



Plugs & Test Equipment for Piping Systems

Product Catalog



CHERNE INDUSTRIES INC.

800.843.7584 www.cherneind.com

Cherne® Industries Best in the Business

From Humble Beginnings to an Industry Standard

In 1953, Cherne® Industries created an innovative inflatable device for stack testing. Cherne's pneumatic product offering expanded to include testing, maintenance and repair equipment for residential, commercial, industrial and municipal systems.

Acquired by Oatey® Company in 1990, Cherne Industries maintained its focus on system testing, maintenance and repair. As a part of the Oatey Family of Brands, Cherne Industries earned ISO certification in 1998, confirming both Oatey's and Cherne's commitment to consistency and quality.

Available in Oatey Company distribution centers throughout North America and through partner distribution on every continent, Cherne products are relied on by residential and commercial contractors and industrial and municipal engineers worldwide. Product lines are available in both domestic and international specifications.

While Cherne Industries has grown, its focus remains constant – providing customers the most reliable and innovative testing, maintenance and repair equipment in the plumbing, waterworks and underground industries – good enough to bear the Cherne name.



An ISO 9001-Certified Company



Pneumatic Plugs

Blocking Plugs

Plumbing Test-Ball® Plugs	6
Long Test-Ball® • MS2® Test-Ball® Plugs	7
Clean-Seal® Plugs	8
Test-Ball® Plugs – Underground	9
I-Series Test-Ball® Plugs	10
Pillow-Style Test-Ball® Plugs	11
Remo® Remote Placement Plugs	12

Bypass Plugs

Original Muni-Ball® Plugs	13
Big Mouth® Flow-Through Plugs	14-15
I-Series Muni-Ball® Plugs	16
Pillow-Style Muni-Ball® Plugs	17

Sewer Air Test Plugs

Air-Loc® & I-Series Leak Locator Plugs	18-19
Accessories: Rupture disc and protective sleeves	20-21
Backpressure Ratings by Diameter for I-Series Plugs	22



Mechanical Plugs

Original Gripper®	26
Hub-Fit Gripper® • Clean-Out Gripper®	27
T-Handle Gripper®	28
Iron Grip	29
Econ-O-Grip® • Petro Econ-O-Grip®	30
Kwik 'N Sure® • Sure-Grip®	31
Monitor-Well Plugs	32
Test Kap™	33



Deflection Gauges

Deflection Gauges	36-38
Proving Rings	39



Testing Equipment

Air-Loc® Pressure Testing	42-44
Air-Loc® Pressure Testing Hoses	45
Manhole Jack • Roller • Winch	46
Air-Loc® Pressure Testing Procedure	47
Air-Loc® Manhole Testers Head Assemblies	48
Air-Loc® Vacuum Equipment	49
Air-Loc® Stringer • Ventilators	50
Air-Loc® Smoke Testing	51
Air-Loc® Joint Testers	52
Aqua-Loc® Hydrostatic Test Pumps	53-55



Tools & Accessories

Test Pumps • Clog-Buster Drain Flusher • Manometer	58
Point Repair Carrier	59
Chain Assemblies • Test Gauges • Tub Plugs	60
Poly-Lift Lines • Extension Hoses	61
Jet-Ball™	62

Technical Data

Conversion Charts • Testing Methods	64
Safety Instructions	65



Pneumatic Plugs



Blocking Plugs	
Plumbing Test-Ball® Plugs	6
Long Test-Ball® • MS2® Test-Ball® Plugs	7
Clean-Seal® Plugs	8
Test-Ball® Plugs – Underground	9
I-Series Test-Ball® Plugs	10
Pillow-Style Test-Ball® Plugs	11
Remo® Remote Placement Plugs	12
Bypass Plugs	
Original Muni-Ball® Plugs	13
Big Mouth® Flow-Through Plugs	14-15
I-Series Muni-Ball® Plugs	16
Pillow-Style Muni-Ball® Plugs	17
Sewer Air Test Plugs	
Air-Loc® & I-Series Leak Locator Plugs	18-19
Accessories: Protective Sleeves and Rupture Disc	20-21
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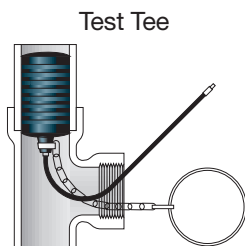
Plumbing Test Ball® Plugs

Cherne Plumbing Test Ball® Plugs were first introduced in 1953 as a more versatile product than traditional mechanical plugs. Designed to test drain vent and waste systems Cherne Test Ball® Plugs could be used in any type of pipe, could be inserted through a test tee, and sealed out of round pipe as well.

Cherne introduced the multi-size yellow-top Test Ball® plugs in 2002. These test ball plugs have the same great features found in the original test ball plugs, but can be used in more than one pipe size.

Features:

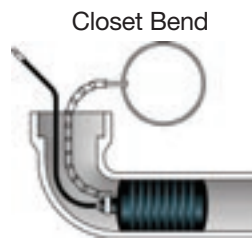
- **Natural Rubber:** Great sealing properties as well as excellent expansion and memory
- **Schrader Valve Inflator:** Includes cap with valve core tightener
- **Ring and Chain Assembly:** Prevents plug from dropping into DWV system during test



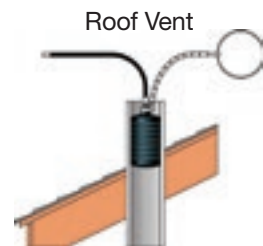
Test Tee



Floor Drain



Closet Bend



Roof Vent



Original

Multi Size

Original Test-Balls

Part Number	Nominal Size	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Chain / Eye bolts
270008	.75" - 1.25" (20-30 mm)	.75"-1.30" (20-33 mm)	17 psi (1,2 bar)	40 ft. (12 M)	45 psi (3,1 bar)	3.5 oz (0.1 kg)	3.75" (95 mm)	0.73" (18.5 mm)	Molded in Valve Removable Chain
270016	1.25" - 1.5" (35-40 mm)	1.17"-1.75" (30-44 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	40 psi (2,8 bar)	3.5 oz (0.1 kg)	5.5" (141 mm)	1.1" (31 mm)	Molded in Valve Removable Chain
270024	2" (50 mm)	1.9"-2.25" (48-57 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	40 psi (2,8 bar)	3.5 oz (0.1 kg)	2.84" (72 mm)	1.77" (45 mm)	Molded in Valve Removable Chain
270108	2.5" (65 mm)	2.34"-2.75" (48-70 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	35 psi (2,4 bar)	6.5 oz (0.2 kg)	4.5" (114 mm)	2.3" (59 mm)	Molded in Valve Removable Chain
270032	3" (75 mm)	2.77"-3.25" (70-83 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	35 psi (2,4 bar)	6.5 oz (0.2 kg)	5.25" (132 mm)	2.64" (67 mm)	Molded in Valve Removable Chain
270040	4" (100 mm)	3.41"-4.25" (87-108 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	30 psi (2,1 bar)	9 oz (0.25 kg)	6.5" (163 mm)	3.25" (83 mm)	Molded in Valve Removable Chain
270059	5" (125 mm)	4.6"-5.25" (117-133 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	30 psi (2,1 bar)	1.3 lbs (0.6 kg)	7.75" (200 mm)	4.5" (114 mm)	Molded in Valve Removable Chain
270067	6" (150 mm)	5.44"-6.25" (138-159 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	30 psi (2,1 bar)	1.9 lbs (0.85 kg)	9.00" (230 mm)	5.25" (135 mm)	Molded in Valve Removable Chain

Multi Size Test-Balls

Part Number	Nominal Size	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Chain / Eye bolts
276128	1.25" - 2" (35-50 mm)	1.25"-2.10" (32-53 mm)	17 psi (1,2 bar)	40 ft. (12 M)	40 psi (2,8 bar)	3.7 oz (0.11 kg)	5.56" (141 mm)	1.21" (31 mm)	Molded in Valve Removable Chain
276238	2" - 3" (50-75 mm)	1.9"-3.1" (48-80 mm)	17 psi (1,2 bar)	40 ft. (12 M)	35 psi (2,4 bar)	4.7 oz (0.13 kg)	5.57" (141 mm)	1.78" (45 mm)	Molded in Valve Removable Chain
276348	3" - 4" (75-100 mm)	2.8"-4.25" (70-108 mm)	17 psi (1,2 bar)	40 ft. (12 M)	40 psi (2,8 bar)	7.8 oz (0.22 kg)	5.18" (132 mm)	2.64" (67 mm)	Molded in Valve Removable Chain
276468	4" - 6" (100-150 mm)	3.4"-6.25" (87-155 mm)	17 psi (1,2 bar)	40 ft. (12 M)	30 psi (2,1 bar)	1.4 lbs (0.62 kg)	9.47" (241 mm)	3.28" (83 mm)	Molded in Valve Removable Chain

Always block plugs when conducting air tests.

Long Test-Ball® • MS2® Test-Ball® Plugs



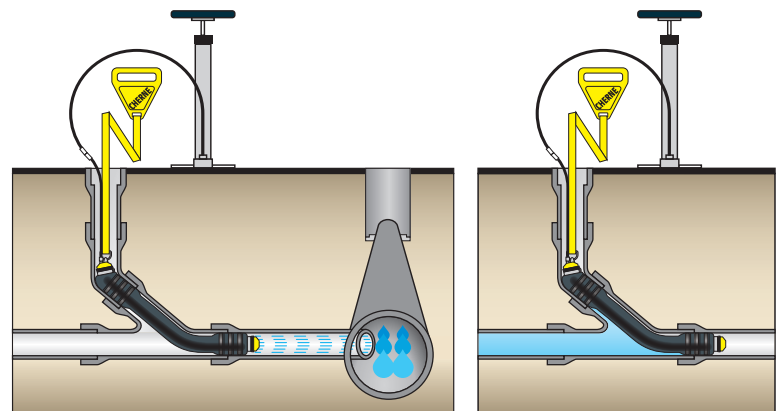
Cherne's Long Test-Ball® plugs are designed for waste stack testing—sealing the rise and the run to perform the test. These long ball plugs can also be used to seal the wye to conduct sewer air tests. Molded-in sealing ribs at each end of the plug ensure a leak-free seal.

Long Test-Ball® Plug (“The Original”) Features:

- Ring and chain assembly keeps plug from entering line during deflation
- Includes 3' extension hose

MS2® Long Test-Ball® Plug Features:

- Multi-size design for use in various pipe diameters
- Multi-stage design eliminates backsplash
- Integrated relief valve reduces the possibility of over-inflation
- Nylon strap and handle keeps plug from entering line during deflation
- Includes 5' extension hose



Long Test-Ball® & MS2® Long Test-Ball® plugs seals lateral during sewer air test

MS2® Long Test-Ball® Plugs Top inflates first, deflates last; *no backsplash*

Long Test-Ball

Part Number	Nominal Size	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	
271020	2" (50 mm)	1.75"-2.25" (44-57 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	45 psi (3,1 bar)	1.1 lbs (0.51 kg)	18.25" (464 mm)	1.5" (38 mm)
271039	3" (75 mm)	2.75"-3.25" (70-83 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	35 psi (2,4 bar)	1.88 lbs (0.85 kg)	20.75" (527 mm)	2.31" (59 mm)
271047	4" (100 mm)	3.5"-4.25" (89-108 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	30 psi (2,1 bar)	2.31 lbs (1.04 kg)	24.75" (629 mm)	2.5" (64 mm)
271098	4" - 6" (100-150 mm)	3.25"-6.25" (83-159 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	45 psi (3,1 bar)	4 lbs (1.81 kg)	28.5" (724 mm)	3.0" (76 mm)
271055	5" (125 mm)	4.5"-5.25" (114-133 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	30 psi (2,1 bar)	4 lbs (1.81 kg)	27.75" (705 mm)	3.18" (81 mm)
271063	6" (150 mm)	5.5"-6.25" (140-159 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	30 psi (2,1 bar)	5.3 lbs (2.41 kg)	28.25" (718 mm)	4.12" (105 mm)

MS2 Long Test-Ball

Part Number	Nominal Size	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	
274518	2" - 3" (50-75 mm)	1.75"-3.25" (44-83 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	40 psi (2,8 bar)	1.31 lbs (0.5 kg)	19.44" (494 mm)	1.58" (37 mm)
274526	3" - 4" (75-100 mm)	2.75"-4.25" (70-108 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	40 psi (2,8 bar)	2.45 lbs (1.1 kg)	23.75" (603 mm)	2.38" (60 mm)
274534	4" - 6" (100-150 mm)	3.5"-6.25" (89-159 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	30 psi (2,1 bar)	3.91 lbs (1.41 kg)	26.62" (676 mm)	3.25" (83 mm)

Always block plugs when conducting air tests.

Clean-Seal® Plugs

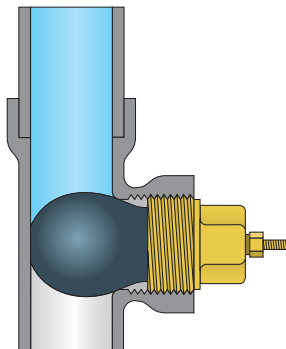
Designed for stack testing of drain, waste, and vent plumbing systems, Clean-Seal® plugs thread into a standard test tee. The bladder is inflated and then water is introduced into the pipe. Upon test completion, deflate the bladder; water travels down the pipe, eliminating test water backslash.

Features:

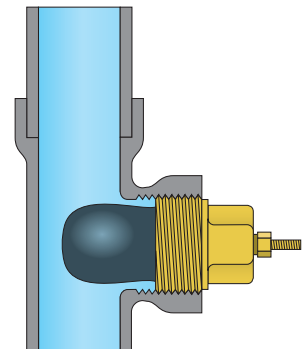
- Works in both plastic and cast-iron test tees
- Natural rubber body provides a leak-free seal
- High-impact ABS threads for maximum durability
- Removable/replaceable tire inflation valve fitting



Clean-Seal® Application



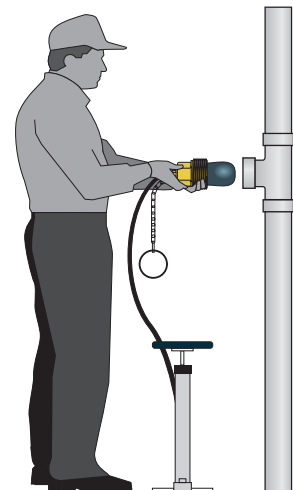
Inflated (test)



Deflated (test release)

Clean-Seal

Part Number	Nominal Size	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread
271508	1.5" (40 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	30 psi (2,1 bar)	.15 lbs (0.07 kg)	4.75" (121 mm)	1.5" (38 mm)
271705	2" (50 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	35 psi (2,4 bar)	.3 lbs (0.14 kg)	5.81" (150 mm)	1.8" (46 mm)
271713	3" (75 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	35 psi (2,4 bar)	.8 lbs (0.36 kg)	7.38" (188 mm)	1.4" (36 mm)
271721	4" (100 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	35 psi (2,4 bar)	1.3 lbs (0.59 kg)	8.5" (215 mm)	1.4" (36 mm)
271758	6" (150 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	25 psi (1,7 bar)	3.5 lbs (1.59 kg)	11" (280 mm)	1.4" (36 mm)



Simply thread into test tee and inflate (for maximum sealing performance, apply thread seal tape to the threads before use).

Test Ball® Plugs – Underground



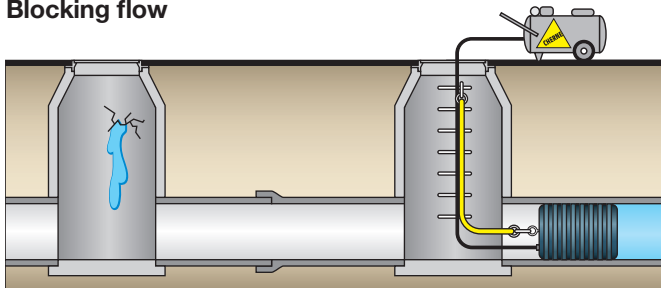
Cherne's Original Single Size and Multi-Size Test Ball Plugs are our most economical pneumatic plugs for blocking flow to do maintenance in sanitary and storm sewer systems. These plugs may also be used as a back plug for sewer air tests.

All of the single size and multi-size Test Ball plugs have eyebolts for attaching a rope or clevis for lifting and lowering the plug. And each plug also has a removable Schrader valve for easy replacement or substitution with a quick disconnect fitting.

Made from natural rubber, these plugs are tough, tear-resistant and will work on any type of pipe, including out-of-round pipe.



Blocking flow



Single Size Original Test Balls

Part Number	Nominal Size	Usage Range	Maximum Back Pressure		Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Chain / Eye bolts
041386	8" (200 mm)	7"-8.25" (178-210 mm)	17 psi (1,2 bar)	40 ft. (12 M)	25 psi (1,7 bar)	3.4 lbs (1.6 kg)	10.25" (257 mm)	6.75" (172 mm)	1/4" (1)	3/8" (1)
041394	10" (250 mm)	9"-10.25" (229-260 mm)	17 psi (1,2 bar)	40 ft. (12 M)	25 psi (1,7 bar)	5.6 lbs (2.5 kg)	11.75" (298 mm)	8.75" (221 mm)	1/4" (1)	3/8" (1)
041408	12" (300 mm)	10.5"-12.25" (267-311 mm)	17 psi (1,2 bar)	40 ft. (12 M)	25 psi (1,7 bar)	10.9 lbs (5 kg)	13.75" (351 mm)	10.25" (262 mm)	1/4" (1)	3/8" (1)
041416	15-16" (375-400 mm)	14" - 16.25" (356-413 mm)	13 psi (0,9 bar)	30 ft. (9,1 M)	25 psi (1,7 bar)	29.5 lbs (13.4 kg)	19.75" (502 mm)	13.75" (346 mm)	1/4" (1)	3/8" (2)

Multi-Size Original Test Balls

Part Number	Nominal Size	Usage Range	Maximum Back Pressure		Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Chain / Eye bolts
275048	4" - 6" (100-150 mm)	3.75"-6.25" (92-159 mm)	17 psi (1,2 bar)	40 ft. (12 M)	30 psi (2,1 bar)	2 lbs (0.91 kg)	9.8" (250 mm)	3.5" (85 mm)	1/8" (1)	1/4" (1)
275058	6" - 8" (150-200 mm)	5.25"-8.25" (135-210 mm)	17 psi (1,2 bar)	40 ft. (12 M)	30 psi (2,1 bar)	3.5 lbs (1.6 kg)	14" (356 mm)	5" (127 mm)	1/4" (1)	3/8" (1)
275088	8" - 12" (200-300 mm)	7"-12.25" (178-311 mm)	11 psi (0,75 bar)	25 ft. (8 M)	20 psi (1,4 bar)	6.63 lbs (3 kg)	16" (406 mm)	6.75" (171 mm)	1/4" (1)	3/8" (1)
275128	12" - 18" (300-450 mm)	10.75"-18.25" (273-464 mm)	11 psi (0,75 bar)	25 ft. (8 M)	25 psi (1,7 bar)	22.4 lbs (10.2 kg)	24" (610 mm)	10.5" (267 mm)	1/4" (1)	3/8" (1)

I-Series Test-Ball® Plugs

Cherne's I-Series plugs were designed to meet the needs of both the US and International markets in terms of size and expansion range. Our I-Series plugs have full body cording for added durability.

Our I-Series plugs feature:

- Superior expansion range
- Small deflated diameters
 - All plugs up through our 24-60" size easily fit through a 24" manhole frame
 - 48-72" and 54-96" plugs fit through 36" openings

Plugs 15-32" and larger

- Aluminum end plates – minimizes rust/corrosion
- ¾" eyebolts on plugs 15-32" and larger – better holding strength
- Patented Field Replaceable Rupture Discs on plugs 15-32" and larger – protects plug from over-inflation

Protective sleeves available for 12-24" and larger plugs. See page 20.



Part Number	Nominal Size	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Chain / Eye bolts
385088	4" - 8" (100-200 mm)	3.6"-8.25" (92-210 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	45 psi (3,1 bar)	15.75" (400 mm)	3.43" (87 mm)	1/4" (1)	1/4" (1)
395088	4" - 8" (100-200 mm)	3.6"-8.25" (92-210 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	30 psi (2,1 bar)	20.6" (469 mm)	3.5" (70 mm)	1/4" (1)	3/8" (1)
395128	6"-12" (150-300 mm)	5.5"-12.25" (140-310 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	30 psi (2,1 bar)	26.25" (667 mm)	5.25" (133 mm)	1/4" (1)	3/8" (1)
385168	8" - 16" (200-400 mm)	7.5"-16.25" (186-413 mm)	7.5 psi (0,5 bar)	16.75 ft. (5.1 M)	30 psi (2,1 bar)	23" (585 mm)	7.25" (184 mm)	1/4" (1)	3/8" (1)
395168	8" - 16" (200-400 mm)	7.5"-16.25" (186-413 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	30 psi (2,1 bar)	29.5" (750 mm)	7.25" (184 mm)	1/4" (1)	3/8" (1)
385248	12" - 24" Short (300-600 mm)	11"-24.25" (279-616 mm)	7.5 psi (0,5 bar)	16.75 ft. (5.1 M)	30 psi (2,1 bar)	33" (839 mm)	10.75" (273 mm)	1/4" (1)	3/8" (2)
395248	12" - 24" (300-600 mm)	11"-24.25" (279-616 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	30 psi (2,1 bar)	39.5" (1003 mm)	10.75" (273 mm)	1/4" (1)	3/8" (2)
310328	15" - 32" (380 - 800 mm)	15" - 32" (380 - 800 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	25 (1,72 bar)	48" (1220 mm)	14.3" (363 mm)	1/4" & 1/2"	3/4" (2)
*310408	20"-40" (500-1000 mm)	19"-40" (475-1000 mm)	8.7 psi (0,6 bar)	20 ft. (6.1 M)	22 psi (1,5 bar)	46.25" (1175 mm)	18.5" (470 mm)	1/4" & 1/2"	3/4" (2)
*310488	24" - 48" (600-1200 mm)	20.5"-50" (521-1270 mm)	**10 psi (0,7 bar)	23 ft. (7 M)	22 psi (2,5 bar)	68" (1730 mm)	19.1" (485 mm)	1/4" & 1/2"	3/4" (2)
310600	24" - 60" (600-1500 mm)	20.5" - 60.5" (520 - 1537 mm)	6 psi (0,41 bar)	14 ft. (4.3 M)	22 (1,5 bar)	140 lbs (63.6 kg)	88" (2235 mm)	1/4" & 1/2"	3/4" (2)
*310728	48" - 72" (1200-1800 mm)	44"-72.25" (1118-1835 mm)	6 psi (0,41 bar)	14 ft. (4.3 M)	12 psi (0,83 bar)	290 lbs (132 kg)	100" (2540 mm)	1/2" (2)	3/4" (3)
*310968	54" - 96" (1400-2400 mm)	54"-96.25" (1400-2450 mm)	6 psi (0,41 bar)	14 ft. (4.3 M)	11 psi (0,75 bar)	500 lbs (228 kg)	128" (3200 mm)	1/2" (2)	3/4" (3)

Pillow-Style Test-Ball® Plugs



Cherne's Pillow-Style Test-Balls are great for blocking sewer flow and can also be used as a "back plug" for sewer air testing. Made from heavy-duty elastic urethane these plugs are lightweight, flexible, chemical and petroleum resistant, and will fit through small diameter openings. Pillow-style plugs can be tethered to full head pressure with the tether bar.



