

RETAINER RINGS

Lock Wire

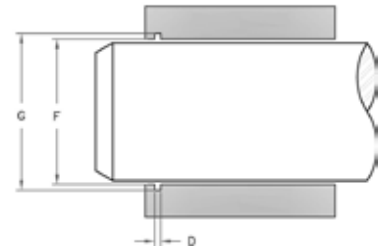
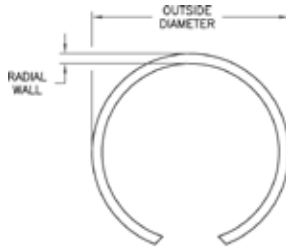
Part Number	Sale Unit	LENGTH	th THICKNESS	List Price
MLW-2	BY THE INCH	N/A	2.00	\$0.30
MLW-3	IN 250mm SECTIONS	250.00	3.00	12.46

Spiral Type Retainer Rings



Part Number	J BORE DIAMETER	OUTSIDE DIAMETER	th THICKNESS	RADIAL WALL	List Price
MSL-32	32.00	34.50	0.80		\$9.44
MSL-34	34.00	36.30	0.62		9.90
MSL-54	52.00	54.80	0.80		11.01
MSL-58	58.00	60.30	1.50	2.30	11.47
MSL-75	75.00	75.50	1.00	4.00	12.14
MSL-74	74.00	77.50	1.00		21.64

Internal Retainer Rings



Part Number	D GROOVE WIDTH	F THROAT DIAMETER	G HOUSING DIAMETER	OUTSIDE DIAMETER	th THICKNESS	RADIAL WALL	List Price
MNAN-037X2.3X1.5	1.60	37.00	38.20 ^{+0.16} / _{+0.00}	38.80	1.50 ^{+0.00} / _{-0.10}	2.30 ^{+0.00} / _{-0.10}	\$8.20
MNAN-038	1.60	38.00	39.20 ^{+0.16} / _{+0.00}	39.80	1.50 ^{+0.00} / _{-0.10}	2.30 ^{+0.00} / _{-0.10}	7.88
MNAN-053X2.3X1.5	1.60	53.00	54.50 ^{+0.19} / _{+0.00}	55.30	1.50 ^{+0.00} / _{-0.10}	2.30 ^{+0.00} / _{-0.10}	8.09
MNAN-058	1.60	58.00	59.50 ^{+0.19} / _{+0.00}	60.30	1.50 ^{+0.00} / _{-0.10}	2.30 ^{+0.00} / _{-0.10}	10.97
MNAN-117	2.70	117.00	119.30 ^{+0.22} / _{+0.00}	120.40	2.50 ^{+0.00} / _{-0.10}	3.40 ^{+0.00} / _{-0.10}	11.96

