
POLYPAC[®] WRM



- Single Acting -

- Material -

- NBR Elastomer -





■ Scraper WRM

Description

Scraper rings are essential components of any hydraulic or pneumatic equipment.

These are protection components for axial moving rods: they ensure that foreign matter is not introduced into the system, avoiding costly wear and damage to all the internal components including seals.

WRM scrapers are manufactured in nitrile elastomer with precision machined wiper lip, which produces a very effective wiping action.

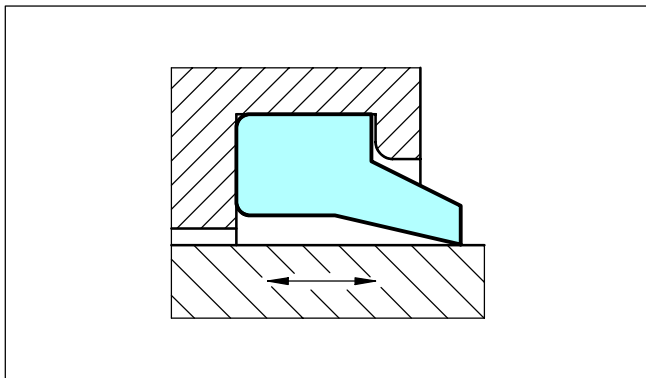


Figure 13 Scraper WRM

Advantages

- Space-saving construction
- Low cost, economical solution
- Simple, easy-construction groove
- Easy installation and removal without tools

Application Examples

Due to their outstanding wiping capacities WRM scrapers are recommended wherever there are dusty and humid conditions and especially for the following applications:

- Valve spindles
- Slide valves
- Hydraulic cylinders
- Agriculture machinery

Technical Data

Operating conditions

Speed: Up to 1 m/s

Temperature: -30° C to +110° C

Media: Mineral oil based hydraulic fluids, polyglycol-water emulsions, water-oil emulsions

Groove type: Closed

Important Note:

The above data are maximum values and cannot be used at the same time. e.g. the maximum operating speed depends on material type, pressure, temperature and gap value.

Materials

Standard application:

Nitrile elastomer NBR 90 Shore A

Material code: N9T60

Polypac Ref. code: 2790

Ordering Example

Rod diameter: $d_N = 40$ mm

Part number: WAP0 0 0400

Material Code: N9T60 (standard)

Polypac ref.: WRM 157188

Order No.	WAP0	0	0400	-	N9T60
Series No.					
Type (Standard)					
Rod diameter x 10					
Quality Index					
Material code					



Scraper WRM

Installation Recommendation

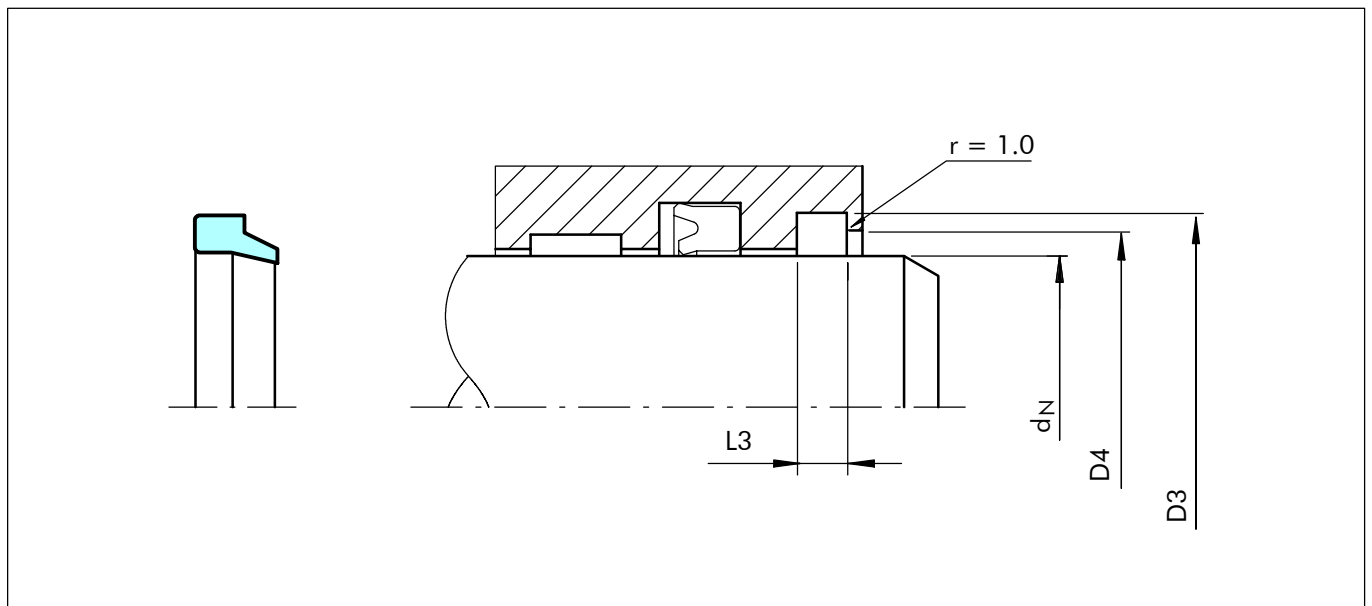


Figure 14 Installation drawing

Table XV Installation Dimensions / Part Numbers

Rod Diameter	Groove Diameter	Groove Width	Bore Diameter	Polypac Ref. No.	Part No.
d_N f8/h9	D_3 H9	$L_3 + 0.1$	$D_4 + 0.2$		
12.0	18.6	3.8	15.0	WRM 047070	WAP000120
13.0	19.6	3.8	16.0	WRM 051074	WAP000130
14.0	20.6	3.8	17.0	WRM 055078	WAP000140
15.0	21.6	3.8	18.0	WRM 059082	WAP000150
16.0	22.6	3.8	19.0	WRM 062087	WAP000160
17.0	23.6	3.8	20.0	WRM 066094	WAP000170
18.0	24.6	3.8	21.0	WRM 070094	WAP000180
19.0	28.6	5.3	22.0	WRM 074110	WAP000190
20.0	28.6	5.3	23.0	WRM 078110	WAP000200
22.0	30.6	5.3	25.0	WRM 086118	WAP000220
24.0	32.6	5.3	27.0	WRM 094125	WAP000240
25.0	33.6	5.3	28.0	WRM 098129	WAP000250
26.0	34.6	5.3	29.0	WRM 102133	WAP000260
27.0	35.6	5.3	30.0	WRM 106137	WAP000270
28.0	36.6	5.3	31.0	WRM 110141	WAP000280
30.0	38.6	5.3	33.0	WRM 118149	WAP000300
32.0	40.6	5.3	35.0	WRM 125157	WAP000320
33.0	41.6	5.3	36.0	WRM 129161	WAP000330
35.0	43.6	5.3	38.0	WRM 137169	WAP000350
36.0	44.6	5.3	39.0	WRM 141173	WAP000360
38.0	46.6	5.3	41.0	WRM 149181	WAP000380

