



## O-Ring and Backup |FEP - PFA encapsulated O-Rings

The simple shape of a rubber O-Ring with the chemical resistance of a fluorinated polymer.

A fulfilling alternative choice to FFKM O-Rings.

A reliable sealing solution for the chemical, pharma and food processing industry.

FDA Approved

3A (Sanitary Standard) Approved

Available in any diameter

Temperature range

-25 + 200 °C with FPM core  
(fluorinated rubber)

-50 + 200°C with MVQ  
core (silicone rubber)

Good compression set

Wide chemical resistance

Low friction coefficient

Don't stick to the surfaces

No ageing

Static applications (recommended), and  
slow non demanding dynamic  
applications

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Image: 0503.png



## FINISHES

SURFACE FINISH ACCORDING WITH FLUID		
application	max Ra $\mu\text{m}$ dynamic surface	max Ra $\mu\text{m}$ static surface
CRYOGENICS	0,1	0,2
FREON HELIUM HYDROGEN	0,2	0,3
AIR NITROGEN ARGON METHANE FUELS	0.2	0.4
WATER OIL	0.3 - 04	0.6
ROTARY SEALS		
<b>Shaft surface</b> Ra 0.2 - 0.3 micron max. Rz 1.0 - 2.5 micron max. R max. < 4 micron	<b>Shaft hardness</b> 55 HRC min. for pressure up to 5 bar 60 HRC min. for pressure > di 5 bar 60 HRC for speed > 4m/sec	<b>Surface treating deep</b> 0.3 mm min.

## SEAT



### STANDARD GROOVES for FEP encapsulated O-Rings

AS 568- ISO 3601/1

O-Ring Cross Section	STATIC APPLICATIONS H	GROOVE WIDTH G	DINAMC APPLICATIONS H (avoid any excessive stress)	GROOVE WIDTH G
1,78	1,25	2.7	1.50	2.3
2,62	1,90	3.8	2.25	3.3
3,53	2,70	5.0	3.10	4.4
5,33	4,30	7.3	4.70	6.5
7,00	5,75	9.5	6.10	8.6
8.00	6.50	10.9	7.00	9.8
9.00	7.30	12.3	7.90	11.0
10.0	8.20	13.5	8.80	12.2
12.0	10.00	16.1	10.50	14.7

For any further informations, please contact our [application engineers](#)

## GROOVE DESIGN AND ASSEMBLING

Unlike elastomeric ones, FEP encapsulated O-Rings show poor diametrical elasticity, consequently they must be ordered according with the actual groove dimensions.

For the same reasons, open groove assembling should be preferred.

The closed groove assembling (not suggested) requires pre-heating in water/oil bath; a preliminary test is strongly recommended.

### CROSS SECTION B TOLERANCES

Encapsulated O-Rings show greater cross section tolerances when compared with elastomeric ones.

cross section <b>B</b>	Inner Diameter <b>A</b>	tolerances
1.50 / <b>1.78</b> / 2.00 / 2.5	12 ≤ ID < 16 ID ≥ 16	-0.12 / + 0.14 -0.08 / + 0.08
<b>2.62</b>	12.5 ≤ ID < 18 ID ≥ 18	-0.12 / +0.14 -0.08 / +0.08
3.00	16 ≤ ID < 22 ID ≥ 22	-0.12 / +0.16 -0.08 / +0.08
<b>3.53</b>	17 ≤ ID < 24 ID ≥ 24	-0.14 / +0.18 -0.08 / +0.08
4.00	26 ≤ ID < 32 ID ≥ 32	-0.15 / +0.20 -0.06 / +0.10
4.50 / 5.00 / <b>5.33</b>	30 ≤ ID < 37 ID ≥ 37	-0.18 / +0.26 -0.13 / +0.13
6.00	45 ≤ ID < 53 ID ≥ 53	-0.18 / +0.26 -0.13 / +0.13
6.50	45 ≤ ID < 55 ID ≥ 55	-0.20 / +0.30 -0.15 / +0.15

7.00	50 <= ID < 60 ID >= 60	-0.20 / 0.30 -0.15 / 0.15
8.00	70 <= ID < 85 ID >= 85	-0.22 / +0.32 -0.16 / +0.16
9.00	100 <= ID < 110 ID >= 110	-0.24 / +0.34 -0.16 / 0.16
10.00	108 <= ID < 125 ID >= 125	-0.24 / +0.34 -0.17 / +0.17
12.00	135 <= ID < 145 ID > 145	-0.25 / +0.35 -0.17 / 0.17

### PRODUCT CODE

EXAMPLE:

**FEP O-Ring 98 x 3.53 MVQ** Where:

- Jacket = FEP
- Inner Diameter A=98
- Cross section B= 3.53
- O-Ring material= MVQ

Image