



**TAMRON**

Focus on the Future

- Model A074 -

**28-300mm F/4-7.1 Di III VC VXD**  
**for Sony full-frame mirrorless**

CONFIDENTIAL

# Background of development

TAMRON introduced the AF 28-200mm F/3.8-5.6 Aspherical (Model 71D), a "practical and portable all-in-one zoom lens" in 1992.

Since then, we have introduced a variety of all-in-one zoom lenses to meet the needs of each era and have been recognized as a "pioneer" in all-in-one zoom lenses.

As cameras have evolved from film SLR cameras to digital SLR cameras and then to mirrorless cameras, TAMRON released the 28-200mm F/2.8-5.6 Di III RXD (Model A071) for mirrorless cameras in 2020.

TAMRON created the genre of "fast aperture all-in-one zoom lens".

At the same time, there were persistent customer needs for a larger zoom magnification, a longer focal length on the telephoto range, and a compact and lightweight high-magnification lens.

Therefore, TAMRON developed the new lens described below.

We have extended the telephoto end from 200mm to 300mm. Although the F-number has become bigger in pursuit of "compactness and light weight", we adopted the latest AF drive mechanism VXD (Voice-coil eXtreme-torque Drive) and the VC (Vibration Compensation) mechanism. These features will help users who do not want to miss a shutter chance under a variety of shooting conditions.

# Concept 28-300mm F/4-7.1 Di III VC VXD for Sony full-frame mirrorless

## Combination of wide zoom range and compactness All-in-one zoom lens for full-frame mirrorless cameras

- 10.7x all-in-one-zoom covers focal lengths from 28mm wide-angle to 300mm telephoto
- Outstanding performance across the entire zoom range
- Surprisingly compact and lightweight zoom with a powerful 10.7x range
- Equipped with high-speed, high-precision AF to expertly capture both near and distant subjects
- TAMRON's proprietary VC suppresses camera shake to provide stability in shooting
- Lens customization by TAMRON Lens Utility™
- Other proprietary features

### Target users



- Full-frame mirrorless camera users who want 240mm or longer focal length for all-in-one zoom lens
- > 24-240mm users and those who want 300m focal length at the telephoto end
- Middle and above users who don't want to miss any shooting opportunities
- Users who want to shoot when traveling, walking, or to shoot kids events

Target camera body: a7 IV, a7R V, a7C II

# ● 10.7x all-in-one-zoom covers focal lengths from 28mm wide-angle to 300mm telephoto

CONFIDENTIAL

Versatile all-in-one zoom that covers from wide to telephoto



28mm



50mm



135mm



200mm



240mm



300mm

# ● 10.7x all-in-one-zoom covers focal lengths from 28mm wide-angle to 300mm telephoto

CONFIDENTIAL

Offers wide micro close-up shooting with the MOD (Minimum Object Distance) of 0.19m (7.5in) at the 28mm wide end and the maximum magnification ratio of 1:2.8.

\* When shooting with an MOD of 0.19m (7.5in) at the wide end, please be careful not to let the front element touch the subject.



Focal length	28mm	35mm	50mm	75mm	100mm	200mm	300mm
MOD	0.19m (7.5in)	0.21m (8.3in)	0.29m (11.4in)	0.6m (23.6in)	0.75m (29.5in)	0.88m (34.6in)	0.99m (39in)
Max. magnification ratio	1:2.8	1:2.9	1:3.6	1:6.7	1:6.7	1:4.5	1:3.8



28mm F4 1/80sec ISO 200

# ● 10.7x all-in-one-zoom covers focal lengths from 28mm wide-angle to 300mm telephoto

CONFIDENTIAL

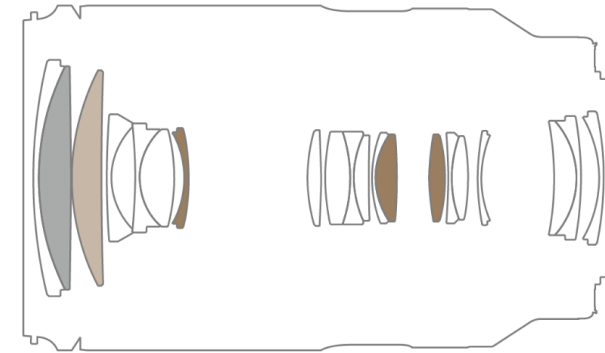
Versatile all-in-one zoom that covers from wide to telephoto



