

# UTS / UTS-B



UTS-B  
펌프 모터 직결 타입

메탈 마그넷 드라이브 수평식 - 싱글 스테이지 - 원심식 진행 펌프

재질; AISI316


펌프 모터 직결 연결 타입.



Comply to :  
2006/42/CE

Design to :  
ISO 2858 / EN 22858  
(ex DIN 24256)

ISO 5199 - UNI 15783

ATEX 100   
Directive 94/9/EC

Flanged  
UNI 1092-1 (ISO 7005-1 )  
PN16 RF type B  
or  
ANSI 150 RF

# UTS SERIES

## 맥 드라이브 개념:

동시에 움직이는 드라이브 원리는 바깥쪽 마그네틱 어셈블리 와 안쪽 마그네틱링의 어셈블리 자기적으로 연결됨을 바탕으로 하고 있다.

이러한 두 마그넷 (자석) 링들은 서로 막힌 별도의 셀을 통해 흐르는 자석의 극을 서로당기는 변화에 의해 움직여 진다.



## UTS

베어샤프트펌프들은 (모타와 베이스가 없는 순전한 펌프만을 의미함) 는 백플아웃 시스템 (뒷쪽에 서뺨), 플렉스블 커플링과 강한 베어링 하우징을 사용한다.

### Versatility

Suitable for handling aggressive, toxic and hazardous liquids (low viscosity, clean or slightly contaminated) in the chemical, petrochemical and pharmaceutical industries, where the need of high safety standards is the first requirement.



## UTS-B

클로즈 커플드 ( 펌프 직결연결형) 펌프들은 표준 모타와 함께 조립된다.

### Reliability

The UTS are made by stainless steel AISI 316 : on bare shaft execution, the pump is also equipped as a standard with reliable oil lubricated bearing bracket, especially developed to be suitable even under heavy duty service.

### Design

UTS range shares the same hydraulic design with the UCS series (mechanical seal pumps) which have been developed focusing on Industry's requests.

