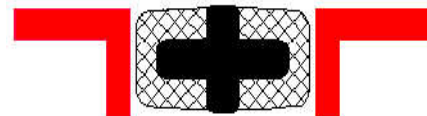


Design

The AB Seals DP double acting piston seal combines the AB Seals DP seal with bearing rings to give a very robust heavy duty seal assembly for split pistons. It enables the designer to use larger clearances and, with the integral bearing rings, to restrict the piston length. The assembly comprises a seal and two L shaped bearings. The centre of the seal is rubber which is bonded to two 'U' section bases of rubberized fabric, and is compressed by the housing to obtain an effective low pressure seal. When the pressure increases the rubber energizes the 'U' section and deforms it to the housing, increasing the sealing area and improving the seal. Rubberized fabric is used to protect the rubber, because it has strength and durability which combines with its ability to retain lubricant to help keep friction low and reduce wear. Supporting the seal at either end is a polyacetal bearing proportioned to react to the pressure on the seal to prevent extrusion damage, and support the piston and its side load.



Features

- Well proven design
- Tolerant to contamination
- High pressure capability

MATERIAL

- Main Seal - Fabric Reinforced Rubber - NBRC
- Support Ring - DEL / POM

Application

- Truck Cranes
- Forklift and handling machinery
- Agriculture Equipment
- Mobile Hydraulic
- machine Tools
- Standrad Cylinder

