

ROTOGRAPH EVO – Dose per Area Product

Dose per Area product values

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Revision 1 dated 20/11/09 for firmware 3.00 (implant):

modification in blue: panoramic adult=child; corrected error in ceph 24x22LL

Panoramic Adult and child

<i>mA</i> →	6	7	8	9	10
kV↓	DAP[μGym^2]				
60	5.9	6.9	7.9	8.8	9.8
62	6.2	7.3	8.3	9.4	10.4
64	6.7	7.8	8.9	10.0	11.2
66	7.2	8.4	9.5	10.7	11.9
68	7.6	8.9	10.2	11.4	12.7
70	8.2	9.6	10.9	12.3	13.7
72	8.5	10.0	11.4	12.8	14.2
74	9.0	10.5	12.0	13.5	15.0
76	9.5	11.0	12.6	14.2	15.8
78	9.9	11.6	13.2	14.9	16.6
80	10.5	12.3	14.0	15.8	17.5
82	10.8	12.6	14.4	16.2	18.0
84	11.4	13.3	15.2	17.1	19.0
86	12.0	14.0	16.0	18.0	20.0

Half Panoramic Adult and child

<i>mA</i> →	6	7	8	9	10
kV↓	DAP[μGym^2]				
60	3.2	3.8	4.3	4.9	5.4
62	3.4	4	4.6	5.1	5.7
64	3.7	4.3	4.9	5.5	6.1
66	3.9	4.6	5.3	5.9	6.6
68	4.2	4.9	5.6	6.3	7
70	4.5	5.3	6	6.8	7.5
72	4.7	5.5	6.3	7.1	7.8
74	5	5.8	6.6	7.4	8.3
76	5.2	6.1	6.9	7.8	8.7
78	5.5	6.4	7.3	8.2	9.1
80	5.8	6.7	7.7	8.7	9.6
82	6.4	7.5	8.5	9.6	10.7
84	6.7	7.8	9.0	10.1	11.2
86	7.1	8.2	9.4	10.6	11.8

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Low Dose PAN (Adult and Child)

<i>mA</i> →	6	7	8	9	10
kV↓	DAP[μGym²]				
60	4.7	5.5	6.3	7.1	7.9
62	5.0	5.8	6.7	7.5	8.3
64	5.4	6.3	7.1	8.0	8.9
66	5.7	6.7	7.6	8.6	9.5
68	6.1	7.1	8.1	9.1	10.2
70	6.6	7.7	8.7	9.8	10.9
72	6.8	8.0	9.1	10.3	11.4
74	7.2	8.4	9.6	10.8	12.0
76	7.6	8.8	10.1	11.4	12.6
78	7.9	9.3	10.6	11.9	13.2
80	8.4	9.8	11.2	12.6	14.0
82	9.4	11.0	12.6	14.2	15.7
84	9.9	11.6	13.3	14.9	16.6
86	10.5	12.2	13.9	15.7	17.4

PAN Improved Dentition (Adult and Child)

<i>mA</i> →	6	7	8	9	10
kV↓	DAP[μGym²]				
60	4.7	5.4	6.2	7.0	7.8
62	4.9	5.7	6.6	7.4	8.2
64	5.3	6.2	7.1	7.9	8.8
66	5.7	6.6	7.5	8.5	9.4
68	6.0	7.0	8.0	9.0	10.0
70	6.5	7.6	8.6	9.7	10.8
72	6.8	7.9	9.0	10.1	11.3
74	7.1	8.3	9.5	10.7	11.9
76	7.5	8.7	10.0	11.2	12.5
78	7.8	9.2	10.5	11.8	13.1
80	8.3	9.7	11.1	12.5	13.8
82	8.8	10.3	11.7	13.2	14.7
84	9.3	10.8	12.4	13.9	15.5
86	9.8	11.4	13.0	14.6	16.3

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Frontal Dentition (Adult and child)

<i>mA</i> →	6	7	8	9	10
kV↓	DAP[μGym^2]				
60	3.1	3.6	4.1	4.6	5.1
62	3.2	3.8	4.3	4.9	5.4
64	3.5	4.1	4.6	5.2	5.8
66	3.7	4.3	5.0	5.6	6.2
68	4.0	4.6	5.3	5.9	6.6
70	4.3	5.0	5.7	6.4	7.1
72	4.4	5.2	5.9	6.7	7.4
74	4.7	5.5	6.2	7.0	7.8
76	4.9	5.7	6.6	7.4	8.2
78	5.2	6.0	6.9	7.7	8.6
80	5.5	6.4	7.3	8.2	9.1
82	5.8	6.8	7.7	8.7	9.7
84	6.1	7.1	8.2	9.2	10.2
86	6.4	7.5	8.6	9.6	10.7