RETAINER RINGS

Internal Retainer Rings



Part Number	D GROOVE WIDTH	F THROAT DIAMETER	G HOUSING DIAMETER	OUTSIDE DIAMETER	th THICKNESS	List Price
M300-28	1.30 ^{+0.15} / _{+0.00}	28.00	29.39 ^{+0.20} / _{+0.00}	30.10 ^{+0.51} / _{-0.25}	1.19 ^{+0.00} / _{-0.05}	\$0.67
M300-30	1.30 ^{+0.15} / _{+0.00}	30.00	31.39 ^{+0.25} / _{+0.00}	32.11 ^{+0.51} / _{-0.25}	1.19 ^{+0.00} / _{-0.05}	1.10
M300-32	1.30 ^{+0.15} / _{+0.00}	32.00	33.71 ^{+0.25} / _{+0.00}	34.39 ^{+0.51} / _{-0.25}	1.19 ^{+0.00} / _{-0.05}	2.90
M300-42	1.85 ^{+0.15} / _{+0.00}	42.00	44.50 ^{+0.25} / _{+0.00}	45.49 ^{+0.89} / _{-0.38}	1.75 ^{+0.00} / _{-0.05}	4.04
M300-45	1.85 ^{+0.15} / _{+0.00}	45.00	47.50 ^{+0.25} / _{+0.00}	48.49 ^{+0.89} / _{-0.38}	1.75 ^{+0.00} / _{-0.05}	4.32
M300-47	1.85 ^{+0.15} / _{+0.00}	47.00	49.50 ^{+0.25} / _{+0.00}	50.50 ^{+1.09} / _{-0.46}	1.75 ^{+0.00} / _{-0.05}	4.40
M300-48	1.85 ^{+0.15} / _{+0.00}	48.00	50.50 ^{+0.30} / _{+0.00}	51.51 ^{+1.09} / _{-0.46}	1.75 ^{+0.00} / _{-0.05}	4.40
M300-50	2.16 ^{+0.15} / _{+0.00}	50.00	53.01 ^{+0.30} / _{+0.00}	54.20 ^{+1.09} / _{-0.46}	2.01 ^{+0.00} / _{-0.08}	4.48
M300-52	2.16 ^{+0.15} / _{+0.00}	52.00	54.99 ^{+0.30} / _{+0.00}	56.21 ^{+1.09} / _{-0.46}	2.01 ^{+0.00} / _{-0.08}	4.82
M300-55	2.16 ^{+0.15} / _{+0.00}	55.00	57.99 ^{+0.30} / _{+0.00}	59.21 ^{+1.09} / _{-0.46}	2.01 ^{+0.00} / _{-0.08}	4.66
M300-60	2.16 ^{+0.15} / _{+0.00}	60.00	62.99 ^{+0.30} / _{+0.00}	64.21 ^{+1.09} / _{-0.46}	2.01 ^{+0.00} / _{-0.08}	4.94
M300-62	2.16 ^{+0.15} / _{+0.00}	62.00	65.00 ^{+0.30} / _{+0.00}	66.19 ^{+1.09} / _{-0.46}	2.01 ^{+0.00} / _{-0.08}	5.08
M300-72	2.64 ^{+0.15} / _{+0.00}	72.00	75.01 ^{+0.30} / _{+0.00}	76.50 ^{+1.09} / _{-0.46}	2.49 ^{+0.00} / _{-0.08}	5.89
M300-80	2.64 ^{+0.15} / _{+0.00}	80.00	83.49 ^{+0.36} / _{+0.00}	85.50 ^{+1.30} / _{-0.53}	2.49 ^{+0.00} / _{-0.08}	8.15
M300-82	2.64 ^{+0.15} / _{+0.00}	82.00	85.50 ^{+0.36} / _{+0.00}	87.50 ^{+1.30} / _{-0.53}	2.49 ^{+0.00} / _{-0.08}	8.23
M300-130	4.14 ^{+0.18} / _{+0.00}	130.00	134.01 ^{+0.64} / _{+0.00}	137.01 ^{+1.50} / _{-0.64}	4.00 ^{+0.00} / _{-0.10}	13.09

