



AKURACY®

^{13}N -Ammonia
total solution
for cardiac PET
imaging

RADIO
PHARMA
SOLUTIONS



INTRODUCING AKURACY®

The total solution for accurate cardiac diagnostics

Imagine you could give your patients a faster, more precise diagnosis of their cardiac condition. Suppose you could use advanced PET imaging to identify coronary artery disease with greater accuracy and capitalize on ^{13}N - NH_3 -based PET imaging to make the whole diagnostic process more patient-friendly. Think of all the advantages... rapid throughput, lower radiation burden and a wealth of clinical information.

IBA makes this possible. We draw on our vast experience developing and integrating versatile cyclotrons into total solutions like Akuracy® to enrich every single step of the cardiac PET diagnostic process: from setting up the cyclotron at your imaging facility and producing the ^{13}N -Ammonia (^{13}N - NH_3) tracer to training your people in typical daily use and maintenance.

Find out why our total solution is your best (cardio)logical choice.

PATIENT-CENTERED CARE



FULL INDEPENDENCE

AKURACY® enables cardiac imaging centers to achieve full independence from external radiotracer suppliers by providing on-demand, in-house production capabilities.



PATIENT-FRIENDLY

The diagnostic process is a better experience for patients than the conventional imaging process, as the patient workflow is faster and much less radiation exposure (max. 2 mSv).



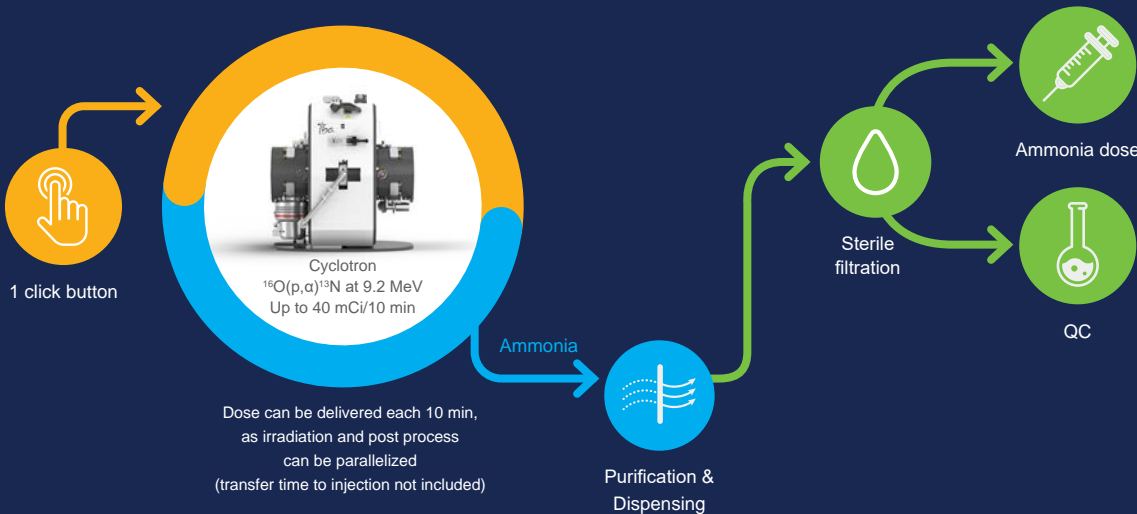
EASE OF USE


The entire process is controlled by high-level software with an intuitive interface that can be operated by qualified personnel. From tracer production to dose availability, on demand and tailored to your schedule.



LOW OPEX

Fully automated production results in higher daily patient throughput, reducing your operating expenses and saving your time.





“AKURACY® IS POWERED BY IBA

IBA (Ion Beam Applications) draws on its experience in oncology diagnostics acquired over decades to develop integrated radiopharmacy solutions, like Akuracy®, that combine equipment and services to improve cardiac diagnostics and patient care.

FOR 40 YEARS GLOBAL LEADER IN RADIOPHARMA SOLUTIONS

IBA is the world-leading provider of radiopharmaceutical production integrated solutions with long-standing expertise in Nuclear Medicine. IBA has a rich history as an innovator developing state-of-the-art technologies to ensure healthcare professionals always deliver the highest quality care to their patients.

IBA's RadioPharma Solutions markets products and services that support the entire radiopharmaceutical production process, from radiopharmacy setting-up until the dose readiness. All solutions are designed to meet the unique needs of hospitals, distribution centers, and research institutions worldwide.

