



# UNICON<sup>®</sup>

## ENGINEERING



AN ISO 9001:2015, 14001:2015, 45001:2018 & NSIC Certified Company

### Specialised in MECHANICAL SEALS FOR

- PUMPS
- COMPRESSORS
- AGITATORS
- BLOWERS
- MIXERS
- REACTORS

### Expertise in Following INDUSTRIES

- REFINERIES
- PETROCHEMICALS
- CHEMICALS
- FOOD & PHARMA
- OIL & GAS
- FERTILIZERS
- POWER PLANT
- PAPER
- TEXTILE



**Manufactures of :**

**Mechanical seals, Pumps & Sparcs, PHE plates & Gasket, Rotary Union**

*Performing Better In Sealing Solution*



**Sales & Service Network in 22 States of India**

# Vision

Commitment  
Creativity  
Character  
Confidence  
Competence



# Mission Statement

"Go Global"

# Philosophy

Do things right at first time to lower cost of production and delivery time

# Moto

To give our customer such exceptional services that they will never consider alternative source of supply.



## ABOUT US

**UNICON** AN ISO 9001:2015, 14001:2015, 45001:2018 & NSIC Certified Company, **UNICON** designs and manufactures seals and associated products mainly for the Refineries, Petrochemicals, Food & Pharma, Oil & Gas, Fertilizers, Power Plant, Paper, Textile and many more industrial applications.

Today, it provides the most complete selection of engineered Mechanical seals, Pumps & Spares, PHE plates & Gasket, Rotary Union Etc. **UNICON** products are globally recognized as a trusted brand in the process industry.

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**UNICON** can help relieve stress and reduce the life cycle costs associated with the most important aspects of plant operation. Dedicated to delivering the highest quality support, **UNICON** services and solutions integrates hydraulic, mechanical and materials engineering knowledge with creative solutions. It improves equipment reliability and system performance, reduces energy consumption and improves the safety and environmental impact of operations.

**UNICON** has a longstanding tradition of providing seals and sealing services that are trusted by the industry. **UNICON** mechanical seals represent a collection of trusted products that are supported by strong aftermarket services, providing users with both safety and environmental benefits.

**UNICON** seals are used on a variety of rotating equipment, including pumps, compressors, Agitators, Blowers, mixers, and other specialty equipment, primarily in the Refineries, Petrochemicals, Food & Pharma, Oil & Gas, Fertilizers, Power Plant, Paper, Textile and ore processing and general industries.

**UNICON** products guarantee highest quality standards & application know-how with full service to its customers

## MANUFACTURING FACILITY

Our manufacturing unit is located at Mumbai. Company plant is set up with latest sophisticated and ultra modern infrastructure and machines, testing equipments, instruments & facilities to maintain quality assurance to a high degree of accuracy required in process. Company is having more than **15 years** of experience and their skill in manufacturing mechanical seals or other different parts of chemical process pump else integral chemical process pump make them highly qualified to produce quality. In fact we have added a new streamlined of qualified people to our production department & management.

## QUALITY ASSURANCE

Quality is the most enduring impression of any product, on any users mind. Our Quality policy and standards are built on this simple home truth. We believe that quality is a result of sound process and procedures. **UNICON** has the resources, experience, skills to supply engineered sealing systems the world over. At **UNICON ENGINEERING**, we have a team of experienced engineers who are equipped with precision instruments, gauges and testing facilities ensuring strict quality surveillance and control, right from the stage of raw material procurement to semi-finished parts, finished components, assembly, final test and dispatch.

Simulation tests on seal face material combinations is an on going process, on our test rigs, helping us to arrive at perfect selection of seals for specific operating limits and duties

## SALES SERVICES

Customers can rely on **UNICON** for their complete sealing systems. Our well trained and experienced sales & engineering team can assist you in the selection, design and production, installation and commissioning of Mechanical seals, Pumps & Spares, PHE plates & Gasket, Rotary Union. The benefit to our customers is a one stop sealing solution with reduced procurement time.

## AFTER SALES SERVICES

After sales service is one of the main objectives of **UNICON** to keep the customers happy. Strategically located service station can easily cater your service needs. Please call our division for further assistance.

