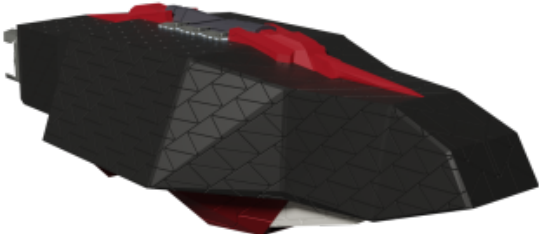
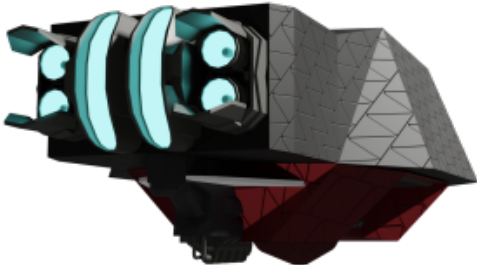

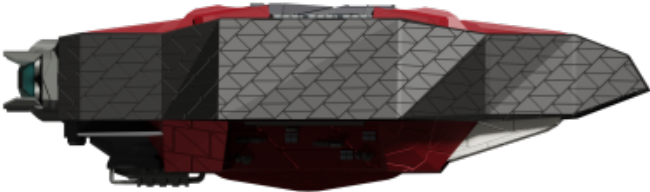


Mizumoto-class Frontier Development Vessel

A cruiser sized starship, the Mizumoto Class Frontier Development Vessel is designed to stimulate frontier world with minimal effort. It is the first in the a line of ships geared towards developing frontiers instead of just colonizing. It become publicly available in early YE 46. Mizumoto (水本) is the ancestral name of the Mizumitsu Clan.

Mizumoto Class Frontier Development Vessel	
	
Fore	Aft
	
Plan	Elevation

History

Since its inception, [Ryu Keiretsu's Takeda Minerals and Mining](#) relied on single ship miners such as the [Ge-Y1-4a - "Henkei" Prospector](#) and its cargo variant ([Ge-Y1-2a - "Henkei" Cargo Runner](#)) to conduct asteroid mining. Not possessing a means to process the ore gathered, they had ferry it to refineries. As many were in systems far from the mining operation, there is a lag between supply and demand that becomes more notable the larger the manufacturing activity becomes.

As ships were spending more time traveling than actually mining, TTM worked with [Ryu Heavy Industries](#) to develop a cheaper mobile refinery. While the [Dragon-class Mobile Refinery](#) was on the market, the two corporations looked to the much older [Plantation-class Mobile Refinery](#) as a source of inspiration that would become the Mizumoto-Class Frontier Development Vessel.

Description

The Mizumoto-class Frontier Development Vessel is a cutting-edge, cruiser-sized starship that stands out in its field due to its multi-purpose design and focus on frontier development rather than mere colonization. This vessel's design is characterized by its semi-blocky appearance and multifaceted geometry, featuring a distinctive cutout at the front, known as the “mouth” of the ship, which serves as a storage area for removable cargo and barges. The texture of the Mizumoto resembles that of the Yūzuki (夕月, “Evening Moon”) from Yugumo Corporation, indicating a significant influence in its design ethos.

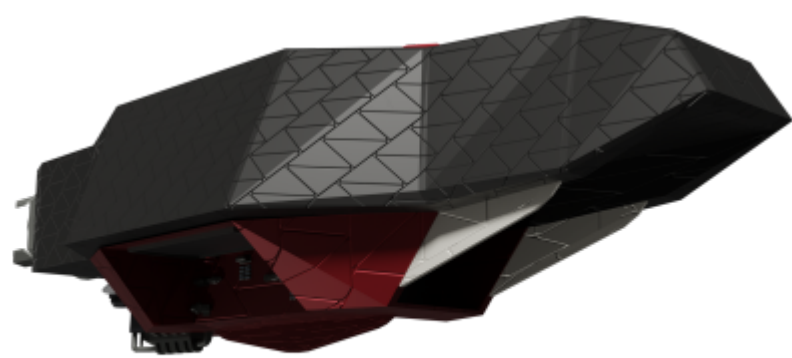
What makes the Mizumoto special is its comprehensive approach to supporting frontier worlds. It is not just a transportation or mining vessel; it's a mobile hub for a variety of critical space-faring operations. Equipped with advanced manufacturing facilities, agricultural bays, cloning facilities, and a robust medical center, the Mizumoto is essentially a self-contained ecosystem capable of supporting long-term missions in deep space. This makes it ideal for stimulating the development of new colonies, providing essential services and infrastructure in environments where traditional support might be unfeasible.

