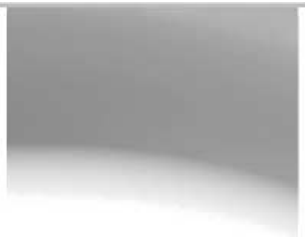
DICHTA®



Mupuseals

Mupusealing system consists of a range of static and dynamic high performance seals, designed for applications where the physical and chemical working conditions are beyond the limits of traditional seals.
Thus the Mupusealing system is highly applicable in most equipments serving chemical, food, petrochemical, offshore and cryogenic industries.

The Mupuseal concept

The MupuSeal consists of a jacket of Kefloy or Ultralen energized by a metal spring with carefully chosen characteristics.
The dynamic seals are furnished with springs that maintain their force over a wide deformation interval. This means that the spring force remains practically constant during the life time of the seal. The static seals are furnished with springs that ensure a high uniform force on the entire circumference of the seal.

Application survey

Seal Type		Application			Working range			Max.speed	
		Static	Reciprocating	Rotary	Max pressure dynamic bar	Max pressure static bar	Temp. °C	Reciprocating m/s	Rotary m/s
All-round		B	A	B	450	600	-70 to +260	15	1
Static		A	B	B	450	600	-70 to +260	10	0,5
Rotary		B	B	B	150	250	-100 to +260	-	2
Dynamic		B	A	B	450	600	-70 to +260	15	1
Flange		A	-	C	400	800	-100 to +260	-	0,1
"R"		A	B	C	400	800	-200 to +260	5	0,1
"R" Face		A	-	C	400	800	-200 to +260	-	0,1

CHARACTERISTICS: **A** very good - **B** good - **C** satisfactory

Material survey

FLUID	STATIC	RECIPROCATING	ROTARY
AIR / GAS	Keyfloy 30	Keyfloy 25	Keyfloy 25
WATER / STEAM		Keyfloy 28	Keyfloy 28
OIL / GREASE			
CHEMICALS			
FOOD / DRUGS	Keyfloy 11	Ultralen 90 (1)	Keyfloy 40
VACUUM		Keyfloy 11	Keyfloy 11

(1) Max. operating temperature 90°C. It can be sterilized at higher temperatures if it is done fast and at low pressure.

Incofep

Encapsulated o-rings are O-rings consisting of a seamless and uniform Teflon® FEP/PFA encapsulation/jacket which completely encloses a core material of either silicone or FPM elastomers. The encapsulated O-ring behaves like a highly viscous fluid, any pressure exerted on the seal is transmitted practically undiminished in all directions.

Features:

High Chemical Resistance: Chemical attack and swelling are the primary causes of O-Ring failure. Encapsulated O-rings are virtually chemically inert.

Outperforms solid PTFE O-Rings: encapsulated O-rings match the chemical and temperature resistance of solid PTFE O-Rings. They possess properties of elasticity and recovery which are crucial in many sealing applications.

Economical: encapsulated O-rings economically and effectively replace Kalrez and other exotic O-Ring compounds. They will decrease downtime and hence increase profitability wherever corrosive fluids and gases cause premature seal failure.

Wide Temperature Range: encapsulated O-rings withstand breakdown caused by industrial solvents and corrosive materials at elevated temperatures from -60° C to +205° C.

