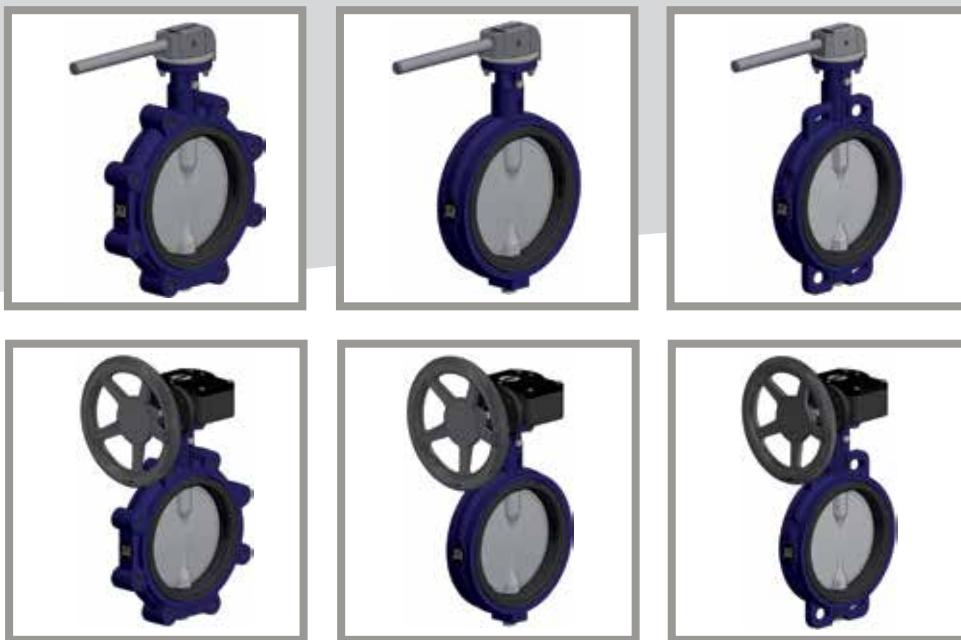


CENTER LINE *RS*

brands you trust.

OPERATING MANUAL

CENTER LINE Butterfly Valves, Series RS with Manual Actuation



CRANE®

www.cranecpe.com

CENTER LINE Butterfly Valves, Series RS with Manual Actuation

1. Introduction

This manual is intended to support the user with the installation, operation and maintenance of CENTERLINE Butterfly Valves of the series RS.

CAUTION

If the following attention and warning notes are not adhered to, dangers could arise and the warranty of the manufacturer could become void.

In case of further questions please contact the manufacturer, Xomox International GmbH & Co. OHG; addresses see section 9.

2. Intended use

These valves are exclusively designed to shut off or release pipe sections or to control the flow after installation in a pipe system between or on flanges and to shut off, enable or control the flow within the permissible pressure and temperature limits after the actuator has been connected to the system control. This is to take place after the installation in a pipe system

- between flanges in accordance with EN 1092-1 (Type 11 blank flange with PN designation) or EN 1759-1 (Type 11 blank flange with class designation), with even sealing strips. These have to be mechanically processed parallel and level and which have to be flush. The installation between other flanges and / or other sealing strips listed above is permitted only after technical checking back with Xomox International GmbH & Co. OHG.
- media with maximum operating pressure PS, which is indicated on the name plate of the butterfly valve,
- with manual actuation.

Any other use of the valve is considered unintended.

CAUTION

If a valve is used in continuous operation for controlling purposes, the hydraulic flow parameters are to be selected in such a way that no damage can arise in the valve and in the discharge-sided pipeline due to excess speed. Please contact the manufacturer if in doubt!

3. Safety notes

3.1 General safety notes

With valves the same safety regulations apply as to the pipe system in which they are installed. This manual only provides such safety notes which are additionally to be observed for valves.

3.2 Safety notes for the operator

It is not the responsibility of the manufacturer, Xomox International GmbH & Co. OHG, to ensure that:

- the valve is only used as intended, as it is described in section 2.

DANGER

No valve must be operated above the permissible pressure/ temperature range of which is insufficient for the operating condition: this permissible range is described in section 2. The application limits for the maximum permissible operating pressure PS are marked on the valve. Non compliance may be considered to be dangerous and can also cause damage to the pipe system.

