

## Maximum life of 20 years: Lead-acid battery for renewable energy storage

### Features

The FCP (FCP-S) series is a valve-regulated, stationary lead-acid battery that offers a long life and high performance, even in energy storage applications, which require frequent charging and discharging, such as renewable energy power generating facilities.

- ◆ Optimally suited for renewable energy systems
- ◆ Significantly improves cycle life performance
- ◆ Easy maintenance
- ◆ High level of safety



FCP-1000, a set of 48 units  
(48V-1000Ah)

### Overview or Principle

The FCP series of products are available as conventional FCP series and super long-life FCP-S series of products.

Conventional FCP series: Approx. 4,500 cycles (25°C, DOD 70%) Expected life: Approx. 15 years

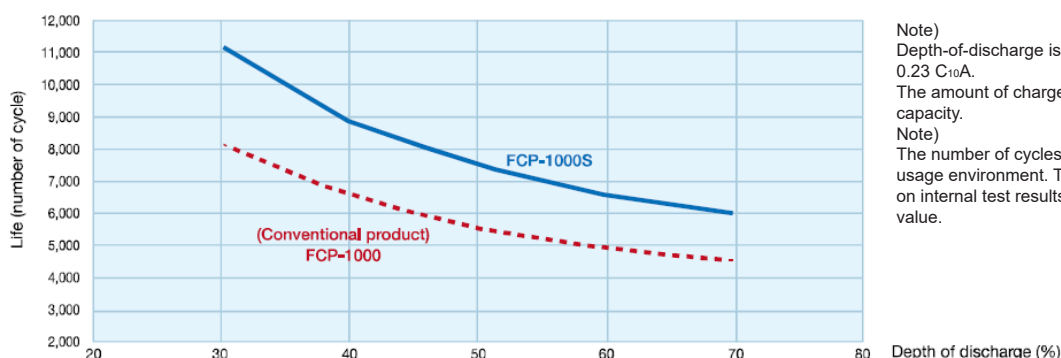
Super long-life FCP series: Approx. 6,000 cycles (25°C, DOD 70%) Expected life: Approx. 20 years

\* This is the expected value under our recommended operating conditions.

- Super-long extension of life for cycle applications
- Usable with PSOC (\*) also
- Unit structure facilitates multi-layered installations
- Superior maintainability (no electrolyte maintenance required)

\* PSOC: Partial State Of Charge - partially charged condition.

#### Relationship between depth-of-discharge and life [Ambient temperature: 25°C]



Note)  
Depth-of-discharge is ratio of discharge capacity of 0.23 C<sub>10</sub>A.  
The amount of charge is 105% of the discharge capacity.

Note)  
The number of cycles varies depending on the usage environment. The number of cycles is based on internal test results, and is not a guaranteed value.

Specifications are detailed below

	FCP Series		FCP-S Series	
Type	FCP-500	FCP-1000	FCP-500S	FCP-1000S
Capacity / Voltage	500 Ah / 2 V	1000 Ah / 2 V	500 Ah / 2 V	1000 Ah / 2 V
Number of cycles (DOD 70%)	4,500 cycles Discharge current: 0.23 C <sub>10</sub> A		6,000 cycles Discharge current: 0.23 C <sub>10</sub> A	
Maximum operating life	Approx. 15 years*		Approx. 20 years*	
Installation method	Horizontal multiple superimposed loading		Horizontal multiple superimposed loading	
Maximum charge current during operation	100 A(0.2 C <sub>10</sub> A)	200 A(0.2 C <sub>10</sub> A)	100 A(0.2 C <sub>10</sub> A)	200 A(0.2 C <sub>10</sub> A)
Maximum discharge current during operation	200 A(0.4 C <sub>10</sub> A)	400 A(0.4 C <sub>10</sub> A)	200 A(0.4 C <sub>10</sub> A)	400 A(0.4 C <sub>10</sub> A)
Battery monitoring unit	BMU for lead-acid storage batteries		BMU for lead-acid storage batteries	
Remarks	Standard type		Long life type	

### Installation in Practice or Schedule

**Domestic** Besides the FCP series, we offer a wide range of lead-acid batteries for renewable energy, which are suitable for medium-capacity models and models suitable for high charging and discharging rates. Our delivery records for these products are described below.

**Overseas**

## Global Delivery Record

### Examples of deliveries

VRLA\* storage battery for cycle use (FCP series, FCR series & UB series)

\*VRLA: Valve Regulated Lead-acid

Overseas projects  
Domestic projects



**Contact:** The Furukawa Battery Co., Ltd.  
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