Technical details

Operating Conditions

Maximum speed

Temperature Range

Maximum Pressure

Metric

0.5m/sec

-30

700 bar

inch

1.5ft/sec

-22

10,000 p.s.i

Surface roughness

Dynamic Sealing Face ØD1

static sealing face Ød1 Ød2

static housing faces Ød3 L1 L2

umRa

0.1<> 0.4

1.6 max

3.2 max

umRt

4 max

10 max

16 max

Uin CLA

4<>16

63 max

125 max

UIN RMS

5<>18

70 max

140 max

chamafers & RadII

Grove section <5 mm

Min Chamfer C mm

Min Chamfer C1 mm

Max Fillet rad r1 mm

Max Fillet rad r2 mm

Grove section <5 in

Min Chamfer C in

Min Chamfer C1 in

Max Fillet rad r1 in

Max Fillet rad r2 in

5

7.5

10

12.5

15

2.5

4

5

6.5

7.5

1

1

1

1.5

1.5

0.2

0.2

0.2

0.4

0.4

0.2

0.2

0.2

0.4

0.4

0.187

0.25

0.312

0.375

0.5

0.625

0.093

0.125

0.156

0.187

0.217

0.25

0.032

0.032

0.032

0.062

0.062

0.062

0.008

0.008

0.008

0.008

0.016

0.016

0.008

0.008

0.008

0.008

0.016

0.016

Tolerance

mm

in

ØD1

Ød1

Ød2

Ød3

L1

L2

H11

js11

h9

js11

0.25

-0.15

H11

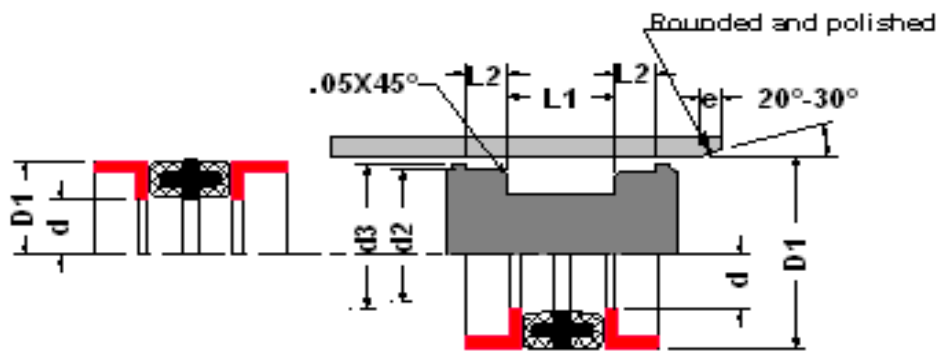
js11

h9

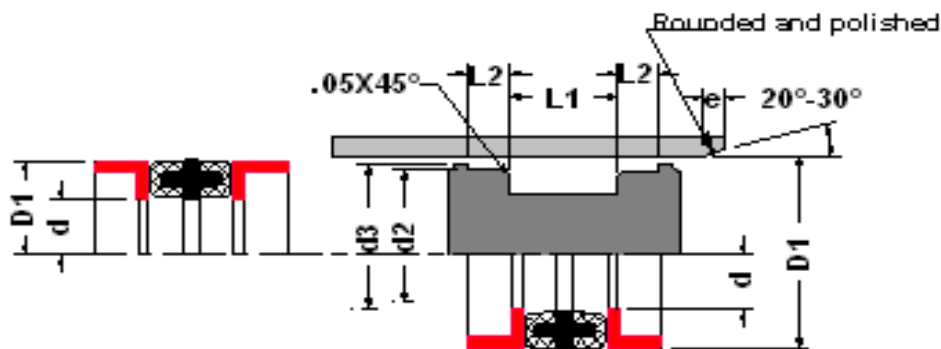
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0.035

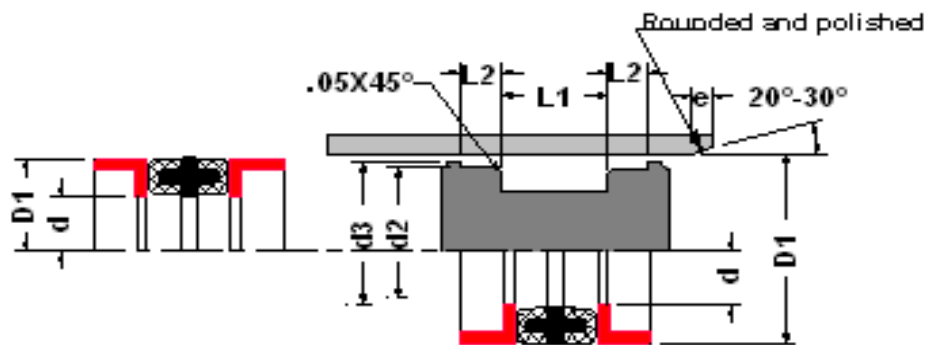
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ØD1	TOL H11	Ød1	TOL Js11	Ød2	TOL H9	Ød3	TOL Js11	L1 0.25	L2 -0.15	PART NO.
40	0.16 0	25	0.07 -0.07	34.85	0 -0.062	39	0.08 -0.08	24	6	DP- 40x25x24
45	0.16 0	26	0.07 -0.07	38.85	0 -0.062	44	0.08 -0.08	31	6.5	DP- 45x26x31
50	0.16 0	34	0.08 -0.08	45.54	0 -0.062	48.5	0.08 -0.08	18	6.45	DP- 50x34x18
50	0.16 0	35	0.08 -0.08	44.85	0 -0.062	48.5	0.08 -0.08	24	6	DP- 50x35x24
55	0.19 0	40	0.08 -0.08	49.85	0 -0.062	53.5	0.1 -0.1	24	6	DP- 55x40x24
60	0.19 0	40	0.08 -0.08	53.85	0 -0.074	58.5	0.1 -0.1	31	7	DP- 60x40x31
63	0.19 0	43	0.08 -0.08	56.85	0 -0.074	61.5	0.1 -0.1	31	7	DP- 63x43x31
63	0.19 0	48	0.08 -0.08	57.85	0 -0.074	61.5	0.1 -0.1	24	6	DP- 63x48x24
65	0.19 0	50	0.08 -0.08	59.85	0 -0.074	63.5	0.1 -0.1	24	6	DP- 65x50x24
70	0.19 0	50	0.08 -0.08	63.85	0 -0.074	68	0.1 -0.1	31	7	DP- 70x50x31
75	0.19 0	55	0.1 -0.1	68.85	0 -0.074	73	0.1 -0.1	31	7	DP- 75x55x31
80	0.19 0	60	0.1 -0.1	73.85	0 -0.074	78	0.1 -0.1	31	7	DP- 80x60x31
85	0.22 0	65	0.1 -0.1	78.85	0 -0.074	83	0.11 -0.11	31	7	DP- 85x65x31
85	0.22 0	65	0.1 -0.1	79.16	0 -0.074	83	0.11 -0.11	22	6.45	DP- 85x65x22
90	0.22 0	70	0.1 -0.1	83.85	0 -0.087	88	0.11 -0.11	31	7	DP- 90x70x31
95	0.22 0	75	0.1 -0.1	88.85	0 -0.087	93	0.11 -0.11	31	7	DP- 95x75x31
100	0.22 0	75	0.1 -0.1	93.24	0 -0.087	98	0.11 -0.11	22	6.45	DP- 100x75x22
100	0.22 0	75	0.1 -0.1	93.85	0 -0.087	98	0.11 -0.11	26	9.5	DP- 100x75x26



