

## CHECK VALVES

## BAYARD RANGE

## SWING CHECK VALVE

A Check Valve is designed to protect your pumps and network against flow inversion. TALIS provides a wide range of check valves to meet the many factors that determine the choice of a design.

These selection factors can lead you to choose the oldest and most common type: the swing check valve. For drinking or filtered water, TALIS Swing Check Valves are designed to provide a reliable, easy and long-lasting solution.



## MARKETS



Water treatment



Water transmission



Water distribution network



Irrigation

## TECHNICAL DATA

**Nominal Diameter (DN):** 50 up to 400

**Pressures for DN50 to DN300:**

Working: 16 bar

Test: 24 bar

**Pressures for DN350 and DN400:**

Working: 10 bar

Test: 15 bar

**Flanges drilling** according to standard EN 1092-2 and ISO 7005-2: ISO PN10 or 16 for DN50 to DN300, ISO PN10 for DN350 and DN400

**Face to face dimensions:** according to standards EN 558-1 series 48 and ISO 5752 series 48

**Medium Temperature:** up to 60°C

**Maximum speed:** 5m/s for DN50 to DN300 (working pressure 16 bar), 3m/s for DN350 and DN400 (working pressure 10 bar)

**Seating:** class A according to standard EN 12666-1

## ADVANTAGES

## RELIABLE WATER TIGHTNESS

Spherical trunnion to provide a self-centring effect of the valve disc in the body seat.

## ROBUST DESIGN

Corrosion-proof internal components for a long lifetime.

Lubricated bearings for guiding of the turning shaft and low friction.

## EASY MAINTENANCE

Complete dismantling of the bonnet and closing sub-assembly due to the shaft located in the bonnet.

## CHARACTERISTICS

└ **Low head loss and opening on low differential of pressure** – Provided by an efficient design. The body and bonnet contribute to a 93% free passage of the fluid. The internal sub-assembly is also optimized to achieve a prompt reaction of the check valve opening. Finally lubricated bearings in copper alloy bring, at the same time, a perfect guidance of the turning shaft and a low coefficient of friction.

└ **Stainless steel internal parts** (shaft, seat, clapper arm and flap) ensure a long service life and lower operational costs. In addition the clapper arm is equipped with damping buffers in rubber to limit the noise and impacts while full opening.

└ **Removable bonnet and internal parts** for easy maintenance, without removing the check valve from the pipe. The bonnet holding the complete internal sub-assembly can be dismantled from the body for direct and simple access to various components (Except for DN350 and DN400).

└ **With or without counter-weight** – For DN50 to DN300. Only with counter-weight for DN350 and DN400. Counter-weight is on left bank in standard configuration.

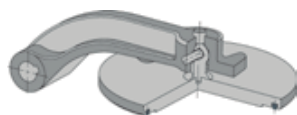
└ **Horizontal or upward vertical** installation are possible.

#### APPROVALS

Made from KTW-W270 approved materials  
French ACS approval



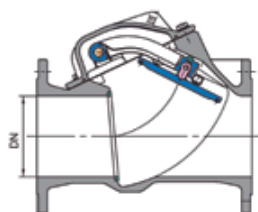
SWING CHECK VALVE  
WITHOUT COUNTER WEIGHT



#### PERFECT SELF-CENTRING

The ball-shaped trunnions enable self-centring of the valve disc in the housing seat, which results in a permanently adaptable seal.

This ensures a precise and fault-free operation of the non-return valve, even in case of low back pressure.



#### IDEAL OPENING ANGLE

The 93° opening value guarantees an extremely low zeta value (coefficient of resistance), a head loss of less than eight mbar in the fully opened position and therefore enables economic operation of the valve.



SWING CHECK VALVE WITH  
COUNTERWEIGHT AND  
PROTECTIVE GUARD

#### OPTIONS

- └ **Protective guard** for weight-loaded lever, in order to avoid accidents caused by the weight-loaded lever travel: in plastic for DN50 to DN300, in aluminium for DN350 and DN400.
- └ **Protective guard** also available on request in stainless steel 316L for DN50 to DN300.
- └ **Weight-loaded** lever on right side.
- └ **Shaft protruding** on both sides, with or without lever and weight.
- └ **Limit switch.**
- └ **By-pass** from DN80 to DN300.
- └ **Viton Gasket**
- └ **Internal parts in stainless steel 316**
- └ **2 levers and counterweights**

## CHECK VALVES

## ERHARD RANGE

## ERK TILTING DISC CHECK VALVE

*A Check Valve is designed to protect your pumps and network against flow inversion.*

TALIS provides a wide range of check valves to meet the many factors that determine the choice of a design.

