

2026 Product & Price Catalog

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A background photograph of a wastewater treatment facility. A male worker in a white hard hat and a high-visibility vest is visible on the left, looking down at a piece of equipment. The scene is filled with industrial structures, pipes, and equipment, all bathed in a blue and green color palette.

Opus Water understands the intricate nature of water infrastructure. It's a complex symphony of connectivity. Every part plays an essential role, requiring unparalleled engineering and craftsmanship to ensure a standout performance every time. We focus on offering the highest quality reliable products for all your wastewater needs, including the full array of Plug Technology pipe plugs and testing equipment for mission-critical moments.

Behind the products is a values-driven team that supports you every step of the way. Opus Water conducts some of the industry's best training to ensure safety and success when using our products. Our responsive customer service works to make sure you have what you need, when and where you need it. And we are always working to improve products and processes with you in mind so that our innovation enhances the value of what Opus can do for you.

Opus Water is committed to setting the high-water mark for functional, durable solutions artfully engineered to deliver water safely.

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MULTI-SIZE PLUGSTERS

Our innovative manufacturing process allows our 15"-30" and larger plugs to be vulcanized in one cure. This process also allows the use of high strength cording throughout the plug and around each end of the plug to ensure maximum strength and durability.

Our Multi-Size Plugsters are ideal for rental customers because each plug will cover several different pipe sizes which allows better utilization of the asset. Our Multi-Size Plugsters are designed specifically for either blocking flow or holding air/vacuum pressure.

Our Multi-Size Plugsters natural rubber construction maximizes the flexibility of our plugs in order to bend the plugs at a 90 degree angle which allows for easy installation.

Removable/replaceable 1/4" QD nipples are standard on all Plugsters 6"-10" and larger while plugs smaller include both 1/8" QD nipples and 1/8" tank valve.



RECOMMENDED APPLICATIONS:

Plugsters are designed for blocking flow, air test (back side) and vacuum testing.

RECOMMENDED OPTIONAL ACCESSORIES:

Fill Kits/Retrieval Rope with Gauge

Max-Sleeves Available for plugs 12"-18" and larger

Our durable Multi-Size Plugsters work in any pipe that falls inside the plug's size usage range.



Optional Max-Guard (relief valve) on 12"-18" plugs and 12"-24". Relief valve is standard on all plugs 15"-30" and larger.

Part #	Description	Size Usage Range		Maximum Allowable		Required Inflation Pressure	Weight	Deflated Diameter	Deflated Length	Inflation Fitting	Eye Bolt Size & Quantity	List Price
		Minimum Diameter	Maximum Diameter	Back Pressure PSI and Feet of Head								
0200-34	3-4" Plugster	2.9" 75 mm	4.3" 109 mm	20 PSI 46 Ft	35 PSI	0.66 lbs	2.75"	6"	1/8" QD Nipple and Tank Valve (removable)	(1) 1/4" Front-side	\$132.30	
0200-46	4"- 6" Plugster	3.75" 100 mm	6.4" 162 mm	17 PSI 39 Ft	45 PSI	1.5 lbs	3.5"	9"	1/8" QD Nipple and Tank Valve (removable)	(1) 1/4" Front-side	\$138.60	
0200-48	4"- 8" Plugster	3.75" 100 mm	8.3" 210 mm	15 PSI 35 Ft	45 PSI	2.5 lbs	3.5"	16"	1/8" QD Nipple and Tank Valve (removable)	(1) 1/4" Front-side	\$393.75	
0200-610	6"-10" Plugster	5.5" 150 mm	10.58" 268 mm	13 PSI 30 Ft	30 PSI	4.5 lbs	5.2"	17.25"	1/4" QD Nipple (removable)	(1) 3/8" Front-side (1) 3/8" Optional Backside	\$430.50	

MULTI-SIZE PLUGSTERS



- All size plugs are designed to fit through 24" manhole openings.
- 1/4" and 1/2" inflation ports (f) NPT for all plugs 15"-30" and larger.
- Optional Max-Guard for all plugs 12"-18" and 12"-24".
- Max-Guard is standard on all plugs 15"-30" and larger.
- Optional Max-Sleeves for all plugs 12"-18" and larger.
- Natural rubber construction gives our plugs the flexibility to bend past 90 degrees making installation painless.

Part #	Description	Size Usage Range		Maximum Allowable		Weight	Deflated Diameter	Deflated Length	Inflation Fitting	Eye Bolt Size & Quantity	List Price
		Minimum Diameter	Maximum Diameter	Back Pressure PSI and Feet of Head	Required Inflation Pressure						
0200-612	6"-12" Plugster	5.5" 150 mm	12.30" 310 mm	11 PSI 25 Ft	35 PSI	6 lbs	5.2"	23"	1/4" QD Nipple (removable)	(1) 3/8" Front-side (1) 3/8" Optional Backside	\$556.50
0200-812	8"-12" Plugster	7" 200 mm	12.64" 321 mm	13 PSI 30 Ft	25 PSI	6.75 lbs	6.75"	19"	1/4" QD Nipple (removable)	(1) 3/8" Front-side (1) 3/8" Optional Backside	\$504.00
0200-1218	12"-18" Plugster	11" 200 mm	18.50" 479 mm	13 PSI 30 Ft	25 PSI	24 lbs	10.75	28"	1/4" QD Nipple (removable)	(2) 3/8" Front-side (1) 3/8" Optional Backside	\$1,076.25
0200-1218 MGMS	12"-18" Plugster With Max-Guard (relief valve) Max-Sleeve Installed	11" 200 mm	18.50" 479 mm	13 PSI 30 Ft	25 PSI	35 lbs	10.75	28"	1/4" QD Nipple (removable)	(1) 3/8" Front-side (1) 3/8" Optional Backside	\$1,853.25
0200-1224	12"-24" Plugster	11" 300 mm	24.5" 600 mm	13 PSI 30 Ft	30 PSI	27 lbs	10.75	37"	1/4" QD Nipple (removable)	(2) 3/8" Front-side (1) 3/8" Optional Backside	\$1,149.75



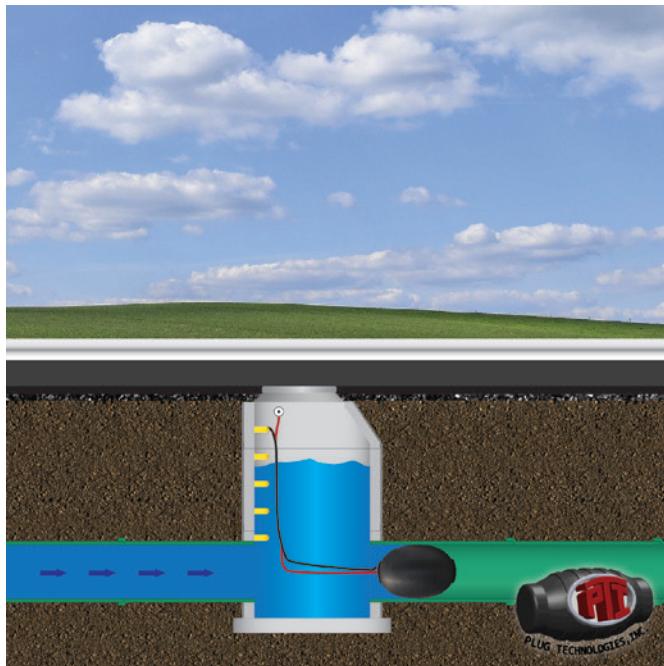
4-8" Plugster and 6'12" Plugster and Tester Plugs



Max-Guard (relief valve) helps protect your plug from over inflation caused by operator error or malfunctioning gauge.

