

ARSD & ARVSD & VSD-AR

(Auto Reversible Safety Device & Auto Reversible Ventilation Safety Device & Ventilation Safety Device with Reversible Function)



The storage of Green Energy is becoming increasingly important for today's and future generations, especially for e-mobility applications. The challenge is to make electrical energy available wherever and whenever it is needed. Efficient and reliable storage systems are needed for this purpose.

Today's batteries consist mostly of stacks of Li-Ion cells. Since lithium is a highly reactive element, charging and discharging batteries can result in overheating of a cell which might cause an explosion. To avoid injuries as the result of such an explosion, there are two possible options;

1. Use an explosion-proof casing
2. Use a valve which releases the pressure in the casing

The first option increases weight and costs of the battery; that's why it's not preferred in the battery industry. ARSD & ARVSD & VSD-AR are aimed at the second option.

These ARSD & ARVSD & VSD-AR (Auto Reversible Safety Device & Auto Reversible Ventilation Safety Device & Ventilation Safety Device with Auto Reversible Function) developed by Bimed optimizes the lifetime of Li-Ion batteries and provides safety in case of an explosion. It meets protection classes IP 66, IP 67, IP 68 and IP 69K.

ARSD & ARVSD & VSD-AR (Auto Reversible Safety Device & Auto Reversible Ventilation Safety Device & Ventilation Safety Device with Auto Reversible Function) can be used in electric vehicles with Li-Ion batteries, electric trains and stationary batteries for energy storage.



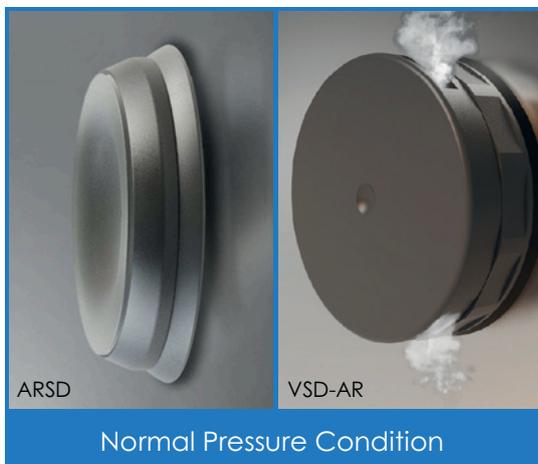
ARSD



ARVSD



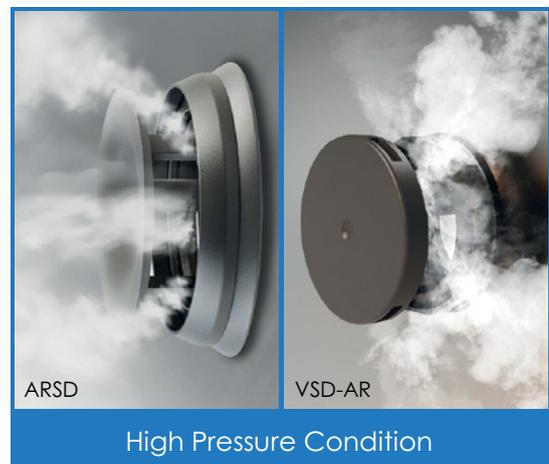
VSD-AR



ARSD

VSD-AR

Normal Pressure Condition



ARSD

VSD-AR

High Pressure Condition

ARSD



ARVSD



VSD-AR



ARSD & ARVSD & VSD-AR

(Auto Reversible Safety Device & Auto Reversible Ventilation Safety Device & Ventilation Safety Device with Auto Reversible Function)

AutoReversible Ventilation Safety Device &

Ventilation Safety Device with Auto Reversible Function)

ARSD, ARVSD and VSD-AR by Bimed optimizes lifetime of Li-Ion batteries by its ventilation and burst system and provides safety in case of an explosion.

- Available in two versions; burst function with ventilation (ARVSD & VSD-AR), burst function only (ARSD).
- Automatic reclosing after opening the lid in case of pressure increase.
- IP protection.
- Vibration resistance.

