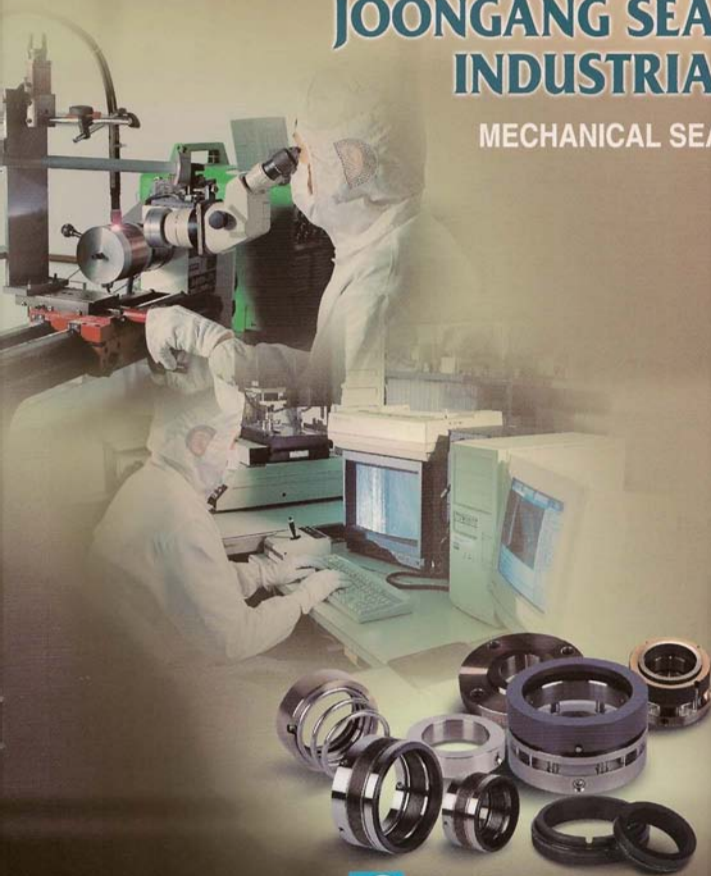


JOONGANG SEAL INDUSTRIAL

MECHANICAL SEAL



NEW SEALING SYSTEM
OF TECHNOLOGY

Seal Assembly Code

Seal Type / Size / 1—2 3—4 5—6 7

Explanation

Seal Type - Stator Type

DIN : DIN Size Stator

ISO : ISO Size Stator

A : A Type Stator

G : G Type Stator

P : P Type Stator

W : W Type Stator

S : Special Stator

Seal Size

Metric : M040 (40mm)

Inch : 1375 (1.375")

Material Code

Position

- 1 Metal
- 2 Primary Seal (Stator)
- 3 Primary Seal (Rotor)
- 4 Secondary Seal (Stator)
- 5 Secondary Seal (Rotor)
- 6 Gland Ring (Product Side)
- 7 Aux.Gland Ring (Sealant Side)



Material Code Description

	Metal	Primary Seal (Stator)	Primary Seal (Rotor)	Secondary Seal (Stator)	Secondary Seal (Rotor)	Gland (Product)	Aux. Gland (Sealant)
A	20 Stain.					20 Stain.	20 Stain.
B		Carbon-A	Carbon-A				
C	Carbon Steel	Carbon-R	Carbon-R	Chemraz	Chemraz	Carbon Steel	Carbon Steel
D	304 Stain	Carbon Press Fit	Carbon Press Fit			304 Stain	304 Stain
E	304L Stain			EPDM	EPDM	304L Stain	304L Stain
F	316 Stain					316 Stain	316 Stain
G	316L Stain			G.F.Teflon	G.F.Teflon	316L Stain	316L Stain
H	Hast. C					Hast. C	Hast. C
I	Inconel					Inconel	Inconel
J	Hast. B					Hast. B	Hast. B
K		Ceramic Coating	Ceramic Coating	Kalrez	Kalrez		
L	Nickel	Ceramic Solid	Ceramic Solid			Nickel	Nickel
M	Mis.	Mis.	Mis.	Mis.	Mis.	Mis.	Mis.
N				NBR	NBR		
O				Neoprene	Neoprene		
P							
Q				Teflon Coating	Teflon Coating		
R		SiC Press Fit	SiC Press Fit				
S		SiC-S Solid	SiC-S Solid	Silicon	Silicon		
T	Titanium	TC Solid	TC Solid	Teflon	Teflon	Titanium	Titanium
U		TC Coating	TC Coating				
V		TC Press Fit	TC Press Fit	Viton	Viton		
W		SiC-S Solid	SiC-S Solid				
X							
Y							
Z							

