



Energy – saving Technology

Advanced Solutions for Steam and Condensate Management



Products

- ✓ Steam Traps
- ✓ Pressure Reducing Valves
- ✓ Air Traps and Air Vents
- ✓ Ancillary Equipment

Services

- ✓ Steam trap management
- ✓ Assistance in steam trap selection
- ✓ Technical support and maintenance
- ✓ Training and technical seminars

Japanese efficiency and reliability!



85 years of experience and technical know-how



MIYAWAKI – a leading Japanese manufacturer of steam traps and other equipment for steam and condensate systems was established in Osaka, Japan in 1933.

Key Focus Areas

Engineering, manufacturing and distribution of steam traps, steam pressure reducing valves, air traps, air vents and ancillary equipment for steam and condensate lines.

MIYAWAKI's Mission



Kensuke Miyawaki, President, member of the executive board of MIYAWAKI Inc.

„MIYAWAKI's mission is to promote the ideas of energy saving and environmental protection, to fulfill the deliveries of its products with a high rate of reliability, and to provide a high level of technical support for each transaction.

Reducing the consumption of energy in the form of steam is an extremely important energy saving policy goal of every modern industrial enterprise. Steam traps are able to play an important role in this process, because by improving the organisation of steam handling and collection, they can reduce up to 40% of the steam loss which is not caused by manufacturing, thus making such equipment very effective and necessary for steam and condensate systems. We have every confidence that the high quality of MIYAWAKI products will enable our customers to save energy and to meet their financial goals.“

Our Client Base

Leading oil-refineries and chemical plants all around the world are equipped with MIYAWAKI steam traps. Some of them are (The complete reference list is available on request.):

BELARUS:	JSC Mogilevkhimvolokno, JSC Mozyr Oil Refinery, JSC Grodno Azot
BELGIUM:	Nippon Shokubai Europe N.V.
CHINA:	Jinling Petrochemical Company, Yangzi Petrochemical Company, Shanghai Petrochemical Co. Ltd.
ECUADOR:	EP Petroecuador – Esmeraldas refinery
GERMANY:	BASF SE Ludwigshafen; PCK Raffinerie GmbH
JAPAN:	Nippon Oil Corporation, Idemitsu Kosan Co. Ltd., Cosmo Oil Co. Ltd.
KAZAKHSTAN:	CNPC AktobeMunaiGas
MEXICO:	Kao Chemicals (Quimi-kaio)
POLAND:	Lotos Group; PKN Orlen SA
RUSSIA:	JSC Taneco (Tatneft group); JSC Syzran refinery (Rosneft); JSC Azot Novomoskovsk; Gazprom Neftechim Salavat
SINGAPORE:	SINGAPORE REFINING Co. Pte. Ltd., Mitsui Phenol Singapore Pte. Ltd.
TURKMENISTAN:	CNPC Petroleum Turkmenistan
UKRAINE:	PJSC Azot Cherkasy; Lisichansk refinery
USA:	ExxonMobil Corp.; Lyondell Basell; BASF USA; Motiva Enterprises; Nippon Shokubai America Ind.

Basis for success

- Advanced manufacturing technology
- Permanent innovations
- Sophisticated engineering solutions
- High-grade materials
- Highly qualified and experienced work force
- Consistently excellent quality of the products

Saving Energy Resources

MIYAWAKI's equipment increases the efficiency of the manufacturing processes thanks to:

- Build-up of safety and durability of steam tracing and steam mains
- Stabilization and exact maintenance of the thermal conditions
- Elimination of waterhammer effects through on-time and complete condensate discharge
- Reduction of erosion and corrosion MIYAWAKI products contribute to save energy due to
- Elimination of steam loss
- Reduction of flash steam
- Improvement of the management steam and condensate handling

Return On Investment

According to our experiences the pay-off period lasts from 2 months to one year depending on the local circumstances and the technical conditions of the steam and condensate equipment.