The ERK tilting disc check valve is the result of more than 50 years of experience in building and use of tilting-disc check valves.



## MARKETS



Water treatment



Water transmission



Dams and hydro power



Irrigation

## TECHNICAL DATA

**Nominal Diameter (DN):**

150 up to 1400

**Nominal Pressure (PN):**

DN200 up to DN1400: PN10  
Or DN150 up to DN1200: PN16  
Or DN150 up to DN1200: PN25  
Or DN150 up to DN700: PN40

**Flanges drilling** according to standard EN 1092-2 and ISO 7005-2, as per Working Pressures

**Face to face dimensions:** according to standards EN 558-1 series 14 (except DN1100) and ISO 5752 series 14 (except DN1100)

**Medium Temperature:** 20°C up to +60°C

**Maximum speed:** 5 m/s for DN50 to DN300 (working pressure 16 bar), 3m/s for DN350 and DN400 (working pressure 10 bar)

**Seating:** rate 1 according to standard DIN 3230-BN

## APPROVALS

Made from KTW-W270 approved materials  
Made from WRAS approved materials

## ADVANTAGES

### DESIGN

The design of the valve disc and its supports create a double-offset free-swinging disc to ensure a low operating torque and a low wear of the disc seal.

### CONSTRUCTION

The choice of highly resistant materials ensures a longer service life to the critical parts of the ERK check valve.

### SOLUTION

The ERK check valve is developed to suit customer's individual needs and constraints, thanks to specific adaptations and options.

## CHARACTERISTICS

└ **Low head loss** is ensured by the double-offset free-swinging disc, key component of the ERK. The disc is freely oscillating and has a flow-facilitating design with its double eccentricity supports.

└ **Maximum crossing section** reached by a two-part shaft.

└ **Maintenance-free valve** – Thanks to the construction of the shafts, self-lubricating friction bearings and maintenance-free seals from the shaft.

└ **Perfect sealing** – Provided by a rolled up, solid body seat ring made of stainless steel, and a disc seat ring which is additionally provided with a resilient precision seal.

└ **Low operating torque** – Thanks to the double eccentric design, ensuring also a low wear and tear of the disc seal.

└ **Protection against corrosion** – Brought by the choice of stainless steel for the shafts, the body seat and the disc seat.

└ **Shafts protruding on both sides** to facilitate individual mounting of the weight-loaded lever.



- └ Double eccentric design is an advantage for:
- Low operating torque.
  - No premature wear of the disc and gasket.

- └ Free-swinging disc means that the disc will place itself in an optimum position driven by the flow passing through the valve during operation. The spontaneous position of the disc will be where the effort is the lowest, thus ensuring low head loss.



## OPTIONS

- └ Protective guard in case of accident prevention is needed.
- └ Seal in NBR in standard, in EPDM or Viton on request.

The ERK tilting-disc check valve can be supplied with a special hydraulic damping device. This variant is particularly useful in the following cases :

- If reverse flow is permitted and the ERK has to close in a retarded way, which can be set at an exact closing time. Result is a soft closing and minimizing of water hammer phenomena.
- If effective non-slam performance is required, the damping device will avoid chattering of the disc over the whole travel. This will minimize possible disc slam and ensure a safer operation.

The damping device will control the opening and closing response times and behaviour. It can be precisely adjusted for a calculated reaction.

In case of high pressure, this device can be installed on both sides of the ERK.

## CHECK VALVES

**ERHARD** RANGE

### EDRV NOZZLE CHECK VALVE

*A Check Valve is designed to protect your pumps and network against flow inversion.*

*TALIS provides a wide range of check valves to meet the many factors that determine the choice of a design.*

The nozzle check valve is considered as a non-slam type, mainly thanks to its central-guided spring-loaded disc design.

TALIS EDRV nozzle valve is one of the most efficient check valves for drinking and untreated water.

A long development in collaboration with University specialists has led to its particular shape and design, providing excellent hydraulic performance.



