Throttle Master™
Series NG/NA

Plastic Needle Valves

Materials: PVC, CPVC, Polypropylene, & PVDF

Connection Sizes: 1/4", 3/8", & 1/2" Female NPT and Solvent Socket "Slip"

Marquest Scientific's complete line of Throttle Master Needle Valves provide precise flow control with fine adjustment of corrosive and high purity fluids. The developed metering chamber provides for the most reliable stabilization and linearity of flow. Ultimate cross sectional geometry allows the manufacturing process to attain full material property potentials for the most demanding applications.

Features & Benefits

- Produced in two styles: Globe pattern (straight 180°) and Angle pattern (90°).
- Needle finish, SPI/SPE No. 1. Bubble tight, low torque shutoff long term performance.
- All injection molded, rugged design and construction
- 24 Pitch metering thread. 20% Finer metering control. Excellent Linearity of Flow.
- Needle Stem is PTFE sealed for excellent chemical resistance & high purity.
- Integrally designed panel mounting, no fasteners required, mounts to panel thicknesses from 1/16" to 1/2".
- No elastomers (O-Rings), metals or lubricants, no corrosion, no contamination.

NA-250-PPR
Reinforced Polypropylene Body
1/4" Fem NPT
Angle Pattern

NG-250-PVC
PVC Body
1/4" Fem NPT
Globe (Straight) Pattern

(1) Please see backside of data sheet for ordering info, including configuration & material options.

Specifications

End Connections: 1/4", 3/8", 1/2" Female NPT, Solvent Socket "Slip", Compression Tube

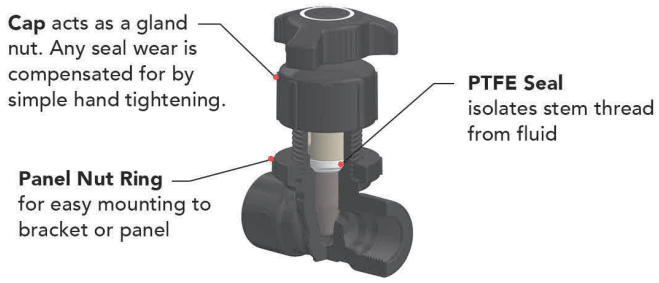
Materials of Construction:

Valve Body & Components: Injection molded in PVC, Glass & Mineral Reinforced Polypropylene, CPVC, & High Purity PVDF. NSF Std 14 & 61 Compliant. FDA, USDA, and USP standards are either met and/or exceeded,

Stem Seal: Machined from 100% Virgin PTFE (Polytetrafluoroethylene).

Working Pressure: 0 - 250 psi at 70°F (See Backside).

Codes & Standards: ARRA Section 1605 "Buy American" Compliant. Meets ASME A112.18.1M



Markets / Applications

- Wastewater Treatment
- Semiconductor Manufacturing
- Chemical Plants
- Chemical Feed Systems
- Food & Beverage
- Wet Processing
- Chemical Odor Control
- Photographic Processing
- Wet Benches & Fume Hoods
- Commercial RO System Sampling
- Many More

MADE IN THE USA

Where Quality Meets Service & Value™

MARQUEST SCIENTIFIC
Fluid Handling Products

Plastic Needle Valves

Throttle Master™
Series NG/NA

Materials of Construction / Connections

Body

- **PVC:** Polyvinyl Chloride
- **CPVC:** Chlorinated Polyvinyl Chloride
- **PPR:** Polypropylene, unpigmented homopolymer, glass & mineral reinforced
- **PVDF:** 100% Virgin Kynar Polyvinylidene Flouride

Seal

- Virgin PTFE

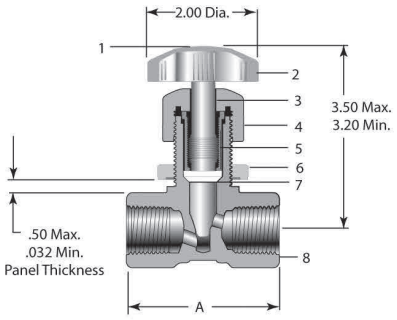
Connections

- 1/4", 3/8", & 1/2" Fem NPT
- 3/8" & 1/2" Solvent Socket Slip
- * 16mm & 20mm Fusion Socket
- * BSP Threads

