



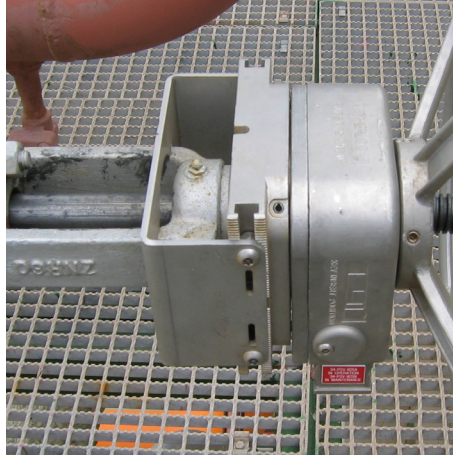
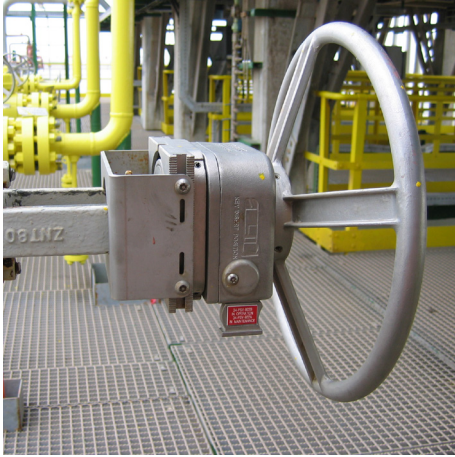
Process interlocking

Process interlocking prevents human error by guiding the operator through a predefined operating sequence. Valve interlocks are based on the principle of the exchange of unique keys, that only allow the right valves to be operated in the correct, predefined order.

Multi Rotation Lock (MRL)

The MRL fits any type of hand wheel or gear operated valves. A mechanical counter registers open and closed position of the valve. Keys are only released in fully open or fully closed position. The interlock replaces the original valve hand wheel. No periodic maintenance is required.

www.netherlocks.com



MRL features

- > Permanently mounted on valve or gearbox
- > Mechanical counter (optional for high rotation, 2.000 +)
- > No grease or other lubrication required
- > Ingress protection of key slots by self sealing weather strips
- > Single key lock, in locked open or locked closed position
- > Double key lock, in locked open or locked closed position
- > Minimum of components to make the internal mechanism less vulnerable
- > Second safety; integrated second safety to prevent unlocking with an unauthorized object other than the designated linear key

Mounting

- > No alterations to host valve required
- > Custom made bracket and adaptor for mounting to the valve
- > Original nut is used if possible
- > Can be mounted in a live plant
- > For setting the open and closed position, it is required to fully open and fully close the valve

MRL can be mounted on each size of valve, however to a maximum drivebush diameter of 82 mm. Above that size, a customized interlock is provided.

Keys

- > Linear keys
- > Uniquely coded
- > Key codes are registered, for easy replacement and to avoid use of duplicate keys
- > Spare keys available
- > Master keys available
- > Coloured tagplates

Master key and master key cabinet

One key to fit all locks in an area, process, division (group key) or every individual lock (master key). Available in separate, powder coated steel cabinet. The cabinet is lockable to prevent unauthorized use and has a glass window that can be broken in case of emergency.

Q-card commissioning keys

Allows the locks to be opened or closed regardless of the sequence, e.g. during pressure testing. After testing the Q-card will be removed and replaced by the properly coded key. One Q-card for each key position is installed in our factory, and cannot be re-used once removed. There is no need for master keys or spares during installation and testing, which could jeopardize the plant safety at a later stage.





Total linear concept

Netherlocks has eliminated nearly all rotating movements from the lock designs. Keys are inserted linearly and the internal locking mechanism consists only of linear moving components. This reduces internal wear and tear and makes the mechanism less vulnerable for dirt and sand. Lubrication with grease is not required.