MULTI-SIZE PLUGSTERS

Part #	Description	Size Usage Range		Maximum Allowable									List Price
		Minimum Diameter	Maximum Diameter	Back Pressure PSI and Feet of Head	Required Inflation Pressure	Weight	Deflated Diameter	Deflated Length	Inflation Fitting	Eye Bolt Size & Quantity			
0200-1224 MGMS	12"-24" Plugster With Max-Guard (relief valve) Max-Sleeve Installed	11" 300 mm	24.5" 600 mm	13 PSI 30 Ft	30 PSI	41 lbs	10.75	37"	1/4" QD Nipple (removable)	(1) 3/8" Front-side (1) 3/8" Optional Backside	\$2,152.50		
0200-1530 MGMS	15"-30" Plugster With Max-Guard (relief valve) and Max-Sleeve Installed	14" 375 mm	31.5" 800 mm	11 PSI 25 Ft	25 PSI	71 lbs	13.75"	50"	(1) 1/4" QD Nipple (removable) (1) 1/2" NPT (female) (plugged)	(2) 1/2" Front-side (2) 1/2" Optional Backside	\$3,538.50		
0200-1836 MGMS	18"-36" Plugster With Max-Guard (relief valve) and Max-Sleeve Installed	16.5" 420 mm	37.5" 950 mm	11 PSI 25 Ft	25 PSI	95 lbs	16"	60"	(1) 1/4" QD Nipple (removable) (1) 1/2" NPT (female) (plugged)	(2) 1/2" Front-side (2) 1/2" Optional Backside	\$4,583.25		
0200-2448 MGMS	24"-48" Plugster With Max-Guard (relief valve) and Max-Sleeve Installed	22" 610 mm	49.5" 1,220 mm	11 PSI 25 Ft	25 PSI	170 lbs	21"	76"	(1) 1/4" QD Nipple (removable) (1) 1/2" NPT (female) (plugged)	(2) 1/2" Front-side (2) 1/2" Optional Backside	\$6,069.00		
0200-2460 MGMS	24"-60" Plugster With Max-Guard (relief valve) and Max-Sleeve Installed	21" 550 mm	61.5" 1,550 mm	9 PSI 20 Ft	25 PSI	240 lbs	21"	95"	(1) 1/4" QD Nipple (removable) (1) 1/2" NPT (female) (plugged)	(2) 1/2" Front-side (2) 1/2" Optional Backside	\$11,366.25		



Our Multi-Size Plugsters are the most economical multi-size plugs in the industry and are great for contractors or municipalities that are working with different diameter pipes but do not need air testing capabilities.

**CAUTION: ALWAYS
BLOCK PLUGS WHEN
CONDUCTING AIR TESTS!**

SINGLE SIZE PLUGSTERS

Our Single Size Plugsters can be used in a variety of different applications including blocking flow, vacuum testing and air testing (backside only). As single size plugs our Plugsters have a size range that covers one nominal pipe size, including 6", 8", 10", and 12" pipes.

Plugsters are made from high quality natural rubber making them very durable and long lasting. Plugsters have either a 1/4" or 3/8" eyebolt for lifting and lowering the plug.



RECOMMENDED APPLICATIONS:

Blocking flow, vacuum testing, air testing (back side only).

RECOMMENDED ACCESSORIES:

Part Number: 0410-20 20' Fill Kit/ Retrieval Rope with swivel Ball connection no gauge connected to 0100-08.



Our Single Size Plugsters are our most economical blocking plugs.

Part #	Description	Size Usage Range		Maximum Allowable Back Pressure PSI and Feet of Head	Required Inflation Pressure	Weight	Deflated Diameter	Deflated Length	Inflation Fitting	Eye Bolt Size & Quantity	Bypass Size (s)	List Price
		Minimum Diameter	Maximum Diameter									
0100-06	6" Plugster	5" 127mm	6.4" 162mm	15 PSI 34 FT	25 PSI	2.5 Lbs	4.75"	6"	1/8" Tank Valve	(1) 1/4"	None	\$117.60
0100-08	8" Plugster	6.75" 171mm	8.55" 217mm	15 PSI 34 FT	25 PSI	5 Lbs	6.5"	8"	1/4" Tank Valve	(1) 3/8"	None	\$196.35
0100-10	10" Plugster	8.75" 222mm	10.58" 268mm	15 PSI 34 FT	25 PSI	8 Lbs	8.5"	10"	1/4" Tank Valve	(1) 3/8"	None	\$291.90
0100-12	12" Plugster	10.75" 273mm	12.64" 321mm	15 PSI 34 FT	25 PSI	12 Lbs	10.5"	12"	1/4" Tank Valve	(1) 3/8"	None	\$346.50

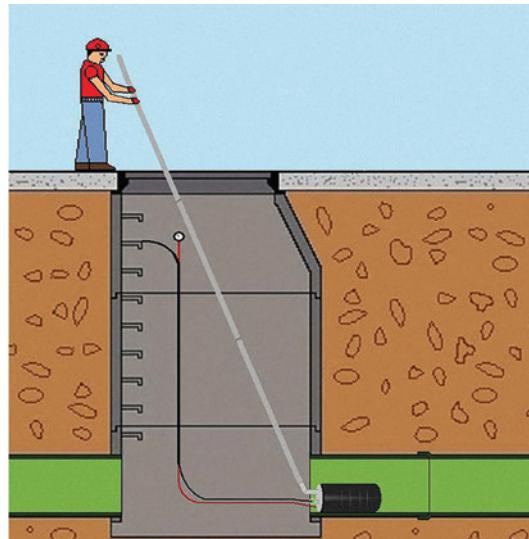
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REMOTE PLACEMENT PLUGS

Sometimes you need to install a plug in a confined or difficult to access space that makes getting the plug into the pipe dangerous or impossible. Multi-Size Remote Placement Plugs make it easy to install the pipe plug into the pipe from street level. This saves you time and frustration when working on hard to reach projects.

Our Multi-Size Remote Placement Plugs come standard with a removable and replaceable 1/4-inch QD Nipple and an easy pull pin so you can rapidly adjust the angle of the plug during installation.

Multi-Size Remote Placement Plugs come with lightweight, easy snap poles so you can lift and lower the plugs with ease, even into a deep manhole.



Part #	Description	Size Usage Range		Maximum Allowable Back Pressure PSI and Feet of Head	Required Inflation Pressure	Weight	Deflated Diameter	Deflated Length	Inflation Fitting	Eye Bolts Size & Quantity	List Price
0215-610	6"-10" RPP	6" 150 mm	10.58" 268mm	13 PSI 30 Ft	30 PSI	6 lbs	5"	17.25"	1/4" QD Nipple Removable	3/8"(1) &(1) Optional 3/8" Backside Eyebolt	\$472.50
0215-812	8"-12" RPP	8" 200 mm	12.64" 321mm	13 PSI 30 Ft	25 PSI	8 lbs	6.75"	19"	1/4" QD Nipple Removable	3/8"(1) &(1) Optional 3/8" Backside Eyebolt	\$619.50

MULTI-SIZE GUZZLERS

Our Max-Guzzlers are specifically designed for bypassing flow. The male nipple with NPT threads make connecting our plugs to the bypass hoses trouble-free.

8"-12" Guzzler plug includes a 3" plug installed in the bypass with 1/2" and 1/4" air test ports which allow the plug to be used for air testing without purchasing an extra conversion plug.

Optional Max-Guard on 12"-18" and 12"-24" plugs. Max-Guard is standard on plugs 15"-30" and larger. The Max-Guard relief valve helps prevent the plug from being over inflated due to operator error or malfunctioning gauges.

Our 24"-60" plug will seal 54" and 60" pipe and still fit through a 24" manhole opening.



RECOMMENDED APPLICATIONS:

250 Series: Bypassing flow, gravity bypassing, air testing (test through and blocking), vacuum Testing.

270 Series: Bypassing flow (pumping) and gravity bypassing (not recommended for air testing).

260 Series: Gravity bypassing (not recommended for air testing).



Our lightweight aluminum bypasses tubes (all plugs 12"-24" and smaller) make our Guzzler and Max-Guzzler plugs lightweight and easy to install.

Flexible Bypasses on all plugs 15"-30" and larger allows for simple installation.

