

# SPECIFICATION

**Media:**

Non-corrosive gases, air, oil (up to 200 sec. Redwood No.1)  
 Combustible gases, families 1 (town gas), 2 (natural gas) and 3 (L.P.G.)

**Media Temperature Range:**

-15°C to +60°C

**Ambient Temperature Range:**

-15°C to +60°C

**Opening Speed:**

BT-BC6689: 30 seconds max.  
 BT-BC66810 & BT-BC66811: 70 seconds max.

**Closing Speed:**

< 1 second

**Electrical:**

Versions available: 110V or 230V 50Hz  
 220V 60Hz

All models have screw terminals and provision for earthing

**Rating:**

BT- BC6689  
 Opening - 110V version 160VA  
 220/230V version 200VA  
 Fully Open - all versions 18VA  
 BT-BC66810 – BT-BC66811  
 Opening - 220VA  
 Fully Open - 37VA  
 Closed and Open Position Switch Ratings:  
 Volt free contacts  
 250V a.c. or 30V d.c. 5A max. resistive  
 2A max. inductive

**Environmental:**

IP54

**Manual Reset Switch:**

BT-BC66810 & BT-BC66811 models only  
 Time to drop out after removal of power - typically 10ms

**Mounting:**

Vertical or Horizontal, actuator in upper hemisphere - see installation section.

**Connections:**

Flanged or screwed - see table below

Flanged connections to BS4504 Section 3.2 Table 11; PN16 flanges (ISO7005)

Screwed connections to BS21 Rp designated (ISO7-1) threads

**Pressure Test Points:**

Upstream and downstream of seat, both sides of body, plugged Rp ¼

**Strainer:**

All models: removable stainless steel mesh

**Approvals:**

All models approved to EN161, Class A Group 2 construction

EC certificated

**Maximum Operating Pressure:**

Maximum forward and reverse operating pressures - see table below

**Flow**

See table below and chart at page 3

**Dimensions and Weight**

See table below

Valve Type	Connection	Actuator	Orifice Dia. mm	Maximum Natural Gas S.G.0.6		Maximum Operating Pressure		Nett Weight kg	Dimensions (Refer to diagram)			
				p2.5mbar m3/hr	p 1"W.G. ft3/hr	Forward mbar	Reverse mbar		A	B	C	D
<b>BT-BC6689FL4</b>	150mm Flanged	BC6689S	150	510	17850	500	150	60.0	356	410	145	240
<b>BT-BC6689FL4SW</b>	150mm Flanged	BC6689S	150	510	17850	500	150	60.0	356	410	145	240
<b>BT-BC66810FL4</b>	200mm Flanged	BC66810S	200	1200	42000	250	150	102.0	458	485	170	295
<b>BT-BC66811FL4</b>	250mm Flanged	BC66811S	250	1430	50050	250	150	160.0	540	530	203	355

## Features

- \* safety shut off valves for gas, air and oil
- \* EN161 approved; EC certificated
- \* robust construction to IP54
- \* electro-hydraulic slow opening operation
- \* closure in less than 1 second
- \* fitted with closed position switch (volt free)
- \* optional built in or remote manual reset switch
- \* optional open position switch (volt free)
- \* flanged and screwed body connections
- \* ultra high flow rate/connection size ratio
- \* removeable strainer for easy maintenance
- \* suitable for vertical or horizontal mounting
- \* plugged test points both sides of body
- \* remote emergency stop switches available
- \* remote thermal fuses available
- \* 20mm entry for cable or conduit entry
- \* open position indicator
- \* available in 110V and 230V 50Hz versions

### ADDITIONAL FEATURES OF 200MM AND 250MM POWERSEAT

- \* red l.e.d. Power 'on' indicator
- \* amber flashing l.e.d. 'valve opening' indicator
- \* green l.e.d. Valve 'open' indicator
- \* membrane type control panel on actuator
- \* integral manual reset switch as standard
- \* manual reset switch can be wired in or out
- \* open position switch (volt free) as standard

## Description

The **Powerseat** family is an electro-hydraulically operated range of gas safety shut-off valves with ultra high flow rates and a range of associated accessories. Their primary function is the on-off control of low pressure combustible gases, air and oil and may be used for both control and safety shut-off purposes. The valves are suitable for the three families of combustible gas as follows, 1st, town gas; 2nd, natural gas and 3rd, Liquefied Petroleum Gases. They are suitable for oil with a viscosity of up to 200 seconds Redwood.

The valves are normally closed, i.e. energise to open, and are operated from a.c. mains at 230 or 110 volts. Electro-hydraulic operation ensures a smooth, controlled opening at low speed whilst closure time is less than 1 sec.

**Powerseats** are available in connection sizes from DN150 (6") to DN250 (10") flanged, thereby covering an extremely wide range of commercial and industrial applications. Complementary high quality solenoid valves are available to cover smaller sizes, where the ultra high flow rate of the Powerseat is not so important.

Valve construction consists of a die cast aluminium body, a removable stainless steel strainer and an actuator having the valve closure head as an integral part. The actuator may be removed from the body for servicing and access to the strainer without removal of the body from the line. Flanged valves have a cast iron body

The actuator consists of a pump and motor, a relief valve, operating cylinder, piston and push rod, valve head and seals, hydraulic fluid and electrical switchgear. When the valve is energised the relief valve closes, the motor starts and the pump forces fluid into the cylinder driving the valve open. At this point the closed position switch contacts change state (this does not affect the operation of the valve as they would typically be connected to an external burner

sequence control). When the fully open position is reached a limit switch (adjustable) changes state, switches off the pump motor and illuminates an amber neon indicator on the case to show that the valve is fully open. Where a factory fitted optional open position switch is fitted this will also change state, again without affecting the valve operation as it will be connected to an external control system.

