

WS SERIES - CAST IRON WELL SEALS

Boshart WS Series Cast Iron Well Seals provide a sanitary, watertight seal at the top of a well casing where the drop pipe and electrical cable enter the well, when properly installed. These well seals are available to accommodate a range of installation requirements in:

- single hole for submersible/shallow well jet pump
- double hole for deep well jet pump
- blank configurations for sealing a well head

Cast iron well seals offer excellent durability, manufactured from high-strength, corrosion-resistant materials, for long-term performance. Their construction allows for easier handling and installation while maintaining reliable sealing performance in residential, agricultural, and light commercial water well applications.

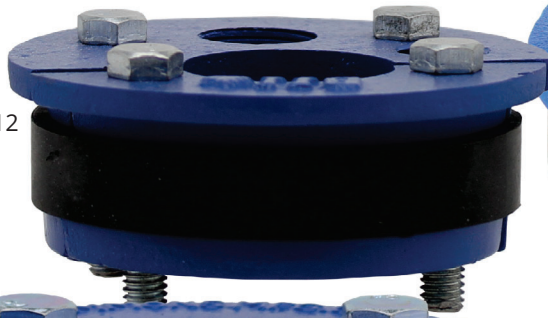
These well seals are suitable for installations of submersible pumps up to and including depths of 600 feet when used with Schedule 80 PVC drop pipe and 400 feet on Schedule 40 steel pipe. A compression style rubber gasket expands when the bolts are tightened during installation to form a tight seal and to prevent surface water, debris, and contaminants from entering the water well.

SPECIFICATION:

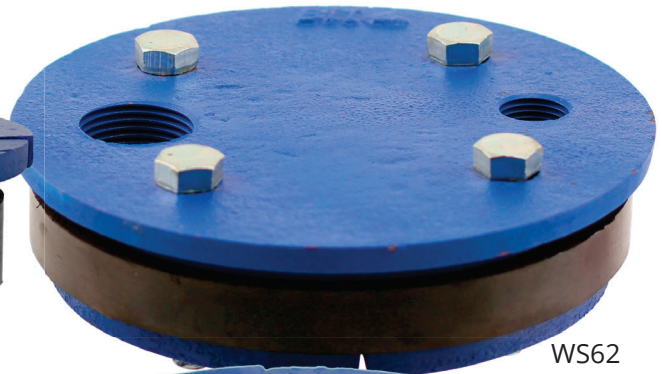
- Cast Iron top and bottom plates
- Zinc plated bolts and flanged nuts
- Grommet kit is included with all well seals, except for the clamp on's
- Bolt ends are peened to prevent accidental disassembly when loosening the seal for removal



WS4212



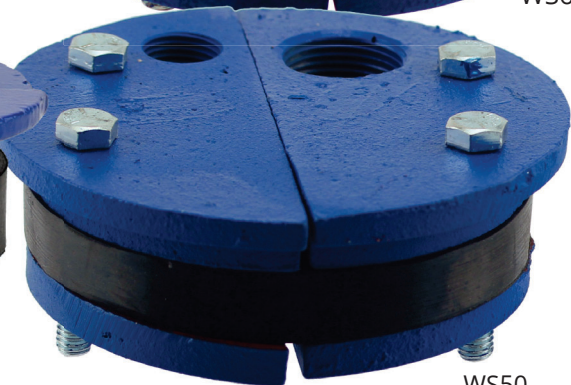
WS62



WS621212



WS50



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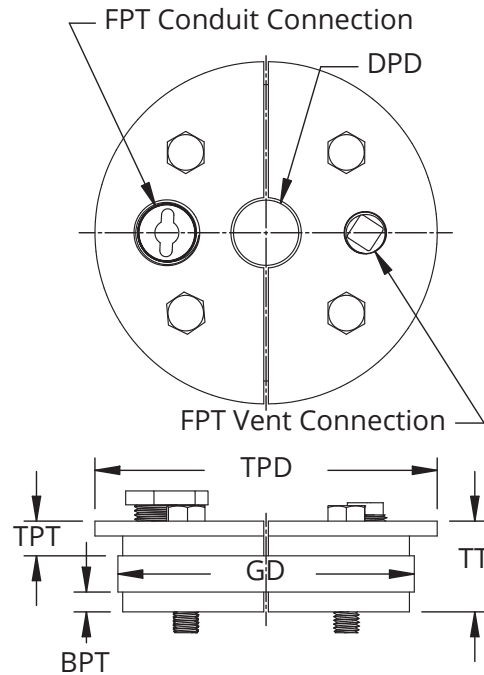
SINGLE HOLE:

APPLICATIONS:

- Generally used for installing either a shallow well jet pump or a submersible pump
- Two tapping included on this style of well seal - one is vent tapping and one is a cable hole tapping

FEATURES:

- 5/16" - 18NC x 2-1/2" Zinc Plated Hex Bolts
- 3/4" 45 Durometer Molded Rubber
- Blue Class 25 Non-Toxic Lead Free Paint
- Grommet Kit included



| DIMENSIONS | | | | | | | | | | | | |
|---------------------------|------------------|------------------|--------------------|---------------------------------|------|------------------------|------------------|----------------------------------|-------------------------------------|-----------------------------|---------------------------------|-----------------------|
| Boshart Part No. | Simmons Part No. | Well Casing I.D. | Gasket O.D. (inch) | (DPD) Drop Pipe Diameter (inch) | | FPT Cable Hole Tapping | FPT Vent Tapping | (TPT) Top Plate Thickness (inch) | (BPT) Bottom Plate Thickness (inch) | (TT) Total Thickness (inch) | (TPD) Top Plate Diameter (inch) | Bolt Size |
| | | | | Nominal | O.D. | | | | | | | |
| 3" WS Series | | | | | | | | | | | | |
| WS3010 | 108 | 3" | 3.00 | 1" | 1.32 | 3/8" | 1/8" | 0.63 | 0.53 | 1.84 | 3.56 | 3/8"-16 UNC x 2-1/4" |
| WS3012 | 109 | 3" | 3.00 | 1-1/4" | 1.63 | *5/16" | 1/8" | 0.63 | 0.53 | 1.84 | 3.56 | |
| *Drilled hole - no thread | | | | | | | | | | | | |
| 4" WS Series | | | | | | | | | | | | |
| WS4010 | 111 | 4" | 3.95 | 1" | 1.27 | 3/4" | 1/2" | 0.68 | 0.40 | 1.81 | 4.63 | 3/8"-16 UNC x 2-1/4" |
| WS4012 | 112 | 4" | 3.95 | 1-1/4" | 1.63 | 3/4" | 1/2" | 0.68 | 0.40 | 1.81 | 4.75 | |
| WS4015 | 113 | 4" | 3.95 | 1-1/2" | 1.90 | 3/4" | 1/2" | 0.52 | 0.40 | 1.65 | 4.75 | |
| WS4020 | 114 | 4" | 3.95 | 2" | 2.38 | 1/2" | 1/2" | 0.68 | 0.40 | 1.81 | 4.75 | 5/16"-18 UNC x 2-1/4" |
| 4-1/4" WS Series | | | | | | | | | | | | |
| WS4210 | 116 | 4-1/4" | 4.22 | 1" | 1.32 | 3/4" | 1/2" | 0.68 | 0.40 | 1.81 | 4.63 | 3/8"-16 UNC x 2-1/4" |
| WS4212 | 117 | 4-1/4" | 4.22 | 1-1/4" | 1.63 | 3/4" | 1/2" | 0.68 | 0.40 | 1.81 | 4.75 | |
| 4-1/2" WS Series | | | | | | | | | | | | |
| WS4510 | 165 | 4-1/2" | 4.53 | 1" | 1.32 | 1/2" | 1/2" | 0.68 | 0.40 | 1.81 | 4.92 | 3/8"-16 UNC x 2-1/4" |
| WS4512 | 166 | 4-1/2" | 4.53 | 1-1/4" | 1.63 | 1/2" | 1/2" | 0.68 | 0.40 | 1.81 | 4.92 | |

NOTE: Simmons part number is what will appear on packaging.

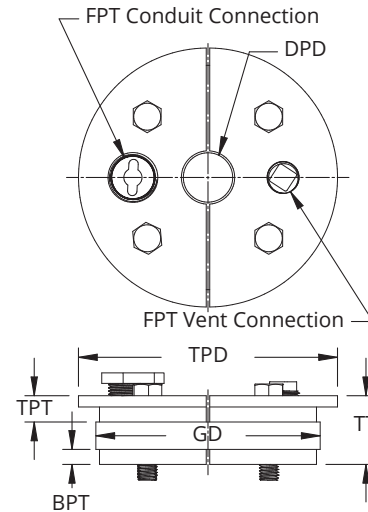


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SINGLE HOLE CONTINUED:



| DIMENSIONS | | | | | | | | | | | | |
|-------------------------|------------------|------------------|--------------------|---------------------------------|------|------------------------|------------------|----------------------------------|-------------------------------------|-----------------------------|---------------------------------|----------------------|
| Boshart Part No. | Simmons Part No. | Well Casing I.D. | Gasket O.D. (inch) | (DPD) Drop Pipe Diameter (inch) | | FPT Cable Hole Tapping | FPT Vent Tapping | (TPT) Top Plate Thickness (inch) | (BPT) Bottom Plate Thickness (inch) | (TT) Total Thickness (inch) | (TPD) Top Plate Diameter (inch) | Bolt Size |
| | | | | Nominal | O.D. | | | | | | | |
| 5" WS Series | | | | | | | | | | | | |
| WS5010 | 121 | 5" | 5.02 | 1" | 1.32 | 1/2" | 1/2" | 0.70 | 0.40 | 1.83 | 5.63 | 3/8"-16 UNC x 2-1/4" |
| WS5012 | 122 | 5" | 5.02 | 1-1/4" | 1.63 | 1/2" | 1/2" | 0.70 | 0.40 | 1.83 | 5.63 | |
| WS5015 | 123 | 5" | 5.02 | 1-1/2" | 1.98 | 1/2" | 1/2" | 0.70 | 0.40 | 1.83 | 5.63 | |
| WS5020 | 124 | 5" | 5.02 | 2" | 2.38 | 1/2" | 1/2" | 0.70 | 0.40 | 1.83 | 5.63 | |
| 5-1/2" WS Series | | | | | | | | | | | | |
| WS5510 | 131 | 5-5/8" | 5.64 | 1" | 1.32 | 1/2" | 1/2" | 0.70 | 0.40 | 1.83 | 6.20 | 3/8"-16 UNC x 2-1/4" |
| WS5512 | 132 | 5-5/8" | 5.64 | 1-1/4" | 1.63 | 1/2" | 1/2" | 0.70 | 0.40 | 1.83 | 6.20 | |
| 6" WS Series | | | | | | | | | | | | |
| WS6010 | 136 | 6" | 5.98 | 1" | 1.32 | 1/2" | 1/2" | 0.70 | 0.40 | 1.83 | 6.90 | 1/2"-13 UNC x 2-1/4" |
| WS6012 | 137 | 6" | 5.98 | 1-1/4" | 1.63 | 1/2" | 1/2" | 0.70 | 0.40 | 1.83 | 6.90 | |
| WS6015 | 138 | 6" | 5.98 | 1-1/2" | 1.98 | 1/2" | 1/2" | 0.70 | 0.40 | 1.83 | 6.90 | |
| WS6020 | 139 | 6" | 5.98 | 2" | 2.38 | 1/2" | 1/2" | 0.70 | 0.40 | 1.83 | 6.90 | |
| WS6030 | 021 | 6" | 5.98 | 3" | 3.50 | 1" | 1/2" | 0.70 | 0.40 | 1.83 | 6.73 | 3/8"-16 UNC x 2-1/4" |
| 6-1/4" WS Series | | | | | | | | | | | | |
| WS6210 | 141 | 6-1/4" | 6.25 | 1" | 1.32 | 1/2" | 1/2" | 0.70 | 0.40 | 1.83 | 6.90 | 1/2"-13 UNC x 2-1/4" |
| WS6212 | 142 | 6-1/4" | 6.25 | 1-1/4" | 1.63 | 1/2" | 1/2" | 0.70 | 0.40 | 1.83 | 6.90 | |
| WS6215 | 143 | 6-1/4" | 6.25 | 1-1/2" | 1.98 | 1/2" | 1/2" | 0.70 | 0.40 | 1.83 | 6.90 | |
| WS6220 | 144 | 6-1/4" | 6.25 | 2" | 2.38 | 1/2" | 1/2" | 0.70 | 0.40 | 1.83 | 6.90 | |
| 8" WS Series | | | | | | | | | | | | |
| WS8010 | 196 | 8" | 7.98 | 1" | 1.32 | 1/2" | 1/2" | 0.70 | 0.53 | 1.96 | 8.50 | 1/2"-13 UNC x 2-1/4" |
| WS8012 | 197 | 8" | 7.98 | 1-1/4" | 1.63 | 1/2" | 1/2" | 0.70 | 0.53 | 1.96 | 8.50 | |
| WS8015 | 198 | 8" | 7.98 | 1-1/2" | 1.98 | 1/2" | 1/2" | 0.70 | 0.53 | 1.96 | 8.50 | 1/2"-13 UNC x 3" |
| WS8020 | 199 | 8" | 7.98 | 2" | 2.38 | 1/2" | 1/2" | 0.70 | 0.53 | 1.96 | 8.50 | 1/2"-13 UNC x 2-1/4" |
| WS8030 | 041 | 8" | 7.98 | 3" | 3.50 | 1/2" | 1/2" | 0.70 | 0.53 | 1.96 | 8.50 | |
| WS8040 | 042 | 8" | 7.98 | 4" | 4.50 | 1/2" | 1/2" | 0.70 | 0.53 | 1.96 | 8.50 | |

NOTE: Simmons part number is what will appear on packaging.



