

626

flow switch



altecnic

# 626 flow switch



## Applications

The Altecnic 626 flow switch detects whether there is any flow in the pipe work and opens or closes an electrical contact.

It is normally used in heating, air-conditioning, refrigeration, water treatment, additive pumping and process systems in general.

By means of the flow switch it is possible to control devices such as pumps, burners, compressors, refrigerators, motorized valves, to turn on indicator and alarm devices and regulate equipments for dosing water additives.

In heating systems especially, the flow switch has the objective of switching the burner off in case of a lack of medium circulation within the water heater circuit. A lack of circulation would otherwise impair the operation of the temperature-sensitive safety and protection devices.

## Materials

Component	Material	Grade
Body	Brass	BS EN 12165 CW617N
Cover	Polycarbonate	Self-extinguishing
Microswitch casing	Polycarbonate	Self-extinguishing
Bellows rod and bellows	Stainless steel	
Paddle for within pipe	Stainless steel	
Microswitch spring	Stainless steel	
'O' ring seals	EPDM	

## Technical Specification

Medium:	Potable water and glycol solutions
Max. percentage of glycol:	50%
Max. working pressure:	10 bar
Temperature range:	-30°C to 120°C
Max. ambient temperature:	55°C

Connection:	1" male
Suitable of pipe diameters;	1" to DN200

## Electrical Specification

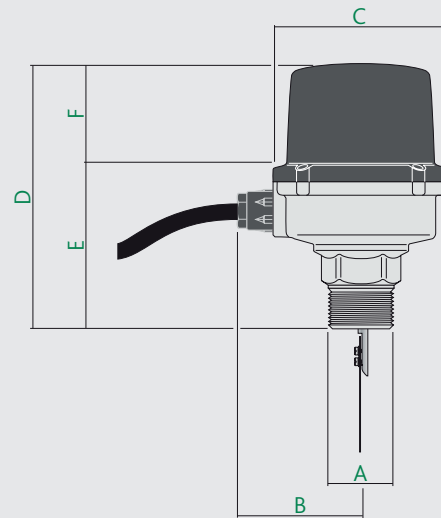
Voltage:	250 V
Current:	15 (5) A
Protection Classification:	IP 54
Mark:	CE

## Certification

The 626 flow switch complies with the essential safety requirements of European Directives 89/336/EC and 72/23/EC.

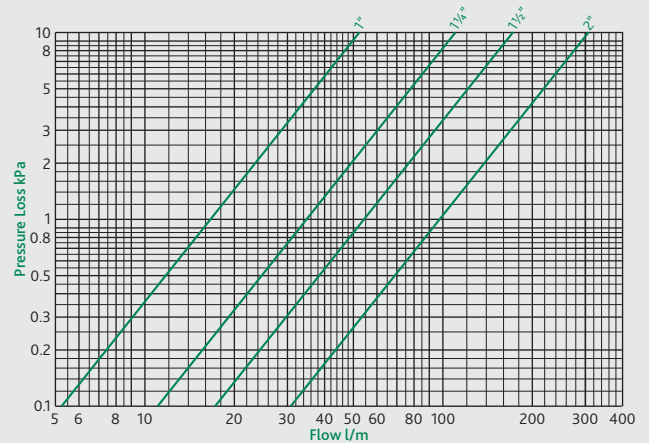
\* The Kv values refer to the headloss in 1 m long pipe lengths of the stated diameter, with the flow switch installed and the blade of the appropriate length.

## Dimensions

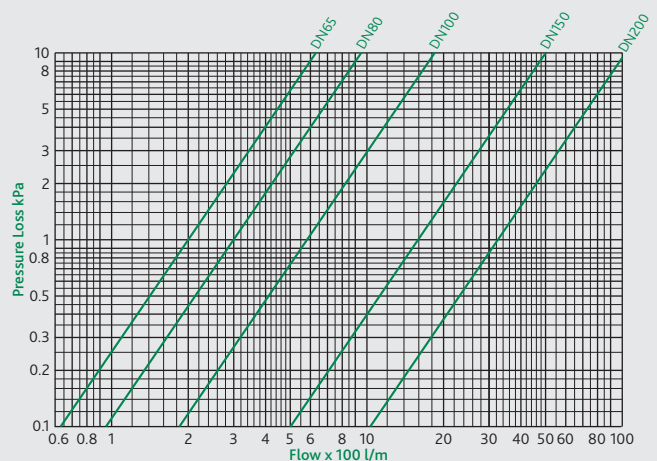


Prod Code	A	B	C	D	E	F	kg
626600	G1B	63	87	135	74	61	0.93

## Kv Value and Flowrate



Size	1"	1 1/4"	1 1/2"	2"
Kv* - m <sup>3</sup> /h	10	21	32.5	58



Size	DN65	DN80	DN100	DN150	DN200
Kv* - m <sup>3</sup> /h	120	180	350	950	1950

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## Operating Principles

The flow switch is composed of a blade (1) integral with a control rod (2), connected at the top to an adjustable counter spring (3).

