MBV
Modular Ball Valve Interlock



The Castell MBV modular ball valve interlock is designed to enable locking off, in either the open, closed or both open and closed conditions. The MBV is suitable for any quarter-turn valves including Ball, Plug and Butterfly Valves up to 3" bore size. Fitting the MBV enforces a logical, predetermined and safe sequence of operation where the control of flow paths is critical. The MBV is manufactured in stainless steel with stainless steel lock portions.

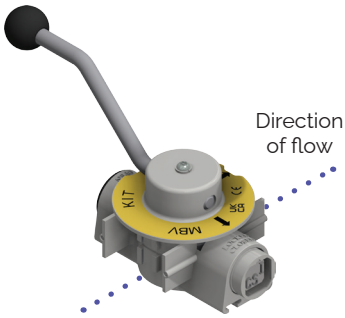
OPERATION

The Castell MBV modular ball valve interlocks are used to prevent unauthorised opening (or closing) ensuring that the valve is always locked in the crucial position.

MBV modular ball valve interlock, locked closed only condition

1

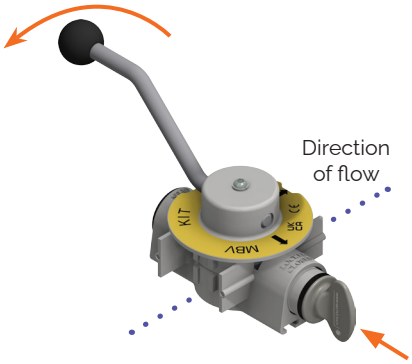
Valve is normally locked closed, key is free , no flow



The service line is normally closed and the MBV modular ball valve interlock locks the valve in the closed condition. The key is free.

2

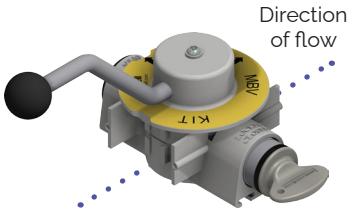
Insert and turn key to unlock the valve



By inserting and turning the key in the MBV, you can rotate the handle by turning 90 degree anticlockwise from being locked closed to open the line.

3

Valve is unlocked and opened, key is trapped



Valve is opened, key is trapped, flow is running. Handle is in direction of the flow

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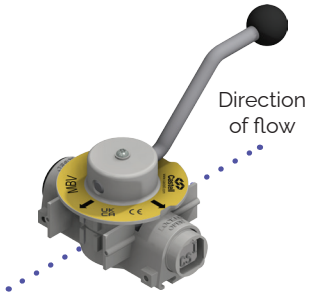
OPERATION

Continued

MBV modular ball valve interlock, locked opened only condition

1

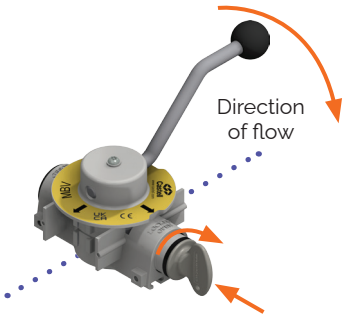
Valve is normally locked open, key is free, flow is running.



The service line is normally opened and the MBV modular ball valve interlock locks the valve in the opened condition. The key is free. Handle is in direction of the flow.

2

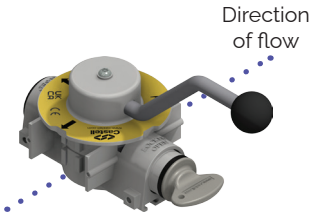
Insert and turn key to lock the valve.



By inserting and turning the key in the MBV, you can rotate the handle by turning 90 degree clockwise from being locked open to close the line.

3

Valve is closed, key is trapped, no flow.



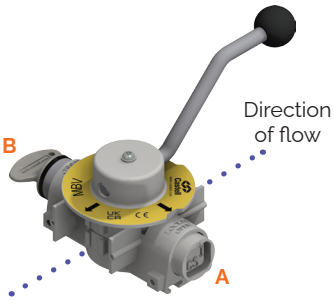
The key stays trapped while the valve can be closed.

