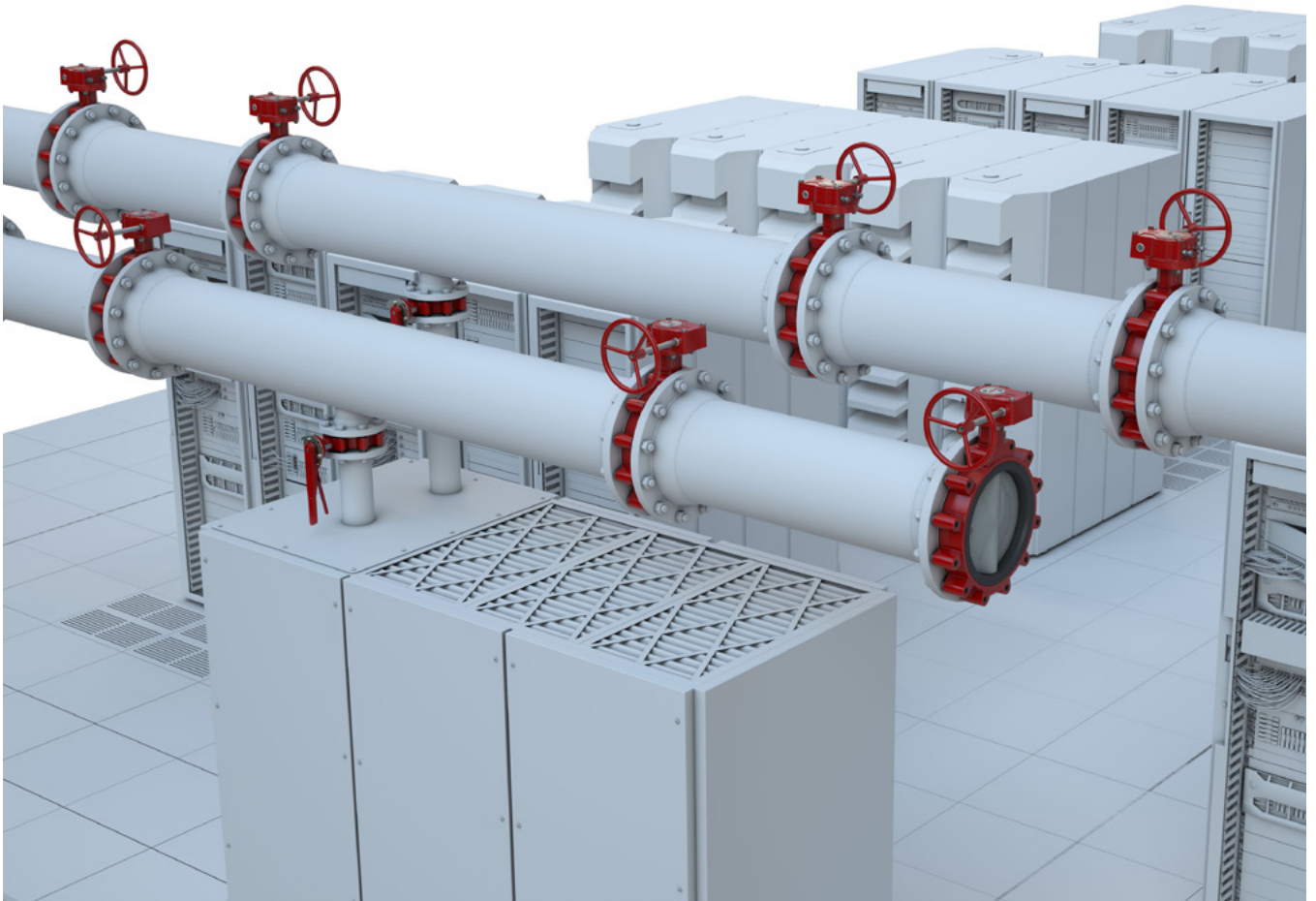

SOLUTIONS FOR THE DATA CENTER MARKET



Bray®

BRAY.COM

THE HIGH PERFORMANCE COMPANY



RELIABLE SOLUTIONS FOR THE DATA CENTER MARKET

BRAY OFFERS INNOVATIVE SOLUTIONS TO PROVIDE DEPENDABLE AND CONTINUOUS SERVICE IN MISSION CRITICAL INFRASTRUCTURE PROJECTS. WITH DECADES OF EXPERIENCE AND A LARGE INSTALLED BASE OF DATA CENTER PROJECTS ACROSS THE GLOBE, BRAY IS THE PARTNER OF CHOICE FOR MANY OF THE WORLD'S LEADING OPERATORS AND DESIGN TEAMS.