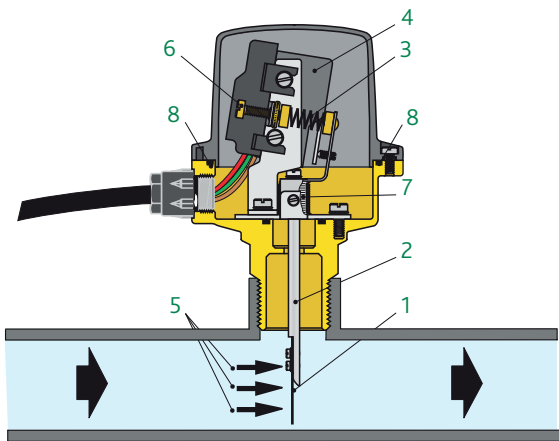
The assembly, by turning around a pin under the action of the water flow, operates a microswitch contained in a protective casing (4).

At rest, the counter spring keeps the microswitch contact open.

When the increasing flow rate of the water, within the pipe, becomes equal or greater than the trip flow rate, the thrust (5) on the blade (1) applied by the flow overcomes the opposing force applied by the adjustable spring (3) thus making the microswitch contact close.

With a decreasing flow rate, on reaching the trip flow rate value, the flow thrust on the blade is not enough to overcome the opposing force applied by the adjustable spring, so the blade returns to the rest position and the microswitch contact opens.

The trip values for closing (increasing flow) and opening (decreasing flow) the microswitch contact can be modified by means of the adjusting screw (6).



## Construction Details

### Electric component protection

A metal bellows (7) separates the electric and the hydraulic components.

Since this is the most stressed part, which must prevent any contact between the medium and the electric components, it is made of stainless steel.

Other mechanical components are also made from stainless steel to make them immune from corrosion.

### Insulating protective cover

The 'O'-Ring seal (8) between the body and the cover, gives a protection class of IP 54, ensures operation in particularly damp and dusty places.

The insulating protective casing (4) on the microswitch avoids the risk of accidental contact when calibrating.

Both the microswitch protection and the cover are made of self-extinguishing V-0 class plastic.

### Electric switch over contact

The electric switch over contact permits turning on or off any electric device at the trip flow rate.

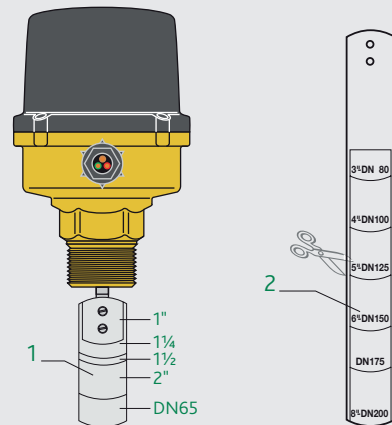
### Setting screw

The setting screw (6) allows easy adjustment of the trip flow rate as desired.

## Installation

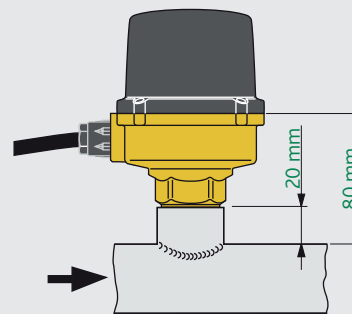
The unit is equipped with a set of blades (1), to be used for different pipe diameters, specifically sized to allow easy installation and minimal head losses.

For diameters DN80 and larger, it is necessary to change to the longer blade (2) (supplied in the package), just cutting it to the size corresponding to the pipe diameter.



The flow switch should preferably be installed on the pipe with the control rod upright, respecting the flow direction indicated by the arrow on the cover and on the body exterior.

For correct blade operation, it is necessary to install the flow switch the distance shown below, using a sleeve welded onto the pipe and drilled through.