Features:

- Equipped with a special 30' inflation hose, read-back line and gauge
- A repair kit is available to fix small tears and punctures

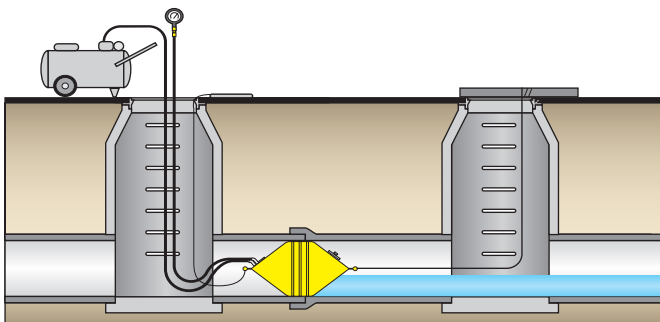
Pillow-Style Test-Ball

Part Number	Nominal Size	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	
277108	*15" (375 mm)	14.7"-15.5" (373-394 mm)	15 psi (1 bar)	35 ft. (11 M)	24 psi (1,65 bar)	7 lbs (3.2 kg)	43" (1100 mm)	12" (305 mm)	1/4" (1)
277118	*18" (450 mm)	17.8"-18.8" (451-477 mm)	15 psi (1 bar)	35 ft. (11 M)	24 psi (1,65 bar)	9 lbs (4.1 kg)	43" (1100 mm)	12" (305 mm)	1/4" (1)
277128	*20" (500 mm)	19.6"-20.7" (498-526 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	18 psi (1,24 bar)	12 lbs (5.5 kg)	43" (1100 mm)	12" (305 mm)	1/4" (1)
277134	*21" (525 mm)	20.6"-21.8" (523-554 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	18 psi (1,24 bar)	14 lbs (6.4 kg)	43" (1100 mm)	12" (305 mm)	1/4" (1)
277142	*24" (600 mm)	23.5"-25.2" (598-641 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	18 psi (1,24 bar)	16 lbs (7.3 kg)	66" (1700 mm)	12" (305 mm)	1/4" (1)
277150	*27" (700 mm)	26.5"-28.2" (672-717 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	18 psi (1,24 bar)	18 lbs (8.2 kg)	66" (1700 mm)	12" (305 mm)	1/2" (1)
277169	30" (750 mm)	29.4"-31.25" (747-794 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	18 psi (1,24 bar)	20 lbs (9.1 kg)	66" (1700 mm)	12" (305 mm)	1/2" (1)
277177	33" (850 mm)	32.3"-34.25" (819-870 mm)	8.7 psi (0,61 bar)	20 ft. (6.1 M)	13 psi (0,9 bar)	22 lbs (9.9 kg)	95" (2413 mm)	12" (305 mm)	1/2" (1)
277185	36" (900 mm)	35.3"-37.5" (896-953 mm)	8.7 psi (0,61 bar)	20 ft. (6.1 M)	13 psi (0,9 bar)	32 lbs (14.5 kg)	95" (2413 mm)	12" (305 mm)	1/2" (1)
277193	42" (1100 mm)	41.2"-43.7" (1045-1111 mm)	7.8 psi (0,55 bar)	18 ft. (5.5 M)	12 psi (0,83 bar)	36 lbs (16.4 kg)	95" (2413 mm)	12" (305 mm)	1/2" (1)
277207	48" (1200 mm)	47.04"-50" (1195-1270 mm)	5.6 psi (0,4 bar)	13 ft. (4 M)	12 psi (0,83 bar)	41 lbs (18.6 kg)	95" (2413 mm)	12" (305 mm)	1/2" (1)
277215	54" (1400 mm)	52.92"-56" (1344-1422 mm)	5.6 psi (0,4 bar)	13 ft. (4 M)	10 psi (0,7 bar)	48 lbs (21.8 kg)	95" (2413 mm)	15" (381 mm)	1/2" (1)
277223	60" (1500 mm)	58.8"-62" (1494-1575 mm)	5.6 psi (0,4 bar)	13 ft. (4 M)	10 psi (0,7 bar)	64 lbs (29.1 kg)	126" (3200 mm)	15" (381 mm)	1/2" (1)
277231	66" (1700 mm)	64.7"-68" (1643-1727 mm)	3.5 psi (0,24 bar)	8 ft. (2.4 M)	8 psi (0,55 bar)	70 lbs (31.8 kg)	126" (3200 mm)	15" (381 mm)	1/2" (1)

*15" - 27" pillow-style plugs have standard snifter valve air connection.

Large single-size plugs are not suitable for leak location or vacuum testing. Custom sizes of the Pillow-Style Test-Ball® and Muni-Ball® plugs are also available.

Blocking flow



Large single-size plugs are not suitable for leak location or vacuum testing. Custom sizes of the Pillow-Style Test-Ball® and Muni-Ball® plug are also available.

Always block plugs when conducting air tests.

Remo® Remote Placement Plugs

The Remo® Remote Placement plug provides two advantages—it eliminates the need to enter confined spaces and speeds up the pipe plugging process. The system is safer and less expensive to use than conventional plugging methods because it requires no confined space equipment to simply block sewer flow. A lightweight aluminum pole system* or a standard 1¼" iron pipe** is used to place the Remo® plug in the sewer system.

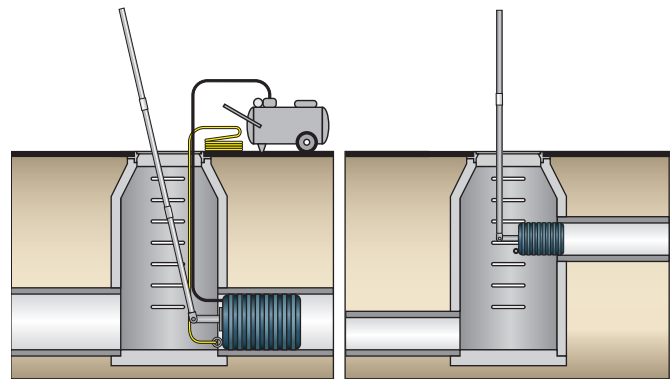


Remo® Plug Features:

- Multi-size design to seal multiple pipe sizes
- Can be locked at a 90° angle to seal openings in manholes at different levels
- Can be used as a back plug for sewer tests
- Adapters available to convert Muni-Ball® plugs into Remo® plugs

Pole System Features:

- Consists of 6' lightweight aluminum poles with push-button construction
- Designed for plugs up to 30 lbs used in manhole depths of up to 20'
- Poles are 1/6th the weight of iron pipe
- Pole system requires Remo® pole adapter



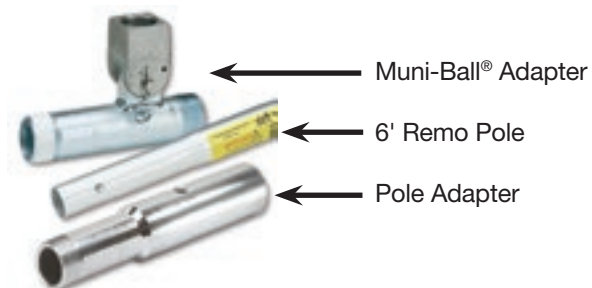
*Requires pole adapter

**When added strength is needed, iron pipe is recommended

Part Number	Nominal Size	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Eye bolts
275428	6" - 10" (150-250 mm)	5.5"-10.25" (140-260 mm)	13 psi (0,9 bar)	30 ft (9.1 M)	30 psi (2,1 bar)	8 lbs (3.64 kg)	24" (610 mm)	5.25" (133 mm)	1/4" (2) 3/8" (1)
275438	8" - 12" (200-300 mm)	7.0"-12.25" (178-311 mm)	13 psi (0,9 bar)	30 ft (9.1 M)	30 psi (2,1 bar)	10.75 lbs (4.88 kg)	25.5" (648 mm)	6.75" (171 mm)	1/4" (2) 3/8" (1)
275448	12" - 18" (300-450 mm)	10.50"-18.25" (273-464 mm)	13 psi (0,9 bar)	30 ft (9.1 M)	30 psi (2,1 bar)	27 lbs (12.25 kg)	34" (863 mm)	10.5" (267 mm)	1/4" (2) 3/8" (1)

Accessories

Part Number	Description
019473	6' Remo® Pole
019458	Remo® Pole Adapter (1¼" M NPT)
019558	1½" Remo® Muni-Ball® Adapter
019568	2" Remo® Muni-Ball® Adapter
019548	2" - 1½" Remo® Reducer Bushing
060508	3" - 2" Remo® Reducer Bushing
059688	4" - 2" Remo® Reducer Bushing



Original Muni-Ball® Plugs



The Muni-Ball® Plug was introduced over 50 years ago and the Cherne brand continues to be the most trusted name in pneumatic plugs today. Muni-Ball® Plugs offer a full bypass allowing both testing and monitoring of piping systems. Muni-Balls® are ideal for installation and repair of residential or commercial piping systems. Cherne Muni-Ball® products can also be used for maintenance of municipal infrastructure, including sanitary and storm sewer pipe systems. Muni-Ball® plugs are durable, rugged and are effective on almost any type of pipe.



- Muni-Ball® Plugs are supplied with Schrader tire inflation valves
- Larger diameter Muni-Ball® Plugs include a removable threaded valve, allowing the user to replace with quick disconnect fittings
- Multi-Size® Muni-Ball® Plugs allow more options and less inventory
- 8", 10", 12" and 15" Sizes now include new modified plug for sewer air tests

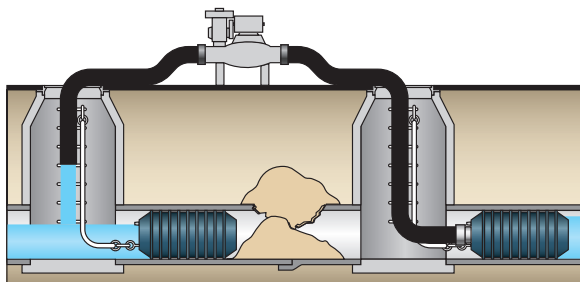
Single Size

Part Number	Nominal Size	Bypass Diameter (NPT)	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Chain / Eye bolts
262008	1.5" (40 mm)	1/4" M	1.49"-1.88" (38-48 mm)	22 psi (1,5 bar)	50 ft (15 M)	40 psi (2,8 bar)	0.3 lbs (0.2 kg)	3.8" (97 mm)	1.4" (36 mm)	Molded in Valve Removable Chain
262010	2" (50 mm)	1/8" F	1.88"-2.25" (48-57 mm)	22 psi (1,5 bar)	50 ft (15 M)	40 psi (2,8 bar)	0.4 lbs (0.3 kg)	6" (152 mm)	1.75" (44 mm)	Molded in Valve Removable Chain
262021	3" (75 mm)	3/4" F	2.62"-3.25" (67-83 mm)	22 psi (1,5 bar)	50 ft (15 M)	40 psi (2,8 bar)	1.25 lbs (0.5 kg)	8" (203 mm)	2.5" (64 mm)	Molded in Valve Removable Chain
262048	4" (100 mm)	3/4" F	3.25"-4.25" (83-108 mm)	22 psi (1,5 bar)	50 ft (15 M)	40 psi (2,8 bar)	1.5 lbs (0.7 kg)	8" (203 mm)	3.13" (80 mm)	Molded in Valve 1/4" (1)
262064	6" (150 mm)	1 1/2" F	4.50"-6.25" (144-159 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	35 psi (2,4 bar)	2 lbs (1 kg)	7" (178 mm)	4.5" (112 mm)	1/8" 1/4" (1)
262080	8" (200 mm)	3" F	7.00"-8.25" (178-210 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	35 psi (2,4 bar)	5 lbs (2.3 kg)	10" (254 mm)	6.75" (170 mm)	1/4" 3/8" (1)
262110	10" (250 mm)	3" F	9.00"-10.25" (229-260 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	35 psi (2,4 bar)	9 lbs (4 kg)	11.75" (298 mm)	8.75" (222 mm)	1/4" 3/8" (1)
262129	12" (300 mm)	3" F	10.50"-12.25" (267-311 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	35 psi (2,4 bar)	13 lbs (6 kg)	13.75" (350 mm)	10.25" (260 mm)	1/4" 3/8" (1)
262137	15" - 16" (375-400 mm)	3" F	14.0"-16.0" (356-413 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	35 psi (2,4 bar)	33 lbs (15 kg)	19.75" (502 mm)	13.75" (346 mm)	1/4" 3/8" (1)
262188	18" (450 mm)	4" F	17.5"-19.5" (445-504 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	25 psi (1,7 bar)	79 lbs (36 kg)	24.75" (629 mm)	16.9" (429 mm)	1/4" 1/2" (2)
262218	21" (525 mm)	4" F	18.55"-21.38" (479-543 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	25 psi (1,7 bar)	87 lbs (39 kg)	26" (660 mm)	18.25" (462 mm)	1/4" 1/2" (2)
262242	24" (600 mm)	4" F	22.0"-25" (558-632 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	25 psi (1,7 bar)	124 lbs (56 kg)	28.75" (730 mm)	21.25" (538 mm)	1/4" 1/2" (2)

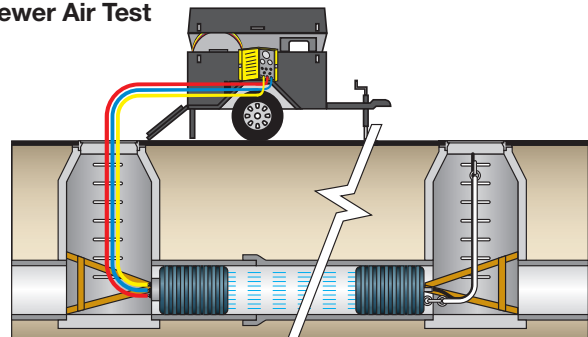
Multi-Size

Part Number	Nominal Size	Bypass Diameter (NPT)	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Chain / Eye bolts
265048	4" - 6" (100-150 mm)	3/4" F	3.75"-6.25" (95-159 mm)	17 psi (1,2 bar)	40 ft (12 M)	35 psi (2,4 bar)	2.5 lbs (1.1 kg)	10.75" (273 mm)	3.46" (88 mm)	1/8" 1/4" (1)
265068	6" - 8" (150-200 mm)	1 1/2" F	5.50"-8.35" (133-212 mm)	17 psi (1,2 bar)	40 ft (12 M)	35 psi (2,4 bar)	6 lbs (2.7 kg)	13" (330 mm)	5" (125 mm)	1/4" 3/8" (1)
265078	8" - 10" (200-250 mm)	2" F	7.00"-10.25" (178-260 mm)	17 psi (1,2 bar)	40 ft (12 M)	30 psi (2,1 bar)	9 lbs (3 kg)	14.5" (368 mm)	6.75" (171 mm)	1/4" 3/8" (1)
265098	8" - 12" (200-300 mm)	2" F	7.00"-12.25" (178-311 mm)	17 psi (1,2 bar)	40 ft (12 M)	25 psi (1,7 bar)	16 lbs (7.3 kg)	22" (559 mm)	6.75" (171 mm)	1/4" 3/8" (1)
265128	12" - 18" (300-450 mm)	4" F	10.75"-18.75" (273-477 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	25 psi (1,7 bar)	32 lbs (14.5 kg)	27.25" (692 mm)	10.5" (267 mm)	1/4"(2) 3/8" (2)

Bypass Pumping



Sewer Air Test



Big Mouth® Flow-Through Plugs

Big Mouth® plugs serve multiple applications. Great for **gravity bypassing** or **bypass pumping**.

Original Big Mouth Plugs

- Large male NPT threaded bypass
- Equipped with removable 3/8" eyebolt for lifting /lowering plug
- Removable tire valve for easy replacement with optional quick disconnect
- Lightweight aluminum bypass



Single Size Big Mouth Plug

- Allows for largest bypass by pipe diameter
- 6", 8", 10" sizes have threaded bypasses
- 12", 15", 18", 21" and 24" have straight tube bypasses
- Attach hose with banding



Multi-Size Big Mouth Plug

- Multi-size Big Mouth Plug offers greater expansion range
- Lightweight aluminum bypass
- Removable tire valve for easy replacement with optional quick disconnect

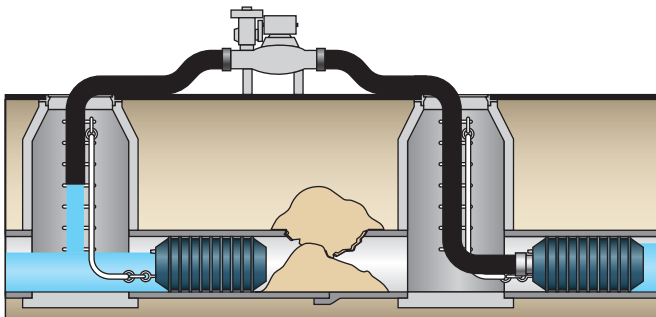


Multi-Size Big Mouth Plug with Interchangeable Bypass Flange

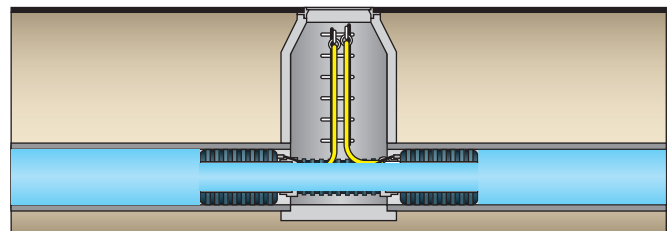
- Interchangeable Bypass for different bypass needs
- Multi-size Big Mouth Plug offers greater expansion range
- Lightweight aluminum bypass
- Removable tire valve for easy replacement with optional quick disconnect



Bypass Pumping



Gravity Bypassing





Original Size Big Mouth Plugs

Part Number	Nominal Size	Bypass Diameter (NPT)	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Chain / Eye bolts	
269008	8" - 10" (200-250 mm)	4" M	7.25"-10.25" (185-250 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	35 psi (2,4 bar)	8.8 lbs (4 kg)	14.88" (378 mm)	6.94" (176 mm)	1/4" (1)	3/8" (1)
269018	10" - 12" (250-300 mm)	6" M	9.25"-12.25" (235-311 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	30 psi (2,1 bar)	15.7 lbs (7.12 kg)	17.25" (438 mm)	8.81" (224 mm)	1/4" (1)	3/8" (1)
269028	12" - 15" (300-380 mm)	6" M	10.62"-15.25" (270-387 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	30 psi (2,1 bar)	20 lbs (9 kg)	17.88" (454 mm)	10.25" (260 mm)	1/4" (1)	3/8" (1)

Single Size Big Mouth Plugs

Part Number	Nominal Size	Bypass Diameter (NPT)	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Chain / Eye bolts	
369068	6" (150 mm)	4" M	5.69"-6.34" (145-161 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	30 psi (2,1 bar)	7 lbs (3.2 kg)	13.25" (337 mm)	5.38" (137 mm)	1/4" (1)	3/8" (1)
369088	8" (200 mm)	6" M	7.75"-8.45" (195-215 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	30 psi (2,1 bar)	10 lbs (4.5 kg)	16" (406 mm)	7.5" (191 mm)	1/4" (1)	3/8" (1)
369108	10" (250 mm)	8" OD*	9.75"-10.46" (250-266 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	30 psi (2,1 bar)	17 lbs (7.7 kg)	20" (508 mm)	9.13" (232 mm)	1/4" (1)	3/8" (1)
369128	12" (300 mm)	10" OD*	11.75"-12.52" (300-318 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	30 psi (2,1 bar)	21 lbs (9.5 kg)	20" (508 mm)	11.13" (283 mm)	1/4" (1)	3/8" (1)
369158	15" (380 mm)	12" OD*	13.9"-15.56" (353-395 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	30 psi (2,1 bar)	26 lbs (11.8 kg)	20" (508 mm)	13.13" (333 mm)	1/4" (1)	3/8" (1)
369188	18" (450 mm)	15" OD*	16.88"-18.74" (429-476 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	30 psi (2,1 bar)	31 lbs (14 kg)	20" (508 mm)	16.13" (410 mm)	1/4" (1)	3/8" (1)
369218	21" (525 mm)	18" OD*	20.01"-21.81" (508-554 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	30 psi (2,1 bar)	37 lbs (16.8 kg)	20" (508 mm)	19.13" (486 mm)	1/4" (1)	3/8" (1)
369248	24" (600 mm)	20" OD*	22.63"-24.98" (575-634 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	30 psi (2,1 bar)	42 lbs (19 kg)	20" (508 mm)	21.13" (537 mm)	1/4" (1)	3/8" (1)

