



# Diversified Products

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MARS Company Diversified Products come in many sizes, lengths and configurations and can be custom designed and fabricated to meet your needs in custom colors, coatings and materials.

The key to manufacturing quality diversified products is an understanding of the need of the water industry.

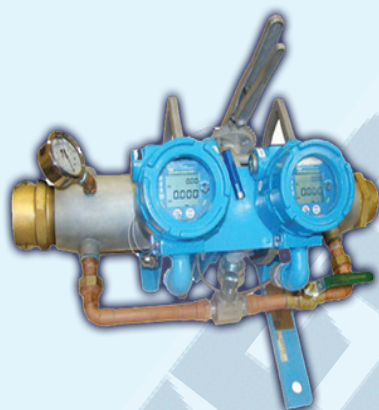


# VEROflow Portable Meter Testers

## VEROflow -1 : Residential Meter Tester



## VEROflow - 4 : Utility Service Analyzer



### Descriptions:

**VF-1:**  
Field testing residential water meters is easy with the VEROflow-1 Utility Service Analyzer. The VEROflow-1 is a precision microprocessor-based test instrument that can measure actual flow rate to within 1/10 GPM. Pulse signals generated by the turbine are magnetically transmitted to the microprocessor, then computed into one of four units of measure and shown on an easily read LCD display.

Characteristics			
VEROflow-1		VEROflow -4	
Min Flow:	3 gpm	Min Flow:	.75 gpm
Max Flow:	25 gpm	Max Flow:	650 gpm
Max PSI:	160 PSI	Max PSI:	160 PSI/300 High Pressure Model
Accurate to:	1.5%	Accurate to:	.5%
Totalizer:	G, CF, L, Imp. G	Totalizer:	G, CF, L, Imp. G

**VF-4:**  
The VEROflow-4 Utility Service Analyzer is designed for large meter testing in the field of all lengths and types. Maximize manpower with the ability for accurate in the field testing.

Based on comparison meter technology, fully linearized to ten points to compensate for inherent test meter accuracy curves. No need for a correction card. The VEROflow-4, for when testing to a higher standard of accuracy and repeatability is required. MARS is the recognized industry leader for water meter testing equipment of all sizes, residential through commercial.

# MARS Valve Keys

## Adjustable Sizes & Custom Lengths



Collapsible Handle For Convenient Storage.

Construction	
Material:	High-Yield Cold Rolled Steel Tubing
2-way Valve Key:	3.5' adjustable to 6.5'
2-way Valve Key:	5.0' adjustable to 9.5'
3-way Valve Key*:	3.5' adjustable to 6.5'
3-way Valve Key*:	5.0' adjustable to 9.5'
T-Handle Valve Key:	5.0' adjustable to 9.5'
Custom Sizes:	Available Upon Request

\* 3-way valve keys include fork extension for hand-wheel attachments, curb stop & 2" nut..

### Description:

The MARS "Super Tuff" Valve Keys are fully adjustable in 18" increments. Crews no longer have to carry several keys to the job site, no longer have to worry about using a key that is too long or too short for the job. In addition, the hazards of keys hanging out or over truck beds and theft possibility are eliminated. When not in use, each MARS Adjustable Valve Key folds down to a easy-to-carry compact size to fit in a trunk, under or behind a utility vehicle's bench seat.

Not only can the valve key be used on a 2" operating nut but the handle has a built-in key for a curb stop. The convenient hand wheel attachment is available on all models and sizes.



