

Q11F 内螺纹两片式球阀

Q11F NPT Two-Piece Ball Valve

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开维喜阀门集团有限公司
Kaiweixi Valve Group Co., Ltd.

Q11F 内螺纹两片式球阀

型号: Q11F	规格: 1/4" -4"
公称压力: 1.0Mpa-4.0Mpa	适用介质: 水及类似于水的介质
适用温度: ≤180℃	阀体材质: 不锈钢
连接方式: 内螺纹	驱动方式: 手动、气动、电动
其他参数: 制造标准按 GB/T12237	

Q11F NPT Two-Piece Ball Valve

Model: Q11F	Specifications: 1/4" -4"
Nominal Pressure: 1.0Mpa-4Mpa	Applicable Media: Water and water-like media
Applicable Temperature: ≤180℃	Body Material: stainless steel
End Connection :NPT	Operation: Manual, pneumatic, electric
Other Parameters: Manufacturing standard according to GB/T12237.	

Q11F 内螺纹两片式球阀概述

Q11F 内螺纹两片式球阀是一种采用两片式分体结构、内螺纹连接的紧凑型球阀，阀体通常由黄铜或不锈钢制成。该阀门通过两个部分螺栓连接构成，便于拆装和维护，通过旋转阀杆带动球体实现 90 度快速启闭，阀座采用聚四氟乙烯（PTFE）等软质密封材料确保可靠密封。其结构简单、体积小、重量轻，适用于水、油、空气等非腐蚀性介质，工作压力通常为 PN16-PN40，广泛应用于仪器仪表、小型设备、气动管路及一般工业流体控制系统，是一种经济实用的基础截断阀门。

Q11F NPT Two-Piece Ball Valve Overview

The Q11F NPT Two-Piece Ball Valve is a compact ball valve featuring a two-piece split-body structure with internal thread connections. The valve body is typically made of brass or stainless steel. Constructed from two bolted-together sections, it allows for easy disassembly, maintenance, and inspection. The valve operates via a 90-degree rotation of the stem to quickly open or close the flow, while a soft sealing material such as PTFE (polytetrafluoroethylene) ensures reliable sealing. With its simple structure, small size, and light weight, it is suitable for non-corrosive media such as water, oil, and air, and typically operates at pressures ranging from PN16 to PN40. Widely used in instrumentation, small-scale equipment, pneumatic pipelines, and general industrial fluid control systems, it serves as an economical and practical fundamental shut-off valve.



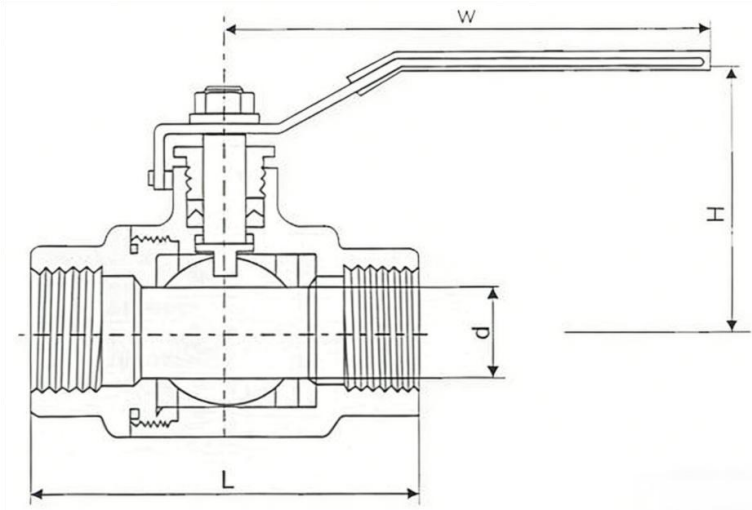
Q11F 内螺纹两片式球阀产品图
Q11F NPT Two-Piece Ball Valve Product Image

Q11F 内螺纹两片式球阀特点

1. 两片式分体结构：阀体由两部分螺栓连接而成，结构简单，拆装方便，便于内部清洗和零件更换。
2. 内螺纹连接紧凑：采用 G 或 NPT 内螺纹连接，安装空间要求低，密封可靠，适合小型或密集管路布置。
3. 优良密封与操作轻便：PTFE 阀座提供良好的密封性能，摩擦系数小，启闭扭矩低，操作手感顺畅。
4. 维护简便成本低：若阀座或密封件损坏，可通过拆卸两片式结构快速更换，维护成本低且无需特殊工具。
5. 经济实用适用范围广：黄铜或不锈钢材质耐腐蚀、寿命长，性价比高，是各类低压、小口径非腐蚀性介质管路的通用选择。

