STRAHMAN Global Industry Alliance

Total equipment isolation valves are never 100% reliable. For this reason, most safety regulations require positive shutoff devices such as Line Blinds. This is especially true in high-temperature, critical services. Strahman Line Blinds combine 100% positive shutoff with very quick actuation. This reduces the time-consuming changes of standard spectacle plates. They are specifically designed for a wide range of temperatures, and designs that meet the API 607 rev.4 fire safe standards are available.

Strahman pioneered the development of the non-spreading and quick-action Line Blinds and was the first company to receive Lloyd’s of London certification for Line Blinds used in cryogenic applications such as LNG.

Our technology and expertise provides you with an extensive range of standard Line Blinds and the ability to design a solution that meets your unique application.

All Strahman Line Blinds:

• Save time and money! One person actuation up to 48” line size.
• Prevent product cross contamination.
• Comply with ASME B31, ANSI 16.5 and API 598 and meet international DIN, API, TUV AND TA-LUFT standards as required.
• Certified for Canadian applications - CRN 0C08554.2
• Fully PED Approved (Strahman has “Module H”)

Strahman France
Mery, France

Strahman Corporate Headquarters
Bethlehem, Pennsylvania, USA
1. The Line Blind is simply operated by turning the hand wheel. The special Cam system creates space in-between the body flanges allowing the spectacle plate to rotate to the open or close position. The unique worm cam pushes AND retracts the seal rings to and from the spectacle plate. Spreading of the process pipe flanges is NOT required. Therefore actuating the blind does not apply stress to the process pipe in which the blind is installed. Face to Face of the Line Blind NEVER changes.

2. Seal carrier that holds seal ring to atmosphere

3. End connections can be Flanged or Butt Weld ends

   Gear box, electric and pneumatic actuation available.
   Optional locking device is available (see right).


6. Seal rings are mounted on the spectacle plate for easy exchange in case of maintenance. Strahman offers O-rings and flat type gaskets for low temperatures. Double O-ring arrangements are available. For high temperatures Strahman offers high temperature graphite and metal to metal sealing materials.

7. Spectacle plate is made from stainless steel material as a standard

Non-Spreading Swing Type Cam Blind Series 740S

Please see our animation online at:
https://www.strahmanvalves.com
1. The Line Blind is simply operated by turning the hand wheel. The special Cam system creates space in-between the body flanges allowing the spectacle plate to slide to the open or close position. The unique worm cam pushes AND retracts the seal rings to and from the spectacle plate. Spreading of the process pipe flanges is NOT required. Therefore actuating the blind does not apply stress to the process pipe in which the blind is installed. Face to Face of the Line Blind NEVER changes.

2. Hand wheel for spindle actuation. Gear box, electric and pneumatic actuation available. Optional locking device is available (see left).

3. Seal carrier that holds seal ring to atmosphere

4. End connections can be Flanged or Butt Weld ends


6. Seal rings are mounted on the spectacle plate for easy exchange in case of maintenance. Strahman offers O-rings and flat type gaskets for low temperatures. Double O-ring arrangements are available. For high temperatures Strahman offers high temperature graphite and metal to metal sealing materials.

7. Spectacle plate is made from stainless steel material as a standard
Cryogenic Applications / Fire Safe Applications

Strahman Line Blinds are available with a wide choice of options such as metallurgy, sealing arrangements, and connection types. Our Series 700 has a Lloyd’s register type approval for the use on LNG ships. Series 740 and 760 offer a design where pipe spreading to change the spectacle plate is no longer required. They are suitable for high temperature service and meet the API 607 rev. 4 fire safe standards.

Typical applications: Isolation of process equipment in Chemical, Petro-chemical and storage facilities. Based on service conditions, operation frequency and line size, Strahman will recommend the required line blind design.

Spreading Rotating Line Blind Series 700

Cryogenic Line Blinds

Strahman Valves has developed and qualified a complete range of line blinds for cryogenic applications. These line blinds have Lloyd’s Register type approval for blinding of pipelines on LNG service for marine and off-shore installations.

