

Fire Pump Testing | Hydrant Flow Testing | Standpipe Testing | Dechlorination | Main Flushing | Apparatus Testing | Software



The Industry Standard Since 1996

Exceeding standards and driving innovation for over 20 years

In 1993 Fred Grenning and Phil Barrett teamed up to create and market our flagship product, the Hose Monster[®]. The Hose Monster changed the way fire pump testing and hydrant flow testing was done. For the first time a user could accurately and consistently measure flow-rates while minimizing property damage and traffic interference. Hydro Flow Products, Inc. was formed to market and distribute the Hose Monster line of products and since then has continued to create innovative flow testing solutions for the fire protection and waterworks industries. The "Hose Monster Company" name was introduced in 2015 as a division of Hydro Flow Products.

Since our founding, we maintain our tradition of excellence by understanding the industries in which our clients operate. This has allowed us to turn our expertise into clear advice and sound solutions that meet the challenges in fire flow testing, fire pump testing, standpipe testing, main flushing, apparatus testing and dechlorination.

In 2007, we revolutionized the industry again with the development of Pitotless Technology[™]; first introduced with the release of the Pitotless Nozzle[™]. The industry wide acclaim of the Pitotless Nozzle[™] led to Pitotless Technology[™] being incorporated across the Hose Monster product line, and in 2013 into the In-Line Pitotless Nozzle[™].

Pitotless Technology has led to unsurpassed accuracy, reliability and efficiency that has exceeded industry standards. It has also allowed for tremendous improvements on the Original Hose Monster with the compact and lightweight Little Hose Monster[™] and BigBoy Hose Monster[™]. These advances led the Hose Monster line of equipment to become the industry standard and the preferred choice of leading authorities across the world. We continue to invest in new technologies to assure that new advances will benefit the industries we serve

For the people who test fire pumps and fire hydrants

Our mission is to provide the best products in the world for testing fire pumps and fire hydrants. We are focused on providing solutions that verify fire protection systems perform when a fire occurs. We offer products that are safe, accurate, and simple to use. We attain the industry's highest certification and approval for the products we offer, and we support our products with knowledgeable and responsive customer service.





	Products)))
	Bundles Fire Pump Testing Bundles Hydrant Flow Testing Bundles In-Line Pitotless Nozzle Bundles Other Popular Bundles Pitotless Nozzle [™]	
egate.	In-Line Pitotiess Nozzle [™] Hose Monsters Little Hose Monster [™] BigBoy Hose Monster Accessories BigBoy Hose Monster [™] Hose Monster Comparison Guide 21/2" Hose Monster [®] 4" and 41/2" Hose Monster [®] Hose Monster Accessories	
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PITOTLESS

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Website: www.hosemonster.com

We're the Home of the Hose Monster[®]

Our business was launched in 1996 with our flagship product, the Hose Monster®. It was the first flow-measuring device to enable safe discharge of high-flowing water, minimizing property damage and traffic interference.

Client and Market Knowledge

The professionals at The Hose Monster Company understand the industries and sectors in which our clients operate. We turn our practical knowledge into clear advice and find solutions that nobody else can provide. When you face unique and challenging testing situations, our knowledgeable staff stands ready to find the best equipment and procedural solutions for you. Your satisfaction is the truest mark of our excellence.

We're the One-Source Solution for Your Testing Needs

- Hydrant Flow Testing •
- Fire Pump Testing
- Standpipe Testing
- Main Flushing
- Apparatus Testing •
- Dechlorination
- Fire Pump Testing Software

American Fire

Member of:









How to Place an Order:

- 1. Online: Go to www.hosemonster.com and click on the shopping cart
- 2. Phone: Call 1.888.202.9987 to speak with one of our helpful Customer service representatives

3. Send Purchase Orders to:

service@flowtest.com or fax to 847.434.0073 (Note: Requires a credit account with HFP)

Shipping

- HMCo. will ship FedEx Ground unless specified otherwise.
- Expedited shipping for next-day arrivals is available by request for shipments to US and Canada.
- In order for a product to be shipped out same day, the order must be received by 11:00 AM CT.
- Freight will be prepaid and added to each invoice.
- Freight costs are based on rates from FedEx unless other shipping method is specified.
- Customer is responsible for all shipping, taxes, duty fees and brokerage charges.

Payment

• Prepayment via check, major credit card or bank transfer is preferred. Acceptable credit cards include: Visa, American Express, Master Card and Discover.

International Orders

International orders originating outside US and Canada are prepaid via bank transfer. Please contact us for instructions for conducting bank transfers.

Returns

We strive for complete customer satisfaction. If you are not satisfied with your purchase, please contact us. Returns are generally accepted within 30 days of purchase. A return authorization must be accompanied with any equipment you send back, and a restocking fee of up to 25% may apply. Call or e-mail us for a return authorization (RA).

Sales Tax

Sales tax will be added to shipments to Illinois and Indiana unless a valid and current tax-exempt certificate is on file with us. We do not collect sales tax for shipments outside of Illinois or Indiana.

To send us your tax-exemption certificate: fax to 847.434.0073 or e-mail PDF to: service@flowtest.com.

Warranty Policy

HMCo. manufactured products are warranted against manufacturing defects for a period of two years from the date of sale. The warranty does not cover damage to pitots which may become damaged by flushing debris. Additionally, the warranty does not include damage caused by improper use or connecting to incompatible equipment, nor shall it apply to products that have been altered or modified in any way. This warranty applies only to HMCo. manufactured products. All other products fall under their original manufacturer's warranty, if available. The unit will be repaired, replaced or partially refunded at the manufacturer's discretion. If found defective, contact The Hose Monster Company at 847.434.0101 for the procedure and Return Authorization (RA).

Important Notice

The Hose Monster Company (HMCo.) reserves the right to make any changes to the information contained in this publication without prior notice. The Hose Monster Company also reserves the right to correct any errors or misprints. Products and descriptions are subject to change without notice. Visit www.hosemonster.com for the latest product offerings and pricing. The information contained in this publication is not a formal interpretation of any code or standard. Any equipment recommendations or procedural information herein are for general purposes only and are not all-inclusive. The Hose Monster Company is not liable for injury that results from the information contained herein. Always read instructions and follow a manufacturer's warnings prior to the use of any product.



and craftsmanship.



Whether you are testing in stairwells, on rooftops, at a fire engine or out at a hydrant, we have what you need to make sure that your fire protection system performs when a fire occurs. Our products are designed to:

- Achieve steady, precise flow-rate readings.
- Minimize traffic interference and damage to landscaping.
- Neutralize the dangerous and destructive thrust from high-flow discharge.
- Allow flow-rate measurements to be taken remotely.
- Conduct flow tests efficiently with speed and accuracy.





All HMCo. Manufactured products are proudly manufactured in the United States with the highest quality materials and craftsmanship.

Fire Pump Testing





FIRE PUMP TESTING BUNDLE 1000 ITEM# FPTK1000

Recommended for pumps up to 1000 GPM		
Item # Qty Description		Description
HML	3	Little Hose Monster™
PN1.75GRV	3	1¾" Pitotless Nozzle, FM Approved (331 to 993 GPM per nozzle)
H2H.25	3	21/2" x 25' Hose
НММТ	1	Monster Tester ${}^{\rm TM}$ with tube set and gauge, 0 to 60 psi
STK	1	Little Hose Monster Stabilizer for stacking HML, includes Tie Down
CASE2719FPT	' 1	Equipment Case, 27" x 19" x 10", special padding for HML Pump Test Kit
WSPA101	1	Spanner Wrench, lightweight aluminum alloy

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Products - Bundles



FIRE PUMP TESTING BUNDLE 750 ITEM# FPTK750

Keco	mm	ended for pumps up to 750 GPM
Item #	Qty	Description
HML	2	Little Hose Monster™
PN1.75GRV	2	1¾" Pitotless Nozzle, FM Approved (331 to 993 GPM per nozzle)
H2H.25	2	21⁄2" x 25' Hose
HMRR40	2	Remote Reader Assembly, ¼" x 12' tube, two quick-connect adapters
STK	1	Little Hose Monster Stabilizer for stacking HML, includes Tie Down
CASE2719FPT	1	Equipment Case, 27" x 19" x 10", special padding for HML Pump Test Kit
WSPA101	1	Spanner Wrench, lightweight aluminum alloy
GK60D4	2	Pressure Gauge, 4" dial, 0.5% accuracy rated, 0 to 60 psi

FIRE PUMP TESTING BUNDLE 1500 ITEM# FPTK1500



Recommended for pumps up to 1500 GPM		
Item #	Qty	Description
HML	4	Little Hose Monster™
PN1.75GRV	4	1¾" Pitotless Nozzle, FM Approved (331 to 993 GPM per nozzle)
H2H.25	4	21⁄2" x 25' Hose
нммт	1	Monster Tester™ with tube set and gauge, 0 to 60 psi
STK	2	Little Hose Monster Stabilizer for stacking HML, includes Tie Down
CASE2719FPT	1	Equipment Case, 27" x 19" x 10", special padding for HML Pump Test Kit
WSPA101	1	Spanner Wrench, lightweight aluminum allov

