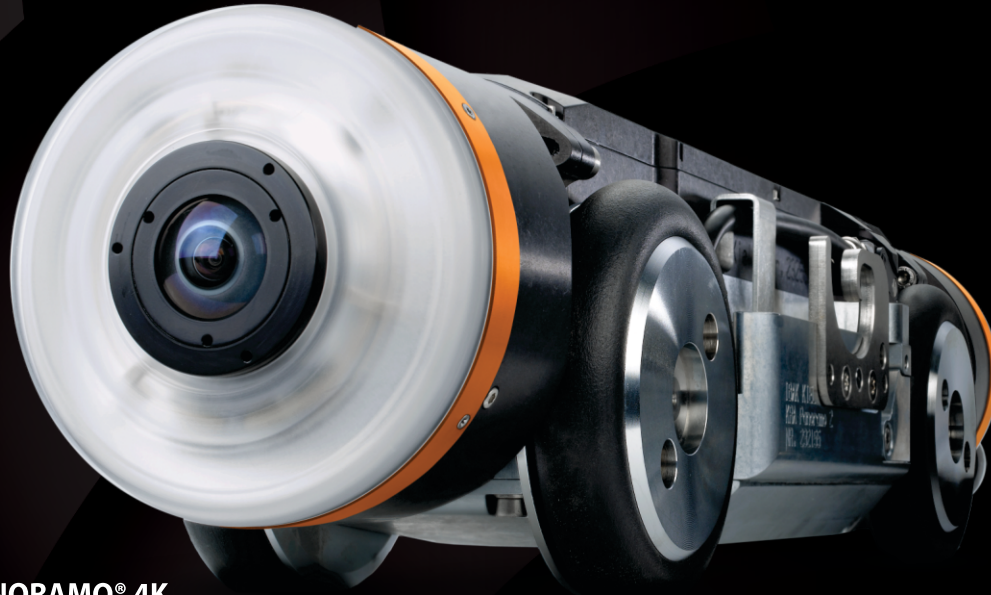


PERFORMANCE IS KEY

IBAK designed PANORAMO® from the ground up to address the weaknesses of traditional sewer inspection technology. The PANORAMO® method changes your current process into data collection in the field and data analysis back in the office. This technology enables your employees to work to their potential and avoid costly mistakes. The PANORAMO® 4K technology allows you to inspect more than twice as much pipe per day, reduce your operating costs by more than 30%, and provide system users high definition imagery.



PANORAMO® 4K

Inspect pipelines 8" (200mm) and up



PANORAMO® 150 4K

Inspect 6" (150mm) pipelines and up

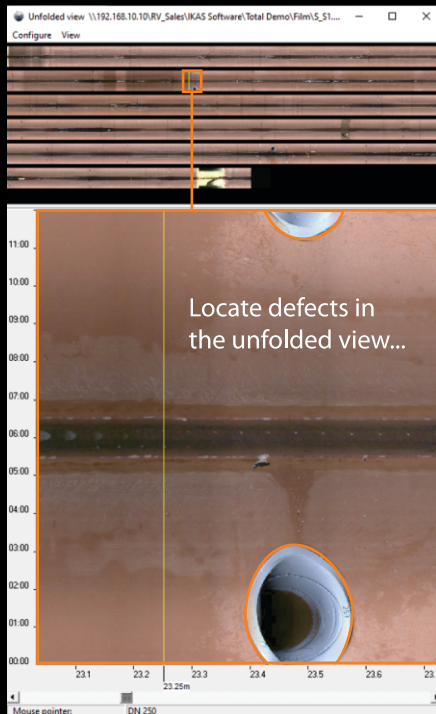
SUPERIOR 4K IMAGE QUALITY

PANORAMO® 4K is fast and clear. The abbreviation 4K stands for 4000 and means the approximate number of horizontal picture elements (4096 × 2160 pixels), making the resolution four times greater than full HD. Users collect data at a rate of up to 69ft. (21m) per minute with the PANORAMO® 2 4K, and 40ft. (12m) per minute with PANORAMO® 150 4K, without needing to stop. All of this adds up to a technology that reduces your cost, increases your productivity, and dramatically enhances your deliverables.

