



## GAS RELEASE SYSTEM

*Degassing valve for  
VRLA applications*

- Lowest pressure tolerances available +/- 25 mbar - *extended battery life*
- Longest cycle life, tested for > 2 million opening/closing cycles - *no performance deterioration; constant pressure*
- 100% testing of all valves
- No additional incoming testing required on the clients' side
- Meets IATA requirements
- Flame arresting function by design.

RELIABILITY

QUALITY

SAFETY

The Abertax® Technologies GRS has been specially developed for installing in Gel & AGM batteries. The Abertax® GRS releases the pressure build-up of gas in a battery, and also prevents air from entering into the cell which may ruin the plates. This patented device incorporates a unique diaphragm system which makes this valve a completely reliable, safe and extremely efficient unit. The device, due to its exceptional design, lends itself to additional specific customer requirements.

## PRODUCT AND SAFETY FEATURES

- Patented design.
- Choice of specially selected materials to withstand the harsh battery acid environment, temperature and corrosive gases.
- The valve prevents air from entering – even if there is a negative pressure in the battery cell – for example during recombination.
- Excellent gas flow release (patented feature – making this valve superior to others on the market.
- Not affected by normal high or low operating temperatures.
- Acts as a fire barrier to the inside of the cell.
- All ABERTAX® GRS supplied are 100% individually function tested and guaranteed.
- No welding features incorporated in the ABERTAX® GRS construction – eliminating any possible distortion, warping, shrinkage, leakage etc. – which negatively affect performance.
- All individual parts are produced in-house – thus providing strict and excellent quality control on the individual single parts before and after assembly.
- Accurate opening and closing pressure parameters according to customer demand (patented).

## MECHANICAL CONSTRUCTION

Abertax® Technologies together with its in-house R & D Department have carried out profound research over several years to ensure that only the best choice of materials, that guarantee performance throughout the life-time of the GRS and batteries, are utilised. Fatigue and endurance testing of all materials selected, together with rigid tests on the completely assembled product, confirm the Abertax® GRS to be the best and most reliable product of its kind available on the market. The simplified construction, coupled with its efficient and very stable performance, ensure better gassing equalisation between the cells and fewer cell failures.

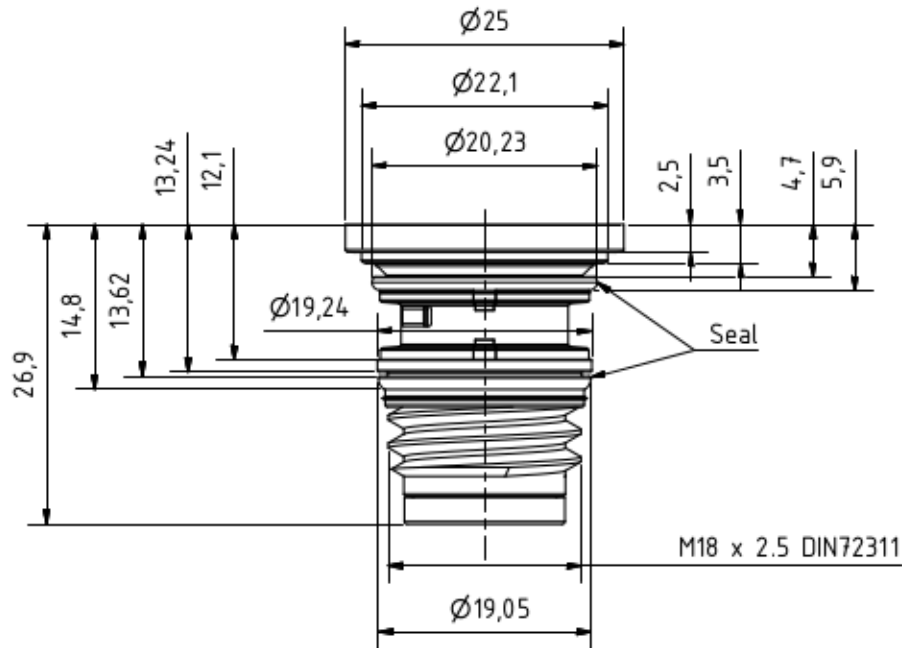
The Abertax® GRS is protected by worldwide patents and its robust construction and design makes it not only an ideal control valve for release of gases in Gel and AGM batteries, but also an important safety feature by acting as a fire barrier to the inside of the cell.

