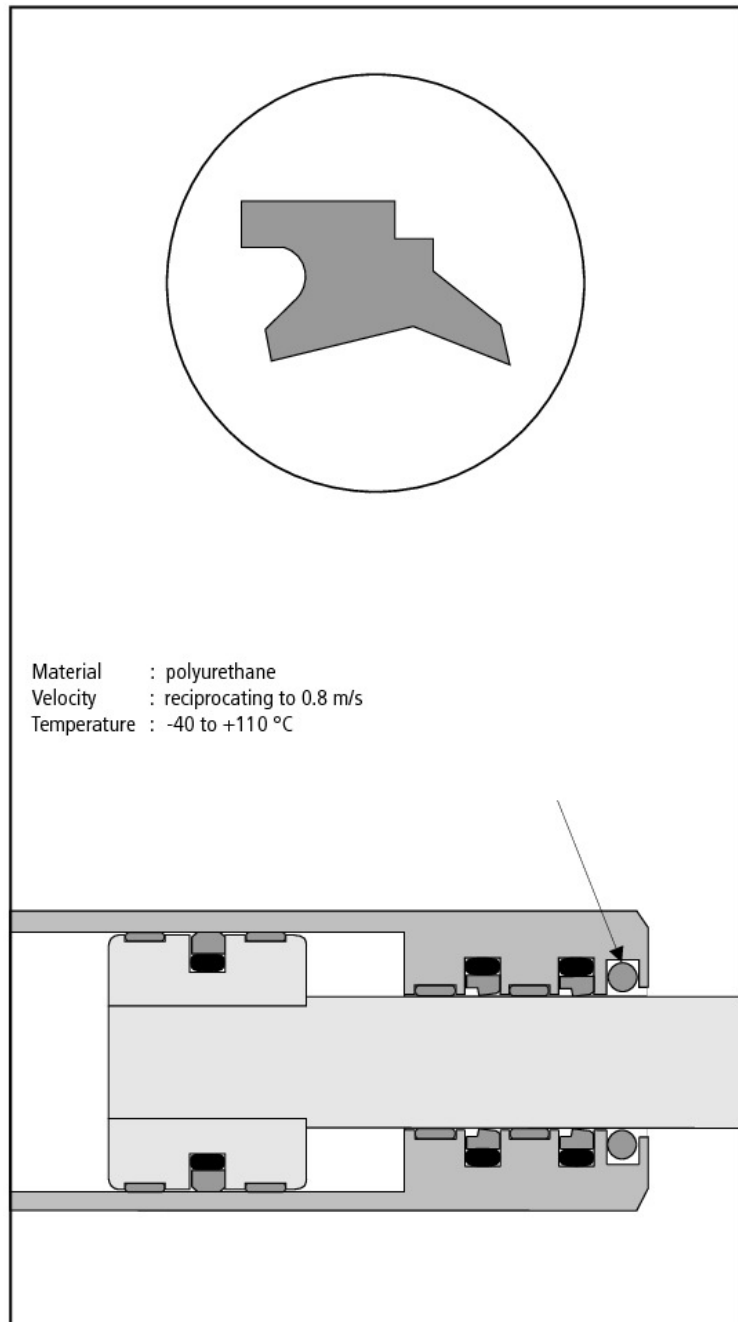
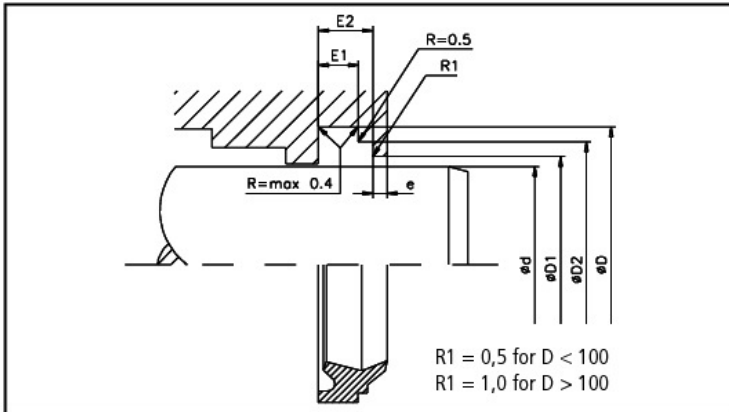
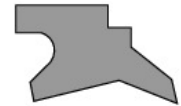


Double acting wiper HA 331 is primarily meant for all applications that need absolute sealing on the rod side. The lip that shows on the outside works like a normal wiper, and the inner part works like a groove ring, eliminating leakage. This wiper system can withstand maximum pressure up to 15 bar.

Special Features:

- Anti wear polyurethane material
- Very good frictional resistance, long life
- Easy snap assembly in closed groove possible
- Form closed secure fit through special profile
- Supporting sealing action by groove ring profile on pressure side.





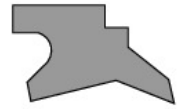
Limitations on Use	
Velocity	: reciprocating to 0.8 m/s
Temperature	: -40 bis +110 °C

Media for Use	
Mineral oil based hydraulic oils, Bio Oils and flame resistant pressure fluids on request.	