## Application Fields

Refinery Industry



Chemical Processing



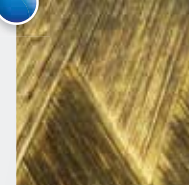
Fine Chemical Processing



Thermoregulation



Fibre Processing

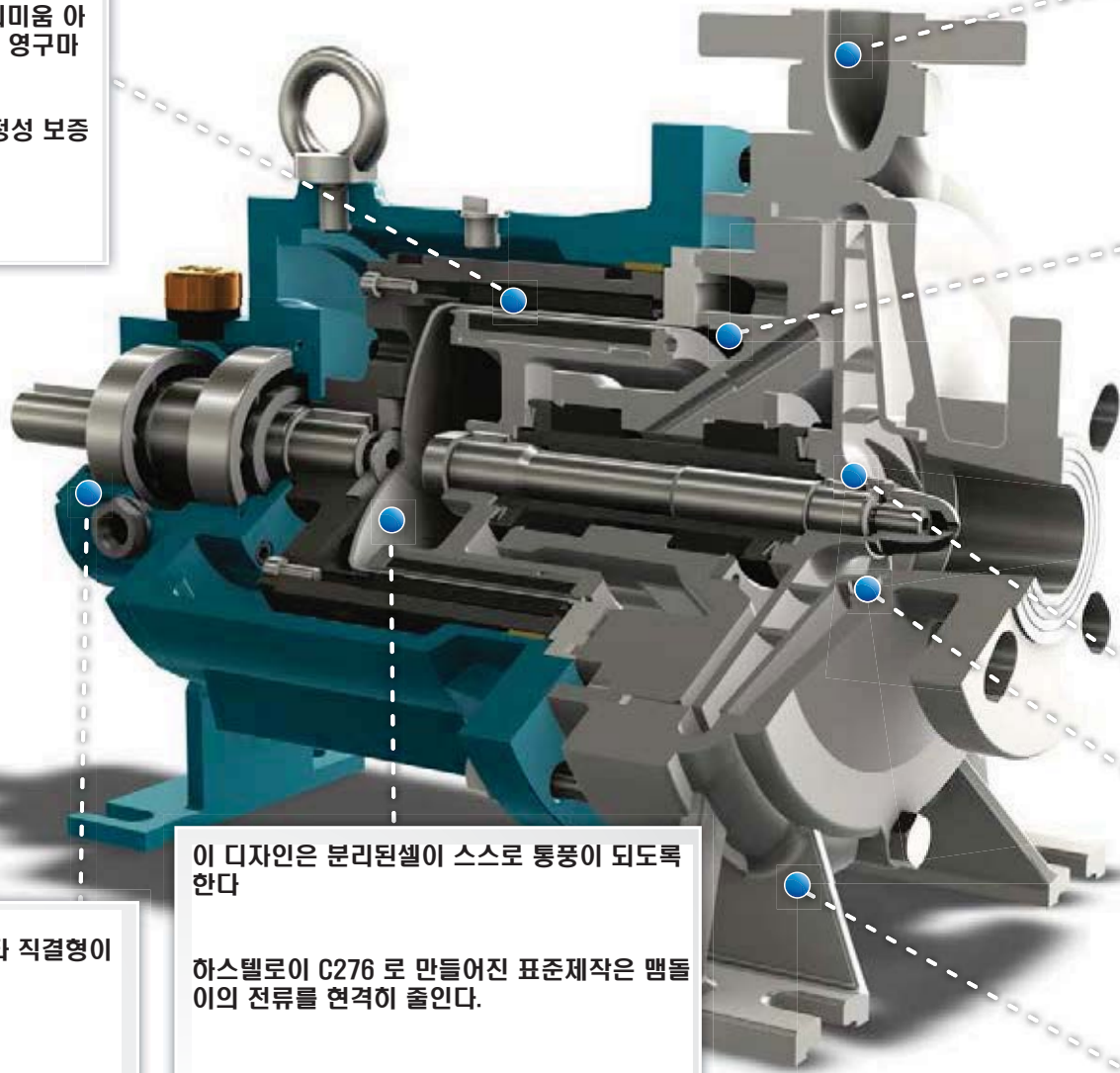


Pharmaceutical Industry



인너와 아웃터 마그넷은 DsFeB (네오디미움 아이언 바론) 과 SmCo (사마리움 코발트) 영구마그넷으로 구성 되어있다.

펌프 작동동안 특화된 마그네트 의 안정성 보증



공기 핸드링, 스스로 배출을 위한 상위 중앙라인 토출

이 내부 플러싱 통로는 분리된 셀의 맨돌이 전류와 부상의 회전에서나오는 상당한 양의 열을 줄이도록 설계되어 있다.

펌프 스타트 업동안에 일어날수있는 역회전의 문제는 이 키드라이브 시스템 덕분에 없어진다.

재생가능한 웨어링

일체화된 캐스팅 발은 배관하중 견디게 하고, 배관의 잘못된 중심맞추기의 방지, 그리고 씰과 베어링의 수명을 최대화 한다.

이 디자인은 분리된셀이 스스로 통풍이 되도록 한다

하스텔로이 C276 로 만들어진 표준제작은 맨돌이의 전류를 현격히 줄인다.

펌프 디자인은 베어샤프트 아니면 모타 직결형이나 모듈러 형태를 띠게한다



## CASING

- Bonus casing thickness : minimum 3 mm corrosion allowance maximizes casing life against corrosion and erosion
- Standard casing drain for a complete and fast draining of the casing
- Heating \ Cooling jacket option available



## IMPELLER

- Investment casted AISI 316 closed impeller design provides maximum efficiency and reliability
- Standard back vanes reduce axial thrust and seal chamber pressures to guarantee an extraordinary bearing and seal life



## ISOLATION SHELL

- The design allow to the Isolation Shell to be self-venting and fully drainable.
- The rib on the bottom is a perfect vortex breaker which increase the life time.
- Isolation shell temperature probe connection provided as a standard.

## BUSHING SUPPORT

Internal flushing paths developed to remove the maximum amount of heat generated by the bushing rotation and Eddie Current on the Isolation Shell.