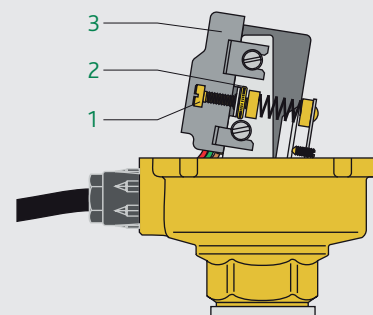


## Setting

The setting is adjusted by turning the screw (1) clockwise to close the contacts at a higher flow rate or anticlockwise for lower values.

After making the adjustment, lock the setting screw with the ring nut (2).

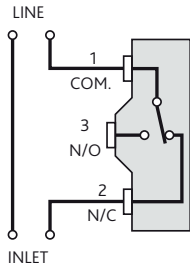
The operator is protected against accidental contact with electrical parts of the flow switch by an insulating protective cover (3) on the microswitch.



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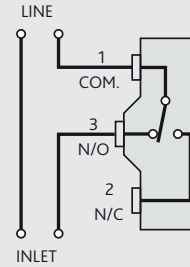
## Outline of the Microswitch Connections

Flow switch used to turn on a device with **no flow**.



## Outline of the Microswitch Connections

Flow switch used to turn on a device with **flow**.



## Trip Flow Rate for Horizontal Installations\*

When the trip flow rate is reached or exceeded with an increasing flow, contacts 1 and 3 of the microswitch close, while contacts 1 and 2 open.

On the contrary, when the trip flow rate is reached with a decreasing flow, contacts 1 and 2 close.

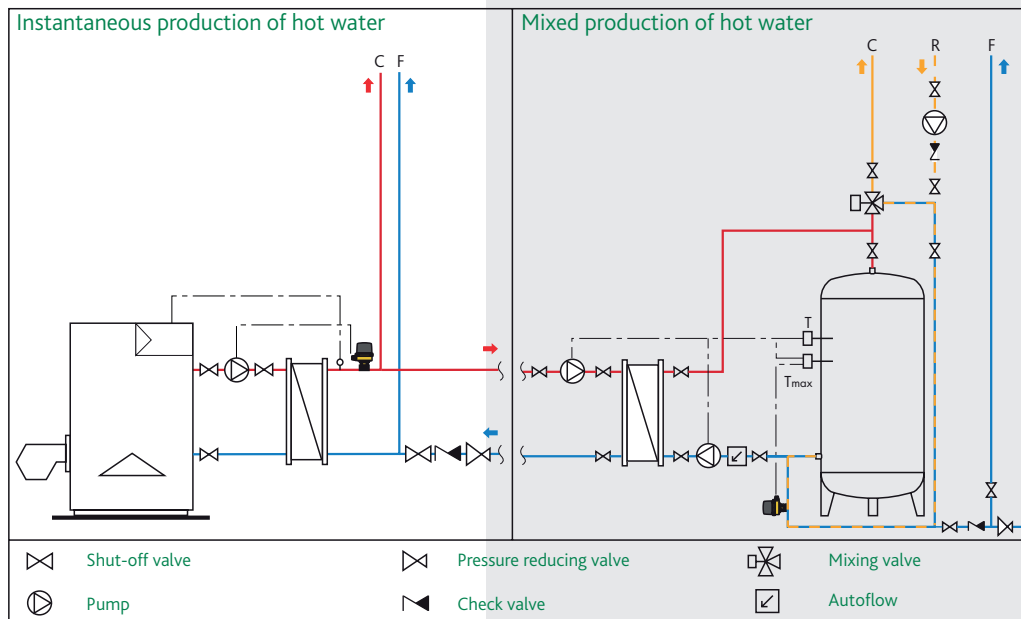
All flow rates in l/m.

\* For vertical applications, it is necessary to use the setting screw (1) to identify the optimum trip point.

Pipe Diameter	Flow	1"	1¼"	1½"	2"	DN65	DN80	DN100	DN150	DN200
Factory Setting	increasing	21.7	28.3	43.3	50.0	83.3	113	166	275	616
	decreasing	15.0	20.8	31.7	36.7	61.7	86.7	141	241	550
Maximum Setting	increasing	46.7	63.3	98.3	111	195	263	358	716	1266
	decreasing	45.0	61.7	96.7	110	191	260	350	600	1166

## Typical Applications - in plumbing systems

In systems for instantaneous hot water with heat exchangers, the flow switch governs the pump, enabling water circulation into the primary circuit of the heat exchanger when required by the user.



E & O.E

Altecnic Ltd Mustang Drive, Stafford, Staffordshire ST16 1GW

T: +44 (0)1785 218200 E: sales@altecnic.co.uk

Registered in England No: 2095101

altecnic.co.uk

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