MIYAWAKI's high quality, wide product range



**Model TB51
Series TB**



**Model ER105
Series E**



**Model GC20
Series G**



**Model DV1
Series D**

Steam Traps

MIYAWAKI produces all models and types of steam traps: from traditional thermodynamic, thermostatic and float (inverted bucket and ball float) steam traps to advanced in a technical and economical sense temperature control thermostatic steam traps. The wide range of steam traps produced helps to find the most suitable solution for the customer. All models are available according to JIS, ANSI/ASME and DIN/EN standards.

Thermostatic Steam Traps

Temperature Control Steam Traps, Series TB, 1/4"-1" (DN8-DN25). Discharge the condensate according to the adjusted temperature. Not influenced by inlet pressure changes. Operate on the temperature change of the steam and condensate inside the steam trap. By regulating the lift of the shaft connected with the bimetals, the discharge temperature can be adjusted manually (optional undercooling).

Balanced Pressure Thermostatic Steam Traps, Series D, 1/4"-1" (DN8-DN25). Discharge hot condensate at 5°C or 15°C (depending on the capsule) below the saturation temperature at a given pressure caused by the change of the aggregative state of a special liquid in a capsule. Very high flow capacity and compact design.

Thermostatic Radiator Steam Traps, Series W, 1/2"-3/4" (DN15-DN20). Discharge condensate with constant temperature independently of pressure changes thanks to the reaction of a special thermoelement. The opening temperature of the valve is preset.



**Models RE1, RE2, REC1
Series RE**

Ball Float Steam Traps

Ball Float Steam Traps, Series G, 1/2"-4" (DN15-DN100). Ensure immediate discharge of condensate. In-built air vent for venting air and gases at the time of start-up and for preventing air locking.

Inverted Bucket Steam Traps, Series E, 1/2"-2 1/2" (DN15-DN65). Immediate condensate discharge. Withstands high back pressure (up-to 90%). Resistant to waterhammers.

Thermodynamic Steam Traps

Thermodynamic Steam Traps, Series S, 1/4"-2" (DN8-DN50). Immediate discharge of condensate. Equipped with bimetal ring for a quick discharge of air and cold condensate. Easy maintenance.

The most effective solution for steam tracing and steam mains

High Efficiency

Reduction of steam consumption:

- in case of steam mains
- in case of steam tracing up-to
- No steam loss



10 - 20%

50%

0%

Cost-cutting

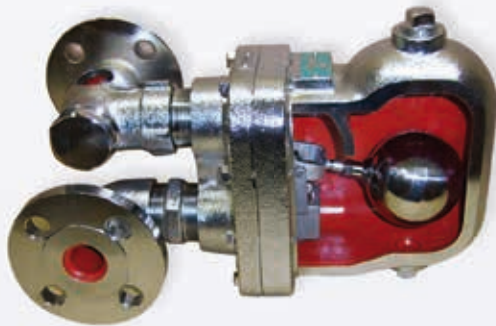
Reduction of financial losses:

- Substantially lower amount of flash steam: less erosion & corrosion
- Easy and quick replacement of inner parts
- Very long service life comparing with other traps

SERIES TB



Model DC1
Series D



Model GH2
Series G



Models SV1, SU2N and SC31
Series S



Models RE3, RE10N
Series RE



Models RE20, RE20L
for Steam



REA20, REA20L
for Air, Gases, Liquids

Air Traps

Air Traps, Series A, 1/2"-2" (DN15-DN50). Air Traps for quick discharge of condensate from air and gas piping.

Pressure Reducing Valves

Direct Acting PRV (Pressure Reducing Valves), Series RE1, RE2, REC1, 3/8"-1" (DN10-DN25). Very compact. Easy adjustment and accurate operation. Body material: brass or stainless steel.

Pilot Operated PRV, Series RE3, RE10N, 1/2"-2" (DN15-DN50). Compact, easy adjustment and accurate operation. Body material: brass or ductile cast iron.