Scraper WRM



Rod Diameter	Groove Diameter	Groove Width	Bore Diameter	Polypac Ref. No.	Part No.
d_N f8/h9	D_3 H9	L_3 +0.1	D_4 +0.2		
40.0	48.6	5.3	43.0	WRM 157188	WAP000400
42.0	50.6	5.3	45.0	WRM 165196	WAP000420
45.0	53.6	5.3	48.0	WRM 177208	WAP000450
45.0	55.6	5.3	49.0	WRM 177216	WAP100450
46.0	54.6	5.3	49.0	WRM 181212	WAP000460
48.0	56.6	5.3	51.0	WRM 188220	WAP000480
49.0	57.6	5.3	52.0	WRM 193225	WAP000490
50.0	58.6	5.3	53.0	WRM 196228	WAP000500
50.0*	60.6	5.3	54.0	WRM 196236	WAP100500
50.8	60.9	5.8	55.5	WRM 200237	WAP000508
53.0*	61.6	5.3	56.0	WRM 208240	WAP000530
55.0*	63.6	5.3	58.0	WRM 216248	WAP000550
55.0	65.6	5.3	59.0	WRM 216255	WAP100550
56.0	64.6	5.3	59.0	WRM 220251	WAP000560
56.0*	66.6	5.3	60.0	WRM 220259	WAP100560
60.0	68.6	5.3	63.0	WRM 236267	WAP000600
63.0*	71.6	5.3	66.0	WRM 248279	WAP000630
63.0	73.6	5.3	67.0	WRM 248287	WAP100630
65.0	73.6	5.3	68.0	WRM 255287	WAP000650
65.0	75.6	5.3	69.0	WRM 255295	WAP100650
70.0*	76.0	4.3	72.0	WRM 275299	WAP000700
70.0	78.6	5.3	73.0	WRM 275307	WAP100700
70.0	80.6	5.3	72.0	WRM 275314	WAP200700
70.0	82.6	7.1	76.0	WRM 275322	WAP300700
72.0	80.6	5.3	75.0	WRM 283317	WAP000720
73.0	81.6	5.3	76.0	WRM 287318	WAP000730
75.0	83.6	5.3	78.0	WRM 295326	WAP000750
75.0	87.2	7.1	81.0	WRM 295345	WAP100750
76.5	88.7	7.1	82.5	WRM 301348	WAP000765
78.0	92.2	7.1	85.0	WRM 307362	WAP000780
80.0	88.6	5.3	83.0	WRM 314346	WAP000800
80.0	92.6	7.1	86.0	WRM 314362	WAP100800
83.0	91.6	5.3	86.0	WRM 326358	WAP000830
84.0	92.0	5.3	87.0	WRM 330362	WAP000840
85.0	93.6	5.3	88.0	WRM 334366	WAP000850
85.0	97.2	7.1	91.0	WRM 334381	WAP100850
88.0	100.2	7.1	94.0	WRM 346393	WAP000880
90.0	102.2	7.1	96.0	WRM 354401	WAP000900
95.0	107.2	7.1	101.0	WRM 374421	WAP000950
97.0	111.0	7.1	104.0	WRM 380437	WAP000970
100.0	112.2	7.1	106.0	WRM 393440	WAP001000
101.0	111.0	5.3	105.0	WRM 397437	WAP001010
103.0	115.2	7.1	109.0	WRM 405452	WAP001030
104.0	116.2	7.1	110.0	WRM 409457	WAP001040

