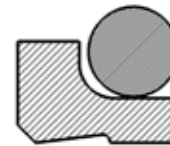




ECLIPSE SCRAPER SEAL



ESS ROD SERIES

**FULL SERVICE SEAL & BEARING ENGINEERING,
MANUFACTURING AND DISTRIBUTION.**

Address

2540 S Main St., Erie, CO 80516
p: 303-460-1540 / f: 303-635-3005

Contact

sales@eclipseseal.com
www.eclipseseal.com



TABLE OF CONTENTS

Full service seal & bearing engineering, manufacturing and distribution.

03 | Scrapper Seal Rod introduction

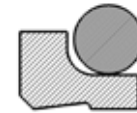
04 | Ordering overview

05 | Standard materials

06 | Standard part numbers

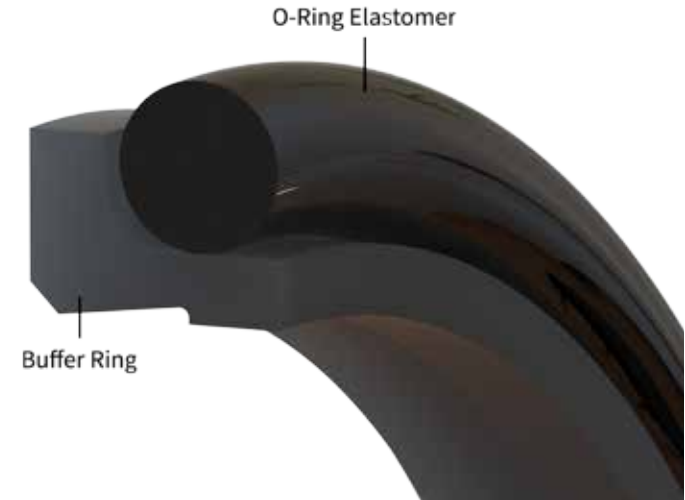
13 | Hardware details





ECLIPSE ESS - ROD SCRAPER SEAL

ESS Scraper Seals are linear, double-acting, seal and rod wipers typically used in reciprocating hydraulic cylinder assemblies but available for a wide variety of industries and applications. Advantages include long wear life, low friction, and simple groove design. The geometry will provide controlled sealability during stroke extension while wiping outside contamination during stroke retraction. The ESS profile will retrofit non-Eclipse seals designed for similar hardware.

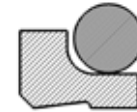


TYPICAL RANGE OF APPLICATION

Pressure	Temperature*	Velocity	Media
1,500 - 5,000 psi [100 - 350 bar]	-30°F to 250°F [-34°C to 121°C]	5 fps [1.5 m/s]	Hydraulic/Mineral Oil or similar

*Limited by O-Ring compound

Values and ratings in this catalog are based on industry standard applications operating under ideal conditions. The customer should assume responsibility for validation testing of performance and suitability of Eclipse Engineering products. Eclipse Engineering accepts no liability for the accuracy and applicability of provided information.

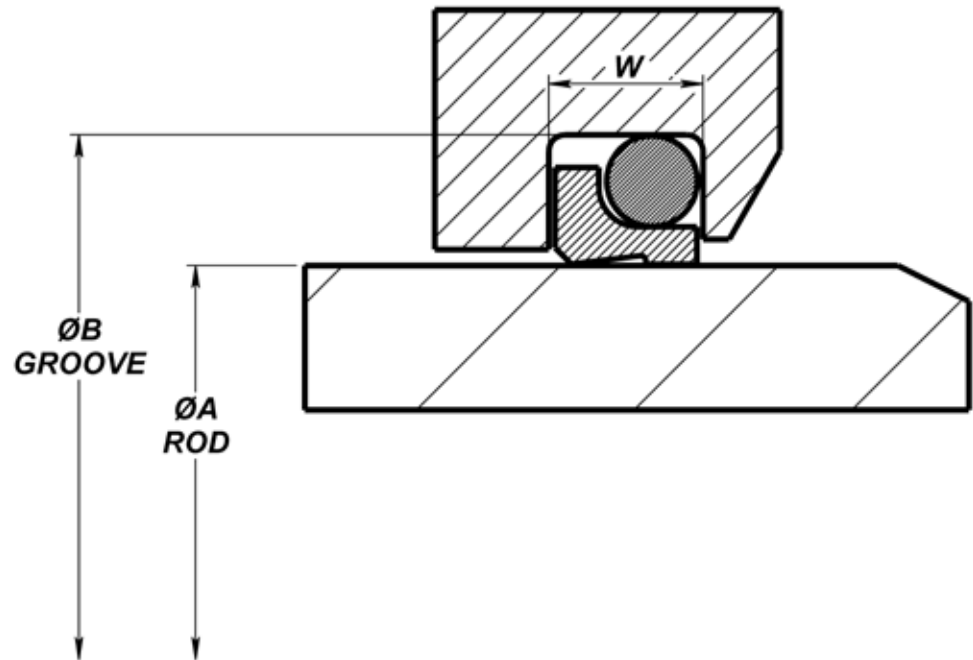


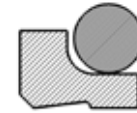
ORDERING EXAMPLE:

ESS2-R-03000-ET010-N

- ESS2** = Seal Ring Series
- R** = Rod
- 03000** = Rod Diameter X 1000 (inches)
- ET010** = Material Code
- N** = O-Ring Material Code

CROSS SECTION SERIES	ØA ROD h9	ØB GROOVE H9	GROOVE WIDTH +0.008/-0.000
ESS0	0.250 - 1.000	ØA + 0.190	0.146
ESS1	0.500 - 6.000	ØA + 0.270	0.196
ESS2	2.500 - 10.000	ØA + 0.345	0.236
ESS3	10.000 - 17.000	ØA + 0.480	0.332
ESS4	17.000 - 25.000	ØA + 0.630	0.434





ESS STANDARD SEAL MATERIALS

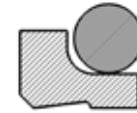
ECLIPSE MATERIAL CODE	DESCRIPTION	COLOR	APPLICATIONS
ET010	Bronze filled PTFE	Brown	Standard material for hydraulics
ET020	Carbon Fiber filled PTFE	Black	Abrasive, heavy wear, extended life requirements
EH042	Thermoplastic Elastomer	Black	High sealability, extrusion resistance

See [Eclipse Material Guide](#) for complete list of available materials.

O-RING MATERIALS

ECLIPSE MATERIAL CODE	DESCRIPTION	HARDNESS SHORE A	TEMPERATURE RANGE
0 OR BLANK	Seal provided without O-Ring	-	-
N	Nitrile (NBR)	70	-30°F to 250°F [-34°C to 121°C]
F	Fluorocarbon (FKM)	75	-15°F to 400°F [-26°C to 205°C]
E	Ethylene Propylene (EPDM)	70	-70°F to 250°F [-57°C to 121°C]

Full range of elastomer compounds available for specialty applications.



STANDARD PART NUMBERS

000 SERIES:

PART NUMBER	ROD Ø +0.000/-0.002	GROOVE Ø +0.002/-0.000	GROOVE WIDTH	O-RING DASH SIZE
ESS0-R-00313	0.313	0.503	0.146/0.154	2-012
ESS0-R-00375	0.375	0.565		2-013
ESS0-R-00394	0.394 (10MM)	0.584		2-013
ESS0-R-00438	0.438	0.628		2-014
ESS0-R-00500	0.500	0.690		2-015
ESS0-R-00563	0.563	0.753		2-016
ESS0-R-00591	0.591 (15MM)	0.781		2-017
ESS0-R-00625	0.625	0.815		2-017
ESS0-R-00688	0.688	0.878		2-018
ESS0-R-00750	0.750	0.940		2-019
ESS0-R-00787	0.787 (20MM)	0.977		2-019
ESS0-R-00875	0.875	1.065		2-021

PART NUMBER	ROD Ø +0.000/-0.002	GROOVE Ø +0.002/-0.000	GROOVE WIDTH	O-RING DASH SIZE
ESS0-R-00938	0.938	1.128	0.146/0.154	2-022
ESS0-R-00984	0.984 (25MM)	1.174		2-023
ESS0-R-01000	1.000	1.190		2-023

Consult Eclipse Engineering for all custom or unlisted sizes.

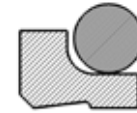


100 SERIES:

PART NUMBER	ROD Ø +0.000/-0.002	GROOVE Ø +0.002/-0.000	GROOVE WIDTH	O-RING DASH SIZE
ESS1-R-00500	0.500	0.770	0.196/0.204	2-113
ESS1-R-00563	0.563	0.833		2-114
ESS1-R-00591	0.591 (15MM)	0.861		2-114
ESS1-R-00625	0.625	0.895		2-115
ESS1-R-00688	0.688	0.958		2-116
ESS1-R-00750	0.750	1.020		2-117
ESS1-R-00787	0.787 (20MM)	1.057		2-117
ESS1-R-00813	0.813	1.083		2-118
ESS1-R-00875	0.875	1.145		2-119
ESS1-R-00938	0.938	1.208		2-120
ESS1-R-00984	0.984 (25MM)	1.254		2-121
ESS1-R-01000	1.000	1.270		2-121
ESS1-R-01063	1.063	1.333		2-122
ESS1-R-01125	1.125	1.395		2-123
ESS1-R-01181	1.181 (30MM)	1.451		2-124