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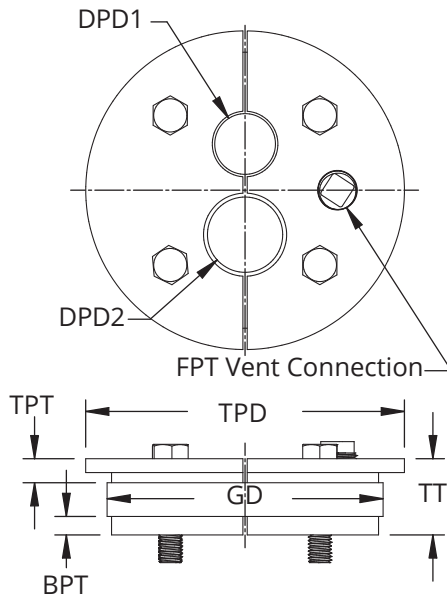
DOUBLE HOLE:

APPLICATIONS:

- Designed to allow two pipes to go down the well for a deep well jet pump installation
- Large hole is for the larger drop pipe that takes the water to the surface and the other hole is for the smaller drop pipe that sends a smaller volume of water down the well
- One vent tapping only

FEATURES:

- 5/16" - 18NC x 2-1/2" Zinc Plated Hex Bolts
- 3/4" 45 Durometer Molded Rubber
- Blue Class 25 Non-Toxic, Lead Free Powder Coated
- 1/8" MPT Air Vent with Plastic Plug
- Grommet Kit included



| DIMENSIONS | | | | | | | | | | | | |
|------------------|------------------|------------------|--------------------|---------------------------------|-------------|------------------|---------------------------|------------------------------|----------------------|--------------------------|----------------------|--|
| Boshart Part No. | Simmons Part No. | Well Casing I.D. | Gasket O.D. (inch) | (DPD) Drop Pipe Diameter (inch) | | FPT Vent Tapping | Top Plate Thickness (TPT) | Bottom Plate Thickness (BPT) | Total Thickness (TT) | Top Plate Diameter (TPD) | Bolt Size | |
| | | | | Nominal | O.D. | | | | | | | |
| WS401210 | 152 | 4" | 3.95 | 1-1/4" x 1" | 1.32 x 1.63 | 1/2" | 0.68 | 0.40 | 1.81 | 4.63 | 3/8"-16 UNC x 2-1/4" | |
| WS401212 | 153 | 4" | 3.95 | 1-1/4" x 1-1/4" | 1.63 x 1.63 | 1/2" | 0.68 | 0.40 | 1.81 | 4.63 | | |
| WS421210 | 156 | 4-1/4" | 4.22 | 1-1/4" x 1" | 1.63 x 1.32 | 1/2" | 0.68 | 0.40 | 1.81 | 4.63 | | |
| WS501210 | 161 | 5" | 5.02 | 1-1/4" x 1" | 1.63 x 1.32 | 1/2" | 0.70 | 0.40 | 1.83 | 5.63 | | |
| WS601210 | 177 | 6" | 5.98 | 1-1/4" x 1" | 1.63 x 1.32 | 1/2" | 0.52 | 0.40 | 1.65 | 6.90 | 1/2"-13 UNC x 2-1/4" | |
| WS601212 | 178 | 6" | 5.98 | 1-1/4" x 1-1/4" | 1.63 x 1.63 | 1/2" | 0.66 | 0.40 | 1.79 | 6.90 | | |
| WS621210 | 183 | 6-1/4" | 6.25 | 1-1/4" x 1" | 1.63 x 1.32 | 1/2" | 0.52 | 0.40 | 1.65 | 6.90 | | |
| WS621212 | 184 | 6-1/4" | 6.25 | 1-1/4" x 1-1/4" | 1.63 x 1.63 | 1/2" | 0.66 | 0.40 | 1.79 | 6.90 | | |

NOTE: Simmons part number is what will appear on packaging.



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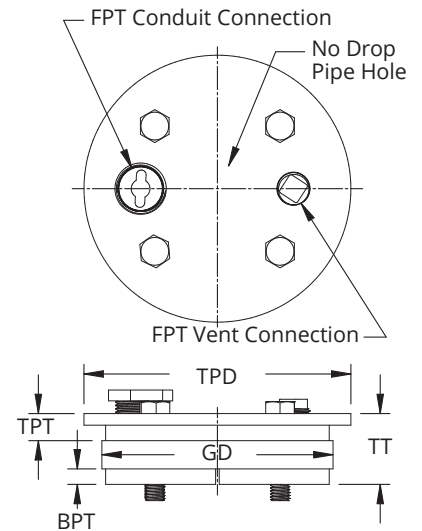
APPLICATIONS:

- Used for capping a well, or can also be used as a well cap if the submersible pump is on a pitless (this application is very uncommon).

