



# SR Series Inflatable Self-Righting System

Automatic recovery protection for USVs, rescue boats, patrol boats and small craft

Auto Trigger

CO2 Fast Inflation

Hypalon Airbag

Custom Sizing

## Give small boats the ability to recover after capsize

The SR Series inflatable self-righting system is installed on the stern support frame. When a boat capsizes due to rough water, collision, sharp maneuvering or load shift, the controller detects abnormal attitude and triggers the CO2 cylinder. The airbag inflates rapidly and creates a stern buoyancy moment that helps the hull return to an upright floating condition.

### Safety Protection

Reduces the risk of hull loss and onboard equipment damage after capsize.

### Rapid Response

Automatic activation without personnel approaching an overturned craft.

### Flexible Integration

Manual or automatic options, single or dual cylinders, and custom airbag dimensions.



Installation example: stern frame and airbag layout



Customer boat running condition

## Four steps to automatic recovery after capsize

1

### Standby

The airbag is stowed on the stern frame.  
The controller and cylinder remain ready.

2

### Attitude Abnormality

After capsize, the controller detects the abnormal attitude and activates the trigger mechanism.

3

### Airbag Inflation

CO<sub>2</sub> flows through the hose into the airbag, forming a cylindrical buoyancy body.

4

### Return Upright

Stern buoyancy lifts the hull and drives the boat back to upright floating condition.



Capsized condition before full deployment



Inflated airbag drives hull recovery

## Clear components for installation, inspection and maintenance



- Airbag: high-strength Hypalon airbag that forms stable buoyancy after inflation.
- CO2 cylinder: single or dual cylinder configuration according to boat weight and airbag size.
- Controller: identifies capsized attitude and triggers the release valve.
- Hose, guide wheel, steel cable and release valve: complete gas delivery and mechanical actuation.
- Customer-side items: DC12V power supply, wiring and stern mounting frame.

## SR Series Model Reference

Final selection should be based on stability calculation and actual hull arrangement by the boat designer. The table below is for reference and can be adjusted according to boat length, weight, center of gravity, stern space and mission sea state.

| Model      | Airbag Size   | CO2 Cyl. | Mode | Boat Weight |
|------------|---------------|----------|------|-------------|
| SR1500680  | OD680 x 1500  | 1        | Auto | < 2.0 t     |
| SR1800680  | OD680 x 1800  | 1        | Auto | < 2.5 t     |
| SR2000800  | OD800 x 2000  | 2        | Auto | < 3.5 t     |
| SR21001000 | OD1000 x 2100 | 2        | Auto | < 4.5 t     |
| SR22001000 | OD1000 x 2200 | 2        | Auto | < 5.0 t     |
| SR26001100 | OD1100 x 2600 | 2        | Auto | < 6.0 t     |
| SR30001100 | OD1100 x 3000 | 2        | Auto | < 7.0 t     |

### Customization Note

If hull structure, center of gravity, payload or stern space does not match the standard models, airbag size, cylinder quantity and mounting method can be customized for the project.

### Manual Version Also Available

The manual version is also available for all SR models above, for customers who only need manual activation. Airbag, cylinder and mounting design stay the same — just specify the mode in your inquiry.

## A long-standby system designed for marine environments

### Operating Environment

- Working temperature: -30 C to +60 C.
- Storage temperature: -30 C to +60 C.
- Humidity and environment: suitable for 100% relative humidity, salt spray, condensation and mildew.
- Sea state: standby in sea state 4 or below; no structural damage in sea state 5; check fixation before sea state 6 or above.
- Power: DC12V, short-time power draw during triggering and low standby consumption.

### Installation and Maintenance

- Install on the designated stern frame with no obstruction.
- Avoid sharp contact with the airbag or gas hose.
- Keep controller, cylinders and key parts from long-term soaking.
- After installation, check fixation, hose sealing and trigger logic.
- Factory certificate and inspection report are standard; third-party certificate can be applied on request.



## A boat safety module for real mission scenarios

### USV Platforms

Inspection, survey, security, water monitoring and other unmanned missions.

### Rescue Boats

Fast-response equipment for fire brigade, water police and emergency teams.

### Patrol Boats / Fast Craft

Ports, maritime operations, offshore engineering and coastal patrol.

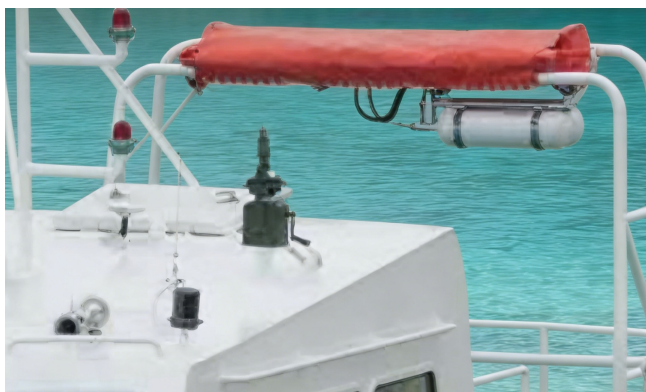
### Retrofit Projects

Existing small boats can be adapted with project-specific brackets and cylinder layouts.

## HVON Solution Features

- Focused inflatable self-righting solution for USVs, rescue boats and patrol boats.
- Patented SR Series with standard models and project customization.
- Prototype test, installation advice, factory certificate and optional third-party inspection service.
- Efficient domestic supply and communication for fast selection, retrofit and batch delivery.

## Delivery, inspection and business communication



### Standard Documents

- Product factory certificate
- Factory inspection report
- Installation and use recommendations
- CCSI or other third-party certificate on request

### Contact Us

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**SR Series Inflatable Self-Righting System | Patented Product**