* Available upon request

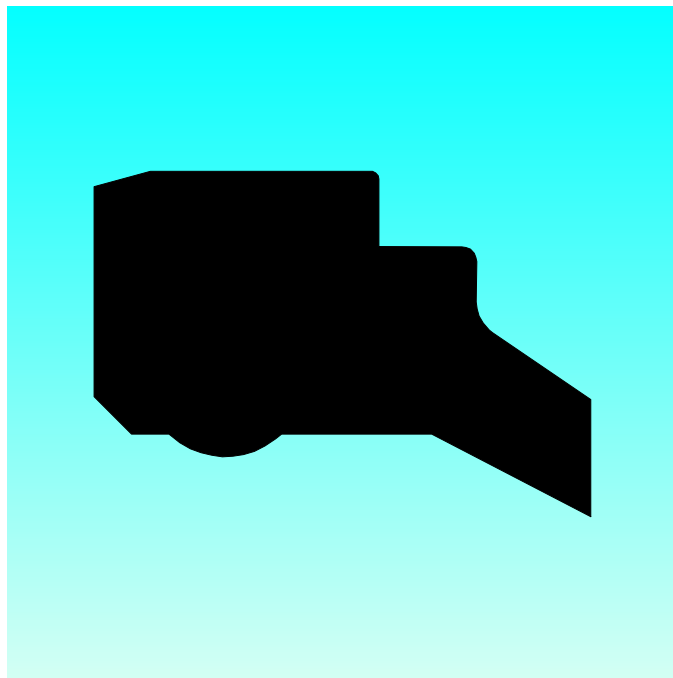


Scraper WRM

Rod Diameter	Groove Diameter	Groove Width	Bore Diameter	Polypac Ref. No.	Part No.
d_N f8/h9	D_3 +H9	L_3 +0.1	D_4 +0.2		
105.0	117.2	7.1	111.0	WRM 413460	WAP001050
110.0	122.2	7.1	116.0	WRM 433480	WAP001100
115.0	127.2	7.1	121.0	WRM 452500	WAP001150
116.0	128.2	7.1	121.0	WRM 456504	WAP001160
116.0	130.2	7.1	123.0	WRM 456511	WAP101160
118.0*	130.2	7.1	124.0	WRM 464511	WAP001180
120.0	128.6	5.3	123.0	WRM 472504	WAP001200
120.0	132.2	7.1	126.0	WRM 472519	WAP101200
121.0*	131.0	5.3	125.0	WRM 476515	WAP001210
125.0	137.2	7.1	131.0	WRM 492539	WAP001250
127.0	135.6	5.3	132.0	WRM 500531	WAP001270
127.0	139.2	7.1	133.0	WRM 500550	WAP101270
130.0	142.2	7.1	136.0	WRM 511559	WAP001300
135.0	147.2	7.1	141.0	WRM 531578	WAP001350
135.0	149.2	7.1	142.0	WRM 531582	WAP101350
140.0	152.2	7.1	146.0	WRM 551598	WAP001400
140.0	155.2	10.1	147.0	WRM 551610	WAP101400
145.0	157.2	7.1	151.0	WRM 570618	WAP001450
146.0*	158.0	6.3	152.0	WRM 575622/1	WAP001460
146.05	158.25	7.1	152.05	WRM 575622	WAP001461
150.0*	162.2	7.1	156.0	WRM 590637	WAP001500
155.0	169.2	7.1	162.0	WRM 610664	WAP001550
160.0	168.6	5.3	163.0	WRM 629661	WAP001600
160.0	175.2	10.1	168.0	WRM 629688	WAP101600
165.0	173.6	5.3	168.0	WRM 649681	WAP001650
165.0	177.2	7.1	171.0	WRM 649698	WAP101650
170.0	180.6	5.3	174.0	WRM 669708	WAP001700
170.0	185.2	10.1	178.0	WRM 669728	WAP101700
171.0	183.0	6.3	176.0	WRM 673720	WAP001710
175.0	189.2	7.1	182.0	WRM 688744	WAP001750
180.0	195.2	10.1	188.0	WRM 708767	WAP001800
187.0*	195.6	5.3	190.0	WRM 736768	WAP001870
196.0	210.2	7.1	203.0	WRM 771826	WAP001960
197.0	219.0	6.3	202.0	WRM 775823	WAP001970
200.0	215.2	10.1	207.0	WRM 787847	WAP002000
210.0	224.2	7.1	217.0	WRM 826883	WAP002100
210.0	225.0	7.0	217.0	WRM 826885	WAP102100
219.5	233.7	7.1	226.5	WRM 860919	WAP002195
223.0	235.0	6.3	228.0	WRM 878925	WAP002230
244.5	258.7	7.1	251.5	WRM 9621017	WAP002445
249.0	261.0	6.3	254.0	WRM 9801027	WAP002490
260.0	275.2	10.1	268.0	WRM 10241078	WAP002600

* Available upon request

B+S SCRAPER ASW



- Single Acting -

- Material -

- Polyurethane -





■ Scraper ASW

Description

The scraper ASW is a single-acting polyurethane scraper.

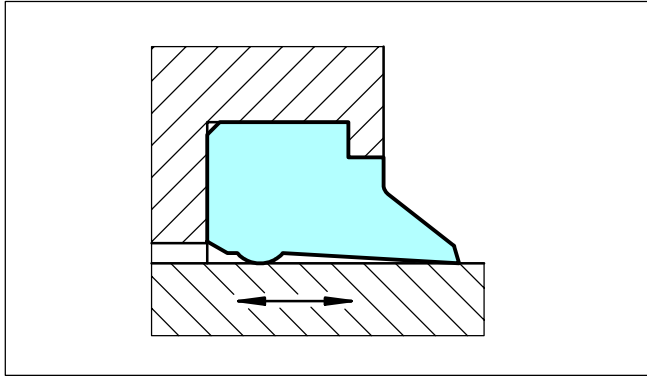


Figure 15 Scraper ASW

The special feature of this scraper is an additional supporting bead on the inner surface. It prevents tilting or twisting of the scraper in the groove. At the same time this support improves the firm seating in the groove, thus preventing the penetration of impurities via the back of the scraper. This represents a technical improvement compared with similar scraper types.

Advantages

- Simple groove design
- Very good scraping effect, wear resistant
- No tilting or twisting in the groove
- Simple installation
- Flush fitting with the outer surface

Technical Data

Speed: Up to 1 m/s
 Temperature: -30°C to +80°C
 Media: Mineral oil-based hydraulic fluids.

Important Note:

The above data are maximum values and cannot be used at the same time. e.g. the maximum operating speed depends on material type, pressure, temperature and gap value.

Material

The standard material is a wear resistant polyurethane.

Standard material: Polyurethane, 93 Shore A
 Material No. WUAQ3

Ordering Example

Scraper ASW
 Rod diameter: $d_N = 50.0 \text{ mm}$
 Part No.: WSW000500 (from Table XVI)
 Material: WUAQ3

Order No.	WSW0	0	0500	-	WUAQ3
Series No.					
Type (Standard)					
Rod diameter x 10					
Quality Index					
Material code					



