



PISTON SEAL

PS008

Features:

Piston seal profile PS008 consists of two piece seal set for sealing pistons with one seal ring and one energizer O-ring.

Composition:

PS008 have two different type of combination for different temperature range as per following table :-

SEAL COMBINATION	SEAL RING COMPOUND	O-RING COMPOUND	TEMP. RANGE	WORKING PRESSURE (Max.)	SURFACE SPEED (Max.)
PS008-01	PT02	NB01	-35 to 100°C	400 Bar	4 m/s
PS008-02	PT02	VT01	-25 to 200°C	400 Bar	4 m/s

For compound detail please refer Royal seal compounds. (Section - III)

Properties:

- Low friction, free of stick slip
- High abrasion resistance
- Wide temperature Range
- Good thermal conductivity
- Low wear and high extrusion resistance
- Wide fluid application range
- Resistance against cold flow
- Minimum installation space required

Application:

- Mobile Hydraulics
- Injection moulding machines
- Machine tools
- Material Handling Equipments
- Control and regulating apparatus

Surface finish:

Roughness depth	R(max)	Ra
Sliding surface	≤ 2.5 µm	0.05-0.3 µm
Bottom of groove	≤ 6.3 µm	≤ 1.6 µm
Side of groove	≤ 15 µm	≤ 3µm



Extrusion gap dimension :

The gap dimension on the non-pressurised side of the seal is decisive for sealing function. Figures show the maximum radial clearance on each side using the minimum piston OD and max bore Ø considering respective tolerances.

Profile dimension H	Maximum permissible gap (S) for Metric Sizes (mm)			
	160 bar	260 bar	320 bar	400 bar
2.20	0.18	0.15	-	-
3.20	0.20	0.18	-	-
4.20	0.25	0.20	0.15	-
6.30	0.30	0.25	0.22	0.20
8.10	0.35	0.30	0.28	0.25

Profile dimension H	Maximum permissible gap (S) for Imperial Sizes (inch)			
	160 bar	260 bar	320 bar	400 bar
0.126	0.008	0.007	-	-
0.166	0.010	0.008	0.006	-
0.247	0.012	0.010	0.009	0.008
0.320	0.014	0.012	0.011	0.010

Installation :

Ps008 piston seals can be fitted on single-piece pistons. First insert the rubber 'O' Ring into the housing carefully to avoid twisting of O Ring Cord. The PTFE ring is then carefully pushed over the piston into place above the O Ring. An assembly tool eases installation of small, PTFE rings. The PTFE seal normally returns to its original size after installation. It is advisable to calibrate the PTFE ring by mounting it on a steel tube (duly machined and polished), having Inner diameter equal to cylinder bore diameter. Immediately after calibration, the piston should be installed in the cylinder.

Ordering format :

Please mention ROYAL order code in your order.

Example: Metric Size 10 X 5.1 X 2.2

(O ring material is NB02) Order code is **PS008-M-01-010.00 X 005.10 X 02.20**

(O ring material is VT01) Order code is **PS008-M-02-010.00 X 005.10 X 02.20**

Example: Imperial Size 1.000" X 0.705" X 0.126"