Mission Specialization

The Mizumoto-class is specifically designed for a variety of specialized missions, all geared towards supporting and developing frontier worlds. Its versatility makes it an invaluable asset in various scenarios:

- **Mobile Refinery and Manufacturing Hub:** With its onboard fabrication bays and machine shops, the Mizumoto can process raw materials and produce necessary parts and equipment on the go. This makes it invaluable for mining operations, where it can process ore directly, and for supporting distant colonies or fleets with manufacturing capabilities.
- **Agricultural and Cloning Center:** The ship's agricultural bays and cloning facilities make it ideal for supporting food production and ecological sustainability in new colonies. It can jump-start a colony's agriculture by providing fresh food and cloned flora and fauna, critical for establishing a self-sustaining ecosystem.
- **Long-term Deep Space Operations:** The Mizumoto's self-sufficient design, including advanced life support systems, medical facilities, and substantial crew accommodations, makes it well-suited for extended deep space missions. It can serve as a mobile base of operations for exploration, scientific research, or even as a command center in critical frontier regions.
- **Logistical and Support Vessel:** With its large cargo capacity and ability to carry a range of small craft, the Mizumoto can act as a logistical hub, transporting supplies, personnel, and equipment to remote locations. Its docking capabilities and resource collection arrays make it an excellent choice for resupply missions and as a central point for coordinating large-scale operations.
- **Emergency Response and Relief Operations:** In situations like natural disasters or other emergencies, the Mizumoto's robust design, including medical facilities and large carrying capacity, enables it to provide critical support. It can operate as a mobile hospital, evacuation center, and supply distribution hub, all crucial in emergency scenarios.

Appearance



The Mizumoto has a semi-blocky appearance with multifaceted geometry. A cutout in the front of the ship, dubbed the mouth of the ship, is the storge location of removable cargo such as barges docked to the ship. The lower part of the “mouth” leads to a large docking bay.

The texture of the Mizumoto is very similar to [Yugumo Corporation's](#) Yūzuki (夕月, “Evening Moon”) seen on the [Tanya-Class Expeditionary Heavy Cruiser](#). It is the latest evidence of the Yugumo's influence on the Ryu Keiretsu.

Statistics and Performance

General notes about ship stats and performance

General Statistics for the Mizumoto Class Frontier Development Vessel	
Year Introduced	YE 43
Class/Nomenclature	RHI-L2
Alternative Nomenclature	TMM-L2
Designers	Ryu Heavy Industries, Takeda Minerals and Mining
Manufacturer	Ryu Heavy Industries
Fielded By	Takeda Minerals and Mining
Range	Unlimited with Aether Fuel Generator, 3 months otherwise
Maintenance Cycle	Refits every 5 years is recommended
Lifespan	30 years with regular maintenance and refits
Pricing	2,500,000 KS

Passengers

Crew: 2,250 crew members and 250 officers. A tenth of each (225 crew members and 25 officers) can operate the ship as a skeleton crew due to automation.

Maximum Capacity: In addition to the 2,500 crew members, there are additional accommodations for an additional 2,000 individuals. These can be either embarked personnel or passengers/families of crew members.

About 8,000 people can fit aboard in an emergency, but the ship would be extremely uncomfortable.