## WHY USE THE PATENTED ABERTAX® GRS?

- 1. SAFETY & RELIABILITY** The ABERTAX® GRS has excellent gas-flow release characteristics, to safely release any over-pressure build up of gases in the cells. It has been tested for over 2 million opening/closing cycles.
- 2. VARIOUS OPENING PRESSURES AVAILABLE** The ABERTAX® GRS is available in different opening pressures to suit the customer requirements – taking into consideration the physical strength of the battery box.
- 3. MEETS IATA REQUIREMENTS** The valves are specially designed to prevent leakages, even if the batteries are tilted on the side and subjected to IATA approved tests for air transportation.
- 4. FLAME ARRESTING PROPERTIES** By design, the ABERTAX® GRS will prevent an external flame from propagating through the valve and into the battery cell.
- 5. NO WELDED FEATURES** Valve has no welded features so no inherent distortion during manufacture.
- 6. QUALITY CONTROL** All valves are produced under strict Quality Control - IATF 16949 and are 100% tested during production.

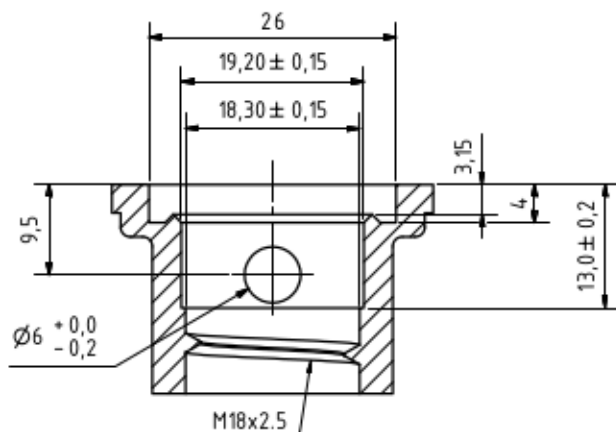


## SPECIAL CONSIDERATIONS FOR THE GRS M18 CENTRAL DEGASSING VALVE FOR AGM BATTERIES



### Technical Specifications for ABERTAX® GRS-M18-CD FOR AGM BATTERIES

- Opening Pressure: 110-165mbar (or other - see overleaf)
- Closing Pressure: >80mbar
- Thread size: M18 x 2.5mm (according to DIN 72311)
- Meets VW temperature endurance test (90°C for 10 weeks as per VW-TL 82506:2012)
- Designed to fit the following lid cavity with corresponding tolerances
- Produced as per IATF 16949.



Battery lid cavity dimensions

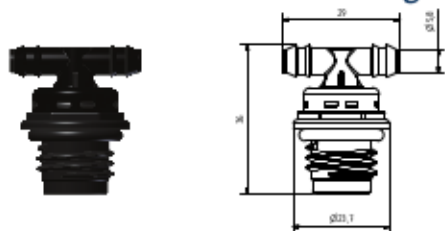
The correct tightening of the valves in the battery lid should be performed as follows:

1. The valves should be screwed down till the upper surface is level with the battery lid surface
2. Valves are then tightened by an additional 1/8 of a turn (45°)
3. In case of other battery lids please contact ABERTAX® Technologies

#### GENERAL TECHNICAL SPECIFICATIONS

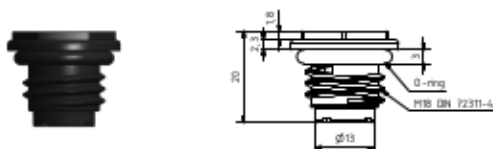
|   |   |
|---|---|
| Standard valve opening pressure:                | 150 to 200 mbar<br>For other pressures see overleaf |
| Nominal closing pressure:                       | >80 mbar (see overleaf)                             |
| Maximum operating temperature:                  | 80°C  |
| Valve materials suitable for temperature range: | -30°C to +80°C                                      |
| Tightening torque:                              | 90 (+/- 20) N-cm.                                   |

