

VD SERIES

VESSEL & REACTOR VALVES

DISC VALVES



FULL FLOW BOTTOM OUTLET VALVES

TANK BOTTOM DISC VALVE

CODE: VD4R-VD6R

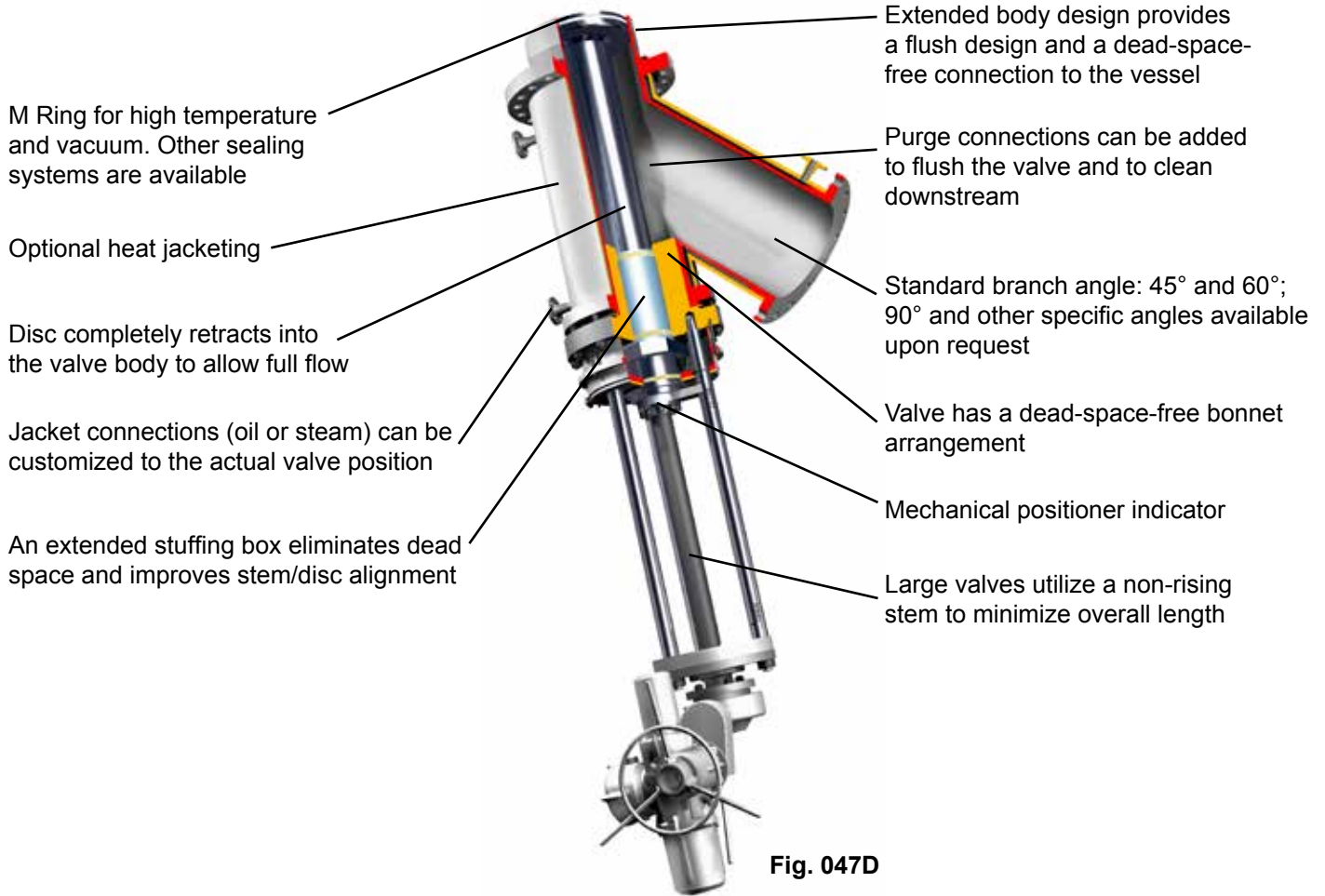
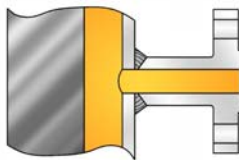
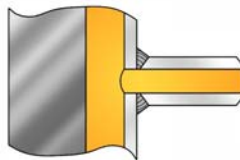


