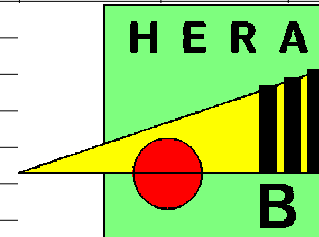


Dimensions of Al proton beam-pipe '99/2

Beam-pipe segments start at Z0, have a length of ΔZ , inner diameter of Di and outer diameter Do. All segments including segment 16 are made from Al.
 Welding joints are positioned at Z0, width of joint = ± 2.5 mm.
 Stiffener rings are positioned at Z1,2,3, width = ± 1.5 mm, outer diameter = Ds.



Seg.	Di	Do	Z0	ΔZ	# of rings	Ds	Z1	Z2	Z3	Weight(g)
0	38	41	1929	96						48
						in situ welding joint 0--1*				
1*	38	44	2025	40						42
	38	42	2065	10						7
1	38	39	2075	297						48
<i>MS01</i>	66,5		2091	85						
2	40	41	2372	432						84
3	45	46	2804	307						67
<i>MS03</i>	66,5		3098	42						
4	50	51	3111	584	1	58,0	3403			144
5	55	56	3695	532	1	63,4	3961			148
<i>MS05</i>	69,5		4153	42						
6	65	66	4227	420	1	74,2	4437			141
7	70	71	4647	398	1	79,8	4846			143
8	75	76	5045	361	1	85,0	5226			159
<i>MS06</i>	92,5		5318	42						
8*	75	76	5406	181		new segment, welded to 8 in situ welding joint 8* - 9*				80
9*	85	86	5587	156		new segment, welded to 9				72
9	85	86	5743	311	1	95,8	5899			144
10	90	91	6054	437	2	101,2	6200	6345		225
11	95	96	6491	407	2	106,6	6627	6762		206
<i>MS10</i>	116,3		6864	171						
12	100	101	6898	522	3	112,0	7029	7159	7289	320
<i>MS11</i>	116,3		7341	85						

