

WSS SERIES - STEEL WELL SEALS

Boshart WSS Series Steel 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
- heavy duty single hole for submersible pump applications
- double hole for jet pump applications

Manufactured from durable steel, WSS series well seals are designed for strength, rigidity, and dependable long-term performance in demanding water well applications. Their robust design provides reliable sealing performance for residential, agricultural and commercial applications.

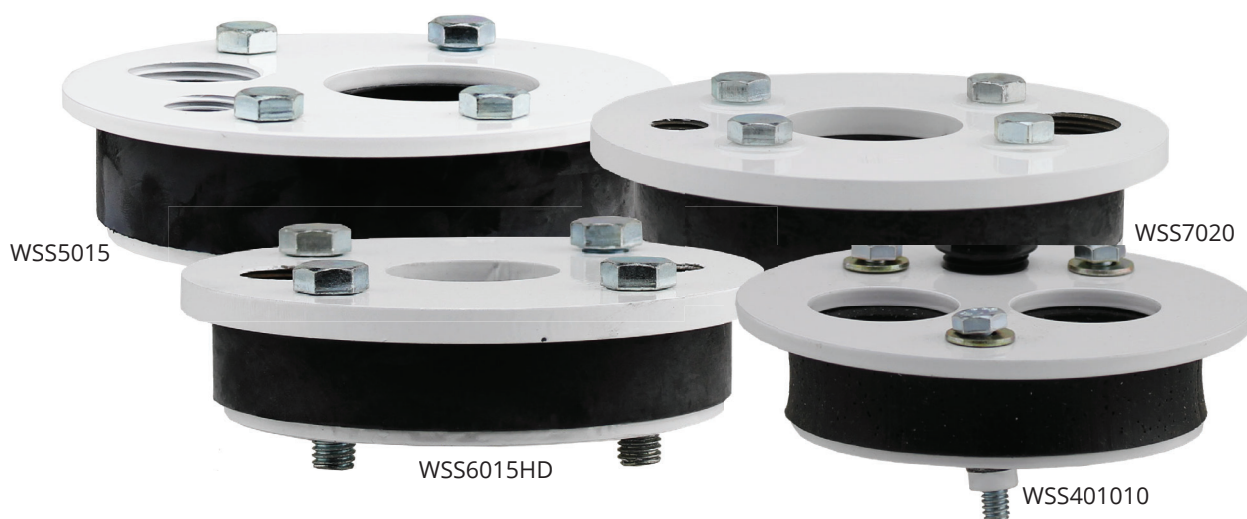
These well seals are suitable for installations of submersible pumps up to and including depths of 600 feet when used with Schedule 80 PVC drop pipe and 400 feet on Schedule 40 steel pipe. A compression style rubber gasket expands when the bolts are tightened during installation to form a tight seal,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

FEATURES:

- Unique gland design allows for wide range of casing sizes
- Half thread bolts provide smooth sealing surface and ensures watertight seal
- Extra thick rubber gland for positive sealing
- Eye-bolt option is available by adding -EB to the end of the part number (not available in all sizes)
- Grommet kit is not included
- Offset drop pipe allows for large conduit connection

SPECIFICATIONS:

- A36 hot rolled steel plates
- White powder coated steel plates for durable finish
- Zinc plated bolts and Eye bolt
- Rubber gland material: Styrene - Butadiene Rubber (SBR)
- Bolt ends are peened to prevent accidental disassembly when loosening the seal for removal