PART NUMBER	ROD Ø +0.000/-0.002	GROOVE Ø +0.002/-0.000	GROOVE WIDTH	O-RING DASH SIZE
ESS1-R-01188	1.188	1.458	0.196/0.204	2-124
ESS1-R-01250	1.250	1.520		2-125
ESS1-R-01313	1.313	1.583		2-126
ESS1-R-01375	1.375	1.645		2-127
ESS1-R-01378	1.378 (35MM)	1.648		2-127
ESS1-R-01438	1.438	1.708		2-128
ESS1-R-01500	1.500	1.770		2-129
ESS1-R-01563	1.563	1.833		2-130
ESS1-R-01575	1.575 (40MM)	1.845		2-130
ESS1-R-01625	1.625	1.895		2-131
ESS1-R-01688	1.688	1.958		2-132
ESS1-R-01750	1.750	2.020		2-133
ESS1-R-01772	1.772 (45MM)	2.042		2-133
ESS1-R-01875	1.875	2.145		2-134
ESS1-R-01938	1.938	2.208		2-136

Consult Eclipse Engineering for all custom or unlisted sizes.

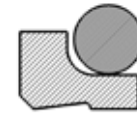


100 SERIES CONTINUED:

PART NUMBER	ROD Ø +0.000/-0.002	GROOVE Ø +0.002/-0.000	GROOVE WIDTH	O-RING DASH SIZE
ESS1-R-01968	1.968 (50MM)	2.238	0.196/0.204	2-136
ESS1-R-02000	2.000	2.270		2-137
ESS1-R-02125	2.125	2.395		2-139
ESS1-R-02165	2.165 (55MM)	2.435		2-140
ESS1-R-02250	2.250	2.520		2-141
ESS1-R-02362	2.362 (60MM)	2.632		2-143
ESS1-R-02375	2.375	2.645		2-143
ESS1-R-02500	2.500	2.770		2-145
ESS1-R-02559	2.559 (65MM)	2.829		2-146
ESS1-R-02625	2.625	2.895		2-147
ESS1-R-02750	2.750	3.020		2-149
ESS1-R-02756	2.756 (70MM)	3.026		2-149
ESS1-R-02875	2.875	3.145		2-151
ESS1-R-02953	2.953 (75MM)	3.223		2-151
ESS1-R-03000	3.000	3.270		2-151

PART NUMBER	ROD Ø +0.000/-0.002	GROOVE Ø +0.002/-0.000	GROOVE WIDTH	O-RING DASH SIZE
ESS1-R-03125	3.125	3.395	0.196/0.204	2-152
ESS1-R-03150	3.150 (80MM)	3.420		2-152
ESS1-R-03250	3.250	3.520		2-152
ESS1-R-03346	3.346 (85MM)	3.616		2-153
ESS1-R-03375	3.375	3.645		2-153
ESS1-R-03500	3.500	3.770		2-153
ESS1-R-03543	3.543 (90MM)	3.813		2-153
ESS1-R-03625	3.625	3.895		2-154
ESS1-R-03740	3.740 (95MM)	4.010		2-154
ESS1-R-03750	3.750	4.020		2-154
ESS1-R-03875	3.875	4.145		2-155
ESS1-R-03937	3.937 (100MM)	4.207		2-155
ESS1-R-04000	4.000	4.270		2-155
ESS1-R-04125	4.125	4.395		2-156
ESS1-R-04134	4.134 (105MM)	4.404		2-156

Consult Eclipse Engineering for all custom or unlisted sizes.

