

O-Rings


S Series

Part Number
& Spec.Change
Printed in Purple

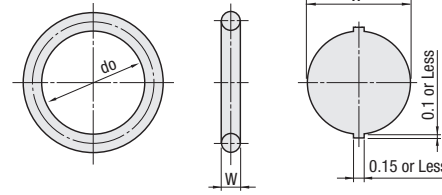
O-Rings

G Series

Part Number
& Spec.Change
Printed in Purple

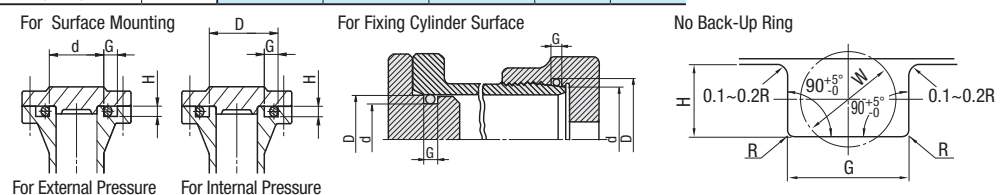


Type	Material	Hardness (JIS Hs)	Color	Operable Temperature Range	Applications	Features
NSA	Nitrile Rubber	70±5	Black	-30~100°C	Mineral Oil Resistant	Most representative material with superior oil / abrasion resistance and heat stability.
NSB	Nitrile Rubber	90±5	Black	-25~100°C		
NSSW	Silicon Rubber	50±5	Milky White	-50~200°C	Heat Resistant	Having excellent high and low temperature resistances, this material covers the widest range of operating temperatures among synthetic rubbers.
NSSK	Silicon Rubber	70±5	Scarlet Red	-50~200°C	Heat Resistant	It is suitable for food-related applications.
NSF	Fluoro Rubber	70±5	Black	-15~200°C	Heat Resistant	Best in oil / chemical resistance and heat stability as synthetic rubber. Suitable for a wide range of applications.
NSFH	Fluoro Rubber	90±5	Black	-15~200°C	Heat Resistant	



Detailed Fitting Size


Type	No.	G Dimension (Tolerance ^{+0.25} / ₀)			H Dimension H±0.05	R Dimension Max. Value
		No Back-Up Ring	Back-Up Ring on One Side	Back-Up Rings on Both Sides		
NSA, NSB, NSSW	3-22	2.5	-	-	1.0	0.2
NSSK, NSF, NSFH	22.4-50	2.7	-	-	1.5	0.4



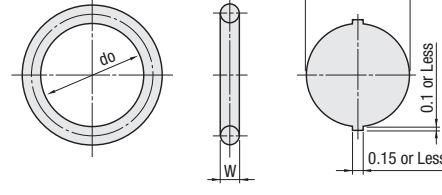
S Series

Part Number	Type	No.	Nominal Number	W	I.D.				Matching Material		NSA		NSB		NSSW		NSSK		NSF		NSFH	
					NSA Tolerance	NSB Tolerance	NSSW, NSSK Tolerance	NSF, NSFH Tolerance	d	Tolerance	D	Tolerance	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate
3		3		2.5				3		5												
4		4		3.5				4		6												
5		5		4.5				5		7												
6		6		5.5				6		8												
7		7		6.5				7		9												
8		8		7.5				8		10												
9		9		8.5				9		11												
10		10		9.5				10		12												
11.2	NSA	11.2	1.5±0.1	10.7				11.2		13.2												
12	(Nitrile Rubber, Black)	12		11.5				12		14												
12.5		12.5		12.0				12.5		14.5												
14		14		13.5				14		16												
15	NSB	15		14.5				15		17												
16	(Nitrile Rubber, Black)	16		15.5				16		18												
18		18		17.5				18		20												
20		20		19.5				20		22												
22	NSSW	22		21.5	±0.15	±0.45	±0.30	22		24												
22.4	(Silicon Rubber, Milky White)	22.4		21.9				22.4		25.4												
24		24		23.5				24		27												
25		25		24.5				25		28												
26	NSSK	26		25.5				26		29												
28	(Silicon Rubber, Scarlet Red)	28		27.5				28		31												
29		29		28.5				29		32												
30		30		29.5				30		33												
31.5	NSF	31.5		31.0				31.5		34.5												
32	(Fluoro Rubber, Black)	32		31.5				32		35												
34		34		33.5				34		37												
35		35		34.5				35		38												
35.5	NSFH	35.5	2.0±0.1	35.0				35.5		38.5												
36	(Fluoro Rubber, Black)	36		35.5				36		39												
38		38		37.5				38		41												
39		39		38.5				39		42												
40		40		39.5				40		43												
42		42		41.5				42		45												
44		44		43.5				44		47												
45		45		44.5				45		48												
46		46		45.5	±0.25	±0.75	±0.50	46		49												
48		48		47.5				48		51												
50		50		49.5				50		53												