FIRE PUMP TESTING BUNDLE 2000 ITEM# FPTK2000



Recommended for pumps up to 2000 GPM

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HML	6	Little Hose Monster™
PN1.75GRV	6	1¾" Pitotless Nozzle, FM Approved (331 to 993 GPM per nozzle)
H2H.25	6	21⁄2" x 25' Hose
нммт	1	Monster Tester $\ensuremath{^{\text{TM}}}$ with tube set and gauge, 0 to 60 psi
ѕтк	2	Little Hose Monster Stabilizer for stacking HML, includes Tie Down
CASE2719FPT	2	Equipment Case, 27" x 19" x 10", special padding for HML Pump Test Kit
WSPA101	1	Spanner Wrench, lightweight aluminum alloy

Hydrant Flow Testing





Hydrant Flow Test Bundle, Little Hose Monster

Item #	Description
HML	Little Hose Monster™
PN2GRV	2" Pitotless Nozzle, FM Approved (493 to 1305 GPM)
HMRR12	Remote Reader Assembly, 1/4" x 12' tube, two quick-connect adapters
GK100D4	Pressure Gauge, 4" dial, 0.5% accuracy rated, 0 to 100 psi (for nozzle pressure)
HGV25	Gate Valve, slow close, 21/2" F NH x 21/2" M NH
GCSW200	Gauge Cap, 21/2" NH, includes 0 to 200 psi pressure gauge
HW107	Hydrant Wrench, adjustable, single spanner
WSPA101	Spanner Wrench, lightweight aluminum alloy
CASE920	Gauge and Accessory Case, Seahorse, 24" x 16" x 10" w/wheels and telescoping handle
H2H.10YR	21/2" x 10' Hose, synthetic nitrile rubber

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Products - Bundles

Standpipe Testing





IN-LINE PITOTLESS NOZZLE BUNDLE ITEM# INPN1.75

Standpipe Testing Bundle, In-Line Pitotless Nozzle

Item #	Description
PN1.75THD	1¾" Pitotless Nozzle, Threaded (246 to 983 GPM)
INDC2H	In-Line Differential Chamber, 21/2" NH
HGV25	Gate Valve, slow close, 21/2" F NH x 21/2" M NH
GKMM250	Monster Meter™ Differential Gauge, Digital, 0-250 psi, 0.3% accuracy rated
CASE920	Gauge and Accessory Case, Seahorse, 24" x 16" x 10" w/wheels and telescoping handle
LG2.5	21/2" Line Gauge, 0-200 psi

Note: PN1.75THD can be replaced with PN2THD (2" Pitotless Nozzle for 523-1432 GPM) or PN1.125THD (11/x" Pitotless Nozzle for 86-321 GPM). Please specify when ordering.

LITTLE HOSE MONSTER BUNDLE ITEM# HMLK



Little Hose Monster			
Item #	Qty	Description	
HML	1	Little Hose Monster™	
PN#GRV	1	Select either 2", 1¾", or 11/8" Pitotless Nozzle Grooved	
GK100D4	1	Pressure gauge, 4"dial, 0.5% accuracy rated, 0-100 psi	
CASE720	1	Gauge and Accessory Case, Seahorse, 19.8" x 15.5" x 7.5"	
HMMR12	1	Remote Reader Assembly, ¼" x 12' tube,	

HYDRANT FLOW TESTING BUNDLE, BIGBOY HOSE MONSTER ITEM# FFTK45



Hydrant I	Flow Test Bundle, BigBoy Hose Monster
Item #	Description
HMBB4	BigBoy Hose Monster™, flow testing, 4" F NH swivel, gauge included (750 to 2700 GPM)
HGV45NST	Gate Valve, slow close, 41/2" F NH x 41/2" M NH
HMRR12	Remote Reader Assembly, ¼" x 12' tube, two quick-connect adapters
GCSW200	Gauge Cap, 21/2" NH, includes 0 to 200 psi pressure gauge
HW107	Hydrant Wrench, adjustable, single spanner
WSPA101	Spanner Wrench, lightweight aluminum alloy
CASE720	Gauge and Accessory Case, Seahorse, 19.8" x 15.5" x 7.5"
H45.10.4	$4\frac{1}{2}$ " F NH x 10' x 4" M NH Hose, connects to a $4\frac{1}{2}$ " outlet and reduces to 4"

Note: This kit connects to a 41/2" connection. We can customize to 4", Storz or other sizes. Please specify when ordering.



FIRE PUMP TESTING GAUGE BUNDLE ITEM# FPTGK

Gauges commonly used in the pump testing		
Item #	Description	
GK300D4	Pump Discharge Gauge, 4" dial, 0.5% accuracy rated, 0 to 300 psi	
GK30-200	Pump Suction Gauge, 4" dial, 0.5% accuracy rated, 30 Hg to 200 psi	
GK60D4	Discharge Flow-Rate Gauge, 4" dial, 0.5% accuracy rated, 0 to 60 psi (for nozzle pressure)	
CASE520G	Gauge and Accessory Case, Seahorse, 15.1" x 12.4" x 6.9"	
GKGLY4	Glycerin Refill for 4" Gauges, 8 oz.	
GCCN	Gauge Certify and Calibrate to NIST (Otv. 3)	

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Products - Pitotless Nozzle



Take precision flow-rate measurements without a pitot!

With the Pitotless Nozzle, you'll never have to shut down in the middle of a test to change out a pitot because it got hit by a rock. Use the Pitotless Nozzle with the Little Hose Monster[™] (page 14) or the 2½" Hose Monster[®] (page 17) in fire pump testing, hydrant flow testing or unidirectional flushing. You can also mount it directly on a hydrant, test header valve or any fixed 21/2" outlet.

Flow-rate is determined by reading the nozzle's internal pressure. With no pitot in the stream, debris will pass through without causing damage. The unique and patented constant rate of area reduction shape of the Pitotless Nozzle creates a steady laminar flow. Even when the Pitotless Nozzle is attached directly to a hydrant nozzle, its gauge needle is steady.

- FM Approved •
- Eliminates pitot replacements .
- Measures flows from 47-1399 GPM
- Four sizes 1", 1¹/₈", 1³/₄", 2"
- Color coded for easy size identification
- Laminar flow eliminates turbulence and gauge needle bounce
- 6061.T6 Military Grade aluminum construction
- Use with the Little Hose Monster or the 21/2" Hose Monster

The nozzle's standard hose connection is a 21/2" NH hard-coat anodized aluminum swivel coupling, but we can also provide Canadian or other thread types by request. The outlet end of the Pitotless Nozzle features NH threads for connection to the 21/2" Hose Monster, or grooved for connection to the Little Hose Monster.

If you are attaching the Pitotless Nozzle directly to a fixed outlet, a stream shaper may be required to reduce turbulence and obtain accurate readings (page 28). The thrust created by high-velocity water flow is dangerous to personnel and destructive to property, so be sure to clear a path for water discharge.

PN2GRV	APPROVED	PN2THD
PN1.75GRV		PN1.75THD
PN1 125GRV		PN1 125THD
		11111201110





Grooved outlet for use with Little Hose Monster (HML) Item # Description

PN2GRV	2" Pitotless Nozzle, Grooved (493 to 1305 GPM)
PN1.75GRV	1¾" Pitotless Nozzle, Grooved (331 to 993 GPM)
PN1.125GRV	$1\frac{1}{8}$ " Pitotless Nozzle, Grooved (83 to 353 GPM)
PN1GRV	1" Pitotless Nozzle, Grooved (47 to 258 GPM)

Threaded outlet for use with 2¹/₂" Steel Hose Monster (HM2H)

PN1GRV

Item #	Description
PN2THD	2" Pitotless Nozzle, Threaded (521 to 1379 GPM)
PN1.75THD	1¾" Pitotless Nozzle, Threaded (337 to 1011 GPM)
PN1.125THD	$1\frac{1}{8}$ " Pitotless Nozzle, Threaded (84 to 355 GPM)
PN1THD	1" Pitotless Nozzle, Threaded (48 to 262 GPM)

Products - In-line Pitotless Nozzle



Use the In-line Pitotless Nozzle for flow testing standpipes, hose cabinets, pressure reducing valves, fire pumps or fire hydrants. Hose or piping can be attached downstream of the unit without affecting the accuracy of the readings.

- Versatility allows accurate flow-rate readings when discharging into a closed-loop system, a drain, a hose or open atmosphere
- Read flow-rates at the test header while discharging at hose end
- Now available for both 21/2" and 11/2" connections
- Four different sizes measure as low as 45 GPM up to 1432 GPM

In-line Pitotless Nozzle Selection Chart

Use the chart below to select the correct nozzle size based on your expected flow range and the water source connection size.

Item #	Description	Connects to	Flow Range (GPM)
INPN2	2" In-line Pitotless Nozzle Kit	21⁄2"	523–1432
INPN1.75	1¾" In-line Pitotless Nozzle Kit	21⁄2"	246–983
INPN1.125	1 ¹ / ₈ " In-line Pitotless Nozzle Kit	21⁄2"	86-321
INPN1.5	11/2" In-line Pitotless Nozzle Kit	1½"	45–301
INPNK	In-line Pitotless Nozzle Kit, three nozzle sizes: 2", 1¾" and 11⁄8"	21⁄2"	86–1432

All Kits include a case for storing In-line Pitotless Nozzle components. NH threaded coupling is standard. Other thread types are available by request.





2" In-line Pitotless Nozzle Kit

FM

APPROVED

PITOTLES

11/2" In-line Pitotless Nozzle Kit

Products - Little Hose Monster

Little HOSE MONSTER"

Small and lightweight — yet it neutralizes the tremendous force of discharge water just like the original Hose Monster[®]!

