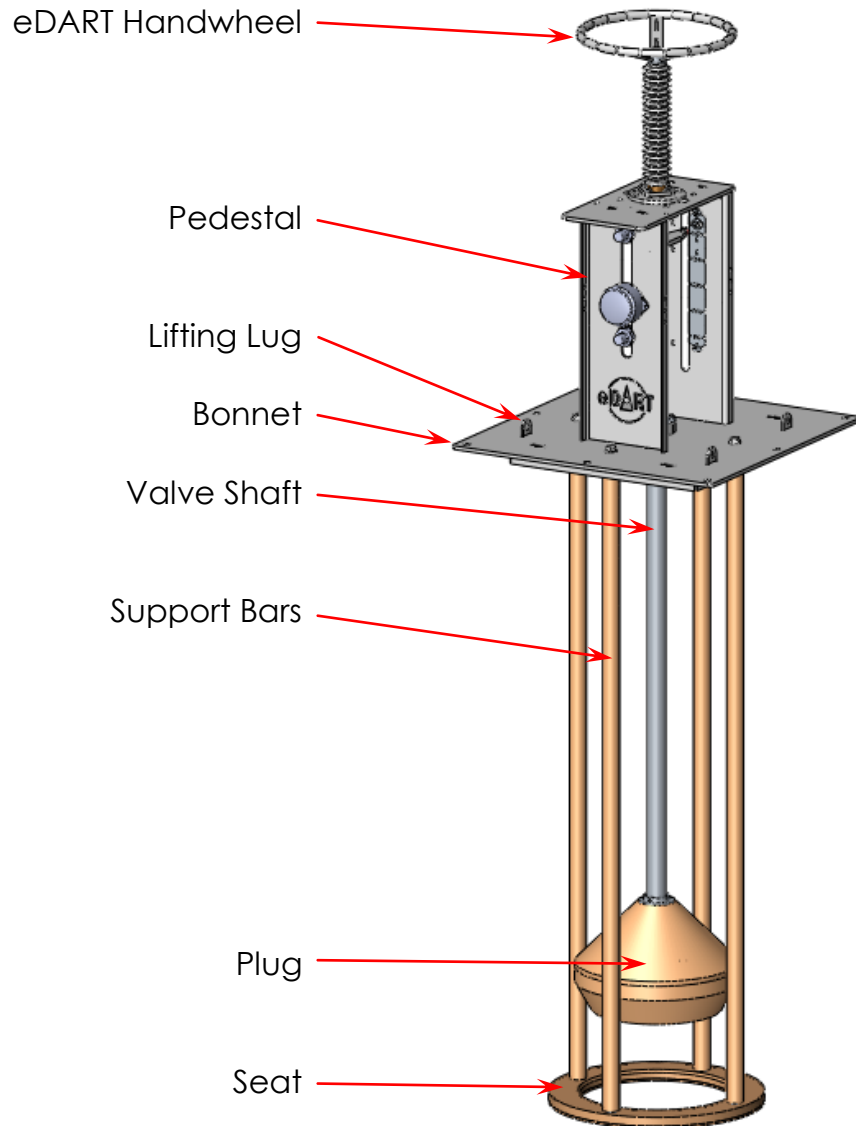
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## 1. INTRODUCTION

This installation and maintenance manual covers the eDart Tri/iDart Slurry Valve range. The Tri/iDart Slurry Valve is designed for use as an isolation valve or control valve depending on the plug fitted to the valve. The Tri/iDart is designed to either be bolted to the outlet or pushed into the outlet of a tank. The Tri/iDart Valve is a self contained valve and therefore can be removed from the tank if maintenance is required.

## 2. NOMENCLATURE

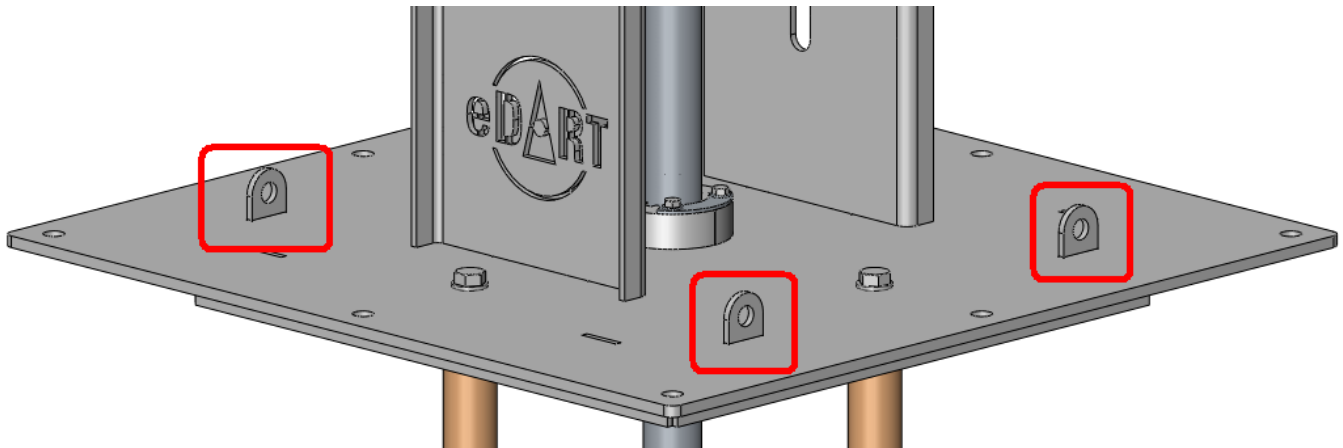
The components of the manual TriDart valve are labelled as follows:



### 3. INSTALLATION GUIDELINES

#### 3.1. Rigging and Lifting

1. When lifting care must be taken so as not to damage the Handwheel assembly.
2. The valve is to be lifted with the (Ø18mm) lifting lugs on the bonnet.



#### **WARNING**

The valve must under no circumstances be lifted by the Handwheel as this will damage the manual actuation mechanism and valve.

#### 3.2. Installation

1. The Valve must be installed into the tank/splitter box following the plant layout drawings and the tag number on the valve. Each valve is supplied with a data tag indicating the serial and tag number.
2. The valve should be bolted into the tank/splitter box using suitable bolts, nuts and washers.
3. The bolts should be tightened sufficiently so that the seat seals with the tank or splitter box bottom, if supplied with a gasket ensure that the gasket is located in the correct position. It may be useful to use silicone to ensure a proper seal with the tank.
4. Sufficient clearance above and below the eDart is to be left clear for stripping and removal. Please refer to the GA Drawings for dimensions.

### 4. ROUTINE MAINTENANCE AND INSPECTION

To ensure optimum life and performance from your manually operated TriDart valve, the following routine inspections are recommended:

1. During a plant shut or maintenance stop, visually inspect the plug, seat, guides and bar guides for wear and damage.



#### NOTE

Before inspecting the valve, ensure that the tank or splitter box has been safely isolated and locked out; for details on how to safely isolate the valve refer to Section 6 below – Isolating the Valve.

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2. The following are indications that the valve needs attention
  - The valve action is no longer smooth
  - When closed the valve is passing excessive product down stream

### 5. EXPECTED WEAR ITEMS

1. Plug – The plug must be visually inspecting for any wear or damage.
2. Seat - The seat must be visually inspecting for any wear or damage.
3. Shaft and Bar Guides – All the Polyurethane sleeves must be checked for wear and damage, ensure that these are replaced before any major damage is visible.



#### WARNING

**If any other components appear to be damaged or worn please contact the manufacture immediately.**

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### 6. ISOLATING THE VALVE



#### **WARNING**

**Only suitably trained personnel are to work on the eDart Valve.**

1. Ensure that the correct lock-out procedures are followed and that the valve and tank may be safely isolated.
2. Isolate and drain the tank or splitter box containing the valve
3. Flush out any excess slurry remaining in the tank or splitter box.
4. Inspection and/or work may begin on the valve after safe isolation is confirmed.

### 7. REPLACING OF COMPONENTS



#### **WARNING**

**Only suitably trained personnel are to work on the eDart Valve.  
Before any maintenance is done the valve must be safely isolated.**

#### **7.1. Replacing the plug and seat**

1. Ensure that the valve has been safely and correctly isolated.
2. Unbolt and remove the valve from the tank or splitter box.
3. Disconnect the Handwheel shaft from the valve shaft by removing the stem clamp, remove the handwheel.
4. The plug and seat can now be removed and replaced.
5. Re-assemble in reverse order, remember to put all spacers and washers back as they were removed.
6. See §8 on proper stem clamp assembly



