

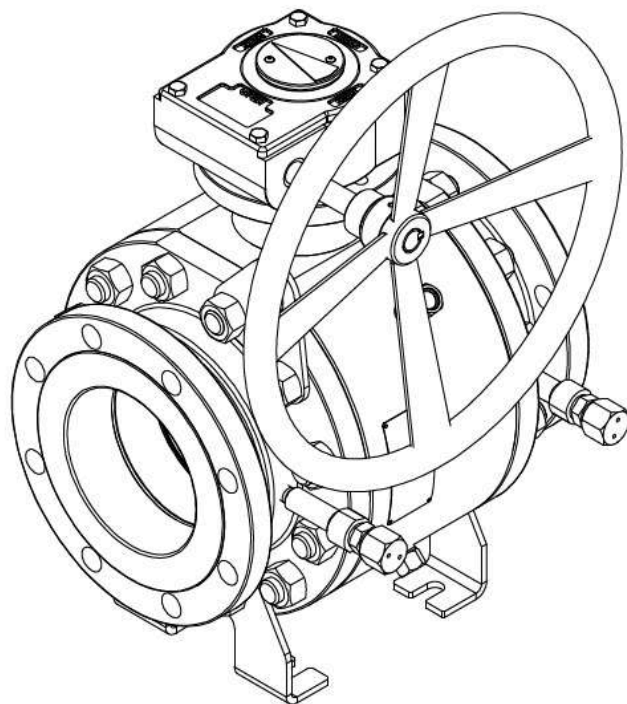
HPM



Flow Solutions

INSTALLATION, OPERATION & MAINTENANCE MANUAL

BALL VALVES



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*Thank
You*

for choosing

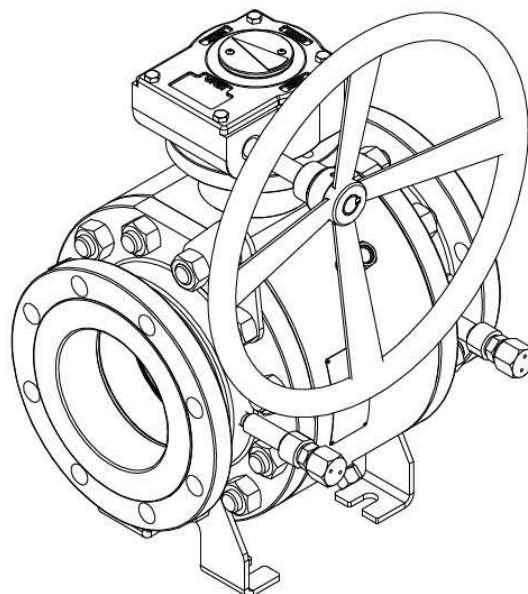
HPM Flow Solutions valves

Since the valve is a high-pressure equipment, it is a potential hazard that can create pressure and environmental pollution.

HPM Flow Solutions has taken safety into account in design and production.

Before starting any installation or service, please read this manual and comply with the safety requirements.

In order to use the products correctly and safely, be careful not to cause harm and loss to yourself and other personnel. The operator is solely responsible for damage caused by improper installation or operation by the user.





PRODUCT OVERVIEW

This manual applies to HPM Flow 2" (DN50) and larger ball valves.

To ensure correct installation, operation and maintenance of the product, we recommend that you carefully check the information on the valve nameplate and read this user manual, including valve type, material, applicable temperature, etc., before starting any related work.

This will help you better understand and correctly use HPM Flow Solutions products.

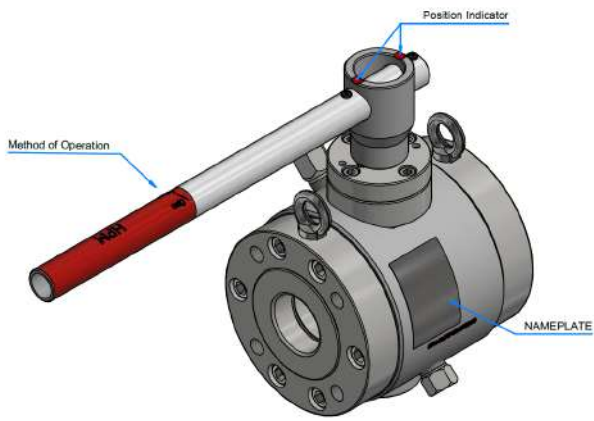


Before starting any related work, HPM Flow Solutions recommend that you carefully check the information on the valve nameplate, including valve size, material, applicable temperature, etc. This will help you better understand this product and use it properly.

