

## PISTON SEAL

## PS032



### Features:

Piston seal profile PS032 consists of four piece seal set with one main sealing component, one T shaped energizer ring and two anti-extrusion ring which support the seal on both sides and prevent extrusion of main seal ring.

### Composition:

SEAL COMBINATION	MAIN SEAL COMPOUND	RUBBER T-RING COMPOUND	BACKUP-RING COMPOUND	TEMP. RANGE	WORKING PRESSURE (Max.)	SURFACE SPEED (Max.)
PS032-01	PT03	NB04	PA15	-35 to 100°C	500 Bar	1.50 m/s
PS032-02	PT05	NB04	PA06	-35 to 100°C	500 Bar	1.50 m/s
PS032-03	PT02	NB04	PA15	-35 to 100°C	500 Bar	1.50 m/s
PS032-04	PT11	NB04	PA15	-35 to 100°C	500 Bar	1.50 m/s
PS032-05	PT02	NB06	PA15	-40 to 100°C	500 Bar	1.50 m/s

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

### Properties:

- Double acting
- Allow large radial gaps due to backup rings
- Very good extrusion reliability
- High resistance to abrasion
- Low friction, free of stick-slip
- High contact pressure through rubber profile ring
- No extrusion into the radial sealing gap

### Application:

- Mobile Hydraulics
- Machine tools
- Agricultural equipment
- Standard cylinders

### 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



### 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	500 bar
8.00	0.30	0.25	0.20	0.18	0.15
9.00	0.40	0.35	0.25	0.20	0.16
11.00	0.60	0.50	0.33	0.25	0.20
12.50	0.60	0.50	0.33	0.25	0.20
16.00	0.90	0.70	0.45	0.35	0.25
17.50	0.90	0.70	0.45	0.35	0.25

Profile dimension H	Maximum permissible gap (S)for Imperial Sizes (inch)				
	160 bar	260 bar	320 bar	400 bar	500 bar
0.424	0.024	0.020	0.013	0.010	0.008
0.500	0.024	0.020	0.013	0.010	0.008
0.579	0.035	0.028	0.018	0.014	0.010
0.640	0.035	0.028	0.018	0.014	0.010
0.690	0.035	0.028	0.018	0.014	0.010
0.750	0.035	0.028	0.018	0.014	0.010

### Fitting :

PS032 is very easy to fit. Careful fitting of the seal is a prerequisite for its perfect functioning.

### Ordering format :

Please mention ROYAL order code in your order.

Example: Metric Size 50 X 36 X 9

(T ring material is NB04 & PT03) Order code is **PS032-M-01-050.00 X 036.00 X 09.00**

(T ring material is NB06 & PT02) Order code is **PS032-M-05-050.00 X 036.00 X 09.00**

Example: Imperial Size 1.000" X 0.625" X 0.424"

(T ring material is NB04 & PT02) Order code is **PS032-I-03-01.000 X 00.625 X 0.424**

(T ring material is NB04 & PT21) Order code is **PS032-I-04-01.000 X 00.625 X 0.424**

