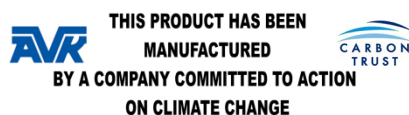


Bryan Donkin Valves Limited

Product Information and Operating Instructions for PUR Coated 555 & 555PE Wedge Gate Valves with Ductile Iron Body

AVKD IM6008 Rev C

Date. 30/08/2022



Product Information And Instructions For

**555/101-002, 555/201-002,
555/202-002, 555/301-002,
555/302-002 & 555/371-002,
555/305-002 & 555/375-002**

Ductile Iron Flanged & PE Ended PUR Coated Wedge Gate Valves

CE MARKING AND THE PRESSURE EQUIPMENT DIRECTIVE 2014/68/EU, UKCA MARKING AND THE PRESSURE EQUIPMENT REGULATIONS SI2016 No.1105 AS AMENDED BY SI2019 No.696

The regulations apply to all valves that are not designed specifically for pipelines. Valves with a maximum allowable pressure not exceeding 0.5 barg are outside the scope of the directive. Valves are categorised in relation to the intended fluid contents, the maximum working pressure and the nominal size. Fluids are classified as Group 1, dangerous substances, Group 2, all other fluids including steam. Categories are SEP (sound engineering practise) and for ascending levels of hazard, I, II, III or IV. Valves designated as SEP do not bear the CE or UKCA mark and do not require a Declaration of Conformity.

Valves classified as category I, II, III or IV carry the CE or UKCA mark, as applicable, and require a Declaration of Conformity (Note: all valves up to and including DN25(1" NB) having a maximum allowable pressure greater than 0.5 bar are designated SEP regardless of fluid group).

PRODUCT LIFE CYCLE

The life of the valve is dependent upon its installation and application. The valve should be protected from the adverse effects of mechanical shock, loading and excess weight and corrosion. This includes forces either applied to it or via the installation process or pipework that the valve is attached to; also consideration should be given to various loadings, which can occur at the same time. The valve on no account should be tampered with or modified in any way.

If for any reason work is to be carried out on the valve it is wholly the responsibility of the user to ensure the valve is depressurised and rendered safe prior to any fasteners/fixings being loosened.

To ensure correct installation of the valve it is essential that the personnel carrying out the installation have correct training and skills.

TYPE

Double faced, bi-directional, internal screw wedge gate valve with two independent resilient seats giving double block and bleed facility.

- Soft seal primary shut off
- Secondary metal to metal seating
- Plugged boss for double block and bleed facility
- Full clear bore suitable for under pressure drilling
- Polyurethane coated for corrosion resistant buried service

LIMITS OF USE

They are permitted for use with Group 1 hazardous gases. As standard they are suitable for the isolation of Natural Gas, Towns Gas, Hydrogen (555/305-002 and 555/375-002 only) and other non-aggressive gases and non-aromatic oils.

Prior to use on any other fluid the compatibility of the valve materials must be verified.

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The 50mm – 300mm valves are designed for 'end of line' service. They are not suitable for fatigue loading, creep conditions, wind and earthquake loading, fire testing, fire hazard environment, corrosive or erosive service, transporting fluids with abrasive solids.

The 400mm – 600mm valves are not designed for 'end of line service'. In the event of the valve being mounted at the end of the pipeline, we strongly advise the use of a blanking plate or plug.

It is the responsibility of the end user to ensure the integrity of the valve is not adversely affected by the surrounding environment. If there is any doubt the user must implement checks to monitor the product integrity.

The flanged valves referred to in this document have been categorised in accordance with the Pressure Equipment Directive and *Pressure Equipment (Safety) Regulations*.

Maximum Allowable Pressure PS (barg)	Nominal Size DN	Category
7	50 - 100	I
7	150 - 300	II
8	400	III
7	450 - 600	III

Categories I, II, and III require CE or UKCA mark.

NOTE: The PE ended valves must only be installed into compatible PE80 or PE100 polythene pipelines used for the conveyance of natural gas, hydrogen (555/375-002 only) or similar compatible media to or from an installation. This can include the last isolation device located within the confines of the installation.

On this basis the valve is excluded from the Pressure Equipment Directive (article 1, clause 3.1), *Pressure Equipment (Safety) Regulations (Schedule 1, clause 1a)*.

This exclusion does not apply to valves within pressure reduction or compression stations and as such these valves must not be used in such an application.

