



Advancer Omni Cardia Stasis Pump

The [Advancer Enterprises](#) *OmniCardia Stasis Pump* is a revolutionary medical cybernetic device from Advancer designed in [YE 45](#) that serves as a replacement for the natural biological hearthheart. This cybernetic heart is designed to mimic the functionality of a normal heart while offering additional life-saving features. Its primary purpose is to ensure the survival of the host in critical situations where the body is at risk of shock or imminent death. By employing advanced technologies and integrated medical nanites, this cybernetic heart provides vital support to the body, sustaining essential functions and enabling extended periods of biological stasis until the host can be recovered and resuscitated.

OmniCardia Stasis Pump	
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Product Type:	Cybernetic
Corporation:	<div></div>
Nomenclature:	
Price:	500KS (250DA)

History

The development of the OmniCardia Heart began in year YE-45, spearheaded by a team of brilliant scientists and engineers from Advancer Enterprises in the field of biomechanical and cybernetic research. The project was initiated in response to the pressing need for an innovative solution to mitigate the high mortality rates associated with severe injuries and life-threatening situations in those who could not afford or who conciously object to [Soul Transfer](#) technologies. The inspiration for this groundbreaking technology came from the desire to create a device that could bridge the critical time gap between sustaining critical injury and receiving medical assistance without the need for soul transfer technologies; Preserving the life before it was lost.

Early prototypes faced significant challenges, as the integration of complex nanotechnologies and physiological interfaces proved to be a formidable task as a body often goes into shock as organs fail and oxygen is deprived from the brain. However, after ,months of relentless research and iterative

improvements, the team successfully developed a functional cybernetic heart that could seamlessly replace the natural heart's vital functions. Clinical trials and rigorous testing followed, demonstrating the exceptional performance and life-saving capabilities of the cybernetic heart replacement.

The OmniCardia was designed for not only military-centric individuals but also civilians, businessmen, and every-day people who cannot afford or have no access to ST technology but still persist in high-threat locations or occupations such as in the [Democratic Imperium of Nepleslia](#).

An Omni Cardia Stasis Pump was used by the medical staff of the [YSS Resurgence](#) in [YE 46.1^{1\)}](#).

Overview

The OmniCardia is an advanced artificial cybernetic heart designed to replace the function of the natural heart in cases of severe injury or organ failure. While its performance may seem unremarkable at first glance, the cybernetics' true purpose lies in its life-saving capabilities during critical situations. It employs a combination of medical nanites, clotting agents, and controlled metabolism to keep the body in a state of stasis, preserving vital functions and preventing organ failure until medical assistance can be provided.

Appearance

The Omni Cardia does not resemble a heart normally but is instead a jar-like cybernetic with four of the major heart vessels represented by four pump-nodes that graft onto the major arteries and pump and filter blood like normal through them. The top of the contained is a classic pump that when pistoning at a normal heart rate replicated the feeling and ultrasound detectable pattern of a beating and pumping heart.

Function and Design

The OmniCardia operates on the principle of maintaining critical life-support functions while preventing further damage to the body when critical and near-fatal damage is sustained. It is composed of a biocompatible casing housing a sophisticated network of Advancers [Delivery Nanites](#), microfluidic channels, and sensors. The heart is surgically implanted in the chest cavity, replacing the original heart and taking over its functions, connected to the major blood vessels and neural pathways of the host.

The nanites within the heart are programmed to activate in response to specific triggers, such as severe trauma or a critical drop in vital signs. When triggered, the heart initiates a series of actions to stabilize the body. First, it releases delivery nanites into the bloodstream carrying quick-clotting agents to wounds to slow or stop blood loss. Then secondary nanites quickly spread throughout the body creating temporary blood-veins, delivering oxygen to the organs and the brain. The nanites also act as clotting agents, sealing wounds and stopping bleeding to prevent further blood loss.

Simultaneously, the heart regulates the body's metabolism, slowing it down to reduce energy consumption and prolong the available resources. This controlled metabolic state, combined with the continuous supply of oxygen and clotting agents and specialty drugs, puts the body into a form of biological stasis, preserving vital functions while minimizing damage and preventing organ failure.

One remarkable feature of the heart is its ability to temporarily suspend the need for breathing. When activated, the heart optimizes the distribution of oxygen to prioritize the brain and major organs, significantly reducing the body's demand for external respiration. This feature allows the host to remain in stasis for up to 72 hours, buying precious time for medical rescue and resuscitation efforts.

The OmniCardia operates based on several scientific mechanisms that enable its life-saving functions. The release of medical nanites ensures a continuous supply of oxygen to the organs and brain, maintaining their viability. These nanites are equipped with specialized receptors that detect low oxygen levels and direct the nanites to areas of greatest need.

In addition, the heart's microfluidic channels are designed to deliver clotting agents directly to wounds and bleeding sites. These agents promote rapid clot formation, preventing excessive blood loss and stabilizing the injured area.

The heart's control over metabolism is achieved through a combination of hormonal regulation and neural signaling. The CyberHeart modulates the production and release of specific hormones to slow down metabolic processes throughout the body, conserving energy and resources. Neural signals from the CyberHeart also communicate with the brain and major organs to coordinate their functions during the stasis period.

The OmniCardia is powered by the natural processes of the body itself but when activating proper is self-powered by a 72-hour charge built in power bank.

Notes

The OmniCardia does not repair damage when active or inactive. For 99% of its use is a simple operation of the functions of a natural and healthy heart. The heart does not also revive or resuscitate the host but instead puts them into a form of coma and stasis when they would otherwise be dead until the host can be rescued or resuscitated. If the head is damaged beyond braindeath the heart will continue to function, attempting to keep the organs alive and body preserved enough to prevent decay so if rescued all possible means of repair may be taken.

OOO Notes

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Products & Items Database	
Product Categories	cybernetics
Product Name	omni cardia stasis pump

Products & Items Database	
Manufacturer	Advancer Enterprises
Year Released	YE 45
Price (KS)	500.00 KS

1)

<https://stararmy.com/roleplay-forum/threads/resurgence-of-yamatai-mission-11-fog-of-war.71440/page-2#post-443947>

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