FEATURES:

- 5/16" - 18NC x 2-1/2" Zinc Plated Hex Bolts.
- 3/4" 50 Durometer Molded Rubber
- Blue Class 25 Non-Toxic Lead Free Paint
- Grommet Kit included

NOTE: WS50 is made of steel and has a weight holding capacity of 1500 Lbs.



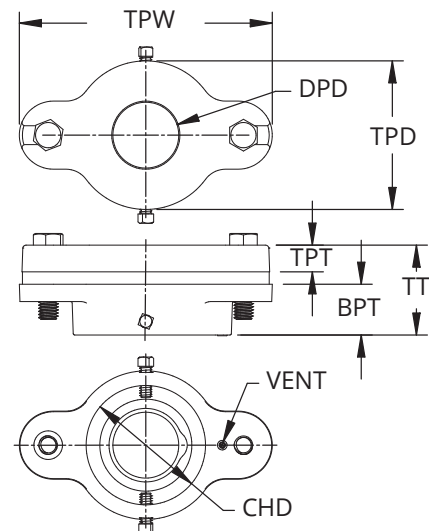
| DIMENSIONS | | | | | | | | | | |
|------------------|------------------|------------------|--------------------|------------------------|------------------|----------------------------------|-------------------------------------|-----------------------------|---------------------------------|----------------------|
| Boshart Part No. | Simmons Part No. | Well Casing I.D. | Gasket O.D. (inch) | FPT Cable Hole Tapping | FPT Vent Tapping | (TPT) Top Plate Thickness (inch) | (BPT) Bottom Plate Thickness (inch) | (TT) Total Thickness (inch) | (TPD) Top Plate Diameter (inch) | Bolt Size |
| WS40 | 301B | 4" | 3.95 | N/A | N/A | 0.68 | 0.40 | 1.81 | 4.63 | 3/8"-16 UNC x 2-1/4" |
| WS50 | 3582A | 5" | 5.00 | 1" | 1/2" | 0.19 | 0.19 | 1.12 | 5.60 | 3/8"-16 UNC x 1-3/4" |
| WS60 | 313A | 6" | 5.98 | BLANK | 1/2" | 0.70 | 0.40 | 1.83 | 6.90 | 1/2"-13 UNC x 2-1/4" |
| WS62 | 318B | 6-1/4" | 6.25 | BLANK | 1/2" | 0.70 | 0.40 | 1.83 | 6.90 | |

NOTE: Simmons part number is what will appear on packaging.

CLAMP ON:

FEATURES:

- Grommet Kit included on WS2012
- One piece cast iron top
- Provided with optional pointed set screws for threaded pipe



| DIMENSIONS | | | | | | | | | | |
|------------------|------------------|---------------------------------|------|-----------------------------------|------------------------------|----------------------------------|-------------------------------------|-----------------------------|---------------------------------|----------------------|
| Boshart Part No. | Well Casing I.D. | (DPD) Drop Pipe Diameter (inch) | | (CHD) Casing Hole Diameter (inch) | (TPW) Top Plate Width (inch) | (TPT) Top Plate Thickness (inch) | (BPT) Bottom Plate Thickness (inch) | (TT) Total Thickness (inch) | (TPD) Top Plate Diameter (inch) | Bolt Size |
| | | Nominal | O.D. | | | | | | | |
| WS2010 | 2" | 1" | 1.33 | 2.41 | 5.11 | 0.54 | 1.03 | 1.82 | 3.00 | 3/8"-16 UNC x 1-1/2" |
| WS2012 | 2" | 1-1/4" | 1.68 | 2.41 | 5.11 | 0.54 | 1.03 | 1.82 | 3.00 | |



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Installation Instructions

1. Ensure the well casing is cut off level and that the inside of the well casing is clean and free of debris (approx. 3" down from top edge)
2. Ensure the bolts are not applying any compression to the gasket
3. Insert the last section of drop pipe through the well seal, against the drop pipe coupling
4. Insert the pump cable through the wire hole
5. As you lower the drop pipe, insert the well seal into the top of the casing until the top plate rests directly on the well casing
6. Align any cable or pipe openings as required for the installation
7. Evenly tighten all bolts until they are snug
8. Further tighten bolts in a crisscross/star pattern to apply even pressure.
 - First Round: 3 ft.-lb
 - Second Round: 6 ft.-lb
 - Third Round: 9 ft.-lb
 - Final Round: 10-12 ft.-lb

CAUTION: Never tighten one bolt to full torque at a time. Doing so can cause uneven compression and result in an improper seal or damage.