## STATIC AND ROTATING BUSHINGS

- The rotating metallic shaft is installed inside a SiC Bushing supported by double static bushings : this design grants a long service life time sharing equally the mechanical efforts
- Optional : Static Graphite Bushings



## ROTATING BUSHING

As a standard, the rotating bushing is available made by :

- SiC
- RunSafeSiC (only on 1° frame)



## AXIAL THRUST BUSHINGS AND COMPENSATING RINGS

Compensating rings particularly designed to take up axial forces

As a standard, the axial thrust bushings are available made by :

- SiC
- RunSafeSiC (only on 1° frame)



## STATIC BUSHINGS

As a standard, the static bushings are available made by :

- Graphite
- SiC
- RunSafeSiC (only on 1° frame)



## SHAFT



Standard AISI 316L (1.4404) provides reliable power transmission and corrosion resistance

## INNER MAGNET



- Magnets fully encapsulated with tough 316L (1.4404) sheath

- Coupled to impeller by key, dome nut and locking tab washer

## HIGH TEMPERATURE EXECUTION

Inner and Outer magnets are equipped with :

- NdFeB (neodymium iron boron) permanent magnets for working temperatures up to 180°C
- SmCo (samarium cobalt) permanent magnets for working temperatures from 180°C to 300°C

Options for high temperature executions (over 180°C):

- Antimony Graphite Bushings
- Continuous Service Bearing Support execution ready for Labtecta (non-contacting Labyrinth seal)

## LOW TEMPERATURE EXECUTION

Inner and Outer magnets are equipped with SmCo (samarium cobalt) permanent magnets for working temperatures till -110°C.

Options for low temperature executions:

- Lantern and external magnet made by cast steel UNI C40
- Lantern in AISI 316 or AISI 304 and external magnet made by cast steel UNI C40

## RUNSAFESIC MICROCRYSTALLINE DIAMOND COATING

- Lowest coefficient of friction and heat generation, even when lubrication is insufficient or under dry running condition
- Universal chemical resistance
- Increased service life
- Virtually no wearing of the diamond coating
- Significant energy savings



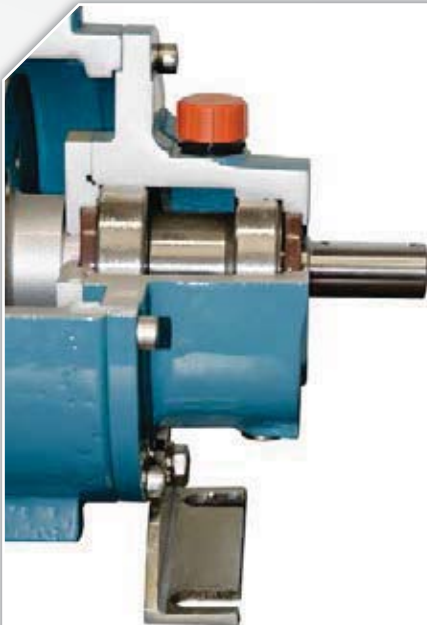
## BUSHING'S LOCKING FLANGE

- Locking flange to prevent static bushing rotation and to enhance the performance and lifetime of the static bushing in case of hard duties



## BEARING BRACKET FOR BARE SHAFT EXECUTION

- Extra-Large Oil Sump design allows to get a large oil capacity
- Breather / filling plug on top
- Oil sight glass grants a proper oil level
- Large drain plug
- The bearing frame can be equipped with 2 different type of protections :
  - Standard oil seal
  - Labyrinth seal



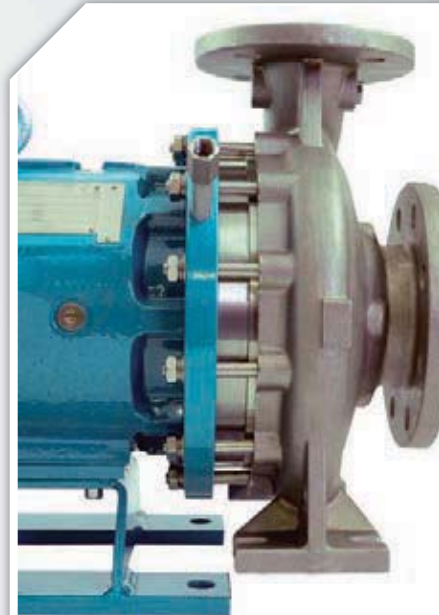
## PAINTING COATING QUALITY

The metal surfaces are protected by a high performance three coating layers (240 micron)

- Epoxy zinc paint
- Epoxy amide modified vinyl
- Epoxy enamel paint or aliphatic acrylic polyurethane