# ● Outstanding performance across the entire zoom range

## [Lens construction: 20 elements in 13 groups]

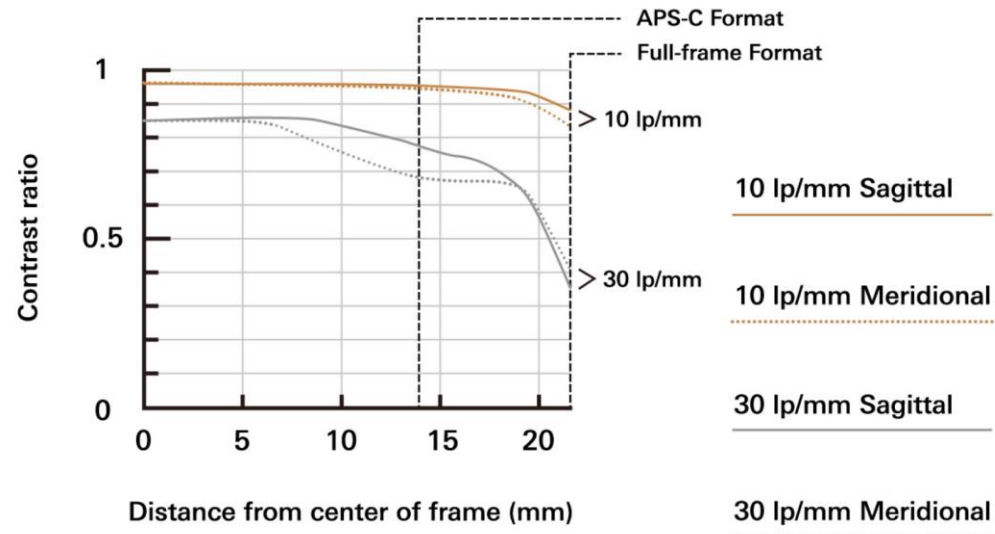
- XLD (eXtra Low Dispersion) lens element x1pc
- LD (Low Dispersion) lens element x1pc
- GM (Glass-Molded Aspherical) lens element x3pcs



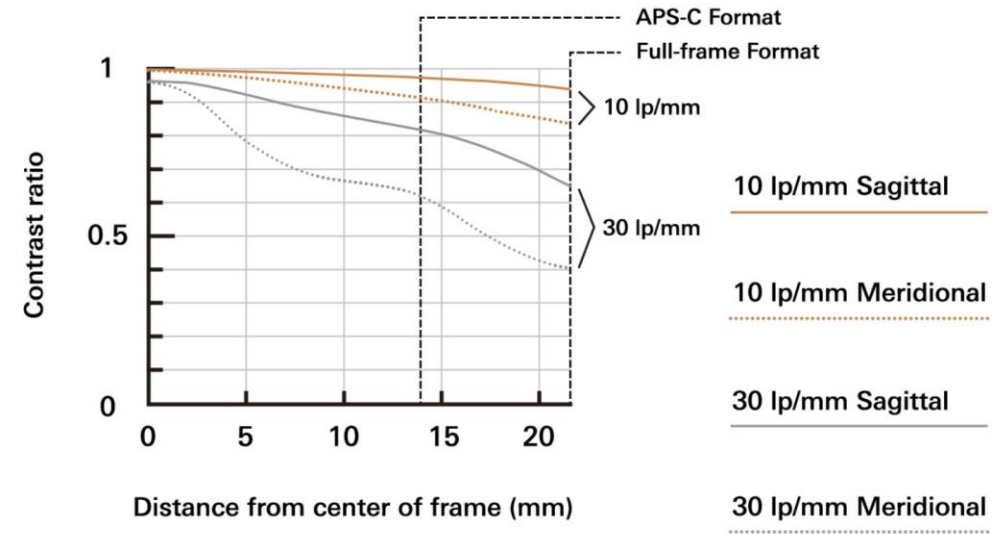
- Molded glass aspherical element
- XLD (eXtra Low Dispersion) element
- LD (Low Dispersion) lens element

## [MTF chart]

Focal Length:28mm Exposure: F4



Focal Length:300mm Exposure: F7.1



## ● Surprisingly compact and lightweight zoom with a powerful 10.7x range

Despite covering 28mm to 300mm, the 28-300mm F4-7.1 VC is portable with a length of just 126mm (5in) and a light weight of 610g (21.5oz). This lens is also recommended for those who want to keep their bag small and lightweight.