Scraper ASW

Installation Recommendation

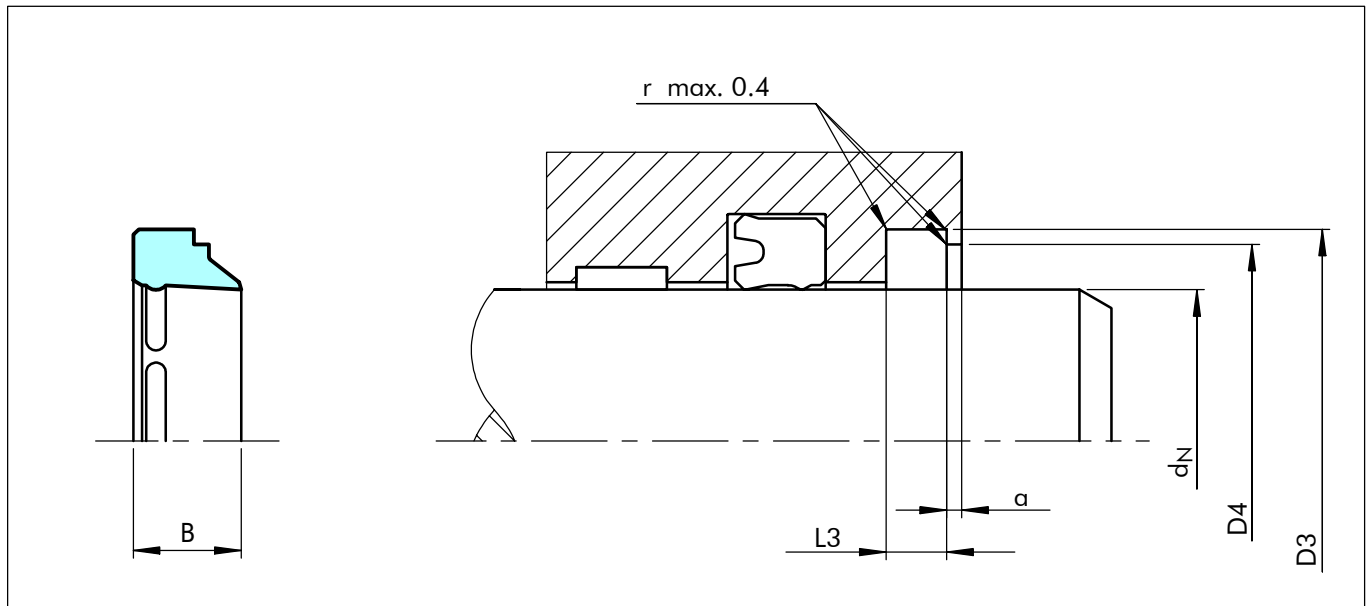


Figure 16 Installation drawing

Table XVI Installation Dimensions / Part Numbers

Rod Diameter	Groove Diameter	Groove Width	Bore Diameter	Step Width	Width	Part No.
d_N f8/h9	D_3 H9	$L_3 +0.2$	D_4 H11	a min.	B	
6.0	10.0	2.0	9.0	1.0	4.0	WSW000060
8.0	14.0	2.6	12.0	1.0	5.0	WSW000080
10.0	16.0	2.6	14.0	1.0	5.0	WSW000100
10.0	18.0	4.0	16.0	1.0	7.0	WSW100100
12.0	18.0	2.6	16.0	1.0	5.0	WSW000120
12.0	20.0	4.0	18.0	1.0	7.0	WSW100120
14.0	20.0	2.6	18.0	1.0	5.0	WSW000140
14.0	22.0	4.0	20.0	1.0	7.0	WSW100140
15.0	23.0	4.0	21.0	1.0	7.0	WSW000150
16.0	24.0	4.0	22.0	1.0	7.0	WSW000160
18.0	26.0	4.0	24.0	1.0	7.0	WSW000180
20.0	26.0	2.6	24.0	1.0	5.0	WSW100200
20.0	28.0	4.0	26.0	1.0	7.0	WSW000200
22.0	30.0	4.0	28.0	1.0	7.0	WSW000220
24.0	32.0	4.0	30.0	1.0	7.0	WSW000240
25.0	31.0	2.6	29.0	1.0	5.0	WSW100250
25.0	33.0	4.0	31.0	1.0	7.0	WSW000250
28.0	36.0	4.0	34.0	1.0	7.0	WSW000280

The rod diameters in bold type comply with the recommendations of ISO 3320.
Other dimensions on request. A split groove is required up to 14 mm diameter.

Scraper ASW

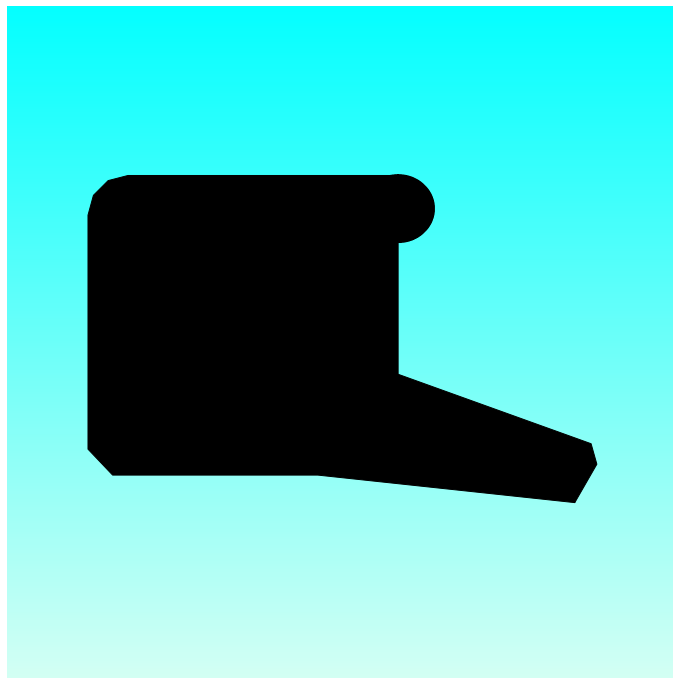


Rod Diameter	Groove Diameter	Groove Width	Bore Diameter	Step Width	Width	Part No.
d_N f8/h9	D_3 H9	L_3 +0.2	D_4 H11	a min.	B	
30.0	36.0	2.6	34.0	1.0	5.0	WSW100300
30.0	38.0	4.0	36.0	1.0	7.0	WSW000300
32.0	40.0	4.0	38.0	1.0	7.0	WSW000320
34.0	42.0	4.0	40.0	1.0	7.0	WSW000340
35.0	43.0	4.0	41.0	1.0	7.0	WSW000350
36.0	44.0	4.0	42.0	1.0	7.0	WSW000360
38.0	46.0	4.0	44.0	1.0	7.0	WSW000380
40.0	48.0	4.0	46.0	1.0	7.0	WSW000400
42.0	50.0	4.0	48.0	1.0	7.0	WSW000420
45.0	53.0	4.0	51.0	1.0	7.0	WSW000450
50.0	58.0	4.0	56.0	1.0	7.0	WSW000500
52.0	60.0	4.0	58.0	1.0	7.0	WSW000520
55.0	63.0	4.0	61.0	1.0	7.0	WSW000550
56.0	64.0	4.0	62.0	1.0	7.0	WSW000560
60.0	68.0	4.0	66.0	1.0	7.0	WSW000600
63.0	71.0	4.0	69.0	1.0	7.0	WSW000630
65.0	73.0	4.0	71.0	1.0	7.0	WSW000650
70.0	78.0	4.0	76.0	1.0	7.0	WSW000700
70.0	78.0	4.0	76.0	2.0	7.3	WSW100700
75.0	83.0	4.0	81.0	1.0	7.0	WSW000750
75.0	83.0	4.0	81.0	2.0	7.3	WSW100750
80.0	88.0	4.0	86.0	1.0	7.0	WSW000800
85.0	93.0	4.0	91.0	1.0	7.0	WSW000850
90.0	98.0	4.0	96.0	1.0	7.0	WSW000900
100.0	108.0	4.0	106.0	1.0	7.0	WSW001000
110.0	122.0	5.5	119.0	1.5	10.0	WSW001100
120.0	132.0	5.5	129.0	1.5	10.0	WSW001200
125.0	137.0	5.5	134.0	1.5	10.0	WSW001250
140.0	152.0	5.5	149.0	1.5	10.0	WSW001400
150.0	162.0	5.5	159.0	1.5	10.0	WSW001500
160.0	172.0	5.5	169.0	1.5	10.0	WSW001600
180.0	192.0	5.5	189.0	1.5	10.0	WSW001800

The rod diameters in bold type comply with the recommendations of ISO 3320.
Other dimensions on request. A split groove is required up to 14 mm diameter.



SEALING PARTS PW



- Single Acting -
- Dynamic + Static Sealing Lip -
- Material -
- Polyurethane -





■ Scraper PW

Description

These scrapers are manufactured in polyurethane. The static sealing lip ensures against the intrusion of dirt and fluids over the outer diameter.