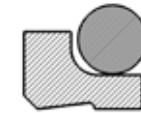


100 SERIES CONTINUED:

PART NUMBER	ROD Ø +0.000/-0.002	GROOVE Ø +0.002/-0.000	GROOVE WIDTH	O-RING DASH SIZE
ESS1-R-04250	4.250	4.520	0.196/0.204	2-156
ESS1-R-04331	4.331 (110MM)	4.601		2-157
ESS1-R-04375	4.375	4.645		2-157
ESS1-R-04500	4.500	4.770		2-157
ESS1-R-04528	4.528 (115MM)	4.798		2-157
ESS1-R-04625	4.625	4.895		2-158
ESS1-R-04724	4.724 (120MM)	4.994		2-158
ESS1-R-04750	4.750	5.020		2-158
ESS1-R-05000	5.000	5.270		2-159
ESS1-R-05250	5.250	5.520		2-160
ESS1-R-05375	5.375	5.645		2-161
ESS1-R-05500	5.500	5.770		2-161

PART NUMBER	ROD Ø +0.000/-0.002	GROOVE Ø +0.002/-0.000	GROOVE WIDTH	O-RING DASH SIZE
ESS1-R-05512	5.512 (140MM)	5.782	0.196/0.204	2-161
ESS1-R-05625	5.625	5.895		2-162
ESS1-R-05750	5.750	6.020		2-162
ESS1-R-05906	5.906 (150mm)	6.176		2-163
ESS1-R-06000	6.000	6.270		2-163

Consult Eclipse Engineering for all custom or unlisted sizes.

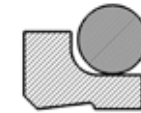


200 SERIES:

PART NUMBER	ROD Ø +0.000/-0.004	GROOVE Ø +0.004/-0.000	GROOVE WIDTH	O-RING DASH SIZE
ESS2-R-06000	6.000	6.345	0.236/0.244	2-258
ESS2-R-06250	6.250	6.595		2-259
ESS2-R-06299	6.299 (160MM)	6.644		2-259
ESS2-R-06500	6.500	6.845		2-260
ESS2-R-06693	6.693 (170MM)	7.038		2-261
ESS2-R-06750	6.750	7.095		2-261
ESS2-R-07000	7.000	7.345		2-262
ESS2-R-07087	7.087 (180MM)	7.432		2-262
ESS2-R-07250	7.250	7.595		2-263
ESS2-R-07480	7.480 (190MM)	7.825		2-264
ESS2-R-07500	7.500	7.845		2-264
ESS2-R-07750	7.750	8.095		2-265
ESS2-R-07874	7.874 (200MM)	8.219		2-265
ESS2-R-08000	8.000	8.345		2-266
ESS2-R-08250	8.250	8.595		2-267

PART NUMBER	ROD Ø +0.000/-0.004	GROOVE Ø +0.004/-0.000	GROOVE WIDTH	O-RING DASH SIZE
ESS2-R-08268	8.268 (210MM)	8.613	0.236/0.244	2-267
ESS2-R-08500	8.500	8.845		2-268
ESS2-R-08661	8.661 (220MM)	9.006		2-268
ESS2-R-08750	8.750	9.095		2-269
ESS2-R-09000	9.000	9.345		2-270
ESS2-R-09250	9.250	9.595		2-271
ESS2-R-09252	9.252 (235MM)	9.597		2-271
ESS2-R-09500	9.500	9.845		2-272
ESS2-R-09750	9.750	10.095		2-273
ESS2-R-09843	9.843 (250MM)	10.188		2-273
ESS2-R-10000	10.000	10.345		2-274

Consult Eclipse Engineering for all custom or unlisted sizes.

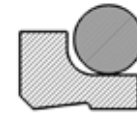


300 SERIES:

PART NUMBER	ROD Ø +0.000/-0.005	GROOVE Ø +0.005/-0.000	GROOVE WIDTH	O-RING DASH SIZE
ESS3-R-10000	10.000	10.480	0.332/0.340	2-377
ESS3-R-10433	10.433 (265MM)	10.913		2-378
ESS3-R-10500	10.500	10.980		2-378
ESS3-R-11000	11.000	10.480		2-379
ESS3-R-11024	11.024 (280MM)	11.504		2-379
ESS3-R-11500	11.500	11.980		2-380
ESS3-R-11811	11.811 (300MM)	12.291		2-380
ESS3-R-12000	12.000	12.480		2-381
ESS3-R-12500	12.500	12.980		2-381
ESS3-R-13000	13.000	13.480		2-382
ESS3-R-13500	13.500	13.980		2-382
ESS3-R-13780	13.780 (350MM)	14.260		2-382
ESS3-R-14000	14.000	14.480		2-383
ESS3-R-14500	14.500	14.980		2-383
ESS3-R-14764	14.764 (375MM)	15.244		2-383

PART NUMBER	ROD Ø +0.000/-0.005	GROOVE Ø +0.005/-0.000	GROOVE WIDTH	O-RING DASH SIZE
ESS3-R-15000	15.000	15.480	0.332/0.340	2-384
ESS3-R-15500	15.500	15.980		2-384
ESS3-R-15748	15.748 (400MM)	16.228		2-384
ESS3-R-16000	16.000	16.480		2-385
ESS3-R-16500	16.500	16.980		2-385
ESS3-R-16732	16.732 (425MM)	17.212		2-385
ESS3-R-17000	17.000	17.480		2-386

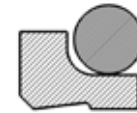
Consult Eclipse Engineering for all custom or unlisted sizes.