Part #	Description	Size Usage Range		Maximum Allowable Back Pressure PSI and Feet of Head	Required Inflation Pressure	Weight	Deflated Diameter	Deflated Length	Inflation Fitting	Eye Bolt Size & Quantity	Bypass Size (connection)	List Price
		Minimum Diameter	Maximum Diameter									
0250-46	4" - 6" Guzzler Aluminum Threaded Bypass with 3/4" Female NPT Connection	3.75" 95 mm	6.4" 162 mm	17 PSI 39 Ft	45 PSI	2.25 lbs	3.5"	9"	1/8" Tank Valve (removable) and QD Nipple	(1) 1/4" Eyebolt Front-side	3/4" NPT (female) Threaded	\$225.75
0264-68	6"-8" Max-Flow Guzzler with 4" OD Aluminum Bypass with Slip Fit Connection (no threads)	5.75" 150 mm	8.5" 215 mm	10 PSI 23 Ft	40 PSI	7.5 lbs	5.5"	14"	1/4" QD Nipple (removable)	(1) 1/4" x 1-1/8" Galvanized Shackles Front-side	4"(male) Tube (Slip-Fit) No Threads	\$504.00

MULTI-SIZE GUZZLERS

Part #	Description	Size Usage Range		Maximum Allowable Back Pressure PSI and Feet of Head	Required Inflation Pressure	Weight	Deflated Diameter	Deflated Length	Inflation Fitting	Eye Bolt Size & Quantity	Bypass Size (connection)	List Price
		Minimum Diameter	Maximum Diameter									
0274-610	6"-10" Max-Guzzler with 4" Threaded Aluminum Bypass with 4" Male NPT Connection	5.75" 146 mm	10.5" 250 mm	10 PSI 23 Ft	35 PSI	13 lbs	5.6"	23"	1/4" OD Nipple (removable)	(1) 1/4" x 1-1/8" Galvanized Shackles Front-side	4" NPT (male) Threaded	\$750.75
0274-812	8"-12" Max-Guzzler with 4" Threaded Aluminum Bypass with 4" Male NPT Connection	7" 177 mm	12.64" 321 mm	10 PSI 23 Ft	45 PSI	20 IBS	6.5"	26.5"	1/4" OD Nipple (removable)	(1) 1/4" x 1-1/8" Galvanized Shackles Front-side	4" NPT (male) Threaded	\$934.50
0250-812	8"-12" Guzzler with 3" Threaded Aluminum Bypass with 3" Female NPT Connection	7" 177 mm	12.64" 321 mm	13 PSI 30 Ft	25 PSI	11.5 lbs	6.75"	19"	1/4" OD Nipple (removable)	(1) 3/8" Eyebolt Front-side	3" NPT (female) Threaded	\$740.25
0276-812	8"-12" Max-Guzzler with 6" Threaded Aluminum Bypass with 6" Male NPT Connection	7" 175 mm	12.64" 321 mm	10 PSI 23 Ft	35 PSI	20 lbs	7.5"	25"	1/4" OD Nipple (removable)	(1) 1/4" x 1-1/8" Galvanized Shackles Front-side	6" NPT (male) Threaded	\$992.25
0274-1218	12"-18" Guzzler with 4" Threaded Aluminum Bypass with 4" Male NPT Connection	10.75" 300 mm	18.5" 470 mm	10 PSI 23 Ft	35 PSI	47 lbs	10.5"	32"	1/4" OD Nipple (removable)	(1) 1/4" x 1-1/8" Galvanized Shackles Front-side	4" NPT (male) Threaded	\$1,627.50
0274-1218 MGMS	12"-18" Guzzler with 4" Threaded Aluminum Bypass and Max-Guard (relief valve) and Max-Sleeve Installed with 4" Male NPT Connection	10.75" 300 mm	18.5" 470 mm	10 PSI 23 Ft	35 PSI	47 lbs	10.5"	32"	1/4" OD Nipple (removable)	(1) 1/4" x 1-1/8" Galvanized Shackles Front-side	4" NPT (male) Threaded	\$2,289.00

The Max-Guard relief valve helps prevent the plug from being over inflated due to operator error or malfunctioning gauges.



Optional Max-Guard on 12"-18" and larger plugs.

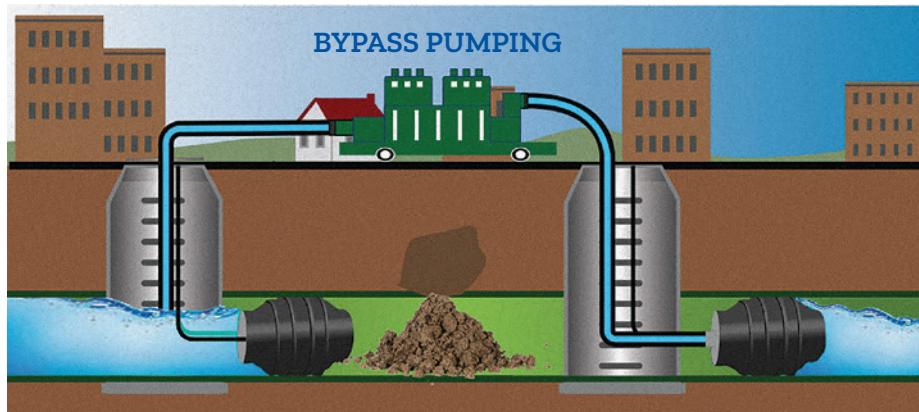
0274-1224MGMS

CAUTION: ALWAYS BLOCK PLUGS WHEN CONDUCTING AIR TESTS!

MULTI-SIZE GUZZLERS

Part #	Description	Size Usage Range			Maximum Allowable Back Pressure PSI and Feet of Head	Required Inflation Pressure	Weight	Deflated Diameter	Deflated Length	Inflation Fitting	Eye Bolt Size & Quantity	Bypass Size (connection)	List Price
		Minimum Diameter	Maximum Diameter										
0276-1218	12"-18" Max-Guzzler with 6" Threaded Aluminum Bypass with 6" Male NPT Connection.	10" 254 mm	18.5" 470 mm	10 PSI 23 Ft	35 PSI	48 lbs	9.5"	30.75"		1/4" OD Nipple (removable)	(1) 1/4" x 1-1/8" Galvanized Shackles Front-side	6" NPT (male) Threaded	\$1,942.50
0274-1224	12"-24" Max-Guzzler with 4" Threaded Aluminum Bypass with 4" Male NPT Connection	10" 254 mm	24.5" 622 mm	5 PSI 11.5 Ft	45 PSI	59 lbs	9.5"	42.5"		1/4" OD Nipple (removable)	(1) 1/4" x 1-1/8" Galvanized Shackles Front-side	4" NPT (male) Threaded	\$1,884.75
0276-1224	12"-24" Max-Guzzler with 6" Threaded Aluminum Bypass with 6" Male NPT Connection	10" 254 mm	24.5" 622 mm	5 PSI 11.5 Ft	45 PSI	61 lbs	9.5"	42.5"		1/4" OD Nipple (removable)	(1) 1/4" x 1-1/8" Galvanized Shackles Front-side	6" NPT (male) Threaded	\$2,094.75
0276-1224 MGMS	12"-24" Guzzler with 6" Threaded Aluminum Bypass and Max-Guard (relief valve) and Max-Sleeve Installed with 6" Male NPT Connection	10" 254 mm	24.5" 622 mm	5 PSI 11.5 Ft	45 PSI	77 lbs	9.5"	42.5"		1/4" OD Nipple (removable)	(1) 1/4" x 1-1/8" Galvanized Shackles Front-side	6" NPT (male) Threaded	\$2,808.75
0250-1530 MGMS	15"-30" Guzzler with 4" Flexible Bypass and Max-Guard (relief valve) and Max-Sleeve Installed with 4" Male NPT Connection	14.25" 362 mm	31.5" 775 mm	11 PSI 25 Ft	25 PSI	90 lbs	14"	58"		(1) 1/4" OD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) 1/2" Eyebolt Optional Backside	4" NPT (male) Threaded	\$4,158.00
0250-1836 MGMS	18"-36" Guzzler with 4" Flexible Bypass and Max-Guard (relief valve) and Max-Sleeve Installed with 4" Male NPT Connection	17" 430 mm	37.5" 950 mm	11 PSI 25 Ft	25 PSI	118 lbs	16.5"	65"		(1) 1/4" OD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) 1/2" Eyebolt Optional Backside	4" NPT (male) Threaded	\$5,271.00
0250-2448 MGMS	24"-48" Guzzler with 4" Flexible Bypass and Max-Guard (relief valve) and Max-Sleeve Installed with 4" Male NPT Connection	22" 558 mm	49.5" 1,257 mm	11 PSI 25 Ft	25 PSI	190 lbs	21"	82"		(1) 1/4" OD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) 1/2" Eyebolt Optional Backside	4" NPT (male) Threaded	\$7,155.75