Multi-Size Big Mouth Plugs

Part Number	Nominal Size	Bypass Diameter (NPT)	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Chain / Eye bolts	
374068	6" - 10" (150-250 mm)	4" M	5.75"-10.25" (146-260 mm)	10 psi (0,69 bar)	23 ft. (10 M)	40 psi (2,8 bar)	15 lbs (6.8 kg)	24.5" (622 mm)	5.65" (146 mm)	1/4" (1)	3/8" (1)
374088	8" - 12" (200-300 mm)	4" M	7"-12.25" (178-311 mm)	15 psi (1 bar)	34 ft. (10.5 M)	35 psi (2,4 bar)	22 lbs (10 kg)	26" (660 mm)	6.75" (165 mm)	1/4" (1)	3/8" (1)
376088	8" - 12" (200-300 mm)	6" M	7"-12.25" (178-311 mm)	15 psi (1 bar)	34 ft. (10.5 M)	35 psi (2,4 bar)	22 lbs (10 kg)	26" (660 mm)	6.76" (165 mm)	1/4" (1)	3/8" (1)
376128	12" - 18" (300-450 mm)	6" M	11.25"-18.25" (286-464 mm)	10 psi (0,69 bar)	23 ft. (10 M)	25 psi (1,7 bar)	45 lbs (21 kg)	28" (711 mm)	11" (279 mm)	1/4" (1)	3/8" (1)
378128	12" - 18" (300-450 mm)	8" M	11.25"-18.25" (286-464 mm)	10 psi (0,69 bar)	23 ft. (10 M)	25 psi (1,7 bar)	45 lbs (21 kg)	28" (711 mm)	11" (279 mm)	1/4" (1)	3/8" (1)

Multi-Size Plugs with Interchangeable Flange

Part Number	Nominal Size	Bypass Diameter (NPT)	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Chain / Eye bolts	
376148	14" - 21" (375-525 mm)	6" M	13.6"-21.25" (345-540 mm)	10 psi (0,69 bar)	23 ft. (10 M)	25 psi (1,7 bar)	60 lbs (27 kg)	30" (762 mm)	13.25" (337 mm)	1/8" (1)	3/8" (2)
378148	14" - 21" (375-525 mm)	8" M	13.6"-21.26" (345-540 mm)	10 psi (0,69 bar)	23 ft. (10 M)	25 psi (1,7 bar)	60 lbs (27 kg)	30" (762 mm)	13.25" (337 mm)	1/8" (1)	3/8" (2)
380148	14" - 21" (375-525 mm)	10" M	13.6"-21.27" (345-540 mm)	10 psi (0,69 bar)	23 ft. (10 M)	25 psi (1,7 bar)	60 lbs (27 kg)	30" (762 mm)	13.25" (337 mm)	1/8" (1)	3/8" (2)
376188	18" - 24" (450-600 mm)	6" M	16.5"-24.25" (419-616 mm)	10 psi (0,69 bar)	23 ft. (10 M)	22 psi (1,5 bar)	90 lbs (41 kg)	34" (864 mm)	16" (406 mm)	1/8" (1)	1/2" (2)
378188	18" - 24" (450-600 mm)	8" M	16.5"-24.26" (419-616 mm)	10 psi (0,69 bar)	23 ft. (10 M)	22 psi (1,5 bar)	90 lbs (41 kg)	34" (864 mm)	16" (406 mm)	1/8" (1)	1/2" (2)
380188	18" - 24" (450-600 mm)	10" M	16.5"-24.27" (419-616 mm)	10 psi (0,69 bar)	23 ft. (10 M)	22 psi (1,5 bar)	90 lbs (41 kg)	34" (864 mm)	16" (406 mm)	1/8" (1)	1/2" (2)

Big Mouth Flange Kits

Part Number	Nominal Size	Bypass Diameter
049068	14" - 21"	6" M
049088	14" - 21"	8" M
049188	18" - 24"	8" M
049208	18" - 24"	10" M

I-Series Muni Ball® Plugs

Cherne's I-Series Muni-Ball plugs were designed to meet the needs of both the US and International markets in terms of size and expansion range. Our I-Series plugs have full body cording for added durability.

Our I-Series plugs feature:

- Superior expansion range
- Small deflated diameters
 - All plugs up through our 24-60" size easily fit through a 24" manhole frame
 - 48-72" and 54-96" plugs fit through 36" openings
- Flexible bypass hoses – plugs can be bent to 90 degrees



Plugs 15-32" and larger:

- Aluminum end plates – minimizes rust/corrosion
- 3/4" eyebolts on plugs 15-32" and larger – better holding strength
- Patented Field Replaceable Rupture Discs on plugs 15-32" and larger – protects plug from over-inflation

Protective sleeves available for 12-24" and larger plugs. See page 20.

Part Number	Nominal Size	Bypass Diameter (NPT)	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Chain / Eye bolts	
355088	4" - 8" (100-200 mm)	3/4" M	3.75"-8.25" (100-210 mm)	13 psi (0,9 bar)	30 ft. (9,1 M)	30 psi (2,1 bar)	6 lbs (2,7 kg)	22" (559 mm)	3.65" (93 mm)	1/4"	1/4" (1)
355128	6" - 12" (150-300 mm)	1" M	5.50"-12.25" (150-311 mm)	13 psi (0,9 bar)	30 ft. (9,1 M)	30 psi (2,1 bar)	8.5 lbs (3,9 kg)	26.25" (667 mm)	5.25" (133 mm)	1/4"	3/8" (1)
355168	8" - 16" (200-400 mm)	2" F	7.7"-16.25" (196-413 mm)	13 psi (0,9 bar)	30 ft. (9,1 M)	30 psi (2,1 bar)	23 lbs (10,5 kg)	32" (813 mm)	7.6" (194 mm)	1/4"	3/8" (2)
355248	12" - 24" (300-600 mm)	2" M	11.25"-24.25" (286-616 mm)	13 psi (0,9 bar)	30 ft. (9,1 M)	30 psi (2,1 bar)	41 lbs (18,6 kg)	40" (1016 mm)	11" (282 mm)	1/4"	3/8" (2)
312328	15"-32" (375-800 mm)	2" M	15"-32" (375-800 mm)	11 psi (0,76 bar)	25 ft. (7,6 M)	25 psi (1,72 bar)	73 lbs (33,2 kg)	48" (1220 mm)	14.3" (363 mm)	1/4" & 1/2"	3/4" (2)
314328	15"-32" (375-800 mm)	4" M	15"-32" (375-800 mm)	11 psi (0,76 bar)	25 ft. (7,6 M)	25 psi (1,72 bar)	80 lbs (36,4 kg)	48" (1220 mm)	14.3" (363 mm)	1/4" & 1/2"	3/4" (2)
316328	15"-32" (375-800 mm)	6" M	15"-32" (375-800 mm)	11 psi (0,76 bar)	25 ft. (7,6 M)	25 psi (1,72 bar)	94 lbs (42,75 kg)	48" (1220 mm)	14.3" (363 mm)	1/4" & 1/2"	3/4" (2)
*312408	20" - 40" (500-1000 mm)	2" M	19"-40" (475-1000 mm)	8.7 psi (0,6 bar)	20 ft. (6,1 M)	22 psi (1,5 bar)	88 lbs (40 kg)	46.25" (1175 mm)	18.5" (470 mm)	1/4" & 1/2"	1/2" (2)
*314408	20" - 40" (500-1000 mm)	4" M	19"-40" (475-1000 mm)	8.7 psi (0,6 bar)	20 ft. (6,1 M)	22 psi (1,5 bar)	95 lbs (43 kg)	46.25" (1175 mm)	18.5" (470 mm)	1/4" & 1/2"	1/2" (2)
*316408	20" - 40" (500-1000 mm)	6" M	19"-40" (475-1000 mm)	8.7 psi (0,6 bar)	20 ft. (6,1 M)	22 psi (1,5 bar)	106 lbs (48 kg)	46.25" (1175 mm)	18.5" (470 mm)	1/4" & 1/2"	1/2" (2)
*314488	24" - 48" (600-1200 mm)	4" M	20"-50" (510-1270 mm)	**10 psi (0,7 bar)	23 ft. (7 M)	22 psi (1,5 bar)	150 lbs (68 kg)	68" (1730 mm)	20" (485 mm)	1/4" & 1/2"	3/4" (2)
*316488	24" - 48" (600-1200 mm)	6" M	20"-50" (510-1270 mm)	**10 psi (0,7 bar)	23 ft. (7 M)	22 psi (1,5 bar)	153 lbs (69,5 kg)	68" (1730 mm)	20" (485 mm)	1/2"	3/4" (2)
314600	24" - 60" (1400-1500 mm)	4" M	20.5" - 60.5" (520 - 1537 mm)	6 psi (0,41 bar)	14 ft. (4,3 M)	22 psi (1,5 bar)	153 lbs (69,5 kg)	88" (2235 mm)	20" (485 mm)	1/4" & 1/2"	3/4" (2)
316600	24" - 60" (600-1500 mm)	6" M	20.5" - 60.5" (520 - 1537 mm)	6 psi (0,41 bar)	14 ft. (4,3 M)	22 psi (1,5 bar)	164 lbs (74,5 kg)	88" (2235 mm)	20" (485 mm)	1/4" & 1/2"	3/4" (2)
*314728	48" - 72" (1200-1800 mm)	4" M	44"-72.25" (1118-1835 mm)	6 psi (0,41 bar)	14 ft. (4,3 M)	12 psi (0,83 bar)	310 lbs (141 kg)	93" (2632 mm)	43" (1092 mm)	1/2" (2)	3/4" (3)
316728	48" - 72" (1200-1800 mm)	6" M	44" - 72.25" (1200 - 1835 mm)	6 psi (0,41 bar)	14 ft. (4,3 M)	12 psi (0,83 bar)	418 lbs (190,0 kg)	93" (2632 mm)	43" (1092 mm)	1/2" (2)	3/4" (3)
318728	48" - 72" (1200-1800 mm)	8" M	44" - 72.25" (1200 - 1835 mm)	6 psi (0,41 bar)	14 ft. (4,3 M)	12 psi (0,83 bar)	448 lbs (203,6 kg)	93" (2632 mm)	43" (1092 mm)	1/2" (2)	3/4" (3)
*314968	54" - 96" (1400-2400 mm)	4" M	54"-96.25" (1400-2450 mm)	6 psi (0,41 bar)	14 ft. (4,3 M)	11 psi (0,75 bar)	500 lbs (228 kg)	128" (3200 mm)	43" (1092 mm)	1/2" (2)	3/4" (3)
316968	54" - 96" (1400-2400 mm)	6" M	50" - 96.25" (1270 - 2400 mm)	6 psi (0,41 bar)	14 ft. (4,3 M)	11 psi (0,75 bar)	480 lbs (218,2 kg)	132" (3353 mm)	43" (1092 mm)	1/2" (2)	3/4" (3)
319968	54" - 96" (1400-2400 mm)	8" M	50" - 96.25" (1270 - 2400 mm)	6 psi (0,41 bar)	14 ft. (4,3 M)	11 psi (0,75 bar)	506 lbs (230,0 kg)	132" (3353 mm)	43" (1092 mm)	1/2" (2)	3/4" (3)

*Rupture Disc

Pillow-Style Muni-Ball® Plugs



Cherne's Pillow-Style Muni-Balls are great for blocking sewer flow and can also be used for sewer testing. Made from heavy-duty elastic urethane these plugs are lightweight, flexible, chemical and petroleum resistant, and will fit through small diameter openings. Pillow-style plugs can be tethered to full head pressure with the tether bar.

Features:

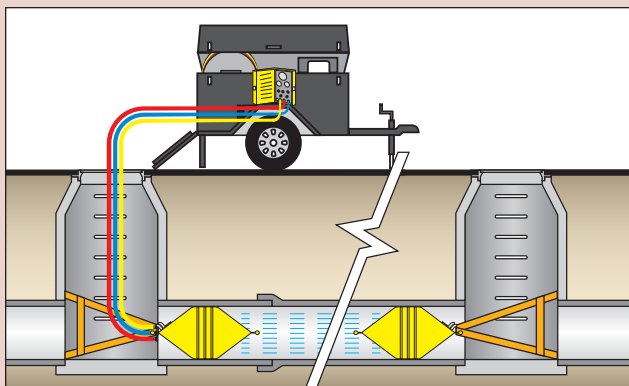
- Equipped with a special 30' inflation hose, read-back line and gauge
- A repair kit is available to fix small tears and punctures
- Muni-Ball® style plugs feature a bypass with threaded nipples on both ends



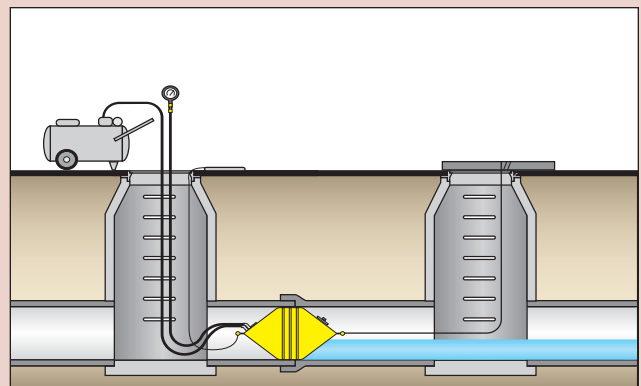
Pillow-Style Muni-Ball

Part Number	Nominal Size	Bypass Diameter (NPT)	Usage Range	Maximum Back Pressure	Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread
266027	30" (750 mm)	2 1/2" F	29.4"-31.25" (747-794 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	55 lbs (25 kg)	66" (1700 mm)	12" (305 mm)	1/2" (1)
266035	33" (850 mm)	2 1/2" F	32.3"-34.25" (819-870 mm)	8.7 psi (0,61 bar)	20 ft. (6.1 M)	57 lbs (25.9 kg)	95" (2413 mm)	12" (305 mm)	1/2" (1)
266043	36" (900 mm)	2 1/2" F	35.3"-37.5" (896-953 mm)	8.7 psi (0,61 bar)	20 ft. (6.1 M)	67 lbs (30.4 kg)	95" (2413 mm)	12" (305 mm)	1/2" (1)
266051	42" (1100 mm)	2 1/2" F	41.2"-43" (1045-111 mm)	7.8 psi (0,55 bar)	18 ft. (5.5 M)	68 lbs (30.8 kg)	95" (2413 mm)	12" (305 mm)	1/2" (1)
266078	48" (1200 mm)	2 1/2" F	47.04"-50" (1195-1270 mm)	5.6 psi (0,4 bar)	13 ft. (4 M)	70 lbs (31.8 kg)	95" (2413 mm)	12" (305 mm)	1/2" (1)
266086	54" (1400 mm)	2 1/2" F	52.92"-56" (1344-1422 mm)	5.6 psi (0,4 bar)	13 ft. (4 M)	105 lbs (47 kg)	95" (2413 mm)	15" (381 mm)	1/2" (1)
266094	60" (1600 mm)	2 1/2" F	58.8"-62" (1494-1575 mm)	5.6 psi (0,4 bar)	13 ft. (4 M)	125 lbs (56.7 kg)	126" (3200 mm)	15" (381 mm)	1/2" (1)
266108	66" (1700 mm)	2 1/2" F	64.7"-68" (1643-1727 mm)	3.5 psi (0,24 bar)	8 ft. (2.4 M)	130 lbs (58.9 kg)	126" (3200 mm)	15" (381 mm)	1/2" (1)

Sewer air test



Blocking flow



Large single-size plugs are not suitable for leak location or vacuum testing. Custom sizes of the Pillow-Style Test-Ball® and Muni-Ball® plugs are also available.

Always block plugs when conducting air tests.

Air-Loc® & I-Series Leak Locator Plugs

Air-Loc leak locator plugs are designed for both line acceptance tests as well as leak location testing. Air-Loc front plugs can also be used as blocking plugs by simply plugging the fill and read-back ports.

Features:

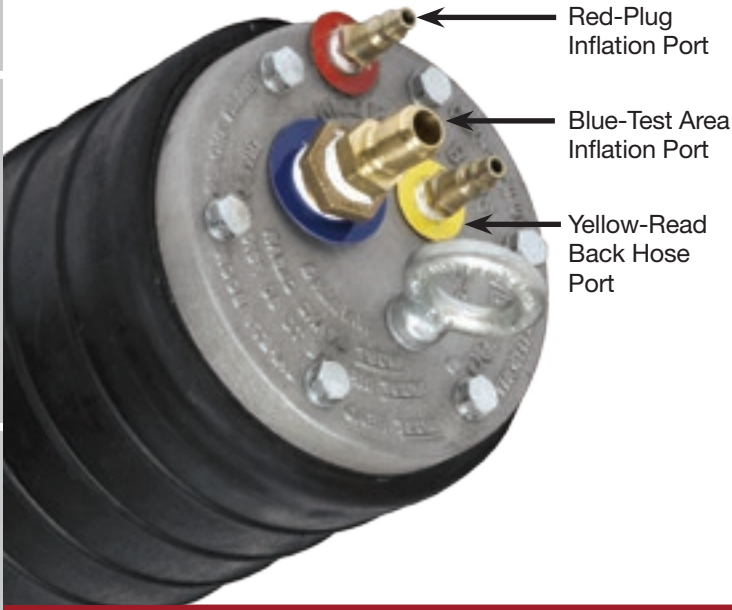
- Eyebolts on both ends for interconnecting plugs
- Easy to use quick-disconnect hose connections
- Rupture discs on sizes 15-32" and larger to safeguard plug against over-inflation
- Aramid cording on sizes 15-32" and larger

"Front" Air-Loc Leak Locator Plugs also come equipped with:

- Color coded inflation ports
- Removable air fittings
- Flexible internal hoses

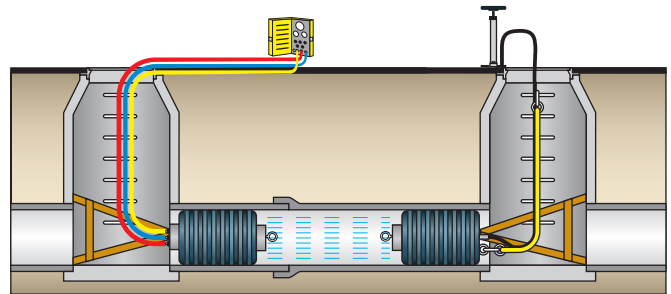


Front Plug



- ← Red-Plug Inflation Port
- ← Blue-Test Area Inflation Port
- ← Yellow-Read Back Hose Port

Line Acceptance Test



Air-Loc Pressure Testing Panel

Ideal for line acceptance testing and leak location testing. See page 44



Triple Hose

Connect Air-Loc plug to the control panel. See page 45



Always block plugs when conducting air tests.



Front Plugs

Part Number	Nominal Size	Usage Range	Maximum Back Pressure		Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Chain / Eye bolts
Original Front Plugs										
267068	6" - 10" (150-250 mm)	5.5"-10.5" (140-260 mm)	13 psi (0,9 bar)	30 ft. (9 M)	30 psi (2,1 bar)	8 lbs (3.5 kg)	23.5" (593 mm)	5.25" (133 mm)	1/4" (1)	7/16" (2)
267088	8" - 12" (200-300 mm)	7"-12.3" (178-312 mm)	13 psi (0,9 bar)	30 ft. (9 M)	30 psi (2,1 bar)	15 lbs (6.8 kg)	26.25" (667 mm)	6.75" (171 mm)	1/4" (1)	7/16" (2)
267128	12" - 18" (300-450 mm)	10.75"-18.5" (273-478 mm)	13 psi (0,9 bar)	30 ft. (9 M)	25 psi (1,7 bar)	27 lbs (12.2 kg)	31.5" (800 mm)	10.25" (260 MM)	1/4" (1)	7/16" (2)
I-Series Front Plugs										
317328	15" - 32" (380 - 800 mm)	15" - 32" (380 - 800 mm)	11 psi (0,76 bar)	25 ft. (7.6 M)	25 psi (1,72 bar)	73 lbs (33.2 kg)	48" (1220 mm)	14.5" (370 mm)	1/4" & 1/2"	3/4" (2)
*317408	20" - 40" (500-1000 mm)	19"-40" (475-1000 mm)	8.7 psi (0,6 bar)	20 ft. (6.1 M)	22 psi (1,5 bar)	95 lbs (43 kg)	46.25" (1175 mm)	18.5" (470 mm)	1/4" & 1/2"	3/4" (2)
*317488	24" - 48" (600-1200 mm)	20.5"-50" (521-1270 mm)	10 psi (0,7 bar)	23 ft. (7 M)	22 psi (1,5 bar)	125 lbs (57 kg)	74.5" (1892 mm)	20" (508 mm)	1/4" & 1/2"	3/4" (2)
*317600	24" - 60" (600-1525 mm)	20.5"-60.5" (520-1537 mm)	6 psi (0,41 bar)	14 ft. (4.3 M)	22 psi (1,5 bar)	148 lbs (69.5 kg)	88" (2235 mm)	20" (500 mm)	1/4" & 1/2"	3/4" (2)
*317728	48" - 72" (1200-1800 mm)	44"-72.25" (1118-1835 mm)	6 psi (0,41 bar)	14 ft. (4.3 M)	12 psi (0,83 bar)	290 lbs (132 kg)	100" (2540 mm)	43" (1092 mm)	1/2" (2)	3/4" (3)
*317968	54" - 96" (1400-2400 mm)	54"-96.25" (1400-2450 mm)	6 psi (0,41 bar)	14 ft. (4.3 M)	11 psi (0,75 bar)	500 lbs (228 kg)	128" (3200 mm)	50" (1270 mm)	1/2" (2)	3/4" (3)

Back Plugs

Part Number	Nominal Size	Usage Range	Maximum Back Pressure		Inflation Pressure	Product Weight	Deflated Length	Deflated Diameter	Inflation Thread	Chain / Eye bolts
275078	6" - 10" (150-250 mm)	5.5"-10.5" (140-2650 mm)	13 psi (0,9 bar)	30 ft. (9 M)	30 psi (2,1 bar)	5.84 lbs (2.5 kg)	23.5" (593 mm)	5.25" (133 mm)	1/4" (1)	3/8" (2)
275108	8" - 12" (200-300 mm)	7"-12.5" (178-312 mm)	13 psi (0,9 bar)	30 ft. (9 M)	30 psi (2,1 bar)	9.3 lbs (4.2 kg)	26.25" (667 mm)	6.75" (171 mm)	1/4" (1)	3/8" (2)
275138	12" - 18" (300-450 mm)	10.75"-18.5" (273-478 mm)	13 psi (0,9 bar)	30 ft. (9 M)	25 psi (1,7 bar)	23 lbs (10.3 kg)	31.5" (800 mm)	10.25" (260 MM)	1/4" (1)	3/8" (2)

*With Rupture Disc

**Consult table on page 22 for greater pressures at smaller diameters

Protective Sleeves

Greatly reduces possibility of damage to plug due to debris and sharp objects in the pipe. The protective sleeve also protects plugs when the pipe is degraded. Works particularly well in coastal areas where oysters and barnacles are present.