The Little Hose Monster[™] has no pitot, so small rocks and debris pass right through the system without causing damage. It is designed to work with the Pitotless Nozzle[™] (page 12), which is FM Approved.





- **Pitotless** Just push the Pitotless Nozzle into the inlet of the Little Hose Monster and insert the locking pins
- Small Measures 12" wide x 10" deep
- Lightweight Weighs only 6 pounds; with the Pitotless
 Nozzle and gauge, it weighs only 10 pounds
- **Durable** Made from injection-molded, glass-filled polypropylene
- Stackable Built-in stacking grooves enable you to stack up to three units with the Little Hose Monster Stabilizer and Tie Down (page 15), making it easy to move multiple units
- Easy to Transport In our Pump Test Case (page 30), a complete pump test setup can be checked baggage for airline travel
- **Two-Year Warranty** If the Little Hose Monster breaks during normal operation, we'll repair or replace it at no charge

Note: A Pitotless Nozzle or a Flushing Nozzle (page 15) is required to flow water in the Little Hose Monster.

Item #	Description
HML	Little Hose Monster

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Flushing Nozzle

The Flushing Nozzle works with the Little Hose Monster[™] and is ideal if you only need to perform flushing and do not need to measure flow-rate. It is a cost-effective substitute for the Pitotless Nozzle[™].

- When used with the Little Hose Monster, it neutralizes the tremendous force of discharge water just like the original Hose Monster[®]
- Made of aluminum with a hardened aluminum rocker lug coupling
- Compact size 3" tall and weighs less than 1 pound
- Includes 2½" NH swivel (other thread specs available upon request)

Item #

Description

Flushing Nozzle

Little Hose Monster Stabilizer

The Little Hose Monster Stabilizer enables you to stack two or more Little Hose Monsters and to keep them from tipping over when flowing water.

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- A nylon strap wraps around the bottom of the stand and around the top of the stacked units to secure them together
- The simple design enables easy assembly and disassembly for transporting and storing

Iter	n	#
ST	κ	

Description

Little Hose Monster Stabilizer

Tie Down for Little Hose Monster

Tie Downs are necessary to secure a stack of Little Hose Monsters.

- Included with the Stabilizers (STK), but can also be purchased separately
- One 48" spring buckle strap

Item #	Description
RTD	Tie Downs for Little Hose Monster

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BIG BOY HOSE MONSTERTM

Ideal for fire flow testing of hydrants or water main flushing!

- Read your GPM flow-rate directly on the gauge face while flowing
- Uses the patented Pitotless Nozzle[™] so you'll never have to change out a pitot because it got hit by a rock
- Weighs only 19 pounds
- Flow from your hydrant pumper port -4", 4½" or 5" Storz

The BigBoy Hose Monster[™] is used for hydrant flow testing, water main flushing and fire pump testing from connections 4" or larger. Incorporating the patented Pitotless Nozzle[™] so rocks and flushing debris pass through without causing pitot damage, it measures water flow-rates from 766 to 2708 GPM. The BigBoy Hose Monster body is made from rugged, durable polypropylene, and the Pitotless Nozzle is made from precision-machined aluminum and is FM Approved.

The BigBoy GPM Gauge is calibrated to read flow-rate directly from the gauge face. No conversion chart is necessary. If you use another pressure gauge instead of the BigBoy GPM Gauge, the BigBoy Hose Monster flow chart must be used to convert from psi to GPM. A 0–60 psi gauge is the most suitable range. A BigBoy flow chart is provided with the original purchase, and additional copies are available at www.hosemonster.com

The BigBoy Hose Monster is intended to be used with a hose and should not be attached directly to a hydrant. The unit comes standard with a 4" NH (National Hose Thread) connection and can be flowed from a larger- sized connection by use of our reducing hose or adapters.

Recommended Hose Options:

- For flowing from a 41/2" NH hydrant connection: ITEM# H45.10.4
- For flowing from a 4" NH hydrant connection: ITEM# H4.10
- For flowing from a 5" Storz connection: ITEM# HS5.10.4

For more information on hoses, see page 31.

 Item #
 Description

 HMBB4
 The BigBoy Hose Monster



Products - Original Hose Monster

HOSE MONSTER COMPANY [™]	A HOSTER A HOSTER	HOSE MORSTER	And the second	HOLEHOUSEE	Rue Contre
	Little Hose Monster	BigBoy Hose Monster	21⁄2" Hose Monster (with Built-In Pitot)	4" Hose Monster	4½" Hose Monster
Hydrant Testing					
Pump Testing					
Pitotless Technology			*	X	X
Weight	6 Pounds	19 Pounds	30 Pounds	45 Pounds	45 Pounds
GPM	Up to 1305 GPM (w/PNGRV)	Up to 2708 GPM	Up to 1460 GPM	Up to 2941 GPM	Up to 2867 GPM

*21/2" Hose Monster with Built-In Pitot can utilize Pitotless Technology with the addition of a Pitotless Nozzle.

HOSE HOSE MONSTER[™] 2¹/₂" Hose Monster ^{with} Built-In Pitot

The 2½" Hose Monster cancels the thrust of high-velocity water flow and is FM Approved. It includes a built-in, reversible pitot and measures flows from 533-1460 GPM. For lower flow-rates, use a Nozzle Insert (page 19).

Built-in pitot:

- **Precise and consistent** Always in the center of the water stream and half the diameter from the nozzle outlet
- Accurate Provides steady gauge readings
- Reversible Points downstream when rocks or debris may be present in the pump discharge, points upstream when the water is clear and ready for a reading
- **Durable stainless steel** Resists damage from debris
- **Field replaceable** Requires just a 1/8" hex wrench and a few minutes





Item

Description 2½" Hose Monster

NH threaded coupling is standard. Other thread types are available by request.

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2¹/₂" Hose Monster Flusher

- Similar to the 21/2" Hose Monster, but without the ability to read flow-rates
- Does not include built-in pitot, but is upgradeable with the HMP (page 19)



SE MONST

Item # HM2HF Description

2½" Hose Monster Flusher

NH threaded coupling is standard. Other thread types are available by request.

4" and 4¹/₂" Hose Monster

These Hose Monster units use a precision-machined, internal orifice plate to measure flow-rates.

- Durable steel body
- Excellent for flow testing large-capacity systems and unidirectional flushing
- Use when flowing out of the steamer/pumper port of a hydrant

Item #	Description
HM4	4" Hose Monster
HM4H	4½" Hose Monster

NH threaded coupling is standard. Other thread types are available by request.

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FM Nozzle Inserts

Nozzle Inserts obtain flow-rates lower than what the $2\frac{1}{2}$ " orifice on the HM2H can accurately measure. Use for flow rates lower than 533 GPM in the $2\frac{1}{2}$ " Hose Monster.

- FM Approved for flow-rate accuracy
- Simply slide a Nozzle Insert into the inlet of a 21/2" Hose Monster (page 29)

Item #	Description	Flow Range
HMNI1.75	1¾" FM Nozzle Insert	282–771 GPM
HMNI1.125	11/8" FM Nozzle Insert	118-324 GPM

Pitot Replacement Kit

The Pitot Replacement Kit is the entire pitot system for replacing damaged pitots in the $2\frac{1}{2}$ " Hose Monster.

 Includes pitot, two splash guards, spring, ball, pin, set screw, locking pin, chain and flow chart



HMBSG Ball, Spring & Ball-Stop Pin

Hose Monste

Model 1-3/4 NOZZLE IN HMNI1.75

Item #	Description
НМР	Pitot Replacement Kit

Pitot Accessory Kit

- Contains the internal components that work to keep the pitot in place
- Includes set screw, ball bearing, spring and ball stop
- Included in the Pitot Replacement Kit (HMP) and Pitot Rebuild (HMPR)

Item # HMBSG Description

Pitot Accessory Kit

Pitot Rebuild

This is our repair service for pitots that become damaged by flowing debris. You send your damaged pitot to us, we send you a refurbished one.

- Contact us for a return authorization that you will use as a packing slip
- Less than half the cost of purchasing a new pitot
- Includes refurbished pitot, two splash guards, spring, ball, pin, set screw, locking pin, and chain



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Item #	Description
HMPR	Pitot Rebuild

Products - Hose Monster Accessories

Pitot Change-out Kit

- Use the Pitot Change-out Kit to make the job of adding and removing the built-in Pitot easier
- The ¹/₈" hex wrench is used to remove, install and adjust the pitot set screw with ease
- The magnet prevents the loss of the ball, spring, pin and set screw

Item #		Description
PCK		Pitot Change-out Kit

Stackers for 21/2" Hose Monsters

- Enable Hose Monsters to be stacked up to three units high when flowing multiple hoses
- Two Stackers required per stack of three 21/2" Hose Monsters
- A Ratcheting Tie Down (below) is required to secure the stack together

Item	#
STA	

Description Stackers

Ratcheting Tie Down

- 6' nylon ratcheting strap
- Secures two or three stacked Hose Monsters

Item #

Description

Ratcheting Tie Down

Refurbish Service for Hose Monsters

Add years to the service life of your HM2H, HM4 and HM4H Hose Monster. Our refurbishing service repairs your unit and makes it look like new!