Valve-Key Display Rack



# MARS Strainers

## MARS Z-Plate Strainers

## MARS Sand-Trap Strainers

## MARS No-Lead Bronze Strainers

### Sizes:

Z-PLATE & SAND-TRAP: 1.5", 2", 3", 4", 6", 8", 10", 12", 16", 18", 20", 30"

NO-LEAD BRONZE: 1.5", 2", 3", 4", 6"



MARS Z-Plate



MARS Sand-Trap



MARS NO-Lead Bronze

Characteristics:	
Material:	Fabricated Steel
Operating Temperature:	120° F
Maximum Pressure Loss:	< 1 PSI @ Max. Flow
Screen:	304 Stainless Steel
Bolts:	316 Stainless Steel
O-Ring:	Rubber, BUNA-N 70d
Flanges:	AWWA Class "D"
Maximum Pressure Range:	175 PSI

Characteristics:	
Material:	Fabricated Steel
Operating Temperature:	120° F
Maximum Pressure Loss:	< 1 PSI @ Max. Flow
Screen:	304 Stainless Steel
Bolts:	316 Stainless Steel
O-Ring:	Rubber, BUNA-N 70d
Flanges:	AWWA Class "D"
Maximum Pressure Range:	175 PSI

Characteristics:	
Material:	No-Lead Bronze
Operating Temperature:	300° F max.
Maximum Pressure Range:	150 PSI max.
Screen:	304 3/16" Stainless
Bolts:	316 Stainless Steel
Gasket:	Velbuna

### Descriptions:

#### Installation:

The strainer should be installed immediately upstream from the equipment it is protecting. It is preferable that the strainer is installed with the removable top plate vertically accessible for under-pressure flushing and maintenance.

#### Operation:

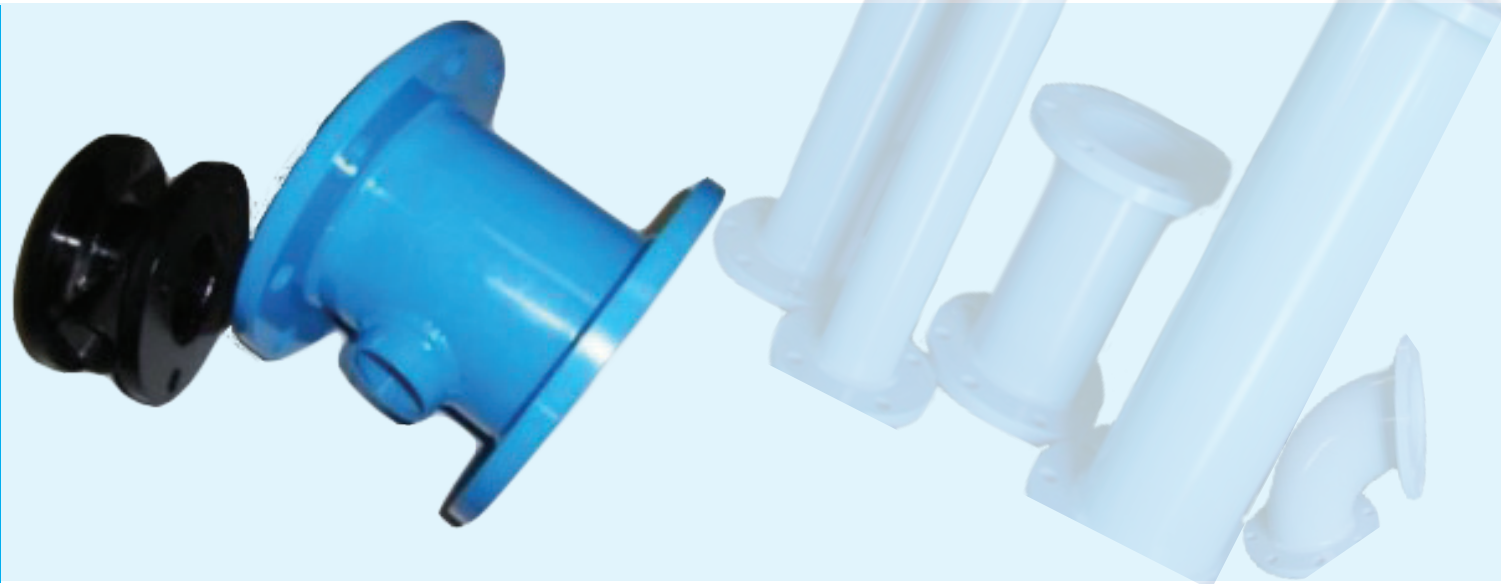
Z-Plate Strainers are designed to protect water meters from the effects of foreign matter and debris. The Z-Plate design is beneficial to the hydraulics of a water line by canceling the turbulence and providing smooth, laminar flow, thereby reducing the need for the installation of 8 to 10 diameters of straight pipe ahead of the in-line meter.