Protective Sleeve

Threading rope through eyelets holds sleeve in place during plug installation and removal.

Features:

- 1/4" thick sleeve extends plug life
- Eliminates superficial cuts on plugs
- Great for rental distributors & frequent users
- Maintains back pressure ratings
- Easy to install without special tools



Plug with sleeve installed

Protective Sleeves

Part Number	Sleeve Size
300988	12" - 24"
300998	15" - 30" & 15" - 32"
301408	20" - 40"
301018	24" - 42"
301028	24" - 48"
301059	24" - 60"
301038	40" - 60"
301048	48" - 72"
301068	54" - 96"

Sleeves installed for nominal fee

Rupture Disc



Rupture Disc Features:

Increases Plug Life

- Disc activates at 60% over required inflation pressure
 - Helps prevent “non-visible” damage to cording
 - Rupture disc won't burst until well over stated inflation pressure
 - No more catastrophic plug failures due to faulty gauges
 - Discs can be replaced in field

Improves User Safety

- Reduces the possibility of plug explosion due to over-inflation

Superior components/design

- Aluminum housing - will not rust
- Graphite rupture disc
 - Leak-free design
 - Precision calibrated



240008

Rupture Disc for Test Balls and Air-Loc Plugs with inflation pressures of 22-25 psi.



240068

Rupture Disc for Muni-Balls with inflation pressure of 22-25 psi.

220028

Rupture disc for Test Balls, Muni Balls, and Air-Loc Plugs with inflation pressure of 11-12 psi.



Back Pressure Data

BACK PRESSURE DATA: I-Series Plugs

PLUG SIZE	PIPE DIAMETER																		
	4"	6"	8"	12"	15"	18"	19.35"	21"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"
4"-8"	16.7 psi	14.4 psi	13.0 psi																
6"-12"		23.6 psi	20.9 psi	18.2 psi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8"-16"		-	18.2 psi	14.8 psi	13.4 psi	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12"-24"		-	-	18.7 psi	16.8 psi	15.2 psi	12.4 psi	14.0 psi	13.0 psi	-	-	-	-	-	-	-	-	-	-
15"-32"		-	-	-	18.6 psi	17.6 psi	17.2 psi	16.6 psi	15.4 psi	12.2 psi	-	-	-	-	-	-	-	-	-
20"-40"		-	-	-	-	-	-	13.6 psi	12.5 psi	11.2 psi	10.2 psi	8.7 psi	-	-	-	-	-	-	-
24"-48"		-	-	-	-	-	-	-	15.2 psi	13.9 psi	12.8 psi	11.4 psi	10.1 psi	-	-	-	-	-	-
24"-60"		-	-	-	-	-	-	-	15.6 psi	15.2 psi	14.8 psi	14.0 psi	12.6 psi	9.6 psi	6.0 psi	-	-	-	-
40"-60"		-	-	-	-	-	-	-	-	-	-	15.0 psi	13.0 psi	11.0 psi	8.7 psi	-	-	-	-
48"-72"		-	-	-	-	-	-	-	-	-	-	-	7.2 psi	6.8 psi	6.4 psi	6.2 psi	6.0 psi	-	-
54"-96"		-	-	-	-	-	-	-	-	-	-	-	-	7.3 psi	7.2 psi	6.9 psi	6.8 psi	6.6 psi	6.4 psi





Mechanical Plugs



Original Gripper®	26
Hub-Fit Gripper® • Clean-Out Gripper®	27
T-Handle Gripper®	28
Iron Grip	29
Econ-O-Grip® • Petro Econ-O-Grip®	30
Kwik 'N Sure® • Sure-Grip®	31
Monitor-Well Plugs	32
Test Kap™	33



Original Gripper®

Cherne's Gripper plugs can be used in a variety of applications including DWV (drain, waste and vent) testing and stack testing. End-of-Pipe design won't fall in, whereas the Inside-of-Pipe design allows you to locate the plug inside the pipe as far as you need. Time tested, the Gripper® remains one of the most popular mechanical plugs on the market.

Original Gripper® Plug Features:

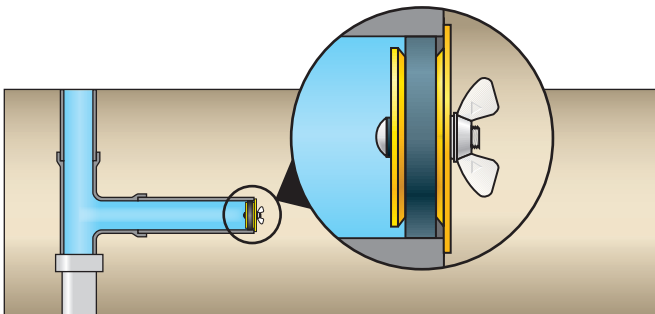
- Ideal for sewer testing and long-term applications
- Made with glass-reinforced ABS plastic
- End-of-pipe design seals only at the end of a pipe
- Inside-of-pipe design seals inside pipe as far as needed

Equipped with:

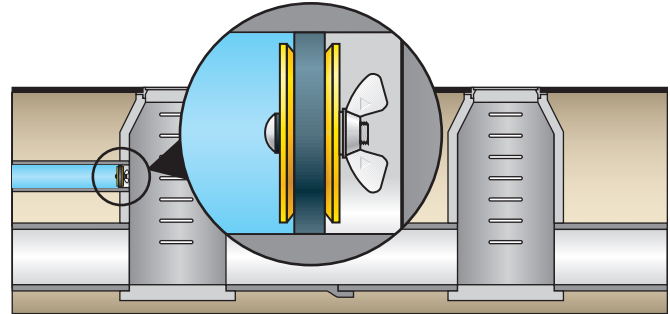
- Easy to install extra large zinc wing nut – won't rust
- Natural rubber o-ring
- Galvanized carriage bolt to prevent corrosion



End-of-Pipe Gripper® plug



Inside-of-Pipe Gripper® plug



End-of-Pipe Gripper

Part Number	Nominal Size	Usage Range	Maximum Back Pressure	Length	Product Weight	
270210	1 1/2" (40 mm)	1.48"-1.65" (39-42 mm)	17 psi (1,2 bar)	40 ft. (12 M)	1.75" (44.5 mm)	0.13 lbs (0.05 kg)
270229	2" (50 mm)	1.9"-2.17" (49-55 mm)	17 psi (1,2 bar)	40 ft. (12 M)	1.87" (47.5 mm)	0.19 lbs (0.09 kg)
270237	3" (75 mm)	2.8"-3.1" (71-79 mm)	17 psi (1,2 bar)	40 ft. (12 M)	2.5" (63.5 mm)	0.375 lbs (0.16 kg)
270245	4" (100 mm)	3.8"-4.06" (96-103 mm)	17 psi (1,2 bar)	40 ft. (12 M)	2.5" (63.5 mm)	0.5 lbs (0.23 kg)
270261	6" (150 mm)	5.77"-6.08" (147-154 mm)	17 psi (1,2 bar)	40 ft. (12 M)	3.75" (95.3 mm)	2.5 lbs (1.14 kg)
270270	8" (200 mm)	7.7"-8.03" (196-204 mm)	17 psi (1,2 bar)	40 ft. (12 M)	3.75" (95.3 mm)	3 lbs (1.37 kg)

Inside-of-Pipe Gripper

Part Number	Nominal Size	Usage Range	Maximum Back Pressure	Length	Product Weight	
270296	4" (100 mm)	3.8"-4.06" (96-103 mm)	17 psi (1,2 bar)	40 ft. (12 M)	2.5" (63.5 mm)	.5 lbs (0.23 kg)
270253	6" (150 mm)	5.77"-6.08" (147-154 mm)	17 psi (1,2 bar)	40 ft. (12 M)	3.75" (95.3 mm)	2.5 lbs (1.14 kg)
270288	8" (200 mm)	7.7"-8.03" (196-204 mm)	17 psi (1,2 bar)	40 ft. (12 M)	3.75" (95.3 mm)	3 lbs (1.37 kg)

Hub-Fit Gripper® • Clean-Out Gripper®



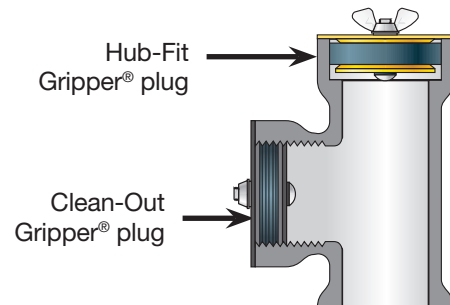
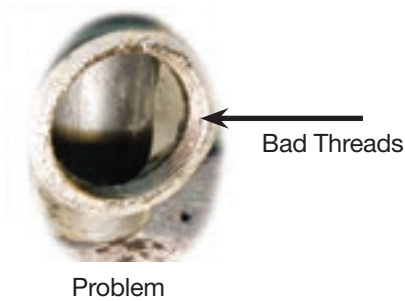
Hub-Fit Gripper® Plug Features:

- Ideal for use in hub fittings and in bell-end pipe
- Pressure rated for conducting DWV tests
- Made with glass-reinforced ABS plastic
- Yellow color for greater visibility in pipe
- Natural rubber o-ring for positive seal
- Galvanized carriage bolt to prevent corrosion
- Easy-to-install, extra large zinc wing nut – won't rust



Clean-Out Gripper® Plug Features:

- Guaranteed to seal any damaged threads
- Made with glass-reinforced ABS plastic
- Black color blends well with cast-iron pipe
- Stainless steel hardware
- NPT sizes, including hard to find 3½"
- Natural rubber threaded o-ring for positive seal



Hub-Fit Gripper

Part Number	Nominal Size	Usage Range	Maximum Back Pressure		Length	Product Weight
270528	2" (50 mm)	2.25"-2.45" (57-63 mm)	13 psi (0,9 bar)	30 ft. (9 M)	1.9" (48 mm)	3.3 oz (0.09 kg)
270538	3" (75 mm)	3.44"-3.53" (88-90 mm)	13 psi (0,9 bar)	30 ft. (9 M)	2.4" (61 mm)	9.5 oz (0.27 kg)
270548	4" (100 mm)	4.41"-4.53" (112-115 mm)	13 psi (0,9 bar)	30 ft. (9 M)	2.4" (61 mm)	11.9 oz (0.34 kg)

Clean-Out Gripper

Part Number	Nominal Size	Usage Range	Maximum Back Pressure		Length	Product Weight
270168	2"	2.20"-2.5"	17 psi	40 ft.	1.9"	2.4 oz
270178	3"	3.23"-3.50"	17 psi	40 ft.	2.2"	3.5 oz
270138	3.5"	3.78"-4.25"	17 psi	40 ft.	2.2"	7.5 oz
270188	4"	4.22"-4.6"	17 psi	40 ft.	2.2"	9.7 oz

T-Handle Gripper®

T-Handle Aluminum Gripper® Plug Features:

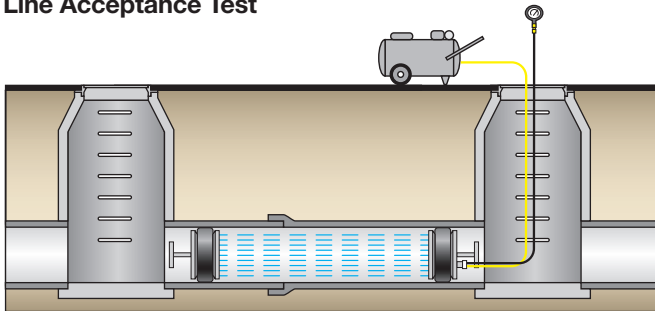
- Ideal for long term applications
- 6" - 12" plugs are sized for concrete, clay, and SDR 26 and 35 pipe
- 15" and 18" plugs are sized for concrete and clay pipe sizes only
- Available with or without bypass
- Can be used for sewer air pressure tests

Equipped with:

- Heavy duty aluminum body and T-handle
- Chemical resistant neoprene o-ring



Line Acceptance Test



T-Handle Gripper with Bypass

Part Number	Nominal Size	Usage Range	Maximum Back Pressure	Length	Product Weight	Bypass Diameter (NPT)
272949	6" (150 mm)	5.7"-6.3" (144-160 mm)	17 psi (1,2 bar)	40 ft. (12 M)	9.7" (247 mm)	6.5 lbs (3 kg)
272957	8" (200 mm)	7.7"-8.3" (196-211 mm)	17 psi (1,2 bar)	40 ft. (12 M)	9.7" (247 mm)	9.5 lbs (4.3 kg)
272965	10" (250 mm)	9.8"-10.3" (248-262 mm)	17 psi (1,2 bar)	40 ft. (12 M)	9.7" (247 mm)	12.5 lbs (5.7 kg)
272973	12" (300 mm)	11.7"-12.3" (297-312 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	9.7" (247 mm)	16 lbs (7.3 kg)
272981	15" (380 mm)	14.8"-15.3" (377-388 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	9.7" (247 mm)	24 lbs (10.7 kg)
272998	18" (460 mm)	17.7"-18.3" (450-465 mm)	8.7 psi (0,61 bar)	20 ft. (6.1 M)	9.7" (247 mm)	31 lbs (14 kg)

T-Handle Gripper

Part Number	Nominal Size	Usage Range	Maximum Back Pressure	Length	Product Weight
272892	6" (150 mm)	5.7"-6.3" (144-160 mm)	17 psi (1,2 bar)	40 ft. (12 M)	9.7" (247 mm)
272906	8" (200 mm)	7.7"-8.3" (196-211 mm)	17 psi (1,2 bar)	40 ft. (12 M)	9.7" (247 mm)
272914	10" (250 mm)	9.8"-10.3" (248-262 mm)	17 psi (1,2 bar)	40 ft. (12 M)	9.7" (247 mm)
272922	12" (300 mm)	11.7"-12.3" (297-312 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	9.7" (247 mm)
272930	15" (380 mm)	14.8"-15.3" (377-388 mm)	13 psi (0,9 bar)	30 ft. (9.1 M)	9.7" (247 mm)
272888	18" (460 mm)	17.7"-18.3" (450-465 mm)	8.7 psi (0,61 bar)	20 ft. (6.1 M)	9.7" (247 mm)

Always block plugs when conducting air tests.

Iron Grip



Iron Grip Bypass Mechanical Plug Features:

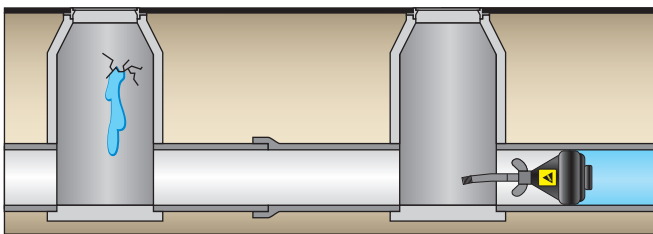
- Easy, tool free installation
- For permanent or temporary use
- For use in water and air sewer testing
- Cast-iron design

Equipped with:

- Large installation wing-nut
- Natural rubber o-ring



Blocking Flow



Iron Grip

Part Number	Nominal Size	Usage Range	Maximum Back Pressure	Length	Product Weight	Bypass Diameter (NPT)
268028	2" (50 mm)	1.94"-2.12" (49-54 mm)	13 psi (0,9 bar)	30 ft. (9,1 M)	9.75" (248 mm)	1.1 lbs (.5 kg)
268038	3" (75 mm)	2.82"-3.12" (75-80 mm)	11 psi (0,76 bar)	25 ft. (7,6 M)	12.75" (324 mm)	2.3 lbs (1.1 kg)
268048	4" (100 mm)	3.6"-4.06" (92-103 mm)	8.7 psi (0,61 bar)	20 ft. (6.1 M)	12.75" (324 mm)	3.1 lbs (1.4 kg)
268068	6" (150 mm)	5.57"-6.12" (142-155 mm)	4.3 psi (0,30 bar)	10 ft. (3 M)	12.75" (324 mm)	5.6 lbs (2.5 kg)
268088	8" (200 mm)	7.72"-8.2" (196-208 mm)	4.3 psi (0,30 bar)	10 ft. (3 M)	17" (432 mm)	11.5 lbs (5.9 kg)
268108	10" (250 mm)	9.8"-10.2" (249-260 mm)	3.5 psi (0,24 bar)	8 ft. (2.4 M)	17" (432 mm)	20 lbs (9.0 kg)
268128	12" (300 mm)	11.56"-12.2" (294-310 mm)	2.6 psi (0,18 bar)	6 ft. (1.8 M)	19.5" (500 mm)	28 lbs (12.8 kg)

Always block plugs when conducting air tests.

Econ-O-Grip® • Petro Econ-O-Grip®

Econ-O-Grip® Plug Features:

- Cost effective method for plugging open ended pipe
- Works well as a pipe dust cover

Equipped with:

- Galvanized metal plates and bolts
- Natural rubber o-ring



Petro Econ-O-Grip® Plug Features:

- Cost effective, chemical-resistant plug
- Works well as a pipe dust cover

Equipped with:

- Stainless steel bolt and plate
- Chemical resistant nitrile rubber



Econo-O-Grip

Part Number	Nominal Size	Usage Range	Maximum Back Pressure		Length	Product Weight
271519	1.5" (40 mm)	1.44"-1.65" (37-42 mm)	2 psi (0,14 bar)	5 ft. (1.4 M)	2.56" (65 mm)	3.5 oz (0.1 kg)
271527	2" (50 mm)	1.96"-2.25" (50-57 mm)	2 psi (0,14 bar)	5 ft. (1.4 M)	2.62" (67 mm)	5 oz (0.14 kg)
271535	3" (75 mm)	2.86"-3.25" (73-82 mm)	2 psi (0,14 bar)	5 ft. (1.4 M)	2.64" (67 mm)	8.5 oz (0.24 kg)
271543	4" (100 mm)	3.78"-4.5" (96-114 mm)	2 psi (0,14 bar)	5 ft. (1.4 M)	3.25" (82 mm)	12.48 oz (0.35 kg)
271551	5" (125 mm)	4.62"-5.3" (117-135 mm)	1 psi (0,07 bar)	2 ft. (0.7 M)	3.55" (90 mm)	1.1 lbs (0.5 kg)
271578	6" (150 mm)	5.62"-6.4" (143-162 mm)	1 psi (0,07 bar)	2 ft. (0.7 M)	3.19" (81 mm)	1.6 lbs (0.7 kg)

Petro Econo-O-Grip

Part Number	Nominal Size	Usage Range	Maximum Back Pressure		Length	Product Weight
273318	1.5" (40 mm)	1.44"-1.65" (37-42 mm)	2 psi (0,14 bar)	5 ft. (1.4 M)	2.56" (65 mm)	3.5 oz (0.1 kg)
273328	2" (50 mm)	1.96"-2.25" (50-57 mm)	2 psi (0,14 bar)	5 ft. (1.4 M)	2.62" (67 mm)	5 oz (0.14 kg)
273338	3" (75 mm)	2.86"-3.25" (73-82 mm)	2 psi (0,14 bar)	5 ft. (1.4 M)	2.64" (67 mm)	8.5 oz (0.24 kg)
273348	4" (100 mm)	3.78"-4.3" (96-109 mm)	2 psi (0,14 bar)	5 ft. (1.4 M)	3.25" (82 mm)	12.48 oz (0.35 kg)
273358	5" (125 mm)	4.62"-5.3" (117-135 mm)	1 psi (0,07 bar)	2 ft. (0.7 M)	3.55" (90 mm)	1.1 lbs (0.5 kg)
273368	6" (150 mm)	5.62"-6.4" (143-162 mm)	1 psi (0,07 bar)	2 ft. (0.7 M)	3.19" (81 mm)	1.6 lbs (0.7 kg)

Always block plugs when conducting air tests.

