



CAST IRON AIR BRICK COMPANY

Building Architectural Enhancements

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Specification Sheet – ciabCELL4-2018

[www.castironairbricks.co.uk](http://www.castironairbricks.co.uk)

## 100mm CELLAR and SOIL VENT

ITEM No... CELL4



Cast iron cellar and soil vents are made from grey iron, cast in sand moulds bonded with resin to a fine cast finish and are available in one size with different options for the front plate.

### Problem Solver

The cellar and soil vent as the name suggests has two functions and which function it serves is entirely dependent on the type of front grille fitted on the unit. In either case, the cast iron body is the same on both types; it's just the front plate that changes. Let's take a look at these uses individually.

Use 1 – Cellar (or basement, sub floor, under floor) vent. In this situation the cast iron body of the cell4 has an aluminium or brass vent plate fitted with mesh to allow air to blow in or exhaust out of

the void below. The design of the casting allows for the 4" (100mm) diameter spigot to be sunk into the pavement or ground, connected up to a cast iron female coupling or sealed around with mortar or silicon and because of this makes it extremely useful. This design allows for ventilating air to traverse down without rainwater or puddles of water draining into the cellar.

It's perfectly suited to period properties being made in cast iron and the design is a replica of castings used for similar purposes during Victorian era and pre dates its modern plastic periscope equivalent by over hundred years. Many original vents have corroded or been removed and cemented over creating unvented basements that are damp and prone to dry rot and mould.

Use 2 – Soil and sewer (or WC) vent. In this situation the cast iron body of the cell4 has an aluminium or brass vent plate fitted with a brass flap to allow air in but not out. The idea is that the thin brass flap is fairly light and hinged to swing freely against the back of front plate. The design of the casting allows for the 4" (100mm) diameter spigot to be connected up to a cast iron female coupling or into the female end of a sewer pipe. The idea here is not to vent the sewer pipe with air blown in by the wind but to allow air to be sucked into the pipe when a toilet on the stack is flushed. This prevents the water in the bottom of the toilet bowl S bend from being lost and therefore stops the sewer smell entering the house. Once the flap has allowed air into the pipe it then falls shut to prevent smells coming back out of the vent. This flap would have originally been made from leather.

It's an ingenious and very simple design that's been installed in millions of properties across the UK. We estimate that every outside toilet had one so there are plenty around. Unfortunately they are nearing end of life, some are 150 years old, so there are many that either need replacing or are damaged or have been blocked off.

### **Construction**

The cellar and soil vent is made from fine cast grey iron. It has threaded screw holes into which an aluminium or brass front plate is attached with stainless steel screws. The front plate has the option of either copper flymesh or a thin brass flap.

### **Installation Examples**

The majority of purchases have come from UK installers although we have had a number of sales to the EU, USA and quite a few to Abu Dhabi UAE. Back at home clients are very varied and are individual home owners and property restorers as well as contractors, builders and plumbers and also architects.

We have had a number of customers share their installation tips with us and they have been very helpful in writing this document. Hornchurch business, Libra Group required the cellar vent with aluminium front plate and mesh to ventilate the sub floor area of an old Victorian property. The area was suffering from dry rot and after rectifying the rot they installed a pair of CELL4s and piped the ventilation air via 100mm ducts.

In Sheerness, building contractors, Astra Ltd installed a trench arch drainage system to a medieval church. After advice from building control they vented the end of the 100mm upvc pipe run with our CELL4, connecting up with a rubber coupling to the base of the cast iron spigot.

West Midlands based Aurora Building care used a pair of CELL4s with mesh to ventilate a cellar to remove the damp under the entrance hallway of the rather fabulous mansion house at Grange Park, the former residence of Lord Austin, the British car manufacturer. Des Gutherie, the director of the company told us the cellar vents looked as if they had always been a part of the property and were very sympathetic in keeping with this stunning period property.

### **Finish**

We supply them either painted black or bare metal for clients and contractors to paint on site or allow to rust. We can supply bespoke RAL painted to match customers' existing brickwork or requirements. Please note that items painted in such a way are nonreturnable, there is an additional charge for this and it will add 1-2 weeks onto the delivery time.

