

H SYSTEM EXTENSION TUBES

DATASHEET

IMPERIAL UNITS

H 13MM
H 26MM
H 52MM

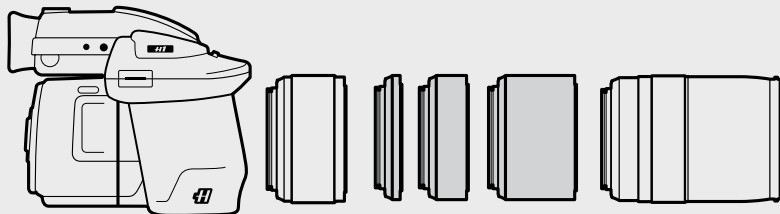


PHYSICAL DATA:

	H 13MM	H 26MM	H 52MM
Extension	0.51 in	1.0 in	2.1 in
Weight (including covers)	4.41 oz	5.29 oz	6.88 oz
External dimensions (including covers)	3.3 x 1.3 in	3.3 x 1.8 in	3.3 x 2.9 in

EXTENSION TUBES & CONVERTER

When the extension tubes are used together with a converter, they should be mounted between the converter and the lens for optimum performance.

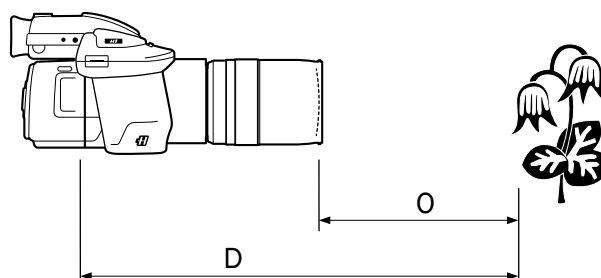


H SYSTEM EXTENSION TUBES

IMPERIAL UNITS

Table for lens and single extension tube

- D Subject to film plane distance
- O Subject to lens distance
- m Magnification
- R Exposure reduction (EV), Only used in manual exposure mode



	Lens focus setting	13 mm				26 mm				52 mm				
		D	O	m	R	D	O	m	R	D	O	m	R	
HCD 4/28 mm	∞	8.6	1.8	0.45	0.3	7.8	0.5	0.90	0.6	-	-	-	-	
	1.1	8.0	1.2	0.59	0.4	7.7	0.3	1.05	0.7	-	-	-	-	
HC 3.5/35 mm	∞	11	3.1	0.37	0.3	9.3	1.1	0.73	0.6	9.4	0.2	1.44	1.1	
	1.6	9.8	2.2	0.47	0.4	9.1	0.9	0.84	0.7	9.3	0.1	1.56	1.2	
HC 3.5/50 mm	∞	14	7.0	0.26	0.3	11	3.2	0.52	0.6	10	1.3	1.03	1.0	
	2.0	12	4.7	0.38	0.4	10	2.6	0.64	0.7	10	1.2	1.17	1.2	
HC 3.5/50 + 1.7x	∞	16	7.0	0.44	0.3	13	3.2	0.87	0.6	12	1.3	1.74	1.0	
	2.0	14	4.6	0.63	0.4	12	2.6	1.08	0.7	12	1.2	1.96	1.2	
HC 2.8/80 mm	∞	27	22	0.16	0.4	17	12	0.32	0.7	13	6.5	0.63	1.3	
	2.3	17	12	0.31	0.7	14	8.3	0.47	1.0	13	5.5	0.78	1.5	
HC 2.8/80 mm + 1.7x	∞	29	22	0.27	0.4	19	12	0.53	0.7	15	6.5	1.06	1.3	
	2.3	19	12	0.52	0.7	16	8.3	0.79	1.0	15	5.5	1.32	1.6	
HC 2.2/100 mm	∞	37	31	0.13	0.35	23	16	0.26	0.67	16	8.8	0.52	1.23	
	3.0	22	16	0.27	0.69	18	11	0.40	0.98	15	7.2	0.66	1.49	
HC 2.2/100 mm + 1.7x	∞	39	31	0.22	0.35	25	16	0.44	0.67	18	8.8	0.88	1.24	
	3.0	24	16	0.45	0.69	20	11	0.67	0.99	17	7.2	1.11	1.50	
HC Macro 4/120	∞	53	45	0.11	0.28	32	24	0.22	0.54	23	14	0.44	1.00	
	1.3	15	5.2	1.16	1.48	16	4.9	1.31	1.69	16	4.4	1.61	2.07	
HC Macro 4/120 + 1.7x	∞	55	45	0.18	0.28	34	24	0.37	0.54	25	14	0.73	1.00	
	1.3	17	5.2	1.94	1.47	18	4.9	2.20	1.68	18	4.4	2.71	2.07	
HC 3.2/150 mm	∞	78	70	0.09	0.3	45	36	0.17	0.5	29	20	0.35	1.0	
	4.3	36	29	0.23	0.3	30	22	0.32	0.5	25	15	0.49	1.0	
HC 3.2/150 mm + 1.7x	∞	80	70	0.15	0.3	46	36	0.29	0.5	31	20	0.58	1.0	
	4.3	38	29	0.39	0.3	32	22	0.54	0.5	27	15	0.83	1.0	
HC 4/210 mm	∞	150	141	0.06	0.3	83	73	0.12	0.5	51	40	0.25	0.9	
	5.9	54	45	0.21	0.3	46	36	0.27	0.5	38	27	0.40	0.9	
HC 4/210 mm + 1.7x	∞	152	141	0.10	0.3	85	73	0.21	0.5	53	40	0.41	0.9	
	5.9	56	45	0.35	0.3	48	36	0.46	0.5	39	27	0.68	0.9	
HC 4.5/300 mm	∞	283	272	0.045	0.25	154	143	0.089	0.48	91	79	0.18	0.90	
	8.0	77	66	0.19	0.24	66	55	0.24	0.47	54	42	0.34	0.88	
HC 4.5/300 mm + 1.7x	∞	284	272	0.075	0.25	156	143	0.15	0.48	93	79	0.30	0.89	
	8.0	79	66	0.31	0.22	68	55	0.40	0.45	56	42	0.57	0.86	
HC 3.5-4.5/50-110 mm	50	∞	16	7.2	0.25	0.4	13	3.1	0.51	0.8	12	1.2	1.01	1.4
		2.3	13	3.8	0.38	0.4	12	1.7	0.66	0.8	11	0.4	1.22	1.4
	80	∞	28	20	0.16	0.3	19	10	0.33	0.6	15	5.2	0.65	1.0
		2.3	17	8.0	0.33	0.3	15	5.0	0.52	0.6	13	2.8	0.90	1.0
	110	∞	46	37	0.12	0.2	28	19	0.24	0.5	21	10	0.48	0.8
		2.3	20	11	0.34	0.2	18	7.8	0.49	0.5	16	5.1	0.78	0.8

