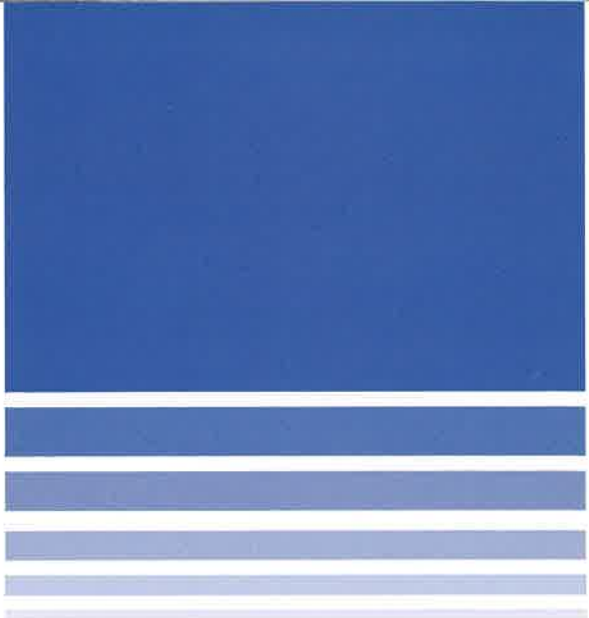




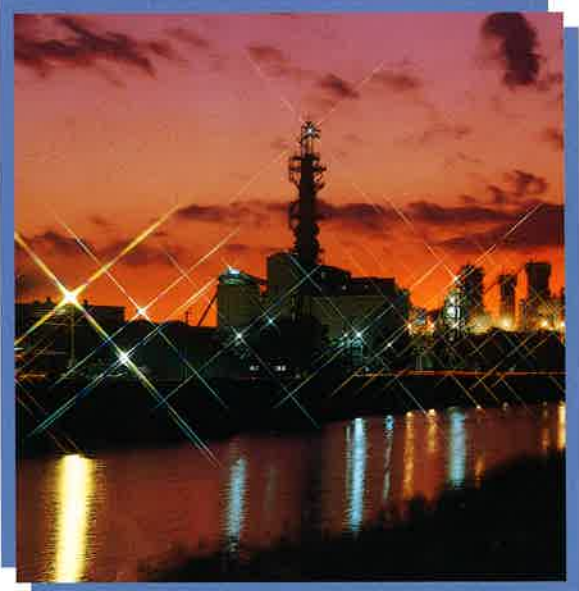
Marine
Machine
Motor Car



Electronics
Energy
Ecology



Pillar Products for
**REFINERY and
PETROCHEMICAL
PLANT**



Since 1924, Nippon Pillar Packing Co.,Ltd has contributed to the growth of industries with our total sealing technology. In our long and glorious history, we have always put emphasis on Research and Development, and served the-state-of-the-art products in the field of leak preventive products such as mechanical seals, gland packings, gaskets and Pilaflon® products.

PILLAR mechanical seals, by using the superior sealing materials based on our advanced technology and abundant experience, have been employed in much severe applications such as for nuclear power stations. PILLAR packings/gaskets are available with our differential raw material to the requirements of fugitive emission control and of low torque in the valves. Pilaflon® products has used the best suitable material in our integral manufacturing process from raw material.

“Quality first” is our company motto, and we are the first seal manufacturer in Japan to be certified ISO 9001. Also, we were certified ISO 14001 for environmental concern.

In petrochemicals and oil refineries, fugitive emission control has become a main topic after CAAA was enacted in USA. In addition to that, upgrading to enhance the safety is subject matter lately. This trend shows that more reliable sealing products are required in these industries.

This catalogue was prepared to help you select the best suitable products to your specifications in petrochemicals and oil refineries. It shows only typical products to cover the specifications as much as possible to minimize the inventory stock. But, our products are not shown exhaustively here. We have PILLAR distributors worldwide to serve you, so please contact us for any further information.



