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ARRI Special Report

# FILM AND DIGITAL TIMES

Art, Technique and Technology in Motion Picture Production Worldwide



ENSŌ

32

InterBEE Edition

Updated Nov 12, 2024

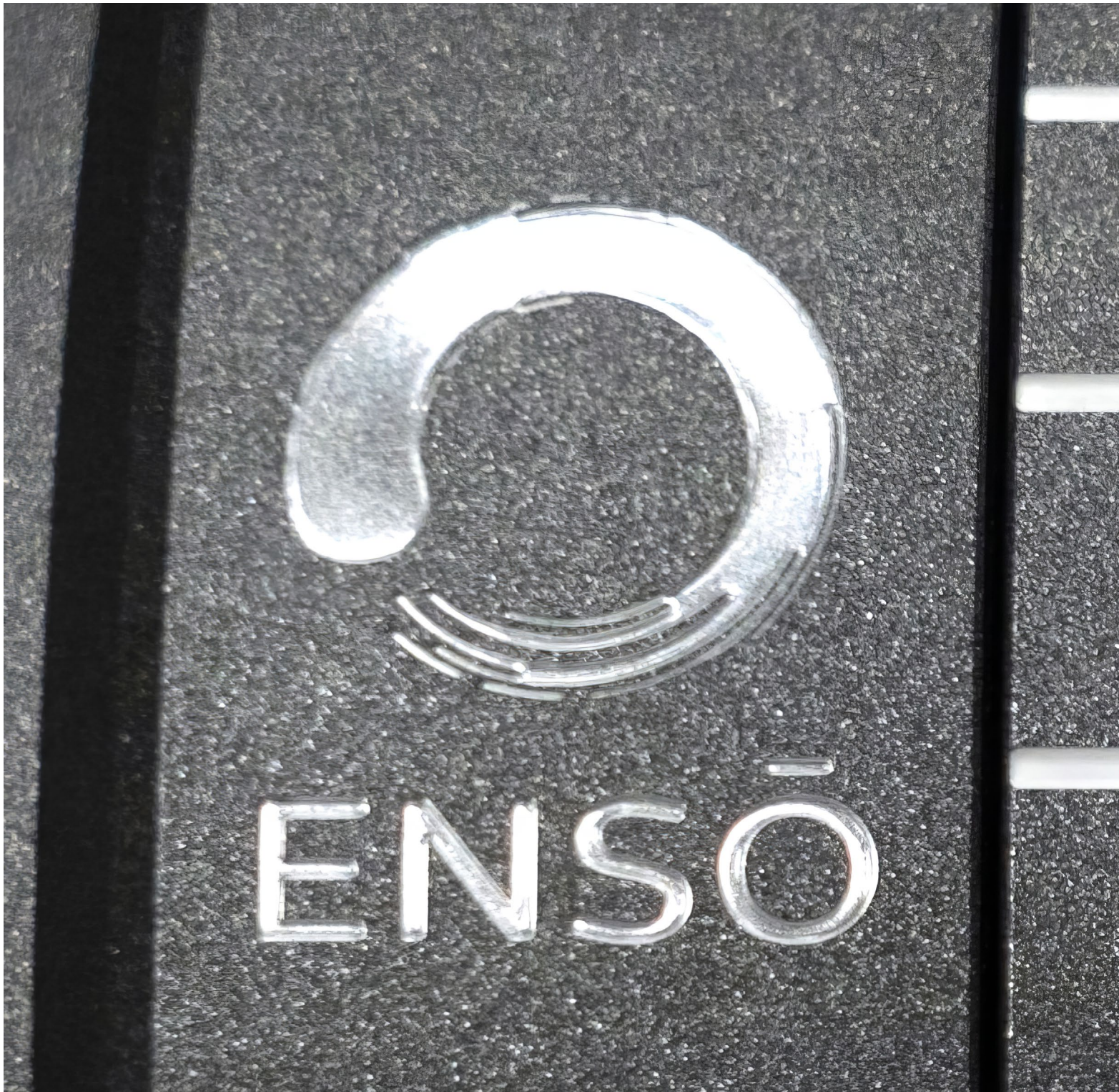
This is a report about art and optics.  
It begins with a single circular brushstroke.



In Zen art, Ensō is a circle brushed in a single stroke representing the universe, perfection and the enlightened mind. The Minneapolis Institute of Art explains, “Ensō means mark of a circle. As the brush deposits ink, the stroke becomes scratchier, leaving the circle incomplete. This imperfection reflects the inevitable discrepancy between the ideal and reality.”

Above: Ensō brushstroke by artist Misayo Kawashima—framegrab from a short film by Tom Fährmann.

This is a new cine lens from ARRI.  
It is one in a series of primes named Ensō.



What is it about shared German and Japanese culture?

There's a common quest for perfection and obsession with detail. And yet, the car company slogan "The Best or Nothing" seems smarmy if you see one of those cars behind a tow truck. And do you always want a perfect lens? The Zen philosophy behind a single, incomplete circular brushstroke is fitting for cine lenses—a search for perfection and the paradox of perfection and imperfection.

# Introduction to Ensō Primes by Walter Trauningger



Walter Trauningger, Managing Director, joined ARRI in 1986 as designer of the Arriflex 765 film camera movement. Subsequently, he was Head of Development of the Arriflex 435, 235, ARRICAM, 416, ALEXA and AMIRA cameras.

Here is Walter's overview of ARRI Ensō Primes.

“ARRI has a long history of cameras and paired sets of lenses. We had Standard Primes and Super Speed Primes in the 1960 and 70s. Master Primes and Ultra Primes worked in parallel after ARRICAM arrived in 2000. Ultra Primes were the workhorse lenses. They were lighter, smaller and more affordable, but they also had a slightly different image quality. Master Primes were faster and breathless—as the absence of focus breathing became more important. These were all Super35 format lenses. Large Format coverage came with our Signature Primes in 2018, coinciding with the ALEXA LF camera launch. And now we have Large Format Ensō Primes.

“The concept behind Ensō is also a parallel series to the Signature Primes. Ensō lenses have an extremely close minimum focus distance of 1:4. This is almost macro territory. You can focus on an image that is 4 times the width of the Large Format sensor. You can do an extreme close-up portrait that is about the width of a postcard. Normally, primes have a minimum focus distance of 8 to 10 times the focal length. This extreme close-up ability of Ensō makes new perspectives possible.

“Ensō Primes also have a slightly different look than Signatures. Yes, you can match them. But if you want a stronger vintage look, you can attach Ensō Vintage Elements at the rear to detune the lens, change the bokeh, and achieve different creative looks. That came from user feedback—DPs asking for more.

“Oh, and by the way, Ensō Primes are the more affordable lens series, and we think they will become the Large Format workhorse, as the Ultra Primes did earlier for the Super35 Format.

“With nittoh, we have a very reliable partner in Japan. (*The “n” in nittoh is lowercase.*) Their reliability and understanding of quality, schedule and budget discipline has been the best I have ever seen. Even if we requested minor changes, it was not necessary to explain how to find a solution. It was not even necessary to ask them to do it. That is something I never had never experienced before. We are working together in the same boat, as you can imagine.”



Ensō: 2024



Signature Prime: 2018



Master Prime: 2005



Ultra Prime: 1999



Super Speed: 1975



Standard: 1964

# ARRI Ensō Prime Lenses



Meet Ensō with a diacritical macron ò.

On your keyboard, that's the "ò" key pressed down for 3 seconds, followed by the number 9 or 7.

Pronounced like Enzo as in Ferrari, with more of an "s" sound, as in serene, than a "z" like zoom-zoom engine roar.

## What are Ensō Primes?

ARRI Ensō Prime lenses are affordable Large Format (Full Frame) primes, with focal lengths from 10.5mm to 250mm. Most of them have a maximum aperture of T2.1 and they come in LPL mounts with LDS and /i lens metadata. ARRI's acronym is "EP."

The initial core set—shipping in November 2024—consists of 18, 24, 32, 47, 75 and 105 mm. It includes an Ensō Vintage Elements Kit of 6 diopters that attach magnetically to the rear of the lens.

Next year, the 10.5, 14, 21, 28, 40, 58, 150 and 250 mm primes will be added, along with a 1.4x and 2x tele extender.

## What is the difference between Ensō and Signature Primes?

It's like a high school exam question. Ultra Prime is to Master Prime as Ensō is to... (fill in the blank). Yes, Signature Prime. That's a bit simplistic, but Ensō lenses offer a lighter, shorter, ever-so-slightly slower option (T2.1 vs T1.8 average).

Signature Primes have magnesium barrels. Ensō Primes have aluminum barrels.

## How do they look?

Cutting to the chase: how do they look? In the framegrabs on the following pages, look at the smooth skin tones, gentle focus fall-off and beautiful bokeh that would have an impressionist painter weep.

My impressions: Ensō primes match Signatures in color, contrast and concept. They flare and ghost ever so slightly more, like sub-

tle brushstrokes when you want them, and easily tamed with flags or mattebox eyebrows when you don't.

## Extremely Close

Ensō lenses focus much closer than most other prime lenses. See ECU on Thorsten Meywald (opposite page). All Ensō primes have an almost macro close-focus ratio of 1:4, without diopters in front. That means you can fill the frame with a subject or object that's 4 times the diagonal of a Large Format sensor. So, 4 x 44 mm is 176 mm (6.9 inches) — about the width of a postcard. Try a continuous rack-focus from an extremely close close-up all the way to infinity. You cannot do that with front diopters.

## What is Ensō ?

Each lens is engraved with an elegant Ensō symbol.

Drawing Ensō is a beautiful yet difficult task. It is done with an ink brush on Japanese washi paper, striving for perfection but realizing it cannot be achieved. You draw the Ensō in one fluid move. It takes years of practice, often attempted every day. Focus pullers will relate to the paradox and the process.