Blue numbers : AF not possible

- : incompatible combination

H SYSTEM EXTENSION TUBES

IMPERIAL UNITS

Table for lens and combination of extension tubes

	Lens focus setting	13 + 26 mm				13 + 52 mm				26 + 52 mm				13 + 26 + 52 mm				
		D	O	m	R	D	O	m	R	D	O	m	R	D	O	m	R	
HCD 4/28 mm	∞	7.9	0.08	1.35	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-
	1.1	7.9	0	1.50	1	-	-	-	-	-	-	-	-	-	-	-	-	-
HC 3.5/35 mm	∞	9.2	0.5	1.09	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-
	1.6	9.1	0.4	1.20	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-
HC 3.5/50 mm	∞	10	2.0	0.78	0.8	10	0.9	1.29	1.3	11	0.7	1.55	1.4	11	0.5	1.80	1.6	
	2.0	10	1.7	0.91	1.0	10	0.9	1.43	1.5	11	0.7	1.69	1.7	11	0.5	1.95	1.9	
HC 3.5/50 + 1.7x	∞	12	2.0	1.30	0.8	12	0.9	2.16	1.3	13	0.7	2.59	1.4	13	0.5	3.01	1.6	
	2.0	12	1.7	1.52	1.0	12	0.9	2.4	1.5	12	0.7	2.83	1.7	13	0.5	3.27	1.9	
HC 2.8/80 mm	∞	14	8.2	0.48	1.0	13	5.5	0.79	1.5	12	4.8	0.95	1.8	12	4.3	1.10	2.0	
	2.3	13	6.5	0.63	1.3	12	4.8	0.94	1.8	12	4.3	1.10	2.0	13	3.9	1.25	2.2	
HC 2.8/80 mm + 1.7x	∞	16	8.2	0.80	1.0	15	5.5	1.33	1.6	14	4.8	1.59	1.8	14	4.3	1.85	2.0	
	2.3	15	6.5	1.05	1.3	14	4.8	1.58	1.8	14	4.3	1.84	2.0	15	3.9	2.09	2.2	
HC 2.2/100 mm	∞	18	11	0.39	1.0	15	7.2	0.65	1.5	15	6.3	0.78	1.7	15	5.6	0.91	1.9	
	3.0	16	8.7	0.53	1.2	15	6.3	0.79	1.7	15	5.6	0.92	1.9	15	5.0	1.05	2.1	
HC 2.2/100 mm + 1.7x	∞	20	11	0.66	1.0	17	7.3	1.10	1.5	17	6.3	1.31	1.7	17	5.6	1.53	1.9	
	3.0	18	8.7	0.89	1.3	17	6.3	1.33	1.7	17	5.6	1.55	2.0	17	5.0	1.76	2.2	
HC Macro 4/120	∞	26	17	0.33	0.8	21	11	0.55	1.2	20	10	0.66	1.4	20	8.9	0.77	1.6	
	1.3	16	4.6	1.46	1.9	16	4.2	1.77	2.2	17	4.1	1.92	2.4	17	3.9	2.07	2.6	
HC Macro 4/120 + 1.7x	∞	28	17	0.55	0.8	23	11	0.92	1.2	22	10	1.10	1.4	22	8.9	1.28	1.6	
	1.3	18	4.6	2.45	1.9	18	4.2	2.97	2.2	19	4.1	3.22	2.4	19	3.9	3.48	2.6	
HC 3.2/150 mm	∞	34	25	0.26	0.8	26	16	0.43	1.2	24	14	0.52	1.4	23	12	0.61	1.5	
	4.3	27	18	0.41	0.8	23	14	0.58	1.2	22	12	0.67	1.4	22	11	0.75	1.5	
HC 3.2/150 mm + 1.7x	∞	36	25	0.44	0.8	28	16	0.73	1.2	26	14	0.87	1.4	25	12	1.02	1.5	
	4.3	29	18	0.68	0.8	25	14	0.98	1.2	24	12	1.12	1.4	24	11	1.26	1.5	
HC 4/210 mm	∞	61	51	0.19	0.7	44	33	0.31	1.1	40	28	0.37	1.3	38	25	0.43	1.4	
	5.9	41	30	0.34	0.7	35	24	0.47	1.1	34	22	0.53	1.3	33	20	0.60	1.4	
HC 4/210 mm + 1.7x	∞	63	51	0.31	0.7	46	33	0.52	1.1	42	28	0.62	1.3	40	25	0.73	1.4	
	5.9	43	30	0.57	0.7	37	24	0.78	1.1	36	22	0.89	1.3	35	20	1.00	1.4	
HC 4.5/300 mm	∞	112	100	0.13	0.7	78	66	0.22	1.1	70	57	0.27	1.3	65	51	0.31	1.4	
	8.0	59	47	0.29	0.7	51	38	0.39	0.1	48	35	0.44	1.2	47	33	0.50	1.4	
HC 4.5/300 mm + 1.7x	∞	114	100	0.22	0.7	80	66	0.37	1.1	72	57	0.45	1.3	67	51	0.52	1.4	
	8.0	61	47	0.49	0.7	53	38	0.66	1.0	50	35	0.75	1.2	49	33	0.84	1.4	
50	∞	12	1.9	0.76	1.1	12	0.8	1.26	1.6	-	-	-	-	-	-	-	-	
	2.3	11	0.9	0.94	1.1	12	0.2	1.49	1.6	-	-	-	-	-	-	-	-	
80	∞	16	6.8	0.49	0.8	15	4.2	0.81	1.2	15	3.6	0.97	1.4	15	3.1	1.14	1.6	
	2.3	13.7	3.6	0.71	0.8	13	2.3	1.09	1.2	14	1.9	1.27	1.4	14	1.7	1.46	1.6	
110	∞	23	13	0.36	0.7	20	8.5	0.60	1.0	19	7.3	0.72	1.2	18	6.5	0.84	1.3	
	2.3	16	6.1	0.63	0.7	16	4.4	0.92	1.0	16	3.9	1.07	1.2	16	3.5	1.21	1.3	

