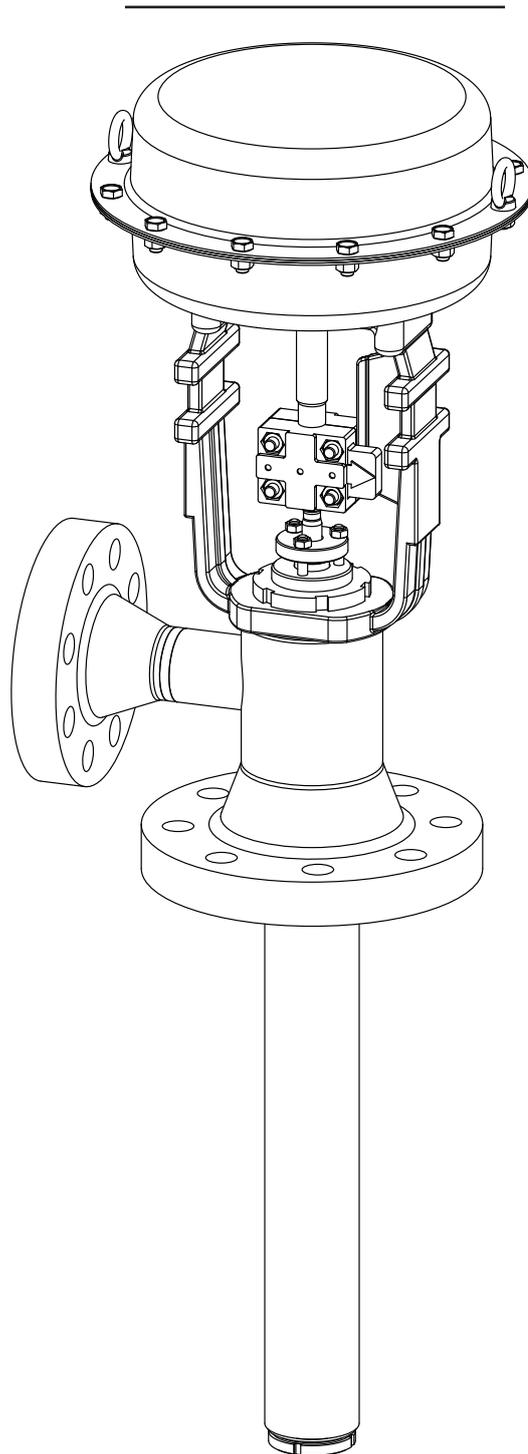


Product manual

BVT-DP2



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Introduction

This document is intended to be used with the product described within. Though these instructions are generally correct, any individual installation may require special considerations. Please contact BVT Sweden AB in case you have any questions. Note that these instructions are for information only. BVT Sweden does not take any responsibility related to omission in the precautions and instructions for installation, operation and/or maintenance.

Safety considerations

These instructions and the instructions of any accompanying service manual assume that the product is operated within a specified range of service conditions. Applying different conditions to our products could result in part damage, malfunction or loss of process control. Do not expose any valve or desuperheater for conditions or variables outside what the product was intended for.

In addition to the instructions herein, any person working on our products must observe local and national rules and regulations in regards to safety. All personnel handling our products must be trained professionals and instructed properly prior to any disassembly or maintenance work.

- ⚠ **Confirm that any pressure vessel is depressurized before starting any work.**
- ⚠ **Always wear protective gloves, clothing and eye-wear when operating on pressure vessels to avoid personal injury.**
- ⚠ **Before any attempt at disassembling the valve, verify that its surface is sufficiently cooled down and that the valve is depressurized and isolated from system pressure.**

For a complete set of safety instructions, please refer to M-001 General Instructions.

When should the nozzle be replaced?

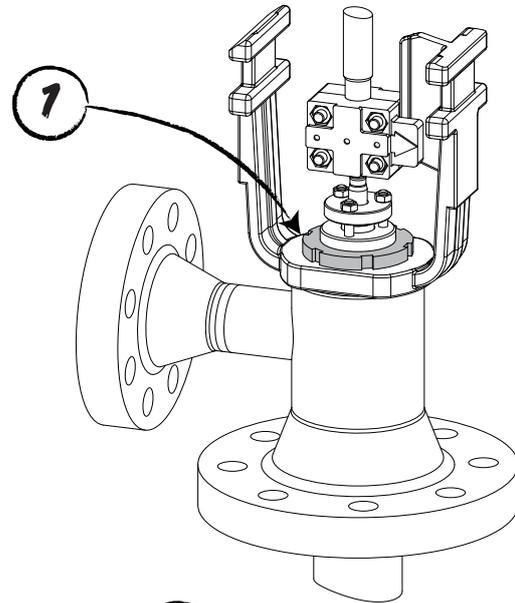
If damage to this opening is observed or if the nozzle does not close completely when depressurized, this is a sign that the nozzle needs to be replaced. Nozzles and gaskets should also be replaced at every outage.

Causes of nozzle damages

Spray atomizing nozzles require clean water or condensate for optimal performance. BVT recommends that strainers are installed upstream from the injection point, with a maximum particle size at 200 microns (mesh - 70). Larger particles and other contaminants can cause wear on the nozzle trim and particles can clog up the nozzle opening, preventing it from closing properly. The spray nozzles opening should produce a thin high velocity jet sprayed evenly along its circumference in operation, and close shut when depressurized.

