







Peace of mind for your plant

"Trouble Less Valve" – This is what the name TLV stands for. TLV was founded in 1950 with the goal of creating the world's No. 1 steam trap. Witnessing the problems and challenges faced by plants, our pursuit evolved into a determination to bring plants peace of mind. This inspired a change – what customers need are solutions, not just products. Drawing on our experience, TLV will continue to provide solutions and value to plants, striving to become the world's No. 1 steam specialist.

We support your steam system



Making steam work for you



Improved productivity, energy conservation, and safe and reliable operation

Overcoming challenges in your industry

A tradition of pioneering products

Basic Policy

Incomparable originality

Product development starts from our customer's perspective. To meet the needs of the market, we have developed a broad range of solutions including steam traps, valves and separators, as well as sophisticated system products and software.

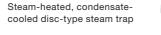
To date, we have obtained over 4,900 patents and utility models across the world, underlining our commitment to creating new, innovative technologies.





Our first milestone

We developed the A3 after seven years of dedicated research. Designed to alleviate the high frequency of steam trap failure, it was over ten times more durable than existing products. Despite being three times more expensive than competitors, it earned an outstanding reputation in the market. Its legacy is inherited by the improved A3N, a bestseller even today.



Meeting energy-saving needs

The Free Float® is a symbol of TLV's technical expertise. Our steam traps incorporating this technology have very low steam loss and long service life. Today, our Free Float® technology is used widely in a broad range of products.

Free Float®



We have also pioneered the development of system solutions devices that incorporate multiple TLV products to perform specialized, controllable functions. Our vacuum steam-heating system VACUUMIZER®, for example, allows you to harness steam's heating properties even below 100 °C.

VACUUMIZER®

Products that exceed your expectations



Expanding the possibilities of steam

Manufacturer at heart

Basic Policy

Quality first

TLV is first and foremost a manufacturer. Each product we manufacture is proof of our unwavering dedication to quality, and is vital to our solutions. We are constantly refining production processes to ensure that we deliver high quality products on time to our customers around the world.



"TLV Quality" production system

Integrated production management

environmental and quality assurance system that maintains reliability and dedicated people at all stages of our operations.



members in charge of each process, from receiving orders to manufacturing to shipment, work closely to handle even sudden

order amendments.



Manufacturing "TLV Quality"



Our "quality first" policy is at the heart of everything we do. Our production staff work closely with R&D, striving to develop both products and manufacturing processes of outstanding quality that enable long-lasting productivity benefits.

Quality-orientated manufacturing

We promptly issue shipping and assembly instructions for every order placed, and design custom production processes to ensure that your products are delivered on schedule. The TLV

Our manufacturing quality is supported by constant development and improvement of production processes and technology, an

Factory certifications

ISO9001/14001 Certification High-Pressure Gas Production Facility Inspector Certification EU Directives (CE Marking, PED, ATEX) Certification General Construction Business License (Plumbing Business/Machinery, Equipment and Facility Business, Japan) Conformity inspections compliant with the Japanese Consumer Product Safety Act

Providing the best possible solutions

Philosophy

Customers first

Through developing products and studying the steam-using processes in our customers' plants, we came to realize that there are many problems in the steam system that cannot be solved by just providing products. To proactively contribute to safe and reliable plant operations, we created the CES (Consulting • Engineering • Services) philosophy and team. The aim of CES is to offer the best possible solutions to problems that steam-using plants face, increasing energy efficiency, protecting the environment, and improving product quality and productivity.



Delivering tailored solutions to steam system problems

CES

Consulting • Engineering • Services



Gonsulting

The first step towards devising solutions is to thoroughly and accurately survey the plant. We work closely with you to identify the root causes of problems and propose effective, realistic solutions.



Engineering

Next, our engineers put these solutions into practice. Making the most of our extensive experience in a wide range of industries, we provide optimal designs for your plant's steam system and applications.



Services

TLV's highest priority is making sure that your problems are solved. We not only check the effectiveness of each solution once it is introduced but also provide follow-up support to deal with unexpected issues, aiming to complete recovery work within 24 hours.

Comprehensive support from CES specialists



Optimizing your steam system

The organizational benefits of utilizing steam to its full potential and treating the steam system as an asset are significant. SSOP® (Steam System Optimization Program) improves the safety and reliability of your plant. In SSOP® we create clear visualizations of even complex steam systems and implement mechanisms that help keep plants in their optimal state.



Continuously optimizing steam systems through visualization

SSOP[®]

Steam System Optimization Program



Condition Monitoring

opportunities for further improvement.



Timely Optimization

We establish a system that detects early signs of failure, enabling fast and accurate maintenance to be performed before trouble occurs. This supports safe and reliable plant operation, reduces risk and saves energy.