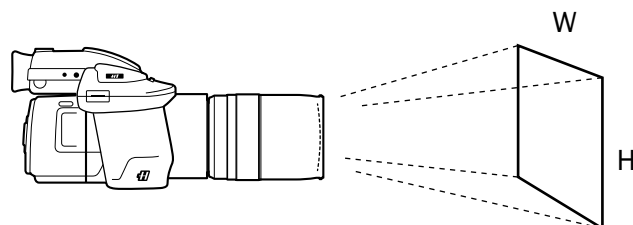
Blue numbers : AF not possible
 - : incompatible combination

H SYSTEM EXTENSION TUBES

DATASHEET

IMPERIAL UNITS

Area of coverage
Single extension tube
Film format: 2.20 × 1.63 in



W Covered area width
H Covered area height
m Magnification

	Lens focus setting	13 mm			26 mm			52 mm			
		W	H	m	W	H	m	W	H	m	
HCD 4/28 mm	∞	4.6	3.3	0.45	2.3	1.7	0.90	-	-	-	
	1.1	3.5	2.6	0.59	2.0	1.5	1.05	-	-	-	
HC 3.5/35 mm	∞	6.0	4.4	0.37	3.0	2.2	0.73	1.5	1.1	1.44	
	1.6	4.7	3.5	0.47	2.6	1.9	0.84	1.4	1.0	1.56	
HC 3.5/50 mm	∞	8.5	6.3	0.26	4.2	3.1	0.52	2.1	1.6	1.03	
	2.0	5.8	4.3	0.38	3.4	2.6	0.64	1.9	1.4	1.17	
HC 3.5/50 + 1.7×	∞	5.0	3.7	0.44	2.5	1.9	0.87	1.3	0.9	1.74	
	2.0	3.5	2.6	0.63	2.0	1.5	1.08	1.1	0.8	1.96	
HC 2.8/80 mm	∞	14	10	0.16	6.9	5.1	0.32	3.5	2.6	0.63	
	2.3	7.1	5.3	0.31	4.7	3.5	0.47	2.8	2.1	0.78	
HC 2.8/80 mm + 1.7×	∞	8.2	6.1	0.27	4.2	3.1	0.53	2.1	1.5	1.06	
	2.3	4.2	3.1	0.52	2.8	2.1	0.79	1.7	1.2	1.32	
HC 2.2/100 mm	∞	17	12	0.13	8.4	6.3	0.26	4.2	3.1	0.52	
	3.0	8.1	6.1	0.27	5.5	4.1	0.40	3.3	2.5	0.66	
HC 2.2/100 mm + 1.7×	∞	10	7.4	0.22	5.0	3.7	0.44	2.5	1.9	0.88	
	3.0	4.8	3.6	0.45	3.3	2.4	0.67	2.0	1.5	1.11	
HC Macro 4/120	∞	21	15	0.11	10	7.4	0.22	5.0	3.7	0.44	
	1.3	1.9	1.4	1.16	1.7	1.3	1.31	1.4	1.0	1.61	
HC Macro 4/120 + 1.7×	∞	12	8.9	0.18	6.0	4.4	0.37	3.0	2.2	0.73	
	1.3	1.1	0.8	1.94	1.0	0.7	2.20	0.8	0.6	2.71	
HC 3.2/150 mm	∞	24	18	0.09	13	9.6	0.17	6.3	4.7	0.35	
	4.3	9.6	7.1	0.23	6.9	5.1	0.32	4.5	3.3	0.49	
HC 3.2/150 mm + 1.7×	∞	15	11	0.15	7.6	5.6	0.29	3.8	2.8	0.58	
	4.3	5.7	4.2	0.39	4.1	3.0	0.54	2.7	2.0	0.83	
HC 4/210 mm	∞	37	27	0.06	18	14	0.12	8.8	6.5	0.25	
	5.9	10	7.8	0.21	8.2	6.1	0.27	5.5	4.1	0.40	
HC 4/210 mm + 1.7×	∞	22	16	0.10	10	7.8	0.21	5.4	4.0	0.41	
	5.9	6.3	4.7	0.35	4.8	3.6	0.46	3.2	2.4	0.68	
HC 4.5/300 mm	∞	49	37	0.045	25	18	0.089	12	9.2	0.18	
	8.0	12	8.7	0.19	9.3	6.9	0.24	6.5	4.8	0.34	
HC 4.5/300 mm + 1.7×	∞	30	22	0.075	15	11	0.15	7.4	5.5	0.30	
	8.0	7.0	5.2	0.31	5.5	4.1	0.40	3.8	2.8	0.57	
HC 3.5-4.5/50-110 mm	50	∞	8.8	6.5	0.25	4.3	3.2	0.51	2.2	1.6	1.01
		2.3	5.8	4.3	0.38	3.3	2.5	0.66	1.8	1.3	1.22
	80	∞	14	10	0.16	6.7	5.0	0.33	3.4	2.5	0.65
		2.3	6.7	5.0	0.33	4.2	3.1	0.52	2.4	1.8	0.90
	110	∞	18	14	0.12	9.2	6.8	0.24	4.6	3.4	0.48
		2.3	6.5	4.8	0.34	4.5	3.3	0.49	2.8	2.1	0.78