The Castell MBV modular ball valve interlocks with locked open and locked closed condition are used to prevent unauthorised closing of one of lines (e. g. operational line) ensuring that one line is always open (e. g. service line).

MBV modular ball valve interlock, locked open and closed condition

1

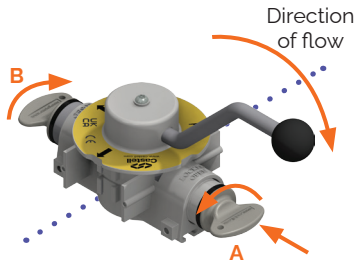
Valve is locked open, key B is trapped, key A is released. Flow is running.



The service line is normally open and the MBV modular ball valve interlock locks the valve in the open position. Key A is free, while key B is trapped.

2

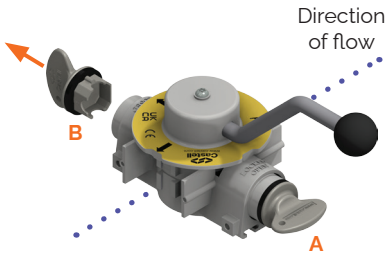
Insert and trap key A. Turn the valve's handle 90 degree clockwise to closed position. Turn and release key B to lock the valve in the closed position.



By inserting and turning key A in the MBV, the valve can be released from locked open condition and changed to closed. By turning and releasing the key B the valve is locked in the closed condition.

3

Valve is closed, key A is trapped, key B is released.



Key A stays trapped and key B is released while the valve locked closed.

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USAGE

The MBV Modular ball valve interlock should be used to prevent unauthorised closing or opening of of lines.

The MBV modular ball valve Interlock is not designed for large bore valves above 3 inches.

No hazardous substances were used in the manufacture of this product.

INSTALLATION

Fitting the MBV enforces a logical, predetermined and safe sequence of operation where the control of flow paths is critical.

The MBV interlocks are available in either the locked open, locked closed or both locked open and locked closed conditions.

IMPORTANT: Please supply the valves to Castell to enable the MBV to be fitted.

The MBV Modular Ball Valve Interlock must be installed by a competent and qualified person who has read and understood these instructions. Please retain this document in your technical file.

The manufacturer should be consulted when use in a corrosive environment is planned.

MAINTENANCE

Periodic visual checks should be carried out by the site manager/safety officer.

Do not lubricate lock barrel with oil or grease, use CK Dry Powder Graphite if necessary.

In case of defects being detected please contact your nearest Castell Support Department for further actions. Please see Contact section for contact details.

The interlock must be inspected every 6 months. Safety checks should include ensuring the keys can only be removed in the correct safety operating conditions (see page 1).

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TECHNICAL DATA

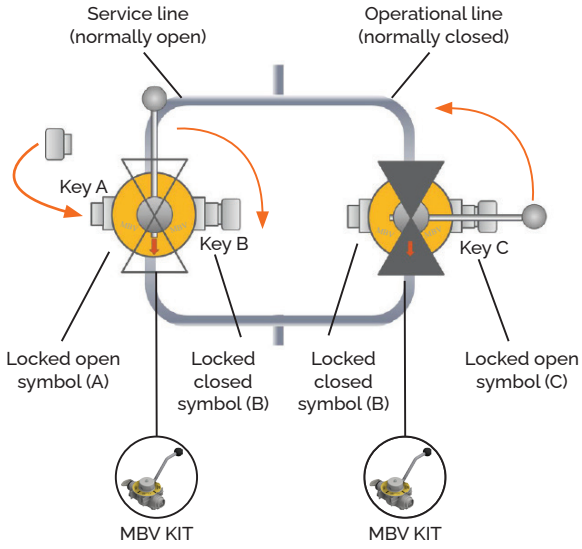
	MBV Modular Ball Valve Interlock
Temperature rating	Minimum: -40°C [-40°F] ice free for Q & FS lock type
	Maximum: 107°C [224.6°F] for Q lock type/140°C [284°F] for FS lock type or 288°C [550°F] upon request
Type of mounting	The MBV modular ball valve interlocks must be fitted to the valves by a competent engineer
Weight	4.0 kg
Material	Stainless steel body with stainless steel lock portions
B10d	2,000,000
Shock & vibration	In accordance with BS EN 60068-2-6 & BS EN 60068-2-27
PL rating	PLe

APPLICATION

The MBV safety interlock is designed to operate as part of an integrated safety system controlling the operation of quarter turn ball valves in safety critical applications. The typical application of the MBV modular ball valve interlock is preventing unauthorised closing of one of the lines ensuring that one line is always open.

