

Contrast-Enhanced Mammography with the **Accutron[®] CT-D Vision**

MED (TRON[®]) AG



**New application:
Contrast-Enhanced
Mammography**

Breast cancer is the most prevalent cancer occurring in women globally and the second most common cancer overall. Every year there are over two million cases.

MEDTRON AG is leveraging its know-how and expertise in contrast media power injectors in supporting and exploring new clinical application pathways, so as to improve women's health, and their lives.

In 2019 we are pleased to announce that our Accutron® CT-D Vision injector is working together with OEM Mammography equipment providers

for patients undergoing CEM or contrast enhanced mammography.

CEM is a clinical application in mammography pulling together the expertise gained from across different medical imaging modalities including computed tomography, magnetic resonance imaging and radiography.

Accutron® CT-D Vision

The diagnostic specialist

Model CT8600

Breast screening is traditionally and primarily comprised of digital mammography with additional diagnostic follow up for cases requiring further clarification. This is usually completed using ultrasound or magnetic resonance imaging.

MR imaging of the breast is considered a gold standard for additional workup but has several disadvantages including long wait times for MRI imaging appointments, high costs and lack of availability as well as additional considerations such as MR safety and suitability of the patient for an MR procedure.

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CEM is a functional dual-energy imaging technique allowing for better tissue differentiation with increased visibility of vascular structures and to visualize contrast medium uptake in tissue. When compared to MRI, CEM tends to provide for fast availability, lower costs, shorter examination times, improved workflow and better imaging of calcifications. Furthermore, it is optimal for patients who are ineligible for an MRI due to i.e. implants, pacemaker, claustrophobia or an inability to assume a prone position (as required in MRI).

Using MEDTRON's Accutron® CT-D Vision injector alongside CEM imaging procedures ensures that a continuous and accurate flow of contrast is provided. It also ensures consistent contrast enhancement of tumor tissue. Patient safety is improved as the injection is flushed with saline which shortens the time during which the contrast medium remains in high concentration locally in the arm veins, where it could irritate the venous wall. And with Accutron® CT-D Vision's established wireless and mobile technology we insure easy portability of the injector to the patient.

Advantages

The Accutron® CT-D Vision has been given an extended purpose and can now also be used for contrast-enhanced mammography.

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Operating Gains

- The injector aids the radiographer with an intuitive workflow. At a dose of 1.5 ml per kg body weight and a flow rate of 3 ml/s, the injection of 90 ml CM for a 60 kg woman, for example, takes only 30 seconds. The contrast medium must then reach the periphery and distribute homogeneously in the blood pool, the interstitial space and thus in the organs and tissue. The radiographer can use this time strike to respond and observe the patient. (Source: Patricia Malmierca et al., The accuracy of titanium contrast-enhanced mammography: a retrospective multicentric study, 2020, Acta Radiologica, Vol 61(10) 1335-1342).
- Further advantages gained include the mobility of the injector which can be placed anywhere next to the mammography system.



Clinical Gains

- The Accutron CT- Vision insures that a contrast bolus is accurately delivered which improves diagnostic reporting.
- The possibility of flushing with saline solution protects the patient's venous system by reducing the amount of time it is exposed to contrast media.
- Flushing also insures a compact contrast bolus and thereby allows the amount of contrast normally required to be reduced. This contributes to the safety of the patient.



Financial Gains

- A remote control is not required for use in mammography. This lowers your acquisition costs.
- The possibility of flushing helps to reduce the amount of contrast medium, which lowers the cost per patient.

Technical data

Mechanical design

Swivelling injection unit on a mobile column stand

Secured injection position at an angle of about 15° below horizontal (detected by a built-in inclination sensor), tilt vertically upwards to vent the system

Total weight: CT860: 26 kg / CT862: 19 kg

Power supply

CT8600:

Operation is independent of the mains supply thanks to high-output rechargeable batteries.

Input voltage charger: 100 – 240 V, 50 – 60 Hz

Power consumption charger: < 100 VA

CT8621:

Operation via power supply unit in the unit base.

Input voltage mains supply: 100 – 240 V, 50 – 60 Hz

Power consumption: < 170 VA

Injection profiles

80 profiles can be edited and stored by the user

Filling of injection syringes

Automatic filling via menu with volume input or manual filling with variable speed

Filling speed: 1 – 5 ml/s

Optimized tube systems with check valves

Injection parameters

Maximum injection volume	2 x 200 ml
Partial injection volume	1 – 200 ml, programmable in 1 ml increments
Maximum injection pressure	21 bar, programmable from 5 to 21 bar in 1 bar increments
Flow rate of the two injection units	0.1 – 10 ml/s, programmable in 0.1 ml/s increments Alternatively, input of flow rate or phase duration
Number of phases	1 to 6
Injection delay	0 – 255 s
Phase delay	0 – 255 s
Scan delay	0 – 255 s

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ESSENTIAL FOR CONTRAST

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