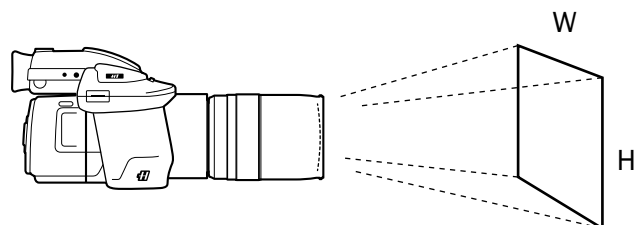
Blue numbers : AF not possible
- : incompatible combination

H SYSTEM EXTENSION TUBES

DATASHEET

IMPERIAL UNITS

Area of coverage
Single extension tube
Digital format: 1.74 × 1.30 in



W Covered area width
H Covered area height
m Magnification

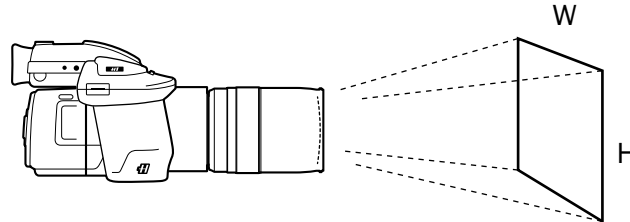
	Lens focus setting	13 mm			26 mm			52 mm			
		W	H	m	W	H	m	W	H	m	
HCD 4/28 mm	∞	3.6	2.6	0.45	1.8	1.4	0.90	-	-	-	
	1.1	2.8	2.1	0.59	1.6	1.2	1.05	-	-	-	
HC 3.5/35 mm	∞	4.7	3.5	0.37	2.4	1.8	0.73	1.2	0.9	1.44	
	1.6	3.7	2.8	0.47	2.1	1.5	0.84	1.1	0.8	1.56	
HC 3.5/50 mm	∞	6.7	5.0	0.26	3.3	2.5	0.52	1.7	1.3	1.03	
	2.0	4.6	3.4	0.38	2.7	2.1	0.64	1.5	1.1	1.17	
HC 3.5/50 + 1.7×	∞	3.9	3.0	0.44	2.0	1.5	0.87	1.0	0.7	1.74	
	2.0	2.8	2.1	0.63	1.6	1.2	1.08	0.9	0.6	1.96	
HC 2.8/80 mm	∞	11.1	8.0	0.16	5.4	4.1	0.32	2.8	2.1	0.63	
	2.3	5.6	4.2	0.31	3.7	2.8	0.47	2.2	1.7	0.78	
HC 2.8/80 mm + 1.7×	∞	6.5	4.9	0.27	3.3	2.5	0.53	1.7	1.2	1.06	
	2.3	3.3	2.5	0.52	2.2	1.7	0.79	1.3	1.0	1.32	
HC 2.2/100 mm	∞	13.4	9.6	0.13	6.6	5.0	0.26	3.3	2.5	0.52	
	3.0	6.4	4.9	0.27	4.3	3.3	0.40	2.6	2.0	0.66	
HC 2.2/100 mm + 1.7×	∞	7.9	5.9	0.22	3.9	3.0	0.44	2.0	1.5	0.88	
	3.0	3.8	2.9	0.45	2.6	1.9	0.67	1.6	1.2	1.11	
HC Macro 4/120	∞	16.6	12.0	0.11	7.9	5.9	0.22	3.9	3.0	0.44	
	1.3	1.5	1.1	1.16	1.3	1.0	1.31	1.1	0.8	1.61	
HC Macro 4/120 + 1.7×	∞	9.5	7.1	0.18	4.7	3.5	0.37	2.4	1.8	0.73	
	1.3	0.9	0.6	1.94	0.8	0.6	2.20	0.6	0.5	2.71	
HC 3.2/150 mm	∞	18.9	14.4	0.09	10.3	7.7	0.17	5.0	3.7	0.35	
	4.3	7.6	5.7	0.23	5.4	4.1	0.32	3.6	2.6	0.49	
HC 3.2/150 mm + 1.7×	∞	11.8	8.8	0.15	6.0	4.5	0.29	3.0	2.2	0.58	
	4.3	4.5	3.3	0.39	3.2	2.4	0.54	2.1	1.6	0.83	
HC 4/210 mm	∞	29.2	21.5	0.06	14.2	11.2	0.12	6.9	5.2	0.25	
	5.9	7.9	6.2	0.21	6.5	4.9	0.27	4.3	3.3	0.40	
HC 4/210 mm + 1.7×	∞	17.4	12.8	0.10	7.9	6.2	0.21	4.3	3.2	0.41	
	5.9	5.0	3.7	0.35	3.8	2.9	0.46	2.5	1.9	0.68	
HC 4.5/300 mm	∞	38.7	29.5	0.045	19.7	14.4	0.089	9.5	7.3	0.18	
	8.0	9.5	6.9	0.19	7.3	5.5	0.24	5.1	3.8	0.34	
HC 4.5/300 mm + 1.7×	∞	23.7	17.5	0.075	11.8	8.8	0.15	5.8	4.4	0.30	
	8.0	5.5	4.1	0.31	4.3	3.3	0.40	3.0	2.2	0.57	
HC 3.5-4.5/50-110 mm	50	∞	6.9	5.2	0.25	3.4	2.6	0.51	1.7	1.3	1.01
		2.3	4.6	3.4	0.38	2.6	2.0	0.66	1.4	1.0	1.22
	80	∞	11.1	8.0	0.16	5.3	4.0	0.33	2.7	2.0	0.65
		2.3	5.3	4.0	0.33	3.3	2.5	0.52	1.9	1.4	0.90
	110	∞	14.2	11.2	0.12	7.3	5.4	0.24	3.6	2.7	0.48
		2.3	5.1	3.8	0.34	3.6	2.6	0.49	2.2	1.7	0.78

