

# KBV20 Key operated boiler blowdown valve



# The Spirax Sarco key operated blowdown valve is designed for the manual blowdown of steam boilers to remove precipitated solids from the bottom of the boiler.

## Boiler blowdown

Steam boilers must be blown down to remove concentrations of solids which would otherwise build up in the boiler water. Excessive dissolved or suspended solids would cause the boiler water to foam which would result in unstable water levels and may allow scale to form on the boiler tubes.

Modern water treatment methods have the effect of converting harmful, scale forming chemicals into a sludge which precipitates out of the boiler water to settle on the bottom of the boiler. This sludge, if it were not removed, would solidify and damage the boiler.

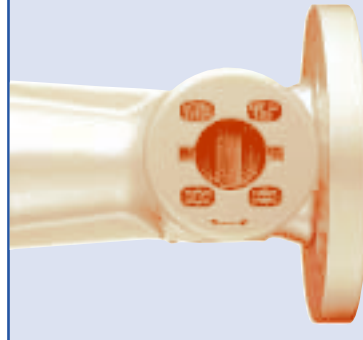
## Blowdown control

Most authorities recommend that intermittent bottom blowdown is carried out in "short sharp bursts". It is normal practice in a well managed boiler house to blowdown regularly a small quantity of boiler water to clear any build up of sludge.

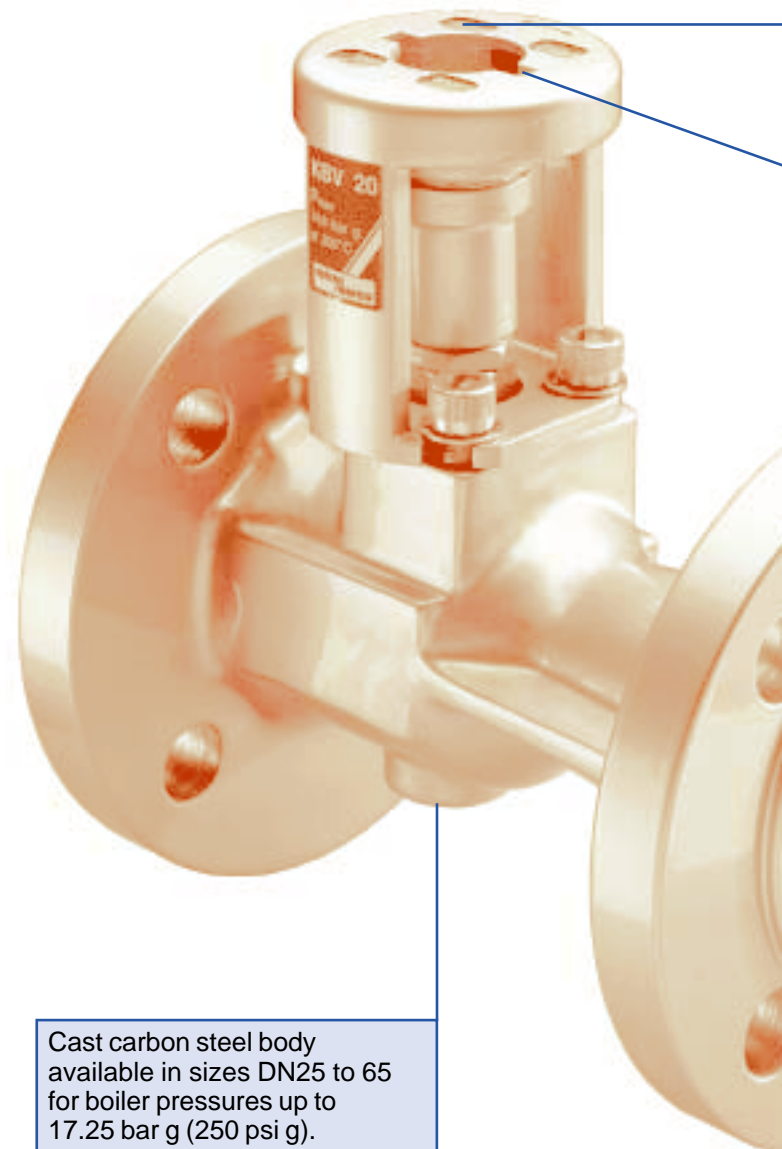
Excessive bottom blowdown is very costly in terms of both lost heat energy and water treatment chemicals, so it is important that it is kept to a minimum.

To minimise energy loss and ensure that the total dissolved solids (TDS) level is monitored and kept within design limits, the fitting of an automatic TDS control is also recommended.

Symbols clearly indicate when valve is open or closed.



