







# Comparison Table of GeoVISION™ Cameras GeoVISION Home



Dual-Scan micro, nano, Standard, Jr Cameras

nano, Standard with manual tilting bracket, Jr with manual tilting bracket

Camera Specifications	JR M6	JR M6	Standard SSM1	Standard SSM1	nano	Dual-Scan micro
Color or Black and White	Color	B/W	Color	B/W	Color	Color
Housing material	Plastic CPVC	Plastic CPVC	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Lens window material	Glass	Glass	Sapphire	Sapphire	Sapphire	Sapphire
Maximum camera depth in feet/meters Maximum Cable length and Underwater limit	1000 /300	1000 /300	2000 /600	2000 /600	2000 /600	2000 /600
Weight in ounces and grams	5 /141.7	5 /141.7	12 /340.2	12 /340.2	12.8 /362.87	3.5 lbs /1587.5
Lux rating at F2.0	.2	.01	.2	.01	.2	.2
Lens with glass element (mm)	2.9	2.9	2.45	2.45	2.9	2.9 side /2.45 down
Optional lens available (mm)	3.6	3.6	3.6 or 2.9	3.6 or 2.9	3.6	No
Resolution Horizontal lines	550	420	550	420	550	550
Camera lights on/off circuitry	No	No	Yes	Yes	No	Yes
Maximum Operating Temperature C	43	43	60	60	60	60
Maximum Operating Temperature F	110	110	140	140	140	140
Minimum Operating Temperature C	0	0	-40	-40	-40	-40
Minimum Operating Temperature F	32	32	-40	-40	-40	-40

F						
Camera Dimensions	JR M6	JR M6	Standard SSM1	Standard SSM1	nano	Dual-Scan micro
Diameter in <b>inches</b> and <b>millimeters</b> at the thickest point	1 <sup>3</sup> / <sub>4</sub> / 44.45	1 <sup>3</sup> / <sub>4</sub> / 44.45	1 <sup>5</sup> / <sub>8</sub> / 41.625	1 <sup>5</sup> / <sub>8</sub> / 41.625	<sup>3</sup> / <sub>4</sub> / 19.05	1 <sup>1</sup> / <sub>8</sub> / 28.6
Length in <b>inches</b> and <b>millimeters</b>	3 <sup>1</sup> / <sub>2</sub> / 88.9	3 <sup>1</sup> / <sub>2</sub> / 88.9	2 <sup>3</sup> / <sub>4</sub> / 69.85	2 <sup>3</sup> / <sub>4</sub> / 69.85	10 / 254	27 / 685.8
Minimum borehole <b>diameter</b> in <b>inches</b> for camera passage - This specification assumes some minor irregularities in the pipe or borehole	1 <sup>7</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>4</sub>	<sup>7</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>4</sub>
Viewing Specifications	JR M6	JR M6	Standard SSM1	Standard SSM1	nano	Dual-Scan micro
Minimum recommended borehole size in <b>inches</b> for good image	2	2	1 <sup>7</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	1	1 <sup>1</sup> / <sub>4</sub>
Maximum borehole <b>diameter</b> in <b>inches</b> when viewing down under good conditions for good image	36 inches	60 inches	36 inches	60 inches	24 inches	36 inches side 60 inches down
Maximum borehole <b>diameter</b> in <b>feet</b> when using GeoVISION™ supplemental Super Eight Light under good conditions for good image	15 feet	25 feet	15 feet	25 feet	10 feet	20 feet
Maximum borehole <b>diameter</b> in <b>feet</b> when viewing with motorized side looking mirror and GeoVISION™ the Super 8 Light under good conditions for good image	NA	NA	NA	NA	5 feet	5 feet
Maximum <b>viewing distance</b> in <b>feet</b> from camera when using Pan and tilt under good conditions for good image.	6 feet	15 feet	6 feet	10 feet with 2.45 mm lens	NA	NA
Maximum <b>viewing distance</b> in <b>feet</b> from camera when using both the Pan and Tilt and the Adjustable Super 8 Light under good conditions for good image. Using the 3.6 mm lens	20 feet	40 feet	20 feet	40 feet	NA	NA
Focal Length	JR M6	JR M6	Standard SSM1	Standard SSM1	nano	Dual-Scan micro
						