9. Install the grommet kit using the slotted rubber gasket for flat jacketed pump cable and the rounded for twisted cable as shown (FIG 2.). With grommet kit installed, fill gap between the pump cable and grommet bushing with silicone to ensure a water tight seal (this is extremely important when using twisted pump cable as the grommet gasket cannot seal the gaps between the separate wires)

Well Seal Removal

WARNING: Never loosen bolts off so far as to disengage the nuts, as it will result in the nuts and bottom plate falling down the well and possibly getting wedged, making it difficult to pull the pump for replacement.

FIG. 1

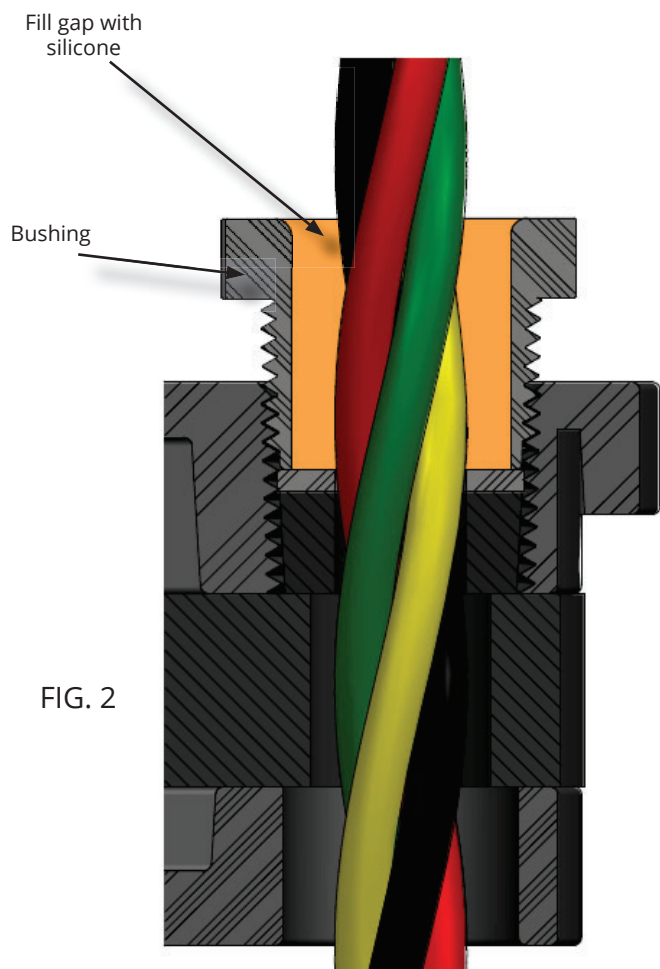
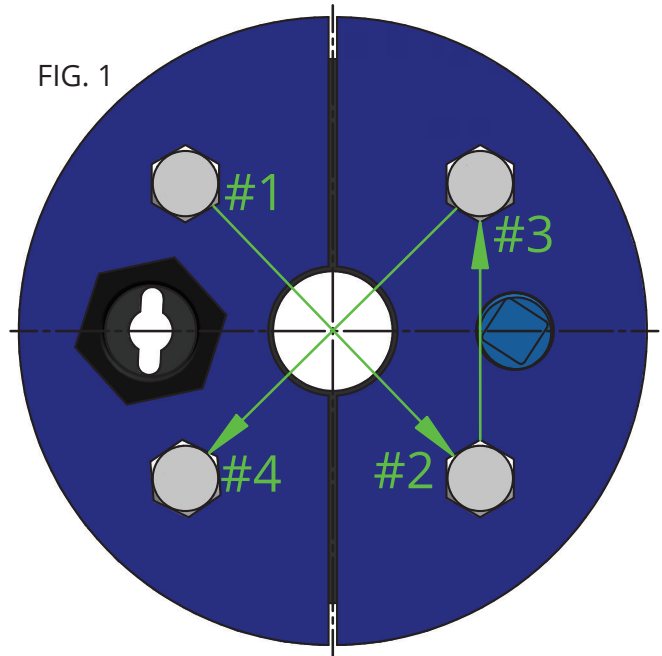


