SPECIFICATION REQUIRED FOR CATHLAB

- 20-inch flat panel detector.
- Head-Toe coverage
- X-ray generator of 100 kW. The voltage range is 40 - 125 kV. Maximum current is 1250 mA at 80 kV
- The Stent enhancement software and hardware
- DSA
- Smart mask
- Road map
- The synchronized movement of the Detector, Collimator, and Table always displays an upright image monitor.
- High-speed Gantry movements with speed up to 25^0/sec and LAO / RAO angulations +/- 130^0 for faster procedures and unrestricted cardiac views.
- Complete table side control function for better workflow with touch screen
- Latest technology liquid metal bearing X-Ray tube.

Details.

1. Geometry

A motorized, suspended Poly Diagnostic arm, which can be rotated to allow a three-sided patient approach at
Can be done both manually and motorized.
The longitudinal movement needs to be electronic auto-stop positions.
Single operator control of stand parking or longitudinal positioning.
\Minimum motorized base rotation at 12 degrees/s from +90 to -90 degrees, and motorized longitudinal movement at 15 cm/s over a maximum range of 260 cm. The projection angles

- Rotation 120 degrees LAO to 120 degrees RAO
- Angulation 45 degrees cranial to 45 degrees caudal

The projection angles for the Poly Diagnostic G-arm in the left or right position of the patient-orientated perpendicular to the table):

- rotation 45 degrees LAO to 45 degrees RAO
- angulation 120 degrees cranial to 120 degrees caudal

Patient support

- Table manual float movement.
- Motorized height adjustment.
- Maximum patient weight 250 kg plus.

Table accessory set includes: -.

- Accessory clamps. Set of cable holders.
- Drip-stand. Patient straps.
- A patient mattress. The mattress has a thickness of 7cm.

2. X-ray Generation

CFD generator comprises an X-ray generator of 100 kW. The voltage range is 40 - 125 kV.

- Maximum current is 1250 mA at 80 kV.
- Grid switching at pulsed fluoroscopy. high voltage cables.
- Maximum continuous power for fluoroscopy: 2 kW for 8 hours.
- Pulsed X-ray up to 3.75, 7.5, 15, 30 frames/s for digital dynamic exposures
- Pulsed X-ray for pulsed fluoroscopy (3.75, 7.5, 15, 30 frames/s).
- Automatic kV and mA control for optimal image quality prior to run to save dose.
- Optimal X-ray tube load incorporated to CFD generator.

- Minimum continuous load ability: 3400 W (at 21 degrees C room temp.).
- Application for dose management.

tube housing ROT 1001 for oil-cooled X-ray tube with thermal safety switch. Cooling unit CU 3000 heat exchanger for use in oil-cooled X-ray tube systems

Fully digital imaging chain in maximizing the utilization and technology of the x-ray generator, x-ray tube, flat detector, and image processing.

customizable EPX protocols to each application according to user preferences for different composition of dose rate, pulse speed, filter setting, and image processing (noise reduction,

- Built-in Beam filtering of low energy radiation
- pre-filters of 0.2, 0.5, and 1.0 mm CU equivalent. automatic cardiac wedge positioning.
- anti-scatter grid, ratio 13:1. removable anti-scatter grid to lower x-ray dose for pediatrics.
- X-ray depth collimator with single semi-transparent wedge filter with manual and automatic positioning.
- Beam Shaping, which means that both shutters and wedges can be positioned on the Last image Hold without the need for X-ray radiation.

. Fluoro Storage, a grab function allows storage and archiving of both a fluoro image or the last 20 seconds (service configurable time) of fluoroscopy run. These images or runs can be archived &reviewed as a regular run.

User awareness

Radiation Dose Structured Report for collection of dose relevant parameters and settings and export to a DICOM database (e.g. PACS, RIS), according to IEC 60601-2-43, 2nd Edition.

. A graphical bar and numeric displays the actual dose rate (during x-ray) or predictive dose rate (at no radiation).

. Graphical bar and numeric display the accumulated Air Kerma dose for the particular projection.

3. Image Detection

. A 20 x 20 inch diagonal triple mode Dynamic Flat Detector subsystem for fluoroscopy and cine-fluorography.

. A 10" triple mode Dynamic Flat Detector.

. The outer detector's physical housing is 37 cm diagonal square.

. The digital output of the Flat detector minimum 1024 x 1024 matrix at 14-bit depth.

. The pixel pitch is 184 microns by 184 microns.

. The DQE(0) is 80% providing a high conversion of X-ray into a digital image while maintaining a high MTF.

Processor that has an equivalent capacity of more than 8000 MIPS and is designed for video speed image processing.