* Please contact factory for availability as well as special connection requests

Dimensional Data / Parts List

*Dimensions in inches

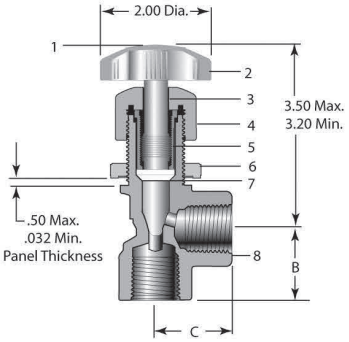


Dimensions

Size	A	B	C
1/4" Fem NPT	2.31	1.16	1.17
3/8" Fem NPT	2.39	1.19	1.21
1/2" Fem NPT	2.65	1.31	1.32

Parts List

1. Colored Ring ID Inserts
2. Handle
3. Needle "Stem"
4. Cap "Bonnet"
5. Threaded Insert
6. Panel Nut
7. Virgin PTFE Seal
8. Body



Pressure / Temperature Data

WORKING PRESSURES PSI

WEIGHTS

Material	10°C 50°F	20°C 68°F	30°C 86°F	40°C 104°F	50°C 122°F	60°C 140°F	70°C 158°F	80°C 176°F	90°C 194°F	100°C 212°F	120°C 248°F	Net Weights Pounds*
PVC	200	250	250	220	140	135	----	----	----	----	----	.26
CPVC	230	250	250	230	200	200	150	120	60	----	----	.28
PP	200	240	240	210	145	125	75	60	----	----	----	.23
PVDF	240	250	250	250	250	230	220	200	160	140	80	.32

Temperature Ranges: PVC: 14 to 140°F (10 to 60°C), **CPVC:** 50 to 194°F (10 to 90°C), **PP:** 46 to 176°F (8 to 80°C), **PVDF:** -22 to 248°F (-30 to 120°C). * Weights are for 1/4" & 3/8" Globe or Angle Pattern, packaged at 1 pc. 1/2" sizes weigh 13% more.

Flow Data

Orifice Sizes & Cv Values

	1/4" & 3/8"		1/2"	
	Globe Pattern	Angle Pattern	Globe Pattern	Angle Pattern
Inlet	0.187"	0.250"	0.218"	0.250"
Outlet	0.187"	0.187"	0.218"	0.218"
Cv	**0.310**	**0.426**	**0.620**	**0.780**

Flow Formula

$$Q = Cv\sqrt{\frac{\Delta P}{SG}}$$

Q = GPM (Gallons per Min)
Cv = Flow Coefficient
ΔP = Change in Pressure
SG = Specific Gravity

How to Order

Part No: NG - 500 - PVC

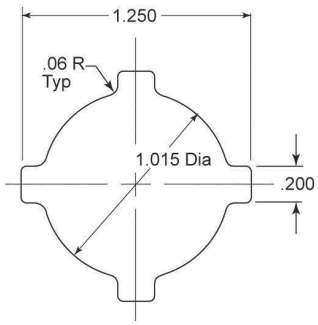
BODY STYLE	CONNECTION	MATERIAL
NG = Globe "Straight" Pattern	250 = 1/4" Fem NPT	PVC = Polyvinyl Chloride
NA = Angle Pattern	375 = 3/8" Fem NPT	CPVC = Chlorinated Polyvinyl Chloride
	500 = 1/2" Fem NPT	PPR = Polypropylene, unpigmented homopolymer, glass & mineral reinforced
	375S = 3/8" Solvent Socket	PVD = 100% Virgin PVDF "Kynar" Polyvinylidene Flouride
	500S = 1/2" Solvent Socket	

Example: NG-500-PVC
PVC Throttle Master Needle Valve, 1/2" Fem NPT Inlet X 1/2" Fem NPT Outlet, Globe "Straight" Pattern, PTFE Stem Seal

Example (2): NA-250-PVD
PVDF Throtttle Master Needle Valve, 1/4" Fem NPT Inlet X 1/4" Fem NPT Outlet, Angle (90 Deg) Pattern, PTFE Stem Seal

Mounting Template

When required, the template provides the outline of the hole and orientation slots for a panel orbracket mounting. The orientation slots may be cut in multiple positions to allow versatility inmounting the valve to accomodate the piping alignment requirements.



Marquest Scientific, Inc.
2950 Airway Avenue, Costa Mesa, 92626 California
Toll Free 866 452 2349 Fax 714 491 9199
www.marquestscientific.com | www.PlasticNeedleValves.com

MARQUEST SCIENTIFIC
Fluid Handling Products

Where Quality Meets Service & Value™