THROTTLE MASTER™
Series NG/NA

PLASTIC NEEDLE VALVES

MS.TMDS.2018

Materials: PVC, CPVC, Polypropylene, & PVDF

Port Connections: 1/4", 3/8", & 1/2" Fem NPT and Solvent Socket "Slip". Universally adaptable to pipe and tube.

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 (straight) and angle pattern.
- 24 Pitch metering thread. 20% finer metering control. Excellent linearity of flow.
- Needle finish, SPI/SPE No. 1. bubble tight, low torque shutoff for long term performance.
- All injection molded, rugged design and construction.
- Needle Stem is Modified PTFE sealed for excellent chemical resistance & high purity. Modified PTFE for resilient sealing.
- 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. Zero Dead Leg.



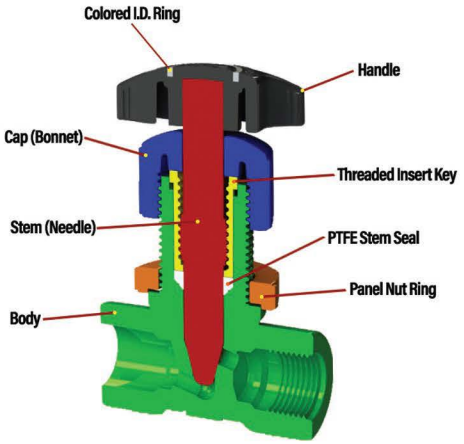
NG-250-PVC
1/4" Fem NPT x 1/4" Fem NPT
Globe (Straight) Pattern
PVC Body

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

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

Specifications

Ports Connections: 1/4", 3/8", & 1/2" Fem NPT, Solvent Socket "Slip", Compression Tube Accessory Fittings
Materials of Construction:
Valve Body & Components: Injection molded in PVC, Glass & Mineral Reinforced Polypropylene, CPVC, and HP PVDF.
Stem Seal: Machined from 100% Virgin Modified PTFE
Working Pressure: 0 - 250 psi at 70° Deg Fahrenheit
Codes & Standards: ARRA Section 1605 "Buy American" Compliant. ASME A112.18.1M. ASTM D1599 & ASTM F610F 610M



Markets / Applications

- Wastewater Treatment
- Semiconductor Manufacturing
- Chemical Manufacturing
- Chemical Feed Systems
- Food & Beverage
- Desalination Plants
- Commercial Reverse Osmosis
- Farming & Agriculture
- Metal Plating
- Wet Processing
- Chemical Odor Control
- PCB Manufacturing
- Pharmaceutical Processing
- Alternative Fuel
- Photolithography
- Wet Bench & Fume Hoods
- NanoFluidics
- Many more..

MADE IN USA

Where Quality Meets Service & Value ™

MARQUEST SCIENTIFIC
Fluid Handling Products

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PLASTIC NEEDLE VALVES

THROTTLE MASTER™
Series NG/NA

Materials of Construction / Connections

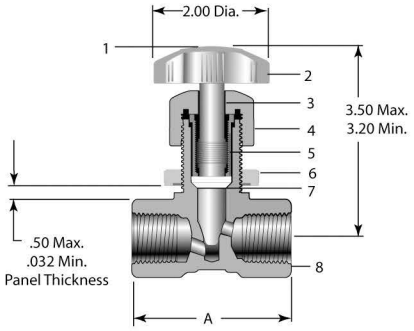
Body:
- PVC: Polyvinyl Chloride
- CPVC: Chlorinated Polyvinyl Chloride
- PPR: Polypropylene, unpigmented homopolymer, glass & mineral reinforced

Seal: Virgin Modified PTFE

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

(1) Please contact factory for special connection requests

Dimensional Data / Parts List

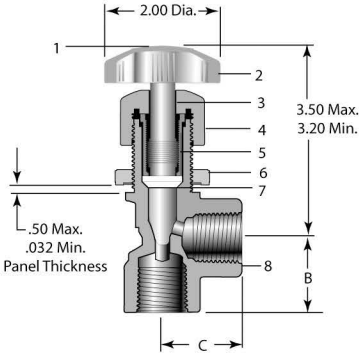


Dimensions (inches)

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 I.D. Insert
2. Handle
3. Needle (Stem)
4. Cap (Bonnet)
5. Threaded Insert
6. Panel Nut
7. Stem Seal (PTFE)
8. Body



Pressure / Temperature Data

MAX WORKING PRESSURES PSI (water, non-shock) — 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	----	----	----	----	----	0.387
CPVC	230	250	250	230	200	200	150	120	60	----	----	0.40
PP	200	240	240	210	145	125	75	60	----	----	----	0.318
PVDF	240	250	250	250	250	230	220	200	160	140	80	0.45

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 unfilled 1/4" Female NPT x 1/2" Female NPT without gauge.

Flow Data

ORIFICE SIZES & Cv VALUES

SIZE	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
Δ P = Change in Pressure
SG = Specific Gravity

How to Order Throttle Master

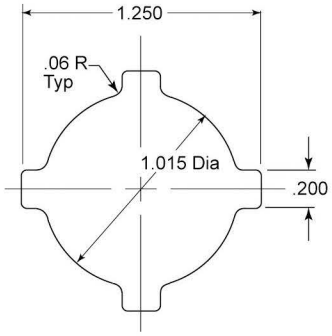
Part No: NG - 500 - PVC

BODY STYLE	PORT CONNECTION	MATERIAL
NG = Globe (Straight)	250 = 1/4" Female NPT	PVC = Polyvinyl Chloride
NA = Angle (90 Deg)	375 = 3/8" Female NPT	CPVC = Chlorinated Polyvinyl Chloride
	500 = 1/2" Female NPT	PPR = Polypropylene, unpigmented glass & mineral reinforced
	375S = 3/8" Solvent Socket	PVD = 100% Virgin PVDF 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, Modified PTFE Stem Seal, .620 Cv Value

Mounting Template

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



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