The global need for data storage and processing continues to accelerate rapidly — driving a significantly increasing electrical demand for the data center industry.

From a sustainability perspective, data centers are being challenged to minimize the use of natural resources, transition to carbon neutrality, and to implement the exportation of its waste heat. With nearly half of a data center's power being used to cool its servers, modern systems are being designed to maximize the use of “free-cooling” without the need for evaporating any water.

In such water cooled applications, pump energy costs are a significant contributor to the total electrical load and Power Usage Effectiveness (PUE) rating of the facility. The correct selection of isolation and control valves can help reduce overall pump energy costs, with significant annual savings per MW.

UPTIME OPTIMIZATION

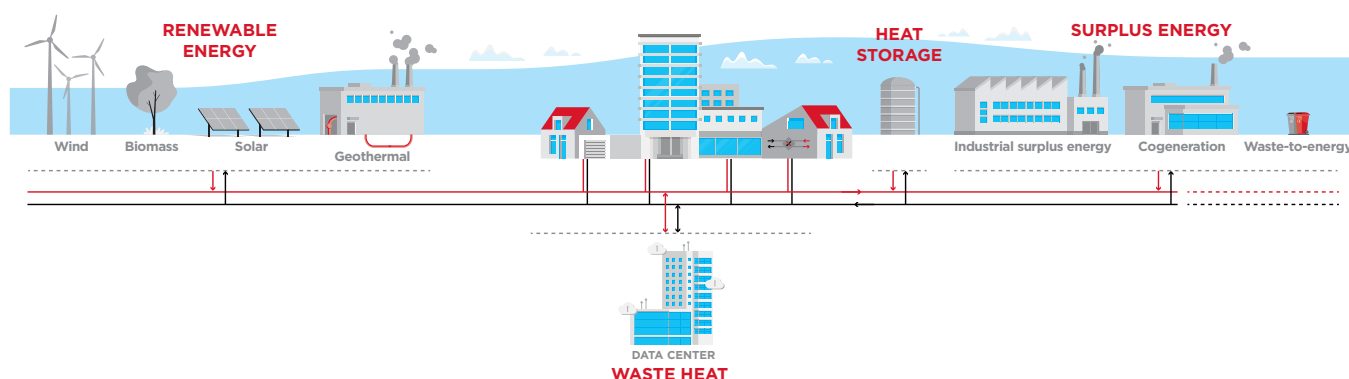
According to the Uptime Institute, one of the most common non-compliance trends of concurrent maintenance criteria for Tier III and Tier IV data centers is the “inadequate coordination between the number and location of isolation valves in the chilled water distribution path.”

Making the right selection and usage of isolation valves not only ensures compliance, but can also facilitate a more cost-efficient system design — impacting both capital expenditures and operating expenditures.

Mission-critical infrastructure relies on dependable, high performing equipment and components — where lifetime reliability and performance are essential. The choice of the materials of construction can have a direct effect on the lifetime performance and durability of control and isolation valves, and therefore need to be carefully selected according to the medium being controlled — be it chilled water, sea water, or clean water.

SECTOR INTEGRATION & SUSTAINABILITY

Globally, heating and cooling accounts for about half of overall energy consumption, contributing significantly to greenhouse emissions. To succeed with the future energy transition, decarbonizing our heating and cooling supply is essential. Energy efficiency and the smart integration of renewable energy through sector coupling will become more necessary, with data centers playing a critical role in supplying “waste” heat to the energy grid of tomorrow. End-to-end product and system solutions will facilitate sector integration and simplify the design and installation process for such projects.