Bitewing Left. Bitewing Right (Adult and Child)

<i>mA</i> →	6	7	8	9	10
kV↓	DAP[μGym^2]				
60	1.3	1.5	1.7	1.9	2.1
62	1.3	1.5	1.8	2.0	2.2
64	1.4	1.7	1.9	2.1	2.4
66	1.5	1.8	2.0	2.3	2.5
68	1.6	1.9	2.2	2.4	2.7
70	1.7	2.0	2.3	2.6	2.9
72	1.8	2.1	2.4	2.7	3.0
74	1.9	2.2	2.6	2.9	3.2
76	2.0	2.3	2.7	3.0	3.4
78	2.1	2.5	2.8	3.2	3.5
80	2.2	2.6	3.0	3.4	3.7
82	2.4	2.8	3.1	3.5	4.0
84	2.5	2.9	3.3	3.7	4.2
86	2.6	3.1	3.5	3.9	4.4

Bitewing Left And Right (Adult and Child)

<i>mA</i> →	6	7	8	9	10
kV↓	DAP[μGym^2]				
60	2.5	2.9	3.3	3.7	4.1
62	2.6	3.0	3.5	3.9	4.3
64	2.8	3.3	3.8	4.2	4.7

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66	3.0	3.5	4.0	4.5	5.0
68	3.2	3.7	4.2	4.8	5.3
70	3.4	4.0	4.6	5.1	5.7
72	3.6	4.2	4.8	5.3	6.0
74	3.8	4.4	5.0	5.7	6.3
76	4.0	4.6	5.3	5.9	6.6
78	4.1	4.9	5.6	6.2	6.9
80	4.4	5.1	5.9	6.6	7.3
82	4.7	5.5	6.2	7.0	7.8
84	4.9	5.7	6.6	7.4	8.2
86	5.2	6.0	6.9	7.7	8.6

TMJ (Adult and Child) Total

<i>mA</i> →	6	7	8	9	10
kV↓	DAP[$\mu\text{Gy}\cdot\text{m}^2$]				
60	4.2	4.9	5.6	6.3	7.0
62	4.4	5.2	5.9	6.6	7.4
64	4.8	5.5	6.3	7.1	7.9
66	5.1	5.9	6.8	7.6	8.5
68	5.4	6.3	7.2	8.1	9.0
70	5.8	6.8	7.8	8.7	9.7
72	6.1	7.1	8.1	9.1	10.1
74	6.4	7.5	8.5	9.6	10.7
76	6.7	7.8	9.0	10.1	11.2
78	7.1	8.2	9.4	10.6	11.8
80	7.5	8.7	9.9	11.2	12.4
82	8.2	9.6	11.0	12.4	13.7
84	8.7	10.1	11.5	13.0	14.4
86	9.1	10.6	12.1	13.6	15.1

ROTOGRAPH EVO – Dose per Area Product

Sinus(Adult and Child)

<i>mA</i> →	6	7	8	9	10
kV↓	DAP[μGym^2]				
60	4.0	4.6	5.3	5.9	6.6
62	4.2	4.9	5.6	6.3	7.0
64	4.5	5.2	6.0	6.7	7.5
66	4.8	5.6	6.4	7.2	8.0
68	5.1	6.0	6.8	7.7	8.5
70	5.5	6.4	7.3	8.3	9.2
72	5.7	6.7	7.7	8.6	9.5
74	6.0	7.1	8.1	9.1	10.1
76	6.4	7.4	8.5	9.5	10.6
78	6.6	7.8	8.9	10.0	11.1
80	7.1	8.3	9.4	10.6	11.8
82	7.3	8.5	9.7	10.9	12.1
84	7.6	8.9	10.2	11.5	12.7
86	8.0	9.4	10.7	12.1	13.4

ROTOGRAPH EVO – Dose per Area Product

CEPH^I

18×22LL - nR^{II} - Soft Tissue Filter out of exposed area

mA →	6	7	8	9	10	11	12
kV↓	DAP[μGym²						
60	0.33	0.38	0.44	0.49	0.55	0.60	0.65
62	0.35	0.41	0.47	0.53	0.59	0.65	0.71
64	0.38	0.44	0.50	0.57	0.63	0.69	0.75
66	0.40	0.47	0.54	0.60	0.67	0.74	0.80
68	0.43	0.51	0.58	0.65	0.72	0.80	0.87
70	0.46	0.54	0.61	0.69	0.77	0.84	0.92
72	0.48	0.56	0.64	0.72	0.81	0.89	0.97
74	0.51	0.60	0.68	0.77	0.85	0.94	1.03
76	0.54	0.63	0.72	0.81	0.90	0.99	1.08
78	0.57	0.66	0.76	0.85	0.94		
80	0.59	0.69	0.79	0.89	0.99		
82	0.62	0.72	0.82	0.93	1.03		
84	0.65	0.76	0.87	0.97	1.08		
86	0.68	0.80	0.91	1.02	1.14		