BRAIDING OF GLAND PACKING



LAPPING OF MECHANICAL SEAL



DRY GAS SEAL TEST BENCH

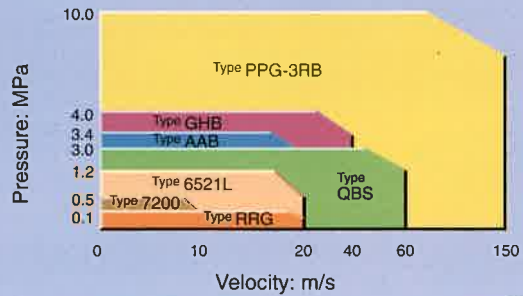


ELECTRON MICROSCOPE



SANDA FACTORY

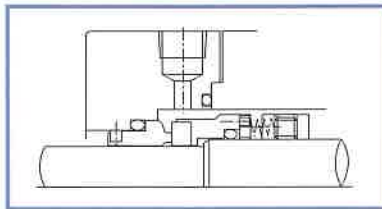
Selection of seal and packing for pump



Mechanical Seals

Type AAB

Rotating multi-spring seal



Features & Benefits

Standard seal

The mechanical seal of this type is a typical Pillar seal, used for any industries.

Performance

Pressure: 3.43MPa, Velocity: 20m/s, Nom.size: ϕ 20-250
Application: Process pump, Mixer, Blower

Code: MS-AAB80-KEB00 - (Size), Tungsten Carbide (SiC) vs Carbon & Fluoro Elastomer, 316 SS

Type GHB

Stationary seal

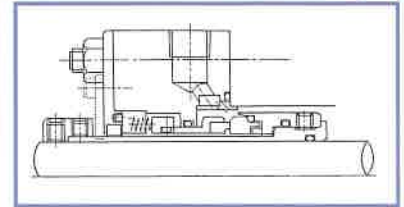
Features & Benefits

Stationary cartridge seal

Since the spring is arranged at the atmospheric side, no clogging will occur in the mechanical seal. For the between bearing pump or vertical pump, the setting position of mechanical seal is determined automatically, thus requiring no adjustment as the setting plate is designed for cartridge type.

Performance

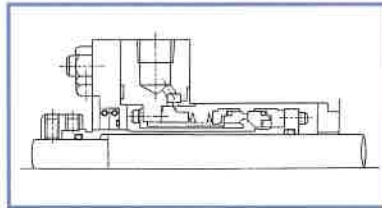
Pressure: 4.0MPa, Velocity: 40m/s, Nom.size: ϕ 30-200
Application: Process pump



Code: MS-GHBE5-KUE64 - (Size), SiC vs Carbon & Fluoro Elastomer, 316 SS

Type QBS

Welded metal bellows Seal



Features & Benefits

For high temperature liquid

The mechanical seal of this type is a stationary type seal, using a double bellows of welded metal without shaft packing, which provides the excellent resistance against high temperature. Since it provides the excellent follow-up performance and does not require any consideration for heat resistance limit of packing material, it is suitable to high-temperature use.

Performance

Pressure: 3.0MPa, Velocity: 60m/s, Nom.size: ϕ 23-180
Application: High temperature liquid

Code: MS-QBS20-PXK00 - (Size), SiC vs Carbon, 316 SS

Type Phoenix Seal[®]

Non-Contact dry gas seal

Features & Benefits

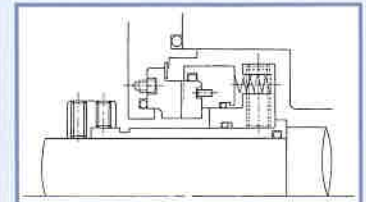
Bi-directional type non-contact dry gas seal

Multi-independent hydrodynamic pressure distribution generated by multi-independent grooves gives more stable seal performance.