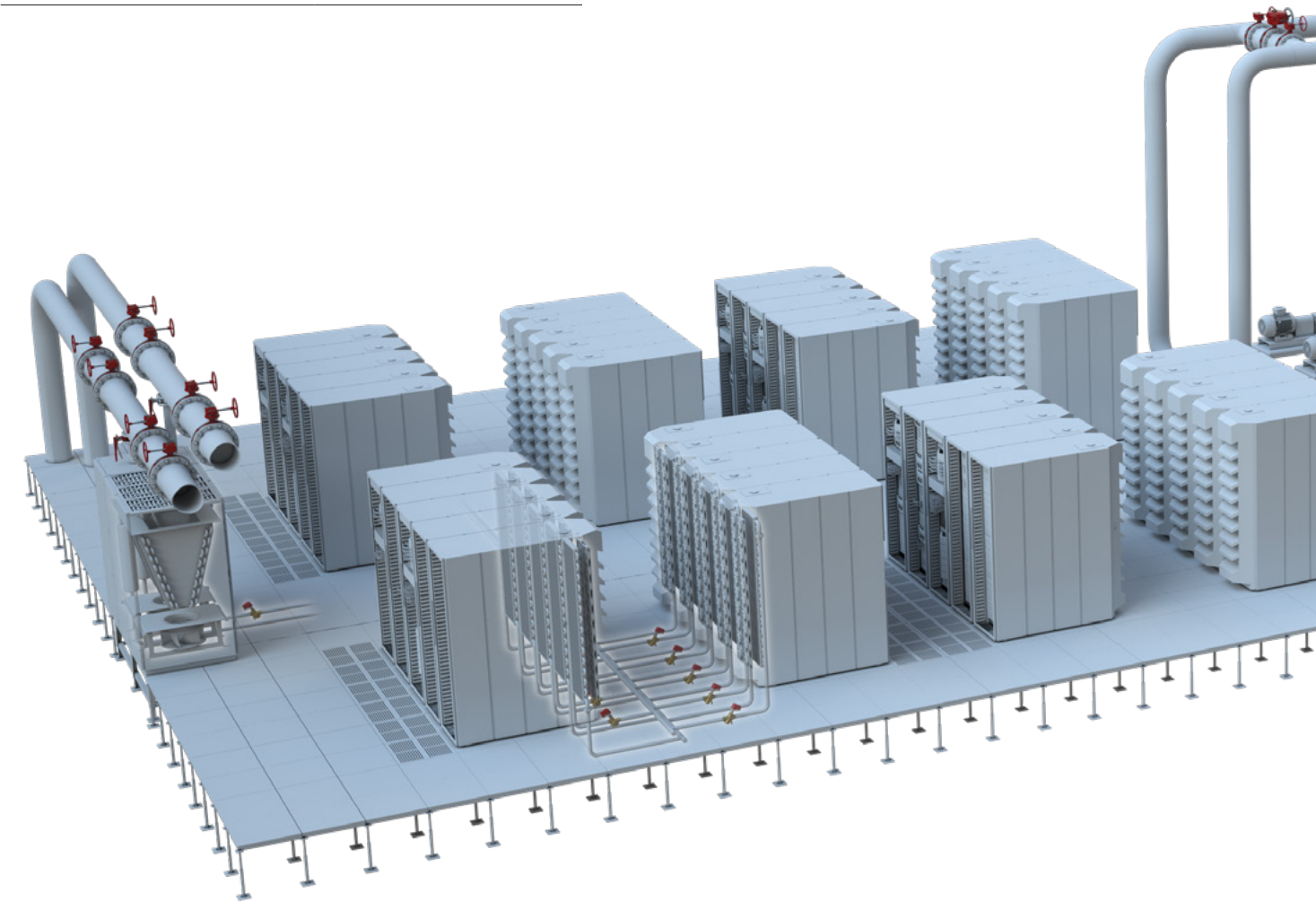
OPERATIONAL PERFORMANCE AND RELIABILITY

APPLICATION TOUCH POINTS

Application touch points within mission critical infrastructure require dependable, high performing, and energy efficient product solutions — to ensure lifetime reliability and maximum uptime.