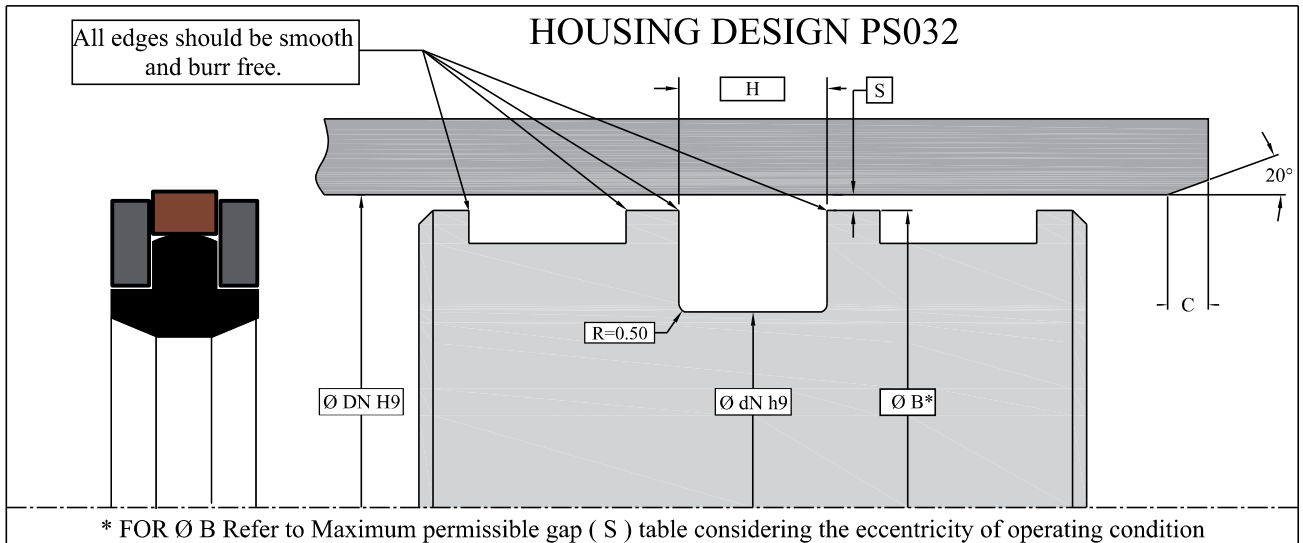
(T ring material is NB06 & PT02) Order code is **PS032-I-05-01.000 X 00.625 X 0.424**

Please contact ROYAL at [info@royalcomposites.co.in](mailto:info@royalcomposites.co.in) / [info@royalseals.co.in](mailto:info@royalseals.co.in) if your required size is not mentioned in Royal standard size list



