



Schneider

V-CAD Series



2D optical measurement devices

- Precise 2D measurements in a matter of seconds
- High-resolution finish
- Simple and intuitive

SIMPLY PRECISE



Mobile and compact 2D optical measurement device – quick, simple and intuitive

Intuitive measurements made easy

Measurements don't get much quicker or simpler than this: Choose the single-image field system, or the larger variant with moving table and measurement volume of up to 500 x 200 mm, for a whole host of options when it comes to your 2D measurements. Manual operation is a possibility, however also fully-automatic CNC-operation. Personal touches can also be added in other areas. Depending on requirements, you

can choose between the high-performance M3 measurement software packages, SAPHIR or the award-winning SAPHIR QD. Decades of experience building high-precision multi-sensor measurement machines has been incorporated into developing the V-CAD series. You can count on us – **Made by Schneider Messtechnik – Made in Germany – SIMPLY PRECISE!**



The V-CAD 60 covers a measurement range of up to 65.5 x 55 mm, without any movement of the table.

Can any employee operate your measurement device?

We'll show you how! The new V-CAD series combines a compact, mobile and precise measurement device with simple and intuitive M3 measurement software – for measurements at the touch of a finger! V-CAD has made this possible. Simply position the workpiece anywhere in the image field, touch the screen of the multi-touch panel PC to start the measurement and, in a matter of seconds, you have the final measurement and related report. Quick, simple and reproducible - and setting the standard for precision in this class of equipment.

Standard equipment for the V-CAD 60 and V-CAD 300

- 5-megapixel CCD B/W camera
- Telecentric 4-stage motor zoom
- 4 different image fields for precise measurements
- Telecentric LED transmitted light illumination
- LED ring light illumination for incident light measurement
- Multi-touch panel PC
- LAN and WLAN network connection
- M3 Measurement software
- SAPHIR measurement and analysis software
- Calibration certificate

Special highlights of the V-CAD series

- Automatic recognition of control geometries without pre-selection
- No alignment of workpieces in image field
- 4-stage motor zoom for precise measurement of smallest features
- Measurements every second
- Mobile design

Options for V-CAD series with M3

- DXF overlays
- CAQ interface
- Profiling

The V-CAD is also available with a large table and measurement range up to 500 x 200 mm.



Machines shown may include optional accessories.

2D optical measurement device for parts up to 225 mm – in a matter of seconds



V-CAD 80 is an optical measurement device for 2D objects up to 76 x 63 mm.

The V-CAD series machines can also be tailored to suit individual customer requirements. The smallest of parts can be measured quickly, precisely and without contact, just like the gear wheel in a Swiss watch.

Fields of application

The V-CAD 80, 100 and 200 machines from Dr. Heinrich Schneider Messtechnik have been developed to deliver fast and precise 2D measurements. In particular, for profiles made of plastic, aluminium, wood, rubber, rubber-metal and metal or stamped parts of any kind, plates, seals, layouts and plenty of other parts – also in series production.

The high-resolution optics of all V-CAD measurement devices guarantee calibrated coverage free from distortion, with a large depth of field. Meaning workpieces up to 60 mm high can be measured without a problem.



Outstanding features

- Unsurpassed measurement speed: measurement and analysis in a matter of seconds
- Complete capture of 2D geometries in one image field
- Resolutions in μm range thanks to high-resolution, monochrome CCD matrix camera

Additional highlights to the V-CAD series

- 2D digitisation and best-fit included in standard scope of delivery
- Object detection in a matter of seconds as no motion of axis required
- Installation in production process possible

The V-CAD 100 and 200 models are integrated into the production process as stationary machines and used for the measurement of 2D objects up to 225 x 168 mm. However, here too, we can accommodate any customer-specific requirements at reasonable expense.

Combined with the SAPHIR QD measurement and analysis software, you benefit from the broad scope of applications this all-round, versatile machinery offers.

Special highlights of the V-CAD series

- Large image fields
- No axis motion, no wear
- High-resolution camera with precise telecentric lenses
- Calibrated coverage free from distortion
- Geometric resolution and coverage determined by combination of camera and lens (see table).
- LED incident light optionally available



Machines shown may include optional accessories.

