

Installation, Operation and Maintenance

Duplex Strainers 8"-16"

Receiving, Handling and Inspection

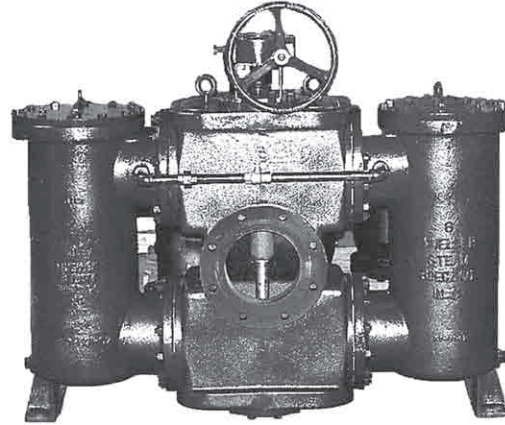
1. Unpack and inspect strainer to be certain no damage was done due to improper handling by the carrier.
2. Carefully check the pressure and temperature ratings on the strainer body or nameplate to be sure that they are correct for the intended application. Store in a dry, clean area until it is installed.

Installation

1. Place the strainer in the line so that the fluid enters the side marked INLET. DO NOT LIFT the strainer by the gear operator, knobs or cover lifting rings. Use slings around body or flanges for lifting. Units must be supported on a concrete or steel pad.
2. Allow enough room above the strainer for easy basket removal. See Table A.
3. When connecting flanged strainers to the line, be sure that the flanges are the same; flat face to flat face, raised face to raised face. Flat face flanges require full face gaskets. The specified face-to-face dimension of the strainer is an approximate one due to machining tolerances. Allow adjustment in prefabricated piping or request certified dimensions.
4. Check to see that flange gaskets are properly positioned before tightening bolts. Tighten bolts in sequence crossing to opposites.
5. We recommend the installation of vent cocks and flexible hoses on basket housing covers if service temperatures greater than 120°F are expected. See Table B in this manual for vent plug NPT sizes.

Start Up

1. Turn gear operator handwheel to the center position so that both basket housing A and B are open. Open vents to vent off air so that both baskets housing will fill completely.
2. Close equalizing valve.
3. Slowly fill the basket housing with line fluid. Close vents when fluid starts to flow from them.
4. Allow system to gradually reach normal operating pressure and temperature. Check carefully for leaks at this time. Be sure that all cover knobs or bolts are securely tightened. If there are any leaks, follow the procedures in this manual under Changeover and Cleaning.
5. Turn gear operator handwheel counter clockwise to the B Closed position. Basket housing B will be closed and basket-housing A will be in service. Do Not leave the gear operator handwheel in the center position or both baskets will be in service, requiring the system to be shut down for cleaning. See Changeover and Cleaning instructions in the manual for switching the flow from one basket to the other.



Servicing

Replacement of soft seats in diverter valves.

One seal kit required:

- 4 nylon washers
- 4 diverter disc O-rings
- 4 basket housing flange gaskets
- 2 basket housing cover O-rings

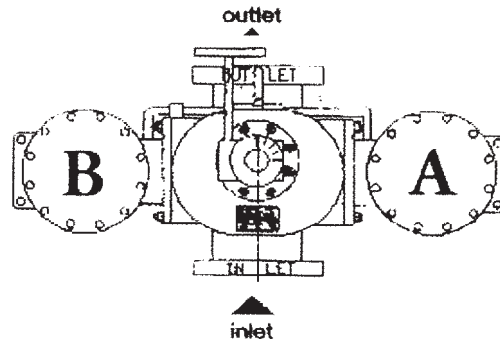
When ordering seal kits quote all the information on the nameplate or consult factory.

Before installation or any kind of servicing, be sure to check the pressure and temperature of the system and whether the fluid is corrosive or otherwise dangerous. Bodily injury and property damage could result if appropriate protection and safety procedures are not used.