Blue numbers : AF not possible
- : incompatible combination

H SYSTEM EXTENSION TUBES

IMPERIAL UNITS

Area of coverage
Single extension tube
Digital format 1.93 × 1.44 in



W Covered area width
H Covered area height
m Magnification

	Lens focus setting	13 mm			26 mm			52 mm			
		W	H	m	W	H	m	W	H	m	
HCD 4/28 mm	∞	4.0	2.9	0.45	2.0	1.5	0.90	-	-	-	
	1.1	3.1	2.3	0.59	1.8	1.3	1.05	-	-	-	
HC 3.5/35 mm	∞	5.3	3.9	0.37	2.6	1.9	0.73	1.3	1.0	1.44	
	1.6	4.1	3.1	0.47	2.3	1.7	0.84	1.2	0.9	1.56	
HC 3.5/50 mm	∞	7.4	5.6	0.26	3.7	2.7	0.52	1.8	1.4	1.03	
	2.0	5.1	3.8	0.38	3.0	2.3	0.64	1.7	1.2	1.17	
HC 3.5/50 + 1.7×	∞	4.4	3.3	0.44	2.2	1.7	0.87	1.1	0.8	1.74	
	2.0	3.1	2.3	0.63	1.8	1.3	1.08	1.0	0.7	1.96	
HC 2.8/80 mm	∞	12.3	8.8	0.16	6.0	4.5	0.32	3.1	2.3	0.63	
	2.3	6.2	4.7	0.31	4.1	3.1	0.47	2.5	1.9	0.78	
HC 2.8/80 mm + 1.7×	∞	7.2	5.4	0.27	3.7	2.7	0.53	1.8	1.3	1.06	
	2.3	3.7	2.7	0.52	2.5	1.9	0.79	1.5	1.1	1.32	
HC 2.2/100 mm	∞	14.9	10.6	0.13	7.4	5.6	0.26	3.7	2.7	0.52	
	3.0	7.1	5.4	0.27	4.8	3.6	0.40	2.9	2.2	0.66	
HC 2.2/100 mm + 1.7×	∞	8.8	6.5	0.22	4.4	3.3	0.44	2.2	1.7	0.88	
	3.0	4.2	3.2	0.45	2.9	2.1	0.67	1.8	1.3	1.11	
HC Macro 4/120	∞	18.4	13.3	0.11	8.8	6.5	0.22	4.4	3.3	0.44	
	1.3	1.7	1.2	1.16	1.5	1.1	1.31	1.2	0.9	1.61	
HC Macro 4/120 + 1.7×	∞	10.5	7.9	0.18	5.3	3.9	0.37	2.6	1.9	0.73	
	1.3	1.0	0.7	1.94	0.9	0.6	2.20	0.7	0.5	2.71	
HC 3.2/150 mm	∞	21.0	15.9	0.09	11.4	8.5	0.17	5.5	4.2	0.35	
	4.3	8.4	6.3	0.23	6.0	4.5	0.32	3.9	2.9	0.49	
HC 3.2/150 mm + 1.7×	∞	13.1	9.7	0.15	6.7	5.0	0.29	3.3	2.5	0.58	
	4.3	5.0	3.7	0.39	3.6	2.7	0.54	2.4	1.8	0.83	
HC 4/210 mm	∞	32.4	23.9	0.06	15.8	12.4	0.12	7.7	5.7	0.25	
	5.9	8.8	6.9	0.21	7.2	5.4	0.27	4.8	3.6	0.40	
HC 4/210 mm + 1.7×	∞	19.3	14.1	0.10	8.8	6.9	0.21	4.7	3.5	0.41	
	5.9	5.5	4.2	0.35	4.2	3.2	0.46	2.8	2.1	0.68	
HC 4.5/300 mm	∞	42.9	32.7	0.045	21.9	15.9	0.089	10.5	8.1	0.18	
	8.0	10.5	7.7	0.19	8.1	6.1	0.24	5.7	4.2	0.34	
HC 4.5/300 mm + 1.7×	∞	26.3	19.5	0.075	13.1	9.7	0.15	6.5	4.9	0.30	
	8.0	6.1	4.6	0.31	4.8	3.6	0.40	3.3	2.5	0.57	
HC 3.5-4.5/50-110 mm	50	∞	7.7	5.7	0.25	3.8	2.8	0.51	1.9	1.4	1.01
		2.3	5.1	3.8	0.38	2.9	2.2	0.66	1.6	1.1	1.22
	80	∞	12.3	8.8	0.16	5.9	4.4	0.33	3.0	2.2	0.65
		2.3	5.9	4.4	0.33	3.7	2.7	0.52	2.1	1.6	0.90
	110	∞	15.8	12.4	0.12	8.1	6.0	0.24	4.0	3.0	0.48
		2.3	5.7	4.2	0.34	3.9	2.9	0.49	2.5	1.9	0.78