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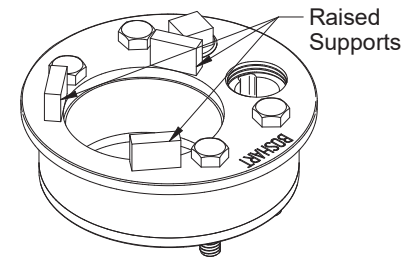
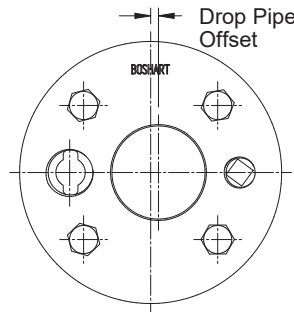
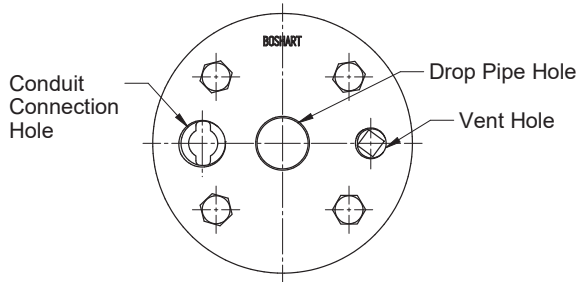
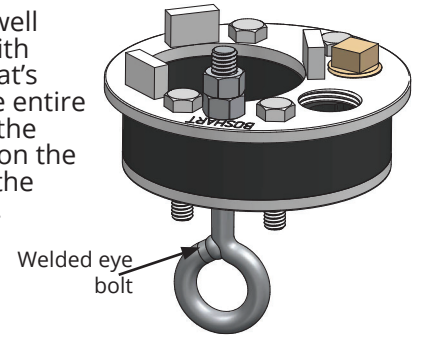
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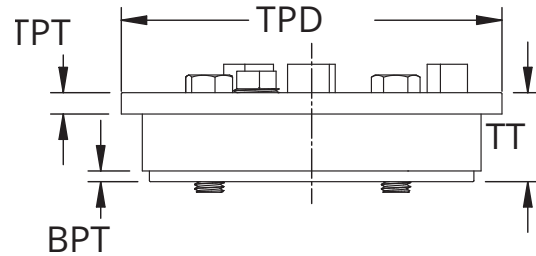
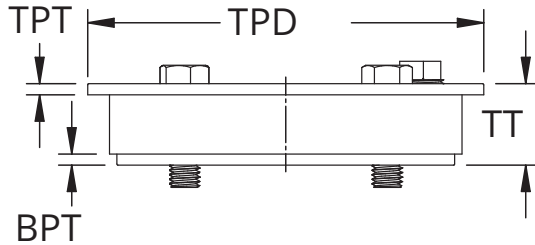




CAUTION: Eye bolt well seals are supplied with a welded eye bolt that's installed through the entire well seal to support the weight of the pump on the upper thick plate in the event of pipe failure.



WSS4020 & WSS6030HD only
(Double hole not pictured here)



Single Hole Well Seals

Part No.	Well Casing I.D.	Gasket O.D. (inch)	(DPD) Drop Pipe Diameter (inch)		Drop Pipe Offset (inch)	FPT Conduit Conn. (inch)	FPT Vent Size (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.								
3-1/2" WSS Series												
WSS3510	3-1/2"	3.51	1"	1.32	0.93"	1/2"	1/2"	0.50	0.19	1.42	4.06	5/16"-18 UNC x 2"
4" WSS Series												
WSS4010	4" to 4-1/4"	3.95	1"	1.32	0.28"	3/4"	1/2"	0.19	0.19	1.38	4.50	5/16"-18 UNC x 1-3/4"
WSS4012	4" to 4-1/4"	3.95	1-1/4"	1.66	0.28"	3/4"	1/2"	0.19	0.19	1.38	4.50	
WSS4015	4" to 4-1/4"	3.95	1-1/2"	1.90	0.54"	3/4"	1/2"	0.19	0.19	1.38	4.50	
WSS4020*	4" to 4-1/4"	3.95	2"	2.38	0.54"	3/4"	1/2"	0.19	0.19	1.38	4.50	

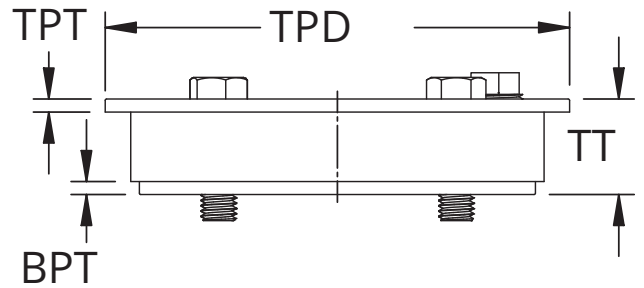
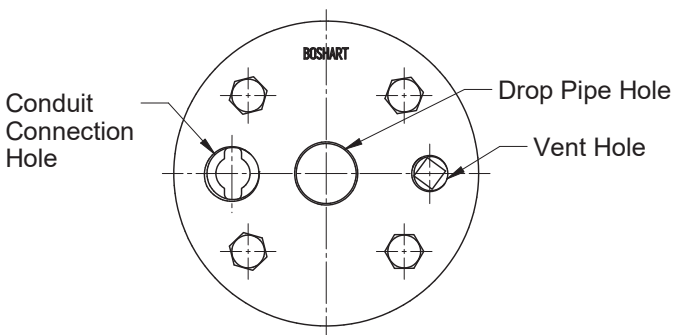
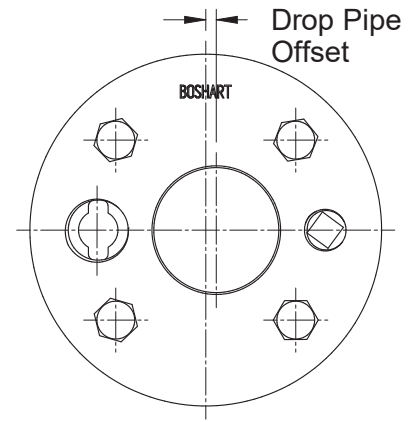
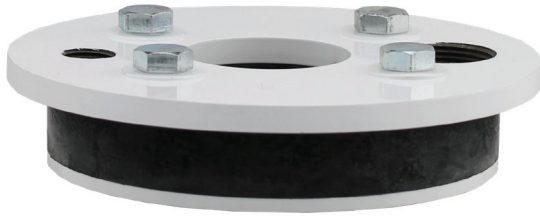
*WSS4020 has raised supports, making it possible to incorporate a 3/4" cable hole