Fig. 047D

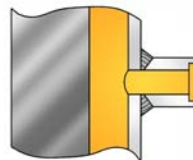
JACKET CONNECTIONS



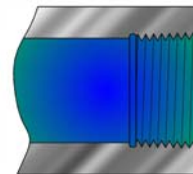
Flanges
ANSI, DIN, JIS



Butt Weld



Socket Weld



Threaded connections
NPT & BSP

Strahman Bottom Disc design is a vessel outlet valve. When opening, the disc retracts completely into the valve body. This provides an unrestricted full flow. In combination with our maximized port sizes, this design offers maximum flow capacity.

Strahman valves are available in a choice of options including material of construction, seat arrangements, sealing systems to atmosphere, actuators and customized or standard connections to piping. Other specific features are full jacketing, vacuum package and dead-space-free connections to vessels.

Typical applications include the draining of viscous products, especially in combination with low pressure and/or vacuum processes.

BODY ARRANGEMENTS

Strahman has two Tank Bottom Disc Valve styles available:

- Figure **046** for small sizes or high pressure applications. Valves have a rising stem design.
- Figure **047** for large sizes or low pressure. Valves have non-rising stems to minimize overall dimensions.

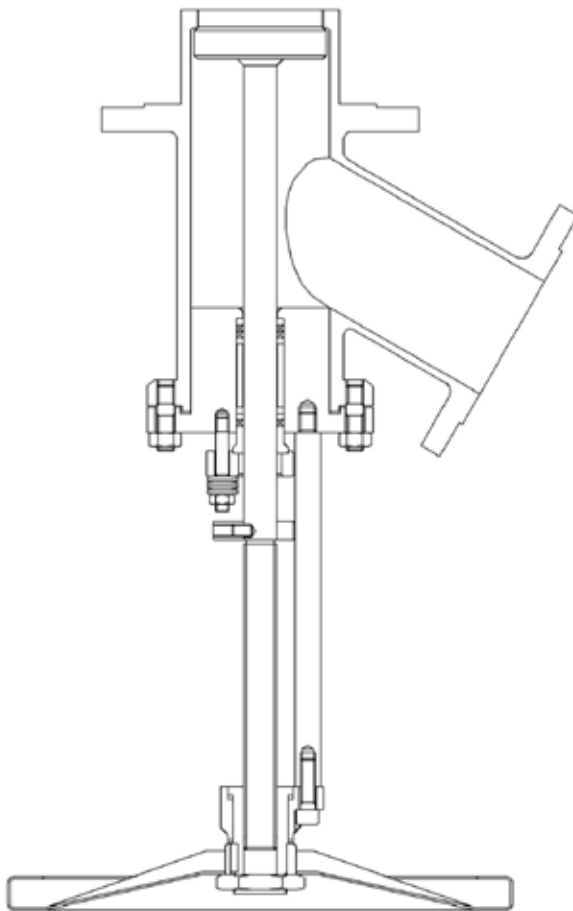


Fig. 046

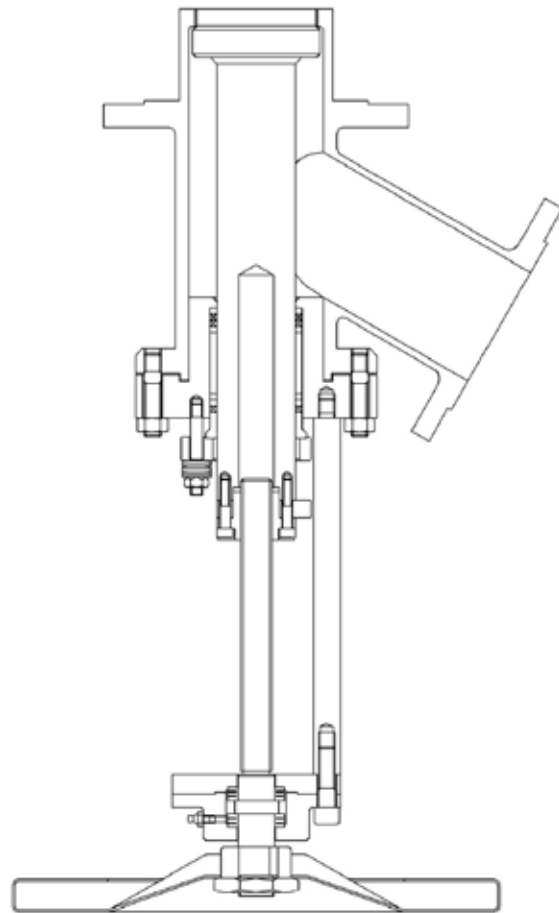
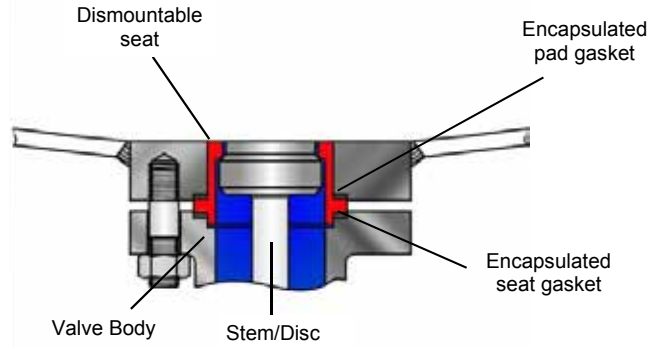


Fig. 047

DISMOUNTABLE SEAT