Q11F NPT Two-Piece Ball Valve Features

1. Two-Piece Split Structure – The valve body consists of two bolted-together parts, featuring a simple structure that allows easy disassembly, internal cleaning, and part replacement.
2. Compact Internal Thread Connection – Equipped with G or NPT internal threads, requiring minimal installation space, offering reliable sealing, and suitable for compact or dense piping arrangements.
3. Excellent Sealing and Ease of Operation – The PTFE seat ensures superior sealing performance, low friction coefficient, minimal opening/closing torque, and smooth hand-feel operation.
4. Low-Maintenance and Cost-Effective – If the seat or seals are damaged, quick replacement can be performed by disassembling the two-piece structure. Maintenance costs are low, and no special tools are required.
5. Economical and Widely Applicable – Brass or stainless steel construction provides corrosion resistance and long service life, offering high cost-performance. It is a versatile choice for various low-pressure, small-diameter pipelines carrying non-corrosive media.



Q11F 内螺纹两片式球阀结构图

Q11F NPT Two-Piece Ball Valve Structure Diagram

零部件名称材料表 Parts Name Material List

序号 NO.	名称 Name	材料 Material
1	阀体 body	不锈钢 stainless steel
2	球体 ball	不锈钢 stainless steel
3	密封垫 seal gasket	PTFE
4	填料 packing	弹性石墨 flexible graphite
5	阀杆 stem	不锈钢 stainless steel
6	阀座 seat	RPTFE

性能规范表 Performance Specification

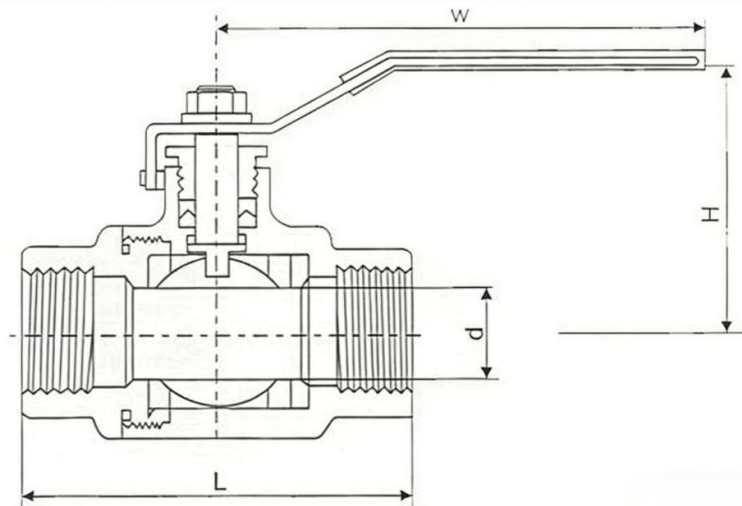
公称压力 Nominal Pressure	1-4	Mpa
强度试验压力 Shell Test	1.5-6	
密封试验压力 Seal Test	1.1-4.4	
适用温度 Suitable Temp.	350	℃

外形尺寸标准要求

- 1、阀门的结构长度按 GB/T12221 的标准
- 2、连接法兰按 JB/T7306 的标准

Dimensions Standard Requirements

1. The structural length of the valve shall conform to the standard GB/T12221.
2. The connecting flange shall conform to the standard JB/T7306.



Q11F 内螺纹两片式球阀外形图

Q11F NPT Two-Piece Ball Valve View Drawing

Q11F 内螺纹两片式球阀外形尺寸表

Q11F NPT Two-Piece Ball Valve Dimensions Table

NPS	DN	d	L	H	W
1/4"	6	10	53	42	95
3/8"	10	12	55	42	95
1/2"	15	15	56	51	108
3/4"	20	20	61	58	115
1"	25	25	71	77	135
1-1/4"	32	32	83	83	150
1-1/2"	40	38	94	97	175
2"	50	50	106	106	190
2-1/2"	65	65	139	122	220
3"	80	80	165	133	250
4"	100	100	208	162	320

Q11F 内螺纹两片式球阀安装、使用与维护说明

安装指南

1. 安装前准备：核对阀门型号、压力等级、螺纹标准及材质是否符合管路设计要求。清洁阀门内腔及管道端口，确保无任何杂质。
2. 螺纹连接操作：在管道外螺纹上顺时针缠绕适量聚四氟乙烯生料带或涂抹密封剂。手动将阀门旋入管道，对正螺纹后使用工具卡住阀体六角部位均匀紧固，避免损坏螺纹。
3. 两片式结构检查：安装时无需拆卸阀门的两片式连接螺栓。紧固管道螺纹时应确保阀门不受扭曲力，防止内部密封组件错位。
4. 安装方向与空间：阀门可安装于任意方向，但需确保手柄有充足旋转空间，并能清晰观察到开关位置。
5. 安装后测试：手动操作阀门全行程数次，检查启闭是否顺畅，并检查螺纹连接处有无渗漏。

