

**ID & IP Series**

## **IN-LINE DISC & PISTON VALVES**



 *Strahman*

PROCESS VALVES

# IN-LINE DISC & PISTON VALVES

Code: **IPYM**

## M Seal In-Line Piston Valve

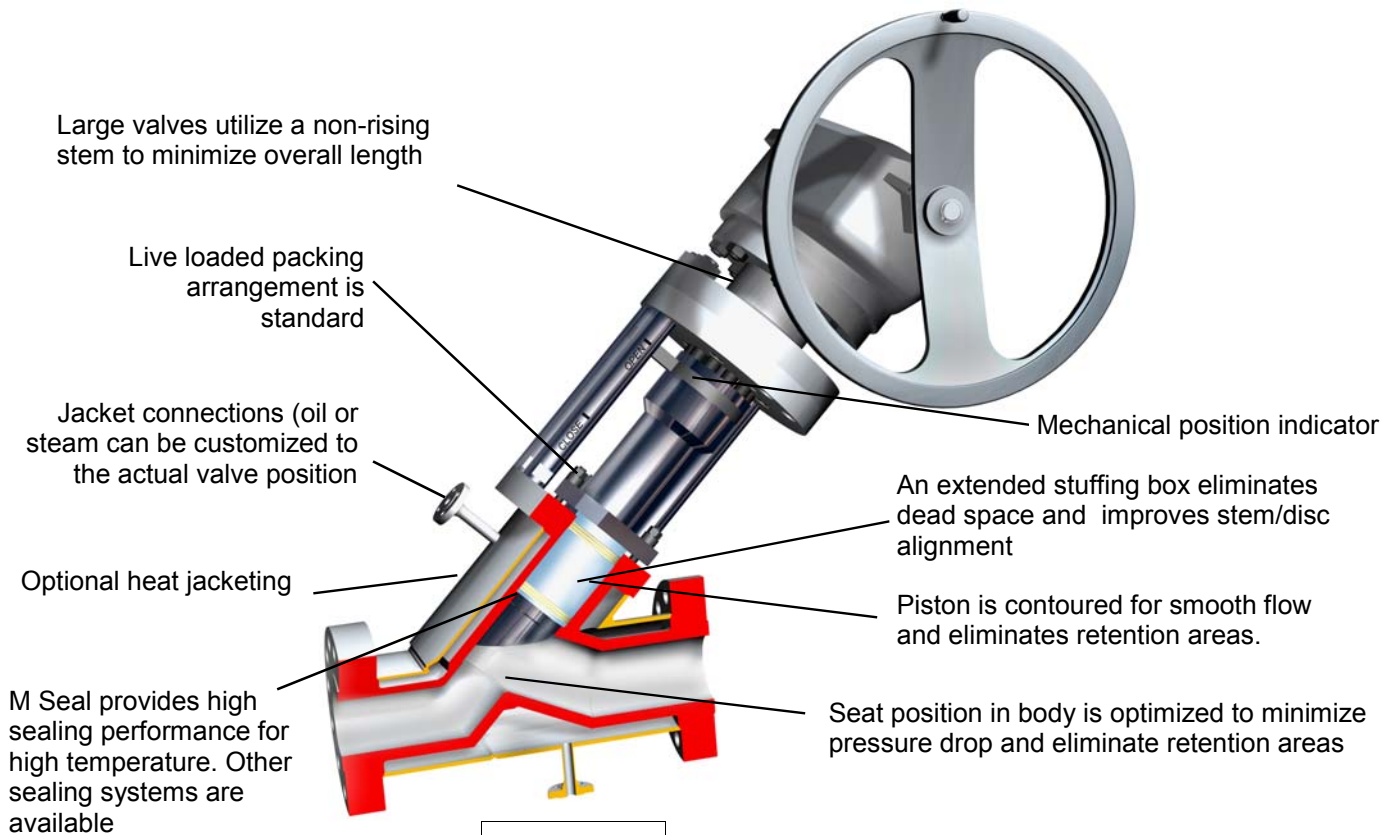


Fig. 038D

Code: **IDYM**

## In-Line Disc Valve

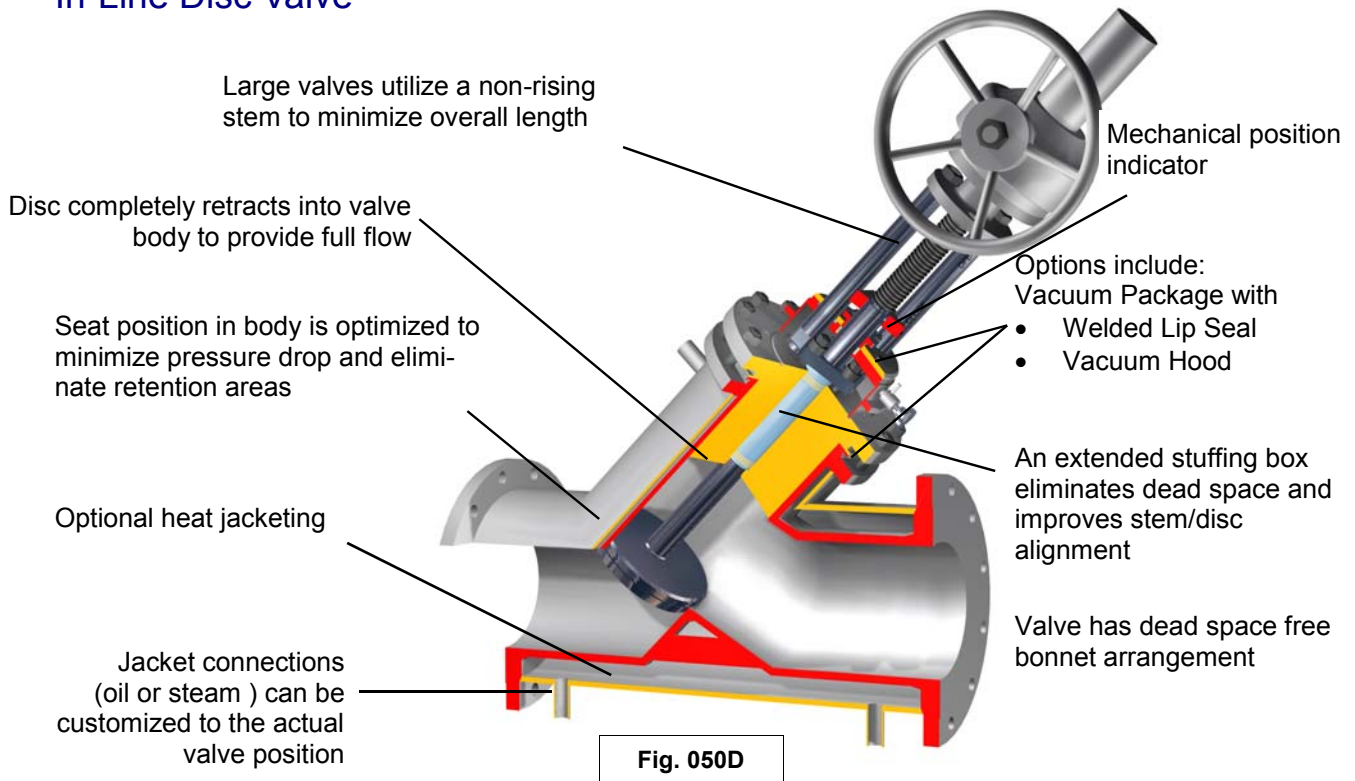


Fig. 050D

As an alternative to a failing ball, plug or gate valve, Strahman offers in-line disc and piston valves. With a wide range of positive sealing systems like M Seal, M Ring Seal and M Control, these valves provide superior in-line tightness. When opening the piston or disc it retracts completely into the valve body providing an unrestricted full flow. In combination with our maximized port sizes, these designs offer maximum flow capacity. They are available in a wide choice of options including materials of construction, sealing systems to atmosphere, actuators, full jacketing and a vacuum package.

Typical applications for in-line piston valves is to provide a dead space free valve for high viscosity products or abrasive slurries, especially in combination with high pressures and high temperatures.

