

# TLV<sup>®</sup>

## STEAM & CONDENSATE MANIFOLDS

### MP/M Series



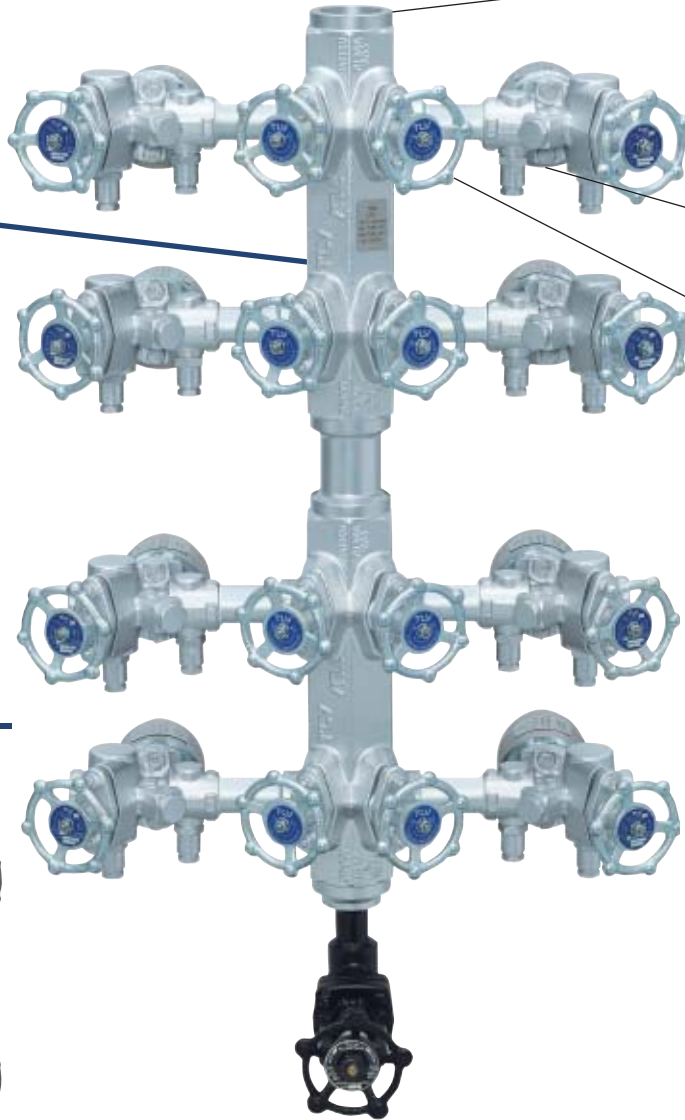


# Streamline You

A typical plant employs countless steam supply and condensate recovery lines with huge numbers of valves and steam traps. TLV's rugged and versatile all-in-one packages for steam distribution and condensate collection simplify the control and management of your steam system.

## Condensate Manifold

**M8P**  
(with trap stations)



## Basic Steam Manifold

**M4P M4**



**M8**



Condensate Collection Manifold Package Example (M8P + V1P Trap Stations)

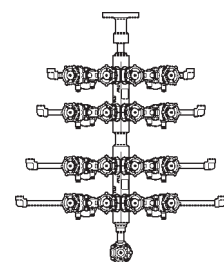
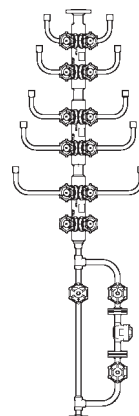
Condensate Collection Manifold Package Example (M8 + SteamTraps + Globe Valves)

## Basic Product lineup

Model	M4P	M8P	M12P	M4	M8	M12
Integrated Valve	Piston Valve			Bellows Sealed Valve		
Number of Station Connections	4	8	12	4	8	12
Max. Operating Pressure (MPaG)	7.67*			5.0*		
Max. Operating Temperature (°C)	425*			400*		

Basic Manifolds for use with both steam and condensate  
 PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS):  
 Maximum Allowable Pressure (MPaG) PMA: 7.67 (MP Series), 5.7 (M Series)  
 Maximum Allowable Temperature (°C) TMA: 425

\* Manifold Packages are further restricted by attached valves/traps



Special orders to meet individual design constraints possible. Please consult TLV for details.