(O ring material is NB02) Order code is **PS008-I-01-01.000 X 00.705 X 0.126**

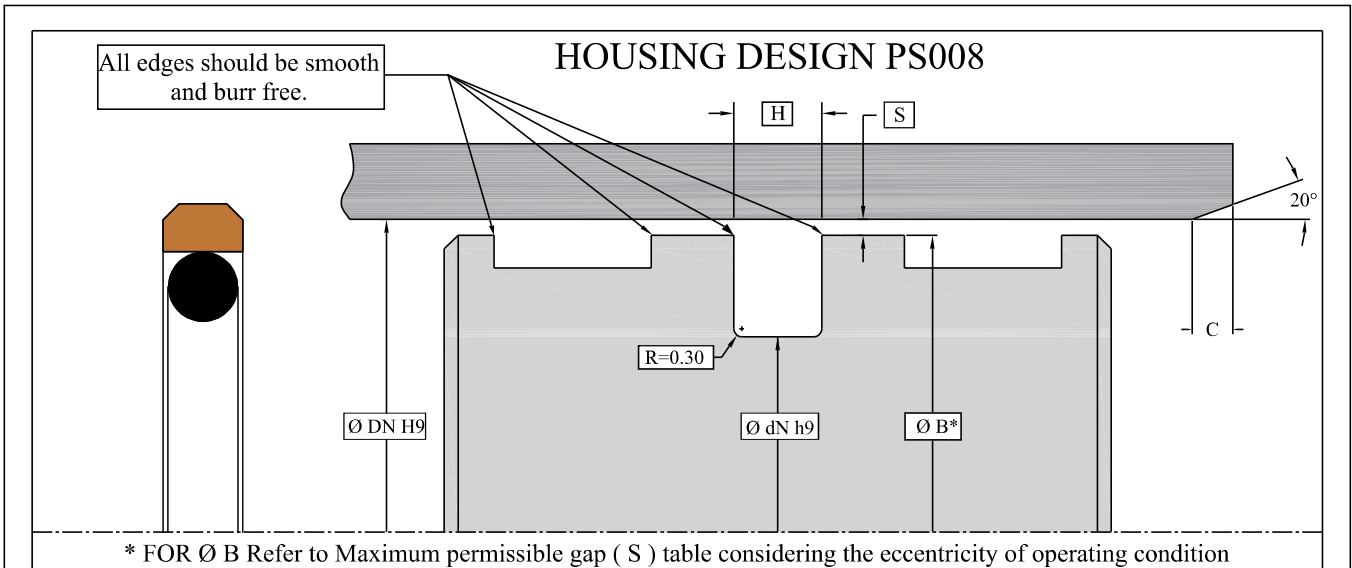
(O ring material is VT01) Order code is **PS008-I-02-01.000 X 00.705 X 0.126**

For any other Metric or Imperial size not mentioned in catalogue or any other material combination of Seal ring and Energizer O-ring please contact ROYAL at info@royalcomposites.co.in / info@royalseals.co.in