Note: For Pump Suction Application, Please Consult Factory

We recommend that both basket housings be serviced – one immediately after the other. Do not lift basket housing by its cover lifting rings; the ring is for lifting the weight of the basket housing cover only. Use a sling around the top flange of the basket housing. The diverter valves should be positioned away from the side being serviced.

1. Shut down the flow on both sides of the strainer.
2. Remove drain and vent plugs from both basket housings.
3. Remove basket housing cover and basket from side being serviced.
4. Secure sling around basket housing to be serviced. Place wedges and blocks under central diverter housing so strainer will not shift when basket housing is removed.
5. Remove compression nut on the equalizer tubing of basket housing to be removed.
6. Remove hex nuts on bottom flange of basket housing.
7. Remove hex nuts on top flange of basket housing.
8. Carefully guide basket housing away from diverter housing using a sling and hoist.
9. Carefully remove bronze seat rings and clean for reinstallation later. Do not switch seat ring positions.
10. Loosen and remove nut and nylon washer securing disc.
11. Pull disc off shaft, turn at an angle and remove from diverter housing. **DO NOT REMOVE SHIMS** located behind disc. Do not switch discs to different positions.
12. Remove old O-ring from disc. Clean and inspect dovetail groove. Smooth off any bruises or sharp edges.
13. Coat O-ring with silicon grease and place on dovetail groove. Do not stretch O-ring to install in dovetail groove. Firmly press into the groove at 12 o'clock and 6 o'clock positions. Do not use any sharp tools for this. Proceed by pressing in at the 3 o'clock and 9 o'clock positions and so on until the O-ring is evenly seated in the dovetail groove.
14. Repeat steps 11 through 13 for the lower disc. **DO NOT SWITCH DISC POSITIONS.**
15. Reinstall discs in their original positions. Be sure to replace the old nylon washers with the new ones supplied in the Seal Kit. The nut should be tightened until the outer bulge of the washer is distorted and has gathered around the nut. The bolt then has the correct initial stress and the nut cannot work loose. Reinstall bronze seat rings.
16. Replace old basket housing flange gaskets with new ones supplied in the Seal Kit. Be sure all flange surfaces are clean and smooth.
17. Reinstall basket housing, securing the top flange first – then the bottom. Tighten hex nuts in sequence crossing to opposites.
18. Inspect and reinstall basket.
19. Install new O-ring in basket housing cover following the recommended procedure in steps 12 through 13.
20. Reinstall and secure basket-housing cover, vent plug and drain plug. Be sure the threads on all plugs are clean and unfouled. Use a thread sealer, which is compatible with the line fluid.
21. Replace equalizer tubing. Do not over tighten compression nut.
22. Proceed with other side in similar manner beginning at step 3.
23. Refer to Installation and Start-up instructions in this manual.



Changeover and Cleaning

WARNING!

BEFORE ANY KIND OF SERVICING, BE SURE TO CHECK PRESSURE AND TEMPERATURE OF THE SYSTEM AND WHETHER THE FLUID IS CORROSIVE OR OTHERWISE DANGEROUS. Bodily injury and property damage could result if appropriate protection and safety procedures are not used. Read the following instructions carefully. Attach these instructions to the strainer so they will be accessible.

In the example below it is important to keep in mind that basket housing B is the one in service now and needs cleaning. Basket housing A is already clean and waiting to be put into service.