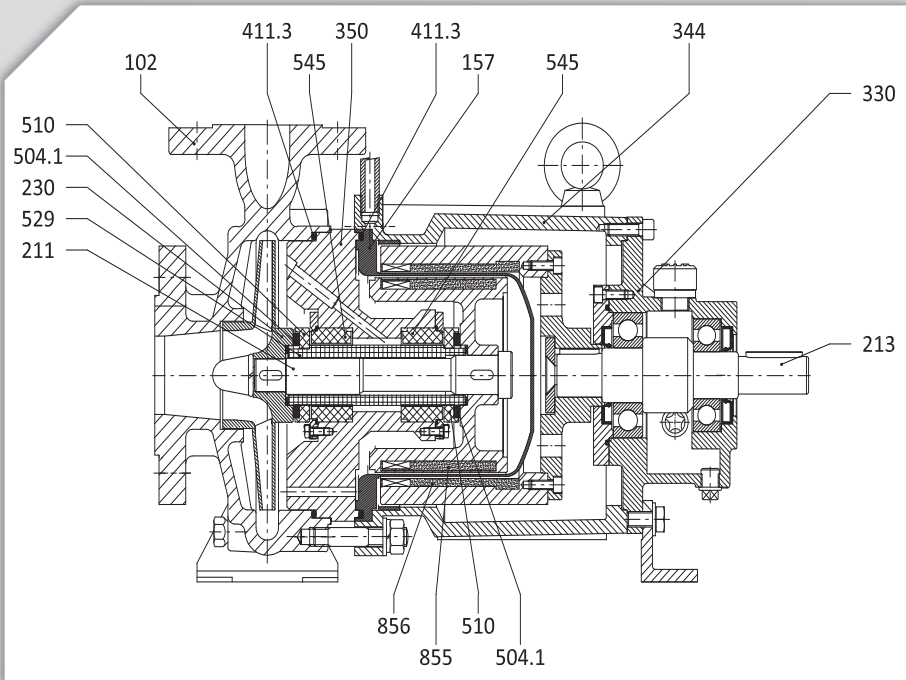
Available upon request :

EN ISO 12944-5 C5M and C5I protecting paint system grades.

