



Custom Machined Seals & Componets



Seal and Cylinder Source, Inc. provides a wide selection of custom, cost effective sealing solutions using advanced rapid-prototype technology. The programmable CNC production cell can manufacture both hydraulic and pneumatic styles of o-rings, rod seals, piston seals, wipers, backup rings, rotary seals, swivel seals and static seals in both imperial and metric sizes for almost any fluid power application including agriculture, automotive, heavy construction, material handling manufacturing, mining, logging, fluid handling and refuse. Seal and Cylinder Source, Inc. technology gives you the ability to source custom manufactured products with a short turn-around time and with no mold costs.

Seal and cylinders design software offers over 100 standard profiles and can produce countless custom

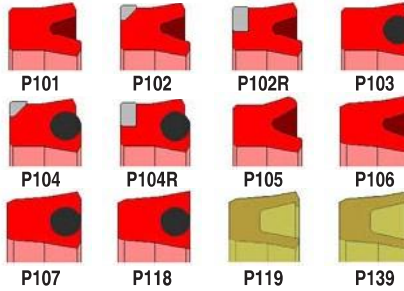
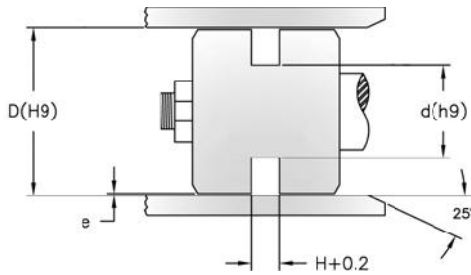
designs by modifying the standard dimensions. The advanced lathe technology results in exceptional sealing products with smooth corners and fillets, fine surface finishes and sharp lips. Seal and Cylinder Source, Inc. has a large inventory of high quality materials in numerous sizes including materials from elastomers of rubber and urethane to plastics of fluoro-polymers (PTFE) and Acetal (POM) available for your sealing application.

The following technical information illustrates common housings for each seal profile. Included in each seal application is a chart detailing the recommended dimensions for typical housing sizes.

Our sealing Dept. offers design assistance for non-standard and custom application needs, which may exceed the size ranges in these recommended charts. To reach our technical department, please call 1-877-905-7325.

PISTON SEALS

U-Seal



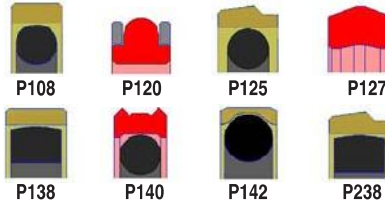
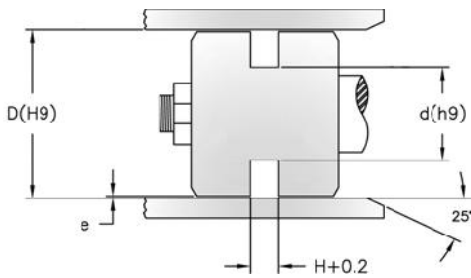
Application: Hydraulic single acting piston seals
Material: Urethane, NBR, PTFE, Fluorocarbon

Standard Recommended Dimensions

D (Range)	d	H
15 - 25	D - 8	6
25.1 - 50	D - 10	7
50.1 - 75	D - 12	8
75.1 - 150	D - 15	10
150.1 - 300	D - 20	12
300.1 - 450	D - 25	18
450.1 - 575	D - 30	20

All Dimensions Are Millimeters

Two Piece Seal



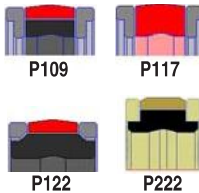
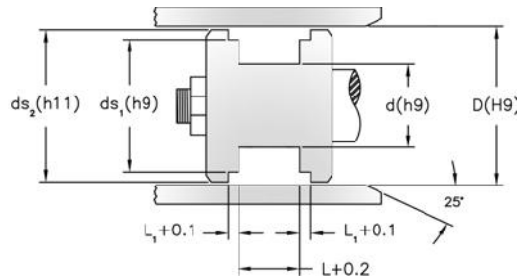
Application: Hydraulic double acting piston seals
Material: Urethane, NBR, PTFE, Fluorocarbon