(US 5664748, 5529318 EU Pending)

Performance

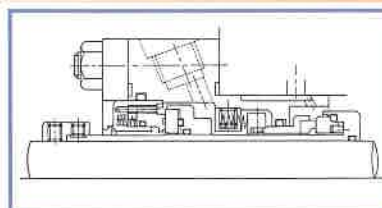
Pressure: 10MPa, Velocity: 150m/s, Nom.size: ϕ 50-200
Application: Turbine, Blower, Compressor



Code: MS-PPG - (Type) - (Size), Carbon vs SiC & Fluoro Elastomer, 316 SS

Type RRG

Auxiliary dry contact seal



Features & Benefits

Dry contact seal for secondary seal

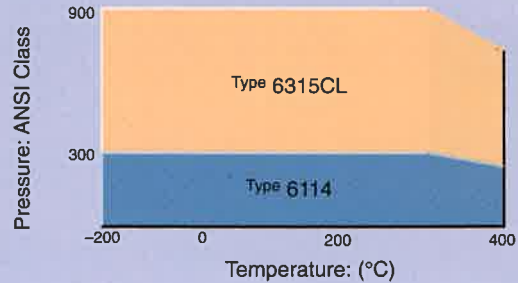
This mechanical seal is used in tandem seal as secondary seal. Groove on the seal face reduces load to the seal and contributes longer life. Special lubricant is impregnated in the seal face, ensuring a stable sealing performance against dry running.

Performance

Pressure: 0.1MPa (2MPa), Velocity: 20m/s, Nom.size: ϕ 20-130
Application: Process pump

Code: MS-RRG20-RT100 - (Size), SiC vs. Premium Carbon & Fluoro Elastomer, 316 SS

Selection of valve packing



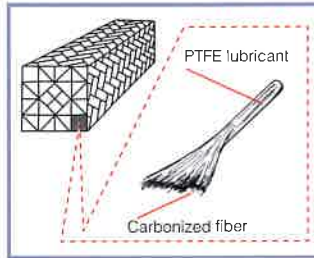
Gland Packings

Type 6521L

Carbonized fiber packing



Code: GP-6521L - (Size)



Features & Benefits

For General Pump

This is made of carbonized fiber impregnated with PTFE dispersion, and lattice braided with special lubricant. This has much enhanced performance than our popular type 6501L. This packing can accommodate big pressure fluctuation, so can be used widely in rotating/reciprocating equipment.

Performance

Temperature: 200°C, Pressure: 1.2MPa, Velocity: 20m/s, PV value: 9.8MPa·m/s
Application: General pump

*Cooling is required for liquid over 80°C

Type 7200*

Skewed seal®



Features & Benefits

Enforced lubricating seal system

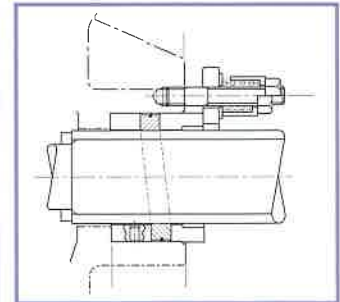
This is unique seal system which consist of seal ring dislocating ring and springs. When equipment is operated, it involves the sealing liquid compulsorily to the mating face, accomplishing cooling and lubricating.

Performance

Pressure: 0.5MPa, Velocity: 10m/s, PV value: 5MPa·m/s
Application: General pump



Code: GP-7200 - (Size)

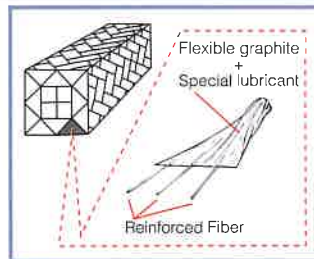


Type 6114*

Pillarfoil® braided packing (Mark VII)



Code: GP-6114 - (Size)



Features & Benefits

Non-metallic, low torque packing for valve

This is a square braided packing, consists of the Pillarfoil® and the inner is reinforced by organic fiber. It's non-metallic packing, impregnated with special lubricant to give the low sliding resistance and excellent sealing properties.

