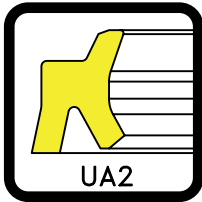


* 1 Mpa = 10 Bar 1 Bar = 14.5 psi 1 Mpa = 145 psi

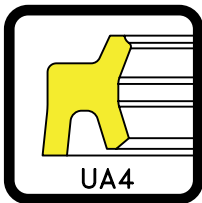


Double Lip Rod Wiper

This seal prevents entry of dust, and protects equipment by maintaining sealing performance of the packing. It can be fitted into an integrated groove. It's a double-lip all rubber wiper seal that prevents oil scraping off.

Material : NBR
Working Temperature : -35°C ~ +80°C
Material : FKM
Working Temperature : -10°C ~ +150°C
Surface Speed : ≤ 1.0 m/s
Application : Hydraulic

(PAGE 7-8)

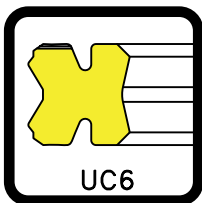


TPU Double Lip Rod Wiper

This seal prevents entry of dust, and protects equipment by maintaining sealing performance of the packing. It can be fitted into an integrated groove. It's a double-lip all rubber wiper seal that prevents oil scraping off.

Material : ESTER TPU
Working Temperature : -30°C ~ +80°C
Surface Speed : ≤ 1.0 m/s
Application : Hydraulic

(PAGE 9)

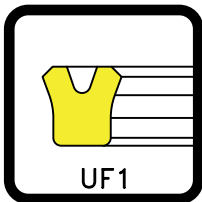


Packing for Piston

Special one ring shaped packing for both sides pressure with seal lip. With the same sealing performance as U-packing. Possible to make a piston compact. PWL-Bearings for bearings combined with back-up rings are being prepared.

Material : NBR
Working Temperature : -35°C ~ +80°C
Material : FKM
Working Temperature : -10°C ~ +150°C
Working Pressure : ≤ 14 Mpa
Surface Speed : ≤ 1.0 m/s
Application : Hydraulic

(PAGE 10)

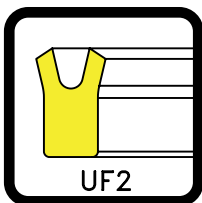


Symmetrical Piston/ Rod U-Cup Seal

This can be used for both piston and rod seals, and has a small section that can be fitted into an integrated groove.

Material : NBR
Working Temperature : -35°C ~ +80°C
Material : FKM
Working Temperature : -10°C ~ +150°C
Working Pressure : ≤ 14 Mpa
Surface Speed : ≤ 1.0 m/s
Application : Hydraulic

(PAGE 11-12)

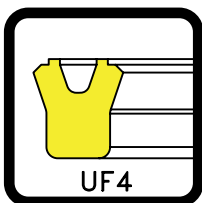


TPU Symmetrical Piston/ Rod U-Cup Seal

This can be used for both piston and rod seals. It has a large section and can be used for a wide range of operations, with excellent wear resistance and sealing ability.

Material : ESTER TPU
Working Pressure : ≤ 35 Mpa
Working Temperature : -35°C ~ +80°C
Surface Speed : ≤ 0.8 m/s
Application : Hydraulic

(PAGE 13-14)

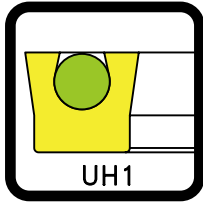


TPU Symmetrical Piston/ Rod U-Cup Seal

Used for both piston and rod seals, this packing has a small section and can be fitted in an integrated groove. Improved design prevents damages caused by back pressure.

Material : ESTER TPU
Working Pressure : ≤ 21 Mpa
Working Temperature : -35°C ~ +80°C
Surface Speed : ≤ 0.8 m/s
Application : Hydraulic

(PAGE 15-16)

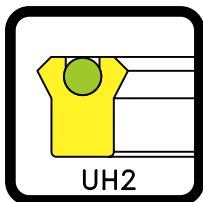


Symmetrical Piston/ Rod U-Cup Seal

The O-Ring energized lips assure a uniform, positive lip contact plus excellent low pressure sealing. Seal depth is equal to radial width. UH1 is used to interchange an existing hydraulic packing and/or O-Rings.

Material : ESTER TPU
Working Pressure : ≤ 35 Mpa
Working Temperature : $-35^{\circ}\text{C} \sim +80^{\circ}\text{C}$
Surface Speed : ≤ 0.8 m/s
Application : Hydraulic

(PAGE 17-19)



Symmetrical Piston/ Rod U-Cup Seal

The back beveled sealing lip provides greater film breaking and increased until loading at the sealing surface. Seal depth is generally 1.5 times the cross section of radial width to insure seal stability in most rugged applications. ROD SEAL use is preferred.

Material : ESTER TPU
Working Pressure : ≤ 35 Mpa
Working Temperature : $-30^{\circ}\text{C} \sim +80^{\circ}\text{C}$
Surface Speed : ≤ 0.8 m/s
Application : Hydraulic

(PAGE 20-22)

Material Application List

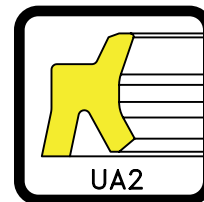
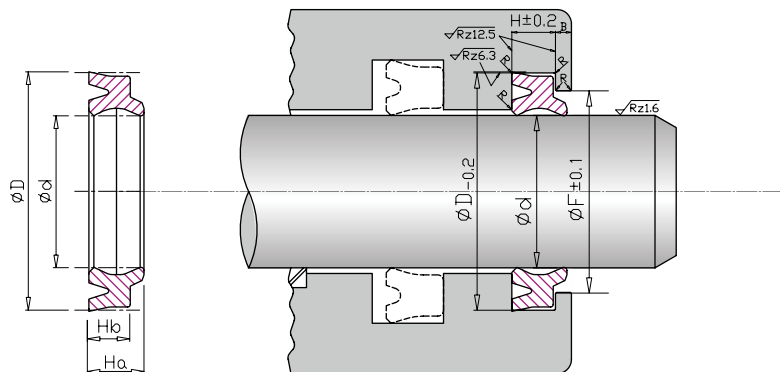
Material	NBR							HNBR
	N7026AA	N7028AA	N7539AA	N7626AA	N8039AA	N8594AA	N9076AA	H7000AA
Shore A	70	70	75	75	80	85	90	70
Environment Temp. °C	-55~100	-30~120	-35~80	-55~100	-40~100	-35~80	-50~100	-45~135
+200°C								
+100°C								
0°C								
-50°C								
Tensile Strength PSI (Mpa)	2453 (16.92)	3066 (21.1)	3306 (22.8)	2563 (17.68)	2934 (20.23)	3008 (20.7)	2480 (17.1)	3729 (25.7)
Elongation%	327	363	320	246	285	130	151	274
100% Modulus psi (Mpa)	619 (4.27)	487 (3.4)	834 (5.8)	998 (6.88)	801 (5.52)	2584 (17.8)	1664 (11.5)	780 (5.4)
Comon Hydraulic oil	▲	●	●	▲	●	●	●	●
Low-Temp Hydraulic Oil	●	●	●	●	●	▲	●	●
Coolant(Water + GLYCOL)	▲	▲	▲	▲	▲	▲	▲	●
Engine oil	●	●	●	●	●	●	●	●
Lubricant	●	●	●	●	●	●	●	●
Silicone Lubricant	●	●	●	●	●	●	●	●
Silicone oil	●	●	●	●	●	●	●	●
Chlorine Cutting Fluid	X	X	X	X	X	X	X	X
Sulfurized Cutting Fluid	●	●	●	●	●	●	●	●
Water Soluble Cutting Fluid	●	●	●	●	●	●	●	●
Fuel	▲	●	▲	▲	▲	●	●	●
Water	▲	▲	▲	▲	▲	▲	▲	●
O ₃	X	X	X	X	X	X	X	●
Function	Good Resistance of Extreme-Low-Temp, Oil and Abrasion	Good Compression Set, Good Resistance of Abrasion and oil , Suit to X-ing	Special Compound, Self-Lubrication, low friction,Good Resistance of Oil, Suit to Dynamic Parts UB3,UB5	Good Resistance of Extreme-Low-Temp, Oil and Abrasion	Special Compound, Self-Lubrication, low friction,Good Resistance of Oil, Suit to Dynamic Parts UB3,UB5	High-Tempt, Good Resistance of Oil and Abrasion , CUSION and UC6 Only	Good Compression Set, High Hardness, Good Resistance of Abrasion. Good Resistance of Low-Temp	Good Resistance of High-Temp, Oil and Water

●:Best ▲:Suitable X:Not Recommended ■:No Data

HNBR			FKM					TPU Thermoplastic Urethane	
H8018AE	H8032AA	H9018AA	V7559AA	V7029AA	V7514AA	V8031AE	V9059AA	KC9010AC	KC9502AA (AG/AW/BL)
80	80	90	75	70	75	80	90	90	95
-40~135	-40~135	-40~135	-25~200	-10~150	-20~200	-10~150	-10~150	-40~80	-35~80
2805 (19.34)	4703 (32.43)	3513 (24.23)	2428 (16.6)	2044 (14.1)	2214 (15.3)	2282 (15.74)	2422 (16.7)	6625 (45)	7252 (50)
280	291	148	185	231	241	154	139	460	515
1228 (8.47)	1217 (8.39)	2688 (18.54)	1310 (9.0)	939 (6.48)	740 (5.1)	1540 (10.62)	1812 (12.5)	1036 (7.1)	2216 (15.2)
●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●
▲	▲	▲	▲	▲	▲	▲	▲	X	X
●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	■	■
●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	●	●
X	X	X	●	●	●	●	●	X	X
●	●	●	●	●	●	●	●	■	■
●	●	●	▲	▲	▲	▲	▲	■	■
●	●	●	●	●	●	●	●	●	●
●	●	●	●	●	●	●	●	▲	▲
●	●	●	●	●	●	●	●	■	■
Self-Lubrication, low friction, Good Resistance of High-Temp, Oil and Water	Good Resistance of High-Temp, Oil and Water	Self-Lubrication, low friction, Good Resistance of High-Temp, Oil and Water	Good Resistance of Extreme-High-Temp and Oil, Good Resistance of Abrasion	Good Resistance of Extreme-High-Temp, Tearing and Oil, Suit to X-ring	Good Resistance of Extreme-High-Temp and Oil, Good Resistance of Abrasion	Good Resistance of Extreme-High-Temp and Oil, UA6 Only	Good Resistance of Extreme-High-Temp, Oil and Abrasion. Suit to Dynamic Parts	Extremely High Elongation, Excellent Resistance of Abrasion. Good Resistance of Water	Extremely High Elongation, Excellent Resistance of Abrasion. Good Resistance of Water, Extremely High Hardness