Standard Recommended Dimensions

D (Range)	d	H
10 - 15	D - 4.9	2.2
15.1 - 40	D - 7.5	3.2
40.1 - 80	D - 11	4.2
80.1 - 135	D - 15.5	6.3
135.1 - 300	D - 21	8.1
300.1 - 575	D - 24.5	8.1

All Dimensions Are Millimeters

Compact Seal



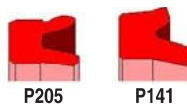
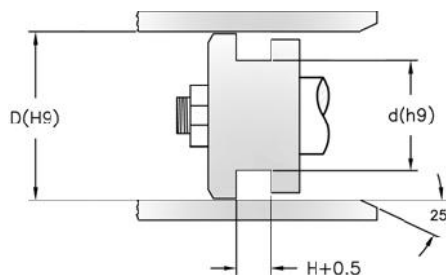
Application: Hydraulic double acting piston seals
Material: Urethane, NBR, PTFE, Fluorocarbon

Standard Recommended Dimensions

D (Range)	d	ds ₁	L	L ₁
20 - 50	D - 10	D - 3	12.5	4
50.1 - 80	D - 15	D - 4	20	4
80.1 - 150	D - 20	D - 5	25	5.5
150.1 - 300	D - 25	D - 6	32	7
300.1 - 600	D - 30	D - 8	36	7

All Dimensions Are Millimeters

Pneumatic U-Seal



Pressure: 350 PSI max
Application: Hydraulic single acting piston seals
Material: Urethane, NBR, PTFE, Fluorocarbon

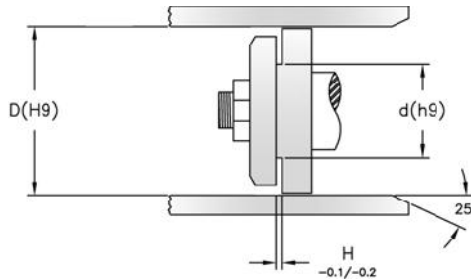
Standard Recommended Dimensions

D (Range)	d	H
15 - 25	d - 8	6
25.1 - 50	d - 10	7
50.1 - 75	d - 12	8
75.1 - 150	d - 15	10
150.1 - 300	d - 20	12
300.1 - 450	d - 25	18
450.1 - 575	d - 30	20

All Dimensions Are Millimeters

PISTON SEALS

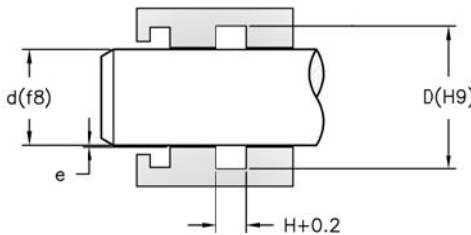
Piston Cup



Application: Hydraulic single acting piston seals
Material: Urethane, NBR, PTFE, Fluorocarbon

ROD SEALS

U-Seals



Application: Hydraulic single acting rod seals
Material: Urethane, NBR, PTFE, Fluorocarbon

Standard Recommended Dimensions

d (Range)	D	H
5 - 25	d + 8	6
25.1 - 50	d + 10	8
50.1 - 150	d + 15	10
150.1 - 300	d + 20	14
300.1 - 450	d + 25	17
450.1 - 575	d + 30	20

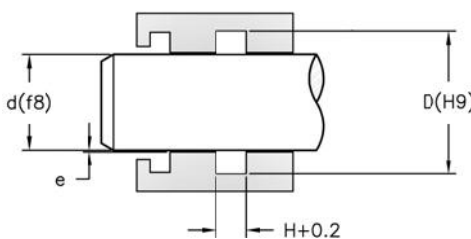
All Dimensions Are Millimeters

Pneumatic U-Seals



Pressure: 350° psi. max
Application: Hydraulic single acting rod seals
Material: Urethane, NBR, PTFE, Fluorocarbon

