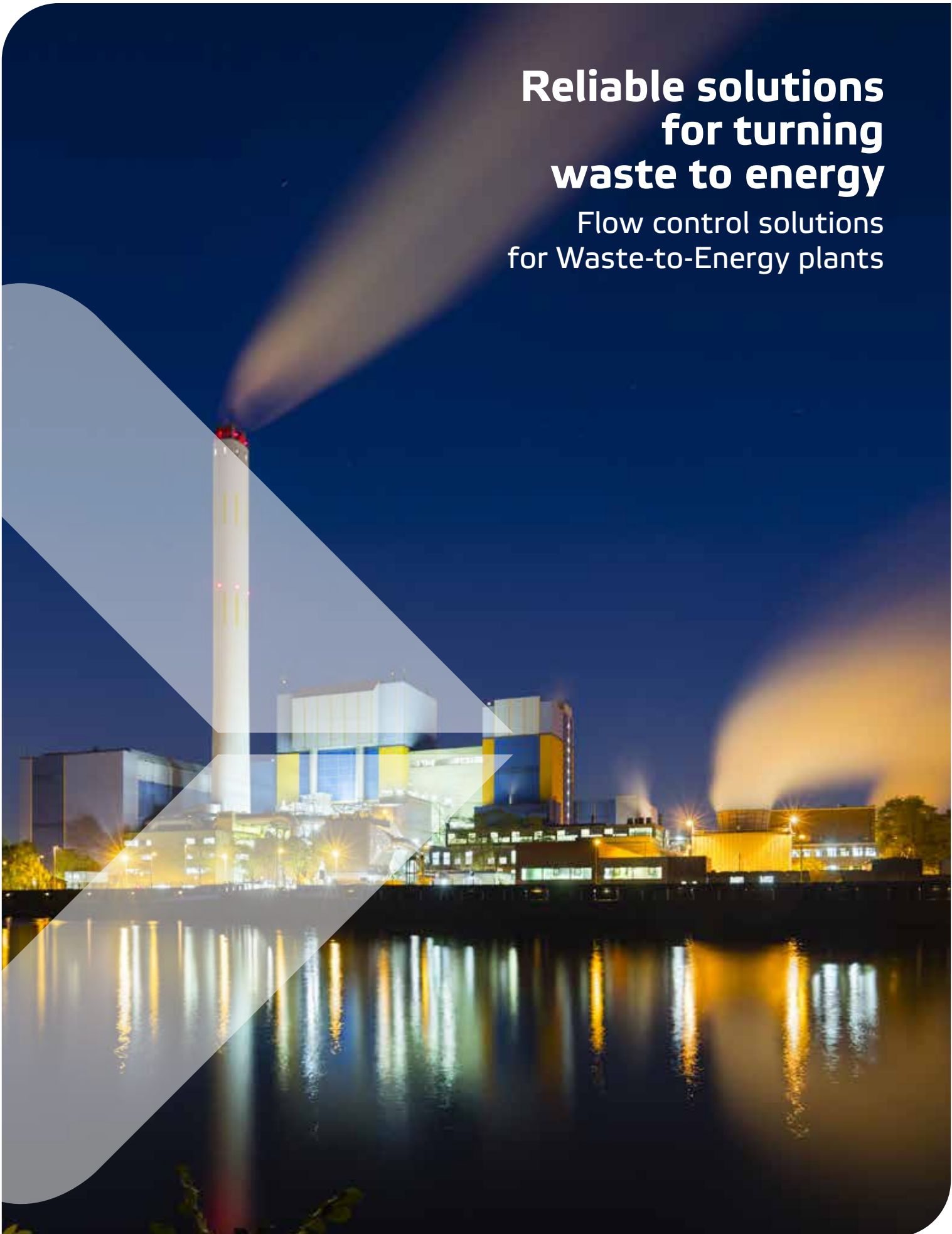


Reliable solutions for turning waste to energy

Flow control solutions
for Waste-to-Energy plants





Helping you deal with growing demands

We are dedicated to delivering flow control products and services that have been developed to address the Waste-to-Energy (WtE) sectors need for increasingly safe, sustainable and efficient processes.

Waste-to-Energy (WtE) and Biomass-to-Energy (BtE)

Ensuring efficiency, sustainability and low operating costs are key issues when you operate a Waste-to-Energy (WtE) plant or an Energy-from-Waste (EfW) facility. In addition, it is getting more challenging to comply with environmental regulations and process requirements. Whichever raw material you convert to energy, from municipal waste (MSW) to industrial waste or biomass (BtE), you have to ensure your valves can keep up.

Reliable and fully compliant valves

We are your partner for reliable valves that comply with regulations, even under the toughest conditions. Whether you need reliable, certified burner management valves, or accurate steam control and SIL3 loop capable trip valves or valves for controlling hot dirty toxic gases and catalysts, our experts will find the right valve for each application based on our long experience. The solutions we provide are reliable and fully compliant with the applicable regulations.

For a wide variety of applications

We offer a wide product portfolio with valves for all types of plant units:

- dryers
- incinerators
- gasifiers
- steam production units
- turbine islands
- flue gas purification units

Catering to the changing business environment

We are helping our customers face the big changes taking place in their market as new requirements and regulations keep coming into force around the world. These changes are driven both by industrial and social factors, and by significant environmental concerns.