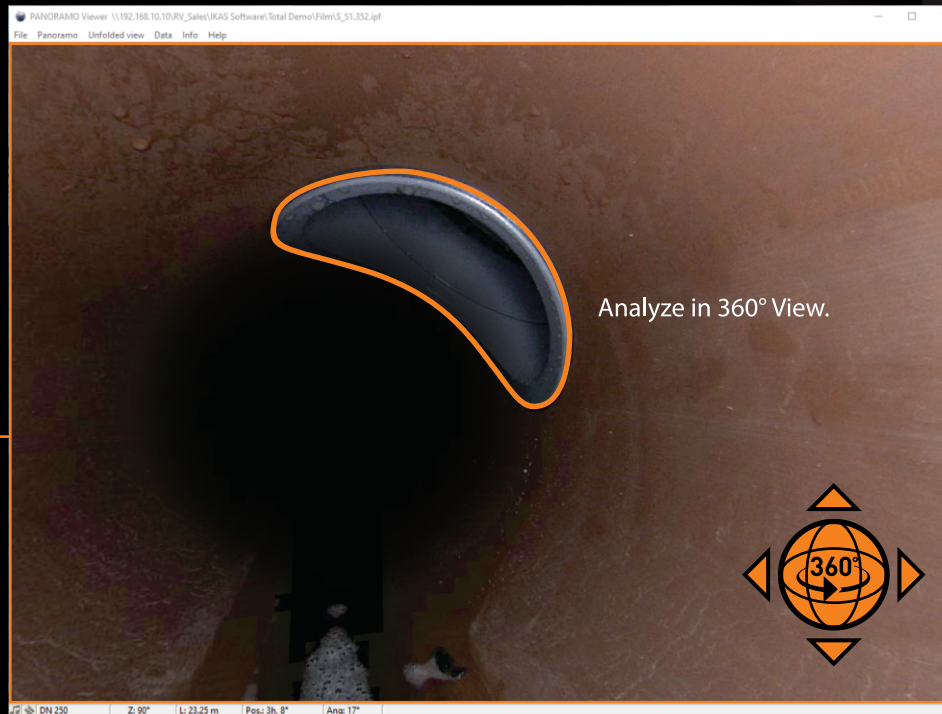


PANORAMO 4K Technical Specifications

Maximum Speed (PANO 2)	69ft. (21m) / min.
Pressure Protection	Standard
Viewer Software	Free, Distributable
Cameras	Twin 185° Digital
Zoom	Digital
3D Perspective View	Standard
Unfolded View	Standard
Measurement	Standard
Lighting (PANO 2)	Xenon Strobe
Lighting (PANO 150)	High Power LED

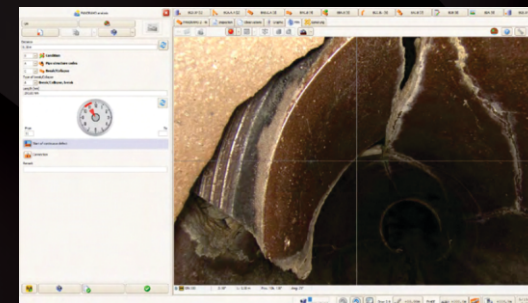


Unfolded View



360° Perspective View

PANORAMO 4K
Technology



PANORAMO® Inspection Wizard
in IKAS Evolution

TWIN CAMERAS + POWERFUL LIGHTING

At the core of the PANORAMO® system are the wide angle (185°) twin digital cameras. These cameras are installed on the front and rear of the system and capture still images as they move through the pipeline. Extremely powerful Xenon strobes illuminate up to 48" pipelines with the PANORAMO® 2 4K, and the still pictures captured by the cameras produce high-resolution digital images that do not suffer from motion blur even at the highest inspection speeds. The PANORAMO® system has very few moving parts, allowing for easier maintenance than that of traditional pan & tilt cameras.