- The body is sand blasted, powder coated and inspected
- The unit receives a rebuilt pitot, new swivel coupling, new locking pin/chain, new decal and labels
- You receive what is essentially a new Hose Monster that retains its original FM Approvals

Item #	Description
HM2HR	21/2" Hose Monster Refurbish
HM4R	4" Hose Monster Refurbish
HM4HR	4½" Hose Monster Refurbish







Products - Monster Tester

Six 60' tube sets, bundled and color-coded

for easy handling and identification



Multiple pressure readings require a crew. While one person adjusts the flow at the test valve header or the pump room, the other walks between live hose ends, taking pressure readings and communicating them back to the test header. This is time consuming and can result in inaccurate readings.

The Monster Tester enables up to six independent pressure readings from a pitot, pump, standpipe, etc., to be taken at a point right next to the test valve header instead of running back and forth between live hose ends with a hand-held pitot. Flow adjustments can be made and pitot readings can be taken right at the test header. When the job layout permits, suction, discharge and all the pitot readings can be taken through the Monster Tester.

Setup takes less than two minutes. Connect one end of each ¼" pressure transmission tube to the gauge port of the Hose Monster[®] (page 17), Pitotless Nozzle[™] (page 12), pump port or standpipe port. Plug in the other end to ports on the Monster Tester. Attach gauge to the gauge port of the Monster Tester.

The Monster Tester includes:

- Monster Tester Manifold
 - Gauge, 0–60 psi, 4" dial, 0.5% accuracy rated
- Case to conveniently house Monster Tester and accessories
- Item #

Description

Monster Tester (gauge included)

Remote Readers

A Remote Reader enables you to take pitot readings from a single Hose Monster (page 17) or Pitotless Nozzle (page 12) while standing away from the flowing water. In a fire hydrant capacity flow test, the pitot gauge can be located next to the hydrant so that controlling the water flow and reading the residual pressure is easier. Use Remote Readers for hydrant flow testing, main flushing and pump testing. Also consider the QDCOUP (page 27) for connecting to a Hose Monster and the HMMT (above) for multiple readings from one gauge.



- Include a length of 1/4" flexible tube and two 1/4" NPT male x 1/4" tube connector adapters
- One adapter threads into the gauge port on the pitot, and the other threads into the tee of the gauge kit

Item #	Description
HMRR12	1/4" x 12' tube, two Quick-Connect adapters
HMRR40	1/4" x 40' tube, two Quick-Connect adapter
HMRR60	1/4" x 60' tube, two Quick-Connect adapters

Neutralize chlorine in water during testing or flushing without affecting flow test results or adding stress to hydrant nozzles!

The Dechlor Demon[™] uses ascorbic acid or other dechlorination agents to neutralize super-chlorinated water or regular potable water. What's more, its short 6" length adds no stress to hydrant nozzles. The Dechlor Demon can work within your existing testing/flowing regimen without the need for an entire new setup. It is available in sizes 2½", 4" or 4½", NH or your thread spec.

A Dechlor Demon assembly includes:

- Dechlor Demon body 2½", 4" or 4½"
- 1-gallon or 10-gallon mixing tank
- Two pickup tubes with ball valves
- Two ¾" x 6' hoses with quick-connect couplings
- Indicating bypass valve

With its minimal moving parts and ease of use, the Dechlor Demon is one of the most effective dechlorinators available.

How does it work?

A portion of the water flowing through the Dechlor Demon is diverted through the bypass into the mixing tank where it is combined with a concentrated dechlorinating agent. The bypass flow is controlled by a precision indicating valve. The concentrate is reintroduced into the Dechlor Demon, where it continues to mix with the flowing water. The chlorine is neutralized by the time it exits the hose.

See pages 15-16 for more information.



Item #	Description
DD2H	Dechlor Demon 21/2" Assembly
DD4	Dechlor Demon 4" Assembly
DD4H	Dechlor Demon 41/2" Assembly

Products - Dechlor Demon

Vita-D-Chlor Tablets

The safest and most environmentally conscious method of dechlorination. One gram of ascorbic acid (vitamin C) will neutralize 1 ppm (part per million) chlorine in 100 gallons of water. Visit www.vita-d-chlor.com/Calculator Reservoir.htm to determine how much Vita-D-Chlor you will need.

- Sold in quantities of 40 or 140 tablets •
- **Inert ingredient** Water-soluble organic binder (25%)
- Active ingredient Ascorbic acid • (75%), 85 g (3 oz.) per tablet
- **Diameter** $-2\frac{5}{8}$ "

Item #	Description
VDC40	Vita-D-Chlor, 40 ascorbic acid tablets, 21/2", 10.1 lb.
VDC140	Vita-D-Chlor, 140 ascorbic acid tablets, 2½", 35.5 lb. in 5-gallon pail

Bio Neutralizer Tablets

Sodium sulfite tablets instantaneously reduce free and combined chlorine in water or wastewater to non-detectable levels without affecting dissolved oxygen. Choose from 80 or 144 tablets in a resealable safety-latch pail. Listed as non-hazardous by the EPA when used as directed.

- Active ingredient - Sodium sulfite (35%)
- Thickness $-1^{3/16}$ "
- Weight 140 g (5 oz.) each
- **Inert ingredient** Water-soluble organic binder (65%)
- **Diameter** $-2\frac{5}{8}$ "



5. gen ne ne ne ne ne (e e , e ,	
Item #	Description
BN80	Bio Neutralizer, 80 sodium sulfite tablets
BN140	Bio Neutralizer, 144 sodium sulfite tablets, 45 lb.

Bio Max Dechlorinating Tablets

Bio Max tablets are the strongest products available for dechlorination. These sodium sulfite tablets instantaneously reduce free and combined chlorine in water or wastewater to non-detectable levels without affecting dissolved oxygen. This ensures the complete elimination of chlorine from any type of flow regardless of typical interferences, such as elevated ammonia levels or excess suspended solids. A resealable safety-latch pail contains 154 tablets. Listed as non-hazardous by the EPA when used as directed.

- Active ingredient Sodium • sulfite (92%)
- Thickness 1" •
- - **Weight** 140 g (5 oz.) each
 - **Diameter** $-2\frac{5}{8}$ "

Appearance - Blue-green tablet with herbal odor

- **Inert ingredient** Water-soluble • organic binder (8%)
 - Description

Description

Item #

BM154

Bio Max, 154 sodium sulfite dechlorinating tablets, 48 lb.

Enviro-C Tablets

Enviro-C dechlorination tablets utilize the unique chemistry of Vitamin C to neutralize chlorine and chloramines from water, wastewater and process water applications.

- Active ingredient Ascorbic Acid (75%)
- Thickness -1"
- **Inert ingredient** Water-soluble • organic binder (25%)
- **Diameter** $-2\frac{5}{8}$ "

Weight - 115 g (4 oz.) each

Appearance – white tablet with citrus odor

Item

BN80

Bio Neutralizer, 80 sodium sulfite tablets



23



Products - Dechlor Demon

Mixing Tank Assembly

Mixing tanks with manifold and fittings are available as replacements or as spares in two sizes: 1 gallon (DDTANK1) or 10 gallons (DDTANK10).

- Use an additional tank when dechlorinating large amounts of water
- With a second tank charged with fresh dechlorinating agent, the change-out of tanks results in minimal interruption of flow



Item #	Description
DDTANK1	Mixing Tank Assembly, 1 Gallon, 6" x 13", with manifold and QD couplings
DDTANK10	Mixing Tank Assembly, 10 Gallons, 10" x 35", with manifold and QD couplings

Indicating Bypass Valve

- Enables precise control of bypass flow and use of dechlorinating agent
- Includes male and female quick connectors so that it can be installed quickly and simply between a Dechlor Demon and a bypass hose



Item #	Description
DDVAIND.5	Indicating Bypass Valve, for precise flow control of dechlorinating agent

Dechlor Demon Hoses, ³/₄" x 6' or 20'

- Sold individually as replacements
- Two are needed for all Dechlor Demon sizes



Item #	Description
DDHOSE	Hose, ¾" x 6' bypass for all Dechlor Demon sizes
DDHOSE20	Extension Hose, 3⁄4" x 20' bypass for all Dechlor Demon sizes

Products - Pressure Gauges

are the most common choices for taking Hose Monster® or Pitotless Nozzle[™] readings. A higher range may be needed

Pump test readings: Most pitot or nozzle readings will be in the 15–45-psi range. The best-suited gauge would be in the

Suction Compound Gauges for Fire Pumps: 30 HG to

160 psi; these gauges attach directly to the fire pump.

on water supplies where higher readings are anticipated.

Gauge selection Fire flow test readings: The 0-60-psi or 0-100-psi gauges

Gauges read most accurately in the middle two-thirds of the dial. For best accuracy, use a gauge where your anticipated readings are around 50% of its maximum psi rating. For example, if gauge readings are anticipated to be around 30 psi all the time, it would be better to use a 0-60-psi gauge than a 0-100-psi gauge.

The increments are wider and easier to read with the smaller range gauge and bigger dials. Accuracy in collecting information is important. Differences of only a few psi in gauge readings can result in large differences in extrapolated flow-rates.

Static/residual readings from the gauge cap: 0-100 psi and 0–160 psi are most common. Anticipate the pressure range within your distribution system.