## Ensō Logo

What were Thorsten Meywald, VP Product Management Lenses ARRI Group and his colleagues thinking when they came up with the complicated calligraphic Ensō logo? How do you get a brushstroke, whose ink runs out, onto an aluminum lens barrel?

Thorsten explains, "Look closely at the Ensō logo on the lens. You see the brush stroke, which is engraved. That's the philosophy of Ensō. Start with something simple and try to make it as perfect as possible, but it's always an understatement. First, we started with a painting, really a brushstroke. After many attempts, we scanned it to a vector graphic. Then, the image was transferred to a template for mechanical engraving, which is actually much deeper compared to laser engraving.





Thorsten Meywald, Product Manager  
ECU with EP: Ensō 105mm at T2.1

“The scales are also engraved mechanically, resulting in cavities that are deeper and lettering that appears more pleasing because the edges are smoother.

### **Ensō Vintage Elements**

“Ensō Vintage Elements are rear diopters with plus and minus strengths, but they are not used to focus closer—they are additional elements that detune the lens and affect the bokeh, producing different creative looks.

### **Can you use Signature Prime Impression V Filters on Ensō?**

“Signature Primes use Impression V Filters at the rear. And yes, Impression V Filters for Signature lenses can be used on Ensō Primes, but Ensō Vintage Elements cannot be used on Signature lenses.

### **Ensō Vintage Elements vs Signature Impression V**

“Compared to Impression V Filters, Ensō Vintage Elements have a steeper fall-off in image performance from center to corner and, in general, they are sharper at the center compared to Impression V Filters. Technically, Impression V Filters add spherical aberration to the lenses and Vintage Elements add field curvature as well as some spherical aberration.

“Ensō Vintage Elements on Ensō lenses can be identified by the camera since they have a built-in chip with all the metadata of the Vintage Element. Impression V Filters have no chip and can't be identified electronically.

### **Optical design**

“Ensō Primes have aspheric elements inside wherever they are needed, especially on the wide angle lenses. The focus mechanism uses a smooth cam system. They have floating or coupled elements to achieve high performance, especially at close focus. Similar to our other lenses, the optical elements first undergo a regular polishing process. After careful measurement, any imperfections are smoothed out to micron tolerances with precision MRF polishing on huge machines.

### **Who will be the users of Ensō lenses?**

“Ensō Primes are universal and versatile, for small and large rental houses as well as owner-operators. They will be at home on scripted features, unscripted series, television, live productions, commercials, music videos, corporate films and documentaries.

### **Close Focus**

“Even the 250mm Ensō has a minimum focus of 1:4. Imagine doing a corporate film and you are focused on a robotic machine with arms whizzing around. It's too dangerous to get near, but your 250mm Ensō has a minimum object distance of 1.30 meters (4'3") that gets you up close—safely.

“But your 18mm Ensō has the same 1:4 close focus ratio and gives you the same minimum object field of about 5.7 inches wide at a minimum object distance of 20 cm (7.9 inches). Having the same minimum object field of view throughout the entire set is interesting and unique.

# Thorsten Meywald on ARRI Ensō Primes



The 250mm lens gives you an image that is more compressed—the background appears closer. The 18mm background appears more distant. On most previous lens sets, it was often a hassle having minimum focus distances that were much further away.

## Uniform Lens Housings

“Most Ensō Primes have a front diameter of 95 mm, like the Ultra Primes. The Ensō 250mm has a 114 mm front diameter, like Master Primes. Therefore, you can use a Master Diopter, Leitz Cine MacroLux or other diopters in front to get even closer focus.

“In addition, the lens rings are in the same position on all 14 Ensō lenses, which means that lens motors don’t have to be moved when swapping focal lengths. The uniformity of the front diameters and lens rings help make the Ensō Primes quick and easy to work with on set.

## Rear Extenders

“The Ensō 250mm comes with a 1.4x and 2x extender—to provide the equivalent of a 350mm at T4 or 500mm at T5.8.

“The extender reduces the transmission a little and the T-stop is slightly deeper compared to the geometric f-stop, which would be F5.6. And, with a little math, we see that the 2x extender provides an even closer minimum object field of 1:2.

## 10.5 and 14mm Ensō Primes

“For setups that are extremely wide and incredibly close, we have the 10.5mm and 14mm Ensō Primes. (Here’s looking at you, *Rev-enant* and *Birdman*.)

“These lenses come with exchangeable 134 and 156 mm diameter front rings. The 134 mm front ring is intended for shooting in Super35. It lets you use smaller matteboxes and 4x5.65” front filters. If you’re shooting Large Format, you should use the 156 mm diameter front ring and a Mattebox for 6.6x6.6” front filters.

## Exteriors

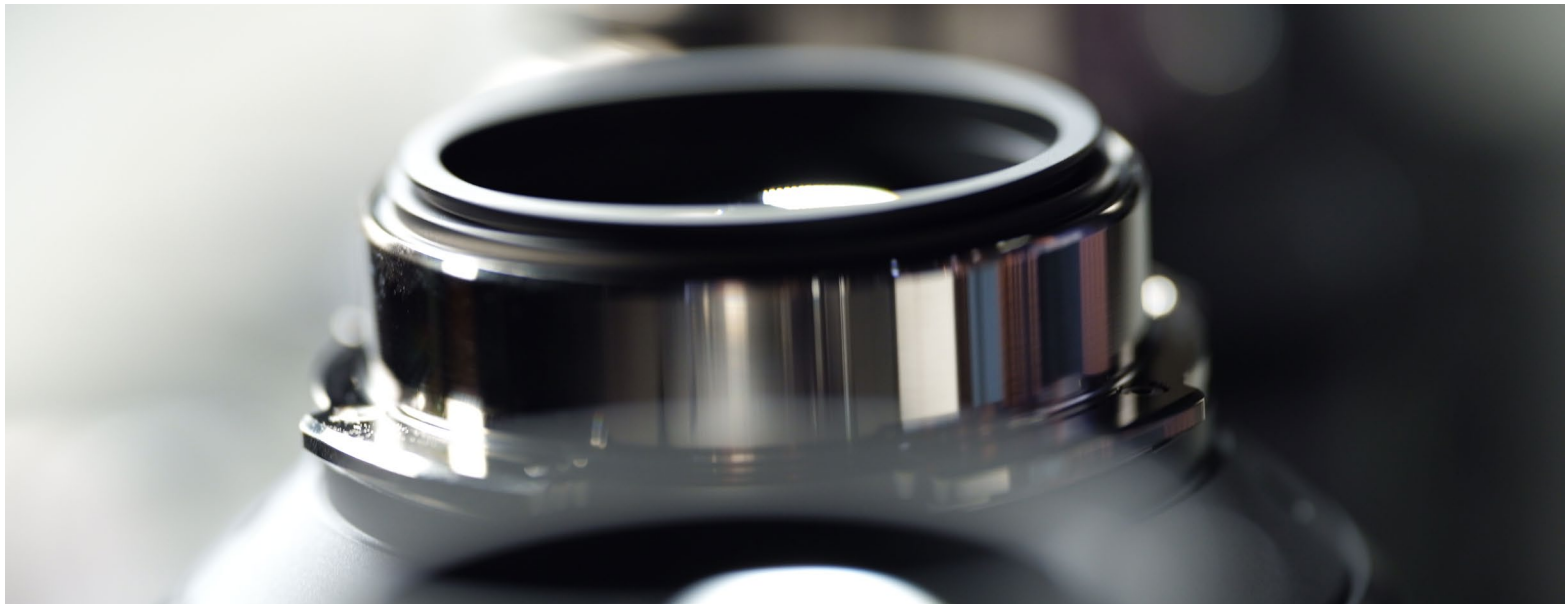
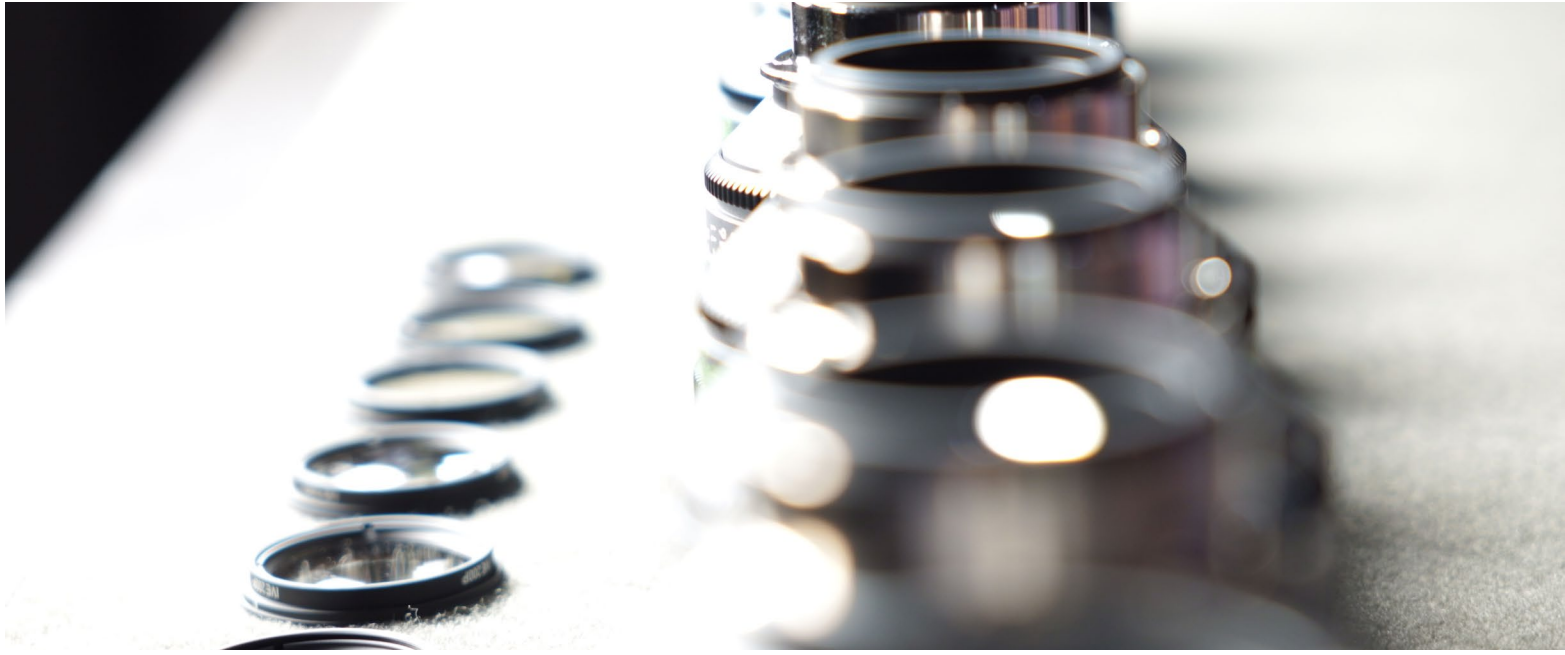
“Ensō Primes have black anodized barrels. After anodizing, we add a layer of metallic paint that contains metal particles to provide a distinct glow. If you shine a strong light on the surface of the barrel, you will see the reflections of the metallic particles. That’s just one little detail of what we have done. It’s the same thing with the brushstroke. If you look very closely at the Ensō logo, you see the engraved details.

