

SERVICE MANUAL
EMC Isolation Valve

Designed and Manufactured by
THE ELECTRON MACHINE CORPORATION
Umatilla, FL
USA

Rev. 1

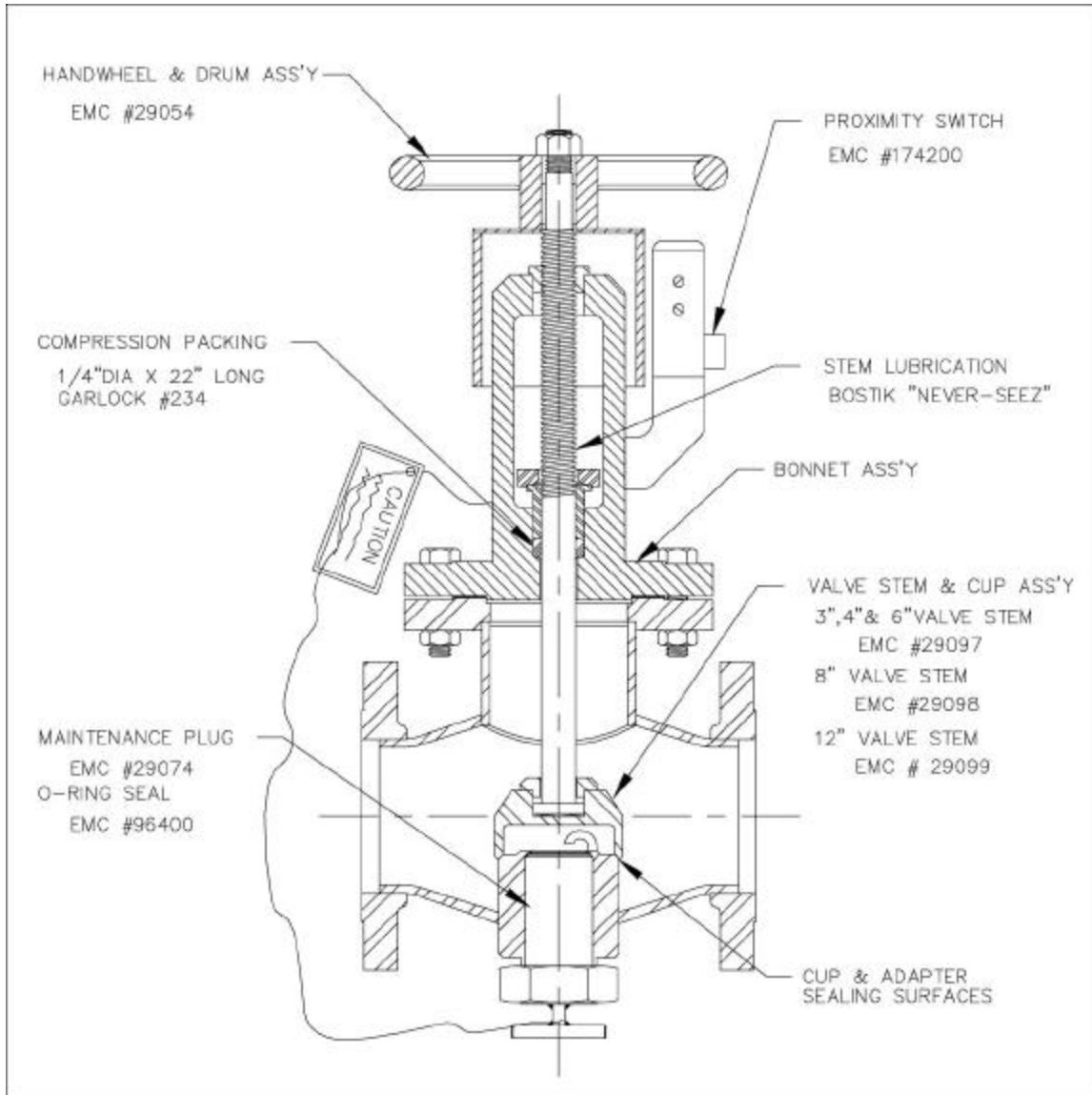
TABLE OF CONTENTS

	<u>Page</u>
Compression Packing	1
Service Parts List	2
Procedure for Removing Sensing Head or Maintenance Plug	3
Test Procedure for Isolation Valve Proximity Switch	4

Compression Packing

1. Periodically inspect area around valve stem and the packing gland flange for leaks during usage.
2. If leaks occur around this area, tighten packing gland nuts until leakage stops.
3. If leakage still occurs after tightening gland, replace compression packing. See service parts list for packing material. (Line must be down before attempting packing replacement.)