MULTI-SIZE GUZZLERS



Part #	Description	Size Usage Range			Maximum Allowable Back Pressure PSI and Feet of Head	Required Inflation Pressure	Weight	Deflated Diameter	Deflated Length	Inflation Fitting	Eye Bolt Size & Quantity	Bypass Size (connection)	List Price
		Minimum Diameter	Maximum Diameter	PSI and Feet of Head									
0276-2448 MG	24"-48" Guzzler with 6" Flexible Bypass and Max-Guard (relief valve) with 4" Male NPT Connection	22" 558 mm	49.5" 1,257 mm	11 PSI 25 Ft	25 PSI	150 lbs	21"	82"	(1) 1/4" QD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) 1/2" Eyebolt Optional Backside	6" NPT (male) Threaded		\$6,168.75
0276-2448 MGMS	24"-48" Guzzler with 6" Flexible Bypass and Max-Guard (relief valve) and Max-Sleeve Installed with 6" Male NPT Connection	22" 558 mm	49.5" 1,257 mm	11 PSI 25 Ft	25 PSI	200 lbs	21"	82"	(1) 1/4" QD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) 1/2" Eyebolt Optional Backside	6" NPT (male) Threaded		\$7,764.75
0250-2460 MG	24"-60" Guzzler With 4" Flexible Bypass and Max-Guard (relief valve) with 4" Male NPT Connection	21" 533 mm	61.5" 1560 mm	9 PSI 20 Ft	25 PSI	200 lbs	20.5"	95"	(1) 1/4" QD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) 1/2" Eyebolt Optional Backside	4" NPT (male) Threaded		\$10,489.50
0250-2460 MGMS	24"-60" Guzzler With 4" Flexible Bypass and Max-Guard (relief valve) and Max-Sleeve Installed with 4" Male NPT Connection	21" 533 mm	61.5" 1560 mm	9 PSI 20 Ft	25 PSI	265 lbs	21"	95"	(1) 1/4" QD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) 1/2" Eyebolt Optional Backside	4" NPT (male) Threaded		\$12,852.00
0276-2460 MG	24"-60" Guzzler With 6" Flexible Bypass and Max-Guard (relief valve) with 6" Male NPT Connection	21" 533 mm	61.5" 1560 mm	9 PSI 20 Ft	25 PSI	215 lbs	20.5"	95"	(1) 1/4" QD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) 1/2" Eyebolt Optional Backside	6" NPT (male) Threaded		\$10,941.00
0276-2460 MGMS	24"-60" Guzzler With 6" Flexible Bypass and Max-Guard (relief valve) and Max-Sleeve Installed with 6" Male NPT Connection	21" 533 mm	61.5" 1560 mm	9 PSI 20 Ft	25 PSI	270 lbs	21"	95"	(1) 1/4" QD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) 1/2" Eyebolt Optional Backside	6" NPT (male) Threaded		\$13,345.50

SINGLE SIZE GUZZLERS

Single Size Guzzler plugs are our most versatile and economical inflatable bypass plugs. Aluminum bypasses make these plugs lightweight and easy to install.

Our Guzzler plugs come standard with a removable 1/8" or 1/4" tank valve (tire valve).

The 3" plastic molded two port (1/2" and 1/4") Guzzler plug makes it easy to convert our Guzzlers into Testers without purchasing any additional conversion caps/plugs.

All single size plugs include a removable eyebolt (1/4" or 3/8") for lifting and lowering the plug.

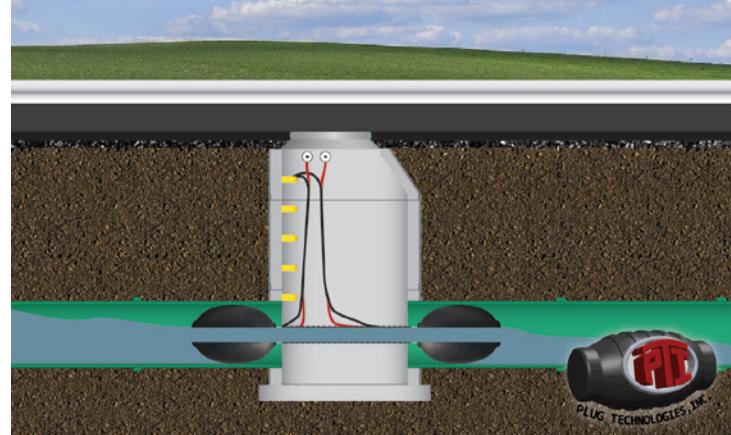


RECOMMENDED APPLICATIONS:

Blocking flow, air testing, bypassing pumping flow and gravity bypassing.



Our natural rubber single size inflatable Guzzler plugs are used in a variety of different applications including blocking flow, bypassing and air testing.



Part #	Description	Size Usage Range		Maximum Allowable Back Pressure PSI and Feet of Head	Required Inflation Pressure	Weight	Deflated Diameter	Deflated Length	Inflation Fitting	EyeBolt Size & Quantity	Bypass Size (s)	List Price
		Minimum Diameter	Maximum Diameter									
0150-06	6" Guzzler	5" 127mm	6.4" 162mm	15 PSI 34 Ft	35 PSI	3 lbs	4.75"	6"	1/8" Tank Valve (removable)	(1) 1/4"	1.5" NPT (F)	\$189.00
0150-08	8" Guzzler	6.75" 171mm	8.55" 217mm	15 PSI 34 Ft	35 PSI	6.5 lbs	6.5"	8"	1/4" Tank Valve (removable)	(1) 3/8"	3" NPT (F)	\$236.25
0150-10	10" Guzzler	8.75" 222mm	10.58" 268mm	15 PSI 34 Ft	35 PSI	10 lbs	8.5"	10"	1/4" Tank Valve (removable)	(1) 3/8"	3" NPT (F)	\$309.75
0150-12	12" Guzzler	10.75" 273mm	12.64" 321mm	15 PSI 34 Ft	35 PSI	14.75 lbs	10.5"	12"	1/4" Tank Valve (removable)	(1) 3/8"	3" NPT (F)	\$451.50

CAUTION: ALWAYS BLOCK PLUGS WHEN CONDUCTING AIR TESTS!

MULTI-SIZE TESTERS

Our Tester plugs come standard with 3/4" and 1/4" bypasses(except 4"-6" and 4"-8" which come with (2) 1/4" bypass ports) allowing for easy transition from a blocking plug to an air testing plug.

Inflation Fitting: Removable/replaceable 1/4" QD Nipple standard on all Testers . Our 15"-30" and larger plugs also include an additional 1/2" port for faster deflation. A 1/2" port is not recommended for inflation of the plugs.

Our Flexible bypasses on all 12"-18" and larger plugs make our Tester flexible and easy to install.

Our innovative manufacturing process allows our 15"-30" and larger plugs to be vulcanized in one cure. Our use of high strength cording throughout the plug and around each end of the plug ensures maximum strength and durability.



Features:

- Max-Guard relief valve is standard on all 15"-30" and larger Tester plugs and is optional on 12"-18" and 12"-24" Tester plugs. The Max-Guard relief valve helps prevent the plug from being over inflated due to user error or malfunctioning gauges.
- Optional Max-Sleeve (MS) is available on all plugs 12"-18" and larger.
- Zinc plated for superior corrosion resistance on all plugs

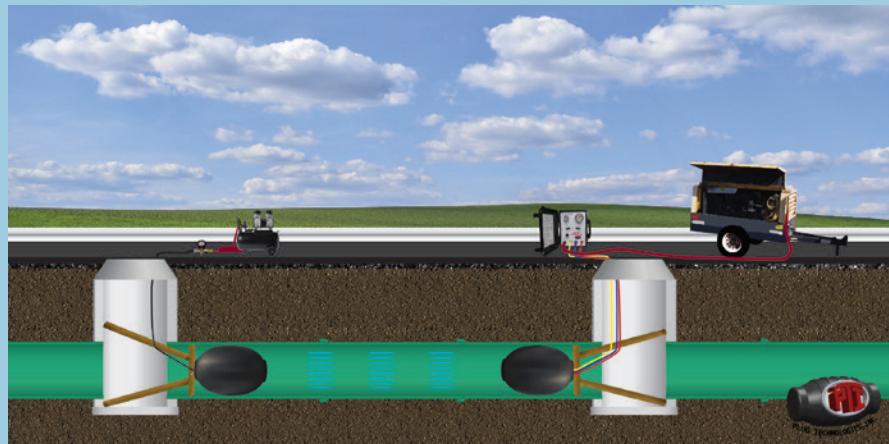
Part #	Description	Size Usage Range		Maximum Allowable Back Pressure PSI and Feet of Head	Required Inflation Pressure	Weight	Deflated Diameter	Deflated Length	Inflation Fitting	Eye Bolt Size & Quantity	Bypass Size(s)/ Connection	List Price
		Minimum Diameter	Maximum Diameter									
0225-46	4"-6" Tester	3.75" 95 mm	6.4" 162 mm	17 PSI 39 Ft	45 PSI	2.5 lbs	3.5"	10"	1/8" Quick Disconnect Nipple (removable)	(1) 1/4" Front-side	(2) 1/4" NPT (female)	\$336.00
0225-48	4"-8" Tester with (2) 1/4" Test Ports	3.75" 95 mm	8.25" 210 mm	15 PSI 34 Ft	35	4 lbs	3.5"	19"	1/8" Quick Disconnect Nipple (removable)	(1) 1/4" Front-side	(2) 1/4" NPT (female)	\$430.50
0225-610	6"-10" Tester	5.5" 150 mm	10.58" 268 mm	13 PSI 30 Ft	25 PSI	6.5 lbs	5.25"	16"	1/4" Quick Disconnect Nipple (removable)	(1) 3/8" Front-side (1) Optional 3/8" Back-side	3/4" NPT (female) 1/4" NPT (female)	\$504.00

MULTI-SIZE TESTERS



RECOMMENDED APPLICATIONS:

Air Testing (front and back side), Blocking Flow, Vacuum Testing.