- > No wear and tear
- > No grease
- > Less vulnerable to sand and dirt

General provisions

Required technical information

Upon order, Netherlocks can only commence the production of interlocks after the following information has been provided:

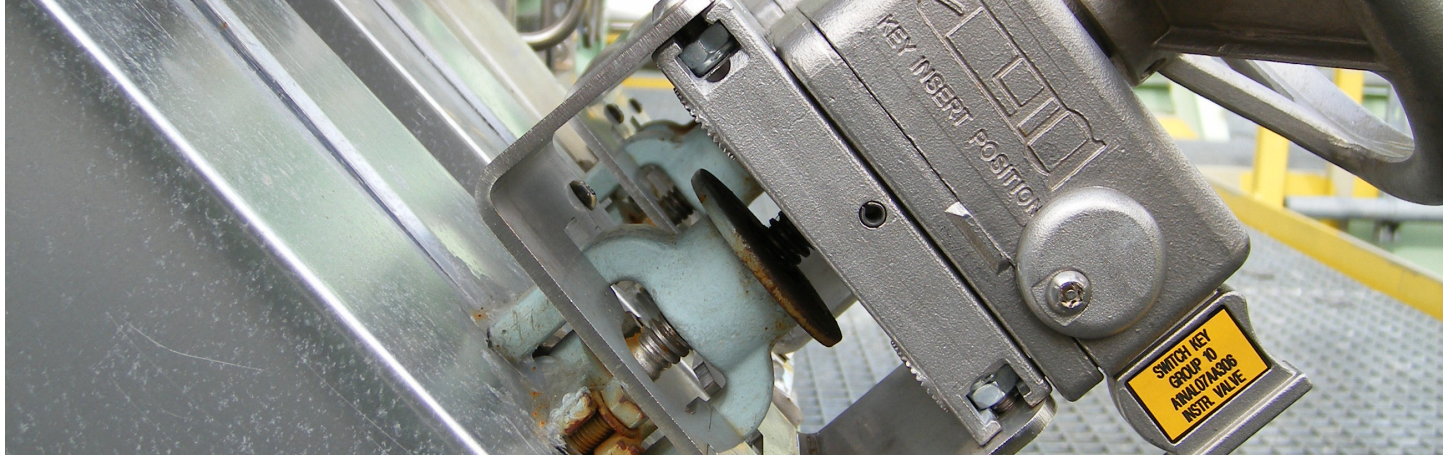
- > Text and colour details for key and lock tagging
- > Key sequence details
- > End user, location and unit information, for key code check and registration
- > Valve topwork details

Netherlocks can assist with obtaining valve topwork details from the valve suppliers. Our service team is also available to measure these dimensions in the field or warehouse.

Country of origin

Netherlocks interlocking systems are designed, engineered, manufactured, assembled and tested in The Netherlands.





MRL data sheet

DIMENSIONS MRL-S (SMALL TYPE)

	Dimension
Length (mm)	133
Width (mm)	115
Height (mm)	82
Mass of lock (kg)*	3
Handwheel sizes	200, 280, 350/380, 500, 600, 700
Max. valve spindle diameter (mm)	26

* Without bracket, adaptor and hand wheel

DIMENSIONS MRL-L (LARGE TYPE)

	Dimension
Length (mm)	152
Width (mm)	144
Height (mm)	100
Mass of lock (kg)*	4.7
Handwheel sizes	380, 500, (700)
Max. valve spindle diameter (mm)	68

* Without bracket, adaptor and hand wheel

MATERIALS

	Material
Body	AISI 316
Bracket & Adaptor	AISI 316
Hand wheel	Carbon, coated steel Optional AISI 304
Counter	AISI 316
Operating key	AISI 316
Tagplate lock	AISI 316
Tagplate key	Polymethyl methacrylate
Internal components	AISI 316