Service Parts List Isolation Valve

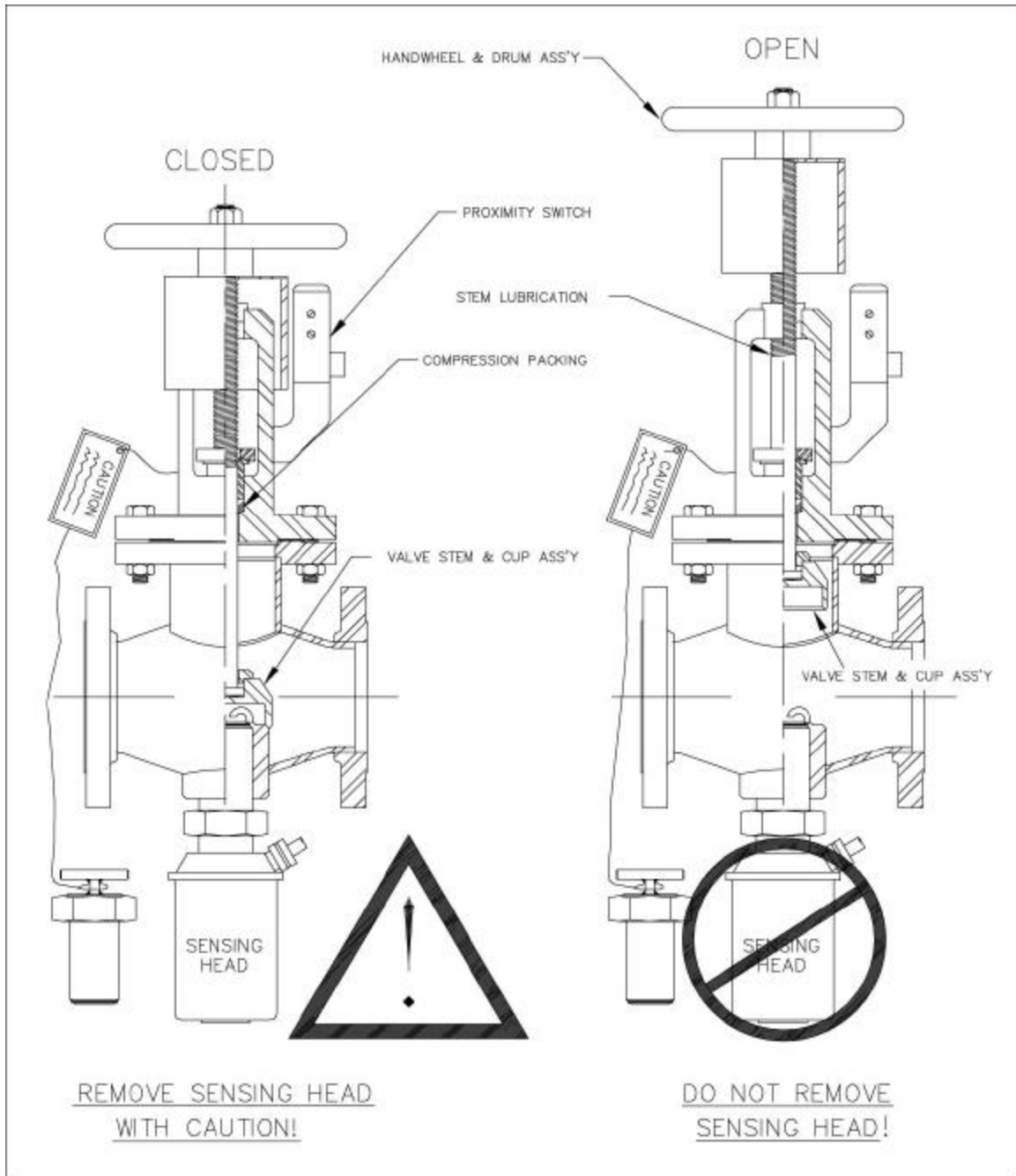


Procedure for Removing Sensing Head or Maintenance Plug

1. Always wear a face shield and waterproof protective covering when removing the sensing head or maintenance plug from the isolation valve.
2. Turn off steam for purging on the sensing head being removed. If there is only one common shut-off for both sensing heads, turn off power on the MDS electronics card to prevent a divert caused by missed purge.
3. Close isolation valve by turning red handle cw to a hard full stop.
4. Loosen sensing head or maintenance plug mounting nut one (1) complete turn.
5. Check for pressure on the sensing head (or maintenance plug) before proceeding. Push and pull the sensing head in and out between the mounting nut and the adapter. You should be able to move the sensing head about ¼” (6mm). Continue the movement until liquor drains from the adapter and no pressure is felt on the sensing head. (The liquor is under pressure until it is drained.)
6. **STOP!! IF THERE IS A RESISTANCE AGAINST THE SENSING HEAD RETIGHTEN THE MOUNTING NUT. DO NOT REMOVE THE SENSING HEAD OR MAINTENANCE PLUG.**

