

ASSEMBLY AND MAINTENANCE INSTRUCTIONS

MODEL HD HOWELL BUNGER VALVE

HANDLING

When handling this type of valves please pay attention to the following points:

- **Do not attach the crane directly to the valve actuator.**
The valves are supplied with lifting lugs for that purpose and due to the valve weight the actuator could be easily damaged.
- **Do not lift the valve by the valve bore.**
This can cause damages on the seating surfaces and sealings.

SAFETY WARNING

- Check that the crane is rated to carry the weight of the valve.
- Make sure that the valve is correctly secured and fastened.

During the assembling and dismounting it is recommended to lift the valve with soft straps.

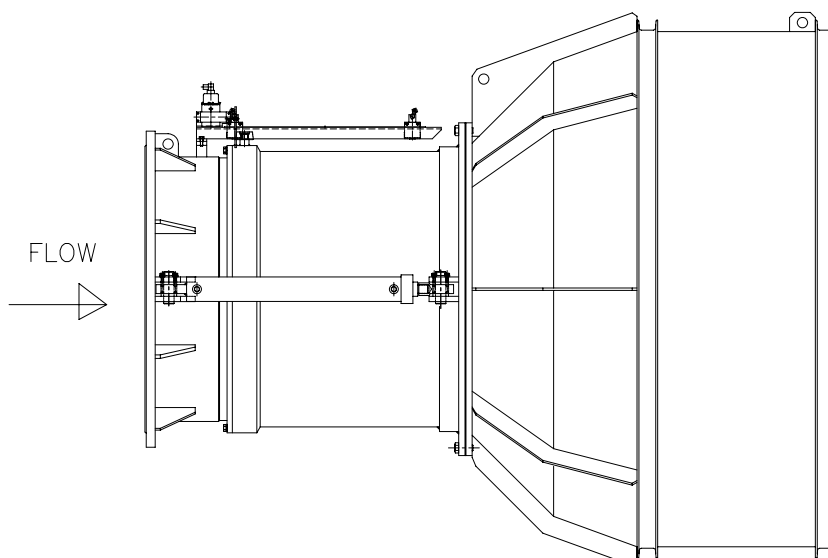
ASSEMBLING

To avoid personal injury or damage to the property from the release of process fluid:

- Those in charge of handling and maintenance of the valve must be qualified and trained in valve operations.
- User appropriate personal protection equipment (gloves, safety shoes, glasses, helmet...).
- Shut of all operating lines to the valve and place a warning sign.
- Isolate the valve completely from the process.
- Release process pressure.
- Drain the process fluid from the valve.

Before installation inspect the valve body and components for any damage that may have occurred during shipping or storage. Make sure the internal cavities within the valve body are clean. Inspect the pipeline and mating flanges making sure the pipe is free of foreign material and that the flanges are clean.

As standard the valve is for one direction flow and there is an arrow on the body pointing to the flow direction.