### Popular W zoom kit



### ● Two lenses into one

- Need one lens that covers from wide to telephoto angle
- Do not want to change lenses when shooting
- Worry dust and moisture when changing lenses
- Want to keep a bag small and lightweight



### All-in-one zoom lens



### ● More versatility

- Want more telephoto range
- Want faster AF performance
- Want lighter lens



### 28-300mm F4-7.1 VC (Model A074)



**Length: 126mm (5in)**  
**Weight: 610g (21.5oz)**



- Equipped with high-speed, high-precision AF to expertly capture both near and distant subjects

## High-speed, high-precision AF to capture every moment

This advanced AF mechanism combines class-leading speed and precision, enabling fast and accurate focusing from MOD through to infinity even with an all-in-one zoom lens. What's more, excellent focus tracking performance of moving objects makes it possible to capture sharp images. Plus, the lens is extremely quiet, so it's perfectly suited for both still and video shooting in conditions that demand silent operation.

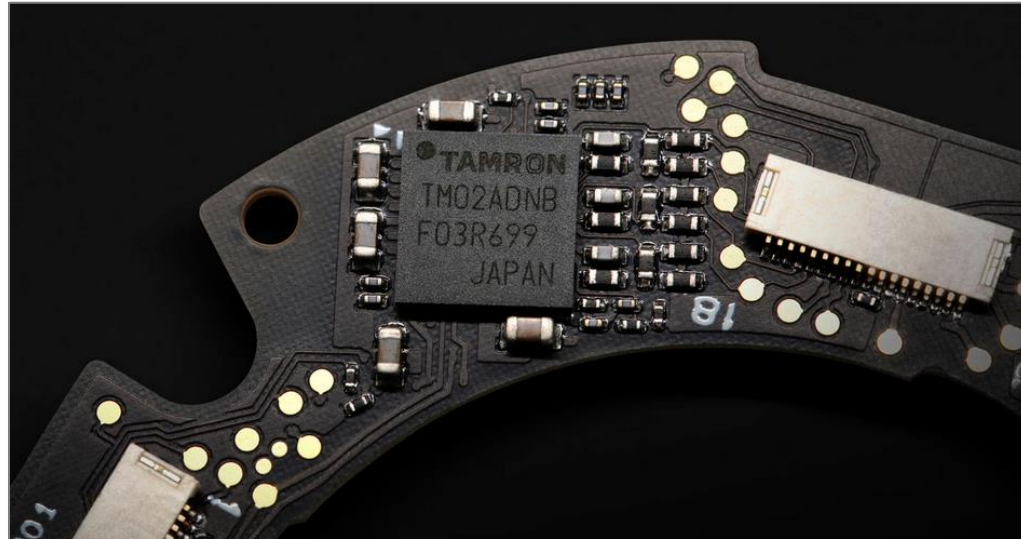


### VXD (Voice-coil eXtreme-torque Drive)

While operating faster than ever before, the drive also maintains positional accuracy down to 0.005mm (0.0002in), less than one-tenth the width of a human hair! Focus tracking has been vastly improved. This ensures that the dramatic, action-packed moments are never missed, whether shooting still photos or video. Additionally, this zoom offers superior quietness, making it ideal for shooting in low-noise environments as the linear motor is structured to reduce the vibrations produced during drive operation (as compared to a conventional drive system).