Blue numbers : AF not possible
- : incompatible combination

H SYSTEM EXTENSION TUBES

IMPERIAL UNITS

Area of coverage – Combination of extension tubes. Film format: 2.20 × 1.63 in

	Lens focus setting	13 + 26 mm			13 + 52 mm			26 + 52 mm			13 + 26 + 52 mm		
		W	H	m	W	H	m	W	H	m	W	H	m
HCD 4/28 mm	∞	1.5	1.1	1.3	-	-	-	-	-	-	-	-	-
	1.1	1.4	1.0	1.5	-	-	-	-	-	-	-	-	-
HC 3.5/35 mm	∞	2.0	1.5	1.09	-	-	-	-	-	-	-	-	-
	1.6	1.8	1.4	1.20	-	-	-	-	-	-	-	-	-
HC 3.5/50 mm	∞	2.8	2.1	0.78	1.7	1.3	1.29	1.4	1.1	1.55	1.2	0.9	1.80
	2.0	2.4	1.8	0.91	1.5	1.1	1.43	1.3	1.0	1.69	1.1	0.8	1.95
HC 3.5/50 + 1.7x	∞	1.7	1.3	1.30	1.0	0.8	2.16	0.9	0.6	2.59	0.7	0.5	3.01
	2.0	1.5	1.1	1.52	0.9	0.7	2.40	0.8	0.6	2.83	0.7	0.5	3.27
HC 2.8/80 mm	∞	4.6	3.4	0.48	2.8	2.1	0.79	2.3	1.7	0.95	2.0	1.5	1.10
	2.3	3.5	2.6	0.63	2.3	1.7	0.94	2.0	1.5	1.10	1.8	1.3	1.25
HC 2.8/80 mm + 1.7x	∞	2.8	2.0	0.80	1.7	1.2	1.33	1.4	1.0	1.59	1.2	0.9	1.85
	2.3	2.1	1.6	1.05	1.4	1.0	1.58	1.2	0.9	1.84	1.1	0.8	2.09
HC 2.2/100 mm	∞	5.6	4.2	0.39	3.4	2.5	0.65	2.8	2.1	0.78	2.4	1.8	0.91
	3.0	4.2	3.1	0.53	2.8	2.0	0.79	2.4	1.8	0.92	2.1	1.6	1.05
HC 2.2/100 mm + 1.7x	∞	3.3	2.5	0.66	2.0	1.5	1.10	1.7	1.3	1.31	1.5	1.1	1.53
	3.0	2.5	1.8	0.89	1.7	1.2	1.33	1.4	1.1	1.55	1.3	0.9	1.76
HC Macro 4/120	∞	6.7	5.0	0.33	4.0	3.0	0.55	3.3	2.5	0.66	2.9	2.1	0.77
	1.3	1.5	1.1	1.46	1.3	0.9	1.77	1.1	0.9	1.92	1.1	0.8	2.07
HC Macro 4/120 + 1.7x	∞	4.0	3.0	0.55	2.4	1.8	0.92	2.0	1.5	1.10	1.7	1.3	1.28
	1.3	0.9	0.7	2.45	0.7	0.6	2.97	0.7	0.5	3.22	0.6	0.5	3.48
HC 3.2/150 mm	∞	8.5	6.3	0.26	5.1	3.8	0.43	4.2	3.1	0.52	3.6	2.7	0.61
	4.3	5.4	4.0	0.41	3.8	2.8	0.58	3.3	2.4	0.67	2.9	2.2	0.75
HC 3.2/150 mm + 1.7x	∞	5.0	3.7	0.44	3.0	2.2	0.73	2.5	1.9	0.87	2.2	1.6	1.02
	4.3	3.2	2.4	0.68	2.2	1.7	0.98	2.0	1.5	1.12	1.7	1.3	1.26
HC 4/210 mm	∞	12	8.6	0.19	7.1	5.3	0.31	6.0	4.4	0.37	5.1	3.8	0.43
	5.9	6.5	4.8	0.34	4.7	3.5	0.47	4.2	3.1	0.53	3.7	2.7	0.60
HC 4/210 mm + 1.7x	∞	7.1	5.3	0.31	4.2	3.1	0.52	3.6	2.6	0.62	3.0	2.2	0.73
	5.9	3.9	2.9	0.57	2.8	2.1	0.78	2.5	1.8	0.89	2.2	1.6	1.00
HC 4.5/300 mm	∞	16	12	0.13	9.9	7.3	0.22	8.3	6.1	0.27	7.1	5.2	0.31
	8.0	7.6	5.6	0.29	5.6	4.2	0.39	5.0	3.7	0.44	4.4	3.3	0.50
HC 4.5/300 mm + 1.7x	∞	9.8	7.3	0.22	5.9	4.4	0.37	4.9	3.7	0.45	4.2	3.1	0.52
	8.0	4.5	3.3	0.49	3.3	2.5	0.66	3.0	2.2	0.75	2.6	2.0	0.84
50	∞	2.9	2.1	0.76	1.7	1.3	1.26	-	-	-	-	-	-
	2.3	2.3	1.7	0.94	1.5	1.1	1.49	-	-	-	-	-	-
80	∞	4.5	3.3	0.49	2.7	2.0	0.81	2.3	1.7	0.97	1.9	1.4	1.14
	2.3	3.1	2.3	0.71	2.0	1.5	1.09	1.7	1.3	1.27	1.5	1.1	1.46
110	∞	6.1	4.5	0.36	3.7	2.7	0.60	3.1	2.3	0.72	2.6	1.9	0.84
	2.3	3.5	2.6	0.63	2.4	1.8	0.92	2.1	1.5	1.07	1.8	1.4	1.21