Part #	Description	Size Usage Range		Maximum Allowable Back Pressure PSI and Feet of Head	Required Inflation Pressure	Weight	Deflated Diameter	Deflated Length	Inflation Fitting	Eye Bolt Size & Quantity	Bypass Size(s)/ Connection	List Price
		Minimum Diameter	Maximum Diameter									
0225-612	6"-12" Tester	5.5" 150 mm	12.5" 317 mm	11 PSI 25 Ft	30 PSI	10 lbs	5.25"	27"	1/4" Quick Disconnect Nipple (removable)	(1) 3/8" Front-side (1) Optional 3/8" Back-side	3/4" NPT (female) 1/4" NPT (female)	\$701.40
0225-812	8"-12" Tester	7.0" 200 mm	12.64" 321 mm	13 PSI 30 Ft	25 PSI	10 lbs	6.5"	19"	1/4" Quick Disconnect Nipple (removable)	(1) 3/8" Front-side (1) Optional 3/8" Back-side	3/4" NPT (female) 1/4" NPT (female)	\$645.75
0225-1218	12"-18" Tester	11" 300 mm	18.5" 450 mm	13 PSI 30 Ft	25 PSI	31 lbs	10.75"	28"	1/4" Quick Disconnect Nipple (removable)	(1) 3/8" Front-side (1) Optional 3/8" Back-side	3/4" NPT (female) 1/4" NPT (female)	\$1,260.00
0225-1218 MGMS	12"-18" Tester With Max-Guard (relief valve) and Max-Sleeve Installed	11" 300 mm	18.5" 450 mm	13 PSI 30 Ft	25 PSI	44 lbs	10.75"	28"	1/4" Quick Disconnect Nipple (removable)	(1) 3/8" Front-side (1) Optional 3/8" Back-side	3/4" NPT (female) 1/4" NPT (female)	\$2,131.50

Cross-woven fabric gives our plugs strength and durability.

**CAUTION: ALWAYS
BLOCK PLUGS WHEN
CONDUCTING AIR TESTS!**

MULTI-SIZE TESTERS

Part #	Description	Size Usage Range										List Price
		Minimum Diameter	Maximum Diameter	Maximum Allowable Back Pressure PSI and Feet of Head	Required Inflation Pressure	Weight	Deflated Diameter	Deflated Length	Inflation Fitting	Eye Bolt Size & Quantity	Bypass Size(s)/ Connection	
0225-1224	12"-24" Tester	11" 300 mm	24.5" 600 mm	13 PSI 30 Ft	30 PSI	37 lbs	10.75"	37"	1/4" Quick Disconnect Nipple (removable)	(1) 3/8" Front-side (1) Optional 3/8" Back-side	3/4" NPT (female) 1/4" NPT (female)	\$1,459.50
0225-1224 MGMS	12"-24" Tester With Max-Guard (relief valve) and Max-Sleeve Installed	11" 300 mm	24.5" 600 mm	13 PSI 30 Ft	30 PSI	51 lbs	10.75"	37"	1/4" Quick Disconnect Nipple (removable)	(1) 3/8" Front-side (1) Optional 3/8" Back-side	3/4" NPT (female) 1/4" NPT (female)	\$2,415.00
0225-1530 MGMS	15"-30" Tester With Max-Guard (relief valve) and Max-Sleeve Installed	14" 375 mm	31.5" 800 mm	11 PSI 25 Ft	25 PSI	72 lbs	13.75"	50"	(1) 1/4" QD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) Optional 1/2" Back-side	3/4" NPT (female) 1/4" NPT (female)	\$3,785.25

Max-Guard (relief valve) is standard on all plugs 15"-30" and larger. Optional Max-Guard (relief valve) is available on 12"-18" and 12"-24" plugs just add MG to the part number.

MG on the end of a part number includes a Max-Guard relief valve. MGMS on the end of a part number includes an optional Max-Guard relief valve and Max-Sleeve Installed.



0225-1530MGMS

CAUTION: ALWAYS
BLOCK PLUGS WHEN
CONDUCTING AIR TESTS!

MULTI-SIZE TESTERS

Natural rubber construction gives our Tester plugs a sizable usage range and long lasting durability.

Part #	Description	Size Usage Range		Maximum Allowable Back Pressure PSI and Feet of Head	Required Inflation Pressure	Weight	Deflated Diameter	Deflated Length	Inflation Fitting	Eye Bolt Size & Quantity	Bypass Size(s)/ Connection	List Price
		Minimum Diameter	Maximum Diameter									
0225-1836 MGMS	18"-36" Tester With Max-Guard (relief valve) and Max-Sleeve Installed	17" 420 mm	37.5" 950 mm	11 PSI 25 Ft	25 PSI	120 lbs	16"	60"	(1) 1/4" QD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) Optional 1/2" Back-side	3/4" NPT (female) 1/4" NPT (female)	\$4,803.75
0225-2448 MGMS	24"-48" Tester With Max-Guard (relief valve) and Max-Sleeve Installed	22" 610 mm	49.5" 1,250 mm	11 PSI 25 Ft	25 PSI	174 lbs	21"	76"	(1) 1/4" QD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) Optional 1/2" Back-side	3/4" NPT (female) 1/4" NPT (female)	\$6,179.25
0225-2448 MGMSBI	24"-48" Tester With Max-Guard (relief valve) and Max-Sleeve Installed with 3/4" NPT (female) and 1/4" NPT (female) Bypass Ports Threaded on Backside for Back Inflation	22" 610 mm	49.5" 1,250 mm	11 PSI 25 Ft	25 PSI	174 lbs	21"	76"	(1) 1/4" QD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) Optional 1/2" Back-side	3/4" NPT (female) 1/4" NPT (female)	\$6,336.75
0225-2460 MGMS	24"-60" Tester With Max-Guard (relief valve) and Max-Sleeve Installed	22" 610 mm	61.5" 1,560 mm	9 PSI 20 Ft	25 PSI	245 lbs	21"	95"	(1) 1/4" QD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) Optional 1/2" Back-side	3/4" NPT (female) 1/4" NPT (female)	\$11,909.10
0225-2460 MGMSBI	24"-60" Tester With Max-Guard (relief valve) and Max-Sleeve Installed with 3/4" NPT (female) and 1/4" NPT (female) Bypass Ports With Threaded Ports on both the Front and Back Cover Plates for Back Inflation	22" 610 mm	61.5" 1,560 mm	9 PSI 20 Ft	25 PSI	180 lbs	20.5"	95"	(1) 1/4" QD Nipple (removable) (1) 1/2" (F) NPT (plugged)	(2) 1/2" Eyebolt Front-side (2) Optional 1/2" Back-side	3/4" NPT (female) 1/4" NPT (female)	\$12,066.60

MAX-SLEEVES

Our Max-Sleeves were designed to be an extra protective layer (1/4" natural rubber) over our multi-size plugs sizes 12"-18" and larger.

Part Number	Description	Length	Weight	List Price
0600-1218	12"-18" Max-Sleeve	28"	10 lbs	\$551.25
0600-1224	12"-24" Max-Sleeve	39"	13.25 lbs	\$603.75
0600-1530	15"-30" Max-Sleeve	50.5"	21 lbs	\$771.75
0600-1836	18"-36" Max-Sleeve	60"	35 lbs	\$1,207.50
0600-2448	24"-48" Max-Sleeve	76"	50 lbs	\$1,428.00
0600-2460	24"-60" Max-Sleeve	76"	65 lbs	\$2,189.25

Part Number	Description	List Price
0605-1224	12"-24" and 12"-18" Cable Sleeve Harness Kit	\$44.10
0605-1530	15"-30" Cable Sleeve Harness Kit	\$60.90
0605-1836	18"-36" Cable Sleeve Harness Kit	\$66.15
0605-2448	24"-48" and 24"-60" Cable Sleeve Harness Kit	\$78.75

The Max-Sleeve greatly reduces damage a plug can sustain from pipeline debris, degraded pipes and sharp objects. Plug installation also includes a Cable Sleeve Harness Kit that includes 5/16" coated cable for securing the sleeve to the plugs.