Technical Details		
Material	Body	PA 66 Glass Fiber Reinforced
	Cap	PA 66 Glass Fiber Reinforced
	Seals	VMQ
	Vent Membrane	PTFE
	Metal Parts	Stainless Steel
Ingress Protection Rating		IP 66
		IP 67
		IP 68
		IP 69K
Flammability	V0 according to UL 94	
Operating Temperature	-40 °C to +90 °C	
UL Environmental Rating	Type 4X, Type 12, Type 13 acc. to UL 50E	
Accessories	Lock nut	
Remarks	<ul style="list-style-type: none"> • Vibration test performed acc. to road vehicles standard ISO 16750. • For metric version of product, lock nuts shall be used for non-threaded holes. • Opening pressure value is adjustable according to request. Please contact with info@bimedteknik.com 	

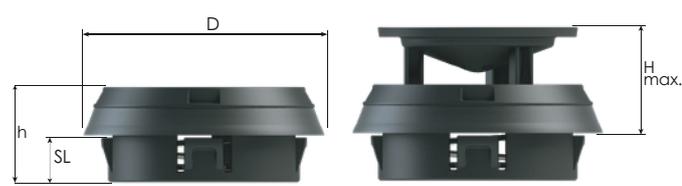
Industrial Applications



ARSD (Auto Reversible Safety Device)

Size / Thread	Burst Case Gas Flow at 500 mbar l/sec	Water Intrusion Pressure mbar	Opening Pressure mbar	Snap Length (SL) / Thread Length (TL) mm	Outer Ø (D) min. - max. mm	Height (h) mm	max. Height (H) mm	Product Code
Ø 50	250	≤ 5	100 ± 50	11, 25	59.0 - 65.0	24	16,1	A RS D-Ø50(2M M)-100
M50x 1.5				13, 25				A RS D-M 50 -100

Enclosure wall thickness: 2.0 mm ± 0.1 mm (Snap-Fit version)
 Mounting torque value: 4.5 N.m ± 0.5 N.m (Metric Thread version)



ARVSD & VSD-AR (Auto Reversible Ventilation Safety Device & Ventilation Safety Device with Auto Reversible Function)

Size / Thread	Pressure Balance Airflow at ΔP = 70 mbar l/h	Burst Case Gas Flow at 500 mbar l/sec	Water Intrusion Pressure mbar	Opening Pressure mbar	Snap Length (SL) / Thread Length (TL) mm	Outer Ø (D) min. - max. mm	Height (h) mm	max. Height (H) mm	Product Code
Ø 50	400	250	≤ 200	100 ± 50	11, 25	59.0 - 65.0	24	16,1	A RV S D-Ø50(2M M)-100
M50x 1.5					13,				A RV S D-M 50-100
M40x1.5		135			25	47,5 - 50,0	29,2	23,7	VSD-AR-M40-100

Enclosure wall thickness: 2.0 mm ± 0.1 mm (Snap-Fit version) 16,50
 Mounting torque value: 4.5 N.m ± 0.5 N.m (Metric Thread version)

Industrial Applications

ARSD & ARVSD & VSD-AR

(Auto Reversible Safety Device & Auto Reversible Ventilation Safety Device & Ventilation Safety Device with Auto Reversible)



Auto Reversible Safety Device (ARSD) /
Auto Reversible Ventilation Safety Device (ARVSD)

METRIC



Recommended tightening torque for the Metric thread: $4 \text{ N.m} \pm 1 \text{ N.m}$
Product Thread Type: M50x1.5
Recommended hole diameter for non-threaded holes: 50.0-50.3 mm

SNAP FIT



Enclosure wall thickness suitable for mounting : $2.0 \text{ mm} \pm 0.1 \text{ mm}$
Recommended hole diameter: 50.0-50.2 mm

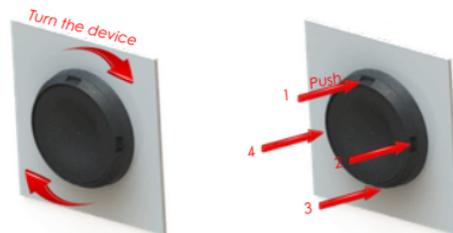
Auto Reversible Safety Device (ARSD) /
Auto Reversible Ventilation Safety Device (ARVSD)
Metric & Snap Fit

METRIC



- Mount the ARSD/ARVSD to the appropriate opening on the enclosure.
- Tighten the device with 4N.m torque. Use locknut to tighten if the enclosure is non threaded.

SNAP FIT



- For the snap fit locking, when seal contact to enclosure, turn the device quarter to half tour to ensure outer seal edges fully open and it doesn't fold in. Press the cut-outs one by one at the alignment of each numbered snap and ensure all the snaps are mounted.
- Device should be turn again (quarter to half tour) to ensure its fully mounted.
- If the snap/snaps not mounted, device will come off while turning.