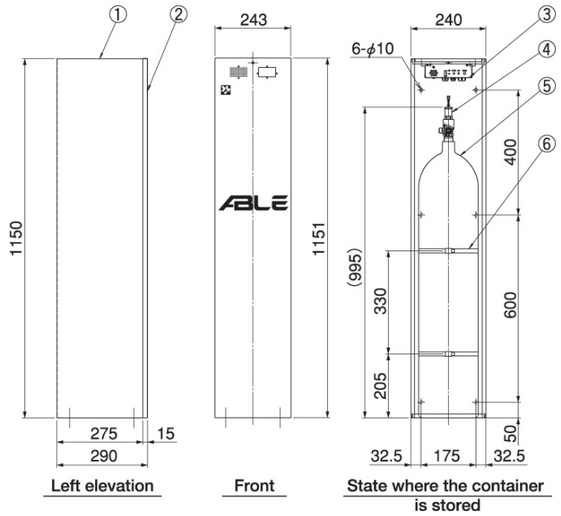
YAFM-20

AUTOMATIC FIRE EXTINGUISHING SYSTEM FOR WIND-POWER GENERATOR



(Unit: mm)

1	Storage box
2	Storage box door
3	Control panel
4	Starter
5	Container
6	Band

■System specifications (driven by battery)

Gas volume	18kg※
Filling pressure	4.2MPa (20℃)
Container specification	20L φ191mm×885mm
No. of container	1
Start-up method	The gas generator is started by a battery (lithium) and the cylinder is driven by the gas pressure.
Piping	Copper pipe
Head	4 pcs
Sensor	2 thermisters (for fire and abnormal temperature monitoring)
Alarm sound	Fire, abnormal temperature, battery alarm, system failure
Signal type	Fire signal, failure signal
Storage box	240mm×290mm×1150mm
Weight	Approx. 53kg

※Gas volume is decided based on the compartment volume.

■Control panel specifications

Model	GCA-3A1
Fire detection type	Fire detection by a thermister, 1 line (with disconnection detecting function)
Abnormal temp. detection type	Abnormal temp. detection by a thermister, 1 line (with disconnection detecting function)
Fire-extinguishing system start-up type	Start-up by the gas generator (1 unit, connected with a connector)
Power source	Dedicated lithium battery× 2 pcs
Operating voltage range	3.5V～2.5V
Lifetime of battery	For more than one year in the standard monitoring state
Manual start-up pushbutton	Red momentary pushbutton with gold contacts
Confirmation switch	Black momentary pushbutton
Alarm	Speaker, sound pressure: 85dB/m or more
Power/failure lamp (Green LED/yellow LED)	(1) At the time of normal: Green LED blinks every about 120 seconds. (2) At the time of fa lure: Yellow LED blinks every about 8 seconds.
Fire detection lamp (Red LED)	(1) At the time of normal: The lamp is put out. (2) At the time of a fire: Red LED blinks for every second.
Fire signal (system shutdown signal)	Contact point A: 2A 250V AC、2A 30V DC Contact point B: 2A 250V AC、2A 30V DC
Failure signal	Contact point A: 2A 250V AC、2A 30V DC Contact point B: 2A 250V AC、2A 30V DC
Operating temp. range	−10～50℃ (without dew condensation)
Heat detector	Thermister type, operating temp.: approx. 100℃ (when an adequate thermister is used)
Automatic test function	Thermister failure (disconnection or short circuit), disconnection of gas generator, starting circuit failure, battery exhaustion
History data recording function	Turning-on electricity, fire, battery exhaustion, and failure information are recorded.
Painted color	Box: Umber (Japan Paint manufacturers Association Y17D-50D, melamine plating) Printing character: white
Total weight	Approx. 0.75kg

■Work specifications

Installation	Install in a box
Piping	Copper pipe: JIS H3300, size: φ8×φ6
Joint	Press-fit using bite-type ring
Head	1/4C25 model
Head mounting	Fix a copper tube with single-sided saddle fittings (Details depend on the on-site investigation)
Wiring	According to the customer's specification: 0.5～1.25mm² Wire cover external diameter (1.9～3.4mm)
Conduit tube	According to the customer's specification
Wiring work	Wiring with connectors (JST-made LLF-41T)

■Precautions for use

⚠ Warning

Please leave promptly from the origin of fire when a fire breaks out.

- There is a risk of occurrence of accidents including a burn injury due to scattering of burning matters or fire-extinguishing agent.
- When installing the equipment for exhaust, it must be configured so as to stop operation (duct closed or fan stopped) interlocking with start-up of the fire-extinguishing system or detection of a fire. Otherwise, the fire-extinguishing agent may be exhausted and it becomes impossible to extinguish the fire.

⚠ Caution

Cautions for attachment

- Please install the system in the place where waterdrop, oil droplet or metal powder will not intrude into the control panel.
- Please do not install the system in any place with vibration or shock.
- Please do not install the system in any place exceeding the operating temperature range (-10 to+50C°), or where dew condensation may generate.
- Please install the system so that the cabinet does not deform.
- Be careful for foreign matters may not to enter into the piping, and fix connecting screws certainly.
- Please carry out every test of detectors and the system between detectors and each signal transfer device based on the instruction manual.