Computer Room Air Handling Units	Isolating Valves
	Modulating Control Valves
Coolant Distribution Units	Isolating Valves
	Modulating Control Valves
Immersion Cooling Tanks	Isolating Valves
	Modulating Control Valves
Pump Skids	Automated Staging Valves
	Isolating Valves
	Non Return Valves
Mechanical Cooling Units	Automated Staging Valves
	Isolating Valves
	Non Return Valves

Chillers	Automated Staging Valves
	Minimum Flow By-pass Valves
	Isolating Valves
Water Softener Plant	Isolating Valves
	Dump Valves
Cooling Towers	Automated Control Valves
	Isolating Valves
ITE Liquid Cooling Connections	Modulating Control Valves
	Isolating Valves
HEX Control	Modulating Control Valves
	Isolating Valves



UPTIME OPTIMIZATION

- > Optimum selection and usage of isolation valves ensures compliance with concurrent maintenance criteria for Tier III and Tier IV applications.
- > High dead-end-service rating of isolation valves provides the most cost efficient design possibilities.

ENERGY EFFICIENCY

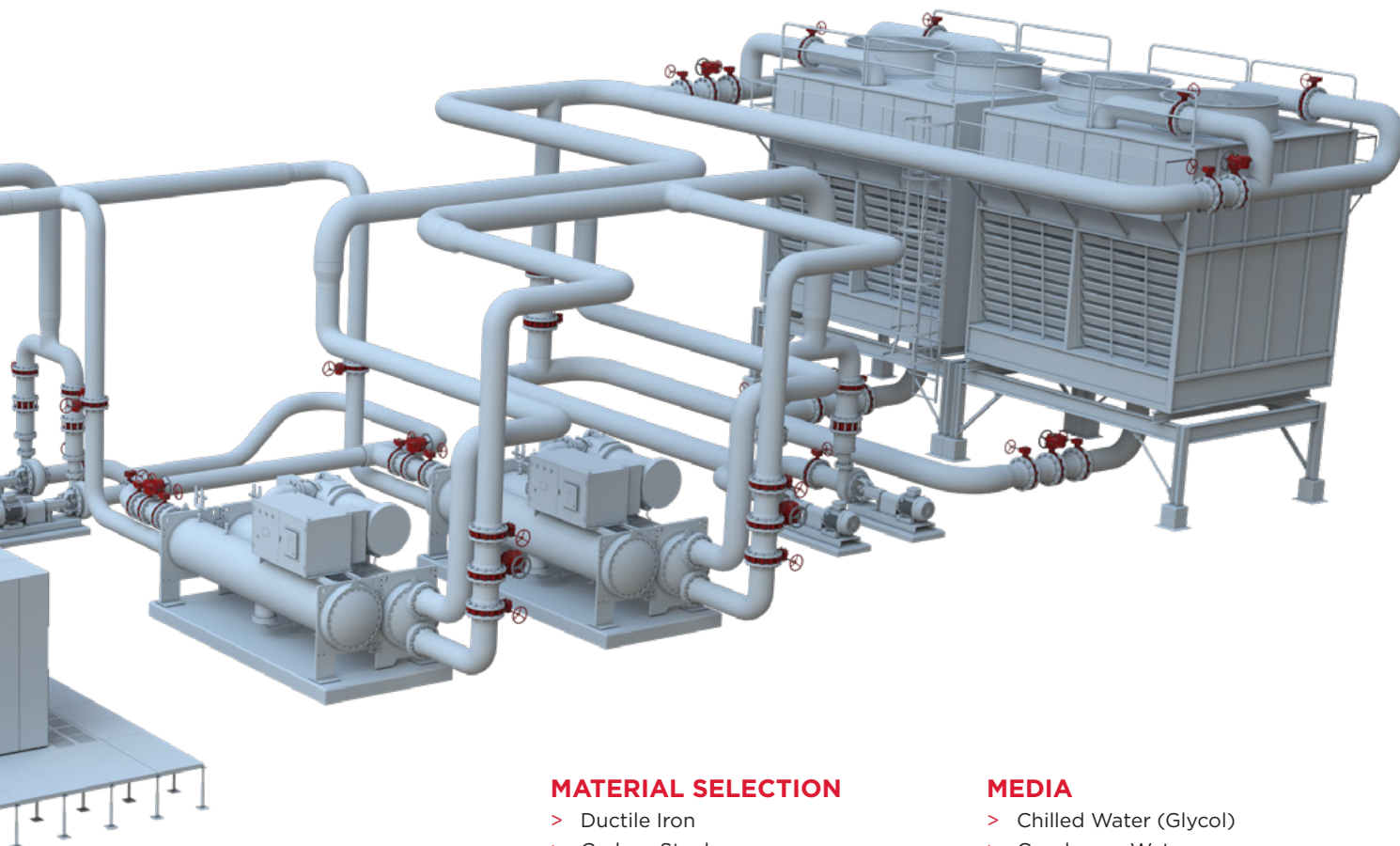
- > Isolation and control valves with high Kv values to minimize system pressure loss, reduce pumping costs, and improve Power Usage Effectiveness (PUE) rating.