“And that’s the philosophy of Ensō. It’s a disciplined understatement. Start with something simple, try to make it as good as possible, and as in Zen art, accept the strength of imperfection.”



The close focus distance is marked on the barrel with its 1:4 ratio.

# Ensō Vintage Elements



Ensō Vintage Elements: 100P, 200P, 350P (Plus) and 100N, 200N, 350N (Negative). Notice the Metadata contacts to identify the Element.

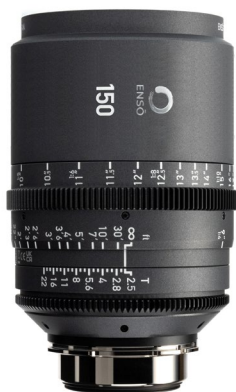


# 14 Ensō Prime Lenses



The core set of Ensō Primes at launch consists of 18, 24, 32, 47, 75 and 105 mm.

Renders on this page courtesy of ARRI



# Ensō Specifications



	EP10.5	EP14	EP18	EP21	EP24	EP28	EP32	EP40	EP47
<b>Focal Length</b>	10.5mm	14mm	18mm	21mm	24mm	28mm	32mm	40mm	47mm
<b>T-stop</b>	2.8	2.5	2.1	2.1	2.1	2.1	2.1	2.1	2.1
<b>Close Focus (m)</b>	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3
<b>Close Focus (ft)</b>	10.5"	10.5"	8"	8.5"	9"	9"	10"	11"	12.5"
<b>Magnification Ratio</b>	1:10	1:8	1:4	1:4	1:4	1:4	1:4	1:4	1:4
<b>Coverage (mm)</b>	46	46	46	46	46	46	46	46	46
<b>Length (mm)</b>	141	141	117	117	117	117	117	117	117
<b>Length (inch)</b>	5.6"	5.6"	4.6"	4.6"	4.6"	4.6"	4.6"	4.6"	4.6"
<b>Weight (kg)</b>	2.3	2.1	1.4	1.4	1.4	1.5	1.4	1.3	1.3
<b>Weight (lb)</b>	5.1	4.6	3.1	3.1	3.1	3.2	3	2.9	2.9
<b>Front Diameter (mm)</b>	134 (156)	134 (156)	95	95	95	95	95	95	95
<b>ARRI LDS-2 / Cooke /i</b>	yes	yes	yes	yes	yes	yes	yes	yes	yes
<b>List Price (EUR)</b>	21,900 €	17,900 €	13,900 €	11,900 €	10,900 €	11,900 €	10,900 €	11,900 €	10,900 €
<b>Availability</b>	Nov 25	Oct 25	Nov 24	Feb 25	Nov 24	Aug 25	Nov 24	Sep 25	Nov 24

	EP58	EP75	EP105	EP150	EP250	EP350	EP500
						(EP 250 with 1.4x Extender)	(EP 250 with 2x Extender)
<b>Focal Length</b>	58mm	75mm	105mm	150mm	250mm	350mm	500mm
<b>T-stop</b>	2.1	2.1	2.1	2.5	2.8	4.0	5.8
<b>Close Focus (m)</b>	0.4	0.4	0.6	0.8	1.3	1.3	1.3
<b>Close Focus (ft)</b>	14"	17"	23.5"	30.5"	4'2"	4'4"	4'5"
<b>Magnification Ratio</b>	1:4	1:4	1:4	1:4	1:4	1:3	1:2
<b>Coverage (mm)</b>	46	46	46	46	46	46	46
<b>Length (mm)</b>	117	123	123	152	207	241	251
<b>Length (inch)</b>	4.6"	4.8"	4.8"	6.0"	8.1"	9.5"	9.9"
<b>Weight (kg)</b>	1.5	1.5	1.6	1.9	2.9	3.5	3.6
<b>Weight (lb)</b>	3.3	3.2	3.4	4.2	6.4	7.8	7.9
<b>Front Diameter (mm)</b>	95	95	95	95	114	114	114
<b>ARRI LDS-2 / Cooke /i</b>	yes	yes	yes	yes		yes	
<b>List Price (EUR)</b>	11,900 €	12,900 €	13,900 €	16,900 €		23,900 €	
<b>Availability</b>	Aug 25	Nov 24	Nov 24	Feb 25		Dec 25	

- Core Set (18, 24, 32, 47, 75 and 105 mm) highlighted in blue - available November 2024.
- Close Focus is from the sensor (image plane) to the object. Length is from the lens flange to the mechanical front of the lens.
- Specifications courtesy of ARRI. Details are subject to change.

# ARRI Signature Primes & Zooms



ARRI Signature Lens	Focal Length	T-Stop	MOD fr sensor plane	Front diameter	Length from flange	Weight
Signature Prime 12 <sup>1</sup>	12 mm	T1.8-22	0.35 m / 14"	134 mm	239 mm / 9.41"	2.8 kg / 6.2 lb
Signature Prime 15	15 mm	T1.8-22	0.35 m / 14"	156 mm	197 mm / 7.75"	2.8 kg / 6.2 lb
Signature Prime 18	18 mm	T1.8-22	0.35 m / 14"	114 mm	178 mm / 7.01"	2.0 kg / 4.4 lb
Signature Prime 21	21 mm	T1.8-22	0.35 m / 14"	114 mm	178 mm / 7.01"	1.9 kg / 4.2 lb
Signature Prime 25	25 mm	T1.8-22	0.35 m / 14"	114 mm	178 mm / 7.01"	1.9 kg / 4.2 lb
Signature Prime 29	29 mm	T1.8-22	0.35 m / 14"	114 mm	178 mm / 7.01"	1.8 kg / 4.0 lb
Signature Prime 35	35 mm	T1.8-22	0.35 m / 14"	114 mm	178 mm / 7.01"	1.7 kg / 3.7 lb
Signature Prime 40	40 mm	T1.8-22	0.35 m / 14"	114 mm	178 mm / 7.01"	1.8 kg / 4.0 lb
Signature Prime 47	47 mm	T1.8-22	0.45 m / 18"	114 mm	178 mm / 7.01"	1.8 kg / 4.0 lb
Signature Prime 58	58 mm	T1.8-22	0.45 m / 18"	114 mm	178 mm / 7.01"	2.0 kg / 4.4 lb
Signature Prime 75	75 mm	T1.8-22	0.65 m / 26"	114 mm	178 mm / 7.01"	1.9 kg / 4.2 lb
Signature Prime 95	95 mm	T1.8-22	0.85 m / 3'1"	114 mm	178 mm / 7.01"	1.9 kg / 4.2 lb
Signature Prime 125	125 mm	T1.8-22	1 m / 3'4"	114 mm	178 mm / 7.01"	2.3 kg / 5.1 lb
Signature Prime 150	150 mm	T1.8-22	1.5 m / 6'	114 mm	208 mm / 8.19"	3.25 kg / 7.3 lb
Signature Prime 200	200 mm	T2.5-22	1.8 m / 6'	114 mm	218 mm / 8.58"	3.1 kg / 6.1 lb
Signature Prime 280	280 mm	T2.8-22	2.5 m / 8'3"	134 mm	278 mm / 10.93"	4.3 kg / 9.5 lb
SP 280 + 1.7x Extender	476 mm	4.95-39.62	2.54 m / 8'4.58"	134 mm	314.8 mm / 12"	4.9 kg / 10 lb 13 oz
Signature Zoom 16-32	16-32 mm	T2.8-22	0.45 m / 1'6"	156 mm	212 mm / 8.35"	3.50 kg / 7 lb 11.5 oz
Signature Zoom 24-75	24-75 mm	T2.8-22	0.7 m / 2'6"	114 mm	244 mm / 9.61"	4.1 kg / 9 lb 1 oz
Signature Zoom 45-135	45-135 mm	T2.8-22	1 m / 3'4"	114 mm	300 mm / 11.81"	3.64 kg / 8 lb .3 oz
Signature Zoom 65-300	65-300 mm	T2.8-22	1.8 m / 6'	156 mm	420 mm / 16.54"	8.1 kg / 17 lb 13.7 oz
SZ 65-300 + 1.7x Extdr	110.5-510 mm	T4.95-39.62	1.84 m / 6'6"1.56"	156 mm	456.8 mm / 18"	8.7 kg / 19 lb 2.9 oz

1. Image is upside down

# Lake Suwa in 1830, by Hokusai



Katsushika Hokusai (Japanese, 1760–1849). *Lake Suwa in Shinano Province*, from the series *Thirty-six Views of Mount Fuji*, ca. 1830–1831. Color woodblock print on paper, Image: 10 1/4 x 15 1/16 in. (26 x 38.2 cm). Brooklyn Museum, Gift of Frederic B. Pratt, 42.79



Close-up detail of Takashima Castle on the left side of Hokusai's woodblock print. Image has been upscaled and enhanced.