#### Maintenance:

The Z-strainer can be removed, cleaned or replaced without removing the main case from the service line. In order to remove the Z-strainer, the main case must be isolated from line pressure. After depressurizing, simply loosen and remove the bolts, lift the top plate cover and gasket from the main case, and remove the strainer. Proper maintenance should include a regular flushing program. Loosen the top cover bolts to allow internal pressure to lift the full-face gasket and top plate for flushing, without isolating the strainer from line pressure. Simply tighten the top cover to reset the top plate.

# MARS Fabricated Spools & Services

## Custom Fabrication: With or Without Test Port



Spool Characteristics:	
Coating:	NSF-61 Epoxy Coating
Corrosion Resistance:	20 year min.
Material-Body:	Schedule 40 Steel Pipe
Flanges:	AWWA C707 Class D
Seams:	Precision Welded
Operating Pressure:	150 PSI
Sizes - Oval:	1.5" to 2"
Sizes - Round:	3" to 12"
Custom Sizes:	Available upon request

As a sole source, MARS Company Spools comply with all AWWA C207 design requirements and AWWA C213 material requirements.

### Description:

#### Application:

Changing out old water meters for new ones can mean changes in water meter sizes. Advancements in water meter design has led to meters leaving Utility Water Departments and Water Meter Shops with gaps in lay lengths to address upon installation. MARS fabricated spools with or without test ports are used as spacers to make up this difference when exact lay lengths are needed.

#### Test Port Spools:

MARS Test Port Spools assist in testing the water meter for accuracy without the need to remove the meter from the field. Expediting time and giving you your test results faster. Our standard size coupling is 2" Carbon Steel with custom sizes available, just specify your requirement.

## MARS Custom Fabrication Services:

- Stainless Steel Tanks
- Headers/Weld Flanges
- Adjustable Pipe Stands
- Aluminum Tig/Mig Special Projects
- Custom Copper Components
- Stainless Steel Pipe Welding & Threading
- Multiple Spool & Piping
- Hanger Fabrication
- Painting & Powder Coating
- Steel Tig/Mig
- Companion Flanges
  - One & Two Holed



# MARS Zinc Caps

## Protect Your Investment & Fight Corrosion



Standard Edge:



Roseville Tapered Edge:



Description:

### Understanding Corrosion:

Corrosion is the result of electrochemical activity ... galvanic action. Scientific studies have proven that metals having a higher electrical potential will corrode and degrade in a typical corrosion cell, while protecting other metals having a slower electrical potential. Of all metals, Zinc has the highest electrical potential.

The most common type of corrosion cell is a simple Battery. The outer case is made of a zinc alloy having a negative charge ... the anode. The center post is a carbon rod having a positive charge ... the cathode. Separating the two is a filler ... the electrolyte. In operation, the positive current charge rushes from the zinc anode to the cathode, causing eventual pitting of the zinc case. As the electrochemical activity stabilizes, the battery loses strength. The aggressive nature of the electrolyte determines the current output and the life of the battery.

The same phenomenon occurs in submerged water and gas mains. The pipes and fittings are buried in an electrolyte ... the moist soil. The unprotected lines and fittings ... the cathode ... have a positive charge and the current generated is discharged directly into the soil in the electrochemical process of corrosion. Corrosion failures of water and gas mains are directly related to the failure of either the bolt/nut combination, or the flanges secured by the combination. By adding a sacrificial metal. .. zinc caps ... the natural current flow is altered, flowing from the anode ... (the zinc caps) ... to the cathode ... (the pipe and fittings), through the electrolyte ... (the moist soil) ... and preventing corrosion.



