



# Flanged Gate Valves

Installation, operation and maintenance

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## Introduction

This user manual is intended for ECI threaded gate valve models:

**G501, G503, G505, G507.**

For further information on classifications and standards please refer to the ECI technical catalogue.

## Use and Available Scope

ECI range of flanged Gate Valves are designed to be used as complete open and shut off valves. The Gate Valves are best used in infrequent valve operations and should always be in fully open or closed position. Throttling and partially opening the valves to regulate the flow will only cause damage to the disc as well as erosion.



## Medium

Please refer to the below table:

Model	Water	Oil	Non-hazardous gas	Air	Steam
G501	✓	✓			
G503	✓	✓			
G505	✓	✓			
G507	✓	✓			

ECI Cast Iron Flanged valves are best suited for wide range of applications such as air conditioning HVAC systems, building plumbing, water lines and some industrial plant systems.

## Operating pressure and temperature

Please refer to the below table:

Model	Pressure Rating BAR (Max)	Temperature Rating
G501	13.8	-29°C + 66°C
G503	13.8	-29°C + 66°C
G505	13.8	-29°C + 66°C
G507	13.8	-29°C + 66°C



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Note that at maximum temperature the pressure rating drops. Please see below table:

Model	Temperature	Pressure Rating BAR (Max)
G501	178°C	8,6
G503	178°C	8,6
G505	178°C	8,6
G507	178°C	8,6

### Transportation and Storage

Handle with care. Avoid handling the valve from its stem and handwheel (Fig 2). When lifting the valve use safety hooks and belts under the valve seat (Fig.1) For long term storage keep the valves covered and kept away from sunlight, preferably in a dark dry place.

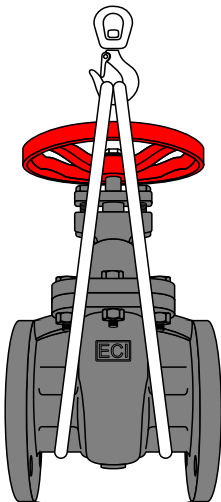


Fig. 1

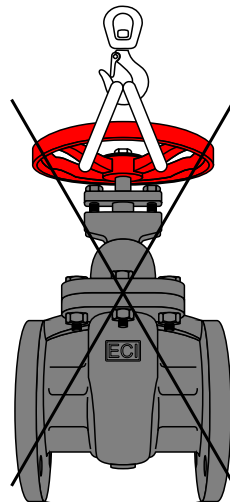


Fig. 2





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## Preparation Installation and Use

### Preparation:

- Inspect the valve and ensure it is suitable for pressure, temperature and medium conditions.
- Remove any caps, flange protectors or packaging material before use.
- Before installation, ensure that the piping system is flushed and all dust or foreign matters are removed and cleaned from the system, this will prevent operating failure and damage of the valves.
- Never subject the gate valves to careless handling, excessive force during installation for example force tightening the ports, allowing dirt to enter or not cleaning the gate valve and the system before installation. This will only lead to leakage or damage to both the system and valve operation.

### Installation:

- Flanged Gate Valves need the required materials such as flanges, flange gaskets, bolts, nuts, a wrench or a spanner, a pipe wrench and a pipe sealant to be fully operational.
- Determine the appropriate flange for the Gate Valve. Please refer to the technical catalogue for more information on flange type to match to the Gate Valve model. Ensure that the flange gaskets are free from defects and are appropriate for the operating conditions.
- Align the flange ends of the valve with the corresponding flanges on the pipeline. Care should be taken to ensure the correct alignment. Do not match flat faced flanges to raised face flanges. Use the appropriate flange gaskets to tighten the seal.
- Check the alignment and make any necessary adjustments.
- Secure the valve, insert the bolts through the flange holes from outside the valve and attach the nuts on the opposite side. Start tightening the nuts evenly in a crisscross pattern to ensure even pressure distribution. It is recommended to use a suitable lubricant on bolt threads. Do not over tighten the bolts as it will cause the flanges to damage and lead to a leak.
- Test the installation by opening and closing the valve a couple of times to ensure smooth movements and to check for any leaks. It is possible to perform a pressure test according to the system requirement to ensure that the valve can withstand the appropriate pressure.

### Use:

- The flanged Gate Valves are designed as On-Off valves. They are not designed to regulate, be partially opened or used for throttling. The valve is set into on or off position by rotating the handwheel in clockwise or anti clockwise motion. The indicators are mentioned in some labels of the valves. Never open the valve partially, it will accelerate the wear of the disc leading to damage.
- It is not recommended to use tools or wrench to open and close the valve as this will only put excessive torque that will damage the handwheel.
- Maximum pressure is applied when the valve is closed. Do not use any oil or grease in case of using EPDM as a sealing medium, as it will cause the EPDM to expand.



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### Maintenance:

The flanged Gate Valve is maintenance free but there are some steps to ensure long life operation:

- It is recommended to do an inspection and maintenance procedure on a quarterly basis (every 3 months). This will ensure a long life and leak free operation. It is also recommended for valves that have not been installed or stored.
- Make sure that the handwheel are re installed in their original position.
- During maintenance open and close the gate valve a few times to check on its operational function. Open or close the valve for a long period of time to check if they are in good working conditions, thus preventing the possibility of valve failure to open or close during an emergency.
- Always check for leaks. If the glands are leaking, tighten the gland using the appropriate tool, do not over tighten as it will only cause damage to the stem and packing of the gate valve.
- The gate valve gland might need some adjustment after installation, even periodically to maintain the seal with the stem.
- To tighten the gland, use an appropriate tool and tighten clockwise direction until there is increased resistance or in a leak situation the leakage stops.
- The gate valve should be at zero pressure and ambient pressure when inspecting or undergoing any maintenance.

### Important notes:

- All installation and assembly must be done by competent engineers on site. European Casting Industry Srl is not liable to any damage done to the valve in case of misuse and wrong assembly. If any doubts arise, please contact European Casting Industry Srl through email at [info@ecivalve.it](mailto:info@ecivalve.it) for further information, or contact the official distributor in the region where you are located in.
- The installation or operation manual can be updated periodically without prior notice. Please check the website or contact European Casting Industry Srl for any updates.