# Why Us ?

The major factors that have played a vital role and contributed towards our success being our forte are as follows:

- Use of Advance Technology
- Qualified Professionals and Skilled Personnel
- Superior Quality Products
- International Quality Standards
- Positive Attitude
- Competitive Pricing
- Excellent Performance of Products
- Customer Satisfaction
- On-Time Delivery



## MECHANICAL SEAL Vs. GLAND PACKING

Sr. No.	MECHANICAL SEAL	Sr. No.	GLAND PACKING
1.	We can achieve "ZERO" leakage.	1.	We have to allow a minimum amount of leakage.
2.	Only line contact of Secondary packing is there. Hence less chances of wear. Resulting less spare consumption and reduced maintenance cost.	2.	As there is surface contact of packing with shaft / sleeve with more possibility of shaft / sleeve damage, resulting higher spare consumption and increase in maintenance cost.
3.	No friction between seal component and shaft / sleeve	3.	More friction due to surface contact.
4.	Comparatively less power consumption. More predominant when calculated wrt Running time of equipment.	4.	More power consumption. 10 to 12 %
5.	Reduces eqpt. Shutdown frequency. comparatively less monitoring.	5.	Require frequent monitoring and shutdown of equipment.
6.	Mean time between failures is in months.	6.	Mean time between failures is in days.
7.	Wide range available for various applications.	7.	Not suitable for vacuum applications.
8.	Seal Confirming to API standards are available.	8.	Can't be used where API standards are insisted.
9.	Skilled person is required.	9.	Unskilled person can execute job.
10.	Initial cost is comparatively high but overall cost is much lower than that.	10.	Initial cost is Low. But running cost is high.
11.	House keeping: it gives better housekeeping or clean and good environment.	11.	House keeping : It does not help for good keeping & clean environment due to its drop wise leakage.



## UE - 25 - CSU

This type  
**CONICAL SPRING  
UNBALANCED SEAL**  
is generally used for handling  
corrosive chemicals, hydrocarbons,  
general & light chemicals.

### Materials :

Seal Faces : SIC / CARBON / TC Vs CERAMIC / SIC / TC  
Secondary Seals : VITON / NITRILE / FEP  
Metal Parts : SS 316, 904 L, ALLOY 20

### Operating Limits :

Shaft Diameter : 10 mm to 100 mm  
Pressure : 10 Bars ( Max )  
Temperature : (-) 20°C to (+) 180°C  
Speed : 2900 rpm ( Max )



## UE - 26 - SRW

This type  
**RUBBER BELLOW SEAL**  
is generally used in sewage  
applications, waste water pumps,  
& fuel injection pumps.

### Materials :

Seal Faces : CARBON/SIC / TC Vs CERAMIC / SIC / TC  
Secondary Seals : NITRILE / VITON  
Metal Parts : SS 316 / SS 304

### Operating Limits :

Shaft Diameter : 10 mm to 100mm  
Pressure : 10 Bars ( Max )  
Temperature : (-) 20°C to (+) 150°C  
Speed : 2850 rpm ( Max )



## UE - 27 - M7N

This type  
**WAVE SPRING SEAL**  
is generally used in ash slurry,  
water solvent, general chemical,  
clear liquid.

### Materials :

Seal Faces : SIC / CARBON / TC Vs CERAMIC / TC / SIC / CARBON  
Secondary Seals : VITON / TTV / FEP  
Metal Parts : SS 316, HASTELLOY, 904 L, ALLOY 20

### Operating Limits :

Shaft Diameter : 14 mm to 200 mm  
Pressure : 10kg / sq. cm. ( Max )  
Temperature : (-) 50°C to 200°C  
Speed : 3000 rpm ( Max )



## UE - 28 - MRB

This type  
**MULTI SPRING REVERSED  
BALANCE SEAL**  
is generally  
used for handling corrosive  
chemicals, hydrocarbons, general  
& light chemicals.