Analog Gauges

Dial size: Either 21/2" or 4"

Connection: 1/4" NPT

Accuracy: ± 0.5% Full Scale for 4" Gauges; ± 1.0% Full Scale for 21/2" Gauges

Range: 0 to 30, 60, 160, 200, 300, 600 psi

Filling: Glycerin

Included are: Gauge, brass tee, drain valve, brass nipple, quick-disconnect male plug and female coupler

Laminated safety glass lens

0-60-psi range.

- Full blow-out protection
- Designed and manufactured to minimize failure and to protect personnel and property
- All gauges tested at factory
- Certification to NIST standard available at additional charge



Gauge Fittings (Included with Gauge Purchases)

Item #	Description	
21/2" Dials, 1% Accuracy Rated		
GK30	0–30 psi	
GK60	0–60 psi	
GK100	0–100 psi	
GK160	0–160 psi	
4" Dials, 0.5% Accuracy Rated		
GK60D4	0–60 psi	
GK100D4	0–100 psi	
GK160D4	0–160 psi	
GK200D4	0–200 psi	
GK300D4	0–300 psi	
GK600D4	0–600 psi	

Item #	Description
Compound Gaug	ges, 4" Dial, 0.5% Accuracy Rated
GK30-60	30 HG-60 psi
GK30-100	30 HG-100 psi
GK30-160	30 HG-160 psi
GK30-200	30 HG-200 psi
GK30-300	30 HG-300 psi
Specialty Gauge	S
GK6.8BD4	Bar and psi Gauge, 4" dial, 0.5% accuracy rated, 0–6.8 Bar, 0–100 psi
GK10.9BD4	Bar and psi Gauge, 4" dial, 0.5% accuracy rated, 0–10.9 Bar, 0–160 psi
GKBBD4	BigBoy Hose Monster™ Gauge 0–2700 GPM, 4" dial, 0.5% accuracy rated, 0–60 psi

Monster Meter[™]

The Monster Meter[™] is a required component of In-line Pitotless Nozzles Kits. This item comes with the INPN kits and can be purchased as a replacement.

The Monster Meter features smart functions like real-time GPM display, an intuitive user interface with pre-programmed device selection, and test data storage/recall capability.

With real-time GPM you will streamline your tests by eliminating the need to cross reference PSI to various flow charts or do any mathematical calculations.

The intuitive user interface comes pre-programmed with all the Hose Monster Company's In-Line Pitotless Nozzles.

All you do is select the nozzle that you are using and you are ready to start your test.

In addition, you can also store up to 256 tests right on the device and recall them anytime, anywhere. You now have the freedom to perform your tests and review all the data either on site with your customer or back at the office while writing your reports.



Item #	Description

Monster Meter™ Digital Manometer, 0.3% Accuracy Rated

GKMM250

0-250 psi

ine Gauge

- Measures static pressure and residual pressure in a water system
- Attaches directly to a valve, hydrant, standpipe or any other fixed outlet
- Connects to a hose, pipe or flow meter on the discharge side



Item # Description

LG2.5

Line Gauge, 1% accuracy rated, 0 to 200 psi

wivel Gauge

Swivel Gauge Caps collect static/residual pressures from a hydrant in a hydrant flow test. They attach to a 2½" nozzle port on the test hydrant.

Quarter-turn, 1/4" ball valve is easy on Can be hand tightened with a gauge facing the hands to operate in the correct direction then snugged tight with the Spanner Wrench (page 41) Bleed valve enables air to vent out as the hydrant is opened Pressure gauge included



GKGLY

Item #	Description	
GCSW160	21/2" NH, includes 0–160 psi pressure gauge	
GCSW200	21/2" NH, includes 0–200 psi pressure gauge	
GCSW300	21/2" NH, includes 0–300 psi pressure gauge	
GCSW	Gauge Cap without Gauge, 21/2" NH	

Glycerine Refill for Analog Gauges

Liquid required for refilling gauges that have leaked or have lost filling over time.

Item #	Description
GKGLY4	Glycerine Refill for 4" Gauges, 8 oz.

Products - Pressure Gauges & Accessories

Gauge Certification and Calibration to NIS

NFPA codes require calibrating gauges annually. Our service repairs and/or calibrates new or used gauges sent in to us. Other gauge certifications available. Call us for a return authorization.

- Includes disassembly, repair, calibration and a NIST certification paper
- Ensures accuracy of pressure gauges

Item #	Description
GCC2H	Gauge Certification and Calibration, 21/2" dial
GCC4	Gauge Certification and Calibration, 4" dial
GCCN	Gauge Certification and Calibration, new gauges only

Gauge Fittings

Gauge Fittings are included with all of our gauges. For replacements or unique configurations, order this gauge fittings kit, which includes:

- Brass tee. 1/4"
- Drain cock

- Nipple, 1/4" x 11/2"
- Quick-disconnect male plug and female coupling



Description Gauge Fittings

Quick-Disconnect Couplings

Quick-Disconnect Couplings attach a gauge or the ¹/₄" tube from the Remote Reader (page 21) or the Monster Tester[™] (page 21) to the pitot or Pitotless Nozzle[™] (page 12). After the male end of the coupling is threaded into the gauge port, no tools are necessary to attach and remove the gauge. Also, the gauge can be positioned by hand to always face up.

- Threaded connections are 1/4" NPT (same as a gauge)
- Includes one male Quick-Disconnect Coupling and one female Quick-Disconnect Coupling

Item # Description

QDCOUP Quick-Disconnect Couplings BO auge

- Easily installed by hand
- Gauges sold separately
- Protective boots for 4"- and 21/2"-diameter gauges
- Protect gauges against shock, impacts and corrosion
- Item # Description

GB4

GB2H

21/2" Dial Gauge Boot

4" Dial Gauge Boot

Photo Tachometer

- Use for measuring pump RPM during a fire pump test
- Features 5-digit LCD display, last reading hold, Min./Max. and on-target indicator
- Includes 9V battery, 24" reflective tape and instructions •

Item # Description

TCHD

±0.05% accuracy rated, 2 to 99,999 RPM range





Hydrant Gate Valves

Use these aluminum gate valves for hydrant flow testing and main flushing to control the water flow from the hydrant.

- Avoids water hammer and simplifies fire flow tests
- Connect directly to the nozzle port or the pumper port on a hydrant and then to a hose
- Special configurations such as Storz to NH are also available

Item #	Description
HGV25NST	Slow-Close Gate Valve, 21/2" F NH x 21/2" M NH
HGV4NST	Slow-Close Gate Valve, 4" F NH x 4" M NH
HGV45NST	Slow-Close Gate Valve, 41/2" F NH x 41/2" M NH

Adapters

When you need to adapt between a local fire department thread and NH, Storz to NH or from one size to another, count on The Hose Monster Company.

We stock the most popular thread/size combinations you need in hard-coat anodized aluminum. And we can source other items not in stock. Call us for prices and lead times.



5" F Storz x 2½" M NH Adapter



21/2" Gate Valve

2½" F NH x 4" M NH Adapter



4" Gate Valve

4" or 4½" x 2½" M NH Reducer

Item #	Description
AD4.25NST	Reducer, 4" F NH x 2½" M NH (allows a 2½" gate valve or hose to be connected to the 4" or 4½" pumper port)
AD45.25NST	Reducer, 4½" F NH x 2½" M NH (allows a 2½" gate valve or hose to be connected to the 4" or 4½" pumper port)
AD45.4NST	Reducer, 41/2" F NH x 4" M NH
AS50M45N	Adapter, Storz 5" x 41/2" M NH (connects between 5" Storz and 41/2" NH hose)
AS50M40N	Adapter, Storz 5" x 4" M NH (connects between 5" Storz and 4" NH hose)
AS50M25M	Adapter, Storz 5" x 21/2" NH (connects between 5" Storz and 21/2" NH hose)
AS5XS4	Reducer, Storz 5" x Storz 4" (adapts a hydrant from 5" Storz connection to 4" Storz connection)

Custom-made adapters for various thread types and sizes are available upon request.

Stream Shapers

Straighten water flow, prevent hose burn and arrest some debris. Connect the Stream Shaper between a hose valve or hydrant nozzle and the inlet side of the hose.

- Plastic tapered fins improve stream performance and lower costs
- Measures only 3" long



21⁄2" Stream Straightener with Plastic Fins 21⁄2" Stream Straightener with Aluminum Body

Item #	Description	WITH Plastic Fills	with Aluminum Body
SS1	21/2" Stream Shaper with Plastic Fins		
SS1RF	Replacement Stream Shaper Fins		
SS2.5	21/2" Stream Shaper, one-piece extruded aluminum body f	or durability	

Nozzle Extensions

In some cases, a Nozzle Extension should be used to smooth out water flow and eliminate air pockets if you are pulling suction on your gauge. This can happen if you are flowing from a smaller orifice to a larger orifice, or if you are attaching a Pitotless Nozzle[™] directly to a test header without using hose.



