

PARJET CO., LTD.



ParSave®

Bearing Isolators

軸承隔離器



培凱有限公司
WWW.PARJETSEALS.COM



PARJET

培凱有限公司

Parjet is an IATF 16949 and ISO 9001 certified advanced seals manufacturer and distributor that supplies high-performance customized sealing components to FTSE 500 enterprises. We are one of the leading companies in manufacturing PTFE seals in Taiwan. We design, manufacture, and deliver various high quality sealing components to our customers around the globe. Parjet has an extensive inventory of PTFE seals, hydraulic seals, pneumatic seals, mechanical seals, bearing isolators, springs O-rings, hoses and many more. We supply superior quality sealing solutions to more than 2100+ companies in over 30 countries worldwide, serving more than 15 industries including Automotive, Oil & Gas, Health & Medical, Food & Beverage, Semiconductor, valves and more.

培凱有限公司立於 1991 年，是一間在台灣通過 IATF 16949 和 ISO9001 認證的專業密封件供應商，也是世界領先知名的密封件供應商，派克漢尼汾的授權經銷商。我們服務超過15個產業，包括汽車、石油和天然氣、醫療、食品、半導體、閥門等產業。我們擁有豐富的應用經驗與實績，多年來不但引進國外工業密封解決方案，亦針對客戶需求，與國外顧問合作提升產品品質。培凱擁有完善的 PTFE 密封件、液壓密封件、氣動密封件、機械密封件、軸承隔離器、彈簧、O 型環等庫存，目前已經累積銷售到超過全球 30 多個國家、2100多家公司、15個產業。

Product Offerings:

- **HiPerSeal®** - Spring Energized Seals
- **HiPerLip®** - PTFE Rotary Lip Seals with Metal Casing
- **HiPerFlon®** - PTFE Rotary Lip Seals with O Ring
- **ParSeries®** - Mechanical Seals, Lip Seals
- **ParSave®** - Bearing Isolators
- **PTFE Seals**
- **Wear Rings**
- **Springs**
- **Hydraulic Seals**
..... and more

培凱產品項目:

- **HiPerSeal®** - 鐵氟龍彈簧密封件
- **HiPerLip®** - 鐵氟龍翻唇式旋轉密封件(搭配鐵殼)
- **HiPerFlon®** - 鐵氟龍翻唇式旋轉密封件(搭配O型環)
- **ParSeries®** - 機械軸封、泵用唇封、攪拌機用浮動唇封
- **ParSave®** - 軸承隔離器
- 鐵氟龍密封件
- 耐磨環
- 彈簧
- 液壓油封
..... 其他更多

ParSave®

Bearing Isolators

軸承隔離器

ParSave® - Bearing Isolators, is an extension of Parjet PTFE products. It is a sealing device developed to protect the rolling bearings of rotary equipments and can replace traditional lip seals (commonly known as rubber oil seals). The special configuration of the labyrinth ring combination helps to eliminate common sealing issues. Common issues includes the shaft damages caused by the wear of the rotating shaft from the lip seals or malfunction caused by the intrusion of foreign objects or water vapor. Due to the unique sealing mechanism, there is no contact between mating surfaces, so there are no potential wear and pollution problems. Additionally, With the characteristics of the PTFE material such as excellent heat resistance, self lubrication and chemical resistance, ParSave® can operate effectively under harsh environments and extend the service life of the bearings and rotating shafts.

ParSave® is suitable for cooling water towers, wastewater treatment or non-pressure acid and alkali treatment equipment. It is completely free of corrosion problems therefore suitable to be used in extreme operating conditions, for instance the gearboxes with a long-term high humidity, dust, and water vapor splash environment. ParSave® can replace the traditional lip seal and offer an effective isolation protection for the bearings and lubricating oil. This significantly reduces the probability of water intrusion and extend the service life of the bearing.

Our Parjet ParSave® engineering team has rich experience and capabilities in design, production, application, and diagnosis of problems. We provide optimal designs and selections for the shaft seal requirements of any rotary equipment such as motors, pumps, fans, mixers, compressors, etc. We can meet the customers' needs in a short lead time even with customized designs.

