FORMATT HITECH LTD

THE INTEGRATED SYSTEM
FOR ALL FORMATS

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Contents

INTRODUCTION

The Hitech filter system in manufactured by Formatt Filters to offer versatility and creative capabilities to stills photographers.

Manufactured from Queens Award winning CR39 dyed substrate, Formatt filters apply the same quality standards and technology in its manufacture of its range photography filters as that of the high specifications of its glass filters.

The extensive range of holders and adaptors are crafted from aluminium and the selection of hoods and accessories allow the filter systems to be used on any format from 35mm to 8” x 10”

The Hitech range is available in the 85mm and 100mm.

HITECH 100 MM SYSTEMS

HOLDERS

Offering a comprehensive range of aluminium crafted holders, there are 4 versions to choose from to suit most photographers. The 105mm front ring on the majority of the holders is designed to accommodate the screw in polariser, and various lens hoods.

MK4 1 SLOT + RING — Aluminium construction, one filter slot and 105mm front accessory ring.

MK4 2 SLOT + RING — Aluminium construction, two filter slots and 105mm front accessory ring.

MK4 3 SLOT + RING — Aluminium construction, three filter slots and 105mm front accessory ring.

MK4 2 SLOT WIDE ANGLE — Aluminium construction, two filter slots. The holder is without a front ring and is designed to be used on very wide angle lenses.

MK4 Holder + Ring MK4 Wide Angle

ADAPTORS

The adaptors are made from machine crafted aluminium and are designed to fit directly onto the camera lens enabling the attachment of the filter holder.

The most commonly used are the front screw adaptors and wide angle adaptors and are available in a variety of sizes for a wide range of lenses.

Front Screw Adaptor

These are the standard range of adaptors which fit directly onto the lens. They are available in the following sizes:
40.5mm, 46mm, 49mm , 52mm , 55mm, 58mm, 60mm, 62mm, 67mm, 72mm, 77mm, 82mm, 86mm, 93mm, 95mm, 100mm, 105mm

Wide Angle Adaptor

These are designed for lenses with a wide angle view. They are manufacture to allow the holder to sit slightly recessed over the lens, and are available in the following sizes:
49mm, 52mm, 55mm, 58mm, 60mm, 62mm, 67mm, 72mm, 77mm, 82mm, B60mm.

Bayonet Adaptor

These are designed to fit bayonet lenses such as Hasselblad and Rollei. They are available in the following sizes:
B50mm, B60mm, B70mm, Rollei 6.

Step Adaptor

The stepping rings allow you to step up from the diameter of your lens to 105mm enabling the of a polariser or a lens shade without the need for a filter holder. They are available in the following sizes:

62mm, 67mm, 72mm, 77mm, 82mm, 86mm, 95mm, B60mm, B70mm.

Rear Element Adaptor

These allow the fitting of the holder onto the back element of a lens. They can also be used to fit a holder onto the font of a lens that has no screw thread. They are available in the following sizes: 31.5mm, 37.5mm, 38mm, 40.5mm, 42mm, 46mm, 48mm, 50mm, 51mm, 54mm, 57mm, 58mm, 60mm, 65mm, 70mm, 72mm, 75mm, 77mm, 80mm, 82mm, 92mm, 95mm, 100mm.

Front Screw Adapter Ring

LENS HOODS

Included in the range of lens hoods is the bellows lens shade, the rubber hood and metal hood. All lens hoods fit directly onto the 105mm front screw ring of the holder.

Bellows Lens Shade

The shade is based on a square bellows design 100mm x 100mm and copes with large front elements and lenses with wide angles of view. It has a folding range of 20mm when compressed and 100mm when fully extended.

105mm Rubber Lens Hood

This folding lens hood is used on standard and wide angle lenses.

Metal Lens Hoods

Manufactured from aluminium, the metal hoods are available in two sizes, 35mm depth and 70mm depth, which can be screwed together to create a combination of lengths.

HITECH 85MM SYSTEM

HOLDERS

Offering a comprehensive range of aluminium crafted holders, there are 5 versions to choose from to suit most photographers. The 95mm front ring on the majority of the holders is designed to accommodate the screw in polariser, and various lens hoods.