(US 5370405 EP 466923 KR 74981 Canada 2029303 Ireland 71684)

Performance

Temperature: -200~400°C (Packing area up to 350°C), Pressure: ANSI Class 300
Application: Valve, Manhole

Type 6315CL*

Pillarfoil® braided packing for low torque (Mark V)



Features & Benefits

For regulating and control valve to comply CAAA regulation

This is made of flexible graphite yarn reinforced by stainless steel wire, and braid over braid then treated with special lubricant. This has superior performance for regulating and control valve.

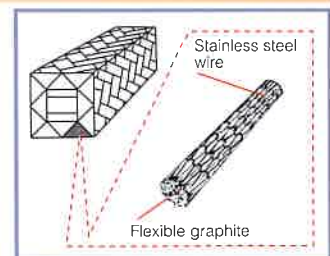
(Pat.No.US5134030, 5240769, EP340303, KR63539)

Performance

Temperature: -200~400°C (Packing area up to 350°C), Pressure: ANSI Class 900
Application: Regulating valve, Control valve

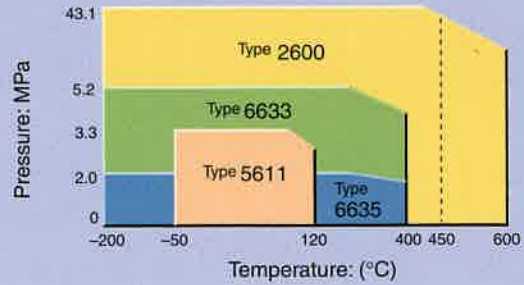


Code: GP-6315CL - (Size)



* These products have gotten the patent

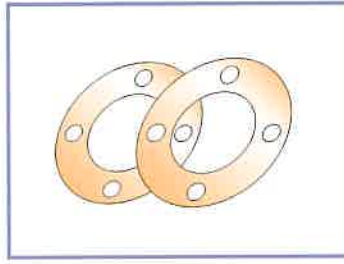
Selection of gasket



Gaskets

Type 5611

Non-asbestos joint sheet (for general application)



Features & Benefits

For general application

High strength synthetic fiber, inorganic fiber and NBR are combined evenly, and formed into sheet.

Performance

Temperature: -50~120°C, Pressure: 3.3MPa

Application: Flanges for pipe, Equipment

Code: VG-5611 - (thickness) × (width) × (length)

Type 6633

Metalfoil inserted Pillarfoil® Sheet

Features & Benefits

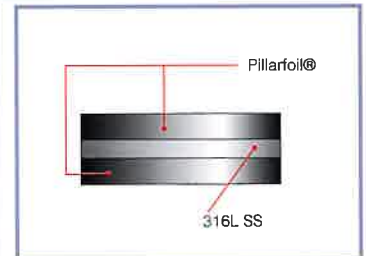
Flexible Graphite sheet reinforced by stainless steel foil.

This has superior heat resistance and flexibility as well as sealability, and easy to handle.

Performance

Temperature: -200~400°C, Pressure: 5.2MPa (ANSI Class 300)

Application: Flanges for pipe, Equipment



Code: VG-6633 - (thickness) × (width) × (length)

Type 2600

Pillarfoil® spiral wound gasket



Features & Benefits

Spiral wound gasket using Pillarfoil filler

It is superior in gas sealability, heat resistance and chemical resistance. It can be used in vacuum, LNG, nuclear application as well as general application.

Performance

Temperature: -200~600°C (450°C for oxidizing atmosphere)

Pressure: 43.1MPa (ANSI Class 2500)

Application: Flanges for pipe, Equipment

Code: Standard
With inner ring
With inner/outer ring

VG-2600-EOO-ANSI (Size) LB-00"
VG-2601-EEO-ANSI (Size) LB-00"
VG-2603-EEE-ANSI (Size) LB-00"

Type 6635*

Emission defense gasket (EDG)