#### MARKETS



Water treatment



Water transmission



Water distribution network



Dams and hydro power



Irrigation



Industrial water applications

#### TECHNICAL DATA

**Nominal Diameter (DN):** 80 up to 600

**Nominal Pressure (PN):**

DN80 up to DN300: PN10, PN16, PN25, PN40

DN350 up to DN600: PN10, PN16

**Flanges drilling** according to standard EN 1092-2 and ISO 7005-2, as per Working Pressures

**Face to face dimensions:** according to standards EN 558 series 14

**Medium Temperature:** 20°C up to +60°C

**Full opening** at a flow velocity of approx. 2m/s

#### APPROVALS

Made from KTW-W270 approved materials

Made from WRAS approved materials

#### ADVANTAGES

##### ECONOMY

The design of the EDRV check valve provides the lowest waste of pumping energy thanks to a particularly low head loss and a quick opening.

##### HYDRAULIC CHARACTERISTICS

Due to its special design, the EDRV check valve ensures a quick and smooth closing, thus minimizing the pressure surges and avoiding economical damages.

##### RELIABILITY

The choice of highly resistant materials and coating guarantees a long operation life to the EDRV check valve.

#### CHARACTERISTICS

└ **Optimized flow cross-sectional area** and internal moving sub-assembly are designed for the minimum flow resistance. The special shape and length of both external and internal bodies from the EDRV allow the best Venturi effect. This leads to a very low head loss coefficient, and therefore to economical operation, especially in pumping stations.

└ **Valve disc, spring and closing travel** have been engineered to ensure a quick and smooth closing. Reflux velocity will be minimized even in highest flow delays (e.g. vertical pipeline). This leads to a reduced water hammer phenomena.

└ **One of the most reliable check valves** – The EDRV accepts a wide

variety of flow-range, offers non-slam characteristics due to its axial and spring design and is very stable in its operation, requiring basically no maintenance. Reliability is essential to avoid system shut-down and financial damage.

└ **Protection against corrosion** – Ensured by a high-grade surface protection (inside vitreous enamel) and an internal body and valve disc in zinc-free bronze with rubber coating for the disc.

└ **Wide range of operating conditions** – Adaptable to any installation position (vertical/horizontal) and to plant conditions, spring force may be adapted to the various cases of application, high flow velocities and pressure ratings.

The design has been optimized to provide the best hydraulic performances regardless of diameter.



**From DN80 up to DN300**, one valve disc connected to an axis slides to open or close the EDRV.



**From DN350 to DN600**, a four valve discs design ensures the non-return function for a short response time. Dividing the obturator into four pieces allows each part to be lighter than one large valve disc, thus ensuring a faster reaction.



#### OPTIONAL POSITION INDICATOR

Two variants are available according to the plant needs and configuration:

- └ Visual indicator and open-closed limit switches.
- └ Visual indicator equipped with position sensor.

#### TYPICAL EXAMPLES OF INSTALLATION

- └ Non-return valve in pumping stations, with single or parallel pump operation.
- └ Non-return valve in cooling-water circuits.
- └ Foot valve in pumping stations.
- └ Non-return valve for energy storage or network systems (e.g. delivery reservoirs, pipe networks, elevated tanks, headwater basins).

## CHECK VALVES

## BELGICAST RANGE

### DUAL PLATE CHECK VALVES

*A Check Valve is designed to protect your pumps and network against flow inversion. TALIS provides a wide range of check valves to meet the many factors that determine the choice of a design.*

The dual plate check valve is one of the most compact check valves. When fluid enters the valve, the pressure causes the doors to open, stretching the spring. When the flow stops, the spring returns to its compressed state, making the plates return to the closed position, ensuring a quick closing. TALIS Dual Plate check valves offer a wide range of possibilities according to your applications and network operating conditions. Maximum working temperatures depend on materials selection.



### MODEL B

- └ Face to face dimension according to API-594.
- └ DN50 up to DN1000.
- └ Installation between flanges PN10, PN16, PN25, PN40 or ANSI-150, ANSI-300, ANSI-600, ANSI-900 and ANSI-1500.
- └ Maximum working pressure 100 bar depending on selected material.
- └ Versions in cast iron and welded steel protected by epoxy powder coating.
- └ Minimum back pressure to ensure water tightness 0.5 bar.
- └ Wafer version in standard, flanged upon request.