One and Two Piece Seals



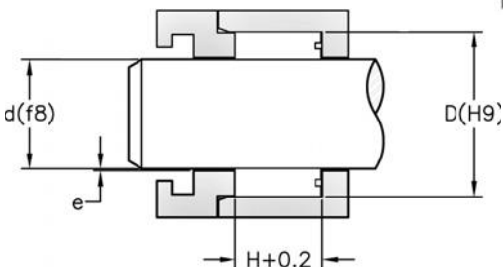
Application: Hydraulic double acting rod seals
Material: Urethane, NBR, PTFE, Fluorocarbon

Standard Recommended Dimensions

d (Range)	d	H
5 - 10	d + 4.9	2.2
10.1 - 39	d + 10.7	4.2
39.1 - 199	d + 15.1	6.3
199.1 - 259	d + 20.5	8.1
259.1 - 575	d + 24	8.1

All Dimensions Are Millimeters

Vee Packing



Application: Hydraulic single acting seals
Material: Urethane, NBR, PTFE, Fluorocarbon

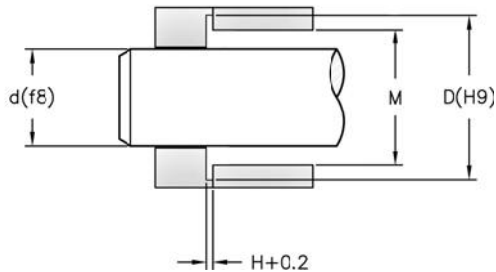
Standard Recommended Dimensions

d (Range)	D	H
10 - 40	d + 10	16
40.1 - 75	d + 15	25
75.1 - 150	d + 20	32
150.1 - 200	d + 25	40
200.1 - 300	d + 30	50
300.1 - 575	d + 40	63

All Dimensions Are Millimeters

ROD SEALS

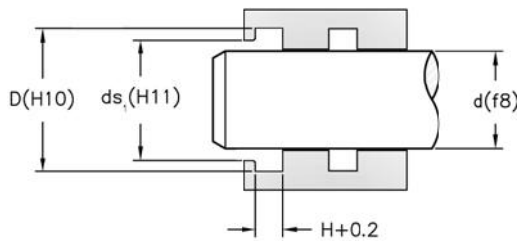
Rod Cup - Seal



Application: Hydraulic single acting rod seals
Material: Urethane, NBR, PTFE, Fluorocarbon

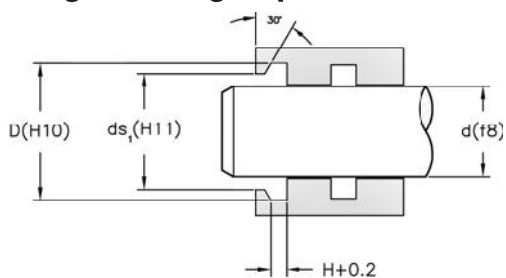
WIPERS

Single Acting Wipers



Application: Single acting wiper
Material: Urethane, NBR, PTFE, Fluorocarbon

Single Acting Wipers



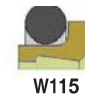
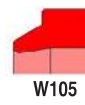
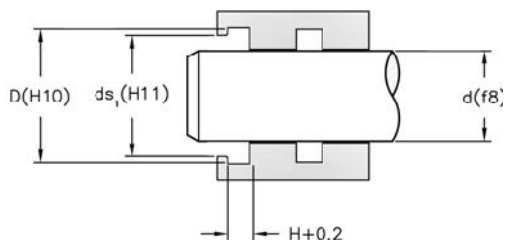
Standard Recommended Dimensions

d (Range)	D	H
5 - 50	d + 4	5
50.1 - 100	d + 5	5
100.1 - 575	d - 7.5	7

All Dimensions Are Millimeters

Application: Single acting wiper
Material: Urethane, NBR, PTFE, Fluorocarbon

Single & Double Acting Wipers



Standard Recommended Dimensions

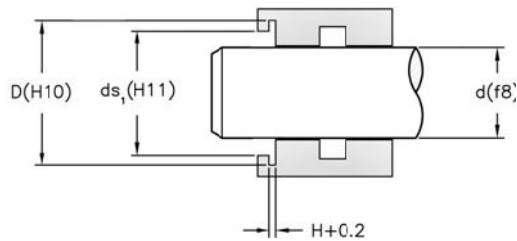
d (Range)	D	H
5 - 50	d + 4	5
50.1 - 100	d + 5	5
100.1 - 575	d - 7.5	7