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Single Hole Well Seals

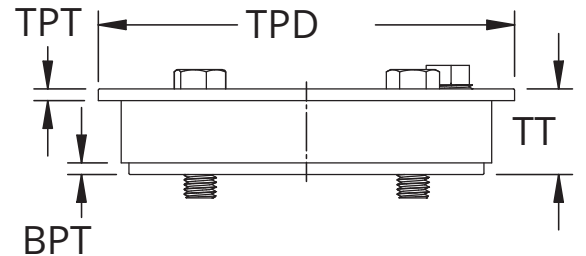
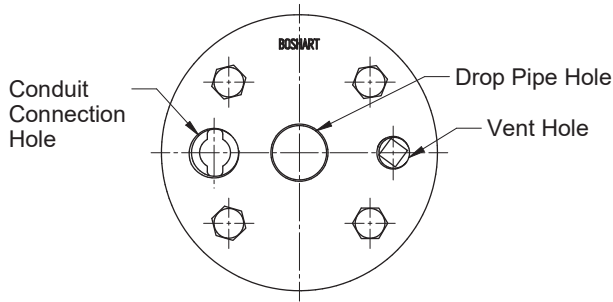
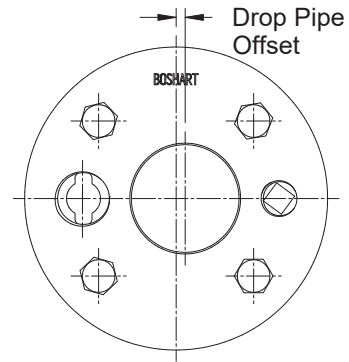
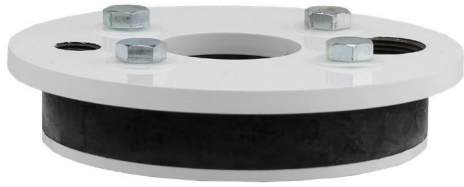
Part No.	Well Casing I.D.	Gasket O.D. (inch)	Drop Pipe Diameter (inch)		Drop Pipe Offset (inch)	FPT Conduit Conn. (inch)	FPT Vent Size (inch)	(TPT) Top Plate Thickness (inch)	(BPT) Bottom Plate Thickness (inch)	(TT) Total Thickness (inch)	(TPD) Top Plate Diameter (inch)	Bolt Size
			Nominal	O.D.								
4-1/2" WSS Series												
WSS4510	4-1/4" to 4-1/2"	4.20	1"	1.32	0.25"	3/4"	1/2"	0.19	0.19	1.38	5.00	5/16"-18 UNC x 1-3/4"
WSS4512	4-1/4" to 4-1/2"	4.20	1-1/4"	1.66	0.25"	3/4"	1/2"	0.19	0.19	1.38	5.00	
WSS4515	4-1/4" to 4-1/2"	4.20	1-1/2"	1.90	0.44"	3/4"	1/2"	0.19	0.19	1.38	5.00	
WSS4520	4-1/4" to 4-1/2"	4.20	2"	2.38	0.44"	1/2"	1/2"	0.19	0.19	1.38	5.00	
5" WSS Series												
WSS5010	5" to 5-1/4"	4.95	1"	1.32	0.16"	1"	1/2"	0.19	0.19	1.38	5.58	3/8"-16 UNC x 1-3/4"
WSS5012	5" to 5-1/4"	4.95	1-1/4"	1.66	0.16"	1"	1/2"	0.19	0.19	1.38	5.58	
WSS5015	5" to 5-1/4"	4.95	1-1/2"	1.90	0.58"	1"	1/2"	0.19	0.19	1.38	5.58	
WSS5020	5" to 5-1/4"	4.95	2"	2.38	0.58"	1"	1/2"	0.19	0.19	1.38	5.58	
6" WSS Series												
WSS6010	6" to 6-1/4"	5.95	1"	1.32	N/A	1"	1/2"	0.19	0.19	1.38	6.69	1/2"-13 UNC x 1-3/4"
WSS6012	6" to 6-1/4"	5.95	1-1/4"	1.66	N/A	1"	1/2"	0.19	0.19	1.38	6.69	
WSS6015	6" to 6-1/4"	5.95	1-1/2"	1.90	N/A	1"	1/2"	0.19	0.19	1.38	6.69	
WSS6020	6" to 6-1/4"	5.95	2"	2.38	0.20"	1"	1/2"	0.19	0.19	1.38	6.69	