As an option, the body seat can be dismountable. This is an attractive option when the process is corrosive during the reaction. Parts directly in contact with the process (seat and trim) are made of sophisticated alloys while valve body and piping are fabricated from regular materials.

Note: The closing effort is transferred to the pad bolting and the body flange. A stress calculation is required to check the correct sizing of the bolting section and the flange thickness. Strahman engineers will be pleased to make these calculations.



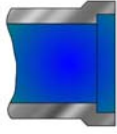
LINE AND BRANCH CONNECTIONS



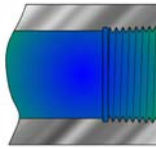
Flanges
ANSI, DIN, JIS



Heated
Flanges



Socket
Weld



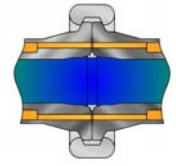
Threaded
connections
NPT & BSP



Studded
Ends



Butt
Weld



Fast Bolting Union
Graylock Securamax

ACTUATION OPTIONS



Hand Wheel



Bevel Gear



Electric Actuator



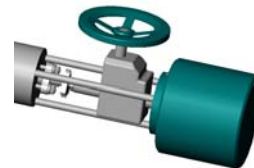
Air Motor



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

TECHNICAL AND GENERAL INFORMATION

DESIGN CODE AND 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 castings, and bar stock available

SURFACE FINISH

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

QUALITY ASSURANCE AND TESTING

- ISO 9001 compliant
- PED / ATEX / CE marking
- TUV / HPO / TA Luft
- Standard testing procedures
- CU TR 010
- CU TR 032