1. Open vent valve on basket housing A.
 2. Admit fluid slowly to basket housing A by means of equalizing valve.
 3. When fluid flows from vent valve, close vent valve.
 4. Examine basket-housing A for external leaks. If none, proceed with step 6.
 5. If leakage occurs, close equalizing valve. Vent and drain basket housing A. Remove basket housing cover, correct cause of leakage, reinstall cover and repeat steps 1 through 4.
 6. Close equalizing valve.
 7. Shift flow slowly to basket housing A. If there is no leakage, proceed to step 8. If there is leakage repeat step 5.
- Steps 8 through 19 applies to the servicing of the dirty basket housing. In this example it is basket-housing B.
8. Open vent valve on basket housing B.
 9. Open drain valve on basket housing B and allow fluid to drain while removing cover.
 10. When fluid level is below top of basket, close drain valve.
 11. Remove basket—allowing fluid to drip into basket housing.
 12. Clean basket and examine for damage. Repair or replace as necessary. We recommend purchasing a spare basket in case one becomes damaged or requires excessive cleaning due to extreme amounts of foreign matter or a media that is difficult to wash down.
 13. Reinstall basket.
 14. Examine basket housing cover seal. Replace if damaged.
 15. Reinstall and secure basket-housing cover.
 16. Open equalizing valve.
 17. When fluid flows from vent valve, close vent valve.
 18. Examine for leaks. If there is no evidence of leakage close equalizing valve. The newly cleaned basket and housing are now ready for the next changeover when needed.
 19. If leakage occurs, perform step 5.

Note

Leakage from basket housings is usually due to poorly tightened vent plug, drain plug, cover knobs or bolts or dirt or damaged cover seal. When reinstalling vent and drain plugs, be sure that threads are clean and unfouled. If thread sealer is used, be sure it is compatible with the line fluid.