UA2 Series

Double Lip Rod Wiper



FKM/ FPM 90 PHYSICAL PROPERTIES		
Working Temperature: -10°C ~ +150°C		
Surface Speed: ≤ 1.0 m/s		
Hardness	90 Shore A	DIN53505
Tensile Strength	16.7 Mpa	DIN53504
	2422 psi	ASTM D-412
Elongation	139 %	DIN53504
Compression Set	16.7 %	DIN53517
70hrs @ 175°C	16.7 %	ASTM D-395
Standard Compound	V9059AA	
Color	Black ●	

NBR 85 PHYSICAL PROPERTIES		
Working Temperature: -35°C ~ +80°C		
Surface Speed: ≤ 1.0 m/s		
Hardness	85 Shore A	DIN53505
Tensile Strength	20.7 Mpa	DIN53504
	3008 psi	ASTM D-412
Elongation	130 %	DIN53504
Compression Set	4.9 %	DIN53517
24hrs @ 100°C	4.9 %	ASTM D-395
Standard Compound	N8594AA	
Color	Black ●	

We have this tool size

	CODE	d (mm)	D (mm)	Ha	Hb	F	H
	UA20001	12.0	20.0	6.0	4.5	16.3	5.0
	UA20002	12.5	20.5	6.0	4.5	16.8	5.0
	UA20003	14.0	22.0	6.0	4.5	18.3	5.0
	UA20004	16.0	24.0	6.0	4.5	20.3	5.0
	UA20005	18.0	26.0	6.0	4.5	22.3	5.0
	UA20006	20.0	28.0	6.0	4.5	24.3	5.0
	UA20007	22.0	30.0	6.0	4.5	26.3	5.0
	UA20008	22.4	30.4	6.0	4.5	26.7	5.0
	UA20009	25.0	33.0	6.0	4.5	29.3	5.0
	UA20010	28.0	36.0	6.0	4.5	32.3	5.0
	UA20011	30.0	38.0	6.5	5.0	34.0	6.0
	UA20012	31.5	39.5	6.5	5.0	35.5	6.0
	UA20013	32.0	40.0	6.5	5.0	36.0	6.0
	UA20014	35.0	43.0	6.5	5.0	39.0	6.0
	UA20015	35.5	43.5	6.5	5.0	39.5	6.0
	UA20016	36.0	44.0	6.5	5.0	40.0	6.0
	UA20017	40.0	48.0	6.5	5.0	44.0	6.0
	UA20018	45.0	53.0	6.5	5.0	49.0	6.0
	UA20019	50.0	58.0	6.5	5.0	54.0	6.0
	UA20020	53.0	61.0	6.5	5.0	57.0	6.0
	UA20021	55.0	63.0	6.5	5.0	59.0	6.0
	UA20022	56.0	64.0	6.5	5.0	60.0	6.0

	CODE	d (mm)	D (mm)	Ha	Hb	F	H
	UA20023	60.0	68.0	6.5	5.0	64.0	6.0
	UA20024	63.0	71.0	6.5	5.0	67.0	6.0
	UA20025	65.0	73.0	6.5	5.0	69.0	6.0
	UA20026	67.0	75.0	6.5	5.0	71.0	6.0
	UA20027	70.0	80.0	8.0	6.0	75.0	7.0
	UA20028	71.0	81.0	8.0	6.0	76.0	7.0
	UA20029	75.0	85.0	8.0	6.0	80.0	7.0
	UA20030	80.0	90.0	8.0	6.0	85.0	7.0
	UA20031	85.0	95.0	8.0	6.0	90.0	7.0
	UA20032	90.0	100.0	8.0	6.0	95.0	7.0
	UA20033	95.0	105.0	8.0	6.0	100.0	7.0
	UA20034	100.0	110.0	8.0	6.0	105.0	7.0
	UA20035	105.0	115.0	8.0	6.0	110.0	7.0
	UA20036	106.0	115.0	8.0	6.0	111.0	7.0
	UA20037	110.0	120.0	8.0	6.0	115.0	7.0
	UA20038	112.0	122.0	8.0	6.0	117.0	7.0
	UA20039	115.0	125.0	8.0	6.0	120.0	7.0
	UA20040	118.0	128.0	8.0	6.0	123.0	7.0
	UA20041	120.0	133.0	9.5	7.0	127.0	8.0
	UA20042	125.0	138.0	9.5	7.0	132.0	8.0
	UA20043	132.0	145.0	9.5	7.0	139.0	8.0
	UA20044	140.0	153.0	9.5	7.0	147.0	8.0

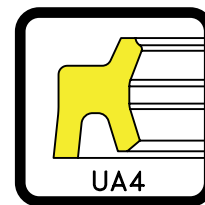
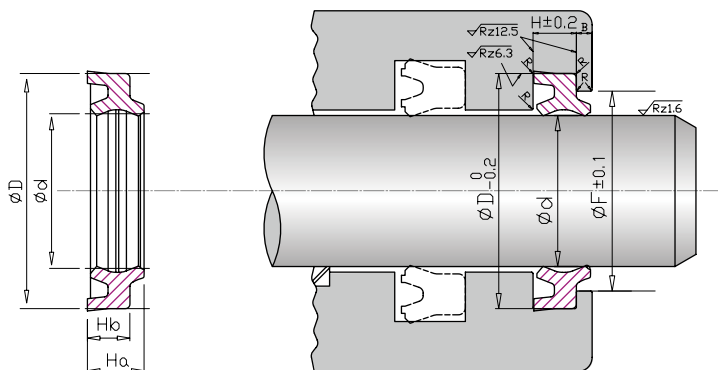
UA2 Series

Double Lip Rod Wiper

	CODE	d (mm)	D (mm)	Ha	Hb	F	H
	UA20045	145.0	158.0	9.5	7.0	152.0	8.0
	UA20046	150.0	163.0	9.5	7.0	157.0	8.0
	UA20047	155.0	168.0	9.5	7.0	162.0	8.0
	UA20048	160.0	173.0	9.5	7.0	167.0	8.0
	UA20049	160.0	174.0	9.5	7.0	167.0	8.0
	UA20050	165.0	178.0	9.5	7.0	172.0	8.0
	UA20054	180.0	193.0	9.5	7.0	187.0	8.0
	UA20055	180.0	194.0	9.5	7.0	187.0	8.0
	UA20057	200.0	213.0	9.5	7.0	207.0	8.0

UA4 Series

TPU Double Lip Rod Wiper



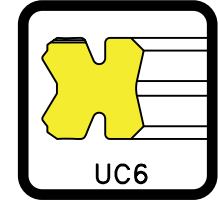
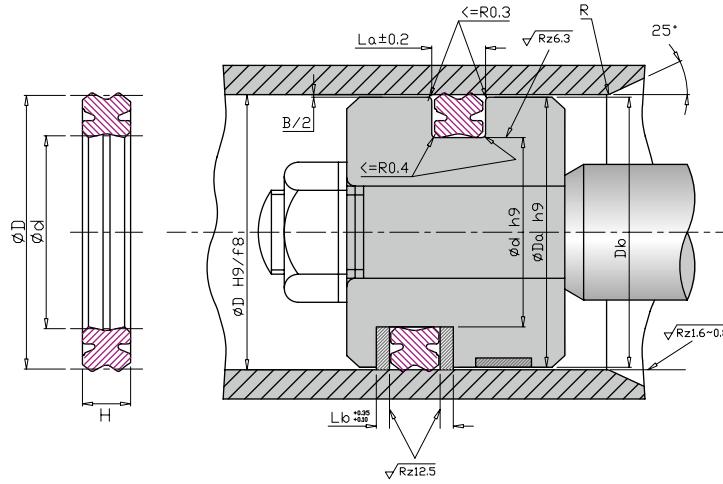
ESTER TPU 95 PHYSICAL PROPERTIES

Working Temperature: -30°C ~ +80°C	Hardness	95 Shore A	DIN53505
Surface Speed: ≤ 1.0 m/s		95 Shore A	ASTM D2240
Media: Mineral Oil	Tensile Strength	50 Mpa	DIN53504
		7252 psi	ASTM D-412
Abrasion Resistance 35mm ³	Elongation	515 %	DIN53504
Compression Set 30%		515 %	ASTM D-412
24 hrs @ 100 °C 30%	Tear Strength	140 N/mm	DIN53515
Specific gravity 1.18 g/cm ³		799 pli	ASTM D-624
1.18 g/cm ³	Standard Compound	KC9502AN / KC9502BL	
	Color	Gray ● / Dark Blue ●	

We have this tool size

CODE	d (mm)	D (mm)	Ha	Hb	F
UA40001	18.0	26.0	6.0	4.5	22.3
UA40002	20.0	28.0	6.0	4.5	24.3
UA40003	22.0	30.0	6.0	4.5	26.3
UA40004	22.4	30.4	6.0	4.5	26.7
UA40005	25.0	33.0	6.0	4.5	29.3
UA40006	26.0	34.0	6.0	4.5	30.3
UA40007	28.0	36.0	6.0	4.5	32.3
UA40008	30.0	38.0	6.5	5.0	34.0
UA40009	31.5	39.5	6.5	5.0	35.5
UA40010	32.0	40.0	6.5	5.0	36.0
UA40011	34.0	42.0	6.5	5.0	38.0
UA40012	35.0	43.0	6.5	5.0	39.0
UA40013	35.5	43.5	6.5	5.0	39.5
UA40014	38.0	46.0	6.5	5.0	42.0
UA40015	40.0	48.0	6.5	5.0	44.0
UA40016	45.0	53.0	6.5	5.0	49.0
UA40017	48.0	56.0	6.5	5.0	52.0
UA40018	50.0	58.0	6.5	5.0	54.0
UA40019	55.0	63.0	6.5	5.0	59.0
UA40020	56.0	64.0	6.5	5.0	60.0
UA40021	58.0	66.0	6.5	5.0	62.0
UA40022	60.0	68.0	6.5	5.0	64.0
UA40023	63.0	71.0	6.5	5.0	67.0