When there is no sign of pressure felt on the sensing head remove the mounting nut slowly while pushing and pulling the sensing head, checking for pressure. Stand to one side before completely removing the mounting nut. It takes three (3) complete turns to fully remove the nut from the adapter.
7. After removing the sensing head, flush all liquor from the adapter for easy installation and removal next time.
8. Before inserting maintenance plug or sensing head into the adapter, always check the o-ring for damage and to ensure it is in place.

Test Procedure for Isolation Valve Proximity Switch





ELECTRON MACHINE CORPORATION

15824 County Rd 450 W • Umatilla, FL 32784-2349 • 352-669-3101
www.electronmachine.com • sales@electronmachine.com

Procedure for Safely Removing Sensing Head or Maintenance Plug from Electron Machine Corporation Isolation Valve Adapter

Always wear appropriate Personal Protective Equipment (P.P.E.) as required by your company's safety procedures.

Please refer to

www.electronmachine.com for an online demonstration or click here for [video](#):

1. Disable steam purging on the sensing head being removed.

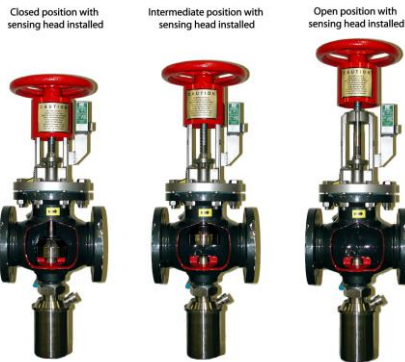


2. Close isolation valve by turning red hand-wheel clock-wise to a hard full stop. "Rock" hand-wheel shut several times to ensure clean closure.

3. Verify the bottom of hand-wheel is in the "closed" position as indicated on the bonnet casting.

4. Do not over-tighten or use leverage increasing tools (cheater bars, etc).

If hand-wheel does not fully close, **STOP!! DO NOT REMOVE THE SENSING HEAD OR MAINTENANCE PLUG.**



Electron Machine Corporation
Isolation Valve cut-away

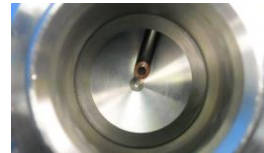


5. Loosen sensing head or maintenance plug mounting nut one (1) complete turn.

6. Relieve trapped pressure on the sensing head or maintenance plug before proceeding. Push and pull the sensing head in and out between the mounting nut and the adapter. You should be able to move the sensing head about 1/4" (6mm). Continue the movement until liquor drains from the adapter and no pressure is felt on the sensing head. (The liquor is under pressure until it is drained.)

STOP!! IF THERE IS A RESISTANCE AGAINST THE SENSING HEAD RETIGHTEN THE MOUNTING NUT. DO NOT REMOVE THE SENSING HEAD OR MAINTENANCE PLUG.

7. When there is no sign of pressure felt, standing to one side, completely remove the mounting nut.

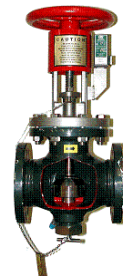


8. After removing the sensing head, flush all liquor from the adapter for easy installation next time

9. Inspect steam purge tube for damage. If you have a spare sensing head skip to step 13.

10. Before installing maintenance plug check the o-ring for damage and to ensure it is in place

11. Install maintenance plug or with o-ring and tighten to 50 foot-pounds of torque (68 Newton-Meter) using supplied wrench.



12. Leave isolation valve in closed position and tag appropriately as required by your company's safety procedures.

13. Install Spare Sensing head with o-ring. Note proper alignment of sensing head. (Alignment mark with steam purge fitting and interconnecting cable squeeze fitting down stream).

14. Tighten to 50 foot-pounds of torque (68 Newton-Meter) using supplied wrench.

15. Open Isolation valve slowly while checking for any possible indications for leaks

16. Hand-wheel should be turned counter-clockwise to the fully opened position by hand for normal operation.

17. Enable Steam Purging on the installed sensing head



4" Isolation Valve in
open position with
E-Scan sensing head
installed