**ROYAL**

SEALS FOR HYDRAULICS & PNEUMATICS



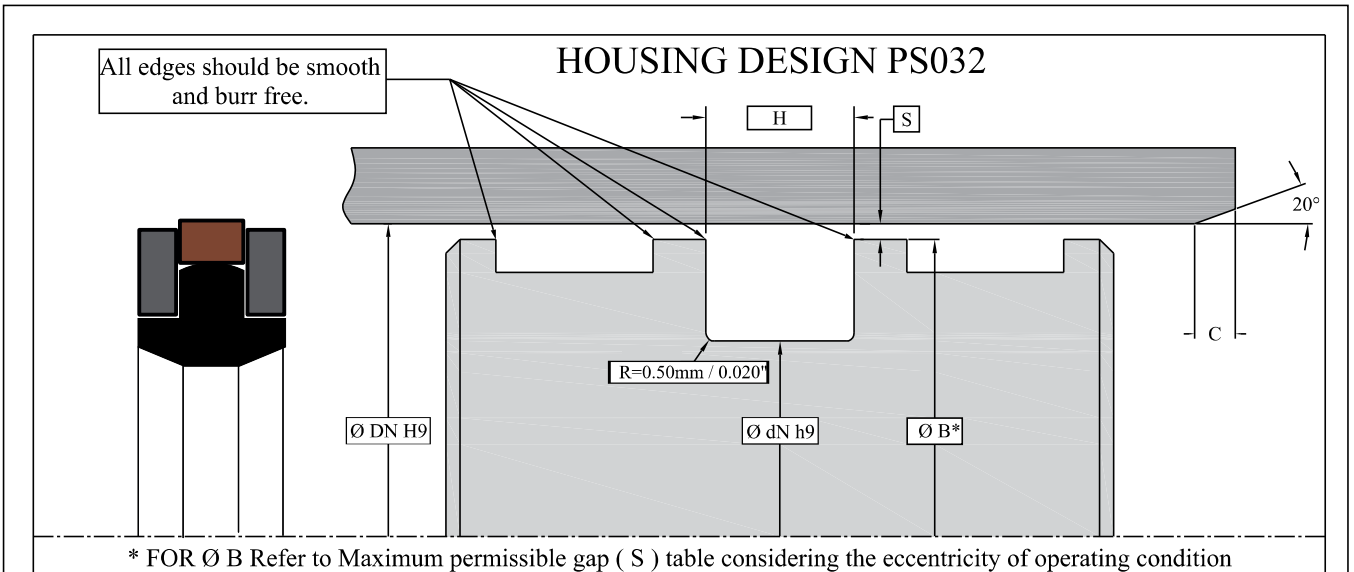
**ROYAL STANDARD SIZE LIST**

DN (H9)	dN (h9)	H (+0.20)	C	ORDER CODE
40.00	30.00	8.00	4.00	PS032-M-01-040.00 X 030.00 X 08.00
50.00	36.00	9.00	4.00	PS032-M-01-050.00 X 036.00 X 09.00
50.00	40.00	8.00	4.00	PS032-M-01-050.00 X 040.00 X 08.00
50.00	41.00	9.00	4.00	PS032-M-01-050.00 X 041.00 X 09.00
55.00	41.00	9.00	4.00	PS032-M-01-055.00 X 041.00 X 09.00
60.00	46.00	9.00	4.00	PS032-M-01-060.00 X 046.00 X 09.00
63.00	48.00	11.00	5.00	PS032-M-01-063.00 X 048.00 X 11.00
63.00	53.00	8.00	5.00	PS032-M-01-063.00 X 053.00 X 08.00
65.00	50.00	11.00	5.00	PS032-M-01-065.00 X 050.00 X 11.00
70.00	55.00	11.00	5.00	PS032-M-01-070.00 X 055.00 X 11.00
70.00	60.00	8.00	5.00	PS032-M-01-070.00 X 060.00 X 08.00
75.00	60.00	11.00	5.00	PS032-M-01-075.00 X 060.00 X 11.00
80.00	65.00	11.00	5.00	PS032-M-01-080.00 X 065.00 X 11.00
80.00	65.00	12.00	5.00	PS032-M-01-080.00 X 065.00 X 12.00
80.00	65.00	12.50	5.00	PS032-M-01-080.00 X 065.00 X 12.50
85.00	70.00	11.00	5.00	PS032-M-01-085.00 X 070.00 X 11.00
90.00	75.00	11.00	5.00	PS032-M-01-090.00 X 075.00 X 11.00
90.00	75.00	12.00	5.00	PS032-M-01-090.00 X 075.00 X 12.00
90.00	75.00	12.50	5.00	PS032-M-01-090.00 X 075.00 X 12.50
95.00	80.00	11.00	5.00	PS032-M-01-095.00 X 080.00 X 11.00
95.00	80.00	12.50	5.00	PS032-M-01-095.00 X 080.00 X 12.50
100.00	85.00	12.50	6.50	PS032-M-01-100.00 X 085.00 X 12.50
105.00	90.00	12.50	6.50	PS032-M-01-105.00 X 090.00 X 12.50
110.00	95.00	12.50	6.50	PS032-M-01-110.00 X 095.00 X 12.50
115.00	100.00	12.50	6.50	PS032-M-01-115.00 X 100.00 X 12.50
120.00	100.00	16.00	6.50	PS032-M-01-120.00 X 100.00 X 16.00
120.00	105.00	12.50	6.50	PS032-M-01-120.00 X 105.00 X 12.50
125.00	102.00	16.00	6.50	PS032-M-01-125.00 X 102.00 X 16.00
125.00	105.00	16.00	6.50	PS032-M-01-125.00 X 105.00 X 16.00
125.00	108.00	16.00	6.50	PS032-M-01-125.00 X 108.00 X 16.00
130.00	105.00	25.00	6.50	PS032-M-01-130.00 X 105.00 X 25.00
130.00	107.00	16.00	6.50	PS032-M-01-130.00 X 107.00 X 16.00