ParSave® 軸承隔離器 - 顧名思義是針對轉動設備滾動軸承的保護而開發的密封裝置，可取代傳統的唇形密封件(亦稱為橡膠油封)，利用特殊配置的迷宮環組合，不但消除了轉動軸被唇形密封磨損而導致的軸心磨損，其軸承也因異物或水氣的侵入而引起潤滑油的劣化&失效問題，軸承隔離器可有效延長軸承與轉動軸心的使用壽命。另外因無對磨面的接觸故也無元件磨耗與汙染問題，整個密封件材料以耐熱自潤性及高強度的特殊填料聚四氟乙烯與搭配FKM (Viton) O型環非常適用於軸承轉動設備嚴苛的環境。

ParSave® 為培凱公司聚四氟乙烯產品的延伸，材質完全沒有腐蝕困擾，亦適用於冷卻水塔、廢水處理或無壓力的酸鹼液處理設備。例如，在齒輪箱長期處於高濕、粉塵、水氣噴濺等環境，不僅可在既有的密封件空間上直接取代傳統的唇形密封，更能對軸承或潤滑油形成有效的隔離防護，大幅降低水氣入侵的機率延長軸承的使用壽命。

培凱公司的ParSave®產品團隊具有豐富的設計、製作、應用、診斷的經驗與能力，可針對任何轉動設備如馬達、水泵、風機、攪拌機、壓縮機等....的軸封要求，提出最佳化設計或選型，無論標規或特規的ParSave®系列產品均能配合客戶的實際需求並滿足短期供貨的目標。



