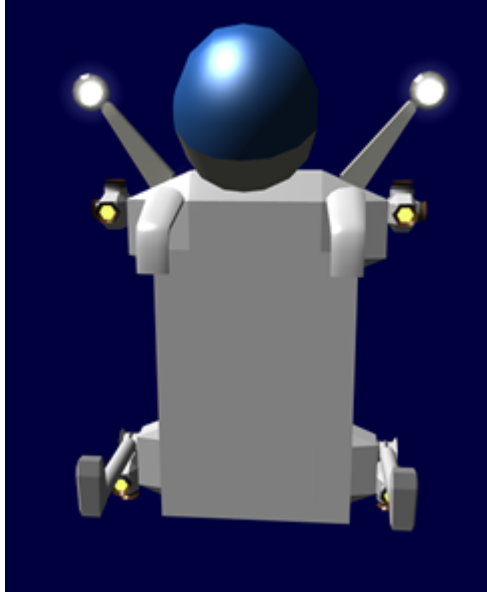


Star Army Void Propulsion Pack, Type 31

The Type 31 Void Propulsion Pack (VPP) is a thruster system for use with the [Army Multi-Species Environmental Suit \(AMES\)](#) it became available in [YE 31](#).



Note: Helmet is not part of VPP, it is displayed to give reference for wearer's head location.

About the VPP

For military applications the [AMES](#) is fine as it is, because most of the ships have power armor that can be used to retrieve a crew member who gets separated from the ship. Civilian vessels do not have that backup. So the Type 30 VPP gives personnel performing [Extra-vehicular activity \(EVA\)](#) greater range, mobility and safety. It also helps them to perform more complicated tasks and even move large pieces of equipment.

History

The [Scientific Studies Service \(SSS\)](#) approached the [Ketsurui Fleet Yards](#) regarding making [EVA](#) safer for their personnel. Having many personnel traveling on their [Tansaku-class Science Vessels](#), and more working on their [Kisaki-class Starbases](#). [SSS](#) Personnel were needed to perform more [EVA](#) activities in the form of repairs, maintenance and such. The Type 31 VPP is the result of that request.

Appearance

The VPP looks like a back pack with numerous maneuvering thruster ports.

Putting on the VPP

Donning the VPP is fairly simple. It is put on much like a backpack except that its larger. There are two adjustable shoulder braces that the restraining straps extend from. Proper adjustment has the overthrust unit aligned with the small of the back as close to the center of gravity of the wearer. It fits over the [AMES back pod](#).



Statistical data

General

Organization Using This item: [Star Army of Yamatai](#), [Scientific Studies Service \(SSS\)](#), Other Civilian organizations Type: EVA Propulsion Nomenclature: Ke-G2-1a Designers: [Ketsurui Zaibatsu](#) Research and Development teams Manufacturers: [Ketsurui Zaibatsu](#), [Star Army of Yamatai](#), [Scientific Studies Service \(SSS\)](#) Entered service: [YE 31](#) Price: 500 [KS](#)

Dimensions

Length: .5 meters (1.64 feet) Width: .7 meters (2.23 feet) Height: 1.4 meters (4.59 feet)

Propulsion and Range

VPP Maneuvering System

Maximum acceleration: .5m/sec²

Range: 7,200 seconds (120 minutes) of thrust at .5m

VPP Overthrust System

Maximum acceleration: 10 meters/sec² Emergency acceleration: 20 meters/sec² (Note: Fuel Consumption doubled)

Range: 300 seconds (5 minutes) of thrust at 10 meters/sec²

Components

Controls

The controls are on two folding arms that allow the user to manually guide the VPP. The user can also control the unit by verbal commands

Computer

The VPP uses an integrated computer that controls all aspects of the VPP. It monitors fuel consumption, and power. It operates the propulsion systems. It is interfaced through the controls or verbal commands. It is capable of interfacing into the [AMES](#) helmet system. Using the VPP's integrated sensors, the computer controls all movement using overthrust and station keeping.

Lighting Array

The lighting array of the VPP consists of two parts. The first is a pair of high intensity led lamps mounted on the top. They are mounted on rotating units to allow them to point where indicated. The user can direct the lights by verbal commands, such as "Pan right 5 degrees", "Pan up 5 degrees." The lights can move together or individually.

The other light is a strobe light mounted on the upper rear of the VPP. This serves as a safety feature allowing spotters to track the person.



Power

Nomenclature: Ke-G2-G3100 The VPP uses a capacitor system similar to those found in the Ke-M2-G2701. They are recharged when the VPP is not in use and plugged into a standard power outlet. It is capable of powering the VPP for 24 hours.

Propulsion

The VPP has two modes of propulsion. The primary is for maneuvering around, in small controlled movements. The secondary is to move the user over a greater distance.

Ke-G2-P3100 VPP Maneuvering System

This is the primary maneuvering system and consists of a series of sixteen thrusters located on the axial points of the unit. Each cluster of thrusters has four ports. This allows the VPP to execute, roll, pitch and yaw maneuvers. They are controlled by either two manual hand controls, or by the computer.

When the wearer is at their desired location, they can place the suit in station keeping mode. This means the VPP will keep the user at their current position, countering any movement caused by the wearer's moving or actions.

The fuel for this is stored in the upper portion of the VPP. It is an inert fuel for the ion thrusters.

Ke-G2-P3101 VPP Overthrust System

The main thruster in this system is located in the back of the unit. This system is controlled by the

computer. The user specifies a particular distance or a point to reach. When they engage the system, the computer engages the thruster, and controls pitch and yaw with the primary controls. The computer calculates the necessary speed and acceleration to execute the maneuver. At the appropriate point the unit will rotate the user 180 degrees and start deceleration.

Note: The VPP will not exceed the preset limits without an override code being entered.

The fuel for this is stored in the lower portion of the VPP. It is an inert fuel for the ion thruster.

Sensors

Laser range detector

Built into the bars that hold the lights are two laser range detectors. This allows the suit to calculate distance to an object. It also can calculate rate of closure.

Accuracy: +/- 10 cm Maximum Range: 5 km

Inertial Navigation System

The VPP uses a [Inertial navigation system](#), consisting of [gyroscopes](#), [accelerometers](#). This is necessary for the Overthrust system to be used safely. It is also used when the VPP is put into station keeping mode.

OOO Notes

Authored by [Nashoba](#) and approved by [Wes](#) on Jun 30, 2009 ¹⁾

¹⁾

<https://stararmy.com/roleplay-forum/index.php?threads/yamatai-type-31-void-propulsion-pack.4259/>

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