Dimensions

- Length: 625 meters
- Width: 247 meters
- Height: 151 meters
- Decks: 31 (4 meters each per standard deck, with 1 meter of mechanical space between)

Propulsion and Range

- Continuum Distortion Drive: 3,000c
- Hyperspace Fold Drive: 394,470c (0.75 ly/m)
 - Max Range Between Charges: 20 ly
 - Charge Cycle:
 - 10 LY or less - 2 minutes
 - More than 10 LY up to 20 LY - 5 minutes
 - 7 minute cool down between folds
- Sublight Engines: .25c

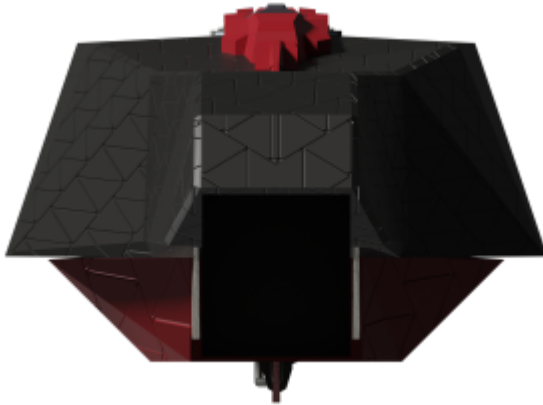
Damage Capacity

See [Damage Rating \(Version 3\)](#) for a guide to damage ratings to include.

DRv3 Tier: Heavy Starship (12)

Inside the Ship

	Bow	Amidship	Stern	Notes
Decks 1-5	Agricultural (1 and 2), Residential (3-5)	Resource Processing	Engineering	x
Decks 6-10	Cloning, Command, and Support (6 and 7), Residential (7-10)	Cargo	Engineering	x
Decks 11-15	Agricultural (11 and 12)	Fabrication Deck	Engineering	Engineering
Decks 16-20	x	Fabrication Deck	x	Engineering
Decks 21-15	x	Main Docking Bay, Cargo Holds	x	x
Decks 26-30	x	Hangers, Cargo Holds	x	x
Deck 31	x	Drone Bay	X	x



Crew Compartments

The compartments below are designed for the ensuring crew comfort on the Mizumoto Class. The [Ryu Keiretsu](#) uses standardized compartments for their designs as much as possible.

All rooms have at least 45cm of bulkhead in place for walls and the most critical can be sealed by [Nerimium](#) Blast Shutters. Damage control stations can be located no more than 2 meters away from every door in a corridor and sound powered phones are located in every room. Key compartments are wired directly to the bridge, while other rooms are wired to the security room and MedBays (flipping a switch).

CO and XO Suites

Located on Deck 6 and 7 with the main bridge, the suites for the ship's captain and executive officer are spacious (7m x 5m x 3m) dwellings.

Officer Cabins

Measuring at 5 meter long x 5 meter wide x 3 meter high, the crew cabins are designed to house 2 officers. Along the side of left and right walls, a 2.5 meter long and 1.5 meter wide bed is located with overhead storage compartments. The rear wall has an entertainment suite and seating. In addition, each occupant is provided with a 2 meter x 2 meter private toilet/shower unit located in front of their beds.

Crew/Troop Cabins

The same size as Officer Cabins, the Crew and Troop Cabins are designed to house both the crew and embarked personnel of the ship. They lack major entertainment systems besides small personal volumetric displays in each of the 5 bunks present in the cabin.

2 man bunks are built into the thick walls to the left and right sides. A fifth single bunk is located on the rear wall, berthing the a senior rated crew member (usually the team leader). If a crew member wants privacy, they simply close the blinds and engage noise cancelling to make sure their cabin mates can't hear what they are doing. The bunks are also high enough for two individuals and very sturdy to not shake to disturb others.

Each far corner of the cabin contains the storage dedicated to house the personal effects (namely clothing). In the near corners to the cabin's entrance, two 2m x 2m wet bathrooms are located for the crew's hygienic needs. The shower unit and toilet occupy the same space.

Crew Support Facilities

A combination of laundry, ship stores, and communal baths. The “front” of the Crew Support Facility (CSF) consist of a store where cleaning supplies and other items the crew would like to have for morale can be found.

To the opposite is a laundry facility for those wishing not to bathe or those that had changed clothing after bathing.

