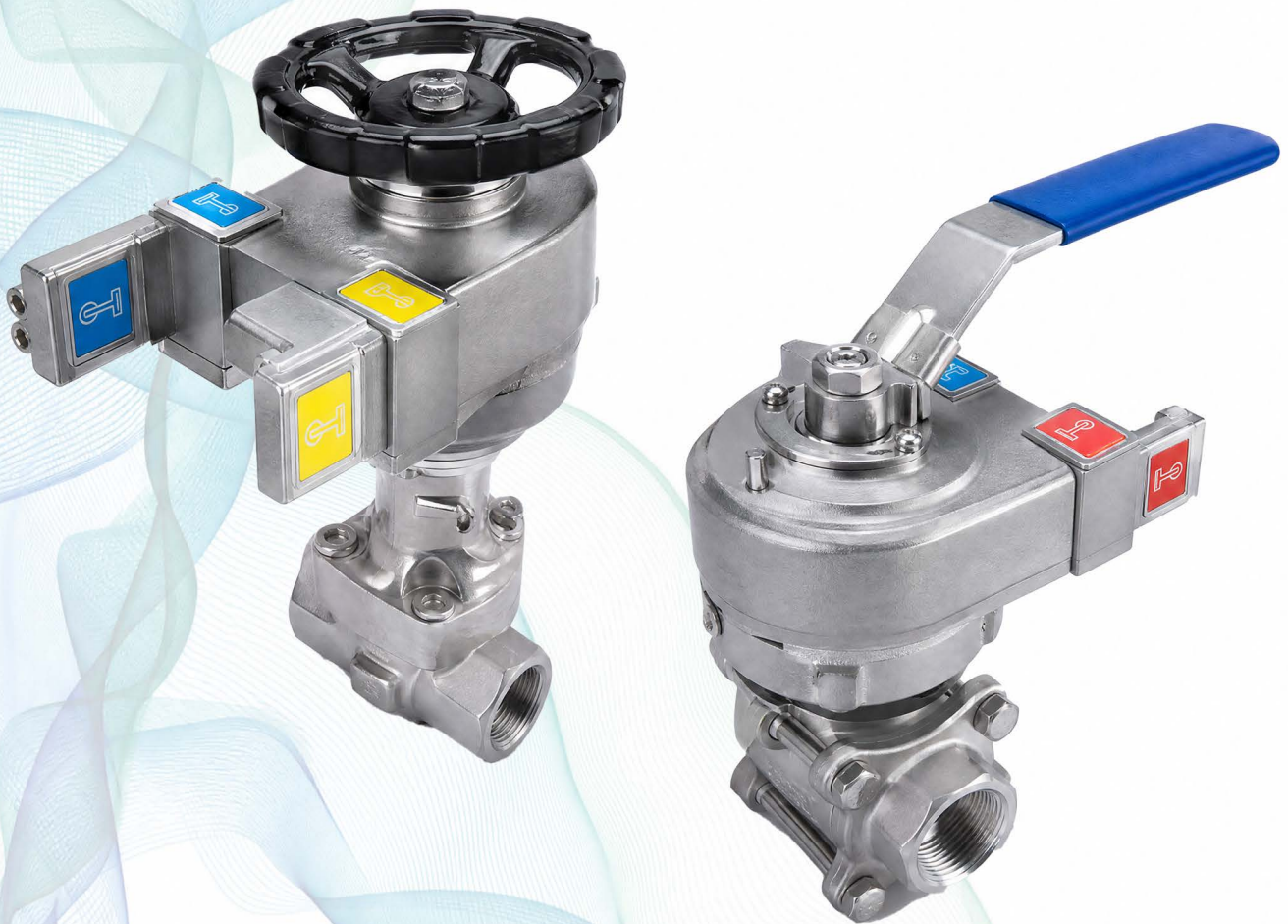


SAFERLOK

GLOAZURE



MECHANICAL VALVE INTERLOCKS



GLOAZURE CO., LTD.
www.gloazure.com

MECHANICAL VALVE INTERLOCKS

SAFERLOK
GLOAZURE CO., LTD.
Manufacturer & Specialist in
Safety Interlocking Systems

What are Mechanical Valve Interlocks?

Mechanical valve interlocks are engineered safety devices designed to prevent operating errors in oil & gas and other process industries.

Where a defined operating sequence is required, SAFERLOK uses trapped-key logic so that valves and associated equipment can only be operated in the approved sequence.

This fail-safe approach reduces the risk of incorrect operation and helps protect personnel, assets and process integrity.

Where are Mechanical Valve Interlocks used?

