MINIATURE CHECK VALVES FOR GENERAL APPLICATIONS

# TVR300 of stainless steel

for use with liquid and gaseous media

## Features & benefits

- Stainless steel
- High leak tightness
- Valve seals are protected from media flow
- Wear and corrosion resistant
- Low-noise opening and closing
- Low cracking pressure
- Max. operating pressure up to 100 bar

# » Product family **TVR300**

## Description

The WEH® TVR300 Miniature check valves made of stainless steel are ideal for applications with liquid and gaseous media up to max. 100 bar.  The possible applications are just as varied as the design and the materials used.
The check valves are available with female thread on both sides and a nominal bore of up to 4 mm.

Due to the high quality materials they are extremely wear-resistant, corrosion-resistant and durable. The miniature check valves, which are very silent in use even under high flow rates, are characterized in particular by their very low cracking pressure and their optimum tightness.

The WEH® TVR300 are equipped with a ball seal. The internal seals are arranged so that they are protected from the media flow. This prevents damage to the seals from any dirt particles on the sealing components within the unit.

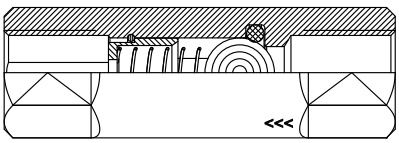
WEH® TVR300 Check valves are equipped with a FKM seal as standard. Other sealing materials are available on request.
It is the customer‘s responsibility to clarify the media compatibility.

## Intended use

The WEH® TVR300 Miniature check valves were only developed for reliable return flow prevention in a gaseous or liquid media flow. They are not designed to be used as filling or safety valves. The separation or shut off between different media or a medium and vacuum also does not represent a fundamental intended use.
If you have such an application or a similar application, please contact us!

The WEH® TVR300 Miniature check valves are used in mechanical and plant engineering, chemical / pharmaceutical industry, conveyor technology, food industry, medical technology, etc.

## Sealing concept




Ball seal construction

## Flow values

In the table below you will find the flow rates of the various nominal bores of our WEH® TVR300 Stainless steel check valves.

| Nominal bore (DN) | Kv (Cv) value | Nominal bore (DN) | Kv (Cv) value |
|---|---|---|---|
| 3 mm | 0.17 (0.19) | 4 mm | 0.2 (0.2) |

The flow curves were determined on the basis of the DIN/EN 60534-2 standard and refer to a cavitation-free flow (water).
System-sided constrictions at the inlet and outlet can reduce the flow rate.

# » Product family **TVR300**

## Overview product series

| Product series | Pressure range | Housing material | Connection types | Page |
|---|---|---|---|---|
| TVR300-S1 | 0 - 100 bar | Stainless steel | Female thread | 48 |

## Overview product series & connection configurations

| Product series | Media inlet B1 | Media outlet B2 | Page |
|---|---|---|---|
| TVR300-S1-A02 | Female thread | Female thread | 49 |

# » Product series **TVR300-S1** | 0 up to 100 bar

## Technical data

The following illustrations are examples of WEH® Check valves of the TVR300 product family.

TVR300-S1-A02

| Characteristics | Preferred variant space | Extended variant space |
|---|---|---|
| Product series | TVR300-S1 | TVR300-S1 |
| Connection configuration | A02 | A02 |
| **Connection sizes for media inlet B1 / media outlet B2** | **G1/8“, G1/4“** | **G1/8“, G1/4“** |
| Nominal bore (DN) | Acc. to design | Acc. to design |
| Max. allowable operating pressure PS | 100 bar | 100 bar |
| **Cracking pressure PC*** | **Acc. to design** | **Other cracking pressures on request** |
| Temperature range | -40 °C up to +200 °C | Depending on sealing material |
| Leak rate | 1 x $10^{-4}$ mbar x l/s | 1 x $10^{-4}$ mbar x l/s |
| Housing material | Stainless steel | Stainless steel |
| Spring material | Stainless steel | Stainless steel |
| **Sealing material DW** | **FKM** | • **FKM**<br>• **EPDM** |
| Lubricant | Krytox® GPL 202 | Krytox® GPL 202 |
| Sealing concept | Ball sealing | Ball sealing |
| Flow direction | B1 ➞ B2 | B1 ➞ B2 |

* Please note that the cracking pressures may differ due to tolerances. The cracking pressure basically applies to the horizontal mounting of the check valve. For other mounting directions, the values can differ.

Other designs on request

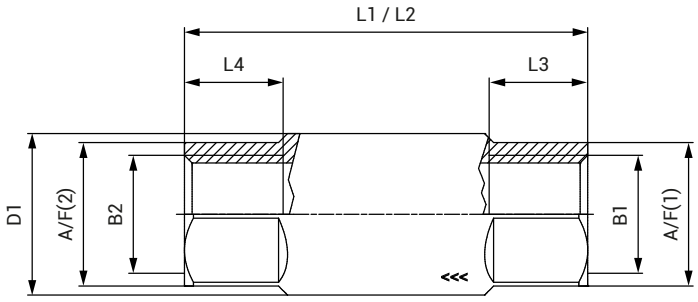
### Possible connection configurations

In addition to the table of technical characteristics (see above), the following possible connection configurations of WEH® Check valves of the TVR300 product family are listed. The connection configuration is part of the product series.

| Connection configuration | Media inlet B1 | Media outlet B2 |
|---|---|---|
| A02 | Female thread | Female thread |

## Ordering | TVR300-S1-A02 - female thread on both sides

Inlet B1: female thread / outlet B2: female thread


approx. dimensions (mm)

### B1 / B2: Whitworth tube thread acc. to DIN EN ISO 228-1

*Connection size: media inlet B1 = media outlet B2*

*Check valves of the preferred variant space:*

| Part No. | B1 | B2 | DN | PC (bar) | DW | L1 / L2 | L3 / L4 | D1 | A/F(1) / A/F(2) | AVL* |
|---|---|---|---|---|---|---|---|---|---|---|
| **C1-170235** | G1/8" | G1/8" | 3 | 0.2 | FKM | 45 | 10.5 | 15 | 13 | RM |
| **C1-170240** | G1/4" | G1/4" | 4 | 0.1 | FKM | 45 | 11 | 15 | 13 | RM |

* AVL: availability see page 12

*Connection size: media inlet B1 = media outlet B2 resp.*
*media inlet B1 ≠ media outlet B2*

*Configurable check valves of the extended variant space:*

*Below you will find possible examples of TVR300 check valves in the extended variant space. This offers further configuration options (connection configuration, connection size, cracking pressure, sealing material) beyond the preferred variant space.*

| Part No. | B1 | B2 | DN | PC (bar) | DW | L1 | L2 | L3 | L4 | D1 | A/F(1) | A/F(2) | AVL* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **On request** | G1/8" | G1/8" | 3 | 0.1 | EPDM | On request | | | | | | | AH |
| **On request** | G1/4" | G1/4" | 4 | 0.2 | EPDM | On request | | | | | | | AH |
| **On request** | G1/8" | G1/4" | 3 | 1.0 | FKM | On request | | | | | | | AH |
| **On request** | G1/4" | G1/8" | 3 | 0.2 | EPDM | On request | | | | | | | AH |

* AVL: availability see page 12

Further designs that do not correspond to the extended variant space can be requested individually.
Please refer to *chapter 1.9 Information on your request*.
Please note that the availability for individual, customer-specific check valves may vary.