### ABERTAX® GRS M18S - \*central degassing



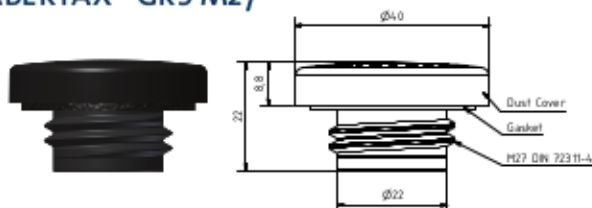
| opening pressure [mbar] | closing pressure [mbar] | product number  |
|-------------------------|-------------------------|-----------------|
| 85 - 135                | >60                     | 21 00 03 74 002 |
| 100 - 150               | >80                     | 21 00 03 70 00L |
| 150 - 200               | >100                    | 21 00 03 71 00Q |
| 200 - 250               | >120                    | 21 00 03 72 004 |

### ABERTAX® GRS M18S



| opening pressure [mbar] | closing pressure [mbar] | product number  |
|-------------------------|-------------------------|-----------------|
| 85 - 135                | >60                     | 21 00 03 78 003 |
| 100 - 150               | >80                     | 21 00 03 07 006 |
| 150 - 200               | >100                    | 21 00 03 08 00A |
| 200 - 250               | >120                    | 21 00 03 09 00E |

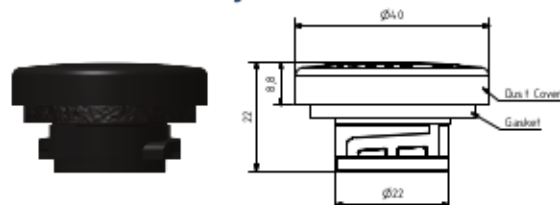
### ABERTAX® GRS M27



| opening pressure [mbar] | closing pressure [mbar] | product number  |
|-------------------------|-------------------------|-----------------|
| 85 - 135                | >60                     | 21 00 03 75 006 |
| 100 - 150               | >80                     | 21 00 03 28 00N |
| 150 - 200               | >100                    | 21 00 03 27 00J |
| 200 - 250               | >120                    | 21 00 03 29 005 |

*\* also available in central degassing*

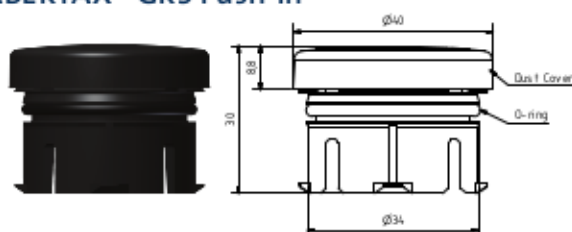
### ABERTAX® GRS Bayonet



| opening pressure [mbar] | closing pressure [mbar] | product number  |
|-------------------------|-------------------------|-----------------|
| 85 - 135                | >60                     | 21 00 03 76 00A |
| 100 - 150               | >80                     | 21 00 03 17 00C |
| 150 - 200               | >100                    | 21 00 03 16 008 |
| 200 - 250               | >120                    | 21 00 03 15 004 |

*\* also available in central degassing*

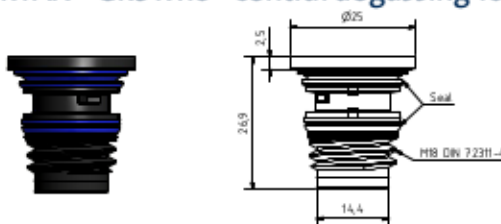
### ABERTAX® GRS Push-In



| opening pressure [mbar] | closing pressure [mbar] | product number  |
|-------------------------|-------------------------|-----------------|
| 85 - 135                | >60                     | 21 00 03 77 00E |
| 100 - 150               | >80                     | 21 00 03 52 00G |
| 150 - 200               | >100                    | 21 00 03 51 00C |
| 200 - 250               | >120                    | 21 00 03 50 008 |

*\* also available in central degassing*

### ABERTAX® GRS M18 - central degassing for AGM



| opening pressure [mbar] | closing pressure [mbar] | product number  |
|-------------------------|-------------------------|-----------------|
| 85 - 135                | >60                     | 21 00 03 85 00C |
| 110 - 165               | >80                     | 21 00 03 38 00U |
| 120 - 180               | >90                     | 21 00 03 69 00G |

Please contact Abertax® for other pressure settings.

## ABERTAX® TECHNOLOGIES

### Leaders in Battery Ancillaries

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