The perfect solution for every task!

Should the scope of the standard V-CAD series machinery prove insufficient, it can be tailored to suit your individual measurement or specific situation. The V-CAD can also be upgraded to a fully-automatic measurement cell for incoming or final inspections. Individual workpiece feeding

and discharging can be integrated here in order to connect one or several measurement stations. Handling can include everything up to customised sorting and packaging. You can trust us with your project. Together, we will find the ideal configuration for your individual measurement!



Measurement cell with two V-CAD modules and adjacent packaging unit

Tailored measurement software for precise results

Software solutions for the highest of demands!



M3 measurement software with image processing

Precise measurement of geometric elements using intuitive multi-touch application with simple user interface, innovative image processing for quick and reproducible measurements. For further information, please refer to our brochure "**M3 measurement software**".

SAPHIR

SAPHIR measurement and analysis software

Efficient, economic workflows start with the choice of equipment. **SAPHIR** is a tailored measurement software that covers all of your requirements. For further information, please request our free "**SAPHIR**" and "**SAPHIR shaft**" brochures.

SAPHIR QD

SAPHIR QD measurement and analysis software

In addition to single-part measurement, the measurement of multiple identical parts at the same time is possible here (MMi=Multiple Measurement identical), as well as the simultaneous measurement of multiple non-identical parts (MMd=Multiple Measurement different). Measurement with **SAPHIR QD** is simple: The part is placed anywhere on the glass plate, within the measurement range, automatically identified and then measured. Information, in the form of tables and graphics superimposed over the live image, is provided as standard – highlighted in colour for easy recognition of good and bad results.

“Measurement Technology 4.0 is the response to Industry 4.0”

The new **SAPHIR QD** measurement and analysis software represents Measurement Technology 4.0 in all its forms. The workpiece itself is a channel of information here. In the process, programming is now exploring new spheres: Even parts for which there is no programme yet are identified within their contour. The measurement programme is created by setting the arrow heads at the relevant points of the resulting DXF file.



The latest news and information can also be found on our Facebook page.



Interesting product videos and useful information are available on YouTube.

Technical specifications for the V-CAD series

Model		V-CAD 80	V-CAD 100	V-CAD 200	V-CAD 60	V-CAD 300 / 400 / 500
Measurement software		SAPHIR QD	SAPHIR QD	SAPHIR QD	SAPHIR QD / M3	SAPHIR QD / M3
Measurement range	mm	76 x 63.5	137 x 114	225 x 168	65.5 x 55	300 / 400 / 500 x 200
object height in Z	mm	60	60	60	-	-
focus range in Z	mm	-	-	-	50	200
Lens		telecentric special lens				
image field	mm	76 x 63.5	137 x 114	225 x 168	65.5 x 55	65.5 x 55
		-	-	-	4-stage motor zoom, telecentric	
image field	mm	-	-	-	65.5x55	32.5x27.5 16x13.5 8x6.5
magnification on screen ²⁾		-	-	-	4.7x	9.5x 19x 38x
		other measurement ranges available upon request				
Camera		5-megapixel B/W matrix camera				
camera position		bottom	bottom	bottom	top	top
Workpiece weight max.	kg	10	10	10	10	10
Repeat accuracy	mm	0.001				
Length measurement error¹⁾		measurement length L in mm				
optical (2D), DIN EN ISO 10360-7 EUV MPE		(4.0 + L/50 mm)	(6.0 + L/50 mm)	(10.0 + L/50 mm)	(3.5 + L/50 mm)	(3.5 + L/50 mm)
Dimensions	mm	W 290	W 650	W 650	W 354	W 900 / 1000 / 1100
		D 720	D 680	D 680	D 444	D 950
		H 550	H 1800	H 1800	H 700	H 950
Weight	kg	50	150	150	30	140 / 150 / 160
Electric power supply		220-240 VAC, 50-60 Hz, 1 kW				

¹⁾ Admissible ambient conditions 20 °C ± 1K, temperature gradient $\Delta t_{th} = 0.5$ K/h, $\Delta t_d = 4.0$ K/d, measured with a calibrated standard

²⁾ Relates to standard monitor and default settings