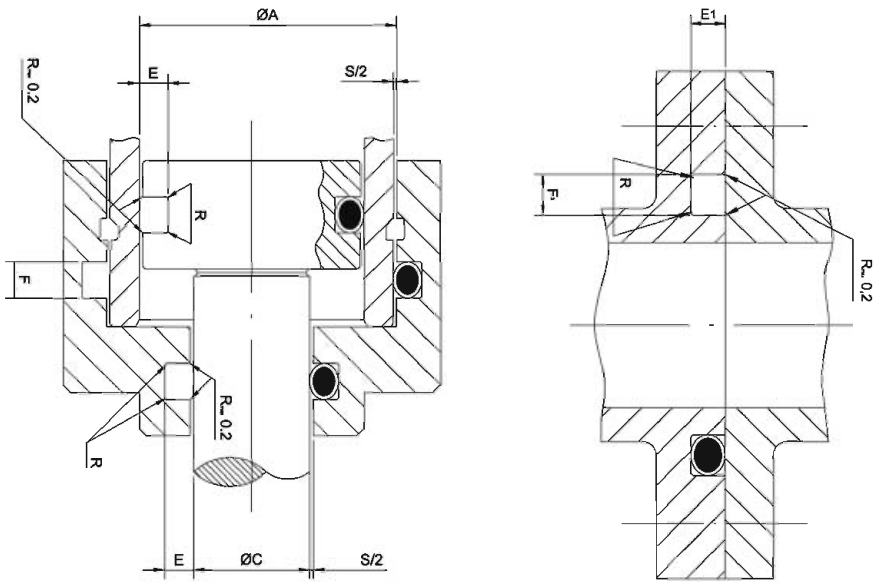
Non Stick Surface: provides easy cleanup of viscous materials.

Low Coefficient of Friction: .2 on metal. Self lubricating surface.

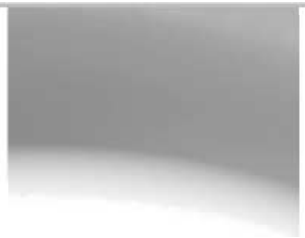
Sanitary: Eliminates contamination of fluids by elastomers. Sterilizable and autoclavable. FDA compliant, USP Class VI compliant, NSF compliance available for specific applications.

Unlimited Sizes: Available in standard and metric sizes from .059" cross section x ½" I.D. to virtually unlimited larger sizes.

Low compression set: consist of either a solid silicon or Viton® core encapsulated in FEP/PFA resin (with .01 to .045 wall depending on cross section).



General specs		
Encapsulation	FEP (tetrafluoroethylene - hexafluoropropylene)	204 °C
Continuous service temperature	PFA (tetrafluoroethylene - perfluoro)	260 °C



Lip Seals

Symmetrical and non symmetrical rubber lip seals for reciprocating movements.

U/UM UM are the strongest kind of moulded lip seals with a hardness of 90 ShA. They can be assembled both on pistons and cylinders and withstand pressure up to 120bar/cm². U seals are the same as UM, but their sizes are in inches.

M Same structure as the UM type, but different in sizes and in the negative cut of the lips. They are produced in 85 ShA.

DE/DEM They are produced with a hardness of 75 ShA for easier assembling. These seals are made for dynamic external sealing on only one lip. They withstand a pressure of up to 80 bar/cm².
DE seals are used on pistons with inch dimensions and have lips with sharp cut edges; DEM seals are used on pistons with metric dimensions and have lips with tapered negative cut.

DI/DIM They are produced with a hardness of 90 ShA and made for dynamic internal sealing on only one lip. The external lip is higher and stronger than the internal one and they are suitable for operating pressure up to 120 bar/cm².
DI seals are used on rods with inch dimensions and have lips with sharp cut edges; DIM seals are used on rods with metric dimensions and have lips with tapered negative cut.

H They are made with a hardness of 90 ShA and withstand a working pressure of 40 bar/cm². They are used on cylinders as oil control rings or dust covers and must be axially pressed in the seat with a ring.

C They are made with a hardness of 90 ShA and withstand a working pressure not exceeding 40 bar/cm². They are known as caps and are installed on pistons as rod wipers.

Special rubber hardness or different elastomers available on request.