ROYAL

SEALS FOR HYDRAULICS & PNEUMATICS



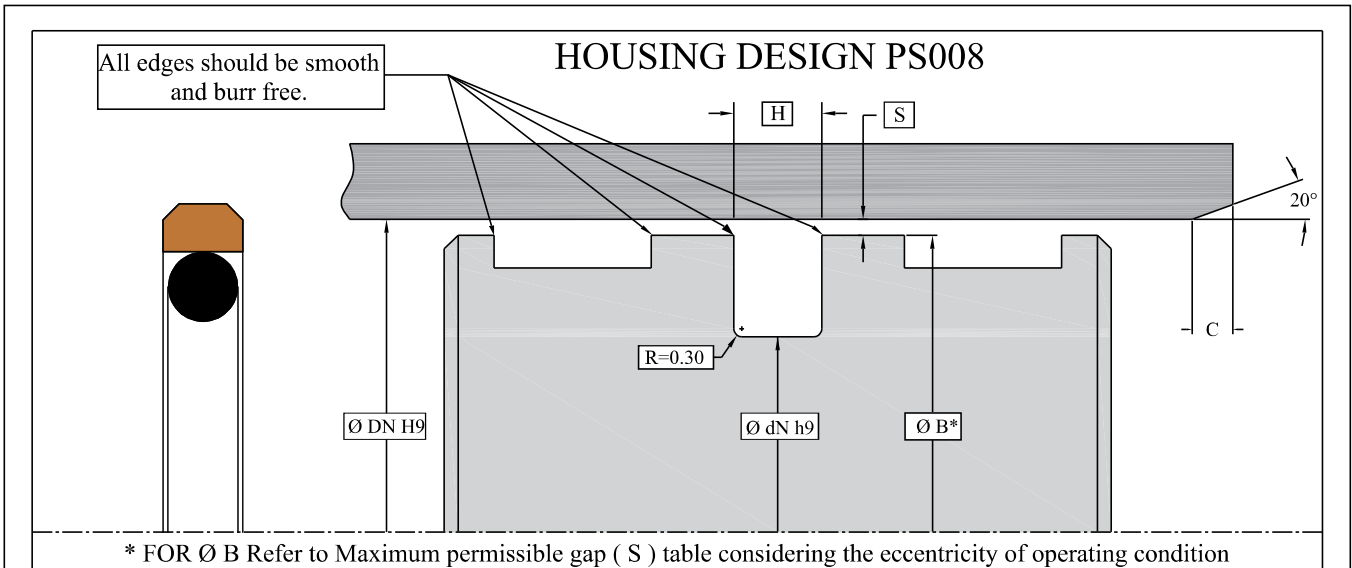
ROYAL STANDARD SIZE LIST

ØDN (H9)	ØdN (h9)	H (+0.20)	C	O-RING SIZE	ORDER CODE
8.00	3.10	2.20	3.00	002.90 X 1.78	PS008-M-01-008.00 X 003.10 X 02.20
10.00	5.10	2.20	3.00	004.47 X 1.78	PS008-M-01-010.00 X 005.10 X 02.20
12.00	7.10	2.20	3.00	006.74 X 1.78	PS008-M-01-012.00 X 007.10 X 02.20
12.00	4.50	3.20	4.50	003.63 X 2.62	PS008-M-01-012.00 X 004.50 X 03.20
14.00	9.10	2.20	3.00	008.74 X 1.78	PS008-M-01-014.00 X 009.10 X 02.20
15.00	10.10	2.20	3.00	009.82 X 1.78	PS008-M-01-015.00 X 010.10 X 02.20
15.00	7.50	3.20	4.50	007.59 X 2.62	PS008-M-01-015.00 X 007.50 X 03.20
16.00	11.10	2.20	3.00	010.82 X 1.78	PS008-M-01-016.00 X 011.10 X 02.20
16.00	8.50	3.20	4.50	007.59 X 2.62	PS008-M-01-016.00 X 008.50 X 03.20
18.00	10.50	3.20	4.50	009.19 X 2.62	PS008-M-01-018.00 X 010.50 X 03.20
19.00	11.50	3.20	4.50	011.35 X 2.62	PS008-M-01-019.00 X 011.50 X 03.20
20.00	15.10	2.20	3.00	014.00 X 1.78	PS008-M-01-020.00 X 015.10 X 02.20
20.00	12.50	3.20	4.50	011.35 X 2.62	PS008-M-01-020.00 X 012.50 X 03.20
22.00	14.50	3.20	4.50	013.94 X 2.62	PS008-M-01-022.00 X 014.50 X 03.20
24.00	16.50	3.20	4.50	015.54 X 2.62	PS008-M-01-024.00 X 016.50 X 03.20
25.00	17.50	3.20	4.50	017.12 X 2.62	PS008-M-01-025.00 X 017.50 X 03.20
25.00	14.00	4.20	6.00	013.87 X 3.53	PS008-M-01-025.00 X 014.00 X 04.20
27.00	19.50	3.20	4.50	018.72 X 2.62	PS008-M-01-027.00 X 019.50 X 03.20
28.00	20.50	3.20	4.50	020.29 X 2.62	PS008-M-01-028.00 X 020.50 X 03.20
28.00	17.00	4.20	6.00	017.04 X 3.53	PS008-M-01-028.00 X 017.00 X 04.20
30.00	22.50	3.20	4.50	021.89 X 2.62	PS008-M-01-030.00 X 022.50 X 03.20
30.00	19.00	4.20	6.00	018.64 X 3.53	PS008-M-01-030.00 X 019.00 X 04.20
32.00	24.50	3.20	4.50	023.47 X 2.62	PS008-M-01-032.00 X 024.50 X 03.20
32.00	21.00	4.20	6.00	020.22 X 3.53	PS008-M-01-032.00 X 021.00 X 04.20
35.00	27.50	3.20	4.50	026.64 X 2.62	PS008-M-01-035.00 X 027.50 X 03.20
35.00	24.00	4.20	6.00	023.40 X 3.53	PS008-M-01-035.00 X 024.00 X 04.20
36.00	28.50	3.20	4.50	028.24 X 2.62	PS008-M-01-036.00 X 028.50 X 03.20
36.00	25.00	4.20	6.00	024.99 X 3.53	PS008-M-01-036.00 X 025.00 X 04.20
38.00	30.50	3.20	4.50	029.82 X 2.62	PS008-M-01-038.00 X 030.50 X 03.20
38.00	27.00	4.20	6.00	026.57 X 3.53	PS008-M-01-038.00 X 027.00 X 04.20
40.00	32.50	3.20	4.50	031.42 X 2.62	PS008-M-01-040.00 X 032.50 X 03.20