### **Environmental Benefits and Longevity**

All the cast iron air bricks we commission are UK made and this product is made in Oxford, England.

Cast iron is not affected by UV and is fire resistant and fully recyclable. The cast iron used in the manufacture of this product is sourced from scrap iron with the addition of a small amount of pig iron. On average, 95% of the casting is recycled material. The moulds used to create the castings are generated using sand that is packed in a box with one of our patterns and this sand is used again and again to create further castings.

Casting in the UK has ensured all our products are made to strict emission and pollution levels in accordance with the latest legislation and that the workers creating these products are fairly paid and have a safe working environment in which to earn a living.

Melting iron requires a substantial amount of energy from either gas or electricity and to offset the CO2 emissions from this process we have planted over 300 trees in our own 3 acre wood. The annual absorption of CO2 from our wood is enough to ensure the production of our castings is carbon neutral.

As we don't import any of our products, the mileage from foundry to our finishing workshop and distribution bay in North Devon is very low keeping our carbon footprint small and once installed we expect this air brick to last a life time.

### **Maintenance**

Bare cast iron will rust but this rust forms a protective layer to prevent further corrosion and requires no further maintenance, it is ideal for installation in red brick properties but may stain light coloured brickwork or light coloured rendered properties.

Painted vents use three part epoxy primer followed by two part epoxy black gloss top coat which is extremely hard wearing and is unlikely to require repainting within a decade unless the paint is chipped or the air brick exposed to salt. The gloss paint will dull over time, in exposed conditions it is likely to dull to a satin sheen in a year or two.

## **Notes for architects**

By far the most common requirement to use the CELL4 is as a straight swap for a defective or missing soil vent sat on the top of a sewer stack. The 4", 100mm diameter spigot at the bottom of the vent normally slots into a female end on the existing sewer vent pipe. If it doesn't, we also supply a double female cast iron coupling that can help connect the male spigot or contractors can procure their own. Our coupling has a rubber seal that engages perfectly with the cell4. The seal can be removed at the other end if the coupling is to connect up to a slightly larger 5" pipe.

The painted finish of this vent is ideal for protecting it against the elements so it is suitable for use outside or it can be used indoors. Please be aware when using it to ventilate rooms supplying air for combustion such as a log burner or open fire that the paint finish is not fire retardant and therefore should be installed well away from the heat source. We do supply exactly the same vent but with a fire retardant finish which is ideal for this use – this version is known as the "Stove vent", please see the corresponding specification sheet that it refers to.

We can supply bare metal in the dark grey cast iron finish or, if preferred we can wet them, then dry them in our workshop and send them out rusty. If this is preferred (instead of rusting them on site) please let us know when ordering and add a couple of days for delivery. There is no extra charge for supplying rusted version but please note we cannot accept returns on them.

## **Front Plates**

Often, the cast iron part of the soil vent on existing installations is still intact and it's just the front plate that is missing. If this is the case please be aware we do sell the front plate, in aluminium or brass separately and can supply the screws if required.

### **Sizes of the front plate are...**

128mm width x 100mm high at highest point (90mm high at the ends)

Screw holes are 115mm apart and are 45mm high from bottom

Slots are 8.5mm wide x 60mm long (6 in number)