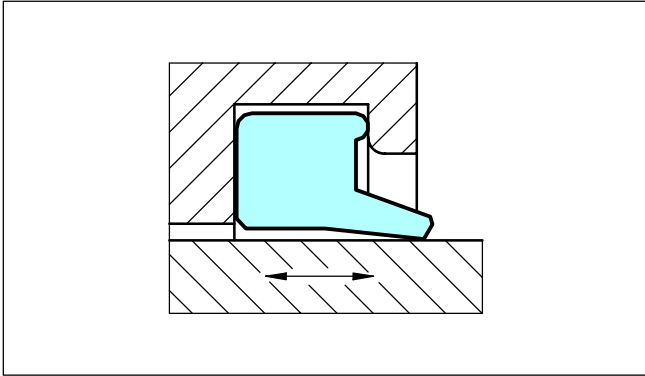


Figure 17 Scraper PW

The scraper PW has no interference at the outside diameter and can have a radial movement due rod deviations.

Advantages

- High wear resistance
- Good prevention against external fluid intrusion
- Compensation of radial rod excursion
- Easy installation
- Space-saving construction

Application Examples

These scrapers are recommended wherever there are dusty and humid conditions and especially for the following applications:

- Mobile hydraulic machinery
- Agriculture machinery

Technical Data

Operating conditions

Speed:	Up to 1 m/s
Temperature:	-30° C to +80° C
Media:	Mineral oil based hydraulic fluids
Groove type:	Closed

Important Note:

The above data are maximum values and cannot be used at the same time. e.g. the maximum operating speed depends on material type, pressure, temperature and gap value.

Materials

Polyurethane:	93 Shore A
Sealing Parts code:	WU9L3 blue color

Ordering Example

Rod diameter:	$d_N = 45 \text{ mm}$
Groove diameter:	$D3 = 53.6 \text{ mm}$
Part number:	WNP000450
Material code:	WU9L3
Sealing Parts Ref.:	PW 45

Order No.	WNP0	0	0450	-	WU9L3
Series No.					
Type (Standard)					
Rod diameter x 10					
Quality Index					
Material code					

For new constructions please use the scrapers type WNE and WNW.



Scraper PW

Installation Recommendation

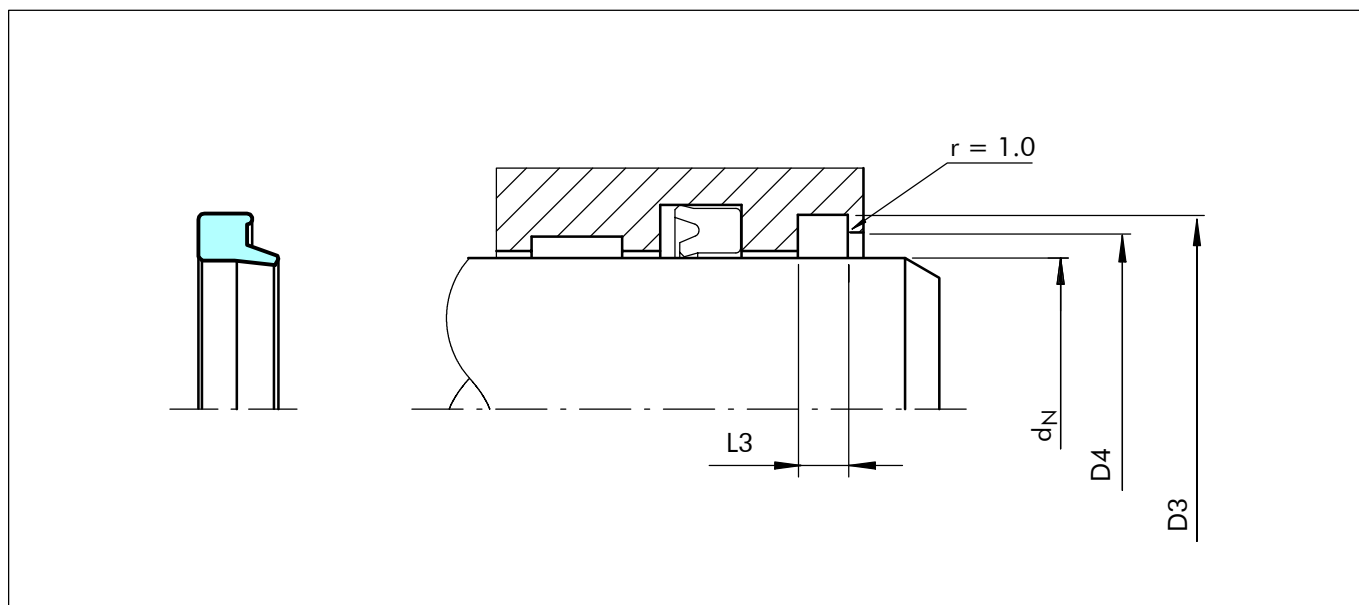


Figure 18 Installation drawing

Table XVII Installation Dimensions / Part Numbers

Rod Diameter	Groove Diameter	Groove Width	Bore Diameter	Sealing Parts Ref. No.	Part No.
d_N h9	D_3 H9	$L_3 + 0.1$	$D_4 + 0.2$		
4.0	12.0	3.0	9.0	PW 4	WNP100040
5.0	12.0	2.8	9.0	PW 5/S	WNP100050
6.0	12.0	3.0	9.0	PW 6/S	WNP100060
8.0	14.6	3.8	11.0	PW 8	WNP000080
9.0	13.0	2.5	12.0	PW 9/S	WNP100090
10.0	15.0	1.0	13.0	PW 10/S	WNP100100
10.0	16.6	3.8	13.0	PW 10	WNP000100
12.0	18.6	3.8	15.0	PW 12	WNP000120
14.0	20.6	3.8	17.0	PW 14	WNP000140
15.0	21.6	3.8	18.0	PW 15	WNP000150
15.0	27.0	5.0	24.0	PW 15/S	WNP100150
16.0	22.5	3.0	19.0	PW 16/1	WNP100160
16.0	22.6	3.8	19.0	PW 16	WNP000160
18.0	24.6	3.8	21.0	PW 18	WNP000180
20.0	26.0	3.4	23.0	PW 20/1	WNP100200
20.0	28.6	5.3	23.0	PW 20	WNP000200
20.0	30.0	5.4	27.0	PW 20/S	WNP200200
22.0	30.6	2.2	25.0	PW 22/1B	WNP100220
22.0	30.6	5.3	25.0	PW 22	WNP000220
24.0	32.6	2.2	27.0	PW 24/1B	WNP100240
24.0	32.6	5.3	27.0	PW 24	WNP000240