Direct Acting PRV for steam, air, gases and liquids, Series RE20 and REA20, 1/2"-8" (DN15-DN200). Body material: Ductile cast iron, Cast steel and Stainless steel

Pressure Reducing Valves with downstream pressure sensing line (pulse line) for steam, air, gases and liquids, Series RE20L and REA20L, 1/2"-8" (DN15-DN200). Body material: Ductile cast iron, Cast steel and Stainless steel

Ancillary Equipment

Air vents, sight glasses, strainers, separators, check valves, blow-down valves, anti-freezing valves, steam-water mixing valves and water guns.

In matters of energy saving it's in a class of its own.



TB1N
1/4" – 3/8"
PMO: 1,6 MPa
TMO: 350°C



TBC2
1/4" – 3/8"
PMO: 1,0 MPa
TMO: 220°C



TB7N
1/2" – 1"
DN15 – DN25
PMO: 2,1 MPa
TMO: 350°C



TB9N
1/2" – 1"
DN15 – DN25
PMO: 1,6 MPa
TMO: 350°C



TB51/52
1/2" – 1"
DN15 – DN25
PMO: 6,4 MPa
TMO: 475°C



TBH71/72, TBH81/82
1/2" – 1"
DN15 – DN25
PMO: 8,0 – 20,0 MPa
TMO: 550°C

Steam Trap Management System

Dr. Trap® Jr. PM15

- Easily handled steam trap checking tool
- Combined measurement of the vibration inside the trap and the surface temperature
- Easy operation by using only one key for all functions
- Combined with advanced analysis software

Dr. Trap® PM301

- Computer-based advanced steam trap management system
- Transfer of survey lists between the computer and the processor
- High-speed diagnosis of steam traps (4 – 10 seconds)
- Results of 1,000 steam trap checks can be stored in the processor's memory



Ultrasonic Checker

Temperature Probe



SurveyPro Light 2.0



Processor



Detector



SurveyPro 3.1



- Comprehensive analysis software for both tools
- Displays the steam loss and related financial loss resulting from faulty steam traps
- Allows trend analysis by comparing the survey results of various survey periods
- Estimation of CO₂ emissions which correspond to leaking steam traps



MIYAWAKI-Technology: SCCV®-System

Self Closing and Centering Valve: The Key to MIYAWAKI's success

The Self Closing and Centering Valve SCCV®-System is a unique technology developed by specialists of MIYAWAKI. Most of the MIYAWAKI products are equipped with the internationally patented SCCV®-System. Its high reliability and effectiveness is proven over more than three decades. The constant improvement and integration of the SCCV®-System into new products ensures MIYAWAKI's technological lead over competitors.

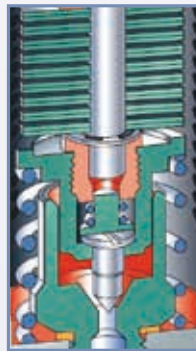
Main Advantages of MIYAWAKI's Technology

- a substantially longer life compared with steam traps of other manufacturers
- no partial or one-sided precipitate wear of valve and seat
- considerably reduced wear of all internal parts due to the reduction of the closing forces
- no steam loss

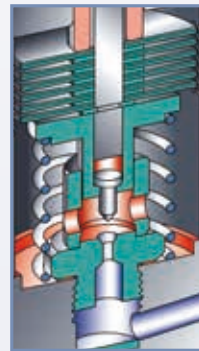
Unique characteristics

The key to the uniqueness of the SCCV®-System is a „Free Floating“ valve inside the valve holder – what ensures the precise closing of the valve in the center of the seat. Intensive research and development activities over many years have enabled MIYAWAKI to incorporate the SCCV®-System in various types of steam traps. Thus it became possible to adopt the SCCV®-System not only for bimetal steam traps, but also for inverted bucket and float type steam traps.

