FUJINON
FUJIFILM

HD CINE SUPER

E series

Zoom & Prime Lenses

HD HIGH-DEFINITION

FUJINON
HD CINE SUPER
E series

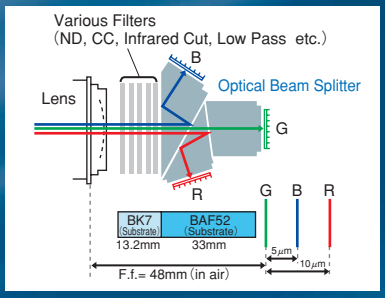
Highest image quality for innovative pictorial expressions. Fujinon HD CINE SUPER E Series: For the uncompromising creators.

In order to answer the cinematographers' demand for a more precise, aberration-free image, advanced knowledge and technology in optics are required of the lens maker.

Fujinon is an optical beam splitter manufacturer with top share in the TV lens market. Reflecting upon our knowledge and experience acquired from the many years of developing optical beam splitters, we have developed the "HD CINE SUPER E" series for the cinematographers.

It is a series of new lenses based on the 2/3" HD CCD standards and features, designed for high MTF, brightness, usability and system expandability.

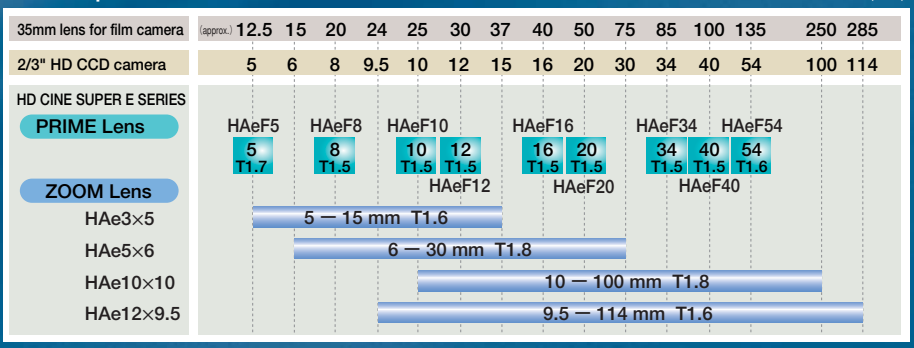
Fujinon "HD CINE SUPER E" series offers a broad line-up of both prime and zoom lenses to suit every filming situation. It empowers the cinematographers to pursue the highest image quality, as well as diverse pictorial expressions.



Specification for the interface between lens and 2/3" HD CCD camera

Line Up

(mm)



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Features

Focal length

The diagonal image size of the HD camera CCD is 11mm, that is about 1/2.5 of that of a 35mm film format lens which is 27.26mm. The "CINE SUPER E" series has been designed to have the same angular field of view as the most commonly used 35 film format lenses so that cinematographers can easily adapt to the HD format.

High performance at wide apertures

Three-dimensional image expression commonly referred to as "detail in the out of focus image" peculiar to cinematography, benefits from the shallowness of the depth of field of a large aperture lens. The "CINE SUPER E" series is optimized to operate at the fastest possible T-No. "T1.5 - T1.8" resulting in a shallow depth of field for three-dimensional image expressions.

Constant T-No.

Changes in the T-No. when zooming is considered unfavorable in cinematography. Therefore demand for constant T-No. when using a cinematography zoom lens is desired. All 4 zoom lens models in the "CINE SUPER E" series maintains a constant T-No. from the wide end to the telephoto end.

Crisp, sharp and high contrast images

Fujinon has utilized the optical designing skills from many years of development and research of HDTV and film format lenses to create the "CINE SUPER E" series in answer to the increasing demands of cinematographers for a more precise, aberration free image. A low dispersion and high refractive index glass such as CaF_2 fluorite is perfectly balanced in reducing chromatic aberrations. In addition each glass material is coated by a new Fujinon EBC coating to decrease flair and ghosts and provides for a high contrast and high MTF image with low color fringing throughout the image plane. The high MTF of the "CINE SUPER E" series is not effected by changes in iris nor the difference in shooting distance.

