

RHI Type 43 "Megumi" Environmental Skinsuit

The RHI-G1 Type 43 "Megumi" (恵 "grace", derived from a Lianjia concept on Divine Grace) Environmental skinsuit was developed by [Ryu Heavy Industries](#) beginning in [YE 42](#). It was released for sale in [YE 43](#)



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About the RHI-G1 Megumi Environmental Skinsuit

RHI-G1 Megumi Enviromental Skinsuit	
YE Production Began	YE 43
Designers	Ryu Heavy Industries
Manufacturer	Ryu Heavy Industries
Nomenclature	RHI-G1-1A
Used By	Ryu Keiretsu , Independent
Damage Rating	Tier 2
Availability	Mass Production
Price	750 KS

Key Features

The RHI-G1 Megumi Environmental Skinsuit is designed to act like an environmental/pressure suit. It has the following features:

- A tough ([Tier 2](#)) exterior thanks to the use of polymers and [Kinugoshi-ko](#) (Kin-k).
- Serves as a platform for other attachable equipment, granting versatility in abilities to users.
- Acts as a interface layer for controlling exoskeletons, powered armor, and supported vehicles and spacecraft.
- Functions underwater and in the vacuum of space as an environmental suit with a properly rated helmet and rebreather.

History

Before the Megumi was created, flight crews of [Ryu Keiretsu](#) (RyuK) relied on existing commerical environmental suits such as the [EM-G1 Emrys Dusk Suit](#). This solution worked at first, but emerging interests in the Keiretsu started to express their desire for more specialized versions.

Flight crews and pilots seeked to better integrate with the craft they operated, and [Mizumitsu Samurai](#) desired an armored suit and powered armor of their own, while miners of [Takeda Minerals and Mining](#) sought both in order to be better protected in their dangerous work. Instead of designing and manufacturing multiple suits for each specialization, it was decided to create one suit that would serve as a base platform for more specialized equipment. Thus, the Megumi was born.

Designed primarily for [RyuK](#) use, the Megumi Skinsuit started to be issued to [Mizumitsu Samurai](#) and ship crews in the third month of [YE 43](#). Batches of the Megumi are also being made for new hires of miners slated to work in the [Tange System](#). It is planned for commercial sale later in the year.

Design

The Megumi Skinsuit was designed to be sleek, modular, and conducive to mobility.

Appearance

The Megumi Skinsuit has an appearance similar to a form-fitting [dry suit](#) that comes in a variety of colors. For those issued to the Ryu K, they are have a base black and grey coloring, with red accents. In additional, the skinsuits have protected connection points that allow the skinsuit to integrate accessories and larger armored undersuits for [Ryu Heavy Industries'](#) power armor.

A helmet does not come with the Megumi, giving an individual greater choice in customizing their look. With [Omnihue](#) in the outer layer, any manner of coloration for livery, camouflage, insignia, signature reduction, and more may be changed on the fly by the onboard computer if the programming is available.

Donning/Doffing

While not active, the Megumi skinsuit looks like a somewhat baggy jumpsuit that also covers the feet and hands.


An individual first steps into the legs of the suit. After the legs are in place, the rest of the suit is brought over the head. Then, your arms go into the sleeves. Lastly, the two zippers that fasten the suit are carefully fastened from the left to the right, starting with the inner zipper. The outer zipper then fastens from right to left. All can be done by the individual with little help.

Once the zippers are secured, the pressure layer is activated by mental command or the skinsuit's computer to create the form-fitting shape. Another command returns the suit to its loose fit in order to take it off.

Available Sizes

The suits are made in a variety of sizes to cover most body types. Megumi skinsuits can be customized to fit rarer body types and non-humans as well. Regardless of their size, the suit adds a few cm to a person's height from the integrated socks.

Skin Materials

 **Kevlar** based [dataweave](#) between two layers of [Kin-k](#) makes up the middle layer of the Megumi. This layer of has sensors, connections for different types of neural interfaces (in various locations of the back), and a temperature regulation computer.

From the groin to the intergluteal cleft of this layer, an absorbent gel pad with a pocket to the front for liquid can be found. It is designed for one purpose and one purpose only: to clean its user's natural processes with the use of nanomachines. When waste is detected by the nanomachines, they purify urine into drinkable water and process solid waste into harmless gases that can be vented out.

The nanomachines also have the added benefit of keeping the user's "region" clean of sweat and dead skin as the skinsuit is designed to be worn without undergarments. Similar cleaning nanomachines can be found through out the inside of the inner layer. However, they are not a viable long-term substitute for proper cleaning.