A door leading to the changing room can be see in the hallway created by the first two sub-rooms. Beyond the changing room are two small pools used for communal or gender separated (with an addition of a wall) bathing.

Wardroom (2)

Located the residential locations of the Mizumoto, two massive wardrooms are used as the dining halls for the Mizumoto. A convenience store is also part of the wardroom and is a place where luxury (snacks) and on-demand (much more expensive) food can be ordered when the gallery is not open for meals.

Gallery (4)

Located attached to a wardroom in pairs, the Galley has a built-in Scullery. They are regularly stocked with spices and other such options to cater to a wider palette, including any VIPs being transported. It also includes a multi-layer hydroponics system used to grow spinach, tomatoes, basil, and other herbs. In addition to the ship's agricultural decks, it helps the ship maintain a supply of quality ingredients when away from ports.

Each gallery can be leased to a restaurant franchise, offering a wide variety of cuisine to those on the Mizumoto.

Multipurpose Room (2)

The multipurpose room is a volumetric room that can be configured to generate a wide assortment of environment for crew morale. It is often used a dojo and gym to maintain the fitness of the crew and passengers. It is also used as auditorium for movie nights.

There are two located on each residential deck.

Android Storage

Essentially the [Yugumo Standard Anthroform Drone Berth](#) with an adapter for RyuK style bulkheads. The RyuK modifications include support for additional android models, both those currently on the market and in development:

- [Yorna](#)
- [Ze-J2 "Steve" Combat Robot](#)
- Iris Series Android (in development)

Non-crew Compartments

The compartments below are designed for the operation of the [Mizumoto-class Frontier Development Vessel](#). The [Ryu Keiretsu](#) tried to used standardized compartments for their designs as much as possible. They share the same safety features as crew-oriented compartments.

Bridge

A large command center within the heart of the Mizumoto, the bridge of the vessel is more of an administration center in nature. Supplementary bridges are located in a number of places (main docking bay, shipyards) that act as coordination centers for those regions. All feed data and communications directly to the main bridge.

Security Room

Located throughout the Mizumoto's amidship, Security Rooms serve as screening rooms into restricted portions of the Mizumoto. Two heavily armored sections house the security staff. Each have a mini armory and arrays of volumetric displays. A gauntlet is located between the two, which has gunports to attack hostile forces or subdue really unruly individuals if knockout gas doesn't work.

Brig (2)

Located in the less desirable part of the ship (the organic processing sections), the brigs are intended to house captured criminals and crew members under punishment. There is only one way in and out of the brig, with a security watch point to the side of it. The bulkheads around and within the brig are 1.5 meters thick of [Nerimium](#).

Each cell has a bunkbed with a sliding hatch for food trays to be slid into. A very sturdy toilet (a squatting toilet in the armored floor) and basic shower unit (built into the armored ceiling) are also found.

Armory (5)

The armories on the Mizumoto are heavily armored and static-free locations to store ammunition and weapons for the ship's crew. In emergencies, they can be used as panic shelters due to having their own independent life support systems for those with the proper clearances. A number also serve as storage facilities for power armor.

Medical Laboratory (1)

Located within the forward section of the Mizumoto, the medical center (and its satellite medic bays) serve as the main medical treatment and research facilities on the Mizumoto. It is three times the size of a [Sakura-type Medical Laboratory](#).

It is divided between the main treatment room (largest section), containment lab, organics lab, and an additional room that can be configured based on the needs of the ship.

The main treatment room contains 12 treatment beds as well as the equipment to perform operations and a "nurse's station" in the left corner. To the opposite to the station is the configurable room for the medical lab. For safety, the rooms are protected from the laboratory section by a [Osmiridium](#) bulkhead.

The Organics Lab is used to generate the proteins needed to generate organic material. Milk proteins are generated from vats of genetically engineered microorganisms, while proteins for meat are generated in synthesis chambers. The proteins are 3D printed or fermented within dedicated fabrication chambers within the ship's galleries.

The Containment Lab is environmentally independent from the ship and has a separate airlocked entrance from the ship. Provided deadly work is not being conducted within it, it can serve as an emergency shelter.

