Best® Cyclotron Systems

Best 15

15 MeV
400 µA

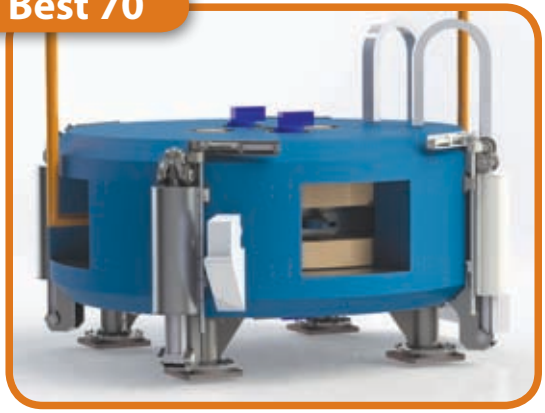
Best 25

20, 25 MeV
400 µA

Best 28u/35

20, 28 → 35–15 MeV
400 → 1000 µA

Best 70



70–35 MeV
700 µA

healthcare for everyone
TeamBest®
Your True Partner

Best Cyclotron Systems, Inc. 7643 Fullerton Road, Springfield, Virginia 22153 USA
604 681 3327 866 909 4647 www.bestcyclotron.com www.teambest.com

AFRICA | ASIA | EUROPE | LATIN AMERICA | MIDDLE EAST | NORTH AMERICA

Best® Cyclotron Systems

The Best Family of PET/SPECT/Research Cyclotrons 15, 25, 28u, 35 & 70 MeV

Best Cyclotron Systems and **TeamBest** provide turnkey systems that not only include a cyclotron specific to your isotope requirements but also targets, automated radiochemistry, infrastructure, operations, and maintenance support. As consistent supplies of radioisotopes become more uncertain, particularly for reactor-supplied isotopes, the Best family of cyclotrons provides a **Total Solution™** for the medical community that is less dependent on unreliable sources.

Ideal for FDG & Tc-99m Supply

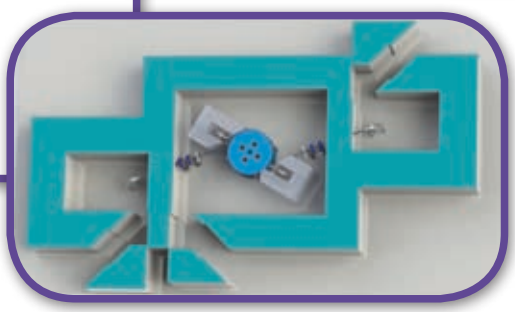
Best 15

- 15 MeV fixed energy H^- cyclotron
- External ion source
- 400 µA extracted proton beams
- 2 simultaneous extracted beams
- 4 target positions

For a Broader Range of Isotopes

Best 25

- 25 and 20 MeV fixed energy H^- cyclotron
- 400 µA extracted proton beams
- 2 simultaneous extracted beams
- 4 target positions



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The World's ONLY Upgradeable Cyclotron

Best 28u

- 28 and 20 MeV fixed energy H^- cyclotron
- 400 µA extracted proton beams
- 2 simultaneous extracted beams
- 4 target positions
- Fully upgradeable to Best 35

Best 35

- 35–15 MeV variable energy H^- cyclotron
- 1000 µA extracted proton beams
- 2 simultaneous extracted beams
- Up to 6 independent beam lines and target positions

Ideal for Sr-82/Rb-82 Supply & Research

Best 70

- 70–35 MeV variable energy H^- cyclotron
- 700 µA extracted proton beams
- 2 simultaneous extracted beams
- Multiple independent beam lines and target positions

Specifications within are subject to change.

Isotope Production Capabilities

Summary		
Cyclotron	**Energy (MeV)**	**Isotopes Produced**
Best 15	15	F^{18}, Tc^{99m}, C^{11}, N^{13}, O^{15}, Cu^{64}, Ga^{67}, I^{124}, Pd^{103}
Best 25	20, 25	Best 15 + I^{123}, In^{111}, Ge^{68}/Ga^{68}
Best 28 Upgradeable	20, 28	Best 15 + I^{123}, In^{111}, Ge^{68}/Ga^{68}
Best 35	35–15	Greater production of Best 15, 25 isotopes plus Tl^{201}, Rb^{81}/Kr^{81}
Best 70	70–35	Sr^{82}/Rb^{82}, I^{123}, Cu^{67}, Kr^{81} + research

Best 15 Isotopes

PET

Isotope	Application
Carbon-11	Broad Substitution
Nitrogen-13	Ammonia: blood flow
Oxygen-15	Blood flow, volume, oxygen utilization
Fluorine-18 aqueous	FDG mainly, many others
Fluorine-18 gas	Radiolabeling from gas phase
Copper-64	Integration through chelation chemistry
Iodine-124	Monoclonal antibodies

SPECT

Isotope	Application
Gallium-67	Fe analog, inflammatory lesions
Technetium-99m	**Many**

Therapeutic

Isotope	Application
Palladium-103	Interstitial implants, brachytherapy

Best 25/28u/35 Isotopes

Isotope	Application
Iodine-123	Low dose imaging agent, replacing I^{131}
Indium-111	Blood cell labeling
Gallium-68 (generator)	Blood-brain barrier integrity, tumor localization
Thallium-201	Myocardium functional assessment
Krypton-81m (generator)	Gas for ventilation imaging or in solution for perfusion imaging
Plus all the isotopes the Best 15 can produce	

Best 70 Isotopes

Isotope	Application
Rubidium-82 (generator)	Diagnosis of coronary artery disease, coronary stenosis, myocardial infarction imaging, viability, collateral function and cardiomyopathy
Iodine-123	Low dose imaging agent, replacing I^{131}
Copper-67	Used in radiotherapy by accumulation in tumour tissue using monoclonal antibodies
Krypton-81m (generator)	Used either in gaseous form for ventilation imaging or in solution for perfusion imaging
Research: Physics, chemistry, Radioactive Ion Beam, activation energy, etc.	

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