Strahman’s approval certificate number is 02/00070.

The qualified product is our Series 700.
<table>
<thead>
<tr>
<th>Size Range</th>
<th>Blinding Technique</th>
<th>Saving Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Solid Plate between flanges (typical)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1~4 hours</td>
<td>30 sec. or less</td>
</tr>
<tr>
<td></td>
<td>2~4 men</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tools, gaskets, pipe wedge</td>
<td><strong>• 2~16 man-hours</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>• Gasket, tools, nuts and bolts</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>• Safety</strong></td>
</tr>
<tr>
<td>½” ~ 12”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(DN15~DN300)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solid Plate between flanges (typical)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1~12 hours</td>
<td>30 sec.~3 min.</td>
</tr>
<tr>
<td></td>
<td>4~10 men</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tools, gaskets</td>
<td><strong>• 16~20 man-hours</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>• Gasket, tools, nuts and bolts</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>• Safety</strong></td>
</tr>
<tr>
<td>14”~48”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(DN350~DN1200)</td>
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<td></td>
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</table>
Most Extensive Choices for Line Blinds!

FEATURES

- Quick change & easy operation – One operator can blind/unblind up to a 24” pipeline safely by operating the hand wheel.
- Wide range of product applications – Ideal for gas, fuel, solvents, LNG, petroleum products, slurries, powders, chips, and mixing liquids.
- Locking devices – Avoid operational error and unsafe operation.
- Auto positioning of spectacle – Sets the spectacle plate in the correct position each time the blind is thrown.
- Ideal for space restrictions – Allows for blinding pipelines where space is limited.
- Unique gearset and seat design – Creates clearance within the Line Blind body without movement of the adjacent piping.

STRAHMAN LINE BLINDS

- Positive shutoff – Liquid and gas cannot leak downstream.
- Quick change – Heavy pipe lines can be blinded safely within 30 sec. - 2 min.
- Only one operator – One person can operate with ease and safety up to 24.".
- Non-spreading design – Eliminates the need to spread pipe, reducing undue pipe stress and misalignment while the seat stays in place. (Series 740 and 760)
- Cost savings – Saves man-hours, and increases process run time.
- No tools required – No special tools are required to change the spectacle slide plate position.
- Visible indication of blind position – Constant indication of open/closed position.

AVAILABLE OPTIONS

- Flanged / butt weld / compact / non-spill styles
- Wetted parts available in carbon steel, 304L, 316L, Hastelloy and Titanium
- Variety of seals for specific applications
- 150 lb., 300 lb. and 600 lb. class standard
- 900 lb. and 1500 lb. class available
- Fully automated actuation packages, pneumatic and electric (Gear and Slide)
- Position Indication (Open/Close) available

APPLICATIONS

Petrochemical applications:

- Production and Refining
- Pipelines
- Gas gathering (including sour gas service)
- CO₂/Well injection
- Cokers
- Isolation for confined space entry (vessels, reactor)

Slurry applications:

- Cement plants
- Mining (Autoclave gas line isolation H₂)

Marine applications:

- Ships, tankers, and barges
- Terminals and storage facilities

Processing applications:

- Chemical
- Food and beverage
- Pulp and paper
- Plastics
- LNG, cryogenic
- High Pressure / Temperature gas line isolation (H₂)

Maintenance / Turnarounds:

- Pump isolation
- Boiler Isolation
Materials of Construction

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Part Name</th>
<th>Carbon Steel Blind</th>
<th>304 SST Blind</th>
<th>316 SST Blind</th>
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<tbody>
<tr>
<td>2C</td>
<td>Body Flange</td>
<td>ASTM A105</td>
<td>ASTM A182 F304</td>
<td>ASTM A182 F316L</td>
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<td>2A</td>
<td>Body Pipe</td>
<td>ASTM A106</td>
<td>ASTM A182 F304</td>
<td>ASTM A312 F316L</td>
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<td>211</td>
<td>Seal Carrier</td>
<td>ASTM A240-304</td>
<td>ASTM A240-304</td>
<td>ASTM A240 316L</td>
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<tr>
<td>208</td>
<td>Cam Nut</td>
<td>ASTM A182-304</td>
<td>ASTM A182-304</td>
<td>ASTM A182-304</td>
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<tr>
<td>36</td>
<td>Stem</td>
<td>ASTM A582-416</td>
<td>ASTM A582-416</td>
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<tr>
<td>95</td>
<td>Nut</td>
<td>ASTM A194-2H</td>
<td>ASTM A193 B8</td>
<td>ASTM A193 Gr8</td>
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<tr>
<td>62</td>
<td>Sealing Gasket*</td>
<td>Per Application</td>
<td>Per Application</td>
<td>Per Application</td>
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<tr>
<td>73</td>
<td>Wiper Ring*</td>
<td>PTFE/Graphite</td>
<td>PTFE/Graphite</td>
<td>PTFE/Graphite</td>
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<tr>
<td>2B</td>
<td>Body Deck</td>
<td>304SST</td>
<td>304SST</td>
<td>304SST</td>
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<tr>
<td>50</td>
<td>Spectacle</td>
<td>ASTM A240-316</td>
<td>ASTM A240-316</td>
<td>ASTM A240-316</td>
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</table>

Other materials such as Titanium, Stainless Steel, Hastelloy and other special materials are available.

*Viton, Buna-N, TFE, AFLAS, EDPM, Neoprene, EPR, Graphite

Engineering Data

Strahman utilizes design software and FEA (Finite Element Analysis) with extensive physical testing to ensure product compliance with all applicable industry standards.

**ASTM/ANSI standard**
- B16.5 Pipe flanges and flanged fittings
- B16.34 Valves – flanged, threaded and welding end
- B31.1 Power piping

**ASME standard**
- Section 2 Material
- Section 8 Rules for construction of pressure vessels
- Section 9 Welding and brazing qualifications

**API standard**
- 897 Valve inspection and testing
- 6FA Fire safety test
- API 598

**MSS standard**
- SP-6 Finish for contact faces of pipe flanges and connecting end flanges of valves and fittings
- SP-25 Marking system for valves, fittings, flanges and unions
- SP-55 Quality standard for steel castings for valves, flanges and fittings, and other piping components (visual method)

Standard Strahman Line Blind Sizes:
- ½” through 48”
- ANSI classes 150, 300, and 600
- Operating temperatures of up to 1,000°F (535°C)
- Other sizes and pressure ratings, along with butt weld ends or DIN flanges, are available on request
## Standard Product Range