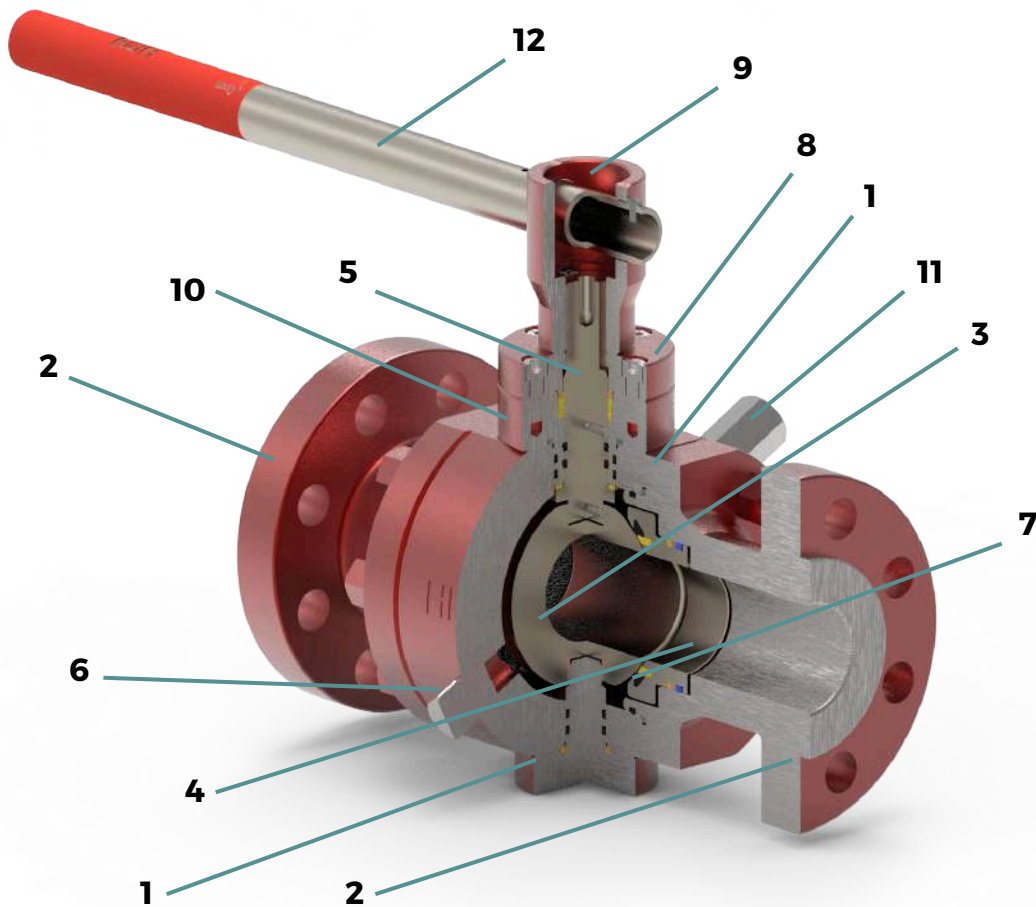


DESCRIPTION: The information under the HPM Flow Solutions logo is the current standard of the valve, which must be filled in according to specific order requirements.