Medical services are provided by Biixi Clinic personnel. Though this can change on non-RyuK owned Mizumoto Class vessels.

MedBay (6)

Secondary medical facilities on the Mizumoto. They function as urgent care centers to keep the main

hospital from being overburdened. They are built in a similar fashion to the medical laboratory found on [Nuwa Class Multipurpose Frigate](#).

Each are about the size of a [Sakura-type Medical Laboratory](#).

Agricultural Bay

Located on decks 1 to 3, the 154×45 meters agricultural bay is part aeroponics bays and part animal protein fabrication bays. The Aeroponics Section (decks 1 and 2) are used to provide fresh food for the crew when on long-term missions and to jump-start supported colonies.

Kept in a superhabitable condition (higher oxygen level, type of lighting, and temperature), the section is dominated by stacks of crops (every 1.5 meters). Harvesting is typically done via automation, but crew members with reducing respirators are needed for the more delicate crops. The Aeroponics Section is viewable from the residential deck it shares.

Below the aeroponics (deck 3) are a number of facilities such as the water treatment plants used to purify waste water. Waste water from aeroponics and the rest of the ship is processed into clean water and “grey” water. Clean water is sent back to the ship, while grey water is utilized by aeroponics. Leftover biological waste is purified and used to create the nutrient solution needed to grow crops.

“Animal Protein Synthesis Labs” are also found on Deck 3. These are larger versions of the organics labs found within the ship's medbays, mass producing many types of protein used to 3D print meats and create dairy. They are usually attached to logistics warehouses that contain packaging equipment for the plants and proteins harvested.

The bay is normally a restricted area.

Cloning Bay (2)

Located on Decks 6 and 7 of the Mizumoto, the Cloning Bay is used to populate new colonies, generate workforces, and support terraforming efforts with flora and fauna. Anything from a batch of seeds to a complete artificial sapient (mainly humans) can be grown within the bay due to the presence of a heavily fortified gene vault that contains complete genomes.

The Cloning Bay utilizes a double deck design. The cloning vats are situated on the upper deck. Measuring at 100×45 meters allows the installation 100 42.25 square meter [Genesis Bioforge](#) vats or 70 63 square meter large “Old McDonnell” livestock vats.

The lower deck contains the monitoring center, medbay dedicated to the Cloning Bay for emergencies/check-up of newly born individuals, and a dressing room complete with clothing printers.

The Cloning Bay also contains a separate mainframe computer, located on both decks. As individuals can be converted into infomorphs and back, Ryu Heavy Industries designed it to not only house the infomorphs (both old and newly created) of individuals, but also to provide a “living space” to keep the mind occupied until it is time to return to the physical world.

The Cloning Bay is designed to grow [Lily Type Artificial Nepleslian](#) sapient beings, taking 35 days grow. This makes them not the ideal solution to reanimating those with mental backups and need to quickly return.

Fabrication Bays (3)

Located within the amidship of the Mizumoto, the 125x80x16 meters Fabrication Bays provide the bulk of the ship's manufacturing capability. Not only can they be used to build parts needed for ship production and repairs (allowing the Mizumoto to be self-sufficient and self-retrofit-able). All have direct access to the multipurpose bay, allowing large parts and sections to be removed (via an airlocked section) and towed out.

- Zero-G Nanite Chambers: create both materials and parts (both highly detailed and simple). The nanite bays are kept in a state of zero-gravity when creating.
- Multistruct Printing Chambers: Creates the finished product with material and components generated from the two subsystems. Also deconstructs and sorts the plasma into storage tanks.
- Storage Tanks: Instead of storing elements as plasma, once they are acquired (refined or deconstructed products), they are turned into oxides and stored in powdered form. This is done for both safety concerns and to have a backup oxygen source.

Machine Shop (8)

Smaller version of the Fab Bays, dedicated to manufacturing smaller parts needed for ship maintenance and ship production. They are found next to the 2 multipurpose docking bays.

They are always a dual deck design with an elevator in the rear starboard corner connecting the decks. The top deck is used in the fabrication of material, consisting of two Nuwa Class dual deck Fabrication Chambers and numerous storage tanks storing the oxides needed to gather needed elements.