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ROYAL STANDARD SIZE LIST

ØDN (H9)	ØdN (h9)	H (+0.20)	C	O-RING SIZE	ORDER CODE
40.00	29.00	4.20	6.00	028.17 X 3.53	PS008-M-01-040.00 X 029.00 X 04.20
40.00	24.50	6.30	8.00	023.16 X 5.33	PS008-M-01-040.00 X 024.50 X 06.30
42.00	31.00	4.20	6.00	029.74 X 3.53	PS008-M-01-042.00 X 031.00 X 04.20
45.00	37.50	3.20	4.50	037.77 X 2.62	PS008-M-01-045.00 X 037.50 X 03.20
45.00	34.00	4.20	6.00	032.92 X 3.53	PS008-M-01-045.00 X 034.00 X 04.20
45.00	29.50	6.30	8.00	029.51 X 5.33	PS008-M-01-045.00 X 029.50 X 06.30
48.00	37.00	4.20	6.00	036.09 X 3.53	PS008-M-01-048.00 X 037.00 X 04.20
50.00	42.50	3.20	4.50	042.52 X 2.62	PS008-M-01-050.00 X 042.50 X 03.20
50.00	39.00	4.20	6.00	037.69 X 3.53	PS008-M-01-050.00 X 039.00 X 04.20
50.00	34.50	6.30	8.00	034.29 X 5.33	PS008-M-01-050.00 X 034.50 X 06.30
52.00	41.00	4.20	6.00	040.87 X 3.53	PS008-M-01-052.00 X 041.00 X 04.20
55.00	44.00	4.20	6.00	044.04 X 3.53	PS008-M-01-055.00 X 044.00 X 04.20
55.00	39.50	6.30	8.00	037.47 X 5.33	PS008-M-01-055.00 X 039.50 X 06.30
56.00	45.00	4.20	6.00	044.04 X 3.53	PS008-M-01-056.00 X 045.00 X 04.20
60.00	49.00	4.20	6.00	047.22 X 3.53	PS008-M-01-060.00 X 049.00 X 04.20
60.00	44.50	6.30	8.00	043.82 X 5.33	PS008-M-01-060.00 X 044.50 X 06.30
63.00	52.00	4.20	6.00	050.39 X 3.53	PS008-M-01-063.00 X 052.00 X 04.20
63.00	47.50	6.30	8.00	046.99 X 5.33	PS008-M-01-063.00 X 047.50 X 06.30
65.00	54.00	4.20	6.00	053.57 X 3.53	PS008-M-01-065.00 X 054.00 X 04.20
65.00	49.50	6.30	8.00	050.17 X 5.33	PS008-M-01-065.00 X 049.50 X 06.30
70.00	59.00	4.20	6.00	058.33 X 3.53	PS008-M-01-070.00 X 059.00 X 04.20
70.00	54.50	6.30	8.00	053.34 X 5.33	PS008-M-01-070.00 X 054.50 X 06.30
75.00	64.00	4.20	6.00	063.09 X 3.53	PS008-M-01-075.00 X 064.00 X 04.20
75.00	59.50	6.30	8.00	058.10 X 5.33	PS008-M-01-075.00 X 059.50 X 06.30
75.00	54.00	8.10	10.50	053.00 X 7.00	PS008-M-01-075.00 X 054.00 X 08.10
80.00	69.00	4.20	6.00	066.27 X 3.53	PS008-M-01-080.00 X 069.00 X 04.20
80.00	64.50	6.30	8.00	062.87 X 5.33	PS008-M-01-080.00 X 064.50 X 06.30
80.00	59.00	8.10	10.50	058.00 X 7.00	PS008-M-01-080.00 X 059.00 X 08.10
85.00	74.00	4.20	6.00	072.62 X 3.53	PS008-M-01-085.00 X 074.00 X 04.20
85.00	69.50	6.30	8.00	069.22 X 5.33	PS008-M-01-085.00 X 069.50 X 06.30
85.00	64.00	8.10	10.50	063.00 X 7.00	PS008-M-01-085.00 X 064.00 X 08.10