Component of ParSave® Bearing Isolators

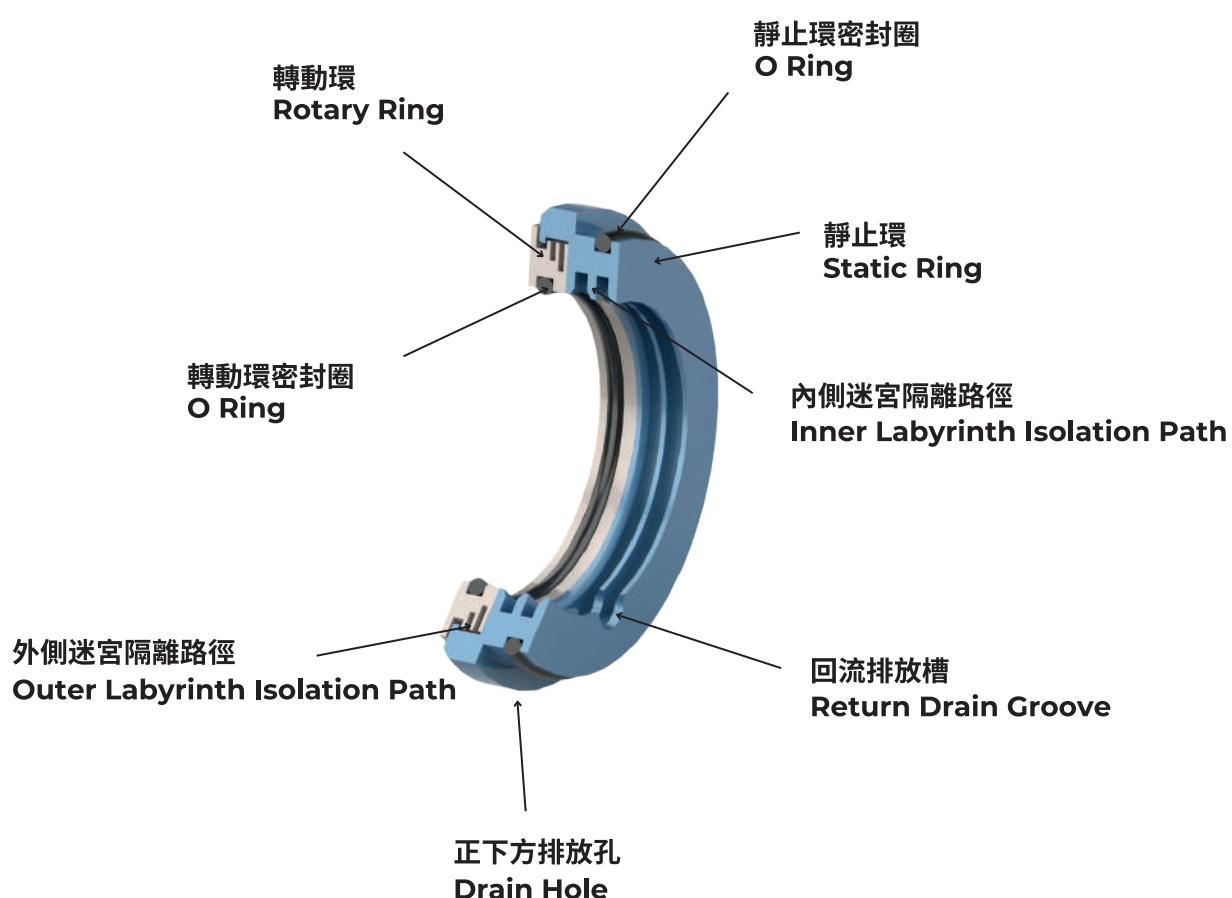
ParSave® 軸承隔離器的功能與特徵

ParSave® is evolved from the design concepts of major leading brands and uses the characteristics of PTFE materials to enhance the sealing performance. The O Ring can completely blocks out any leakage in the inner bore and the special labyrinth design and drain grooves can ensure the quality of lubricating oil. In addition to providing the braking force that synchronous rotates with the shaft, the centrifugal force provided by O Ring during rotation and the internal labyrinth path will effectively remove high-humidity pollutants to achieve a double-layer protection effect.

ParSave® adopts a simple and integrated design without any special tools to install. It is the top choice to reduce maintenance costs and improve the reliability of the equipment operation.

ParSave® 軸承隔離器依據國外各大領導品牌的設計概念並加以進化功能，同時運用材料的特性讓動&靜環做嵌合式精密組合。靜置的O型密封環完全阻絕軸承座內孔的洩漏路徑，ParSave®強力潑油迷宮溝槽與潤滑油回流設計確保潤滑油的品質，回轉環的O型密封環除提供與軸心同步回轉的制動力外，當回轉時的離心力作用與內部的迷宮路徑也會將大氣的高濕粉塵的雜質甩出並排放達到雙層保護效果。

ParSave® 系列軸承隔離器採用簡單及一體化的設計，無需任何特殊工具即可完成安裝工程，絕對是您降低維護成本、提高設備運轉可靠度的最佳選擇。



Parjet offers 4 major designs to meet with different working conditions.

培凱提供4種不同設計來滿足不同工作條件。

Function:

- Prevent the reduction & deterioration of bearing lubricating oil
- Prevent the intrusion of foreign matter such as air & water vapor
- Prevent shaft wear
- Reduce (or avoid) heat generation
- Does not affect power consumption

目的:

- 防止軸承潤滑油的減少與變質
- 防止大氣&水氣等異物的侵入
- 防止軸心的磨損
- 減少(或避免)發熱量
- 不影響消耗動力



ParSave® 1



ParSave® 2



ParSave® 3



ParSave® 4

Advantages:

- Ensure that the lubricating oil is not polluted and extend the operating life of the bearing
- Reduces maintenance costs
- No interference during the operation, hence does not increase the torque
- Sealing mechanism performs an isolation effect
- Excellent corrosion and chemical resistance
- Lightweight and simple design
- Easy installation
- Standard or special sizes are available

優點:

- 可保障潤滑油脂不被汙染延長軸承運轉壽命
- 軸心表面不會磨損，減少維修成本費用
- 運轉中沒有干涉現象不會增加扭距&動力
- 雙向迷宮技術設計完全發揮隔離效果
- 應用材料的特性不受化學的侵蝕
- 最輕量化與簡單的設計
- 超輕巧一體化設計易於安裝工程
- 標準或特殊尺寸皆可設計製作

Application:

- | | |
|------------|------------|
| • Motor | • Turbine |
| • Gear Box | • Agitator |
| • Reducer | • Mixer |
| • Pump | |

適用設備:

- | | |
|-------|-------|
| • 馬達 | • 涡輪機 |
| • 齒輪箱 | • 攪拌機 |
| • 減速機 | • 混合機 |
| • 泵浦 | |

Industry:

- Chemical Industry
- Petrochemical Industry
- Pharmaceutical Industry
- Pulp and Paper Industry
- Food and Beverage Industry

應用市場:

- 化學品工業
- 石油化學工業
- 藥品工業
- 紙漿和造紙工業
- 食品飲料業

Rubber Lip Seal vs. ParSave® Bearing Isolators

橡膠唇封 vs. ParSave® 軸承隔離器

外觀 Appearance		
名稱 Name	橡膠唇封 Rubber Lip seal	軸承隔離器 Bearing Isolators
材質 Material	NBR	PTFE 複合材料 PTFE Compound Material
耐溫性 Max. Temp.	90 °C	200 °C
耐化學性 Chemical resistance	X	O
磨耗 Wear	會有磨損 Present	沒有相互對磨 Absent
扭矩力 Torque	橡膠的內徑會干涉軸心 Rubber ID will interfere with the axis	不影響 Absent
耐轉速 Max. Rotary Speed	有限制 Limited	可特殊設計 Customized Design Available
壽命 Seal life	短 Short	長 Long
需潤滑性 Lubrication	需要 Required	不需要 Not required
溫度升高 Raise in Temp.	會 Present	沒有影響 Absent
汙染 Pollutant	有 Present	不會 Absent
特殊設計 Special Design	X	O

ParSave® 1



The **double labyrinth path design** with flange can effectively avoid the contact between the lubricating oil and other substances such as, atmospheric dust or water spray. It can achieve complete isolation in extreme harsh environments and is typically used in horizontal equipment.

帶有法蘭的雙迷宮路徑設計有效隔離軸承潤滑油與大氣粉塵及水氣噴濺等之接觸，對於極嚴苛的環境可完全實現隔離的效果，此型式產品通常運用在臥式水平設備的裝置。

Features

- Highly Resistant PTFE - compound
- No Lubrication Required
- Dry Running
- No Installation Jig.
- Customization
- Cartridge unit

特徵

- 特殊高級的PTFE複合材料
- 不須潤滑介質
- 允許乾燥運轉
- 免安裝工具
- 客製化
- 集裝式

適用範圍 Operating Range:

壓力 Pressure: 0 psi/ bar

溫度 Temperature: - 40°C ~ 120°C (- 40°F ~ 248°F)

軸速 Speed: Max 25m/s (5000rpm)

軸徑 Shaft Size: Ø 20~200mm

材料選項 Material Selection:

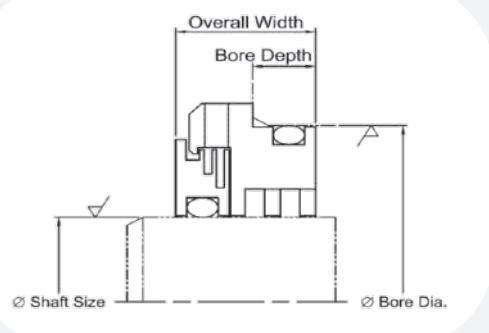
本體材料 Material for Sealing Body -

標準材料 Standard: 特殊PTFE複合材料 PTFE Filled compound
食品級複合材料 (FDA 3A)

O型環 O Ring -

標準 Standard: FKM

其他 Optional: NBR、FDA Silicone、EPDM、Aflas



ParSave® 1 - Standard Dimensions 標準尺寸

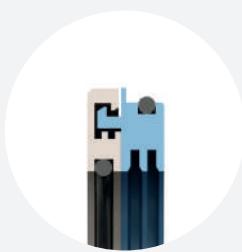
單位Unit: mm

Type	Shaft Size	Bore Dia	Bore Depth	Overall Width
PS1M	20 ~ 50	Shaft + 12 ~ 30	8	16
PS1M	51 ~ 100	Shaft + 15 ~ 35	8	17
PS1M	101 ~ 150	Shaft + 15 ~ 40	9	18
PS1M	151 ~ 200	Shaft + 15 ~ 45	10	19