Typical applications include:

- Valve operating sequences
- PSV isolation and changeover systems
- Pigging systems
- Deluge and firewater systems
- Machine guarding systems
- Other operations requiring a controlled sequence

How does the system improve safety?

SAFERLOK is available in MT (Multi-Turn) and QT (Quarter-Turn) configurations with single-key or dual-key logic for a wide range of valves and equipment.

For special applications, GLOAZURE can engineer dedicated interlocking and key-exchange arrangements. Internal counting mechanisms can also be applied where controlled intermediate valve positions are required.

Mounting, Key Exchange & Field Installation

Compact universal mounting adaptors allow installation on most valves and actuators without permanent valve modification or welding in most applications.

GLOAZURE provides key-exchange system design, retrofit engineering, on-site installation, commissioning and functional verification. Field supervisors or technicians can be mobilized when required.

Please consult our engineers for application review and sequence design.

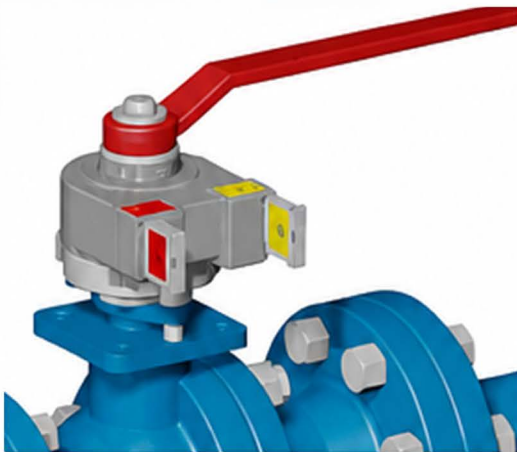
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Types of Interlocking Devices

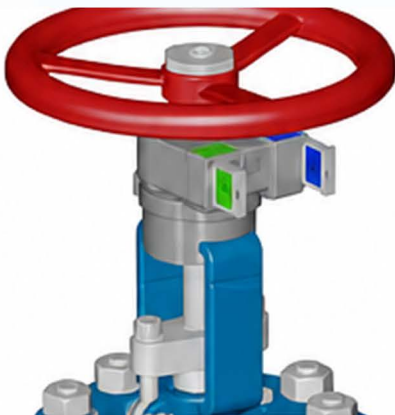
A. QT Type (Quarter-Turn)

For ball, butterfly, plug and other quarter-turn valves or equipment.



B. MT Type (Multi-Turn)

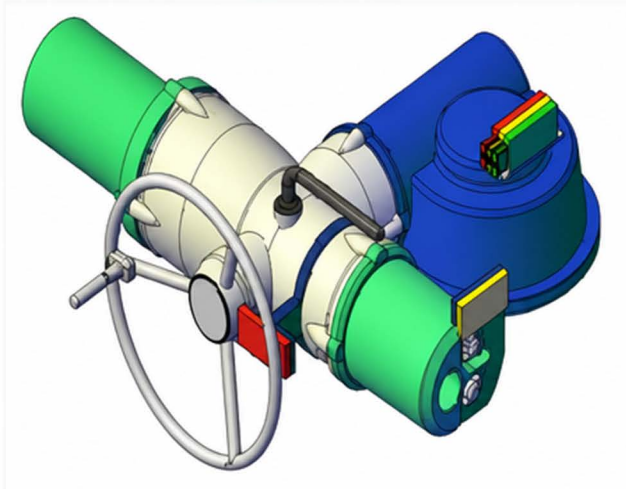
For gate, globe, diaphragm and other multi-turn or gear-operated valves and equipment.



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Motor-Actuated Valve Locks (MAL)
Pneumatic-Actuated Valve Locks (PAL)
Gas-Operated Valve Locks (GAL)



3-Way Pneumatic Directional Valve



Key Exchange Box

Typical applications include:

- 316 stainless steel construction
- Non-intrusive mounting with no welding in most applications
- Compact, low-maintenance design
- Robust construction for demanding environments
- Tamper-resistant mechanical key control
- Flexible key-exchange configurations
- Custom options for project-specific requirements