### MATERIALS

**Body:** ASTM A216 Gr WCB, CF-8M  
**Plates:** ASTM A216 Gr WCB, CF-8M  
**Shafts:** AISI-304, AISI-316, Monel 400  
**Springs:** AISI-302, AISI-316, Inconel 750X  
**Liner:** EPDM, BUNA-N, Heat EPDM, Viton

For **special applications** such as desalination plants, TALIS provides a Dual Plate check valve Model B with extremely resistant material [Body and plates in Duplex DIN 14469 A890 5A, shaft in 254 SMO, springs in Inconel 625 and Liner in EPDM].



## MODEL C

- └ Short face to face dimension according to ISO 5752, series 16 and DIN3202 K3.
- └ DN40 up to DN1200.
- └ Installation between flanges PN10, PN16, PN25, PN40 or ANSI-150.
- └ Maximum working pressure 40 bar depending on selected materials. For higher pressure, model B has to be considered.
- └ Versions in cast iron and welded steel protected by epoxy powder coating.
- └ Minimum back pressure to ensure water tightness 0.5 bar.
- └ Wafer version in standard, flanged upon request.



### MATERIALS

**Body:** ductile iron GGG-40, WCB, AISI-316

**Plates:** ductile iron GGG-40, WCB, AISI-316, Aluminium-Bronze

**Shafts:** AISI-304, AISI-316, Monel 400

**Springs:** AISI-302, AISI-316, Inconel 750X

**Liner:** EPDM, BUNA-N, Heat EPDM, Viton

## MODEL EMG

- └ Short face to face dimension according to DIN3202 K3.
- └ DN40 up to DN300.
- └ Centring lugs for installation between flanges PN6, PN10, PN16, ANSI-150, BS Table E/D, JIS 5K/10K.
- └ Maximum working pressure 16 bar.
- └ Minimum back pressure to ensure water tightness 0.5 bar.
- └ Internal fully lined body with NBR or EPDM, no flange gasket required.
- └ Cassette type internal parts, allowing easy replacement (plates, shaft and springs). No external holes or plugs in the body.
- └ Protected with blue epoxy powder coating.



### MATERIALS

**Body:** DN40-65 in GGG-40, DN80-300 in GG-25

**Plates:** AISI-316 (Aluminum-bronze for special applications)

**Shafts:** AISI-304 (Monel 400 for special applications)

**Springs:** AISI-302 (Inconel 750X for special applications)

**Seat:** EPDM, BUNA-N

## CHECK VALVES

## BELGICAST RANGE

### IPROCHECK AXIAL CHECK VALVE

*Axial check valves are an economic and commonly used solution to protect pumps against flow inversion. The axial check valve is a central-guided spring-loaded disc design.*

TALIS provides a range of efficient, easy and attractive axial and foot check valves suitable for drinking or filtered water.

The choice of robust and anti-corrosion materials together with the design of the IPROCHECK ensure a long-lasting and maintenance-free product.



#### MARKETS



Water treatment



Water transmission



Water distribution network



Irrigation

#### TECHNICAL DATA

**Flanged type:** DN40 up to 250

**Working pressure:** 16 bar

**Test pressure:** 24 bar

**Flanges drilling** according to standard EN 1092-2 and ISO 7005-2: ISO PN10 and 16 up to DN150 included, ISO PN10 or ISO PN16 for DN200 and DN250

**Medium Temperature** -10°C up to +80°C

**Sealing:** class A according to standard ISO 5208. Tightness weir: from minimum differential pressure of 3 mWC

#### APPROVALS

ACS French approval

Made from WRAS approved materials

#### ADVANTAGES

##### CLOSING TIME

Closing is anticipated to limit water hammer phenomena.

##### WATER TIGHTNESS

Flat gasket incorporated to ensure the sealing.

##### FOOT VALVE VERSION

Addition of an anti-corrosion stainless steel strainer.

#### CHARACTERISTICS

└ **Anticipated closing** thanks to the spring action minimize the intensity of the check valve shock.

└ **Hydraulically profiled disc** to optimize the passing of the flow and ensure a low head loss.

└ **Sealing, even with low pressure** – Provided by a flat gasket incorporated into the disc.

└ **Stainless steel strainer** – Connected to the axial check valve for Foot version.

└ **Practical cable-pass** for pump cable.

└ **Different installations** – horizontal flow or vertical flow upwards.