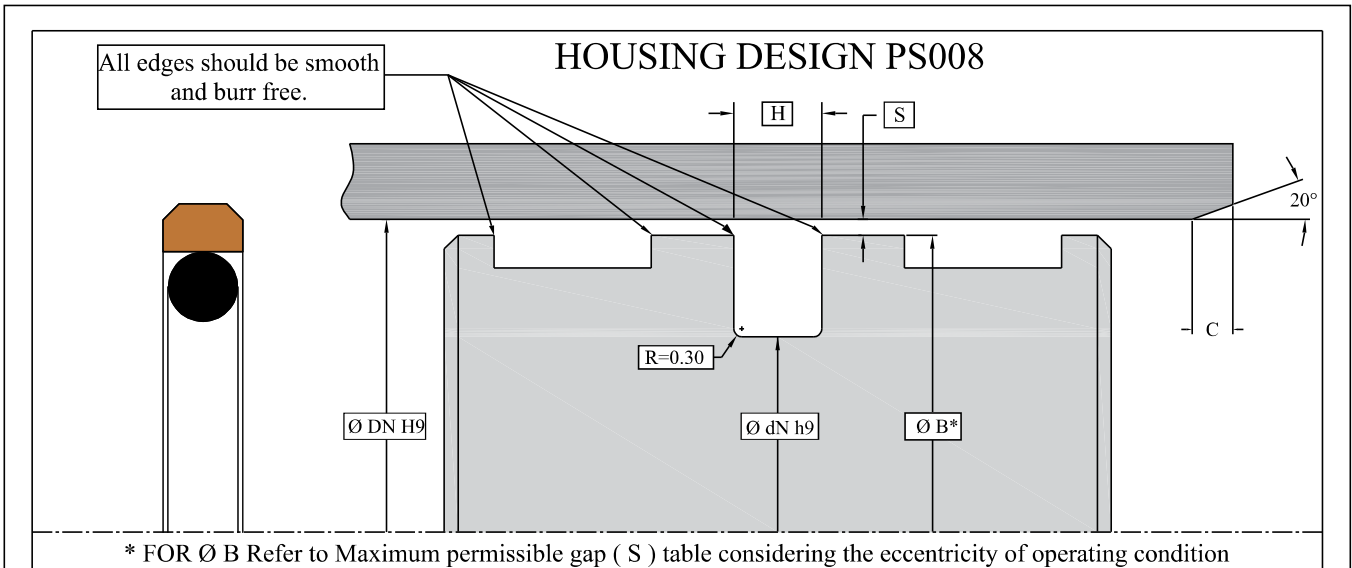
SEALS FOR HYDRAULICS & PNEUMATICS

ROYAL STANDARD SIZE LIST					
ØDN (H9)	ØdN (h9)	H (+0.20)	C	O-RING SIZE	ORDER CODE
90.00	79.00	4.20	6.00	078.97 X 3.53	PS008-M-01-090.00 X 079.00 X 04.20
90.00	74.50	6.30	8.00	072.39 X 5.33	PS008-M-01-090.00 X 074.50 X 06.30
90.00	69.00	8.10	10.50	068.00 X 6.99	PS008-M-01-090.00 X 069.00 X 08.10
95.00	84.00	4.20	6.00	083.00 X 3.50	PS008-M-01-095.00 X 084.00 X 04.20
95.00	79.50	6.30	8.00	078.74 X 5.33	PS008-M-01-095.00 X 079.50 X 06.30
95.00	74.00	8.10	10.50	073.00 X 7.00	PS008-M-01-095.00 X 074.00 X 08.10
100.00	89.00	4.20	6.00	088.49 X 3.53	PS008-M-01-100.00 X 089.00 X 04.20
100.00	84.50	6.30	8.00	081.92 X 5.33	PS008-M-01-100.00 X 084.50 X 06.30
100.00	79.00	8.10	10.50	078.00 X 6.99	PS008-M-01-100.00 X 079.00 X 08.10
105.00	94.00	4.20	6.00	094.00 X 3.50	PS008-M-01-105.00 X 094.00 X 04.20
105.00	89.50	6.30	8.00	088.27 X 5.33	PS008-M-01-105.00 X 089.50 X 06.30
105.00	84.00	8.10	10.50	083.00 X 7.00	PS008-M-01-105.00 X 084.00 X 08.10
110.00	99.00	4.20	6.00	098.02 X 3.53	PS008-M-01-110.00 X 099.00 X 04.20
110.00	94.50	6.30	8.00	094.62 X 5.33	PS008-M-01-110.00 X 094.50 X 06.30
110.00	89.00	8.10	10.50	088.00 X 7.00	PS008-M-01-110.00 X 089.00 X 08.10
115.00	104.00	4.20	6.00	104.32 X 3.53	PS008-M-01-115.00 X 104.00 X 04.20
115.00	99.50	6.30	8.00	097.79 X 5.33	PS008-M-01-115.00 X 099.50 X 06.30
115.00	94.00	8.10	10.50	093.00 X 7.00	PS008-M-01-115.00 X 094.00 X 08.10
120.00	109.00	4.20	6.00	107.54 X 3.53	PS008-M-01-120.00 X 109.00 X 04.20
120.00	104.50	6.30	8.00	104.14 X 5.33	PS008-M-01-120.00 X 104.50 X 06.30
120.00	99.00	8.10	10.50	098.00 X 7.00	PS008-M-01-120.00 X 099.00 X 08.10
125.00	114.00	4.20	6.00	113.89 X 3.53	PS008-M-01-125.00 X 114.00 X 04.20