## Equipped with TAMRON's proprietary VC

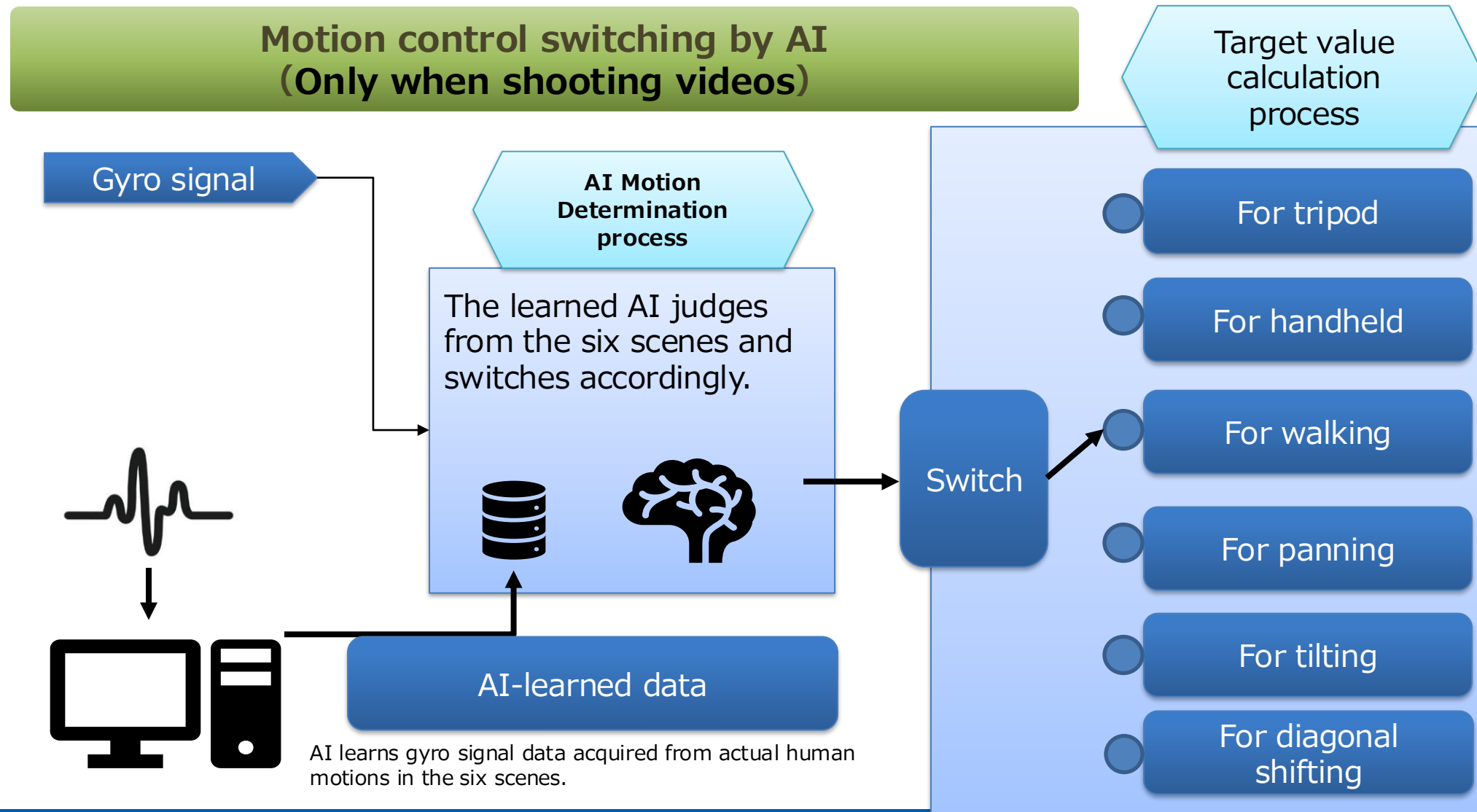
This lens incorporates TAMRON's proprietary VC mechanism to minimize the effect of camera-shake, which is likely to occur in the telephoto range. It displays its ability to perform when shooting handheld under low-light conditions such as indoor or when shooting at night. It effectively reduces the degradation of picture quality. Using AI technologies, the lens will choose the compensation characteristic for videography at focal lengths of 100mm or less.



MPU for VC

# ● TAMRON's proprietary VC suppresses camera shake to provide stability in shooting

AI learns the data for the motion during hand-held video shooting. By storing this data in the lens, more considerate compensation effects can be achieved for video shooting than the conventional VC, especially in the focal length of 28-100mm.