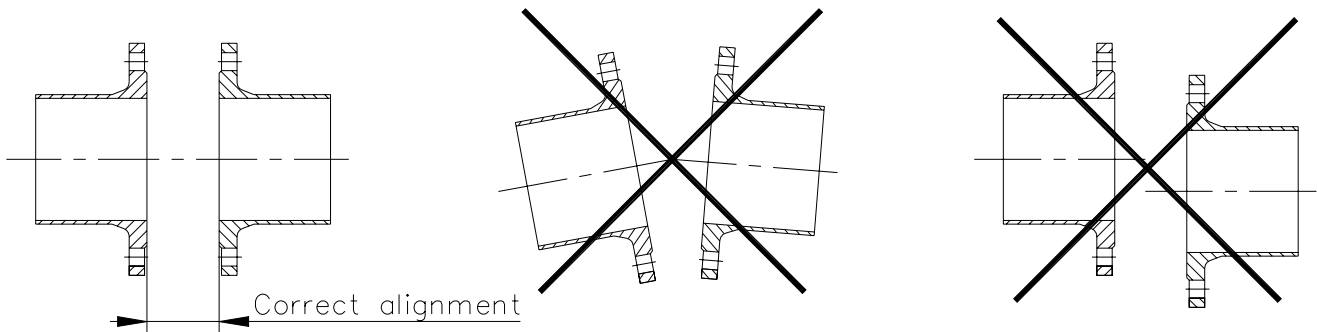


ASSEMBLY AND MAINTENANCE INSTRUCTIONS

MODEL HD HOWELL BUNGER VALVE

The HD type valve (Howell Bunger) is always installed at the end of a pipe line.

Special care need to be taken to keep the correct alignment and parallelism with the mating flange. The wrong situation of the mating flange can cause deformations in the body which can lead to difficulties in operation.



It is very important to ensure plainness and parallelism of the mating flange to avoid a leakage to the outside and avoid deformations of the valve.

MAINTENANCE

To avoid personal injury or damage to the property from the release of process fluid:

- Those in charge of handling and maintenance of the valve must be qualified and trained in valve operations.
- User appropriate personal protection equipment (gloves, safety shoes, glasses, helmet...).
- Shut of all operating lines to the valve and place a warning sign.
- Isolate the valve completely from the process.
- Release process pressure.
- Drain the process fluid from the valve.
- Lock out and tag out.
- Isolate the working area.

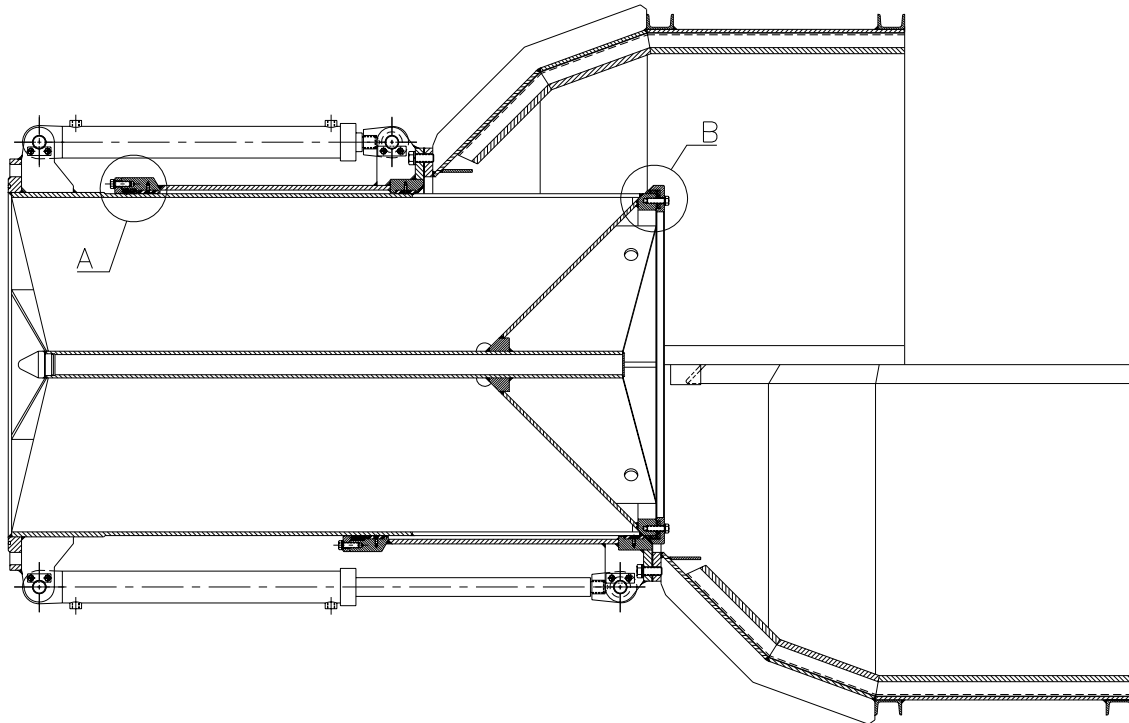


The only maintenance required on this type of valve is to change the sealing rubber joints, one located in the fixed part (DETAIL B) and the other one located between the fixed part and the moving part (DETAIL A).