GER HEAD

Item #	Description	
NE2HNH11	Nozzle Extension, 21/2" NH x 11"	
NE2HNH11WF	Nozzle Extension, 21/2" NH x 11" with Fins	
Flbow		A
LINUW		
Use in fire pump	testing and hydrant flow test operations	
 Attach to a valve hydrant nozzle to 	e on the pump test header or o redirect the angle	
Cast aluminum		
• Threads 21/2" F N	IH x 2½" M NH, 200-psi wwp manufacturer rated	
Item #	Description	
EL452HNH	Elbow, 45°, 21/2" NH, Stainless Steel	
 Opens and close Attaches or remo Item # 	es hydrants oves hose to and from hydrants and Hose Monster [®] units Description	
HW107	Hydrant Wrench, adjustable, single spanner	
Snanne	er Wrench	
Tightons and los		
	a Monster Dechlor Demon TM and Pitotless Nozzle units	
Made from touch	h light Al -MAG 35 alloy for heavy-duty use	14116)
Weighs less that		
Item #	Description	
WSPA101	Spanner Wrench	
Wrench	n for Pitotless Nozzle	

- Hole-type spanner wrench used as a holdback on the body of the Pitotless Nozzle
- Recommended for tightening Pitotless Nozzle to a HM2H or HM2HF

Item #	Description
WSPA104	Wrench for Pitotless Nozzle™, only needed if Pitotless Nozzle is used with HM2H or HM2HF

Products - Cases

Cases Protect your flow test equipment in the field, in the truck and while not in use.

Our cases come with either closed-cell foam or a three-piece foam set — egg crate-shaped foam in the lid plus pickand-pluck foam in the bottom with a ½" foam cushion layer underneath. You remove pieces of foam to configure a case to your needs.

Neoprene perimeter O-ring seals make our Seahorse cases completely waterproof and airtight.

The CASE2719 is the largest case we offer and can store an entire fire pump test setup including four Little Hose Monster[™] and Pitotless Nozzle[™] units. Yet it is still small enough to check as airline baggage!



		Cases	
Item #	Description	Outer Dimensions	Capacity
CASE520	Case, Seahorse, pick-and-pluck foam	15.1" x 12.4" x 6.9"	3 or 4 pressure gauges or Pitotless Nozzle™ units
CASE520G	Case, Seahorse, closed-cell foam	15.1" x 12.4" x 6.9"	6 pressure gauges
CASE720	Case, Seahorse, pick-and-pluck foam	19.8" x 15.5" x 7.5"	4 to 6 pressure gauges or Pitotless Nozzles units and 1 Little Hose Monster
CASE720G	Case, Seahorse, closed-cell foam	19.75" x 15.53" x 7.48"	12 pressure gauges
CASE920	Case, Seahorse, pick-and-pluck foam, wheels and telescoping handle	24" x 16" x 10"	1 Pitotless Nozzle, 1 Little Hose Monster and accessories used in our FFTK Fire Flow Test Kit
CASE2719FPT	Case, wheels and telescoping handle	27" x 19" x 10"	4 Pitotless Nozzles units, 4 Little Hose Monster units, and 2 Little Hose Monster Stabilizers

Hoses

Hoses in various materials, diameters, lengths and thread-types are available through us. Let us know your requirements, and we will do our best to find it for you. **Please note, these hoses are not rated for fire fighting use.**

Selecting the Correct Length Hose

A shorter hose length means lower friction loss, and it's also less expensive. Hydrants are usually offset only a few feet from the street and oriented so that the nozzle ports are pointing parallel to the street and the pumper port is facing the street. The Hose Monster[®] requires only that sufficient drainage is available. An established lawn or a sidewalk can be acceptable places to position Hose Monsters.

Hose Material

Polyester Jacket Polyurethane-Lined Hose — Designed for maximum strength and flow at minimum weight and friction loss. This hose is half the weight and one-third the bulk of conventional rubber-lined hoses and is constructed of high tensile-strength polyester yarn and lined with a high-tech EPDM tube. It's the ultimate in quality!

- Snag proof, kink resistant and immune to mildew or rot
- Hardened aluminum rocker lug couplings

Rubber Hose — This is the toughest hose available for fire flow testing, flushing and pump testing. Exposure to sea water and contamination by most chemical substances, hydrocarbons, oils, alkalis, acids and greases will have no effect on the short- or long-term performance of the hose.

- 100% high-tenacity synthetic yarn, circularly woven and completely protected and locked in by tough, highly resistant synthetic nitrile rubber
- Tensile strength of lining and cover rated at 1500 psi

- Fire pump testing Hoses connect to the 2½" test header. They are usually 25 or 50 feet long so that water can be safely discharged at a suitable distance away from the building.
- Flow testing from the 2½" hydrant nozzle A 2½" x 10' hose makes a gentle arc (no kinks) from the hydrant to the street gutter. Sometimes the combination of 5' and 10' hoses is a better option because it gives you the flexibility to put the Hose Monster 5, 10 or 15 feet away from the pumper port.
- Flow testing from the hydrant pumper port When the hydrant is offset from the curb by a few feet and the pumper port is facing the street, a 5' hose normally positions the Hose Monster in the street gutter. For hydrants that are situated differently, a 10' length works better. This setup allows a short section of hose to come straight out of the hydrant to a Hose Monster positioned in the street gutter. You can use a 2½" hose from the pumper port by threading a Reducer Adapter (page 28) to the hydrant.



Item # Description Item # Desc		Description	
Polyester Ja	acket Hose	Rubber Jacke	t Hose
H2H.25	21⁄2" x 25'	H2H.10YR	2½" x 10'
H2H.50	21⁄2" x 50'	H2H.25YR	2½" x 25'
Rubber Jac	ket Hose	H2H.50YR	2½" x 50'
H4.5	4" x 5'	H45.10.4	4½" F NH x 10' L x 4" M NH,
H4.10	4" x 10'		reduces from 4½" outlet to 4" M NH
H45.5	4½" x 5'	HS5.10.4	5" Storz x 10' L x 4" M NH, reduces from 5" Storz to 4" M NH
H45.10	4½" x 10'		

Products - Fire Pump Tester Software



Use Fire Pump Tester Software (FPT) to collect fire pump test results professionally, comprehensively and easily. FPT stores all of your fire pump information, calculates flow-rates and graphs pump test curves.

Features

Collect Critical Fire Pump Information

Record and store your fire pump technical specifications such as: job-site location, manufacturer, model, rated capacity, rated pressures, rated speed, driver information, controller information, jockey pump information and much more. You can create additional custom fields for any other information you want to store.

Produce Pump Test Reports

The program produces professional PDF reports that can easily be printed out or emailed to your customer. Reports include a title page, fire pump specifications, fire pump test results and pump test curves. NFPA 25 requires that records be kept by the property owner of all inspection, testing and maintenance of the fire pump system (source: NFPA 25, 4.3, 2011).

Compare Pump Test Curves

FPT generates graphs with the Pump Design Curve, Net Head Curve Discharge Curve, Performance Corrected Curve and Ampere Curve. The graphs make it easy to compare and visualize the pump performance compared to several different criteria.

Cloud Data Storage

All your data is securely stored in the cloud which allows it to be accessed on any device with an Internet connection. You will be able to easily access your past pump test results and compare it to your last pump test. Multiple users within your company may be added to your account and may access the same data. The program is accessed through the Internet so any software updates or new features will be added to the software with ease.

How Do I Get Started?

Visit https://fpt.hosemonster.com to sign up or go to www.hosemonster.com to learn more.



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					GPN	0	0	0	0	0													
					Flow	PN1.75-	PN175- HML	PN1.75- HML	PN1.75- HML	PN1.75- HML			485	105									
2	1784	125	45	80	PS	9	9	9	9	9	1570.5	104.7	484	104	103.3	77.9							
					GPN	314.1	314.1	314.1	314.1	314.1			400	103									
					Flow	PN1.75-	PN175- HML	PN1.75- HML	PN1.75- HML	PN1.75- HML			484	121									
	1000	100				_					2281.9	152.1	485	123	150.2	61.5							



REFERENCES AND FREQUENTLY ASKED QUESTIONS

The following pages contain useful reference information in operating Hose Monster products in a variety of different applications. This section includes:

- Equations to calculate flow-rates
- Coefficient and K-factor Table for various flow devices
- Frequently asked questions

If you have any questions that are not addressed here, please don't hesitate to contact us at service@flowtest.com

www.hosemonster.com | 1.888.202.9987 33

Calculating Flow-rates

If you are using a software program to calculate flow, you may need to input a coefficient or k-factor into the program to calculate flow-rate. Using the coefficients (on next page) will give relatively accurate results. Check results against our flow charts to verify calculations were done correctly. Our flow charts are calculated using K-factors derived from testing at FM Approvals.

Here are the equations used for calculating flow-rates and predicting flow-rates. Use the orifice diameter, coefficient or K-factor found on the next page.

K-factor Formula

Computes a flow-rate in GPM given a psi and a K-factor of the flow device.

Q = √P x K

- Q = flow-rate in GPM
- P = velocity pressure in psi
- K = K-factor of flow device

Theoretical Discharge through Circular Orifices Formula

Computes a flow-rate in GPM given a psi and coefficient of the flow device.

$Q = 29.84 \times \sqrt{P \times D^2 \times C}$

- Q = flow-rate in GPM
- P = velocity pressure in psi
- $\mathsf{D} = \mathsf{orifice} \ \mathsf{diameter} \ \mathsf{in} \ \mathsf{inches}$
- C = coefficient of flow device

Equation for Determining Rated Capacity

Computes the flow-rate available at a specified residual pressure (a.k.a. Rated Capacity). The example below enables you to find the predicted flow-rate at 20 psi residual pressure. Use this when fire flow testing hydrants.