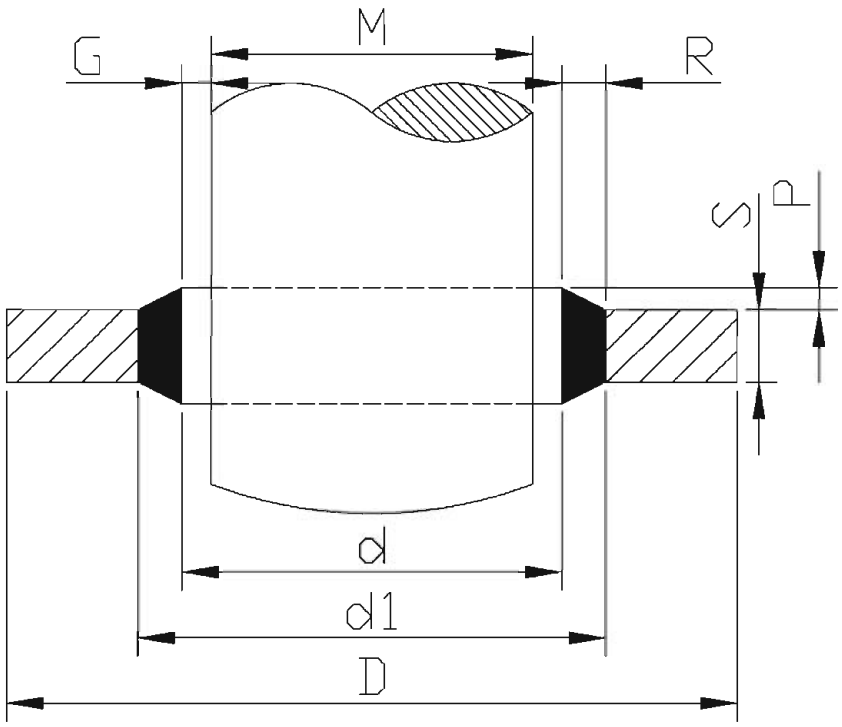
Springs

All our FPM oil shaft seals are supplied with stainless steel springs AISI 302, whereas the NBR seals are fitted with carbon steel springs. In our stock we have a wide range of stainless steel springs AISI 302 that, on customers' request, can either be fitted on the NBR seals or can be dispatched singularly for customers' service.

For special applications we can also supply stainless steel sprigs AISI 316; a more limited range of dimensions is available in our stock for immediate delivery.

Bonded Seals

Bonded seals are static seals used as sealing rings for threaded fittings and flange connections. To avoid any damage on the sealing lip, the inside diameter of bonded seal should be larger than the external thread diameter and the rubber should be bonded to the inside metal only.



Hydraulic Seals For High Pressure

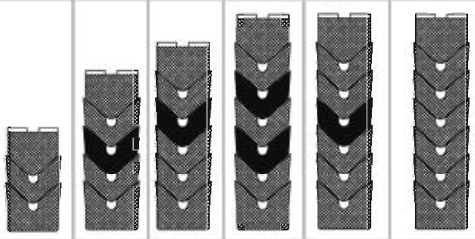
TO - TG Packing Seals

TO and TG packing seals are composed of lip rings made of cotton fabric reinforced elastomer. TO and TG packing seals are suitable for reciprocating movements and can be fitted on rods as well as on pistons. They are available in a variety that covers all applications from light duty to the heaviest working conditions.

	ENERGISING RING: cotton fabric reinforced rubber; its function is to ensure a uniform pre-load to the seal.
	ENERGISING RING: special compound with resins to obtain a great resistance.
	INTERMEDIATE RING: cotton fabric reinforced rubber; the sealing ring.
	INTERMEDIATE RING: rubber; for application with low pressure and continuous vibrations
	SUPPORT RING: cotton fabric reinforced rubber; its function is to support the entire series, it also has an optimal extrusion resistance.

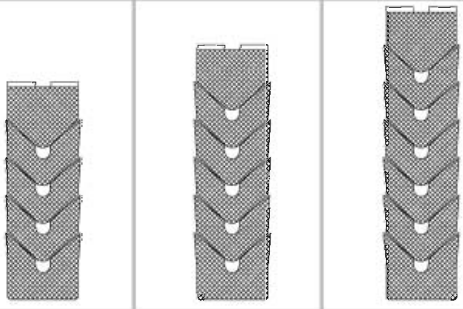
TO SERIES

Pressure: up to 40 MPa
Speed: up to 0,5 m/s
Temperature: up to 200°C depending on elastomer

