

PARJET CO., LTD.



ParBush®

PTFE BUSHING

鐵氟龍複合材料軸承

ISO 9001

IATF 16949

ISO 14001



培凱有限公司
WWW.PARJETSEALS.COM

PARJET

培凱有限公司

Parjet is an IATF 16949, ISO 14001 and ISO 9001 certified advanced seals manufacturer 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 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.

Our vision:

To help businesses create values, by one seal at a time.

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
- **ParBush**[®] - PTFE Bushing
- PTFE Seals
- Wear Rings
- Springs
- Hydraulic Seals
- PTFE Customized Products
- and more

培凱有限公司自 1991 年創立以來通過 IATF 16949 ISO 14001與ISO 9001 認證並成為專業密封件供應商。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 型環等設計與生產能力，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。

我們的願景:

透過密封件來幫助企業創造價值。

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、唇封
- **ParSave**[®] - 軸承隔離器
- **ParBush**[®] - 鐵氟龍複合材料軸承
- 鐵氟龍液壓密封件
- 耐磨環
- 彈簧
- 液壓油封
- 鐵氟龍客製產品
- 其他更多



ParBush®

PTFE Compound Bushing

鐵氟龍複合材料軸承



Leveraging years of experience in developing and manufacturing high-grade filled PTFE composites, as well as seals, bearing isolators, mechanical seals, and canted coil springs, Parjet has developed a dual-layer PTFE composite bushing. The PTFE composite bushing can withstand transient and low-lubrication conditions, offering excellent wear resistance. The permissible clearance of the dry-lubricated bushing is smaller than rubber or metal based materials, which significantly enhances the operating efficiency and stability of pumps operations. The drainage holes on the bushing are designed to allow operation in a wide range of environments, reducing life cycle costs (LCC). Parjet can customize, design and adapt to different operating conditions based the temperature, shaft center, housing sizes and material...etc of the operating condition. Our engineering team also provide the flexibility of bushing designs that can accommodate temporary damages or dimension changes caused during maintenance.

Application

- Vertical water pump
- Waste water pump
- Sewage pump
- Sea water pump

- ✓ 擁有自潤性&吸震能力
Self-lubricating & shock-absorbing ability
- ✓ 無吸水性且具備耐化學侵蝕
Non-absorbent and chemical resistant
- ✓ 重量輕&高強度
Light weight & high strength
- ✓ 低摩擦係數、耐初期啟動的乾磨
Low coefficient of Friction
- ✓ 容易客製化 & 組裝
Easy to assemble and customize
- ✓ 可符合FDA認證
FDA approval

培凱公司藉由多年來開發生產各式高品級的填充 PTFE 複材 (Filled PTFE Composite) 及其密封件、軸承隔離器、機械軸封、斜圈彈簧的成功經驗，吸收國外大廠的立式水泵套筒軸承的產品特性與應用經驗，開發出雙層 PTFE 複材的套筒軸承。PTFE 複合材料軸承，可承受瞬態、潤滑不足的工況，並提供優異的耐磨耗性。乾潤滑軸承的容許間隙小於橡膠或金屬材料，可顯著提高泵浦在磨耗性流體中的運轉效能與穩定性。襯套上設計的排水孔使其能夠在廣泛的環境下運行，並可顯著降低生命週期成本 (LCC)。

培凱設計理念:

軸承的尺寸設計會直接影響安裝設備的性能，我們專業團隊可依照詳實的操作條件，如：溫度、軸心、殼體尺寸及材質...等，提供最完善的設計。因每個客戶的應用條件都不一樣，所以製造商的客製能力非常的重要。培凱工程團隊可依實際安裝的尺寸空間變化做設計，尤其對應修理品時，使用過的設備經常有損傷或修補的過程難免會造成尺寸的變化，而我們能提供彈性的設計，為對應臨時修改成必要的形式。

應用

- 立式水泵
- 廢水泵
- 污水泵
- 海水泵

PTFE Material Guide

鐵氟龍材料指南

Parjet's PTFE bushings offers unique properties to suit a wide range of applications and industries.