### **Sizes of the spigot are...**

55mm long

External diameter 103mm

Internal diameter 93mm

SPECIFICATION TABLE – 100mm cellar and soil VENT

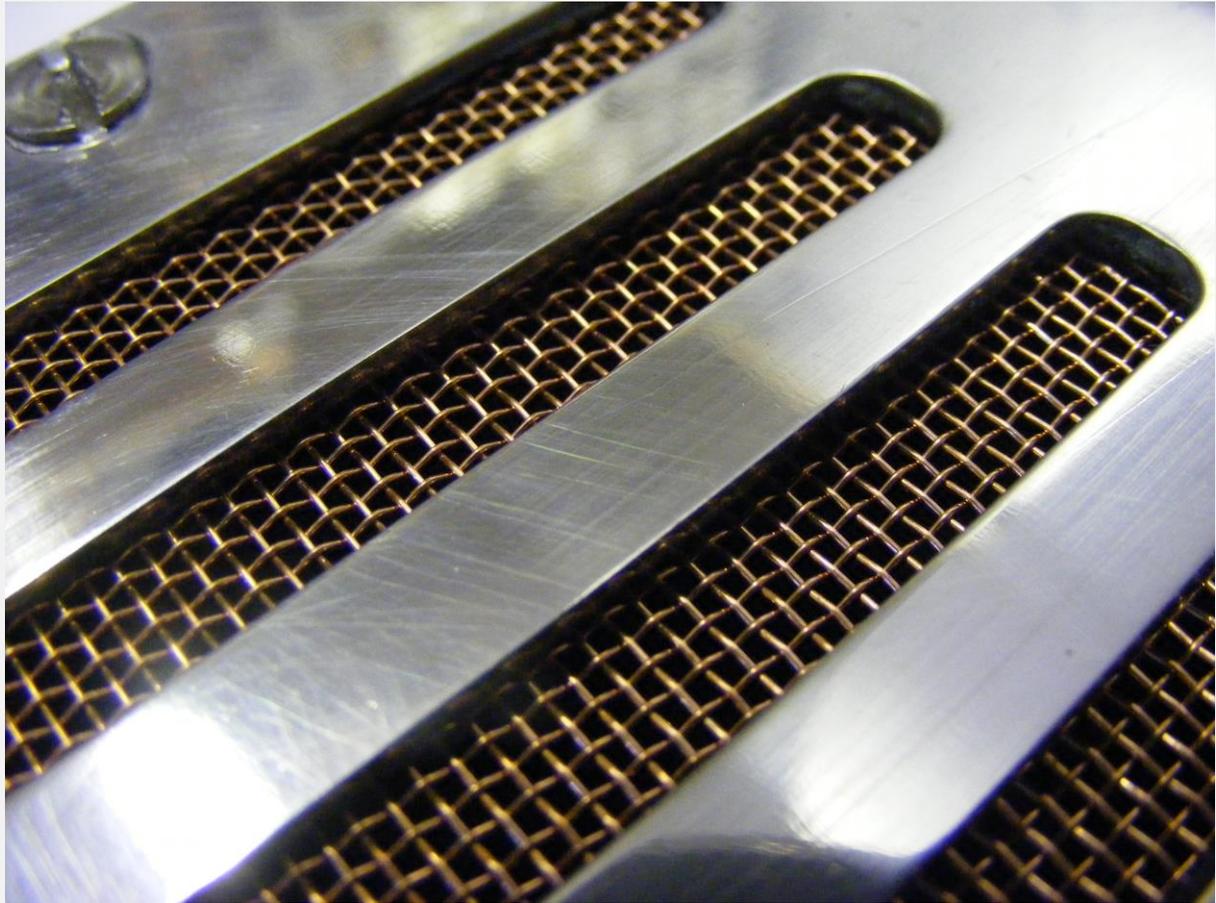
Item Code	Nom. Size (Inch) Spigot dia	Size in mm Spigot dia	Vent Size (mm)	Weight (KG)	Free Area (mm <sup>2</sup> )	Free Area with mesh (mm)
CELL4	4	103	8.5	3.5	3000	2000

Material – Grey cast iron 250

**British Made Product**

Cast iron foundry source – Oxford, England





For more details please see our website...

<https://www.castironairbricks.co.uk/product/cellar-soil-waste-vent/>

Alternatively email or call us

[Sales@castironairbricks.co.uk](mailto:Sales@castironairbricks.co.uk)

01598 711999

Delivery for this product is normally from stock for low volume orders and these are sent out the next working day for orders received before 12 o'clock. Ideally we hold 30 units bare metal and 5 units painted black but please be aware this can quickly change. If we need to paint more black this will be 5-7 days longer and bespoke painted customer supplied RAL are typically 10-14 days

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