# Lake Suwa today, Nagano Prefecture



Lake Suwa and Suwa City in Nagano Prefecture today. Takashima Castle is on the left side of the photo (above), and in the woodblock (opposite page).



Detail of Takashima Castle.

# Hokusai in Tokyo



*Under the Wave off Kanagawa*  
by Katsushika Hokusai  
ca. 1830–32.

Woodblock print on paper.  
10 1/8 x 14 15/16 in.  
(25.7 x 37.9 cm)

Sumida Hokusai Museum, Tokyo.  
Photo: Jon Fauer.



Sumida Hokusai Museum in Tokyo,  
Designed by architect  
Kazuyo Sejima,  
co-founder of SANAA.  
Photo: Marlena Fauer.

# New York to Tokyo to Lake Suwa



Inspired by Hokusai, let's fly 14 hours to the Lake Suwa region in Nagano Prefecture, Japan for Ensō lens tests, art, culinary, cinema and sake adventures.

A good film to download and watch in-flight is the story of Ōi, Hokusai's talented artist daughter: *Kurara The Dazzling Life of Hokusai's Daughter* (*Kurara: Hokusai no Musume*).

Fourteen hours and six movies later, ANA 159 touches down in Tokyo at 5:15 am. That leaves 4 hours until the Sumida Hokusai Museum opens for an obligatory detour. Hokusai lived and worked in this Tokyo neighborhood for most of his life (1760-1849). If you missed *Under the Wave* at the Metropolitan Museum, you can see it here.

It's a 30-minute subway ride to Shinjuku, the busiest in railway station in the world, with 200 entrances. Fortunately, Thorsten Meywald is there to sort out which of the 53 platforms is the right one for our 2 hour trip to Suwa City. A small hot spring footbath for weary feet awaits at Kami-Suwa station.

Nagano Prefecture is famous for the 1998 Winter Olympic Games, the Japan Alps, mountain biking, hot springs, snow monkeys, tourism, high tech manufacturing and optical companies.

Of course, we're here to try out the new ARRI Ensō Prime lenses. And so, with a prototype 18mm, 47mm and 105mm, we explore the area. All the images on the following pages were taken with these three lenses.

Above: More than 36 views of Mount Fuji on the train ride from Tokyo northwest to Nagano Prefecture, through the Japan Alps toward Suwa.

Below: Footbath onsen in Kami-Suwa Station.



## Ensō Frames at Lake Suwa



18mm Ensō

An 11-mile hiking-biking trail circles Lake Suwa, with many hot springs and beautiful views of Mount Fuji, sometimes obscured by clouds. The breeze blows strong: adiabatic in the morning as the surrounding mountains heat up and katabatic as they cool, sending the wind back downhill. This makes for great sailing. There's a fleet of Solings, Optimists and other sailboats on Lake Suwa. The Soling is a 3-person keelboat that raced in Olympics from 1972 to 2000.



47mm Ensō at T2.1

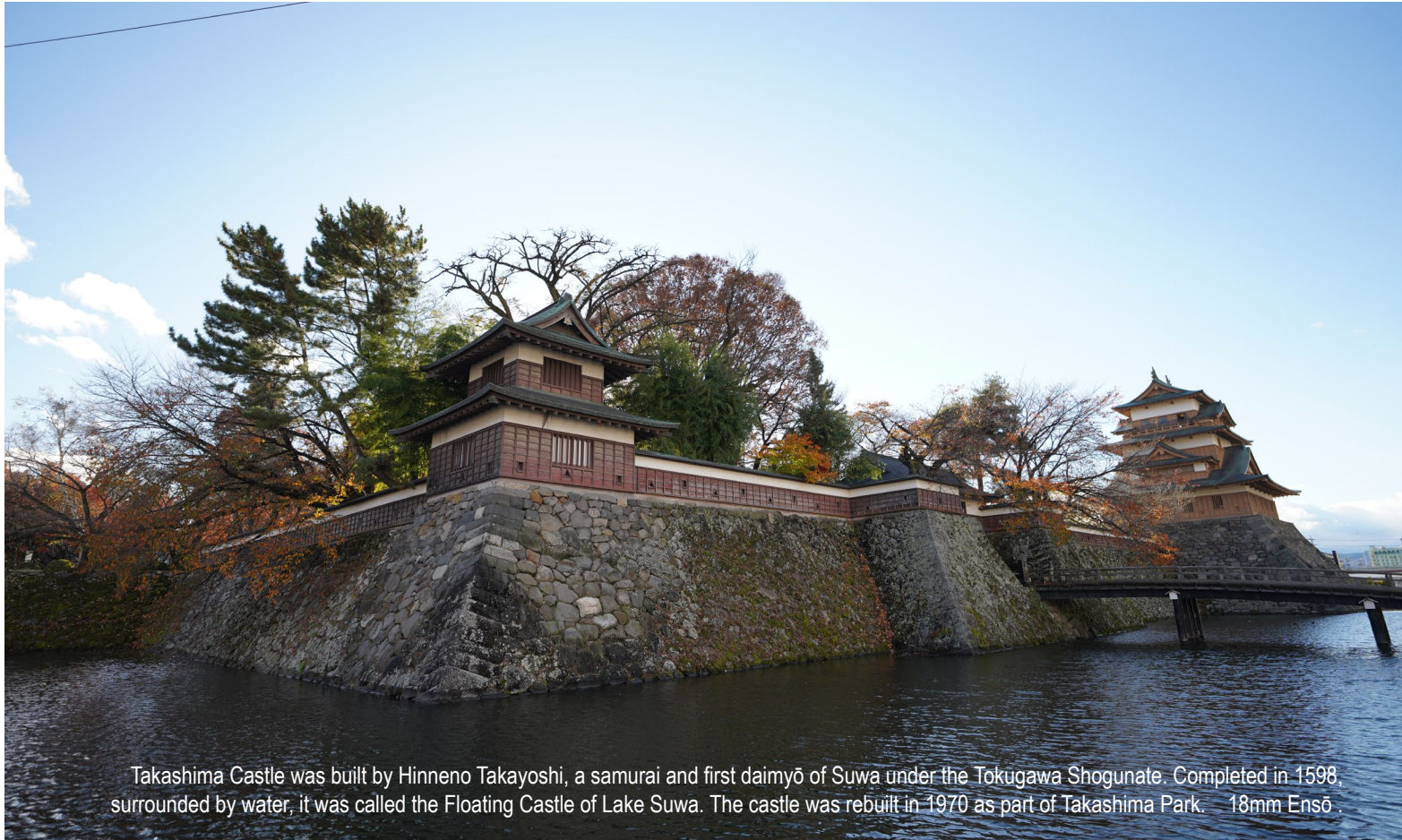


# Ensō Frames in Suwa City

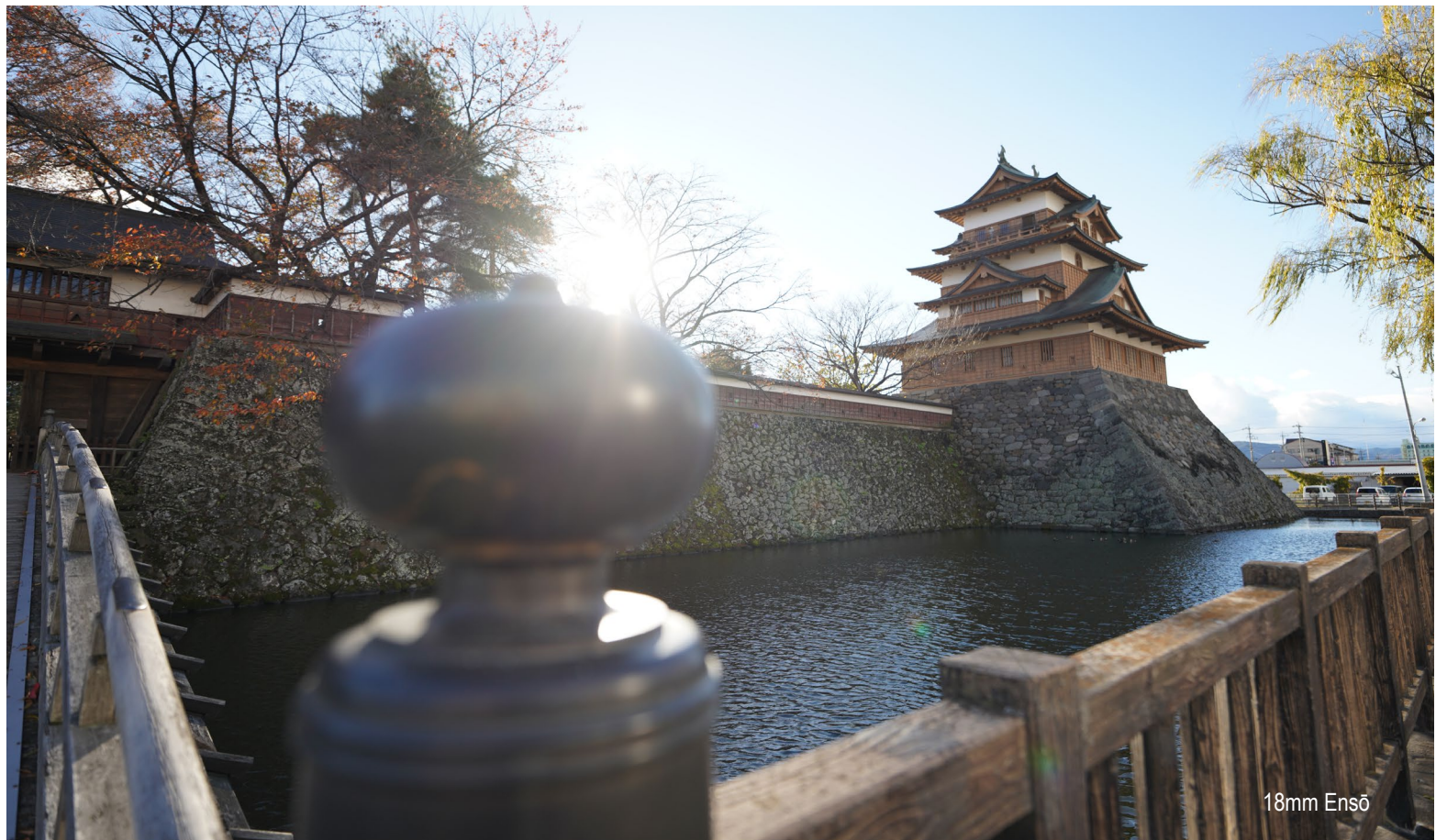


105mm Ensō

# Ensō at Takashima, the Floating Castle of Suwa



Takashima Castle was built by Hinneno Takayoshi, a samurai and first daimyō of Suwa under the Tokugawa Shogunate. Completed in 1598, surrounded by water, it was called the Floating Castle of Lake Suwa. The castle was rebuilt in 1970 as part of Takashima Park. 18mm Ensō .