CODE	d (mm)	D (mm)	Ha	Hb	F
UA40024	65.0	73.0	6.5	5.0	69.0
UA40025	70.0	80.0	8.0	6.0	75.0
UA40026	71.0	81.0	8.0	6.0	76.0
UA40027	75.0	85.0	8.0	6.0	80.0
UA40028	80.0	90.0	8.0	6.0	85.0
UA40029	85.0	95.0	8.0	6.0	90.0
UA40030	90.0	100.0	8.0	6.0	95.0
UA40031	95.0	105.0	8.0	6.0	100.0
UA40032	100.0	110.0	8.0	6.0	105.0
UA40033	105.0	115.0	8.0	6.0	110.0
UA40034	112.0	122.0	8.0	6.0	117.0
UA40035	125.0	138.0	9.5	7.0	132.0
UA40036	140.0	153.0	9.5	7.0	147.0
UA40037	150.0	163.0	9.5	7.0	157.0
UA40038	180.0	193.0	9.5	7.0	187.0
UA40039	185.0	198.0	9.5	7.0	192.0
UA40040	200.0	213.0	9.5	7.0	207.0
UA40041	210.0	223.0	9.5	7.0	217.0
UA40042	250.0	265.0	11.5	9.0	258.0
UA40043	36.0	44.0	6.5	5.0	40.0
UA40046	16.0	24.0	6.0	4.5	20.3



FKM/ FPM 90 PHYSICAL PROPERTIES			
Working Pressure: ≤ 14 Mpa			
Working Temperature: $-10^\circ\text{C} \sim +150^\circ\text{C}$			
Surface Speed: ≤ 1.0 m/s			
Hardness	90 Shore A	DIN53505	
Tensile Strength	16.7 Mpa	DIN53504	
	2422 psi	ASTM D-412	
Elongation	139 %	DIN53504	
Compression Set	16.7 %	DIN53517	
70hrs @ 175°C	16.7 %	ASTM D-395	
Standard Compound	V9059AA		
Color	Black ●		

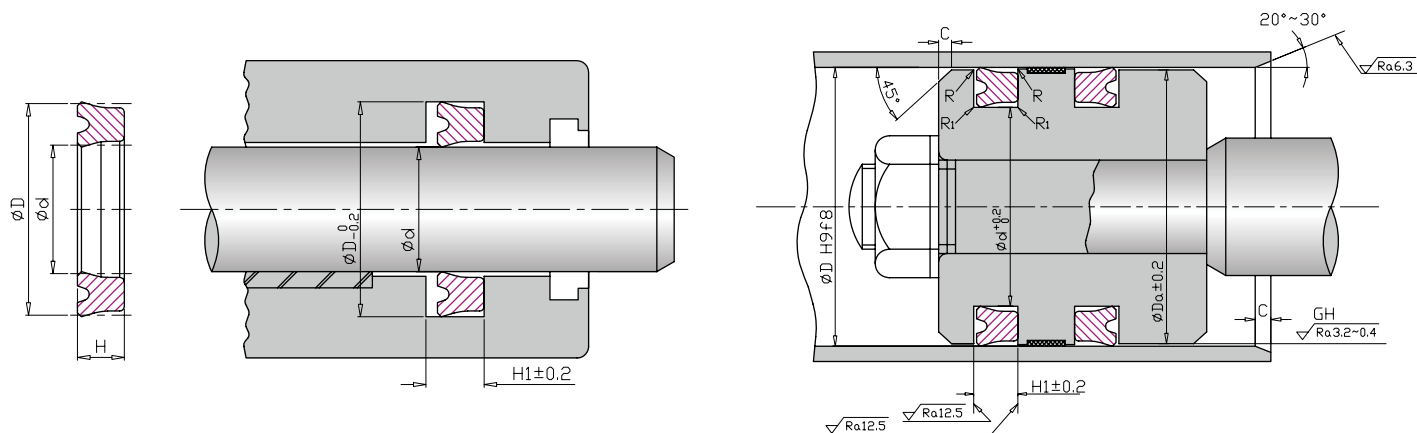
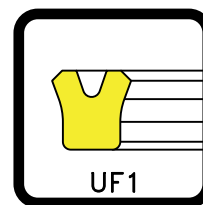
NBR 85 PHYSICAL PROPERTIES			
Working Pressure: ≤ 14 Mpa			
Working Temperature: $-35^\circ\text{C} \sim +80^\circ\text{C}$			
Surface Speed: ≤ 1.0 m/s			
Hardness	88 Shore A	DIN53505	
Tensile Strength	20.7 Mpa	DIN53504	
	3008 psi	ASTM D-412	
Elongation	130 %	DIN53504	
Compression Set	4.9 %	DIN53517	
24hrs @ 100°C	4.9 %	ASTM D-395	
Standard Compound	N8594AA		
Color	Black ●		

■ We have this tool size ★ All the tools for UC6 are completed.

	CODE	d (mm)	D (mm)	H (mm)	La	Lb	Da	Db
	UC60001	30	40	6.5	7.0	11.0	39.5	38.5
	UC60002	35	45	6.5	7.0	11.0	44.5	43.5
	UC60003	40	50	6.5	7.0	11.0	49.5	48.5
	UC60004	45	55	6.5	7.0	11.0	54.4	53.0
	UC60005	50	60	6.5	7.0	11.0	59.4	58.0
	UC60006	53	63	6.5	7.0	11.0	62.4	61.0
	UC60007	55	65	6.5	7.0	12.0	64.4	63.0
	UC60008	60	70	6.5	7.0	12.0	69.4	68.0
	UC60009	65	75	6.5	7.0	12.0	74.4	73.0
	UC60010	67	80	8.0	8.5	13.5	79.4	78.0
	UC60011	72	85	8.0	8.5	13.5	84.4	83.0
	UC60012	77	90	8.0	8.5	13.5	89.4	88.0
	UC60013	85	100	9.0	10.0	16.0	99.4	98.0

UF1 Series

Symmetrical Piston/ Rod U-Cup Seal



FKM/ FPM 90 PHYSICAL PROPERTIES			
Working Pressure: ≤ 14 Mpa			
Working Temperature: $-10^\circ\text{C} \sim +150^\circ\text{C}$			
Surface Speed: ≤ 1.0 m/s			
Hardness	90 Shore A	DIN53505	
Tensile Strength	16.7 Mpa	DIN53504	
	2422 psi	ASTM D-412	
Elongation	139 %	DIN53504	
Compression Set	16.7 %	DIN53517	
70hrs @ 175°C	16.7 %	ASTM D-395	
Standard Compound	V9059AA		
Color	Black ●		

NBR 85 PHYSICAL PROPERTIES			
Working Pressure: ≤ 14 Mpa			
Working Temperature: $-35^\circ\text{C} \sim +80^\circ\text{C}$			
Surface Speed: ≤ 1.0 m/s			
Hardness	85 Shore A	DIN53505	
Tensile Strength	20.7 Mpa	DIN53504	
	3008 psi	ASTM D-412	
Elongation	130 %	DIN53504	
Compression Set	4.9 %	DIN53517	
24hrs @ 100°C	4.9 %	ASTM D-395	
Standard Compound	N8594AA		
Color	Black ●		

■ We have this tool size

	CODE	d (mm)	D (mm)	H	H1	Da
■	UF10012	12	20	5.0	5.7	19.0
■	UF10014	14	22	5.0	5.7	21.0
■	UF10016	16	24	5.0	5.7	23.0
■	UF10018	18	26	5.0	5.7	25.0
■	UF10020	20	28	5.0	5.7	27.0
■	UF10022	22	30	5.0	5.7	29.0
■	UF122.4	22.4	30	5.0	5.7	29.0
■	UF123.5	23.5	31.5	5.0	5.7	30.5
■	UF10024	24	32	5.0	5.7	31.0
■	UF10025	25	33	5.0	5.7	32.0
■	UF10027	27	35	5.0	5.7	34.0
■	UF10A28	28	35.5	5.0	5.7	34.5
■	UF10B28	28	36	5.0	5.7	35.0
■	UF10030	30	40	6.0	7.0	39.0
■	UF131.5	31.5	41.5	6.0	7.0	40.5
■	UF10032	32	42	6.0	7.0	41.0

	CODE	d (mm)	D (mm)	H	H1	Da
■	UF10035	35	45	6.0	7.0	44.0
■	UF135A5	35.5	45	6.0	7.0	44.0
■	UF135B5	35.5	45.5	6.0	7.0	44.5
■	UF10036	36	46	6.0	7.0	45.0
■	UF10040	40	50	6.0	7.0	49.0
■	UF10A45	45	55	6.0	7.0	54.0
■	UF10B45	45	56	7.0	8.0	55.0
■	UF10050	50	60	6.0	7.0	59.0
■	UF10053	53	63	6.0	7.0	62.0
■	UF10055	55	65	6.0	7.0	64.0
■	UF10056	56	66	6.0	7.0	65.0
■	UF10058	58	68	6.0	7.0	67.0
■	UF10A60	60	70	6.0	7.0	69.0
■	UF10B60	60	71	7.0	8.0	70.0
■	UF10061	61	71	6.0	7.0	70.0
■	UF10063	63	73	6.0	7.0	72.0

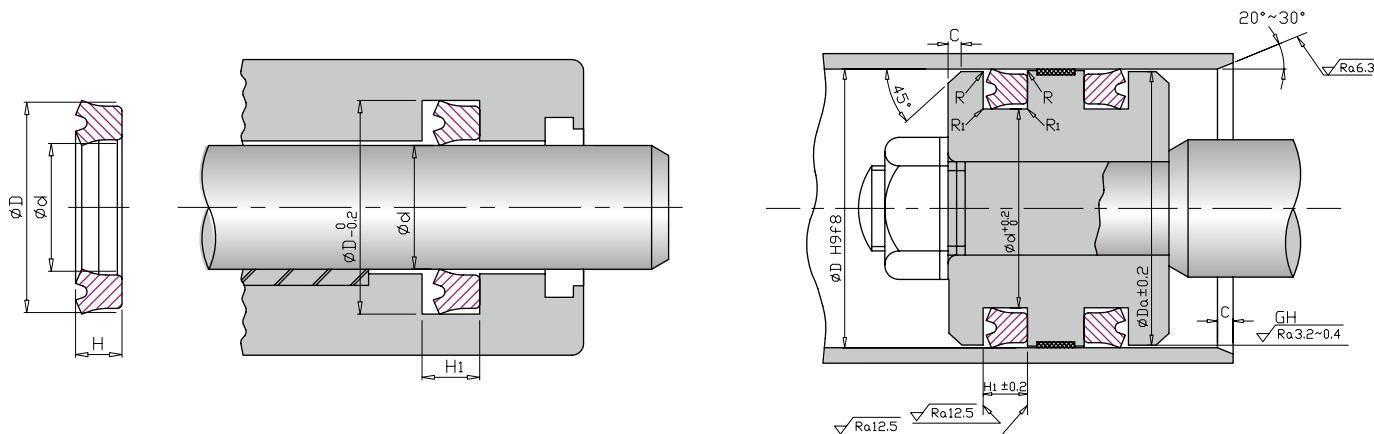
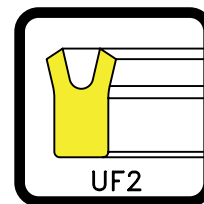
UF1 Series