Steam is an Asset



We use diagnostic devices to monitor and visualize the entire steam system in real time. Visualization and analysis of the operating condition of all steam-using equipment reveals



Creating the future of steam plants

There is more to SSOP[®] than total plant surveys and state-of-the-art monitoring systems. mitigating the negative impact of system failure. A wide range of steam facilities around the world are reaping the rewards of SSOP® for their critical tracing applications,

TLV aims to create a future where plants can predict and prevent trouble before it occurs.

III (3)



Trend management

Analyze data from sensors to determine each application's likelihood of failure.

Real-time monitoring

Create visualizations of the entire steam system and demonstrate the current state of the plant.

Bringing peace of mind to your plant

Predictive maintenance

Carry out predictive repairs, helping workers focus on plant operation.

Supporting steam across

the world

Our sales and service network covers more than 50 countries, with more than 100 business sites across the world. These include subsidiaries established in 12 countries, and 11 sales offices in Japan.

TLV members go beyond national borders to bring peace of



JAPAN

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Times change, so do needs. **TLV** continues to evolve.



President Ayako Fujiwara

TLV's history dates back to 1950. It has been a history of bold moves that have provided genuine satisfaction to customers. Industry will continue to change at an unrelenting pace, and what customers require from TLV will also change. We will continue to evolve, never afraid of change itself. TLV will always provide true value to our customers by developing and delivering the best possible solutions.

Company name Foundation Incorporation Head Office & Factory

TLV CO., LTD. Capita May 1950 Number of employees January 1972 Areas of business 881 Nagasuna, Noguchi, Kakogawa, Hyogo 675-8511, Japan Phone: [81]-(0)79-422-1122 URI Fax: [81]-(0)79-422-0112

100 million JPY

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Manufacturing and sales of steam traps, condensate pumps, pressure reducing valves and other fluid measurement and control equipment. In addition, the provision of consulting, engineering, services, and the design and construction of steam and power systems https://www.tlv.com



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> Release of the CP condensate recovery pump Release of the ball butterfly valve Release of LEX, the world's first temperature control trap Fujiwara Manufacturing is relaunched as TLV CO., LTD.

Factory relocated to current Head Office/Factory location: Noguchi, Kakogawa

Release of the revolutionary A3 thermodynamic steam trap Fujiwara Manufacturing is founded in Onoe, Kakogawa

- * The "Reduction in Steam Losses from 100.000 Steam Traps' project, jointly conducted with Nippon Petroleum Refining Company (now ENEOS Corporation), earned TLV the Director-General's Prize (Agency for Natural Resources and Energy (Japan)) at the FY2009 Energy Conservation Grand Prize
- iBPSSM.net® awarded FY2021 Energy Conservation Grand Prize (METI Award, Product/Business Model Category)
- Release of HeatSaver[™] condensate/flash steam heat recovery system
- Yoshiyasu Fujiwara becomes chairman; Ayako Fujiwara becomes president
- CES® Survey awarded FY2019 Energy Conservation Grand Prize (Chairman's Prize, Product/Business Model Category)
- TLV ENGINEERING FZCO (UAE) established TLV PRIVATE LIMITED (Thailand) established Release of the iTrapSensor® monitoring sensor Held Refining and Petrochemical Top Management Symposium SOP® (Steam System Optimization Program) is honored at e Energy Conservation Grand Prize* / ENGINEERING, S.A. DE C.V. (Mexico) established ease of the SteamAqua® steam-fired instantaneous water heater ENGINEERING S.A. (Argentina) established se of the LEX3N-TZ temperature control steam trap P Steam Savings Plan is granted a business patent (Korea) established INEERING SDN. BHD. (Malaysia) established (plant inspection service provider) established GHAI CO., LTD. (China) established (Australia) established GINEERING FRANCE SARL (France) established TLV PTE LTD (Singapore) established TLV EURO ENGINEERING UK LTD. (U.K.) established Release of GT/GP series PowerTrap® condensate recovery pumps Release of the VACUUMIZER® vacuum steam-heating system
- TLV EURO ENGINEERING GmbH (Germany) established
- Katsuji Fujiwara becomes chairman; Yoshiyasu Fujiwara becomes president
- Release of the TrapMan® steam trap computer control system
- Release of the COSPECT® high-precision pressure-reducing valve with built-in separator & trap
- Introduction of the CES (Consulting · Engineering · Services) concept
- Launch of the TLV maintenance equipment sales business
- Release of the SST type Free Float® steam trap, with a three-point valve seating mechanism
- TLV INTERNATIONAL INC. (Intl. Headquarters) established
- Release of the UFO, the world's first free ball bucket steam trap
- Release of the JN series, the world's first precision ground Free Float® steam trap
- Fujiwara Manufacturing is reorganized and incorporated as a joint-stock company