Mechanical Seals by Type

PUSHER SEALS

Type SD / SC	Single Unbalanced / Multi Spring
Type ED / EC	Single Balanced / Multi Spring
Type SL1 / SL2	Single Unbalanced / Mono Spring
Type SL3 / SL4	Single Balanced / Mono Spring
Type CD1 / CD2	Single Unbalanced / Conical Spring

NON-PUSHER SEALS

Type SMB	Weled Metal Bellows / Midium Pressure
Type HBR	Weled Metal Bellows / High Pressure

CARTRIDGE SEALS

Type MCS	Single Metal Bellows Cartridge
Type MCD	Double Metal Bellows Cartridge
Type GSC	Single Multi Spring Cartridge
Type GSD	Double Multi Spring Cartridge

DRY RUNNING SEAL

Type BLM	Single Outside Balanced
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MIXER, AGITATOR AND VESSEL SEALS

Type KNM	Double Seal / without Bearing
Type KPM	Double Seal / with Bearing
Type KTM	Double Seal / with Bearing & Shaft
Type KGM	Double Seal / Glass-Lined

FLUID CONTROL EQUIPMENT

Type JC-310	Sealant Vessel with Cooling Coil
Type JN-310	Sealant Vessel without Cooling Coil

SD Type

ELASTOMER O-RING SEAL / UNBALANCED



Applications

Rugged mechanical seals are available in a wide variety of elastomers for handling practically every industrial fluid.

- General industrial applications including chemical processing, food and beverage, petrochemical processing, pharmaceutical, wastewater and power generation.
- Mechanical drive design reduces slippage on shaft and sleeve to eliminate galling and premature wear.
- Lapping process results in high precision finish with optimal flatness.
- Compact design permits use in all types of rotating equipment - centrifugal pumps, mixers and agitators.

Operating Conditions

- Temperatures : -40 °C to 260 °C
- Pressure : 20 bar g
- Speed : Up to 23 m/s

Fluids

Acids
Aqueous Solutions
Chemicals
Corrosives

Part No.	Part Name
1	Mating Ring
2	Seal Ring
3	Mating Ring Packing
4	Shaft Packing
5	Comp. Ring
5P	Drive Pin
6	Spring
7	Collar
8	Set Screw
9	Spring Pin



SC Type

PTFE V-RING SEAL / UNBALANCED



Product Description

- General chemical applications, oil refining, petrochemical, and pharmaceutical industries.
- Suitable for use with corrosive fluid.
- By choosing suitable component materials, the seals can be adapted to operate with a wide range of liquids and operating conditions.

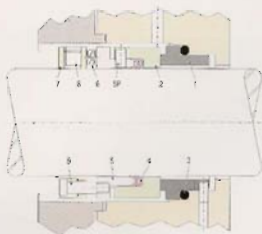
Operating Conditions

- Temperatures : -40 °C to 260 °C
- Pressure : 20 bar g
- Speed : Up to 23 m/s

Design Features

Compact Designs
PTFE V-Ring Secondary Seal
Multispring Design Ensures
Even Face Pressure
DIN 24960/ISO 3069 Stuffing Box Fit

Part No.	Part Name
1	Mating Ring
2	Seal Ring
3	Mating Ring Packing
4	Shaft Packing
5	Comp. Ring
5P	Drive Pin
6	Spring
7	Collar
8	Set Screw
9	Spring Pin





Type

ELASTOMER O-RING SEAL / BALANCED**Applications**

Rugged mechanical seals are available in a wide variety of elastomers for handling practically every industrial fluid.