MK2 1 SLOT + RING	Aluminium construction, one filter slot and 95mm front accessory ring.
MK2 2 SLOT + RING	Aluminium construction, two filter slots and 95mm front accessory ring.
MK2 3 SLOT + RING	Aluminium construction, three filter slots and 95mm front accessory ring.
MK2 2 SLOT WIDE ANGLE	Aluminium construction, two filter slots. The holder is without a front ring and is designed to be used on very wide angle lenses.
85MM PLASTIC HOLDER	Plastic construction with three filter slots.

Close up of MK2 3 Slot + Ring

ADAPTORS

The adaptors are made from machine crafted aluminium and are designed to fit directly onto the camera lens enabling the attachment of the filter holder. There are two different adaptor ranges, one for the metal holders and one for the plastic holder.

Front Screw Adaptor – Metal Holder

These are the standard range of adaptors that fit directly onto the lens. They are available in the following sizes:
49mm, 52mm, 55mm, 58mm, 62mm,
67mm, 72mm, 77mm

Bayonet Adaptor – Metal Holder

These are designed to fit bayonet lenses such as Hasselblad and Rollei. They are available in the following sizes:
B50mm, B60mm, B70mm,

Front Screw Adaptor – Plastic Holder

These are the standard range of adaptors that fit directly onto the lens. They are available in the following sizes:
49mm, 52mm, 55mm, 58mm, 62mm, 67mm, 72mm, 77mm

Bayonet Adaptor – Plastic Holder

These are designed to fit bayonet lenses such as Hasselblad and Rollei. They are available in the following sizes:
B50mm, B60mm, B70mm,

LENS HOODS

95mm Rubber Lens Hood
This folding lens hood is used on standard and wide angle lenses

FILTERS

TECHNICAL INFORMATION

Hitech 100mm System

Standard Filters	100mm x 100mm
Graduated Filters	100mm x 125mm 100mm x 150mm

Hitech 85mm System

Standard Filters	85mm x 85mm
Graduated Filters	85mm x 110mm

POLARISERS

Linear Polariser The principal of a polariser is to eliminate surface reflections, glare and hot spots from any light source entering the lens. It is an essential outside all purpose filter. It deepens skies and minimises reflections.

Circular Polariser Circular Polariser are primarily intended for use where cameras have internal metering systems that are susceptible to reflections.

No Polariser

With Polariser

CLEAR AND UV ABSORBING

Clear Used primarily for protection on the lens, the clear filter can also be used to create you own effect by means of drilling, smearing with oils or anything you can think of

UV 1A This filter has a slight pinkish tint and is used to reduce blue casts in open shade and filter out excessive green shaded foliage.

UV 2B These filters absorb UV radiation under clear sky conditions, reducing blue cast with reversal film and haze with black and white emulsions.

No Filter

UV 2A

NEUTRAL DENSITY FILTERS

Neutral density filters (also known as ND's) produce a grey neutral tone and are used to reduce light, enabling more control over exposure and depth of field without affecting colour or contrast. They are especially useful in bright light conditions to avoid overexposure. Since ND filters uniformly reduce light at all wavelengths, there is no effect of the colour rendition.

Standard NDs ND's are made in difference grads according to the level of light reduction required. The standard grades available are as follows, however we can supply ND's up to a 3.0 (10 stop).

Graduated NDs ND grads are available in both hard and soft gradients. These filters are clear in the bottom half with a gradual transition to the ND effect in the top half of the filter. They are primarily used for light reduction in skylines of landscape shots

.

No Filter

ND0.9 grad

NEUTRAL DENSITY CHART

DENSITY	TRANSMISSION	EXPOSURE
ND0.3	50%	+1
ND0.6	25%	+2
ND0.9	12%	+3
ND1.2	6.30%	+4

NEUTRAL DENSITY PRO STOP RANGE

These filters have been specifically designed to use in long exposure shots. Most people will use the ultimate 10 stop filter but they are also available in 6, 7, 8 and 9 stops.

A guideline exposure chart for the 10 stop filter are given below. This is a guide only as the exposure range will vary according to conditions so testing is important.

