Operating Procedures for 4"to 24" GripTight® Isolation Plugs

WARNING

- ⚠ Pressure testing is inherently dangerous. Strict adherence to these Operating Procedures and industry safe practices could prevent injury to personnel.
- ⚠ All personnel must be clear of the test plug when pressure testing.
- ⚠ For safety, an incompressible liquid such as water should be used as the test medium. Residual air or gas must be evacuated from the pipe prior to testing.
- ⚠ Remove the metal shipping band or tape securing the gripper assembly, if present, prior to pressure testing.
- ⚠ Do not use in pipes with ID coatings. Contact EST Group Customer Service prior to use in any type of coated pipe and/or tube.
- ⚠ Failure to use anti-seize may cause an incomplete torque transmittal that may lead to a decrease in the pressure rating of the plug.
- ⚠ Failure to apply the installation torque specified in Table 1 could result in unsafe operation or leakage. Installation equipment and tool must be adequately sized to handle installation torque.
- ⚠ Constantly monitor upstream pressure. Immediately discontinue work if an unplanned or unanticipated increase in upstream pressure occurs.

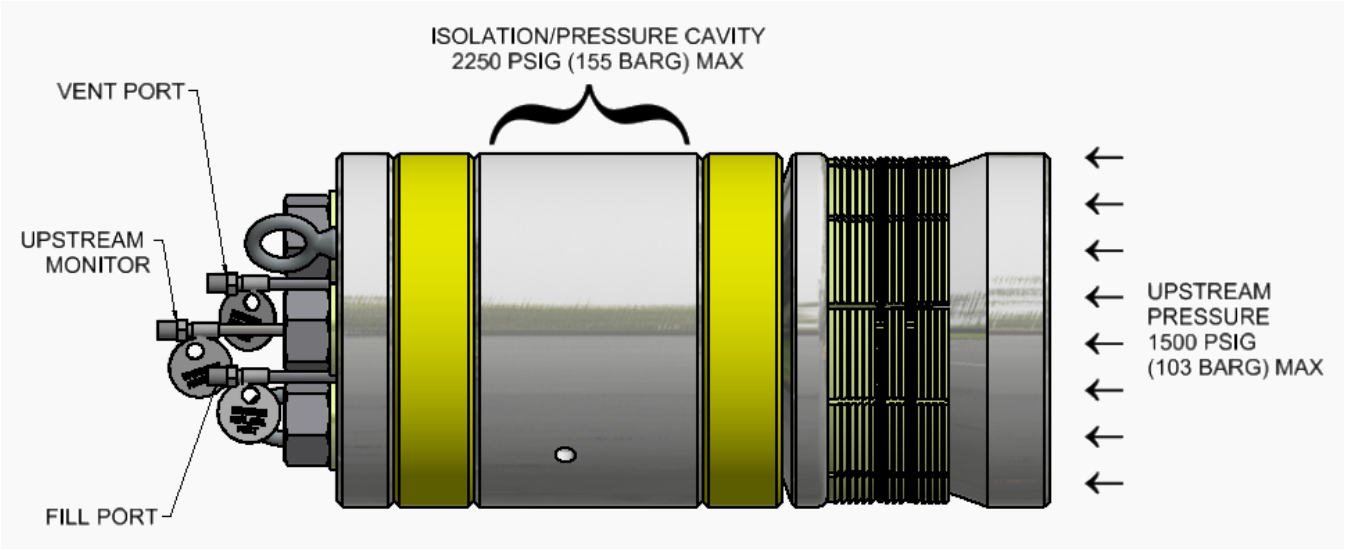

Figure 1: GTDBB Size Range 4" - 24"

MAXIMUM TEST PRESSURE BETWEEN SEALS: 2250 PsiG (155 BarG)

MAXIMUM UPSTREAM PRESSURE: 1500 PsiG (103 BarG)

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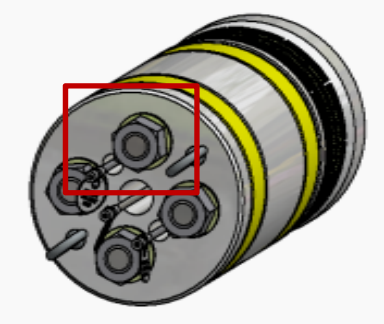
1. Test Preparation

Perform the steps outlined below prior to performing your pressure test.