It is recommended to perform a revision of the sealings every 6 months but the life of these sealing joints will depend on the working conditions of the valve, such as: pressure, temperature, number of operations, fluid composition and others.

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CHANGING OF THE SEALING JOINT IN THE FIXED PART (DETAIL B)

In order to change the valve sealing joint it is necessary to open the valve completely.

The sealing is held to the valve fixed part by a steel bolted flange.

The first step is to remove the bolts that are holding the steel flange to the valve fixed part. After that, remove the steel flange and also the damaged sealing in EPDM.

Clean the channel where the sealing is located in the disc and change the old damaged sealing by a new one.

Note:

Keep in mind that the dimensions of the new sealing must exactly the same as in the old one.

The old sealing can be used as a pattern to define the length of the new sealing and the position of the holes to be made on the sealing.

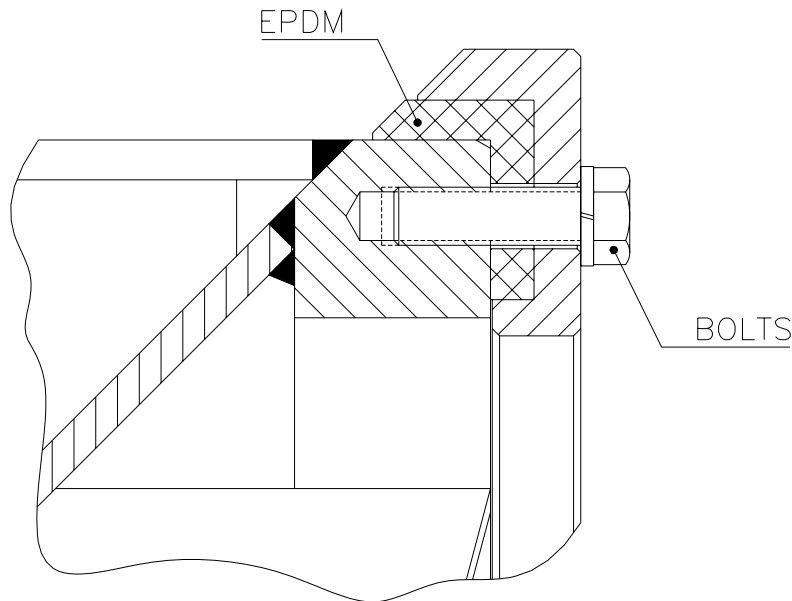
The holes made on the sealing must be precise and smooth. Drilling machines and similar rotation machines are not recommended to make the holes on the sealing.

After cutting the sealing with the correct length and making the holes, and before installation on the valve, both ends of the sealing must be glued together with high resistance glue (similar to Loctite brand).

After changing the sealing replace the steel holding flange to its original position and tight all the holding bolts. It is recommended to tight the holding bolts in a "diametrical" way. Do not use sharpened tools during this process.

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Note:

During the assembling of the new sealing joint it is recommended to apply “Vaseline” on the sealing area to make the assembling easier and to provide a smooth operation of the valve (do not use oil, neither grease).

Following we are giving the details of the Vaseline used by CMO:

VASELINE FILANTE

Saybolt colour	ASTM D-156	15
Fusion point (°C)	ASTM D-127	60
Viscosity at 100°C	ASTM D-445	5
Penetration 25°C mm/10	ASTM D-937	165
Silicon Content		No content
Farmacopea BP		OK

CHANGING OF THE SEALING JOINT BETWEEN THE FIXED PART AND THE MOVING PART (DETAIL A)

In order to change the valve sealing joint it is necessary to close the valve completely.