Storage capacity of at least 100,000 images at a matrix size of 1024 x 1024, 10 bit. The maximum number of examinations is 999, with no limit to the maximum number of images per examination.

4. User Interface

Able to customise user's preferred settings.

Advanced integration functionality available. Functionality like DICOM Query/Retrieve, background archiving, and Fluoro Storage.

On-Screen Display, the Module, Viewpad, and the Imaging and Geometry T.S.O. Modules.

Scheduling - On the scheduling page it is possible to add new patients. They can be listed and selected per date, physician, and type. Previous DICOM patient studies can be with the DICOM Query Retrieve function in the All

Preparation - The preparation page provides the information of room & patient preparation for each physician.

Acquisition - The acquisition page contains information on the currently selected patient.

Review - The review page allows for reviewing of patients: Previous cases, and other DICOM XA or SC studies.

Archive - Clinical studies can be archived on a CD or a PACS. The archive process can be completely automated and customized with Xper Settings.

5. Viewing

- Support archive on one or multiple DVD's, CD-ROM(s)
- Image transfer to a standard PC compatible format (JPEG, AVI)
- Store a subset of exportable objects (snapshots and AVI Movies) to a USB removable memory device.
- Image transfer to any DICOM compatible device (e.g.PACS/Printer), supported are DICOM XA, DICOM SC, DICOM CT, and DICOM 3D
- Image transfer to any PC in a standard PC compatible format (JPEG, AVI)
- Image transfer to any DICOM compatible device (e.g.PACS/Printer), supported are DICOM XA, DICOM SC.

At least two 19-inch monochrome medical-grade LCD monitors for clinical image display in the Examination room.

DICOM compatibility- enables the export of clinical images to a DICOM destination like a CD-Medical station or a PACS server.

At least one 19" flat panel color monitor. This LCD / LED medical grade monitor .

Table mounted Rad. Shield

A Table-mounted radiation shield for additional protection of physicians and staff against scattered radiation.

- Mounting to either the right or left table accessory rails.
- Pivoting into the required working position.
- Pivoting into the parking underneath the tabletop facilitates patient preparation.
- The upper shield can be positioned upright providing optimal protection or can be folded down for free access to the patient. It includes
- A Lower shield measuring 70 cm high x 80 cm wide curved shape, a 0.5 mm Pb equivalent
- Upper shield measuring 40 cm high x 50 cm wide 0.5 mm Pb equivalence
- Mounting clamp, and a Docking device for wall mounting.

Pivot Table base - For angiographic- and interventional procedures of the upper peripherals. Provides improved table access for patient transfer. Allows pivoting of the table base around its vertical axes.
Pivot ranges from -90 degrees to + 180 degrees (or -180 to +90 degrees) with locked positions on 0, -13/+13 (facilitating arm-angiography) and -90/+90 and 180 degrees.

Digital Subtraction Angio and Road map

The DSA option with additional vascular studies. DSA features need real-time digital subtraction at low frame speeds of 0.5, 1, 2, 3, or 6 frames per second.

- **Roadmap** . A vessel map is created and superimposed with live fluoroscopy.

Acquisition runs can be done during Roadmap without losing the vessel map.

- Roadmap Pro features Smart Settings in special clinical modes that are optimized to visualize special materials such as coil and glue. Live Processing of the vessel map, the device map, and the landmark map needs to be there.
- Automatic Motion Compensation" (AMC) functionality; during road mapping, small movements of the patient can lead to subtraction artifacts. Th
- Automatic Motion Compensation**
- Exposure subtracts on an individual image or runs basis - Mask selection
- Landmarking - Pixel shift
- Average masking during acquisition as additional subtracted Q improvement

This option also comprises an extra view pad which has vascular functionality oriented buttons.

StentBoost

For coronary and non-coronary arteries during interventions

- Automatic stent detection.
- Manual correction possibility for marker identification
- Measurements to support decision-making in determining the percentage of remaining in the stent.
- Store image snapshot.
- Create and store as a movie.
- Automatic predefined Region of Interest to indicate the location of the stent/balloon markers.
- Fading in/out of contrast vessel and StentBoost image.
- Viewing selection of StentBoost with and without contrast,
- Manual image contrast and brightness adjustment of the boost and contrast image
- Manual correction possibility for the marker, boost, and contrast identification.

Functions:-diameter measurement along the selected segment

- cross-sectional area -%-stenosis
- pressure gradient values -stenotic flow reserve -calibration routines

Manual measurements of line lengths (absolute and ratios) and angulations.
Multiple measurements in one image are possible.