Step/Action	*Additional Action/Information/Result*
1.1. Visually inspect the plug for worn or damaged components including any cuts, scores and deformations. Replace as needed.	The surface between the cone and grippers must be free of friction producing dirt, corrosion, or debris. **NOTE:** Inspect the Upstream Monitor Port to ensure there is no debris or blockage.
1.2. Verify that the pipe size and schedule stamped on the plug is equivalent to pipe size you are testing.	**NOTE:** The stamp **P10P80** indicates that the plug is suitable for use in 10" SCH 80 pipe size. See Table 1 for pipe size and schedule of plugs. The seal OD must agree with the Plug OD listed in Table 1 for the corresponding pipe size.
1.3. Clean and dry the pipe ID.	All moisture, debris and excessive scale must be removed from the pipe ID to ensure proper seal is established during the pressure test.
1.4. Liberally spread antiseize over both sides of the Hardened Washers and threads of the Shafts.	Doing this ensures that installation torque is transmitted to the seal.  **Figure 2: Front Isometric View** **CAUTION** Special caution must be taken when applying lubricant and handling the test plug. The lubricant must not come in contact with the Seals or tube/pipe ID. Failure to properly use antiseize on the Shaft threads and Hardened Washer may cause an incomplete torque transmittal resulting in a decrease in in pressure holding capability.

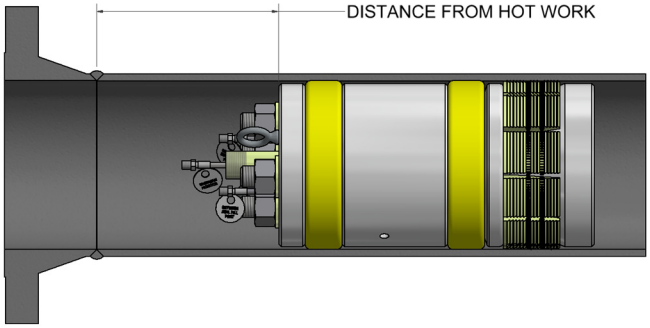
Step/Action	*Additional Action/Information/Result*
1.5. Tighten the Hex Nuts to verify the Grippers move freely on the Tapered Cone surface.	

If	*then*
Grippers move freely on the Tapered Cone surface,	loosen the Hex Nuts back to their original position and go to the next step.
Grippers do not fully retract,	apply a light lubricant such as Molykote® DX or SAE 10W motor oil to the tapered surface of the cones and wipe away any excess. Repeat §1.5 verification.
you cannot easily tighten the Hex Nut to allow full Gripper expansion,	DO NOT USE THIS PLUG FOR TESTING. Contact EST Group Customer Service for assistance.

2. Installing Plug as an Isolation Barrier

Perform the steps outlined below when using the plugs as isolation barriers.

Step/Action	*Additional Action/Information/Result*
2.1. Attach hoses to the Fill, Vent, and Upstream Pressure Monitor connections. (See Table 1 for port sizing)	• Upstream Monitor Connection: If upstream vapors are to be vented, a tee fitting should be used such that the hose and the pressure gauge are both connected to the Upstream Monitor Connection. Upstream vapors may be vented by attaching a 50 ft (15m) of hose to the port and locating the open end of the hose well downwind from the hot work area. • Pressure Connection: Connect pressure source to fill connection to pressurize between Seals for isolation and/or testing purposes.
2.2. Place plug so Seals are inside the pipe and at least 12" from any Hot Work zone.	• Ensure the Fill Port is at the six o'clock and Vent Port at the twelve o'clock positions. **NOTE:** The maximum temperature exposure for urethane seals is 180°F (82°C). It may be necessary to monitor pipe temperatures during hot work to ensure seals are not damaged. It is possible to circulate fluid through the Fill and Vent ports to cool the plug. Contact EST Group Customer Service if high temperature seal materials are needed.

Step/Action	*Additional Action/Information/Result*
2.3. Tighten the Hex Nuts to remove any slack from the parts.	 **Figure 3: Isolation Installed Side View** • The normal torque values listed in Table 1 should be adequate for most installations, however due to variations within internal pipe finishes, the torque may need to be increased up to the maximum torque values listed in Table 1. Do not exceed maximum torque value.
2.4. Using a calibrated torque wrench capable of producing the required torque, tighten the Hex Nuts to the normal installation torque (see Table 1). The Hex Nuts must be **incrementally** tightened in a standard bolt star pattern.	• Tightening the bottom Hex Nuts first will aid in centering the plug. If the plug spins during tightening, remove the plug from the pipe, then tighten the Hex Nuts to expand the seal slightly. Place the plug back into the pipe. This will create a larger contact/friction surface between the plug and the pipe, which should stop the plug from rotating. Once the seals have fully contacted the pipe ID then the Hex Nuts must be tightened in a star pattern. **NOTE: Once a plug is installed, upstream pressure must be continuously monitored.**
2.5. Remove residual air between the seals, if necessary.	• Ensure the ports between the Seals are in the six and twelve o'clock positions and the Hex Nuts have been properly tightened. • Apply inert medium through the Fill Port until a small amount of the medium escapes the Vent Port. At this point, the majority of residual air is removed between the seals. Vent Port can be capped or sealed.

