Plate check valves
Non-slam protection for pulsating gas flows
The fastest, most precise design in the industry

**HOERBIGER** plate check valves are time-tested for reliability, low pressure drop, and non-slam operation even in pulsating flows.

Whether they operate once a year or once a millisecond, HOERBIGER plate check valves are reliable. Their simple construction means no spindles or hinges to stick in the open position, and virtually no wear. They are designed for more than one billion operating cycles.

With their rapid response and non-slam operation, HOERBIGER plate check valves are especially suitable for protecting reciprocating compressors and other applications involving pulsating flows.

Such conditions are especially challenging for other check valve designs. The HOERBIGER plate check valves feature low moving mass, for rapid response, and excellent damping, for non-slam operation. Therefore it is the only reliable and perfect protection in such pulsating environment.

Check valves prevent equipment damage and safety risks caused by reverse flow. They must be robust and reliable, and close quickly yet gently, to avoid harmful pressure peaks. Under demanding process conditions, not every check valve design can meet all these requirements.

HOERBIGER plate check valves are based on reciprocating compressor valves, which the company has been making since 1895. The check valves themselves have been industry-proven since 1950.

**Pulsation at check valves**

- **with check valve**
- **without check valve**
- **zero flow**

Pulsation at check valves graph:
- Dynamic flow [kg/s]
- Crank angle [deg]
- 0 90 180 270 360
- 0 5 10
- -5 -10
Customized to your application

As well as a choice of two housing designs, HOERBIGER plate check valves are customized to suit the precise dynamics of your process.

Most standard check valve designs are only optimized for given pipe diameters. HOERBIGER plate check valves, on the other hand, are custom solutions that are individually matched to every application. Especially in pulsating flows, that means better protection and higher reliability.

These versatile check valves can be mounted in any orientation and position, including directly downstream of a pipe elbow – an option not available with other check valves.

HOERBIGER check valves come in two housing configurations, with identical mechanisms and flange types. Both meet international standards for face-to-face dimensions or specific customer requirements.

The bell-type housing offers the lowest pressure drop and enhanced fire safety. HOERBIGER check valves protect against reverse gas flows in any industrial application, whether routine or demanding. When used with compressors, they are proven in:
- Refineries
- Petrochemical industry
- Chemical industry
- Natural gas industry
- Industrial air systems
- PET production
- Fertilizer plants.

The wafer-type housing is more compact and is ideal for most applications.
The advantages of HOERBIGER check valves at a glance

“In general a compressor type check valve, such as the HOERBIGER design, is a good choice for use in gas service. Pulsating-flow design check valves should be used after reciprocating compressors where the flow can cause the valve to open and close with each pulsation.”

Mr. R.W. Zappe, Valve Selection Handbook, 3rd edition, Gulf Publishing Company

- Designed for more than one billion operating cycles
- Flexibility in installation, including directly downstream of pipe elbows
- Fastest and most precise design in the industry
- 5 to 10 times lower moving masses and lifts than used in other check valve
- Low noise emissions during operation
- Customized for a perfect fit to your particular operating conditions
- Non-slamming design prevents pressure shocks

### Technical data

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas composition:</td>
<td>Any</td>
</tr>
<tr>
<td>Flow regime:</td>
<td>From highly pulsating flows to constant flows</td>
</tr>
<tr>
<td>Size:</td>
<td>NPS 0.5–16 in. (DN 10–400), with larger sizes on request</td>
</tr>
<tr>
<td>Pressure rating:</td>
<td>ASME 150–2500 (PN 10–400), with higher ratings on request</td>
</tr>
<tr>
<td>Face to face and flange dimensions</td>
<td>Customer specific, vendor standard, ANSI, API, EN, DIN, ASME</td>
</tr>
<tr>
<td>Materials:</td>
<td>Any combination</td>
</tr>
<tr>
<td>Certification:</td>
<td>ATEX, PED, CE, others on request</td>
</tr>
</tbody>
</table>

www.hoerbiger.com

HOERBIGER is active throughout the world as a leading player in the fields of compression technology, drive technology and hydraulics. In 2013, its 6,400 employees achieved sales of 1.05 billion euros. The HOERBIGER brand is synonymous with performance-defining components in compressors, industrial engines and turbines, automobile transmissions, and multifaceted mechanical engineering applications. Innovations in attractive technological market niches are the basis for components, systems and services that offer unique selling propositions and long-term benefits for the customer.

We set standards.