



TC 12 144

0,044x Bi-Telecentric lens for detectors up to 1/2"



part number		TC 12 144
Magnification		0,044 +/- 3%
Field Of View		
with 1/4" (3,6 x 2,7) detector	(mm)	81,0 x 60,7
with 1/3" (4,8 x 3,6) detector		107,9 x 81,0
with 1/2" (6,4 x 4,8) detector		143,9 x 107,9
with 1/1.8" (7,13 x 5,37) detector		160,3 x 120,7
with 2/3" (8,8 x 6,6) detector		diam. = 148,4
Working Distance	(mm)	398,0 +/- 12
Working F-number		8
Telecentricity	(degree)	< 0,08
Distortion	(%)	<0,08
Field Depth	(mm)	339,0
CTF @70 lp/mm	(%)	> 35
Image side N.A.		0,0620
Object side N.A.		0,0027
Mount		C
Length	(mm)	462,1
External diameter	(mm)	200,0
Weight	(g)	6500

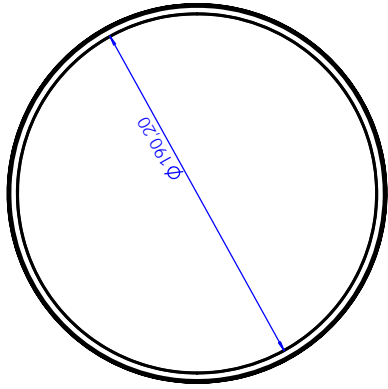
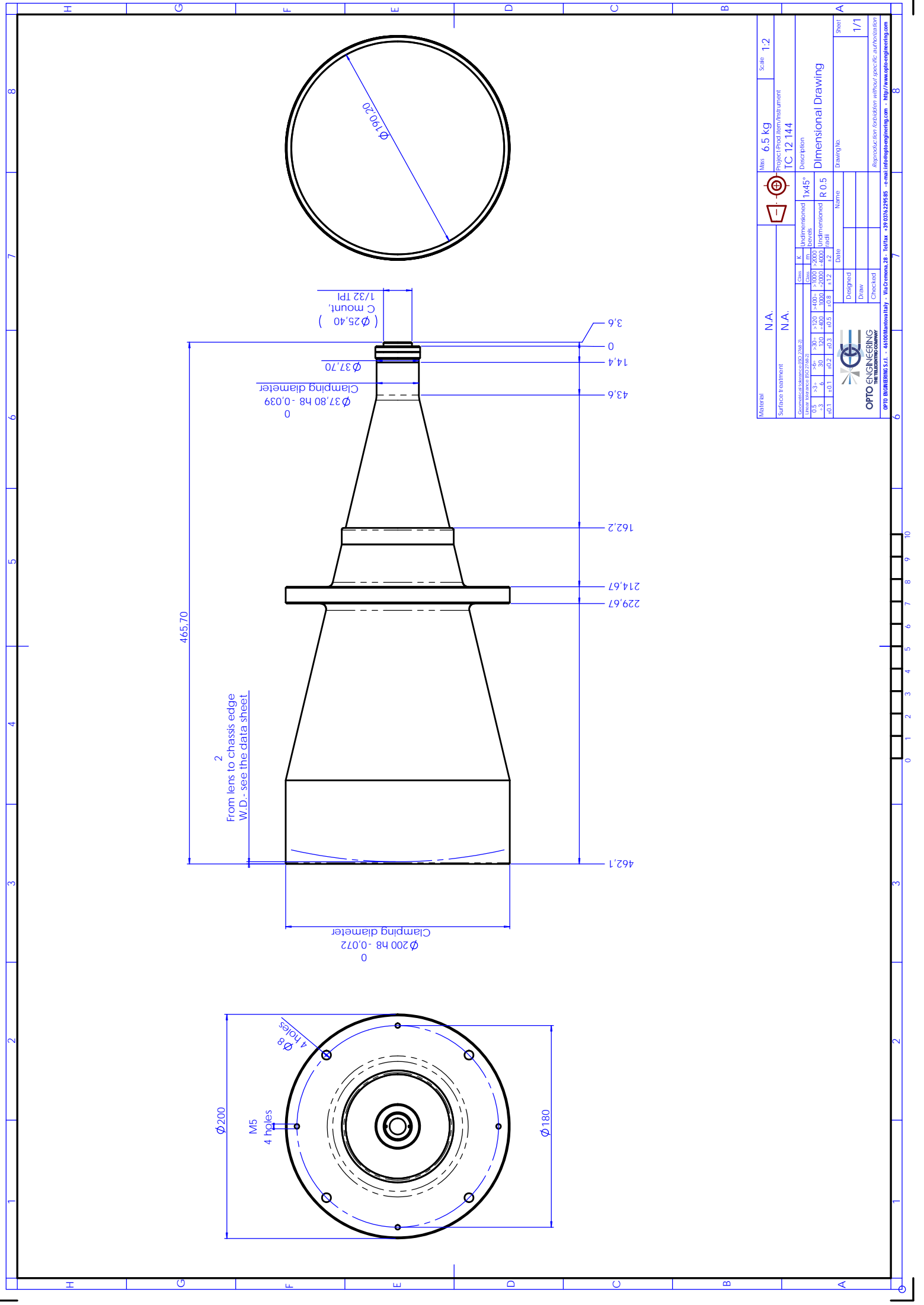
Possible vignetting at the image corners with 1/1.8" detectors