Step/Action	*Additional Action/Information/Result*
2.6. Slowly introduce the isolation pressure. 2.7. By maintaining a positive pressure between the Seals greater than the potential upstream pressure, you are ensuring that the hot work zone is isolated from any upstream vapors or contaminants.	**NOTE:** During pressurization, some settling of the plug may occur. If the plug moves more than a total of 0.125" (3 mm) for 4" and 6" (DN100 and DN150) plug sizes or 0.63" (16 mm) for 8" - 24" (DN200 – DN600) during pressurization or testing, then halt your procedure immediately. Inspect the test plug and pipe ID for damage and review installation steps taken prior to reinstalling the plug and retesting. If situation continues, contact EST Group Customer Service for technical assistance.
2.8. After testing application is complete, release/vent all pressure from between the seals. Verify there is no upstream pressure.	**CAUTION** ⚠ Never remove a plug if upstream pressure is present.
2.9. Loosen the Hex Nuts **incrementally** using the standard bolting pattern until the top of the nuts are at the top of the shaft threads.	• Permanent Seal deformation may occur if the Seal is left partially compressed.
2.10. Remove the plug from the tube end.	

3. Performing the Pressure Test

Perform the steps outlined below when conducting a pressure test. Ensure that all Site Safety protocols are obeyed.

Step/Action	*Additional Action/Information/Result*
3.1. Attach hoses to the Fill, Vent, and Upstream Pressure Monitor connections. (See Table 1 for sizing)	• Upstream Monitor Connection: If upstream vapors are to be vented, a tee fitting should be used such that the hose and the pressure gauge are both connected to the Upstream Monitor Connection. Upstream vapors may be vented by attaching a 50 ft. of hose to the port and locating the open end of the hose well downwind from the hot work area. • Pressure Connection: Connect pressure source to fill connection to pressurize between seals for isolation and/or testing purposes.

Step/Action	*Additional Action/Information/Result*

3.2. Place plug so both Seals are inside the pipe you are testing.

If	*then*
using the plug as an isolation and/or welding plug,	position the plug so the Seals are an appropriate distance from the weld location.
using the plug to test a weld,	position the plug so that the Seals straddle the weld or area you are testing.

- Ensure the Fill Port is at the six o'clock and Vent Port at the twelve o'clock positions

NOTE:
The maximum temperature exposure for urethane seals is 180°F (82°C). It may be necessary to monitor pipe temperatures during hot work to ensure seals are not damaged. It is possible to circulate fluid through the Fill and Vent ports to cool the plug. Contact EST Group Customer Service if high temperature seal materials are needed.

3.3. Tighten the Hex Nuts to remove any slack from the parts.

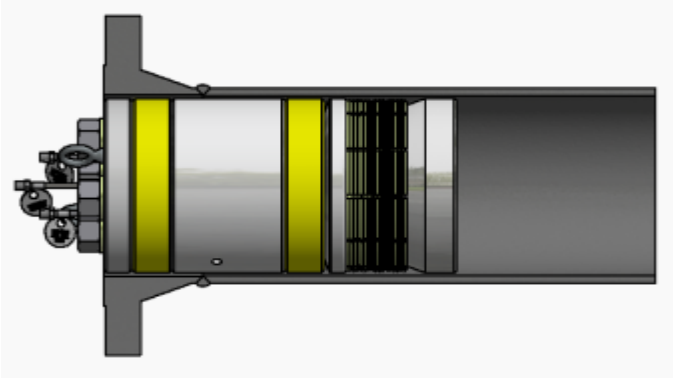


Figure 4: Installed Side View

- The normal torque values listed in Table 1 should be adequate for most installations, however due to variations within internal pipe finishes, the torque may need to be increased up to the maximum torque values listed in Table 1. If at the maximum torque the plug still leaks, verify the correct seal and washers are being used, correct if necessary, reinstall and torque the plug in increasing increments starting at the normal installation torque.

3.4. Using a socket wrench capable of produce the required torque, tighten the Hex Nuts to the normal installation torque (see Table 1). The Hex Nuts must be tightened in a star pattern.