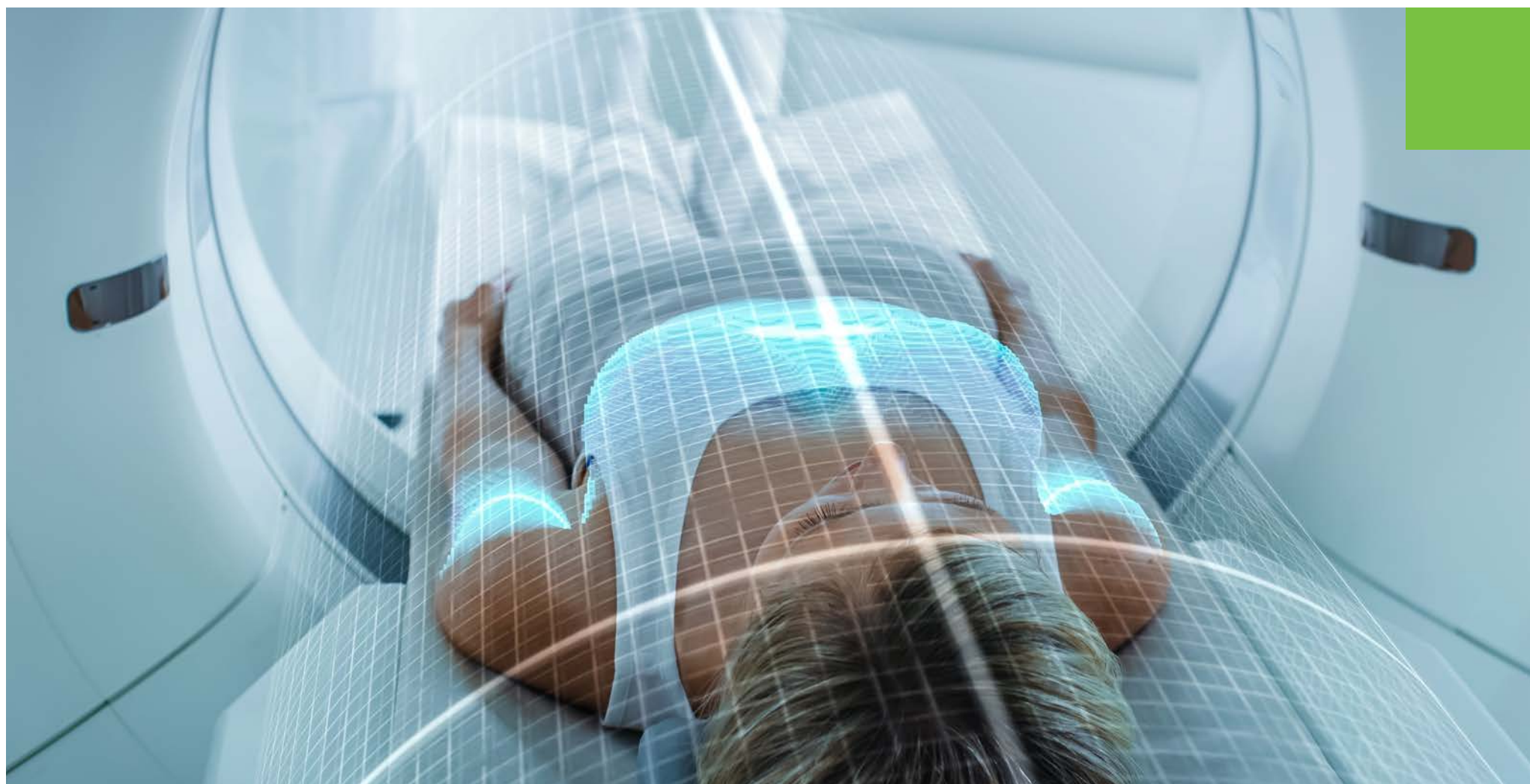
EXPERTISE BENEFITING FROM A LARGE INSTALLED BASE

Partnering with IBA gives you peace of mind that you are always at the cutting edge of innovation, capitalizing on our future developments.

IBA has a proven track record of customer satisfaction, with more than 350 cyclotrons installed on 5 continents. IBA also provides continuous support throughout the lifetime of your project, improving your skills and applications, boosting your uptime, and maximizing your return on investment with all the latest innovations, services, and training.

In addition, the system is built to ensure that upgrades can be implemented easily, so your system always remains fully up-to-date.