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Single Hole Well Seals

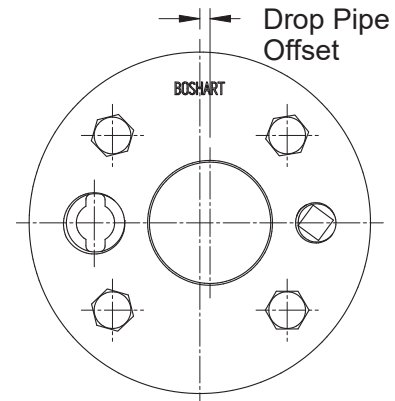
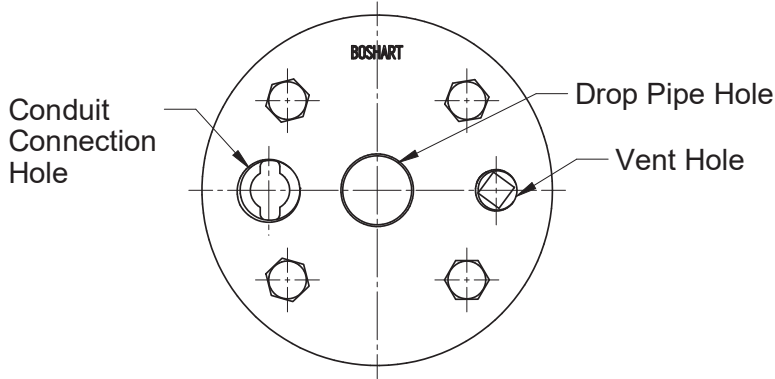
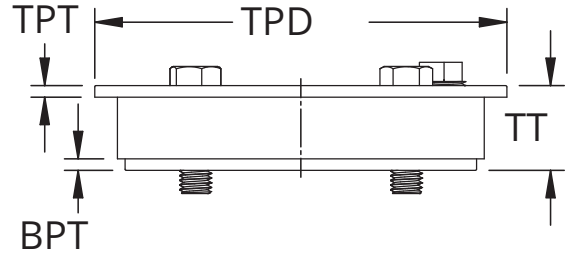
Part No.	Well Casing I.D.	Gasket O.D. (inch)	Drop Pipe Size		Drop Pipe Offset (inch)	FPT Conduit Conn. (inch)	FPT Vent Size (inch)	(TPT) Top Plate Thickness (inch)	(BPT) Bottom Plate Thickness (inch)	(TT) Total Thickness (inch)	(TPD) Top Plate Diameter (inch)	Bolt Size
			Nominal	O.D.								
6-1/4" WSS Series												
WSS6210	6-1/4"	6.20	1"	1.32	N/A	1"	1/2"	0.19	0.19	1.38	6.69	1/2"-13 UNC x 1-3/4"
WSS6212	6-1/4"	6.20	1-1/4"	1.66	N/A	1"	1/2"	0.19	0.19	1.38	6.69	
WSS6215	6-1/4"	6.20	1-1/2"	1.90	N/A	1"	1/2"	0.19	0.19	1.38	6.69	
WSS6220	6-1/4"	6.20	2"	2.38	0.20"	1"	1/2"	0.19	0.19	1.38	6.69	
7" WSS Series												
WSS7010	7"	6.59	1"	1.32	0.13"	1-1/4"	1/2"	0.38	0.19	1.56	7.75	1/2"-13 UNC x 2"
WSS7012	7"	6.59	1-1/4"	1.66	0.13"	1-1/4"	1/2"	0.38	0.19	1.56	7.75	
WSS7015	7"	6.59	1-1/2"	1.90	0.13"	1-1/4"	1/2"	0.38	0.19	1.56	7.75	
WSS7020	7"	6.59	2"	2.38	0.13"	1-1/4"	1/2"	0.38	0.19	1.56	7.75	
WSS7030	7"	6.59	3"	3.50	0.61"	1-1/4"	1/2"	0.38	0.19	1.56	7.75	
8" WSS Series												
WSS8010	8" to 8-1/4"	7.95	1"	1.32	N/A	1-1/4"	1/2"	0.38	0.19	1.56	8.69	1/2"-13 UNC x 2"
WSS8012	8" to 8-1/4"	7.95	1-1/4"	1.66	N/A	1-1/4"	1/2"	0.38	0.19	1.56	8.69	
WSS8015	8" to 8-1/4"	7.95	1-1/2"	1.90	N/A	1-1/4"	1/2"	0.38	0.19	1.56	8.69	
WSS8020	8" to 8-1/4"	7.95	2"	2.38	N/A	1-1/4"	1/2"	0.38	0.19	1.56	8.69	
WSS8025	8" to 8-1/4"	7.95	2-1/2"	2.88	N/A	1-1/4"	1/2"	0.38	0.19	1.56	8.69	
WSS8030	8" to 8-1/4"	7.95	3"	3.50	N/A	1-1/4"	1/2"	0.50	0.19	1.69	8.69	
WSS8040	8" to 8-1/4"	7.95	4"	4.50	0.48"	1-1/4"	1/2"	0.63	0.19	1.81	8.69	1/2"-13 UNC x 2-1/4"