## BODY ARRANGEMENTS

Strahman In-Line valves has several styles available:

- Figure **037** for small sizes Y pattern piston valves with a rising stem design
- Figure **038** for large sizes Y pattern piston valves with a non-rising stems
- Figure **050** for Y pattern disc valves with rising or non-rising stem
- Figure **055** for angle pattern disc valves with rising or non-rising stem

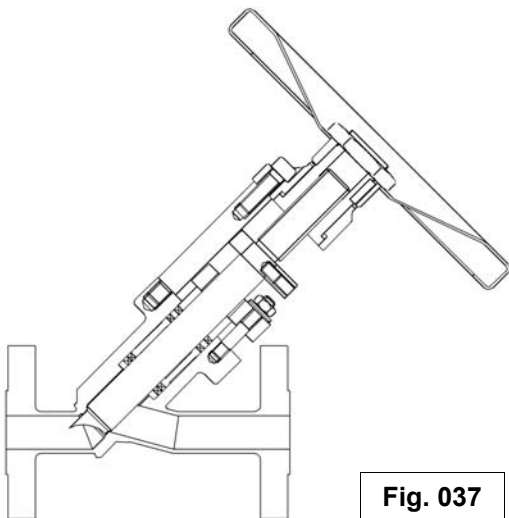


Fig. 037

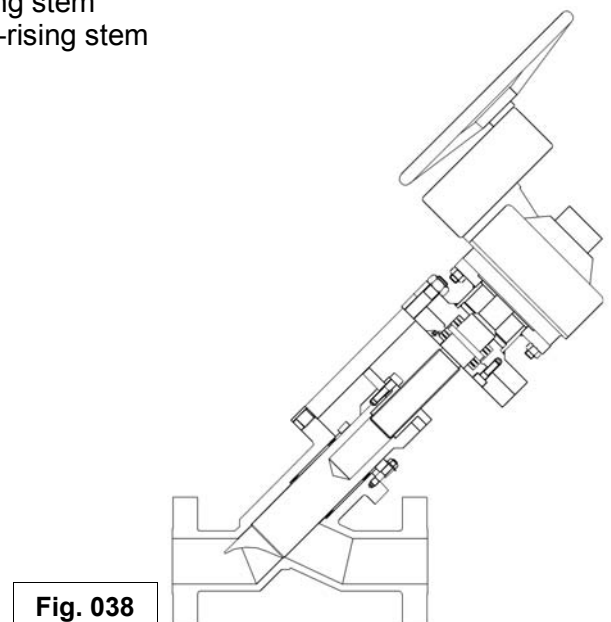


Fig. 038

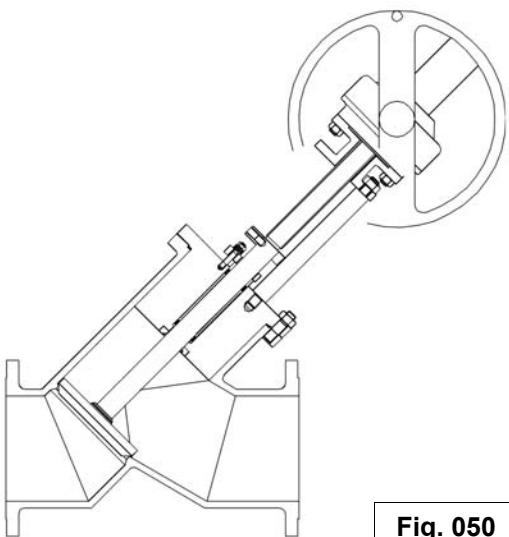


Fig. 050

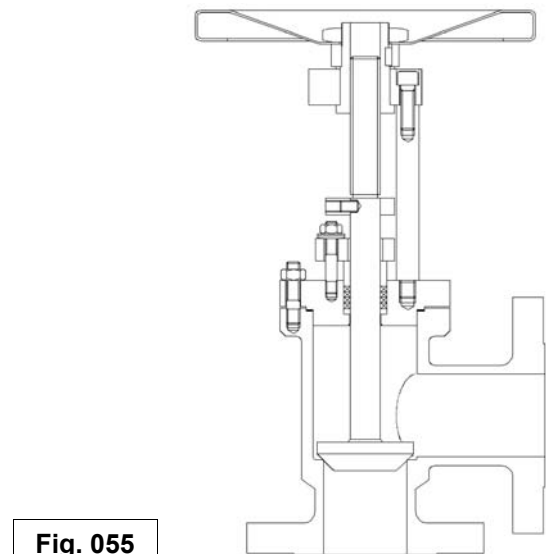
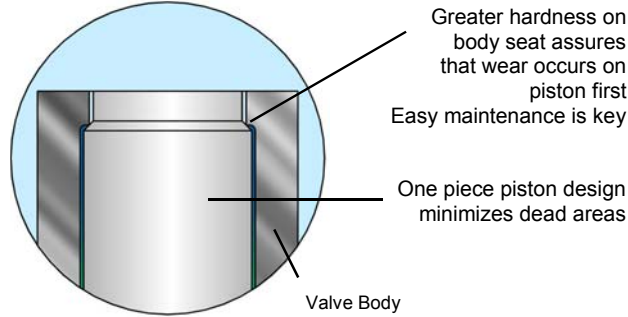


Fig. 055



## SEALING SYSTEMS PISTON VALVES

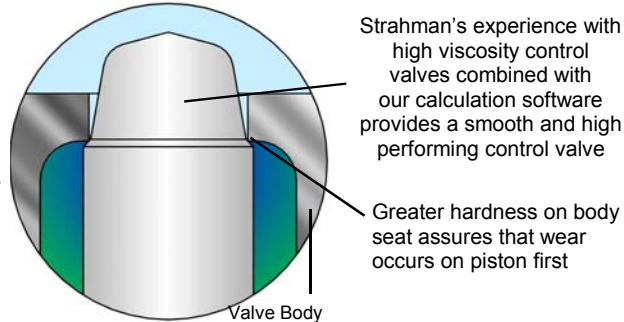
**M Seal-** This sealing system offers a wide range of material combinations selected to create a differential hardness between body and plunger seat. The maintenance friendly design of the **M Seal** system provides long & reliable valve performance and is suitable for almost all process conditions.



**Temperature**  
Min: -200° C / -330° F  
