



Welker[®] Instrument Valves



*Model
NV-1 & NV-2*

The information in this manual has been carefully checked for accuracy and is intended to be used as a guide for the installation, operation, and maintenance of the Welker equipment described above. Correct operating and/or installation techniques, however, are the responsibility of the end user. Welker reserves the right to make changes to this and all products in order to improve performance and reliability.

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SPECIFICATIONS

1. GENERAL

1.1 INTRODUCTION

We appreciate your business and your choice of Welker products. The installation, operation, and maintenance liability for this product becomes that of the purchaser at the time of receipt. Reading the applicable *Installation, Operation, and Maintenance (IOM) Manual* prior to installation and operation of this equipment is required for a full understanding of its application and performance prior to use.*

If you have any questions, please call 1-800-776-7267 in the USA or 1-281-491-2331.

Notes, Cautions, and Warnings



Notes emphasize information or set it off from the surrounding text.



Caution messages appear before procedures that, if not observed, could result in damage to equipment.



Warnings are alerts to a specific procedure or practice that, if not followed correctly, could cause personal injury.

The following procedures have been written for use with standard Welker parts and equipment. Assemblies which have been modified may have additional requirements and specifications that are not listed in this manual.

1.2 SPECIFICATIONS

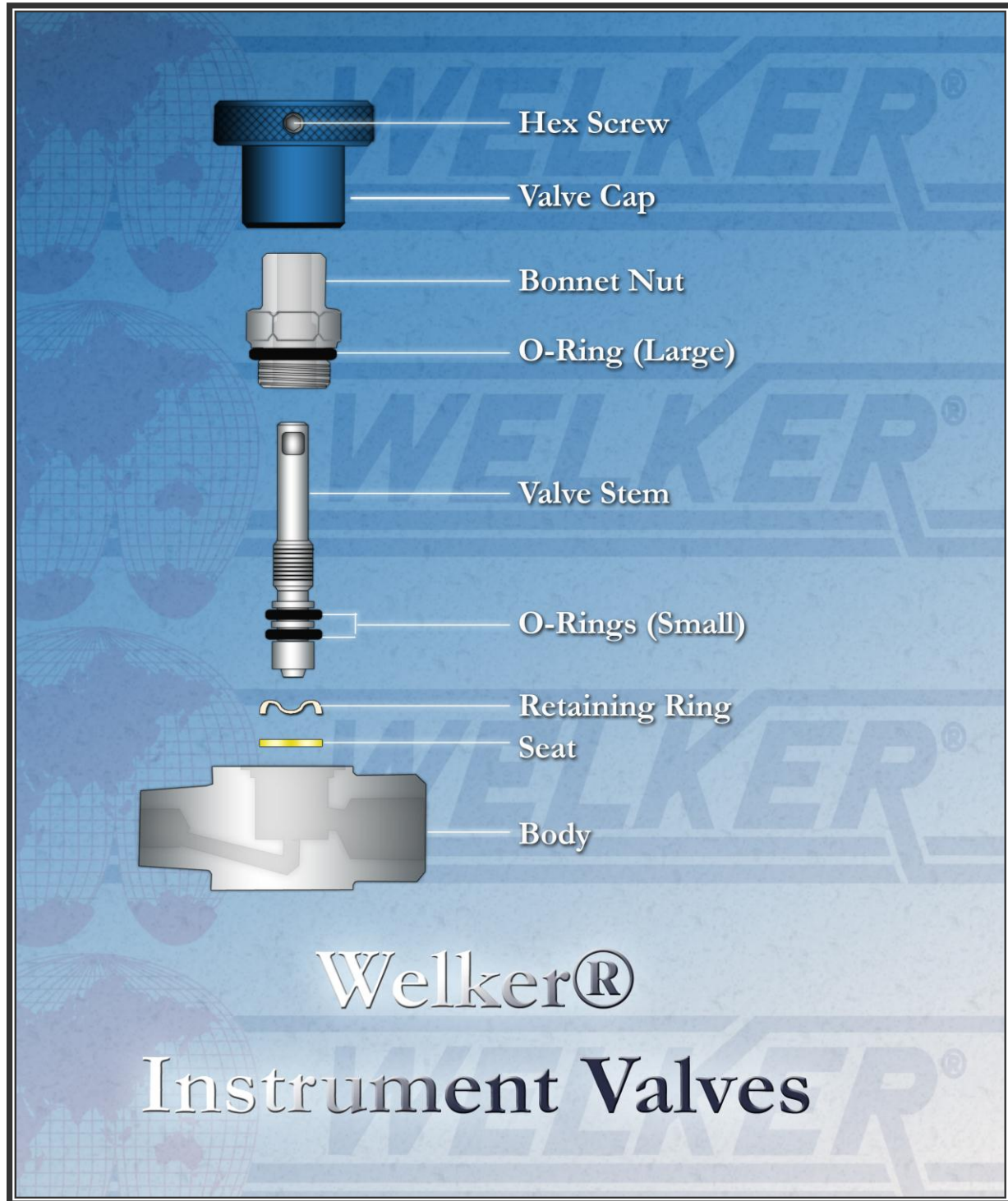


The specifications listed in this Section are generalized for this equipment. Welker can modify the equipment according to your company's needs. However, please note that ***the specifications may vary depending on the customization of your product.**

