



STANDARD API 682 DUAL CARTRIDGE SEALS

PATENTED

APD 355TM



TANDEM CARTRIDGE SEALS FOR REFINING AND PETROCHEMICAL PROCESSES

Product Description

The APD 355 seal is designed and manufactured according to the revised API 682 4th Edition. Specially engineered to cover the needs of the refining and petrochemical industries, the APD 355 is especially suited for high-temperature and high-pressure applications.

Fitting API enlarged bore rotating equipment, this seal is primarily applied in refining, petrochemical, pipeline transportation and renewable energy industries. When used in conjunction with an SP-3/5GL seal reservoir, the seal can eliminate or minimize VOC emissions.

Specific Features

- Balanced seal designed to handle higher pressures and generate less heat.
- The inboard stationary ring maintains consistent strength under high-temperature, high-pressure conditions, and has reduced potential for overheating, leading to longer service life.
- Monolithic sealing faces according to the API 682 standard offer excellent wear and chemical resistance.
- High-efficiency pumping ring, coupled with the venting outlet hole, provides the best cooling, flushing and lubrication effects at the sealing faces by circulating the barrier or buffer fluid to carry away seal-generated heat, resulting in extended seal life and MTBF (Mean Time Between Failures)
- As a reversible balanced seal, the inboard seal is designed to seal equally well with pressure from either direction.
- Self-aligning compensates for shaft runout up to ± 0.5 mm, increasing operational reliability.
- Recommended API piping plans 52, 53 and 54 with a choice of pressurized barrier fluid or unpressurized buffer fluid, depending on the application requirements.
- For high temperature services, API piping plans 22 and 23 are suitable.
- A patented impact absorbing washer is utilized to ensure spark-free operation, greatly reducing the risk of on-site catastrophic fire.

Operating Capabilities

Temperature	-40 ~ 260°C (-40 ~ 500 °F)
Pressure	Up to 570 psig (40 kg/cm ² G)
Surface Speed	Up to 4923 fpm (25 m/s)

Recommended Piping Plans

Between seals	52 / 53 / 54
Process side	22 / 23

※ Custom designs are available to combine various compatible plans.

Design Standards

- API 682 4th Edition:
 - Type A
 - 2CW-CW
 - 3CW-FB
- Custom designs are available to cover the specific needs of customers.

Auxiliaries and Components (Options)

- SP-3GL : 3-gallon sealing fluid reservoir
- SP-5GL : 5-gallon sealing fluid reservoir
- WCHE heat exchanger.

Applications

- Ideal for high-temperature, high-pressure processes.
- Suited for API process pumps and chemical liquid transfer pumps.
- Designed for sealing hazardous emissions of acidic, caustic, corrosive and toxic media, and containing light hydrocarbons, including VOCs.
- Used in diverse industries, including the refining, petrochemical, pipeline transportation, renewable energy, and electric power industries.

Material Selection

Seal Components	Standard Materials	Other Material Options
Stationary Rings	Silicon Carbide*	Tungsten Carbide*
Rotary Rings	Carbon Graphite*	Silicon Carbide* Tungsten Carbide*
Metal Parts	316 Stainless Steel*	304 Stainless Steel 316L Stainless Steel* 316Ti Stainless Steel* Duplex Stainless Alloy C-276 Titanium Monel®
Elastomeric O-rings	FKM*	Aflas NBR EPDM FFKM (Sceniraz™ / Chemraz® / Kalrez®)
Springs	Alloy C-276*	316 Stainless Steel* Inconel®

In compliance with API 682 4th edition. (6.1.6 Standard Design)

Note 1: Proper material selection is critical to the reliable operation of a mechanical seal. Selection depends on the characteristics of the contacting fluid. Variables such as operating temperature, pressure, speed, lubricity, and chemical compatibility are key parameters. The purchaser should solicit seal manufacturer input when in doubt about the compatibility of these materials with the intended service. See NACE Corrosion Engineer's Reference Book for one source of suitable materials.

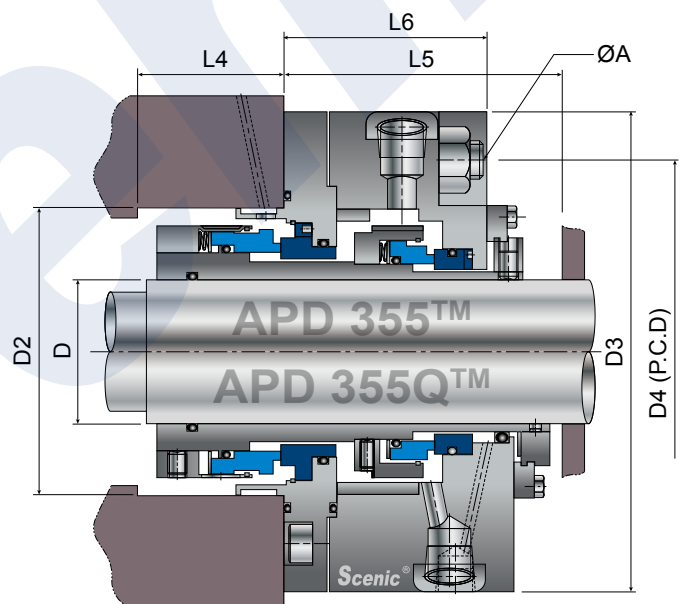
Note 2: Material selection can vary depending on the function of the part and its proximity to, or contact with, the process fluid. Thus, it is not uncommon in corrosive services for dual seals to have different materials used for components in the outer part of the seal that are not wetted by the process fluid.

Custom Design

- For your custom APD 355 seal(s), please provide the following information when consulting Scenic.

- D _____ Shaft Diameter
- D2 _____ Seal Chamber ID (Inside Diameter)
- D3 _____ Gland OD (Outside Diameter)
- D4 _____ Bolt P.C.D (Pattern Circle Diameter)
- A _____ Bolt Dimension and Quantity
- L4 _____ Seal Chamber Depth
- L5 _____ Nearest Obstruction
- L6 _____ Gland Width

Unit: mm / inch



Disclaimer

The contents of this catalog are provided for informational purposes only and are subject to change. The accuracy and completeness of the information provided herein and the opinions stated herein are not guaranteed or warranted to produce any satisfactory results. For the protection of intellectual property, no part of this catalog may be used, indexed, modified or distributed, in any form, or by any means without the prior written consent of Scenic. Scenic has its best efforts in inspecting and testing all products to ensure the safety and durability of every product. All brand names and product names used in this catalog are trademarks of their respective holders. Should you have any questions or need further information about our products, please contact us or one of our authorized distributors for complete technical support and customer service. Scenic provides up-to-date product catalogs and technical documents in a timely manner on its website at www.scenic-seals.com.



Scenic®, CARLIFE®, APD®, MGS®, Sceniraz™ are trademarks of Scenic Precise Element Inc. | Registered trademark: Monel®, Inconel® - Special Metals Corporation. | Kalrez® - Dupont Performance Elastomers LLC. | Aflas® - Asahi Glass Co., Ltd. | Chemraz® - Greene, Tweed & Co. | Rulon® - Saint-Gobain Group. | MAT® - Morgan Advanced Materials Plc.
Copyright © 2016 Scenic Precise Element Inc.

Distributor

SCENIC PRECISE ELEMENT INC.

No.5, Sin-Jhan Rd., Chian-Jhen District, Kaohsiung City 80672, Taiwan

Tel : (886-7) 811-1359 Fax : (886-7) 822-1033

Email : service@scenic-seals.com | scenic@scenic-seals.com

Scenic®