Minimized focus breathing

One of the main features of the "CINE SUPER E" series is the minimum changes to the field of view during focusing. For most standard lenses when focusing the field of view changes as though the lens is zooming. The phenomenon is called focus breathing. "CINE SUPER E" has adopted an inner focus and floating method for the lens focus structure to eliminate the focus breathing phenomenon to a level which does not interfere the visual content of the production.

Excellent relative illumination

As the 16:9 wide image is projected onto a big screen in cinematography by HD system, it is very important for the brightness of the projected image to be uniform all over the screen up to the corners. So a lens with superb relative illumination is required. The diameter of a lens must be larger to achieve better relative illumination resulting in the compensation of aberrations being increasingly more difficult. "CINE SUPER E" series achieves excellent relative illumination and high resolution over the entire picture area even with the iris fully open. As brightness is uniform all over the screen, the depth of field remains the same level from the center to the corners creating detail in soft-focus areas of the image.

Color matching

In cinematography, lenses are chosen for each scene according focal length making it extremely important for all lenses to have the same color-balance. The "CINE SUPER E" series are designed and manufactured to exhibit the same transmission characteristics by using various glass materials in ideal balance and by adoption of New EBC Coating suitable for each optical element. This eliminates time spent for color adjustment and contributes to overall savings.

Focus rotation angle 280 degrees

"CINE SUPER E" lenses adopt a lead-cam method in order to achieve 280 degrees of focus rotation angle, instead of helicoid screw which is used in ENG lenses for its focus lens mechanism. Super precise machining technology and careful assembling techniques make the focus operation smooth while maintaining proper torque for precise focusing. A large barrel diameter provides for excellent results when pulling focus.

Equipped with back focus adjustment mechanism

"CINE SUPER E" series lenses have a precise back focus adjustment mechanism. Even when lenses are slightly mismatched with the HD camera, it is quite easy to readjust its back focus.
The error of its back focus can be easily adjusted by remote control, on the "CINE SUPER E" series when equipped with an optional servo system. Fig.2

Engraved markings

All of the models for the "CINE SUPER E" series has the model name engraved on the lens. In addition scales for the focus, zoom and iris are colored and etched accurately on both sides of the lens barrel for easy reading. All models are available with scales in feet or meters.
Example; HAeF5-F Feet scaled
HAeF5-M Metric scaled

Uniformed size and shape, popular accessories can be used.

We have unified the size and shape of the "CINE SUPER E PRIME" series for efficient lens changes eliminating the worries of also changing the matte boxes, follow-focus systems and other accessories. All "CINE SUPER E PRIME" front diameters are ϕ95mm and the focus and iris gear's diameter, thread and positions are also unified. HAe3x5, HAe5x6 and HAe10x10 front diameters are unified at ϕ130mm. Zoom, focus and iris gear diameter, thread and positions are unified including the HAe12x9.5(ϕ160mm). Matte-box, follow-focus and other cinematography accessories of ARRIFLEX and CROSZIEL are compatible.

11 iris blades

Both "CINE SUPER E PRIME" and "CINE SUPER E ZOOM" are equipped with 11 iris blades. This multi-blade system improves the resolution of out-of-focus images and is essential to create three-dimensional pictures. Futhermore, it reduces beams of light when shooting a point light source.

11 iris blades T5.6 6 iris blades T5.6

System line-up

Fujinon also offers various accessories for wider utilization of "CINE SUPER E" series, such as servomechanisms for focus, zoom, iris, and back focus, and a display system that provides a visual indication of T-No., object distance, focal length and angle of view when coupled with a P/C.

