CATALYST+ HD
In position
to make a difference
Innovative 4D SIGRT Solution
C-RAD

Accuracy is the key to **treatment success**

The Catalyst^{+} HD offers a complete solution for high precision patient positioning, intra-fraction motion management, and respiratory gating, ensuring the best possible treatment outcome for conventional and stereotactic treatment delivery.

The new Catalyst^{+} HD platform combines all strengths and experience of the previous generation Catalyst with the latest surface imaging technology, leading the way into the new decade.

In the modern era of radiation oncology where precision is crucial, the Catalyst^{+} HD is the precise answer to stereotactic radiation therapy.

CATALYST^{+} HD SUPPORTS THE CLINICAL WORKFLOW

ACCURATE AND TIME EFFICIENT PATIENT SETUP WITH CATALYST^{+} HD

- Augmented reality color projections directly on patients' skin for posture corrections
- Accurate isocenter alignment with 6-DOF corrections
- Enables marker-less patient setup
- Reduces the need and effort of verification imaging

INCREASED CLINICAL CONFIDENCE AND PATIENT SAFETY WITH REAL-TIME MOTION MANAGEMENT

- Real-time Surface and 6-DOF isocenter monitoring
- Beam control interface
- Monitor the patient during the entire fraction, beam delivery and verification imaging
- Fully supporting non-coplanar treatment delivery

INTRA-FRACTIONAL REPRODUCIBILITY WITH A DEDICATED RESPIRATORY MODULE AND AUDIO-VISUAL PATIENT FEEDBACK

- Breath-hold and Free-breathing gating modes
- Dual respiratory tracking points
- Beam control interface
- Visual Coaching – goggles, tablet and room light solution

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SUPERIOR TECHNOLOGY WITH OPTIMIZED WORKFLOWS

With non-rigid algorithms and superior technology, Catalyst^{+} HD is designed to achieve the best results with optimized workflows.

RELIABLE EQUIPMENT AND PREDICTABLE RESULTS

The clinical confidence you need to treat your patients. Catalyst^{+} HD is equipped with real-time motion management with automatic beam control for the patient's safety.

DESIGNED TO BE FAST, ACCURATE AND SAFE

Catalyst^{+} prioritizes comfort of the patient and the experience of the therapist.

SEAMLESS INTEGRATION

Catalyst^{+} HD is designed to ensure a seamless clinical workflow trough interoperability.

STEREOTACTIC RADIATION THERAPY

The Catalyst^{+} HD equipped with C-RADs SRT module offers a complete solution for high-precision patient positioning and intra-fractional motion management with maintaining submillimeter accuracy during non-coplanar treatment delivery.

CATALYST+ HD

System data

Physical dimensions (master and side system)

- Size (W x D x H): 625 mm x 230 mm x 200 mm
- Weight: 9,5 kg

Power

- Input voltage: 100 – 240 VAC
- Frequency: 50/60 Hz
- Power consumption operating: 300 W
- Power consumption standby: 75 W

Environment

- Operating temperature: +10 °C to +35 °C (50 °F to 95 °F)

Camera

- Resolution (W x H): 1920 x 1200 pixels (2,3 M pixels)
- Frame rate: 165 Hz

Light projection

- Measuring light: ~405 nm (blue)
- Projecting light: ~528 nm (green) and ~624 nm (red)
- Color projection resolution: 16,7 M colors, (256 R, 256 G, 256 B)

Performance

- Optical scanning technology: Structured light
- Maximum scan range Catalyst+ HD (relative isocenter): ΔX = 1,0 m, ΔY = 1,4 m, ΔZ = 1,2 m (surface area = 1,4 m2)
- Measurement reproducibility: 0,2 mm
- Long-term stability: Within 0,3 mm
- Warm-up time: 15 minutes
- Frame rate 3D: 15 Hz
- Positioning accuracy Catalyst+ HD: Within 0,5 mm for rigid body
- Positioning accuracy SRS with Catalyst+ HD: Within 0,5 mm and 1 degree (mean value + standard deviation) in all directions for rigid body and open mask
- Motion detection accuracy Catalyst+ HD: Within 0,5 mm for rigid body when couch is in fixed position during treatment
- Motion detection accuracy SRS with Catalyst+ HD: Within 0,5 mm and 1 degree (mean value + standard deviation) in all directions for rigid body and open mask for both coplanar and non-coplanar fields
- cRespiration detection accuracy: Within 1 mm
- Registration Methods: Real-time, non-rigid with deformable models for 6 DOF isocentric shifts.

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