Kwik 'N Sure® • Sure-Grip®



Sure-Grip® Plug Features:

- Polypropylene construction
- Fits all types of pipe at nominal sizes
- Permanent or temporary use

Equipped with:

- Natural rubber o-ring
- Can be tapped for use with cleanout cover

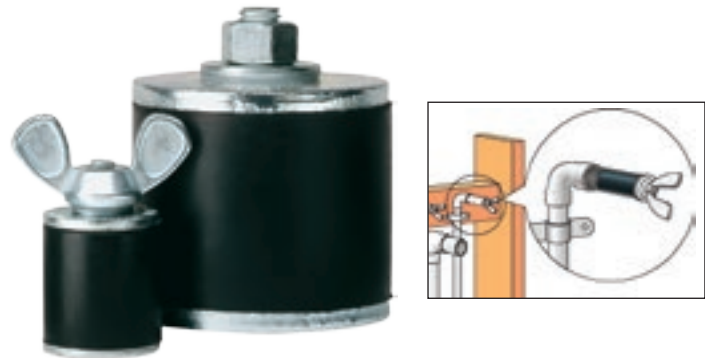


Kwik 'N Sure® Plug Features:

- Works in all types of pipe
- Ideal for plugging water line stub-outs
- Designed for high pressure applications

Equipped with:

- Natural rubber o-ring
- Wing nut on the .39"-1.25" sizes
- Hex nut on the 1.5"-5" sizes



Sure-Grip

Part Number	Nominal Size	Usage Range	Maximum Back Pressure	Length	Product Weight
271158	1.5" (40 mm)	1.48"-1.63" (40-42 mm)	22 psi (1,5 bar)	50 ft. (15 M)	2.5" (64 mm) 1.6 oz (0.7 kg)
271208	2" (50 mm)	1.89"-2.09" (48-53 mm)	22 psi (1,5 bar)	50 ft. (15 M)	3" (75 mm) 2.4 oz
271308	3" (75 mm)	2.89"-3.09" (73-79 mm)	13 psi (0,9 bar)	30 ft. (9 M)	3.7" (94 mm) 4.9 oz
271408	4" (100 mm)	3.87"-4.09" (98-103 mm)	13 psi (0,9 bar)	30 ft. (9 M)	3.5" (87 mm) 6.8 oz

Kwik'N Sure

Part Number	Nominal Size	Usage Range	Maximum Back Pressure	Length	Product Weight
269832	0.39" (10 mm)	0.38"-0.43" (10-11 mm)	185 psi (12,8 bar)	428 ft. (128 M)	1.87" (48 mm) 1 oz (0.03 kg)
269840	0.5" (13 mm)	0.5"-0.56" (13-14 mm)	180 psi (12,4 bar)	415 ft. (124 M)	1.87" (48 mm) 1.5 oz (0.04 kg)
269867	0.75" (20 mm)	0.72"-0.87" (18-22 mm)	180 psi (12,4 bar)	415 ft. (124 M)	2.06" (52 mm) 1.6 oz (0.05 kg)
269875	1" (25 mm)	0.86"-1.02" (22-26 mm)	40 psi (2,8 bar)	92 ft. (28 M)	1.87" (55 mm) 1.9 oz (0.05 kg)
269883	1.25" (32 mm)	1.24"-1.43" (32-36 mm)	112 psi (7,7 bar)	258 ft. (77 M)	2.06" (52 mm) 3 oz (0.07 kg)
269891	1.5" (40 mm)	1.43"-1.53" (36-39 mm)	88 psi (6,1 bar)	203 ft. (62 M)	1.87" (48 mm) 3.4 oz (0.08 kg)
269905	2" (50 mm)	1.73"-2.06" (44-52 mm)	112 psi (7,7 bar)	258 ft. (77 M)	2.63" (67 mm) 7 oz (0.2 kg)
269913	2.5" (60 mm)	2.3"-2.78" (58-71 mm)	72 psi (4,9 bar)	166 ft. (51 M)	2.75" (70 mm) 12 oz (0.3 kg)
269921	3" (75 mm)	2.73"-3.2" (69-81 mm)	28 psi (1,9 bar)	65 ft. (19 M)	3.12" (79 mm) 1.5 lbs (0.68 kg)
269948	4" (100 mm)	3.72"-4.5" (95-114 mm)	24 psi (1,7 bar)	55 ft. (17 M)	3.12" (79 mm) 2.6 lbs (1.2 kg)
269956	5" (125 mm)	4.8"-5.19" (122-132 mm)	8 psi (0,6)	18 ft. (6 M)	3.25" (82 mm) 2.25 lbs (1 kg)

Always block plugs when conducting air tests.

Monitor-Well Plugs

Monitor-Well Locking Plug Features:

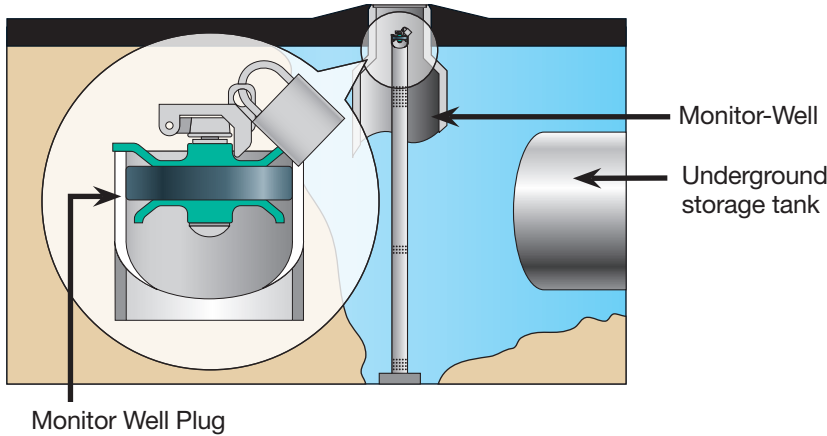
- Designed to seal monitor wells
- Meets all EPA requirements for locking plugs
- Sized to seal Schedule 40 piping
- 2" and 4" sizes can also seal Schedule 5 pipe
- Works with Cherne's solid brass padlock or #2 Masterlock® padlock

Equipped with:

- Chemical and petroleum-resistant Estaloc™ plastic top and bottom plates
- Petroleum resistant nitrile o-ring
- Stainless steel carriage bolt
- Yellow chromate-coated locking latch



Monitor-Well Plug Installed



Monitor-Well

Part Number	Nominal Size	Usage Range	Maximum Back Pressure		Length	Product Weight
271648	1" - 1.25" (25-30 mm)	1"-1.38" (25-35 mm)	6.5 psi (0.45 bar)	15 ft. (4.5 M)	2.5" (64 mm)	4.7 oz (0.14 kg)
271675	2" (50 mm)	1.9"-2.31" (49-59 mm)	6.5 psi (0.45 bar)	15 ft. (4.5 M)	2.5" (64 mm)	4.5 oz (0.13 kg)
271669	3" (75 mm)	2.8"-3.1" (71-79 mm)	6.5 psi (0.45 bar)	15 ft. (4.5 M)	2.6" (66 mm)	7.5 oz (0.21 kg)
271683	4" (100 mm)	3.8"-4.38" (97-111 mm)	6.5 psi (0.45 bar)	15 ft. (4.5 M)	3.0" (76 mm)	12.5 oz (0.35 kg)
271691	6" (150 mm)	5.77"-6.08" (147-155 mm)	6.5 psi (0.45 bar)	15 ft. (4.5 M)	3.98" (101 mm)	2 lbs (0.91 kg)
271735	8" (200 mm)	7.76"-8.03" (197-204 mm)	6.5 psi (0.45 bar)	15 ft. (4.5 M)	3.98" (101 mm)	3 lbs (1.22 kg)
112941	Dolphin Padlock (All padlocks keyed alike.)					

Test Kap™



Test-Kap™

- Made of flexible PVC
- Stainless steel hose clamp - will not rust
- Can be used on plastic, steel, copper, and cast iron pipe



Test-Kap

Part Number	Nominal Size	Maximum Back Pressure	
270725	1.5"	13 psi	30 ft.
270733	2"	13 psi	30 ft.
270741	3"	13 psi	30 ft.
270768	4"	13 psi	30 ft.
270776	5"	13 psi	30 ft.
270784	6"	13 psi	30 ft.

Always block plugs when conducting air tests.



Deflection Gauges

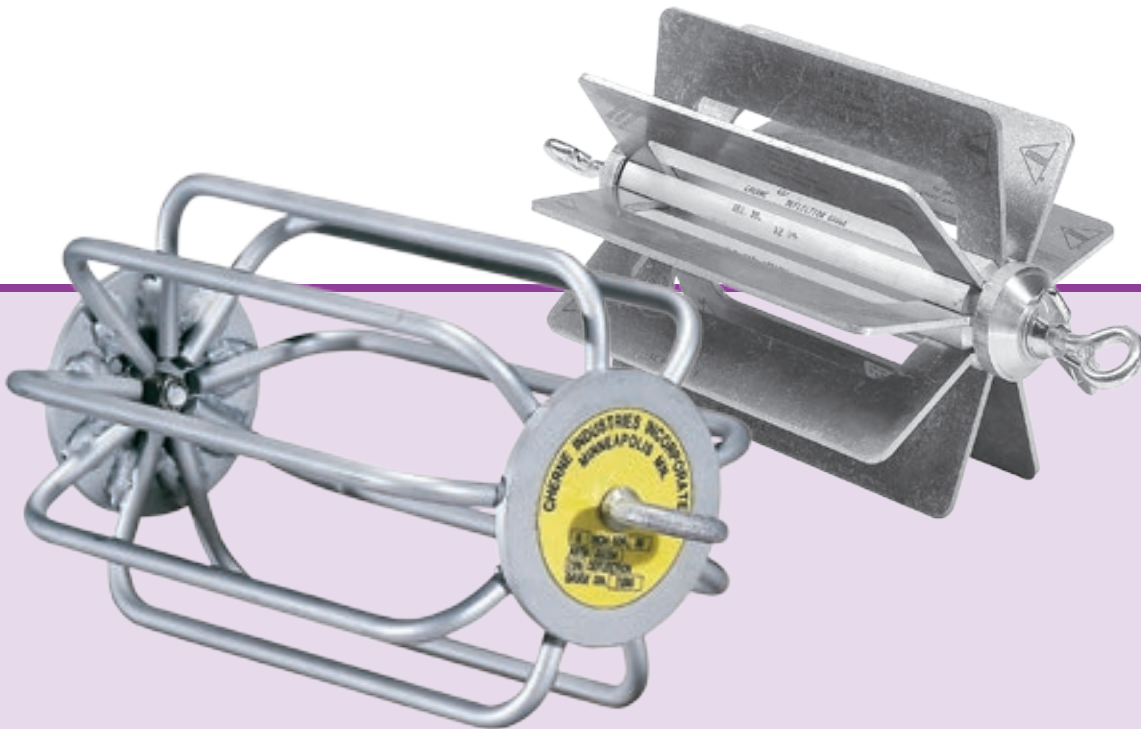


Deflection Gauges

36-38

Proving Rings

39



PNEUMATIC PLUGS

MECHANICAL PLUGS

DEFLECTION GAUGES

TESTING EQUIPMENT

TOOLS & ACCESSORIES

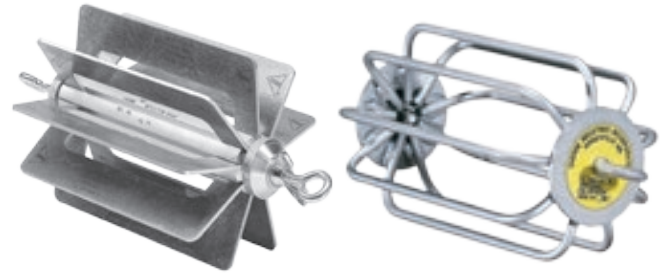
TECHNICAL DATA

Deflection Gauges

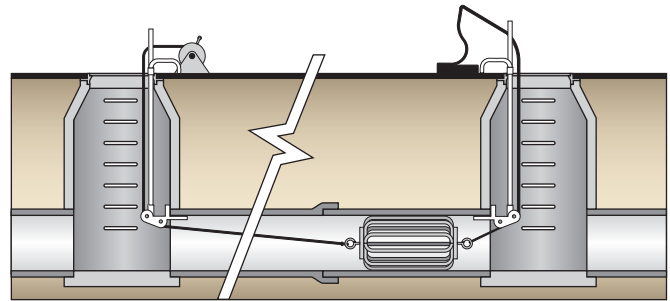
Deflection Gauges (mandrels) are used to test flexible sewer pipe for out-of-roundness or deflection per ASTM specifications D3034 and F679. This testing ensures that flexible pipe has been properly bedded and backfilled (ASTM D2321) to give optimal performance.

Both steel and aluminum gauges utilize a nine arm design to ensure the pipe is tested accurately. This design also allows gravel and debris to easily pass through. Other gauges can get hung up – causing a deflection test to fail, even though the pipe is within tolerance. Sized to .01", both deflection gauge styles meet ASTM requirements.

Custom sizes available!



Deflection Test



ASTM Specification D3034 (4" - 15")

Nominal Size	Pipe	Average ID	Base ID*	5% Deflection	7.5% Deflection
4"	SDR 35	3.965	3.895	3.70	3.60
6"	SDR 26	5.764	5.612	5.33	5.19
6"	SDR 35	5.893	5.742	5.46	5.31
8"	SDR 26	7.715	7.488	7.11	6.93
8"	SDR 35	7.891	7.665	7.28	7.09
10"	SDR 26	9.644	9.342	8.87	8.64
10"	SDR 35	9.864	9.563	9.08	8.84
12"	SDR 26	11.480	11.102	10.55	10.27
12"	SDR 35	11.737	11.361	10.79	10.51
15"	SDR 26	14.053	13.575	12.90	12.56
15"	SDR 35	14.374	13.898	13.20	12.86

ASTM Specification F679 (18" - 27")

Nominal Size	Pipe	Average ID	Base ID*	5% Deflection	7.5% Deflection
18"	SDR 26	17.177	16.586	15.76	15.34
18"	SDR 35	17.564	16.976	16.13	15.70
21"	SDR 26	20.249	19.545	18.57	18.08
21"	SDR 35	20.707	20.004	19.00	18.50
24"	SDR 26	22.781	21.964	20.87	20.32
24"	SDR 35	23.296	22.481	21.36	20.79
27"	SDR 26	25.674	24.744	23.51	22.89
27"	SDR 35	26.258	25.327	24.06	23.43

*Base Inside Diameter (Base ID) - Allows for out of roundness and wall thickness tolerances as defined by ASTM standards.



Air-Loc® Line Stringer

- Strings lines between manholes quickly
- Use lines to pull deflection gauges

See page 50

Aluminum Deflection Gauges



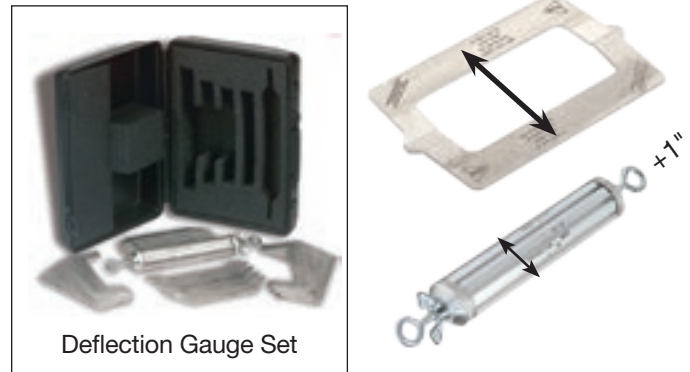
Aluminum Fin Style Deflection Gauge:

- Lightweight, corrosion-resistant
- Field-verifiable without a proving ring
- Assembles without tools
- All sizes fit through standard 24" manhole
- Fins for 4"-15" gauges have skid size equal to the nominal pipe size—gauge will meet regional codes and will not tip in the line
- Nine-fin design ensures testing accuracy
- Open design allows gravel and debris pass-through



Field Verification:

Cherne's Fin Style Deflection Gauges are designed to be field verified by inspectors without the use of a proving ring. Simply place two fins end to end as pictured to the right and measure the width. Add one inch to the mandrel and you have the outside dimension of the gauge. Using this method simplifies the inspector's job of verifying sizes on deflection gauges.



Deflection Gauge Set

Width +1" = Deflection gauge outside diameter

Aluminum Fin Sets

(Kit includes: three fin sets, core mandrel, and case)

Part Number	Nominal Size	Pipe	Deflection	Product Weight
285688	6", 8", 10"	SDR 26	5%	18 lbs
285005	6", 8", 10"	SDR 35	5%	18 lbs
285013	6", 8", 10"	SDR 35	7.5%	18 lbs
285698	8", 10", 12"	SDR 26	5%	19 lbs
285021	8", 10", 12"	SDR 35	5%	19 lbs
285048	8", 10", 12"	SDR 35	7.5%	19 lbs

Mandrels

Part Number	Nominal Size
285617	10" Mandrel for 4"-15" fins
285250	24" Mandrel for 18"-48" fins

Deflection Gauge Part Numbers

Nominal Size	Pipe	5% Deflection	7.5% Deflection	Product Weight
4"	SDR 35	285056	285137	1.5 lbs
6"	SDR 26	285638	Custom	2 lbs
6"	SDR 35	285072	285153	2 lbs
8"	SDR 26	285648	Custom	2.5 lbs
8"	SDR 35	285080	285161	2.5 lbs
10"	SDR 26	285658	Custom	3 lbs
10"	SDR 35	285099	285188	3 lbs
12"	SDR 26	285668	Custom	4 lbs
12"	SDR 35	285102	285196	4 lbs
15"	SDR 26	285678	Custom	5 lbs
15"	SDR 35	285110	285218	5 lbs
18"	SDR 35	285536	285560	8 lbs
21"	SDR 35	285544	285579	10 lbs
24"	SDR 35	285552	285587	11 lbs
27"	SDR 35	285595	285609	12 lbs

Larger and custom sizes are available.

Steel Deflection Gauges

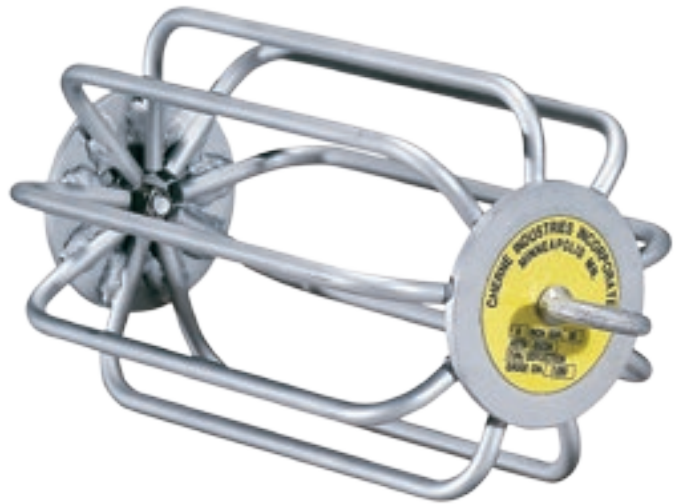
Fixed Steel Style Deflection Gauge:

- Durable, zinc-plated construction resists corrosion
- Conforms to mandrel sizing specifications—blade length is equal to or greater than the nominal pipe size
- Nine-arm design ensures testing accuracy
- Open design allows gravel and debris pass-through

Deflection Gauge Part Numbers

Nominal Size	Pipe	5% Deflection	7.5% Deflection	Product Weight
6"	SDR 26	286008	286128	5 lbs
6"	SDR 35	286068	286188	5 lbs
8"	SDR 26	286018	286138	7 lbs
8"	SDR 35	286078	286198	7 lbs
10"	SDR 26	286028	286148	8 lbs
10"	SDR 35	286088	286208	8 lbs
12"	SDR 26	286038	286158	9 lbs
12"	SDR 35	286098	286218	9 lbs
15"	SDR 26	286048	286168	13.5 lbs
15"	SDR 35	286108	286228	13.5 lbs
18"	SDR 35	286118	286238	15 lbs
18"	SDR 26	286058	N/A	18 lbs
21"	SDR 35	286278	N/A	18 lbs
24"	SDR 35	286288	N/A	21 lbs

Custom sizes available. We cannot make this style any larger than 24"

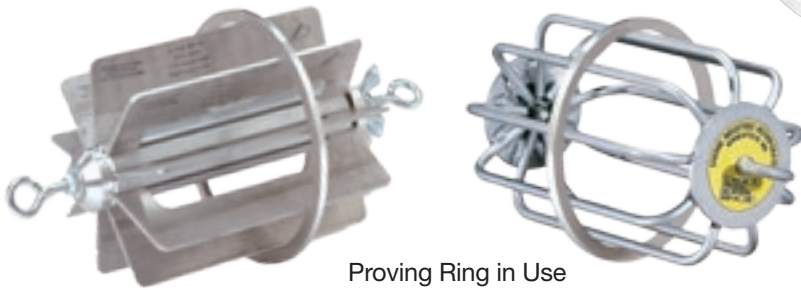


Proving Rings



Proving Ring:

- Used to verify deflection gauge sizes
- Standard sizes: 6"-15" SDR 35 5% deflection and 8"-12" SDR 35 7.5% deflection
- Custom sizes for 5"-18" also available



Proving Rings

Part Number	Nominal Size	Pipe	Deflection	Product Weight
073199	6"	SDR 35	5%	4 oz (.11 kg)
073202	8"	SDR 35	5%	4 oz (.11 kg)
073253	8"	SDR 35	7.5%	4 oz (.11 kg)
073210	10"	SDR 35	5%	6 oz (.17 kg)
073261	10"	SDR 35	7.5%	6 oz (.17 kg)
073229	12"	SDR 35	5%	6 oz (.17 kg)
073288	12"	SDR 35	7.5%	6 oz (.17 kg)
073237	15"	SDR 35	5%	7 oz (.20 kg)

Larger and custom sizes are available.