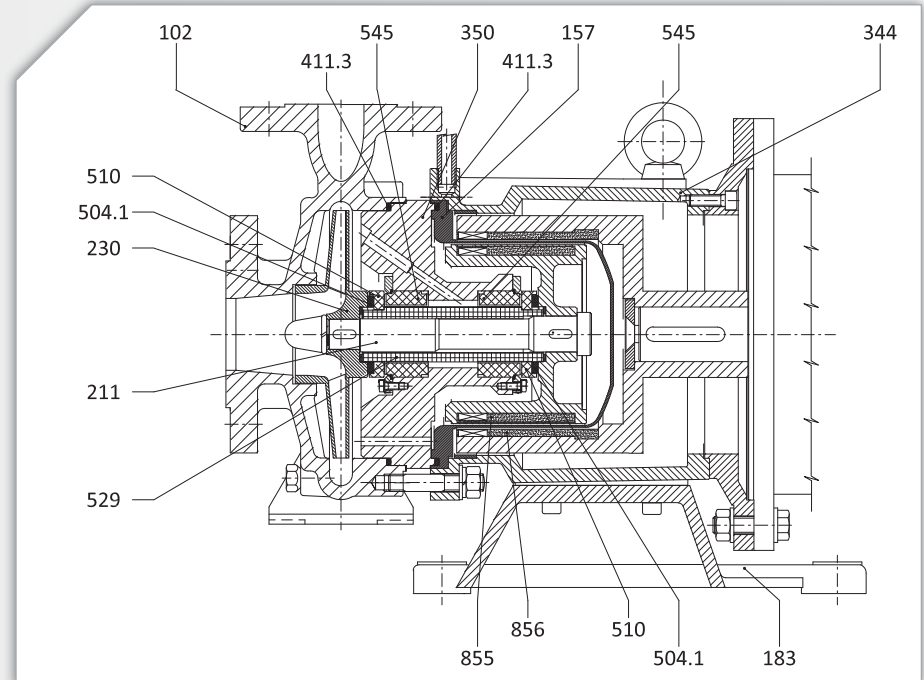


# SECTIONAL DRAWING 1° FRAME

UTS



UTS-B



Technical Specifications

<b>Performances 2900 rpm</b>	Q max = 80 m3/h -> H max = 65 mcl
<b>Electric Motors</b>	<ul style="list-style-type: none"> <li>• <b>UTS-B</b> : 0.75 kW (motor size 80) -&gt; 18.5 kW (motor size 160)</li> <li>• <b>UTS</b> : 0.75 kW (motor size 80) -&gt; 18.5 kW (motor size 160)</li> </ul>
<b>Temperature range</b>	<ul style="list-style-type: none"> <li>• <b>UTS-B</b> : -40 °C* -&gt; +180 °C</li> <li>• <b>UTS</b> : -40 °C* -&gt; +300 °C</li> </ul> <p>* -100 °C special execution</p>
<b>Allowable Pressure Range</b>	<ul style="list-style-type: none"> <li>• UTS series 125/160 : 16 bar (20 °C)</li> <li>• UTS series 200 : 16 bar (20 °C)</li> </ul>
<b>Flange Connections</b>	<ul style="list-style-type: none"> <li>• UNI 1092-1 / ISO 7005-1 PN 16, type B</li> <li>• ANSI class 150 as option</li> </ul>
<b>Viscosity</b>	min : 1cSt - max : 200 cSt
<b>Allowable Solids</b>	<ul style="list-style-type: none"> <li>• Max concentration 2 % by weight</li> <li>• Max particle size 0,15 mm</li> </ul>

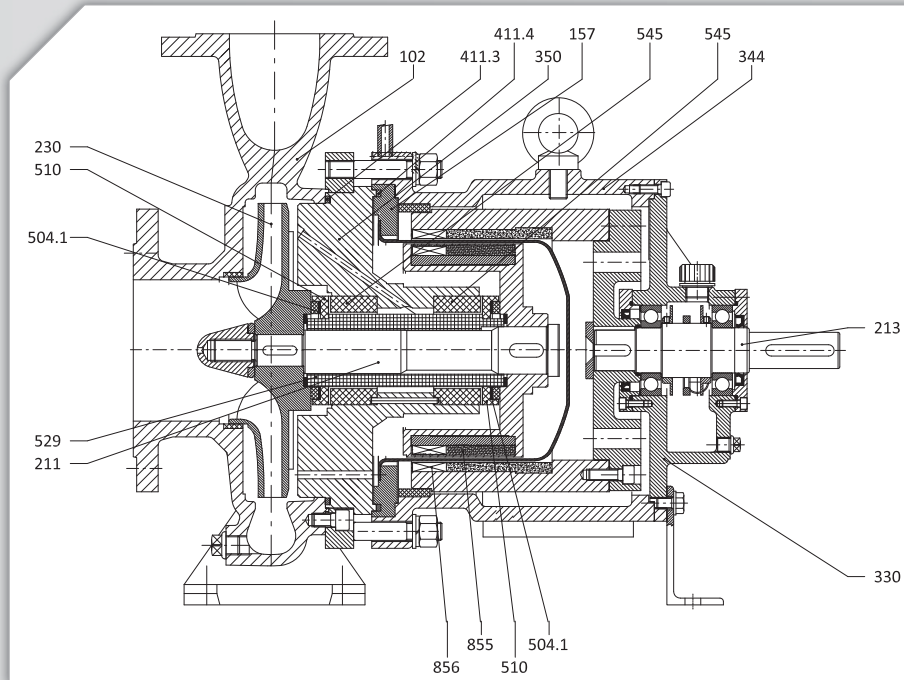
Part list

DIN	Component	Material
102	Casing	AISI 316 (CF8M)
157	Isolation Shell	Hastelloy C + AISI 316L
211	Pump Shaft	AISI 316 (1.4401)
213	Shaft	Steel C45
230	Impeller	AISI 316 (CF8M)
330	Bearing bracket	GS400
344	Lantern	GS400 ( C40*- AISI316* ) * special execution
350	Bushings Support	AISI 316L (CF3M)
411.x	O-Ring	PTFE \ Grafoil
504	Spacer Ring	PTFE \ Armored Grafoil
510	Thrust Bearing	SiC \ RunSafeSiC
529	Bearing Sleeve	SiC \ RunSafeSiC
545	Bearing Bush	SiC \ Graphite \ PEEK \ RunSafeSiC
855	Inner Magnet	AISI 316L (CF3M)
856	Outer Magnet	GS400 \ HT execution