### Materials :

Seal Faces : SIC / CARBON / TC Vs CERAMIC / SIC / TC  
Secondary Seals : VITON / TTV / FEP  
Metal Parts : SS 316, ALLOY 20, 904 L

### Operating Limits :

Shaft Diameter : 20 mm to 150 mm  
Pressure : 10 Bars ( Max )  
Temperature : (-) 50°C to (+) 200°C  
Speed : 2900 rpm ( Max )



## UE - 29 - MUB

This type  
**MULTI SPRING UNBALANCED  
SEAL**  
is generally used in Petrochemicals,  
Light Hydrocarbons &  
General Industrial fluids.

### Materials :

Seal Faces : CARBON / SIC / TC Vs CERAMIC / SIC / TC  
Secondary Seals : VITON / TTV / FEP / GFT / PTFE  
Metal Parts : SS 316, ALLOY 20, 904 L

### Operating Limits :

Shaft Diameter : 14 mm to 150 mm  
Pressure : 10 Bars ( Max )  
Temperature : (-) 50°C to (+) 280°C  
Speed : 2900 rpm ( Max )



## UE - 30 - RBW

This type  
**RUBBER BELLOW SEAL**  
is generally used in hot  
& cold-water pumps, oil pumps,  
refrigeration compressor  
& fuel injection pumps.

### Materials :

Seal Faces : CARBON / SIC / TC Vs CERAMIC / SIC / TC  
Secondary Seals : NITRILE / VITON  
Metal Parts : SS 316, SS-304

### Operating Limits :

Shaft Diameter : 10 mm to 100mm  
Pressure : 10 Bars ( Max )  
Temperature : (-) 20°C to (+) 150°C  
Speed : 2900 rpm ( Max )

### UE - 31 - SSB

This type  
**SINGLE SPRING BALANCED SEAL**  
is generally used in high pressure pumps, refineries, fertilizers, nuclear plants & petroleum products.



**Materials :**  
Seal Faces : CARBON / SIC / TC Vs SIC / TC / CERAMIC  
Secondary Seals : VITON / TTV / FEP / GFT / PTFE  
Metal Parts : SS 316, ALLOY 20, 904 L  
**Operating Limits :**  
Shaft Diameter : 10 mm to 150 mm  
Pressure : 30 Bars ( Max )  
Temperature : (-) 50°C to (+) 180°C  
Speed : 2900 rpm ( Max )

### UE - 32 - SSU

This type  
**SINGLE SPRING UNBALANCED SEAL**  
is generally used in refineries, fertilizers, nuclear plants & petroleum pipelines.



**Materials :**  
Seal Faces : CARBON / TC / SIC. Vs CERAMIC / SIC. / TC  
Secondary Seals : VITON / PTFE / GFT  
Metal Parts : SS 316, 904 L, ALLOY 20, HASTELLOY  
**Operating Limits :**  
Shaft Diameter : 16 mm to 150 mm  
Pressure : 10 Bars ( Max )  
Temperature : (-) 50°C to (+) 280°C  
Speed : 2900 rpm ( Max )

### UE - 33 - SMB

This type  
**STATIONERY MOUNTED BALANCED SEAL**  
is generally used in paper industries, petrochemicals & petroleum refineries.



**Materials :**  
Seal Faces : CERAMIC / SIC. / CARBON Vs CERAMIC / SIC. / TC  
Secondary Seals : VITON / PTFE / GFT  
Metal Parts : SS 316, ALLOY 20  
**Operating Limits :**  
Shaft Diameter : 25 mm to 150 mm  
Pressure : 15 Bars ( Max )  
Temperature : (-) 50° to (+) 180°C  
Speed : 2500 rpm ( Max )

### UE - 34 - DRM

This type  
**MULTI SPRING SEAL**  
is generally used in chemicals, solvents, hydrocarbons & petrochemicals.



**Materials :**  
Seal Faces : CARBON / SIC. / TC. / CERAMIC Vs CARBON/ TC. / SIC. / CERAMIC  
Secondary Seals : PTFE / VITON / FEP / TTV  
Metal Parts : SS 316 / HASTELLOY, 904 L  
**Operating Limits :**  
Shaft Diameter : 25 mm to 100 mm  
Pressure : 15 Bar ( Max )  
Temperature : (-) 40°C to (+) 180°C  
Speed : 2900 rpm ( Max )

### UE - 35 - WMB

This type  
**WELDED END METAL BELLOWS SEAL**  
is generally used for handling highly corrosive chemicals, high Temperature applications & petroleum refineries.



