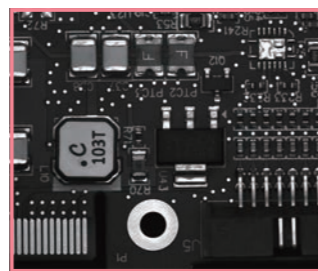


Combination of front and rear enables 20 different optical magnifications

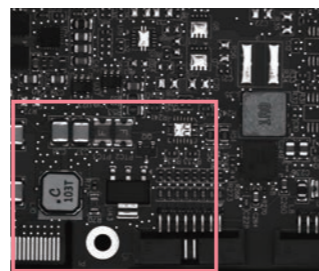
Issues Need to broaden field of vision

VS-TLS(FR) can...

While keeping the camera and rear portion of the camera intact, replace the front



F140xR40  
FOV  $\Phi$ 40mm 3.45 $\mu$ m/5MP



F210xR40  
FOV  $\Phi$ 61.6mm 3.45 $\mu$ m/5MP

Issues To increase optical magnification (pixel resolution) without changing the field of view and WD

VS-TLS(FR) can...

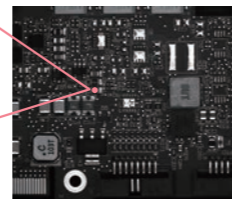
While leaving the front part intact, replace the rear (and the camera)



F210xR40  
FOV  $\Phi$ 61.6mm 3.45 $\mu$ m/5MP

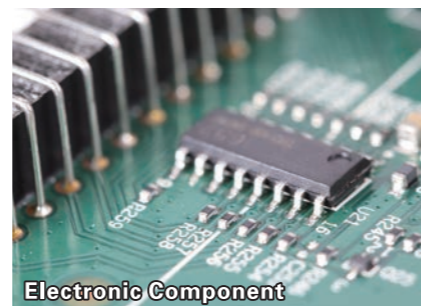
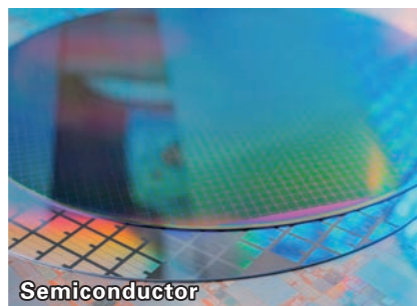
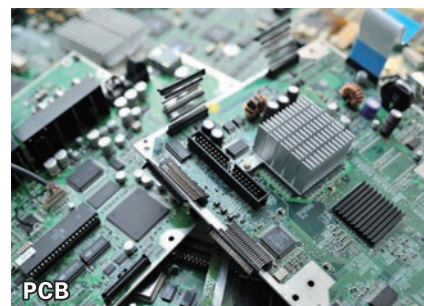


F210xR60  
FOV  $\Phi$ 61.0mm 2.74 $\mu$ m/24MP



Applications

Wide field of view, high resolution telecentric lens for precise inspection, measurement and alignment



International Sales Offices

VST Europe (Amsterdam)  
TEL: +31-20-305-1310

VST Vietnam (Hanoi)  
TEL: +84-24-6327-8566

VST Korea (Seoul)  
TEL: +82-2-2183-3848

VST America (Chicago)  
TEL: +1-847-952-3800

VST Europe (Paris)  
TEL: +33-6-51-12-12-01

VST India (Bengaluru)  
TEL: +91-80888-31893

VST Taiwan (Taipei)  
TEL: +886-2-2531-2036

VST America (Dallas)  
TEL: +1-972-773-9686

VST EU (Poland)  
TEL: +48-22-492-6683

VST Shenzhen (Shenzhen)  
TEL: +86-755-8273-1420

VST Taiwan (Hsinchu)  
TEL: +886-3-668-1381

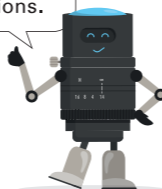
VST Mexico (Tijuana)  
TEL: +52-664-380-6169

VST Thailand (Bangkok)  
TEL: +662-278-6808

VST Shenzhen (Shanghai)  
TEL: +86-21-6255-0725

VST Taiwan (Tainan)  
TEL: +886-6-5837016

Please feel free to contact us if you have any questions.



Designing for Trust

Fit-X  
Fit-Cross

Unlimited magnification  
combination Telecentric lenses

Product page  
URL



VS-TLS(FR) Telecentric SERIES

Fixed magnification from 0.136x to 1.000x in front and rear combinations.

Total of 20 different lineups.



Support for up to 38 mm  $\Phi$  sensor.  
Maximum field of view of  $\Phi$ 80.7mm.

## New Technology

### Fit-X Fit-Cross

By dividing the front lens and rear lens into two parts and multiplying them by -X-, VST's new concept lens is able to FIT various optical magnification -X- required by the customer.