Symmetrical Piston/ Rod U-Cup Seal

	CODE	d (mm)	D (mm)	H	H1	Da
	UF10065	65	75	6.0	7.0	74.0
	UF10067	67	77	6.0	7.0	76.0
	UF10070	70	80	6.0	7.0	79.0
	UF10071	71	80	6.0	7.0	79.0
	UF10075	75	85	6.0	7.0	84.0
	UF10080	80	90	6.0	7.0	89.0
	UF10A85	85	95	6.0	7.0	94.0
	UF10B85	85	100	9.0	10.0	98.0
	UF10090	90	105	9.0	10.0	103.0
	UF10095	95	110	9.0	10.0	108.0
	UF10100	100	115	9.0	10.0	113.0
	UF10106	106	120	8.5	9.5	118.0
	UF10110	110	125	9.0	10.0	123.0
	UF1B112	112	125	9.0	10.0	123.0
	UF10125	125	140	9.0	10.0	138.0
	UF10130	130	145	9.0	10.0	143.0
	UF10136	136	150	8.5	9.5	148.0
	UF10145	145	160	9.0	10.0	158.0
	UF10150	150	165	9.0	10.0	163.0
	UF10160	160	175	9.0	10.0	173.0
	UF10165	165	180	9.0	10.0	178.0
	UF10180	180	200	12.0	13.0	198.0
	UF10230	230	250	12.0	13.0	248.0
	UF10250	250	270	12.0	13.0	268.0
	UF10295	295	315	14.0	15.0	313.0
	UF10335	335	355	14.0	15.0	353.0
	UF10400	400	420	14.0	15.0	418.0

UF2 Series

TPU Symmetrical Piston/ Rod U-Cup Seal



ESTER TPU 95 PHYSICAL PROPERTIES

Working Pressure: ≤ 35 Mpa	Hardness	95 Shore A	DIN53505
Working Temperature: $-35^\circ\text{C} \sim +80^\circ\text{C}$		95 Shore A	ASTM D2240
Surface Speed: ≤ 0.8 m/s	Tensile Strength	50 Mpa	DIN53504
Media: Mineral Oil		7252 psi	ASTM D-412
Abrasion Resistance	35mm ³	DIN53516	
Compression Set	30%	DIN53517	
24 hrs @ 100 °C	30%	ASTM D-395	
Specific gravity	1.18 g/cm ³	DIN53479	
	1.18 g/cm ³	ASTM D-972	
Elongation	515 %	DIN53504	
	515 %	ASTM D-412	
Tear Strength	140 N/mm	DIN53515	
	799 pli	ASTM D-624	
Standard Compound	KC9502AN / KC9502BL		
Color	Gray ● / Dark Blue ●		

We have this tool size

CODE	d (mm)	D (mm)	H	H1	Da
UF20001	6.3	16.3	8.0	9.0	15.3
UF20002	7.1	17.1	8.0	9.0	16.1
UF20003	8.0	18.0	8.0	9.0	17.0
UF20004	9.0	19.0	8.0	9.0	18.0
UF20005	10.0	20.0	8.0	9.0	19.0
UF20006	11.2	21.2	8.0	9.0	20.2
UF20007	12.0	25.0	8.0	9.0	24.0
UF20008	12.5	22.5	8.0	9.0	21.5
UF20009	14.0	24.0	8.0	9.0	23.0
UF20010	15.0	25.0	8.0	9.0	24.0
UF20011	16.0	26.0	8.0	9.0	25.0
UF20012	16.0	32.0	10.0	11.0	31.0
UF20013	18.0	28.0	8.0	9.0	27.0
UF20014	18.0	31.0	10.0	11.0	30.0
UF20015	20.0	30.0	8.0	9.0	29.0
UF20016	20.0	33.0	10.0	11.0	32.0

CODE	d (mm)	D (mm)	H	H1	Da
UF20017	20.0	35.0	10.0	11.0	34.0
UF20018	21.5	31.5	8.0	9.0	30.5
UF20019	22.0	32.0	8.0	9.0	31.0
UF20020	22.0	35.0	10.0	11.0	34.0
UF20021	22.4	30.0	5.0	5.7	29.0
UF20022	22.4	32.4	8.0	9.0	31.4
UF20023	25.0	35.0	8.0	9.0	34.0
UF20024	25.0	38.0	8.0	9.0	37.0
UF20025	25.0	40.0	10.0	11.0	39.0
UF20026	25.0	45.0	12.0	13.0	44.0
UF20027	25.5	35.5	8.0	9.0	34.5
UF20028	28.0	35.5	5.0	5.7	34.5
UF20029	28.0	40.0	10.0	11.0	39.0
UF20030	28.0	43.0	10.0	11.0	42.0
UF20031	30.0	45.0	10.0	11.0	44.0
UF20032	30.0	46.0	10.0	11.0	45.0

UF2 Series

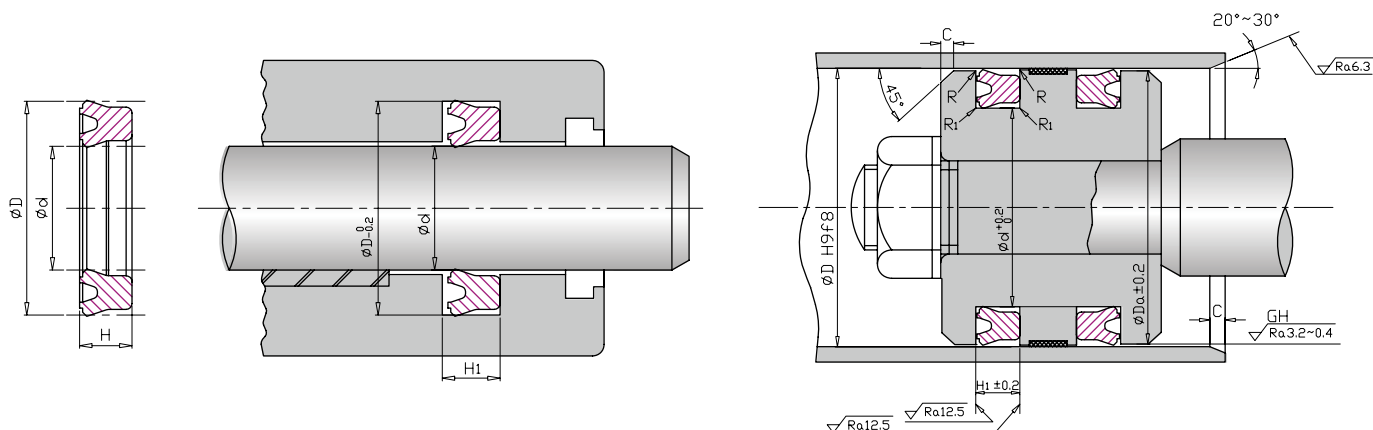
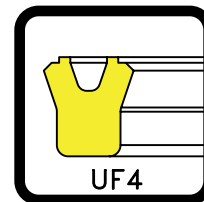
TPU Symmetrical Piston/ Rod U-Cup Seal

	CODE	d (mm)	D (mm)	H	H1	Da
	UF20033	31.5	46.5	10.0	11.0	45.5
	UF20034	32.0	46.0	10.0	11.0	45.0
	UF20035	35.0	50.0	10.0	11.0	49.0
	UF20036	35.5	45.0	6.0	7.0	44.0
	UF20037	35.5	50.5	10.0	11.0	49.5
	UF20038	38.0	52.0	10.0	11.0	51.0
	UF20039	40.0	55.0	10.0	11.0	54.0
	UF20040	40.0	56.0	10.0	11.0	55.0
	UF20041	40.0	60.0	12.0	13.0	59.0
	UF20042	41.0	56.0	10.0	11.0	55.0
	UF20043	45.0	56.0	7.0	8.0	55.0
	UF20044	45.0	60.0	10.0	11.0	59.0
	UF20045	45.0	61.0	10.0	11.0	60.0
	UF20046	46.0	60.0	10.0	11.0	59.0
	UF20047	48.0	63.0	10.0	11.0	62.0
	UF20048	50.0	65.0	10.0	11.0	64.0
	UF20049	50.0	66.0	12.0	13.0	65.0
	UF20050	50.0	70.0	12.0	13.0	69.0
	UF20051	51.0	71.0	12.0	13.0	70.0
	UF20052	53.0	73.0	12.0	13.0	72.0
	UF20053	55.0	71.0	12.0	13.0	70.0
	UF20054	55.0	75.0	12.0	13.0	74.0
	UF20055	55.0	80.0	15.0	16.0	79.0
	UF20056	56.0	72.0	12.0	13.0	71.0
	UF20057	56.0	76.0	12.0	13.0	75.0
	UF20058	58.0	78.0	12.0	13.0	77.0
	UF20059	60.0	71.0	7.0	8.0	70.0
	UF20060	60.0	80.0	12.0	13.0	79.0
	UF20061	62.0	82.0	12.0	13.0	81.0
	UF20062	63.0	83.0	12.0	13.0	82.0
	UF20063	65.0	85.0	12.0	13.0	84.0
	UF20064	67.0	87.0	12.0	13.0	86.0
	UF20065	70.0	90.0	12.0	13.0	89.0
	UF20066	71.0	80.0	6.0	7.0	79.0
	UF20067	71.0	91.0	12.0	13.0	90.0
	UF20068	75.0	95.0	12.0	13.0	94.0
	UF20069	80.0	100.0	12.0	13.0	99.0
	UF20071	85.0	100.0	9.0	10.0	99.0
	UF20072	85.0	105.0	12.0	13.0	103.0
	UF20073	90.0	110.0	12.0	13.0	108.0
	UF20075	95.0	115.0	12.0	13.0	113.0
	UF20078	100.0	120.0	12.0	13.0	118.0
	UF20079	100.0	125.0	15.0	17.0	123.0
	UF20080	102.0	114.0	11.0	12.0	112.0
	UF20081	105.0	125.0	15.0	17.0	123.0
	UF20084	110.0	130.0	15.0	17.0	128.0
	UF20086	115.0	135.0	15.0	17.0	133.0
	UF20089	120.0	140.0	15.0	17.0	138.0

	CODE	d (mm)	D (mm)	H	H1	Da
	UF20090	125.0	145.0	15.0	17.0	143.0
	UF20091	130.0	150.0	15.0	17.0	148.0
	UF20093	135.0	155.0	15.0	17.0	153.0
	UF20095	140.0	160.0	15.0	17.0	158.0
	UF20097	145.0	165.0	15.0	17.0	158.0
	UF20098	150.0	170.0	15.0	17.0	168.0
	UF20099	150.0	175.0	15.0	17.0	173.0
	UF20101	160.0	185.0	15.0	17.0	183.0
	UF20102	165.0	190.0	15.0	17.0	188.0
	UF20103	170.0	195.0	15.0	17.0	193.0
	UF20104	175.0	200.0	15.0	17.0	198.0
	UF20105	180.0	205.0	15.0	17.0	203.0
	UF20106	185.0	210.0	15.0	17.0	208.0
	UF20107	190.0	215.0	15.0	17.0	213.0
	UF20109	200.0	225.0	15.0	17.0	223.0
	UF20110	200.0	225.0	18.0	20.0	223.0