Max: 815° C / 1500° F

**Pressure**  
Max: 630 bar / 9000 psig

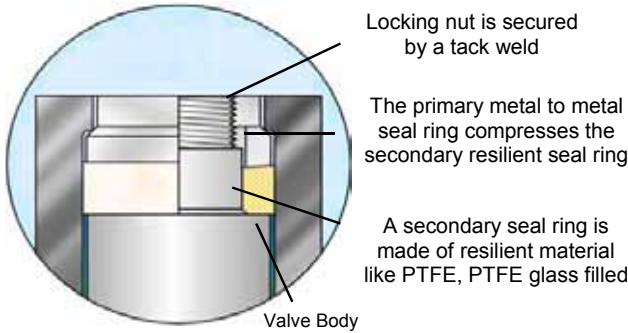
**M-Control-** The **M-Control** system provides customized flow characteristics to regulate a specific laminar flow with high viscosity. The system uses a piston with a specific shape to control flow and/or pressure. **M-Control** uses the specific sealing features of the **M seal** system.



**Temperature**  
Min: -200° C / -330° F  
Max: 815° C / 1500° F

**Pressure**  
Max: 630 bar / 9000 psig

**Dual Seal-** The **Dual Seal** is a unique double sealing system that works like a piston operating within a cylindrical seat. Unlike other designs, the secondary resilient seal ring is mounted on the piston and will expand after metal to metal contact of the primary seat ring. The design provides a true metal to metal seal in case of resilient seat failure.