Gear Operator Handwheel

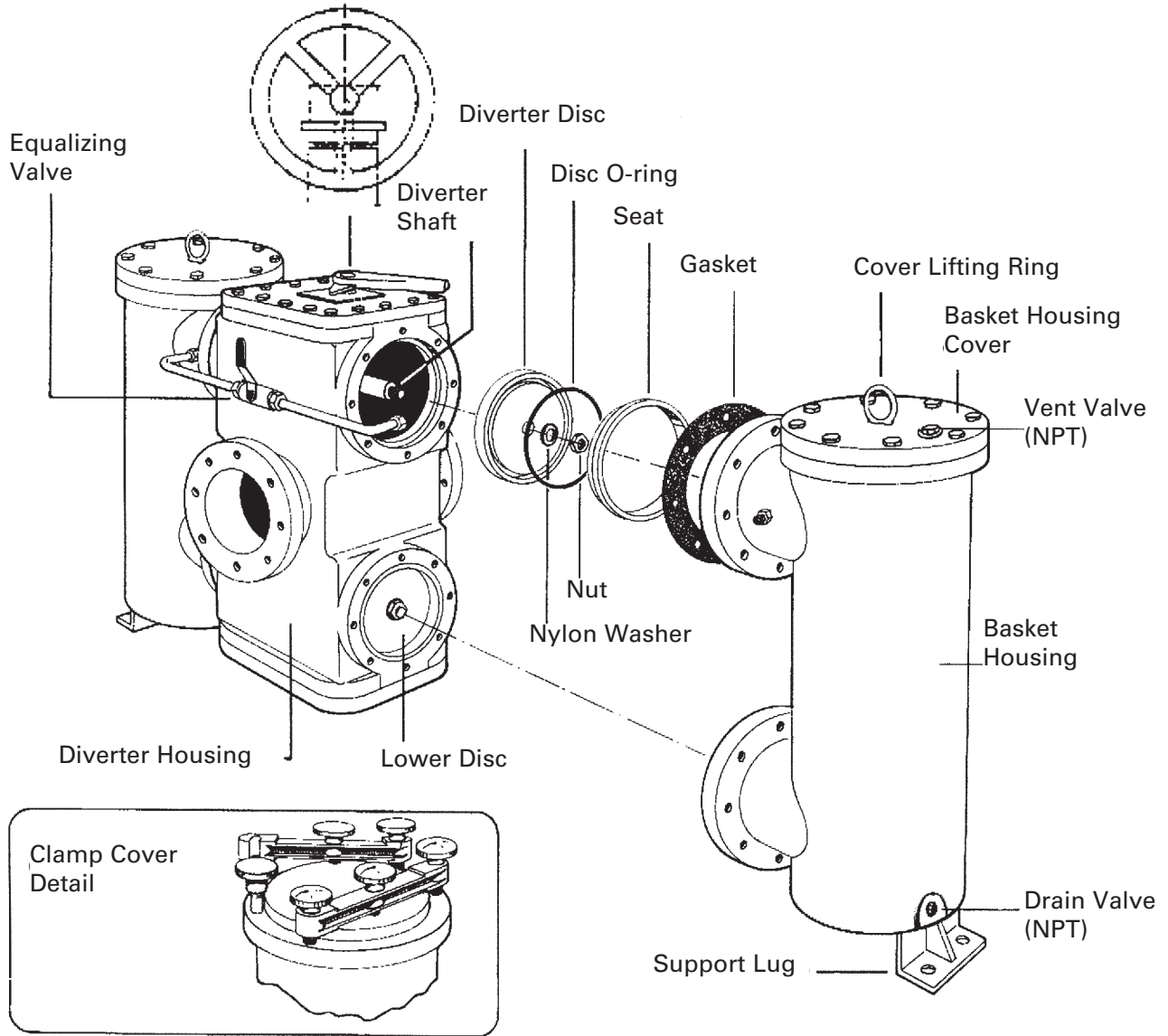


Table A

| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
|---------------------------------|--------------------------------|------|--------------------------------|------|--------------------------------|------|--------------------------------|------|--------------------------------|------|
| Strainer Size | 8 | 200 | 10 | 250 | 12 | 300 | 14 | 350 | 16 | 400 |
| Basket Removal Allowance | 62 ¹ / ₂ | 1588 | 72 ¹ / ₂ | 1842 | 87 ¹ / ₂ | 2223 | 95 ¹ / ₂ | 2426 | 95 ¹ / ₂ | 2426 |

Table B

| | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
|-----------------------------|-----|-----|-----|-----|-----|-----|-------|-----|-------|-----|
| Strainer Size | 8 | 200 | 10 | 250 | 12 | 300 | 14 | 350 | 16 | 400 |
| NPT Vent Plug Size | 1/2 | 15 | 1/2 | 15 | 1/2 | 15 | 1/2 | 15 | 1/2 | 15 |
| NPT Drain Plugs Size | 1 | 25 | 1 | 25 | 1 | 25 | 1 1/2 | 40 | 1 1/2 | 40 |

For additional information, visit our web site at: www.muellersteam.com

CALIFORNIA PROPOSITION 65 WARNING

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. (California law requires this warning to be given to customers in the State of California.)

For more information: www.watts.com/prop65

Limited Warranty: Mueller Steam Specialty warrants each product to be free from defects in material and workmanship under normal usage for a period of one year from the date of original shipment. In the event of such defects within the warranty period, the Company will, at its option, replace or recondition the product without charge. This shall constitute the sole and exclusive remedy for breach of warranty, and the Company shall not be responsible for any incidental, special or consequential damages, including without limitation, lost profits or the cost of repairing or replacing other property which is damaged if this product does not work properly, other costs resulting from labor charges, delays, vandalism, negligence, fouling caused by foreign material, damage from adverse water conditions, chemical, or any other circumstances over which the Company has no control. This warranty shall be invalidated by any abuse, misuse, misapplication or improper installation of the product. **THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** Any implied warranties that are imposed by law are limited in duration to one year.

Some States do not allow limitations on how long an implied warranty lasts, and some States do not allow the exclusion or limitation of incidental or consequential damages. Therefore the above limitations may not apply to you. This Limited Warranty gives you specific legal rights, and you may have other rights that vary from State to State. You should consult applicable state laws to determine your rights.



A Watts Water Technologies Company



USA: 1491 NC Hwy 20 West, St. Pauls, NC 28384; www.muellersteam.com

Tel: 910-865-8241 Fax: 910-865-6220

Toll Free Phone 1-800-334-6259 Toll Free Fax: 1-800-421-6772