18mm Ensō

# Ensō at Takashima Castle



18mm Ensō



105mm Ensō at T2.1

# Ensō at Takashima Castle

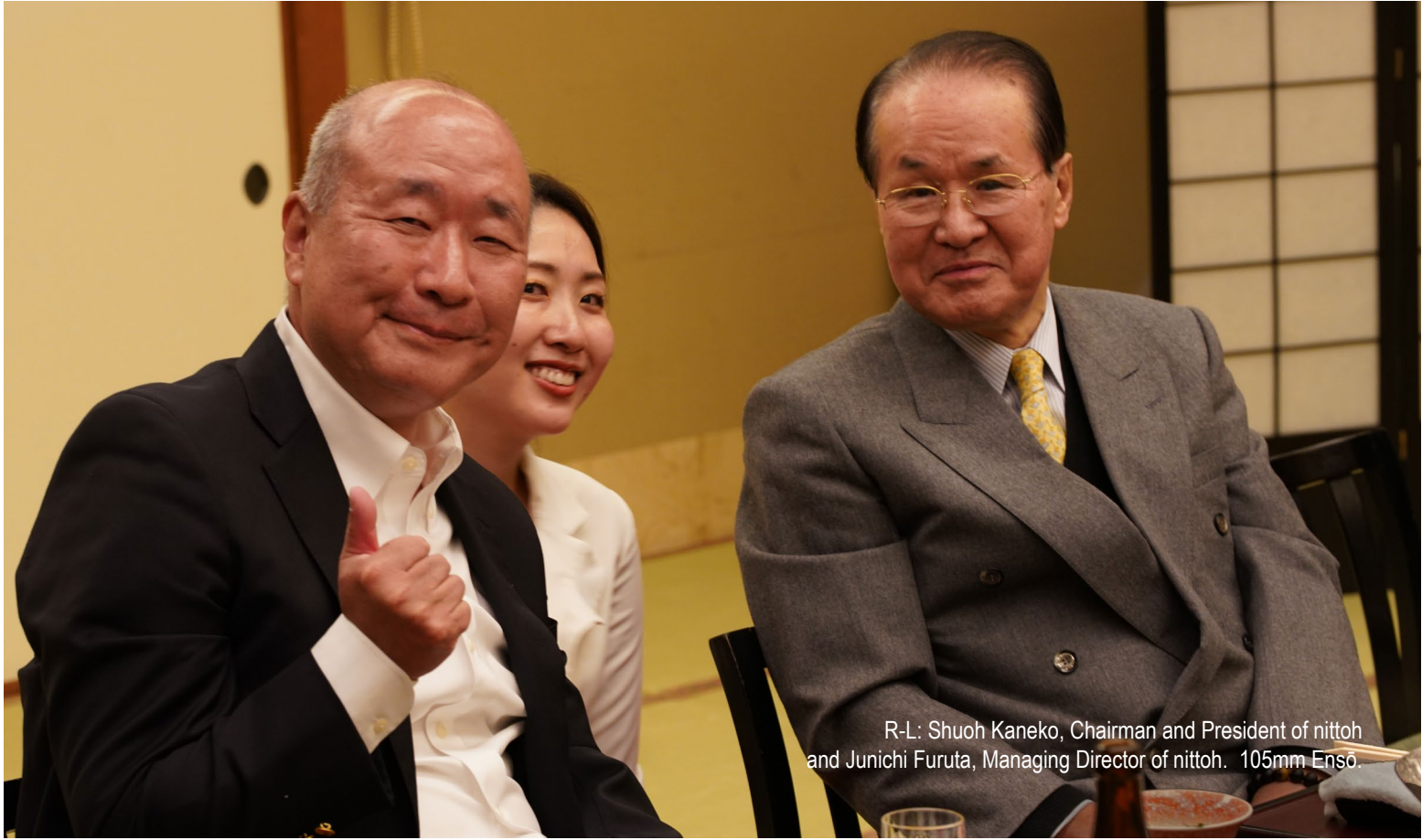


105mm Ensō



105mm Ensō

# With Ensō and nittoh at Saginoyu Riyokan



R-L: Shuoh Kaneko, Chairman and President of nittoh and Junichi Furuta, Managing Director of nittoh. 105mm Ensō.



47mm Ensō

# Ensō Tabletop: Extremely Close Focus

47mm Ensō



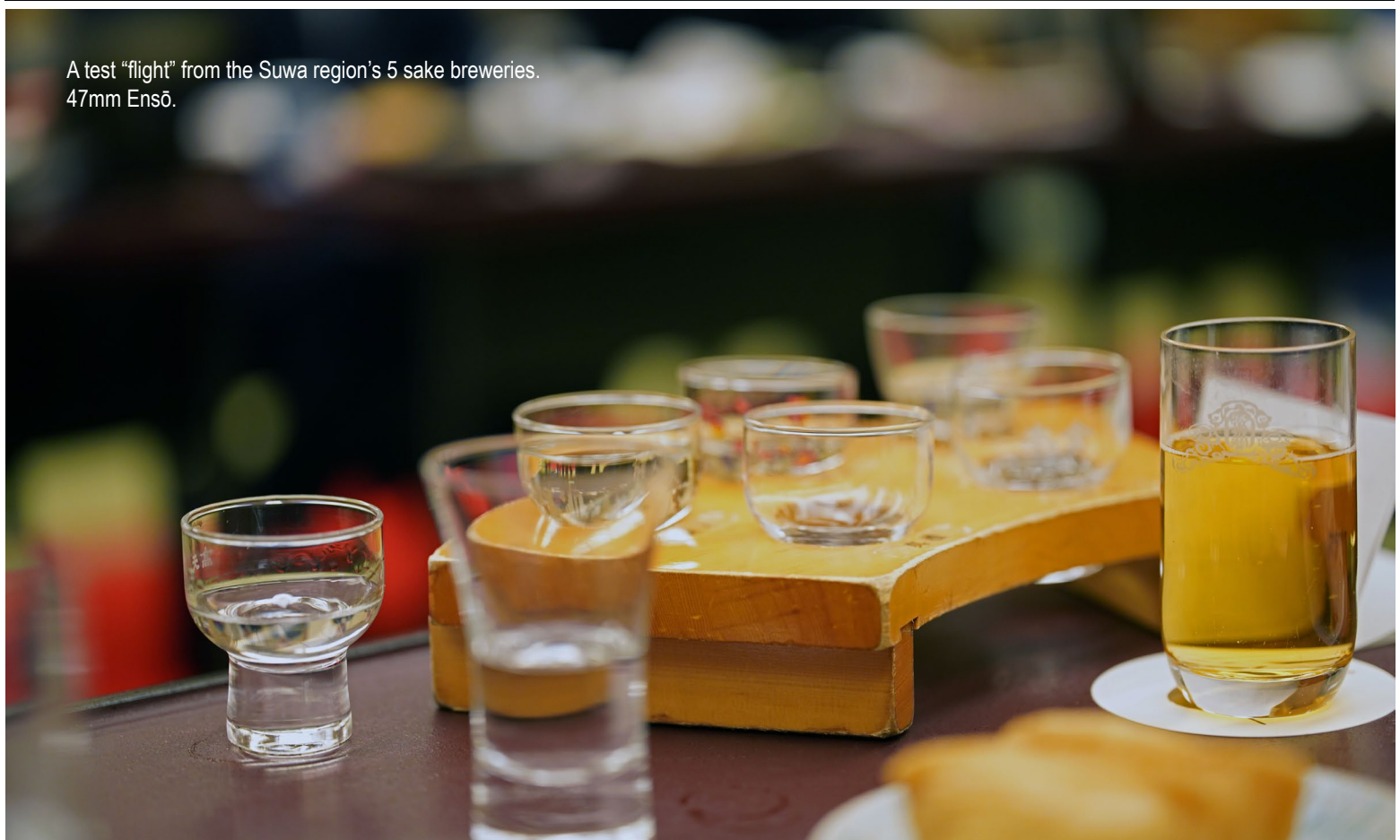
47mm Ensō

## Ensō Tabletop: Extremely Close Focus



47mm Ensō

A test "flight" from the Suwa region's 5 sake breweries.  
47mm Ensō.



# Ensō at Masumi Brewery



18mm Ensō

Having had too much sake the evening before, it was decided that an early morning visit to the Masumi Sake Brewery would be just the thing. The Miyasaka family were samurai to the lords in the Suwa area. Following years of battles between the Suwa clan and the daimyōs Takeda Shingen and Oda Nobunaga during the Warring States period (16th century), the family turned from swords to sake brewing.

The company struggled from the Edo period (1860s) to the Taisho period (1912-1926). Times were so tough that they considered closing the brewery. But Masaru Miyasaka, the young company president, refused. He appointed 28-year-old Chisato Kubota as the new toji, master brewer. Miyasaka said “The only way we can survive is to make the best sake in Japan.” The two men travelled throughout Japan to learn from the best sake makers.