單位Unit: inch

Type	Shaft Size	Bore Dia	Bore Depth	Overall Width
PS1X	0.750 ~ 2.000	Shaft + 0.500 ~ 1.250	0.315	0.63
PS1X	2.001 ~ 4.000	Shaft + 0.625 ~ 1.375	0.315	0.67
PS1X	4.001 ~ 6.000	Shaft + 0.625 ~ 1.575	0.355	0.71
PS1X	6.001 ~ 8.000	Shaft + 0.625 ~ 1.750	0.393	0.75

ParSave® 2



The **covered rotary ring** and the double labyrinth path design can effectively avoid the contact between lubricating oil and other substances such as, atmospheric dust or water spray. It can achieve complete isolation under extreme harsh environments. It is typically used in horizontal equipment and is highly recommended for the upper position of vertical equipments.

Features

- Highly Resistant PTFE - compound
- No Lubrication Required
- Dry Running
- No Installation Jig.
- Customization
- Cartridge unit

適用範圍 Operating Range:

壓力 Pressure: 0 psi/ bar

溫度 Temperature: -40°C ~ 120°C (- 40°F ~ 248°F)

軸速 Speed: Max 25m/s (5000rpm)

軸徑 Shaft Size: Ø 20~200mm

材料選項 Material Selection:

本體材料 Material for Sealing Body -

標準材料 Standard: 特殊PTFE複合材料 PTFE Filled compound
食品級複合材料 (FDA 3A)

O型環 O Ring -

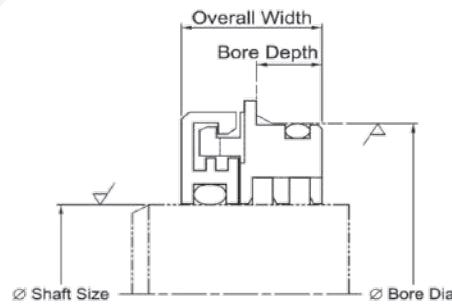
標準 Standard: FKM

其他 Optional : NBR 、 FDA Silicone、 EPDM、 Aflas

帶有包覆式的回轉殼蓋加上雙迷宮路徑設計可有效隔離軸承潤滑油與大氣粉塵及水氣噴濺等之接觸，對於極嚴苛的環境可完全實現隔離的效果，此型式產品通常運用在臥式水平的設備並極力建議裝置直立式上部的設備。

特徵

- 特殊高級的PTFE複合材料
- 不須潤滑介質
- 允許乾燥運轉
- 免安裝工具
- 客製化
- 集裝式



ParSave® 2 - Standard Dimensions 標準尺寸

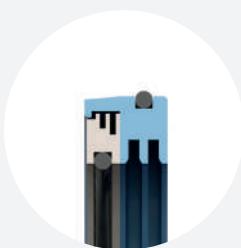
單位Unit: mm

Type	Shaft Size	Bore Dia	Bore Depth	Overall Width
PS2M	20 ~ 50	Shaft + 12 ~ 30	8	16
PS2M	51 ~ 100	Shaft + 15 ~ 35	8	17
PS2M	101 ~ 150	Shaft + 15 ~ 40	9	18
PS2M	151 ~ 200	Shaft + 15 ~ 45	10	19

單位Unit: inch

Type	Shaft Size	Bore Dia	Bore Depth	Overall Width
PS2X	0.750 ~ 2.000	Shaft + 0.500 ~ 1.250	0.315	0.63
PS2X	2.001 ~ 4.000	Shaft + 0.625 ~ 1.375	0.315	0.67
PS2X	4.001 ~ 6.000	Shaft + 0.625 ~ 1.575	0.355	0.71
PS2X	6.001 ~ 8.000	Shaft + 0.625 ~ 1.750	0.393	0.75

ParSave® 3



The **embedded flange design** can replace lip seals and provide flexible options for confined spaces. The double labyrinth path design can avoid the contact between lubricating oil and other substances like dust and water spray. It can achieve complete isolation under extreme environments. It is usually used in horizontal equipment, but is not recommended in the upper position of vertical equipments.