Interlock valves in both open and closed positions have an inter-changeable key between the valves ensuring that the first valve is open before the second is closed. While the operational line is locked open, the service line is locked closed. Prior to opening the service line it needs to be ensured the operational line is locked closed. By inserting key A (from control room) in the MBV, which controls the operational line, you can unlock the valve and bring it from open to closed. By turning and releasing key B, you can lock the valve in the closed condition.

Key B can be taken to the next valve, which controls the service line. This valve can now be unlocked by inserting and turning key B in the MBV. The valve position can then be changed from closed to open and locked in the open position by releasing key C. This key can then be taken to the control room.



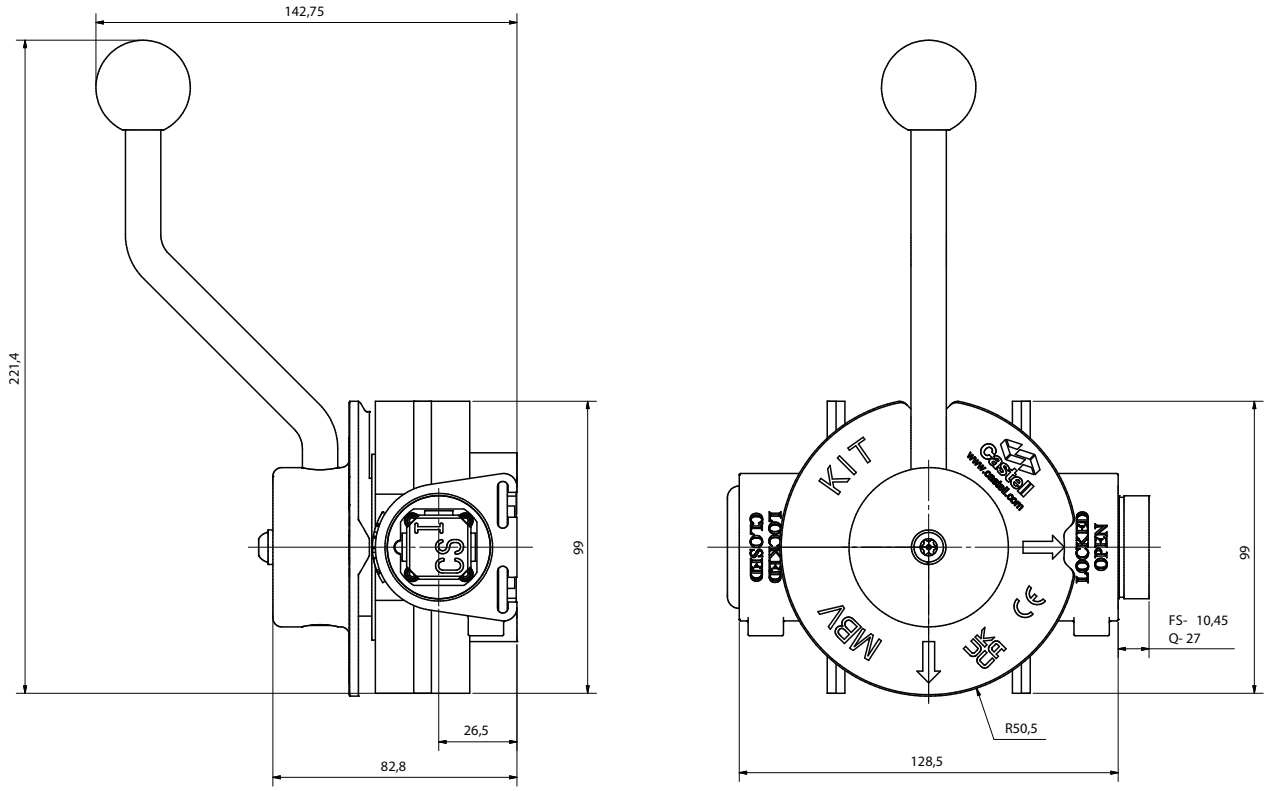
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DRAWING