$QR = Q_F x (H_R^{0.54} / H_F^{0.54})$

- ${\rm Q}_{\rm _R}$ = Flow-rate predicted at the desired residual pressure in GPM
- Q_F = Total test flow-rate measured during test in GPM (GPM measured from Hose Monster or Pitotless Nozzle)
- H_R = Pressure drop from static pressure to desired residual pressure (Static – 20 psi [if 20 psi is the desired residual pressure])
- H_F = Actual pressure drop measured during the test (Static – Actual Residual)

(Source: NFPA 291, 2013)

Here are some conversion factors for switching between US and metric units:

Flow-rate:

US Gallons per Minute x 3.785 = Liters per Minute Liters per Minute x 0.264 = US Gallons per Minute

US Gallons per Minute x 0.1337 = Cubic Feet per Minute Cubic Feet per Minute x 7.481 = US Gallons per Minute

Volume:

US Gallons x 3.785 = Liters Liters x 0.264 = US Gallons

US Gallons x 0.8327 = Imperial Gallons Imperial Gallons x 1.201 = US Gallons

Cubic Feet x 7.48051945 = US Gallons US Gallons x 0.1337 = Cubic Feet

Pressure:

psi x 0.0689 = Bars Bars x 14.5038 = psi

psi x 6894.757 = Pascals Pascals x 0.000145 = psi

Bars x 100,000 = Pascals Pascals x 0.00001 = Bars

Weight of Water:

US Gallons of Water x 8.3454 = Pounds Cubic Feet of Water x 62.42796 = Pounds

Length:

Meters x 3.2808 = Feet Feet x 0.3048 = Meters

Coefficient and K-factor Table for Various Flow Devices

Pitotless Nozzle™						
Device	ĸ	K-factor	Coefficient	Orifice Diameter	psi Range	Flow Range GPM
2" Pitotless Nozzle + Little Hose Monster™		156.0		2"	10-70	493-1305
2" Pitotless Nozzle + 21/2" Hose Monster		164.8		2"	10-70	521-1379
2" Pitotless Nozzle + Open Atmosphere	167.2		1.40	2"	10-70	529-1399
1¾" Pitotless Nozzle + Little Hose Monster	104.7		1.15	1.75"	10-90	331-993
1¾" Pitotless Nozzle + 2½" Hose Monster		106.6		1.75"	10-90	337-1011
1¾" Pitotless Nozzle + Open Atmosphere		109.7		1.75"	10-90	347-1041
$1\frac{1}{8}$ " Pitotless Nozzle + Little Hose Monster		37.2		1.125"	5-90	83-353
1 ¹ / ₈ " Pitotless Nozzle + 2 ¹ / ₂ " Hose Monster		37.4	0.99	1.125"	5-90	84-355
$1\frac{1}{8}$ " Pitotless Nozzle + Open Atmosphere	37.0		0.98	1.125"	5-90	83-351
In-line Pitotless Nozzle™						
Device	k	K-factor	Coefficient	Orifice Diameter	psi Range	Flow Range GPM
2" In-line Pitotless Nozzle		165.3		2"	10-75	523-1432
1¾" In-line Pitotless Nozzle		109.9		1.75"	5-80	246-983
1 ¹ / ₈ " In-line Pitotless Nozzle	38.4		1.02	1.125"	5-70	86-321
11/2" In-line Pitotless Nozzle	31.7		1.06	1.0"	2-90	45-301
BigBoy Hose Monster™						
Device	ĸ	(-factor	Coefficient	Orifice Diameter	psi Range	Flow Range GPM
4 to 10 psi (BigBoy Hose Monster)	382.9		1.38	3.05"	4-10	766-1211
11 to 36 psi (BigBoy Hose Monster)	376.0		1.35	3.05"	11-36	1247-2256
37 to 53 psi (BigBoy Hose Monster)	372.0		1.34	3.05"	37-53	2263-2708
Note: Due to the shape and size of the BigBoy Pitotless No	ozzle, the BigBoy Hose	Monster uses thr	ee different K-factors	over its operating range.		
21/2" Hose Monster®						
Device	K-factor		Coefficient	Orifice Diameter	psi Range	Flow Range GPM
2½" Hose Monster		168.67		2.5"	10-75	533-1460
1¾" Nozzle Insert		89.04		1.75"	10-75	282-771
1 ¹ / ₈ " Nozzle Insert		37.36		1.125"	10-75	118-324
4" and 41/2" Hose Monster®						
Device	K-factor		Coefficient	Orifice Diameter	psi Range	Flow Range GPM
4½" Hose Monster		331.07		4.5"	10-75	1047-2867
4" Hose Monster		339.65		4"	10-75	1074-2941
Using Software			A hand	-held pitot directly	at a hydrar	nt outlet
Use the table to the right if you are using software that requires the Outlet Type Coe						Coefficient
coefficient input be less than '1.0'. Notice that the orifice diameter must be		e Outlet smo	oth and rounded		0.9	
coefficient. This is necessary only for the 2"	fficient. This is necessary only for the 2" Pitotless Nozzle and the %"		Outlet square and sharp			0.8
Pitotless Nozzle.				Outlet square and projecting into barrel		0.7
Device	Coefficient	Orifice Diameter	If a stream	straightener is used		0.95
2" Pitotless Nozzle + Little Hose Monster	0.99	2.30"	Classif	ving and Marking o	f Hvdrants	
2" Pitotless Nozzle + 21/2" Hose Monster	0.99	2.36"				Marking color of Hydrant
2" Pitotless Nozzle + Open Atmosphere	0.99	2.38"	Rated Capacity at 20 psi		Class	Tops and Nozzles
1¾" Pitotless Nozzle + Little Hose Monster	0.99	1.88"		≥1500 GPM	AA	Light Blue
1¾" Pitotless Nozzle + 2½" Hose Monster	0.99	1.90"		1000-1499 GPM	A	Green
1¾" Pitotless Nozzle + Open Atmosphere	0.99	0.99 1.93"		500-900 GPM	В	Orange
lote: If your software uses the Theoretical Discharge Formula, found in NFPA 291,				≤499 GPM	С	Red

4.7.3, the coefficient of discharge can be used to produce flow rates that will match our flow charts.

The above are the NFPA hydrant classifications and color markings for various rated capacities. Source: NFPA 291, 5.1, 2010.

The Pitotless Nozzle[™] Little Hose Monster[™]

Why should I use a Pitotless Nozzle?

Because there is no pitot, small rocks and other debris can pass harmlessly through the center of the nozzle. The same debris would likely damage a pitot if it were in use. Plus, the Pitotless Nozzle accurately measures internal pressure from the inside of the nozzle to determine the flow-rate.

Is the Pitotless Nozzle accurate?

Yes. The Pitotless Nozzle was tested extensively in two different private hydraulics laboratories before being tested at the FM Approvals lab in Rhode Island. K-factors are known and consistent. In addition, FM Approvals conducts regular audits of our manufacturing facility.

In what applications can the Pitotless Nozzle be used?

It is used in flow testing, pump testing or flushing. Use it with the Little Hose Monster, the 21/2" Hose Monster or by connecting it directly to a hydrant nozzle or pump test header flowing openly to atmosphere. Call us if you are considering another application.

What are the minimum and maximum flow-rates that can be measured?

Rates as low as 47 GPM and as high as 1399 GPM can be measured. The nozzle comes in four sizes: 11/8", 13/4" and 2".

Can I connect the inlet of the Pitotless Nozzle to a test valve or hydrant nozzle, and then connect a hose to the outlet of the Pitotless Nozzle?

The Pitotless Nozzle by itself will not work because the Pitotless Nozzle needs access to atmospheric pressure in order to take accurate readings.

Why do I get a suction or negative pressure when using the Pitotless Nozzle directly on a pump test header?

It is usually caused by the presence of air turbulence inside the Pitotless Nozzle. This can happen while opening a valve during a flow condition. This condition can sometimes be corrected by opening the header valve all the way and controlling the pump test flow from the valve at the pump. If this method does not work, attach a Stream Shaper, elbow or nozzle extension to the test header valve first, then attach the Pitotless Nozzle on the outlet end.

How much does the Little Hose Monster weigh?

By itself, it weighs only 6 pounds. With the Pitotless Nozzle and gauge, it weighs just 10 pounds.

Will it whip around because it is so light?

No. The weight is not what keeps it from whipping around. The thrust is cancelled by flowing water in two opposing directions.

The Little Hose Monster looks quite small. Will it break when flowing at high pressures?

The Little Hose Monster has been tested in numerous water flow situations as well as special destruction testing. We found that injection- molded, glass-filled polypropylene is exceptionally durable and difficult to damage.

When I use the Little Hose Monster, it slides or moves laterally. How do I stop it from moving?

Such movement can occur if the hose is twisted or curved. or if the Little Hose Monster is on an incline. Straighten the hose first and make sure it is not twisted. You can also use the Little Hose Monster Stabilizer as an anchoring base.

When I stack the Little Hose Monsters three units high, the stack gets top heavy and falls over. How do I solve this problem?

Always use the Little Hose Monster Stabilizer (STK). It adds stability and keeps the stacked units upright during heavy water flow. It consists of a specially designed metal base and a tie down.

What about dechlorination? Can I still dechlorinate with the Little Hose Monster?

Absolutely. Simply connect the Dechlor Demon[™] to the hydrant, in line with the hose and the Little Hose Monster.

The Hose Monster®

How much does the 2½" Hose Monster weigh? It must be heavy to keep from whipping around.

