

### Introduction

HSME's reputation has been established by superb product performance, outstanding mechanical engineering, and development of custom products for client's specific needs ever since our establishment in 1976.

Our standard products include instrument & hydraulic valves and fittings, DBB, Monoflanges, Manifolds, diesel engine valves, sub-system products such as Air distribution manifolds, and field installation & inspection tools for on/off-shore oil & gas, petrochemical, power, CNG, analytical, and shipbuilding.

Over 40 years of strong technical knowledge and experience have given HSME a high level of abilities in excellent product quality, and brought the passion for outstanding in what we supply to clients.

Experience HSME in product performance, excellence in technical handling, and outstanding solution.

**M Tube Fitting®**  
Mechanically Outstanding for performance™



### Instrument Two Ferrule Fittings

#### ● Features

- Two ferrule design
- Re-usable with outstanding make and re-make feature
- Gauge-able with excellent consistency
- Heat code traceable
- Cold-form external threads
- Proven leak-tight over 30 years in supply

#### ● Performance

- 20 TPI thread supports gauge-ability
- Excellent sealing surface finish provides leak-tight performance
- Leading edge selectively hardened back ferrule supports sealing integrity
- Tubing deformation inward supports leak-tight performance
- Consistent internal diameters throughout components

#### ● Standard M Tube Products



#### ● Engineered M Tube Fittings



**KOREA**

Ministry of SMEs and Startups | **KBIZ** Korea Federation of SMEs

**أديبك** ADIPEC | **ادنوك** ADNOC

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# Quick Look Catalog

## M Tube Fitting Installation & Inspection Tools



## Instrument M Pipe & Weld Fittings



- Pipe Thread 1/16 to 1 in.
- Tube Socket Weld 1/8 to 1 in.
- Up to 10,000 psig
- Stainless Steel, Steel, and Brass
- ASME B31.3 Code

## Hose Adapter Fittings



- 1/8 to 1 in. Hose ID
- Stainless Steel, Brass

## Hydraulic Pipe Fittings



- Class 2000, 3000, 6000, 9000
- 1/8 to 2 in. Pipe
- Stainless Steel, Steel
- ASME B16.11 Standard

## Instrumentation Ball & Plug Valves



- 1,000 psig/PTFE Seats
- 2,000 psig/TFM1600 Seats
- -30 to 440 °F (-34 to 226 °C)
- 2-Way On-Off Valves
- Butterfly handle for option
- 1/4 to 1 in. OD M Tube Fitting
- 1/4 to 1 in. Pipe Thread
- Stainless Steel, Brass

- 3,000 psig
- -65 to 300 °F (-53 to 148 °C)
- 2-Way On-Off Valves

- 3-way Switching Valves
- 1/8 to 3/4 in. OD M Tube Fitting
- 1/8 to 1/2 in. Pipe Thread
- Stainless Steel, Brass

- 3,000 psig
- -10 to 400 °F (-23 to 204 °C)
- One piece body design
- 1/8 to 1/2 in. OD M Tube Fitting
- 1/8 to 1/2 in. Pipe Thread
- Stainless Steel, Brass



- 6,000 psig / PCTFE Seats
- 10,000 psig/PEEK Seats
- -40 to 446 °F (-40 to 230 °C)
- 2-Way On-Off Valves
- 1/4 to 1 in. OD M Tube Fitting
- 1/4 to 1 in. Pipe Thread
- Stainless Steel

- 6,000 psig/PEEK Seats
- 4,000 psig/PCTFE Seats
- -40 to 446 °F (-40 to 230 °C)
- 3-Way Diverter Valves
- 1/4 to 1 in. OD M Tube Fitting
- 1/4 to 1 in. Pipe Thread
- Stainless Steel

- 6,000psig / PCTFE Seats
- 1,500 psig / PTFE Seats
- -65 to 450 °F (-54 to 232 °C)
- 2-Way On-Off Valves
- 1/8 to 3/4 in. OD M Tube Fitting
- 1/8 to 1/2 in. Pipe Thread
- Stainless Steel

- 6,000 psig / PEEK Seats
- 4,000 psig / PCTFE Seats
- -65 to 450 °F (-54 to 232 °C)
- 3-Way Diverter valves
- 1/8 to 3/4 in. OD M Tube Fitting
- 1/8 to 1/2 in. Pipe Thread
- Stainless Steel



- 6,000 psig / PCTFE Seats
- 0 to 250 °F (-17 to 121 °C)
- 2-Way On-Off Valves
- Stainless Steel

- 10,000 psig / PEEK Seats
- 0 to 450 °F (-17 to 232 °C)
- 3-Way Switching Valves
- Stainless Steel