Submerged in concentrated salt water for 5,000 hours



# MARS “Super Tuff” Drill Taps

AWWA Tapping Competition Approved For Over 30 Years



Characteristics:	
Material	High-Forged Steel
Flutes:	Five Threads
Finish:	Nitride Rust Protection
Leak Proof:	Yes, Thread
Drill/Tapping Machine Types:	Talbot, Mueller, Hayes
Sizes:	3/4", 1.0", 1 1/2", 2.0"



## Description:

Less drag means less effort, less time and better life expectancy for the drill tap. MARS “Super Tuff” Drill Taps unique new shape and cutting angle on the drill points provides better alignment during the drilling phase of the operation.

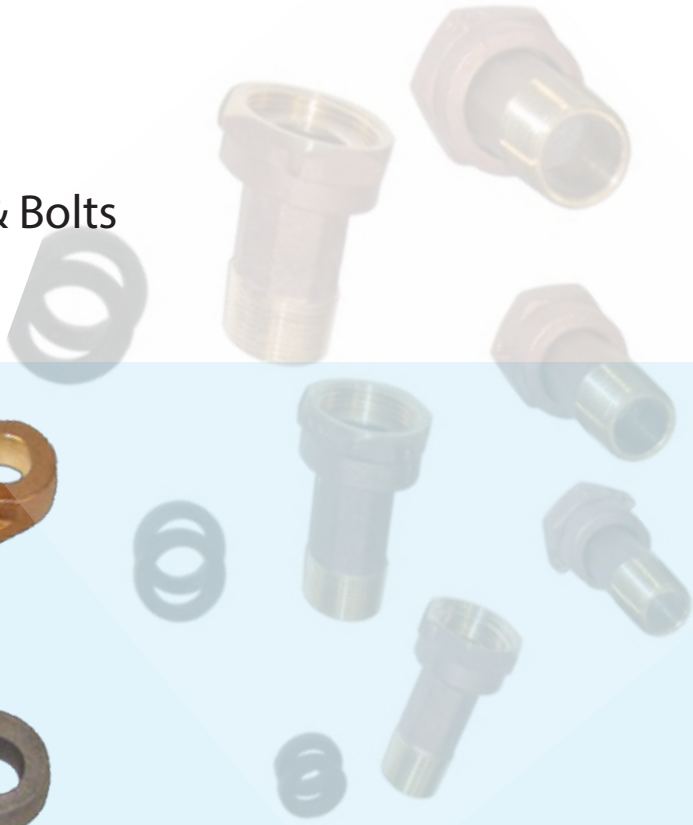
An improved manufacturing process has resulted in a reduction of fissures and microscopic irregularities. This means less chance of a crack to start that may cause breakage, a common problem other drill taps suffer. This is the main reason MARS “Super Tuff” Drill Taps are so durable!

MARS “Super Tuff” Threading provides you with a much cleaner, leak proof thread. This provides less drag and force required to produce leak proof threads.



# Flanges & Couplings

Sold In Bulk or Sets w/Gaskets, Nuts & Bolts



Characteristics: Meter Couplings	
Material:	No-Lead Bronze
Threads:	Straight per AWWA C700
Nuts:	Swivel
Holes	Wire Seal
Sizes:	3/4", 1.0", 1.5", 2.0"



Characteristics: Flanges	
Material:	Cast Iron & No-Lead Broze
Threads:	ABS Standards
Standards:	ANSI B16.1 Class 125 & 250
Standards (also available):	ANSI B 16.5 Class 150 & 300
Sizes:	1.5" and 2"
Kits w/gaskets, nuts & bolts	Cast Iron & No-Lead Bronze

## Description:

MARS flanges are made from close grained, high tensile iron. Our method of core manufacture produces a casting that's smooth and clean inside and out, free of imperfections.

The threads are precision tapped to ABS standards, each opening chamfered for easier assembly. When installed, they take up easily and draw tight.