General	
Products	Gases/Liquids
Materials of Construction	316 Stainless Steel, Aluminum, Viton [®] and PTFE (others available)
Connections:	1/4" NPT connections in MM, MF, or FF configurations
Pressure Rating:	6,000 psi
Temperature Rating:	-20° F to +400° F
Flow Coefficients:	C _V for NV-1 is .182 C _V for NV-2 is .290

1.3 DIAGRAM

SPECIFICATIONS



INSTALLATION & OPERATIONS

2. INSTALLATION INSTRUCTIONS

2.1 GENERAL

After unpacking the unit, check it for compliance and for any damages which may have occurred during shipment.



Claims for damages caused during shipping must be initiated by the receiver and directed to the shipping carrier. Welker is not responsible for any damages caused from mishandling by the shipping company.



When sealing fittings with PTFE tape, refer to the proper sealing instructions for the tape used.

Recommended Tools

It would be advisable to have the following tools available for installation of the unit; however, tools used will vary depending on model.

- PTFE tape
- Adjustable wrench



2.2 VALVE INSTALLATION

1. Tighten fittings.

Welker Instrument Valves (NV-1 & NV-2) are available with male or female fittings on either opening of the body. Tighten the fittings on either the valve body or the application, sealing the male fittings with PTFE tape.

2. Check for leaks.

2.3 VALVE OPERATION

1. Open and close the valve.

Turn the valve cap counterclockwise to open, and clockwise to close.

MAINTENANCE

3. MAINTENANCE INSTRUCTIONS

3.1 GENERAL



We recommend that the unit have a bi-annual maintenance under normal operating conditions. In the case of severe service, dirty conditions, excessive cycling usage, or other unique applications that may subject the equipment to unpredictable circumstances, a more frequent maintenance schedule may be appropriate.

Recommended Tools

It would be advisable to have the following tools available for maintenance of the unit; however, tools used will vary depending on model.

- PTFE tape
- Adjustable wrench
- Seal kit
- $\frac{1}{8}$ hex wrench
- Lubricant – anti-seize for threads
- Lubricant -silicone for seals & O-rings
- Pointed instrument for seat removal



3.2 VALVE MAINTENANCE

Refer to diagram on page 4.

1. Using an adjustable wrench, loosen and remove the valve from the application.
2. Using a $\frac{1}{8}$ hex wrench, loosen the hex screw and remove the valve cap.
3. Using an adjustable wrench, loosen and remove the bonnet nut from the body.
4. Use a pointed instrument to carefully pick the seat and retaining ring out of the valve body.



Take care not to scratch the threads or the seating surface inside the body. Scratches on the surface or seals could cause the valve to leak.

5. Replace the seat and retaining ring.
6. Grasp the top of the valve stem, and turn the bonnet nut clockwise until the valve stem comes out of the bottom of the bonnet nut.

MAINTENANCE

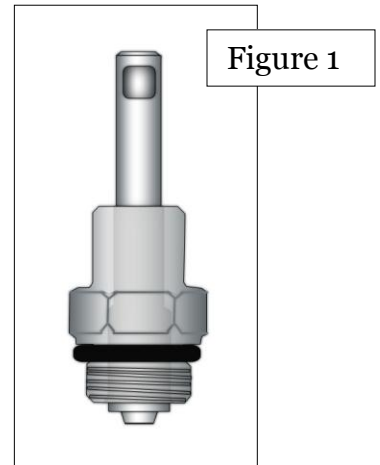
3.2 VALVE MAINTENANCE (CONTINUED)

7. Remove and replace the two small O-rings. Be careful not to overstretch, cut, tear, or twist the O-rings when rolling them over the end of the stem and into place.



New seals supplied in spare parts kits are not lubricated. They should be lightly coated with lubrication grease (silicone grease or other) before they are installed into the equipment. This helps in the installation of the seals while reducing the risk of damage when positioning them on the parts.

8. Lightly grease the threads on the valve stem with anti-seize lubricant for threads.
9. Remove and replace the large O-ring on the bonnet nut. Be careful not to overstretch, cut, tear, or twist the O-ring when rolling it over the threads and into place.
10. Slide the top of the valve stem back up through the bottom of the bonnet nut.
11. Turn the bonnet nut counterclockwise, until it will no longer turn, and the valve stem is all the way up. (See Figure 1). Failure to perform this step completely will likely result in a leak.
12. Thread the bonnet nut back into the valve body, and tighten with an adjustable wrench.
13. Replace the valve cap onto the valve stem, making sure the hex screw is aligned with the etched out portion of the valve stem.
14. Replace the valve using the installation instructions in Section 2.





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