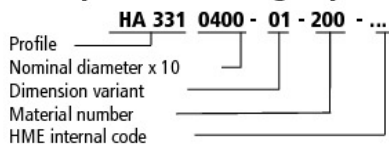
Surface Finish			
Surfaces	Rmax	Rz	Ra
Faces	2,5 µm	1,6 µm	0,4 µm
Groove root	16,0 µm	10,0 µm	3,2 µm
Groove flanks	16,0 µm	10,0 µm	3,2 µm

d f8/h9	D H9	D1 H11	D2 H11	E1 +0,2	E2 +0,2	e	Part N°.
10,00	18,00	13,50	16,00	4,00	6,00	2,00	HA331 0100-01-200
12,00	20,00	15,50	18,00	4,00	6,00	2,00	HA331 0120-01-200
14,00	22,00	17,50	20,00	4,00	6,00	2,00	HA331 0140-01-200
15,00	23,00	18,50	21,00	4,00	6,00	2,00	HA331 0150-01-200
16,00	24,00	19,50	22,00	4,00	6,00	2,00	HA331 0160-01-200
18,00	26,00	21,50	24,00	4,00	6,00	2,00	HA331 0180-01-200
20,00	28,00	23,50	26,00	4,00	6,00	2,00	HA331 0200-01-200
22,00	30,00	25,50	28,00	4,00	6,00	2,00	HA331 0220-01-200
25,00	33,00	28,50	31,00	4,00	6,00	2,00	HA331 0250-01-200
28,00	36,00	31,50	34,00	4,00	6,00	2,00	HA331 0280-01-200
30,00	38,00	33,50	36,00	4,00	6,00	2,00	HA331 0300-01-200
32,00	40,00	35,50	38,00	4,00	6,00	2,00	HA331 0320-01-200
35,00	43,00	38,50	41,00	4,00	6,00	2,00	HA331 0350-01-200
36,00	44,00	39,50	42,00	4,00	6,00	2,00	HA331 0360-01-200
40,00	48,00	43,50	46,00	4,00	6,00	2,00	HA331 0400-01-200
42,00	50,00	45,50	48,00	4,00	6,00	2,00	HA331 0420-01-200
45,00	53,00	48,50	51,00	4,00	6,00	2,00	HA331 0450-01-200
50,00	58,00	53,50	56,00	4,00	6,00	2,00	HA331 0500-01-200
55,00	63,00	58,50	61,00	4,00	6,00	2,00	HA331 0550-01-200
56,00	64,00	59,50	62,00	4,00	6,00	2,00	HA331 0560-01-200
60,00	68,00	63,50	66,00	4,00	6,00	2,00	HA331 0600-01-200
63,00	71,00	66,50	69,00	4,00	6,00	2,00	HA331 0630-01-200
65,00	73,00	68,50	71,00	4,00	6,00	2,00	HA331 0650-01-200
70,00	78,00	73,50	76,00	4,00	6,00	2,00	HA331 0700-01-200
75,00	83,00	78,50	81,00	4,00	6,00	2,00	HA331 0750-01-200
80,00	88,00	83,50	86,00	4,00	6,00	2,00	HA331 0800-01-200
85,00	93,00	88,50	91,00	4,00	6,00	2,00	HA331 0850-01-200
90,00	98,00	93,50	96,00	4,00	6,00	2,00	HA331 0900-01-200
100,00	108,00	103,50	106,00	4,00	6,00	2,00	HA331 1000-01-200
105,00	117,00	110,00	114,00	5,50	8,20	3,00	HA331 1050-01-200
110,00	122,00	115,00	119,00	5,50	8,20	3,00	HA331 1100-01-200
115,00	127,00	120,00	124,00	5,50	8,20	3,00	HA331 1150-01-200
120,00	132,00	125,00	129,00	5,50	8,20	3,00	HA331 1200-01-200
125,00	137,00	130,00	134,00	5,50	8,20	3,00	HA331 1250-01-200
130,00	142,00	135,00	139,00	5,50	8,20	3,00	HA331 1300-01-200
135,00	147,00	140,00	144,00	5,50	8,20	3,00	HA331 1350-01-200
140,00	152,00	145,00	149,00	5,50	8,20	3,00	HA331 1400-01-200
150,00	162,00	155,00	159,00	5,50	8,20	3,00	HA331 1500-01-200
160,00	172,00	165,00	169,00	5,50	8,20	3,00	HA331 1600-01-200
170,00	182,00	175,00	179,00	5,50	8,20	3,00	HA331 1700-01-200
180,00	192,00	185,00	189,00	5,50	8,20	3,00	HA331 1800-01-200
200,00	212,00	205,00	209,00	5,50	8,20	3,00	HA331 2000-01-200

Sizes in bold correspond to rod diameters as per ISO 3320. (Please enquire for further forms.)
 Extensive range of inch measurement diagrams available on request.



Example for ordering Wipers:



Issue

01	05
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WARNING: Limits of application stated herein are standard values. They could be individually transgressed with due consideration to respective service conditions. In the event of a large duty cycle, pulsating operation and other complex operational conditions, simultaneous transgression of these values is not recommended. Due to a large variety of service conditions that may arise in course of actual use, the company does not take responsibility of or guarantee the functional accuracy of the individual components. Rights for changes are reserved.