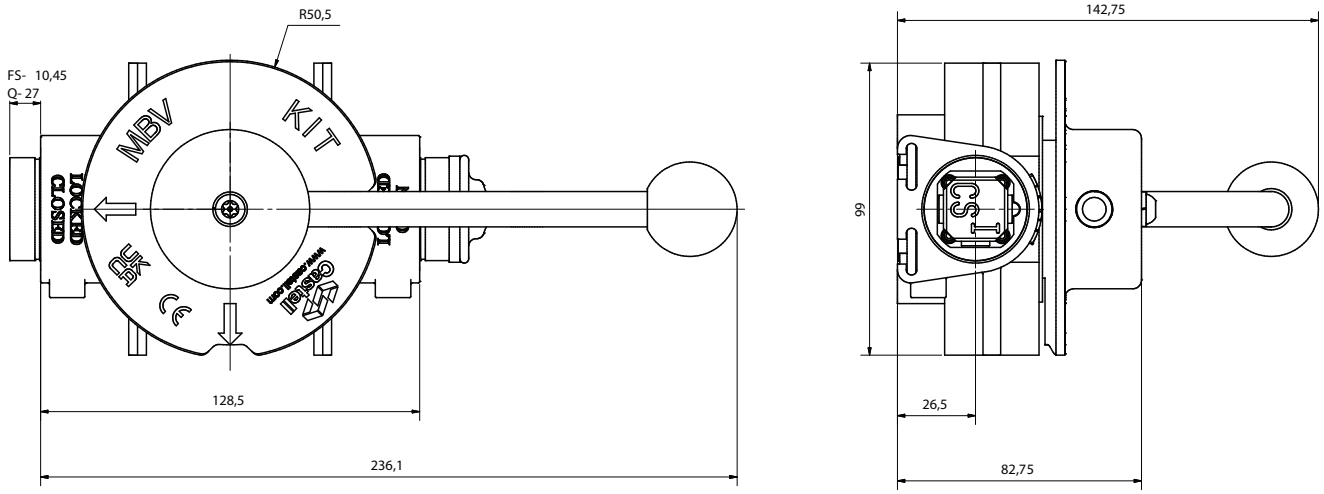
Dimensions: in mm

Note: For safe mounting, use security screws

MBV, open position



MBV, closed position



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ORDER INFORMATION

	Component type	1	2	3	4
Part number	MBV	-	-	-	
Example	MBV	- FS	- LOC	- 1	ABC

1	Lock portion type	FS (1) / Q (1)
2	Valve Locked State	LO = locked open LC = locked closed LOC = locked open and closed
3	Optional: additional features available	SWITCH = complete with LIMIT SWITCH EEXDSW = complete with ATEX LIMIT SWITCH PROXIMITY SENSOR
4	Lock portion symbol(s)	LO Symbol = locked open symbol (please advise) LC Symbol = locked closed symbol (please advise) FS (1) up to 3 characters / Q (1) up to 6 characters

Lock portions are available in stainless steel only

(1)

