



# Case Study Hyperice



**Medical Power Supply Challenges Solved and Time to Market Accelerated**  
**Hyperice, the official Recovery Technology Partner to the NBA**

## Product

Normatec Pulse 2.0 & Normatec Pulse Pro 2.0  
Professional Grade Athlete Recovery System



## The Challenge

Created by a physician bioengineer (MD, PhD) to enhance blood flow and speed recovery, the NormaTec Normatec PULSE Pulse Massage Pattern employs three key techniques—pulsing, distal release, and gradients—all to maximize your recovery. Using patented technology, the PULSE Pulse 2.0 series Series works as both a high-tech warm up, and a dynamic way to recover faster post-workout.

In 2015, we were contacted by the Hyperice team who were at the EMC lab and their existing power supply was failing. Their existing supplier was unable to solve the problem. Due to multiple converters within the product, there were several unintentional radiators of EMI noise. The power supply, being the interface to the mains, allowed one last point to attenuate the noise to meet international EMC standards. Without the ability to meet required system level EMI performance, Hyperice could not ship their product.

The medical grade power supply solution that we recommended, needed to be suitable for worldwide input voltages, (100-240V), was required to be low-cost, and meet all applicable medical safety and EMC standards.

An additional requirement was to ensure the power supply and all related packaging was consistent with the quality look and feel of the NormaTec Normatec device, meeting product and branding specifications in this aesthetic-driven market.

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For further information on our full  
product portfolio, please email us at:  
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## What We Did

Armed with a power supply, components and filters our Engineering Manager drove from our facility in Hudson Massachusetts (USA) to meet Normatec at the EMC lab. First, we tried our standard power supply however this failed EMC. Upon a deep review of the frequencies in question, we realized that the noise was indeed not coming from the power supply but coming from the Normatec unit. Additional filtering was going to be needed, but there was no room in the Normatec equipment for any further filtering.

Based on the frequencies and the attenuation needed, we changed the ferrite EMC filter on the power supply output cable, so that it would have the attenuation needed at those frequencies. We hand-built a unit while at the EMC lab in our commitment to get the job done. The test was repeated and received a solid pass with more than 6db of margin. We then re-tooled the ferrite EMC filter on the output cable which now had multiple turns on it, and we were able to solve the system level EMC issue.

## Continuing to Meet the Customer's Goals

In 2020 the market penetration for Sports Recovery Technology products has rapidly increased, bringing new challenges including intense price competition and the need for faster time to market. We continue to work in partnership with Hyperice and have adapted our model to streamline the supply chain and logistics, forging a direct relationship with the customer's manufacturing partner to achieve a significant cost reduction and accelerated time to market.

## Testimonial

*"Hyperice has been working with TT for several years. They have been reliable in both delivery of product and in delivery of technical support when needed. When we faced challenges during regulatory qualifications, TT stepped up and worked with us to meet the requirements and our deadlines. I would recommend TT to any colleague, regardless of industry."*

**Jim Wright, Director of Manufacturing and Product Development at Hyperice, Inc**

For further information on our full product portfolio, please email us at:  
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