Scraper PW



Rod Diameter	Groove Diameter	Groove Width	Bore Diameter	Sealing Parts Ref. No.	Part No.
$d_N h9$	$D_3 H9$	$L_3 +0.1$	$D_4 +0.2$		
25.0	33.6	5.3	28.0	PW 25	WNP000250
28.0	36.6	5.3	31.0	PW 28	WNP000280
30.0	38.6	5.3	33.0	PW 30	WNP100300
30.0	40.0	3.0	34.5	PW 30/1B	WNP200300
32.0	40.0	3.7	35.0	PW 32/1 B	WNP100320
32.0	40.6	5.3	35.0	PW 32	WNP000320
35.0	40.0	3.7	37.0	PW 35/2B	WNP400350
35.0	43.6	5.0	38.0	PW 35/1	WNP200350
35.0	43.6	5.3	38.0	PW 35	WNP100350
35.0	45.0	4.0	39.0	PW 35/1B	WNP300350
36.0	44.6	5.3	39.0	PW 36	WNP000360
38.0	46.6	5.3	41.0	PW 38	WNP000380
38.0	48.5	4.8	41.0	PW 38/1	WNP100380
40.0	48.6	5.3	43.0	PW 40	WNP000400
42.0	50.6	5.3	45.0	PW 42	WNP100420
45.0	53.6	5.3	48.0	PW 45	WNP000450
45.0	55.6	5.3	48.0	PW 45/1	WNP100450
45.0	60.0	4.2	53.0	PW 45/1B	WNP200450
46.0	54.6	5.3	49.0	PW 46	WNP000460
50.0	58.6	5.3	53.0	PW 50	WNP100500
50.0	60.6	5.3	53.0	PW 50/1	WNP200500
50.0	65.5	4.2	58.0	PW 50/1B	WNP300500
53.0	61.6	5.3	56.0	PW 53	WNP100530
55.0	63.6	5.3	58.0	PW 55	WNP000550
55.0	65.6	5.3	58.0	PW 55/1	WNP100550
56.0	64.6	5.3	59.0	PW 56	WNP000560
56.0	66.6	5.3	59.0	PW 56/1	WNP100560
60.0	68.6	5.3	63.0	PW 60	WNP100600
60.0	70.6	5.5	66.5	PW 60/S	WNP200600
63.0	71.6	5.3	66.0	PW 63	WNP000630
65.0	73.6	5.3	68.0	PW 65	WNP000650
65.0	76.6	6.0	71.5	PW 65/1	WNP100650
67.0	76.6	5.5	71.0	PW 67/S	WNP100670
70.0	78.6	5.3	73.0	PW 70	WNP100700
70.0	80.0	5.0	74.0	PW 70/2	WNP000700
70.0	80.0	7.0	74.0	PW 70/3	WNP300700
70.0	82.6	7.1	76.0	PW 70/1	WNP200700
73.0	81.6	5.3	76.0	PW 73	WNP000730
73.0	83.6	7.3	76.0	PW 73/1	WNP100730
75.0	83.6	5.3	78.0	PW 75	WNP000750
75.0	87.2	7.1	81.0	PW 75/1	WNP100750
78.0	86.0	5.0	81.0	PW 78/2	WNP200780
78.0	88.6	5.5	84.5	PW 78/S	WNP100780
78.0	92.2	7.1	85.0	PW 78	WNP000780
80.0	88.6	5.3	83.0	PW 80	WNP000800

Scraper PW

Rod Diameter	Groove Diameter	Groove Width	Bore Diameter	Sealing Parts Ref. No.	Part No.
$d_N h9$	$D_3 H9$	$L_3 +0.1$	$D_4 +0.2$		
80.0	92.6	7.1	86.0	PW 80/1	WNP100800
85.0	93.6	5.3	88.0	PW 85/1	WNP100850
85.0	97.2	7.1	91.0	PW 85	WNP000850
90.0	100.0	7.0	94.0	PW 90/2	WNP200900
90.0	102.0	6.0	94.0	PW 90/1	WNP100900
90.0	102.2	7.1	96.0	PW 90	WNP000900
92.0	103.6	5.5	97.0	PW 92/S	WNP100920
93.0	101.0	5.0	96.0	PW 93/1	WNP000930
93.0	123.0	5.0	115.0	PW 93/S	WNP200930
95.0	105.0	10.0	99.0	PW 95/1	WNP100950
95.0	107.2	7.1	101.0	PW 95	WNP000950
97.0	105.0	5.0	100.0	PW 97/2	WNP100970
99.0	109.6	5.5	105.5	PW 99/S	WNP000990
100.0	112.2	6.0	104.0	PW 100/1	WNP201000
100.0	112.2	7.1	106.0	PW 100	WNP101000
110.0	122.2	7.1	116.0	PW 110	WNP101100
112.0	124.2	7.1	118.0	PW 112	WNP101120
115.0	127.0	10.0	121.0	PW 115/1	WNP101150
115.0	127.2	7.1	121.0	PW 115	WNP001150
118.0	126.0	5.0	121.0	PW 118/2	WNP101180
120.0	130.6	5.5	126.5	PW 120/S	WNP201200
120.0	132.2	7.1	126.0	PW 120	WNP101200
125.0	137.2	7.1	131.0	PW 125	WNP001250
128.0	140.2	7.1	134.0	PW 128	WNP101280
130.0	142.2	7.1	136.0	PW 130	WNP101300
135.0	147.2	7.1	141.0	PW 135	WNP001350
140.0	148.6	6.0	143.0	PW 140/2	WNP201400
140.0	152.2	7.1	146.0	PW 140	WNP001400
140.0	155.0	9.0	147.0	PW 140/1	WNP101400
141.0	151.6	5.5	147.5	PW 141/S	WNP001410
143.0	151.0	5.5	146.0	PW 143/2	WNP101430
145.0	157.2	7.1	151.0	PW 145	WNP001450
145.0	160.0	8.0	152.0	PW 145/1	WNP101450
148.0	160.0	7.0	152.0	PW 148/1	WNP101480
150.0	162.2	7.1	156.0	PW 150	WNP001500
150.0	165.0	7.5	156.0	PW 150/1	WNP101500
160.0	172.2	7.1	166.0	PW 160/1	WNP001600
160.0	175.2	10.1	168.0	PW 160	WNP101600
162.0	172.6	5.5	168.0	PW 162/S	WNP101620
163.0	175.2	7.1	169.0	PW 163	WNP101630
170.0	178.6	5.3	173.0	PW 170/1B	WNP101700
170.0	185.2	10.1	178.0	PW 170	WNP001700
180.0	195.2	10.1	188.0	PW 180	WNP001800
180.0	200.0	7.0	188.0	PW 180/1	WNP101800
183.0	193.6	5.5	189.0	PW 183/S	WNP101830