Minimum distance in <b>inches</b> to subject for excellent focus	2	2	1.5	1.5	2	0.5 side 1.5 down
Maximum distance in <b>inches</b> to subject for excellent focus	36	36	60	60	36	36 side 60 down
Minimum distance in <b>inches</b> to subject for usable focus	1.5	1.5	1	1	1.5	0.25 side 1 down
Maximum distance in <b>inches</b> to subject for usable focus	Infinity	Infinity	Infinity	Infinity	Infinity	Infinity Infinity
Lighting	JR M6	JR M6	Standard SSM1	Standard SSM1	nano	Dual-Scan micro

Number of High Brightness LED's in camera	8	8	8	8	NA	NA
Number of High Brightness wide field LED's in camera	NA	NA	NA	NA	6	21 **
Optional ring-light & out-front LED's	No	No	No	No	No	No
System compatibility	JR M6	JR M6	Standard SSM1	Standard SSM1	nano	Dual-Scan micro
May be used with Deluxe winch	Yes	Yes	Yes	Yes	Yes	Yes
May be used with the Econo Heavy Duty winch	Yes	Yes	Yes	Yes	Yes	No
May Be used with the Econo Light Duty reel. NR = Not Recommended	Yes	Yes	Yes NR	Yes NR	Yes NR	No

## Notes

### \*\*Dual-Scan micro camera

The Dual-Scan micro camera has three sets of lights that can be turned on and off independently from switches on the control panel.

The upper recessed ring light has nine brightness LEDs that provide light for the side viewing camera as well as indirect light for both cameras.

The middle three LEDs provide direct light for the side viewing camera.

The lower recessed ring light has nine brightness LEDs that provide light for the down viewing camera as well as indirect light for both cameras.

The combination of three switchable sets of lights provides the best overall lighting of any borehole camera. This lighting system is especially effective in producing high quality videos that show shadow and texture. This Dual-Scan micro lighting is better than other systems in poor quality water due to the use of in LEDs that are placed a few inches away from the lens, providing indirect lighting and giving the user the flexibility to select different combinations of light sources.

## Wide angle lens advantages and disadvantages

2.45 mm wide angle lens is very good at close up images. Distant images, 3 feet and greater, appear very small.

2.9 mm wide angle lens is good at close up images. Distant images, 3 feet and greater, appear small.

3.6 mm lens is best at images from 5 inches to infinity. Distant images appear larger with this lens than they do with other lenses. This is a special order lens available with all GeoVISION cameras.

The 3.6 mm lens is recommended for mines, caves, and very large boreholes.

## Special features of GeoVISION cameras

The GeoVISION Standard stainless steel cameras have camera lights on/off circuitry for use with supplemental lights for improved visibility in poor quality water.

All GeoVISION cameras are interchangeable when used with the GeoVISION™ Deluxe system

All GeoVISION cameras have over voltage and heat protection.

The GeoVISION stainless steel cameras have recessed attachment points allowing the camera to fit in smaller boreholes.

The GeoVISION black and white cameras have a lux rating of .01 at F2. This ultra low light feature means that even in very low light these cameras will produce a good image where other borehole cameras under the same lighting conditions will not have a usable image.

## Recommendations for large boreholes, mines, caves, tunnels, tanks, pipes, caissons, and other voids

Any combination of these items listed below will help get a better image at greater distances:

1. Black and white ultra low light camera
2. Motorized pan and tilt option for depths to 2000 feet or the manual pan and tilt that is standard with all JR and Standard cameras for use at depths less than 200 feet. The 200 foot depth is a matter of personal choice. The manual system becomes more difficult to operate at greater depths.
3. Supplemental lighting

Factors that determine the quality of an image from a borehole camera

1. Water clarity
2. Distance to subject
3. Amount of light and lux rating of camera. The GeoVISION black and white cameras are all ultra low light and are the best borehole cameras for viewing distant objects.

4. Location of light in relation to camera and subject. For example suspended particles may reflect light from on camera lights directly into the camera lens. Supplemental lights off camera reduce this reflection and provide texture to the subject so that it can be comprehended better.
5. Stability and location of camera in borehole. This is best achieved by the use of adjustable centralizers.
6. Angle of view between camera and subject. Tilting cameras provide by far the most options by allowing the operator to view the subject at different angles
7. Type of lens - A wide angle lens such as the 2.45 allows a better view of the borehole when viewing down and provides a better view of close subjects. The 3.6 lens provides a larger image of distant objects but is not as good when viewing close objects.

For product information, sales, brochures, demonstration DVD, and prices you may:

- Call 800-255-1353 toll free from the US and Canada, elsewhere 802-626-5302
- Email: [jeff@geovision.org](mailto:jeff@geovision.org)