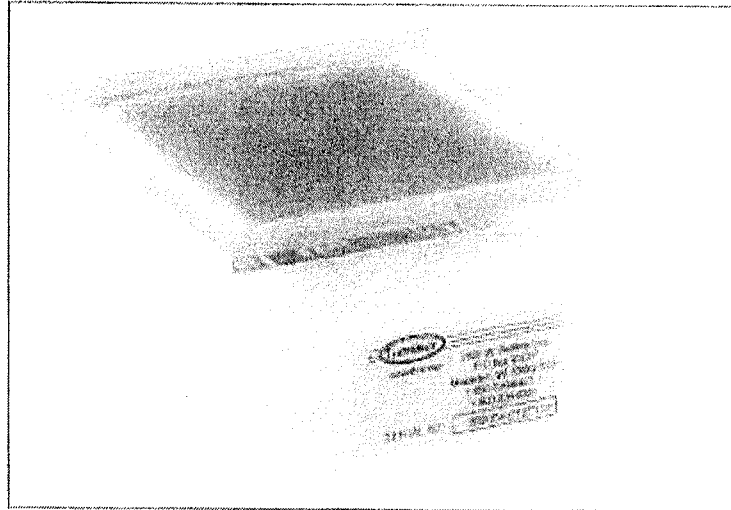


**Mammographic Accreditation Phantom
Gammex 156**



4.1.8

Gammex 156 helps radiology professionals ensure that their mammographic system is producing images of the highest quality. These high quality images can lead to the early detection of breast cancer and long-term survival of the patients.

Beginning October 1, 1994, all mammo-
graphy facilities in the United States were
required to be certified by the Food and Drug
Administration (FDA) in accordance with the
requirements of the Mammography Quality
Standards Act. According to QMS, published
by FDA, all mammography facilities must
perform routine quality control tests of
mammographic systems. Gammex 156, an
integral part of the ACR (American College
of Radiology) Mammographic Quality Control
Program, was designed to perform weekly
QC checks of your mammographic system.

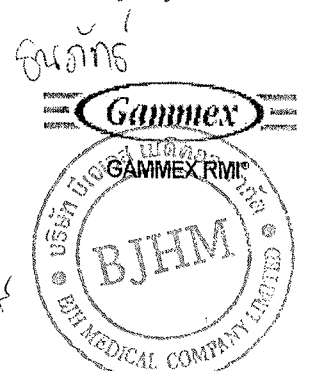
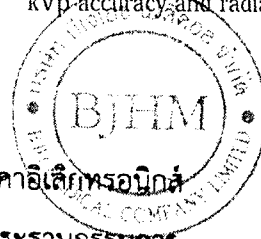
The phantom provides a baseline by which
image quality can be compared and minor
variations identified before they lead to a
reduction in clinical image quality. Without
the phantom check to serve as their baseline
test, even the most experienced professional
can miss the subtle degradation of image
quality that occurs gradually over time in
sensitive mammographic equipment.

Gammex 156 Mammographic Accreditation
Phantom is designed to simulate x-ray
attenuation of 4.2 cm compressed human
breast composed of 50% adipose and 50%

glandular tissue. Test objects of different
sizes, shapes and densities are embedded in
a wax insert, which is enclosed in an acrylic
base. These test objects represent
malignancies or small breast structures -
simulated micro-calcifications, fibrils and
tumor-like masses.

When Gammex 156 is used to create an
image, the mammographic system should
detect a minimum of 4 fibrils, 3 groups of
simulated micro-calcifications and 3 masses.
This has been determined to be the standard
of image quality that State Departments of
Radiologic Health and the ACR use as their
criteria. The phantom can also be used to
identify other artifacts in the system due to
processing, grid and filters. These types of
artifacts are difficult to identify on complex
mammographic images.

If your phantom image is good and your
system maintains its standard of image quality
on a weekly basis, no further testing beyond
daily processor QC may be required.
But, if you cannot see all of the test objects
identified when the system was functioning
at optimum performance, further testing may
be necessary. Variables to check include film
processing, film/screen contact, output
reproducibility, phototimer accuracy, and
kVp accuracy and radiation beam quality.