- 10,000 psig
- -65 to 500 °F (-54 to 260 °C)
- 2-Way On-Off Valves

- 1/4 to 1 1/2 in. OD M Tube Fitting
- 1/4 to 1 in. Pipe Thread
- Stainless Steel



- User-friendly design
- Lockable in open & close position
- Padlock is applicable

- 2 ball for 3-way Selector valves.
- 10,000 psig
- -65 to 500 °F (-54 to 260 °C)
- 1/2 to 1 in OD M Tube Fitting
- 1/2 to 1 in. Pipe Thread
- Stainless Steel

- 5,000 psig (344.7 bar)
- -20 to 842 °F (-29 to 450 °C)
- 3/8 to 3/4 in. Pipe Thread
- Stainless Steel

## Needle / Toggle Valves



- 5,000 psig/PTFE Packing
- 65 to 450 °F (-53 to 232 °C)
- Regulating Stem Standard
- 1/8 to 3/4 in. OD M Tube Fitting
- 1/8 to 1/2 in. Pipe Thread
- Stainless Steel, and Brass

- 6,000 psig/PTFE Packing
- 65 to 450 °F (-53 to 232 °C)
- Vee Stem Standard
- 1/4 to 1/2 in. OD M Tube Fitting
- 1/4 to 1/2 in. Pipe Thread
- Stainless Steel

- 6,000 psig/Graphite Packing
- 65 to 1200 °F (-53 to 648 °C)
- Optional spring-loaded lip
- 1/4 to 1 in. OD M Tube Fitting
- 1/8 to 1 in. Pipe Thread
- Stainless Steel

- 10,000 psig / Graphite Packing
- 65 to 1200 °F (-53 to 648 °C)
- Non-rotating Vee Stem
- 1/4 to 1/2 in. OD M Tube Fitting
- 1/4 to 1 in. Pipe Thread
- Stainless Steel

## Manifolds / Gauge Valves



- 300 psig
- -20 to 200°F (-28 to 93°)
- In-Line and Angle Pattern
- 1/8 to 1/2 in. OD M Tube Fitting
- 1/8 to 3/8 in. Pipe Thread
- Stainless Steel, Brass

- Non-Rotating Stem
- 2V, 3V and 5V manifolds

- 6000 psig
- 65 to 1022 °F (-53 to 550 °C)
- PTFE Stem Packing Standard

- Non-rotating Vee Stem
- 1/2 to 3/4 in. Pipe Thread
- Stainless Steel

## Primary Isolation Valves

**VD Series DBB Valves**



- Primary Isolation, Sampling, Chemical Injection
- Class 150 to 2500
- Single & Double Block Valves
- Fire safe tested to API 607
- Stainless Steel, Duplex, Steel

**VDM Series Monoflange**



- Pressure Measurement
- Class 150 to 2500
- Two-needle & one OS&Y
- Fire safe tested to API 607
- Stainless Steel, Duplex, Steel

**VDR Series Root Valves**



- Double & Single Block Valves
- Female, Male, Weld Ends
- Fire safe tested to API 607
- Stainless Steel, Duplex, Steel

## Relief, Excess Flow Valves

**VR3 Series Relief Valves**



- 3,000 psig
- Cracking 10 to 250 psig
- -4 to 356 °F (-20 to 180 °C)
- 1/4 to 1/2 in. OD M Tube Fitting
- 1/4 to 1/2 in. Pipe Thread
- Liquid & Gas Service
- Stainless Steel

**VR6 Series Relief Valves**



- 6,000 psig
- Cracking 50 to 6,000 psig
- -4 to 356 °F (-20 to 180 °C)
- 1/4 to 1/2 in. OD M Tube Fitting
- Liquid & Gas Service
- Stainless Steel

**VR6 Series Manual Override Handle**



- 6,000 psig
- Cracking 50 to 6,000 psig
- -4 to 356 °F (-20 to 180 °C)
- 1/4 to 1/2 in. OD M Tube Fitting
- Liquid & Gas Service
- Stainless Steel

**VX6 Series Excess Flow Valves**



- 6,000 psig
- -10 to 400 °F (-23 to 204 °C)
- 1/4 to 1/2 OD M Tube Fitting
- 1/8 to 1 in. Pipe Thread
- Stainless Steel

## Safety, Purge and Bleed Valves

**VS6 Series Safety Relief Valves**



- 6,000 psig
- Cracking 15 to 6,000 psig
- -15 to 400 °F (-26 to 204 °C)
- 1/2 to 1 in. Pipe Thread
- Liquid & Gas Service
- Stainless Steel, Steel

**VR10, VR 20 Series Relief Valves**



- Min. to Max. Cracking with one standard spring for 11K, 21K, and 30K psig respectively.
- Liquid & Gas
- Stainless Steel