FS - Lock type	Q - Lock type
Up to 3 characters	Up to 6 characters
	

Special construction available upon enquiry

ACCESSORIES

	Product	Part number
	Flip Cap	FLIP-S

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APPENDIX - PRICING APPLICATION FORM QUESTIONNAIRE

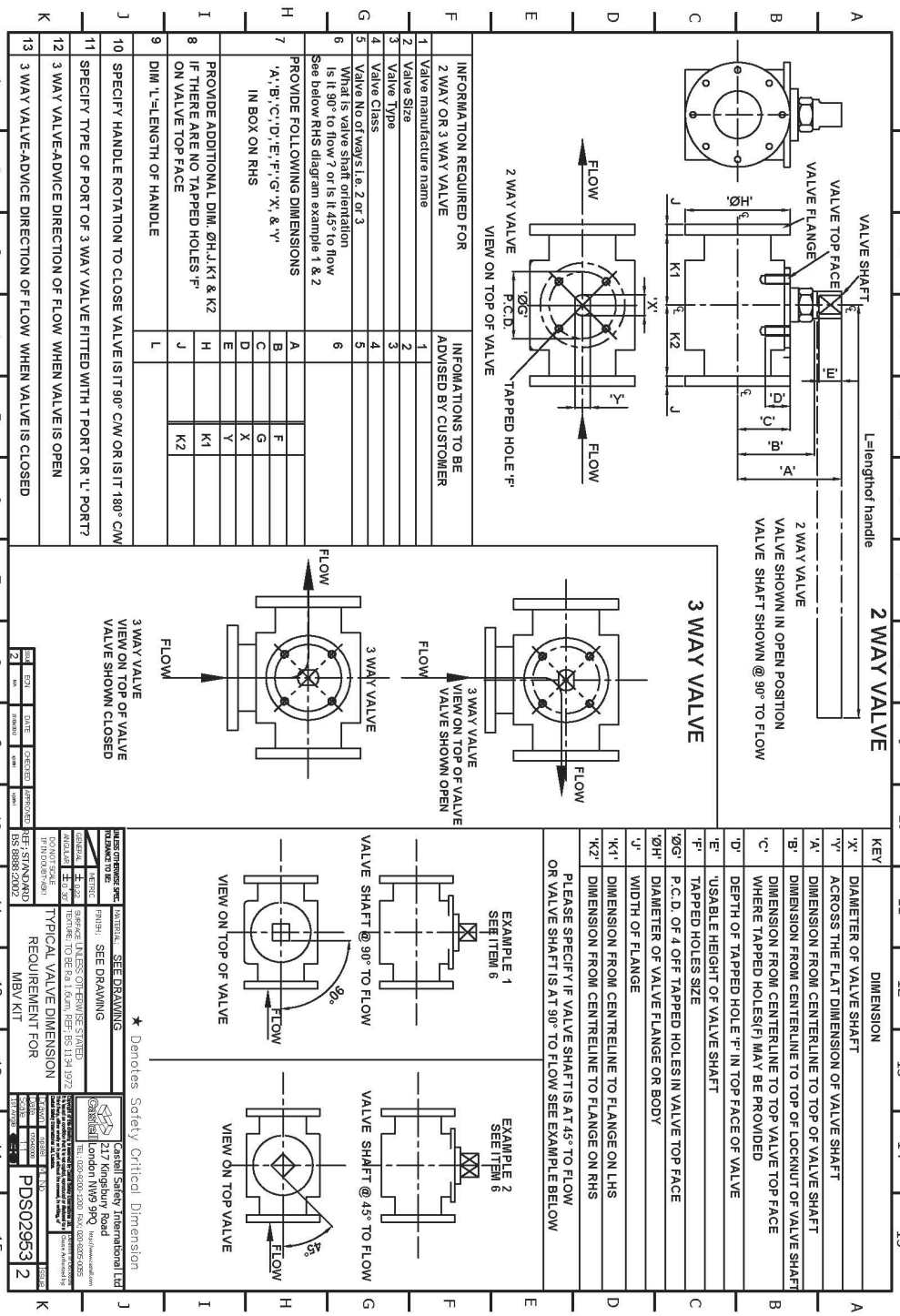
Customer organisation name
Customer organisation contact person
Customer organisation contact number and email address

Valve details	
(1) Type of host valve/s (please circle one) Ball Valve ☐ Butterfly ☐ Plug valve ☐	**(6) Class of valve**
(2) Valve model, manufacturers and part number	**(7) Pressure handling capacity (alternatively, please provide a data sheet of valve in selection, top work details and 3D STEP file)**
(3) Is it 2 or 3 way valve? (please circle one) 2-way ☐ 3-way ☐	**(8) Weight of the valve**
(4) Degree of rotation (please circle one) 90 Degrees ☐ 180 Degrees ☐	**(9) Is the valve exposed to hazardous operating environment? If so, please specify**
(5) Size of valve in DN or inches (max 3")	

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APPENDIX - TOP WORK DRAWING EXAMPLE

Note: To be provided with the Pricing Application Form



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Tel: +44 (0)20 8200 1200 **Email:** sales@castell.com

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