Masumi’s series of prizes at regional and national sake competitions caught the attention of the National Brewing Institute’s yeast scientist, Dr. Shoichi Yamada. In 1946, Dr. Yamada visited the brewery and confirmed the presence of a very fine yeast in the fermentation tanks. “Brewing Association Yeast Number Seven” soon became the favorite of sake brewers across Japan. It continues to be the most widely used sake yeast in the world.

[masumi.co.jp/en/](http://masumi.co.jp/en/)



Yonto Daru barrels containing “4-to” of sake, which is 72 liters.

18mm Ensō.



# Ensō at Masumi Brewery



18mm Ensō



18mm Ensō

# Ensō at Masumi Brewery



18mm Ensō



47mm Ensō



Kumi Miyasaka, Cella Masumi Shop Director  
105mm Ensō



Keith Norum, International Sales Advisor,  
Miyasaka Brewing Company  
105mm Ensō

# Ensō at Masumi Brewery



18mm Ensō



18mm Ensō

# Ensō at Masumi Brewery



105mm Ensō



18mm Ensō

# nittoh: from Silk to Cine Lenses



Originally founded in 1876 as a manufacturer of fine silk, nittoh is a Japanese optical company in Suwa. Their first Kominar still photography lenses were introduced in 1950. The company produces some of the more advanced optics in the world, including lenses for on JAXA's asteroid exploration spacecraft Hayabusa 2.

There's something about silk and cinema. Lyon was the center of the French silk industry in the 18th and 19th centuries. It's no accident that the film transport mechanism in the Lumière Cinematographe cameras were derived from the movements of silk looms. There's also something about sake and cine lens manufacturing—it takes a similar amount of tenacity, attention to detail and Ensō philosophy. It's no accident that ARRI has partnered with nittoh to produce Ensō cine lenses.



Kominar still photography lens from 1950.



The company began with raw silk manufacturing in 1876.



Above: lens polishing. Below: CNC machining of mechanical components.



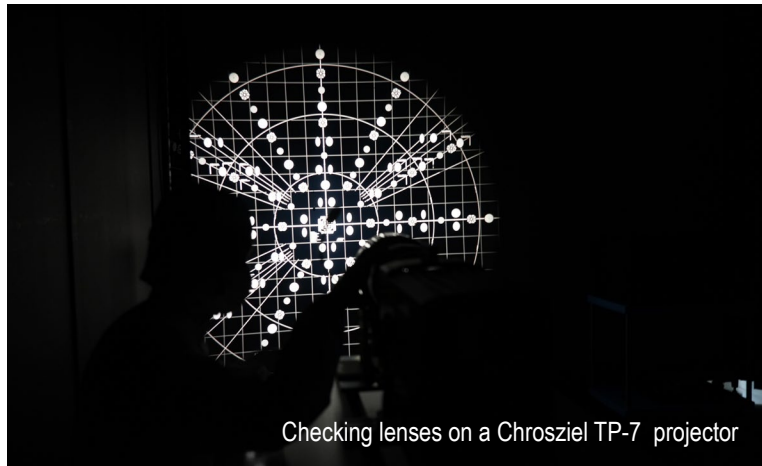
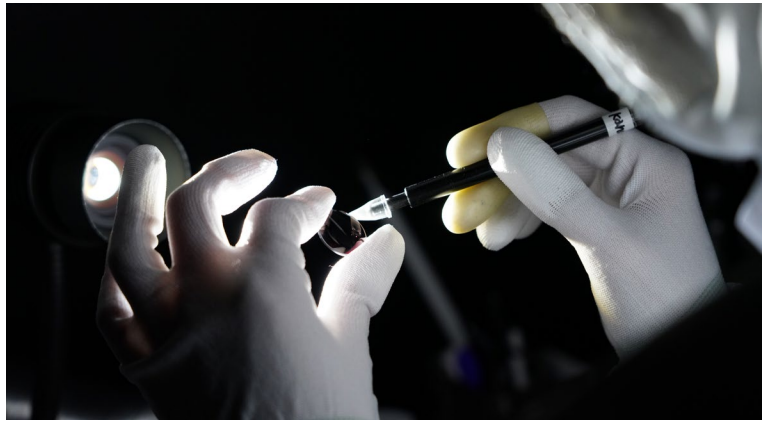
# Ensō Manufacturing



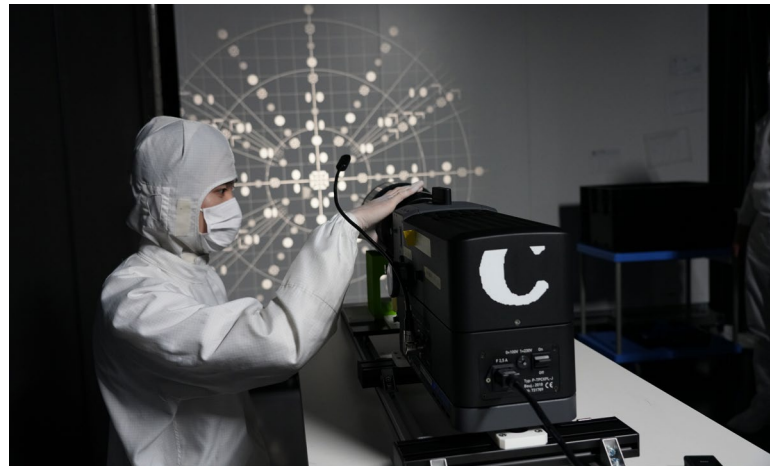
TRIOPTICS ImageMaster Cine Flex



Optical centering



Checking lenses on a Chrosziel TP-7 projector

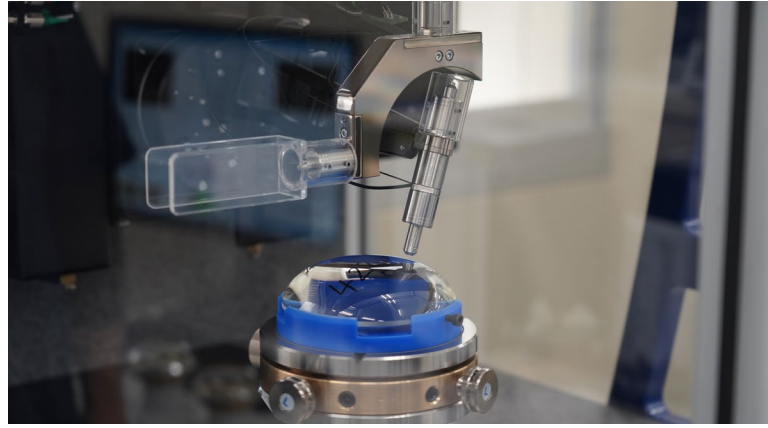


Assembling Ensō prototype

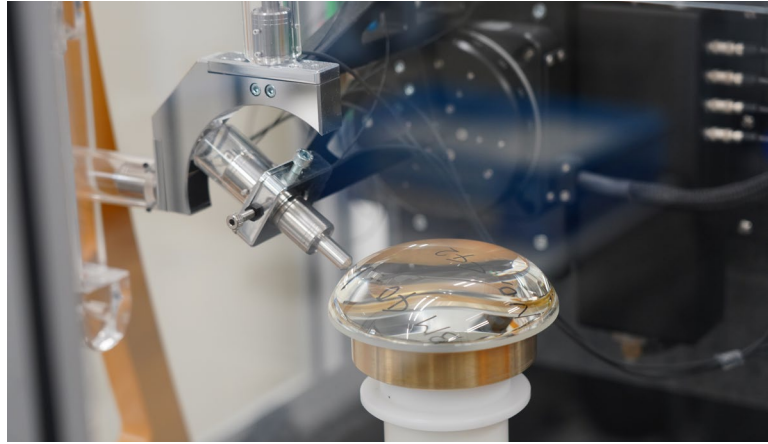




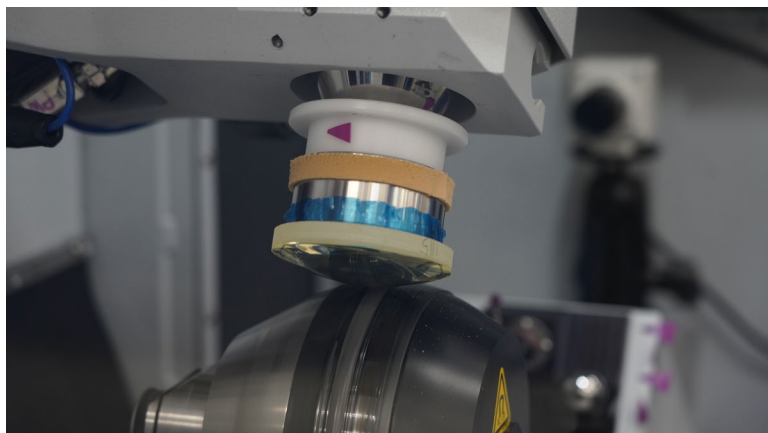
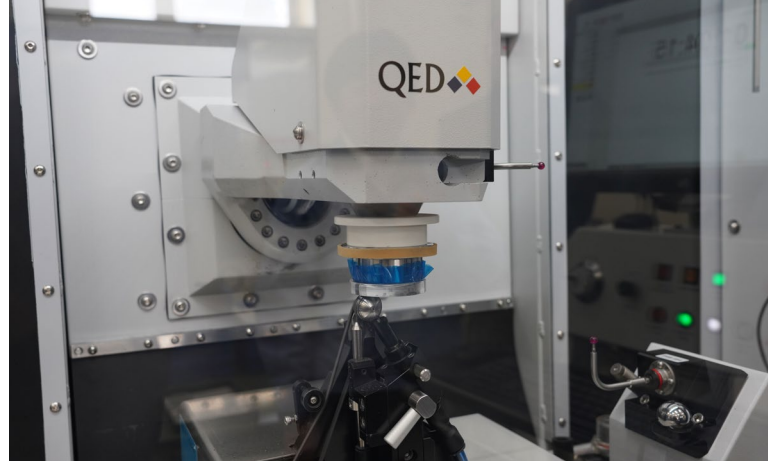
# Ensō Manufacturing