- General industrial applications including chemical processing, food and beverage, petrochemical processing, pharmaceutical, wastewater and power generation.
- Mechanical drive design reduces slippage on shaft and sleeve to eliminate galling and premature wear.
- Lapping process results in high precision finish with optimal flatness.
- Compact design permits use in all types of rotating equipment - centrifugal pumps, mixers and agitators.

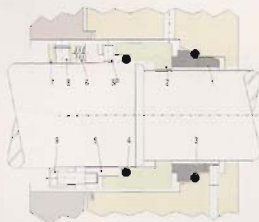
Operating Conditions

- Temperatures : -40 °C to 260 °C
- Pressure : 40 bar g
- Speed : Up to 23 m/s

Fluids

Acids
Aqueous Solutions
Chemicals
Corrosives

Part No.	Part Name
1	Mating Ring
2	Seal Ring
3	Mating Ring Packing
4	Shaft Packing
5	Comp. Ring
5P	Drive Pin
6	Spring
7	Collar
8	Set Screw
9	Spring Pin



EC Type

PTFE V-RING SEAL / BALANCED



Product Description

The Type EC is a hydraulically balanced multispring DIN 24960 seal giving low face loading at high pressures.

- General chemical applications, oil refining, petrochemical, and pharmaceutical industries.
- Suitable for use with corrosive fluids and for cryogenic and high-Pressure applications.
- By choosing suitable component materials, the seals can be adapted to operate with a wide range of liquids and operating conditions.

Operating Conditions

- Temperatures : -40 °C to 260 °C
- Pressure : 40 bar g
- Speed : Up to 23 m/s

Design Features

Compact Designs
PTFE V-Ring Secondary Seal
Multispring Design Ensures
Even Face Pressure
DIN 24960/ISO 3069 Stuffing Box Fit

Part No.	Part Name
1	Mating Ring
2	Seal Ring
3	Mating Ring Packing
4	Shaft Packing
5	Comp. Ring
5P	Drive Pin
6	Spring
7	Collar
8	Set Screw
9	Spring Pin



SL1 Type

ELASTOMER O-RING SEAL / UNBALANCED MONO-SPRING DESIGN



Applications

Rugged mechanical seals are available in a wide variety of elastomers for handling practically every industrial fluid.

- General industrial applications including chemical processing, food and beverage, petrochemical processing, pharmaceutical, wastewater and power generation.
- Mechanical drive design reduces slippage on shaft and sleeve to eliminate galling and premature wear.
- Lapping process results in high precision finish with optimal flatness.
- Compact design permits use in all types of rotating equipment - centrifugal pumps, mixers and agitators.

Operating Conditions

- Temperatures : -40 °C to 200 °C
- Pressure : 10 bar g
- Viscosity : 150,000 cp
- Slurry : max. 7%

Fluids

Acids
Aqueous Solutions
Chemicals
Corrosives

Part No.	Part Name
1	Mating Ring
2	Seal Ring
3	Mating Ring Packing
4	Shaft Packing
5	Comp. Ring
6	Spring
7	Collar
8	Set Screw



SL2 Type

PTFE V-RING SEAL / UNBALANCED MONO-SPRING DESIGN



Applications

As the type SL1/SL2 is unbalanced seal utilizing mono spring, it has a variety range of application such as transferring high-viscosity fluid containing abrasive slurry. The compression unit is suitable for high-viscosity fluid as it has the clutch driving mechanism. Nevertheless, it cannot be applied to high speed rotation.

- General industrial applications including chemical processing, food and beverage, petrochemical processing, pharmaceutical, wastewater and power generation.
- Mechanical drive design reduces slippage on shaft and sleeve to eliminate galling and premature wear.
- Lapping process results in high precision finish with optimal flatness.
- Compact design permits use in all types of rotating equipment - centrifugal pumps, mixers and agitators.