400 SERIES:

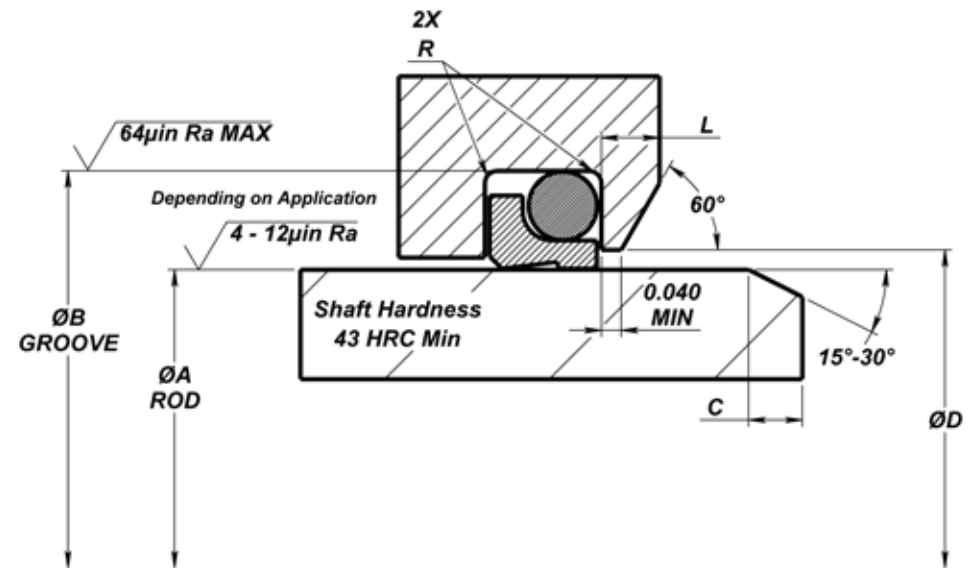
PART NUMBER	ROD Ø +0.000/-0.006	GROOVE Ø +0.006/-0.000	GROOVE WIDTH	O-RING DASH SIZE
ESS4-R-17000	17.000	17.630	0.434/0.442	2-463
ESS4-R-17500	17.500	18.130		2-464
ESS4-R-17717	17.717 (450MM)	18.347		2-464
ESS4-R-18000	18.000	18.630		2-465
ESS4-R-18500	18.500	19.130		2-466
ESS4-R-19000	19.000	19.630		2-467
ESS4-R-19500	19.500	20.130		2-468
ESS4-R-19685	19.685 (500MM)	20.315		2-468
ESS4-R-20000	20.000	20.630		2-469

Consult Eclipse Engineering for all custom or unlisted sizes.



HARDWARE DETAILS

CROSS SECTION SERIES	ØD RELIEF H11	R RADIUS (MAX)	C LEAD-IN CHAMFER (MIN)	L (MIN)
ESS0	ØA + 0.060	0.015	0.080	0.079
ESS1	ØA + 0.060	0.015	0.125	0.079
ESS2	ØA + 0.060	0.015	0.160	0.118
ESS3	ØA + 0.080	0.035	0.250	0.150
ESS4	ØA + 0.080	0.035	0.300	0.150



Consult Eclipse Engineering for application/material specific hardware design requirements.


We started Eclipse with the premise that if we could solve enough of our customers problems they would continue to come back to us for solutions regardless of the type of products we offered.



Eclipse has evolved to produce standard product offerings for a wide range of industries including Hydraulics, Pneumatics, Energy Production, Aerospace as well as Pharmaceutical and Food Handling. Instituting ISO9001/AS9100 quality system in 2015 allowed Eclipse to become a top tier supplier.

Today, Eclipse can support our smaller customers that require only a few seals a year to those needing in the 100's of thousands. We continue to retain a quality product and are able to deliver consistently on time. Our customers continue to bring us challenging projects that allow our team to do what we do best, problem solving.



 **eclipse** | engineering inc.



Address

2540 S Main St., Erie, CO 80516
p: 303-460-1540 / f: 303-635-3005

Contact

sales@eclipseseal.com
www.eclipseseal.com

Eclipse Engineering

Full service seal & bearing engineering,
manufacturing and distribution.