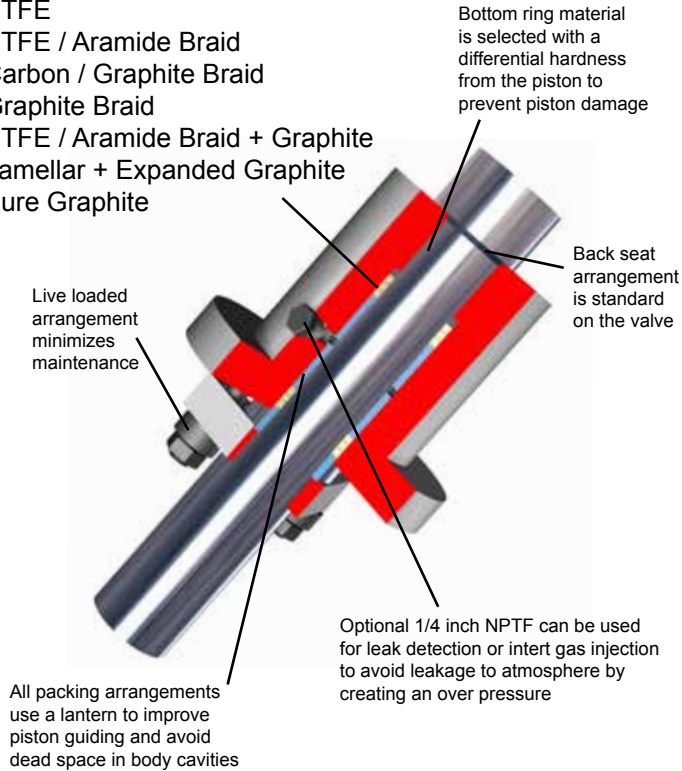
RANGE DEFINITION

VD Manufacturing Range	PN 10	PN 16	PN 20-150 lbs.	PN 25	PN 40	PN 50 300 lbs.	PN 64 400 lbs.	PN 100 600 lbs.	PN 150/160-900 lbs.	PN 250 - 1500 lbs.	PN 320	PN 420 - 2500 lbs.	PN 630 - 4500 lbs.
3/8" - DIN10													
1/2" - DIN15													
3/4" - DIN20													
1" - DIN25													
1 1/4" - DIN32													
1 1/2" - DIN40													
2" - DIN50													
2 1/2" - DIN65													
3" - DIN80													
4" - DIN100													
5" - DIN125													
6" - DIN150													
8" - DIN200													
10" - DIN250													
12" - DIN300													
14" - DIN350													
16" - DIN400													
18" - DIN450													
20" - DIN500													
24" - DIN600													
28" - DIN600													
32" - DIN600													
36" - DIN600													
40" - DIN600													
44" - DIN600													
48" - DIN600													

PACKING DEFINITION

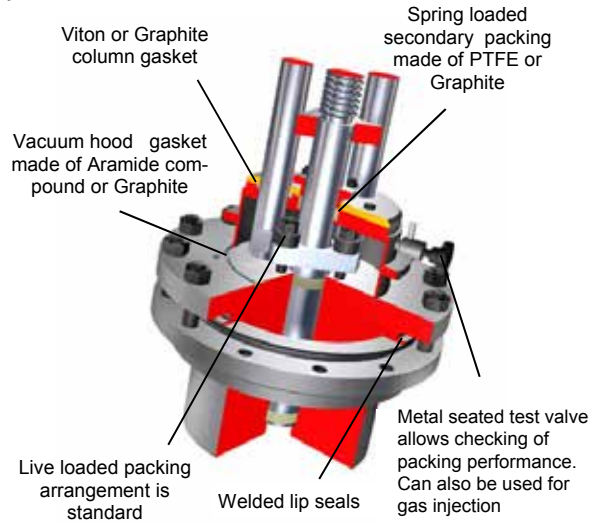
Typical Packing Materials:

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



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 aluminum or nickel seal ring and provides high vacuum performance. This special **vacuum package** provides zero leakage between atmosphere and process.