- Tightening the bottom Hex Nuts first will aid in centering the plug.

Step/Action	*Additional Action/Information/Result*
	• Complete installation by using a calibrated torque wrench to ensure that the Hex Nuts have been tightened to the proper torque.

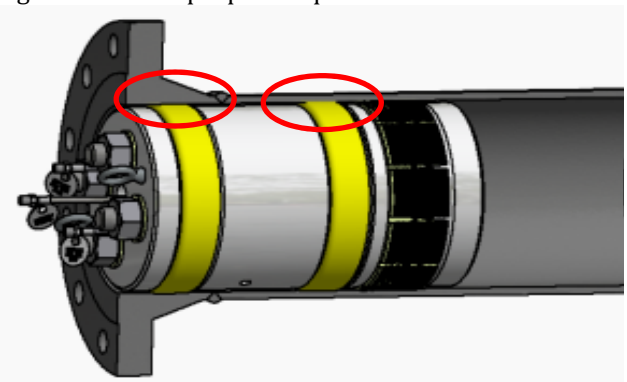


Figure 5: Seals Expanded View

3.5. Remove residual air between the Seals, if necessary.	• Ensure the ports between the Seals and in the six and twelve o'clock positions and the Hex Nuts have been properly tightened. • Apply test medium through the Fill Port until a small amount of the medium escapes the Vent Port. At this point, the majority of residual air is removed between the Seals. Seal or cap the Vent Port.
3.6. Slowly introduce the test pressure. 3.7. If performing a pressure drop test, hold the desired pressure with pump for a minimum of 5 minutes to allow parts to settle prior to closing the isolation valve.	**NOTE:** During pressurization, some settling of the plug may occur. If the plug moves more than a total of 0.125" (3 mm) for 4" and 6" (DN100 and DN150) plug sizes or 0.63" (16 mm) for 8" – 24" (DN200 – DN600) during pressurization or testing, then you must halt testing immediately. Inspect the test plug and pipe ID for damage and review installation steps taken prior to reinstalling the plug and retesting. If situation continues, contact EST Group Customer Service for technical assistance.
3.8. After isolation or testing application is complete, release/vent all pressure from the pipe.	**CAUTION** ⚠ Never remove a plug if upstream pressure is present.
3.9. Loosen the Hex Nuts **incrementally** using the standard bolting pattern until the top of the nuts are at the top of the Shaft threads.	• Permanent deformation may occur if the Seal is left partially compressed.

Step/Action	*Additional Action/Information/Result*
3.10. Remove the plug from the tube end.	
3.11. Inspect the plug for wear and replace any worn components.	a. Visually inspect Seals for damage including cuts, scores and deformations. b. Visually inspect O-rings for damage including cuts, scores and deformations. **Note:** O-rings not integrated on all plugs. If no O-rings or O-ring grooves present, then no action is required c. Verify proper operation of Grippers by tightening the Hex Nuts to expand the Gripper Assembly. Apply a light lubricant if necessary. Wipe away excess. d. Liberally spread antiseize over both sides of the Hardened Washer and threads of the Shafts. Wipe away any excess. Contact EST Group Customer Service for replacement of worn or damaged parts identified.

4. Part Replacement – Disassembly

When performing the steps outlined below, be sure to keep track of the assembly order of component parts. Occasionally a tool may be needed to pry seals away from washer face to facilitate removal. If this is the case, be sure not to damage any components while using the tool.