Cardiac PET imaging offers an array of advantages that make it more attractive than SPECT imaging for assessing coronary artery disease:

HIGHER RESOLUTION AND ADVANCED IMAGE ACQUISITION/RECONSTRUCTION

PET provides better quality static and ECG gated images and more importantly: dynamic quantitative data on myocardial blood flow during peak stress and at rest; a unique feature of PET.

BETTER SENSITIVITY AND SPECIFICITY

The combination of data from static, ECG-gated and dynamic images makes PET a more sensitive and specific functional imaging modality for the detection of coronary artery disease, reducing downstream costs.

GREATER VERSATILITY

Broad variety of tracers available (perfusion and metabolism) makes it a more versatile modality.

LOWER RADIATION EXPOSURE

PET imaging uses radiotracers with shorter half-lives for myocardial perfusion imaging, reducing patient radiation exposure.

WEALTH OF CLINICAL INFORMATION

MBF Quantitative PET (myocardial blood flow) generates greater insight into coronary physiology and pathology.

PET IS THE FUTURE OF NUCLEAR CARDIOLOGY

Cardiac PET (positron emission tomography) imaging is a fast-growing clinical tool endorsed by well recognized clinical guidelines and has demonstrated its high accuracy and precision. This powerful non-invasive imaging technique can assess **myocardial blood flow (MBF) throughout the coronary circulation system, epicardial vessels and microvasculature, making it more effective and more efficient as a functional imaging modality.**

“CARDIAC PET IMAGING LEADS TO IMPROVED DIAGNOSTIC ACCURACY AND PATIENT OUTCOMES.”



¹³N-AMMONIA

The fast track to accurate diagnosis






Cardiac PET imaging is known to provide better image quality than SPECT imaging, but the choice of radiotracer is also important. Our choice: ¹³N-Ammonia.