MATERIALS

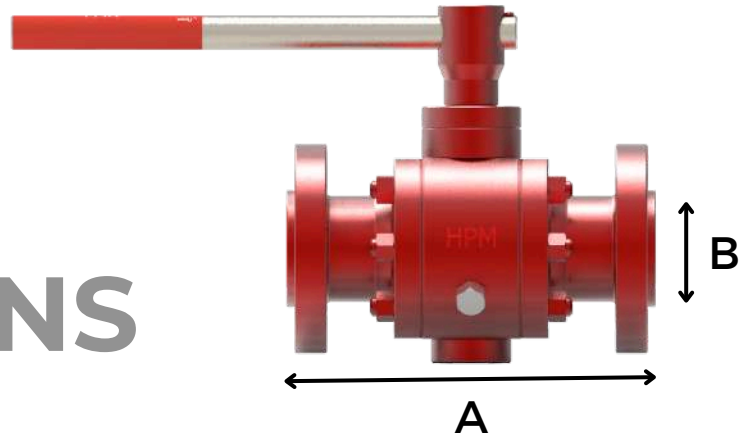


No	Parts	Materials
1	Body	ASTM A105 / LF2 / WCB / Stainless Steel
2	Cover - Bonnet	ASTM A105 / LF2 / WCB / Stainless Steel
3	Ball	ASTM A105 / LF2 + ENP / Stainless Steel
4	Seat Ring	ASTM A105 / LF2 + ENP / Stainless Steel
5	Stem	ASTM A105 / LF2 + ENP / Stainless Steel
6	Drain	Stainless Steel
7	Seat	PTFE / HNBR / Peek / Viton / PCTFE
8	Locking Flange	Carbon Steel
9	Coupling	Carbon Steel
10	Gland	Carbon Steel
11	Vent	Stainless Steel

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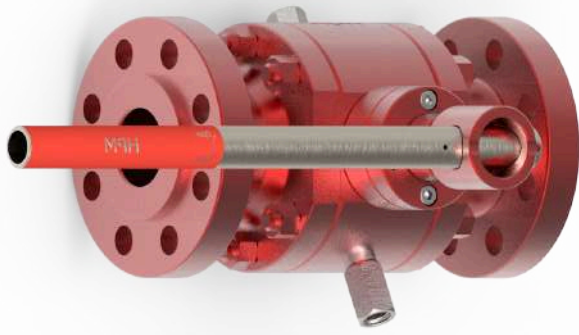
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DIMENSIONS



DN	CLASS	A - mm			B - mm
		RF	BW	RTJ	
2"	CL 150	178	216	191	49
	CL 300	216	216	232	49
	CL 600	292	292	295	49
3"	CL 150	203	283	216	74
	CL 300	283	283	298	74
	CL 600	356	356	359	74
4"	CL 150	229	305	241	100
	CL 300	305	305	321	100
	CL 600	432	432	435	100
6"	CL 150	394	457	406	150
	CL 300	403	457	419	150
	CL 600	559	559	562	150
8"	CL 150	457	521	470	201
	CL 300	502	521	518	201
	CL 600	660	660	664	201
10"	CL 150	533	559	546	252
	CL 300	568	559	584	252
	CL 600	787	787	791	252
12"	CL 150	610	635	622	303
	CL 300	648	635	664	303
	CL 600	838	838	841	303
14"	CL 150	686	762	699	334
	CL 300	762	762	778	334
	CL 600	889	889	892	334
16"	CL 150	762	838	775	385
	CL 300	838	838	854	385
	CL 600	991	991	994	385
18"	CL 150	864	914	876	436
	CL 300	914	914	939	436
	CL 600	1092	1092	1095	436
20"	CL 150	914	991	927	487
	CL 300	991	991	1010	487
	CL 600	1194	1194	1200	487
24"	CL 150	1067	1143	1080	589
	CL 300	1143	1143	1165	589
	CL 600	1397	1397	1407	589





SAFETY INFORMATION

The valve used beyond its specified specifications is not covered by the warranty, including but not limited to the following conditions: medium, pressure, temperature, external medium, etc. HPM Flow is not responsible for any losses caused by this.

The operator / employee / customer representative who installs, maintains and removes the valve must know and master the structure, function, environmental information and basic safety requirements of the valve.

The operator who adjusts the valve must have appropriate safety knowledge at the valve installation location.

The pressure in the line must be reduced to zero before the valve is removed from the line. Must thoroughly clean the remaining medium before repairing the valve.



It is dangerous to maintain or remove the valve without knowing the valve medium.

For environments that may harm human health, the operator who removes the valve from the pipeline must wear adequate protective equipment. Whether the customer repairs it himself or commissions HPM Flow to repair it, the customer must

WARRANTY TERMS

HPM Flow warrants for 24 months from delivery to the original purchaser or 12 months after installation, whichever occurs first.