Features

- Highly Resistant PTFE - compound
- No Lubrication Required
- Dry Running
- No Installation Jig.
- Customization
- Cartridge unit

適用範圍 Operating Range:

壓力 Pressure: 0 psi/ bar

溫度 Temperature: - 40°C ~ 120°C (- 40°F ~ 248°F)

軸速 Speed: Max 25m/s (5000rpm)

軸徑 Shaft Size: Ø 20~200mm

材料選項 Material Selection:

本體材料 Material for Sealing Body -

標準材料 Standard: 特殊PTFE複合材料 PTFE Filled compound
食品級複合材料 (FDA 3A)

O型環 O Ring -

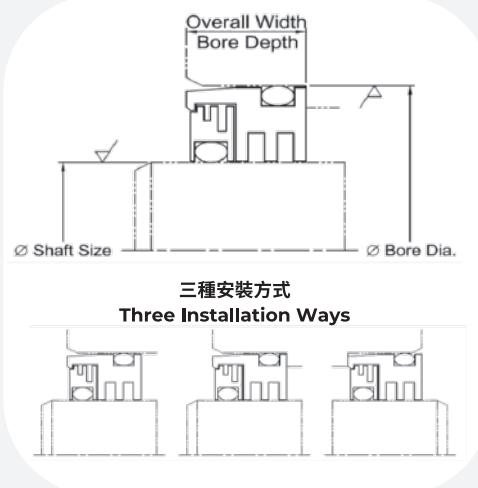
標準 Standard: FKM

其他 Optional: NBR、FDA Silicone、EPDM、Aflas

嵌入式法蘭設計可完全取代現有唇形密封的機構對於密閉空間提供更靈活的選擇，同時雙迷宮路徑設計可有效隔離軸承潤滑油與大氣粉塵及水氣噴濺等問題，對於極嚴苛的環境可完全實現隔離的效果，此型式產品通常運用在水平臥式設備裝置但不建議使用在直立式上部的位置。

特徵

- 特殊高級的PTFE複合材料
- 不須潤滑介質
- 允許乾燥運轉
- 免安裝工具
- 客製化
- 集裝式



ParSave® 3 - Standard Dimensions 標準尺寸

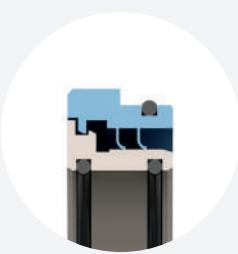
單位Unit: mm

Type	Shaft Size	Bore Dia	Bore Depth	Overall Width
PS3M	20 ~ 50	Shaft + 12 ~ 30	12	12
PS3M	51 ~ 100	Shaft + 15 ~ 35	14	14
PS3M	101 ~ 150	Shaft + 15 ~ 40	16	16
PS3M	151 ~ 200	Shaft + 15 ~ 45	18	18

單位Unit: inch

Type	Shaft Size	Bore Dia	Bore Depth	Overall Width
PS3X	0.750 ~ 2.000	Shaft + 0.500 ~ 1.250	0.5	0.5
PS3X	2.001 ~ 4.000	Shaft + 0.625 ~ 1.375	0.55	0.55
PS3X	4.001 ~ 6.000	Shaft + 0.625 ~ 1.575	0.625	0.625
PS3X	6.001 ~ 8.000	Shaft + 0.625 ~ 1.750	0.72	0.72

ParSave® 4



ParSave® 4 uses similar sealing technology of our product, HiPerLip®, which provide a complete sealing effect under full liquid or partial internal pressure condition. The surface of the shaft is protected by the therefore it will not be worn and prevents pollutants like lubricating grease and water spray. It is usually used in horizontal equipment with full liquid and the lower position of vertical equipments.