## ● Lens customization by TAMRON Lens Utility

The 28-300mm F4-7.1 VC is compatible with the dedicated TAMRON Lens Utility software (for computers and Android™<sup>1</sup> OS) that was developed in-house by TAMRON<sup>2</sup>. This software allows various lens and camera settings to be assigned to the Focus Set Button located on the lens. Also, the lens's firmware<sup>3</sup> can be updated to the latest version when available. In addition, functions unique to the mobile version can be operated remotely without touching the lens. Users may customize functions for various still photography and videography shooting styles, thereby providing a more personalized and fulfilling shooting experience.

### Functions available with the 28-300mm F4-7.1 VC

\* A preferred function can be assigned to the Focus Set Button by computer or a smartphone beforehand.

#### 【Functions of TAMRON Lens Utility】

##### ● Focus Set Button settings

- A-B Focus: Set 2 focus positions (A and B) and make the focus automatically shift between A and B.
- Focus Preset: Set your desired focus position and move the focus to the registered point by a single button press.
- Select AF/MF: Select [AF] / [MF] function using the Focus Set Button.
- Focus Stopper: Limit the MF travel range between any two focal points that have been registered beforehand.
- Astro FC-L: Focus Point will be automatically fixed at infinity position for astrophotography.
- Focus Limiter: Allows you to limit the focus search range of the AF and switch Full/Limit.
- Focus Ring Function (Focus/Aperture): Switch Focus Ring Function from focus adjustment to aperture adjustment.
- Assign function from the camera: Assign custom functions from the camera body to the Focus Set Button.
  - \* If you do not need to use the function or do not want to accidentally activate the function, the function of Focus Set Button can be cleared.

##### ● Focus Ring settings

- MF Ring Rotation: Change the rotation direction of the Focus Ring.
- MF Method: Choose the method of focus operation when using the Focus Ring.

##### ● Firmware update



<sup>1</sup> Android is a trademark of Google LLC.

<sup>2</sup> To connect your PC and lens, use the TAMRON Connection Cable (USB Type-A to Type-C/ Model CC-150, or USB Type-C to Type-C/ Model CC-350) sold separately. To connect your smartphone and lens, use the TAMRON Connection Cable (USB Type-C to Type-C/ Model CC-350) sold separately.

<sup>3</sup> The mobile version does not support lens firmware updates. Please use the TAMRON Lens Utility for PC to update the lens firmware.

## ● Other proprietary features

### Unified 67mm filter size

We also offer a large lineup of  $\phi 67\text{mm}$  filter diameters for mirrorless lenses to allow users to enjoy with a wider range of lenses. All lenses in this series are designed to be compact and lightweight, suitable for use with mirrorless cameras and have the same  $\phi 67\text{mm}$  filter diameter. In addition to providing excellent portability even when carrying multiple lenses at the same time. And the entire lineup is highly convenient because PL filters and other filters can be shared, and additionally this eliminates the need to search for caps with different diameters when switching lenses.



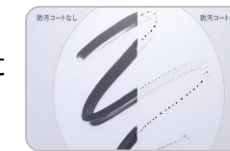
### Moisture-Resistance Construction

Leak-resistant seals throughout the lens barrel help protect your equipment when shooting outdoors



### Fluorine Coating

A highly durable protective fluorine compound that is water- and oil-repellant. With the highly durable fluorine compound that has excellent water- and oil-repellent properties, the lens surface is much easier to wipe clean and less vulnerable to damaging effects of dirt, dust, moisture, and fingerprints, and enabling your important lenses to be continually protected on a long-time basis.



### Built with Mirrorless in Mind

- Fast Hybrid AF
  - Eye AF
  - Direct Manual Focus (DMF)
  - In-camera lens correction (shading, chromatic aberration, distortion)
  - AF Assist
- \* Features vary by camera. Please consult your camera's instruction manual for details.
- \* Always update the firmware to the latest version.
- \* This product is developed, manufactured, and sold based on the specifications of E-mount which was disclosed by Sony Corporation under the license agreement with Sony Corporation.