The deck below is dedicated to production consisting of production modules (cutting, shaping, drilling, finishing, and other processes) connected to the fabrication chambers to create more specialized parts and equipment.

If the machine shop is supporting a docking bay, the lower deck is also connected to the internal grav conveyor network.

Resource Collection Array (2)

The Resource Collection Arrays are docking areas located in the dorsal region of the Mizumoto. Utilizing a RyuK designed docking interface, the arrays directly receive elemental plasma or convert ore into plasma. It is then sorted and turned into oxides in 125x80x20 meters refinery facilities below. Resources are delivered to the fabrication bays further below in either plasma or oxide form.

Engineering Room

Consisting of a number of rooms through out the ship, they are used to monitor and control the various systems of the Mizumoto. The largest of them are located in the rear section of the Mizumoto where the ship's main power and propulsion systems are located.

Cargo Holds (5)

Located within the amidship section of the ship, Cargo Holds are used to hold manufactured and transferred goods. Measuring at 171x80x10 meters, each cargo hold follows [Yugumo Standard Cargo Bay](#) standards in their construction. The holds are directly connected to the ship's main shuttle bays via elevators and passageways to allow an efficient logistics chain between the Mizumoto and supported locations. Goods are typically housed in [Standard Starship Cargo Containers](#).

Storage Compartments (numerous)

Distributed all over the ship, the Mizumoto's storage compartments are multipurpose in nature. Anything that is not in bulk and ready to be used are located within them. Most storage compartments are the same size as crew cabins, at 5 by 5 meters in length and width.

Shuttle Bay (4)

Accessible from the entrance of the multipurpose bays, the two 60 x 30 x 20 meters shuttle bays (4 in total) are found opposite to the lower starship docking clamps. Atmospheric retention fields allow for a standard atmosphere to be maintained.

2 machine shops are attached to each shuttle bay, to allow easy access to replacement parts and maintenance of embarked craft. The machine shops can also be used to build new craft.

Multipurpose Ship Bay (2)

Located within the side "wings" of the Mizumoto Class, a 110 x 46 x 100 meters multipurpose bay offer additional parking space for small starships up to the length of 98 meters secured with UNIV-A clamps. There are 9 clamps are located opposite of the ship's shuttle bays. 6 are adjustable, while the lower 3 clamps are stationary to accommodate the [Red Mountain Class Multipurpose Corvette](#).

A forcefield protects the entrance to the multipurpose ship bay, giving off a whitish grey color.

Airlocks (3)

Located in the nose and rear sides of the Mizumoto, they are used to connect directly to ships and

stations. The forward airlock is used primarily for stations, while the rear are used for starships (typically for resupplying purposes).

Do their vulnerable nature, all are protected by a security station and have a power armor/armory nearby.


Drone Bays (2)


Located at the bottom of the Mizumoto, drone bays are used to store a wide variety of support and defensive drones. Measuring at 50x50x10 meters, each one has the space to carry 250 [Variable Configuration Mission Adaptive Drone - Space](#) sized drones in launch ready positions. A space is located in between used to retrieve drones. For maintenance purposes, drones are serviced within the hanger below the main docking bay.

Ship Systems

Below are the various systems and structures that allow the Mizumoto to function.

Hull and Frame Construct

The Mizumoto Class utilizes [Osmiridium](#),[ADNR \(Aggregated Diamond Nanorods\)](#), and  [titanium](#). What little windows and view ports there are utilize [Transparent Durandium](#), which have [Nerimium](#) blast shields during combat. All corridors and rooms are lined with [Xirang Gel](#).



Mizumoto-class Hull and Frame Assembly	
Primary SpaceFrame	ADNR (Aggregated Diamond Nanorods) reinforced Osmiridium Major Truss
Secondary SpaceFrame	Osmiridium Secondary Truss and Rod Assembly
Outer Plates	Osmiridium /Titanium Nanocomposite Laminate Plating
Lining	Xirang Gel

Computers, Electronics, and Sensors

The Mizumoto Class makes uses of a [Gate variant Kaimon](#) AI using the [RaiNE OS](#) as the digital construct. It's large mainframe is located in the forward section of the ship, with supplementary cores spread around the ship giving it distributed computing power.