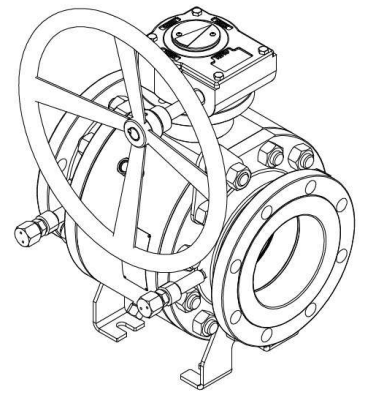
The following reasons do not cover the failure of all or part of the valve:

- The Customer/End User has selected the wrong type of valve, actuator and accessory.
- The valve has been used outside of its specified specifications and operating parameters, including capacity, temperature and pressure specifications and operating parameters.
- The valve has been damaged other than a valve failure, such as improper use, installation and use environment, or connection to other incompatible equipment.
- The valve/valve operator/valve control system has been altered.
- The valve has been improperly installed, operated, repaired or maintained.

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RECEIVING INSPECTION

Upon arrival, all valves must be inspected for damage during shipment. If any damage is found, the user/end user/customer must reject the valves and immediately notify the carrier or insurance company and HPM Flow for damage assessment.

PRECAUTIONS FOR VALVE STORAGE

- The valve should be stored in a ventilated and dry environment.
- Under no circumstances should the valves be stored outdoors.
- They should be covered with a protective cover to protect the valve end joints and the valve and to prevent foreign objects and impurities from entering the valve.
- Make sure that the ball valve is fully open during storage.
- Valves should not be placed directly on the ground.
- The valve with actuator should be properly positioned and no part of the actuator should be forced directly to prevent damage.
- When the valve is stored for a long time, make sure that the sealing surface is kept clean and not scratched. If the storage period is more than 6 months, the sealing surface of the valve should be carefully examined and cleaned before re-use and, if necessary, the pressure test should be repeated.
- If the valve is stored or installed but not operated for more than 1 year, the body-bonnet nuts and ring nuts should be tightened to the recommended torque before operation.
- The Flange Protection should remain securely fixed on the valve.
- Welded Valves must remain with weld end protective guards installed.
- All motor operated Valves must be fully opened and closed every six (6) months.
- The end guard must have industrial grade plastic fitted caps for the flange, threads, and bevels to prevent entry of dirt and damage.





INSTALLATION AND OPERATION

- Before installation, carefully check the valve ID and match the valve on the purchase list.
- Any dirt should be cleaned with a soft cloth before installation.
- When operating, check that the actuator responds quickly to prevent jamming.
- The valve should be in the fully closed position before installation.

VALVE HANDLING



WRONG

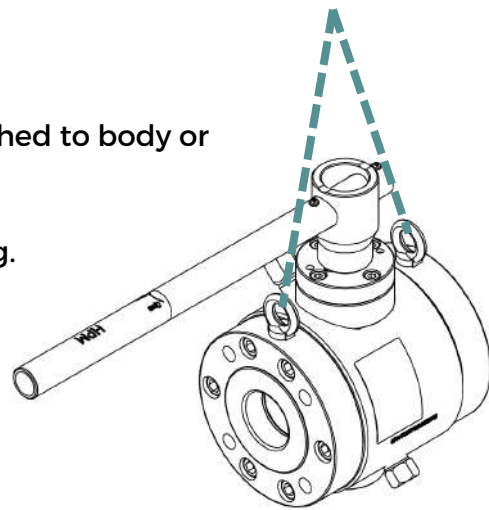
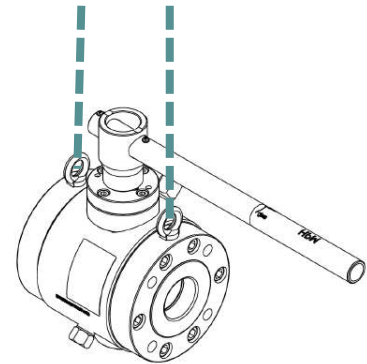


CORRECT

With valve lifted, slings (ropes or chains) shall be attached to body or yoke so the valve can be kept vertical.