ACCESSORIES AND OPTIONS:



Collimated/Telecentric illumination:

Compatible with LTCL144 illuminator;
green light suggested.



Material	N.A.	Mass	6.5 kg	Scale	1:2
Surface treatment	N.A.	Project/Item/Instrument	TC 12.144		
Geometrical tolerances (ISO 2768-0)		Indimensioned	1x45°		
Linear tolerance (ISO 2768-1)		Class	m		
0.1	-3+	>301	>1000	>2000	
0.3	-4	120	400	630	
0.5	-5	63	160	250	
1.0	-6	32	80	125	
1.5	-7	20	50	75	
2.0	-8	15	40	60	
3.0	-9	10	30	45	
4.0	-10	7	20	30	
5.0	-11	5	15	22	
6.0	-12	4	12	18	
8.0	-13	3	9	14	
10.0	-14	2	7	11	
12.0	-15	1.5	6	9	
15.0	-16	1	4	6	
20.0	-17	0.7	3	4	
25.0	-18	0.5	2	3	
30.0	-19	0.4	1.5	2	
40.0	-20	0.3	1	1.5	
50.0	-21	0.2	0.7	1	
63.0	-22	0.15	0.5	0.7	
80.0	-23	0.1	0.3	0.5	
100.0	-24	0.07	0.2	0.3	
125.0	-25	0.05	0.15	0.2	
160.0	-26	0.04	0.1	0.15	
200.0	-27	0.03	0.07	0.1	
250.0	-28	0.02	0.05	0.07	
315.0	-29	0.015	0.04	0.05	
400.0	-30	0.01	0.03	0.04	
500.0	-31	0.008	0.025	0.035	
630.0	-32	0.006	0.02	0.028	
800.0	-33	0.005	0.015	0.02	
1000.0	-34	0.004	0.01	0.015	
1250.0	-35	0.003	0.008	0.012	
1600.0	-36	0.0025	0.006	0.009	
2000.0	-37	0.002	0.005	0.007	
2500.0	-38	0.0015	0.004	0.006	
3150.0	-39	0.0012	0.003	0.005	
4000.0	-40	0.001	0.0025	0.004	
5000.0	-41	0.0008	0.002	0.003	
6300.0	-42	0.0006	0.0015	0.0025	
8000.0	-43	0.0005	0.0012	0.002	
10000.0	-44	0.0004	0.001	0.0015	
12500.0	-45	0.0003	0.0008	0.0012	
16000.0	-46	0.00025	0.0006	0.001	
20000.0	-47	0.0002	0.0005	0.0008	
25000.0	-48	0.00015	0.0004	0.0006	
31500.0	-49	0.00012	0.0003	0.0005	
40000.0	-50	0.0001	0.00025	0.0004	
50000.0	-51	0.00008	0.0002	0.0003	
63000.0	-52	0.00006	0.00015	0.00025	
80000.0	-53	0.00005	0.00012	0.0002	
100000.0	-54	0.00004	0.0001	0.00015	
125000.0	-55	0.00003	0.00008	0.00012	
160000.0	-56	0.000025	0.00006	0.0001	
200000.0	-57	0.00002	0.00005	0.00008	
250000.0	-58	0.000015	0.00004	0.00006	
315000.0	-59	0.000012	0.00003	0.00005	
400000.0	-60	0.00001	0.000025	0.00004	
500000.0	-61	0.000008	0.00002	0.00003	
630000.0	-62	0.000006	0.000015	0.000025	
800000.0	-63	0.000005	0.000012	0.00002	
1000000.0	-64	0.000004	0.00001	0.000015	
1250000.0	-65	0.000003	0.000008	0.000012	
1600000.0	-66	0.0000025	0.000006	0.00001	
2000000.0	-67	0.000002	0.000005	0.000008	
2500000.0	-68	0.0000015	0.000004	0.000006	
3150000.0	-69	0.0000012	0.000003	0.000005	
4000000.0	-70	0.000001	0.0000025	0.000004	
5000000.0	-71	0.0000008	0.000002	0.000003	