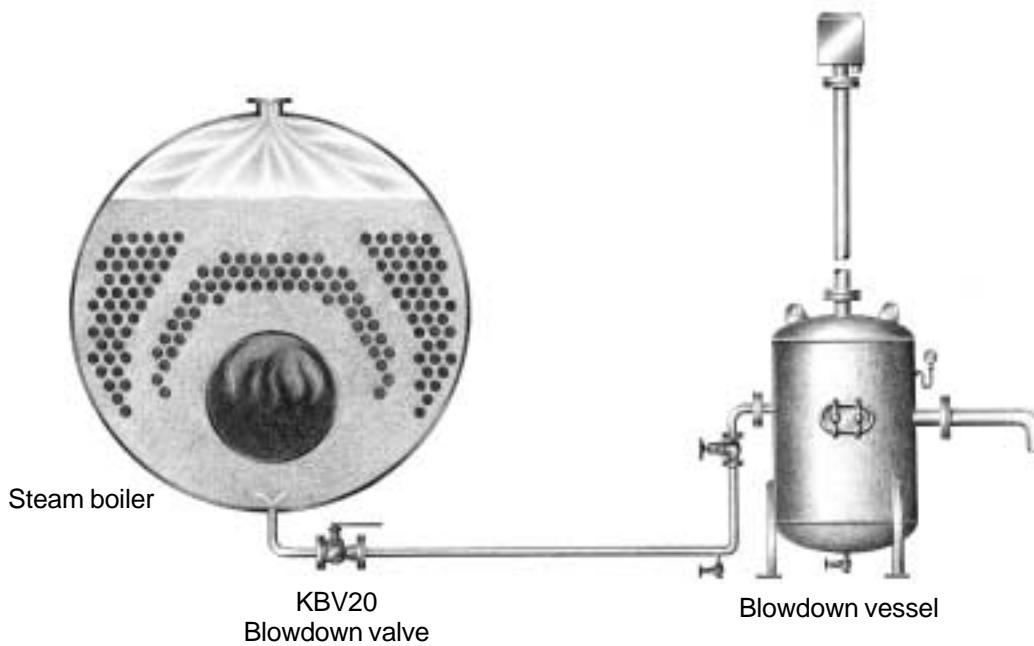
Keys are supplied separately to comply with boiler house regulations.



Cast carbon steel body available in sizes DN25 to 65 for boiler pressures up to 17.25 bar g (250 psi g).

# Typical application

y to  
use  
ns.



Quarter turn movement from fully closed to fully open ensures correct 'quick burst' operation.

Special pin locations ensure key can only be removed when valve is closed.



Ball valve with reinforced PTFE seals for tight shut-off.

## Installation

It is recommended that the valve is installed to discharge into a blowdown vessel, although the discharge could be piped to an existing blowdown pit if necessary.

The operating key is supplied separately and cannot be removed unless the valve is closed. This safety feature is most important where multiple boilers have a shared discharge and it is good practice (mandatory in UK and several other countries) to have only one key in the boiler house. This feature is also useful for single boilers, where the key may be removed after blowdown by the person responsible, thus avoiding wasteful repetitive operations by other staff.

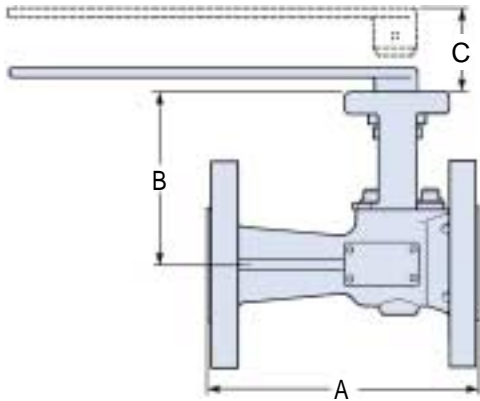
The positive isolation provided by the key operated valve is also a safety benefit during maintenance or repairs to the blowdown vessel and its associated pipework.

## User benefits

- Purpose designed for boiler blowdown applications meeting the requirements of most national standards.
- Option of extended 'T' bar key for restricted access installations.
- Can be pneumatically actuated retrospectively for timed automatic blowdown.
- Use of two separate valve stem seals reduces potential leaks and minimises maintenance.

# Technical details

## Blowdown valve

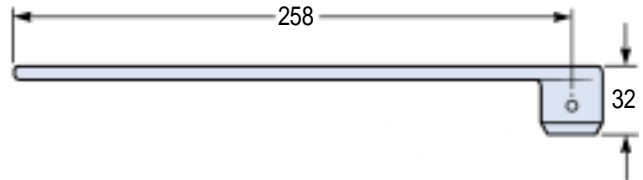


## Operating keys

Two types of key are available; a standard key, 258 mm long, or, for installations where access to the valve is limited, an extended T-bar, overall length 500 mm.

The keys are supplied separately.

### Standard key



## Dimensions/weights

(approximate) in mm and kg

Size	A	B	C	Weight
DN25	165	114	35	6.0
DN32	178	117	35	7.5
DN40	190	126	35	9.8
DN50	216	134	35	12.0
DN65	241	146	35	18.0

## Flanges available:

BS 4504 PN40 and BS 1560 Class 300

**Note:** DN32 is available flanged BS 4504 PN40 only.

## Regulations

Strict regulations govern the fitting and operation of blowdown valves. It is important that the user is acquainted with these regulations.

**Examples of United Kingdom regulations are listed below:-**

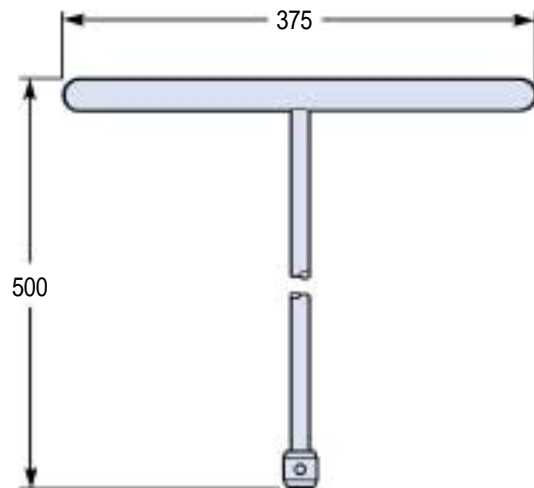
Factories Act 1961 Chapter 34, Section 34.

Health and Safety Executive Guidance Note PM60.

BS 1113 - Specification for design and manufacture of water tube steam generating plant.

BS 2790 - Specification for design and manufacture of shell boilers of welded construction.

### T-bar key



## Typical specification

Spirax Sarco key operated bottom blowdown valve type KBV20, size DN40, flanged BS 4504 PN40.

Standard key for KBV20.

Some of the products shown may not be available in certain markets.

KBV20

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