All Dimensions Are Millimeters

Application:
W102, W105, W115 - Single acting wiper
W111, W211, W116, W117 - Single and double acting wiper
Material: Urethane, NBR, PTFE, Fluorocarbon

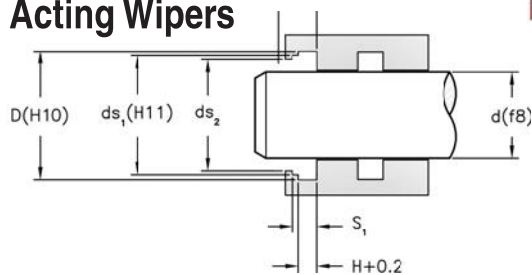
WIPERS

Single Acting Wipers



Application: Single acting wiper
Material: Urethane, NBR, PTFE, Fluorocarbon

Single and Double Acting Wipers



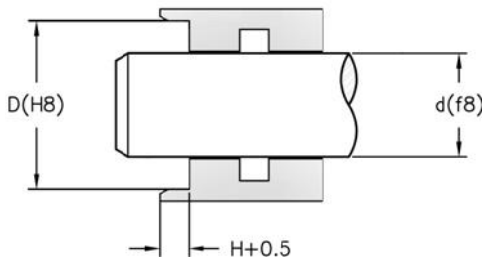
Application: Single acting wiper
Material: Urethane, NBR, PTFE, Fluorocarbon

Standard Recommended Dimensions

d (Range)	D	S ₁
5 - 100	d + 8	4
100.1 - 150	d + 9	5.5
150 - 575	d + 11	6.5

All Dimensions Are Millimeters

Single Acting Wipers



Application: Single acting wiper
Material: Urethane, NBR, PTFE, Fluorocarbon

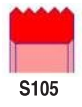
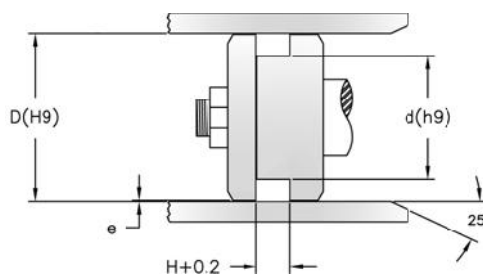
Standard Recommended Dimensions

d (Range)	D	S ₁
5 - 10	d + 8	5
10.1 - 100	d + 9	7
100.1 - 200	d + 15	9
200.1 - 575	d + 20	12

All Dimensions Are Millimeters

ROTARY SHAFT SEALS

Piston Rotary Seal



Application: Hydraulic double acting piston seals
Material: Urethane, NBR, PTFE, Fluorocarbon

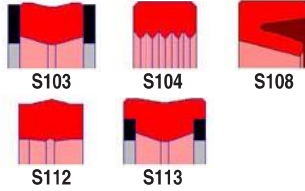
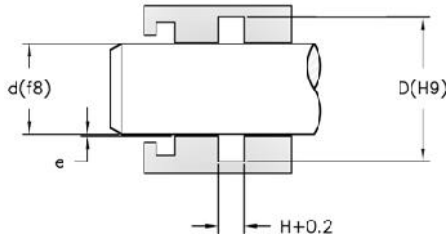
Standard Recommended Dimensions

D (Range)	d	H
10 - 20	D - 4.9	2.2
20.1 - 50	D - 7.5	3.2
50.1 - 150	D - 11	4.2
150.1 - 300	D - 15.5	6.3
300 - 600	D - 21	8.1

