

# BEST Cyclotron Systems Inc. for Production of Technetium-99m for Diagnostic Applications

WASHINGTON, DC, USA, January 9, 2023 /EINPresswire.com/ -- BEST Cyclotron Systems Inc., a TeamBest Global (TBG) Company, has designed and installed a variety of cyclotrons for medical, industrial and research applications ranging from energy 1 MeV to 70 MeV. One of these BEST cyclotrons, B-15, can be used for production of the isotope Technetium-99m (Tc-99m), one of the mostly widely used isotopes in nuclear medicine applications. TBG and [Best Cure Foundation](#) are planning to manufacture many of these cyclotrons to establish production of a range of diagnostic radioisotopes for global distribution.

## Tc-99m

Tc-99m has several features that make it safe and ideal for imaging applications. Its gamma decay mode can be easily detected by a camera, allowing the use of smaller quantities. Tc-99m also has a short half-life (6 hours) and a very low energy level for a gamma emitter—allowing for scanning procedures which collect data rapidly but keep total patient radiation exposure low.

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Everyone deserves the Best healthcare.”

*Krishnan Suthanthiran,  
President/Founder of  
TeamBest Global Companies*

The supply of Tc-99m for Nuclear Medicine procedures has been interrupted several times in the recent years due to issues associated with the reactors. This has resulted in the development of several accelerator techniques for the production of Tc-99m. BEST Cyclotron Systems Inc. has developed a methodology for generating Tc-99m using BEST B-15 cyclotron.

B-15 will produce about 3.6 Ci of Tc-99m in 3 hours at 300 uA. This amount may be sufficient for



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a central radiopharmacy and may find this development a viable solution for the supply of Tc-99m.

Setting the B-15 at 15 MeV gives a Tc-99m production of 5 mCi/uAh. This corresponds to a saturated yield of 43.43 mCi/uA. Operating at 400 uA for 4 hours produces 6.2 Ci of Tc-99m. The production target is operating with a 6 kW power dissipation. The small production target is limited to that power. If more radioisotope is required then the small production target must be replaced with one with a larger heat carrying capacity. The high current target system designed for commercial application is designed for more than 50 kW of heat load. If more production is required from the B-15, it can be modified in the field to operate at 1000 microns or higher. Also, the target station upgrade is required. The radio-assay of the Tc-99m product remains the same.

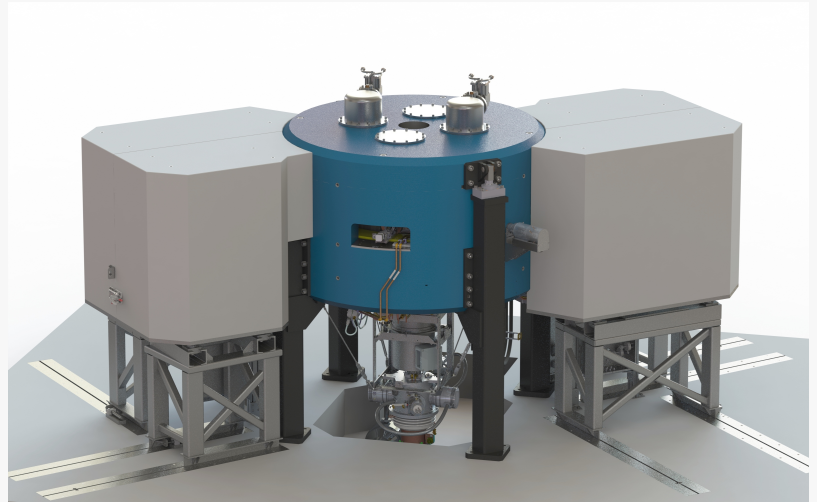
TBG companies in collaboration with the Best Cure Foundation plan to establish several Multi-specialty Cancer Centers to serve the needs of the global cancer population. These centers will incorporate many of the BEST cyclotrons discussed in this press release.