The 2½" Hose Monster weighs 27 pounds. The weight is not what keeps them from whipping around. The thrust is cancelled by flowing water in two opposing directions. The Hose Monsters weigh as much as they do because of the durable material they are built with.

How much water can I flow through the Hose Monster without damaging it?

A lot, probably more water than your system can provide! Water never has and never will damage the Hose Monster.

Can I take flow readings by inserting a hand-held pitot in the vent hole on top of the Hose Monster[®]?

We do not recommend this method. The vent hole was not designed for flow readings, and the accuracy of that method has not been verified.

What are the maximum and minimum flow-rates I can read from the Hose Monster?

Our equipment can test water flow-rates as low as 45 GPM (1½" In-line Pitotless Nozzle[™]) up to 2941 GPM (4" Hose Monster). Call us or refer to flow charts to determine which equipment to select. The flow charts provided with the Hose Monsters and Pitotless Nozzles indicate the flow-rates for which we have supporting laboratory test data.

Why do I need an extra pitot when I get the 2½" Hose Monster?

Sometimes a piece of debris hits the Hose Monster's built-in pitot and damages it in the middle of a flow test or pump test. When this happens, you can change out the damaged pitot with the spare that you keep on hand. All you need is the Pitot Changeout Kit (PCK) — or a ¹/₈" hex wrench and magnet — and a few minutes. And be sure to save the old pitot! It can be rebuilt at the factory for far less than the cost of a new pitot. Contact us for a return authorization.

Where is the pitot in the 4" or 41/2" Hose Monster?

These Hose Monsters use an FM-Approved orifice plate, not a pitot. It is ideal for flushing operations because it is both accurate and durable. We have never had a complaint of the orifice plate being damaged from flushing debris.

Can I thread the Hose Monster directly to the hydrant?

It is physically possible, but it shouldn't be done. The primary benefit of the Hose Monster is realized by using a hose. It gets the flowing water away from the hydrant and into the street gutter, plus it neutralizes the turbulence when flowing close to the hydrant nozzle. It's common to see a gauge needle bounce ± 10 or more psi when measuring flow close to the hydrant.

Fire Pump Testing

How many Hose Monsters do I need for my pump test?

Generally, pump testers plan on flowing a maximum of 500 GPM per hose. There are other variables to consider such as pump capacity and hose length.

We created the Pump Test Hose Calculator that estimates the number of hoses required for a specific pump test based on the pump ratings/ capacity, water supply, job conditions, hose diameter/length and nozzle size. Go to www.hosemonster.com and click on Resources.

Why should I use the Monster Tester™?

- Without the Monster Tester Fire pump tests using multiple hoses require one gauge for each Hose Monster. It requires one person to adjust the water flow and another to take individual readings.
 Communication between both persons is via hand signals, radio or shouting. Mistakes happen.
- With the Monster Tester One gauge is needed to take accurate readings of individual pitots. The Monster Tester can be remotely located at the test header so that the person adjusting the water flow can watch the pitot pressure change. Opening or closing the hose valve is like dialing in target pitot pressure.

Can the Little Hose Monster[™] or regular Hose Monster be used on a rooftop standpipe test?

Yes. In fact, a rooftop standpipe test should not be conducted without a Hose Monster. A Hose Monster unit allows a rooftop flow test to be conducted any time of day because no water is dispersed over the side of the building. The Little Hose Monster with a 1¾" Pitotless Nozzle or the 2½" Hose Monster with an FM Nozzle Insert are often used. Either one is placed directly on the roof.

How many hoses does NFPA require to be used?

NFPA does not specify the number of hoses required to perform a pump test. NFPA 20 Table 4.26 provides a required number of hose valves and the minimum hose valves size (typically 2½") for installation of pumps. However, the table does not require a specific number of hoses to be used during a flow test. Some AHJs misinterpret this as the number of hoses to be flowed in a pump test. It does not, and we've verified this with NFPA.

What is the maximum hose length allowable?

NFPA does not have a requirement for minimum or maximum hose length.

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Fire Pump Testing (continued)

Does length of hose in a fire pump test affect the accuracy of the readings?

The accuracy of the readings is not affected by the hose length. The pump's net pressure (discharge minus suction) takes into account the extra work needed to pump water through longer hose. In certain job conditions, hose lengths greater than 50 feet may be required to discharge the water away from the building or landscaping. In these cases, friction loss may overcome the pump's ability to force enough water through the hoses. Additional hoses usually solve this problem. If the flow-rate per hose is low enough, a smaller nozzle size may be necessary.

What effect does flowing uphill or downhill with the Hose Monster have?

As long as you achieve your required flow (100%, 150%), the pump's net pressure (discharge minus suction) should not be affected. When flowing uphill, you might have to use either more hose lines or shorter hose due to the extra work the pump has to do.

My pressure reading from the Hose Monster is outside the range of the published flow chart. What is my flow-rate?

All of our flow-rate measuring devices are tested extensively at FM Approvals. Based on what we learn in those tests, a pressure and flow- rate range is chosen that is repeatable and accurate to within 2.5%. If a reading falls outside of the published range, it is not accurate to the tolerance we have established. The best solution is to switch to a smaller or larger nozzle size.

Hydrant Flow Testing

Why should I use a Hose Monster[®] over the hand-held pitot method?

A few reasons:

- The hand-held pitot requires perfect positioning where the pitot is half the orifice diameter away from discharge and the pitot tube is perpendicular to discharge. This is nearly impossible to hold by hand.
- The hand-held pitot method requires you to guess the required coefficient depending on the shape of the hydrant nozzle. This is not always known.
- The Little Hose Monster[™] with the Pitotless Nozzle[™] or the 2½" Hose Monster make it easy to take consistent and precise flow-rate measurements that are FM Approved for accuracy.

How much is the friction loss when I use a hose?

A hose causes friction loss, but it doesn't matter in a hydrant flow test. A hydrant flow test evaluates the water supply to determine what flow-rate will be available at 20 psi residual. A hydrant flow test requires three measurements: static pressure, residual pressure and test flow-rate. The reading from the gauge cap on the test hydrant gives you static and residual pressures. The Pitotless Nozzle or Hose Monster gives you the test flow-rate. The friction loss created in the hose results in lower test flow and, at the same time, greater residual pressure. This does not affect the predicted flow at 20 psi, as long as you're getting sufficient drop from static to residual. NFPA 291 recommends a drop of at least 25%, while AWWA M17 requires a minimum drop of 10 psi.

Previously we did hydrant flow tests using a hand-held pitot. Why are our discharge flows different?

The test flow-rate will be less, but the residual pressure will also be higher. This will not adversely affect the flow test when calculating water supply. Remember, the test flow-rate by itself doesn't mean much. You also need to take into account static and residual pressures. The discharge flow-rates are also influenced by whether you're flowing from the pumper port or the nozzle port of the hydrant, the length of hose and the flow test device.

Can we use the table found in NFPA 291 to determine the flow based on our reading of the gauge from the Hose Monster?

No. The table found in NFPA 291 is not the same as the Hose Monster flow chart. We provide appropriate flow charts with each Hose Monster or Pitotless Nozzle sold. Flow charts are also available on the Literature Rack of www.hosemonster.com. If you are taking hand-held pitot readings directly from a hydrant nozzle or pumper port, use NFPA Table 4.10.1 and apply the correct coefficient(s).

Do I take into account the hydrant coefficient when calculating flow-rate from the Hose Monster?

No. The flow-rate is measured correctly at the Pitotless Nozzle or the Hose Monster and not affected by the flow characteristics of the hydrant nozzle or pumper port.

Is the Hose Monster or Pitotless Nozzle NFPA compliant? NFPA 291 outlines its procedure using a hand-held pitot.

NFPA 291 is a recommended practice but not a requirement. We are not aware of a standard that requires a hand-held pitot. NFPA does not yet require Approved/Listed devices for flow-rate measurement in either hydrant flow testing or fire pump testing. Standards tend to shy away from requiring a particular product to be used.

The Dechlor Demon™

Can the Dechlor Demon be used in hydrant flow testing and water main flushing operations?

Yes. That's what it is designed for.

What is the maximum and minimum flow-rate capacity of the Dechlor Demon?

The Dechlor Demon has the capacity to flow as much water as a Hose Monster. The 2½" model has demonstrated that it can dechlorinate flow-rates as low as 100 GPM, which is the flow-rate to be expected from draining a chlorinated water tank.

Is it necessary to use the Hose Monster with the Dechlor Demon?

At least 5 feet of hose is necessary to use on the discharge side of the Dechlor Demon to ensure sufficient mixing of the dechlorinating agent with the chlorinated water. The Hose Monster or Little Hose Monster is necessary to cancel the thrust at the end of the hose.

What levels of chlorine can the Dechlor Demon dechlorinate?

It is designed to neutralize low concentrations of chlorine, such as those found in normal potable drinking water. It can also neutralize concentrations in super-chlorinated mains.

What chemicals can be used in the tank?

Vita-D-Chlor (ascorbic acid – vitamin C) and Bio Neutralizer (sodium sulfite) are recommended. Other chemicals may be used, but check with us first.

FIRE PUMP TESTING HYDRANT FLOW TESTING STANDPIPE TESTING EC \bigcirc R N D) **MAIN & UNIDIRECTIONAL FLUSHING** APPARATUS TESTING S W R Δ $(\mathbf{0})$

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