Blue numbers : AF not possible
 - : incompatible combination

H SYSTEM EXTENSION TUBES

DATASHEET

IMPERIAL UNITS

Area of coverage – Combination of extension tubes. Digital format: 1.74 × 1.30 in

	Lens focus setting	13 + 26 mm			13 + 52 mm			26 + 52 mm			13 + 26 + 52 mm		
		W	H	m	W	H	m	W	H	m	W	H	m
HCD 4/28 mm	∞	1.2	0.9	1.3	-	-	-	-	-	-	-	-	-
	1.1	1.1	0.8	1.5	-	-	-	-	-	-	-	-	-
HC 3.5/35 mm	∞	1.6	1.2	1.09	-	-	-	-	-	-	-	-	-
	1.6	1.4	1.1	1.20	-	-	-	-	-	-	-	-	-
HC 3.5/50 mm	∞	2.2	1.7	0.78	1.3	1.0	1.29	1.1	0.9	1.55	0.9	0.7	1.80
	2.0	1.9	1.4	0.91	1.2	0.9	1.43	1.0	0.8	1.69	0.9	0.6	1.95
HC 3.5/50 + 1.7x	∞	1.3	1.0	1.30	0.8	0.6	2.16	0.7	0.5	2.59	0.6	0.4	3.01
	2.0	1.2	0.9	1.52	0.7	0.6	2.40	0.6	0.5	2.83	0.6	0.4	3.27
HC 2.8/80 mm	∞	3.6	2.7	0.48	2.2	1.7	0.79	1.8	1.4	0.95	1.6	1.2	1.10
	2.3	2.8	2.1	0.63	1.8	1.4	0.94	1.6	1.2	1.10	1.4	1.0	1.25
HC 2.8/80 mm + 1.7x	∞	2.2	1.6	0.80	1.3	1.0	1.33	1.1	0.8	1.59	0.9	0.7	1.85
	2.3	1.7	1.3	1.05	1.1	0.8	1.58	0.9	0.7	1.84	0.9	0.6	2.09
HC 2.2/100 mm	∞	4.4	3.3	0.39	2.7	2.0	0.65	2.2	1.7	0.78	1.9	1.4	0.91
	3.0	3.3	2.5	0.53	2.2	1.6	0.79	1.9	1.4	0.92	1.7	1.3	1.05
HC 2.2/100 mm + 1.7x	∞	2.6	2.0	0.66	1.6	1.2	1.10	1.3	1.0	1.31	1.2	0.9	1.53
	3.0	2.0	1.4	0.89	1.3	1.0	1.33	1.1	0.9	1.55	1.0	0.7	1.76
HC Macro 4/120	∞	5.3	4.0	0.33	3.2	2.4	0.55	2.6	2.0	0.66	2.3	1.7	0.77
	1.3	1.2	0.9	1.46	1.0	0.7	1.77	0.9	0.7	1.92	0.9	0.6	2.07
HC Macro 4/120 + 1.7x	∞	3.2	2.4	0.55	1.9	1.4	0.92	1.6	1.2	1.10	1.3	1.0	1.28
	1.3	0.7	0.6	2.45	0.6	0.5	2.97	0.6	0.4	3.22	0.5	0.4	3.48
HC 3.2/150 mm	∞	6.7	5.0	0.26	4.0	3.0	0.43	3.3	2.5	0.52	2.8	2.2	0.61
	4.3	4.3	3.2	0.41	3.0	2.2	0.58	2.6	1.9	0.67	2.3	1.8	0.75
HC 3.2/150 mm + 1.7x	∞	3.9	3.0	0.44	2.4	1.8	0.73	2.0	1.5	0.87	1.7	1.3	1.02
	4.3	2.5	1.9	0.68	1.7	1.4	0.98	1.6	1.2	1.12	1.3	1.0	1.26
HC 4/210 mm	∞	9.5	6.9	0.19	5.6	4.2	0.31	4.7	3.5	0.37	4.0	3.0	0.43
	5.9	5.1	3.8	0.34	3.7	2.8	0.47	3.3	2.5	0.53	2.9	2.2	0.60
HC 4/210 mm + 1.7x	∞	5.6	4.2	0.31	3.3	2.5	0.52	2.8	2.1	0.62	2.4	1.8	0.73
	5.9	3.1	2.3	0.57	2.2	1.7	0.78	2.0	1.4	0.89	1.7	1.3	1.00
HC 4.5/300 mm	∞	12.6	9.6	0.13	7.8	5.8	0.22	6.6	4.9	0.27	5.6	4.1	0.31
	8.0	6.0	4.5	0.29	4.4	3.3	0.39	3.9	3.0	0.44	3.5	2.6	0.50
HC 4.5/300 mm + 1.7x	∞	7.7	5.8	0.22	4.7	3.5	0.37	3.9	3.0	0.45	3.3	2.5	0.52
	8.0	3.6	2.6	0.49	2.6	2.0	0.66	2.4	1.8	0.75	2.1	1.6	0.84
50	∞	2.3	1.7	0.76	1.3	1.0	1.26	-	-	-	-	-	-
	2.3	1.8	1.4	0.94	1.2	0.9	1.49	-	-	-	-	-	-
80	∞	3.6	2.6	0.49	2.1	1.6	0.81	1.8	1.4	0.97	1.5	1.1	1.14
	2.3	2.4	1.8	0.71	1.6	1.2	1.09	1.3	1.0	1.27	1.2	0.9	1.46
110	∞	4.8	3.6	0.36	2.9	2.2	0.60	2.4	1.8	0.72	2.1	1.5	0.84
	2.3	2.8	2.1	0.63	1.9	1.4	0.92	1.7	1.2	1.07	1.4	1.1	1.21