**VPG Series Purge Valve**



- 4,000 psig
- +65 to 600 °F (+53 to 315 °C)
- 1/8 to 1/2 in. Pipe Thread
- Stainless, Brass

**VBL Series Bleed Valves**



- 10,000 psig
- 65 to 650 °F (-53 to 454 °C)
- 1/8 to 1/2 in. Pipe Thread
- Stainless Steel, Steel

## Check Valves

**VC3 Series Poppet Check Valves**



- 3,000 psig
- Cracking 1/3 to 25 psig
- -10 to 375 °F (-23 to 190 °C)
- 1/8 to 1 in. OD M Tube Fitting
- 1/8 to 1 in. Pipe Thread
- Stainless Steel, Steel, Brass

**VCH6 Series High Pressure Check Valves**



- 6,000 psig
- Cracking 1/3 to 25 psig
- -10 to 400 °F (-23 to 204 °C)
- 1/8 to 1 in. OD M Tube Fitting
- 1/4 to 1 in. Pipe Thread
- Stainless Steel

**VPC Series Port Connector Check Valves**



- 6,000 psig
- Cracking 1 to 25 psig
- -10 to 400 °F (-23 to 204 °C)
- 1/2 to 1 in. OD Tube Adapter
- 1/2 to 25mm OD Tube Adapter
- Stainless Steel

**VC10 Series 10K Check Valves**



- 10,000 psig
- Cracking 10 bar (14.5 psig)
- -10 to 375 °F (-23 to 190 °C)
- 1/4 to 1/2 in. OD M Tube Fitting
- 1/4 to 2 in. Pipe Thread
- Stainless Steel

**VCP3 Series 1-Piece Check Valves**



- 3,000 psig
- Cracking 1/3 to 25 psig
- -10 to 375 °F (-23 to 190 °C)
- 1/4 to 1/2 in. Pipe Thread
- Stainless Steel, Brass

**VCPA3 Series 1-Piece Adjustable Check Valves**



- 3,000 psig
- Cracking 3 to 600 psig
- -10 to 375 °F (-23 to 190 °C)
- 1/4 to 1/2 in. Pipe Thread
- Stainless Steel, Brass

**VCA3 Series Adjustable Check Valves**



- 3,000 psig
- Cracking 3 to 600 psig
- -10 to 375 °F (-23 to 190 °C)
- 6 to 8mm OD M Tube Fitting
- 1/4 in. Pipe Thread
- Stainless Steel, Brass

**VCL6 Series Lift Check Valve**



- 6,000 psig
- Spring less Poppet
- -65 to 900 °F (-53 to 482 °C)
- 1/8 to 1/2 in. Pipe Thread
- Liquid
- Stainless Steel

## Quick Connects / Filter

**Q Series Quick Connects**



- 3,000 psig
- 1/8 to 1/2 in. OD M Tube Fitting
- 1/8 to 1/2 in. Pipe Thread
- Stainless Steel, Brass

**QF Series Full Flow Quick Connects**



- 6,000 psig
- 1/4 to 1 in. OD M Tube Fitting
- 1/4 to 1 in. Pipe Thread
- Stainless Steel, Brass

**VF6 Series Tee Filter**



- 6,000 psig
- -20 to 900 °F (-28 to 482 °C)
- Pore 0.5 to 90 Micron
- Stainless Steel, Brass

**VF3 Series In-Line Filter**



- 3,000 psig
- -20 to 900 °F (-28 to 482 °C)
- Pore 0.5 to 90 Micron
- Stainless Steel, Brass

## Sub-System Products

**A Series Air Headers**



- Instrument Air Distribution
- 1 to 3 in. Pipe
- SCH 40 to XXS Pipe
- Single & Double side
- Stainless Steel

**P Series Condensate Pots**



- 1 to 4 in. Pipe
- SCH 40 to XXS Pipe
- Six different configurations
- Stainless Steel

**S Series Syphon**



- For Pressure Measurement
- Horizontal & Vertical Syphons
- Gas and Liquid
- Stainless Steel

**GCD Series Gas Cylinder Connection**



- DIN477 Part 1 Construction
- Service for various gas
- Stainless Steel

## Hydraulic Fittings & Valves for Offshore Rig, Shipbuilding

**DIN 2353 Tube Fittings**



- DIN 2353 & ISO 8434-1
- LL, L, and S Series
- 4 to 42 mm OD
- Stainless Steel, Steel, and Brass

**H Series JIC Tube Fittings**



- SAE J514 37° Flared Tube Fittings
- 6 to 50 mm OD
- Pressure Rating Up to 5,000 psig
- Stainless Steel, Steel, and Brass

**Bite Type Tube Fittings**



- JIS B2351 & KS B1535
- 6 to 50 mm OD
- 06A to 40A (1/8 to 1 1/2 in. Pipe)
- Stainless Steel, Steel, and Brass

