

# Filling Valve with CA Device

## Model CA297PRV – Non Verifiable Disconnecter - Datasheet

### Description

Backflow Prevention Device primarily intended for filling and pressurising sealed house heating systems, or non-house systems, which have an output of less than 45 KW. A Type CA device – with suitable pressure regulation – can be permanently connected to a small heating system without the need for a removable filling loop. This enables the system to be filled and pressurised. Boilers with an output of 45 KW or greater (except in a house) are considered by the Water Supply Industry to be a Fluid Category 4 risk and a BA device can be used for filling and pressurising – see “Autofill”.

The CA device affords permanent Fluid Category 3 protection. The relief port affords better protection than a double check valve (Type ED) and a CA device may be permanently connected – no removable filling loop required.

A discharge pipe should be connected to the integral tundish. Under normal operation the unit should not discharge. The valve will discharge a tiny quantity of water if the supply pressure falls below about 0.5 bar or 110% of downstream pressure. A continuous discharge could occur if debris becomes lodged in the relief valve or the second check valve during a backpressure condition.

### Connection Pipes

CA device only                    ½” or ¾” Female BSPP Unions  
 Servicing valves                15 or 22 mm Compression  
 Discharge (Reducers inc.)    40, 32, 21.5 mm (std o/flow pipe)

### Specification

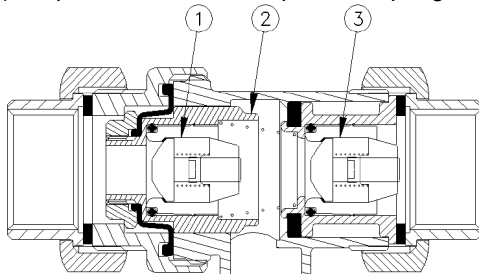
Pressure Supply                10 bar max, 1 bar min.  
 Approval                        WRc / WRAS approved  
 Outlet pressure (cold fill)    1.0 bar default (Adj. 0.5 – 9.3)  
 Approval (complete)        KIWA UK A030562

### Materials

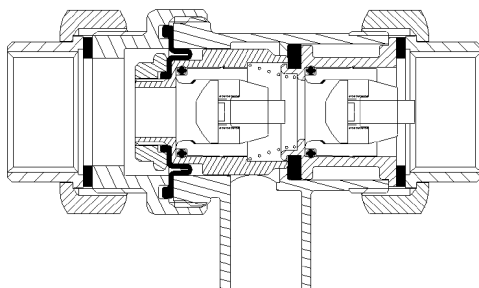
Body                                Bronze (PRV & SV - DZR brass)  
 Springs                          Stainless Steel  
 Seals                                Nitrile

### Operation

With no inlet pressure, the upstream check valve (1) and downstream check valve (3), are closed, whilst the relief valve piston (2) is open – due to the compression spring.

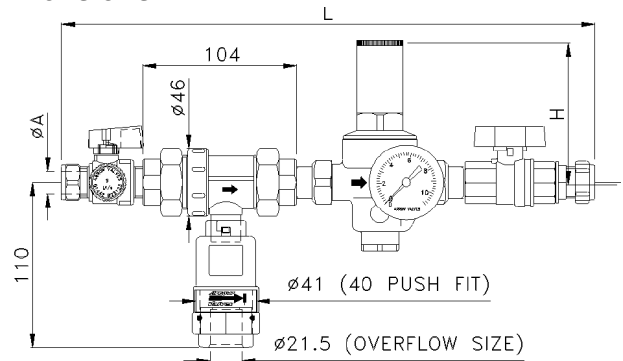


Below – during operation the relief valve is closed (with pressure) and the check valves open (with flow)



CA15C297PRV - Filling valve assembly comprising of – inlet servicing valve (AFL) c/w serviceable strainer, CA device, Pressure Reducing Valve (PRV) and servicing (isolating) valve

### Dimensions



AF039C

SIZE A	L	H	Kg
15 mm	360	90	2.1
22 mm	435	112	2.9

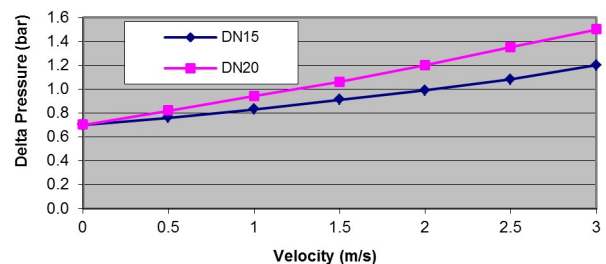
### Isolating

The servicing valves may be left open if the pressure is regulated with a Pressure Reducing Valve. The upstream servicing valve (model AFL) has a serviceable 130 micron strainer, which can be removed through the side port.

### Applications (Fluid Categories 1 – 3)

- Filling house heating systems (of any output power)
- Filling non-house heating systems (less than 45 KW)
- Other applications approved by the local water company

Head Loss / Flow Chart



Velocity based on flow of water through the bore of copper tube table X

### Codes and Descriptions

Sizes	Code	Description
15, 22 mm	CAsizeC297PRV	Filling Valve CA Serv Valves PRV Comp.
15, 22 mm	CAsizeC297SV	CA Device c/w Serv Valves Comp.
DN15, 20	CAsizeFU297	CA Device c/w Tundish FUBSPP

### Notes

Gauge supplied with PRV version.  
 Unlike BA devices, CA devices do not require annual testing.

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Arrow Valves Ltd reserve the right to change specifications, design and materials at any time without notice.  
 All unit-less dimensions in mm.

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