

Banlaw ReFuelling™
Unfiltered Tank Vents

Thank you for purchasing this high quality Banlaw product. Please read through and understand the information in this Product Data Sheet (PDS) BEFORE installation or operation of the product to avoid accidental personal injury or property damage.

1 PRODUCT DESCRIPTION

Banlaw AUS series Tank Vents were first introduced into the market in the 1980's in response to a requirement for more robust "Quick-Fill" Vents catering for higher tank refuelling flowrates. A single Banlaw AUS series Vent – e.g. the AUS25A – caters for tank refilling flowrates of up to 800LPM (211GPM). Two (or more) of these Vents were used to cater for the 1000LPM (264GPM) capability of the Banlaw "1000 Litres Per Minute" dry-break diesel refuelling system.



Figure 1 - Examples of Banlaw Tank Vents

The intake/exhaust port of a Banlaw Vent may be connected to the **Banlaw BRFB01A Remote Filtered Breather Assembly** to attain the required air filtration for incoming airflow to comply with modern diesel-powered equipment OEM requirements – the BRFB01A incorporates a 3µm (abs.) air filter element.

2 KEY RESTRICTIONS ON THE USE OF THIS PRODUCT

1. The end-user of this product shall conduct the necessary due diligence assessments to confirm the suitability of this product for the intended application **prior** to installation. This product incorporates materials, features, specifications/ratings and maintenance requirements which may affect its suitability for certain applications. For example, a Banlaw Vent and/or dry-break "quick-fill" refuelling system shall not be installed onto a tank designed for only "splash-fill" refuelling or a tank designed to be atmospherically (free-to-air) vented unless a risk assessment and subsequent risk controls deem the application to be satisfactory.

2. Banlaw Tank Vents are unsuitable for use with fluids or substances whose properties may affect the safety, function, or reliability of the product. Please consult with Banlaw to confirm fluid compatibility if in doubt.
3. Excepting the AUS25E series Vents, Banlaw Vents incorporate parts manufactured from **aluminium** and are typically unsuitable for use in underground coal mines, or areas where the use of external aluminium components are prohibited.
4. Safe operation of a Banlaw Vent requires effective means to prevent bulk *liquid* fuel flow through the Vent and tank over-pressurization be installed, e.g. a Banlaw FillSafe Overfill Protection (OFP) system. During tank overfill large flows of liquid through the Vent can create excessive pressures which may exceed the safe working or design pressure (SWP) of a tank.
5. Inlet and Outlet breather hoses connected to the Vent must be designed and maintained such that they remain unobstructed by:
 - a. Environmental Debris such as Dirt, Mud, and Clay, etc.
 - b. Kinks and Pinch points.
 - c. Work by-products such as Tape, Rags, "Offcuts", etc.
6. Inlet and Outlet breather hoses must be directed a safe distance away from sources of heat or any other ignition hazard.
7. Inlet and Outlet breather hoses must be directed away from personnel.
8. The Banlaw Vent must be installed and oriented in accordance with Banlaw specifications and guidelines.
9. **To prevent tank damage due to over-pressurisation, the liquid storage tank(s) onto which this Banlaw Vent is fitted must be designed (rated) to;**
 - a. **An internal pressure rating exceeding the maximum expected tank pressure during refuelling/refilling of the tank.**
 - b. **An internal vacuum (i.e. external pressure) rating exceeding the maximum expected tank pressure during decanting (draw down) of liquid from the tank.**



1. Unless noted otherwise, a Banlaw Tank Vent has not been assessed or subsequently certified under governances that may apply to certain applications of this product. End-users shall perform a due diligence assessment of the governances relevant to any proposed application to ensure suitability of use. Such governances may include; Regulations, Standards, Codes, Guidelines, Industry and Regional requirements, etc.
2. Banlaw Tank Vents have not been designed, tested, certified or approved for use;
 - a. With flammable substances.
 - b. With compressible fluids, e.g. gases.
 - c. On *bulk* storage tanks designed under governances such as AS1692, API 620, API 650, etc.
 - d. As a certified "safety device" to provide effective protection against the internal or external over-pressurisation of a tank.
 - e. Onboard *bulk* onroad or rail tankers.
 - f. Onboard road vehicles, e.g. prime movers (trucks).

- g. Onboard aircraft, marine or military plant equipment.
- h. As an effective means of “anti-spill” roll-over protection for tanks.
- i. Applications *requiring* CE, API, UL, ULc or some other approval under which a Banlaw Vent does *not* comply.

Note:



This Product is unsuitable for use with AdBlue (DEF).