Blue numbers : AF not possible
 - : incompatible combination

H SYSTEM EXTENSION TUBES

DATASHEET

IMPERIAL UNITS

Area of coverage – Combination of extension tubes. Digital format 1.93 × 1.44 in

	Lens focus setting	13 + 26 mm			13 + 52 mm			26 + 52 mm			13 + 26 + 52 mm		
		W	H	m	W	H	m	W	H	m	W	H	m
HCD 4/28 mm	∞	1.3	1.0	1.3	-	-	-	-	-	-	-	-	-
	1.1	1.2	0.9	1.5	-	-	-	-	-	-	-	-	-
HC 3.5/35 mm	∞	1.8	1.3	1.09	-	-	-	-	-	-	-	-	-
	1.6	1.6	1.2	1.20	-	-	-	-	-	-	-	-	-
HC 3.5/50 mm	∞	2.5	1.9	0.78	1.5	1.1	1.29	1.2	1.0	1.55	1.1	0.8	1.80
	2.0	2.1	1.6	0.91	1.3	1.0	1.43	1.1	0.9	1.69	1.0	0.7	1.95
HC 3.5/50 + 1.7x	∞	1.5	1.1	1.30	0.9	0.7	2.16	0.8	0.5	2.59	0.6	0.4	3.01
	2.0	1.3	1.0	1.52	0.8	0.6	2.40	0.7	0.5	2.83	0.6	0.4	3.27
HC 2.8/80 mm	∞	4.0	3.0	0.48	2.5	1.9	0.79	2.0	1.5	0.95	1.8	1.3	1.10
	2.3	3.1	2.3	0.63	2.0	1.5	0.94	1.8	1.3	1.10	1.6	1.1	1.25
HC 2.8/80 mm + 1.7x	∞	2.5	1.8	0.80	1.5	1.1	1.33	1.2	0.9	1.59	1.1	0.8	1.85
	2.3	1.8	1.4	1.05	1.2	0.9	1.58	1.1	0.8	1.84	1.0	0.7	2.09
HC 2.2/100 mm	∞	4.9	3.7	0.39	3.0	2.2	0.65	2.5	1.9	0.78	2.1	1.6	0.91
	3.0	3.7	2.7	0.53	2.5	1.8	0.79	2.1	1.6	0.92	1.8	1.4	1.05
HC 2.2/100 mm + 1.7x	∞	2.9	2.2	0.66	1.8	1.3	1.10	1.5	1.1	1.31	1.3	1.0	1.53
	3.0	2.2	1.6	0.89	1.5	1.1	1.33	1.2	1.0	1.55	1.1	0.8	1.76
HC Macro 4/120	∞	5.9	4.4	0.33	3.5	2.7	0.55	2.9	2.2	0.66	2.5	1.9	0.77
	1.3	1.3	1.0	1.46	1.1	0.8	1.77	1.0	0.8	1.92	1.0	0.7	2.07
HC Macro 4/120 + 1.7x	∞	3.5	2.7	0.55	2.1	1.6	0.92	1.8	1.3	1.10	1.5	1.1	1.28
	1.3	0.8	0.6	2.45	0.6	0.5	2.97	0.6	0.4	3.22	0.5	0.4	3.48
HC 3.2/150 mm	∞	7.4	5.6	0.26	4.5	3.4	0.43	3.7	2.7	0.52	3.2	2.4	0.61
	4.3	4.7	3.5	0.41	3.3	2.5	0.58	2.9	2.1	0.67	2.5	1.9	0.75
HC 3.2/150 mm + 1.7x	∞	4.4	3.3	0.44	2.6	1.9	0.73	2.2	1.7	0.87	1.9	1.4	1.02
	4.3	2.8	2.1	0.68	1.9	1.5	0.98	1.8	1.3	1.12	1.5	1.1	1.26
HC 4/210 mm	∞	10.5	7.6	0.19	6.2	4.7	0.31	5.3	3.9	0.37	4.5	3.4	0.43
	5.9	5.7	4.2	0.34	4.1	3.1	0.47	3.7	2.7	0.53	3.2	2.4	0.60
HC 4/210 mm + 1.7x	∞	6.2	4.7	0.31	3.7	2.7	0.52	3.2	2.3	0.62	2.6	1.9	0.73
	5.9	3.4	2.6	0.57	2.5	1.9	0.78	2.2	1.6	0.89	1.9	1.4	1.00
HC 4.5/300 mm	∞	14.0	10.6	0.13	8.7	6.5	0.22	7.3	5.4	0.27	6.2	4.6	0.31
	8.0	6.7	5.0	0.29	4.9	3.7	0.39	4.4	3.3	0.44	3.9	2.9	0.50
HC 4.5/300 mm + 1.7x	∞	8.6	6.5	0.22	5.2	3.9	0.37	4.3	3.3	0.45	3.7	2.7	0.52
	8.0	3.9	2.9	0.49	2.9	2.2	0.66	2.6	1.9	0.75	2.3	1.8	0.84
50	∞	2.5	1.9	0.76	1.5	1.1	1.26	-	-	-	-	-	-
	2.3	2.0	1.5	0.94	1.3	1.0	1.49	-	-	-	-	-	-
80	∞	3.9	2.9	0.49	2.4	1.8	0.81	2.0	1.5	0.97	1.7	1.2	1.14
	2.3	2.7	2.0	0.71	1.8	1.3	1.09	1.5	1.1	1.27	1.3	1.0	1.46
110	∞	5.3	4.0	0.36	3.2	2.4	0.60	2.7	2.0	0.72	2.3	1.7	0.84
	2.3	3.1	2.3	0.63	2.1	1.6	0.92	1.8	1.3	1.07	1.6	1.2	1.21

Blue numbers : AF not possible
 - : incompatible combination