**Tender Text AVK Gate Valve, 21/35-001**

**1. Range**

DN 80-300, PN 16

**2.  Product Description**

**General**

The valve shall be a resilient seat, flanged, wedge gate type, designed for installation in water supply systems to enable isolation of separate lines for maintenance or repair.

The fluid can be drinking water or other neutral liquids.

**Basic Design**

Face-to-face distance shall be according to EN 558, ser. 3 (BS 5163) and all dimensions shall be clearway and full bore. Bonnet, stem seal and gland shall be designed for ring key and bar operation (EN 1171 cat. 4, BS 5163 type B).

End connections shall be flanges drilled acc. to EN 1092.

**Coating**

Valve body and bonnet shall be both internally and externally corrosion protected with fusion bonded epoxy coating, blue RAL 5017, approved for drinking water, and complying with WIS 4-52-01/B.

No uncoated parts of the iron surfaces may be in contact with the fluid or the environment.

Surface preparation, coating material, application process and final result shall be quality checked and documented by the valve manufacturer and frequently supervised through notified body inspections.

**Body/Bonnet**

Valve body and bonnet shall be ductile iron GJS-500

Bonnet-body bolt holes shall be designed as threaded bottom holes.

Bonnet bolts shall be socket head, zinc-plated 8.8, counterbored into the bonnet casting, sealed with hot melt glue and with no contact to environment or fluid.

Bonnet-body gasket shall be EPDM rubber with a near circular cross shape, positioned in a groove in the bonnet and encircling the bonnet bolts completely.

The body shall have internal rails or grooves for wedge open/close travel guidance.

Internal body seats shall have plane surfaces in symmetric angles to position and support the wedge into closed position.

Body waterway shall be smooth and unobstructed with no closed internal pockets in the dome above the seating area.

Following information shall be cast into the body:

- Manufacturer's brand

- Size

- Pressure class

- Cast material

Following information shall be shown on the label

- Stem material

- Additional information for product standard

- Product number

- Barcode

- Fluid type

- Max. application temperature

- Operation mode, CTC or CTO

**Stem**

The stem shall be an NRS design, rotating in a wedge nut and fixed vertically in a thrust bearing.

Stem material shall be stainless steel with rolled transport thread, trapezoidal to DIN 103, 7H.

The stem shaft shall be fitted with a stem cap with insert, white for CTC or red for CTO

Thrust bearing shall be a collar made of dezincification resistant brass.

Radial bearing shall be a PA6 bushing surrounded by O-rings. The design shall allow for replacement of both bearing and O-rings while under system pressure.

The complete stem seal system shall consist of three parts:

- Outermost an NBR wiper ring shall seal against dust and dirt from outside

- In the middle the radial bearing’s two O-rings shall act as back up

- Innermost an O-ring shall be the main seal against the internal fluid pressure

**Wedge**

The wedge shall consist of an inner ductile iron core fully encapsulated in drinking water approved EPDM.

An inside cylindrical centre hole shall make room for the stem all the way down through the bottom and make sure that the fluid circulates inside the hole and does not accumulate in pockets.

The surface shall be smooth with no grooves, splits or pockets.

Except for the point of closure the only contact between wedge and body shall be via polyamide travel guides vulcanized into the wedge.

The wedge shall be marked with manufacturer's logo, time of manufacture and rubber material.

**Wedge nut**

The wedge nut shall be an integral part of the design, firmly fixed in the wedge core and with the joint between nut and wedge tightly sealed in the rubber encapsulation process.

Material shall be dezincification resistant brass, CW602N or CW626N.

**Installation**

The body shall be fitted with feet for upright standing, but the design shall allow for installation with the stem in both vertical and horizontal position.

Flow can vertical or horizontal and bi-directional.

For inspection purpose it shall be possible to remove the valve bonnet without having to remove the valve body from the pipe line.

**Operation**

Operation shall be manual. Operation direction clockwise to close (white cap ) or clockwise to open (red cap).

Maximum operating temperature shall be at least 70°C.

Apart from regular exercising no maintenance shall be required during the lifetime.

**Quality**

The valve shall be type approved to EN-Standards.

The manufacturer shall have an ISO 9000 certified quality system and be audited by an independent third party.

Each finished product shall be inspected and tested for compliance with the product standards and local market specification.

**3.  Standards and Approvals**

Design and testing shall be in accordance with following:

- EN 1074-1 and -2 (water supply, isolating valves)

- EN 1171 (industrial cast iron gate valves)

- EN 558 (face-to-face)

- EN 1092-2 (flange dimensions)

Materials shall be according to following:

- EN 1563 (cast iron)

- EN 10088 (stainless steel)

- EN 12164 (brass, rod)

- EN 12165 (brass, forged)

- GSK (coating)

- EN 681 (rubber seals)

- WIS 4-52-01/B (coating)

Approved for drinking water by WRAS.