IRIS SERVO SYSTEM

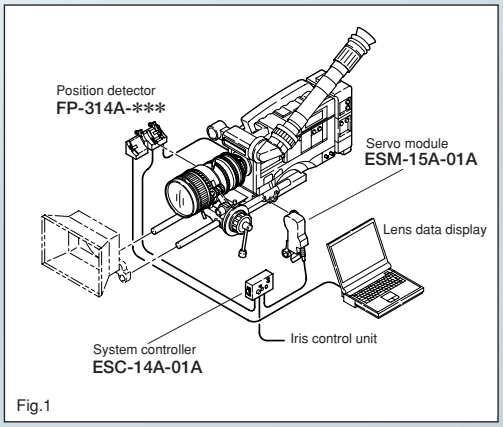


Fig.1

FULL SERVO SYSTEM

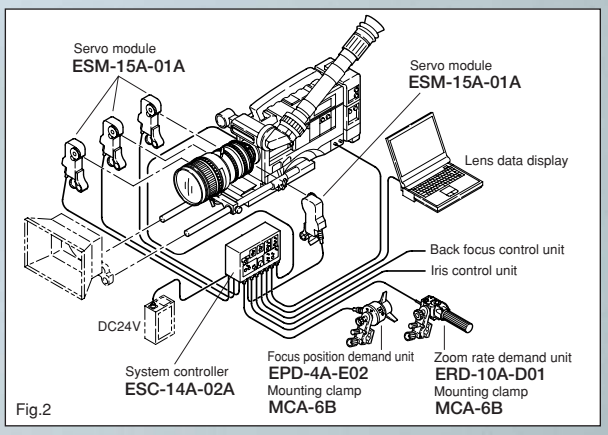
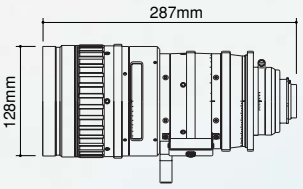


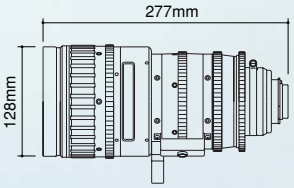
Fig.2

Can be used on "CINE COMPACT C" series. (Some functions may be limited.)

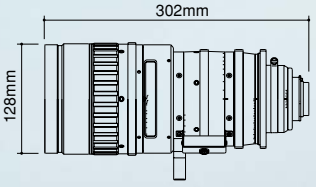
Line-up & Specifications



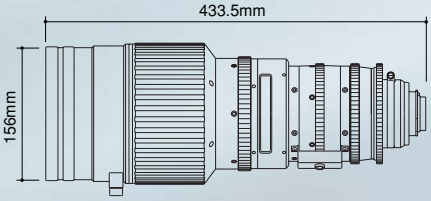
HAe3×5
5–15mm T1.6 WIDE ZOOM



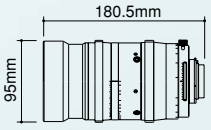
HAe5×6
6–30mm T1.8 WIDE ZOOM



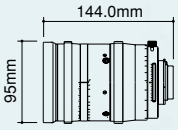
HAe10×10
10–100mm T1.8 STANDARD ZOOM



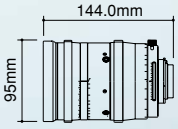
HAe12×9.5
9.5–114mm T1.6 HYPER ZOOM



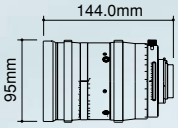
HAeF5
5mm T1.7 WIDE



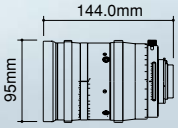
HAeF8
8mm T1.5 WIDE



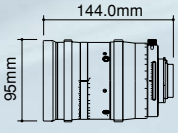
HAeF10
10mm T1.5 STANDARD



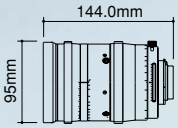
HAeF12
12mm T1.5 STANDARD



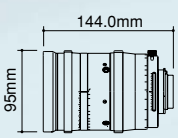
HAeF16
16mm T1.5 STANDARD



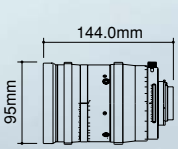
HAeF20
20mm T1.5 STANDARD



HAeF34
34mm T1.5 TELEPHOTO



HAeF40
40mm T1.5 TELEPHOTO



HAeF54
54mm T1.6 TELEPHOTO

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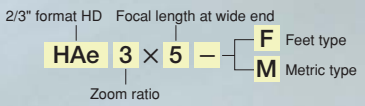
Zooms