All Dimensions Are Millimeters

ROTARY SHAFT SEALS

Rod Rotary Seals



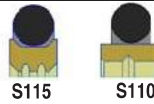
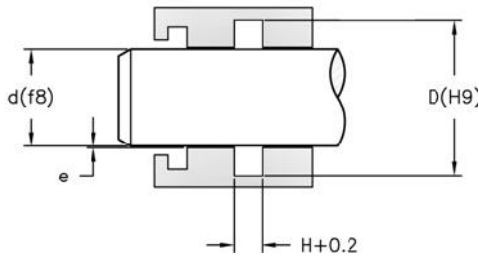
Application: Hydraulic double acting rod seals
Material: Urethane, NBR, PTFE, Fluorocarbon

Standard Recommended Dimensions

D (Range)	D	H
5 - 10	d + 4.9	2.2
10.1 - 39	d + 10.7	4.2
39.1 - 199	d + 15.1	6.3
199.1 - 259	d + 20.5	8.1
259 - 575	d + 25	8.1

All Dimensions Are Millimeters

Rod Rotary Seals



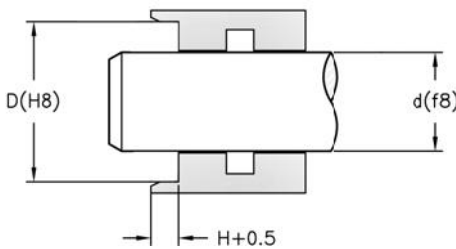
Application: Hydraulic double acting rod seals
Material: Urethane, NBR, PTFE, Fluorocarbon

Standard Recommended Dimensions

d (Range)	D	H
5 - 20	d + 4.9	2.2
20.1 - 50	d + 7.5	3.2
50.1 - 150	d + 11	4.2
150.1 - 300	d + 15.5	6.3
300.1 - 575	d + 21	8.1

All Dimensions Are Millimeters

Shaft Seals



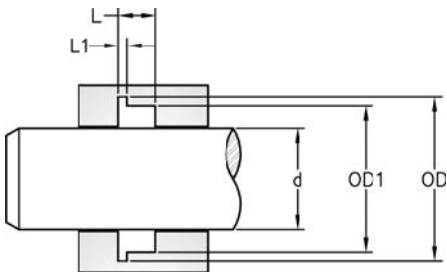
Application: Hydraulic single acting shaft seals
Material: NBR, Fluorocarbon, PTFE

Standard Recommended Dimensions

d (Range)	D	H
10 - 60	d + 12	7
60.1 - 140	d + 15	8
14.1 - 300	d + 20	10
300.1 - 450	d + 30	12
450.1 - 575	d + 40	20

All Dimensions Are Millimeters

Spring Activated Shaft Seal



Application: Hydraulic single acting shaft seals
Material: PTFE

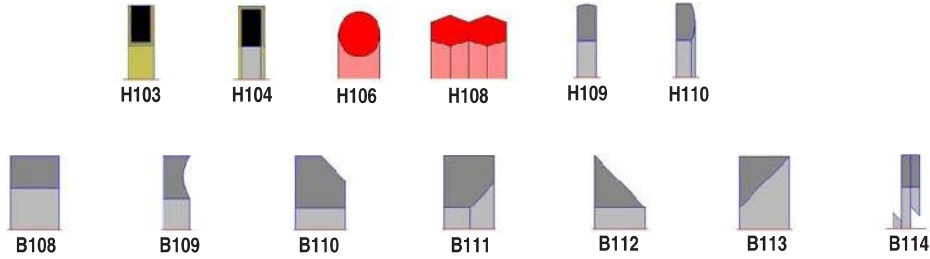
Standard Recommended Dimensions

d (Range)	OD	OD ₁	L	L ₁
5 - 20	d + 9	d + 5	36	0.85
50.1 - 80	d + 12.5	d + 7	4.8	1.35
80.1 - 150	d + 17.5	d + 10.5	7.1	1.8
150.1 - 300	d + 22	d + 14	9.5	2.8