**ROYAL**

SEALS FOR HYDRAULICS & PNEUMATICS



**ROYAL STANDARD SIZE LIST**

DN (H9)	dN (h9)	H (+0.20)	C	ORDER CODE
130.00	110.00	16.00	6.50	PS032-M-01-130.00 X 110.00 X 16.00
135.00	112.00	16.00	6.50	PS032-M-01-135.00 X 112.00 X 16.00
140.00	117.00	16.00	6.50	PS032-M-01-140.00 X 117.00 X 16.00
140.00	120.00	16.00	6.50	PS032-M-01-140.00 X 120.00 X 16.00
145.00	122.00	16.00	6.50	PS032-M-01-145.00 X 122.00 X 16.00
150.00	127.00	16.00	6.50	PS032-M-01-150.00 X 127.00 X 16.00
155.00	132.00	16.00	6.50	PS032-M-01-155.00 X 132.00 X 16.00
160.00	137.00	16.00	6.50	PS032-M-01-160.00 X 137.00 X 16.00
160.00	140.00	16.00	6.50	PS032-M-01-160.00 X 140.00 X 16.00
165.00	142.00	16.00	6.50	PS032-M-01-165.00 X 142.00 X 16.00
170.00	147.00	16.00	6.50	PS032-M-01-170.00 X 147.00 X 16.00
175.00	152.00	16.00	6.50	PS032-M-01-175.00 X 152.00 X 16.00
180.00	157.00	16.00	6.50	PS032-M-01-180.00 X 157.00 X 16.00
180.00	160.00	16.00	6.50	PS032-M-01-180.00 X 160.00 X 16.00
180.00	165.00	12.50	6.50	PS032-M-01-180.00 X 165.00 X 12.50
185.00	162.00	16.00	6.50	PS032-M-01-185.00 X 162.00 X 16.00
190.00	167.00	16.00	6.50	PS032-M-01-190.00 X 167.00 X 16.00
195.00	172.00	16.00	6.50	PS032-M-01-195.00 X 172.00 X 16.00
195.00	182.00	16.00	6.50	PS032-M-01-195.00 X 182.00 X 16.00
200.00	177.00	16.00	6.50	PS032-M-01-200.00 X 177.00 X 16.00
210.00	187.00	16.00	6.50	PS032-M-01-210.00 X 187.00 X 16.00
215.00	192.00	16.00	6.50	PS032-M-01-215.00 X 192.00 X 16.00
220.00	197.00	16.00	6.50	PS032-M-01-220.00 X 197.00 X 16.00
225.00	202.00	16.00	6.50	PS032-M-01-225.00 X 202.00 X 16.00
230.00	207.00	16.00	6.50	PS032-M-01-230.00 X 207.00 X 16.00
240.00	217.00	16.00	6.50	PS032-M-01-240.00 X 217.00 X 16.00
250.00	222.00	17.50	7.50	PS032-M-01-250.00 X 222.00 X 17.50
260.00	232.00	17.50	7.50	PS032-M-01-260.00 X 232.00 X 17.50
270.00	242.00	17.50	7.50	PS032-M-01-270.00 X 242.00 X 17.50
280.00	252.00	17.50	7.50	PS032-M-01-280.00 X 252.00 X 17.50
300.00	272.00	17.50	7.50	PS032-M-01-300.00 X 272.00 X 17.50
300.00	275.00	19.00	7.50	PS032-M-01-300.00 X 275.00 X 19.00