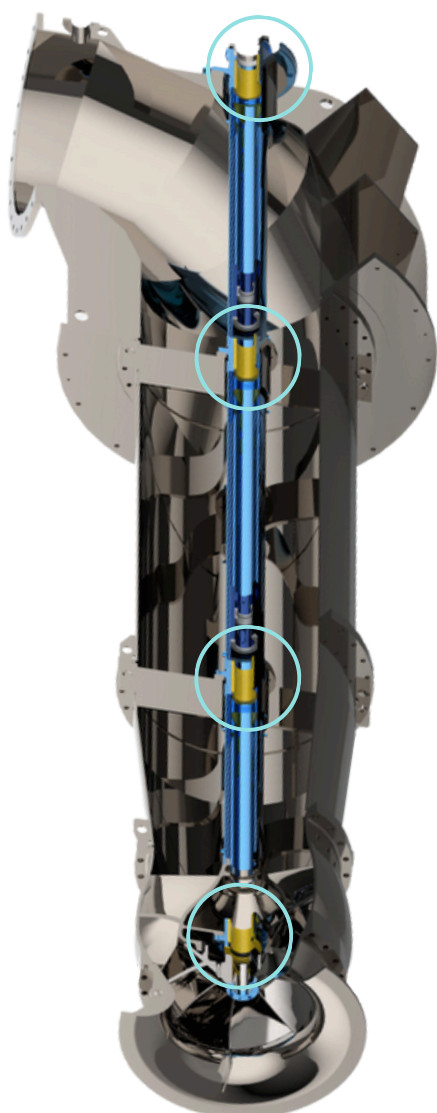
培凱PTFE軸承的複合軸承材料具有特殊的特性以適應廣泛的應用和行業。

特徵 Features	優點 Benefits
自潤性設計 Self - Lubrication	提供免維護操作，無須昂貴且複雜的潤滑系統 Provides maintenance-free operation without expensive and complex lubrication systems
低摩擦係數 Low friction of Coefficient	減少磨損且延長使用壽命，提高設備效率 Reduce wear and extend service life, improve operation efficiency
符合FDA需求 FDA Approval	可運用在食品與醫療級的環境下 Applicable for food & beverage and pharmaceutical industry
尺寸穩定 Dimension stability	幾乎0的吸水率故沒有材料膨脹問題 Absence of material expansion issues due to 0 water absorption properties
耐化學侵蝕 Chemical resistance	高腐蝕對抗能力，不受液體物性的影響 Excellent performance under high corrosive environments
客製化設計 Customization	可彈性對各種特殊尺寸的設計 Flexible design for various special sizes
重量輕 Lightweight	屬輕質材料安裝簡便 Easy to install

The O1R series material outperforms typical bushing material like metallic copper alloys, graphite, or rubber materials. It is suitable for high-load applications in various environment without lubrication, providing a high load capacity similar to bronze, powdered metals, and other metals. O1R series bushing has low friction that offers longer wear and extended service life. The material prevent the hysteresis effect often seen in rubber materials, making them valuable for equipment with intermittent motion. It also does not rust and has shock-absorbing properties, which is suitable for environments where traditional metals might corrode and fail. With an almost zero absorption rate, its expansion and performance degradation are negligible. It also maintain tighter mating surfaces, thereby reduces foreign contamination. This material is excellent for heavy machinery, construction, general industry, and marine equipment.

O1R系列的PTFE複合材料材料優於其他軸承材料(金屬的銅合金&碳精或橡膠材料)。適用於各種氣候和操作環境中的無潤滑、高負載應用，且具有與青銅、粉末金屬和金屬材質的高負載能力，並提供更長的磨損和更長的使用壽命且無需額外潤滑相關成本的增加。O1R系列的軸承表現出非常低的摩擦力，在高負載時表現出低摩擦力，它們沒有橡膠材料的遲滯現象故在啟動/停止頻繁的設備上更顯獨特的角色。O1R系列的材料也不會像金屬部件有生鏽的疑慮同時也有吸震功能，因此您可以在傳統金屬腐蝕和失效的環境中使用它們。培凱獨特的材料幾乎為零的吸收率意味著其膨脹和性能退化可以忽略不計。它還可以保持更緊密的運轉間隙，從而增加可用的軸承面積並減少異物的進入以提高設備性能。其材料的應用更可在重型設備、建築、一般工業、船舶等設備中找到培凱高性能塑料軸承材料。

PTFE Compound Bushing 鐵氟龍複合材料軸承



Vertical Turbine Pumps (abbreviated as VTPs) are very common water supply and drainage equipment in power generation, iron & steel, petrochemical, and semiconductor industry. Due to their small footprint and relatively simple pipeline configuration, many production plants are equipped with hundreds of vertical water pumps. Some of the pumps (such as circulating water pumps or seawater pumps) are directly linked to the safety of the operations, especially in nuclear/thermal power plants.

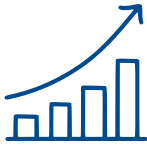
Many pump OEM companies are concerned about supporting the stable operation of the pump shaft sleeve bearings, especially meeting user's requirements of longer MTBF (Mean Time Between Failure) while maintaining high-performance operation.

Therefore, by combining Parjet's years of experience and expertise in developing PTFE composite materials, we provide single/double-layer PTFE material production technology to meet the needs of vertical pump bearings. The PTFE bushes contribute to the rigidity and dimensional stability of the bearings and provide effective support for stainless steel shafts without damaging the shaft surfaces.