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Single Hole Well Seals

Part No.	Well Casing I.D.	Gasket O.D. (inch)	Drop Pipe Diameter (inch)		Drop Pipe Offset	FPT Conduit Conn. (inch)	FPT Vent Size (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.								
10" WSS Series												
WSS10010	10"	9.95	1"	1.32	N/A	1-1/4"	1/2"	0.38	0.19	1.56	10.75	1/2"-13 UNC x 2-1/4"
WSS10012	10"	9.95	1-1/4"	1.66	N/A	1-1/4"	1/2"	0.38	0.19	1.56	10.75	
WSS10015	10"	9.95	1-1/2"	1.90	N/A	1-1/4"	1/2"	0.38	0.19	1.56	10.75	
WSS10020	10"	9.95	2"	2.38	N/A	1-1/4"	1/2"	0.38	0.19	1.56	10.75	
WSS10025	10"	9.95	2-1/2"	2.88	N/A	1-1/4"	1/2"	0.50	0.14	1.64	10.75	
WSS10030	10"	9.95	3"	3.60	N/A	1-1/4"	1/2"	0.63	0.19	1.81	10.75	
WSS10040	10"	9.95	4"	4.50	N/A	1-1/4"	1/2"	0.63	0.19	1.81	10.75	
WSS10050	10"	9.95	5"	5.56	0.30"	1"	1/2"	0.75	0.19	1.94	10.75	
WSS10060	10"	9.95	6"	6.63	0.30"	1"	1/2"	0.75	0.19	1.94	10.75	
12" WSS Series												
WSS12012	12"	11.95	1-1/4"	1.66	N/A	1-1/4"	1/2"	0.38	0.19	1.56	12.75	1/2"-13 UNC x 2"
WSS12015	12"	11.95	1-1/2"	1.90	N/A	1-1/4"	1/2"	0.38	0.19	1.56	12.75	
WSS12020	12"	11.95	2"	2.38	N/A	1-1/4"	1/2"	0.50	0.19	1.69	12.75	
WSS12030	12"	11.95	3"	3.50	N/A	1-1/4"	1/2"	0.63	0.19	1.81	12.75	1/2"-13 UNC x 2-1/4"
WSS12040	12"	11.95	4"	4.50	N/A	1-1/4"	1/2"	0.63	0.19	1.81	12.75	
WSS12050	12"	11.95	5"	5.56	N/A	1-1/4"	1/2"	0.75	0.19	1.94	12.75	
WSS12060	12"	11.95	6"	6.63	N/A	1-1/4"	1/2"	0.75	0.19	1.94	12.75	