**Materials :**  
Seal Faces : CARBON / SIC. / TC Vs SIC. / TC  
Secondary Seals : VITON / KALREZ / PTFE / GRAFOIL  
Metal Parts : SS 316 , TITANIUM, ALLOY-20, HASTELLOY 'C'  
**Operating Limits :**  
Shaft Diameter : 19 mm to 150 mm  
Pressure : 15 Bars ( Max )  
Temperature : (-) 50°C to (+) 425°C  
Speed : 3200 rpm ( Max )

### UE - 36 - TBS

This type  
**TEFLON BELLOWS SEAL**  
is generally used in acids, alkalis & extremely corrosive services.



**Materials :**  
Seal Faces : GFT / SIC. / CARBON VS CERAMIC / SIC.  
Secondary Seals : PTFE / GFT  
Metal Parts : SS 316 / HASTELLOY  
**Operating Limits :**  
Shaft Diameter : 16 to 100 mm  
Pressure : 5 Bars ( Max )  
Temperature : (-) 20°C to (+) 90°C  
Speed : 2900 rpm ( Max )

### UE-78-SLY

This Type  
**Single Pusher Heavy Duty Slurry Seals**  
Advanced mechanical seals for the complete range of slurry applications.  
**MAXIMUM SOLIDS BY WEIGHT : 50%**  
Designed to operate without a flush to increase plant efficiency, reduce operating costs and eliminate product dilution. Incorporates a unique non-clogging cone spring design that increases seal reliability. A self-contained single cartridge slurry seal designed to operate in tough slurry.



**Application :**  
Coal Processing/Washing, Uranium Processing, Copper Refining, Zinc Refining, Nickel Refining, Alumina Refining, Hard Rock Mining, Tar Sands Extraction, Mineral Sands Ore Mining, Synthetic Rutile Plant, Pigment Plant, Flue Gas Desulphurization (FGD), Power, Gold Mining, Potash Plant, Phosphate Plant, Iron Ore.

**Materials :**  
Seal Faces : Silicon Carbide / Tungsten Carbide..  
Elastomer : ETP, VITON, KALREZ  
Hardware : SS316 / ALLOY-20 / HESTELLOY-C.  
**Operating Limits :**  
Shaft Diameter : 30 to 220 mm  
Pressure : up to 20 bars (Max.)  
Temperature : (-)40 C to (+) 150 C  
Speed : 1550 RPM (Max)



## UE - 51 - DRA

This type  
**DRY RUNNING AGITATOR SEAL**  
is generally used in top entry mixer vessels in pharmaceuticals & chemical industries. Seals with bearing can be provided for Vessels having greater misalignments with special arrangement.

### Materials :

Seal Faces : CARBON / SIC. / TC Vs CERAMIC / SIC. / TC  
Secondary Seals : NITRILE / VITON / GFT / PTFE / TTV / FEP  
Metal Parts : SS 316, ALLOY 20, 904 L

### Operating Limits :

Shaft Diameter : 12 mm to 200mm  
Pressure : 14 Bars ( Max )  
Temperature : (-) 50°C to (+) 200°C  
Speed : 1000 rpm ( Max )



## UE - 52 - BTA

This type  
**TOP / BOTTOM ENTRY AGITATOR SEAL**  
is generally used in paints, mixer, driers, pharmaceuticals, chemicals, papers & food processing.

### Materials :

Seal Faces : CARBON / TC / SIC. Vs SIC. / TC / HASTELLOY / CERAMIC  
Secondary Seals : PTFE / GFT / VITON / FEP / KALREZ  
Metal Parts : SS 316, HASTALLOY, ALLOY 20

### Operating Limits :

Shaft Diameter : 20 mm to 200 mm  
Pressure : 75 Bars ( Max )  
Temperature : (-) 50°C to (+) 300°C  
Speed : 200 rpm ( Max )



## UE - 75 - SSC - S

This type  
**MULTI SPRING CARTRIDGE SEAL**  
is generally used in petrochemicals, petroleum refineries, chemical process pumps & light hydro carbons.