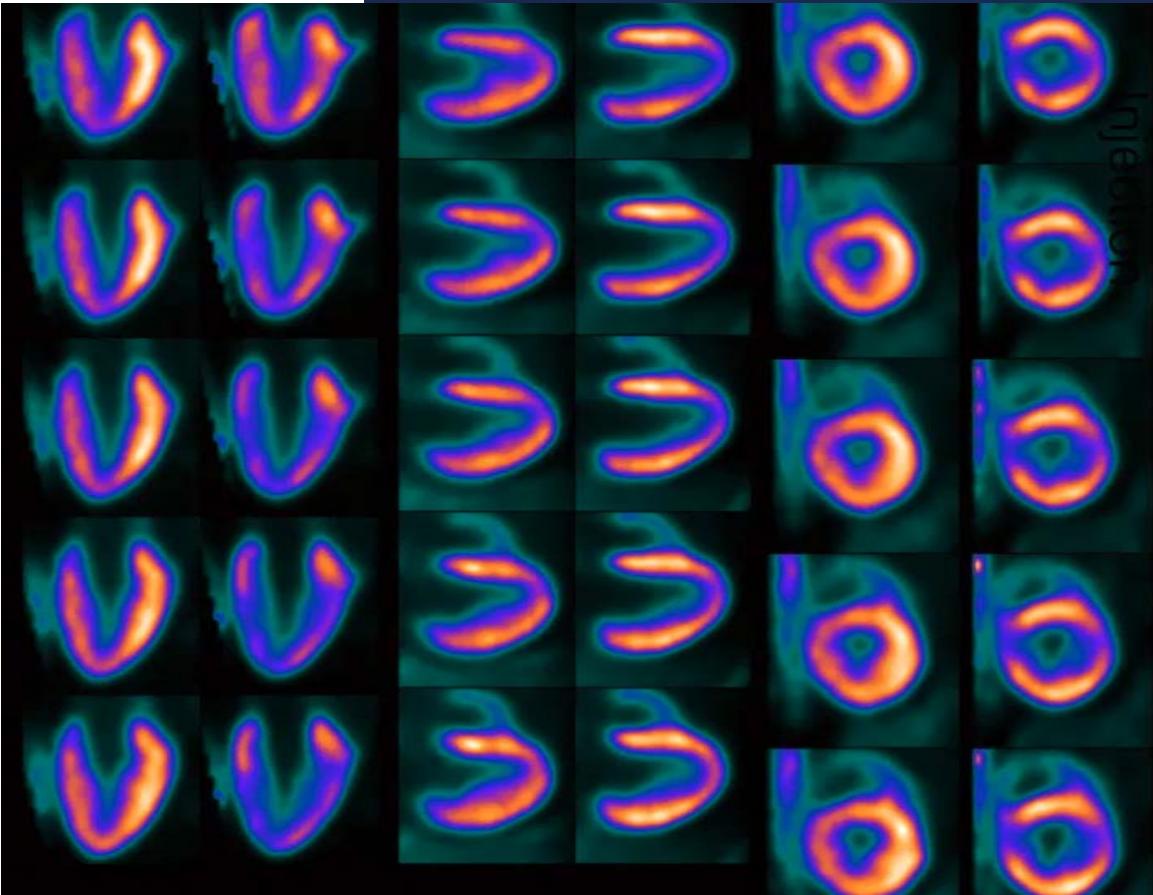
ADVANTAGES

¹³N-Ammonia is an effective diagnostic tool that improves patient management by accurately detecting coronary artery disease (CAD) due to its short positron range, high sensitivity, and high first-pass extraction and retention properties in the myocardium. Increasingly preferred by leading cardiac imaging institutes, ¹³N-Ammonia is experiencing rapid adoption for cardiac PET imaging, as it provides diagnostic studies of consistently high-quality, regardless of patient size or gender.



ADVANTAGES

-  IMPROVED PROGNOSTIC AND DIAGNOSTIC ACCURACY
-  QUANTITATIVE ASSESSMENT OF MBF
-  BETTER QUALITY IMAGES
-  LOWER RADIATION EXPOSURE
-  RANGE OF STRESS PROTOCOLS



AKURACY® SOLUTION

¹³N-Ammonia production on-demand

The IBA Akuracy® solution is an innovative user-friendly system designed for the automated production of ¹³N-NH₃. The system is a single button solution that any **qualified technologist can easily operate from the PET control room, making it a convenient and efficient tool for producing ¹³N-NH₃ on demand.**

ADVANTAGES

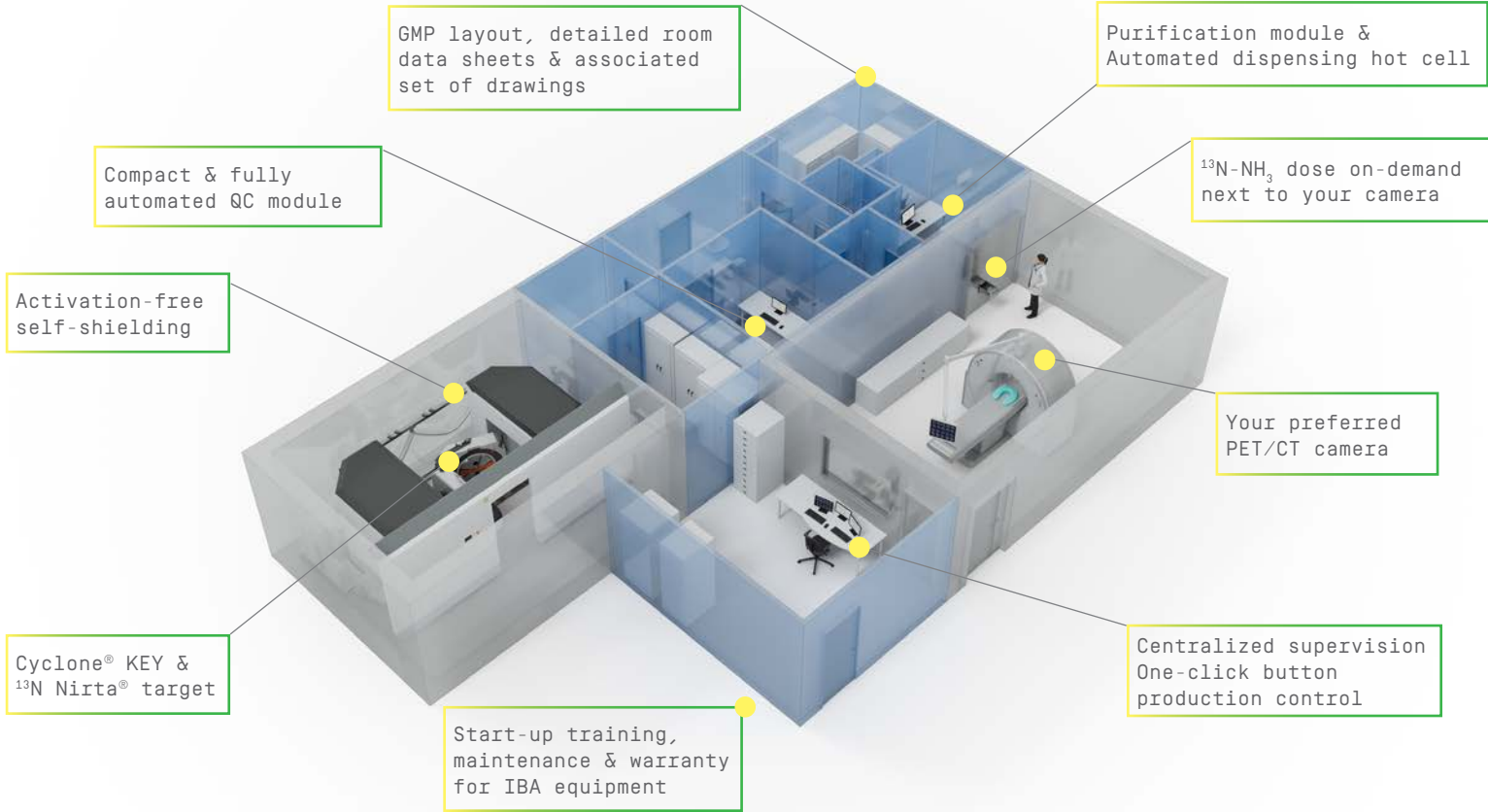
Akuracy® is designed to produce a ready-to-use ¹³N-Ammonia dose about every 10 minutes, significantly reducing patient waiting times and improving the workflow efficiency. The system includes in-line advanced quality control features, ensuring all radiopharmaceuticals comply with the pharmacopeial quality standards.