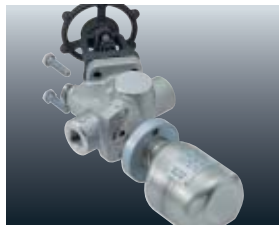
# ur Steam Line

## Features



### Durable - Forged Steel Body

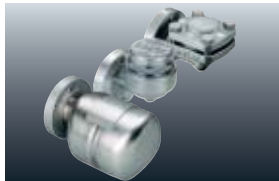
- TLV Manifolds are constructed with a forged steel body for high endurance and an extremely long service life, minimizing maintenance and replacement costs.
- Valves rated for 3,000 operation cycles.



### Easy Trap Replacement

Trap Station + QuickTrap®

- Allows easy removal and replacement of steam traps with only 2 bolts, greatly reducing maintenance time and labour costs.
- Traps can be removed and replaced without disturbing piping.
- Built-in blowdown valve and strainer reduce scale build up.
- Built-in **TrapMan**® test point.



### Choice of Steam Trap - QuickTrap®

- Freely choose from 3 different types of steam trap - free float, disc or thermostatic type - depending on the application requirements. (See back page for further information.)



### Long Term Reliable Seal

Piston Valve (MP Series, V1P/V2P Series)

- Employs a high performance piston valve comprised of upper and lower valve rings made of alternating layers of stainless steel and graphite that provide exceptional tight-sealing. Also, it is possible to operate with the valve partially open.
- The nuts for the valve bonnet can be tightened to stop any leaks from the seat area.



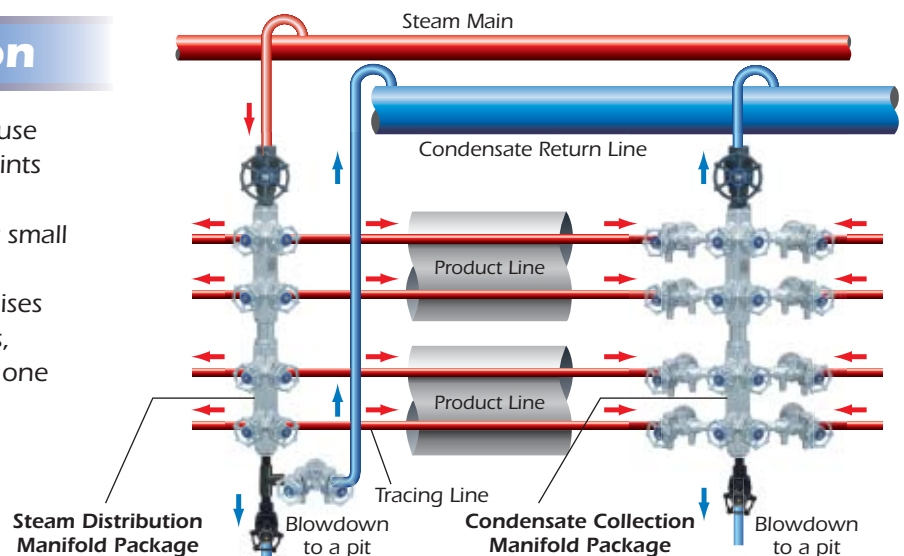
### No Gland Leak

Bellows Sealed Valve (M Series, V1/V2 Series)

- Conserves energy by eliminating gland leaks.
- Improves safety and working environment by removing steam clouds.
- Enjoys a long service life through the utilization of stellite-hardened surfaces on valve plug and valve seat.

## Typical Application

TLV manifold packages are ideal for use in areas where steam distribution points or condensate collection points are gathered, e.g. tube tracing (right) or small equipment piping. The compact size reduces installation space and organises different steam and condensate lines, steam traps and isolation valves into one manageable package.



# Trap Stations - V1/V2/V1P/V2P

## Combining a steam trap and a valve, Trap Stations facilitate simplification of piping.

- The V1/V2 series employs a bellows valve for zero gland leaks, and the V1P/V2P series uses a piston valve exhibiting reliable sealing.
- The steam trap can be selected from the QuickTrap series (free float, disc, and thermostatic types) to most suit the particular application.
- The V1/V1P series have a valve on the inlet side, the V2/V2P series have valves on the inlet and outlet sides. Models equipping a blowdown valve to flush out the interior, and a test valve to check trap operation are also available.
- The V1/V1P series are for applications with the outlet side open to the atmosphere.  
The V2/V2P series are for applications with the outlet side piping used for condensate recovery.  
(Manifolds, main lines, tracers, general processes, etc.)