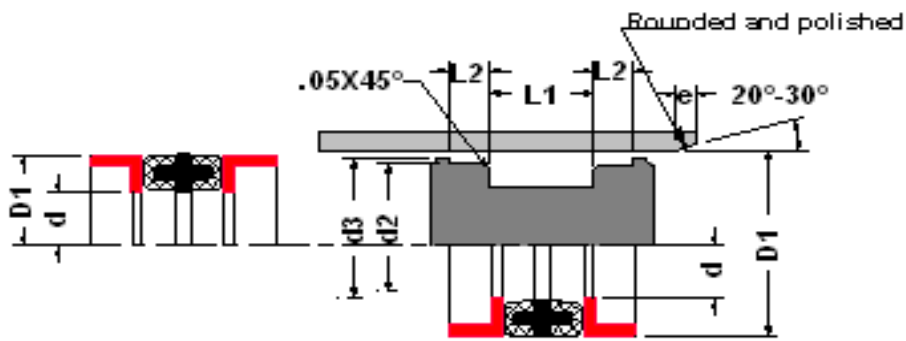
ØD1	TOL H11	Ød1	TOL Js11	Ød2	TOL H9	Ød3	TOL Js11	L1 0.25	L2 -0.15	PART NO.
100	0.22 0	80	0.1 -0.1	93.85	0 -0.087	98	0.11 -0.11	31	7	DP- 100x80x31
110	0.22 0	85	0.11 -0.11	103.5	0 -0.087	108	0.11 -0.11	22	6.45	DP- 110x85x22
110	0.22 0	90	0.11 -0.11	103.85	0 -0.087	108	0.11 -0.11	31	7	DP- 110x90x31
115	0.22 0	95	0.11 -0.11	108.85	0 -0.087	113	0.11 -0.11	31	7	DP- 115x95x31
120	0.22 0	100	0.11 -0.11	113.85	0 -0.087	118	0.11 -0.11	31	7	DP- 120x100x31
125	0.25 0	100	0.11 -0.11	118.5	0 -0.087	123	0.13 -0.13	25	6.45	DP- 125x100x25
125	0.25 0	100	0.11 -0.11	118.85	0 -0.087	123	0.13 -0.13	38	9.5	DP- 125x100x38
130	0.25 0	104	0.11 -0.11	123.85	0 -0.087	128	0.13 -0.13	38	9.5	DP- 130x104x38
130	0.25 0	105	0.11 -0.11	123.5	0 -0.1	128	0.13 -0.13	25	6.45	DP- 130x105x25
135	0.25 0	110	0.11 -0.11	128.35	0 -0.1	133	0.13 -0.13	38	9.5	DP- 135x110x38
140	0.25 0	115	0.11 -0.11	133.5	0 -0.1	138	0.13 -0.13	25	6.45	DP- 140x115x25
140	0.25 0	120	0.11 -0.11	133.85	0 -0.1	138	0.13 -0.13	31	7	DP- 140x120x31
145	0.25 0	125	0.11 -0.11	138.85	0 -0.1	143	0.13 -0.13	31	7	DP- 145x125x31
150	0.25 0	120	0.11 -0.11	143.85	0 -0.1	148	0.13 -0.13	44	9.5	DP- 150x120x44
150	0.25 0	125	0.11 -0.11	143.5	0 -0.1	148	0.13 -0.13	25	6.45	DP- 150x125x25
160	0.25 0	130	0.13 -0.13	153.5	0 -0.1	158	0.13 -0.13	25	6.45	DP- 160x130x25
160	0.25 0	135	0.13 -0.13	153.85	0 -0.1	158	0.13 -0.13	38	9.5	DP- 160x35x38
160	0.25 0	140	0.13 -0.13	153.85	0 -0.1	158	0.13 -0.13	31	7	DP- 160x140x31