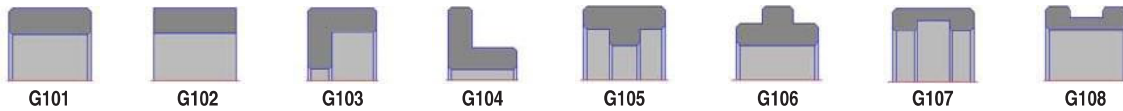
All Dimensions Are Millimeters



GASKET / BACK-UP RINGS



GUIDE-RINGS



To place an order Call 1.877-905-SEAL (7325)

Please provide the following information:

- Groove dimensions
- Seal profile
- Seal material

Material Specifications:

- 85A NBR (Black)
- 85A Fluorocarbon / Viton (Brown)
- 94A Polyurethane (Blue)
- 55D Virgin PTFE (White)
- 40% Bronze/PTFE (Bronze)
- 15% Glass/5% Moly PTFE (Black)
- 85D Polyacetal (POM) (White)
- 96A Hydrolysis Resistance Polyurethane (Red)
- 77D Polyamide (PA) (Black)

MATERIAL			HPU	C-HPU Cast	NBR	HNBR*	FPM	EPDM*	PTFE Virgin	PTFE 15% Glass	PTFE 40% Bronze	POM	PA Nylon	UHMW-PE*	PEEK*
Property	Specification	Unit	Red	Red	Black	Green	Brown	Black	White	Grey	Brown	White	Black	Natural	Cream
Color			Red	Red	Black	Green	Brown	Black	White	Grey	Brown	White	Black	Natural	Cream
Min Service Temp		°F	-5	-35	-35	-30	-30	-50	-325	-325	-325	-50	-40	-325	
Max Service Temp		°F	240	230	230	300	425	300	500	500	500	210	210	175	500
Max Temp - Water/Steam		°F	195	195		245	300	300							
Max Temp - Hot Air (short)		°F				355	570	355							
Hardness	ASTM D 2240	Shore A	96±2	94±1	85±5	85±5	85±5	85±5							
Hardness	ASTM D 2240	Shore D	47±3	44±3					50-65	58-63	61-67	85±3	77▼	61	86▼
Modulus 100%	ASTM D 412	psi	2900	2175	1740	1450	1160								
Modulus 300%	ASTM D 412	psi	5800	4160											
Tensile Strength	ASTM D 412	psi	6200	7250	2300	2900	1450	1740	6000▲	3000▲	3300▲	10100	9400◄	5800▲	14000◄
Elongation at break	ASTM D 412	%	300	350	150	200	200	80	300▲	280▲	250▲	40	120◄	350▲	50◄
Tear Strength	ASTM D 624 die C	lbf/inch	570	560	140	170	34	50							
Abrasion	ASTM D 1630	mm3	17	20	130	130	200	140							
Specific Gravity	ASTM D 792	g/cm3	1.19	1.19	1.32	1.32	2.51	1.23	2.2	2.2	3.13	1.41	1.15*	0.93*	1.32*
Rebound Elasticity	DIN 53512	%			20		7	37							
Modulus of Elasticity	DIN 53457	N/mm2										3000	1800	98000	3600
Compressive Strength	ASTM D 695	psi							3500	1055	1470	12800▶			
Compressive Modulus	ASTM D 695	psi							70000	63000	66000				
Compression Set															
70°C/24hr @ 20% def	ASTM D 395 Meth B	%	25	27	6	14	8	7							
100°C/24hr @ 20% def	ASTM D 395 Meth B	%	30	33	5	22	10								

* Lead time required	▼ Spec - DIN 53505
▲ Spec - ASTM D 638	◄ Spec - DIN 53504
▶ Spec - DIN 53455	● Spec - DIN 53479

The SCS, Inc. Custom Seals & Components have machine sizes from 1/4" to 160", extensive material choices, 3 durometers; Hundreds of combinations, all in-stock and ready for next day delivery!

NORTH AMERICA
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FAX 1-586-791-9033

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sales@sealandcylinder.com