Features

- Highly Resistant PTFE - compound
- No Installation Jig.
- Customization
- Cartridge unit
- Metal Sleeve

此型式產品特別應用自社的 HiPerLip® 的唇封技術對於滿液或有局部內壓的場合可提供完全密封的效果，因有軸套的保護所以軸心表面不會磨損且是接觸式密封機能可完全防止潤滑油脂及隔離外部噴濺水氣等汙染物質，此型式產品通常運用在水平臥式設備的滿液狀態與直立式下部的設備裝置。

特徵

- 特殊高級的PTFE複合材料
- 免安裝工具
- 客製化
- 集裝式
- 附裝金屬保護軸套

適用範圍 Operating Range:

壓力 Pressure: 0.3 psi/ bar

溫度 Temperature: - 40°C ~ 120°C (- 40°F ~ 248°F)

軸速 Speed: Max 25m/s (5000rpm)

軸徑 Shaft Size: Ø 20~200mm

材料選項 Material Selection:

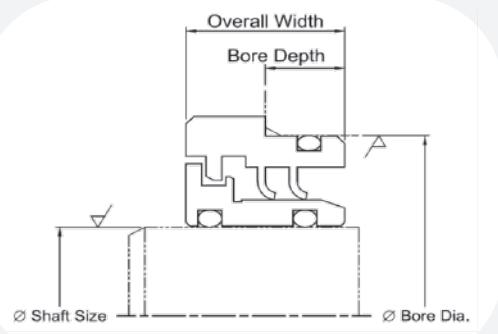
本體材料 Material for Sealing Body -

標準材料 Standard: 特殊 PTFE 複合材料 PTFE Filled compound
食品級複合材料 (FDA 3A)

O型環 O Ring -

標準 Standard: FKM

其他 Optional: NBR、FDA Silicone、EPDM、Aflas



ParSave® 4 - Standard Dimensions 標準尺寸

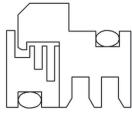
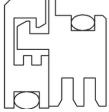
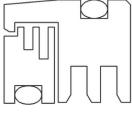
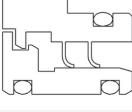
單位Unit: mm

Type	Shaft Size	Bore Dia	Bore Depth	Overall Width
PS4M	20 ~ 50	Shaft + 12 ~ 30	8	16
PS4M	51 ~ 100	Shaft + 15 ~ 35	8	17
PS4M	101 ~ 150	Shaft + 15 ~ 40	9	18
PS4M	151 ~ 200	Shaft + 15 ~ 45	10	19

單位Unit: inch

Type	Shaft Size	Bore Dia	Bore Depth	Overall Width
PS4X	0.750 ~ 2.000	Shaft + 0.500 ~ 1.250	0.315	0.63
PS4X	2.001 ~ 4.000	Shaft + 0.625 ~ 1.375	0.315	0.67
PS4X	4.001 ~ 6.000	Shaft + 0.625 ~ 1.575	0.355	0.71
PS4X	6.001 ~ 8.000	Shaft + 0.625 ~ 1.750	0.393	0.75

Applicable Condition 適用範圍

形式 Profile	構造 Diagram	標準材質 Standard Material	條件範圍 Operating Condition			
			壓力 Pressure (bar)	溫度 Temperature (°C)	周速 Speed (m/s)	軸向位移 Shaft Displacement
ParSave® 1		09T/V75	0	-40 ~ 120	≤25	0.3mm
ParSave® 2		09T/V75	0	-40 ~ 120	≤25	0.3mm
ParSave® 3		09T/V75	0	-40 ~ 120	≤25	0.3mm
ParSave® 4		09T/SUS/V75	0.3	-40 ~ 120	≤25	0.3mm

材料選項 Material Selection:

本體材料 Material for Sealing Body -

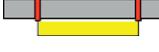
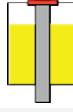
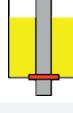
標準材料 Standard: 特殊PTFE複合材料 PTFE Filled compound
食品級複合材料 (FDA 3A)

O型環 O Ring -

標準 Standard: FKM

其他 Optional: NBR、FDA Silicone、EPDM、Aflas

Applicable position 適用位置

位置 Position	條件 Condition	形式 Profile	ParSave® 1			ParSave® 2			ParSave® 3			ParSave® 4		
			Grease	Oil	Dry									
水平臥式 Horizontal			★	★	★	●	●	●	●	●	●	●	●	●
直立式上部 Vertical Up			●	●	●	★	★	★	▲	▲	▲	●	●	▲
直立式下部 Vertical Down			▲	✗	●	▲	✗	●	▲	✗	●	★	★	●