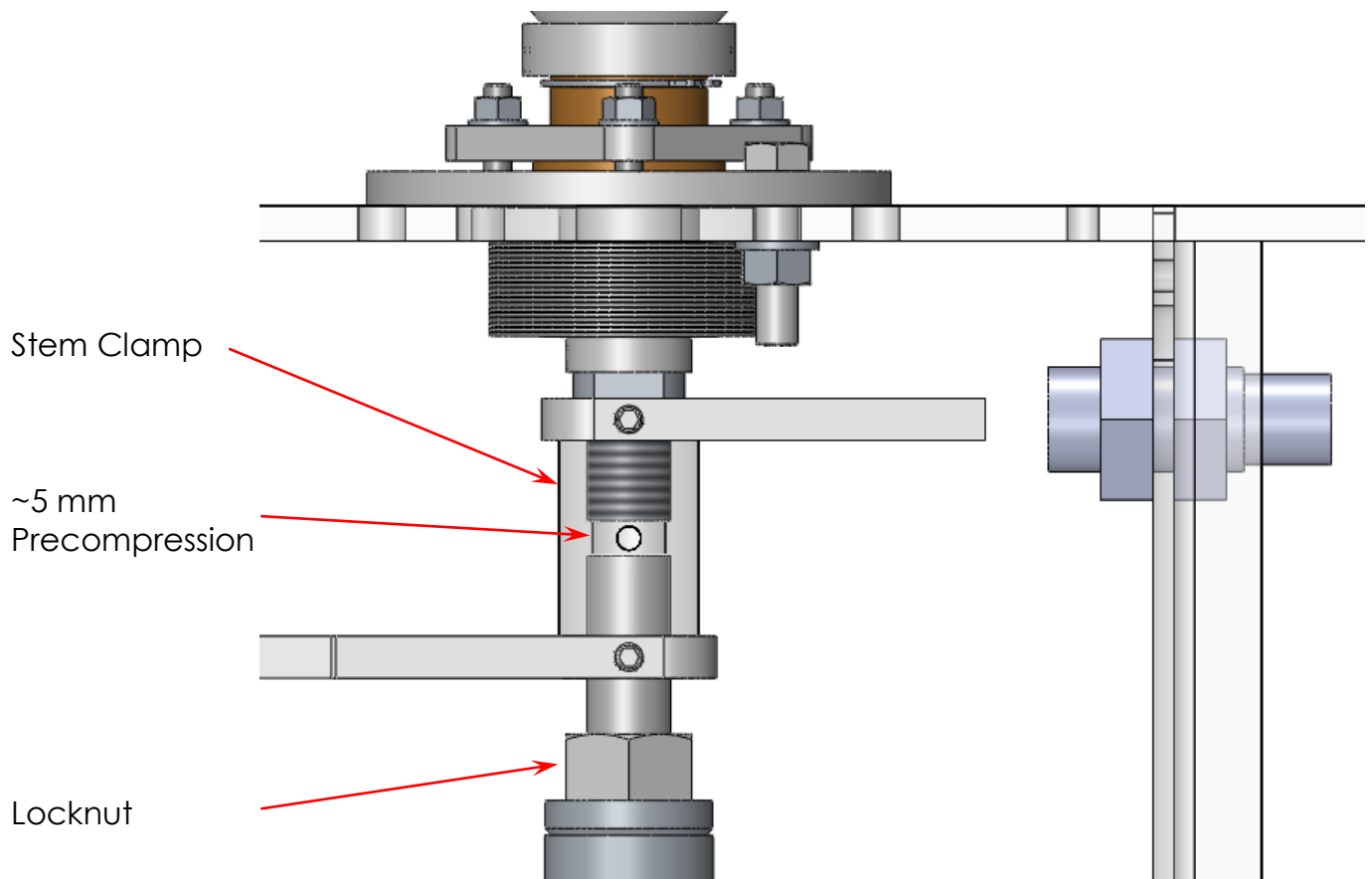
#### **NOTE**

**Stroking will be required to seat the plug correctly.**

## 8. SETTING PRE-COMPRESSION AND STEM CLAMP ASSEMBLY

Once a repair has been carried out, the valve needs to have the pre-compression reset.

1. Locate the plug on the seat.
2. With the stem clamp removed, screw out the threaded bar from the valve shaft until it just touches the top of the threaded bar on the Handwheel stem.
3. Screw back the threaded bar into the end of the Valve approximately 5 mm, and lock in place with the locknut provided. See picture below.
4. Replace the stem clamp and tighten fast.
5. Wind the handwheel as if to close the valve and check that the plug seats properly in the seat ring. This can be done by using a torch below the seat and looking for light between the plug and seat.
6. If you see light shining through between the plug and seat then revert to step 3 and an increase the pre-compression 1-2 mm.





## 9. eDART SAFETY

1. The eDart is to be lifted using the lifting lugs on the pedestal, taking care not to damage the actuator, positioner or feedback mechanism.

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### NOTE



Older models might not be fitted with the pedestal and lifting lugs. In this case the eDart is to be lifted using a soft sling under the body, taking care to support the actuator so as not to damage the actuator, positioner or feedback mechanism. **Do not lift from the eye bolt on the actuator as this will damage the actuator.**

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2. Due consideration is to be given to the weight of the components before dismantling.
3. Rigging equipment and procedures are to be followed to service the TriDart.
4. Safety procedures for the use of compressed air are to be followed.
5. Only suitably qualified persons to work on or maintain eDART valves.
6. All local safety rules and regulations with respect to safety clothes applicable, tools and equipment used and methods of operation are to be adhered to.

## 10. PROBLEMS

For any problems please contact eDART Slurry Valves directly on –

**Tel. +27. (0) 11. 823. 6620, or  
email: maintenance@edart.co.za**

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