**DIN Ball Valves**



- L and S Series Ends
- Threaded Ends
- Stainless Steel, and Steel

**DIN Non-Return Valves**







- L and S Series Ends
- Male Thread Ends
- Stainless Steel, and Steel





**Test Couplings**







- 400 bar
- Stainless Steel, and Steel

VBWF Series Swivel Flange Valves	Excess Flow Valves	VBFD Series 3-way Double Ball Valves	VBG Series Gas Vent Ball Valves
			
<ul style="list-style-type: none"> <li>• 5 Kg/cm<sup>2</sup></li> <li>• Test Pressure: 7.5 Kg/cm<sup>2</sup></li> <li>• -30 to 160 °C</li> <li>• Fuel Oil, Lub Oil, Fresh Water, Steam</li> <li>• Steel</li> </ul>	<ul style="list-style-type: none"> <li>• Shut at flow 10 liter / min.</li> <li>• 3/8-1/2 in. OD DIN 2353</li> <li>• 3/8 in. Female NPT</li> <li>• Stainless Steel, Brass</li> </ul>	<ul style="list-style-type: none"> <li>• JIS/ANSI 20K-40A</li> <li>• 20 bar</li> <li>• 2 valve actuation with 1 handle</li> <li>• Test 30 bar</li> <li>• -4 to 302 °F (-20 to 150 °C)</li> <li>• Steel FCD450</li> </ul>	<ul style="list-style-type: none"> <li>• JIS / ANSI 10K-25A</li> <li>• 10 bar / Test 15 bar</li> <li>• Air actuated ball valve with no mounting bracket system.</li> <li>• Solenoid Valve DC24V</li> <li>• Steel</li> </ul>

### Diesel Engine Products

Indicator Valves VI-HJS Series	Indicator Valves VI-HB Series	Indicator Valves VI-Y Series	Safety Valves VSS Series
			
<ul style="list-style-type: none"> <li>• 2 Stroke Wartsila Diesel Engine</li> <li>• 300 bar</li> <li>• Max. Temperature 600 °C</li> <li>• Pmax &amp; Pcom measurement.</li> <li>• Stainless Steel</li> </ul>	<ul style="list-style-type: none"> <li>• 2 Stroke MAN Diesel Engine</li> <li>• 300 bar</li> <li>• Max. Temperature 600 °C</li> <li>• Pmax &amp; Pcom measurement.</li> <li>• Stainless Steel</li> </ul>	<ul style="list-style-type: none"> <li>• 4 Stroke Hyundai Himsen Engine</li> <li>• 300 bar</li> <li>• Max. Temperature 600 °C</li> <li>• Inconel disc on needle tip</li> <li>• Pmax and Pcom measurement.</li> <li>• Forged Alloy Steel</li> </ul>	<ul style="list-style-type: none"> <li>• 2 &amp; 4 Stroke MAN Diesel Engine</li> <li>• 413 bar</li> <li>• Max. Temperature 600 °C</li> <li>• Cracking 160 &amp; 240 bar</li> <li>• Deflector cap for safety</li> <li>• Stainless Steel, Alloy Steel</li> </ul>

Safety Valves VSA Series	Hydraulic Jack Up	Air Start Valves	Compact Ball Valves VBPC Series
			
<ul style="list-style-type: none"> <li>• 4 Stroke MAN Diesel Engine</li> <li>• 413 bar</li> <li>• Max. Temperature 600 °C</li> <li>• Cracking 200 bar</li> <li>• Stainless Steel, Alloy Steel</li> </ul>	<ul style="list-style-type: none"> <li>• 2 &amp; 4 Stroke Diesel Engine</li> <li>• 1300 bar</li> <li>• Bolt tensioning</li> <li>• Alloy Steel</li> </ul>	<ul style="list-style-type: none"> <li>• 4-Stroke &amp; High Speed Diesel Engine</li> <li>• Supply 30 bar air into diesel engine to actuate the piston before engine runs by fuel.</li> <li>• Alloy Steel</li> </ul>	<ul style="list-style-type: none"> <li>• 20Kg/cm<sup>2</sup></li> <li>• Test Pressure: 30Kg/cm<sup>2</sup></li> <li>• Temperature up to 150 °C</li> <li>• Oil, Fresh Water, Steam, Sea Water, Compressed Air.</li> <li>• Steel</li> </ul>

### Systems Products - Gas Supply Module



#### Application

Regulating natural gas volume in supply

#### Features

Gas flow meter for supply gas measurement  
 Gas pressure regulation  
 Venting with electro-magnetic valves  
 Bleed & block with electro-pneumatic valves  
 Stainless Steel Flame  
 M Tube Fitting Tubing System  
 Pipe DN80 to DN25