All sleeves (except sleeves for Max-Guzzlers) included four 1/2" eyelets (4) on each end for securing the sleeve to the plug. Each rubber eyelet is reinforced with high strength fabric cording for durability and holding power.

Max-Guzzler sleeves have snugger fittings to help the sleeve stay on the plug. These sleeves do not have eyelets.



0600-1224

AIR TESTING EQUIPMENT



0500-00

0500-00

Max-Flow Control Panel is designed to perform a line acceptance test for a pipe line. The panel is color coded to make it easy to identify and connect to the Max-Flow Triple Hose. The plug pressure regulator allows you to quickly inflate the Tester plug to the proper inflation pressure without over-inflating or underinflating the plug. A durable plastic Pelican case protects the gauges during transport and use.

0500-50

Mini-Max Air Test Kit: This kit connects to the 25' and 50' triple hose (0950-25 and 0950-50) and allows the contractor to control a sewer line air test. Included is a 0-15 PSI test gauge attached to the 1/4" read back hose (yellow). It also includes a 0-60 PSI gauge tree to attached to the 1/4" hose (red) for inflating and deflating the Tester (front) plug. It also includes a ball valve for controlling the air flow into the test area through the 3/4" hose (blue).



0950-25

Max-Flow Triple Hose: The Max-Flow Triple Hose has a 3/4" hose that pressurizes the test area, one 1/4" hose for inflating a Tester plug and one 1/4" hose for reading the pressure back to the test pressure gauge on the control panel. The hoses are color coded to make it simple to identify which hose goes to each connection on the plug and the control panel.

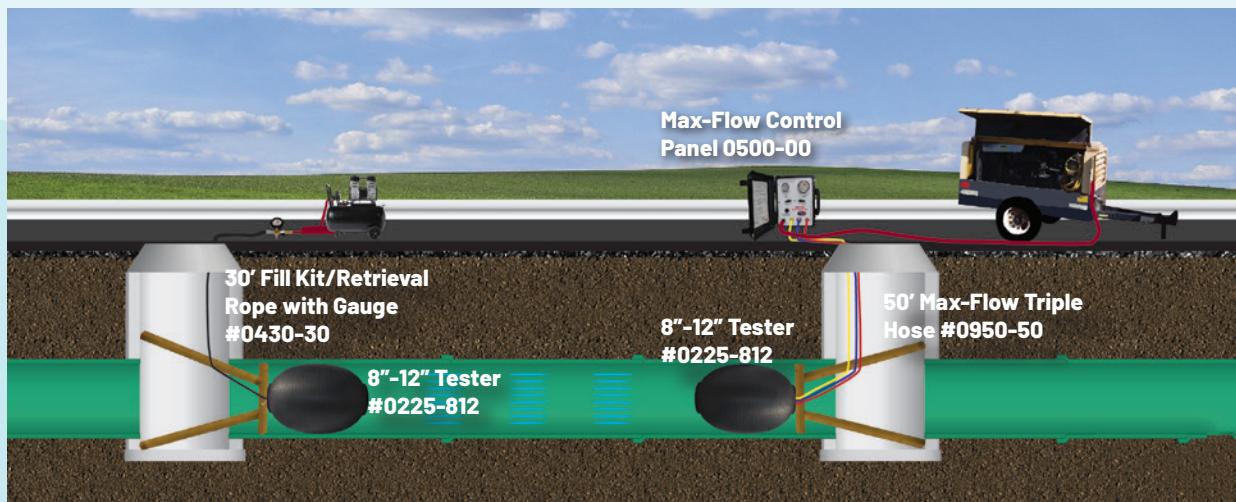
Part numbers:

0950-25 25' Max-Flow Triple Hose

0950-50 50' Max-Flow Triple Hose



0500-50 with 0950-25



AIR TESTING EQUIPMENT



0525-25



0500-00

Max-Flow AT Line Acceptance Kit has everything a contractor needs to perform a sewer line air test (except for the air compressor). Our color coded triple hose has quick disconnect fittings making it easy and fast to properly connect to both the Max-Flow Control Panel and the Tester plug.

Our Max-Flow AT kits include a set of either 6"-10" or 8"-12" Plugster and Tester plugs.

Part Number	Description	List Price
0500-00	Max-Flow Control Panel	TOTAL \$2,079.00
0500-100	Includes: Max-Flow AT Line Acceptance Kit (without plugs), includes: <ul style="list-style-type: none"> 0500-00 Max-Flow Control Panel 0950-50 50' Max-Flow Triple Hose 0430-30 30' Fill Kit (1/4" Hose) Retrieval Rope with Gauge 	TOTAL \$3,144.75
0500-610	Includes: Max-Flow AT Line Acceptance Kit with 6"-10" Plugs, includes: <ul style="list-style-type: none"> 0200-610 6"-10" Plugster 0225-610 6"-10" Tester 0500-00 Max-Flow Control Panel 0950-50 50' Max-Flow Triple Hose 0430-30 30' Fill Kit (1/4" Hose) Retrieval Rope with Gauge 0500-612 Max-Flow AT Line Acceptance Kit w/ 6"-12" Plugs 	TOTAL \$3,932.25
0500-612	Includes: Max-Flow AT Line Acceptance Kit with 6"-12" Plugs, includes: <ul style="list-style-type: none"> 0200-612 6"-12" Plugster 0225-612 6"-12" Tester 0500-00 Max-Flow Control Panel 0950-50 50' Tru-Test Triple Hose 0430-30 30' Fill Kit (1/4" Hose) Retrieval Rope with Gauge 	TOTAL \$4,494.00
0500-812	Includes: Max-Flow AT Line Acceptance Kit with 8"-12" Plugs, includes: <ul style="list-style-type: none"> 0200-812 8"-12" Plugster 0225-812 8"-12" Tester 0500-00 Max-Flow Control Panel 0950-50 50' Tru-Test Triple Hose 0430-30 30' Fill Kit (1/4" Hose) Retrieval Rope with Gauge 	TOTAL \$4,268.25



Pictured above: 0500-812



0960-25 attached to 0500-00 and 0225-46

Mini-Triple hose has (3) 3/8" ID hoses for connecting small Tester plugs to the control panel.

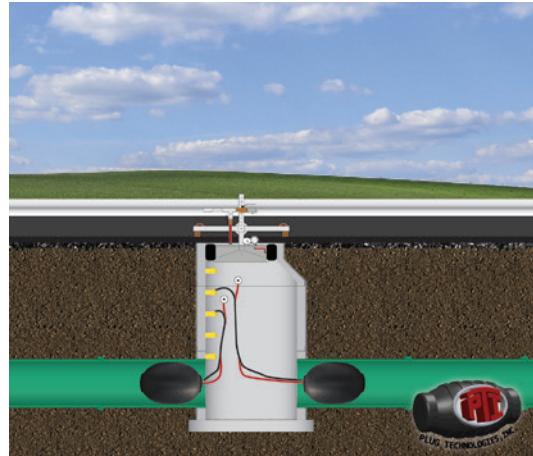
**CAUTION: ALWAYS
BLOCK PLUGS WHEN
CONDUCTING AIR TESTS!**

MANHOLE VACUUM TESTING

Part #	Description	Usage Range	Unit OD	Bladder Inflation Pressure	Weight	List Price
0555-00	Max-Vac™ II Venturi Pump with Cam-Lock® style connection	N/A	N/A	N/A	10 lbs	\$1,123.50
0555-38	38" Flat-Max Manhole Vacuum Unit with Cam-Lock style connection	18"-36"	38"	N/A	45 lbs	\$2,467.50
0555-44	44" Flat-Max Manhole Vacuum Unit with Cam-Lock style connection	18"-42"	44"	N/A	70 lbs	\$2,698.50
0555-2127	21"-27" Bladder-Max Manhole Vacuum Testing Unit with Cam-Lock style connection	21"- 27.5"	20.75"	25 PSI	72 lbs	\$3,937.50
TF-2127	Vacuum Test Fixture for 21"-27" Bladder-Max and Flat-Max	N/A	N/A	N/A	N/A	\$5,617.50



Bladder-Max with Cam-Lock Connection



The Cam-Lock connection allow for a easy, quick and secure connection from the Max-Vac II venturi pump to the Bladder-Max assembly.

