

Corporate Profile **TLV**[®]



Since its founding over a half century ago, **TLV**'s goal has been to produce dependable, long-lasting steam traps. One early outstanding success was the A3, a thermodynamic steam trap offering an amazing 10 times the durability of previous products. Behind the A3 was the concept of the "**T**rouble **L**ess **V**alve", from which the company name originated. From this solid foundation, the line of products and services has expanded until now, more than 50 years later, **TLV** has become a Steam Specialist Company – a recognized leader in the steam-engineering field.

Since
1950



A Steam Specialist Company

A3 and beyond...

A benchmark product, the A3 was the world's first steam heating, condensate cooling, double-jacketed thermodynamic steam trap, unaffected by ambient conditions. From this product alone came 7 patents. The A3 evolved into the A3N with the addition of an integrated air-venting feature. From single trap-design beginnings, **TLV** now engineers complex systems such as the Vacuumizer – a vacuum pressure steam heating and cooling system.



Customer Satisfaction

TLV is true to the philosophy of complete customer satisfaction through strict adherence to its two fundamental policies:

- Quality First
- Incomparable Originality

Only through providing superior products and services that are of great benefit to the customer can complete satisfaction be guaranteed. This is the credo that has supported **TLV**'s growth since its inception, and will continue to be the guide into the future.





Free Float

TLV had the original concept of using a perfect sphere as a valve mechanism, supported by the high-quality precision production technology to make it possible. The result was the free float; a device simple in construction, with only one moving part, yet possessing amazing durability and sealing properties. This technology is reflected in many **TLV** products, satisfying customers with its performance, energy savings and long life.

Meeting customer needs

Quality First

TLV's quality system is certified to ISO9001, with products and services exceeding the strictest standards and requirements for a wide range of applications including nuclear power generation, pharmaceutical grade clean steam and petrochemical hazardous gas trapping.

Incomparable Originality

TLV approaches product development with continuous dedication to customer needs. Development means the creation of totally new ideas and concepts. The many patents derived through this development process attest to **TLV's** dedication to innovation.

CES Solution

Consulting
Engineering
Service

TLV believes that true customer satisfaction can only be obtained by finding solutions to the various difficulties customers encounter in running their businesses and operating their plants. **TLV** Consulting, Engineering and Service activities are designed to find the best solutions to increase productivity, maximize energy savings, improve quality and promote environmental conservation. CES activities are the embodiment of the complete customer satisfaction philosophy.





Identifying opportunities

Steam system assessment

- Achieving optimum system efficiency by identifying opportunities for improvement and providing solutions, accompanied by a thorough economic analysis covering investment, savings and returns.

Engineering a better solution

Improved systems & new products

- Optimizing the design and engineering of steam equipment systems to reduce production costs, increase automation, stabilize operations and improve the quality of goods produced. Communicating directly with the customer to improve existing **TLV** products and to aid in the development of new products and technologies inline with user needs.

Solutions for steam system optimization



Foundations for continuous improvement

Training seminars

- Training all levels of engineering and maintenance personnel in energy conservation and maintenance optimization through a range of specialist seminars.

Maintenance tools

- Providing advanced technological instruments and highly trained consultants to customers in order to allow them to achieve an improved level of maintenance within their own companies.
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Superior Performance

TLV products meet the needs of the industrial world
– longer service life, greater energy savings, improved
quality, increased productivity and enhanced
environmental conservation.

Each product is developed with **TLV**'s highest quality and
incomparable originality to offer the customer excellent
value and service.

The **TLV** Product Line



Pressure Control
Valves



Safety Valves



Automatic
Multi-Control Valves



Vacuum Pressure Steam
Heating/Cooling Systems



Mechanical Pumps



Condensate Return
Systems



Steam Traps



Clean Steam Traps

The best products for modern industry



Flowmeters



Air & Drain Traps



Air Vents



Ball Valves



Check Valves



Sensors



Separators



Filters



Strainers



Engineering Software



Managing the steam trap population

Steam Trap Management System – **TrapMan®**



Pocket-size Steam Trap, Valve & Bearing Inspection Tool – **Pocket TrapMan®**



System Optimization

For production plants, proper maintenance is absolutely essential to ensure system availability, continued safe operation and efficient production. For steam systems, the critical elements are often steam traps. **TLV** offers the world's best steam trap diagnostic and management tools, capable of making detailed and highly accurate, objective judgements.