<table>
<thead>
<tr>
<th>Pressure Class</th>
<th>kg/cm²</th>
<th>psi</th>
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<tbody>
<tr>
<td>ANSI</td>
<td>23</td>
<td>325</td>
</tr>
<tr>
<td>150 lbs</td>
<td>58</td>
<td>825</td>
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<tr>
<td>300 lbs</td>
<td>116</td>
<td>1650</td>
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<tr>
<td>600 lbs</td>
<td>172</td>
<td>2450</td>
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<table>
<thead>
<tr>
<th>Class</th>
<th>Type</th>
<th>Size</th>
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<tr>
<td>ANSI/DIN</td>
<td></td>
<td>Inches</td>
</tr>
<tr>
<td></td>
<td></td>
<td>¼-6 8 10 12 14 16 18 20 24 28 32 36 40 48</td>
</tr>
<tr>
<td>150 lbs/</td>
<td></td>
<td>DN (mm) 15-150 200 250 300 350 400 450 500 600 700 800 900 1000 1200</td>
</tr>
<tr>
<td>PN10/16/20</td>
<td>740 Series</td>
<td>• • • • • • • • • • • • • • • • •</td>
</tr>
<tr>
<td></td>
<td>760 Series</td>
<td>• • • • • • • • • • • • • • • • •</td>
</tr>
<tr>
<td></td>
<td>700 Series</td>
<td>• • • • • • • • • • • • • • • • •</td>
</tr>
<tr>
<td>300 lbs/</td>
<td></td>
<td>740 Series</td>
</tr>
<tr>
<td>PN25/40/50</td>
<td>760 Series</td>
<td>• • • • • • • • • • • • • • • • •</td>
</tr>
<tr>
<td></td>
<td>700 Series</td>
<td>• • • • • • • • • • • • • • • • •</td>
</tr>
<tr>
<td>600 lbs/</td>
<td></td>
<td>740 Series</td>
</tr>
<tr>
<td>PN100</td>
<td>760 Series</td>
<td>• • • • • • • • • • • • • • • •</td>
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<tr>
<td></td>
<td>700 Series</td>
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</tr>
<tr>
<td>900 lbs/</td>
<td></td>
<td>740 Series</td>
</tr>
<tr>
<td>PN150</td>
<td>760 Series</td>
<td>• • • • • • • • • • • • • • • •</td>
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<tr>
<td></td>
<td>700 Series</td>
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</tr>
<tr>
<td>1500 lbs/</td>
<td></td>
<td>740 Series</td>
</tr>
<tr>
<td>PN250</td>
<td>760 Series</td>
<td>• • • • • • • • • • • • • • • •</td>
</tr>
<tr>
<td></td>
<td>700 Series</td>
<td>• • • • • • • • • • • • • • • •</td>
</tr>
</tbody>
</table>
Sealing Systems

O-RING SEALING SYSTEM

This sealing system offers a wide range of O-ring materials. The main advantage using an O-ring is that no gasket sealing effort is required. In case of a cam system, this means a smaller actuation effort. Therefore an O-ring type arrangement for the seat gasket is possible. The O-Ring material determines the maximum allowable temperatures.

Double O-Ring arrangements are available as an option.

FLAT GASKET SEALING SYSTEM

This sealing system offers two complementary gasket materials: PTFE and Graphite. The main features are encapsulated spectacle gaskets and positive sealing of the complete gasket set.

For Series 700 the Spreading system seals like any flanged arrangement. In addition, the bolts have a specific design that spreads the unit (and therefore piping!) to allow spectacle rotation and gasket removal.

For Series 740 and 760, the Cam system seals without spreading flanges and piping. In this case both spectacle and seat gaskets are compressed by the actuation system. The seat gasket seals like a gland packing arrangement. When the actuation system rotates, the cams press seat and seat gasket against the spectacle. Reverse action of actuation system rotates the cams. The seat moves back when the seat retractor levers are operated. This creates space to release the spectacle plate.

Recommendation: As line blinds are safety equipment, Strahman recommends to install new gaskets prior to every switch.
The Strahman family of products include:

SAMPLING VALVES
Strahman has a full line of sampling valves that produce live samples without exception. Our sampling valves unique designs prevent failure caused by sediment or clogging.

DRAIN VALVES
Strahman Drain Valves are designed to prevent clogging. They are ideal for use in liquid and gas service or with slurries, polymers, and high viscosity fluids that tend to solidify at room temperature.

LINE BLINDS
Strahman Line Blinds provide zero leakage down stream and total isolation on process pipelines, vessels and maritime applications. No pipeline movement is required when blind position is changed.

AUTOMATED VALVES & FIRE SAFE PRODUCTS
Strahman automated valve packages with floating ball valves and resilient seated butterfly valves come complete with electric or pneumatic actuators for a wide array of industrial applications. Additionally, a full suite of API 607 fire safe valve products are offered as actuated units or to be used in conjunction with our FM approved thermal shut-off assemblies. Resettable Emergency Block Valves (R-EBV) are also available for the oil & gas and chemical industries.

WASH DOWN EQUIPMENT
Strahman offers a full line of mixing units, hose stations, hoses, nozzles and wash down accessories. Our wash down line is designed for industrial use and is used in a wide variety of industries including food, beverage, pharmaceutical, chemical and other applications.

Please contact your local Strahman representative for further details or visit our website: www.strahmanvalves.com