On your next order, specify MARS flanges for optimum performance and easier installation.  
NOTE: MARS flanges conform to ANSI B16.1 Class 125 and 250 Standards. ANSI B 16.5 Class 150 and 300 also available.

# Specialty Products

## Inserts

### Description:

These unique insert stiffeners are designed to prevent the collapse of polyethylene, polybutylene water service tubing in Push fit, pack joint and compression connections.

Available in 3/4" and 1" sizes, these MARS designed insert stiffeners are precision molded from Waterworks Blue thermoplastic for optimum strength and ease of installation. Both the length and outside diameter have been engineered for maximum rigidity of the connection.



### Characteristics:

Material:	Blue Thermoplastic
Connection Types:	Push Fit, Pack Joint & Compression
Sizes:	3/4" and 1"

## Hydrant Flow Test

### Description:

MARS Hydrant Flow Test Kits include a 2-1/2 barrel with a pitot tube properly positioned in the waterway.

This will eliminate all problems associated with hand held pitot units.

The 2 1/2" barrel easily measures flows between 608 – 1851 GPM @ 10 – 140 PSI range.



## Hydrant Meter Stand

### Description:

Designed for use where water flows from a fire hydrant in a temporary installation. The stand relieves stress on the hydrant and connections, ensuring long life of the connection hardware.

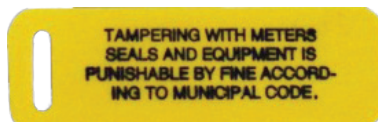
- Lightweight Fire Hydrant Meter for Temporary Water Source
- Lightweight design and counterbalanced handle for easy portability. Can be lifted with one hand!
- Long-lasting adjustable powder coated steel stand
- Complies with AWWA Standard C701



## Tamper Seals

### Characteristics:

Material:	UV Stabilized PTFE Nylon
Temperature Range:	-50 deg. to + 240 deg. F
Types:	Curb Stop Valve Lock/Strap (shown)
	Extra Strap-Standard
	I.D. Warning Tag 1 Sides
	I.D. Warning Tag 2 Sides
	Mater Seals (all sizes)



Custom imprinted to include any legal warning message, as well as your utility's name.

### Description:

The unique MARS Valve Lock is designed to fit every type and make of Curb Stop available today, straight and angled, locking and no locking, even Minneapolis pattern Curb Stops!

Double-sided, one-way locking strap. Strap is capable of withstanding up to 100 LBS. of pulling force!

The lock is completely reusable and the locking strap is replaceable for pennies.

MARS Valve Lock gives you permanent protection at far less cost, even on locking types by eliminating all need for expensive barrel locks or padlocks.

# Gate Valve Boxes

## With Lid and Pipe

### Description:

Designed to protect and cover gate valve system lines. Easy to access meter through lid. Designed with slots on each side for easy install over pipe line.

Unit consists of valve box with figure (8) hole, lid and pipe.

### Material

SDR41 PVC pipe



# Thrustbuster Fire Hose Safety Device



### Descriptions:

#### Operation:

MARS Company developed the ThrustBuster hose diffuser as a safety device for use with water meter field testers. The ThrustBuster adds an increased level of safety to the operator and surrounding property by eliminating the thrust associated with loose hoses that may lay on the ground.

#### Application:

The ThrustBuster is not a metering device. It's Primary function is to reduce the force of flowing water from fire hydrants or hose lines. This helps to control soil erosion and to safely direct the flow pattern. The ThrustBuster is recommended for all field-testing and water main flushing operations in which unsecured hoses are used to direct flow.

#### Features & Benefits:

- Prevent Injury From Water Under Pressure
- Reduces Erosion and Promotes Safety
- Prevents Side Thrust To Hydrants
- Test Meters w/o Securing Hoses
- Fusion Coated High Visibility Yellow
- Available in 30 deg. Up Model - Protect Surfaces
- Diffusing Bars Further Reduce Force of Water

# MARS Company Diversified Products Brochure

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