They can support on-site surveys or enable the customer to achieve optimized self-maintenance.



Innovation

TLV maintains a level of craftsmanship that surpasses customer expectations. To achieve this, research and development does not imitate present and industry standard designs, but instead completely reengineers concepts and ideas. With the principle "to design and build only patented products" at its core, **TLV** currently holds about 2000 patents (including pending items). This number is in and of itself a testament to originality.



Original ideas with technical ability

Original products are not created by a mere idea. A firm grasp of the needs involved, a precise understanding of the physical properties of fluids and metals under various conditions and the ability to combine the pieces of information, technology and materials are all required for original product design.



Development based on proof

Rather than the products, the first priority must be the creation of a test environment, so that the properties influencing the products can be fully understood. In development, definite proof holds the key to success. This is the stance of **TLV**'s research and development, which uses its own ISO certified test apparatus.



Partnerships for superior design

No matter how superior the vision, products must fill an industry need and be technologically viable to be successful. Working in a partnership with the customer to identify needs and find new solutions, as well as sharing **TLV**'s technical skill, helps produce superior products and assure customer satisfaction.



Creative concepts, unique solutions



TLV's production system manifests the policy of "Quality First" in the form of its products. It combines high-precision automated machine lines, which incorporate **TLV's** own unique developments, with the Flexible Manufacturing System (FMS), electronics technology for production line operation. Additionally, the entire staff work together as one toward the realization of the "Quality First" policy being put into action in all processes.



ISO9001
1991



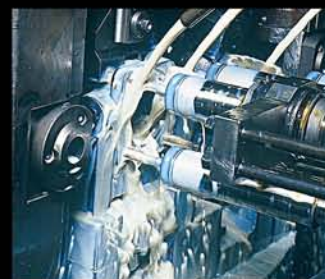
ISO14001
1997

Compliance with Global Standards

The **TLV** Kakogawa plant has been certified to ISO9001 for its Quality Systems and to ISO14001 for its Environmental Management Systems. **TLV** has received both external and official approval for the quality and reliability of its production system and recognition for its environmental initiatives.



A production system for world-class quality



High-quality production with FMS

TLV's Kakogawa plant uses modern technology supported by more than half a century of production experience, making reliable production of high quality products a reality.



Quality assurance inspection system

The in-process quality management system, with requirements exceeding international standards, ensures the high level of excellence required for all **TLV** products.



Production management for customer needs

TLV's production management system ensures that customers receive what they want, when they want it, and in the desired quantities. **TLV** keeps its schedule, delivering when promised.

Global Network

TLV is internationally established, with companies in 12 countries. A network of over 100 distributors in more than 50 countries enables the provision of engineering support in any part of the world at any time. **TLV** plays a leading role in the promotion of efficient energy systems and increased environmental conservation on a worldwide scale through its original products and services.

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Worldwide service and support

International Contributions

TLV shares its knowledge and experience through various international activities:

- Represented Japan at the APEC International Conference (October 1998), giving a presentation on energy saving measures related to heat energy.
- Holds training seminars for technicians from international governmental cooperations.
- Assists with the establishment of energy savings centers (past projects include China, Argentina, Bulgaria and Turkey).
- Dispatches international energy savings survey teams.

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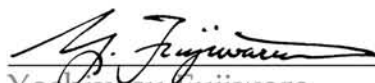
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Profitable Partnership




Yoshiyasu Fujiwara
President



MESSAGE

Customers come from diverse backgrounds with unique needs requiring equally unique solutions. To gain the complete understanding of the customer necessary to provide the best solutions, **TLV** moves beyond traditional customer-manufacturer

Creating an environment for mutual growth



associations, forming closer, longer-lasting relationships as partners. Understanding the customer's values, ideas and business philosophy allows **TLV** to work with them as a team member to achieve the customer's goals. This close association in turn supplies

the customer feedback required for **TLV** to continually develop new products and services to satisfy the changing needs of global industry. By providing continuous support to loyal customers through profitable partnerships, mutual success is achieved.