### Materials :

Seal Faces : CARBON / SIC. / TC Vs SIC. / TC / CERAMIC  
Secondary Seals : VITON / TTV / FEP / KALREZ  
Metal Parts : SS 316, HASTELLOY, ALLOY 20

### Operating Limits :

Shaft Diameter : 20 mm to 150 mm  
Pressure : 10 bar ( Max )  
Temperature : (-) 20°C to (+) 180°C  
Speed : 3000 rpm ( Max )



## UE - 75 - SSC - M

This type  
**MULTI SPRING CARTRIDGE SEAL**  
IS Generally Used In Process industry, Petrochemical industry, Chemical industry, Pharmaceutical industry, Power plant technology, Pulp and paper industry, Water and waste water technology, Mining industry, Food and beverage industry, Sugar industry, Universally applicable, Centrifugal pumps, Eccentric screw pumps, Process pumps...

### Materials :

Seal Faces : Carbon Graphite Resin Impregnated, Silicon Carbide/Tungsten Carbide.  
Secondary Seals : PTFE, VITON, EPDM, KALREZ  
Metal Parts : SS316 / ALLOY-20 / HESTELLOY-C..

### Operating Limits :

Shaft Diameter : 25 to 125 mm  
Pressure : up to 25 bars (Max.)  
Temperature : (-)30 C to (+) 220 C  
Speed : 3000 RPM (Max)



## UE - 76 - MBC

This type  
**DOUBLE CARTRIDGE SEAL**  
IS Generally Used In Petrochemical industry, Chemical industry, Pharmaceutical Industry, Power plant technology, Pulp and paper industry, Mining industry, Food and beverage industry, Sugar industry, Universally applicable, Centrifugal pumps, Eccentric screw pumps.

### Materials :

Seal Faces : Carbon graphite resin impregnated ,Silicon Carbide / Tungsten Carbide.  
Secondary Seals : PTFE , VITON ,EPDM, KALREZ  
Metal Parts : SS316 / ALLOY-20 / HESTELLOY-C..

### Operating Limits :

Shaft Diameter : 25 to 125 mm  
Pressure : up to 20 bars (Max.)  
Temperature : (-)30 C to (+) 220 C  
Speed : 3000 RPM (Max)



## UE-76-MBC-CTX

This type  
**DOUBLE CARTRIDGE SEAL**  
is generally used in light abrasives, light sewage, petrochemicals, light chemicals & corrosive chemicals.

### Materials :

Seal Faces : TC / SIC. / CARBON Vs SIC. / CERAMIC / TC  
Secondary Seals : VITON / PTFE / FEP / TTV / KALREZ  
Metal Parts : SS 316, HASTELLOY, ALLOY 20

### Operating Limits :

Shaft Diameter : 20 mm to 180 mm  
Pressure : 20 bar ( Max )  
Temperature : (-) 40°C to (+) 350°C  
Speed : 3000 rpm ( Max )

## UE - 77 - CATREX



This type  
**SINGLE CARTRIDGE SEAL**  
is generally used in raw water,  
pharmaceuticals, chemicals &  
food processing industries.

### Materials :

Seal Faces : TC / SIC. / CARBON Vs SIC.  
Secondary Seals : VITON  
Metal Parts : SS 304, SS 316

### Operating Limits :

Shaft Diameter : 12 mm / 16 mm / 22 mm  
Pressure : 20 bar ( Max )  
Temperature : (-) 20°C to (+) 180°C  
Speed : 3500 rpm ( Max )

## ROTARY UNION 100 SERIES



The " UNICON 100 " series rotary union incorporate state of the art sealing technology for the use in water and other applications. This product is primarily used in the rubber, plastic, printing & steel industries.

### FEATURES :

The housing made with G.M. / Brass/ S.S. the rest of metallic components are made with S.S. The elastomers are made with VITON, NITRILE, PTFE, SILICON as per required.

**MODEL A :-** Standard sealing with CARBON graphite to tungsten carbide seal for filtered liquid, thermic fluid and steam.