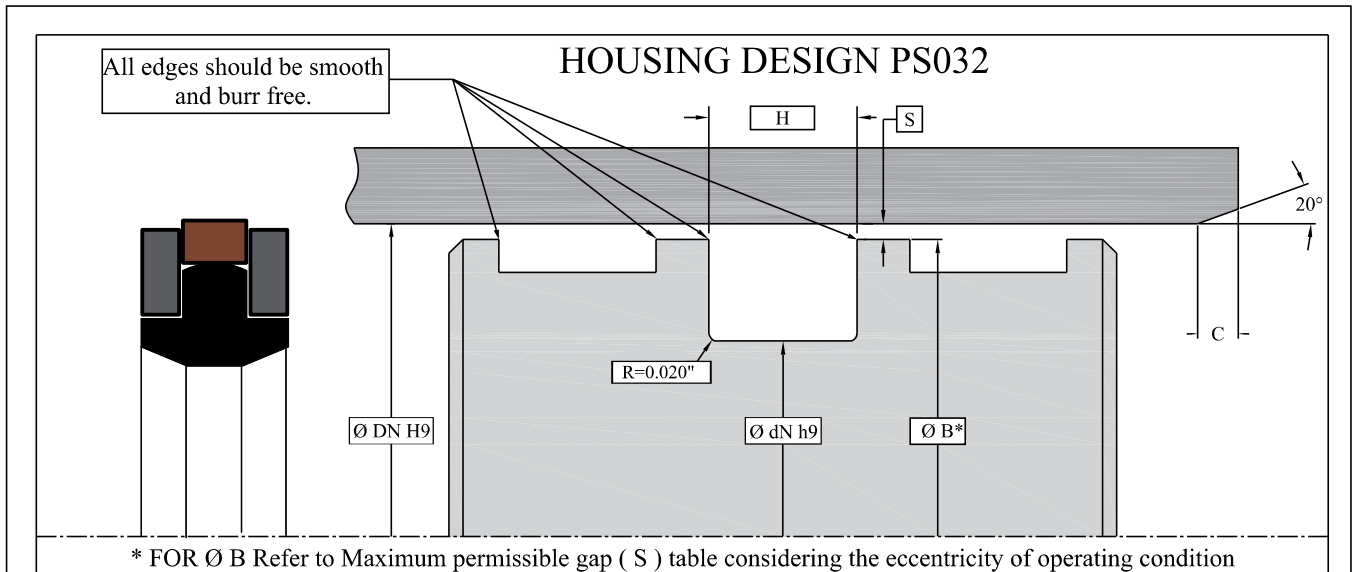
## SEALS FOR HYDRAULICS & PNEUMATICS

ROYAL STANDARD SIZE LIST				
DN (H9)	dN (h9)	H (+0.20)	C	ORDER CODE
320.00	292.00	17.50	7.50	PS032-M-01-320.00 X 292.00 X 17.50
350.00	322.00	17.50	7.50	PS032-M-01-350.00 X 322.00 X 17.50
360.00	332.00	17.50	7.50	PS032-M-01-360.00 X 332.00 X 17.50
380.00	352.00	17.50	7.50	PS032-M-01-380.00 X 352.00 X 17.50
IMPERIAL SIZES				
DN (H9)	dN (h9)	H (+0.008")	C	ORDER CODE
1.000	0.625	0.424	0.157	PS032-I-03-01.000 X 00.625 X 0.424
1.250	0.875	0.424	0.157	PS032-I-03-01.250 X 00.875 X 0.424
1.500	1.125	0.424	0.157	PS032-I-03-01.500 X 01.125 X 0.424
1.750	1.375	0.424	0.157	PS032-I-03-01.750 X 01.375 X 0.424
2.000	1.625	0.424	0.157	PS032-I-03-02.000 X 01.625 X 0.424
2.250	1.875	0.424	0.157	PS032-I-03-02.250 X 01.875 X 0.424
2.500	2.125	0.424	0.197	PS032-I-03-02.500 X 02.125 X 0.424
2.750	2.375	0.424	0.197	PS032-I-03-02.750 X 02.375 X 0.424
3.000	2.442	0.424	0.197	PS032-I-03-03.000 X 02.442 X 0.424
3.000	2.520	0.579	0.197	PS032-I-03-03.000 X 02.520 X 0.579
3.250	2.770	0.579	0.197	PS032-I-03-03.250 X 02.770 X 0.579
3.500	3.020	0.579	0.197	PS032-I-03-03.500 X 03.020 X 0.579
3.750	3.270	0.579	0.197	PS032-I-03-03.750 X 03.270 X 0.579
4.000	3.442	0.424	0.256	PS032-I-03-04.000 X 03.442 X 0.424
4.000	3.520	0.579	0.256	PS032-I-03-04.000 X 03.520 X 0.579
4.250	3.770	0.579	0.256	PS032-I-03-04.250 X 03.770 X 0.579
4.500	3.830	0.500	0.256	PS032-I-03-04.500 X 03.830 X 0.500
4.500	4.020	0.579	0.256	PS032-I-03-04.500 X 04.020 X 0.579
4.750	4.270	0.579	0.256	PS032-I-03-04.750 X 04.270 X 0.579
5.000	4.220	0.640	0.256	PS032-I-03-05.000 X 04.220 X 0.640
5.000	4.270	0.750	0.256	PS032-I-03-05.000 X 04.270 X 0.750
5.000	4.444	0.424	0.256	PS032-I-03-05.000 X 04.444 X 0.424
5.250	4.520	0.750	0.256	PS032-I-03-05.250 X 04.520 X 0.750
5.500	4.720	0.640	0.256	PS032-I-03-05.500 X 04.720 X 0.640
5.500	4.770	0.750	0.256	PS032-I-03-05.500 X 04.770 X 0.750
5.750	5.022	0.750	0.256	PS032-I-03-05.750 X 05.022 X 0.750
5.750	5.028	0.750	0.256	PS032-I-03-05.750 X 05.028 X 0.750
6.000	5.090	0.640	0.256	PS032-I-03-06.000 X 05.090 X 0.640
6.000	5.270	0.750	0.256	PS032-I-03-06.000 X 05.270 X 0.750
6.250	5.340	0.640	0.256	PS032-I-03-06.250 X 05.340 X 0.640
6.250	5.520	0.750	0.256	PS032-I-03-06.250 X 05.520 X 0.750
6.500	5.590	0.640	0.256	PS032-I-03-06.500 X 05.590 X 0.640
6.500	5.770	0.750	0.256	PS032-I-03-06.500 X 05.770 X 0.750
6.750	6.022	0.750	0.256	PS032-I-03-06.750 X 06.022 X 0.750
7.000	6.090	0.630	0.256	PS032-I-03-07.000 X 06.090 X 0.630
7.000	6.090	0.640	0.256	PS032-I-03-07.000 X 06.090 X 0.640
7.000	6.270	0.750	0.256	PS032-I-03-07.000 X 06.270 X 0.750