# Specifications



<b>Model</b>	28-300mm F/4-7.1 Di III VC VXD (Model A074) for Sony E-mount
Focal length	28-300mm
Angle of View (diagonal)	75°23'-8°15' <for full-frame mirrorless format>
Maximum Aperture	F4-7.1
Minimum Aperture	F22-40
Aperture Blades	9 (circular diaphragm)
Focus Actuator	VXD (IF) linear motor focus mechanism
MOD	WIDE - 0.19m (7.5in)
	TELE - 0.99m (39in)
Maximum Magnification Ratio	WIDE - 1:2.8
	TELE - 1:3.8
Optical Construction	20 elements in 13 groups (1 XLD, 1 LD, 3 GM lens elements)
Coating	BBAR-G2 (Broad-Band Anti-Reflection Generation 2) Coating Fluorine Coating
Vibration Compensation	○
Moisture-Resistant Construction	○
Filter size	φ67mm
Measurement	Maximum diameter: φ77mm
	Length: 126mm (5in)
	Weight: 610g (21.5oz)
Included Accessories	Flower-shaped hood, Front cap, Rear cap

# Appendix

## Comparison with competitor

Category		All-in-one zoom lens for full-frame mirrorless cameras			
Brand		TAMRON		Company A	
Model		28-300mm F/4-7.1 Di III VC VXD (Model A074)		24-240mm	
Resolving performance		◎		○	
Focal length	Wide	○	28mm	◎	24mm
	Tele	◎	300mm	○	240mm
MOD	Wide	○	0.19m (7.5in)	0.5m (19.7in)-0.8m (31.5in)	
	Tele	○	0.99m (39in)		
Max. magnification ratio		◎	1:2.8 (Wide) 1:3.8 (Tele)	○	1:3.7
Aperture blades		◎	9 (circular aperture)	○	7
AF		◎	IF: VXD	◎	IF: LM
Video performance		◎		◎	
Vibration Compensation		○		○	
Filter size		◎	φ67mm	○	φ72mm
Max. diameter		◎	φ77mm	○	φ80.5mm
Length		○	126mm (5in)	○	118.5mm (4.7in)
Weight		◎	610g (21.5oz)	△	780g (27.5oz)
Button		◎	1	-	
Additional functions		◎	TAMRON Lens Utility	-	



# ● All-in-one zoom lens that covers up to 300mm

The 28-300mm F4-7.1 VC covers up to 300mm, which is usable at locations you can not step up a little closer.

28-200mm F2.8-5.6  
(Model A071)



200mm



Company A 24-240mm



240mm



28-300mm F4-7.1  
(Model A074)



300mm



# Excellent MTF value at both wide and telephoto end

Brand	TAMRON	Company A																			
Model	28-300mm F4-7.1 VC	24-240mm																			
Wide	<p>Focal Length:28mm Exposure: F4</p> <p>Contrast ratio</p> <p>Distance from center of frame (mm)</p> <p>Legend:            APS-C Format            Full-frame Format            10 lp/mm Sagittal            10 lp/mm Meridional            30 lp/mm Sagittal            30 lp/mm Meridional</p>	<p>At 24 mm</p> <p>Contrast (%)</p> <p>Distance from optical center of lens (mm)</p> <table border="1"> <thead> <tr> <th rowspan="2">Spatial frequency</th> <th colspan="2">Max. aperture</th> <th colspan="2">F8 aperture</th> </tr> <tr> <th>R</th> <th>T</th> <th>R</th> <th>T</th> </tr> </thead> <tbody> <tr> <td>10 line pairs / mm</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>30 line pairs / mm</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> </tr> </tbody> </table> <p>R: Radial values T: Tangential values</p>	Spatial frequency	Max. aperture		F8 aperture		R	T	R	T	10 line pairs / mm	—	—	—	—	30 line pairs / mm	—	—	—	—
Spatial frequency	Max. aperture			F8 aperture																	
	R	T	R	T																	
10 line pairs / mm	—	—	—	—																	
30 line pairs / mm	—	—	—	—																	
Tele	<p>Focal Length:300mm Exposure: F7.1</p> <p>Contrast ratio</p> <p>Distance from center of frame (mm)</p> <p>Legend:            APS-C Format            Full-frame Format            10 lp/mm Sagittal            10 lp/mm Meridional            30 lp/mm Sagittal            30 lp/mm Meridional</p>	<p>At 240 mm</p> <p>Contrast (%)</p> <p>Distance from optical center of lens (mm)</p> <table border="1"> <thead> <tr> <th rowspan="2">Spatial frequency</th> <th colspan="2">Max. aperture</th> <th colspan="2">F8 aperture</th> </tr> <tr> <th>R</th> <th>T</th> <th>R</th> <th>T</th> </tr> </thead> <tbody> <tr> <td>10 line pairs / mm</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>30 line pairs / mm</td> <td>—</td> <td>—</td> <td>—</td> <td>—</td> </tr> </tbody> </table> <p>R: Radial values T: Tangential values</p>	Spatial frequency	Max. aperture		F8 aperture		R	T	R	T	10 line pairs / mm	—	—	—	—	30 line pairs / mm	—	—	—	—
Spatial frequency	Max. aperture			F8 aperture																	
	R	T	R	T																	
10 line pairs / mm	—	—	—	—																	
30 line pairs / mm	—	—	—	—																	

