**Tender Text, AVK Check Valve 41/36-001**

**1. Range**

DN 350-600, PN 10-16

**2. Product Description**

**General**

The valve shall be designed for installation in water supply or drain systems to secure flow in one direction only.

The fluid can be drinking water, waste water or other neutral liquids.

**Basic design**

A valve disc hinged on a shaft shall turn to either open or closed position.

Housing design shall be acc. to EN 1074 with end connections as flanges drilled to EN 1092.

Housing and disc shall be free of flow obstruction or pockets.

The main seal shall be a bronze ring inlaid along the disc circumference and closing against another bronze ring inlaid into the housing valve seat.

**Coating**

Valve body and bonnet shall be both internally and externally corrosion protected with 250 µm, blue RAL 5017, fusion bonded epoxy approved for drinking water and complying with DIN 30677-2.

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 cast iron acc. to EN 1563 grade GJS-500-7 with an alu-bronze CC331G seat.

Face-to-face distance shall be according to EN 558 ser. 48.

Bonnet-body bolt holes shall be designed as threaded bottom holes, i.e. not going through the casting. Bolts shall be stainless steel grade A2.

Bonnet-body gasket shall be drinking water approved EPDM with a near circular cross shape, positioned in a groove in the bonnet and encircling the bonnet bolts completely to protect the bolts against the fluid and prevent gasket blow-out.

The body waterway shall be smooth and unobstructed with no closed internal pockets.

A set of bosses shall be cast adjacent to each flange to enable later installation of e.g. a pressure gauge or a by-pass valve.

Following information shall be cast into the body:

 - Manufacturer

 - DN-class

 - PN-class

 - Cast material

Following information shall be shown on the label

 - Additional information for product standard

 - Product number

 - Barcode

 - Fluid type

 - Max. application temperature

**Disc and rubber**

The valve disc shall, except for a bronze sealing suface, be completely enclosed in drinking water approved EPDM.

**Hinge**

The disc shall be mounted on a hinge made of ductile iron coated with drinking water approved epoxy. The connection shall be a loosely fitting polyamide bushing that makes the disc able to tilt slightly in all directions and adjust exactly to the valve seat.

**Shaft**

The shaft shall be made of 1.4021 (AISI 420) stainless steel.

The bearings shall be dezincification resistant brass bushings, CW602N, CW626N or equivalent.

The shaft shall protrude to the right for lever attachment. The shaft end shall be hexagonal to allow for 6 different positions of the lever.

A lever and a weight shall be fitted to assist in closing the valve as the direction of the flow changes.

The shaft seal in protruding side shall consist of at least two O-rings.

**Main Seal**

The main seal shall be a bronze ring inlaid along the disc circumference and closing against another bronze ring inlaid into the housing valve seat.

**Installation**

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

Flow can be horizontal or rising vertical.

Items weighing more than 15 kg shall be fitted with lifting ribs or lugs.

**Operation**

The valve shall operate automatically.

The attached weight shall reduce the risk of water hammer by applying a closing force to the shaft assisting the valve in closing before the flow changes direction.

Lifetime shall acc. to EN 1074.

Maximum operating temperature shall be at least 70°C.

The bonnet shall be easy to remove to gain access to the inner parts of the valve for cleaning or inspection.

**Quality**

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**

The design and testing shall be in accordance with following:

 - EN 1074 (water supply, check valves)

 - EN 558 (face-to-face)

 - EN 1092 (flange dimensions)

Materials shall be according to following:

 - EN 1563 (cast iron)

 - EN 10088 (stainless steel)

 - EN 12164 (brass)

 - BS 2874 (brass)

 - DIN 30677-2 (coating)

 - GSK (coating)

 - EN 681 (rubber seals water)

Resilient rubber shall be tested according to

 - ISO 37 (wedge rubber tensile characteristics)

 - DIN 53517 (wedge rubber compression set)

The complete product shall be approved for drinking water by WRAS.

The complete product shall have an Attestation Conformité Sanitaire (ACS).

**4. Accessories**

Following accessories shall be available:

 - position switch

 - combi flanges

 - by-pass

**Short Tender Text, AVK 41/36-001**

Range DN 350-600, PN 10-16

Design shall be a flanged swing check valve with ductile cast iron housing/bonnet and metal-to-metal main seal, coated with 250 µm, blue RAL 5017, fusion bonded epoxy

Housing design shall be acc. to EN 1074 with end connections as flanges drilled to EN 1092.

Valve disc shall be completely enclosed in drinking water approved EPDM except for a bronze sealing surface.

The disc shall be able to tilt slightly in all directions and adjust exactly to the valve seat.

Shaft in 1.4021 (AISI 420) stainless steel with bearings in dezincification resistant brass bushings, CW602N, CW626N or equivalent.

The shaft shall protrude to the right for lever attachment. The shaft end shall be hexagonal to allow for 6 different positions of the lever.

A lever and a weight shall be fitted to assist in closing the valve as the direction of the flow changes.

The shaft seal in protruding side shall consist of at least two O-rings.

Main seal shall be a bronze ring inlaid along the disc circumference and closing against another bronze ring inlaid into the housing valve seat.

Maximum operating temperature shall be at least 70°C.

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

Design, materials and testing according to:

 - EN 1074 (water supply, check valves)

 - EN 558 (face-to-face)

 - EN 1092 (flange dimensions)

 - EN 1563 (cast iron)

 - EN 10088 (stainless steel)

 - EN 12164 (brass)

 - BS 2874 (brass)

 - DIN 30677-2 (coating)

 - GSK (coating)

The complete product shall be approved for drinking water by WRAS.

The complete product shall have an Attestation Conformité Sanitaire (ACS).