MECHANICAL VALVE INTERLOCKS

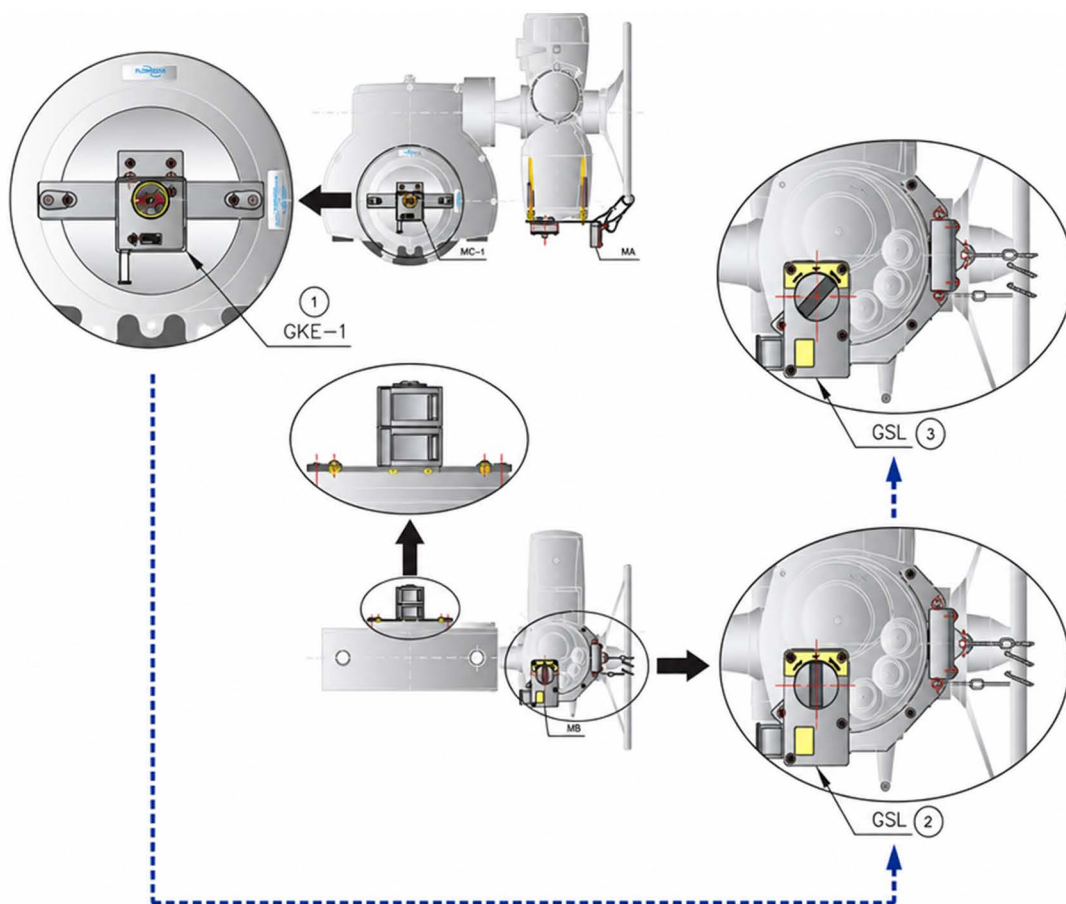
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Motor-Actuated Valve Locks (MAL)

Pneumatic-Actuated Valve Locks (PAL)

Gas-Operated Valve Locks (GAL)

Normal Operation Sequence



Normal Operation:

- Insert the operating key into the GKE-I and release the exchanged key.
- Insert the released key into the GSL.
- Switch the GSL selector from LOCAL to REMOTE.