Available Usage Range:
21"-27.5"



Bladder-Max Manhole Vacuum Test Assembly with Cam-Lock Connection

- Our Cam-Lock connection makes attaching the Max-Vac II (venturi pump) to the Bladder-Max quick and secure. The Max-Vac II doesn't wobble around on top of the Bladder-Max like other connections (i.e. crowsfoot/chicago).
- Our cross brace includes our easy slide design making adjusting the height of the cross brace quick and effortless. Our multiple pin placements allows the user to adjust the bladder placement to eleven different locations.
- Our bladder inflation assembly allows for easy inflation and deflation of the bladder.
- Gauges (vacuum test gauge and bladder inflation gauge) are angled up 45° to allow for easy reading from a safe distance.

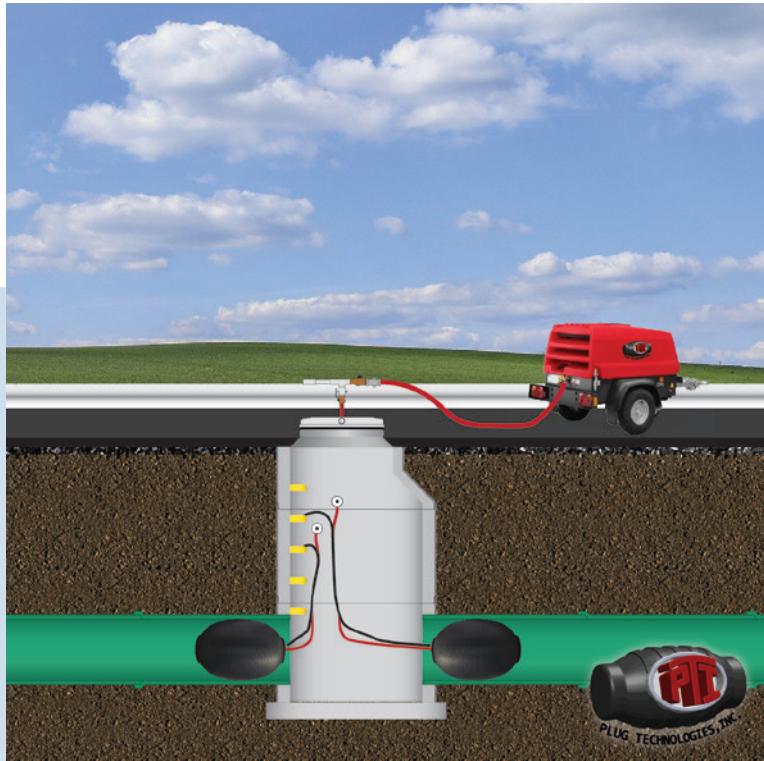
FLAT-Max with Cam-Lock Connection



0555-38 shown with 0555-00

The Cam-Lock connection allows for a easy, quick and secure connection between the Max-vac II and the Flat-Max assembly.

CAUTION: STAND CLEAR OF A BLADDER-MAX OR FLAT-MAX VACUUM HEAD ASSEMBLY WHILE VACUUM TESTING.

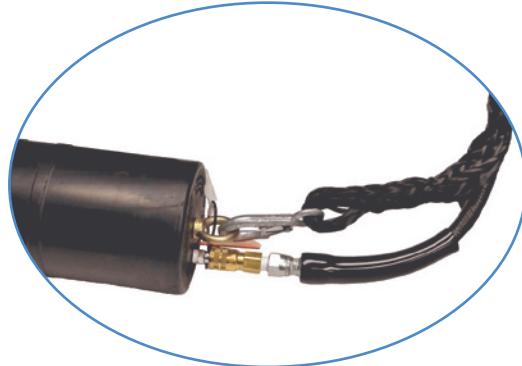


- Our 38" Flat-Max weighs 45 pounds and has two lifting handles allowing one person to perform a vacuum test.
- The Flat-Max features a large 4" dial Grade A liquid filled gauge that is angled up to allow for reading from a safe distance.
- Our 1" thick closed cell foam ensures consistent leak free seals. The Flat-Max can seal on both the manhole frame and manhole cone surfaces.
- Maximum size usage range allows you to seal manhole openings from 18"-36"(0555-38) and 18"-42"(0555-44).
- Max-Vac II Venturi Pump (sold separately) creates the vacuum needed to perform a manhole vacuum test.
- Cam-Lock makes connecting the Max-Vac II Venturi Pump to the Flat-Max quick and secure.

MAX-HD FILL KITS

450 Rope and Hose Series with Bend-Resistant Sleeve and Gauge Tree

Our Bend Restrictor Sleeve (plug inflation end) improves the hose's durability by preventing the hose from bending at the fitting and reducing the wear area.



Heavy Duty Natural Rubber Gauge Guardian protects the gauge from the hazardous construction environment.

Swivel NPT Fitting: The plug end of the hose includes a swivel (M) NPT fitting. The swivel prevents the hose from getting twisted up in the manhole and allows the hose to be easily hard plumbed to the plug.

P/N	Description	Weight	Length	Hose ID	List Price
0450-20	20' Max-HD (3/8" Hydraulic Hose) Fill Kit/Retrieval Rope with Gauge	8 Lbs	20'	3/8"	\$325.50
0450-30	30' Max-HD (3/8" Hydraulic Hose) Fill Kit/Retrieval Rope with Gauge	10 Lbs	30'	3/8"	\$357.00
0450-50	50' Max-HD (3/8" Hydraulic Hose) Fill Kit/Retrieval Rope with Gauge	15 Lbs	50'	3/8"	\$504.00

3/8" Hydraulic Hose allows for faster inflation and deflation of larger plugs.

PERFECT FOR YOUR RENTAL FLEET!

430 Series Fill Kit and Retrieval Rope

Part #	Description	Product Weight	Product Length	List Price
0430-20	20' 430 Series Fill Kit (1/4" PVC Hose) / Retrieval Rope with Gauge	5 Lbs	20'	\$210.00
0430-30	30' 430 Series Fill Kit (1/4" PVC Hose) / Retrieval Rope with Gauge	7 Lbs	30'	\$252.00

Includes Gauge Tree and Industrial QD Fittings.

This combination retrieval rope and inflation hose can be used to lift and lower plugs into and out of the manhole and has 1/4" ID PVC hose for inflating and deflating plugs from outside of the danger zone.

The polypropylene rope has a 3,000 lbs tensile strength which protects the fill line from being damaged during the installation of your plugs.

The snap hook makes it easy to attach and detach the retrieval rope from the plug.

The 430 series includes a gauge tree consisting of a 0-60 PSI liquid filled gauge with snubber, a tank valve (tire valve) and a 1/4" quick dump valve.

Perfect for plugs
up to 12"-18"!