MODEL	V1-RL	V1-RB	V1-LB	V2-RL	V2-RB	V2-LB
Valve Type	Bellows Sealed Valve					
Station Picture						
Flow Diagram						
Flow Direction	Right or Left	Right	Left	Right or Left	Right	Left
Blowdown Valve	—	✓	✓	—	✓	✓
Test Valve	—	—	—	—	✓	✓
Max. Operating Pressure (MPaG)	4.6*					
Max. Operating Temperature (°C)	425*					

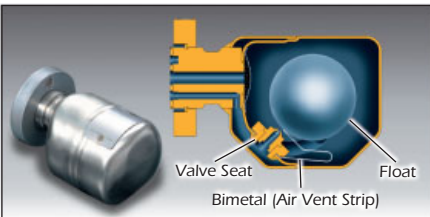
MODEL	V1P-RL	V1P-RB	V1P-LB	V1P-RW	V1P-LW	V1P-RV	V1P-LV	V2P-RL	V2P-RB	V2P-LB
Valve Type	Piston Valve									
Station Picture										
Flow Diagram										
Flow Direction	Right or Left	Right	Left	Right	Left	Right	Left	Right or Left	Right	Left
Blowdown Valve	—	✓	✓	✓	✓	—	—	—	✓	✓
Test Valve	—	—	—	✓	✓	✓	✓	—	✓	✓
Max. Operating Pressure (MPaG)	5.0*									
Max. Operating Temperature (°C)	425*									

Please see Specification Data Sheet (SDS) V1/V2, V1P/V2P for further details. \* For trap station only; further restricted by mounted trap unit

## QuickTrap® - Steam Trap Units

### Free Float Steam Trap

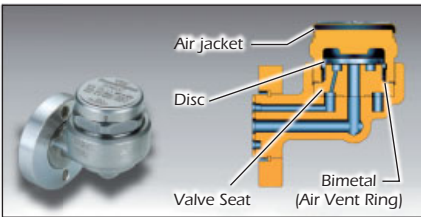
- Free float ensures rapid removal of condensate
- Unique 3-point seating provides tight shut-off
- Bimetal vent for rapid removal of air at startup



Model*	S3	S5	S5H
PMO (MPaG)	2.1	3.2	4.6
TMO (°C)	400	400	425
Max. Discharge Capacity** (kg/h)	215	670	245

### Thermodynamic Steam Trap

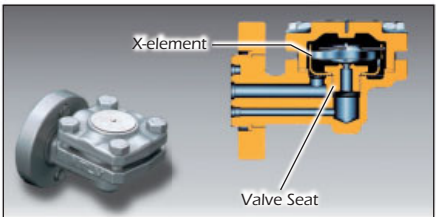
- Rugged thermodynamic principle for arduous conditions
- Air-jacketed cap as standard prevents rapid cycling
- Bimetal vent as standard for discharge of air at startup



Model*	P46UC
PMO (MPaG)	4.6
TMO (°C)	425
Max. Discharge Capacity** (kg/h)	740

### Thermostatic Steam Trap

- Patented "Fail Open" feature of balanced pressure X-element
- Outstanding air venting capability
- X-element will continue to operate against high back pressure



Model*	L21	L32
PMO (MPaG)	2.1	3.2
TMO (°C)	235	240
Max. Discharge Capacity** (kg/h)	760	530

\* For more information, see the QuickTrap Specifications Data Sheet (SDS) for the steam trap employing the desired trap unit (trap unit - QuickTrap data sheet): S3 - FS3; S5 - FS5; S5H - FS5; P46UC - FP46UC; L21 - FL21/FL32; L32 - FL21/FL32.  
\*\* Actual discharge capacity will vary depending on operating conditions; see relevant SDS for details.

**CAUTION** To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

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**TLV® CO., LTD.**  
Kakogawa, Japan  
is approved by LRQA Ltd. to ISO 9001/14001

ISO 9001/ISO 14001