HIGH-PERFORMANCE

- > Correct materials of construction ensure lifelong performance and minimize the risk of pipework corrosion.

SYSTEM RELIABILITY

- > Isolation and control valves certified to Safety Integrity Level (SIL) 3 according to IEC 61508.
- > High-performance automated valves provide bidirectional zero leakage, high rangeability, and control accuracy.



MATERIAL SELECTION

- > Ductile Iron
- > Carbon Steel
- > Stainless Steel
- > Aluminium-Bronze
- > Titanium
- > EPDM
- > BUNA
- > FKM (Viton®)
- > RPTFE

Cleaning and packaging available for all ultrapure water applications.

MEDIA

- > Chilled Water (Glycol)
- > Condenser Water
- > Sea Water
- > River Water
- > Ultrapure Water (grades E-1.1 through E-4)

OUR VALUE PROPOSITION

OUR VALUE

Bray delivers end-to-end high-performance product solutions that address the flow control needs of mission critical infrastructure, from within the data center environment to a district energy network and within commercial buildings.

With the experience of a large installed base of data center projects across the globe, and having sales and logistics centers strategically located, Bray has become the partner of choice for many of the world's leading owners, operators, design engineers, and installers.



INSTALLED BASE

Present in hundreds of data center installations worldwide, Bray has significant application and domain knowledge and expertise.



GLOBAL REACH

Sales and service facilities in over 40 countries, supporting owners, operators, and consulting engineers on any project globally.



MARKET FOCUS

Experienced technical sales & support and focused product development for applications.



ENERGY EFFICIENCY

Valves with highest Kv values in their product class, ensuring low pressure loss and minimum pump operating costs.



UPTIME OPTIMISATION

Isolating valves with high dead-end-service rating to optimize system design, according to Uptime Institute & ANSI/TIA 942.



BIM MODELLING

Revit files available for key products to facilitate BIM modeling and integration.



COMPLETE PORTFOLIO

Bespoke solutions for mission critical infrastructure projects with many application touch points within the data center environment.



FLEXIBILITY

Global production with local distribution centers to meet the needs of short lead-time supply demands.



RELIABILITY

High performance products, where quality and reliability ensure maximum uptime is achieved.

OUR PRODUCT PORTFOLIO

PRODUCTS FOR YOUR APPLICATION

Addressing many of the control and isolation applications within mission critical infrastructure — with particular emphasis on the correct use of materials of construction — the portfolio is designed to guarantee lifetime performance. Bray's products are available in either ANSI or DIN configurations to support global design and install requirements.

Quality and reliability are guaranteed, from the design through to the manufacturing process. Bray meets all relevant international quality and safety standards, and can provide material verification and traceability. Each and every valve is pressure and leak tested to EN 12266-1 and API 598 standards.

MANUAL BUTTERFLY VALVES



AUTOMATED BUTTERFLY VALVES



MODULATING CONTROL VALVES



CHARACTERIZED CONTROL BALL VALVES



CHECK/NON-RETURN VALVES



MANUAL BALL VALVES



PRESSURE INDEPENDENT CONTROL VALVES



BRAY IS A LEADING SUPPLIER OF HIGH-PERFORMANCE PRODUCT SOLUTIONS THAT ADDRESS THE FLOW CONTROL NEEDS OF THIS CRITICAL INFRASTRUCTURE, FROM WITHIN THE DATA CENTER ENVIRONMENT TO THE DISTRICT ENERGY DISTRIBUTION NETWORK AND WITHIN COMMERCIAL BUILDINGS.

HEADQUARTERS

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VISIT **BRAY.COM** TO LEARN MORE ABOUT
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