
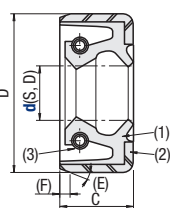


**Oil & Oil-Free Seals**

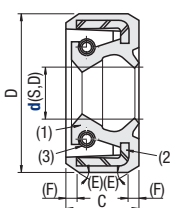
Type	Material			Usage
	(1) Oil Seal; Rubber Hardness	(2) Metal Ring	(3) Spring	
<b>MUDN</b>	Nitrile Rubber (NBR); Hs70	Low Carbon Steel	SW-B	Rotary Motion
<b>MUEN</b>	Nitrile Rubber (NBR); Hs70	Low Carbon Steel	SW-B	Rotary Motion



**MUDN**  
Outer Metal Type



**MUEN**  
Outer Rubber Type



JIS B2402 (Oil Seal)


Part Number	Wire Dia. W	Wire Dia. Tolerance	I.D. do 1mm Increment
<b>3.1</b>	±0.13	±0.13	300-2000
<b>3.53</b>			
<b>4</b>			
<b>5.33</b>	±0.15	±0.15	300-2000
<b>5.7</b>			
<b>6</b>			
<b>7</b>	±0.20	±0.20	300-2000
<b>8</b>			
<b>8.4</b>			
<b>9</b>	±0.25	±0.25	300-2000
<b>10</b>			
<b>11</b>			
<b>12</b>	±0.30	±0.30	300-2000
<b>13</b>			
<b>15</b>			
<b>16</b>	±0.39	±0.39	300-2000
<b>18</b>			
<b>20</b>			

(E)	(F)
300-400	±2.82
401-500	±3.30
501-600	±4.00
601-700	±4.70
701-800	±5.30
801-900	±6.00
901-1000	±6.70
1001-1100	±7.50
1101-1200	
1201-1300	
1301-1400	±8.80
1401-1500	
1501-1600	
1601-1700	±9.40
1701-1800	
1801-1900	
1901-2000	+10.0±11.7

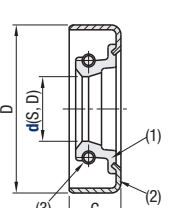
**Oil & Oil-Free Seals**

Type	Material			Usage
	(1) Oil Seal; Rubber Hardness	(2) Metal Ring	(3) Spring	
<b>MUSB</b>	Nitrile Rubber (NBR); Hs70	Low Carbon Steel	SW-B	Rotary Motion
<b>MUSC</b>	Nitrile Rubber (NBR); Hs70	Low Carbon Steel	SW-B	Rotary Motion

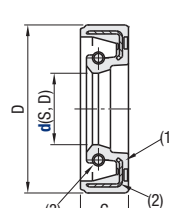
Type	Material		Usage
	(1) Resin Part	(2) Metal Part	
<b>MFHN</b>	Polytetrafluoroethylene (PTFE)	304 Stainless Steel	Rotary Motion



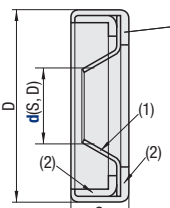
**MUSB**  
Outer Metal Type



**MUSC**  
Outer Rubber Type



**MFHN**



(Stamped side)

Part Number	Type	d	D	C
<b>MUSB</b>		20	32	8
		25	38	7
		30	40	7
		35	50	8

Part Number	Type	d	D	C
<b>MUSC</b>		10	20	7
		12	22	7
		15	35	7
		20	35	8
		25	40	8
		30	42	8

Part Number	Type	d	D	C
<b>MFHN</b>		10	25	7.0
		12	30	7.0
		15	40	7.0
		20	45	11.0
		25	50	11.0
		30	55	11.0
		35	62	12.0
		40	72	12.0
		50	72	12.0

**Part Number Example**

Part Number: **MUSC30**  
**MFHN25**

**Application Example**

**Conditions of Oil Seal Use**

Operating Temperature Range	-25-120°C
Operating Pressure	0.03 MPa or less
Wind Velocity	10m/sec. or less
Shaft Tolerance	h8 (or g6)
Shaft Surface Finish	3S or less
Sealed Substance	Oil & Grease

\*Shafts with tolerance g6 on P.202 to P.275 are available.  
\*The operating temperature range is heat resistant temperature of rubber material.  
\*The oil seal, when in use, withstands heat 20 to 30°C below the specified heat-resistance level at most.

**Conditions of Use for Oil Free Seal**

Operating Temperature Range	-60-200°C
Operating Pressure	0.03 MPa or less
Wind Velocity	30 m/sec. or less
Shaft Tolerance	h7 (or g6)
Shaft Coarseness	Ra: 0.2-0.45 μm Rz: 0.8-1.8 μm
Sealed Substance	High Temperature Vapor, Water, Chemicals & Oil

\*Shafts with tolerance g6 on P.202 to P.275 are available.  
\*The operating temperature range is heat resistant temperature of resin material.  
\*The oil seal, when in use, withstands heat 20 to 30°C below the specified heat-resistance level at most.