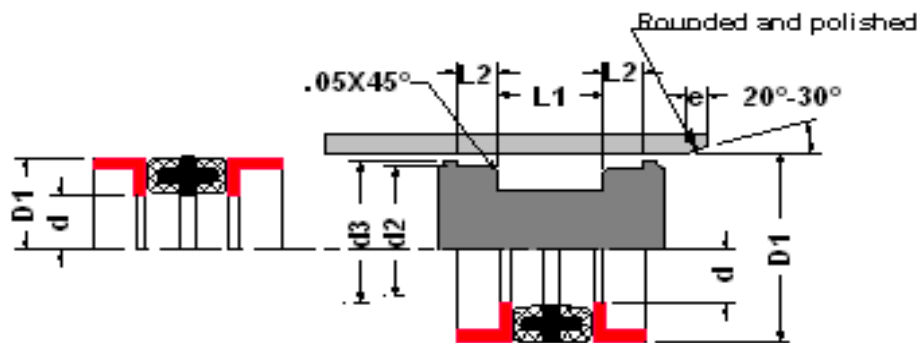
ØD1	TOL H11	Ød1	TOL Js11	Ød2	TOL H9	Ød3	TOL Js11	L1 0.25	L2 -0.15	PART NO.
170	0.25 0	140	0.13 -0.13	162.54	0 -0.1	168	0.13 -0.13	25	6.45	DP- 170x140x25
170	0.25 0	150	0.13 -0.13	163.85	0 -0.1	168	0.13 -0.13	31	7	DP- 170x150x31
180	0.25 0	150	0.13 -0.13	173	0 -0.1	178	0.13 -0.13	35	6.45	DP- 180x150x35
180	0.25 0	160	0.13 -0.13	173.85	0 -0.1	178	0.13 -0.13	31	7	DP- 180x160x31
190	0.29 0	160	0.13 -0.13	183.85	0 -0.115	188	0.15 -0.15	44	9.5	DP- 190x160x44
200	0.29 0	170	0.13 -0.13	193.85	0 -0.115	198	0.15 -0.15	44	12	DP- 200x170x44
200	0.29 0	175	0.13 -0.13	193.85	0 -0.115	198	0.15 -0.15	38	9.5	DP- 200x175x38
210	0.29 0	180	0.13 -0.13	203.13	0 -0.115	208	0.15 -0.15	31.7	6.45	DP- 210x180x31.7
220	0.29 0	200	0.15 -0.15	213.85	0 -0.115	218	0.15 -0.15	31	7	DP- 220x200x31
250	0.29 0	220	0.15 -0.15	243.85	0 -0.115	248	0.15 -0.15	44	12	DP- 250x220x44
280	0.32 0	250	0.15 -0.15	273.85	0 -0.13	278	0.16 -0.16	44	12	DP- 280x250x44

inch:

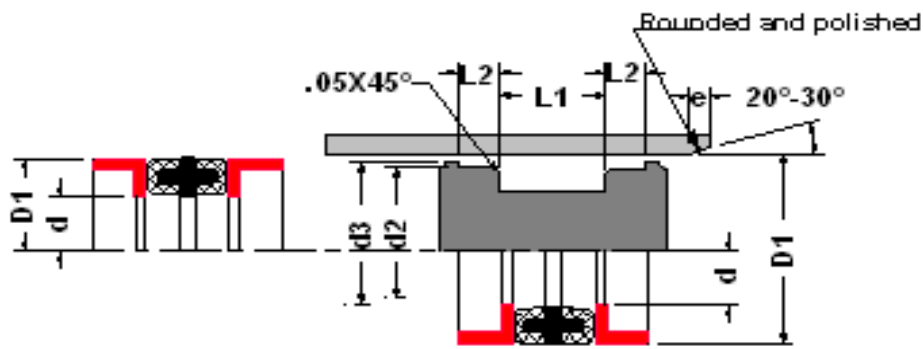
ØD1	TOL H11	Ød1	TOL Js11	Ød2	TOL H9	Ød3	TOL Js11	L1 0.25	L2 -0.15	PART NO.
1	0.005 0	0.625	0.002 -0.002	0.868	0 -0.002	0.968	0.003 -0.003	0.594	0.187	DP--00-01
1.25	0.006 0	0.75	0.003 -0.003	1.118	0 -0.002	1.218	0.003 -0.003	0.75	0.25	DP--00-02
1.5	0.006 0	1	0.003 -0.003	1.362	0 -0.002	1.46	0.003 -0.003	0.625	0.188	DP--00-03
1.5	0.006 0	1	0.003 -0.003	1.362	0 -0.002	1.46	0.003 -0.003	0.625	0.254	DP--00-04
1.5	0.006 0	1	0.003 -0.003	1.371	0 -0.002	1.468	0.003 -0.003	0.75	0.25	DP--00-05