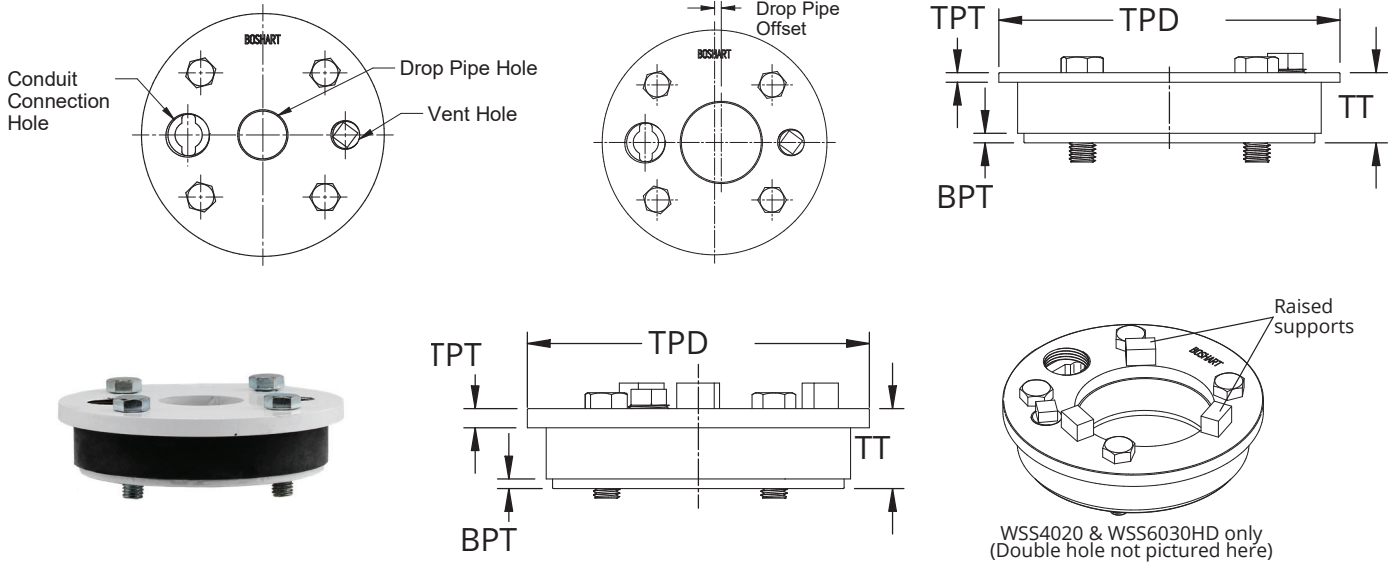


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Heavy Duty, Single Hole Well Seals

Part No.	Well Casing I.D.	Gasket O.D. (inch)	Drop Pipe Size		Drop Pipe Offset (inch)	FPT Conduit Conn. (inch)	FPT Vent Size (inch)	(TPT) Top Plate Thickness (inch)	(BPT) Bottom Plate Thickness (in)	(TT) Total Thickness (inch)	(TPD) Top Plate Diameter (inch)	Bolt Size
			Nominal	O.D.								
WSS6010HD	6" to 6-1/4"	5.95	1"	1.32	N/A	1"	1/2"	0.38	0.19	1.56	6.69	1/2"-13 UNC x 1-3/4"
WSS6012HD	6" to 6-1/4"	5.95	1-1/4"	1.66	N/A	1"	1/2"	0.38	0.19	1.56	6.69	
WSS6015HD	6" to 6-1/4"	5.95	1-1/2"	1.90	N/A	1"	1/2"	0.38	0.19	1.56	6.69	
WSS6020HD	6" to 6-1/4"	5.95	2"	2.38	0.20"	1"	1/2"	0.38	0.19	1.56	6.69	
WSS6030HD*	6" to 6-1/4"	5.95	3"	3.50	0.42"	1"	1/2"	0.38	0.19	1.56	6.69	

*WSS6030HD has raised supports, making it possible to incorporate a 1" cable hole



Double Holes Well Seals

Part No.	Well Casing I.D.	Gasket O.D. (inch)	Drop Pipe Size		FPT Conduit Conn. (inch)	FPT Vent Size (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.							
WSS351210	3-1/2"	3.51	1-1/4" x 1"	1.66 x 1.32	N/A	1/2"	0.50	0.19	1.42	4.06	5/16"-18 UNC x 2"
WSS401010	4"	3.75	1" x 1"	1.32 x 1.32	N/A	1/2"	0.19	0.12	1.12	4.75	1/4"-20 UNC x 1-3/4"
WSS601512*	6"	5.85	1-1/2" x 1-1/4"	1.90 x 1.66	N/A	1/2"	0.19	0.13	1.31	6.74	3/8"-16 UNC x 2"
WSS621512	6-1/4"	5.85	1-1/2" x 1-1/4"	1.90 x 1.66	N/A	1/2"	0.19	0.15	1.33	6.75	3/8"-16 UNC x 2-1/4"