FIG. 2

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REPLACEMENT PARTS

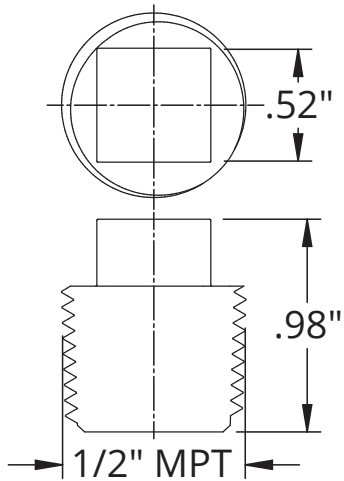
WS-GK Series - Grommet Kits

FEATURES

- Includes a PVC vent plug, PVC conduit bushing, PVC washer, slotted rubber gasket and round rubber gasket
- It is recommended that silicone sealant is applied to fill the conduit bushing above the washer and grommet kit after cables are installed
- Round hole grommet is for 3-4 twisted cables
- Slotted hole grommet is for flat jacketed cable

NOTE: the replacement grommet kit will look different than the one supplied with the cast iron well seals only

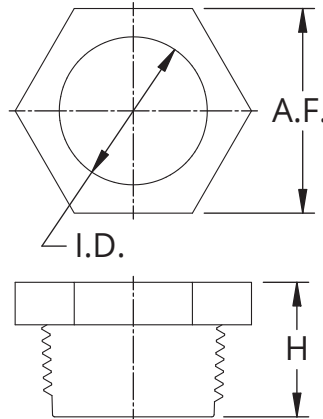
PVC Vent Plug



| GROMMET KITS | |
|--------------|------|
| Part No. | Size |
| WS-GK-07 | 3/4" |
| WS-GK-10 | 1" |

PVC Conduit Bushing

| DIMENSIONS | | | | | | |
|------------|------------------------|-------|--------|-------|------------|-------|
| Size (MPT) | Inside Diameter (I.D.) | | (A.F.) | | Height (H) | |
| | in | mm | in | mm | in | mm |
| 3/4" | 0.83 | 21.08 | 1.17 | 29.72 | 0.95 | 24.13 |
| 1" | 1.05 | 26.67 | 1.45 | 36.83 | 0.95 | 24.13 |



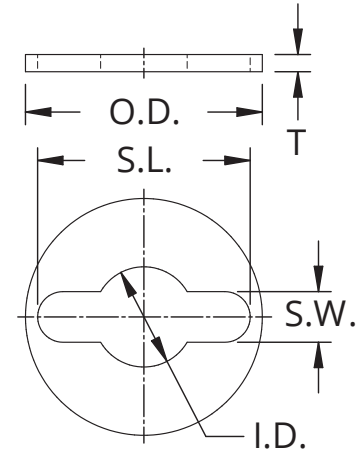
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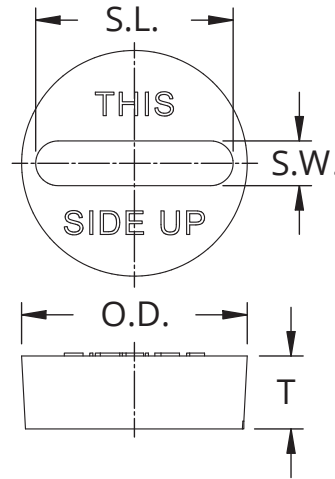
PVC Washer

| DIMENSIONS | | | | | | | | | | |
|------------|------------------------|-------|-------------------------|-------|--------------------|-------|-------------------|------|---------------|------|
| Size | Inside Diameter (I.D.) | | Outside Diameter (O.D.) | | Slot Length (S.L.) | | Slot Width (S.W.) | | Thickness (T) | |
| | in | mm | in | mm | in | mm | in | mm | in | mm |
| 3/4" | 0.50 | 12.70 | 0.93 | 23.62 | 0.82 | 20.83 | 0.25 | 6.35 | 0.09 | 2.29 |
| 1" | 0.50 | 12.70 | 1.17 | 29.72 | 1.05 | 26.67 | 0.25 | 6.35 | 0.09 | 2.29 |



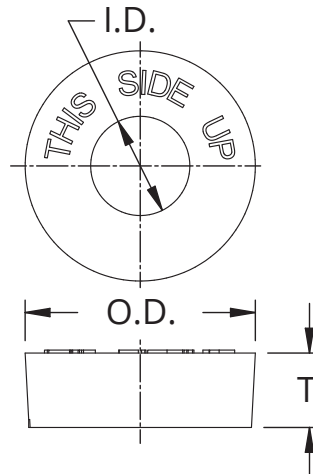
Slotted Rubber Grommet

| DIMENSIONS | | | | | | | | |
|------------|-------------------------|-------|--------------------|-------|-------------------|------|---------------|------|
| Size | Outside Diameter (O.D.) | | Slot Length (S.L.) | | Slot Width (S.W.) | | Thickness (T) | |
| | in | mm | in | mm | in | mm | in | mm |
| 3/4" | 0.92 | 23.37 | 0.77 | 19.56 | 0.24 | 6.10 | 0.39 | 9.91 |
| 1" | 1.16 | 29.46 | 1.02 | 25.91 | 0.24 | 6.10 | 0.39 | 9.91 |