For more information about Best Cyclotron Systems plans to establish 100s of Cyclotrons/PET CT & Full Diagnostic Centers in India beginning 2023, please read:

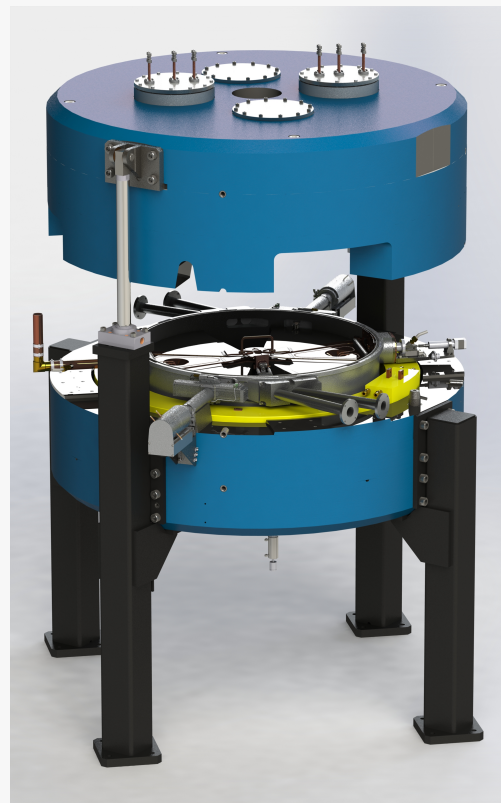
[http://www.teambest.com/press/EINPr\\_esswire-605153762-best-cyclotron-systems-plan-to-establish-100s-of-cyclotrons-pet-ct-full-diagnostic-centers-in-india-beginning-2023.pdf](http://www.teambest.com/press/EINPr_esswire-605153762-best-cyclotron-systems-plan-to-establish-100s-of-cyclotrons-pet-ct-full-diagnostic-centers-in-india-beginning-2023.pdf)

## Best<sup>™</sup> Cyclotron Systems

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Best 6–15 MeV Compact Variable Energy Cyclotron System (Closed View with Shielding)



Best 6–15 MeV Compact Variable Energy Cyclotron System (Open View)

<http://www.teambest.com/press/EINPresswire-609512914-actinium-225-lutetium-177-isotope-production-for-therapeutic-applications-w-best-cyclotrons.pdf>

For more information about [Krishnan Suthanthiran](#), please visit his bio page at [http://www.teambest.com/about\\_bio.html](http://www.teambest.com/about_bio.html).

For more information about the BCF, please visit <http://www.bestcure.md>.

For more information about Krishnan Suthanthiran's presentation on Rethinking Medicine, please visit [http://www.teambest.com/10\\_04\\_2022\\_Rethinking\\_Medicine\\_Invite\\_TX-FINAL.pdf](http://www.teambest.com/10_04_2022_Rethinking_Medicine_Invite_TX-FINAL.pdf)

#### About [TeamBest Global Companies](#):

TeamBest is a multinational medical company founded in 1977 in Springfield, Virginia, USA. TeamBest is driven by one primary goal—to provide the best products and services to customers.

The TeamBest family of companies, collectively known as Team Best Global, has been proudly developing, manufacturing, and delivering reliable medical equipment and supplies for more than 40 years. TeamBest includes over a dozen companies offering complementary products and services for brachytherapy, health physics, medical physics, radiation therapy, blood irradiation, vascular brachytherapy, imaging, medical particle acceleration, cyclotrons, and proton-to-carbon heavy ion therapy systems. TeamBest is the single source for an expansive line of life-saving medical equipment and supplies. Its trusted team is constantly expanding and innovating to provide the most reliable products and technologies.

Today, TeamBest employs hundreds of talented engineers, scientists and others, offering thousands of products and services. TeamBest's independently-owned companies are proud to be represented in North America, Europe, Latin America, Africa, the Middle East and Asia.

"Everyone deserves the Best healthcare. Our goal is to work with medical professionals to provide the Best products, technologies and services. Our mission is to uphold our reputation



Krishnan Suthanthiran, President & Founder of TeamBest Companies & Best Cure Foundation

for excellence in the healthcare field by developing, manufacturing and delivering cost-effective, high-quality products to benefit patients around the world,” states Krishnan Suthanthiran.

Krishnan Suthanthiran - President & Founder

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