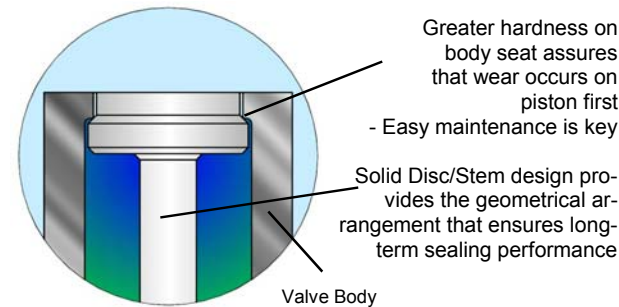


**Temperature**  
Min: -50° C / -60° F  
Max: 200° C / 450° F

**Pressure**  
Max: 250 bar / 3550 psig & full vacuum

## SEALING SYSTEMS DISC VALVES

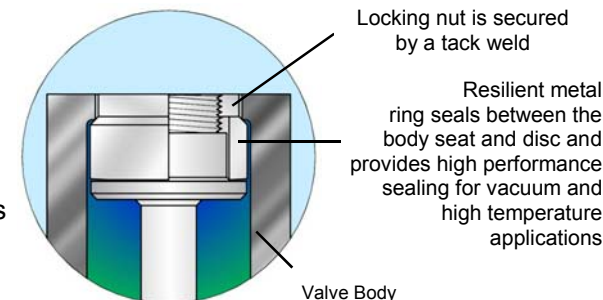
**M Seal-** This sealing system offers a wide range of material combinations selected to create a differential hardness between body and plunger seat. The maintenance friendly design of the **M Seal** system provides long & reliable valve performance and is suitable for almost all process conditions.



**Temperature**  
Min: -200° C / -330° F  
Max: 815° C / 1500° F

**Pressure**  
Max: 630 bar / 9000 psig

**M Ring Seal-** The **M Ring Seal** is also based on a differential hardness between the body and the piston surface. The replaceable metallic seal ring made of aluminum, nickel or titanium provides excellent sealing performance especially in applications that combine full vacuum and temperatures above 200° C.



**Temperature**  
Min: -200° C / -330° F  
Max: 450° C / 840° F

**Pressure**  
Max: 250 bar / 3550 psig & full vacuum

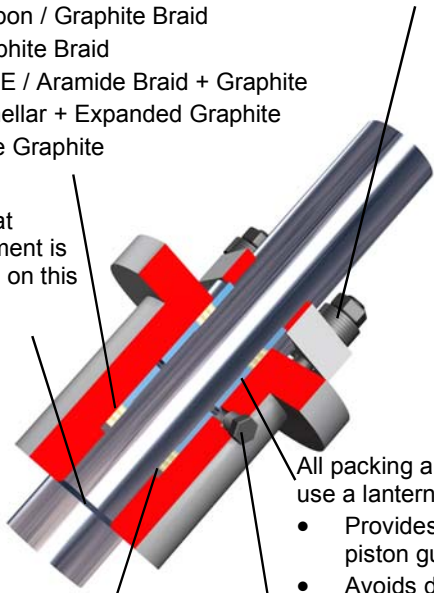
## PACKING DEFINITION

Typical Packing Materials:

- PTFE
- PTFE / Aramide Braid
- Carbon / Graphite Braid
- Graphite Braid
- PTFE / Aramide Braid + Graphite
- Lamellar + Expanded Graphite
- Pure Graphite

Live loaded packing arrangement minimizes maintenance

Back seat arrangement is standard on this valve



Bottom ring material is selected with a differential hardness from the piston to prevent piston damage

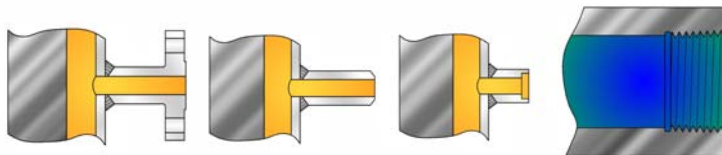
Optional 1/4 inch NPTF can be used for leak detection or inert gas injection to avoid leakage to atmosphere by creating an over pressure

- All packing arrangements use a lantern ring that:
- Provides better stem/piston guiding
  - Avoids dead space in body cavities

## STANDARD BODY GASKET RANGE

- PTFE
- Aramide / Nitrile
- Carbon / Aramide
- Laminated Graphite
- Laminated Graphite / 316
- Spiral Wound 316L / PTFE
- Spiral Wound 316L / Graphite
- Spiral Wound 321 / Graphite
- Spiral Wound Inconel / Graphite
- Spiral Wound Titanium / Graphite
- Welded Lips