Round Rubber Grommet

| DIMENSIONS | | | | | | |
|------------|------------------------|-------|-------------------------|-------|---------------|------|
| Size | Inside Diameter (I.D.) | | Outside Diameter (O.D.) | | Thickness (T) | |
| | in | mm | in | mm | in | mm |
| 3/4" | 0.50 | 12.70 | 0.92 | 23.37 | 0.39 | 9.91 |
| 1" | 0.50 | 12.70 | 1.16 | 29.46 | 0.39 | 9.91 |



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WS-V05 Series - Black PVC Well Seal Air Vent

APPLICATIONS:

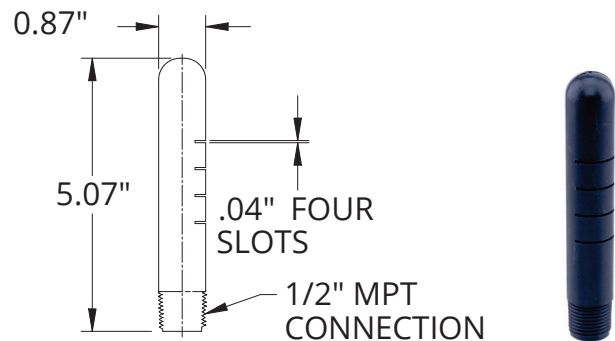
- These air vents are threaded into the well seal air vent connection for water well ventilation, allowing air into the well during the pumping phase and to release air as the static level of the water rises between pumping cycles
- Air vents must be plumbed to ensure the intake screen of the vent will never be submersed in water if the well pit were to get flooded with surface water in heavy rain or flood condition

FEATURES:

- Vents have four 0.04" (1.016 mm) slots on each side
- Slots make vermin proof

SPECIFICATIONS:

- WS-V05: 1/2" MPT Black PVC, 0.059 lbs (26.76 grams)



WS-V05-G Series - Galvanized Well Seal Air Vent

APPLICATIONS:

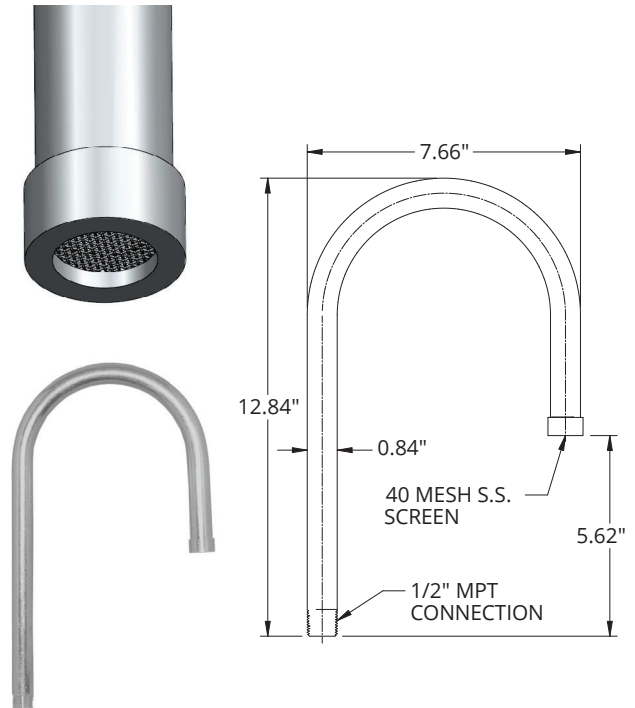
- These air vents are threaded into the well seal air vent connection for water well ventilation, allowing air into the well during the pumping phase and to release air as the static level of the water rises between pumping cycles
- Air vents must be plumbed to ensure the intake screen of the vent will never be submersed in water if the well pit were to get flooded with surface water in heavy rain or flood condition

FEATURES:

- Steel: 40 mesh - equivalent to 0.015" (0.381 mm) slot size of PVC slotted well screen / points, 36% open area, 1/64" (0.397 mm) openings
- Screen makes vermin proof

SPECIFICATIONS:

- WS-V05-G: 1/2" MPT Zinc Plated Steel tube, 1.520 lbs (689.5 grams)



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For more information on installation, adjustment, repair & operation, visit Boshart Knowledge Base at SUPPORT.BOSHART.COM