Features & Benefits

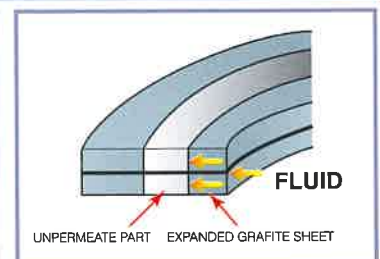
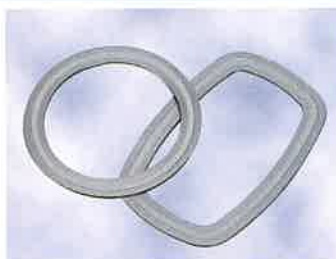
Flexible graphite sheet gasket to comply CAAA regulation

The flexible graphite sheet reinforced with stainless steel foil is specially treated to higher density in order to make emission control. It can be designed for that which spiral wound gasket is unable to be applied.

Performance

Temperature: -200~400°C, Pressure: 2.0MPa (ANSI Class 150)

Application: Valve, Flanges for pipe

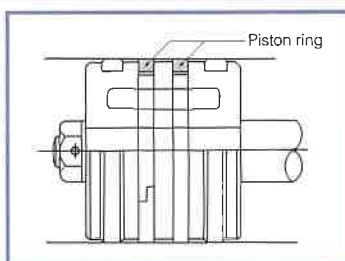


Code: VG-6635 - (thickness) × (width) × (length)

PTFE Products

Type 4370

Piston ring



Features & Benefits

New material for piston ring

This is a lubricant-free piston ring made of filled Pilaflon®, ensuring a stable sealing effect for a long time.

Performance

Temperature: -100~220°C, Pressure: 9.8MPa, Velocity: 4m/s
Application: Oil-free compressor, Reciprocating equipment

Code: PF-4370 - (Material) - (ID) × (OD) × (T)

Type 4391~4394

Rod packing

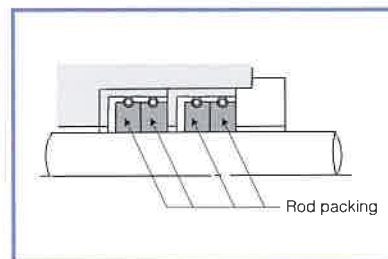
Features & Benefits

New material for rod packing

This is a lubricant-free rod packing made of filled Pilaflon®, ensuring a stable sealing effect for a long time.

Performance

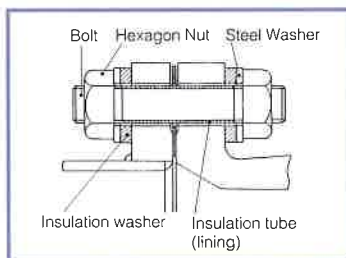
Temperature: -100~220°C, Pressure: 2.9MPa, Velocity: 4m/s
Application: Oil-free compressor, Reciprocating equipment



Code: PF-439* - (Type) - (Material) × (ID) × (OD) × (T)

Type 4650(H)

AC bolts



Features & Benefits

Lined with hard Pilaflon®

With insulation washers and gaskets, it is to prevent galvanic corrosion which may be generated on different metal flanges. PFA insulation diameter is smaller than thread diameter, so enable easy insertion work.

Performance

Temperature: -196~200°C
Application: Flanges for pipe, Equipment

Code: PF-4650(H)-ANSI - (Size) LB - (Size)*

Type 4801

FLUOROGOLD® Slide Bearing

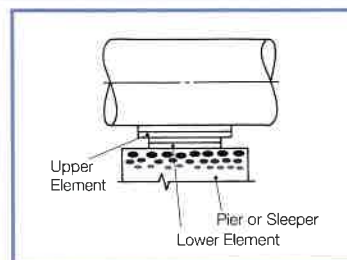
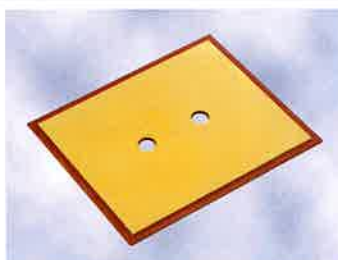
Features & Benefits

To accommodate relative sliding of equipment

Fluorogold® is a high load slide bearing to accommodate relative movement by earthquakes, temperature difference, wind and so on.