$\varnothing D1$	TOL H11	$\varnothing d1$	TOL Js11	$\varnothing d2$	TOL H9	$\varnothing d3$	TOL Js11	L1 0.25	L2 -0.15	PART NO.
1.625	0.006 0	1	0.003 -0.003	1.428	0 -0.002	1.562	0.003 -0.003	0.937	0.25	DP--00-06
1.75	0.006 0	1.125	0.003 -0.003	1.555	0 -0.002	1.687	0.003 -0.003	0.937	0.25	DP--00-07
1.75	0.006 0	1.125	0.003 -0.003	1.572	0 -0.002	1.71	0.003 -0.003	0.75	0.254	DP--00-08
2	0.007 0	1.375	0.003 -0.003	1.805	0 -0.002	1.937	0.004 -0.004	0.937	0.25	DP--00-09
2	0.007 0	1.375	0.003 -0.003	1.822	0 -0.002	1.962	0.004 -0.004	0.75	0.254	DP--00-10
2.125	0.007 0	1.5	0.003 -0.003	1.928	0 -0.002	2.062	0.004 -0.004	0.937	0.25	DP--00-11
2.25	0.007 0	1.625	0.003 -0.003	2.055	0 -0.003	2.187	0.004 -0.004	0.937	0.25	DP--00-12
2.25	0.007 0	1.625	0.003 -0.003	2.071	0 -0.003	2.211	0.004 -0.004	0.75	0.254	DP--00-13
2.375	0.007 0	1.75	0.003 -0.003	2.18	0 -0.003	2.312	0.004 -0.004	0.75	0.25	DP--00-14
2.375	0.007 0	1.75	0.003 -0.003	2.18	0 -0.003	2.312	0.004 -0.004	0.937	0.25	DP--00-15
2.5	0.007 0	1.875	0.003 -0.003	2.305	0 -0.003	2.437	0.004 -0.004	0.937	0.25	DP--00-16
2.5	0.007 0	1.875	0.003 -0.003	2.321	0 -0.003	2.46	0.004 -0.004	0.75	0.254	DP--00-17
2.625	0.007 0	2	0.004 -0.004	2.428	0 -0.003	2.562	0.004 -0.004	0.937	0.25	DP--00-18
2.75	0.007 0	2	0.004 -0.004	2.485	0 -0.003	2.687	0.004 -0.004	1.187	0.25	DP--00-19
2.75	0.007 0	2	0.004 -0.004	2.524	0 -0.003	2.71	0.004 -0.004	0.937	0.254	DP--00-20
2.875	0.007 0	2.125	0.004 -0.004	2.61	0 -0.003	2.812	0.004 -0.004	1.187	0.25	DP--00-21
3	0.007 0	2.25	0.004 -0.004	2.735	0 -0.003	2.937	0.004 -0.004	1.187	0.25	DP--00-22
3	0.007 0	2.25	0.004 -0.004	2.774	0 -0.003	2.96	0.004 -0.004	0.937	0.254	DP--00-23