3 DESIGN FEATURES

Banlaw Vents are available in a variety of **configurations** to suit a wide array of applications. Configurations include;

- “Short”, “Standard”, and “Extended” lengths to cater for different tank ullage requirements and tank shapes.
- Integrated spring-biased pressure relief valve available in 2 settings;
 - 110kPa (16psi); **red** coloured cap (on aluminium cap vents).
 - 49kPa (7.1psi); **green** coloured cap (on aluminium cap vents).
- Low profile AUS25E series to suit applications with limited space (headroom) above the tank, e.g. some rail locomotive tanks.
- With or without the Splash-Tube.
- With or without the Bleed Passage (specific AUS25E series vents only).
- Vent assembly supplied with accessories, including;
 - 2” NPT (F) mild steel half coupling (AUS25AA-1).
 - ¾” barbed hose-tail.
- 2” NPT (M) or Threaded Flanged (Caterpillar and Komatsu) tank connections.

Key **features** of Banlaw Tank Vents;

- Manufactured from metals, not plastics, providing improved durability.
- Durable O’Ring seals, providing extended service life.
- Available in an **arctic** (cold temperature) variant, rated for operating temperatures down to -51°C (-60°F).
- Rated for tank refuelling and decanting flowrates up to 800LPM (211GPM);
 - Multiple Vents are used for higher flowrates.
- Manufactured **by** Banlaw under our **ISO9001:2015** certified Quality Assurance (QA) system, providing our clients with a consistent high quality product.
- Compatible with all automotive **diesel** fuels, industrial **oils** and **coolants** and other similar non-flammable liquids.
- Colour-coded Cap designating pressure relief valve setting (“crack” pressure).

Figure 2 illustrates the generic features and components of a Banlaw Tank Vent.

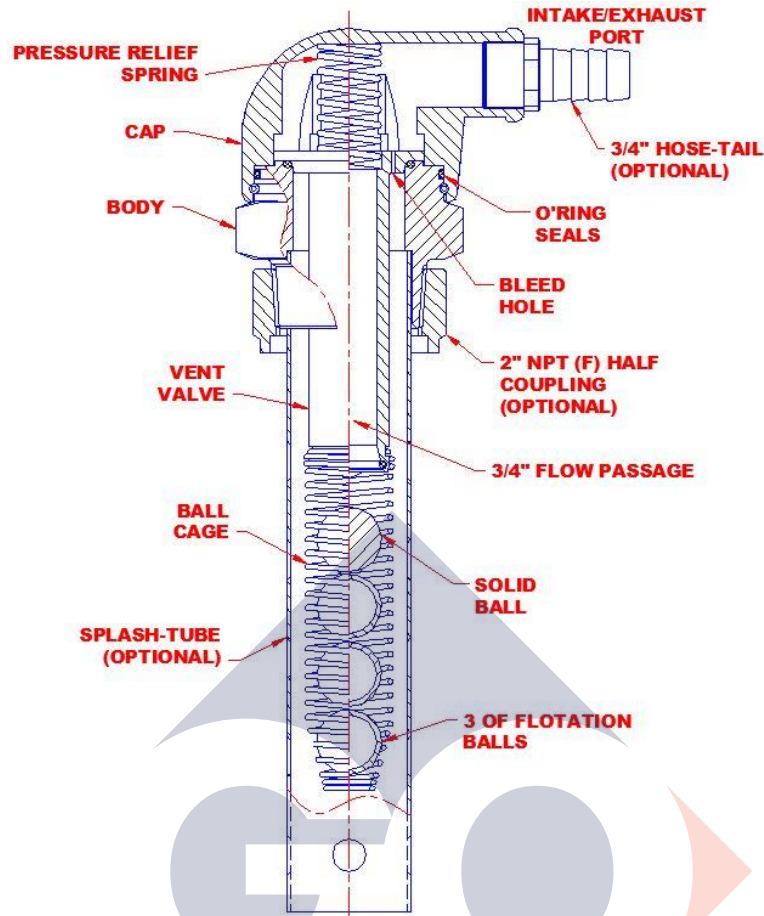


Figure 2 - Partial Section View of Vent with Generic Features

Figure 3 shows the 3 process flow paths (liquid and/or air) through a Banlaw Tank Vent;

1. The flotation ball style vent valve is normally open with bi-directional air flow. Once the rising fuel level closes this valve, air flow ceases through this path closing this primary tank venting route.
2. The (limited) bleed passage ($\varnothing 1.6\text{mm}$) is always open – cannot be closed - with bi-directional flow.
3. The spring-biased pressure relief valve is normally closed and “cracks” open once the pressure within the tank reaches the prescribed valve setting (i.e. 49kPa, or 110kPa).