The sealing is held to the valve moving part by a steel bolted flange.

The first step is to remove the bolts that are holding the steel flange to the valve moving part. After that, remove the steel flange and also the damaged sealing in EPDM. This sealing is located between the moving part and the fixed part and its function is to make the tightness in that area during the operation.

Clean the channel where the sealing is located in the disc and change the old damaged sealing by a new one.

Note: Do not remove the Cestidur material. The Cestidur material is not considered as a spare part because it is a hard plastic which function is to expand the rubber joint when the holding flange is installed.

Note:

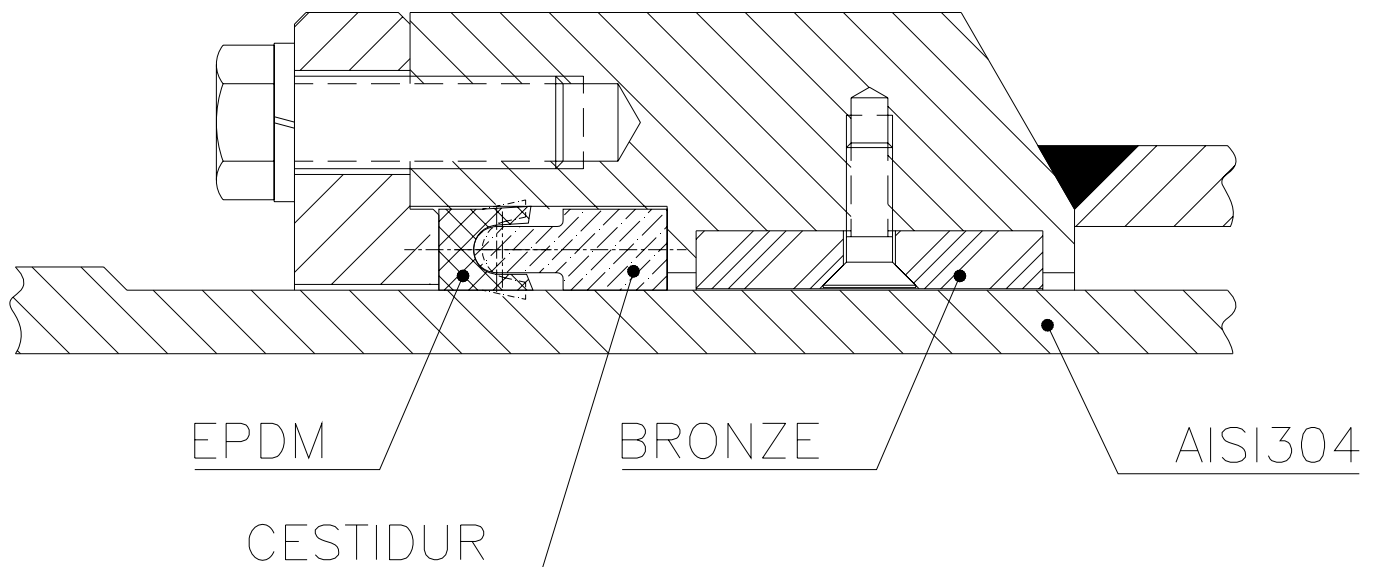
Keep in mind that the dimensions of the new sealing must be exactly the same as in the old one. The old sealing can be used as a pattern to define the length of the new sealing.

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After cutting the sealing with the correct length, and before installation on the valve, both ends of the sealing must be glued together with high resistance glue (similar to Loctite brand).

Note: It is very important to keep the stainless steel sliding surface correctly greased.



After changing the sealing replace the steel holding flange to its original position and tight all the holding bolts. It is recommended to tight the holding bolts in a "diametrical" way. Do not use sharpened tools during this process.

Note:

During the assembling of the new sealing joint it is recommended to apply "Vaseline" on the sealing area to make the assembling easier and to provide and smooth operation of the valve (do not use oil, neither grease).

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