*WSS601512 has Blue powder coated steel plate finish



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Installation Instructions

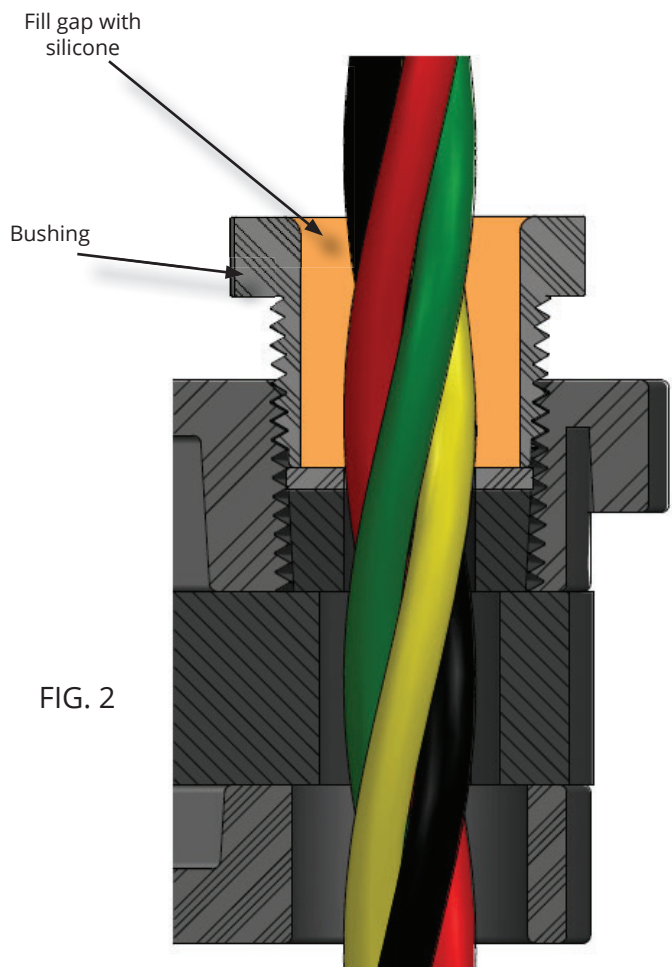
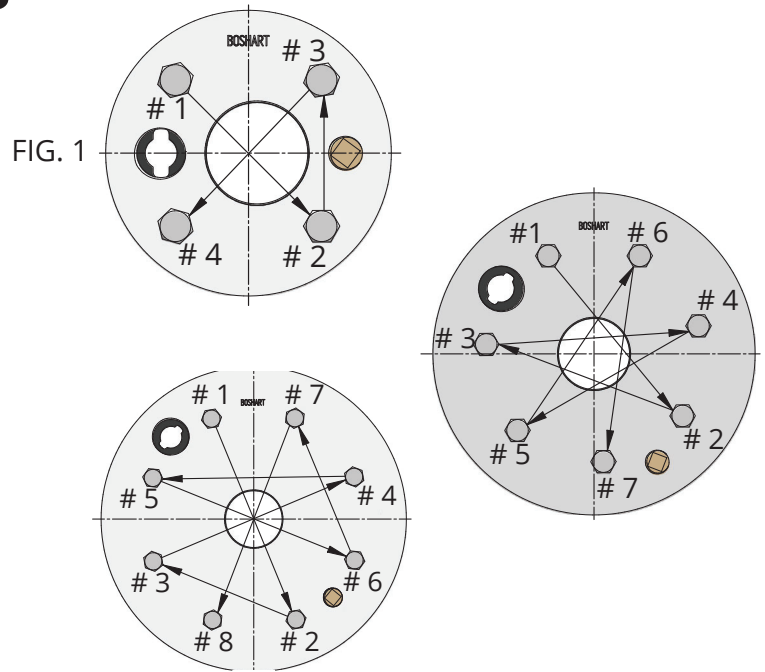
1. Ensure the well casing is cut off level and that the inside of the well casing is clean and free of debris (approx. 3" down from top edge)
2. Loosen the compression bolts to ensure they are not applying any compression to the rubber gasket
3. Insert the last section of drop pipe through the well seal, 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 the compression 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 damage to the top and bottom plates.

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.