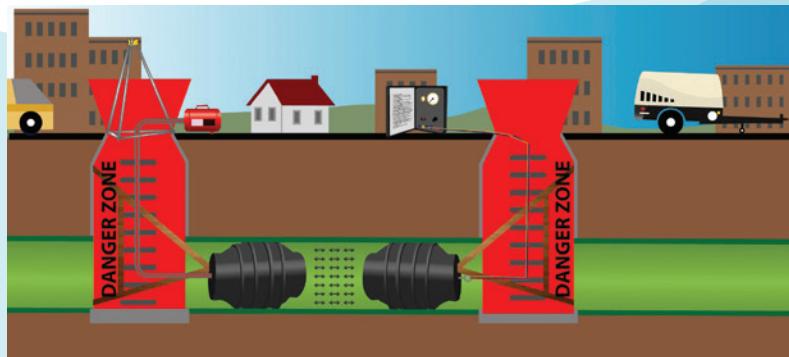
PARTS AND ACCESSORIES

Part #	Description	Part #	Description
	0037-014 0-15 PSI liquid filled gauge 4" dial, back mount, 1/4"(M) NPT for the air test control panel		0032-002 1/4" Schrader Valve (Tank or Tire) used on plugs with 1/4" inflation port
	0037-018 0-15 PSI liquid filled gauge, 4" dial, bottom mount, 1/4"(M) NPT		0031-014 1/4" x 1-1/8" Galvanized Shackle used on Max-Guzzlers 6"-10" up to 12"-24"
	0037-006 0-30HG Liquid Filled Vacuum Gauge		0032-001 1/8" Schrader Valve (Tank or Tire) used on plugs with 1/8" inflation port
	0037-001 0-60 PSI Liquid Filled Gauge (gauge only) used with all Fill Kits		0032-007 3/4"(M) NPT Cored Hex Head Plug. Used to block the 3/4" bypass port on the 225 Series (Tester) plugs
	0037-007 0-60 PSI liquid filled gauge 2.5" dial, back mount, 1/4"(M) NPT, for the air test control panel		0033-002 3/4"(M) NPT x Chicago (crowsfoot) coupler used on Max-Vac Venturi Pump (air compressor supply)
	0037-011 0-60 PSI Liquid Filled Gauge with Gauge Guardian used with all Fill Kits with Gauges		0033-011 3/4"" Foster Nipple x 3/4"(Male) NPT used on the 225 Series Tester plugs to connect the test port (blue) to the 3/4"(female) Foster coupler on the triple hose (blue)
	0033-001 1/2"(M) NPT x Chicago (crowsfoot) coupler used on the inlet air port on the control panel		0030-010 3/8" Eye Bolt used on 6"-10" up to 12"-24" Plugsters and Testers and 8-12" 250 Series (Guzzler) Plugs and 8", 10" and 12" single size plugs
	0030-012 1/2" Eye Bolt used on all plugs (15"-30" and larger)		0037-025 Air regulator for air test control panel includes mounting nut
	0033-004 1/2" Foster Nipple x 1/2"(Male) NPT used on the control panel to connect the 1/2" test port (blue) to the 1/2" Foster coupler on the triple Hose (blue)		0037-012 Gauge Guardian used to protect Gauges (4" Dial)
	0032-005 1/4"(M) NPT Cored Hex Head Plug. Used to block the 1/4" bypass port on the 225 Series (Tester) plugs		0037-010 Gauge Guardian used to protect the 0-60PSI gauge (2.5" Dial) used with all Fill Kits
	0037-021 1/4" Dump Valve (ball valve) used on all Fill Kits with a gauge		0575-50 Gauge Testing Fixture used to test gauges on Fill Kits and Test Panels
	0030-011 1/4" Eye Bolt used on plug 3"-4", 4"-6" and 4"-8" Plugsters, Testers, and Guzzlers		0065-074 Max-Guard relief valve (15"-30" and larger plugs)

PARTS AND ACCESSORIES

Part #	Description	Part #	Description
	0037-031 Max-Guard relief valve 12"-18" and 12"-24" (Plugsters and Testers) Plugs		0033-008 Nipple QD Industrial x 1/4"(Male) NPT
	0002-025 Max-Guard Removal Tool Socket (15"-30" and larger plugs)		0033-012 Nipple QD Industrial x 1/8"(Male) NPT
	0055-070 Max-Guard Rubber Debris Cover Large (12"-18" and 12"-24")(Plugster and Tester plugs)		0033-006 Quick Coupler (socket)1/4"(F) NPT used on 450 Series Fill Kits (rope/hose)
	0055-075 Max-Guard Rubber Debris Cover Large (15"-30" and larger plugs)		0033-005 Quick Coupler (socket)1/4"(Male) NPT used on Fill Kits (rope/hose) 430 and 440 Series Fill Kits
	0525-00 Max-Pro Parts Organizer		0065-079 RPP Adapter Aluminum
	0050-010 Nipple Cap—Black (10 Pack)		0031-215 RPP Pole 6' Aluminum
	0033-007 Nipple QD Industrial x 1/4"(Female) NPT		0032-047 Stainless Steel Cross 1/4"(Female) NPT used to assemble gauge tree on Fill Kits

TECHNICAL DATA



Danger Zone:

A pipe plug's danger zone is a funnel shaped area directly in front of an inflated pipe plug. This danger zone also includes a funnel shaped area coming out of the manhole where an inflated pipe plug is installed. The entire manhole should also be considered to be in the danger zone and users should NEVER be in a manhole containing an inflated pipe plug.

TECHNICAL DATA

Conversion Table

Convert From Unit	Multiply By	Convert to Unit
PSI (Pounds per Square Inch)	2.307	Feet of Head
Feet of Head	0.434	PSI (Pounds per Square Inch)
Inches of Mercury	0.491	PSI (Pounds per Square Inch)
PSI (Pounds per Square Inch)	2.036	Inches of Mercury
Bars	14.5	PSI (Pounds per Square Inch)
PSI (Pounds per Square Inch)	0.069	Bar
Inches	0.039	Millimeters
Millimeters	25.4	Inches
Feet	0.305	Meters
Meters	3.281	Feet

Back Pressure/Feet of Head

Back Pressure defined: Back pressure is the amount of air or water that is built up behind (or in front of) a pipe plug.

Feet of Head or Head Pressure defined: The depth of the water from the centerline of the plug to the water's surface.

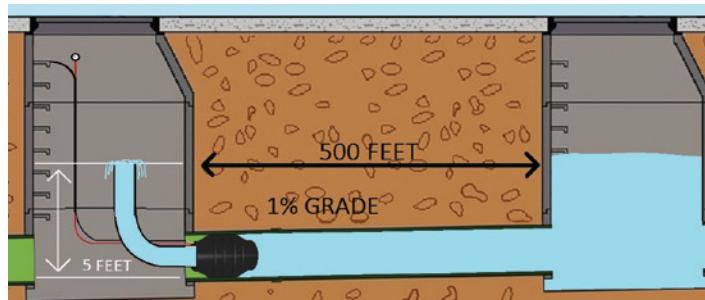
Calculating feet of head by using the slope or grade of the pipe:

In order to calculate the feet of head/head pressure that is backing up behind a pipe plug you must know the grade or slope of the pipe and the distance the water is backing up behind the plug.

Grade or Slope Defined: The percentage the pipe is slanted downward to allow the fluid to flow. Example: If the pipe is on a 1% grade that means the pipe gradually slants downward at a rate of 1 foot every 100 feet of pipe.

Calculating Feet of Head Example: If a pipe is laid on a 1% grade and the water inside the pipe has backed up 500 feet behind the plug then the plug will be holding back five feet of head.

Example (Showing the Math): The number of feet the water is backed up in the pipe behind the plug equals 500 Ft multiplied by the slope or grade. In this case equals 1% or $.01 = (500 \times .01 = 5 \text{ feet of head})$ Every additional 100 feet the water backs up would add one additional foot of head to the back pressure.



Pressure Conversion Table - PSI to Feet of Head

Feet of Head =	PSI	Feet of Head =	PSI	Feet of Head =	PSI
1 =	0.43	16 =	6.94	31 =	13.44
2 =	0.87	17 =	7.37	32 =	13.87
3 =	1.30	18 =	7.80	33 =	14.31
4 =	1.73	19 =	8.24	34 =	14.74
5 =	2.17	20 =	8.67	35 =	15.17
6 =	2.60	21 =	9.10	36 =	15.61
7 =	3.03	22 =	9.54	37 =	16.04
8 =	3.47	23 =	9.97	38 =	16.47
9 =	3.90	24 =	10.40	39 =	16.91
10 =	4.34	25 =	10.84	40 =	17.34
11 =	4.77	26 =	11.27	41 =	17.77
12 =	5.20	27 =	11.70	42 =	18.21
13 =	5.64	28 =	12.14	43 =	18.64
14 =	6.07	29 =	12.57	44 =	19.07
15 =	6.50	30 =	13.01	45 =	19.51

Pounds of Force Defined: The amount of force being exerted on a pipe plug (back pressure).

Formula: $\pi(3.14) \times (\text{radius of pipe}^2) = \text{square inches or area of the pipe}$. Multiply the square inches by PSI (back pressure) = Pounds of Force.

Why is it important? It is important to understand the pounds of force that a plug is holding back to help you understand the amount of damage/danger that can be caused if a pipe plug fails or deflates. This also helps in developing or designing a proper blocking or bracing strategy.

Example: If a plug is installed in an eight inch pipe and the plug is holding back five psi of air pressure how much force is the plug holding back?

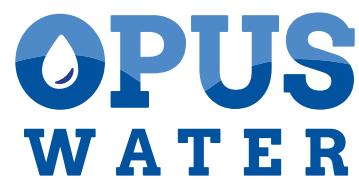
1. Calculate the surface area of 8" pipe using formula

$$\pi r^2. 3.14 (PI) \times 4(\text{pipe radius})^2$$

$$3.14 \times (4 \times 4) 16 = 50.24 \text{ Square Inches}$$

2. Multiply the back pressure (PSI) x Square Inches

$$5(\text{psi}) \times 50.24 = 251.20 \text{ Pounds of Force}$$



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