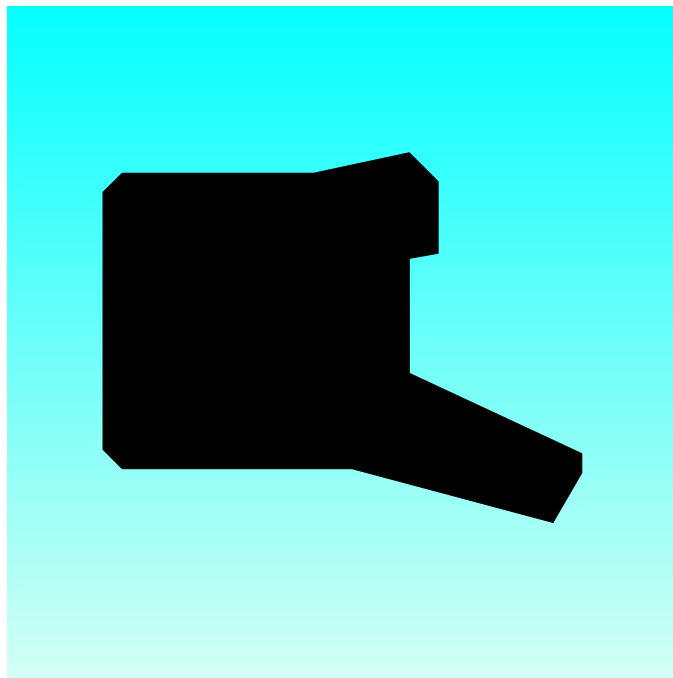
Scraper PW



Rod Diameter	Groove Diameter	Groove Width	Bore Diameter	Sealing Parts Ref. No.	Part No.
$d_N h9$	$D_3 H9$	$L_3 +0.1$	$D_4 +0.2$		
188.0	200.2	7.1	194.0	PW 188	WNP101880
190.0	205.2	10.1	198.0	PW 190	WNP001900
190.0	210.0	10.1	200.0	PW 190/1	WNP101900
200.0	215.2	10.1	208.0	PW 200	WNP002000
210.0	225.2	10.1	218.0	PW 210	WNP102100
220.0	235.2	10.1	228.0	PW 220	WNP002200
220.0	240.0	10.1	228.0	PW 220/1	WNP102200
230.0	245.2	10.1	238.0	PW 230	WNP102300
240.0	255.2	10.1	248.0	PW 240	WNP102400
250.0	265.2	10.1	258.0	PW 250	WNP102500
257.0	267.6	5.5	264.0	PW 257/S	WNP102570
280.0	300.0	10.2	290.0	PW 280/1	WNP102800



B+S WNE



- **Single Acting** -
- **Dynamic + Static Sealing Lip** -

- **Material** -
- **Polyurethane** -





■ Scraper WNE

Description

These scrapers are manufactured in polyurethane. The static sealing lip ensures against the intrusion of dirt and fluids over the outer diameter.

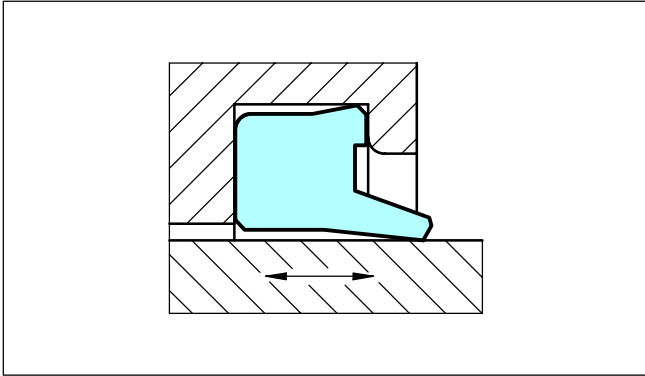


Figure 19 Scraper WNE

The scraper WNE has an interference to the groove outside diameter.

Advantages

- High wear resistance
- Good prevention against external fluid intrusion
- Easy installation
- Space-saving construction

Application Examples

These scrapers are recommended wherever there are dusty and humid conditions and especially for the following applications:

- Mobile hydraulic machinery
- Agriculture machinery

Technical Data

Operating conditions

Speed:	Up to 1 m/s with
Temperature:	-30° C to +80° C
Media:	Mineral oil based hydraulic fluids
Groove type:	Closed

Important Note:

The above data are maximum values and cannot be used at the same time. e.g. the maximum operating speed depends on material type, pressure, temperature and gap value.

Materials

Polyurethane:	93 Shore A
WNE material code:	WUAQ3 turquoise

Ordering Example

For WNE scrapers

Rod diameter:	$d_N = 45 \text{ mm}$
Groove diameter:	$D3 = 53.6 \text{ mm}$
Part number:	WNE000450
Material code:	WUAQ3

Order No.	WNE0	0	0450	-	WUAQ3
Series No.					
Type (Standard)					
Rod diameter x 10					
Quality Index					
Material code					