WORKING FOR YOU

Our team of radiopharmaceutical experts creates custom systems for the GMP production of ¹³N-Ammonia. We draw on decades worth of experience in the design and integration of radiopharmaceutical production facilities to devise solutions tailored to the individual needs of each customer. The integrated solution includes all necessary hardware and software for the seamless production, purification/dispensing, and quality control of ¹³N-NH₃.

SOLUTION FIGURES OF MERIT

Patient throughput	Up to 1 dose every +/- 10 min
Production cycle	Dose-on-demand
Production workflow	Fully automated
Staff requirement	Minimum (high-level software supervision)
Process sterilization	Aseptic process
Hotcell pharmaceutical grade	A (isolator)
QC workflow	Fully automated: sampling, measurements, and reporting
Quality control	Compliant with the EU pharmacopoeia specifications
Dispensing output	Shielded syringe
Dispensing exit atmosphere	Unclassified area



“THE IBA TEAM OF EXPERTS ENSURES EFFICIENT AND RELIABLE ¹³N-AMMONIA PRODUCTION.

CYCLOTRON SPECIFICATIONS

Energy	9.2 MeV
Extracted beam current	30 μA
Route of production	¹⁶ O(p,α) ¹³ N
Beam-on power consumption	< 37 kW
Stand-by power consumption	< 3 kW
Self-shielding technology	Activation-free high-density polyethylene (HDPE) and high-density concrete
Magnet technology	Normal conducting
Pumping technology	1x primary pump + 1x turbomolecular pump
Target technology	Helium cooling free
Cyclotron weight	7.5 Tons
Self-Shielding weight	38 Tons
Cyclotron overall dimensions [m]	1.5 x 1.4 x 1.4 (l x w x h)
Internal room dimensions with self-shielding [m]	6.1 x 4.3 x 2.7 (l x w x h)

ABOUT IBA (ION BEAM APPLICATIONS S.A)

IBA is a cancer diagnostics and treatment company and the worldwide technology leader in the field of proton therapy. The company's expertise lies in the development of next-generation proton therapy technologies and radiopharmaceuticals that provide oncology care providers with premium quality services and equipment, including IBA's leading fully integrated IntegraLab® system.

ABOUT IBA RADIOPHARMA SOLUTIONS

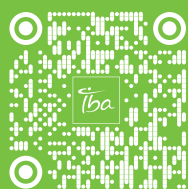
Based on long-standing expertise, IBA RadioPharma Solutions provides total solutions, from project design to facility operation, to support in-house radioisotope production at hospitals and radiopharmaceutical distribution centers. As well as high-quality technology production equipment, IBA has in-depth experience of setting up GMP radiopharmaceuticals production centers.

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