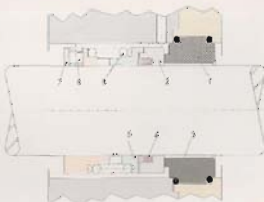
Operating Conditions

- Temperatures : -40°C to 200°C
- Pressure : 10 bar g
- Viscosity : 150,000 cp
- Slurry : max. 7%

Design Features

Compact Design
PTFE V-Ring Secondary Seal
Mono Spring Design
DIN 24960/ISO3069 Stuffing Box Fit

Part No.	Part Name
1	Mating Ring
2	Seal Ring
3	Mating Ring Packing
4	Shaft Packing
5	Comp. Ring
6	Spring
7	Collar
8	Set Screw



SL3 Type

ELASTOMER O-RING SEAL / BALANCED MONO-SPRING DESIGN



Applications

Rugged mechanical seals are available in a wide variety of elastomers for handling practically every industrial fluid.

- General industrial applications including chemical processing, food and beverage, petrochemical processing, pharmaceutical, wastewater and power generation.
- Mechanical drive design reduces slippage on shaft and sleeve to eliminate galling and premature wear.
- Lapping process results in high precision finish with optimal flatness.
- Compact design permits use in all types of rotating equipment - centrifugal pumps, mixers and agitators.

Operating Conditions

- Temperatures : -40°C to 200°C
- Pressure : 30 bar g
- Viscosity : 150,000 cp
- Slurry : max. 7%

Fluids

Acids
Aqueous Solutions
Chemicals
Corrosives

Part No.	Part Name
1	Mating Ring
2	Seal Ring
3	Mating Ring Packing
4	Shaft Packing
5	Comp. Ring
6	Spring
7	Collar
8	Set Screw



SL4 Type

PTFE V-RING SEAL / BALANCED MONO-SPRING DESIGN



Applications

As the type SL3/SL4 is balanced seal utilizing mono spring, it can be applied to transferring the fluid having high viscosity or abrasive slurry.

The compression unit is suitable for high-viscosity fluid as it has the clutch driving mechanism. Due to balanced design, more stable sealing is available than the type SL1, SL2 at high pressure. Nevertheless, it cannot be applied to high speed rotation.

- General industrial applications including chemical processing, food and beverage, petrochemical processing, pharmaceutical, wastewater and power generation.
- Mechanical drive design reduces slippage on shaft and sleeve to eliminate galling and premature wear.
- Compact design permits use in all types of rotating equipment - centrifugal pumps, mixers and agitators.

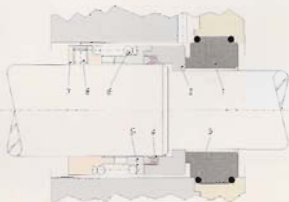
Operating Conditions

- Temperatures : -40 °C to 200 °C
- Pressure : 30 bar g
- Viscosity : 150,000 cp
- Slurry : max. 7%

Design Features

Compact Design
PTFE V-Ring Secondary Seal
Mono Spring Design
DIN 24960/ISO3069 Stuffing Box Fit

Part No.	Part Name
1	Mating Ring
2	Seal Ring
3	Mating Ring Packing
4	Shaft Packing
5	Comp. Ring
6	Spring
7	Collar
8	Set Screw



CD1/CD2 Type

ELASTOMER O-RING SEAL / UNBALANCED MONO-SPRING DESIGN



Applications

As the type CD1/CD2 is unbalanced seal having a form of spring drive, in case of considering the margin of corrosion for the components, this type can be selected. It can be applied to a variety of fluid pumping and suitable for the fluid having abrasive slurry. Moreover, cost saving is available due to its simple mechanism.

- General industrial applications including chemical processing, food and beverage, petrochemical processing, pharmaceutical, wastewater and power generation.
- Mechanical drive design reduces slippage on shaft and sleeve to eliminate galling and premature wear.
- Compact design permits use in all types of rotating equipment - centrifugal pumps, mixers and agitators.