For large-sized valve, lifting device shall assist handling.

Lift valve from lifting points with appropriate ropes and equipment.



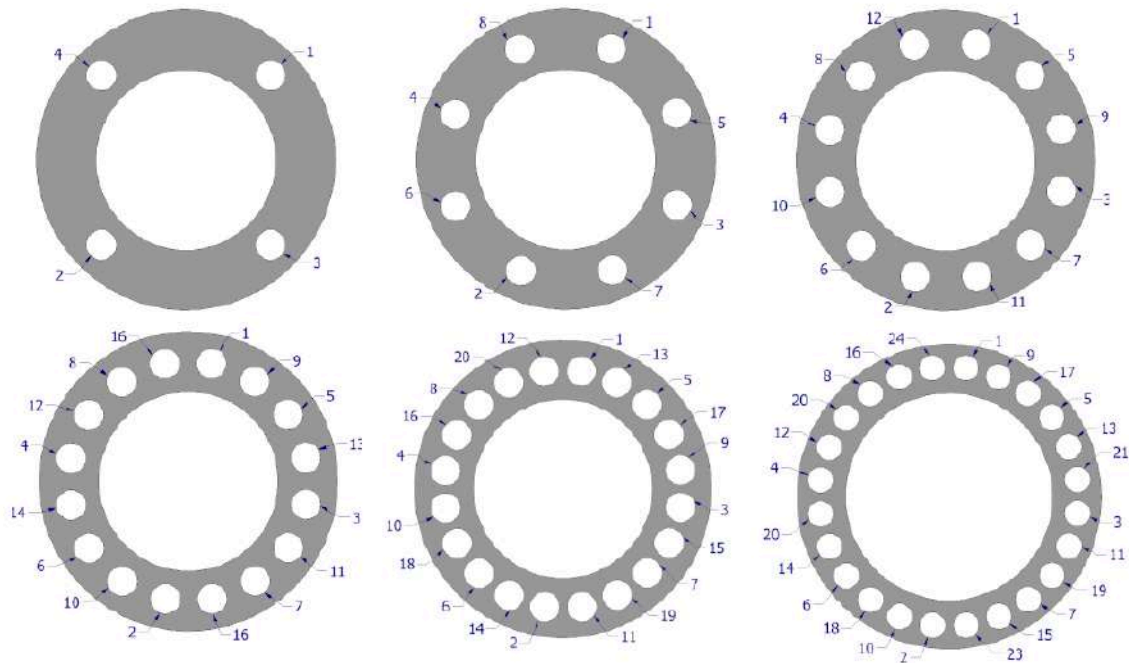
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INSTALLATION OF FLANGE-ENDED VALVES

For flange-ended valves, tighten bolts in a crisscross sequence to secure proper gasket loads as shown in following picture.



Do not use flange bolts to correct misalignments.

During tightening operation, ensure that piping stresses are not transferred to the valve. Over-tightening flange studs can cause damage and/or leakage at the flanges or body-to-body end joints.

INSTALLATION OF WELD-ENDED VALVES

Welding operation must be performed by a qualified welder. The welding procedure should be performed according to ASME Boiler and Pressure Vessel Code Section IX.

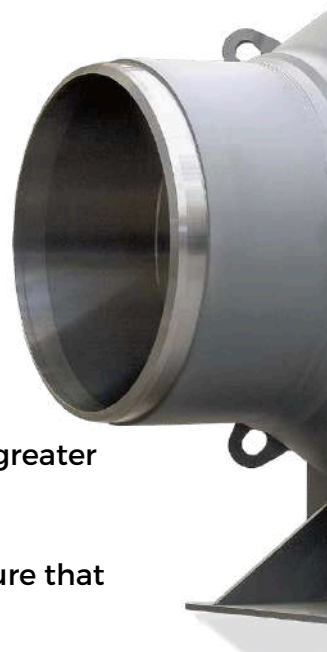
Caution: To prevent seat/seal damage during welding installation, do not allow the temperature of the valve body seat area to exceed 94° C. Use thermal chinks to monitor temperatures.