Testing Equipment



Air-Loc® Pressure Testing	42-44
Air-Loc® Pressure Testing Hoses	45
Manhole Jack • Roller • Winch	46
Air-Loc® Pressure Testing Procedure	47
Air-Loc® Manhole Testers	48
Air-Loc® Vacuum Equipment	49
Air-Loc® Stringer • Ventilators	50
Air-Loc® Smoke Testing	51
Air-Loc® Joint Testers	52
Aqua-Loc® Hydrostatic Test Pumps	53-55



PNEUMATIC PLUGS

MECHANICAL PLUGS

DEFLECTION GAUGES

TESTING EQUIPMENT

TOOLS & ACCESSORIES

TECHNICAL DATA

Air-Loc® Pressure Testing

The Cherne Air-Loc® Low Pressure Air-Testing System has been successfully used for testing sewer pipe installations since the 1960's. This method of testing pipelines has proven to be the fastest, most economical and accurate method of testing pipe. It allows you to perform tests as prescribed by ASTM C 828, C 924, and F 1417. (Procedures on page 47.)

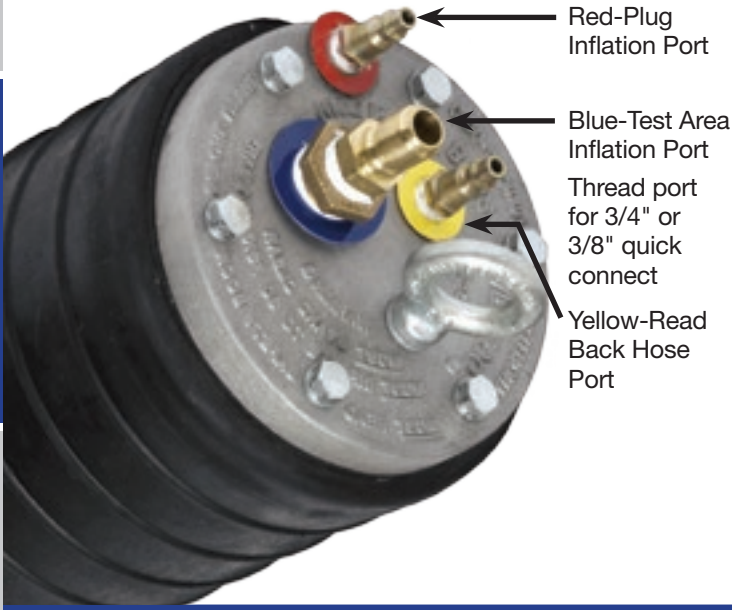
**Air-Loc® Line Acceptance Kit
(Part #253298 - 75 lbs)**

Cherne's Line Acceptance Kit is used to perform low pressure air tests on newly installed sewer lines. The Line Acceptance Kit includes all items needed to conduct the test except an air compressor and two pipe plugs.



Line Acceptance Kit with Storage Container

Front Plug



- Red-Plug Inflation Port
- Blue-Test Area Inflation Port
- Thread port for 3/4" or 3/8" quick connect
- Yellow-Read Back Hose Port

Air-Loc® Plugs

- Air-Loc Leak Locator Plugs are designed for both low-pressure sewer line acceptance tests as well as leak location testing
- Color coded inflation ports match hose and panel of Air-Loc system
- Flexible internal hoses and air fittings make these plugs the best in the business

See page 18 for more information

See page 13 for Muni-Ball Plugs adaptable to Air-Loc Testing



Air-Loc® Conversion Kit Features:

- Converts Muni-Ball® plugs to air test plugs
- Available for line acceptance and/or leak location tests

Equipped with:

- Colored discs coded to hose connections
- Conversion set up instructions

Line Acceptance Conversion Kit Cap Version

3/8" Leak Location quick connect


Hi-Flow™ Line Acceptance Conversion Kit Plug Version

3/4" Test Pressure quick connect


Leak Location Conversion Kit Plug Version

3/8" Leak Location quick connect


Hi-Flow™ Line Acceptance Conversion Kit Cap Version

3/4" Test Pressure quick connect


Hi-Flow™ Line Acceptance Conversion Kits (3/8" and 3/4" Hi Flow Hose)

Part Number	Description	Product Weight
041748	2" M NPT Plug conversion kit	3.3 lbs (1.5 kg)
041758	3" M NPT Plug conversion kit	2.5 lbs (1.13 kg)
041768	4" M NPT Plug conversion kit	4.25 lbs (2 kg)
049108	2" F NPT Cap conversion kit	3.3 lbs (1.5 kg)
041778	2½" F NPT Cap conversion kit	2.5 lbs (1.13 kg)
041788	4" F NPT Cap conversion kit	6.25 lbs (2.84 kg)
041718	6" F NPT PVC Cap conversion kit	2.75 lbs (1.25 kg)

Line Acceptance / Leak Location Conversion Kits (for 3/8" hoses)

Part Number	Description	Product Weight
028588	¾" M NPT Plug conversion kit with quick-disconnect fittings	1.5 lbs (.7 kg)
028598	1½" M NPT Plug conversion kit with quick-disconnect fittings	2.75 lbs (1.25 kg)
028608	2" M NPT Plug conversion kit with quick-disconnect fittings	3.3 lbs (1.5 kg)
028618	3" M NPT Plug conversion kit with quick-disconnect fittings	2.5 lbs (1.13 kg)
028628	4" M NPT Plug conversion kit with quick-disconnect fittings	4.5 lbs (2 kg)
049028	2" F NPT Cap conversion kit with quick-disconnect fittings	3.3 lbs (1.5 kg)
028648	2½" F NPT Cap conversion kit with quick-disconnect fittings	2.5 lbs (1.13 kg)
028668	4" F NPT Cap conversion kit with quick-disconnect fittings	6.25 lbs (2.84 kg)

Air-Loc® Pressure Testing Panel

Hi-Flow™ Air-Loc® Panel (Part #304708 - 40 lbs)

Panel includes gauges to monitor compressor pressure, plug pressure and test pressure, all in a sturdy steel case with a durable powder-coat enamel finish. Panel also has regulators to control plug and test pressure. Panel can be used with either 3/8" or 3/4" fill hose, accomplished by simply turning a valve. Panel is designed to work with air compressors fitted with either crow's foot or standard quick disconnect fittings.

Part Number	Description
304708	Control Panel
026358	0-10 PSI Test Pressure Gauge – Retarded increments from 11-30 PSI
014828	0-60 PSI Ball Pressure-Gauge
014848	0-160 PSI Compressor Gauge
043048 OA	3-Way Valve
296643	Regulator



Air-Loc® Pressure Testing Hoses



Triple Hose

The 3/8" diameter hose assembly is used to connect the Air-Loc Panel to the front plug. Triple hose is color-coded, making connections easy to understand. Hose features locking quick disconnects for convenience and safety. Hose also includes strain relief to protect hose and connections from damage.

Hi-Flow™ Triple Hose available with 3/4 blue test pressure hose for quick exhausting



Part Number	Description
035268	25' Triple Hose
257038	50' Triple Hose
060498	500' Triple Hose
257108	25' Hi-Flow Triple Hose
257098	50' Hi-Flow Triple Hose

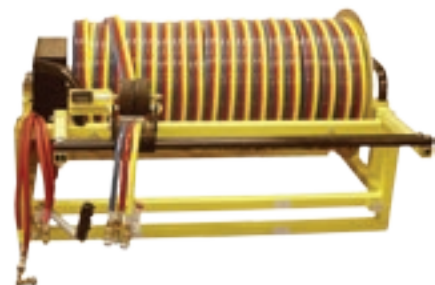
22' Interconnect Hose (#043338 – 4 lbs)

The interconnect hose is used to attach the front and back air test plugs when conducting a leak location test. This hose includes a cable for attaching to the pipe plugs to take strain off the hose during the leak location process.



500' Triple Hose Reel (#253308 - 400 lbs)

The triple hose reel is used to pull the tandem plug assembly through the sewer line. It's designed to be mounted to the back of a pickup and features durable color-coded hose, a hose distance counter, a two way air motor and more. Cherne also offers an economical version of this reel that does not include the air motor or counter system (#253328).



Manhole Jacks • Rollers • Winch

Manhole Jack (Hose Guide) Part #056228

- Guides air hoses and cables at pipe invert in manhole
- Zinc-plated for corrosion resistance
- Fits pipe 5"-24"
- Includes eye bolt for securing rope and ease of retrieval



Manhole Roller (Hose Guide) Part #056707

- Guides air hoses and cables at pipe invert in manhole
- Adjustable push-pin pole system
- Installs at surface - no need to enter manhole



Manhole Winch Part #253318

- Drags plugs in leak location testing
- Feeds Jet-Ball™ down line for sewer cleaning
- Normal pull-strength up to 550 pounds
- 3/32" diameter steel cable



Manhole Cover Hooks

- Forged 5/8" hexagonal steel for extra strength
- Available with flat or 90° handles

Manhole Cover Hooks

Part Number	Description
015443	24" Manhole cover hook with 90° handle
015438	36" Manhole cover hook with 90° handle
251429	24" Manhole cover hook with flat handle
251438	36" Manhole cover hook with flat handle



Air-Loc® Line Stringer

String lines between manholes quickly for segment testing with a Cherne Line Stringer.

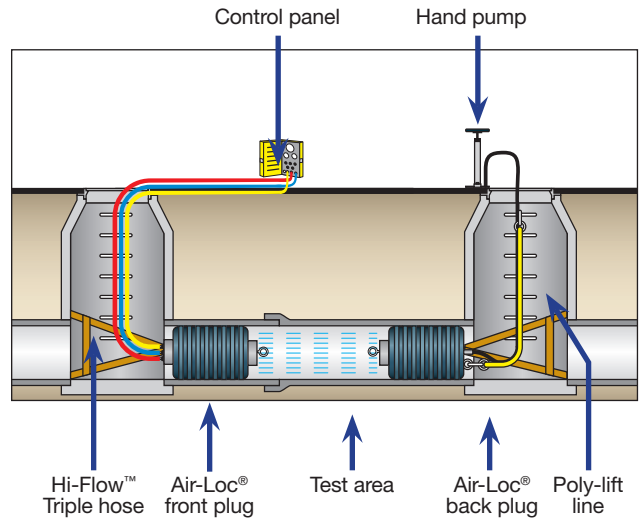
See page 50

Air-Loc® Pressure Testing Procedure



Air-Loc® Line Acceptance Test Procedure:

1. Install Back Plug. Attach poly lift line to pipe plug and place plug in line to be tested. Inflate plug to proper inflation pressure from above ground using hand pump.
2. Insert Front Plug. Connect triple hose assembly to front plug and insert plug into line. Connect other end of triple hose to Air-Loc® Control Panel.
3. Conduct Test. Connect air compressor to control panel. Then inflate front plug to proper inflation pressure. Introduce air through control panel until test pressure is achieved. Monitor pressure for the time designated for the test. If the pressure holds for the designated time losing one psi or less, the line passes and is "Accepted".

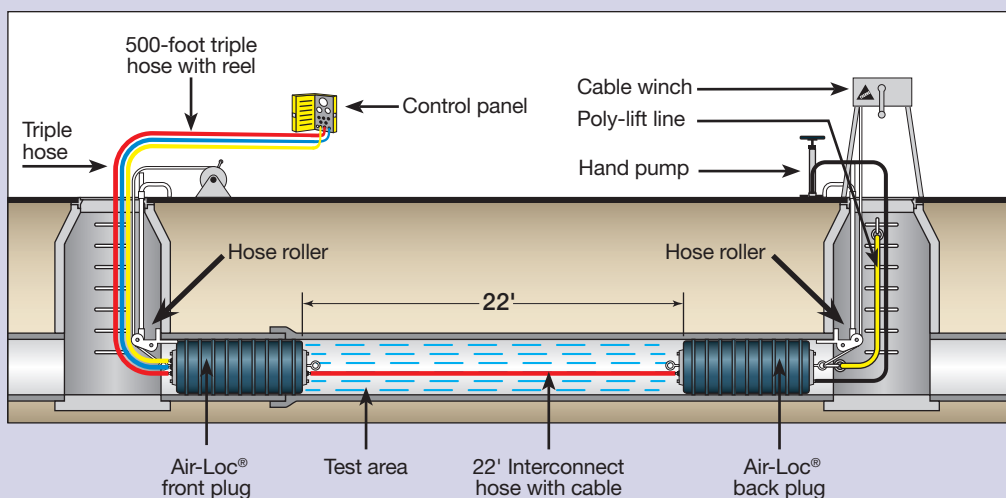


STAY OUT OF THE DANGER ZONE DURING THE TEST!!
Always block plugs when conducting air tests.

Leak Location Test Procedure:

A leak location test needs to be conducted if the line acceptance test fails. The leak location test procedure is as follows:

1. String pipe using Cherne's Air-Loc Line Stringer or other method, attaching winch cable which is then pulled back through line.
2. Attach two pipe plugs connected together with interconnect hose to winch cable and place in pipeline.
3. Connect 500' triple hose to front plug.
4. Conduct pressure test on first 22' segment of sewer line and record results.
5. Advance plugs forward 22' using the winch and conduct test, once again recording results. Repeat procedure until entire line has been tested.



STAY OUT OF THE DANGER ZONE DURING THE TEST!!
Always block plugs when conducting air tests.

Air-Loc® Manhole Testers

Air-Loc® Manhole Testers provide the most efficient, accurate and cost-effective method of testing new, existing and rehabilitated manholes, per ASTM C 1244.

Vacuum testing identifies infiltration and exfiltration problems by creating a vacuum in a manhole and then monitoring a gauge for vacuum loss. Less expensive and faster than water testing, the Air-Loc® manhole tester's remote-inflation and monitoring system keeps users away from the "danger zone."

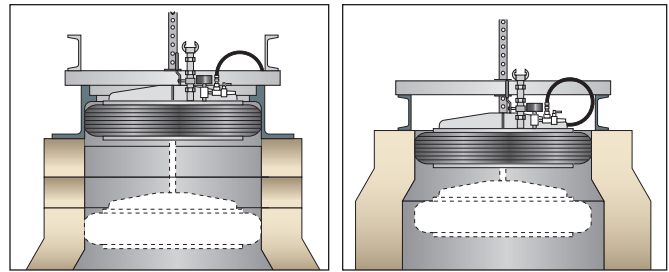
Bladder-Style Air-Loc® Head Assembly Features:

- Seals the inside diameter of the manhole at frame or cone
- Supported by a durable aluminum brace
- Push-pin rod design for easy depth adjustment
- Includes 20' hose with gauge



Bladder Style Manhole Testers

Part Number	Description
210248	24" Tester. Seals 20" - 24.3" openings
210268	26" Tester. Seals 21.5" - 26.3" openings
210298	29" Tester. Seals 24" - 29.3" openings
210308	30" Tester. Seals 25" - 30.3" openings
210328	32" Tester. Seals 27.5" - 32.8" openings
210348	34" Tester. Seals 30" - 34.3" openings
210368	36" Tester. Seals 31.5" - 36" openings
098485	24" Bladder, Replacement
008404	26" Bladder, Replacement
060678	29" Bladder, Replacement
099406	30" Bladder, Replacement
063339	32" Bladder, Replacement
063541	36" Bladder, Replacement
055348	20' Replacement Hose and Gauge Assembly
304058	0-30" Hg Vacuum Test Gauge, 3.5" Dial
251372	0-60 PSI Bladder Pressure Gauge, 2" Dial



Seals on frame

Seals at top of cone

Plate-Style Air-Loc® Head Assembly:

- Designed to seal manhole cone surface
- Seals a wide range of manhole diameters
- Neoprene gasket for leak-free seal
- Includes 20' hose with gauge

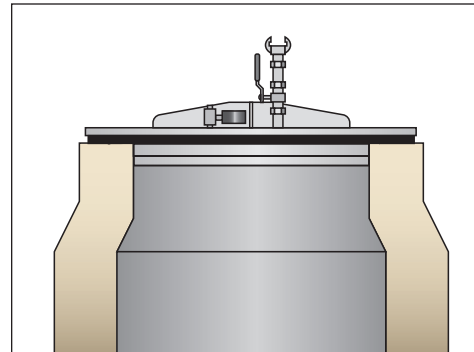
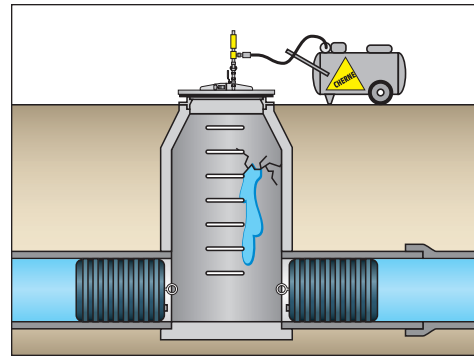


Plate Style Manhole Testers

Part Number	Description
220328	32" Tester. Seals 18" - 30" openings
220388	38" Tester. Seals 18" - 36" openings
220448	44" Tester. Seals 18" - 42" openings
033018	32" Replacement Pad
033028	38" Replacement pad
023748	44" Replacement pad
055348	Replacement Hose and Gauge Assembly, 20 feet
304058	0-30" Hg Vacuum Test Gauge, 3.5" Dial

Air-Loc® Vacuum Equipment



Air-Loc® Vacuum Pump Features:

- Choose a Honda or Briggs & Stratton engine—each with low-oil shut-off to prevent engine failure
- Heavy-duty frame with optional wheel kit
- Unbreakable aluminum filter jars
- Oil-free graphite vane pump for no-fuss lubrication
- Draws 10" Hg vacuum in about two minutes for a 15' deep manhole (18 CFM at 10" Hg)



Vacuum Pump

Part Number	Description
278088	Vacuum Pump: Honda Engine
278168	Vacuum Pump: Briggs engine
045918	Optional Wheel Kit
019501	Replacement Pump
015823	Replacement Line Filter
019321	Replacement Pump Vanes (four required)
107379	Line Filter Jar, Metal

Air-Loc® Vacuum Generator Features:

- Converts standard air compressor into a vacuum source for testing manholes—draws a vacuum in minutes
- Vacuum Generator 460 delivers 14 CFM at 10" Hg
 - Air compressor: minimum 7 CFM at 100 PSI
- Vacuum Generator 600 delivers 42 CFM at 10" Hg, meeting or exceeding the competition
 - Air compressor: minimum 85 CFM at 100 PSI



Air-Loc® Vacuum Generator 460

Generator 460

Part Number	Description
200468	Vacuum Generator 460
033868	Replacement Silencer for Vacuum Generator 460
035248	Replacement Filter for Generator 460

Generator 600

Part Number	Description
200908	Vacuum Generator 600
054268	Replacement Silencer for Generator 600



Air-Loc® Hi-Flow Vacuum Generator 600

Air-Loc® Stringer • Ventilators

Air-Loc® Fan Assembly Features:

- For use as a line stringer, ventilator and smoke blower
- Made of lightweight, cast aluminum
- Foam base minimizes vibration
- 30" Diameter base plate

Equipped with:

- Honda or Briggs & Stratton engine
- Top-mounted handles for easy maneuverability

Line Stringer Usage Details:

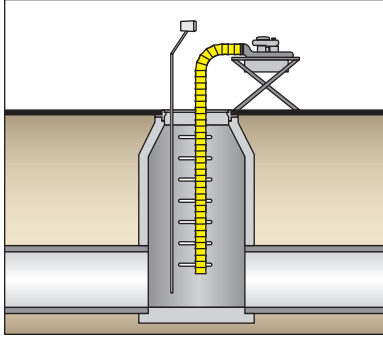
- Will string a 300' section of sewer line in under a minute without plugging the line
- Line stringer vacuum pulls a lightweight nylon parachute through wet or dry lines

Ventilator Usage Details:

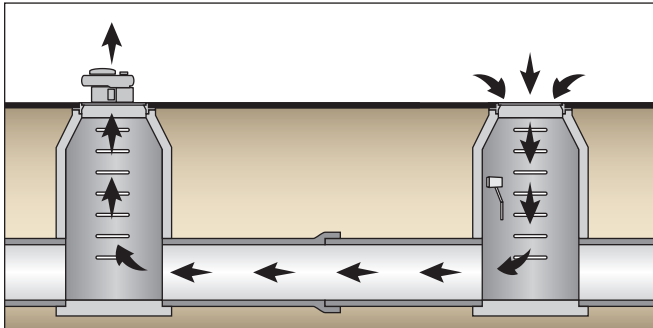
- Supports OSHA guidelines for confined space entry
- Provides up to 2,350 CFM as a blow-in ventilator and up to 3,470 CFM as a suction ventilator¹
- Out-performs similar competitive models by 40% at 3" of static pressure



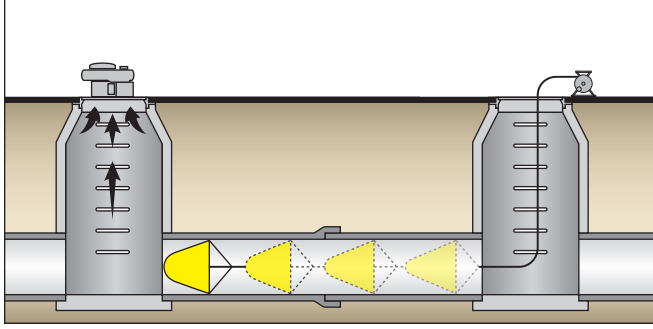
Blow-in Ventilator



Suction Ventilator



Line Stringer



Stringer • Ventilator

Part Number	Description
303318	Line Stringer Kit: Honda engine 1000' nylon rope and reel, 6-10" parachute
301000	Line Stringer Kit: Briggs & Stratton engine 1000' nylon rope and reel, 6-10" parachute
303338	Ventilator Kit: Honda engine Shroud, Stand and 20 ft of 8" diameter duct hose
303232	Ventilator Kit: Briggs & Stratton engine Shroud, Stand and 20 ft of 8" diameter duct hose
013108	Fan Assembly: Honda engine
012100	Fan Assembly: Briggs & Stratton engine
014714	Replacement fan: Line Stringer/Ventilator (right pitch)
300608	1000' Nylon Rope and Reel
066303	4" Parachute
015403	6"-10" Parachute
050628	8"-12" Parachute
300594	10"-18" Parachute
006525	18"-36" Parachute
008250	Line Stringer to Ventilator Conversion Kit: Shroud, Stand and 20 ft of 8" diameter duct hose

¹ - CFM performance based on independent laboratory tests. When tested side-by-side at an independent air flow laboratory, Cherne's line stringer, ventilator, and smoke blower beat the competition at every flow condition.