CERTIFICATES

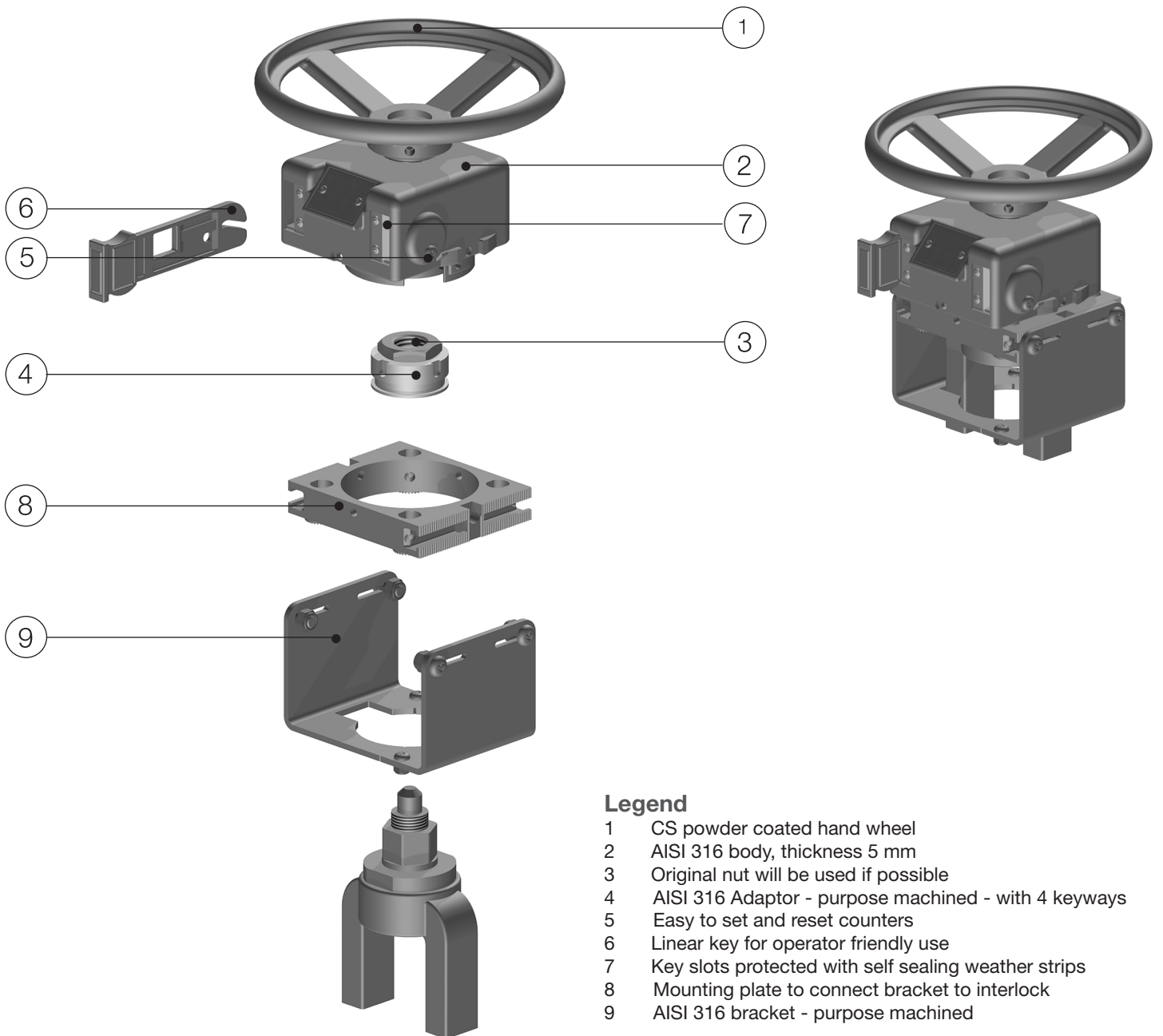
	Certificate
Material certificate*	2.1
ISO	9001-2000
TUV	TUV SUD Product Service GmbH
ATEX	CE Ex II 2 GD EEx IIC T6
Fire Test	API 607 / ISO 10497

* Other certificates available on request.