Disassembly

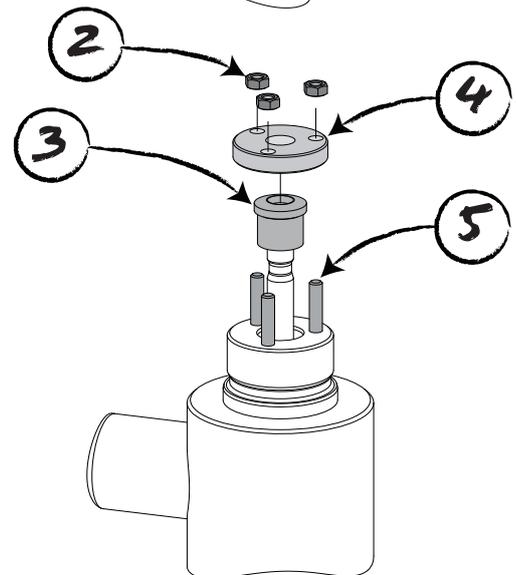
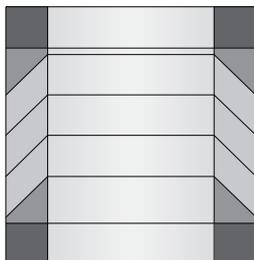
1. Disconnect all air supply and electrical connections from the actuator.
2. Remove the stem coupling between the actuator and the desuperheater.
3. Attach a sling to the eye bolts in the actuator to secure it.
4. Remove the hook nut using a hook wrench, and remove the actuator.
5. Loosen and remove the nuts on the gland yoke.
6. Remove the gland yoke and the gland, leaving the bolts in place.
7. Remove the packing rings.



Assembly

Installing the gland seal

8. Insert a new valve set. Make sure that the rings are installed in the correct order and direction. From top to bottom:
 - Braided end ring
 - High density concave adapter
 - 45° low density concave / convex rings
 - High density concave adapter
 - Braided end ring



9. Mount the gland, and the gland yoke. Make sure that the gland is well accepted in the groove in the bonnet.
10. Assemble and tighten the nuts and bolts at top of the gland yoke.

1. Hook nut
2. Nuts
3. Gland
4. Gland yoke
5. Bolts
6. Stem guide
7. Set of stem packings

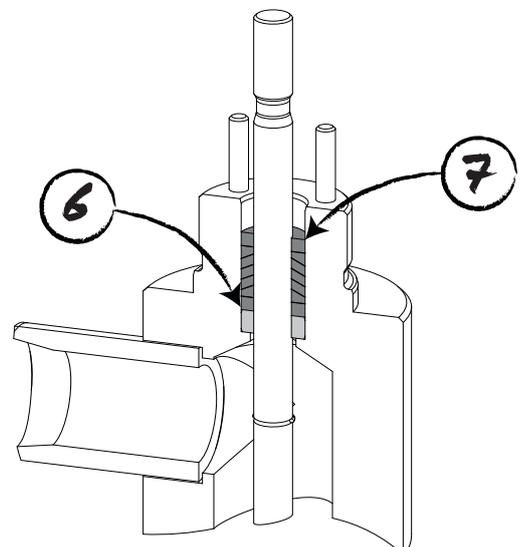


fig.1 Disassembling trim

Installing the actuator

1. Mount the yoke on top of the valve, making sure that the orientation is correct.
2. Install the actuator on top of the yoke, and reconnect any supplies and prepare for valve control. See instructions for specific actuator and positioner.
3. Place a flat object between the stem and the actuator piston rod, and stroke the valve to fully closed position using the actuators thrust.

⚠ **Avoid personal injuries caused by crushing when working with the stem coupling!**

4. Stroke the actuator to its top position and measure the distance between the stem and the piston rod.
5. The correct installation gap is **Max distance - desired stroke distance**. In most cases, 3 mm installation gap is desired.
6. Install the stem coupling and rotation stop. Make sure that it is properly fitted and aligned with the stem and the piston rod.
7. Ensure that any limit switches are in the correct position.
8. Verify the stroke.

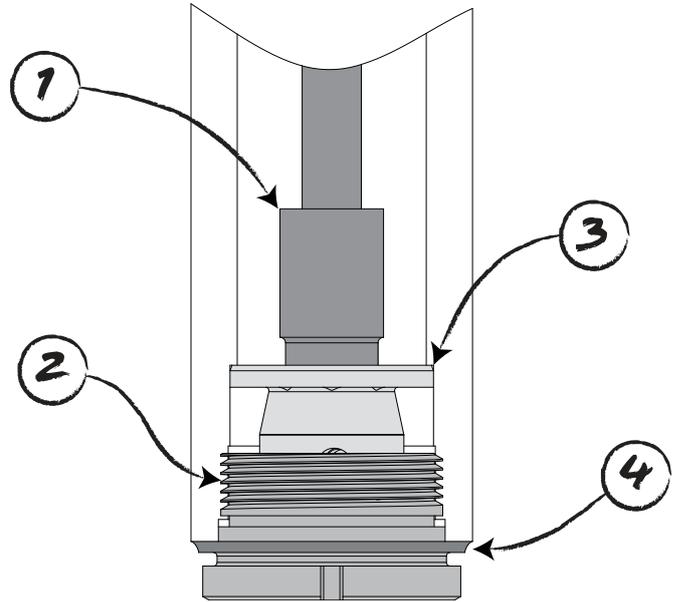


fig.2 Nozzle

1. Stem / plug
2. Nozzle
3. Atomizer
4. Weld

Replacing the nozzle

The nozzle is welded in place to prevent it from loosening during operation. This weld must be removed before the nozzle is removed from the nozzle holder.

If the nozzle assembly is removed or replaced, this weld must be reapplied.

Tables

Parts	Recommendation
Packings and seals	Never-Seez Dow Corning 111 Bostik NS-160
Body and internals	Never-Seez Dow Corning 111
Bolting	Never-Seez FelPro Blasolube 315

tbl.1 Recommended lubricants