UF4 Series

TPU Symmetrical Piston/ Rod U-Cup Seal



ESTER TPU 95 PHYSICAL PROPERTIES

Working Pressure: ≤ 21 Mpa	Hardness	95 Shore A	DIN53505
Working Temperature: $-35^{\circ}\text{C} \sim +80^{\circ}\text{C}$		95 Shore A	ASTM D2240
Surface Speed: ≤ 0.8 m/s	Tensile Strength	50 Mpa	DIN53504
Media: Mineral Oil		7252 psi	ASTM D-412
Abrasion Resistance	35mm ³	DIN53516	
Compression Set	30%	DIN53517	
24 hrs @ 100 °C	30%	ASTM D-395	
Specific gravity	1.18 g/cm ³	DIN53479	
	1.18 g/cm ³	ASTM D-972	
	Elongation	515 %	DIN53504
		515 %	ASTM D-412
	Tear Strength	140 N/mm	DIN53515
		799 pli	ASTM D-624
	Standard Compound	KC9502AN / KC9502BL	
	Color	Gray ● / Dark Blue ●	

We have this tool size

CODE	d (mm)	D (mm)	H	H1	Da
UF40001	10.0	18.0	5.0	5.7	17.0
UF40002	12.0	20.0	5.0	5.7	19.0
UF40003	12.5	20.0	5.0	5.7	19.0
UF40004	14.0	22.0	5.0	5.7	21.0
UF40005	16.0	24.0	5.0	5.7	23.0
UF40006	17.0	25.0	5.0	5.7	24.0
UF40007	18.0	26.0	5.0	5.7	25.0
UF40008	20.0	28.0	5.0	5.7	27.0
UF40009	20.0	30.0	6.0	7.0	29.0
UF40010	22.0	30.0	5.0	5.7	29.0
UF40011	22.4	30.0	5.0	5.7	29.0
UF40012	23.5	31.5	5.0	5.7	30.5
UF40013	24.0	32.0	5.0	5.7	31.0
UF40014	25.0	33.0	5.0	5.7	32.0
UF40015	25.0	35.0	5.0	7.0	34.0
UF40016	26.0	34.0	5.0	5.7	33.0

CODE	d (mm)	D (mm)	H	H1	Da
UF40017	27.0	35.0	5.0	5.7	34.0
UF40018	28.0	35.5	5.0	5.7	34.5
UF40019	28.0	36.0	5.0	5.7	35.0
UF40020	30.0	38.0	5.0	5.7	37.0
UF40021	30.0	40.0	6.0	7.0	39.0
UF40022	31.5	41.5	6.0	7.0	40.5
UF40023	32.0	42.0	6.0	7.0	41.0
UF40024	33.0	43.0	6.0	7.0	42.0
UF40025	34.0	44.0	6.0	7.0	43.0
UF40026	35.0	45.0	6.0	7.0	44.0
UF40027	35.5	45.0	6.0	7.0	44.0
UF40028	35.5	45.5	6.0	7.0	44.5
UF40029	36.0	46.0	6.0	7.0	45.0
UF40030	38.0	48.0	6.0	7.0	47.0
UF40031	40.0	50.0	6.0	7.0	49.0
UF40032	45.0	55.0	6.0	7.0	54.0

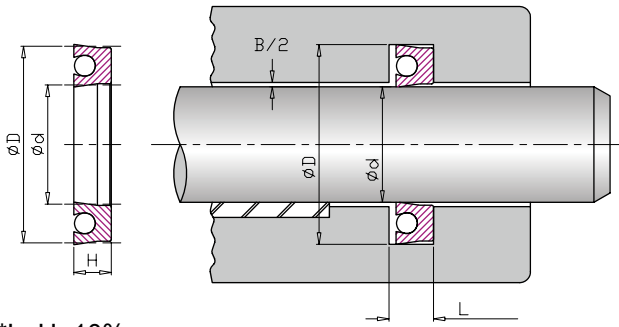
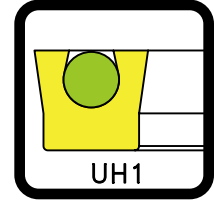
UF4 Series

TPU Symmetrical Piston/ Rod U-Cup Seal

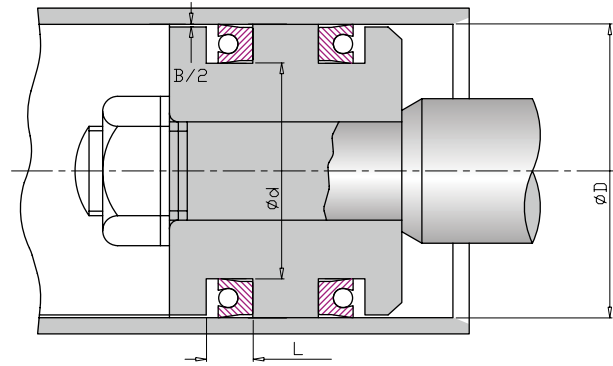
	CODE	d (mm)	D (mm)	H	H1	Da
	UF40033	45.0	56.0	7.0	8.0	55.0
	UF40034	46.0	56.0	6.0	7.0	55.0
	UF40035	50.0	60.0	6.0	7.0	59.0
	UF40036	53.0	63.0	6.0	7.0	62.0
	UF40037	55.0	65.0	6.0	7.0	64.0
	UF40038	56.0	66.0	6.0	7.0	65.0
	UF40039	58.0	68.0	6.0	7.0	67.0
	UF40040	60.0	70.0	6.0	7.0	69.0
	UF40041	60.0	71.0	7.0	8.0	70.0
	UF40042	61.0	71.0	6.0	7.0	70.0
	UF40043	63.0	73.0	6.0	7.0	72.0
	UF40044	65.0	75.0	6.0	7.0	74.0
	UF40045	67.0	77.0	6.0	7.0	76.0
	UF40046	70.0	80.0	6.0	7.0	79.0
	UF40047	71.0	80.0	6.0	7.0	79.0
	UF40048	75.0	85.0	6.0	7.0	84.0
	UF40049	80.0	90.0	6.0	7.0	89.0
	UF40050	80.0	95.0	9.0	10.0	94.0
	UF40051	85.0	95.0	6.0	7.0	94.0
	UF40052	85.0	100.0	9.0	10.0	99.0
	UF40053	86.0	100.0	8.5	9.5	99.0
	UF40054	89.0	104.0	9.0	10.0	103.0
	UF40055	90.0	100.0	6.0	7.0	99.0
	UF40056	90.0	105.0	9.0	10.0	104.0
	UF40057	95.0	110.0	9.0	10.0	109.0
	UF40058	96.0	111.0	9.0	10.0	110.0
	UF40059	98.0	112.0	8.5	9.5	111.0
	UF40060	100.0	115.0	9.0	10.0	113.0
	UF40061	105.0	120.0	9.0	10.0	118.0
	UF40062	106.0	120.0	8.5	9.5	118.0
	UF40063	110.0	125.0	9.0	10.0	123.0
	UF40064	112.0	125.0	9.0	10.0	123.0
	UF40065	115.0	130.0	9.0	10.0	128.0
	UF40066	118.0	132.0	8.5	9.5	130.0
	UF40067	125.0	140.0	9.0	10.0	138.0
	UF40068	132.0	145.0	8.5	9.5	143.0
	UF40069	136.0	150.0	8.5	9.5	148.0
	UF40070	145.0	160.0	9.0	10.0	158.0

UH1 Series

Symmetrical Piston/ Rod U-Cup Seal
(U-Cup Seal with NBR70 Shore A O-Ring)



*L=H+10%



ESTER TPU 95 PHYSICAL PROPERTIES

Working Pressure: ≤ 35 Mpa	Hardness	95 Shore A	DIN53515
Working Temperature: $-35^{\circ}\text{C} \sim +80^{\circ}\text{C}$		95 Shore A	ASTM D2240
Surface Speed: ≤ 0.8 m/s	Tensile Strength	50 Mpa	DIN53504
Media: Mineral Oil		7252 psi	ASTM D-412
Abrasion Resistance	35mm ³	DIN53516	
Compression Set	30%	DIN53517	
24 hrs @ 100 °C	30%	ASTM D-395	
Specific gravity	1.18 g/cm ³	DIN53479	
	1.18 g/cm ³	ASTM D-972	
	Elongation	515 %	DIN53504
		515 %	ASTM D-412
	Tear Strength	140 N/mm	DIN53504
		799 pli	ASTM D-624
	Standard Compound	KC9502AA	
	Color	Black ●	

We have this tool size

CODE	d (inch)	D (inch)	H (inch)	d (mm)	D (mm)	H (mm)
UH10001	1/16	5/16	1/8	1.59	7.94	3.18
UH10002	3/32	11/32	1/8	2.38	8.73	3.18
UH10003	1/8	3/8	1/8	3.18	9.53	3.18
UH10004	3/16	7/16	1/8	4.76	11.11	3.18
UH10005	1/4	1/2	1/8	6.35	12.70	3.18
UH10006	5/16	9/16	1/8	7.94	14.29	3.18
UH10007	23/64	39/64	1/8	9.13	15.48	3.18
UH10008	3/8	5/8	1/8	9.53	15.88	3.18
UH10009	7/16	11/16	1/8	11.11	17.46	3.18
UH10010	1/2	3/4	1/8	12.70	19.05	3.18
UH10011	17/32	25/32	1/8	13.49	19.84	3.18
UH10012	9/16	13/16	1/8	14.29	20.64	3.18
UH10013	5/8	7/8	1/8	15.88	22.23	3.18
UH10014	11/16	15/16	1/8	17.46	23.81	3.18
UH10015	3/4	1	1/8	19.05	25.40	3.18
UH10016	13/16	1 1/16	1/8	20.64	26.99	3.18