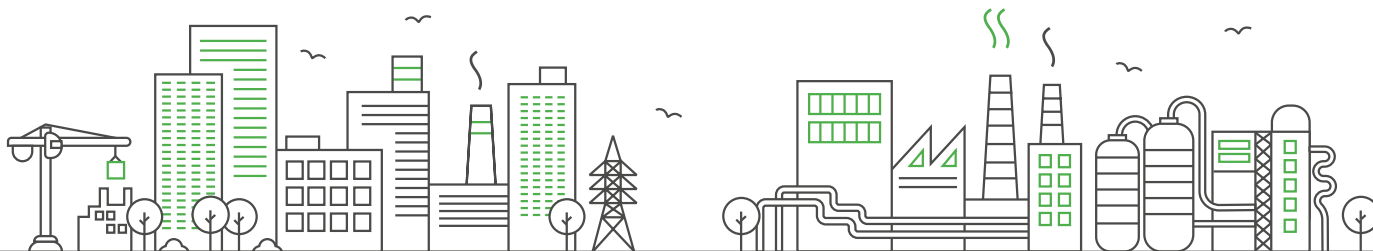
Global market drivers

Industry & society

- Industrialization and urbanization
- Rising energy demand
- Rising waste generation
- More stringent renewable targets
- Decentralization of power generation

Environmental concerns

- Improving incineration and gasification technologies
- Efficiency
- Environmentally friendly flue gas purification
- Emissions
- Environmental regulations
- Depletion of rubbish-heap



→ Global market drivers → Typical customer challenges → Desired results → Valve solutions for the entire WtE process

Typical customer challenges

- Plant efficiency
- Environmental regulations
- Unplanned shutdowns
- Workplace safety

Desired results

- Reliability and availability
- Operational efficiency
- Operational safety
- Reduced emissions

Comprehensive offering

Our valve, actuator and smart controller portfolio covers the majority of applications, including the incineration, gasification and pyrolysis of MSW, biomass and industrial waste, as well as flue gas purification and syngas treatment.

Neles™ and Jamesbury™ valve solutions for the entire processing of waste to energy and flue gas purification.

Burner management valves

For firing incineration furnaces and gasifiers

Jamesbury fuel gas shut-off and ESD valves provide outstanding reliability certified by BMS approvals like EN161, CSA and AGA, with a capability of SIL3 per IEC61508.

Neles rotary control valve packages are designed for accurate high flow rangeability and low emissions for the most efficient burner control.

Gas control valves and shut-off valves

For syngas conditioning, treatment and separation

Neles pure metal to metal seated butterfly and ball valves secure superior long term tightness in applications with high and varying temperature or corrosive and wearing conditions.

Neles and Jamesbury valves are engineered to take health, safety and environmental requirements into account, for example, with ISO15848 and TA-Luft certified live-loaded shaft sealing and API507 approved fire-safe trims.

For ash handling and discharge

Fit-in-place Neles metal seat ring technologies are made for trouble free uptime, with wear resistance and impurity protection designs like scraping seats, and coatings like HCR, NiBo and WC-Co.

For flue gas purification

Dirt, heat and corrosion are the main challenges in flue gas purification. Neles rotary valves are made to cover demanding applications like controlling or shutting-off catalysts and absorbents like lime and PAC, or handling hydrogen and toxic gases. BAM certified valves are also available for O2 service.

BFW valve, level control, turbine trip, control and bypass valves

For steam cycle and power generation

Neles globe and rotary valves have a fundamentally simple design and seamlessly integrated smart technology, which makes them ideal for challenging steam control and trip applications up to CL2500.

A variety of trims are available for challenges like noise, cavitation and flashing. They include the multi-hole Tendril™, the multi-turn Omega™ multi-path trim for Neles globe valves and the sophisticated Q-Trim™ for rotary control valves. The Neldisc™ triple eccentric butterfly valve has a state of the art high cv-value per size and it performs very economically with the lowest pressure loss.





The right valves for Waste-to-Energy plants

- **The highest valve capacity**
- **Minimized pressure loss**
- **Increased efficiency**

It is especially important in steam applications to avoid wasting energy through unnecessary pressure losses, for example through a valve. We offer valve solutions with cv-value and flow port optimized trims, which have no adverse impact on valve stability or reliability.

- **Superior valve tightness**
- **Minimized emissions**
- **Environmental sustainability**

Our valve designs have been developed over decades to provide a superior seat and outer tightness even in challenging operational conditions and heavy duty applications. Whether you need to handle fuel gases or toxic dirty media, our rotary and globe valves comply with stringent fugitive emissions regulations, including ISO15848, TA-Luft and the Clean Air Act.

- **Fully matured valve unit design**
- **Extended life cycle**
- **Low operating costs**

Our finely tuned valve units combine mature and proven-in-use valve designs with Neles actuators and our Neles™ NDX™ smart controller. These valve units provide very reliable and safe long-term functionality, as well as diagnostic data which can be used to help increase plant efficiency and lower operational costs.



Valmet's professionals around the world work close to our customers and are committed to moving our customers' performance forward – every day.

Valmet Flow Control Oy

Vanha Porvoontie 229
01380 Vantaa, Finland
flowcontrol@valmet.com
+358 10 417 5000
valmet.com/flowcontrol