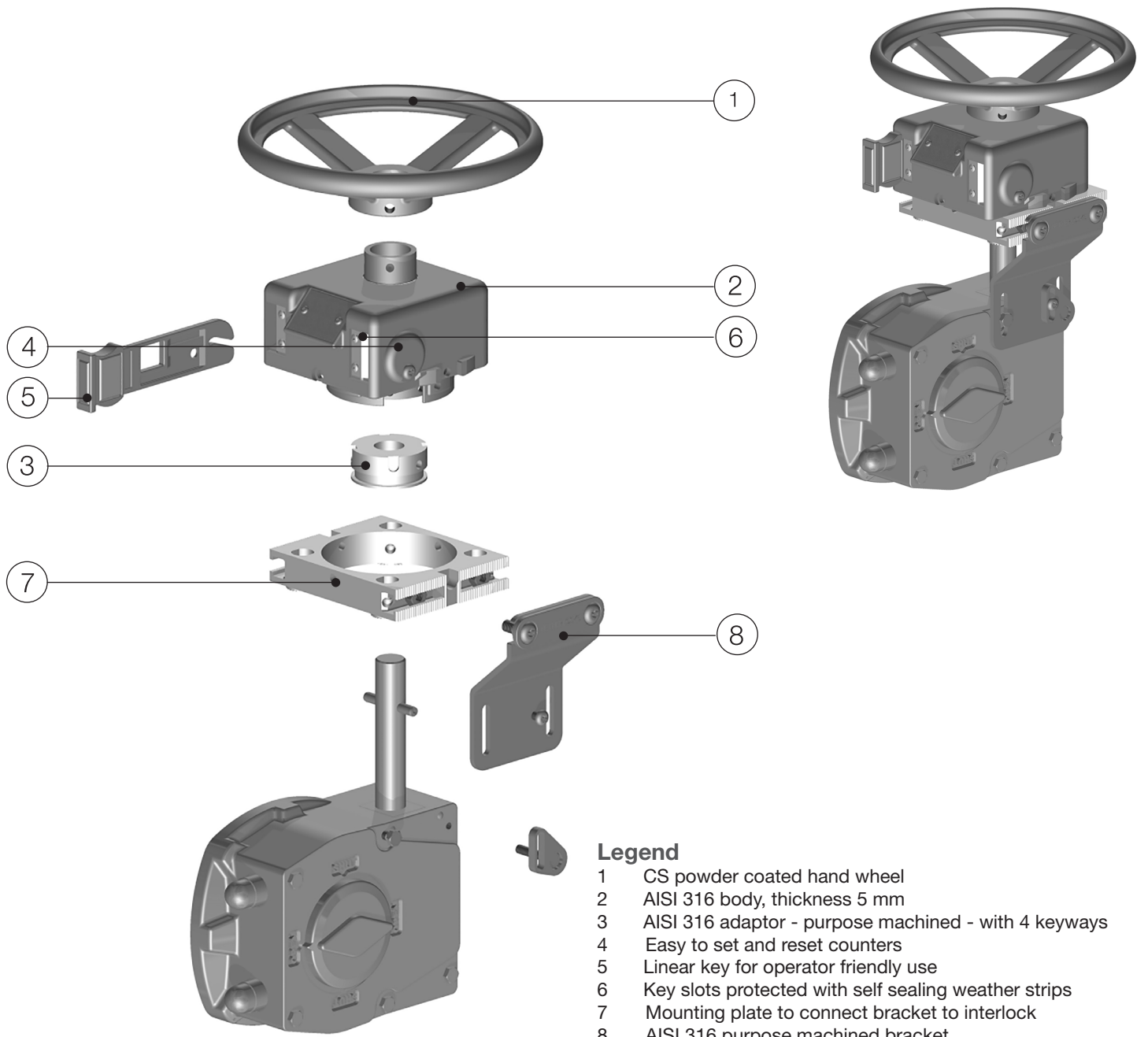


MRL exploded view



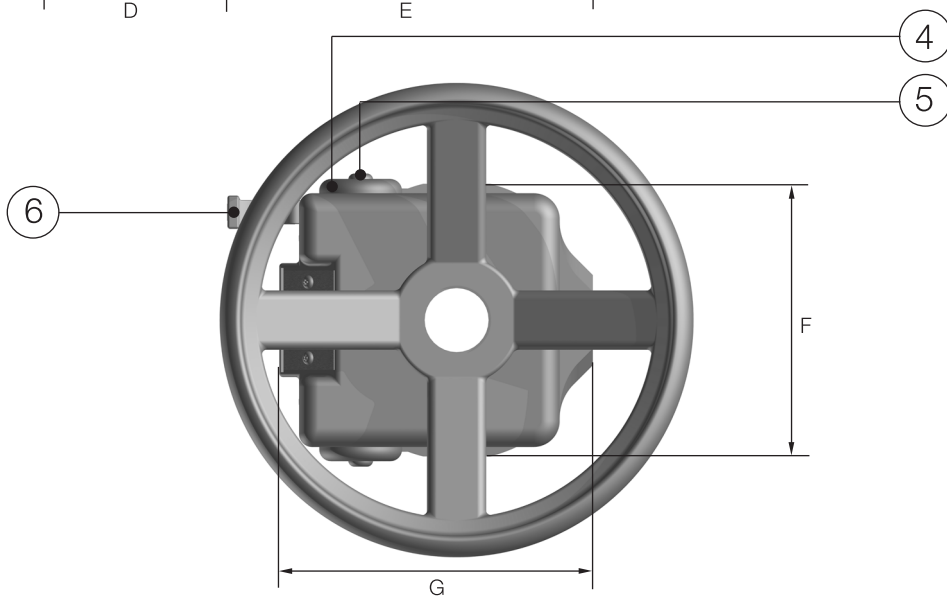
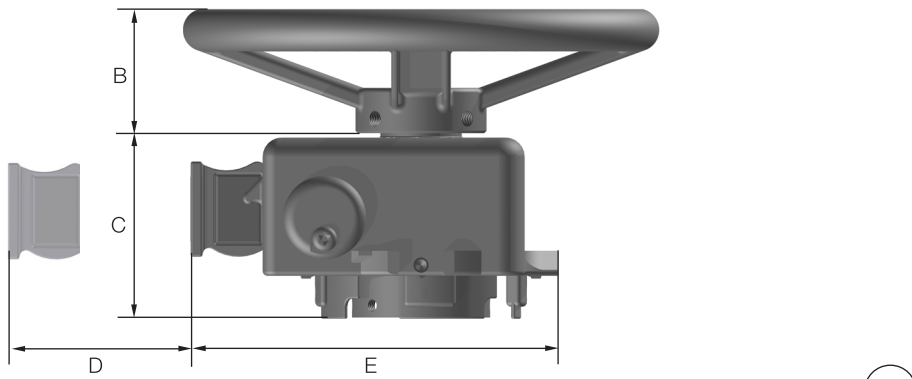
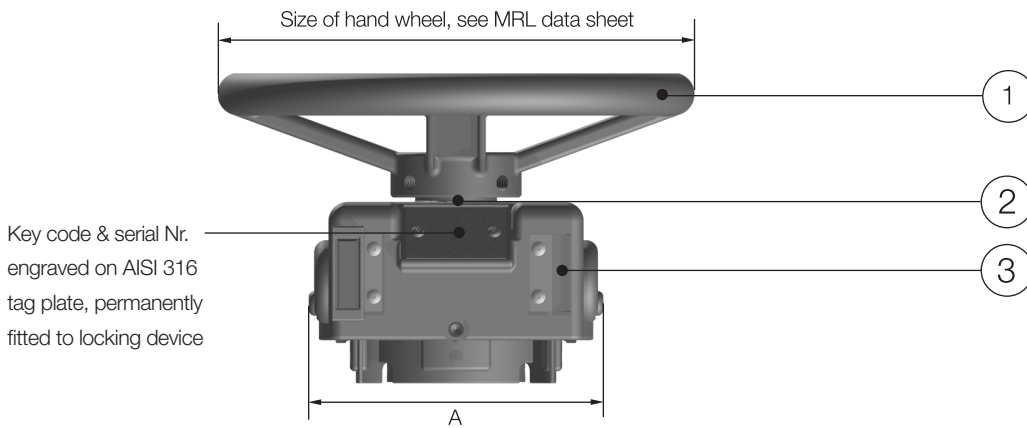


MRL on gearbox exploded view





MRL GA drawing



DIMENSIONS (MM)

Dimension	MRL-S	MRL-L
A	124	169
B	35-130	80-130
C	82	100
D	108	108
E	157	168
F	115	152
G	133	144

PARTS LIST

Item	Qt	Description
1	1	Handwheel
2	1	Tube MRL-S
3	1	Lockbody small
4	2	Adjustment cover
5	6	Tamper proof M6 screw
6	1/2	Operating key