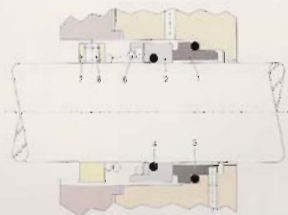
Operating Conditions

- Temperatures : -40 °C to 200 °C
- Pressure : 10 bar g
- Viscosity : 500 cp
- Slurry : max. 7%

Design Features

Compact Design
Mono Conical Spring Design
DIN 24960/ISO3069 Stuffing Box Fit

Part No.	Part Name
1	Mating Ring
2	Seal Ring
3	Mating Ring Packing
4	Shaft Packing
6	Spring
7	Collar
8	Set Screw



BLM Type

DRY RUNNING SEAL / BALANCED



Product Description

The Type BLM full contact dry running seal is a heavy duty design, ideal for mixer/agitator applications. The Type BLM has proven itself by sealing many different requirements in the following industries.

- Pharmaceutical
- Food Processing
- Chemical Processing
- Pulp and Paper
- Industries that use mixer/agitator

Operating Conditions

- Temperatures : 120 °C
- Pressure : 15 bar g
- Speed : Static to 350 rpm

Design Features

- A seal that is externally mounted and internally pressurized
- Double balanced to handle either inside or outside pressure
- A seal that is a contacting dry running seal, eliminating the need for a sealant system
 - No product contamination by the sealant
 - No sealant system maintenance

Part No.	Part Name
1	Mating Ring
2	Seal Ring
3	Static Ring/Packing
4	Static Packing
4A	Collar/Packing
5	Comp. Ring
6	Spring
7	Collar
8	Set Screw
9	Spring Pin
10	Guard Ring
C	Cushion Ring
D	Drive Pin



SMB Type

WELDED METAL BELLOWS SEAL / MEDIUM PRESSURE



Applications

SMB type is well designed to meet all bellows seal's characteristics such as precision, vibration absorption, simple construction, variety temperature condition and so on.

As there is nothing to hang up, bellows seal can be maintained with safety & better life time.

Well performed under variety operating condition

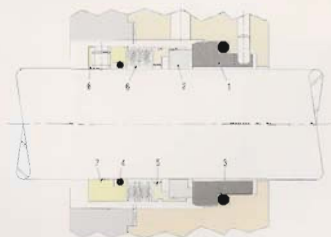
Operating Conditions

- Temperatures : -30°C to 200°C
- Pressure : F.V. to 25 bar g
- Viscosity : 1,000 cp
- Slurry : max. 0.5%

Industries Served

Chemical Processing
Gas Compression
Industrial Blowers and Fans
Oil and Refinery
Paint and Ink
Petrochemical Processing
Power Generation

Part No.	Part Name
1	Mating Ring
2	Seal Ring
3	Mating Ring Packing
4	Collar Packing
5	Face End
6	Bellows
7	Collar End
8	Set Screw



HBR Type

WELDED METAL BELLOWS SEAL / HIGH PRESSURE



Applications

HBR type is well designed to meet all bellows seal's characteristics such as precision, vibration absorption, simple construction, variety temperature condition and so on.

As there is nothing to hang up, bellows seal can be maintained with safety & better life time.

Good at high temperature & high pressure.

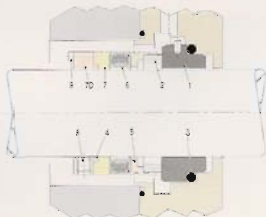
Operating Conditions

- Temperatures : -75 °C to 400 °C
- Pressure : F.V. to 25 bar g
- Viscosity : 1,000 cp
- Slurry : max. 0.5%

Industries Served

Chemical Processing
Cryogenics
Gas Compression
Heat Transfer
Industrial Blowers and Fans
Mixers and Agitator
Paint and Ink
Petrochemical Processing
Power Generation

Part No.	Part Name
1	Mating Ring
2	Seal Ring
3	Mating Ring Packing
4	Collar Packing
5	Face End
6	Bellows
7	Collar End
7D	Collar
8	Set Screw
9	Bolts