Ensure that the selected materials of the medium-contacting valve parts are suitable for the used media. The manufacturer does not assume any liability for damage resulting from corrosion caused by aggressive media. Non compliance may be considered to be dangerous and can also cause damage to the pipe system.

- a hand lever or hand gear which was subsequently mounted on the valve is adapted to the valve and correctly adjusted in both end positions of the valve – especially in the closing position,
- the pipe system was professionally mounted. The wall thickness of the valve body is dimensioned so that in such professionally routed pipelines additional loads of the standard range are considered,
- the valve is professionally connected to the pipe system,
- in this pipe system the usual flow rates
- (e.g. 4 m/s for liquids) in continuous operation are not exceeded and abnormal operating conditions such as vibrations, water hammer, temperature shocks, cavitation and significant portions of solids in the medium – especially abrasive ones – are co-ordinated with the manufacturer, Xomox International GmbH & Co. OHG,
- valves which are operated at operating temperatures of >50°C (122°F) or <-20°C (-4°F) are protected against contact together with the pipe connections,
- the valve is only operated and maintained by personnel experienced in maintaining pressurized pipelines.

CENTER LINE Butterfly Valves, Series RS with Manual Actuation

3.3 Particular dangers

DANGER

The pressure in the pipeline must be reduced prior to the loosening of the shaft locking screw or valve removal from the pipeline. This will ensure the medium doesn't escape from the line.

CAUTION

For valves which are used as terminal valves:
With normal operation, especially with gaseous, hot and/or hazardous media, a dummy flange or a sealing cover has to be mounted on the free connecting socket with the valve securely locked in the "closed" position.

If a valve has to be opened in a pressurized line including a terminal valve, this must be performed with utmost caution so that any escaping media doesn't cause any damage. Take care when closing such a valve: danger of squashing!

If a valve has to be removed from a pipeline, medium may escape from the line or the valve. In the case of media which are harmful to health or hazardous the pipeline has to be completely empty before the valve is removed. Take care with residual media.

4. Transport and storage

Valves have to be handled, transported and stored carefully:

- The valve is to be kept in its original packaging and/or with the protection caps on the flange connections. The valves should be kept and transported (also to the installation site) on a pallet (or supported in a similar way).
- If the packaging does not show any damage, the valves should be unpacked prior to installation in the pipeline.
- In the case of storage prior to installation, the valves are to be stored in a closed room and to be protected against harmful influences like dirt or moisture.
- Packaged valves may be exposed to full sunlight for a short time only.
- Especially the hand lever/ the hand gear and the sealing beads on the flange connection faces must not be damaged by mechanical or any other influences.
- Valves are to be stored as delivered. The valve must not be operated.

CAUTION

If lifting tackles (ropes or similar) are required for transport, these have to be attached in such a way that the hand lever/ the hand gear is not stressed and that neither the valve nor the hand lever/ the hand gear are damaged.

Valves which are delivered without gear / hand lever:
The valve has to be transported carefully: the unsecured valve disc may open from closing position due to external effect.

5. Installation in the pipeline

5.1. General remarks

With the installation of the valves in a pipeline the same instructions apply as to the connection of pipes and similar piping elements. The following instructions additionally apply to valves. For the transport to the installation site please also observe section 5.

CAUTION

With CENTERLINE Butterfly Valves of the Series RS no separate flange seals must be used: the elastic body lining features integrated sealing beads, which seal on the sealing strips of the counterflanges.

Counterflanges must feature smooth sealing strips e.g. blank flanges in accordance with the EN 1092-1 Type 11 with packing strip in accordance figure B1 and B2 or EN 1759-1 Type 11 with packing strip according figure B or E. Other flange shapes are to be agreed on with the manufacturer, Xomox International GmbH & Co. OHG.

The operating device is adjusted for the operating data stated in the order: The setting of the end stops "OPEN" and "CLOSED" must not be altered without the consent of the manufacturer, Xomox International GmbH & Co. OHG.

If – in an exceptional case – a valve has to be mounted without hand lever/ gear, it has to be ensured that such a valve is not pressurised.

If an actuator is retrofitted, nominal torque, direction of rotation, actuating angle and the setting of the end stops "OPEN" and "CLOSED" have to be adjusted to the valve. The non-compliance of these instructions might involve danger to the user and cause damage to the pipe system.