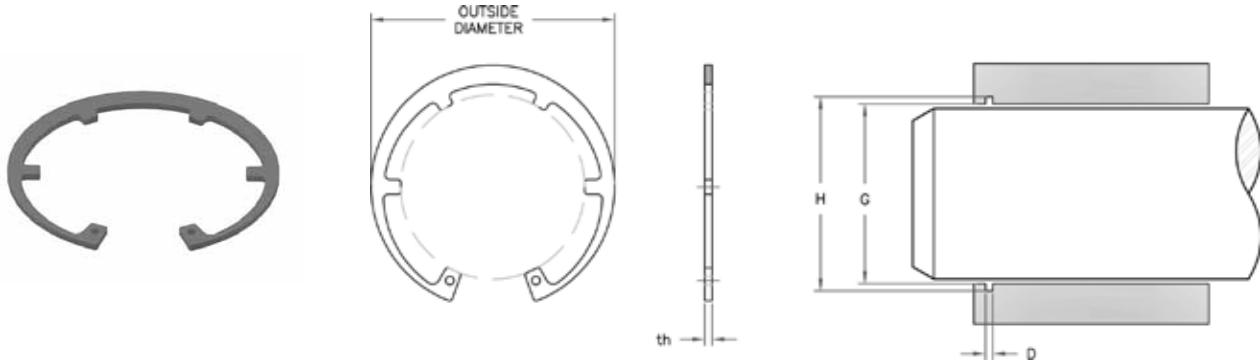
RETAINER RINGS

External Retainer Rings



Part Number	D GROOVE WIDTH	E SHAFT DIAMETER	H GROOVE DIAMETER	INSIDE DIAMETER	th THICKNESS	List Price
M310-13	1.10 ^{+0.14} / _{+0.00}	13.00	12.40 ^{+0.00} / _{-0.11}	11.90 ^{+0.18} / _{-0.36}	1.00 ^{+0.00} / _{-0.06}	\$2.33
M310-14	1.10 ^{+0.14} / _{+0.00}	14.00	13.40 ^{+0.00} / _{-0.11}	12.90 ^{+0.18} / _{-0.36}	1.00 ^{+0.00} / _{-0.06}	2.33
M310-25	1.30 ^{+0.14} / _{+0.00}	25.00	23.90 ^{+0.00} / _{-0.21}	23.20 ^{+0.21} / _{-0.42}	1.20 ^{+0.00} / _{-0.06}	2.50
M310-28	1.60 ^{+0.14} / _{+0.00}	28.00	26.60 ^{+0.00} / _{-0.21}	25.90 ^{+0.21} / _{-0.42}	1.50 ^{+0.00} / _{-0.06}	2.85
M310-30	1.60 ^{+0.14} / _{+0.00}	30.00	28.60 ^{+0.00} / _{-0.21}	27.90 ^{+0.21} / _{-0.42}	1.50 ^{+0.00} / _{-0.06}	3.20
M310-35	1.60 ^{+0.14} / _{+0.00}	35.00	33.00 ^{+0.00} / _{-0.25}	32.20 ^{+0.25} / _{-0.50}	1.50 ^{+0.00} / _{-0.06}	1.29
M310-45	1.85 ^{+0.14} / _{+0.00}	45.00	42.50 ^{+0.00} / _{-0.25}	41.50 ^{+0.39} / _{-0.90}	1.75 ^{+0.00} / _{-0.06}	4.94
M310-50	2.15 ^{+0.14} / _{+0.00}	50.00	47.00 ^{+0.00} / _{-0.25}	45.80 ^{+0.39} / _{-0.90}	2.00 ^{+0.00} / _{-0.06}	6.27
M310-60	2.15 ^{+0.14} / _{+0.00}	60.00	57.00 ^{+0.00} / _{-0.30}	55.80 ^{+0.46} / _{-1.10}	2.00 ^{+0.00} / _{-0.06}	6.74
M310-65	2.65 ^{+0.14} / _{+0.00}	65.00	62.00 ^{+0.00} / _{-0.30}	60.80 ^{+0.46} / _{-1.10}	2.50 ^{+0.00} / _{-0.06}	3.68
M310-75	2.65 ^{+0.14} / _{+0.00}	75.00	72.00 ^{+0.00} / _{-0.30}	70.50 ^{+0.46} / _{-1.10}	2.50 ^{+0.00} / _{-0.06}	2.66
MXAN-080	3.53 ^{+0.15} / _{+0.00}	80.00	75.67 ±0.15	74.83 ^{+0.00} / _{-1.57}	3.18 ±0.05	17.53