Scraper WNE

Installation Recommendation

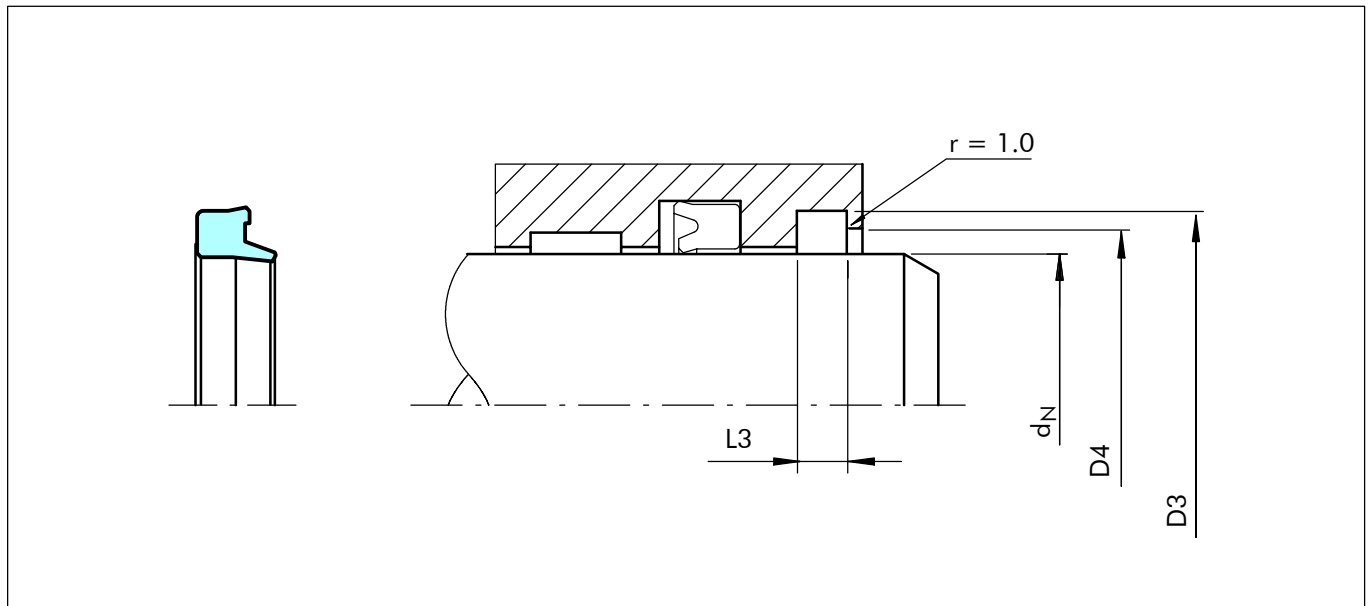


Figure 20 Installation drawing

Table XVIII Installation Dimensions / Part Numbers

Rod Diameter	Groove Diameter	Groove Width	Bore Diameter	Part No.
d_N h9	D_3 H11	L_3 +0.1	D_4 +0.2	
8.0	14.6	3.8	11.0	WNE000080
10.0	16.6	3.8	13.0	WNE000100
12.0	18.6	3.8	15.0	WNE000120
13.0	19.6	3.8	16.0	WNE000130
14.0	20.6	3.8	17.0	WNE000140
15.0	21.6	3.8	18.0	WNE000150
16.0	22.6	3.8	19.0	WNE000160
18.0	24.6	3.8	21.0	WNE000180
20.0	28.6	5.3	23.0	WNE000200
22.0	30.6	5.3	25.0	WNE000220
24.0	32.6	5.3	27.0	WNE000240
25.0	33.6	5.3	28.0	WNE000250
28.0	36.6	5.3	31.0	WNE000280
30.0	38.0	5.3	33.0	WNE000300
30.0	38.6	5.3	33.0	WNE100300
32.0	40.6	5.3	35.0	WNE000320
35.0	43.0	5.3	38.0	WNE000350
35.0	43.6	5.3	38.0	WNE100350
36.0	44.6	5.3	39.0	WNE000360
38.0	46.6	5.3	41.0	WNE000380
40.0	48.6	5.3	43.0	WNE000400

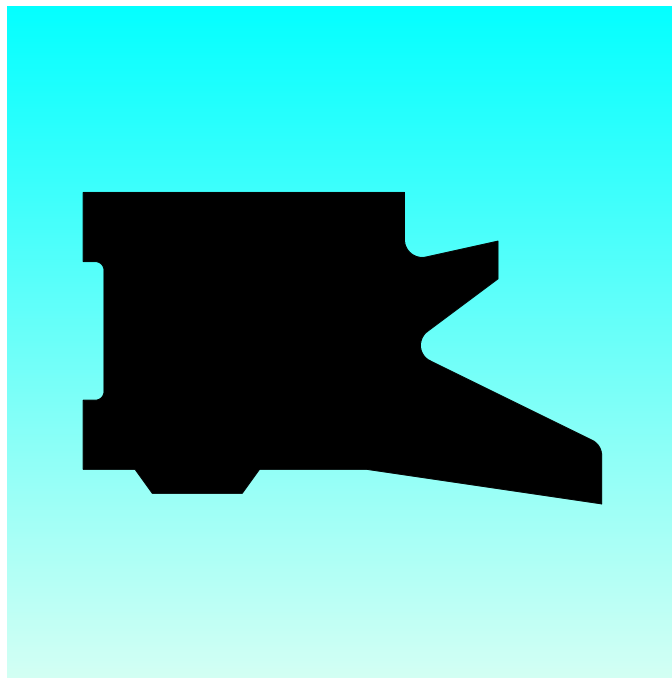
Scraper WNE



Rod Diameter	Groove Diameter	Groove Width	Bore Diameter	Part No.
d_N h9	D_3 H11	L_3 +0.1	D_4 +0.2	
45.0	53.6	5.3	48.0	WNE000450
46.0	54.6	5.3	49.0	WNE000460
50.0	58.0	5.3	53.0	WNE000500
50.0	58.6	5.3	53.0	WNE100500
55.0	63.6	5.3	58.0	WNE000550
56.0	64.6	5.3	59.0	WNE000560
60.0	68.0	5.3	63.0	WNE200600
60.0	68.6	5.3	63.0	WNE100600
60.0	70.0	5.0	63.0	WNE000600
61.0	69.6	5.3	64.0	WNE000610
63.0	71.6	5.3	66.0	WNE000630
65.0	73.6	5.3	68.0	WNE000650
70.0	78.6	5.3	73.0	WNE100700
70.0	80.0	5.0	73.0	WNE000700
75.0	83.6	5.3	78.0	WNE000750
75.0	87.2	7.1	81.0	WNE100750
76.0	84.6	5.3	79.0	WNE000760
80.0	88.6	5.3	83.0	WNE000800
85.0	93.6	5.3	88.0	WNE100850
85.0	97.2	7.1	91.0	WNE000850
90.0	102.2	7.1	96.0	WNE000900
91.0	99.6	5.3	94.0	WNE000910
95.0	107.2	7.1	101.0	WNE000950
100.0	112.0	7.1	106.0	WNE001000
100.0	112.2	7.1	106.0	WNE101000
107.0	115.6	5.3	110.0	WNE001070
110.0	122.2	7.1	116.0	WNE001100
120.0	132.0	7.1	126.0	WNE001200
120.0	132.2	7.1	126.0	WNE101200
125.0	137.2	7.1	131.0	WNE001250
126.0	134.6	5.3	129.0	WNE001260
135.0	147.2	7.1	141.0	WNE001350
140.0	152.2	7.1	146.0	WNE001400
140.0	155.0	9.0	146.5	WNE101400
160.0	175.2	10.1	168.0	WNE101600
180.0	195.2	10.1	188.0	WNE001800
200.0	215.2	10.1	208.0	WNE002000
220.0	235.2	10.1	228.0	WNE002200
250.0	265.2	10.1	258.0	WNE002500



B+S WNW



- **Single Acting** -
- **Additional Static Sealing Lip** -
- **Additional Supporting Bead** -

- **Material** -
- **Polyurethane** -