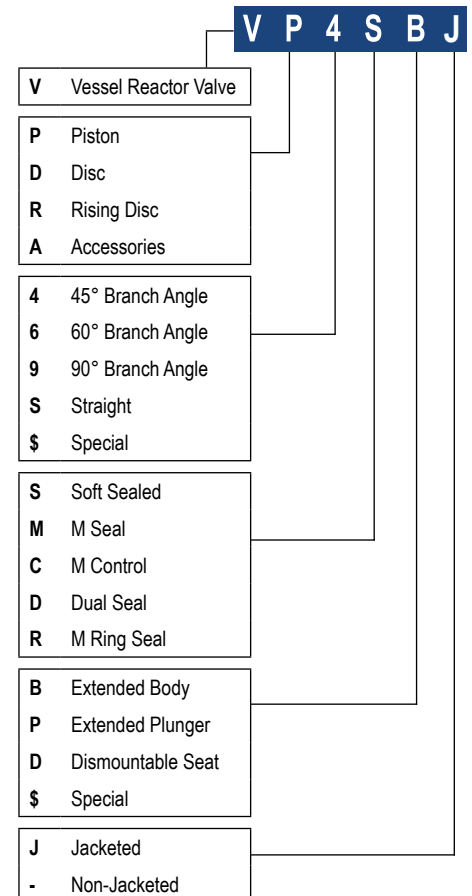
STANDARD PAD GASKET RANGE

- PTFE
- Aramide / Nitrile
- Carbon / Nitrile
- 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
- Perfluoroelastomer (Kalrez) O-Ring
- Welded Lip Seals
- Metallic O-Ring Helicoflex Gasket Aluminum / 316
- Metallic O-Ring Helicoflex Gasket Nickel / Nimonic 90
- 316L RTJ
- Nitrile O-Ring
- EPDM O-Ring
- Silicone O-Ring
- Fluorocarbon (Viton) O-Ring
- Silicone FEP Jacketed O-Ring

STANDARD BODY GASKET RANGE

- PTFE
- Aramide / Nitrile
- Carbon / Nitrile
- 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 Lip Seals

VALVE CODING SYSTEM

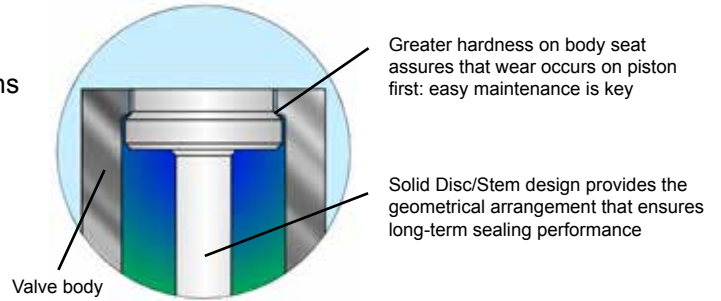


SEALING SYSTEMS

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 and reliable valve performance and is suitable for almost all process conditions.

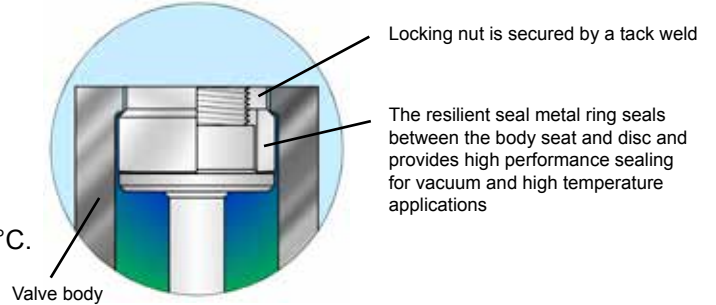
- **Temperature:** Min.: -200°C / -330°F
Max.: 815°C / 1500°F
- **Pressure:** 630 bar / 9000 PSIG



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 temperatures above 200°C.

