**Tender Text, AVK 756/102-IS1**

**1. Range - size and pressure**

DN 700-2800, PN 10/16

**2.   Product description**

**General**

The valve shall be designed for installation in water supply systems for isolation of lines for maintenance or repair.

The fluid is a neutral liquid like drinking water or treated wastewater free of solids and fibrous impurities.

**Basic design**

The basic design shall be a double eccentric butterfly construction with flanged end connections and a resilient rubber seal. Face-to-face dimensions shall be according to EN 558 series 14 (DIN F4 - long).

**Coating**

Valve body and disc shall be both internally and externally corrosion protected with a 250 µm epoxy coating, blue RAL 5017, approved for drinking water, complying with DIN 3476 and GSK and for sizes up through DN 1600 applied in a GSK approved fusion bonding (FBE) process.

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 and disc**

The parts shall be cast in ductile iron, GJS-500-7. All surfaces shall be smooth with no grooves, splits or pockets.

Following markings shall be cast into the body:

 - Manufacturer's brand

 - Size

 - Pressure class for housing and flange layout

 - Body material

The label shall contain following information:

 - Pressure class for differential pressure if this is smaller than the housing and flange layout

 - Additional information for product standard

 - Product number

 - Barcode

 - Max. application temperature

 - Year of manufacture

Disc design shall be a flat plate installed in the valve housing in a double eccentric configuration.

**Main Sealing System**

The seal between disc and body shall consist of a resilient, replaceable, drinking water approved EPDM rubber ring around the perimeter of the disc pressing directly against the machined and coated valve body.

The rubber seal ring shall be held in position by a retainer ring in stainless steel.

**Shaft, Bearing and Shaft Seals**

Shaft material shall be stainless steel 1.4057.

Connection between shaft and disc shall be cross pins backed up by key-keyway and secured against blow-out.

Axial thrust bearing shall be a bronze disc against the steel end plate; it shall be adjustable and able to support the disc when installed in vertical position.

Radial bearings shall be steel bushings coated with a lead free, self-lubricating, PTFE/bronze composite sealed against the fluid by an O-ring.

Main shaft seal shall consist of a double O-ring, replaceable under pressure.

Internal bolts shall be grade A2.

**Installation**

The design shall allow for both horizontal and vertical flow direction and shaft orientation.

**Operation**

Operation shall be by external actuator via gearbox, clockwise to close.

Maximum operating temperature shall be at least 70°C.

Lifetime, when used under normal conditions, shall be according to EN 1074.

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

**Gearbox**

Body and base plate material shall be cast iron.

The enclosure shall be dust- and waterproof to temporary immersion IP67. An external indicator shall show the disc position.

**Quality**

Type approval shall be acc. to EN-Standards.

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

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

**3.   Standards and Approvals**

Design shall be created and tested in accordance with following:

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

- EN 593 (industrial butterfly valves)

- EN 558, DIN 3202 (face-to-face)

- EN 1092, DIN 2501 (flange drilling)

- EN 12266 (leak test in production)

- ISO 5210 (gearbox interface)

Materials shall be according to following:

- EN 1563 (cast iron)

- EN 10088 (stainless steel)

- EN 1982 (bronze)

- DIN 3476 (coating)

- GSK (coating)

- EN 681 (rubber seals, water)

The sealing materials shall be approved for drinking water by DVGW, WRAS, KIWA, ACS.

The complete valve shall be approved for drinking water by ACS, DVGW and WRAS (DN≤600), KIWA (DN≤800).