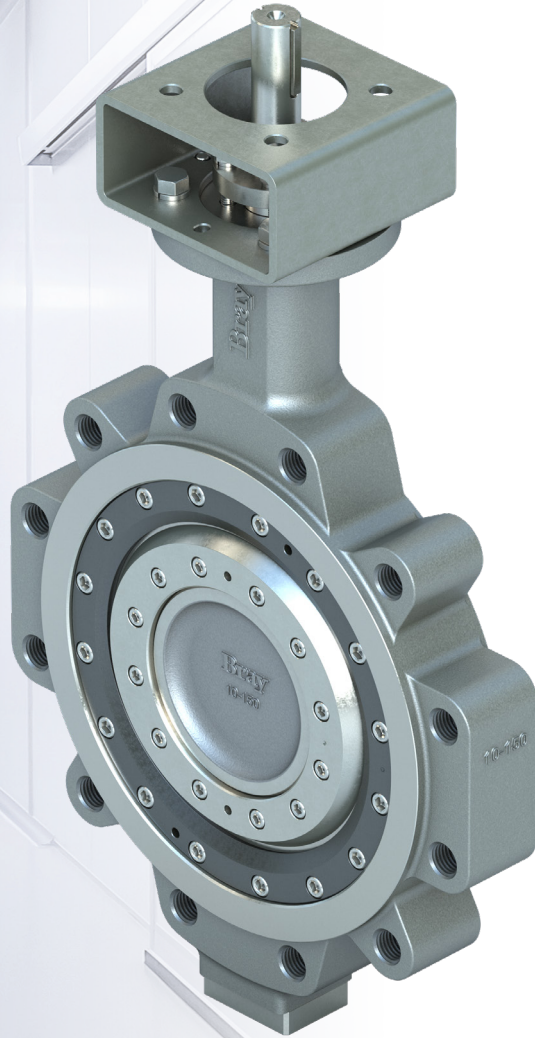

BRAY EUROPE

CLEAN ROOM SOLUTIONS

UNITED KINGDOM FACILITY



Bray[®]

BRAY.COM

THE HIGH PERFORMANCE COMPANY

QUALITY SAFETY EFFICIENCY

Precision Cleaning.



BRAY CLEAN ROOM

Since 1986, Bray has provided flow control solutions for applications that demand the highest degree of reliability and continue to invest heavily in our R&D Centres around the world to drive innovation. Introducing the latest of these centres, the **Bray European Clean Room**.

Bray was built by dedicated people who instilled a strong culture to consistently deliver **high-quality, customer-driven solutions** with employees and partners who deliver these solutions to our global customers by focusing on innovation and improvement.

The Clean Room combines every aspect of our culture, and our mission to pursue growth through improved and expanded high-quality product offerings, always strive to exceed our customers' expectations, manage our business with integrity, and treat our team members with care and respect.

This is a full **one-stop service** for cleaning valves, from complete packages to spare parts, we provide tailored solutions which are efficiently delivered and guarantee performance.

OUR VALUE PROPOSITION

The **ISO Class 6** facility has the capability to clean products to an array of international standards, offering multiple levels of cleanliness to suit many industrial applications. We have combined two separate entities by adding robust cleaning to our long-established valve manufacturing and actuation to deliver tailored solutions from a single point of contact, which combined with our wealth of experience delivers:

- > A rapid quoting and specification process
- > Robust cleaning to international standards
- > Quicker turnarounds, minimizing downtime
- > Reduced lead times and shipping costs
- > Direct support from the OEM for all stages of your project
- > Solutions you can trust

Every application is different, so why would we apply the same approach to each one? Your specifications will be examined by our team to determine which is most suitable for the given application. Titles can be misleading without context, and our cleaning services can be applied to many different industries.

CLEAN ROOM OFFERING

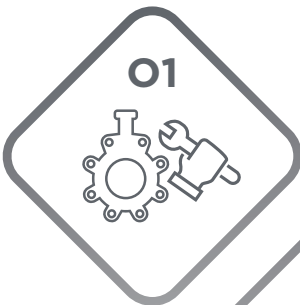
Cleaning Type	Level		Method			Inspection			Packaging		
	Component	Valve	Mechanical	Solution	Aqueous	White Light	UV Light	Wipe Test	Single Bag	Double Bag	Desiccants
Oxygen Ready	■		■	■	■	■	■	■		■	■
Process Clean	■		■	■		■		■		■	■
Silicone-Free	■			■		■	■			■	
LABS-Free		■		■		■	■			■	
EC 1935		■		■		■			■		
Clean and Degreased		■		■		■			■		

RELIABILITY PERFORMANCE CONTROL

You can trust.



RIGOROUSLY CONTROLLED PROCESSES



1. PREPERATION & DISASSEMBLY

Prior to cleaning commencing, all components are inspected and approved for use. Technicians apply the appropriate PPE to protect both themselves and the valve, including but not limited to lab coats, nitrile gloves and shoe covers. Valves are cleaned and validated either fully built or at component level to ensure complete product compliance. When required, valves which arrive fully built are completely disassembled to ensure any pre-contamination is removed.