4" – 6" (DN100 – DN150) Plugs

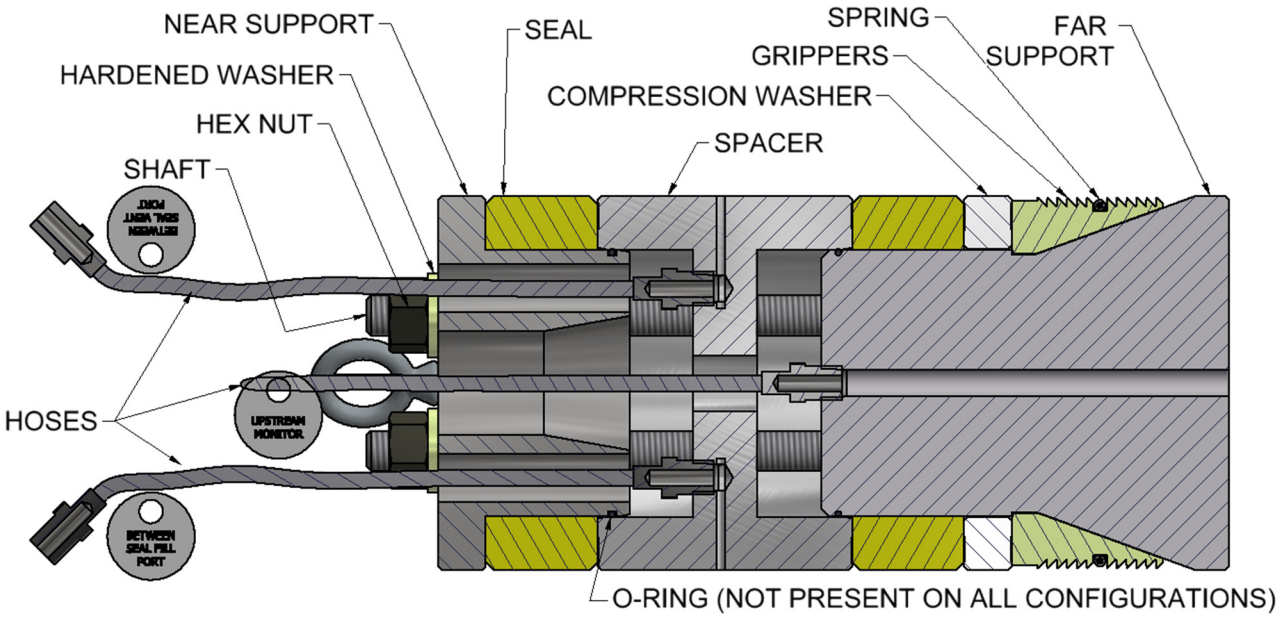


Figure 6: GripTight Isolation Plug 4" - 6" Plug Components

Step/Action	*Additional Action/Information/Result*
4.1. Visually inspect component parts for damages.	

If	*then*
damaged components are identified,	contact EST Group Customer Service for replacement parts.
no damaged components are identified,	go to the next step.

Step/Action	*Additional Action/Information/Result*
4.2. To disassemble the plug and service the Seals, disassemble plug assembly in this order:	Component parts of the plug must be removed in the following order: • Hex Nut • Hardened Washer • Front Support • Front Seal • Center Spacer • Rear Seal **Note** Occasionally a tool is required to pry seals away from mating face to facilitate removal. If this is the case be sure not to damage any components while using the tool.
4.3. Reassemble the Gripper Assembly. A screwdriver or similar tool may aid in the installation of the grippers and spring.	*If* / *then* Gripper Assembly is not damaged, — ensure that the tapered surface of the Gripper mates with the tapered surface of the Cone. Gripper Assembly is collapsed, — install new Spring over the plug so it is positioned around the tapered surface of the Cone. Position Grippers Segments, one at a time on the Cone surface and slide the Spring into the groove on Grippers. Repeat for each Gripper Segment.
4.4. Install the Gripper Assembly over the Shafts and onto the Far Support. Reassemble plug as in Figure 6.	

8” and Larger Plugs (DN200 and Larger)