EXPOSURE CHART FOR PRO STOP 10

Regular Shutter Speed	***With Pro Stop 10***
1000th	1 second
500th	2 seconds
250th	4 seconds
125th	8 seconds
60th	15 seconds
30th	30 seconds
15th	1 minute
8th	2 minutes
1/4	4 minutes
1/2	8 minutes
1 second	16 minutes
2 seconds	32 minutes

REVERSE NEUTRAL DENSITY GRADS

In contrast to the regular Neutral density grads where the graduation transition is from the top of the filter, the reverse grad offers the transition from dark to light from the middle of the filter (ie in reverse).

This is a benefit when shooting bright horizons to enable more control over the exposure and balance the foreground image.

The filters are available in 3 densities 0.3, 0.6, 0.9.


ND0.3 GRAD


ND0.6 GRAD


ND0.9 GRAD

PORTRAIT FILTERS

Movie Mists Primarily designed for the motion picture industries, these filters provide 5 levels of softening, however, unlike traditional soft focus filters, there is little loss of detail. The mist filters in the ultimate softening tool for creating a mood outdoors or indoors, in broad scenes or portraits.

Clear Movie Mist Available in ½, 1, 2, 3, 4, Clear Movie Mists amplify highlights but slightly reduces contrast The clear mist is is perfect for smoothing and softening facial imperfections.

Black Movie Mist Available in ½, 1, 2, 3, 4. Black Movie Mists reduce highlights but without effecting contrast. It softens fine details and is more subtle than the clear mist with less lightening in shadow areas

Warm Clear Movie Mist Available in ½, 1, 2, 3, 4. This filter is a combination of the clear mist with an additional warming filter built in.

Warm Black Movie Mist Available in ½, 1, 2, 3, 4. This filter is a combination of the Black mist with an additional warming filter built in.

No filter

Movie Mist Clear 1/4

No Filter

Movie Mist Black 1/4

EFFECT FILTERS

These add mood and atmosphere to create and enhance images with superb effects either single or in mixed combinations.

Fogs — Fog filters create the effect or a mist or natural fog. They create a soft glow for highlights and lowers contrast without any stop increase. Available in densities 1+2.

Stars — Create star effects from visual lights. Available in bursts of 2pt, 4pt, 6pt, 8pt.

Low Contrast — As their name implies, the low contrast filters reduce contrast levels. This allows more shadow details to be visible. Available in densities 1, 2 and 3.

Black Net — Black nets soften fine details and reduces harsh contrasts. They give a far more noticeable effect than that of the move mist range. Available in densities 1+2.

White Net — White nets soften fine details without effecting contrast.. Available in densities 1+2.

Day for Night — Day for night filters are an effective way to create a dusk or night time appearance white shooting in daylight. Available in cool day for night 1, 2 and 3 and monochrome.

No Filter

Day for Night

Fog

COLOUR CORRECTION

Colour correction filters are used for colour balance adjustments and are used singly or in combination to change the overall colour balance for viewing or printing.

CC Yellow	Yellow filters absorb blue.
CC Magenta	Magenta filters absorb green.
CC Cyan	Cyan filters absorb red.
CC Red	Red filters absorb green and blue.
CC Green	Green filters absorb blue and red.
CC Blue	Blue filters absorb green and red.

Technical Information#

Density	***025***	***05***	***10***	***15***	***20***	***30***	***40***	***50***
Yellow	nil	nil	+1/3	+1/3	+1/3	+1/3	+1/3	+2/3
Magenta	nil	+1/3	+1/3	+1/3	+1/3	+2/3	+2/3	+2/3
Cyan	nil	+1/3	+1/3	+1/3	+1/3	+2/3	+2/3	+1
Red	nil	+1/3	+1/3	+1/3	+1/3	+2/3	+2/3	+1
Green	nil	+1/3	+1/3	+1/3	+1/3	+2/3	+2/3	+1
Blue	nil	+1/3	+1/3	+1/3	+2/3	+2/3	+1	+1 1/3

COLOUR TEMPERATURE CONVERSION

CTC filters are used to convert the colour temperature of a light source to balance the filter type in use. They can also be used to create an intentional warming or cooling effect.

For significant adjustment in colour temperature the following filters are used:

Blue filters

80a	Used for exposing daylight type colour materials under 3200k tungsten illumination. Converts 3200-5500k, with exposure of +2.
80b	Used under 3400k tungsten light. Converts 3400-5500k, with exposure +1 2/3.
80c	Used under 3800k tungsten light. Converts 3800-5500k, with exposure +1.
80d	Used under 4200k tungsten light. Converts 4200-5500k, with exposure +1/3.

