

STANDPIPE & PRV TESTING

Application Catalog



HOSEMONSTER IS THE ONE-SOURCE SOLUTION FOR ALL OF YOUR TESTING NEEDS!

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

The professionals at Hydro Flow Products 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.



HOW TO ORDER

Online: Go to www.hosemonster.com and click on the products

Phone: Call 1.888.202.9987 to speak with one of our helpful Customer service representatives

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

STANDPIPE & PRV TESTING

A standpipe is the vertical piping that connects fire sprinkler systems and hose stations between multiple floors. It is common to see standpipes in stairwells of high-rise buildings. A rooftop standpipe test verifies the water supply, pump and piping at the topmost part of the system.

In the past, the only way to perform rooftop standpipe tests was with playpipes and hand-held pitots. Safely securing playpipes and controlling discharge water to avoid interfering with pedestrian and vehicle traffic was a significant challenge, typically requiring that testing be in the early morning hours. The introduction of the Hose Monster[®] line of equipment changed all that.

The In-line Pitotless Nozzle[™] allows you to take flow-rate measurements at the valve, allowing you to run hose or piping to an express drain, or down several flights of stairs to discharge the water safely, outside in the street.

COMMON APPLICATIONS

- Stairwell standpipe flow testing
- Pressure reducing valve flow testing
- Rooftop manifold testing
- Fire pump flow testing
- Fire flow testing of hydrants
- An in-line bypass flow meter for fire pumps

HOW OFTEN DO I TEST A STANDPIPE OR PRV?

Every five years. According to NFPA 25, "A flow test shall be conducted every five years at the hydraulically most remote hose connections of each zone of an automatic standpipe system to verify the water supply still provides the design pressure at the required flows."

WHERE DO I FIND MORE INFORMATION ON STANDPIPES & PRV'S?

NFPA 14 — Standard for the Installation of Standpipe and Hose Systems

NFPA 25 — Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems

- Chapter 6 Standpipe and Hose Systems
- Chapter 13 Valves, Valve Components, and Trim



IN-LINE PITOTLESS PRODUCTS

HoseMonster has the right products for your job. With a range of connection sizes, you'll always have the right diameter nozzle for any standpipe or valve. This collection of high quality, durable in-line pitotless nozzles and accessories are the perfect products to round out your flow test tool kit! Highly accurate, highly rated, and highly recommended; you can't go wrong with HoseMonster.



2¹/₂" CONNECTION



IN-LINE PITOTLESS NOZZLE MASTER KIT

| #INPNK - GPM Range: 86-1432 (Depending on Nozzle Used) | | | | | |
|---|-----------------------------------|--|--|--|--|
| Qty | Description | | | | |
| 1 | Differential Chamber | | | | |
| 1 | 2" Pitotless Nozzle, Threaded | | | | |
| 1 | 1 ¾" Pitotless Nozzle, Threaded | | | | |
| 1 | 1 1⁄8" Pitotless Nozzle, Threaded | | | | |
| 1 | Monster Meter™ Differential Gauge | | | | |
| 1 | 2 ½" Line Gauge, 0-200 psi | | | | |
| 1 | Gate Valve | | | | |
| 1 | Monster Meter™ Case | | | | |
| 1 | Equipment Case | | | | |



2" IN-LINE PITOTLESS NOZZLE

| #INPN2 - GPM Range: 523-1432 | | | | |
|-------------------------------------|-----------------------------------|--|--|--|
| Qty | Description | | | |
| 1 | Differential Chamber | | | |
| 1 | 2" Pitotless Nozzle, Threaded | | | |
| 1 | Monster Meter™ Differential Gauge | | | |
| 1 | 2 ½" Line Gauge, 0-200 psi | | | |
| 1 | Gate Valve | | | |
| 1 | Equipment Case | | | |



1³/₄" IN-LINE PITOTLESS NOZZLE

| #INPN1.75 - GPM Range: 246-983 | | | | |
|--------------------------------|-----------------------------------|--|--|--|
| Qty | Description | | | |
| 1 | Differential Chamber | | | |
| 1 | 1 ¾" Pitotless Nozzle, Threaded | | | |
| 1 | Monster Meter™ Differential Gauge | | | |
| 1 | 2 ½" Line Gauge, 0-200 psi | | | |
| 1 | Gate Valve | | | |
| 1 | Equipment Case | | | |



1¹/₈" IN-LINE PITOTLESS NOZZLE

| #INPN1.125 - GPM Range 86-321 | | | | |
|-------------------------------|-----------------------------------|--|--|--|
| Qty | Description | | | |
| 1 | Differential Chamber | | | |
| 1 | 1 1/8" Pitotless Nozzle, Threaded | | | |
| 1 | Monster Meter™ Differential Gauge | | | |
| 1 | 2 ½" Line Gauge, 0-200 psi | | | |
| 1 | Gate Valve | | | |
| 1 | Equipment Case | | | |

1¹/₂" CONNECTION



1¹/₂" IN-LINE PITOTLESS NOZZLE

| #INPN1.5 - GPM Range: 45-301 | | | | |
|-------------------------------------|-----------------------------------|--|--|--|
| Qty | Description | | | |
| 1 | 1 ½" In-Line Pitotless Nozzle | | | |
| 1 | 0-200 psi Static / Residual Gauge | | | |
| 1 | Monster Meter™ Differential Gauge | | | |
| 1 | Equipment Case | | | |
| | | | | |

HYDRAULICS & ENGINEERING INFORMATION

K-factor Table

| In-line Pitotless Nozzle™ | | | | | | | |
|--|----------|-------------------------|-----------|----------------|--|--|--|
| Device | K-factor | Orifice Diameter | psi Range | Flow Range GPM | | | |
| 2" In-line Pitotless Nozzle | 165.3 | 2" | 10-75 | 523-1432 | | | |
| 1 ³ / ₄ " In-line Pitotless Nozzle | 109.9 | 1.75" | 5-80 | 246-983 | | | |
| 1 ¹ / ₈ " In-line Pitotless Nozzle | 38.4 | 1.125" | 5-70 | 86-321 | | | |
| 1 ¹ / ₂ " In-line Pitotless Nozzle | 31.7 | 1.0" | 2-90 | 45-301 | | | |

CALCULATING FLOW RATES

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
- D = orifice diameter in inches
- C = coefficient of flow device

US/METRIC CONVERSIONS

FLOW-RATE:

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

US Gallons/Minute x 0.1337 = Feet³/Minute Feet³/Minute x 7.481 = US Gallons/Minute

WEIGHT OF WATER:

US Gallons of Water x 8.3454 = Pounds Feet³ of Water x 62.42796 = Pounds

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

Feet³ x 7.48051945 = US Gallons US Gallons x 0.1337 = Feet³

LENGTH:

Meters x 3.2808 = Feet Feet x 0.3048 = Meters

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

MONSTER METER



ABOUT THE 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.



METER FEATURES

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REAL TIME DATA

Show the AHJ the flow-rate, not the PSI. No need to refer to the flow chart or perform mathematical calculation to find the GPM.



UNSURPASSED ACCURACY

Our electronics pressure transducers are calibrated with our proprietary, patent-pending technology to +/- 0/3% of read. All our In-Line Pitotless Nozzles are FM Approved



RATED UP TO 250 PSI

The Monster Meter is designed, produced and tested for pressures up to 250 PSI.



On the job, it's going to get wet. No worries. Water from simple splashing will not penetrate our O-ring seals.



USE WITH ALL OUR IN-LINE NOZZLES

It's simple. Select the nozzle you are using, connect the pressure tubes, open the valves, and begin reading precision flow-rates