6300000.0	-72	0.0000006	0.0000015	0.0000025	
8000000.0	-73	0.0000005	0.0000012	0.000002	
10000000.0	-74	0.0000004	0.000001	0.0000015	
12500000.0	-75	0.0000003	0.0000008	0.0000012	
16000000.0	-76	0.00000025	0.0000006	0.000001	
20000000.0	-77	0.0000002	0.0000005	0.0000008	
25000000.0	-78	0.00000015	0.0000004	0.0000006	
31500000.0	-79	0.00000012	0.0000003	0.0000005	
40000000.0	-80	0.0000001	0.00000025	0.0000004	
50000000.0	-81	0.00000008	0.0000002	0.0000003	
63000000.0	-82	0.00000006	0.00000015	0.00000025	
80000000.0	-83	0.00000005	0.00000012	0.0000002	
100000000.0	-84	0.00000004	0.0000001	0.00000015	
125000000.0	-85	0.00000003	0.00000008	0.00000012	
160000000.0	-86	0.000000025	0.00000006	0.0000001	
200000000.0	-87	0.00000002	0.00000005	0.00000008	
250000000.0	-88	0.000000015	0.00000004	0.00000006	
315000000.0	-89	0.000000012	0.00000003	0.00000005	
400000000.0	-90	0.00000001	0.000000025	0.00000004	
500000000.0	-91	0.000000008	0.00000002	0.00000003	
630000000.0	-92	0.000000006	0.000000015	0.000000025	
800000000.0	-93	0.000000005	0.000000012	0.00000002	
1000000000.0	-94	0.000000004	0.00000001	0.000000015	
1250000000.0	-95	0.000000003	0.000000008	0.000000012	
1600000000.0	-96	0.0000000025	0.000000006	0.00000001	
2000000000.0	-97	0.000000002	0.000000005	0.000000008	
2500000000.0	-98	0.0000000015	0.000000004	0.000000006	
3150000000.0	-99	0.0000000012	0.000000003	0.000000005	
4000000000.0	-100	0.000000001	0.0000000025	0.000000004	
5000000000.0	-101	0.0000000008	0.000000002	0.000000003	
6300000000.0	-102	0.0000000006	0.0000000015	0.0000000025	
8000000000.0	-103	0.0000000005	0.0000000012	0.000000002	
10000000000.0	-104	0.0000000004	0.000000001	0.0000000015	
12500000000.0	-105	0.0000000003	0.0000000008	0.0000000012	
16000000000.0	-106	0.00000000025	0.0000000006	0.000000001	
20000000000.0	-107	0.0000000002	0.0000000005	0.0000000008	
25000000000.0	-108	0.00000000015	0.0000000004	0.0000000006	
31500000000.0	-109	0.00000000012	0.0000000003	0.0000000005	
40000000000.0	-110	0.0000000001	0.00000000025	0.0000000004	
50000000000.0	-111	0.00000000008	0.0000000002	0.0000000003	
63000000000.0	-112	0.00000000006	0.00000000015	0.00000000025	
80000000000.0	-113	0.00000000005	0.00000000012	0.0000000002	
100000000000.0	-114	0.00000000004	0.0000000001	0.00000000015	
125000000000.0	-115	0.00000000003	0.00000000008	0.00000000012	