CODE	d (inch)	D (inch)	H (inch)	d (mm)	D (mm)	H (mm)
UH10017	7/8	1 1/8	1/8	22.23	28.58	3.18
UH10018	29/32	1 5/32	1/8	23.02	29.37	3.18
UH10019	15/16	1 3/16	1/8	23.81	30.16	3.18
UH10020	1	1 1/4	1/8	25.40	31.75	3.18
UH10021	1 1/16	1 5/16	1/8	26.99	33.34	3.18
UH10022	1 1/8	1 3/8	1/8	28.58	34.93	3.18
UH10023	1 3/16	1 7/16	1/8	30.16	36.51	3.18
UH10024	1 1/4	1 1/2	1/8	31.75	38.10	3.18
UH10025	1 5/16	1 9/16	1/8	33.34	39.69	3.18
UH10026	1 3/8	1 5/8	1/8	34.93	41.28	3.18
UH10027	1 7/16	1 11/16	1/8	36.51	42.86	3.18
UH10028	1 1/2	1 3/4	1/8	38.10	44.45	3.18
UH10029	1 9/16	1 13/16	1/8	39.69	46.04	3.18
UH10030	1 5/8	1 7/8	1/8	41.28	47.63	3.18
UH10031	1 11/16	1 15/16	1/8	42.86	49.21	3.18
UH10032	1 3/4	2	1/8	44.45	50.80	3.18

UH1 Series

Symmetrical Piston/ Rod U-Cup Seal
(U-Cup Seal with NBR70 Shore A O-Ring)

CODE	d (inch)	D (inch)	H (inch)	d (mm)	D (mm)	H (mm)
UH10033	1 7/8	2 1/8	1/8	47.63	53.98	3.18
UH10034	2	2 1/4	1/8	50.80	57.15	3.18
UH10035	2 1/8	2 3/8	1/8	53.98	60.33	3.18
UH10036	2 1/4	2 1/2	1/8	57.15	63.50	3.18
UH10037	2 3/8	2 5/8	1/8	60.33	66.68	3.18
UH10038	2 1/2	2 3/4	1/8	63.50	69.85	3.18
UH10039	2 5/8	2 7/8	1/8	66.68	73.03	3.18
UH10040	2 3/4	3	1/8	69.85	76.20	3.18
UH10041	2 7/8	3 1/8	1/8	73.03	79.38	3.18
UH10042	3	3 1/4	1/8	76.20	82.55	3.18
UH10043	3 1/4	3 1/2	1/8	82.55	88.90	3.18
UH10044	3 3/8	3 5/8	1/8	85.73	92.08	3.18
UH10045	3 1/2	3 3/4	1/8	88.90	95.25	3.18
UH10046	4	4 1/4	1/8	101.60	107.95	3.18
UH10047	4 1/4	4 1/2	1/8	107.95	114.30	3.18
UH10048	4 3/8	4 5/8	1/8	111.13	117.48	3.18
UH10049	4 1/2	4 3/4	1/8	114.30	120.65	3.18
UH10050	4 3/4	5	1/8	120.65	127.00	3.18
UH10051	5	5 1/4	1/8	127.00	133.35	3.18
UH10052	5 3/4	6	1/8	146.05	152.40	3.18
UH10053	7/16	3/4	5/32	11.11	19.05	3.97
UH10054	3/4	1 1/16	5/32	19.05	26.99	3.97
UH10055	15/16	1 1/4	5/32	23.81	31.75	3.97
UH10056	1	1 5/16	5/32	25.40	33.34	3.97
UH10057	1 1/16	1 3/8	5/32	26.99	34.93	3.97
UH10058	1 3/16	1 1/2	5/32	30.16	38.10	3.97
UH10059	1 1/4	1 9/16	5/32	31.75	39.69	3.97
UH10060	1 3/8	1 11/16	5/32	34.93	42.86	3.97
UH10061	2 1/16	2 3/8	5/32	52.39	60.33	3.97
UH10062	9/16	29/32	11/64	14.29	23.02	4.37
UH10063	3/16	9/16	3/16	4.76	14.29	4.76
UH10064	1/4	5/8	3/16	6.35	15.88	4.76
UH10065	5/16	11/16	3/16	7.94	17.46	4.76
UH10066	3/8	3/4	3/16	9.53	19.05	4.76
UH10067	7/16	13/16	3/16	11.11	20.64	4.76
UH10068	1/2	7/8	3/16	12.70	22.23	4.76
UH10069	9/16	15/16	3/16	14.29	23.81	4.76
UH10070	5/8	1	3/16	15.88	25.40	4.76
UH10071	21/32	1 1/32	3/16	16.67	26.19	4.76
UH10072	11/16	1 1/16	3/16	17.46	26.99	4.76
UH10073	3/4	1 1/8	3/16	19.05	28.58	4.76
UH10074	13/16	1 3/16	3/16	20.64	30.16	4.76
UH10075	7/8	1 1/4	3/16	22.23	31.75	4.76
UH10076	15/16	1 5/16	3/16	23.81	33.34	4.76
UH10077	1	1 3/8	3/16	25.40	34.93	4.76
UH10078	1 1/16	1 7/16	3/16	26.99	36.51	4.76
UH10079	1 1/8	1 1/2	3/16	28.58	38.10	4.76
UH10080	1 3/16	1 9/16	3/16	30.16	39.69	4.76
UH10081	1 1/4	1 5/8	3/16	31.75	41.28	4.76

CODE	d (inch)	D (inch)	H (inch)	d (mm)	D (mm)	H (mm)
UH10082	1 5/16	1 11/16	3/16	33.34	42.86	4.76
UH10083	1 3/8	1 3/4	3/16	34.93	44.45	4.76
UH10084	1 7/16	1 13/16	3/16	36.51	46.04	4.76
UH10085	1 1/2	1 7/8	3/16	38.10	47.63	4.76
UH10086	1 9/16	1 15/16	3/16	39.69	49.21	4.76
UH10087	1 5/8	2	3/16	41.28	50.80	4.76
UH10088	1 11/16	2 1/16	3/16	42.86	52.39	4.76
UH10089	1 3/4	2 1/8	3/16	44.45	53.98	4.76
UH10090	1 13/16	2 3/16	3/16	46.04	55.56	4.76
UH10091	1 7/8	2 1/4	3/16	47.63	57.15	4.76
UH10092	1 15/16	2 5/16	3/16	49.21	58.74	4.76
UH10093	2	2 3/8	3/16	50.80	60.33	4.76
UH10094	2 1/16	2 7/16	3/16	52.39	61.91	4.76
UH10095	2 1/8	2 1/2	3/16	53.98	63.50	4.76
UH10096	2 1/4	2 5/8	3/16	57.15	66.68	4.76
UH10097	2 3/8	2 3/4	3/16	60.33	69.85	4.76
UH10098	2 1/2	2 7/8	3/16	63.50	73.03	4.76
UH10099	2 5/8	3	3/16	66.68	76.20	4.76
UH10100	2 3/4	3 1/8	3/16	69.85	79.38	4.76
UH10101	2 7/8	3 1/4	3/16	73.03	82.55	4.76
UH10102	3	3 3/8	3/16	76.20	85.73	4.76
UH10103	3 1/8	3 1/2	3/16	79.38	88.90	4.76
UH10104	3 1/4	3 5/8	3/16	82.55	92.08	4.76
UH10105	3 3/8	3 3/4	3/16	85.73	95.25	4.76
UH10106	3 1/2	3 7/8	3/16	88.90	98.43	4.76
UH10107	3 5/8	4	3/16	92.08	101.60	4.76
UH10108	3 3/4	4 1/8	3/16	95.25	104.78	4.76
UH10109	3 7/8	4 1/4	3/16	98.43	107.95	4.76
UH10110	4	4 3/8	3/16	101.60	111.13	4.76
UH10111	4 1/8	4 1/2	3/16	104.78	114.30	4.76
UH10112	4 1/4	4 5/8	3/16	107.95	117.48	4.76
UH10113	4 3/8	4 3/4	3/16	111.13	120.65	4.76
UH10114	4 1/2	4 7/8	3/16	114.30	123.83	4.76
UH10115	4 3/4	5 1/8	3/16	120.65	130.18	4.76
UH10116	4 7/8	5 1/4	3/16	123.83	133.35	4.76
UH10117	5 11/16	6 1/16	3/16	144.46	153.99	4.76
UH10118	5 7/8	6 1/4	3/16	149.23	158.75	4.76
UH10119	6	6 3/8	3/16	152.40	161.93	4.76
UH10120	6 5/16	6 11/16	3/16	160.34	169.86	4.76
UH10121	5/16	3/4	7/32	7.94	19.05	5.56
UH10122	7/16	7/8	7/32	11.11	22.23	5.56
UH10123	9/16	1	7/32	14.29	25.40	5.56
UH10124	3/4	1 3/16	7/32	19.05	30.16	5.56
UH10125	15/16	1 3/8	7/32	23.81	34.93	5.56
UH10126	1 3/4	2 3/16	7/32	44.45	55.56	5.56
UH10127	2 1/16	2 1/2	7/32	52.39	63.50	5.56
UH10128	2 1/2	2 5/16	7/32	63.50	58.74	5.56
UH10129	2 9/16	3	7/32	65.09	76.20	5.56
UH10130	2 13/16	3 1/4	7/32	71.44	82.55	5.56

UH1 Series

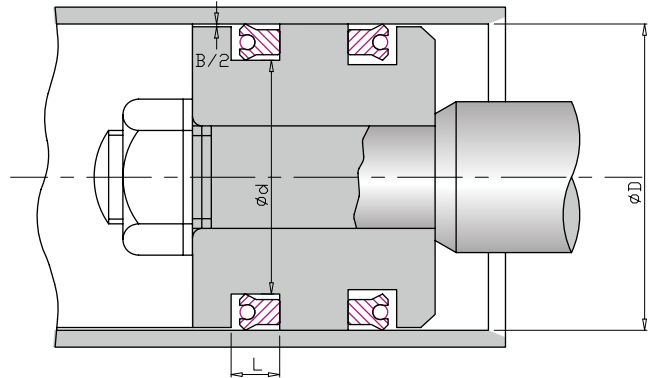
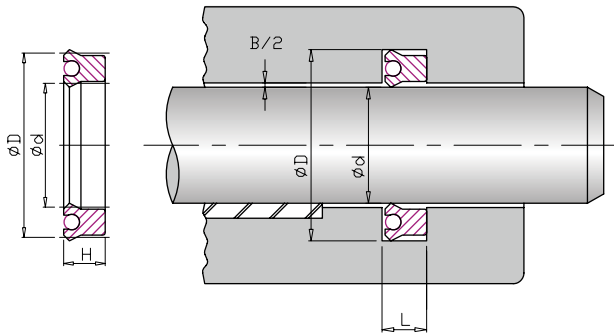
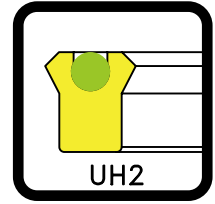
Symmetrical Piston/ Rod U-Cup Seal
(U-Cup Seal with NBR70 Shore A O-Ring)