Ordering Example Part Number NSA25



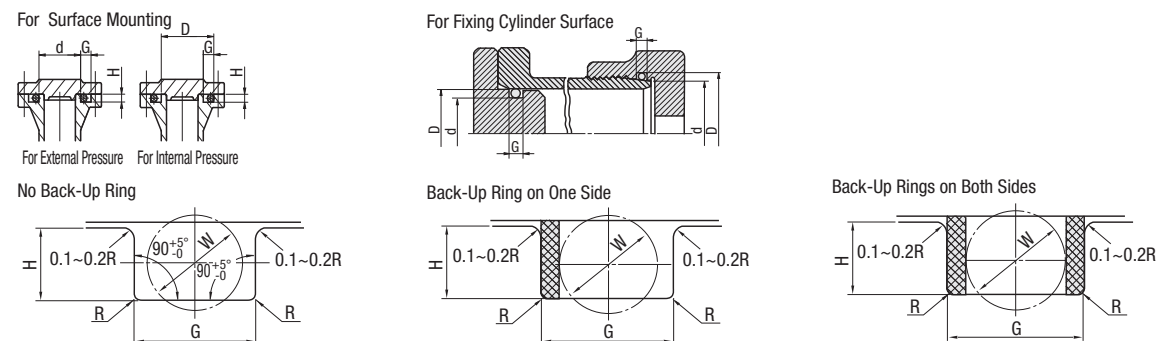
Type	Material	Hardness (JIS Hs)	Color	Operable Temperature Range	JIS Symbol	Applications	Features
NGA	Nitrile Rubber	70±5	Black	-30~100°C	Class 1 A	Mineral Oil Resistant	Most representative material with superior oil / abrasion resistance and heat stability.
NGB	Nitrile Rubber	90±5	Black	-25~100°C	Class 1 B	Heat Resistant	It has the characteristics almost equivalent to the Class 1A besides higher hardness and better pressure resistance.
NGSW	Silicon Rubber	50±5	Milky White	-50~200°C	-	Heat Resistant	Having excellent high and low temperature resistances, this material covers the widest range of operating temperatures among synthetic rubbers.
NGSK	Silicon Rubber	70±5	Scarlet Red	-50~200°C	Class 4 C	Heat Resistant	It is suitable for food-related applications.
NGF	Fluoro Rubber	70±5	Black	-15~200°C	Class 4 D	Heat Resistant	Best in oil / chemical resistance and heat stability as synthetic rubber. Suitable for a wide range of applications.



Detailed Fitting Size

Type	No.	G Dimension (Tolerance ^{+0.25} / ₀)			H Dimension H±0.05	R Dimension Max. Value
		No Back-Up Ring	Back-Up Ring on One Side	Back-Up Rings on Both Sides		
NGA, NGB, NGSW	25-145	4.1	5.6	7.3	2.4	0.7
NGSK, NGF	170	7.5	9	11.5	4.6	0.9

- When an internal pressure is applied to an o-ring for surface mounting, design the structure to bring the outer circumference of the o-ring to a close contact with the outer wall of the groove. When an external pressure is applied to an o-ring for surface mounting, design the structure to bring the inner circumference of the o-ring to a close contact with the inner wall of the groove.
- When using an o-ring for surface mounting for an internal pressure, if the length of D is 30 mm or less, make the length 0.2 to 0.3 mm longer.
- The groove dimensions are for reference.



JIS B 2401 G Series (For Mounting)

Part Number	Type	JIS Nominal Number	W	I.D.				Matching Material		NGA		NGB		NGSW		NGSK		NGF				
				d0	NGA, NGB Tolerance	NGSW, NGSK Tolerance	NGF Tolerance	d	Tolerance	D	Tolerance	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	Unit Price	Volume Discount Rate	
25	NGA	G25		24.4	±0.25	±0.38	±0.30	25														
30		G30		29.4	±0.29	±0.44	±0.35	30														
35		G35		34.4	±0.33	±0.50	±0.40	35														
40		G40		39.4	±0.37	±0.56	±0.45	40														
45		G45		44.4	±0.41	±0.62	±0.50	45														
50		G50		49.4	±0.45	±0.68	±0.54	50														
55		G55		54.4	±0.49	±0.74	±0.59	55														
60		G60	3.1±0.1	59.4	±0.53	±0.80	±0.64	60	0													
65		G65		64.4	±0.57	±0.86	±0.69	65	-0.10													
70		G70		69.4	±0.61	±0.92	±0.74	70														
75		G75		74.4	±0.65	±0.98	±0.78	75														
80		G80		79.4	±0.69	±1.04	±0.83	80														
105		G105		104.4	±0.87		±0.87	105														
120		G120		119.4	±0.98		±0.98	120														
145		G145		144.4	±1.16		±1.16	145														
170		G170	5.7±0.1	169.3	±1.33		±1.33	170														

Ordering Example Part Number NGA25