使用操作

1. 启闭操作：通过手柄旋转 90 度实现启闭，手柄与管道轴线平行时为开启，垂直时为关闭。操作应平稳到位，勿强行超程旋转。
2. 状态确认：通过手柄位置可直观判断阀门开关状态。对于不易观察的位置，可在阀体或手柄上做标记。
3. 常规使用：本阀门主要用于管路截断或接通，不应用于流量调节。长期处于全开状态时，建议定期进行全行程开关操作，保持阀座弹性。
4. 带压操作注意事项：在系统带压状态下操作时，应缓慢均匀施力。若操作异常困难，应立即停止并检查原因。

维护保养

1. 定期检查：定期检查阀门螺纹连接处有无渗漏，阀体表面有无腐蚀或损伤。检查手柄是否牢固。
2. 内部维护：若需清洗或检查内部，可在系统泄压后，松开两片式阀体间的连接螺栓，将阀门从中间分开进行检查和维护。
3. 密封性能维护：若阀门关闭不严，可能是阀座密封面磨损或夹有杂质。可拆开阀门检查并清洗球体与阀座密封面，必要时更换阀座密封件。
4. 阀杆密封维护：若阀杆处出现轻微外漏，可尝试均匀拧紧阀杆压盖。若无效，需泄压后更换阀杆密封填料。
5. 拆卸与存放：需完全拆卸时，应先泄压。长期存放应使阀门处于全开或全关状态，保持端口清洁并加盖防尘。定期活动手柄以防卡滞。

Installation, Operation, and Maintenance Instructions for Q11F NPT Two-Piece Ball Valve

Installation Guide

1. Pre-Installation Preparation: Verify that the valve model, pressure rating, thread standard, and material meet the pipeline design requirements. Clean the valve cavity and pipeline ends to ensure no impurities remain.
2. Threaded Connection Procedure: Wrap an appropriate amount of PTFE thread seal tape or apply sealant clockwise on the external threads of the pipe. Manually screw the valve onto the pipe, align the threads, then use a tool to evenly tighten by securing the hexagonal part of the valve body. Avoid damaging the threads.
3. Inspection of Two-Piece Structure: Do not disassemble the two-piece connecting bolts of the valve during installation. Ensure the valve is not subjected to torsional force when tightening the pipeline threads to prevent misalignment of internal sealing components.
4. Installation Orientation and Space: The valve can be installed in any direction, but ensure the handle has sufficient rotation space and the open/closed position is clearly visible.
5. Post-Installation Testing: Manually operate the valve through its full travel several times to check for smooth opening and closing. Inspect threaded connections for leaks.

Operation

1. Opening and Closing Operation: Rotate the handle 90 degrees to open or close the valve. The valve is open when the handle is parallel to the pipeline axis and closed when perpendicular. Operate smoothly and avoid forcing the handle beyond its travel limit.
2. Status Confirmation: The handle position provides a clear indication of the valve's open/closed status. For locations with poor visibility, mark the valve body or handle.
3. Normal Use: This valve is primarily used for fully opening or closing the pipeline and is not intended for flow regulation. If the valve remains fully open for extended periods, periodically perform full travel open/close operations to maintain seat elasticity.
4. Precautions for Operation Under Pressure: When operating under system pressure, apply force slowly

and evenly. If abnormal resistance is encountered, stop immediately and investigate the cause.

Maintenance

1. Regular Inspection: Periodically check for leaks at threaded connections and inspect the valve body surface for corrosion or damage. Ensure the handle is secure.
2. Internal Maintenance: If cleaning or internal inspection is required, depressurize the system, loosen the connecting bolts between the two-piece valve body, and separate the valve for inspection and maintenance.
3. Sealing Performance Maintenance: If the valve does not close tightly, the seat sealing surface may be worn or contaminated with debris. Disassemble the valve, inspect and clean the sealing surfaces of the ball and seat, and replace the seat seal if necessary.
4. Stem Seal Maintenance: If minor external leakage occurs at the stem, try evenly tightening the stem gland. If ineffective, depressurize the valve and replace the stem packing.
5. Disassembly and Storage: Before complete disassembly, depressurize the system. For long-term storage, keep the valve fully open or fully closed. Ensure ports are clean and covered to prevent dust ingress. Periodically operate the handle to prevent seizing.

非常感谢您的阅读！

Thank you very much for reading!

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