Cautions for installation and maintenance

- Please be sure to replace the gas generator and detectors which have passed four years after-installation with new ones.
- Please request an inspection and maintenance service contractor to conduct a periodic inspection (about 1 time in 6 months).
- Please replace dedicated lithium batteries with new ones once a year.

Treatment and cautions after use

- After radiation, wipes off completely the fire-extinguishing agent adhering to the surface of the radiated object, and please fully dry it.
- Be careful not to approach at the radiated object during fire extinguishing. If a radiated object is covered, please do not open it until the extinction of fire has been checked on.
- After the extinction of fire, please power off the control panel, deal with the signal information, and confirm safe conditions.
- After starting up the system, please fully clean the nozzle and the inside of the piping.
- After starting up the system, since there is a need for replacement of fire-extinguishing agent, gas generator and nozzle portion, and the functional test of the system is required, please request an inspection and maintenance service contractor for such work operation.

※With regard to products listed in the catalog, specifications and/or standards are subject to change without notice for improvement, etc. Please understand it.

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Certified according to ISO 9001 — Osaka Factory and Tokyo Factory

Certified according to ISO 9001 and 2008 — Yamato Protec Vietnam

Certified according to ISO 9001 and 2000 — YP REX Vietnam

●For order of any disaster prevention system and/or equipment, please contact us at the following offices.

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To protect the wind power

ABLE

AUTOMATIC FIRE EXTINGUISHING SYSTEM
FOR WIND-POWER GENERATOR

ABLE

YAFM-20

※A recycled paper is used for this catalog.
※This photograph is a sample.

YAMATO PROTEC CORPORATION

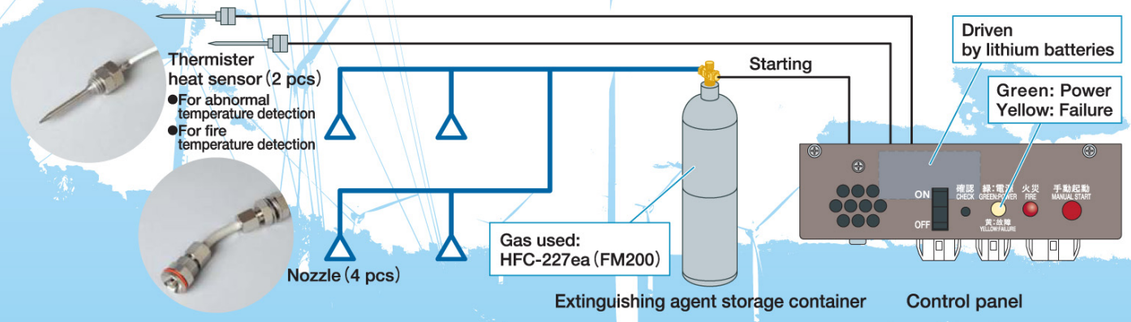
ABLE YAFM-20

AUTOMATIC FIRE EXTINGUISHING SYSTEM FOR WIND-POWER GENERATOR

Damage can be suppressed by automatic fire extinguishing to the minimum.
A gas-system extinguishing agent is used, and fouling after fire extinguishing is little.

"Wind-power generator with which the importance is further expected as a leading part of global warming prevention and energy self-support from now on. In order to suppress discontinuation of power generation and economic loss to the minimum when a fire breaks out due to any unexpected trouble, a small full automatic fire extinguishing system which demonstrates the outstanding fire-extinguishing performance was developed, which is YAFM-20 of ABLE-series.

- A fire is detected with the fire detection thermister connected to the external system, and at the time of fire breaking, the gas generator to start-up the fire extinguisher is activated while sounding a fire alarm and displaying the indicator.
- The abnormal temperature detection thermister can detect any abnormal temperature, and when any abnormality is detected, a failure alarm is sounded and the indicator is displayed.
- It has a signal circuit which notifies a fire and/or a failure to the external system when any fire and/or failure breaks out.
- It has the automatic test function; it automatically detects any failure of thermister, gas generator and starting circuit, and battery exhaustion, and a failure alarm is sounded and the indicator is displayed when any failure occurs.
- Since two dedicated lithium batteries are used as the power supply, no external power supply is needed.
- It has the history data recording function to record the total turning-on-electricity time, fire information, and failure information, etc.



Database creation of the maintenance information has realized the fine and optimal maintenance.

Database system: By attaching an IC tag to ABLE, recording the inspection and history data as well as information including the degradation situation of parts, and storing the data in our server, any information for creation of detailed report documents such as an aged deterioration diagnosis report and for fire extinguishing system management can be put in a database. This will enable to grasp the degradation situation, and suitable replacement of parts and increase in efficiency of the fire extinguishing system can be attained, thus the optimal maintenance in consideration of preventive maintenance can be realized.

■Internal sketch of the nacelle (an example)