CENTER LINE Butterfly Valves, Series RS with Manual Actuation

5.2 Working steps

- Transport valve in the protective packaging to the installation site and unpack it only there.
- Inspect valve and gear/ hand lever for damage in transport. Damaged valves or gears/ hand levers must not be installed.
- Make sure that only valves are installed the pressure class, connection type and connection dimensions of which meet the application requirements. See name plate on the valve. The name plate or signs on the valve have still to be identifiable after commissioning.

CAUTION

No valve must be operated above the permissible pressure/ temperature range of which is insufficient for the operating condition: this permissible range is described in section 2, <Intended use>. The non-compliance of these instructions involves danger to life and limb and may cause damage to the pipe system.

The counterflanges have to feature a clear span allowing for sufficient space for the opened valve disc so that the latter is not damaged when being swivelled out. This corresponds to the "U" dimension in the Crane / Xomox International data sheets <Dimensions and weights>, see section 9, <Information>.

- At the beginning of the installation an operational check is to be carried out: the valve must close and open properly. Discernible malfunctions are to be addressed prior to commissioning. See also section 8, <Troubleshooting>. The position indication on the gear (if available) has to correspond to the position of the valve disc.
- Prior to installation the valve and the down-stream pipeline have to be thoroughly cleaned of any contamination, especially of hard foreign substances
- CENTERLINE Butterfly Valves of the series RS can generally be installed irrespective of the flow direction; however, from DN 250 upwards they are preferably to be installed with horizontal shaft. See also note below.

DANGER

With solids-bearing media it is urgently recommended to install the butterfly valve in any case with horizontal shaft. If the media form deposits, the butterfly valve is to be installed in such a way that the bottom disc half opens in flow direction.

- When inserting the valve (and the flange seals) in an already mounted pipeline the distance between the pipe ends has to be positioned in such a way that all connecting surfaces and the elastic body lining

remain undamaged. The gap, however, must not be larger than necessary so that no additional stress is generated in the pipeline during installation.

NOTE

The valves have to be mounted with closed valve disc in the gap between the pipe ends: otherwise the valve disc could be damaged and the valve could leak.

- The counterflanges of the pipeline have to be flush, level and parallel
- Screws which are used in threaded holes of the valve body are to be implemented with a separating agent (e.g. graphite-containing).
- Flanged butterfly valves are to be centered on the counterflange during installation by means of the flange screws before the screws are tightened.

CAUTION

CENTERLINE Butterfly Valves of the series RS partly require screws of a varying length for the connection to the counterflanges. For the measurements for the flange screws please refer to Crane / Xomox International data sheets <Screw dimensions>.

- The flange screws have to be tightened diagonally. With metal flanges the body of the butterfly valve must fit to the sealing strips of the counterflanges with proper contact all round.
- In the case of plastic line systems with FRP flanges the valve manufacturer has to be consulted and/ or the torque limit values of the respective pipe and flange manufacturers are to be observed for the tightening of the flange screws.

6. Pressure test of the pipe section

With the pressure test of valves the same instructions apply as to the pipeline. In addition, the following applies:

- First thoroughly flush the newly installed line systems in order to flood out all foreign substances.
- The testing pressure of an opened valve must not exceed the value of $1.5 \times PS$ (at 20°C/ 68°F). The component with the lowest PN limits the maximum permissible testing pressure in the line section. (PS = maximum permissible operating pressure, see also name plate).
- A closed valve must only be pressure-tested with $1.1 \times PS$.

CENTER LINE Butterfly Valves, Series RS with Manual Actuation

7. Normal operation and maintenance

Valves which are delivered ex works with hand lever or gear are exactly adjusted and must not be re-adjusted as long as the valve is in perfect working order.

For the operating on the hand wheel of the gear normal manual forces are sufficient; the use of extensions to increase the operating torque is not recommended.

Regular maintenance work on the valves is not required; however, when the line section is inspected no leakage must escape to the outside on any valve. In such cases please observe section 8, <Troubleshooting>.

It is recommended to operate valves which always remain in one position once or twice a year.



CAUTION

A butterfly valve is not self-locking: The gear must not be removed as long as the butterfly valve is pressurized.