160000000000.0	-116	0.000000000025	0.00000000006	0.0000000001	
200000000000.0	-117	0.00000000002	0.00000000005	0.00000000008	
250000000000.0	-118	0.000000000015	0.00000000004	0.00000000006	
315000000000.0	-119	0.000000000012	0.00000000003	0.00000000005	
400000000000.0	-120	0.00000000001	0.000000000025	0.00000000004	
500000000000.0	-121	0.000000000008	0.00000000002	0.00000000003	
630000000000.0	-122	0.000000000006	0.000000000015	0.000000000025	
800000000000.0	-123	0.000000000005	0.000000000012	0.00000000002	
1000000000000.0	-124	0.000000000004	0.00000000001	0.000000000015	
1250000000000.0	-125	0.000000000003	0.000000000008	0.000000000012	
1600000000000.0	-126	0.0000000000025	0.000000000006	0.00000000001	
2000000000000.0	-127	0.000000000002	0.000000000005	0.000000000008	
2500000000000.0	-128	0.0000000000015	0.000000000004	0.000000000006	
3150000000000.0	-129	0.0000000000012	0.000000000003	0.000000000005	
4000000000000.0	-130	0.000000000001	0.0000000000025	0.000000000004	
5000000000000.0	-131	0.0000000000008	0.000000000002	0.000000000003	
6300000000000.0	-132	0.0000000000006	0.0000000000015	0.0000000000025	
8000000000000.0	-133	0.0000000000005	0.0000000000012	0.000000000002	
10000000000000.0	-134	0.0000000000004	0.000000000001	0.0000000000015	
12500000000000.0	-135	0.0000000000003	0.0000000000008	0.0000000000012	
16000000000000.0	-136	0.00000000000025	0.0000000000006	0.000000000001	
20000000000000.0	-137	0.0000000000002	0.0000000000005	0.0000000000008	
25000000000000.0	-138	0.00000000000015	0.0000000000004	0.0000000000006	
31500000000000.0	-139	0.00000000000012	0.0000000000003	0.0000000000005	
40000000000000.0	-140	0.0000000000001	0.00000000000025	0.0000000000004	
50000000000000.0	-141	0.00000000000008	0.0000000000002	0.0000000000003	
63000000000000.0	-142	0.00000000000006	0.00000000000015	0.00000000000025	
80000000000000.0	-143	0.00000000000005	0.00000000000012	0.0000000000002	
100000000000000.0	-144	0.00000000000004	0.0000000000001	0.00000000000015	
125000000000000.0	-145	0.00000000000003	0.00000000000008	0.00000000000012	
160000000000000.0	-146	0.000000000000025	0.00000000000006	0.0000000000001	
200000000000000.0	-147	0.00000000000002	0.00000000000005	0.00000000000008	
250000000000000.0	-148	0.000000000000015	0.00000000000004	0.00000000000006	
315000000000000.0	-149	0.000000000000012	0.00000000000003	0.00000000000005	
400000000000000.0	-150	0.00000000			