Amber filters

85	This is used for exposing type B tungsten materials in daylight. Conversion 5500-3400, exposure +2/3.
85b	This is used for exposing type B tungsten materials in daylight. Conversion 5500-3200, exposure +2/3.
85c	This paler filter is sometimes preferred for exposing Type L tungsten materials in daylight. Conversion 5500-3800k, exposure +1/3.

For more subtle changes in the colour balance the following filters are used.

Light Blue Filters

82	Conversion 3100-3200k, exposure +1/3.
82a	Conversion 3000-3200k, exposure +1/3
82b	Conversion 2900-3200k, exposure +2/3
82c	Conversion 2800-3200k, exposure +2/3

Light Amber / Yellowish Filters

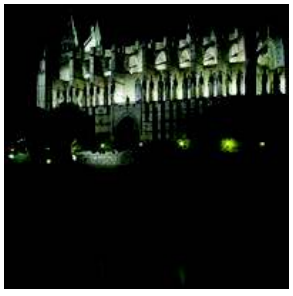
81	Conversion 3300-3200k, exposure +1/3
81a	Conversion 3400-3200k, exposure +1/3
81b	Conversion 3500-3200k, exposure +1/3
81c	Conversion 3600-3200k, exposure +1/3
81d	Conversion 3700-3200k, exposure +2/3
81ef	Conversion 3800-3200k, exposure +2/3

No Filter

80B

81B

82B



85B

FLUORESCENT CORRECTION

There are 23 types of fluorescent correction filters with the most common being:

FLD A general correction filter, for use with daylight film in conjunction with fluorescent lighting. It eliminates the green cast caused by fluorescent bulbs.

FLB This gives the same effect as the FLD, but is used with tungsten film under fluorescent lighting**.**

FLF A general correction filter, for use with Fuji film under fluorescent lighting.

Fluorescent Lamp Type	**Daylight Filter**	**Stops**	**Tungsten Filter**	**Stops**	**Type A Filter**	**Stops**
Daylight	FL1	1 1/3	FL8	1 2/3	FL15	1 1/3
White	FL2	2/3	FL9	1 2/3	FL16	1
Warm White	FL3	1	FL10	1	FL17	1
Warm White Deluxe	FL4	2	FL11	2/3	-	-
Cool White	FL5	1	FL12	1 1/3	FL18	1 1/3
Cool White Deluxe	FL6	2/3	FL13	2/3	FL19	2/3
Unknown *	FL7	2/3	FL14	1 1/3	FL20	1

*refers to approximate correction from an unknown lamp

BLACK AND WHITE FILTERS

In black and white photography filters can be used for three main purposes, to reduce or eliminate atmospheric haze, to make tonal reproduction in monochrome photographs more natural and to give deliberate and unnatural emphasis to certain objects.

B+W Orange+ Red Accentuates red picture parts set off against green or blue, e.g. it will make clouds brighter against the sky.

B+W Yellow This generally increases contract and is particularly useful for midday sun and deep shadow. It accentuates clouds, reduces haze and will reproduce distance better.

B+W Green Generally used when improving green is required, for shots of forests, meadows and gardens.

B+W Yellow Green Retains tonal values but reduces haze and brightens green.

B+W Blue Useful for correcting tendency of reds that reproduce too light under tungsten illumination. When used for portraiture, skin tones are more natural and modelling is improved.

TECHNICAL INFORMATION

COLOUR	EXPOSURE
25 RED	+3
21 ORANGE	+2 – 2 ½
8 YELLOW	+1
58 GREEN	+2 ½
11 YELLOW GREEN	+1 ½ - 2
38 LIGHT BLUE	+2/3
47 DARK BLUE	+3

COMBINATION GRADUATED FILTERS

81A + ND(0.3, 0.6, 0.9) Colour correction filter 81A plus a Neutral Grad Filter. Available in three graduation densities

81B + ND(0.3, 0.6, 0.9) Colour correction filter 81B plus a Neutral Grad Filter. Available in three graduation densities