Air-Loc® Smoke Testing



Smoke Blower Features:

- Effectively identifies inflow
- For use with traditional smoke bombs or liquid smoke
- Available with Briggs & Stratton engine
- Generates up to 3,769 cubic feet per minute of air flow¹
- Made of lightweight, cast aluminum



Equipped with:

- ½" foam cell gasket to ensure a leak-free seal on manholes and minimize vibration
- Smoke bomb box holder (traditional smoke blower only)
- Pressurized tank, hose and all necessary components (liquid smoke blower only)

Smoke Fluid Features:

- Produces thick, dense smoke
- Easy-to-regulate
- Virtually indefinite storage life
- Improved packaging for ease in pouring



Smoke Bomb Features:

- Produces a thick, dense smoke
- Time-proven
- Simple to use
- Can be used with most smoke blowers
- 3 minute bombs available with double wick that allows units to be strung together for a longer smoke time



Smoke Bomb

Part Number	Description
303550	Smoke Bomb Smoke Blower Kit: Briggs & Stratton engine
034348	Smoke Bomb: 30 seconds (12 per case)
034358	Smoke Bomb: 60-seconds (12 per case)
034368	Smoke Bomb: 3 minutes (12 per case)
034378	Smoke Bomb: 3 minutes, double wick (12 per case)

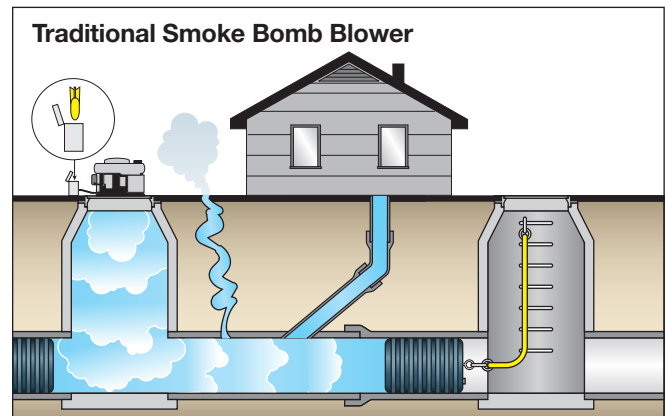
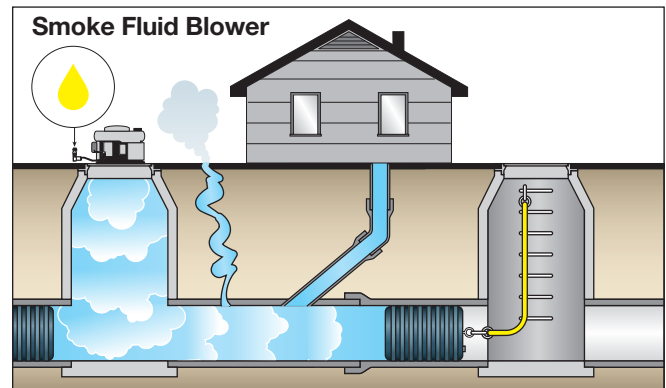
Smoke Fluid

Part Number	Description
303008	Smoke Fluid Smoke blower Kit: Briggs & Stratton engine
036488	Fluid Smoke pressure container and hose: 2 gallons capacity
065808	Fluid Smoke: one gallon (1 per case)
065818	Fluid Smoke: five gallons (1 per case)
065828	Fluid Smoke: fifty-five gallon drum

Accessories

Part Number	Description
014722	Smoke Blower replacement fan (left pitch)
058368	Smoke bomb holding cage
036308	Fluid Smoke conversion kit from Smoke Bomb Briggs & Stratton engine

¹ - CFM performance based on independent laboratory tests. When tested side-by-side at an independent air flow laboratory, Cherne's line stringer, ventilator, and smoke blower beat the competition at every flow condition.



Air-Loc® Joint Testers

Fast, safe and easy to use, a five-second test determines joint integrity. Cherne's Air-Loc® Joint Tester is designed to test large diameter, installed, pre-cast concrete pipe as described in ASTM C1103.

Ready to test with water or air straight from Cherne's factory—no modifications are needed—the Air-Loc® Joint Tester also allows you to pre-test before backfilling. Capable of testing to 10 psi air or 50 psi water.

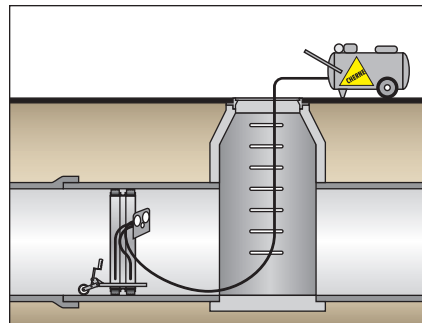
Features:

- Lightweight aluminum design allows for easy assembly in manholes
- Independent, adjustable wheels—easy to move
- Quick-connect control panel is simple to install and remove, plus the top-mounting feature won't interfere with laser usage
- Available with or without control panel and wheel kit
- Replacement end elements are available
- Recommended for testing pipe 21" and larger



Part Number	Description			
Full Joint Tester	Nominal Size	Product Diameter	Less Wheels & Control Panel	Replacement End Element
009018	21"	19"	012018	098485
009028	24"	22"	012028	091456
009038	27"	25"	012038	091464
009048	30"	28"	012048	063339
009058	33"	31"	012058	063347
009068	36"	34"	012066	063355
009078	39"	37"	012078	070319
009088	42"	40"	012088	063363
009098	48"	46"	012098	063371
009108	54"	52"	012148	063398
009118	60"	58"	012118	063401
009128	66"	64"	012128	063428
009138	72"	70"	012138	063436
009158	78"	76"	012158	063444
009168	84"	82"	012168	063452
009178	90"	88"	012178	063460
009188	96"	94"	012188	063479
009198	102"	100"	012198	063487
009208	108"	106"	012208	063495
009228	120"	118"	012228	063517

Pipe Joint Test



Accessories/Replacement Parts

Part Number	Description
010048	Control Panel
026350	0-10 PSI 4" Retard Gauge for Air Test
087602	0-60 PSI 4" Gauge for Water Test
014838	0-100 PSI 2" Gauge For End Elements
007892	Three way valve
296643	Regulator
086363	21"-36" Wheel Assembly
067008	39"-54" Wheel Assembly
093661 OA	60"-90" Wheel Assembly
024358	96" and up Wheel Assembly
010628	27"-54" Frame Gasket
010638	60"-120" Frame Gasket
013008	12' Panel to Joint Tester Hose

Custom Sizes Available

Aqua-Loc® Hydrostatic Test Pump



Hydrostatic Test Pumps are designed for pressure testing water lines and sewer force mains as prescribed by AWWA Standard C600 Installation of Ductile-Iron Water Mains and C605 Installation of PVC Pressure Pipe.

Aqua-Loc® Hydrostatic Test Pumps are designed to be the most user friendly in the industry. Both Diaphragm and Piston Style pumps are available and come powered by either a Honda or Briggs & Stratton engine.

Aqua-Loc® Hydrostatic Test Pump:

Diaphragm Style – Features:

- Honda or Briggs Engine with low oil shut off
- Hypro® Twin diaphragm pump - 9.5 gpm/550 PSI
- Handles up to 10% chlorine solutions
- May be run dry
- Test pressures can be set from 100-550 psi
- Integral manifolds - eliminates leak points
- Enclosed gear reduction - excellent heat dissipation
- Pulsation dampener - no need to surge tank

Equipped with:

- Heavy-duty frame
- Hydraulic quick-disconnect - brass, swivel fitting
- Inline strainer - easy to clean clear bowl
- Clear hose - flow verification
- Silicone filled test gauge w/stainless steel case

Aqua-Loc Hydrostatic Test Pump

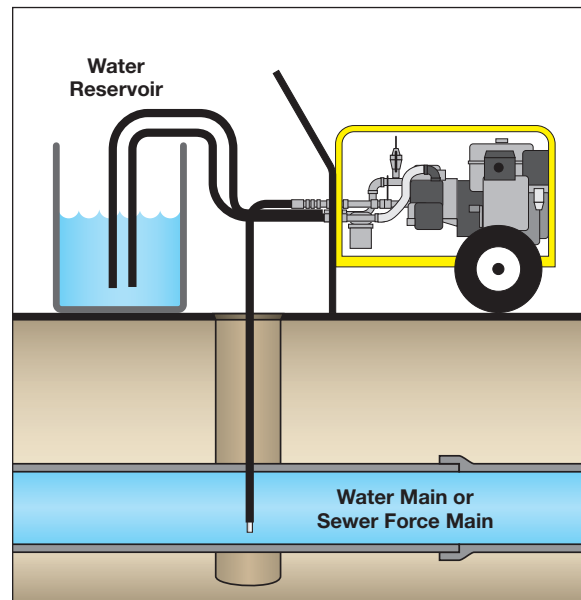
Part Number	Description
278068	Diaphragm-style Test Pump: 9.5 gpm/550 psi Honda engine, 12' output & 10' intake hoses
278058	Diaphragm-style Test Pump: 9.5 gpm/550 psi Briggs & Stratton engine, 12' output & 10' intake hoses
039168	16 gallon optional water tank
045918	Optional Wheel Kit
031198	Replacement Output Hose W/O Quick Disconnects
022828	Quick Disconnect for Output Hose
064348	0-300 PSI Retard Gauge with 5 PSI Increments
030938	Replacement Bypass/Intake Hose
022768	Replacement Strainer



9.5 Gallon Diaphragm Pump

Shown with optional wheel kit

Diaphragm Pump



Suction Feed

Aqua-Loc® Hydrostatic Test Pump

Aqua-Loc® Hydrostatic Test Pump

Piston Style Features:

- Honda or Briggs & Stratton Engine with low oil shut off engine
- Self-priming Hypro® Big-Twin® Piston Pump for suction feed
- Piston Pump can also be pressure fed
- 10 gpm/450 PSI

Equipped with:

- Heavy-duty frame
- Heavy-duty coupling - with protective cover
- Pressure regulator - easy adjustment
- Clear hose - flow verification
- Inline strainer/filter - easy to clean, brass
- Thermal relief valve - guards against overheating
- Pulsation hose - reduces gauge fluctuation
- Hydraulic quick - disconnect-brass, swivel fitting
- Silicone filled test gauge with stainless steel case

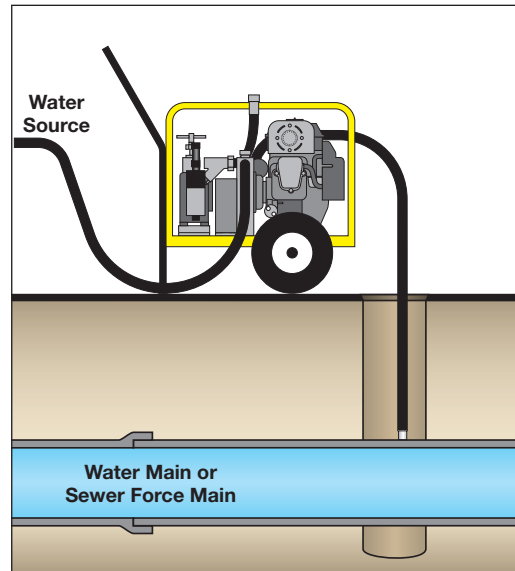


Shown with optional wheel kit

Aqua-Loc Hydrostatic Test Pump

Part Number	Description
278138	Piston-style Test Pump: 10 gpm/450 psi Honda engine, 12' output hose
278148	Piston-style Test Pump: 10 gpm/450 psi Briggs & Stratton engine, 12' output hose
045918	Optional Wheel Kit
031198	Replacement 12' Output Hose with Quick Disconnect
022828	Disconnect for Output
064348	0 - 300 PSI Retard Gauge with 5 psi increments
030938	Replacement 12' Input Hose
022768	Replacement Brass Strainer

Piston Pump



Suction or Pressure Feed

Aqua-Loc® Hydrostatic Test Pump High-Volume 35 GPM Diaphragm

Features:

- Honda engine with Oil alert® shut off system
- Hypro® triple diaphragm pump – 35 gpm/290 PSI
- Self priming, handles up to 10% chlorine solutions
- Enclosed gear reduction – excellent heat dissipation
- Heavy duty coupling with protective cover

Equipped with:

- Heavy-duty frame
- Pressure regulator - easy adjustment
- Silicone filled test gauge with stainless steel case
- Inline strainer - easy to clean clear bowl



Optional Water Tank:

- 16 gallon capacity polyethylene tank
- Allows pump to be pressure fed
- Hinged frame allows easy access to engine
- For use with 9.5 gallon diaphragm style pump

Optional Wheel Kit:

- For use with all models



Shown with optional wheel kit and water tank

Aqua-Loc Hydrostatic Test Pump

Part Number	Description
278178	Diaphragm-style Test Pump: 35 gpm/290 psi Honda engine, 12' output & 10' intake hoses
045918	Optional Wheel Kit
031198	Replacement 12' Output Hose with Quick Disconnect
022828	Replacement Disconnect for Output
064348	0 - 300 PSI Retard Gauge with 5 psi increments
030938	Replacement 12' Suction Hose
022768	Replacement Strainer Nylon Filter



NO TURN
ON RED



Tools & Accessories



Test Pumps • Clog-Buster • Manometer	58
Point Repair Carrier	59
Chain Assemblies • Extension Hoses • Test Gauges • Tub Plugs	60
Poly-Lift Lines	61
Jet-Ball™	62



PNEUMATIC PLUGS

MECHANICAL PLUGS

DEFLECTION GAUGES

TESTING EQUIPMENT

TOOLS & ACCESSORIES

TECHNICAL DATA

Test Pumps • Clog-Buster • Manometer

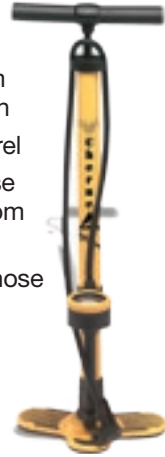
A) Air-Max® Pro HV Test Pump (Part #273968)

- Larger barrel diameter - fewer strokes per inflation
- Contoured solid wood handle
- Forged steel construction for extra toughness
- Gauge with molded rubber cover
- Traditional metal thumb lock
- 3' hose with strain-relief
- Product Weight: 6.25 lbs (2.83 kg)



B) Air Max® Test Pump (Part # 273958)

- Gauge raised from base for protection
- Durable Steel Barrel
- Textured steel base prevents pump from slipping
- Durable, no-kink hose
- Product Weight: 3.6 lbs (1.36 kg)



C) Econ-O-Pump™ Test Pump (Part #273888)

- Traditional thumb lock
- 140 PSI high-pressure gauge with protective cover
- All steel construction with cast iron base
- Product Weight: 1 lb (.45 kg)



Clog-Buster Drain Flusher

- Unclogs drain pipes in seconds
- Simply remove aerator from spigot of faucet and attach faucet adapter
- Attaches to standard garden hose fitting
- Insert clog buster as far as possible into drain and slowly turn on the cold water - clog should dislodge almost immediately
- Eliminates need for using chemicals

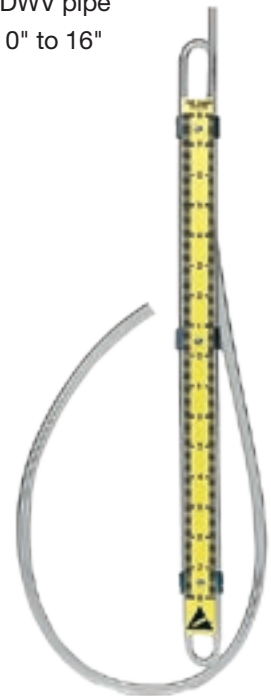
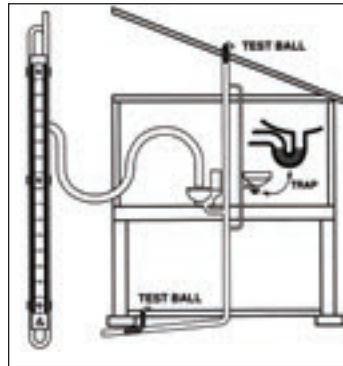


Clog-Buster Drain Flusher

Part Number	Product Description
303127	1" - 2" Clog-Buster drain flusher
303135	1.5" - 3" Clog-Buster drain flusher
303143	4" - 6" Clog-Buster drain flusher
006193	Faucet adapter

Manometer (Part #010205)

- Used for testing gas lines and DWV pipe
- Measures water columns from 0" to 16"
- Reads in increments of 1/10"
- Product Weight: .5 lb (.23 kg)



Point Repair Carrier



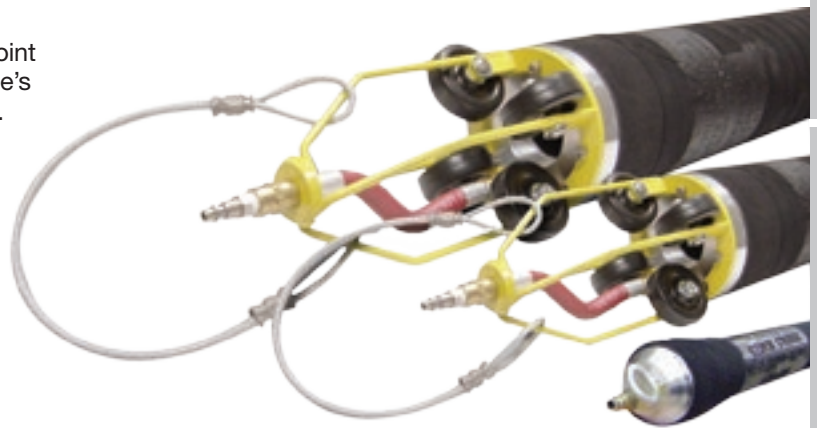
Cherne's point repair carriers are well-suited for most point repair systems. Available for pipe sizes 4" to 12", Cherne's carriers are known for both their durability and reliability. Custom lengths are available upon request.