Above the inner layer, a thin layer of hybrid polymer nano-composite (artificial muscle) conforms to the body and maintains constant pressure. The layer also helps with temperature regulation and ensures the suit is both water/airtight. If it was thicker, it could also enhance the strength of its user. But [RyuK](#) decided to focus on keeping the Megumi thin for use with other clothing/equipment.

Everything is then protected with a final layer of [Kin-k](#) coated with a hybrid polymer that has limited self-repair abilities against radiation and micro fractures. This layer is impregnated with an [Omnihue](#) matrix, allowing the user, through the computer, to change the coloration and pattern if they have access to the proper programming.

Power Systems

The majority of the suit's power needs are provided by bioelectric generators that convert the wearer's body heat and movement into electricity. The excess electricity is used to recharge a replaceable battery located in the lower back reinforcement of the Megumi. The battery, used for more power-intensive applications, is usually a [BR-28 Series Battery Magazine](#) due to its ubiquity. But the battery contacts and internal compartment can be replaced to accept a wide variety of batteries common on the market.

Other compatible power options:

- [Galactic Horizon Micro Core](#)
- [Interchangeable High-Volume Capacitor](#)
- [BR-E2a](#)

Environmental Systems and Life Support

The suit's environmental systems depend largely on the helmet mated to the Megumi. With most helmets out on the market, such as the [Star Army Helmet, Type 30](#), the wearer has filtered air and a rebreather that can last for 48 hours. Recycled water from nanomachine purification is located in the back of the suit and is pumped to an attached helmet or induction port (straw) if the helmet has it.

However, along the top of the battery compartment, secondary filters are located to allow a backup to breathing the local atmosphere safely. Powered pumps and gates are needed to make sure enough air flow is maintained and to ensure the seal between the suit and helmet is airtight when needed.

The hybrid polymer coating of the Megumi provides protection from common types of radiation and integrated gloves and socks ensure the system is airtight. The internal pressure layer provides high-G protection and works to keep the internal temperature at a comfortable level.

Sensors and Computer System

Thanks to the [Dataweave](#) serving as a circuit board, the suit's main computer is located in the lower back of the suit. The main computer is powerful enough to make use of a dumb AI to monitor the suit's basic internal and external sensors to ensure proper operation. The internal sensors monitor the vital signs of the wearer and internal temperature while the external sensors monitor the outside environment for hazards, temperatures, and g-forces.

Data is accessible to the user via the user's digital mind (wired/wireless), wirelessly to a compatible wearable display (such as glasses), and to the user's Helmet HUD. The suit has connection points on the shoulders and chest for additional electronics such as communication systems, with additional connection points located around the skinsuit to connect to an outer suit and compatible attachments.

The suit's computer systems can be boosted if an external AI such as an [Savtech JANE](#) is connected to the suit with an external peripheral device, such as a slot in a helmet. A revision in [YE 44](#) (1A1) saw

connection points for a head harness based [Lazarus MICAS portable headset](#). This allows users without direct neural interfaces to make use of the suit directly.

Usage

The RHI-G1 Megumi Environmental Skinsuit is designed to function as an emergency environmental suit and light EVA suit for starship crews. Typically worn underneath a uniform, it can also be worn on its own. The Megumi skinsuit is designed to be machine washable, though the outer coating needs to be re-applied yearly (or quarterly if frequently washed). Nanomachines also have to be replaced quarterly by applying new gel to the inside.

Replacement Parts

The following section details replacement parts and their prices.

- Bottle of Outer Coating Polymer: 100 KS
- Bottle of Nanomachines in a medium of Gel: 50 KS
- Replacement Suit CPU Module: 100 KS
- Replacement filter: 10 KS
- Battery Adapters (each): 10KS
 - [GH Micro Core](#)
 - [IHVC](#)
 - [BR-E2a](#)

In Roleplay Mentions of the Megumi Environmental Skinsuit

Here are some mentions about this vessel in roleplay:

- The Megumi Environmental Skinsuit is certified as part of a kit in the [Exams for Justice](#) Open RP.

OOC Notes

[Demibear](#) created this article²⁾ on 2021/02/08 22:50. Article makes use of the [Clothing Item Template](#).

Products & Items Database	
Product Categories	clothing
Product Name	Megumi Environmental Skinsuit
Nomenclature	RHI-G1
Manufacturer	Ryu Heavy Industries
Year Released	YE 43

Products & Items Database	
Price (KS)	750.00 KS
Mass (kg)	3 kg

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Artwork commissioned from <https://artistsnclients.com/people/NesuRin>

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Approval

Thread:<https://stararmy.com/roleplay-forum/threads/rhi-type-43-megumi-enviromental-skinsuit.68141/>

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