CODE	d (inch)	D (inch)	H (inch)	d (mm)	D (mm)	H (mm)
UH10131	3	3 7/16	7/32	76.20	87.31	5.56
UH10133	5/16	13/16	1/4	7.94	20.64	6.35
UH10136	1/2	1	1/4	12.70	25.40	6.35
UH10138	5/8	1 1/8	1/4	15.88	28.58	6.35
UH10139	11/16	1 3/16	1/4	17.45	30.16	6.35
UH10140	3/4	1 1/4	1/4	19.05	31.75	6.35
UH10142	7/8	1 3/8	1/4	22.23	34.93	6.35
UH10144	1	1 1/2	1/4	25.40	38.10	6.35
UH10147	1 1/8	1 5/8	1/4	28.58	41.28	6.35
UH10149	1 1/4	1 3/4	1/4	31.75	44.45	6.35
UH10151	1 3/8	1 7/8	1/4	34.93	47.63	6.35
UH10153	1 1/2	2	1/4	38.10	50.80	6.35
UH10155	1 3/4	2 1/4	1/4	44.45	57.15	6.35
UH10156	1 7/8	2 3/8	1/4	47.63	60.33	6.35
UH10157	2	2 1/2	1/4	50.80	63.50	6.35
UH10159	2 1/4	2 3/4	1/4	57.15	69.85	6.35
UH10161	2 1/2	3	1/4	63.50	76.20	6.35
UH10160	2 3/8	2 7/8	1/4	60.33	73.03	6.35
UH10163	2 3/4	3 1/4	1/4	69.85	82.55	6.35
UH10165	3	3 1/2	1/4	76.20	88.90	6.35
UH10166	3 1/8	3 5/8	1/4	79.38	92.08	6.35
UH10167	3 1/4	3 3/4	1/4	82.55	95.25	6.35
UH10169	3 1/2	4	1/4	88.90	101.60	6.35
UH10171	3 3/4	4 1/4	1/4	95.25	107.95	6.35
UH10174	4	4 1/2	1/4	101.60	114.30	6.35
UH10176	4 1/4	4 3/4	1/4	107.95	120.65	6.35
UH10178	4 1/2	5	1/4	114.30	127.00	6.35
UH10180	4 3/4	5 1/4	1/4	120.65	133.35	6.35
UH10181	4 7/8	5 3/8	1/4	123.83	136.53	6.35
UH10182	5	5 1/2	1/4	127.00	139.70	6.35
UH10186	5 1/2	6	1/4	139.70	152.40	6.35
UH10188	5 3/4	6 1/4	1/4	146.05	158.75	6.35
UH10189	5 7/8	6 3/8	1/4	149.23	161.93	6.35
UH10190	6	6 1/2	1/4	152.40	165.10	6.35
UH10192	6 1/2	7	1/4	165.10	177.80	6.35
UH10193	6 3/4	7 1/4	1/4	171.45	184.15	6.35
UH10197	7 1/2	8	1/4	190.50	203.20	6.35
UH10200	8	8 1/2	1/4	203.20	215.90	6.35
UH10201	8 1/2	9	1/4	215.90	228.60	6.35
UH10203	9	9 1/2	1/4	228.60	241.30	6.35
UH10204	9 1/4	9 3/4	1/4	234.95	247.65	6.35
UH10205	9 1/2	10	1/4	241.30	254.00	6.35
UH10206	9 3/4	10 1/4	1/4	247.65	260.35	6.35
UH10214	12	12 1/2	1/4	304.80	317.50	6.35
UH10215	12 1/2	13	1/4	317.50	330.20	6.35
UH10236	1	1 5/8	5/16	25.40	41.28	7.94
UH10238	1 1/8	1 3/4	5/16	28.58	44.45	7.94
UH10240	1 1/4	1 7/8	5/16	31.75	47.63	7.94

CODE	d (inch)	D (inch)	H (inch)	d (mm)	D (mm)	H (mm)
UH10243	1 1/2	2 1/8	5/16	38.10	53.98	7.94
UH10251	2 1/4	2 7/8	5/16	57.15	73.03	7.94
UH10253	2 3/8	3	5/16	60.33	76.20	7.94
UH10254	2 1/2	3 1/8	5/16	63.50	79.38	7.92
UH10263	3 1/2	4 1/8	5/16	88.90	104.78	7.94
UH10265	3 3/4	4 3/8	5/16	95.25	111.13	7.92
UH10268	4 1/8	4 3/4	5/16	104.78	120.65	7.92
UH10271	4 1/2	5 1/8	5/16	114.30	130.18	7.94
UH10283	6 3/8	7	5/16	161.93	177.80	7.94
UH10289	7 3/8	8	5/16	187.33	203.20	7.92
UH10314	1	1 3/4	3/8	25.40	44.45	9.53
UH10316	1 1/4	2	3/8	31.75	50.80	9.53
UH10322	1 5/8	2 3/8	3/8	41.28	60.33	9.53
UH10327	2 1/8	2 7/8	3/8	53.98	73.03	9.53
UH10339	3 1/4	4	3/8	82.55	101.60	9.53
UH10342	3 5/8	4 3/8	3/8	92.08	111.13	9.53
UH10343	3 3/4	4 1/2	3/8	95.25	114.30	9.53
UH10348	4 1/4	5	3/8	107.95	127.00	9.53
UH10350	4 1/2	5 1/4	3/8	114.30	133.35	9.53
UH10353	4 7/8	5 5/8	3/8	123.83	142.88	9.53
UH10360	5 3/4	6 1/2	3/8	146.05	165.10	9.53
UH10367	7 1/4	8	3/8	184.15	203.20	9.53
UH10368	7 1/2	8 1/4	3/8	190.50	209.55	9.53
UH10377	9 1/4	10	3/8	234.95	254.00	9.53
UH10382	10 1/4	11	3/8	260.35	279.40	9.53
UH10385	11 1/4	12	3/8	285.75	304.80	9.53
UH10393	13 1/4	14	3/8	336.55	355.60	9.53
UH10444	3	4	1/2	76.20	101.60	12.70
UH10463	6	7	1/2	152.40	177.80	12.70
UH10477	9	10	1/2	228.60	254.00	12.70
UH10481	10 1/2	11 1/2	1/2	266.70	292.10	12.70
UH10534	5 3/4	7	5/8	146.05	177.80	15.88
UH10539	6 3/4	8	5/8	171.45	203.20	15.88
UH10584	10 1/2	12	3/4	266.70	304.80	19.05
UH10622	10	12	1	254.00	304.80	25.40

UH2 Series

Symmetrical Piston/ Rod U-Cup Seal
(U-Cup Seal with NBR70 Shore A O-Ring)



*L=H+10%

ESTER TPU 95 PHYSICAL PROPERTIES			
Working Pressure: ≤ 35 Mpa	Hardness	95 Shore A	DIN53515
Working Temperature: -30°C ~ +80°C		95 Shore A	ASTM D2240
Surface Speed: ≤ 0.8 m/s	Tensile Strength	50 Mpa	DIN53504
Media: Mineral Oil		7252 psi	ASTM D-412
Abrasion Resistance 35mm ³ DIN53516	Elongation	515 %	DIN53504
Compression Set 30% DIN53517		515 %	ASTM D-412
24 hrs @ 100 °C 30% ASTM D-395	Tear Strength	140 N/mm	DIN53504
Specific gravity 1.18 g/cm ³ DIN53479		799 pli	ASTM D-624
1.18 g/cm ³ ASTM D-972	Standard Compound	KC9502AA	
	Color	Black ●	

We have this tool size

CODE	d (inch)	D (inch)	H (inch)	d (mm)	D (mm)	H (mm)
UH20001	1/8	3/8	1/4	3.18	9.53	6.35
UH20002	3/16	7/16	1/4	4.76	11.11	6.35
UH20003	1/4	1/2	1/4	6.35	12.70	6.35
UH20004	5/16	9/16	1/4	7.94	14.29	6.35
UH20005	3/8	5/8	1/4	9.53	15.88	6.35
UH20006	7/16	11/16	1/4	11.11	17.46	6.35
UH20007	1/2	3/4	1/8	12.70	19.05	3.18
UH20008	1/2	3/4	1/4	12.70	19.05	6.35
UH20009	9/16	13/16	1/4	14.29	20.64	6.35
UH20010	5/8	7/8	3/16	15.88	22.23	4.76
UH20011	5/8	7/8	1/4	15.88	22.23	6.35
UH20012	11/16	15/16	1/4	17.46	23.81	6.35
UH20013	3/4	1	1/8	19.05	25.40	3.18
UH20014	3/4	1	3/16	19.05	25.40	4.76
UH20015	3/4	1	1/4	19.05	25.40	6.35
UH20016	13/16	1 1/16	1/8	20.64	26.99	3.18
UH20017	13/16	1 1/16	1/4	20.64	26.99	6.35

CODE	d (inch)	D (inch)	H (inch)	d (mm)	D (mm)	H (mm)
UH20018	7/8	1 1/8	1/4	22.23	28.58	6.35
UH20019	15/16	1 3/16	1/4	23.81	30.16	6.35
UH20020	1	1 1/4	1/8	25.40	31.75	3.18
UH20021	1	1 1/4	3/16	25.40	31.75	4.76
UH20022	1	1 1/4	1/4	25.40	31.75	6.35
UH20023	1 1/16	1 5/16	1/4	26.99	33.34	6.35
UH20024	1 1/8	1 3/8	1/4	28.58	34.93	6.35
UH20025	1 3/16	1 7/16	1/4	30.16	36.51	6.35
UH20026	1 1/4	1 1/2	3/16	31.75	38.10	4.76
UH20027	1 1/4	1 1/2	1/4	31.75	38.10	6.35
UH20028	1 5/16	1 9/16	3/16	33.34	39.69	4.76
UH20029	1 3/8	1 5/8	1/4	34.93	41.28	6.35
UH20030	1 3/8	1 5/8	5/16	34.93	41.28	7.94
UH20031	1 7/16	1 11/16	1/4	36.51	42.86	6.35
UH20032	1 1/2	1 3/4	1/4	38.10	44.45	6.35
UH20033	1 3/4	2	1/4	44.45	50.80	6.35
UH20034	1 7/8	2 1/8	1/8	47.63	53.98	3.18

UH2 Series

Symmetrical Piston/ Rod U-Cup Seal
(U-Cup Seal with NBR70 Shore A O-Ring)