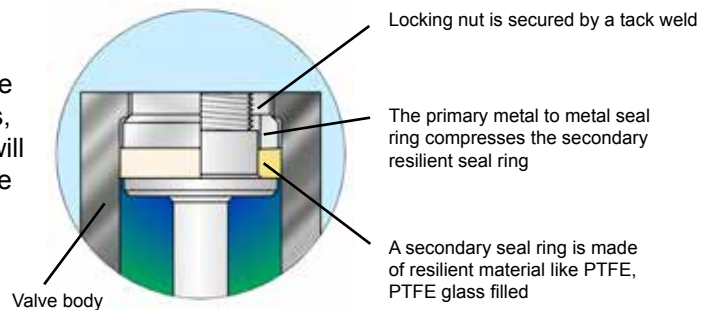
- **Temperature:** Min.: -200°C / -330°F
Max.: 450°C / 840°F
- **Pressure:** 250 bar / 3550 PSIG and full vacuum



DUAL SEAL

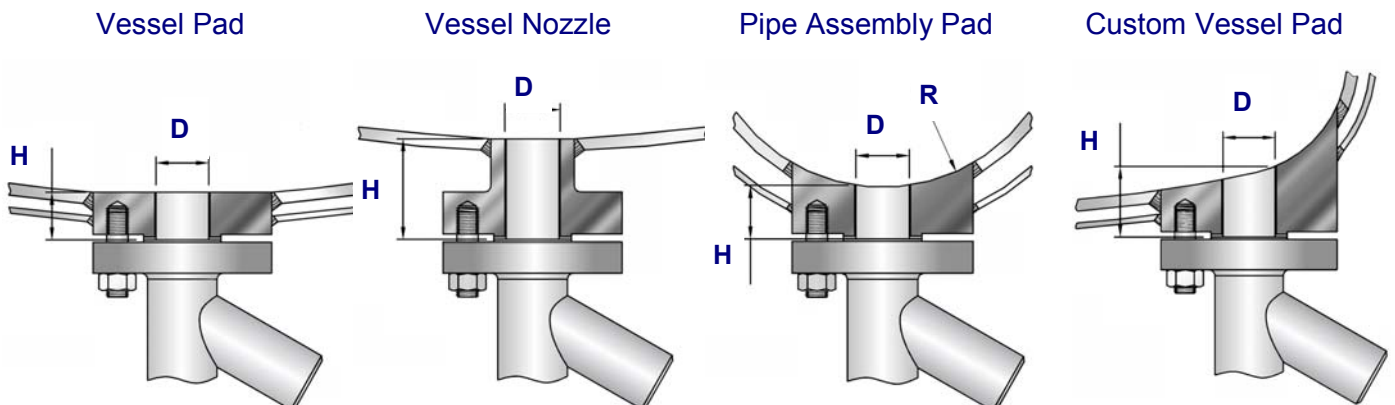
The **Dual Seal** is a unique double sealing system that works like a piston operating within a cylindrical seat. Unlike other designs, the secondary resilient seal ring is mounted on the piston and will expand after metal to metal contact of the primary seat ring. The design provides a true metal to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

- **Temperature:** Min.: -50°C / -60°F
Max.: 200°C / 450°F
- **Pressure:** 250 bar / 3550 PSIG and full vacuum



VESSEL CONNECTIONS

To connect valves to existing vessels or reactors, there are two possibilities: a nozzle or a pad connection. In both cases, the customer must specify the following vessel connection details: **D** (inside diameter), **H** (height), **DN** (nominal size), **PN** (pressure rating) and connection **standard** (ISO, ANSI, DIN, etc.). To eliminate retention areas radius **R** can be specified for optional contouring. For new projects, Strahman can supply valves with easy-to-fit standardized pads that are ready to be installed.



THE STRAHMAN FAMILY OF PRODUCTS INCLUDE:



WASH DOWN EQUIPMENT

Cleaning and sanitizing equipment for applications where safety is the number one concern — built to outlast and outperform all others.

AUTOMATED VALVES & THERMAL SHUT-OFF VALVES

Completely assembled automated valves and fire-safe thermal shut-off valves fabricated for quick and reliable problem-solving solutions for industrial applications.

PROCESS VALVES


Engineered solutions for the transfer of fluid and flow control for highly critical applications from sampling to inline process to permanent isolation.





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