DHT STYLE INTERNAL RETAINER RINGS



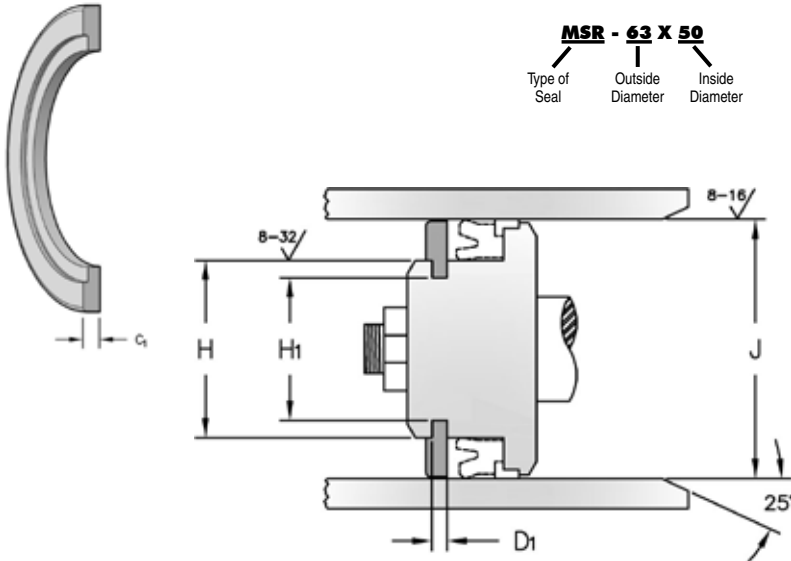
Part Number	D GROOVE WIDTH	G HOUSING DIAMETER	H GROOVE DIAMETER	OUTSIDE DIAMETER	th THICKNESS	List Price
M300-35DHT	1.60	35.00	37.00 +0.25 +0.00	37.80 +0.50 -0.25	1.50 +0.00 -0.06	\$2.88
M300-40DHT	1.85	40.00	42.50 +0.25 +0.00	43.50 +0.90 -0.39	1.75 +0.00 -0.06	4.32
M300-52DHT	2.15	52.00	55.00 +0.30 +0.00	56.20 +1.10 -0.46	2.00 +0.00 -0.07	5.75
M300-62DHT	2.15	62.00	65.00 +0.30 +0.00	66.20 +1.10 -0.46	2.00 +0.00 -0.07	8.62
M300-72DHT	2.65	72.00	75.00 +0.30 +0.00	76.50 +1.10 -0.46	2.50 +0.00 -0.07	8.62

STYLE MSR U-SEAL RETAINER RINGS

These rings are split for ease of installation and are retained in a groove. Their use is primarily to retain single acting piston seals. Commonly are used with MUFN style piston seals.

PART NUMBERS

MSR - 63 X 50
 Type of Seal Outside Diameter Inside Diameter



SEAL INFORMATION

MATERIAL	ACETAL
TEMPERATURE RANGE	-22° TO +212° F
PART NUMBER	(Prefix) - (OD) X (ID)

Part Number	C ₁ OVERALL HEIGHT	D ₁ BEARING GROOVE WIDTH	H GROOVE DIAMETER	H ₁ BEARING GROOVE DIAMETER	J BORE DIAMETER	List Price
MSR-63X50	6.48 ±0.13	3.30 +0.13 +0.00	50.00	45.80	63.00	\$4.83
MSR-70X50	6.48 ±0.13	3.30 +0.13 +0.00	50.00	45.80	70.00	4.50
MSR-90X70	6.48 ±0.13	3.30 +0.13 +0.00	70.00	65.80	90.00	5.59
MSR-104.5X85	6.48 ±0.13	3.30 +0.13 +0.00	85.00	80.80	104.50	9.69
MSR-105X85	6.48 ±0.13	4.60 +0.13 +0.00	85.00	80.80	105.00	8.73
MSR-110X90	6.48 ±0.13	3.30 +0.13 +0.00	90.00	85.80	110.00	9.46

SPECIAL ORDER STYLE MSR U-SEALS RETAINER RINGS

Part Number	List Price	Part Number	List Price	Part Number	List Price
MSR-35X22	\$ 2.15	MSR-60X40	\$ 2.41	MSR-100X80	\$ 6.47
MSR-45X30	2.33	MSR-65X50	7.07		
MSR-55X40	2.41	MSR-80X65	7.33		