CODE	d (inch)	D (inch)	H (inch)	d (mm)	D (mm)	H (mm)
UH20035	1 7/8	2 1/8	1/4	47.63	53.98	6.35
UH20036	2	2 1/4	1/4	50.80	57.15	6.35
UH20037	2 1/8	2 3/8	1/4	53.98	60.33	6.35
UH20038	2 1/4	2 1/2	1/4	57.15	63.50	6.35
UH20039	2 1/2	2 3/4	1/4	63.50	69.85	6.35
UH20040	2 3/4	3	1/4	69.85	76.20	6.35
UH20041	1/4	5/8	5/16	6.35	15.88	7.94
UH20042	5/16	11/16	5/16	7.94	17.46	7.94
UH20043	3/8	3/4	5/16	9.53	19.05	7.94
UH20044	7/16	13/16	5/16	11.11	20.64	7.94
UH20045	1/2	7/8	5/16	12.70	22.23	7.94
UH20046	9/16	15/16	5/16	14.29	23.81	7.94
UH20047	5/8	1	5/16	15.88	25.40	7.94
UH20048	11/16	1 1/16	5/16	17.46	26.99	7.94
UH20049	3/4	1 1/8	5/16	19.05	28.58	7.94
UH20051	13/16	1 3/16	5/16	20.64	30.16	7.94
UH20052	7/8	1 1/4	5/16	22.23	31.75	7.94
UH20053	15/16	1 5/16	5/16	23.81	33.34	7.94
UH20054	1	1 3/8	5/16	25.40	34.93	7.94
UH20055	1 1/16	1 7/16	5/16	26.99	36.51	7.94
UH20056	1 1/8	1 1/2	3/16	28.58	38.10	4.76
UH20057	1 1/8	1 1/2	5/16	28.58	38.10	7.94
UH20058	1 1/8	1 1/2	3/8	28.58	38.10	9.53
UH20059	1 3/16	1 9/16	5/16	30.16	39.69	7.94
UH20060	1 1/4	1 5/8	1/4	31.75	41.28	6.35
UH20061	1 1/4	1 5/8	5/16	31.75	41.28	7.94
UH20062	1 1/4	1 5/8	3/8	31.75	41.28	9.53
UH20063	1 5/16	1 11/16	5/16	33.34	42.86	7.94
UH20064	1 3/8	1 3/4	1/4	34.93	44.45	6.35
UH20065	1 3/8	1 3/4	5/16	34.93	44.45	7.94
UH20066	1 3/8	1 3/4	3/8	34.93	44.45	9.53
UH20067	1 7/16	1 13/16	5/16	36.51	46.04	7.94
UH20068	1 1/2	1 7/8	3/16	38.10	47.63	4.76
UH20069	1 1/2	1 7/8	1/4	38.10	47.63	6.35
UH20071	1 1/2	1 7/8	5/16	38.10	47.63	7.94
UH20072	1 1/2	1 7/8	3/8	38.10	47.63	9.53
UH20073	1 5/8	2	5/16	41.28	50.80	7.94
UH20074	1 5/8	2	3/8	41.28	50.80	9.53
UH20075	1 3/4	2 1/8	5/16	44.45	53.98	7.94
UH20076	1 3/4	2 1/8	3/8	44.45	53.98	9.53
UH20077	1 7/8	2 1/4	3/8	47.63	57.15	9.53
UH20078	2	2 3/8	5/16	50.80	60.33	7.94
UH20079	2	2 3/8	3/8	50.80	60.33	9.53
UH20080	2 1/8	2 1/2	3/16	53.98	63.50	4.76
UH20081	2 1/8	2 1/2	1/4	53.98	63.50	6.35
UH20082	2 1/8	2 1/2	3/8	53.98	63.50	9.53
UH20083	2 1/4	2 5/8	5/16	57.15	66.68	7.94
UH20084	2 1/4	2 5/8	3/8	57.15	66.68	9.53
UH20085	2 3/8	2 3/4	3/8	60.33	69.85	9.53

CODE	d (inch)	D (inch)	H (inch)	d (mm)	D (mm)	H (mm)
UH20087	2 1/2	2 7/8	1/4	63.50	73.03	6.35
UH20088	2 1/2	2 7/8	3/8	63.50	73.03	9.53
UH20089	2 5/8	3	9/32	66.68	76.20	7.14
UH20090	2 5/8	3	3/8	66.68	76.20	9.53
UH20091	2 3/4	3 1/8	3/16	69.85	79.38	4.76
UH20093	2 7/8	3 1/4	9/32	73.03	82.55	7.14
UH20095	3	3 3/8	1/4	76.20	85.73	6.35
UH20096	3	3 3/8	3/8	76.20	85.73	9.53
UH20097	3 1/8	3 1/2	3/8	79.38	88.90	9.53
UH20099	3 3/8	3 3/4	3/16	85.73	95.25	4.76
UH20101	3 1/2	3 7/8	3/8	88.90	98.43	9.53
UH20102	3 5/8	4	3/8	92.08	101.60	9.53
UH20105	4	4 3/8	3/16	101.60	111.13	4.76
UH20106	4	4 3/8	3/8	101.60	111.13	9.53
UH20109	4 3/8	4 3/4	3/8	111.13	120.65	9.53
UH20114	5 1/2	5 7/8	3/8	139.70	149.23	9.53
UH20118	7/16	15/16	3/8	11.13	23.83	9.53
UH20120	1/2	1	3/8	12.70	25.40	9.53
UH20124	3/4	1 1/4	3/8	19.05	31.75	9.53
UH20127	1	1 1/2	3/8	25.40	38.10	9.53
UH20129	1 1/4	1 3/4	3/8	31.75	44.45	9.53
UH20131	1 3/8	1 7/8	3/8	34.93	47.63	9.53
UH20135	1 1/2	2	3/8	38.10	50.80	9.53
UH20138	1 3/4	2 1/4	3/8	44.45	57.15	9.53
UH20141	2	2 1/2	1/4	50.80	63.50	6.35
UH20142	2	2 1/2	3/8	50.80	63.50	9.53
UH20144	2 1/8	2 5/8	3/8	53.98	66.68	9.53
UH20145	2 1/4	2 3/4	3/8	57.15	69.85	9.53
UH20146	2 3/8	2 7/8	3/8	60.33	73.03	9.53
UH20148	2 1/2	3	3/8	63.50	76.20	9.53
UH20150	2 5/8	3 1/8	3/8	66.68	79.38	9.53
UH20151	2 3/4	3 1/4	3/8	69.85	82.55	9.53
UH20152	2 7/8	3 3/8	3/8	73.03	85.73	9.53
UH20154	3	3 1/2	3/8	76.20	88.90	9.53
UH20156	3 1/4	3 3/4	3/8	82.55	95.25	9.53
UH20158	3 1/2	4	3/8	88.90	101.60	9.53
UH20160	3 3/4	4 1/4	3/8	95.25	107.95	9.53
UH20163	4	4 1/2	3/8	101.60	114.30	9.53
UH20164	4	4 1/2	1/2	101.60	114.30	12.70
UH20165	4	4 1/2	9/16	101.60	114.30	14.30
UH20166	4 1/16	4 9/16	3/8	103.17	115.87	9.53
UH20174	4 1/2	5	3/8	114.30	127.00	9.53
UH20175	4 1/2	5	9/16	114.30	127.00	14.27
UH20177	4 5/8	5 1/8	9/16	117.48	130.18	14.30
UH20178	4 3/4	5 1/4	3/8	120.65	133.35	9.53
UH20179	4 3/4	5 1/4	9/16	120.65	133.35	14.27
UH20181	4 7/8	5 3/8	9/16	123.83	136.53	14.29
UH20182	5	5 1/2	3/8	127.00	139.70	9.53
UH20183	5	5 1/2	9/16	127.00	139.70	14.27

UH2 Series

Symmetrical Piston/ Rod U-Cup Seal
(U-Cup Seal with NBR70 Shore A O-Ring)

CODE	d (inch)	D (inch)	H (inch)	d (mm)	D (mm)	H (mm)
UH20187	5 1/2	6	3/8	139.70	152.40	9.53
UH20188	5 1/2	6	9/16	139.70	152.40	14.27
UH20190	5 3/4	6 1/4	9/16	146.05	158.75	14.27
UH20191	6	6 1/2	3/8	152.40	165.10	9.53
UH20195	6 1/2	7	3/8	165.10	177.80	9.53
UH20197	6 3/4	7 1/4	3/8	171.45	184.15	9.53
UH20198	6 3/4	7 1/4	9/16	171.45	184.15	14.27
UH20240	1 1/2	2 1/8	1/2	38.10	53.98	12.70
UH20244	1 3/4	2 3/8	1/2	44.45	60.33	12.70
UH20247	2	2 5/8	1/2	50.80	66.68	12.70
UH20250	2 1/4	2 7/8	1/2	57.15	73.03	12.70
UH20251	2 3/8	3	1/2	60.33	76.20	12.70
UH20252	2 1/2	3 1/8	1/2	63.50	79.38	12.70
UH20253	2 5/8	3 1/4	1/2	66.68	82.55	12.70
UH20256	3	3 5/8	1/2	76.20	92.08	12.70
UH20258	3 3/8	4	1/2	85.73	101.60	12.70
UH20259	3 1/2	4 1/8	1/2	88.90	104.78	12.70
UH20266	4 1/4	4 7/8	9/16	107.95	123.83	14.30
UH20271	4 3/4	5 3/8	5/8	120.65	136.53	15.88
UH20272	5	5 5/8	5/8	127.00	142.88	15.88
UH20273	5 1/8	5 3/4	5/8	130.18	146.05	15.88
UH20274	5 1/4	5 7/8	5/8	133.35	149.23	15.88
UH20298	2 1/4	3	5/8	57.15	76.20	15.88
UH20300	2 1/2	3 1/4	1/2	63.50	82.55	12.70
UH20301	2 1/2	3 1/4	5/8	63.50	82.55	15.88
UH20303	2 3/4	3 1/2	5/8	69.85	88.90	15.88
UH20304	2 7/8	3 5/8	5/8	73.03	92.08	15.88
UH20306	3	3 3/4	5/8	76.20	95.25	15.88
UH20309	3 1/4	4	5/8	82.55	101.60	15.88
UH20311	3 1/2	4 1/4	5/8	88.90	107.95	15.88
UH20313	3 3/4	4 1/2	5/8	95.25	114.30	15.88
UH20315	4	4 3/4	1/2	101.60	120.65	12.70
UH20316	4	4 3/4	5/8	101.60	120.65	15.88
UH20318	4 1/4	5	5/8	107.95	127.00	15.88
UH20323	4 7/8	5 5/8	5/8	123.83	142.88	15.88
UH20325	5	5 3/4	5/8	127.00	146.05	15.88
UH20327	5 1/4	6	5/8	133.35	152.40	15.88
UH20329	5 1/2	6 1/4	5/8	139.70	158.75	15.88
UH20331	5 3/4	6 1/2	5/8	146.05	165.10	15.88
UH20343	7 1/4	8	5/8	184.15	203.20	15.88
UH20355	9	9 3/4	5/8	228.60	247.65	15.88
UH20357	9 1/2	10 1/4	5/8	241.30	260.35	15.88
UH20359	10 1/4	11	1/2	260.35	279.40	12.70
UH20401	5 1/2	6 1/2	3/4	139.70	165.10	19.05
UH20407	7	8	3/4	177.80	203.20	19.05