MODEL NAME	HAe3×5	HAe5×6	HAe10×10	HAe12×9.5
Application	2/3″ HD Camera			
Focal length	5–15mm	6–30mm	10–100mm	9.5–114mm
Zoom ratio	3×	5×	10×	12×
T-No.	1.6	1.8	1.8	1.6
Iris blades	11	11	11	11
M.O.D. from image plane	0.56m / 1.84ft.	0.56m / 1.84ft.	0.94m / 3.08ft.	1.2m / 3.94ft.
Object dimensions at M.O.D. 16 : 9 Aspect ratio	5mm 541×304mm 15mm 178×100mm	6mm 458×257mm 30mm 92×51mm	10mm 633×356mm 100mm 65×37mm	9.5mm 861×484mm 114mm 72×40mm
Angular field of view 16 : 9 Aspect ratio	5mm 87°36′×56°39′ 15mm 35°27′×20°22′	6mm 77°16′×48°23′ 30mm 18°10′×10°16′	10mm 51°14′×30°10′ 100mm 5°29′×3°05′	9.5mm 53°34′×31°41′ 114mm 4°49′×2°43′
Filter thread	—	—	—	—
Focus rotation	280°	280°	280°	280°
Zoom rotation	160°	160°	160°	160°
Size ϕ×Length	ϕ128×287mm	ϕ128×277mm	ϕ128×302mm	ϕ156×433.5mm
Mass	5kg	4.7kg	5.8kg	10kg
Available model	Feet type and metric type available.			

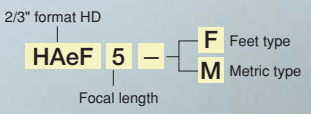
*Gear pich : Module 0.8



Primes

MODEL NAME	HAeF5	HAeF8	HAeF10	HAeF12	HAeF16	HAeF20	HAeF34	HAeF40	HAeF54
Application	2/3″ HD Camera								
Focal length	5mm	8mm	10mm	12mm	16mm	20mm	34mm	40mm	54mm
T-No.	1.7	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6
Iris blades	11	11	11	11	11	11	11	11	11
M.O.D. from image plane	0.5m/1.64ft.	0.4m/1.31ft.	0.5m/1.64ft.	0.4m/1.31ft.	0.4m/1.31ft.	0.45m/1.48ft.	0.4m/1.31ft.	0.5m/1.64ft.	0.6m/1.97ft.
Object dimensions at M.O.D. 16 : 9 Aspect ratio	591×332mm	288×162mm	335×188mm	220×124mm	175×98mm	165×93mm	83×47mm	99×56mm	92×52mm
Angular field of view 16 : 9 Aspect ratio	87°36′×56°39′	61°52′×37°14′	51°14′×30°10′	43°34′×25°19′	33°22′×19°07′	26°58′×15°21′	16°03′×9°04′	13°40′×7°42′	10°09′×5°43′
Filter thread	—	M86×1	M86×1	M86×1	M86×1	M86×1	M86×1	M86×1	M86×1
Focus rotation	280°	280°	280°	280°	280°	280°	280°	280°	280°
Size ϕ x Length	ϕ95×180.5mm	ϕ95×144mm	ϕ95×144mm	ϕ95×144mm	ϕ95×144mm	ϕ95×144mm	ϕ95×144mm	ϕ95×144mm	ϕ95×144mm
Mass	2.2kg	1.6kg	1.62kg	1.65kg	1.6kg	1.6kg	1.65kg	1.65kg	1.65kg
Available model	Feet type and metric type available.								

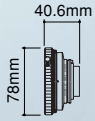
*Gear pich : Module 0.8



Extender

MODEL NAME	HAeE14-1
Application	2/3" HD Camera
Magnification	1.4×
Size	ϕ78x40.6mm
Mass	0.3kg

*T-No. on the master lens becomes 1.4×.



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