ØD1	TOL H11	Ød1	TOL Js11	Ød2	TOL H9	Ød3	TOL Js11	L1 0.25	L2 -0.15	PART NO.
3.125	0.007 0	2.375	0.004 -0.004	2.858	0 -0.003	3.062	0.004 -0.004	1.187	0.25	DP--00-24
3.25	0.009 0	2.5	0.004 -0.004	2.985	0 -0.003	3.187	0.004 -0.004	1.187	0.25	DP--00-25
3.25	0.009 0	2.5	0.004 -0.004	3.024	0 -0.003	3.21	0.004 -0.004	0.937	0.254	DP--00-26
3.5	0.009 0	2.75	0.004 -0.004	3.235	0 -0.003	3.437	0.004 -0.004	1.187	0.25	DP--00-27
3.5	0.009 0	2.75	0.004 -0.004	3.273	0 -0.003	3.46	0.004 -0.004	0.937	0.254	DP--00-28
3.625	0.009 0	2.875	0.004 -0.004	3.36	0 -0.003	3.562	0.004 -0.004	1.187	0.25	DP--00-29
3.75	0.009 0	3	0.004 -0.004	3.485	0 -0.003	3.687	0.004 -0.004	1.187	0.25	DP--00-30
3.875	0.009 0	3.125	0.004 -0.004	3.61	0 -0.003	3.812	0.004 -0.004	1.187	0.25	DP--00-31
4	0.009 0	3.25	0.004 -0.004	3.735	0 -0.003	3.937	0.004 -0.004	1.187	0.25	DP--00-32
4	0.009 0	3.25	0.004 -0.004	3.775	0 -0.003	3.958	0.004 -0.004	0.937	0.254	DP--00-33
4.25	0.009 0	3.5	0.004 -0.004	3.985	0 -0.003	4.187	0.004 -0.004	1.187	0.25	DP--00-34
4.25	0.009 0	3.5	0.004 -0.004	4.022	0 -0.003	4.21	0.004 -0.004	0.937	0.254	DP--00-35
4.5	0.009 0	3.5	0.004 -0.004	4.231	0 -0.003	4.45	0.004 -0.004	1.25	0.254	DP--00-36
4.5	0.009 0	3.5	0.004 -0.004	4.234	0 -0.003	4.437	0.004 -0.004	1.5	0.375	DP--00-37
4.75	0.01 0	3.75	0.004 -0.004	4.483	0 -0.003	4.7	0.005 -0.005	1.25	0.254	DP--00-38
4.75	0.01 0	3.75	0.004 -0.004	4.485	0 -0.003	4.687	0.005 -0.005	1.5	0.375	DP--00-39
5	0.01 0	4	0.004 -0.004	4.73	0 -0.004	4.956	0.005 -0.005	1.25	0.254	DP--00-40
5	0.01 0	4	0.004 -0.004	4.735	0 -0.004	4.937	0.005 -0.005	1.5	0.375	DP--00-41



$\varnothing D1$	TOL H11	$\varnothing d1$	TOL Js11	$\varnothing d2$	TOL H9	$\varnothing d3$	TOL Js11	L1 0.25	L2 -0.15	PART NO.
5.25	0.01 0	4.25	0.004 -0.004	4.98	0 -0.004	5.187	0.005 -0.005	1.5	0.375	DP--00-42
5.5	0.01 0	4.5	0.004 -0.004	5.236	0 -0.004	5.437	0.005 -0.005	1.5	0.375	DP--00-43
5.5	0.01 0	4.5	0.004 -0.004	5.235	0 -0.004	5.456	0.005 -0.005	1.25	0.254	DP--00-44
5.75	0.01 0	4.75	0.005 -0.005	5.484	0 -0.004	5.687	0.005 -0.005	1.5	0.375	DP--00-45
6	0.01 0	5	0.005 -0.005	5.728	0 -0.004	5.954	0.005 -0.005	1.25	0.254	DP--00-46
6	0.01 0	5	0.005 -0.005	5.736	0 -0.004	5.937	0.005 -0.005	1.5	0.375	DP--00-47
6.25	0.01 0	5.25	0.005 -0.005	5.984	0 -0.004	6.187	0.005 -0.005	1.5	0.375	DP--00-48
6.5	0.01 0	5.5	0.005 -0.005	6.236	0 -0.004	6.437	0.005 -0.005	1.5	0.375	DP--00-49
6.75	0.01 0	5.75	0.005 -0.005	6.484	0 -0.004	6.687	0.005 -0.005	1.5	0.375	DP--00-50
7	0.01 0	6	0.005 -0.005	6.736	0 -0.004	6.937	0.005 -0.005	1.5	0.375	DP--00-51
7.5	0.01 0	6.25	0.005 -0.005	7.24	0 -0.005	7.437	0.006 -0.006	1.875	0.375	DP--00-52
8	0.011 0	7	0.005 -0.005	7.74	0 -0.005	7.937	0.006 -0.006	1.25	0.375	DP--00-53
9	0.011 0	7.75	0.006 -0.006	8.74	0 -0.005	8.937	0.006 -0.006	1.875	0.375	DP--00-54
9	0.011 0	8	0.006 -0.006	8.736	0 -0.005	8.937	0.006 -0.006	1.25	0.375	DP--00-55
10	0.013 0	9	0.006 -0.006	9.74	0 -0.005	9.937	0.006 -0.006	1.25	0.375	DP--00-56