OPERATING PRESSURES AND TEMPERATURES

Size Range	50mm to 300mm Flanged
Maximum Working Pressure:	Standard PED applications 7 bar Option for non PED or PER applications only 10 bar (Note: In this instance they must also be fitted with a Ductile Iron bonnet)
Temperature Range:	-10°C to +60°C
Size Range	400mm Flanged
Maximum Working Pressure:	8 bar (116 psig)
Temperature Range:	-10°C to +60°C
Size Range	450mm and 600mm Flanged
Maximum Working Pressure:-	7 bar (101 psig)
Temperature Range:	-10°C to +60°C
PE Ended	
Maximum Working Pressure:	SDR 11 Pipe 'PE 100' (HPPE) - 7 bar (100 psig) SDR 11 Pipe 'PE 80' (MDPE) - 4 bar (60 psig) SDR 17 Pipe 'PE 100' (HPPE) - 4 bar (60 psig) SDR 17 Pipe 'PE 80' (MDPE) - 2 bar (30 psig) SDR 17 Peelable Pipe 'PE100' (HPPE) - 4 bar (60 psig)
Temperature Range:	-10°C to +40°C

PRESSURE/TEMPERATURE RATING

Valves must only be installed in a piping system whose pressure and temperature do not exceed the above ratings. If system testing will subject the valve to pressures in excess of the working pressure rating, this should be within the production test pressure for the valve.

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The maximum allowable pressure as specified is for non-shock conditions. Water hammer and impact for example, should be avoided. If the limits of use specified in these instructions are exceeded or if the valve is used on applications for which it was not designed, a potential hazard could result.

The valve should be handled and stored in such a way as to always protect the valve from becoming damaged both internally and externally, either mechanically or by chemical/substance corrosion and to ensure the protective coating supplied remains intact.

Rubber components in valves, or provided as spares, should not be exposed to heat or direct sunlight where this can be avoided, as this accelerates the ageing of the rubber.

Valves with polyethylene ends must not be stored in direct sunlight.

In the interests of safety, it is highly recommended that valves installed on end-of-line services should be fitted with a locking device on the operating mechanism or a blanking flange on the downstream flange of the valve to prevent unauthorised discharge to atmosphere.

When valves are provided with lifting lugs or eye nuts, these should be used to lift the valve. These lugs are designed to take the weight of the valve only and not any attached pipe work etc. Valves should not be lifted using the handwheel or stem. During lifting all applicable Health & Safety requirements should be observed.

Valve end protectors should only be permanently removed immediately before installation. The valve interior should be inspected through the end ports to determine whether it is clean and free from foreign matter.

The gasket should be suitable for operation conditions or maximum pressure/temperature ratings and should be checked to ensure freedom from defects or damage.

After venting the valve through the bleed plug, ensure the outer dust seal is correctly positioned prior to replacing the bleed plug. Lubricate the chamfer on the outside of the bleed plug prior to tightening to 60Nm.

CORROSION PROTECTION: The valve is corrosion protected for normal buried service. It is the users/installer's responsibility that flanged valves intended for underground usage or flanged valves to be installed in an area with risk of corrosion are to be provided with adequate corrosion protection on the connecting flanges, e.g. appropriately wrapped. The corrosion protection should be of a sufficient quality and execution to ensure protection of the valves and their components against the environment in which they are installed throughout their expected lifetime.

- Stainless Steel Spindle.
- Anti clockwise closure.
- Field applied coating repair kit.

If internal or external leakage is suspected, it is recommended that the Donkin Valve Division be contacted to suggest suitable remedial action.

1. Close Valve.
2. Vent body cavity by slackening pressure relief plug.
3. Remove thrust housing capscrews and thrust housing.
4. Remove 'O' ring seals from the grooves on spindle
5. Check condition of thrust collars located either side of spindle.
6. Replace 'O' ring seals in the grooves on the spindle taking care to avoid damaging them. Lightly grease seals with graphite grease. Replace the thrust housing carefully over the spindle and seals.

1. Turn the spindle anti-clockwise to the fully open position and lock using a torque of 100 Nm.
2. Remove the socket setscrew from the bonnet to free the gland housing.
3. Unscrew the gland housing from the bonnet.
4. Screw the gland housing complete with new seals and tighten to a torque of 50 Nm.
5. Secure the gland housing by re-fitting the socket setscrew.