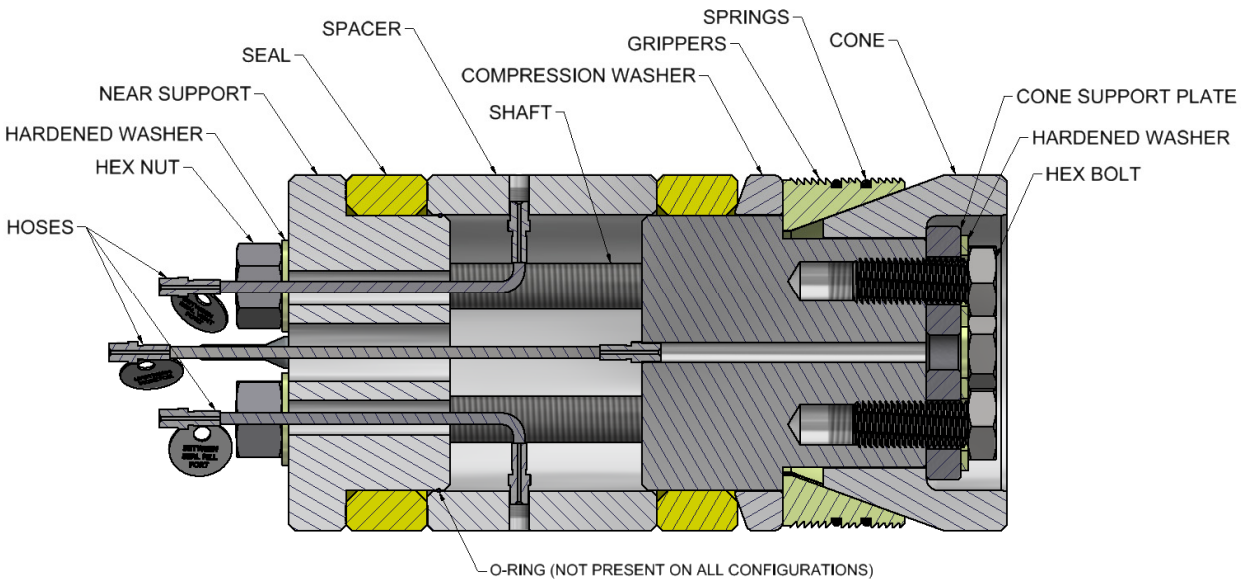


Figure 7: GripTight Isolation Plug 8" Plug Components

Step/Action	*Additional Action/Information/Result*
4.5. Visually inspect component parts for damages.	*If* — *then* damaged components are identified, — contact EST Group Customer Service for replacement parts. no damaged components are identified, — go to the next step.
4.6. To disassemble the plug and service the Seals, disassemble plug assembly in this order:	Component parts of the plug must be removed in the following order: • Hex Nut • Hardened Washer • Front Support • Front Seal • Center Spacer • Rear Seal **Note** Occasionally a tool is required to pry seals away from m face to facilitate removal. If this is the case be sure not to damage any components while using the tool.

Step/Action	*Additional Action/Information/Result*
4.7. To disassemble the plug and service the Grippers, disassemble plug assembly in this order:	For plugs 8" and larger: component parts of the plug must be removed in the following order: • Hex Bolt • Hardened Washer • Cone Support Plate • Cone • Gripper and Spring Assembly
4.8. Reassemble the Gripper Assembly. A screwdriver or similar tool may aid in the installation of the grippers and spring.	*If* / *then* Gripper Assembly is not damaged, / ensure that the tapered surface of the Gripper mates with the tapered surface of the Cone. Gripper Assembly is collapsed, / install new Spring over the plug so it is positioned around the tapered surface of the Cone. Position Grippers Segments, one at a time on the Cone surface and slide the Spring into the groove on Grippers. Repeat for each Gripper Segment.
4.9. Place the new Gripper Assembly over the Far Support Assembly as shown in Figure 7. Replace the Cone Retaining Plate, Hardened Washers, and Hex Bolts. Tighten Hex Bolts to 20 ft-lb ± 5 ft-lb.	

5. Storage

Prior to storing, clean and dry the plug. Re-lubricate the shaft threads and between the hex nut and mating surface as previously described. Store plug in an area out of direct exposure to sun, UV light or temperature extremes. Excessive heat or UV light will damage and prematurely degrade the seal elements.

Store these instructions with the plug.