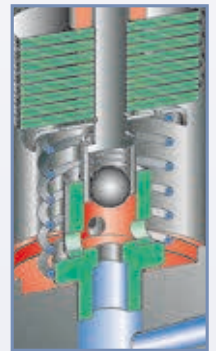
TB51



TB7N

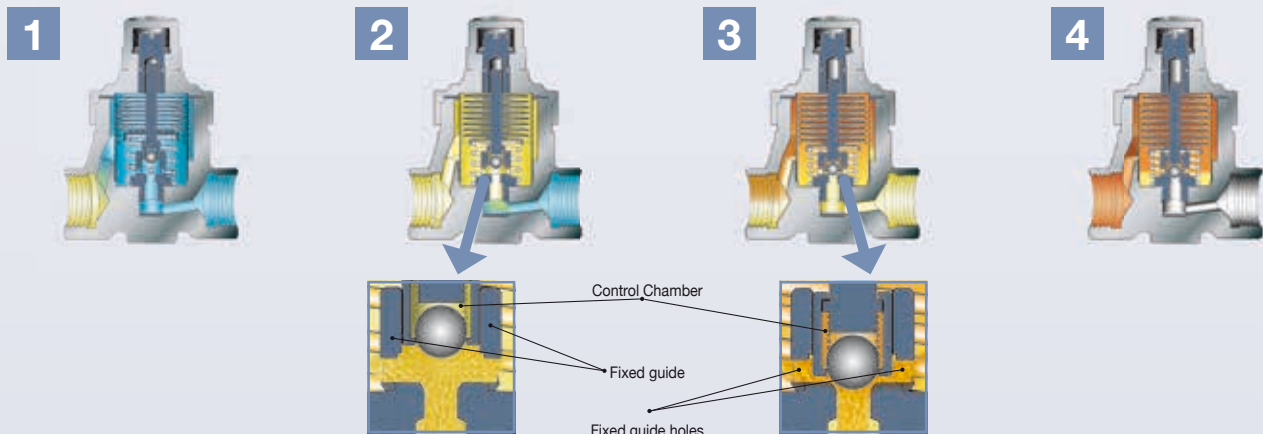


TB9N



Operating principle

1. On start-up, the bimetal discs are all flat and the valve shaft is up with the valve fully open. Virtually all cold condensate and air are discharged.
2. As the temperature of the condensate increases, the bimetal discs begin to curve gradually and force the valve shaft and the valve holder to move down. Most of the condensate is still discharged quickly, since the valve and the holes in the fixed guide on the valve seat are still fully open.
3. When condensate with higher temperature (near to set temperature) flows in, the bimetal discs are curved even more and at the same time, the valve shaft moves down and the valve holder closes the holes in the guide partially. The amount of condensate being discharged is reduced quickly. This prolongs the time that the hot condensate stays near the bimetal discs and the heat of the condensate is transferred to the bimetals much more effectively.
4. In case of very low condensate flow, the holes in the guide are closed completely by the valve holder and the valve will close precisely in the center of the seat.





The history of MIYAWAKI is a story of success

MIYAWAKI – one of the leading Japanese manufacturers of equipment for steam and condensate lines

MIYAWAKI opened its doors in 1933 and began designing steam traps for industrial use. In 1949, after extensive experiments and tests, MIYAWAKI developed an entirely new type of steam trap, with a „Duplex“-type valve, a double-ported valve operating by the pressure differential to increase the discharging capacity.

In the following years, the design was further refined and sales soared to the point where, by 1953, MIYAWAKI Steam Trap Manufacturing Co., Ltd. was able to incorporate. Along with the development and sales of products other than steam traps, the name changed to MIYAWAKI Inc. in April 1986.

To emphasize the growing international activities of MIYAWAKI Inc., the subsidiary company MIYAWAKI GmbH was established in Germany in June 1991. Later a joint venture in Russia and an office in China had been opened. The network of sales representatives around the world was enlarged considerably.

MIYAWAKI is operating today on a worldwide scale with customers and representatives situated not only in Japan, but also in Asia, Europe and America.