Learning from experience using the [NH-H1 Hibiscus-Class Mobile Space Station](#), in addition to the main AI these ships also have numerous virtual intelligence (VI) making use of Kaimon Aperture hardware. Restricted RaiNE constructs or JANE AIs can be used with this hardware. The advantage of the JANE being

used is that should the main AI become destroyed, one of the VIs can be promoted.

Emergency Systems

The Mizumoto makes use of the following systems:

- Automatic Fire Suppression Systems
- Gel-like Hull Sealant
- [Nerimium](#)-based [Forcefield-Nested Isolation Doors](#) to maintain internal pressure and repel hostile forces. For less important locations, [Osmiridium](#) is used to cut down weight.
- To confuse hostile forces and drive them to security, a number of doors and sections of corridor are designed to become hidden behind coated [Osmiridium](#) sliding false walls.
- Containment Force Fields (and simple rubber seals)
- Emergency Atmosphere Stations (respirator masks and [RHI Type 43 "Megumi" Environmental Skinsuit](#))
- Emergency Shelters

There are enough [Ikigai Escape Pods](#) to cover the max number of individuals supported by the life support system. The pods are placed into RHI Type 44 Escape Pod Adapters, 6 to an adapter. The pods can be further dispersed if it increases their occupants' chances of survival.

Life Support Systems

The Mizumoto makes use of a newly designed RHI Type 44 Life Support System. Using the [Yugumo Standard Life Support Systems](#) as a basic component, they expanded on it to create more of an ecosystem aboard the Mizumoto. Like the Type 43 Yu, the RHI Type 44 makes use of environmental nanites produced by [Advancer Enterprises](#) and programmable matter.

Atmospheric Systems

Key to any Neplesian-like environment, the Mizumoto extracts oxygen from three sources when there is a deficiency: water (electrolysis), living plants from the agricultural decks, and elemental oxides.

Some of the oxygen of the Mizumoto is generated from electrolysis. Generally water extracted from industrial usage is used for this process as separating the elements without oxygen binding to it is easier. The remainder of it is generated from oxides of less valuable or very common elements such as silicon.

The ship's atmosphere is regularly filtered with nanite enhanced scrubbers and filters. Excess CO2 is regularly extracted and deposited in elemental form where it is transported to the agricultural and industrial decks for various uses.

Nanites also extract excess water from the air generated from various sources (sapient, cooking, etc) to maintain a constant level of humidity. The extracted water is added to the ship's wastewater system to ensure it is filtered properly. Other harmful chemicals and elements are captured and broken down by

waste disposal for reuse.

Water

The objective of the Type 44's water systems is to retain as much of the initial charge of water as possible. To accomplish this goal, waste water from residential decks go through multiple nanite filtration filters that extract the most harmful chemicals before they reach the final water treatment plant on the agricultural decks and other locations around the vessel. At the water treatment plants, nanites extract excess water from the sludge of organic material that isn't needed for material's recycling process.

When there is deficient levels of water, stored hydrogen is burned in chambers containing oxygen to generate water. Water from water tankers or ice miners is also another method of adding water to the Mizumoto. All undergo filtration and/or desalination before being added to the ecosystem.

Artificial Gravity

Built into the floors of most floors of the Mizumoto, graviton generators are distributed evenly to allow artificial gravity on the ship. The generators are variable, allowing for different levels of gravity. One room for [Shukaren Daur \(Sub-Species\)](#) can be at the high gravity of their homeworld, while another species can have low gravity. When main power is disrupted, the generators enter a low power mode and draw from their own batteries to generate 0.1 Gs.

The artificial gravity system also does a good job of dampening the inertia of the ship.

Organic Recycling

Biowaste is recycled by gene-engineered microfauna and nanites that recycle nutrients for use in the agricultural bay.

Waste Disposal

Non-organic material is sorted and put into several fusion torches in the industrial section of the ship. Converted into elemental plasma, it is then sorted and reused.