125.00	109.50	6.30	8.00	107.32 X 5.33	PS008-M-01-125.00 X 109.50 X 06.30
125.00	104.00	8.10	10.50	103.00 X 7.00	PS008-M-01-125.00 X 104.00 X 08.10
130.00	114.50	6.30	8.00	113.67 X 5.33	PS008-M-01-130.00 X 114.50 X 06.30
130.00	109.00	8.10	10.50	107.31 X 6.99	PS008-M-01-130.00 X 109.00 X 08.10
135.00	119.50	6.30	8.00	116.84 X 5.33	PS008-M-01-135.00 X 119.50 X 06.30
135.00	114.00	8.10	10.50	113.67 X 6.99	PS008-M-01-135.00 X 114.00 X 08.10
140.00	124.50	6.30	8.00	123.19 X 5.33	PS008-M-01-140.00 X 124.50 X 06.30
140.00	119.00	8.10	10.50	116.84 X 6.99	PS008-M-01-140.00 X 119.00 X 08.10
145.00	129.50	6.30	8.00	126.37 X 5.33	PS008-M-01-145.00 X 129.50 X 06.30
145.00	124.00	8.10	10.50	123.19 X 6.99	PS008-M-01-145.00 X 124.00 X 08.10
150.00	134.50	6.30	8.00	132.72 X 5.33	PS008-M-01-150.00 X 134.50 X 06.30
150.00	129.00	8.10	10.50	126.37 X 6.99	PS008-M-01-150.00 X 129.00 X 08.10
155.00	139.50	6.30	8.00	139.07 X 5.33	PS008-M-01-155.00 X 139.50 X 06.30
155.00	134.00	8.10	10.50	132.72 X 6.99	PS008-M-01-155.00 X 134.00 X 08.10
160.00	144.50	6.30	8.00	142.24 X 5.33	PS008-M-01-160.00 X 144.50 X 06.30
160.00	139.00	8.10	10.50	139.07 X 6.99	PS008-M-01-160.00 X 139.00 X 08.10
165.00	149.50	6.30	8.00	148.59 X 5.33	PS008-M-01-165.00 X 149.50 X 06.30
165.00	144.00	8.10	10.50	142.24 X 6.99	PS008-M-01-165.00 X 144.00 X 08.10
170.00	154.50	6.30	8.00	154.48 X 5.33	PS008-M-01-170.00 X 154.50 X 06.30
170.00	149.00	8.10	10.50	148.59 X 6.99	PS008-M-01-170.00 X 149.00 X 08.10
175.00	159.50	6.30	8.00	158.12 X 5.33	PS008-M-01-175.00 X 159.50 X 06.30
175.00	154.00	8.10	10.50	151.77 X 6.99	PS008-M-01-175.00 X 154.00 X 08.10
180.00	164.50	6.30	8.00	164.40 X 5.33	PS008-M-01-180.00 X 164.50 X 06.30
180.00	159.00	8.10	10.50	158.12 X 6.99	PS008-M-01-180.00 X 159.00 X 08.10