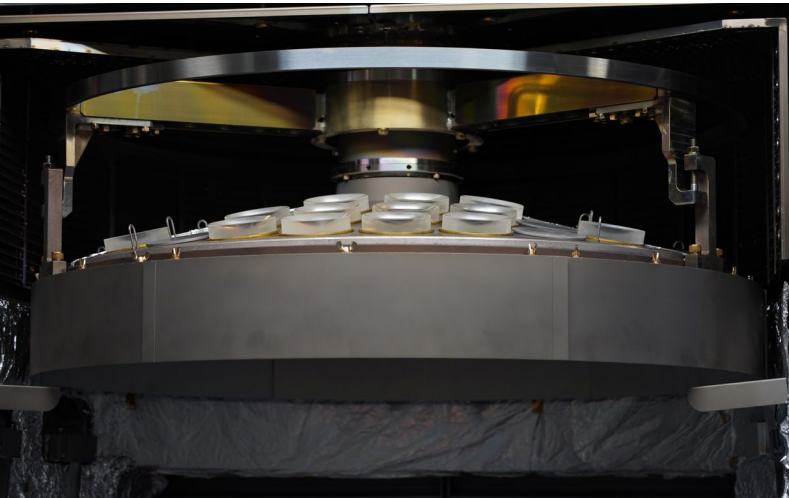
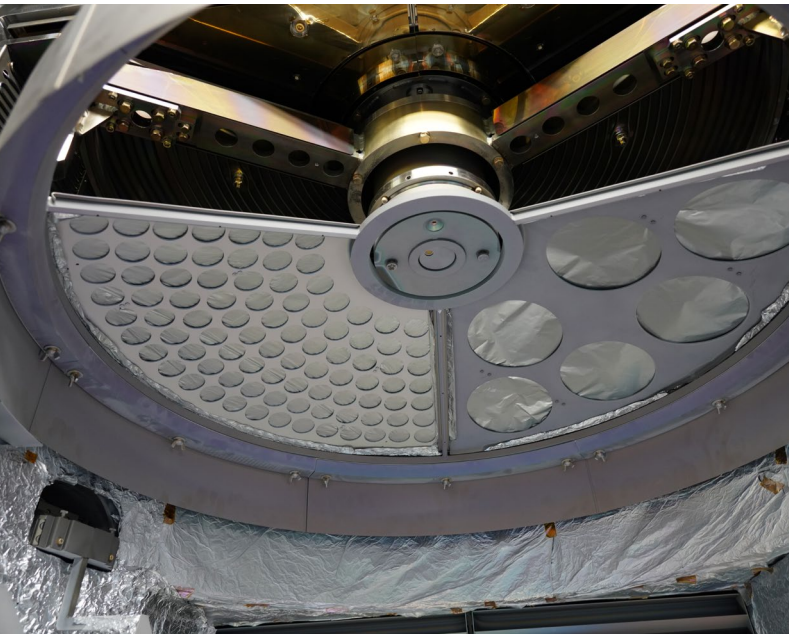
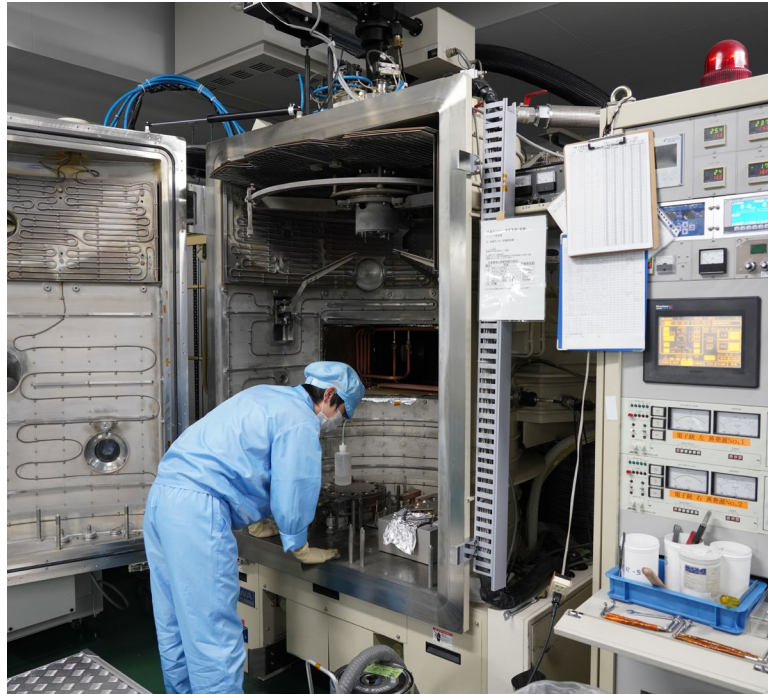
LuphoScan non-contact 3D Form Measurement



Q-flex 100 MRF (Magnetorheological Finishing) freeform polishing machine can work on elements up to approximately 125 mm diameter



# Ensō lens coating





# Meanwhile, Back at ARRI HQ in Munich. Sept. 2024



Sean Dooley, Product Marketing Manager, ARRI Camera Systems, lining up a 105mm Ensō on SIGMA fp L with LPL Adapter

# Ensō Product Managers



Thorsten Meywald  
75mm Ensō.



Benjamin Rausch  
75mm Ensō

## Tom Fährmann Up Close with Ensō



Tom Fährmann  
Photo by Sean Dooley

*Tom Fährmann (above) is a cinematographer and author from Germany, with credits that include Pope Joan, Ulzhan, Campus and The Miracle of Bern among many others. He graduated from the Westfälische Wilhelms-Universität in Münster and the Hochschule für Fernsehen und Film in Munich (HFF Munich Film School), where he was also a professor.*

*Most recently, Tom was Director/DP of the Ensō Prime launch film. Spoiler alert: This is one of the best product introduction films ever. Interesting, beautiful, elegant, short, no glaring product shots, it shows the results of what the Ensō Primes can do and how the images they create look like. As Misayo Kawashima, the artist in the film says, ‘focus on the movements.’ Now doesn’t that sound just like what a cinematographer, camera operator or focus puller would say?*

*I only had to ask Tom one question: “Please tell us about making this film and your impressions of the lenses.” What followed was an informed, articulate discussion of art, cinematography, lenses, philosophy and Zen calligraphy. Twenty pages are edited for brevity.*

*Henning Rädlein, VP Product Marketing Camera Systems, Digital*

*Workflow Support and Partner Program ARRI Group, and Producer of the film, also joined the discussion.*

Tom Fährmann explained, “For this short demo launch film, we developed a story about a Japanese lady who paints the Ensō symbol, the same symbol that is engraved on the lenses.

“You may ask, what do I like about these lenses? They are not large. They are not heavy. A lot of us cinematographers shoot handheld with a small camera like the ALEXA Mini LF or ALEXA 35. It is awkward if the lens in front is heavier than the camera itself. Personally, I like to shoot with the camera in my hand, at waist level, monitor on top, looking down like you did with a Hasselblad.

“Ensō Primes are sharp where you want sharpness, but the micro contrast is not harsh. And that makes these lenses really pleasing. On most productions, we mainly film faces. And faces are very sensitive to colors and detail. I asked Thorsten Meywald, VP Product Management Lenses ARRI Group, if my impressions of the Ensō Primes were correct, that we could think of them like Ultra Primes or as the little sisters of Signature Primes. He agreed.

# Up Close with Ensō

## ECU. Extremely Close.

“In the past, my camera and lens package always included a set of front diopters, extension tubes and adapters because I often had the feeling that I couldn’t get close enough with the lenses we had. There were many setups where you wanted to go really close-up on details or faces. Up to now, most lenses missed this close focus ability.

“These new Ensō Primes can focus extremely close. That is a very big advantage. It is especially important if you have a shot that requires a continuous focus move from, for example, 10 inches to infinity. You can’t focus to infinity when you have a diopter in front of your lens. A follow focus from very close to very far away is a demanding thing for assistants, no question. But it gives us a new possibility, a new way to talk with our pictures.

“Because I was such a fan of the close focus ability of the Ensō Primes, I did a storyboard for our film that shows every setup as an extreme close-up. There’s only one setup that is a medium tight shot. Everything else is ECU—extreme close-ups.

## Character

“As for the quality of the Ensō Primes, I would call them natural. These are not lenses that scream, ‘Wow, great flares and whatever.’

“We Directors of Photography wind up talking a lot about the ‘character’ of lenses. We try to focus on what we can do with the picture, the look, and how to prevent the image from being changed afterwards in post by someone else. In this process, lenses have become a very important part.

## Natural

“The Ensō Primes are beautiful, natural lenses, with wonderful skin tones. And yet, if you want to give the picture a different look, you can try the rear Elements, as they are called. I like the idea that you attach them to the rear of the lens, and you don’t have to worry about dirty filters or unwanted flares. So, if you want to “torture” the lens, you can.”

## Ensō Vintage Elements

Henning Rädlein, Producer of the Ensō launch film, explained, “There are three positive and three negative Ensō Vintage Elements, each with a different strength of effect. So, 100P, 200P, 350P and 100N, 200N, 350N.

In essence they are diopters, but they behave differently and do a lot more than diopters that go in front of the lens. We have something similar but less sophisticated for the Signature Primes that we called Impression Filters, but for Ensō we call them Elements because they really are part of the optical chain. All six Ensō Vintage Elements are included with the core Ensō lens set.”