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REPLACEMENT PARTS

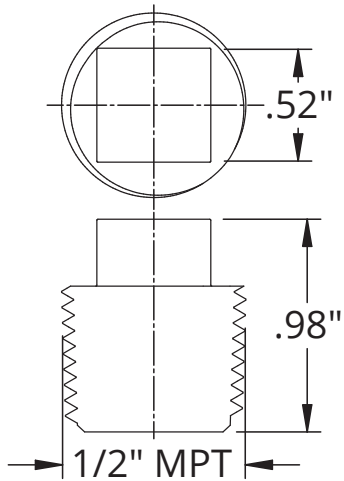
WS-GK Series - Grommet Kits

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 is for flat jacketed cable

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

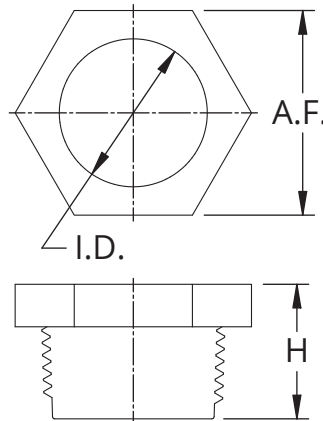
PVC Vent Plug



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



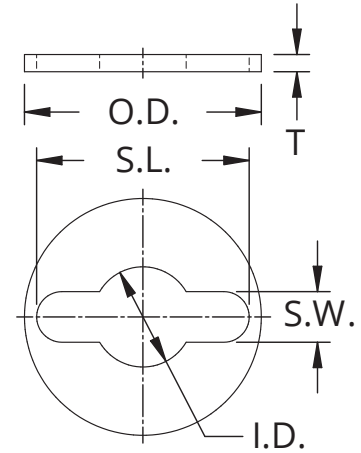
25 Whaley Avenue, PO Box 310, Milverton, ON CANADA N0K 1M0
Tel: 800-561-3164

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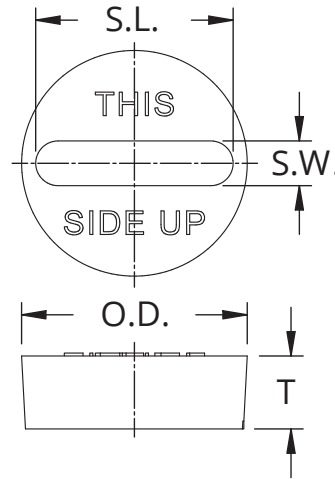
PVC Washer

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



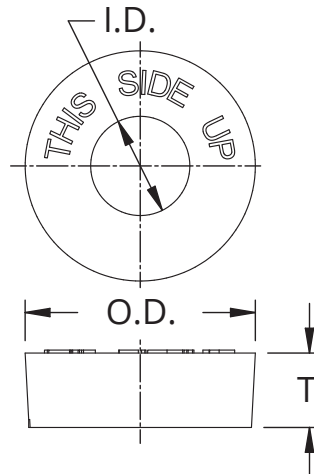
Slotted Rubber Grommet

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:

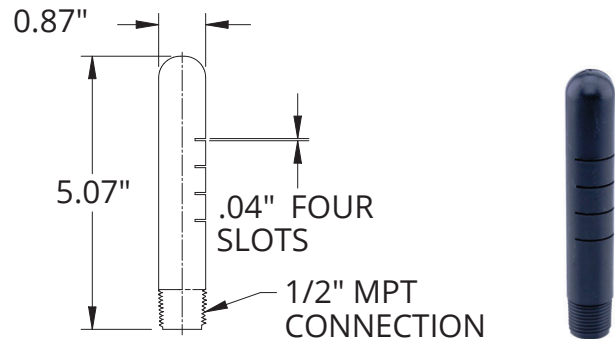
- These air vents are threaded into the well seal air vent connection for water well ventilation, allowing air into the well during the pumping phase and to release air as the static level of the water rises between pumping cycles
- Air vents must be plumbed to ensure the intake screen of the vent will 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:

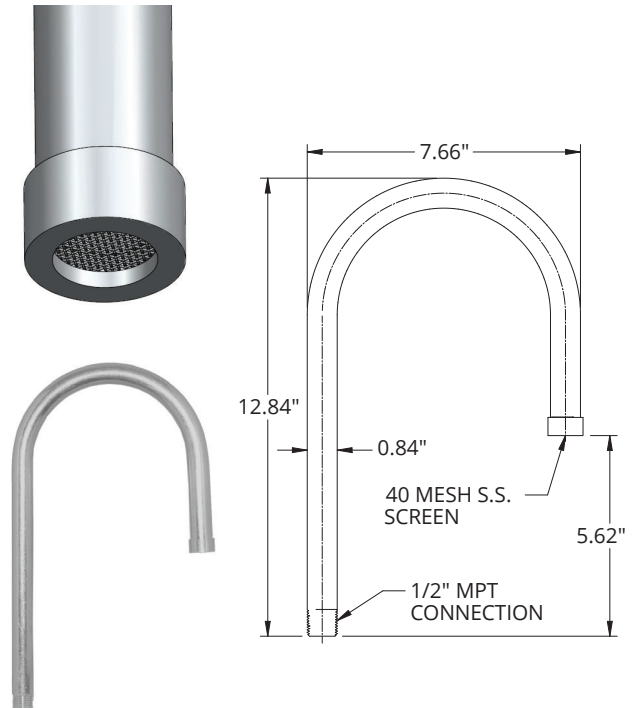
- These air vents are threaded into the well seal air vent connection for water well ventilation, allowing air into the well during the pumping phase and to release air as the static level of the water rises between pumping cycles
- Air vents must be plumbed to ensure the intake screen of the vent will 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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