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Mammographic Accreditation Phantom Gammex 156

SPECIFICATIONS

Phantom Body

Material: Acrylic
 Phantom Dimensions: 4.5 x 10.2 x 10.8 cm (HWD) (1.75 x 4 x 4.25 in)
 Acrylic Base: 3.3 cm (1.3 in) thick
 Cover: 0.3 cm (0.12 in) thick
 Acrylic Disk: 4mm thick x 1cm diameter*

(used to produce an image to measure the density difference)

*Acrylic disk should be placed on top of the phantom in a consistent location in the image area so it does not obscure details in the phantom and where it cannot cast a shadow on any portion of the AEC detector. According to the ACR Mammography QC Manual, a suitable location is between and slightly below the first and second largest fibers.

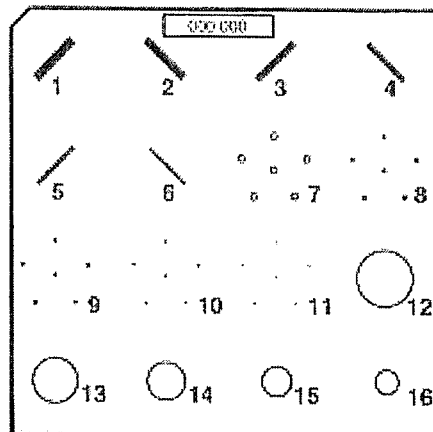
Included is a film, which is a contact image of the wax insert of your Gammex 156. It is to be used for location and orientation of the test objects within the phantom only.

Test Objects

- Nylon fibrils
- Simulated micro-calcifications
- Tumor-like masses

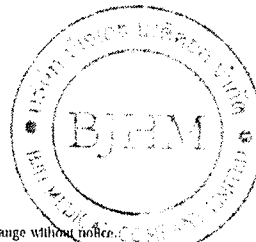
Region Materials

- | | |
|------------------------|-----------------------------|
| 1. 1.56 mm nylon fiber | 9. 0.32 mm specks |
| 2. 1.12 mm nylon fiber | 10. 0.24 mm specks |
| 3. 0.89 mm nylon fiber | 11. 0.16 mm specks |
| 4. 0.75 mm nylon fiber | 12. 2.00 mm tumor-like mass |
| 5. 0.54 mm nylon fiber | 13. 1.00 mm tumor-like mass |
| 6. 0.40 mm nylon fiber | 14. 0.75 mm tumor-like mass |
| 7. 0.54 mm specks | 15. 0.50 mm tumor-like mass |
| 8. 0.40 mm specks | 16. 0.25 mm tumor-like mass |



Target layout of the
Gammex 156

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Due to our philosophy of continuous product improvement, these specifications may change without notice.