★ 非常適合 Very Suitable ● 很適合 Suitable ▲ 不建議 Not Recommended ✗ 不能使用 Not applicable

ParSave® Coding System

ParSave® 編碼

PS1 M - 0050 - 0080 - Y - 1

ParSave® 1 M - Metric Shaft Dia. = 50mm Bore Dia. = 80mm Seal Material O Ring Material

X - Inch

範例 Example:

PS2 X - 1750 - 2625 - F - 4

ParSave® 2 Inch Spec. Shaft Dia. = 1.75" Bore Dia. = 2.625" 06T Silicone

Material Code

材料代碼

Seal Materials 密封本體材質			O Ring Materials O型環材質	
Code 代碼	Material 材料	Compound 填充物	Code 代碼	Material 材料
T	01T	Virgin PTFE 純鐵氟龍	1	Viton (FKM)
O	03T	Carbon Filled PTFE 碳填充鐵氟龍	2	NBR
F	06T	Glass Fiber Filled PTFE 玻璃纖維填充鐵氟龍	3	Aflas
Y	09T	Graphite Filled PTFE 石墨填充鐵氟龍	4	Silicone
X	Required	Other 其他	5	FFKM

ParSave® Selection Info

ParSave® 選擇資訊

Equipment Type :

設備類型 _____

Manufacturer :

設備供應商 _____

Model :

機型 _____

FDA Material Required :

食品藥物認證 _____

 No Yes
 否 是
 Shaft Movement

軸位移

- Rotates 旋轉
- Oscillates 擺盪
- Reciprocates 往復
- Static 靜止

Shaft Position

軸位置

- Horizontal 水平
- Vertical Up 垂直向上
- Vertical Down 垂直向下

Internal Pressure :
內部壓力 _____**Lubricant :**

潤滑劑

 Oil Grease Dry Running
 潤滑油 潤滑脂 無潤滑
 Shaft Speed :

軸速

RPM 轉/分

Lubrication System

潤滑系統

- Splash,oil level at/below centerline of bearing roller 濺濺，油位≤軸承滾子(珠)中心線
- Flooded, oil level above shaft 滿位，油位≥軸中心線
- Oil mist 油霧
- Grease with purge system 加壓式氣動打油(潤滑油)

 No Yes
 無 有

PSI _____

Media Sealed Out :

環境介質 _____

- Dry, Moderate Dust 乾燥，中量粉塵
- Dry, Heavy Dust 乾燥，高量粉塵

- Wet, Light Spray 潮濕，少量噴濺
- Wet, Heavy Spray 潮濕，高量噴濺

Minimum Temperature :

最低溫度 _____ °C

Average Temperature :

平均溫度 _____ °C

Maximum Temperature :

最高溫度 _____ °C

Dimension :

尺寸

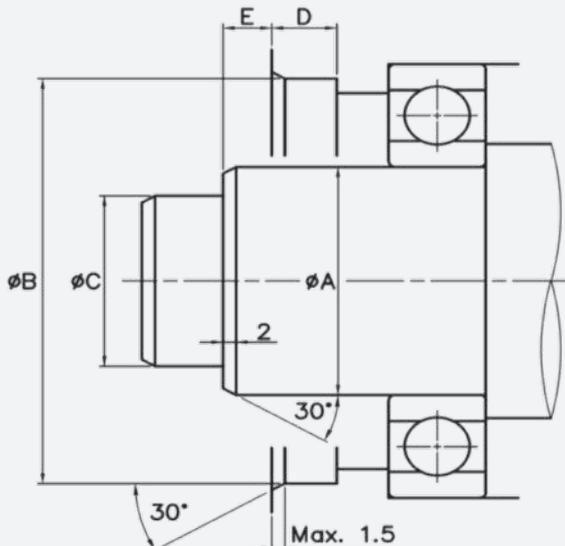
Shaft Dia "A" = 軸徑 "A" _____

Bore Dia "B" = 孔徑 "B" _____

Shaft Dia "C" = 軸徑 "C" _____

Bore Depth "D" = 溝槽深度 "D" _____

Distance from housing to step"E" = 軸承座端面與軸段差的距離"E" _____





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