TYPE	TO 3	TO 5	TO 6	TO 7	TO 7/1	TO 7/0
COMPOSITION						
ENERGISING RINGS	1	1	1	1	1	1
FABRIC RUBBER INTERMEDIATE RINGS	1	2	3	3	4	5
RUBBER INTERMEDIATE RINGS	-	1	1	2	1	-
SUPPORT RINGS	1	1	1	1	1	1

TG SERIES

Pressure: up to 40 MPa
Speed: up to 0,5 m/s
Temperature: up to 200°C depending on elastomer

TYPE	TG 5	TG 6	TG 7
COMPOSITION			
ENERGISING RINGS	1	1	1
FABRIC RUBBER INTERMEDIATE RINGS	3	4	5
SUPPORT RINGS	1	1	1

Hydraulic Seals For Medium High Pressure

TEOL Packing Seals

TEOL/1 (S8)

Rod seal manufactured as an integral element, vulcanising a NBR sealing element on a reinforced cotton fabric base. Compact seal, even for standard housings according to ISO 5597.

Pressure: up to 20 MPa
Speed: up to 0,3 m/s

TEOL/1A (S24)

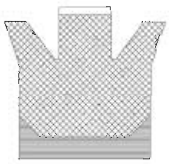
Similar to TEOL/1 with an anti extrusion synthetic resin ring.

Pressure: up to 25 MPa
Speed: up to 0,5 m/s

TEOL/1A (G10)

Rod seal manufactured as an integral element by vulcanising togheter cotton fabric and NBR. Excellent resistance to wear and low friction.

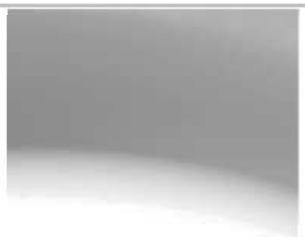
Pressure: up to 25 MPa
Speed: up to 0,5 m/s



TEOL/8 (G18)

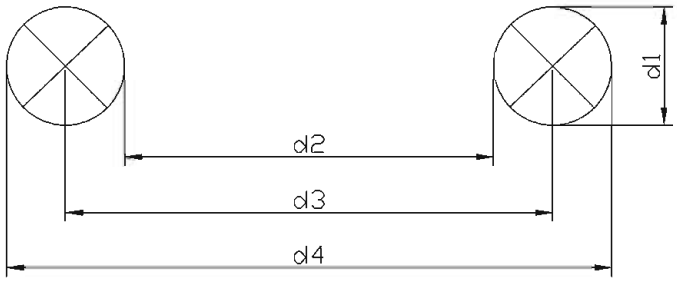
Two parts rod seal: lip sealing part in fabric reinforced rubber and support part moulded in a special rigid fabric. Suitable in cases where hydraulic equipment is subjected to severe vibration, shock and high pressure.

Pressure: up to 40 MPa
Speed: up to 0,5 m/s



Hot Vulcanised O-RINGS

We can produce spliced O-rings on request with our hot vulcanisation technology. With this procedure the O-ring is endless and without any evidence of splice: endurance and elasticity are very similar to those of moulded O-rings.

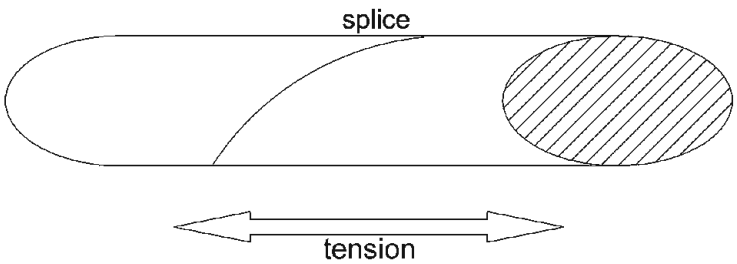


d1 = cord diameter
d2 = inner diameter
d3 = medium diameter
d4 = outer diameter

Upon request we can splice any extruded profile used by customers.

Although this technology avoids the majority of spliced O-rings problems, it is important to take some cautions when handling vulcanised O-rings, and specifically :

no excessive tension on splice



bending radius on splice not bigger than ¼ of cord diameter