Table 1: GripTight Isolation Plug 4" – 24" Installation Torque Specifications

Sales Part Number	Pipe Size	Pipe SCH	Plug OD [in (mm)]	Clearance Between Plug & Pipe [in (mm)]	Length [in (mm)]	Fill/Vent NPT	Upstream NPT	Distance Between Seals [in (mm)]	Normal Install. Torque [Ft-Lbs (N-m)]	Maximum Install. Torque [Ft-Lbs (N-m)]	Deep Socket Size [in]
GTDBB-4PXXS	4"	XXS	3.00 (76.2)	0.15 (3.8)	9 (229)	1/8	1/8	3-1/2 (89)	15 (20)	25 (34)	11/16
GTDBB-4P160	4"	160	3.29 (83.6)	0.15 (3.8)	9 (229)	1/8	1/8	3-1/2 (89)	15 (20)	25 (34)	11/16
GTDBB-4P120	4"	120	3.48 (88.4)	0.15 (3.8)	9 (229)	1/8	1/8	3-1/2 (89)	20 (27)	30 (41)	11/16
GTDBB-4P80	4"	80	3.63 (92.2)	0.20 (5.1)	9 (229)	1/8	1/8	3-1/2 (89)	20 (27)	30 (41)	11/16
GTDBB-4P40	4"	40	3.83 (97.3)	0.20 (5.1)	9 (229)	1/8	1/8	3-1/2 (89)	20 (27)	30 (41)	11/16
GTDBB-4P10	4"	10	4.06 (103.1)	0.20 (5.1)	9 (229)	1/8	1/8	3-1/2 (89)	20 (27)	30 (41)	11/16
GTDBB-6P160	6"	XXS	4.70 (119.4)	0.20 (5.1)	12-3/8 (314)	1/4	1/4	4 (102)	70 (95)	110 (149)	1-1/16
GTDBB-6P160	6"	160	4.99 (126.7)	0.20 (5.1)	12-3/8 (314)	1/4	1/4	4 (102)	70 (95)	110 (149)	1-1/16
GTDBB-6P120	6"	120	5.30 (134.6)	0.20 (5.1)	12-3/8 (314)	1/4	1/4	4 (102)	80 (109)	120 (163)	1-1/16
GTDBB-6P80	6"	80	5.56 (141.2)	0.20 (5.1)	12-3/8 (314)	1/4	1/4	4 (102)	80 (109)	130 (176)	1-1/16
GTDBB-6P40	6"	40	5.87 (149.1)	0.20 (5.1)	12-3/8 (314)	1/4	1/4	4 (102)	90 (122)	140 (190)	1-1/16
GTDBB-6P10	6"	10	6.16 (156.5)	0.20 (5.1)	12-3/8 (314)	1/4	1/4	4 (102)	90 (122)	140 (190)	1-1/16
GTDBB-8P160	8"	160	6.56 (167)	0.25 (6.4)	15-3/4 (400)	1/4	1/4	5 (127)	125 (169)	200 (271)	1-7/16
GTDBB-8PXXS	8"	XXS	6.63 (168)	0.25 (6.4)	15-3/4 (400)	1/4	1/4	5 (127)	125 (169)	200 (271)	1-7/16
GTDBB-8P140	8"	140	6.75 (171)	0.25 (6.4)	15-3/4 (400)	1/4	1/4	5 (127)	125 (169)	200 (271)	1-7/16
GTDBB-8P120	8"	120	6.94 (176)	0.25 (6.4)	15-3/4 (400)	1/4	1/4	5 (127)	125 (169)	200 (271)	1-7/16
GTDBB-8P100	8"	100	7.19 (183)	0.25 (6.4)	15-3/4 (400)	1/4	1/4	5 (127)	125 (169)	200 (271)	1-7/16
GTDBB-8P80	8"	80	7.38 (187)	0.25 (6.4)	15-3/4 (400)	1/4	1/4	5 (127)	150 (203)	225 (305)	1-7/16
GTDBB-8P60	8"	60	7.56 (192)	0.25 (6.4)	15-3/4 (400)	1/4	1/4	5 (127)	175 (237)	250 (339)	1-5/8
GTDBB-8P40	8"	40/STD	7.73 (196)	0.25 (6.4)	15-3/4 (400)	1/4	1/4	5 (127)	175 (237)	250 (339)	1-5/8
GTDBB-8P20	8"	20	7.88 (200)	0.25 (6.4)	15-3/4 (400)	1/4	1/4	5 (127)	175 (237)	250 (339)	1-5/8