Power, Propulsion, and Shield Systems

The Mizumoto (like all Ryu Keiretsu designs) has a slow P4413 CDD designed primarily for traveling to and from the edge of star systems. The real means of interstellar travel is its RHI designed P4472 Yu Hyperspace Drive.



Two large P4417 and 4 secondary P4425 Fusion Drives provide sublight propulsion for the massive ship. While certainly old fashioned compared to the [Hoshi III Series Multi-stage Turbo Plasma Drives](#), high combat speeds were not the goal for the Mizumoto. Each P4417 has 2 [compression fusion reactors](#) (1 for the P4425) that not only supply a bulk of the ship's power needs, but also the plasma needed for thrust. The plasma channeled to the exhaust manifolds where additional mass is added (hydrogen) and accelerated with gravity out of the exhaust port.

The rest of the power for the Mizumoto (such as high demand applications like fabrication) relies on a Class 4 [aether fuel generators](#) located to the rear of the amidship section of the ship. A [Navitium](#) [Superconducting Magnetic Energy Storage \(SMES\)](#) load balancing systems are located throughout the ship, storing excess energy indefinitely when in low demand situations and discharges when the power system cannot handle demand.

For shielding, portions of the [Mizu II Series Continuum Distortion Drives](#) are used to generate a civilian grade of [Combined Field System](#) that is only capable of defense. Though some models of the Mizumoto make use of more traditional Electrostatic/Gravimetric Combined Shielding.

[Plasma Projection System](#) (PPS) is used for both defensive and reaction control purposes. The system has been modified to function as a phased array. Plasma is emitted within a range, allowing more precise maneuvering due to the irregular geometry of the Mizumoto. As it is optimized for maneuvering, they do not function as weapons.

Weapons Systems

The Mizumoto Class has power distribution and space for the following weapons:

- 256 [Magathiel Mini-Missile Cell](#) (Tier 8 Maximum)
- 128 ["Tachikaze" Point Defense Cannons Type 43](#)

While not designed for direct combat, it's defense systems are meant as a deterrent from anyone that thinks the ship is defenseless. It's point defense systems is a mixture of [Magathiel Mini-Missile Cells](#), pulse particle turrets, and the Plasma Projection System.

UNIV-A Clamps

Located within the multipurpose ship bay (3×3), outer side (3) and forward side (3×2) section of the ship serving as docking ports (45 in total), the Mizumoto is capable of carrying additional ships when it enters hyperspace. A number of clamps are positioned to accomendate the length of specific ships. 3 of the clamps in the multipurpose bay are designed for the [Red Mountain Class Multipurpose Corvette](#) nose-in, the outer sides for the [Nuwa Class Multipurpose Frigate](#) positioned parallel with the ship, and the clamps on the front sides are specifically meant for the [Jinshan Class Mining Ship](#) when not active.

The RyuK UNIV-A is identical to the system used in the [Democratic Imperium of Nepleslia](#). It consists of a set of magnetic clamps, an umbilical tube, and 4 general utility pipes. When attached to another UNIV-A equipped ship, both ships can transfer power, data, personnel, small cargo, air and water simultaneously. Each comes with a small Gravitron Projector to help draw/push the connecting clamp.

All clamps are protected by an armored sliding clamshell.

Small Craft Complement

The Mizumoto is capable of carrying a wide selection of small craft. But the following are considered part of the ship's company:

- 20 [Xuanwu Class Trans-atmospheric Shuttle](#)
- 12 Tier 8 Frames
- 50 Worker Pods

OOC Notes

[Demibear](#) created this article on 2023/06/15 03:45. Artwork created by [Alex Hart](#).

Approval Thread:
<https://stararmy.com/roleplay-forum/threads/mizumoto-class-frontier-development-vessel.71429/>

Products & Items Database	
Product Categories	starships
Product Name	Mizumoto-class Frontier Development Vessel
Nomenclature	RHI-L2-1A
Manufacturer	Ryu Heavy Industries
Year Released	YE 46
Price (KS)	2,500,000.00 KS

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