**MODEL B :-** Tungsten Carbide or SIC / SIC seals for applications with hard water or abrasive fluids.

**APPLICATIONS :-** For Water, Steam & Thermic Fluid for High Speed Machines.

**SIZE :-** 3/8" BSP to 4" BSP

**THREADED ROTOR :-** AS PER ISO 228 / NPT / Metric #Optional : QUICK RELEASE NIPPLE [FLANGED END]

**BODY :-** Radial or Axial R.H. Female  
Thread As Per ISO 228 or NPT

**TEMPERATURE (Max) :** Water : 95° C  
Thermic Fluid : 120° C  
Steam : 150° C

**PRESSURE (Max) :** Water : 15 BAR  
Thermic Fluid : 10 BAR  
Steam : 8 BAR

**SPEED (Max) :** Size 1/2" - 3/4" - 3500 RPM  
Size 1" - 2" - 1000 RPM

## ROTARY JOINTS 1000 SERIES



### ADVANTAGES :

Simply divided application wise, colour code wise as well as alphabetically.  
Gide bearing lock with key to avoid damage.  
Sealing elements use as per the application.  
Minimized spare parts.  
Easy to maintenance.

**APPLICATIONS :-** Specially used for Thermic Fluid and also Steam & Water

**SIZE :-** 3/4" BSP to 6" BSP.

**THREADED ROTOR :-** AS PER ISO 228 / NPT / Metric #Optional : QUICK RELEASE NIPPLE [FLANGED END]

**BODY :-** Radial or Axial R.H. FEMALE THREAD AS PER ISO 222 OR NPT

**TEMPERATURE (Max) :** THERMIC FLUID : UP TO 300° C  
STEAM & WATER : UP TO 200° C

**PRESSURE (Max) :** THERMIC FLUID & WATER : 150 PSI  
STEAM : 250 PSI

PARTS	MATERIAL
Housing	C.I. / C.S.
Gasket	Graphited asbestos
Spring	S.S.
Guide Ring	Carbon
Rotor	S.S.
Seal Ring	Carbon
Cover	S.S. / C.S.
Cover Ring	Carbon

## HEAT EXCHANGER GASKET AND PLATES :

UNICON is one of the leading manufacturer and supplier of heat exchanger gasket and plates in india .replacement GASKET AND plate FOR MODEL OF FOLLOWING heat exchanger . We have a range of over 200 different models CURRENTLY of the following makes : **ALFALAVAL, GEA-ECOFLEX, APV, SONDEX, SWEP/TRANTER, HMT,FISCHER,FUNKE etc.** which are manufactured in 7 different elastomers.

### GASKET Elastomers MOC :

NBR / EPDM / SILICONE / HNBR / NEOPRENE / Viton@A&B / Viton@G\* / food grade applications, gaskets are manufactured in compliance with FDA 21 CFR 177.2600. \*Viton® are registered trademarks of DuPont Dow Elastomers

**PHE plates MOC :** SS316 and Titanium.

All PHE Plates & gaskets are manufactured as per ISO 9001:2008 standard.

## PUMP SPARES

UNICON is one of the leading manufacturer and supplier OF (Equivalent) Pump Spares like Casing, Impeller, Staffing box, Bearing Housing Shaft, Sleeve, bearing cover, Gland pusher etc. OF bellow mention MAKE Pump.

**KSB / KIRLOSKAR / JOHNSON / ANTICO / INVESTA / AKAY / KHIMLINE / FLOW SERVE / CHEMFLOW BEACON WEAR / MATHER + PLATE / MICROFINISH etc.**

### M.O.C :

C.I. ,C.S. , S.S. 304 ,304 L , S.S. 316 ,316L , S.S. 904L , BRONZE, ALLOY-20 , HAST ALLOY B & C.



# Manufactures of : Mechanical seals, Pumps & Sparcs, PHE plates & Gasket, Rotary Union



Manufactured by :



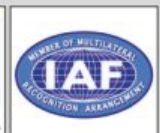
## UNICON ENGINEERING®

**REGISTER OFFICE & FACTORY MUMBAI:**

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