24×22AP-PA – nR and 24x22LL nR- Soft Tissue Filter out of exposed area

mA →	6	7	8	9	10	11	12
kV↓	DAP[μGym²						
60	0.47	0.55	0.63	0.71	0.79	0.86	0.94
62	0.51	0.60	0.68	0.77	0.85	0.94	1.02
64	0.54	0.63	0.72	0.82	0.91	1.00	1.09
66	0.58	0.68	0.77	0.87	0.96	1.06	1.16
68	0.63	0.73	0.83	0.94	1.04	1.15	1.25
70	0.66	0.77	0.88	0.99	1.10	1.21	1.32
72	0.70	0.81	0.93	1.04	1.16	1.28	1.39
74	0.74	0.86	0.98	1.11	1.23	1.35	1.48
76	0.78	0.91	1.04	1.17	1.30	1.43	1.56
78	0.82	0.95	1.09	1.22	1.36		
80	0.88	1.00	1.14	1.28	1.43		
82	0.93	1.09	1.24	1.40	1.55		
84	0.98	1.14	1.31	1.47	1.63		
86	1.03	1.20	1.37	1.54	1.71		

ROTOGRAPH EVO – Dose per Area Product

30×22 – nR - Soft Tissue Filter out of exposed area

<i>mA</i> →	6	7	8	9	10	11	12
kV↓	DAP[μGym²						
60	0.58	0.68	0.77	0.87	0.97	1.06	1.16
62	0.63	0.74	0.84	0.95	1.04	1.16	1.25
64	0.66	0.77	0.89	1.01	1.12	1.23	1.34
66	0.71	0.84	0.95	1.07	1.18	1.30	1.43
68	0.77	0.90	1.02	1.16	1.28	1.41	1.54
70	0.81	0.95	1.08	1.22	1.35	1.49	1.62
72	0.86	1.00	1.14	1.28	1.43	1.57	1.71
74	0.91	1.06	1.20	1.36	1.51	1.66	1.82
76	0.96	1.12	1.28	1.44	1.60	1.76	1.92
78	1.01	1.17	1.34	1.50	1.67		
80	1.09	1.23	1.40	1.57	1.76		
82	1.14	1.33	1.53	1.72	1.91		
84	1.20	1.40	1.60	1.81	2.01		
86	1.26	1.48	1.69	1.90	2.11		

ROTOGRAPH EVO – Dose per Area Product

CARPUS

18×22S - nR – Soft Tissue Filter out

<i>mA</i> →	6	7	8	9	10	11	12
<i>kV</i> ↓	DAP[μGym^2]						
60	0.38	0.45	0.51	0.57	0.64	0.70	0.76
62	0.41	0.48	0.55	0.62	0.69	0.76	0.83
64	0.44	0.51	0.59	0.66	0.73	0.81	0.88
66	0.47	0.55	0.63	0.70	0.78	0.86	0.94
68	0.51	0.59	0.68	0.76	0.84	0.93	1.01
70	0.54	0.63	0.71	0.80	0.89	0.98	1.07
72	0.56	0.66	0.75	0.85	0.94	1.03	1.13
74	0.60	0.70	0.80	0.90	1.00	1.10	1.20
76	0.63	0.74	0.84	0.95	1.05	1.16	1.26
78	0.66	0.77	0.88	0.99	1.10		
80	0.69	0.81	0.92	1.04	1.16		
82	0.72	1.51	1.72	1.93	2.16		
84	0.76	1.64	1.88	2.11	2.34		
86	0.80	1.73	1.97	2.22	2.47		

NOTE

ⁱ In ceph examination, the dose depends also on the position of soft tissue filter. The data shown are with the filter totally outside the x-ray field i.e. it's the worst case.

ⁱⁱ In DIGITAL CEPH exam user can select normal (n) and high (H) resolution mode. The given tables are for normal resolution exams; since the dose is linear with exposure time to calculate high resolution exam DAP the DAP values in tables must be multiplied per 2.