立式水泵是電廠、鋼廠、石化廠、半導體廠常見的供排水設備，由於佔地小、管線配置相對簡單，故許多連續製程生產工廠往往配備數百台立式水泵，而核能電廠/熱電廠的立式水泵(如循環水泵、海水泵)更是涉及電廠運轉安全，必須提高其運轉的可靠度。目前，台灣有多家水泵OEM公司，憑藉著多年的行業成功經驗，許多非常關注支撐泵軸穩定運轉的套筒軸承，尤其是如何滿足使用者—較長MTBF(平均故障間隔時間)的要求，同時維持高效能運轉的期待。

因此，我們結合水泵專家、軸封開發者的經驗以及培凱多年來在開發PTFE複材的專業能力，日前已可提供滿足立式水泵用軸承的單層/雙層PTFE複材生產技術。不僅可提高軸承外殼的剛性與尺寸穩定性，同時也具有能滿足對不銹鋼軸材的有效支撐、卻不傷及軟質軸面的耐磨耗性滑動軸承及耐磨環(wear ring)，軸承上有適當設計的排水溝槽，可以滿足各種水質的運轉條件，大幅降低全壽命週期成本(LCC)。

Parjet PTFE Bushing Advantage 培凱鐵氟龍複合材料軸承優勢



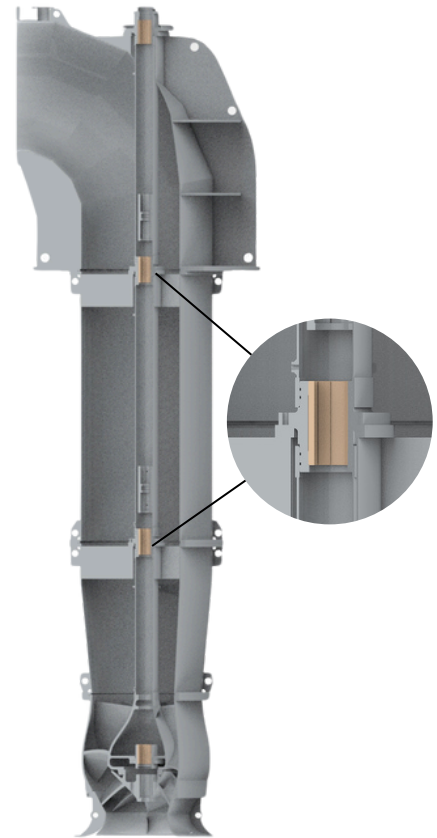
泵浦使用壽命大幅提升
Significant increase in
total pumps service life



大幅延長泵浦平均
故障間隔時間(MTBF)
Significant improve in MTBF
(Mean Time between Failures).



維持運行期間的高效運轉並
降低整體操作維護成本
Maintain high efficiency
during operation and
reduces overall operating
and maintenance costs



- Compared to traditional rubber bushing materials (copper sleeve with inner rubber lining), the ID wear is significantly lower that enhance the reliability of pump operation.
- PTFE's low friction characteristics allows it to withstand intermittent dry running and improve overall operational performance.
- With reduced wear and no risk of seizure, it can effectively mitigate abnormal vibrations caused by excessive bearing clearance and prevent damage or failure of the pump shaft/bearing when intermittent dry starts.
- The composite bearing has excellent impact resistance and superior high-temperature performance compared to other rubber and plastic bearings, which significantly lowers the risk of bearing damage, hardening, or cracking during operation.
- 與傳統橡膠軸承材料(銅筒+內襯橡膠)相比，內徑磨損大幅較低，故泵浦運轉的可靠性更高。
- 由於摩擦係數較既有材料低，可耐間歇性乾運轉，進而提高整體運轉性能。
- 因磨損大幅降低，且無卡死風險，故可明顯改善因軸承間隙過大而產生的異常振動，及間歇空轉啟動而導致泵軸/軸承的損傷甚至故障。
- 由於複材軸承具有優異的耐衝擊性，耐高溫性能優於其他橡塑膠軸承，因此，可大幅降在運轉過程中避免軸承破損、硬化或裂開的風險。

Inquiry Form

詢問表單

General Information

客戶基本資料

日期 Date		聯絡人 Contact Person	
公司 Company		Email	
地址 Address		電話 Tel	

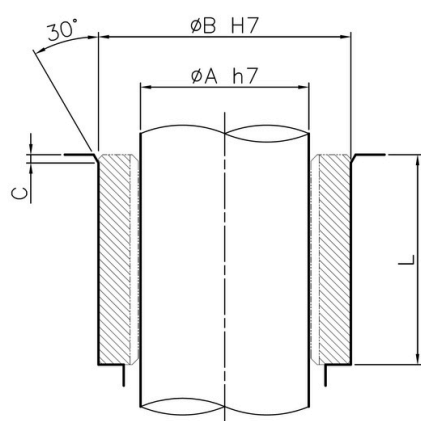
Operating Condition

工作條件

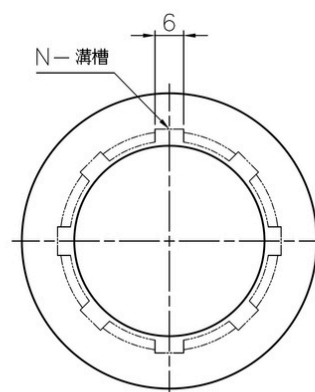
應用 Application		
介質 Media		
壓力 Pressure		
壓力方向 Pressure Direction	<input type="checkbox"/> Unidirectional 單向	<input type="checkbox"/> Bidirectional 雙向
轉速 RPM		
溫度 Temperature		
殼體材質 Housing Material		

Groove Dimension

溝槽尺寸



A: _____
 B: _____
 C: _____
 L: _____



of Notches
 軸承溝槽數量: _____



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