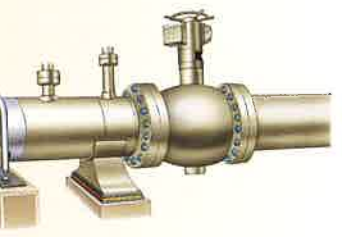
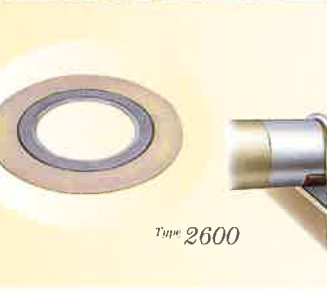
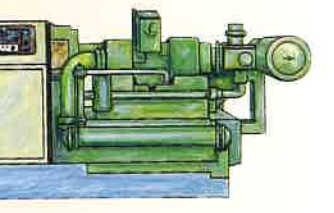
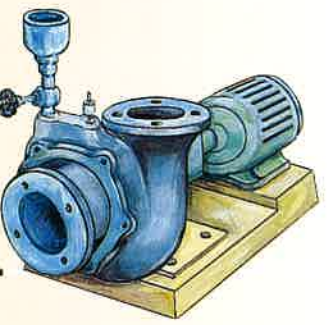
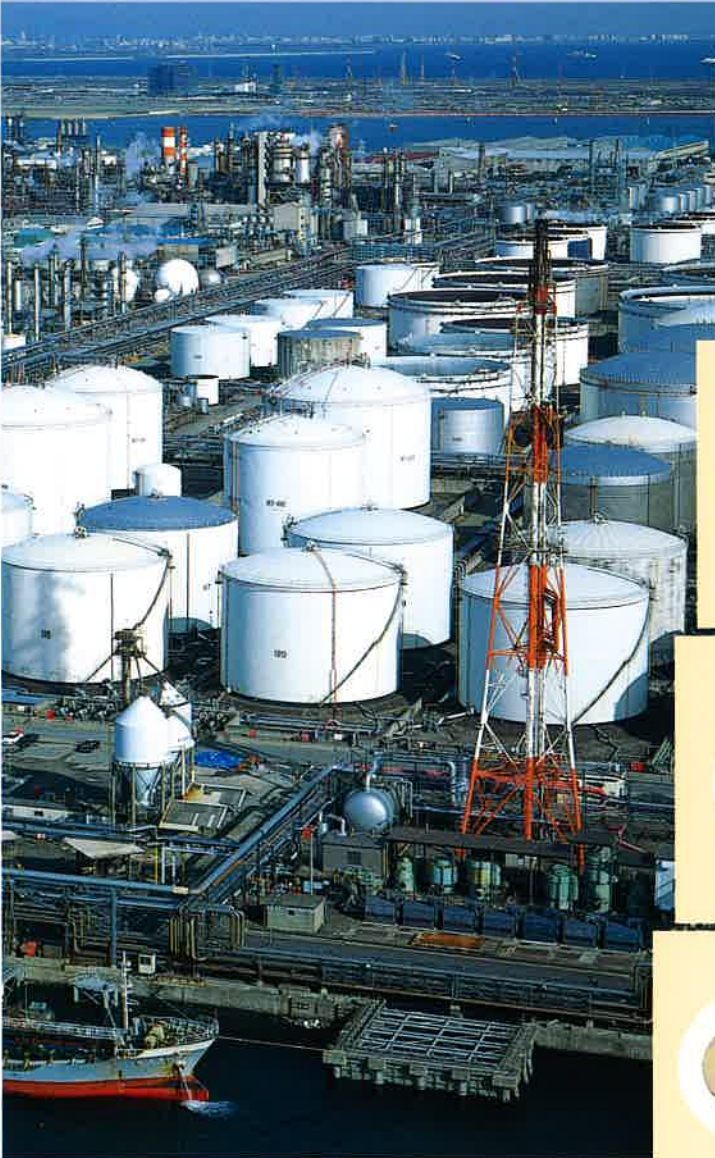
Performance