## ALEXA 35 and Ensō Primes

Tom continued, “We shot the film on an ARRI ALEXA 35, mostly with 75mm and 105mm Ensō Primes, usually wide open at T2.1, sometimes at T2.8 and T4. We used the lenses just as they come, without filters in front or rear. We did not use the Vintage Elements. Henning is saving them for someone else to show.

## Location and Lighting

“We lit the film mainly with an ARRI SkyPanel that had a 4x4 frame of Lee 400 LEE Lux dense white diffusion in front. The location was in an ordinary suburb of Munich. Misayo, the calligraphy artist, lives there with her husband who specializes in Asian medicine. When they opened the front door, it felt as if we were in Japan. We removed our shoes. He was wearing a monk’s robe and was playing on a flute.

We filmed in a large room where they normally have workshops. I had the windows blacked out because I didn’t want things to appear too real. I wanted the setting to be somewhat abstract, with objects out of focus in the far background. Oh, and the bokeh are beautiful.

## Small Crew

“We worked through the storyboard frame by frame during one whole day. Misayo was wonderful—a pleasure to work with. For crew, we had a gaffer, a combination grip and second electrician, a focus puller, makeup artist, and I was the Director/DP. Camera movement was on a Panther slider. We shot at 48 fps, so it’s all slow motion to make everything slightly smoother.

## Eyes Wide Open

“In the beginning I was worried how we could fill two minutes of screen-time if she was only going to draw the Ensō circle. But it turned out that during those two minutes we are immersed in another world, in a different atmosphere. We are removed from a hectic working process. For me, Ensō means living in the moment, eyes wide open. You could say this is an economic or philosophical statement as well.”

## Focus on One Thing

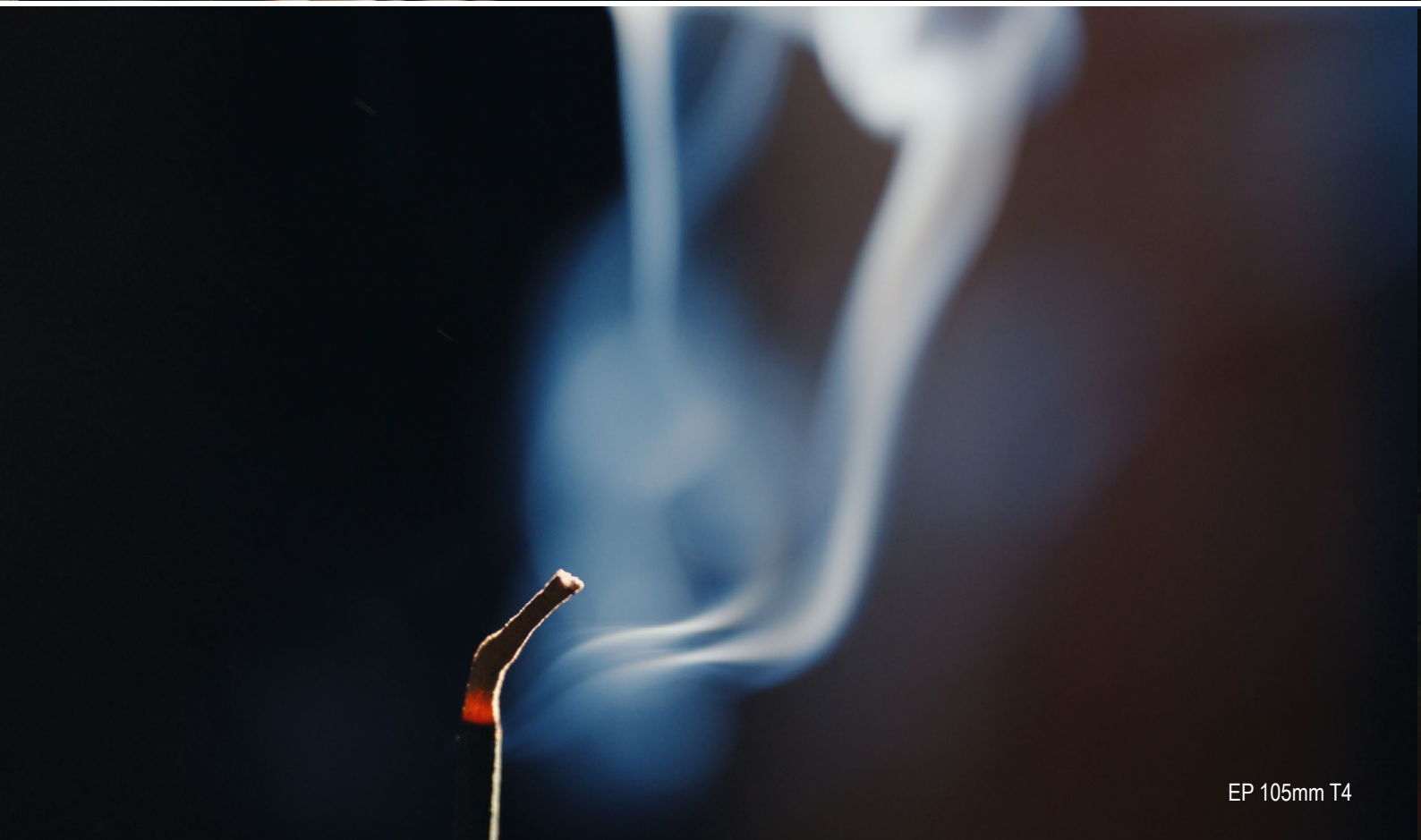
Henning added, “In her narration, Misayo says, ‘Zen teaches us to focus on one thing, sharpening a sense of being present in the moment...emptying your mind of distracting thoughts, and opening your consciousness to connect with what is around you. When I practice calligraphy, I commit to the moment and focus on my movements rather than a particular outcome, enjoying the dance of my brushstrokes. Every one of us has the power to enter this state of mind.’”



L-R: Dokuho Meindl, Misayo Kawashima, Tom Fähmann and Henning Rädlein with Ensō artwork.



Misayo Kawashima  
EP 105mm T4



EP 105mm T4



# Fährmann's Ensō Frames



EP 75mm T2.1



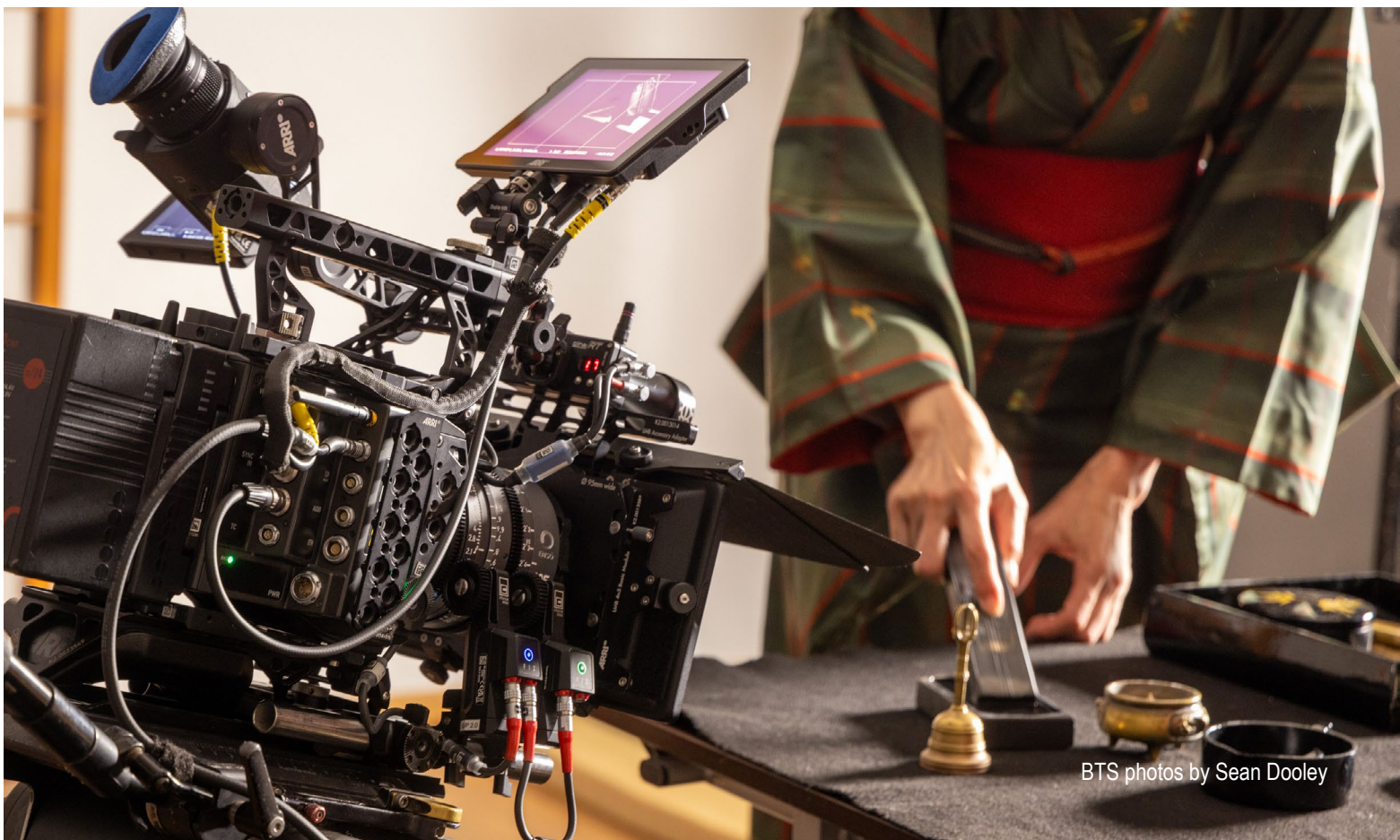
EP 75mm T2.1



EP 105mm T8 1/2



EP 105mm T2.1  
Frames courtesy of ARRI



BTS photos by Sean Dooley



[www.arri.com/enso](http://www.arri.com/enso)

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Special Report  
by Jon Fauer, ASC

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