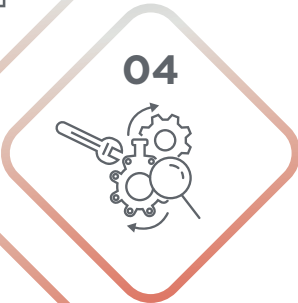
2. CLEANING & DRYING

We use several methods to ensure the desired cleanliness level; mechanical, solution and aqueous cleaning are all employed but the exact combination is dependent on the type of service. After cleaning all the components, they are dried using oil free nitrogen, a cleaner and drier alternative to compressed air.



3. INSPECTION & VALIDATION

Before being reassembled, valve components must be inspected and validated to ensure they meet the required standard, which is achieved through a combination of white light inspection, UV light inspection, and wipe testing. If any of the methods detect contamination the components are re-cleaned using the appropriate methods.



4. ASSEMBLY, TESTING & MOUNTING

Once all applicable tests have been passed, the valves are assembled, using application-suitable lubricant when required, and pneumatically seat tested with oil-free nitrogen to ensure functionality. Any mechanical, electrical, or pneumatic actuators will be mounted in the same environment before being packaged. Actuator exteriors will be cleaned with isopropanol and lint-free cloths.



5. PACKAGING & SHIPPING

Cleaned valves are then sealed and labelled in accordance with the applicable standard before being shipped efficiently to your location, clean and ready for installation.

ASSURANCE STANDARDS CERTIFICATION Results.



VALVE MATRIX

The below processes are available for valves up to and including DN400.

Service	Butterfly Valves			Ball Valves
	Resilient Seated	High Performance	Triple Offset	
Oxygen Ready	■	■	■	■
Process Clean	■	■	■	■
Silicone-Free	■	■	■	■
LABS-Free	■	■	■	■
EC 1935	■	■	■	■
Clean and Degreased	■	■	■	■

> ■ Series 22/23 only

CERTIFICATION & STANDARDS

EIGA 33/18	Cleaning of Equipment for Oxygen Service	ISO 450001	Occupational Health and Safety Management System
MSS-SP-140	Preparation of Valves and Fittings for Silicone-Free Service	ISO 9001	Quality Management System
VDMA 24364	Testing for Paint Wetting Impairment Substances (LABS-Conformity)	ISO 14001	Environmental Management System
EC 1935/2004	Food Contact Materials	ISO 14644-1	Clean Rooms and Associated Controlled Environments (comply)
EU 10/2011	Food Contact Material Testing		
EC 2023/2006	Good Manufacturing Practice		
EN 12266-1	Industrial Valves - Testing of Metallic Valves		



PURIFICATION CLEANLINESS STERILE Environments.



CLEAN ROOM OFFERING

The **ISO CLASS 6** certified facility offers the following services to eliminate contamination and ensure valves are fit for purpose.

OXYGEN READY

The environments in which these valves are used, such as air separation units or cryogenics, demand a level of cleanliness that requires the application of all our cleaning and inspection methods. Once validated the valves are assembled with Krytox GPL-225 lubricant, pneumatically pressure tested, and then double bagged and marked in accordance with **EIGA 33/18**.

SILICONE-FREE

Silicone is well known as a lubricant, but the severe impact it has on adhesion processes has seen an increasing need for silicone-free valves in applications such as the Aerospace industry. Once cleaned components are inspected in both **white** and **UV light** to ensure removal of any trace of silicone, then validated in accordance with **MSS-SP-140**. The valves are built using silicone-free lubricant, pneumatically pressure tested, then double-bagged and sealed, guaranteeing performance when installed in the line.

PROCESS CLEAN

Valves are prepared as in the Silicone-Free process, however as this is tailored towards specific applications in the Industrial Gas sector the components are validated via **white light inspection** and **wipe testing**.

LABS-FREE

LABS derives from the German abbreviation of, "Paint Wetting Impairment Substances", and means the complete removal of any dust, grit, shavings, grease, oils, and anything else that could adversely affect the application of paint, in accordance with **VDMA 24364**. The valves are cleaned and packaged in a similar manner to silicone-free valves, but the key difference is that lubricant cannot be added in any form and because of this,

rubber lined valves are not currently offered. These products are ideal for Automotive manufacturing, and knowledge of the valve's location within the paint bay and the media carried are vital when enquiring, as testing requirements may vary depending on the specification.

EC 1935 COMPLIANT

EC 1935 is a European standard dictating the requirements of any material or article intended to come into contact with food, ensuring that they do not affect the quality of the end product. EC 1935 certification is achieved by gaining compliance with **EU 10/2011** and **EC 2023/2006** which govern plastic material selection and good manufacturing practice, respectively. Bray offers compliant butterfly and ball valves in various trims, please contact us for more details. The selected valves are cleaned as per the Clean and Degrease method and are also single bagged for delivery.

CLEAN AND DEGREASED

Fully built valves are cleaned manually and white light inspected to remove any visible particles and/or grease. Cleaned valves are single bagged to ensure cleanliness upon delivery to site.

SINCE 1986, BRAY HAS PROVIDED FLOW CONTROL SOLUTIONS FOR A VARIETY OF INDUSTRIES AROUND THE WORLD.

VISIT **BRAY.COM** TO LEARN MORE ABOUT BRAY PRODUCTS AND LOCATIONS NEAR YOU.

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