**ROYAL**

SEALS FOR HYDRAULICS & PNEUMATICS



**ROYAL STANDARD SIZE LIST**

DN (H9)	dN (h9)	H (+0.008")	C	ORDER CODE
7.250	6.340	0.640	0.256	PS032-I-03-07.250 X 06.340 X 0.640
7.250	6.520	0.750	0.256	PS032-I-03-07.250 X 06.520 X 0.750
7.500	6.590	0.640	0.256	PS032-I-03-07.500 X 06.590 X 0.640
7.500	6.770	0.750	0.256	PS032-I-03-07.500 X 06.770 X 0.750
7.750	6.840	0.640	0.256	PS032-I-03-07.750 X 06.840 X 0.640
7.750	7.022	0.750	0.256	PS032-I-03-07.750 X 07.022 X 0.750
8.000	7.270	0.750	0.256	PS032-I-03-08.000 X 07.270 X 0.750
8.250	7.250	0.640	0.256	PS032-I-03-08.250 X 07.250 X 0.640
8.250	7.520	0.750	0.256	PS032-I-03-08.250 X 07.520 X 0.750
8.500	7.500	0.640	0.256	PS032-I-03-08.500 X 07.500 X 0.640
8.500	7.770	0.750	0.256	PS032-I-03-08.500 X 07.770 X 0.750
8.750	8.022	0.750	0.256	PS032-I-03-08.750 X 08.022 X 0.750
9.000	8.270	0.750	0.256	PS032-I-03-09.000 X 08.270 X 0.750
9.500	8.770	0.750	0.256	PS032-I-03-09.500 X 08.770 X 0.750
10.000	8.880	0.690	0.295	PS032-I-03-10.000 X 08.880 X 0.690
10.000	9.270	0.750	0.295	PS032-I-03-10.000 X 09.270 X 0.750
10.250	9.130	0.690	0.295	PS032-I-03-10.250 X 09.130 X 0.690
10.500	9.380	0.690	0.295	PS032-I-03-10.500 X 09.380 X 0.690
10.500	9.720	0.750	0.295	PS032-I-03-10.500 X 09.720 X 0.750
11.000	9.880	0.690	0.295	PS032-I-03-11.000 X 09.880 X 0.690
11.000	10.270	0.750	0.295	PS032-I-03-11.000 X 10.270 X 0.750
11.500	10.380	0.690	0.295	PS032-I-03-11.500 X 10.380 X 0.690
12.000	11.270	0.750	0.295	PS032-I-03-12.000 X 11.270 X 0.750
12.500	11.770	0.750	0.295	PS032-I-03-12.500 X 11.770 X 0.750
13.000	11.880	0.690	0.295	PS032-I-03-13.000 X 11.880 X 0.690
14.000	13.270	0.750	0.295	PS032-I-03-14.000 X 13.270 X 0.750
15.000	14.270	0.750	0.295	PS032-I-03-15.000 X 14.270 X 0.750
16.000	15.270	0.750	0.295	PS032-I-03-16.000 X 15.270 X 0.750