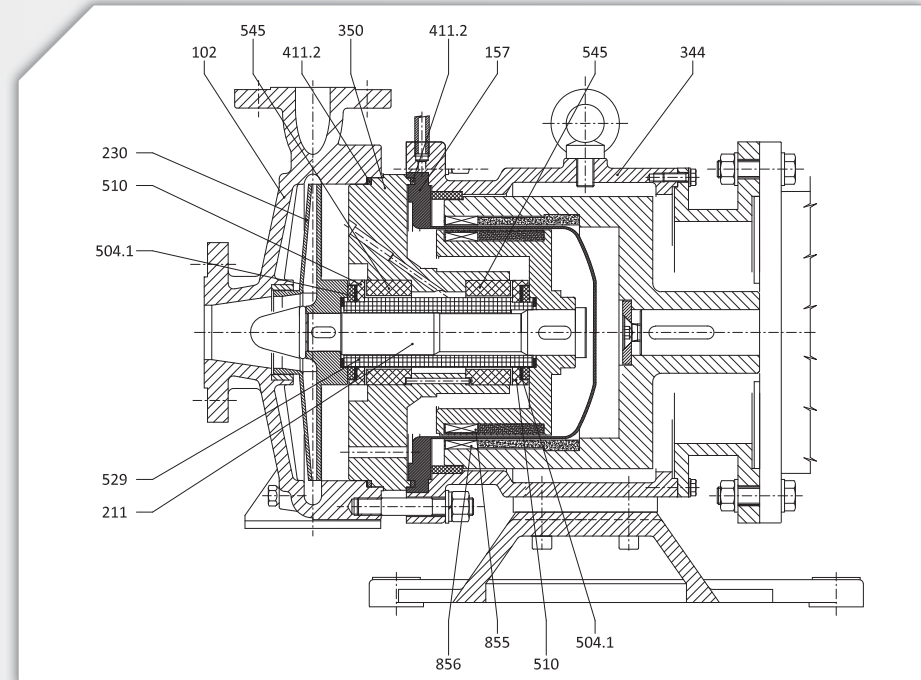


# SECTIONAL DRAWING II° FRAME

UTS



UTS-B



Technical Specifications

<b>Performances 2900 rpm</b>	Q max = 230 m <sup>3</sup> /h -> H max = 95 mcl
<b>Electric Motors</b>	<ul style="list-style-type: none"> <li>• <b>UTS-B</b> : 1,1 kW (motor size 80) -&gt; 18.5 kW (motor size 160)</li> <li>• <b>UTS</b> : 1,1 kW (motor size 80) -&gt; 55 kW (motor size 250)</li> </ul>
<b>Temperature range</b>	<ul style="list-style-type: none"> <li>• <b>UTS-B</b> : -40 °C* -&gt; +180 °C</li> <li>• <b>UTS</b> : -40 °C* -&gt; +300 °C</li> <li>* -100 °C special execution</li> </ul>
<b>Allowable Pressure Range</b>	<ul style="list-style-type: none"> <li>• UTS series 160 : 16 bar (20 °C)</li> <li>• UTS series 200 /250 : 16 bar (20 °C)</li> </ul>
<b>Flange Connections</b>	<ul style="list-style-type: none"> <li>• UNI 1092-1 / ISO 7005-1 PN 16, type B</li> <li>• ANSI class 150 as option</li> </ul>
<b>Viscosity</b>	min : 1cSt - max : 200 cSt
<b>Allowable Solids</b>	<ul style="list-style-type: none"> <li>• Max concentration 2 % by weight</li> <li>• Max particle size 0,15 mm</li> </ul>

Part list

DIN	Component	Material
102	Casing	AISI 316 (CF8M)
157	Isolation Shell	Hastelloy C + AISI 316L
211	Pump Shaft	AISI 316 (1.4401)
213	Shaft	Steel C45
230	Impeller	AISI 316 (CF8M)
330	Bearing bracket	GS400
344	Lantern	GS400 ( C40*- AISI316* ) * special execution
350	Bushings Support	AISI 316L (CF3M)
411.x	O-Ring	PTFE \ Grafoil
504	Spacer Ring	PTFE \ Armored Grafoil
510	Thrust Bearing	SiC
529	Bearing Sleeve	SiC
545	Bearing Bush	SiC \ Graphite \ PEEK
855	Inner Magnet	AISI 316L (CF3M)
856	Outer Magnet	GS400 \ HT execution



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