Features for all sizes:

- Made of aramid corded natural rubber: extremely durable and flexible
- Flexible: All units can fold in half for transport
- 1/4" NPT Inflation Port with male quick disconnect for ease of connection

Features on 6"-10" and 8"-12":

- Integrated cage/wheel assembly for ease of movement down the pipe
- Bypass design allows sewage bypass during repair
- Unique centered inflation port for use with push rod inflation poles
- Wire harness keeps unit centered in pipe
- 2" bypass allows for continuous sewer flow



Multi-Size Point Repair Carriers 6" - 10" Diameter

Part Number	Length	Approx. Contact Length 6" - 10"	Max Pipe Diameter	Deflated Diameter	Inflation Pressure
278588	5'	48"	10.25"	4.63"	25 PSI (1,7 bar)
278598	8'	84"	10.25"	4.63"	25 PSI (1,7 bar)
278518	10'	108"	10.25"	4.63"	25 PSI (1,7 bar)
278608	12'	132"	10.25"	4.63"	25 PSI (1,7 bar)
278618	15'	168"	10.25"	4.63"	25 PSI (1,7 bar)

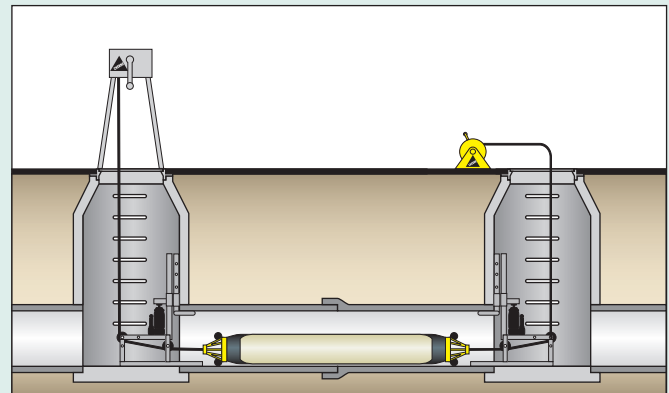
Multi-Size Point Repair Carriers 8" - 12" Diameter

Part Number	Length	Approx. Contact Length 8" - 12"	Max Pipe Diameter	Deflated Diameter	Inflation Pressure
278628	5'	48"	12.25"	5.80"	25 PSI (1,7 bar)
278638	8'	84"	12.25"	5.80"	25 PSI (1,7 bar)
278528	10'	108"	12.25"	5.80"	25 PSI (1,7 bar)
278648	12'	132"	12.25"	5.80"	25 PSI (1,7 bar)
278658	15'	168"	12.25"	5.80"	25 PSI (1,7 bar)

Multi-Size Point Repair Carriers 4" - 6" Diameter

Part Number	Length	Approx. Contact Length 4" - 6"	Max Pipe Diameter	Deflated Diameter	Inflation Pressure
278548	5'	52"	6.25"	2.60"	50 PSI (3,4 bar)
278558	8'	88"	6.25"	2.60"	50 PSI (3,4 bar)
278508	10'	112"	6.25"	2.60"	50 PSI (3,4 bar)
278568	12'	136"	6.25"	2.60"	50 PSI (3,4 bar)
278578	15'	172"	6.25"	2.60"	50 PSI (3,4 bar)

Point Repair Carrier



Chain Assemblies • Extension Hoses Test Gauges • Tub Plugs

Tub Waste & Overflow Plugs: (Part #012678)

- Isolate bath waste for air/water testing
- Yellow ABS plastic
- Natural rubber gasket
- Threads into drain spuds with center hole and center hole overflow elbows
- Can only be used in overflow drains with 1/2" and 3/8" center hole diameters



A) Extension/Inflation Hoses with Gauge:

- Well suited for plugs up to 15"
- 0-100 PSIG gauge
- 3/16" ID hose



Extension/Inflation Hoses

- Well suited for plugs up to 15"
- 3/16" ID hose

Extension/Inflation Hoses with Gauge

Part Number	Description
274218	5' Extension hose with gauge
274228	10' Extension hose with gauge
274238	20' Extension hose with gauge

Extension/Inflation Hoses

Part Number	Description
274011	2' Extension hose
274038	3' Extension hose
274054	5' Extension hose
274100	10' Extension hose
274208	20' Extension hose
055816	Deflator with clamp (female replacement end)
055808	Inflator with clamp (male replacement end)

Test Gauges:

- 2" plastic face
- High-quality brass 1/4" connection



Test Gauges without Test Body

Part Number	Description	
000698	0-15 PSI pressure range	.1 PSI increments
000628	0-30 PSI pressure range	.5 PSI increments
000638	0-60 PSI pressure range	1 PSI increments
000648	0-100 PSI pressure range	2 PSI increments

Test Gauges:

- 2" plastic face
- Chrome plated body
- 1/8" Schrader valve
- 3/4" NPT(F) pipe connection



Test Gauges with Hexagonal Test Body

Part Number	Description	
024568	0-15 PSI pressure range	.1 PSI increments
019698	0-30 PSI pressure range	.5 PSI increments
019708	0-60 PSI pressure range	1 PSI increments
019718	0-100 PSI pressure range	2 PSI increments

Replacement Ring & Chain Assembly:

- Prevents Test-Ball® plugs from falling down a line
- Includes safety tag



Replacement Ring & Chain Assemblies

Part Number	Product Description
059708	2" Ring with 12" chain
059718	3" Ring with 12" chain
059728	4" Ring with 12" chain
059748	6" Ring with 12" chain
059758	2" Ring with 24" chain
059768	3" Ring with 24" chain
059778	4" Ring with 24" chain
059798	6" Ring with 24" chain

Poly-Lift Lines

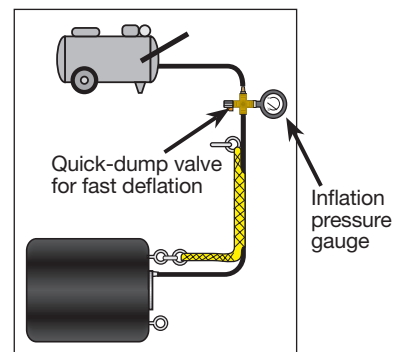


Hi-Flow Poly Lift Line (Available with or without gauge)

- Greater Lifting Strength
- Recommended for plugs 6" to 48"
- Retard gauge: helps prevent "peg-out" damage
- Heavy-duty rubber gauge cover protects gauge
- 3/8" heavy-duty ID hose for quick inflate/deflate
- Quick-dump valve for easy deflation
- Universal Quick One-Handed Quick Disconnect; fits ARO, Industrial and Truflate fittings
- Designed for use with plugs with removable inflator valve



New Design!



Poly Lift Line with and without Gauge

Part Number	Length
381108	Hi-Flow Hose, 10 FT W/Gauge
381208	Hi-Flow Hose, 20 FT W/Gauge
381308	Hi-Flow Hose, 30 FT W/Gauge
381408	Hi-Flow Hose, 40 FT W/Gauge
380108	Hi-Flow Hose, 10 FT WO/Gauge
380208	Hi-Flow Hose, 20 FT WO/Gauge
380308	Hi-Flow Hose, 30 FT WO/Gauge
380408	Hi-Flow Hose, 40 FT WO/Gauge

Super-Flow Hose with Gauge:

- Designed for large diameter multi-size plugs - (15"-32" to 54"-96")
- 3/4" Heavy-duty hose for both durability and faster deflation
- Retard gauge: Helps prevent gauge "peg-out"
- Heavy-duty rubber gauge cover protects gauge
- Utilizes traditional "crow's foot" air compressor fittings
- Quick dump valve for easy deflation

Super-Flow Hose with Gauge

Part Number	Description
341208	Super-Flow Hose, 20 FT W/Gauge
341308	Super-Flow Hose, 30 FT W/Gauge
341408	Super-Flow Hose, 40 FT W/Gauge



New Product!

Poly-Lift Line:

- Great for plugs up to 15"
- 3/16" ID hose
- Threaded connection fittings

Poly-Lift Line

Part Number	Product Length
261076	10'
261084	20'
261106	30'
261114	40'



Jet-Ball™

Jet-Ball™ Pipeline Cleaning Balls:

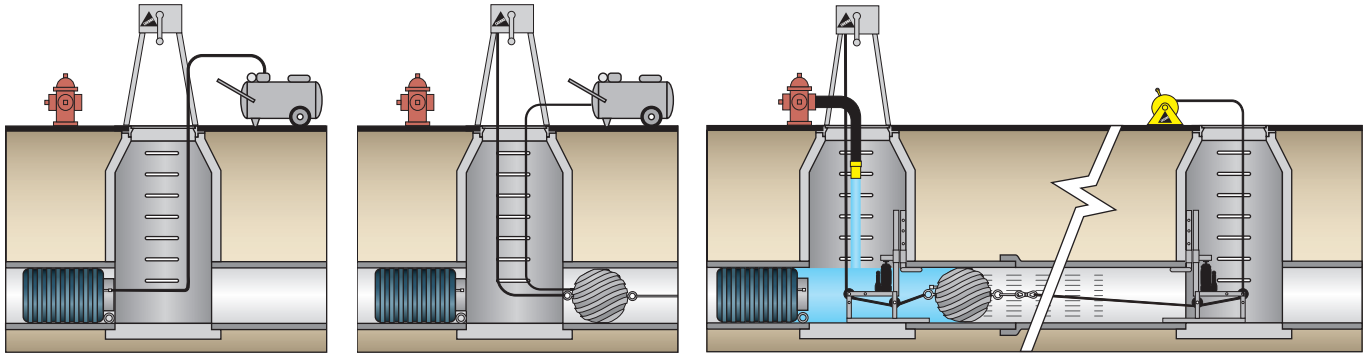
- Inexpensive method for cleaning new lines prior to line acceptance testing
- Also for cleaning grease out of existing lines—the better alternative to an expensive jet truck
- Made of natural rubber

Equipped with:

- Eye bolts at each end for tethering
- Spiral grooves turn Jet Ball for superior pipe cleaning



Jet-Ball™ Application



1) Install plug to isolate manhole

2) Attach Jet-Ball™ to tag line and inflate

3) Introduce water into manhole and slowly release Jet-Ball™ down the line.

Part Number	Nominal Size	Usage Range		Head Pressure (Feet of Head)	Product Weight	Deflated Length	Deflated Diameter	Inflation Valve Thread Size	Eye Bolt
254207	6" - 10" (150 - 250 mm)	5.87" (149 mm)	10.25" (260 mm)	5 (1.5 M)	2.5 lbs (1.1 kg)	8" (203 mm)	5.62" (142 mm)	1/4" (1)	3/8" (2)
254215	10" - 14" (250 - 350 mm)	8.75" (222 mm)	14.25" (362 mm)	5 (1.5 M)	7.5 lbs (3.4 kg)	12.25" (311 mm)	8.5" (216 mm)	1/4" (1)	3/8" (2)
254223	15" - 18" (375 - 450 mm)	11" (279 mm)	18.25" (464 mm)	5 (1.5 M)	13 lbs (5.9 kg)	14.75" (375 mm)	10.75" (273 mm)	1/4" (1)	3/8" (2)



See Winches and Rollers on page 46





Technical Data



Conversion • Testing	66
Safety Instructions	67

PNEUMATIC PLUGS

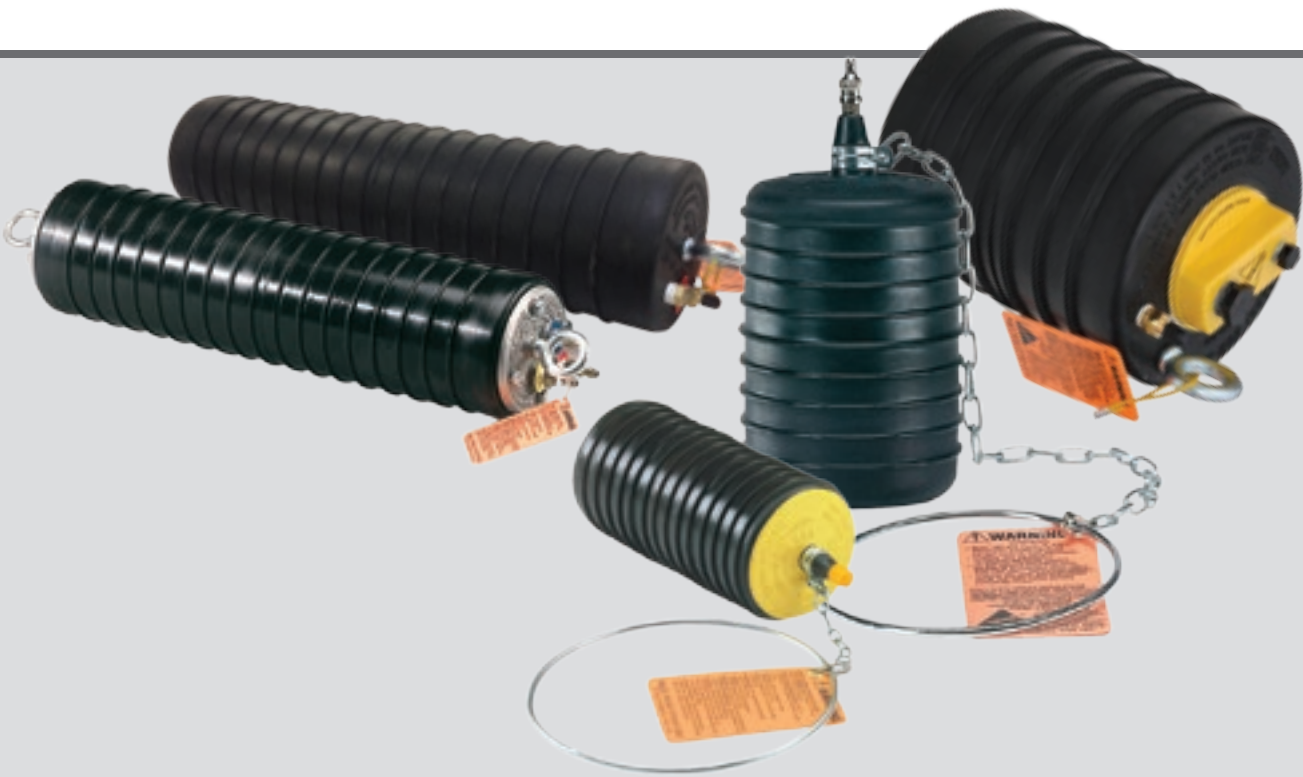
MECHANICAL PLUGS

DEFLECTION GAUGES

TESTING EQUIPMENT

TOOLS & ACCESSORIES

TECHNICAL DATA



Conversion • Testing

Water Test:

The DWV plumbing system is plugged leaving the top vent open. Water is then introduced to the system, purging any trapped air that may occur. The test passes if no water column is lost or no pressure drop is noted on a gauge.

Air Test:

The DWV plumbing system is plugged at all openings including traps and vents, leaving one opening as a point to both introduce and monitor the test pressure. Air is introduced, pressurizing the system (normally 5 PSI or less), making sure all are outside the danger zone. (See safety and usage instructions.) The test passes if the measurable loss of pressure is within the time and pressure allowances of the test specifications.

Manometer (or U-Tube):

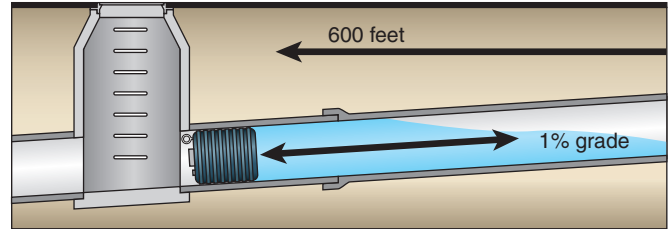
Also known as a final test, the manometer test verifies trap tightness in a new plumbing system. All traps are filled with water and all vents are then plugged. The manometer tube is first filled with water so that it “zeroes” out. Then the lower tube of the manometer is placed through a trap. A second hose is then put through the same trap and a small amount of pressure is applied. A decrease in water column measured on the manometer scale indicates that there is a leak in the system.

Scent Test:

The DWV system is plugged at all openings except one. Liquid scent is applied in that opening, which is then plugged. Leaks are detected via smell.

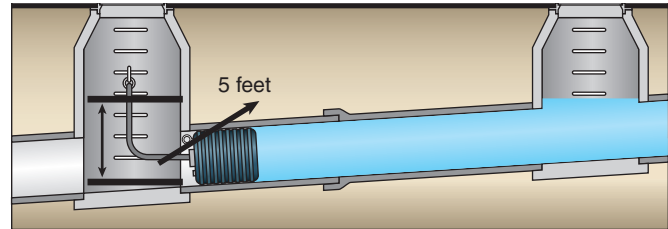
Calculating Head Pressure/Feet of Head

- 1) Measure the distance of the pipe and multiply it by the slope of the grade.
- 2) Measure the distance of the pipe above the plug. (used when pipe is vertical)



In the example above, the answer is $600 \times .01 = 6$ feet of head.

- 3) Attach a hose to a Muni-Ball® bypass. Raise the hose until the flow stops. Measure the height of the water in the hose.



In the example above, the answer is 5 feet of head

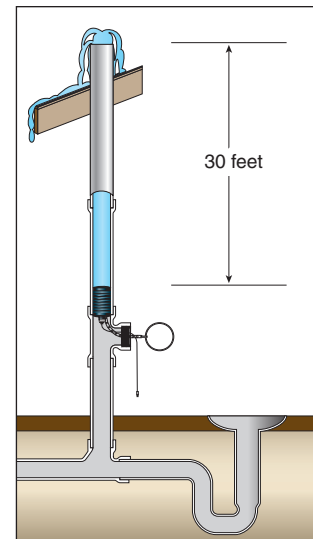
Measures Conversion Chart

Unit	=	Conversion Factor	x	Unit
Pounds per square inch	=	14.5	x	Bars
Gallons	=	7.48052	x	Cubic feet
Meters	=	.3048	x	Feet
Inches of mercury	=	.8825	x	Feet of water
Pounds per square inch	=	.4335	x	Feet of water
Millimeters	=	25.4	x	Inches
Feet of water	=	1.133	x	Inches of mercury
Pounds per square inch	=	.4912	x	Inches of mercury
Pounds	=	2.2046	x	Kilograms
Feet	=	3.281	x	Meters
Inches	=	.03937	x	Millimeters
Feet of water	=	2.307	x	Pounds per square inch (PSI)
Inches of mercury	=	2.036	x	Pounds per square inch (PSI)

Pressure Conversion Chart

PSI	Feet of Head	PSI	Feet of Head
1	2.31	14	32.33
2	4.62	15	34.64
3	6.93	16	36.94
4	9.24	17	39.25
5	11.55	18	41.56
6	13.85	19	43.87
7	16.16	20	46.18
8	18.47	25	57.73
9	20.78	30	69.27
10	23.09	35	80.82
11	25.40	40	92.36
12	27.71	45	103.91
13	30.02	50	115.45

Always block plugs when conducting air tests.



In the example above, the answer is: 30 feet of pipe above the plug = 30 feet of head

Safety Instructions



Calculating Pipeline Forces and Pressures*

- 1) Determine the inside diameter of the pipeline in inches.
- 2) Determine the maximum back pressure.
- 3) Calculate the pipe area in square inches.
(Pipe area = πr^2)
- 4) Calculate the force the plug must withstand.
(pounds of force = PSI X pipe area)

Formula: $\pi r^2 \times \text{PSI} = \text{POUNDS OF FORCE}$

Example: 36" diameter pipe

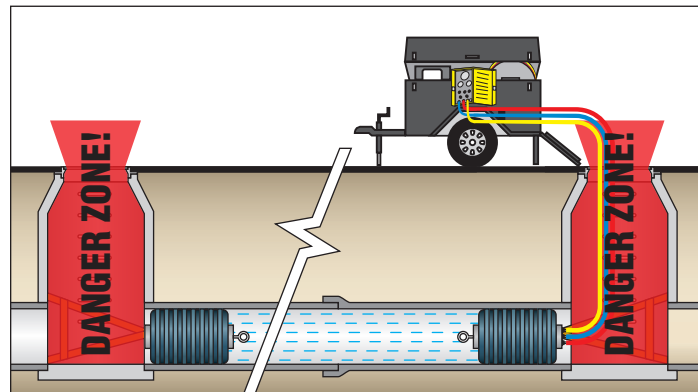
Radius = 18"

$\pi = 3.14$

PSI = 5

$18" \times 18" \times 3.14 \times 5 \text{ PSI} = 5087 \text{ POUNDS OF FORCE}$

*Calculating pounds of force aids in building blocking systems. It also illustrates the tremendous force generated by a sewer air test.



Stand clear of the danger zone!
Always block plugs when conducting air tests.

Special Notes:

- Pressures being exerted on a plug—regardless of the medium (liquid, water, or air)—are the same. Ten (10) PSI of water is the same as ten (10) PSI of air. However, air is a compressible media. Therefore when a plug dislodges under air back-pressure, it is much more dangerous than water pressure as the air will expand to its original atmospheric volume. Use extreme caution when conducting air tests!
- Air back-pressure ratings reflect absolute back-pressure capabilities. Common engineering standards have been used to convert head pressure to PSI. It is imperative to block pipe plugs when performing air pressure tests and to ensure no one is in the danger zone when a plug is in use. Please see the Cherne Safety and Instruction Manual for complete details.

General Safety and Usage Instructions:

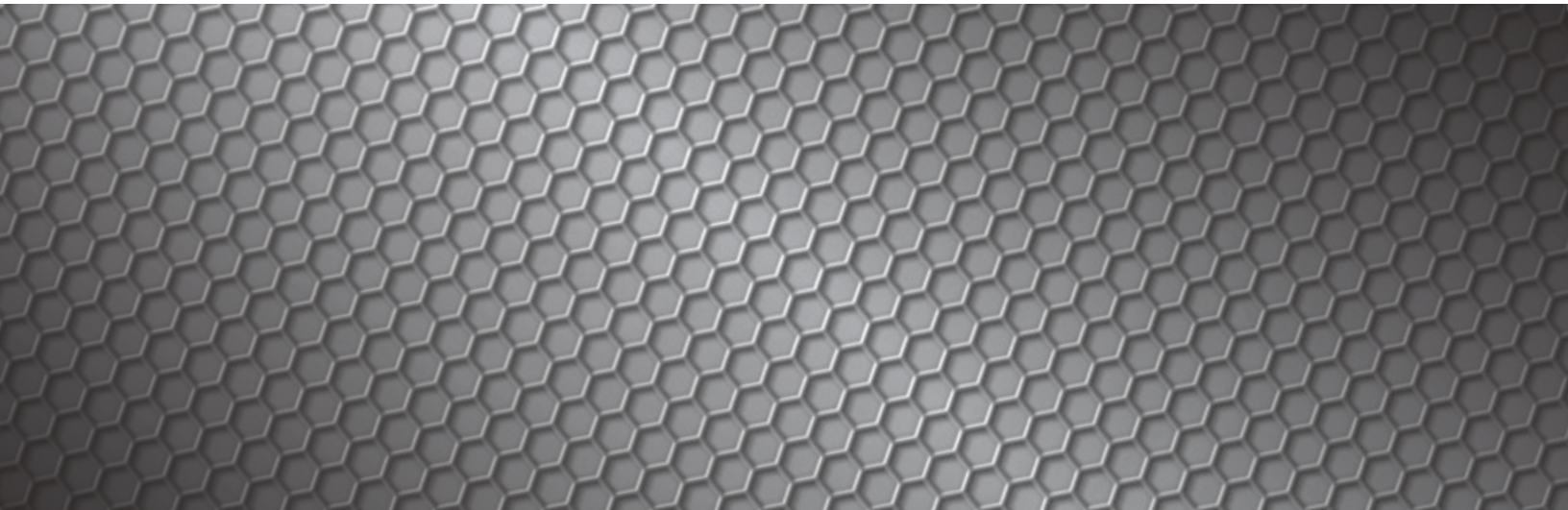
- 1) Death, bodily injury, and/or property damage may result if plug fails for any reason.
- 2) Read and understand safety instruction sheet before using plug.
- 3) Must wear safety glasses and a hard hat.
- 4) Do not enter danger zone when plug is in use.
- 5) Measure pipe diameter before selecting plug.
- 6) Inspect plug for damage before and after use.
- 7) Never use a plug in a pipe size different from recommended usage range.
- 8) Always attach an inflation hose so plug can be inflated and deflated from outside the danger zone.
- 9) Never remove the inflation hose until all back pressure is released and the plug is deflated.
- 10) Must inflate plug to the pressure shown on plug.
- 11) Always use properly-calibrated pressure gauges.
- 12) Do not exceed recommended maximum allowable back pressure (refer to safety instruction sheet).
- 13) Always release back pressure from the pipe first, before deflating plug.
- 14) Check pneumatic plug inflation pressure at least every four hours.



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