Our principles of work

MIYAWAKI offers through its official representatives the following services:

- Project evaluation and consultation concerning modernization of steam tracing and steam main lines.
- Steam trap checking and compilation of detailed reports about the results of the survey.
- Selection of optimum equipment for each technological position
- Assistance in installation of MIYAWAKI's delivered equipment
- Prompt warranty and postwarranty services
- Training and technical seminars

Certificates



ISO 9001



ISO 14001



TÜV AD 2000 – WO



European PED
2014/68/EU



Certification
Russia

Head office



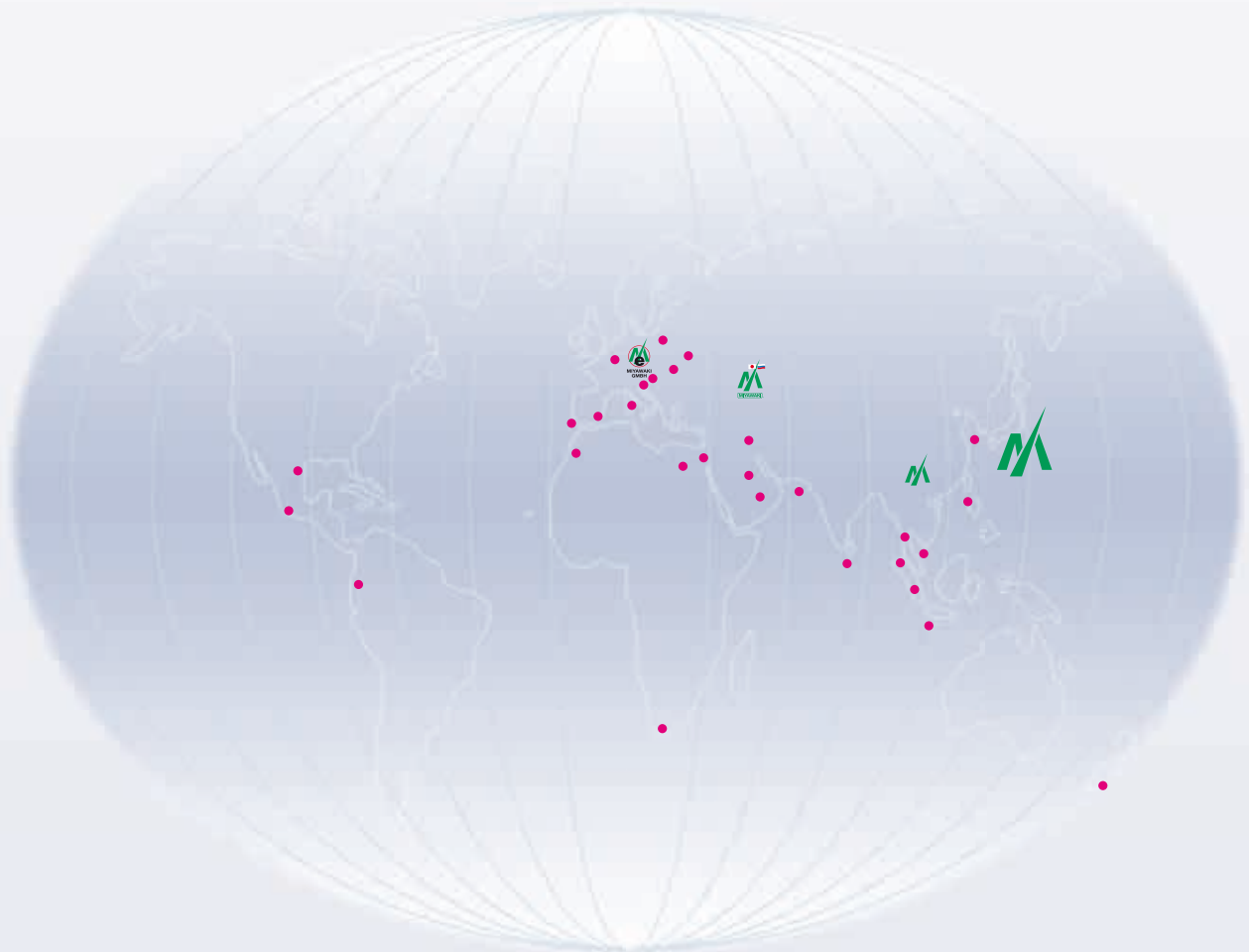
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Subsidiary Company



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Miyawaki's Sales Network

**Welcome
to Cooperation!**