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Sales Part Number	Pipe Size	Pipe SCH	Plug OD [in (mm)]	Clearance Between Plug & Pipe [in (mm)]	Length [in (mm)]	Fill/Vent NPT	Upstream NPT	Distance Between Seals [in (mm)]	Normal Install. Torque [Ft-Lbs (N-m)]	Maximum Install. Torque [Ft-Lbs (N-m)]	Deep Socket Size [in]
GTDBB-8P10	8”	10	8.08 (205)	0.25 (6.4)	15-3/4 (400)	1/4	1/4	5 (127)	175 (237)	250 (339)	1-5/8
GTDBB-10P160	10”	160	8.25 (210)	0.25 (6.4)	16-1/8 (410)	1/4	1	5 (127)	200 (271)	275 (373)	1-5/8
GTDBB-10PXXS	10”	XXS	8.50 (216)	0.25 (6.4)	16-1/8 (410)	1/4	1	5 (127)	200 (271)	275 (373)	1-5/8
GTDBB-10P100	10”	100	9.06 (230)	0.25 (6.4)	16-1/8 (410)	1/4	1	5 (127)	200 (271)	275 (373)	1-5/8
GTDBB-10P80	10”	80	9.31 (236)	0.25 (6.4)	16-1/8 (410)	1/4	1	5 (127)	200 (271)	275 (373)	1-5/8
GTDBB-10PXS	10”	60/XS	9.50 (241)	0.25 (6.4)	16-1/8 (410)	1/4	1	5 (127)	200 (271)	275 (373)	1-5/8
GTDBB-10P40	10”	40/STD	9.77 (248)	0.25 (6.4)	16-1/8 (410)	1/4	1	5 (127)	225 (305)	300 (407)	1-5/8
GTDBB-10P10	10”	10	10.17 (258)	0.25 (6.4)	16-1/8 (410)	1/4	1	5 (127)	225 (305)	300 (407)	1-5/8
GTDBB-12P160	12”	160	9.75 (248)	0.38 (9.7)	17 (432)	1/4	1	5 (127)	200 (271)	250 (339)	1-5/8
GTDBB-12PXXS	12”	XXS	10.37 (264)	0.38 (9.7)	17 (432)	1/4	1	5 (127)	200 (271)	250 (339)	1-5/8
GTDBB-12P80	12”	80	11.00 (279)	0.38 (9.7)	17 (432)	1/4	1	5 (127)	200 (271)	250 (339)	1-5/8
GTDBB-12P40 / 12PSTD	12”	40 STD	11.62 (295)	0.32 (8.1) 0.38 (9.7)	17 (432)	1/4	1	5 (127)	225 (305)	275 (373)	1-5/8
GTDBB-14P80	14”	80	12.12 (308)	0.38 (9.7)	19-1/8 (486)	1/4	2	6-1/2 (165)	225 (305)	275 (373)	1-5/8
GTDBB-14P40	14”	40	12.74 (324)	0.38 (9.7)	19-1/8 (486)	1/4	2	6-1/2 (165)	225 (305)	275 (373)	1-5/8
GTDBB-14PSTD	14”	30/STD	12.87 (327)	0.38 (9.7)	19-1/8 (486)	1/4	2	6-1/2 (165)	225 (305)	275 (373)	1-5/8
GTDBB-16P160	16”	160	12.43 (316)	0.38 (9.7)	19-5/8 (498)	1/4	2	6-1/2 (165)	200 (271)	250 (339)	1-5/8
GTDBB-16P80	16”	80	13.93 (354)	0.38 (9.7)	19-5/8 (498)	1/4	2	6-1/2 (165)	200 (271)	250 (339)	1-5/8
GTDBB-16P40	16”	40/XS	14.62 (371)	0.38 (9.7)	19-5/8 (498)	1/4	2	6-1/2 (165)	225 (305)	275 (373)	1-5/8
GTDBB-16PSTD	16”	30/STD	14.87 (378)	0.38 (9.7)	19-5/8 (498)	1/4	2	6-1/2 (165)	250 (339)	300 (407)	1-5/8
GTDBB-18P80	18”	80	15.74 (400)	0.38 (9.7)	20-1/8 (511)	1/4	2	6-1/2 (165)	250 (339)	300 (407)	1-5/8
GTDBB-18P40	18”	40	16.50 (419)	0.38 (9.7)	20-1/8 (511)	1/4	2	6-1/2 (165)	250 (339)	300 (407)	1-5/8

Questions? Contact EST Group Customer Service at any of the following locations.

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Sales Part Number	Pipe Size	Pipe SCH	Plug OD [in (mm)]	Clearance Between Plug & Pipe [in (mm)]	Length [in (mm)]	Fill/Vent NPT	Upstream NPT	Distance Between Seals [in (mm)]	Normal Install. Torque [Ft-Lbs (N-m)]	Maximum Install. Torque [Ft-Lbs (N-m)]	Deep Socket Size [in]
GTDBB-18PSTD	18"	STD	16.87 (428)	0.38 (9.7)	20-1/8 (511)	1/4	2	6-1/2 (165)	275 (373)	325 (441)	1-5/8
GTDBB-20P80	20"	80	17.56 (446)	0.38 (9.7)	21-3/8 (543)	1/4	2	6-1/2 (165)	225 (305)	275 (373)	1-5/8
GTDBB-20P40	20"	40	18.43 (468)	0.38 (9.7)	21-3/8 (543)	1/4	2	6-1/2 (165)	175 (237)	225 (305)	1-5/8
GTDBB-20PSTD	20"	20/STD	18.87 (479)	0.38 (9.7)	21-3/8 (543)	1/4	2	6-1/2 (165)	225 (305)	275 (373)	1-5/8
GTDBB-24P80	24"	80	21.18 (538)	0.38 (9.7)	22-7/8 (581)	1/4	2	6-1/2 (165)	275 (373)	325 (441)	1-5/8
GTDBB-24P40	24"	40	22.24 (565)	0.38 (9.7)	22-7/8 (581)	1/4	2	6-1/2 (165)	300 (407)	350 (475)	1-5/8
GTDBB-24PSTD	24"	20/STD	22.87 (581)	0.38 (9.7)	22-7/8 (581)	1/4	2	6-1/2 (165)	275 (373)	325 (441)	1-5/8

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