## JACKET CONNECTIONS



Flanges  
ANSI, DIN, JIS

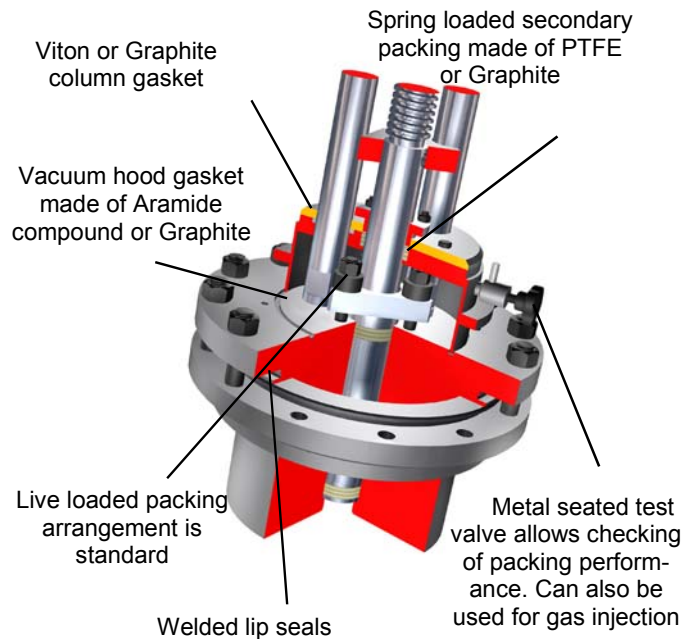
Butt Weld

Socket  
Weld, NPT

Threaded  
connections  
NPT & BSP

## VACUUM HOOD

For valves on full vacuum service Strahman offers a special **vacuum package** that maintains tightness to atmosphere. Valves with this package are usually equipped with an **M Ring Seal** design as process sealing. The system uses a replaceable aluminium or nickel seal ring and provides high vacuum performance. This special **vacuum package** provides zero leakage between atmosphere and process.



## Valve Coding System

**I P Y M W J**

<b>I</b> In-Line Disc & Piston Valve	<b>P</b> Piston <b>D</b> Disc <b>A</b> Accessories	<b>Y</b> Y Pattern <b>A</b> Angle <b>\$</b> Special	<b>M</b> M Seal <b>C</b> M Control <b>D</b> Dual Seal <b>R</b> M Ring Seal	<b>F</b> Flanged <b>W</b> Butt Weld <b>O</b> Over-sized Flange <b>G</b> Graylock <b>\$</b> Special	<b>J</b> Jacketed - Non-Jacketed
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# TECHNICAL & GENERAL INFORMATION

## Design Code & Construction

- Design standard compliant with ASME B16.34
- International standards include ANSI, DIN, JIS, API etc.
- Wide range of material selections including carbon steel / stainless steel / Titanium / Hastelloy / Duplex / Monel / Tantalum / Zirconium
- Fabricated, cast, forged and bar stock designs
- Combinations of fabricated, sand and investment casings, and bar stock available

## Surface Finish

- For polymer applications, Strahman recommends a surface facing of 300 (Ra 0.4) for all parts in contact with the medium

## Quality assurance & testing

- ISO 9001 compliant
- TUV / HPO / TA Luft
- PED / ATEX / CE marking
- Standard testing procedures

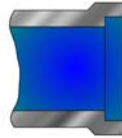
## LINE & BRANCH CONNECTIONS



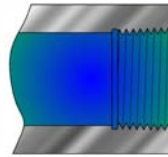
Flanges  
ANSI, DIN, JIS



Heated  
Flanges



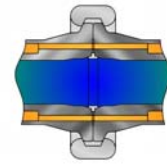
Socket  
Weld



Threaded  
connections  
NPT & BSP



Butt  
Weld



Fast Bolting Union  
Graylock Securamax

## ACTUATION OPTIONS



Hand Wheel



Bevel Gear



Electric Actuator



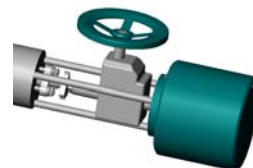
Air Motor



Double or single  
acting Air Cylinder



Double or single acting Air  
Cylinder with Safety Hand Wheel



Double or single acting Air  
Cylinder with side mounted  
Safety Hand Wheel



Hydraulic  
Cylinder

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 design 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.

#### **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.

#### **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.

Please contact your local Strahman representative for further details  
or  
visit our website : [www.strahmanvalves.com](http://www.strahmanvalves.com)



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ISO 9001  
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