### **VC designed for video (1)**

The lens switches to the video-specific VC mode only when the camera is shooting video. This mode applies more natural correction than the conventional VC for handheld shooting and motions such as panning and tilting. However, if shooting video while running or walking, or while going up or down stairs, camera shake cannot be entirely eliminated on the same level as shooting with a gimbal.

### **VC designed for video (2)**

Video-specific VC is designed for shooting video handheld. When shooting video with the lens or camera attached on a plate, tripod, gimbal, video rig or other accessories, it may not be possible to effectively correct camera shake because the way of camera shake differs from motions handheld and shooting with accessories to fix cameras.

## Appendix: TAMRON'S pursuit to robust engineering plastic design

### Lightweight and durable polycarbonate resin

**TAMRON uses polycarbonate resin (engineering plastic)** for our lens barrels of mirrorless cameras. This material is extremely reliable, lightweight, and durable, and also broadly used for such as racing car bodies and F1 racer's helmets. TAMRON selects the best material from various grades of polycarbonate and selects a material with thermal expansion/shrinkage comparable to that of aluminum in structurally critical areas. And also, these materials must be carefully determined. These processes allow the product to be comfortably used in a variety of environments.

The environment and facilities for manufacturing optical parts are essential to the quality of the parts. TAMRON holds all the equipment and environment in-house to manufacture high quality parts. The combination of the most advanced measuring system and the outstanding craftsmanship molding skills make the most of the selected materials, resulting in extremely high-precision, micron-level parts.

These efforts are based on TAMRON's extensive know-how and experience in the manufacture of lenses for industrial as well as photographic lenses. Therefore, these lead to highly reliable products for camera enthusiasts and professional photographers.



## Appendix: Ergonomic design with aesthetic appeal and functionality

TAMRON develops lenses for mirrorless cameras under the brand statement "Human Focus," aiming to create lenses that are always close to our users. The ergonomic design is based on a thorough investigation of "what makes people feel comfortable" and is focused on ease of use.

Reviewing each part and component down to the finest details, we continue to pursue the development of the best products, including the lens body with a comfortable, uneven shape that fits snugly and naturally in the hand, redesigned striped pattern on the rubber focusing and zoom rings with the appropriate amount of convexity calculated, and the metal parts for the internal mechanism that ensure smooth operability. The design with operability and texture in mind provides a comfortable shooting experience for the users.

The recessed switch box and Focus Set Button have an unobtrusive, contoured design that smoothly guides the fingers intuitively. The sloped bevel around the slide switch draws your finger naturally to the right position. To prevent accidental operation, the switches have a low profile. Taken altogether, these enhancements provide a more comfortable user experience.

The surface of the lens exterior is shiny black, and its improved abrasion resistance makes the lens harder to scratch and resists fingerprints. The smooth touch provides users a sense of trust and reliability through the experience.

The TAMRON brand ring, the warm and captivating glow of the luminous gold ring connecting the lens to the camera accentuates the products, distinguishing itself as a symbol of excellence in engineering and design and marking our commitment to deliver joy and to inspire creativity.

TAMRON will remain user-centric and study people while designing and manufacturing lenses so that users around the world can fully continue to enjoy photography in their own way.



\*The switch box and Focus Set Button availability varies depending on the model.



EOF