The relief valve remains closed and will do so until power is removed. Removal of power causes the relief valve to open and the safety shut off valve to close.

Manual reset switches, either integral or remote mounting, are available as accessories for on site fitting. When wired in, manual intervention is required to operate the valve after mains interruption, i.e. after a power cut or when the valve is first energised. To facilitate this, the 'reset button' is momentarily depressed latching the reset switch in the 'on' position allowing the valve to operate.

### Additional features of the 200 and 250mm Powerseat

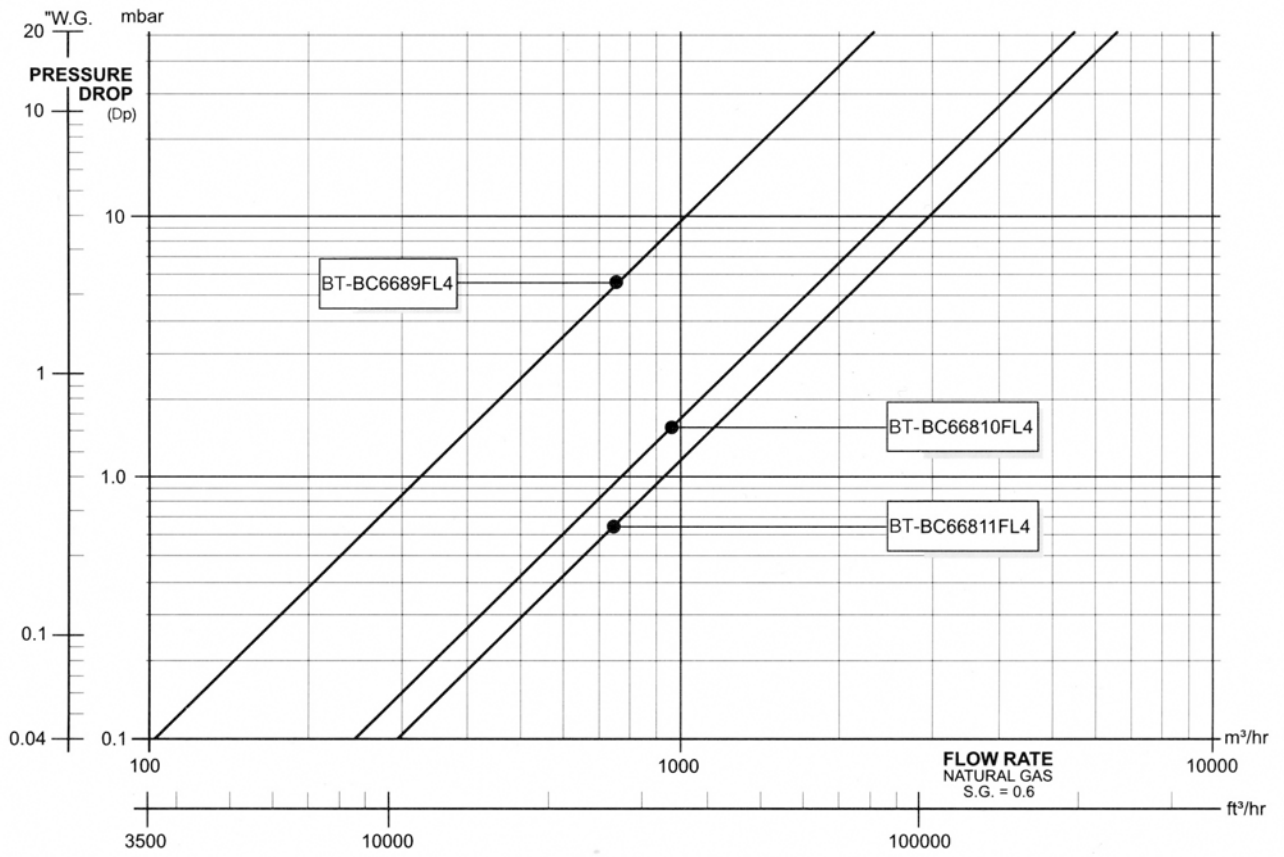
These valves feature a membrane covered control panel on the actuator. Upon energising the valve a red LED illuminates on the control panel and remains illuminated whilst power is 'on' to the valve.

Whilst the pump is running an amber LED on the control panel flashes to indicate that the valve is opening. This goes out when the valve is fully open and is replaced with a green 'open' LED.

The valves feature an integral 'manual reset switch' as standard which can be wired out at any time. Operation of the switch is otherwise identical to the optional switches on the smaller valves.

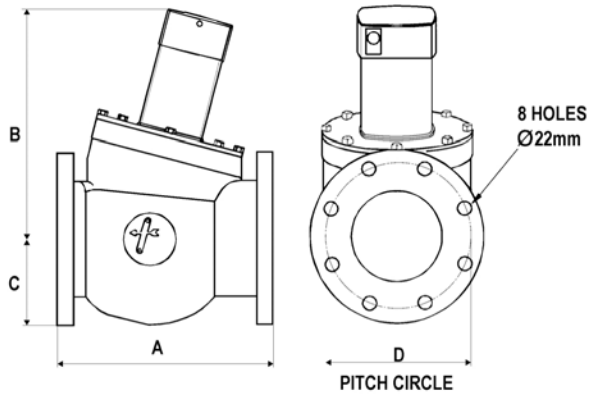
# Flow

## BT-BC6689 to BT-BC66811 MODELS



# DIMENSIONS

## BT-BC6689FL4



## BT-BC66810FL4 BT-BC66811FL4