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 e-mail: uksales@gammex.com

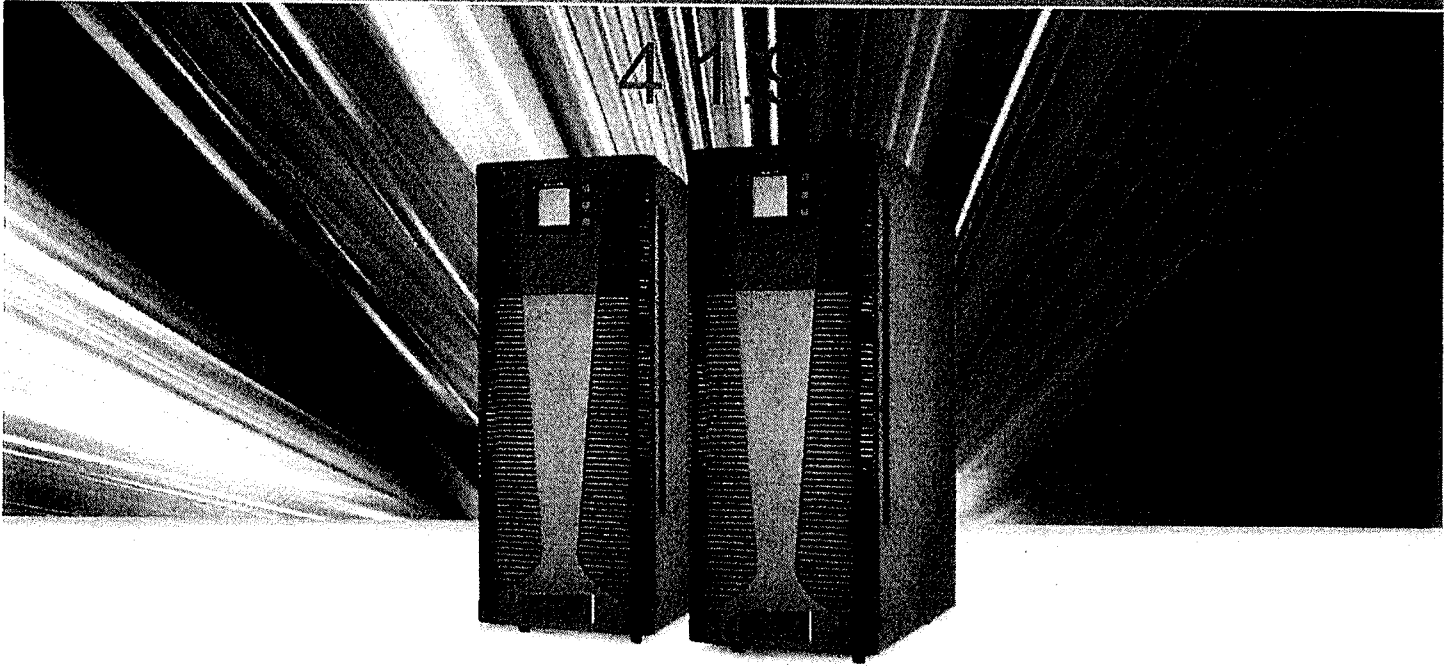
GAMMEX-RMI GMBH
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 Germany
 (+49) (0) 2257-823
 Fax: (+49) (0) 2257-1692
 e-mail: desales@gammex.com



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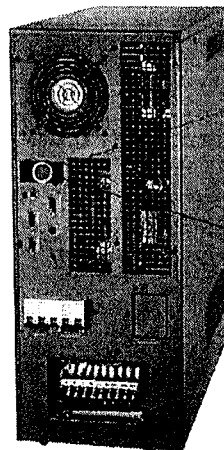
-Online tower UPS-

Memopower Plus II Series 15kVA 1:1phase PF:0.9

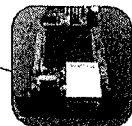


Features

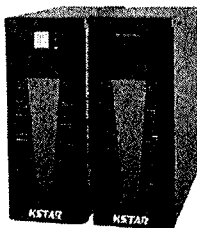
- True double-conversion
- DSP technology guarantees high reliability
- N+X parallel redundancy
- Compatible with 3 phases and single phase input
- Selectable quantity of battery for each group: 16/18/20 pieces
- 3-stage charging design optimizes battery performance
- ECO mode operation for energy saving
- Self-diagnosis at startup
- Emergency power off function(EPO)
- Maintenance bypass is convenient for maintenance
- Generator compatible
- Communications:RS-232,USB,Parallel card(Optional),SNMP card(Optional), Relay card (Optional) Cold start



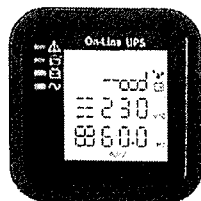
Relay card



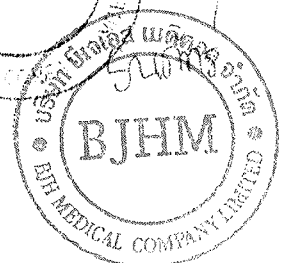
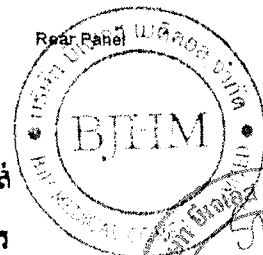
SNMP



Battery Cabinets.
(Optional)



Control Panel



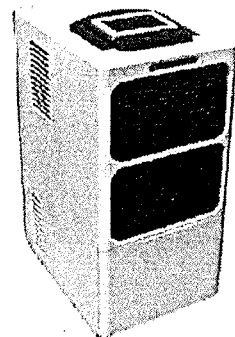
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4.1.10

Dehumidifier

MDB-50



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