MECHANICAL VALVE INTERLOCKS

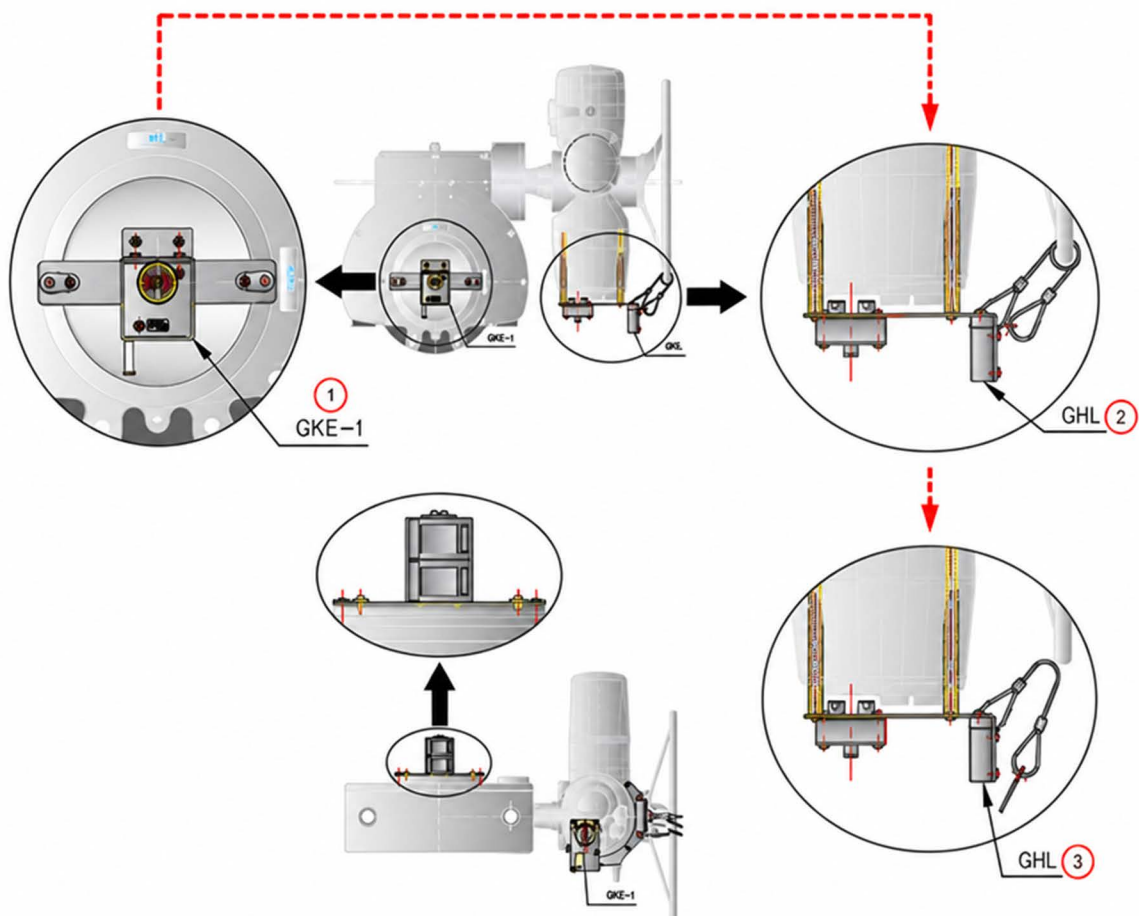
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Pneumatic-Actuated Valve Locks (PAL)

Gas-Operated Valve Locks (GAL)

Emergency Operation Sequence



Emergency Operation:

- Insert the operating key into the GKE-I and release the exchanged key.
- Insert the released key into the GHL.
- Release the manual handwheel interlock.
- Operate the valve using the manual override handwheel.

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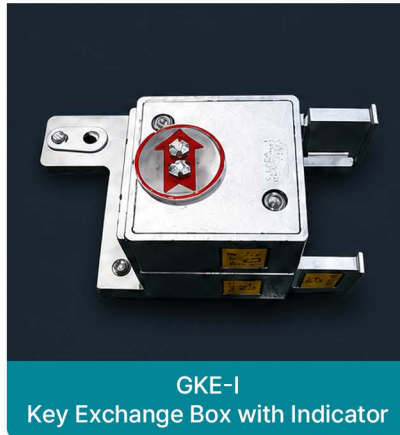
Motor-Actuated Valve Locks (MAL)

Pneumatic-Actuated Valve Locks (PAL)

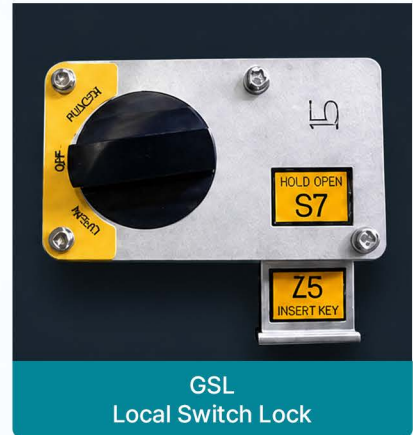
Gas-Operated Valve Locks (GAL)



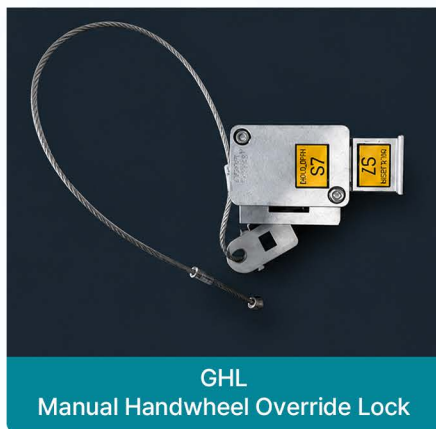
GKE
Key Exchange Box



GKE-I
Key Exchange Box with Indicator



GSL
Local Switch Lock



GHL
Manual Handwheel Override Lock



GSVL
Solenoid Valve Interlock

Features:

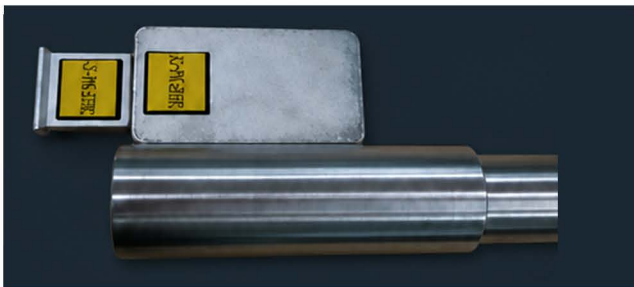
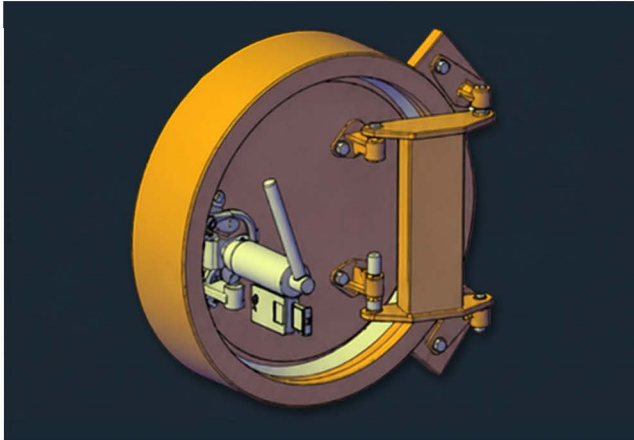
- 316 stainless steel construction
- Non-intrusive mounting with no welding in most applications
- Compact, low-maintenance design
- Robust construction for demanding environments
- Tamper-resistant mechanical key control
- Flexible key-exchange configurations
- Custom options for project-specific requirements

MECHANICAL VALVE INTERLOCKS

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Closure Locks (GCL)

GLOAZURE Closure Locks provide key-controlled safety for vessel closures such as gas filters, pig launchers and receivers. The lock helps ensure that the closure can only be opened after the prescribed operating sequence has been completed.



Features:

- 316 stainless steel construction
- Compact, robust and low-maintenance design
- Tamper-resistant key control
- Suitable for demanding industrial environments
- Configurable for project-specific operating sequences
- Compatible with SAFERLOK key-exchange systems

MECHANICAL VALVE INTERLOCKS

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Key Cabinet

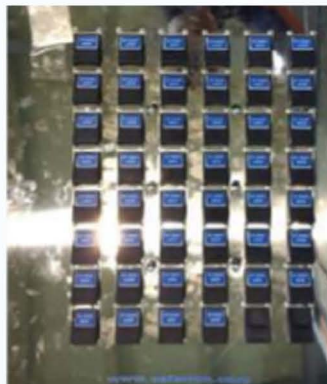
Stainless-steel key cabinets are available for secure storage and controlled management of operating keys. Cabinet size, capacity and locking arrangement can be customized to suit project requirements.



Standard Key Cabinet & Key Holder



Tempered-Glass Front
with Lockable Door



Individual Key Holder
Arrangement



Master Key Cabinet

MECHANICAL VALVE INTERLOCKS

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Padlock Lockout
(Type 1)



Padlock Lockout
(Type 2)



Car Seal
(Type 1)



Car Seal
(Type 2)

MECHANICAL VALVE INTERLOCKS



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Example

G	1	600	S	1	QT
GLOAZURE	BALL VALVE	600 #	1"	Lever Operating	QT TYPE



Manufacture	Valve type	Valve rating	Valve size	Valve Operating type	GLOAZURE LOCKING DEVICE TYPE
G: GLOAZURE	1 : Ball valve Plug valve Butterfly valve 2 : Gate valve Glove valve 3 : Electrical Motor Actuated Valve 4 : Pneumatic Acutated Valve 5 : Gas Operated Valve 6: Quick Opening Closure 7 : Others	150 # 300 # 600 # 900 # 1200 # 1500 # 2500 #	S: 4" and blow M: 6"~10" L: 12" and above	1: Lever 2: Hand wheel Gearbox 3: Others	QT: Quarter Turn operated type MT: Multi Turn operated type MAL: Electrical Motor Actuated type PAL: Pneumatic Actuated type GAL: Gas Operated type GCL: Quick Opening Closure type GSV: Solenoid Valve Lock CS1: Car Seal Type-1 CS2: Car Seal Type-2 LO: Lock Out UL: U-shape Lock

GLOAZURE

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