MCS Type

SINGLE METAL BELLOWS SEAL / CARTRIDGE TYPE



Operating Conditions

- Temperatures : -30℃ to 200℃
- Pressure : up to 20 bar g
- Velocity : 23 m/s

Industries Served

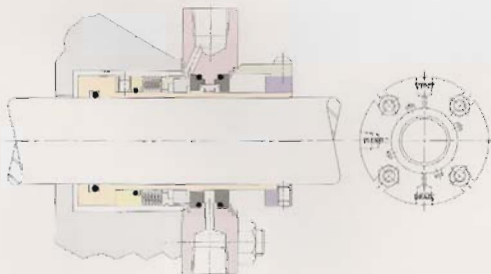
Chemical Processing
Food Processing
Heat Transfer
Marine
Mixers and Agitator
Power Generation
Water System

Applications

MCS type is well designed to meet all bellows seal's characteristics such as precision, vibration absorption, simple construction, variety temperature condition and so on.

As there is nothing to hang up, bellows seal can be maintained with safety & better life time.

Easy to install & uninstall (Cartridge Type)



MCD Type

DOUBLE METAL BELLOWS SEAL / CARTRIDGE TYPE



Operating Conditions

- Temperatures : -30°C to 200°C
- Pressure : up to 14 bar g
- Velocity : 23 m/s

Industries Served

Chemical Processing
Food Processing
Heat Transfer
Marine
Mixers and Agitator
Power Generation
Water System

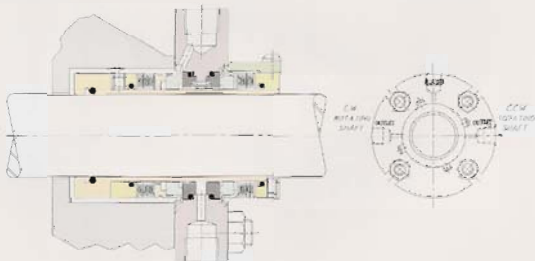
Applications

MCD type is well designed to meet all bellows seal's characteristics such as precision, vibration absorption, simple construction, variety temperature condition and so on.

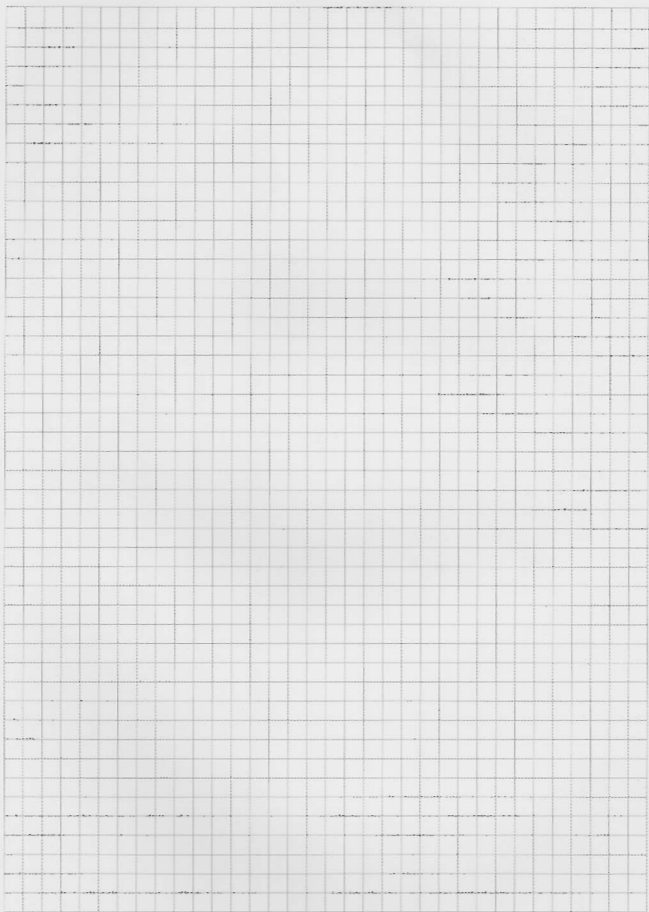
As there is nothing to hang up, bellows seal can be maintained with safety & better life time.

Easy to install & uninstall (Cartridge Type)

Much strong against toxic fluid as it is structured in double seal.



MEMO





JOONGANG SEAL INDUSTRIAL

NEW SEALING SYSTEM OF TECHNOLOGY

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