CENTER LINE Butterfly Valves, Series RS with Manual Actuation

8. Troubleshooting

When rectifying faults section 3, <Safety notes>, must absolutely be observed.

Fault Type	Remedy	Note
Leakage on the flange connection or plug/ cover plate of the body	<p>In the case of leakage on flange connection or plug: Retighten screws.</p> <p>If contrary to the installation specification (see section 5.2) additional flange seal(s) was/ were used: Remove this/ these flange seal(s).</p> <p>If leakage cannot be redressed in this way or in the case of leakage out of the shaft bushing: Repair required. Replace body lining, request spare parts and necessary manual from Xomox International GmbH & Co. OHG. Observe section 3.3, <Particular dangers>.</p>	<p><u>Note 1:</u> In the case of leakage, the valve must be repaired or replaced immediately if the valve body is corroded.</p>
Leakage in the seat seal	<p>Check whether the valve is closed 100%. If this is the case: check whether the valve is closed with full torque.</p> <p>If the valve is undamaged :Open and close valve repeatedly under pressure.</p> <p>If the valve is still leaking: repair required. Replace the body lining and request spare parts and the appropriate manual from Xomox International GmbH. Observe section 3.3, <Particular dangers>.</p>	

Spare parts are to be ordered with all specifications in the name plate.
Only original parts must be installed.

CENTER LINE Butterfly Valves, Series RS with Manual Actuation

Fault Type	Remedy	Note
Leakage on the shaft seal	Repair required. Replace body lining and request spare parts and the appropriate manual from Xomox International GmbH & Co. OHG. Observe section 3.3, <Particular dangers>.	<u>Note 2:</u>
Malfunction	If hand lever/ gear are o.k.: Remove and inspect valve (in observance of the notes from section 3.3, <Particular dangers>). If the valve is damaged: repair required. Replace the body lining and request spare parts and necessary manual from Xomox International GmbH & Co. OHG. Observe section 3.3, <Particular dangers>.	If after the removal it is discovered that the body lining and/ or the disc are not sufficiently resistant to the medium, suitable materials are to be selected. Refer to Xomox International GmbH & Co. OHG for a suitable alternative lining or refer to the datasheet <Chemical resistance of the lining>. <u>Note 3:</u> The outer edge of the disc has to be smooth and undamaged all round; otherwise the disc is to be replaced as well.

Spare parts are to be ordered with all specifications in the name plate.
Only original parts must be installed.



Crane ChemPharma & Energy

Xomox International GmbH & Co. OHG

Von-Behring-Str. 15

88131 Lindau (Bodensee)

Germany

Tel: +49 8382 702 0

Fax: +49 8382 702 144

www.cranecpe.com

brands you trust.



COMPAC-NOZ®



DEPA®

ELRO®

DUO-CHEK®



NOZ-CHEK®



RESISTOFLEX®



Saunders®
the science inside

STOCKHAM®



UNI-CHEK®

w.ta.®

XOMOX®

CPE-CENTER LINE RS GEAR-IM-GB-A4-2021_01_01

Crane Co. sowie deren Tochtergesellschaften übernehmen keine Verantwortung für etwaige Fehler in Katalogen, Broschüren, sonstigen Druckerzeugnissen und Information auf Webseiten. Crane Co. behält sich das Recht vor, seine Produkte ohne Ankündigung zu ändern. Wenn nicht anders angegeben, gilt dies auch für Produkte, die bereits bestellt wurden, sofern die Änderungen vorgenommen werden, ohne dass eine Änderung an bereits vereinbarten Spezifikationen erforderlich wird. Alle im vorliegenden Material verwendeten Markenzeichen sind Eigentum von Crane Co. und den dazu gehörigen Tochterfirmen. Crane sowie die Marken von Crane und deren Schriftzüge, in alphabetischer Reihenfolge, (ALOYCO®, CENTER LINE®, COMPAC-NOZ®, CRANE®, DEPA®, DUO-CHEK®, ELRO®, FLOWSEAL®, JENKINS®, KROMBACH®, NOZ-CHEK®, PACIFIC VALVES®, RESISTOFLEX®, REVO®, SAUNDERS®, STOCKHAM®, TRIANGLE®, UNI-CHEK®, WTA®, und XOMOX®) sind eingetragene Warenzeichen von Crane Co. Alle Rechte vorbehalten.