81C + ND(0.3, 0.6, 0.9) Colour correction filter 81C plus a Neutral Grad Filter. Available in three graduation densities

81EF + ND(0.3, 0.6, 0.9) Colour correction filter 81EF plus a Neutral Grad Filter. Available in three graduation densities

Twilight + ND(0.3, 0.6, 0.9) Twilight Grad Filter No. 3 plus a Neutral Grad Filter. Available in three graduation densities

Sunset + ND(0.3, 0.6, 0.9) Sunset Grad Filter No. 3 plus a Neutral Grad Filter. Available in three graduation densities

Autumn + ND(0.3, 0.6, 0.9*)* Autumn Grad Filter No. 3 plus a Neutral Grad Filter. Available in three graduation densities

COLOUR GRADUATED AND STANDARD FILTERS

The principal purpose of a graduated filter is to create an effect in the top half of the picture whilst leaving the bottom undisturbed. They are most commonly used on skylines of landscape work. Grads come in a variety of colours and can create subtle or dramatic effects. They are available in densities 1, 2 or 3.

Graduated filters are available in both hard and soft gradients. Soft edges have a smooth transition from clear to colour, whereas hard edge filters have a more defined hard line transition.

Two most important things to remember when using grads is that you should take a meter reading of the subject before putting on the grad and set the aperture manually.

In addition to the graduated range is the solid colour range. These filters are made to the same standards as the graduated range, except that the colour runs continuous over the filter changing the overall effect of the image when used.

Apricot This is a pale orange filter, which give a subtle warming effect.

Autumn This is a double colour grad that blends tobac into yellow, enhancing the colours of foliage.

Blue This creates a realistic cooling blue effect.

Cerise A vibrant pink effect filter.

Chocolate A rich brown colour containing a combination of magenta and sepia. Particularly useful for autumn landscape shots.

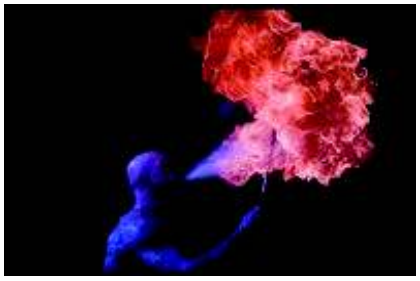
Coral A pale pink filter that can be used as both colour correcting and colour effects. They can be used to warm cool lighting situations such as overcast days.

Cool Blue A steelier blue filter giving cool tones to skies.

Cyan	Cyan is a light blue between the blue and green in the colour spectrum.
Green	A bright green colour effect filter.
Magenta	A rich purple effect filter.
Orange	A bright orange effect filter.
Plum	A deep purplish Red effect filter.
Red	A vibrant red for creating colour effects
Sepia	Gives a traditional (old style) sepia effect.
Straw	A vibrant gold/yellow warming effect filter.
Sunset	A multi-colour filter blending red-orange-yellow. Designed to give a dramatic sunset effect.
Tobac	A warm brownish orange filter.
Tuscany Pink	A Pale rose pink effect filter.
Twilight	A combined filter graduated from darkish blue at the top to a pink horizon. Suitable for creating a late afternoon/early evening twilight effect.
Violet	A purplish pink effect filter.
Yellow	A vibrant yellow effect filter

No Filter Skyfire grad Twilight grad

Orange Std



Blue Std

Yellow Std

FILTER KITS

Standard Kits

Colour Temperature	(85B, 85C, 80C, 80A)
Light Balancing	(81A, 81D, 82A, 82C)
Black and White	(8y, 11yg, 21o, 25r)
Neutral Density	(ND0.3, ND0.6, ND0.9)
Magenta	(05, 10, 15, 20, 30)
Soft	(Movie Mist Clear 1 + 2, Black 1 + 2, Warm Black 1)

Graduated Kits

Kit 1	(Sunset 2, Blue 2, Twilight 2)
Kit 2	(Tobac 2, Coral 2, Straw 2)
Kit 3	(Blue 1, Blue 2, Blue 3)
Kit 4	(ND0.3, ND0.6, ND0.9)
Kit 5	(Coral 1, Coral 2, Coral 3)

Kits 1, 2, 3 & 5 are available in Soft Edge only, with Kit 4 available in Hard Edge. Kits cannot be altered for different densities / colours.