ROYAL

SEALS FOR HYDRAULICS & PNEUMATICS



ROYAL STANDARD SIZE LIST

ØDN (H9)	ØdN (h9)	H (+0.20)	C	O-RING SIZE	ORDER CODE
185.00	169.50	6.30	8.00	167.64 X 5.33	PS008-M-01-185.00 X 169.50 X 06.30
185.00	164.00	8.10	10.50	162.00 X 7.00	PS008-M-01-185.00 X 164.00 X 08.10
190.00	174.50	6.30	8.00	170.82 X 5.33	PS008-M-01-190.00 X 174.50 X 06.30
190.00	169.00	8.10	10.50	164.47 X 6.99	PS008-M-01-190.00 X 169.00 X 08.10
195.00	179.50	6.30	8.00	179.30 X 5.33	PS008-M-01-195.00 X 179.50 X 06.30
195.00	174.00	8.10	10.50	170.82 X 6.99	PS008-M-01-195.00 X 174.00 X 08.10
200.00	184.50	6.30	8.00	183.52 X 5.33	PS008-M-01-200.00 X 184.50 X 06.30
200.00	179.00	8.10	10.50	177.17 X 6.99	PS008-M-01-200.00 X 179.00 X 08.10
205.00	189.50	6.30	8.00	189.87 X 5.33	PS008-M-01-205.00 X 189.50 X 06.30
205.00	184.00	8.10	10.50	183.52 X 6.99	PS008-M-01-205.00 X 184.00 X 08.10
210.00	189.00	8.10	10.50	183.52 X 6.99	PS008-M-01-210.00 X 189.00 X 08.10
215.00	194.00	8.10	10.50	189.87 X 6.99	PS008-M-01-215.00 X 194.00 X 08.10
220.00	204.50	6.30	8.00	202.57 X 5.33	PS008-M-01-220.00 X 204.50 X 06.30
220.00	199.00	8.10	10.50	196.22 X 6.99	PS008-M-01-220.00 X 199.00 X 08.10
225.00	204.00	8.10	10.50	202.57 X 6.99	PS008-M-01-225.00 X 204.00 X 08.10
230.00	209.00	8.10	10.50	208.92 X 6.99	PS008-M-01-230.00 X 209.00 X 08.10
235.00	214.00	8.10	10.50	215.27 X 6.99	PS008-M-01-235.00 X 214.00 X 08.10
240.00	224.50	6.30	8.00	221.62 X 5.33	PS008-M-01-240.00 X 224.50 X 06.30
240.00	219.00	8.10	10.50	215.27 X 6.99	PS008-M-01-240.00 X 219.00 X 08.10
245.00	224.00	8.10	10.50	221.86 X 6.99	PS008-M-01-245.00 X 224.00 X 08.10
250.00	229.00	8.10	10.50	227.97 X 6.99	PS008-M-01-250.00 X 229.00 X 08.10
260.00	244.50	6.30	8.00	240.67 X 5.33	PS008-M-01-260.00 X 244.50 X 06.30
260.00	239.00	8.10	10.50	236.00 X 7.00	PS008-M-01-260.00 X 239.00 X 08.10
265.00	244.00	8.10	10.50	240.67 X 6.99	PS008-M-01-265.00 X 244.00 X 08.10
270.00	254.50	6.30	8.00	253.37 X 5.33	PS008-M-01-270.00 X 254.50 X 06.30
270.00	249.00	8.10	10.50	240.67 X 6.99	PS008-M-01-270.00 X 249.00 X 08.10
275.00	254.00	8.10	10.50	253.37 X 6.99	PS008-M-01-275.00 X 254.00 X 08.10
280.00	259.00	8.10	10.50	253.37 X 6.99	PS008-M-01-280.00 X 259.00 X 08.10
285.00	264.00	8.10	10.50	259.72 X 6.99	PS008-M-01-285.00 X 264.00 X 08.10
290.00	269.00	8.10	10.50	266.07 X 6.99	PS008-M-01-290.00 X 269.00 X 08.10
300.00	279.00	8.10	10.50	278.77 X 6.99	PS008-M-01-300.00 X 279.00 X 08.10

