



BENZING

VALVE TECHNOLOGY
BENZINGVENTS SERIES



ROBUST PROTECTIVE ELEMENTS

FOR ION BATTERY CASES

Li-ion cells can thermally overheat due to a wide number of reasons and then eventually exceed a critical temperature of up to 195 °C / 380 °F which leads to an unstoppable chain reaction (thermal runaway).

The resultant volume of gas of several hundred l/s could cause the casing to explode. Thanks to the **BENZING VENTS** - range it is possible to reduce the chances of an explosion in the case of a thermal runaway.

Our patented and high-performance protective

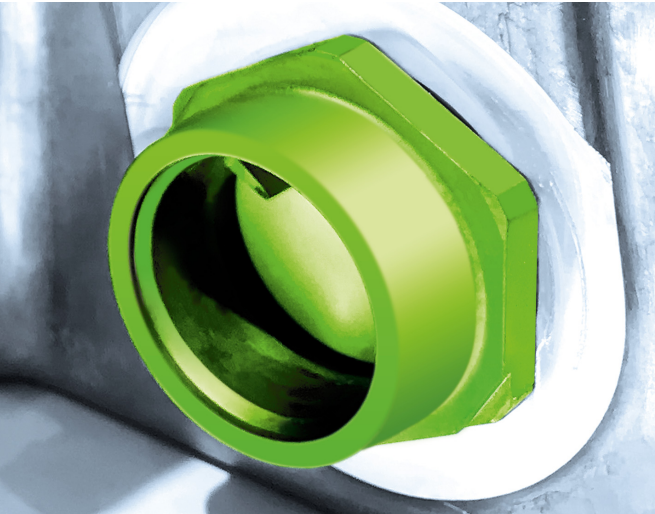
elements safely channel off the toxic gases both indoors and outdoors. The choice of materials has been adapted to harsh operating conditions and **BENZING VENTS** products comply with automotive test guidelines.

New products undergo in-house tests, even in the development phase, while the experience that we have gathered from many automobile projects has helped us a lot. As well as this we take care to ensure that the valves sit securely in the casing in the case of high gas pressure, such as during a thermal runaway.

We can also work out custom solutions with you to bring your ideas to fruition.

PTFE membranes can also be added to our bursting discs, allowing the pressure compensation to release pressure from the casing seal.

Our products have the following features:



- Simple, captive and shear-proof fitting; can be fitted without instructions
- Can be placed in any conceivable position – even horizontally
- Non-flammable (UL 94 / V0)
- Can be individually adapted for air flow rate and water retentivity
- Outstanding value for money
- Continuous gas permeation for pressure equalisation
- High chemical and temperature resistance for adverse environmental conditions
- Reliable protection of the casing from liquids
- Retention of low-viscosity oils
- Dustproof as per IP3 to IP6KX
- Waterproof as per IPX7
- Pressure-washer-proof as per IP9k
- Stone-chip-resistant
- Maintenance-free (as long as not triggered)
- Can be recycled and contains no dangerous substances
- Can withstand humidity of up to 90 % (not condensed)
- Safely drains gas out when used inside
- EMV and UV tested

MINIMIZE THE RISKS:
AVOID BATTERY CASE EXPLOSIONS
WITH OUR PATENTED
BENZING VENTS.



BENZING VENTS

ASSEMBLY		
MATERIAL		
ASSEMBLY TYPE		
WALL THICKNESS	housing	[mm]
PRESSURE COMPENSATION		
AIR FLOW	at 10 mbar	[l/h]
AIR FLOW	at 70 mbar	[l/h]
BURSTING		
OPENING PRESSURE		[bar]
AIR FLOW	at 5 bar	[l/s]
AIR RESISTANCE	at 5 bar	[bar]
DURABILITY		
IP6kX		
IPX7		
IPX9k		
AUTOMOTIVE TEST PROCEDURE		

[illegible]

HIGHEST METAL PRECISION.

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Please contact a Hugo Benzing associate today for the most up-to-date information and for assistance determining the best product for your specific application.

RETAINING RINGS | WIRE FORM PARTS / SNAP RINGS | STAMPINGS | FINE BLANKING PARTS
WIRE- / SHEET METAL BENDING PARTS | DEEP DRAWING PARTS | VALVE TECHNOLOGY | ASSEMBLY UNITS
TURNED- / MILLED PARTS | PARKING LOCK SYSTEMS | TUBE BENT- / FORMED PARTS | DIE CASTINGS