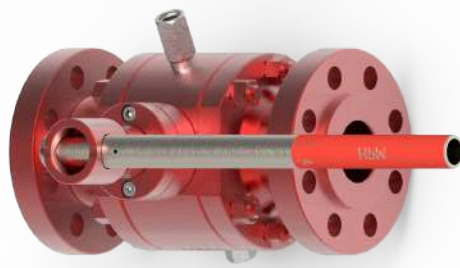


Note: Any damage to the seats due to temperatures greater than 94° C can cause leakage.

To prevent damage to sealing surfaces and seals, ensure that weld spatter does not fall on ball and/or body seals.

After proper alignment of the valve to the pipeline, complete the weld as necessary.





MAINTENANCE

Preventive maintenance is essential to ensure optimum valve performance.

Caution: Observe the Caution/Safety precautions before carrying out maintenance.



Guidelines for routine user maintenance are as follows.

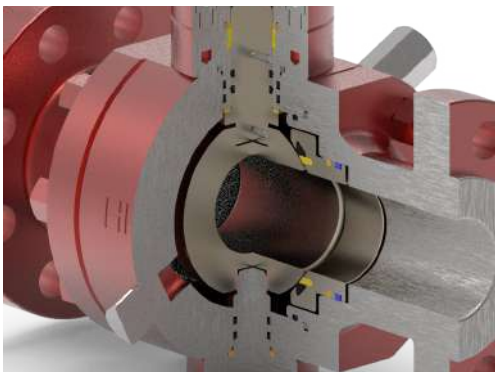
- Ensure that the performance of the valve is satisfactory.
- Ensure that no leakage is being observed from the valve.
- Frequent observation is recommended under extreme application/condition.
- To remove debris from the sealant system, periodically flush the sealant ports with an approved valve cleaning solution.
- Before and after pigging, it is recommended that an approved lubricant be injected to all seats to prevent debris build-up.



VALVE LUBRICATION

HPM Flow recommends **HPM Flow Valve Cleaning Oil** for flushing our valves. This will help to remove construction particles left from loose rust or welding procedures.

Note: Flushing is recommended after each instance of pigging.



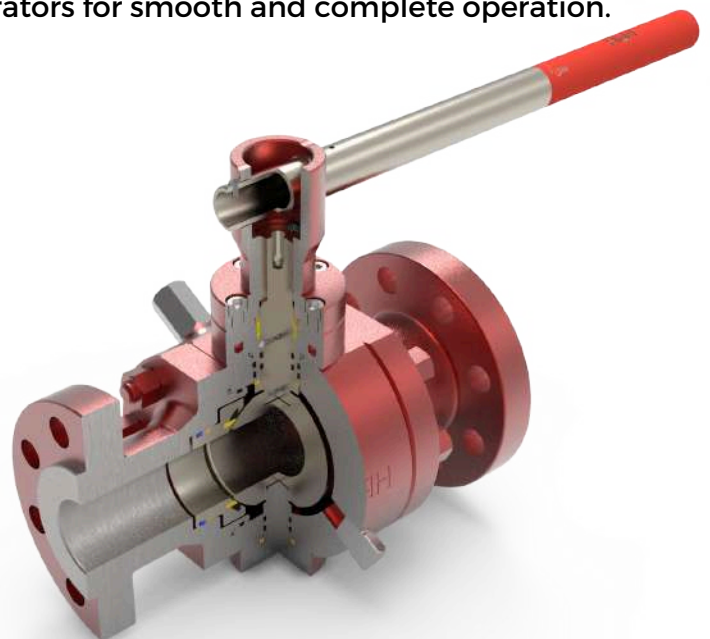
The following activities can be carried out during the routine maintenance of the valves.

- Operate the valve 3 times to ensure function of the valve,
- Check for any leak through the Stem seals and seat,
- Check Operators for smooth and complete operation.

To prevent rise in valve operating torque, lubricate stem, stem nut and thread, formed sheet metal of stem nut, and gearbox every at minimum of 6 months; makes sure cycle at least once for valve requiring.

Apply lubricant/grease on dry thread of stem and stem nuts.

Don't use such inflammables as lubricant when maintaining valves for oxygen service.



GET IN TOUCH



info@hpmflow.com



www.hpmflow.com



Kayapa Mah. Kadıpınarı Sk. No:27B
Nilüfer, Bursa, Türkiye

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