We will continue to expand our lineup in Flexible -X- manner to meet the needs of our customers.



### Environment

Cost savings incurred due to specification changes after installation. Environmentally friendly products.



### X LOCK Cross Lock System System

Front and rear coupling structure, with unique locking ring configuration. Octagonal mount allows torque management.

Unlike conventional screw type, the structure can be firmly fixed on the surface to ensure accuracy.



### Function Ring

A ring specifically designed for attaching a plate that supports the lens. No jig grips the lens body, reducing the impact on performance.

The position of the holding plate and the camera can be adjusted in advance by rotating the Function Ring, reducing the need to attach and remove the lens for fine adjustment.



## Unlimited magnification combination Telecentric lenses

### Features

- Wide field of view, high telecentricity
- Low distortion to the periphery
- 20 different optical magnifications can be achieved by freely combining 4 front models and 5 rear units.



### Lineup

Front 4 models		Front + Rear						
Front	Rear	Opt. Mag	FOV(mm)	Effective F/#	WD(mm)	O/I(mm)	Mount	
1 VS-TLS-F280 X	1 VS-TLS-R40	0.136	φ80.7	5.6	170.0	390.0	C(2/3")	
	2 VS-TLS-R50	0.171	φ64.4	5.6	170.0	395.0	C(2/3")	
	3 VS-TLS-R60	0.225	φ79.8	8.0	170.0	405.0	C(1.1")	
	4 VS-TLS-R80	0.300	φ76.7	8.0	170.0	420.0	C(4/3")	
	5 VS-TLS-R140	0.496	φ76.6	11.0	170.0	475.0	M52(HX type / φ38)	
2 VS-TLS-F210 X	1 VS-TLS-R40	0.179	φ61.6	5.6	150.0	355.0	C(2/3")	
	2 VS-TLS-R50	0.224	φ49.1	5.6	150.0	360.0	C(2/3")	
	3 VS-TLS-R60	0.295	φ61.0	8.0	150.0	370.0	C(1.1")	
	4 VS-TLS-R80	0.393	φ58.5	8.0	150.0	385.0	C(4/3")	
	5 VS-TLS-R140	0.650	φ58.5	11.0	150.0	440.0	M52(HX type / φ38)	
3 VS-TLS-F190 X	1 VS-TLS-R40	0.199	φ55.1	5.6	130.0	305.0	C(2/3")	
	2 VS-TLS-R50	0.250	φ44.0	5.6	130.0	310.0	C(2/3")	
	3 VS-TLS-R60	0.330	φ54.6	8.0	130.0	320.0	C(1.1")	
	4 VS-TLS-R80	0.439	φ52.4	8.0	130.0	335.0	C(4/3")	
	5 VS-TLS-R140	0.726	φ52.3	11.0	130.0	390.0	M52(HX type / φ38)	
4 VS-TLS-F140 X	1 VS-TLS-R40	0.275	φ40.0	5.6	100.0	255.0	C(2/3")	
	2 VS-TLS-R50	0.344	φ31.9	5.6	100.0	260.0	C(2/3")	
	3 VS-TLS-R60	0.454	φ39.6	8.0	100.0	270.0	C(1.1")	
	4 VS-TLS-R80	0.604	φ38.1	8.0	100.0	285.0	C(4/3")	
	5 VS-TLS-R140	1.000	φ38.0	11.0	100.0	340.0	M52(HX type / φ38)	

### Proposal combined with lighting

Clarify the difference in surface condition and unevenness

#### CO-AXIAL BOX LIGHT

**VCO Series** Lighting matched to wide-field imaging with VS-TLS(FR).

- Designed for smaller size and short WD to match camera's aspect ratio (4:3).
- The luminous surface is highly uniform all the way to the periphery, matching the distortion-free imaging of the VS-TLS(FR) with no hot spots to the periphery.
- All models feature High-intensity with light leakage countermeasures.



### Specification

Model	LED Emission Color	Cable	Input Voltage	Size (mm)				
				Long Side	Short Side	Height	Windows: Long Side	Windows: Long Side
VCO-3325□	24V	3pin cable VCA-□ 3pin robot cable VRCA-□	30W power VPS-2430-4ES	66.0	43.0	31.8	31.0	22.0
VCO-5542□			60W power VPS-2460-4ES	93.0	65.0	48.8	53.0	33.0
VCO-7758□			109.0	87.0	65.0	75.0	46.0	
VCO-10075□			126.0	110.0	82.0	98.0	60.0	
VCO-150113□			60W power VPS-2460-4ES	164.0	160.0	120.0	148.0	98.0

\* Enter the color of the light in the □ under Model. \* Cable length is entered in □ under Cable.  
\* Specifications are subject to change without notice. \* G (green) is a made-to-order product.

### Luminous Surface Uniformity Data