Load: 0.5~13.7MPa, Temperature: -60~260°C
Application: Support for pipe, Equipment, Iron structure and apparatus

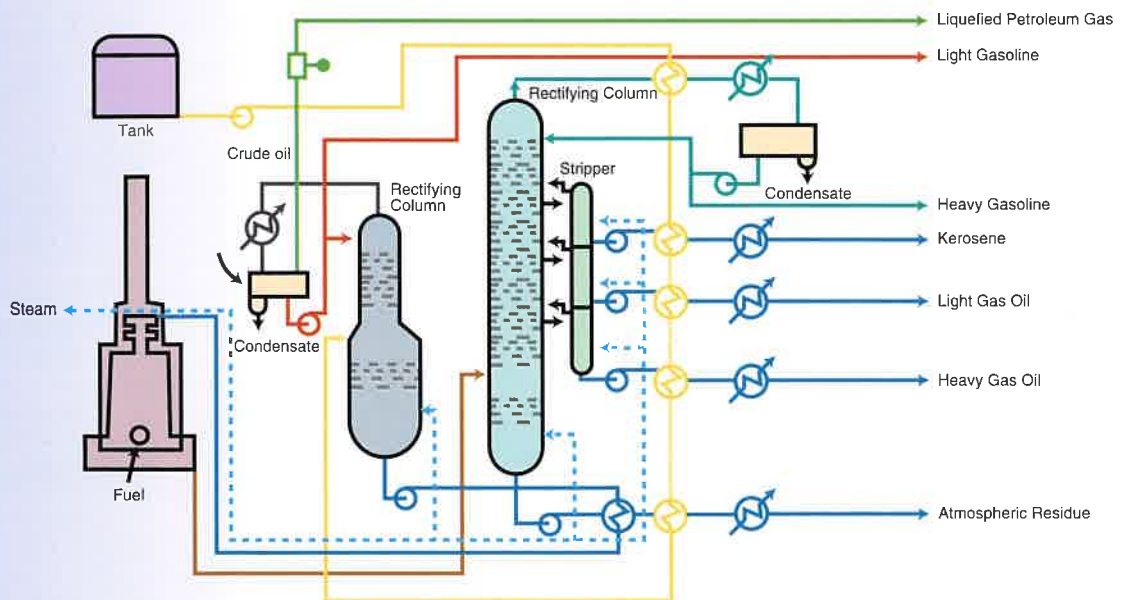


Code: PF-4801-FC-1010-CS 15L (width) × (length) Carbon steel and PTFE

PILLAR Products in Process of REFINERY and PETROCHEMICAL Plants



Crude Oil Distillation Unit





NIPPON PILLAR PACKING CO., LTD.

<http://www.pillar.co.jp/>

E-mail : info@pillar.co.jp

Head Office

11-48, Nonakaminami 2 Chome, Yodogawa-ku, Osaka, 532-0022 Japan.
Tel : 81-(0)6-6305-2821 Fax : 81-(0)6-6302-3300

Tokyo Office

2-2, Uchisaiwaicho 2 Chome, Chiyoda-ku, Tokyo, 100-0011 Japan.
Tel : 81-(0)3-3508-1611 Fax : 81-(0)3-3508-1881

Nippon Pillar Corporation of America

1562, Parkway Loop, Suite2C, Tustin, CA 92780, USA.
Tel : 1-714-258-7741 Fax : 1-714-258-7760

Nippon Pillar Singapore Pte, Ltd.

10 Toh Guan Road #09-01 TT International Tradepark, Singapore 608838
Tel : (65)861-7138 Fax : (65)862-9098

*Specifications and dimensions are subject to change without prior notice.
*The data on this catalogue are solely for your reference and are not to be construed as constituting a warranty.