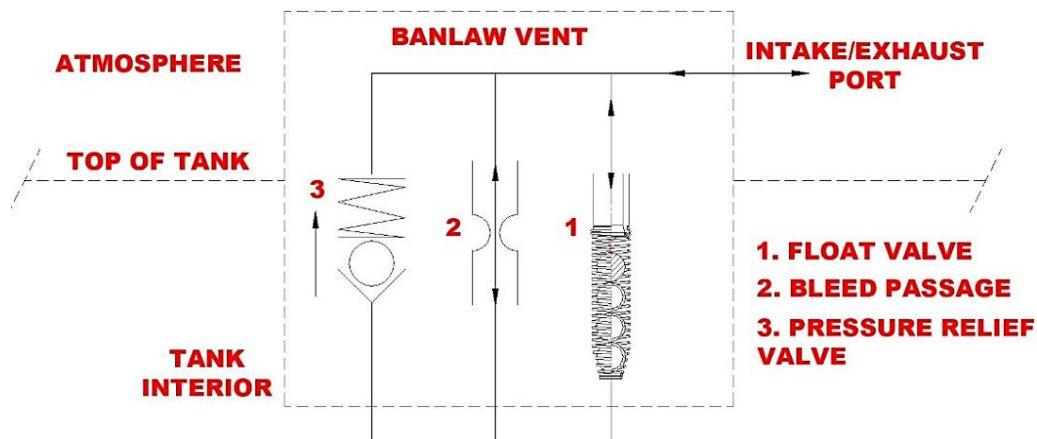


Figure 3 - Generic Process Flow Paths for Banlaw Vent

4 PRODUCT SPECIFICATIONS

The information in this section is **generic**. Please refer to the Banlaw Product Specification Guide (PSG) for each specific vent assembly for further specifications which may apply to certain vents.

Banlaw AUS Series Tank Vents – Generic Specifications		
Integral Pressure Relief Valve Setting kPa (psi)	Red Cap; 110kPa (16psi) (or as per Vent Part No.)	Green Cap; 49kPa (7psi) (or as per Vent Part No.)
Max Air Flow Rate LPM (GPM)	800LPM (211GPM), 28.3 SCFM – per (1 of) Vent	
Max. Pressure Drop (Airflow)	<4kPa (<0.6psi) DP @ 800LPM (28.3 SCFM)	
Operating Temp. Range °C (°F)	“Standard”; -10°C (14 °F) to 55°C (131°F) “Arctic”; -51°C (-60 °F) to 55°C (131°F)	
Maximum Recommended Working Pressure	250kPa (36psi)	
Compatible Fluid Types	Automotive Diesel Fuels, Industrial Oils, Coolants	
Principal Material Composition	Aluminium, Viton, Zn Plated Steel, Polypropylene, Fluorosilicone	
Process Connection (top of tank)	2” NPT (M), or Threaded Flange (suits Cat or Komatsu tank filler neck)	
Vent Outlet (exhaust port)	¾” NPT (F), ¾” Hose-Tail, or 1-1/4” Suction Hose & Clamp	
Installation Tool(s)	76mm Spanner or Adjustable Tool	

5 INSTALLATION GUIDE

Please refer to Banlaw document **EBL-34 Banlaw ReFuelling Tank Vents IOM Manual** for requirements and details of;

- Assessment of the intended application.
- Risk assessment, control and management.
- Vent selection.
- Pre-Installation.
- Installation.
- Commissioning.
- Preventative maintenance.
- Troubleshooting.



Do **NOT** install a Banlaw Tank Vent until the important requirements and guidelines within document EBL-34 are known and implemented. **Failure to comply with such requirements is likely to introduce unmanaged hazards – potentially high risks to health and safety.**

6 MAINTENANCE & SPARE PARTS

The range of Banlaw AUS “unfiltered” Tank Vents are *non-serviceable* assemblies. **No attempt shall be made to dismantle, misuse or tamper with this product as such activity may cause improper and unsafe Vent function, serious safety hazards, and void Banlaw warranty.** Please see www.banlaw.com for warranty details and a full list of distributors near your area to source new products.

6.1 BANLAW ONSITE MAINTENANCE

Clients can benefit from a **Banlaw Service Level Agreement (SLA)** to assist in the preventative and corrective maintenance of refuelling systems onsite, in addition to other diesel, fuels, oils and coolant infrastructure. This support is provided for Banlaw *and* third-party products. Clients with an SLA can *focus on their core business activities* and allow experienced Banlaw technicians and engineers to help keep such infrastructure operating at optimum *safety, performance and reliability*.

END OF DOCUMENT

BANLAW – UNIFIED FUEL MANAGEMENT

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