

# 850T Series

850T Series solenoid valves

## Technical Data Sheet

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## Description

Solenoid valves of the **850T Series** are devices designed to shut off the flow of fluids in pipelines automatically. Made of brass, they are available in normally closed or normally open versions, with female-female connections. The valve is indirectly operated, and suitable for handling fluids compatible with the materials used in manufacture. It is available in NC (normally closed) and NO (normally open) configurations using 230V and 24V power supply.



### 850T

Solenoid valve for water and air. Operating temperature: -10 to 90°C.

PN25. Available in normally closed (NC) and normally open (NO) versions.

Maximum differential pressure: 16 bar.

Requires minimum operating pressure of 0.2 bar. Models with FF threaded connections in sizes DN 3/8" to 1 1/2".

Compliant with: IEC 335 – EN 60529 (DIN 40050)

IMPORTANT: the PG9 connector must always be ordered together with the valve.

Type	Part No.	DN	Power supply	Kv*
Normally Closed (NC) solenoid valve for water	850T38W220	3/8"	230V	60
	850T38W24	3/8"	24V	60
	850T12W220	1/2"	230V	70
	850T12W24	1/2"	24V	70
	850T34W220	3/4"	230V	140
	850T34W24	3/4"	24V	140
	850T1W220	1"	230V	190
	850T1W24	1"	24V	190
	850T114W220	1 1/4"	230V	400
Normally Open (NO) solenoid valve for water	850T112W220	1 1/2"	230V	520
	850T38W220NA	3/8"	230V	60
	850T38W24NA	3/8"	24V	60
	850T12W220NA	1/2"	230V	70
	850T12W24NA	1/2"	24V	70
	850T34W220NA	3/4"	230V	140
	850T34W24NA	3/4"	24V	140
	850T1W220NA	1"	230V	190
	850T1W24NA	1"	24V	190
	850T114W220NA	1 1/4"	230V	400
850T112W220NA	1 1/2"	230V	520	
PG9	P99035	Single connector		

\*Kv=expressed in l/min of water at 20 °C with pressure drop of 1 bar through the solenoid valve

#### Technical specifications

Operating temperature	-10 to 90 °C
Maximum ambient temperature	80 °C
Minimum operating pressure	0.2 bar
Maximum differential pressure	Brass – CW617N
Operation	16 bar
Degree of protection	IP65 EN 60529 (DIN 40050)
Electrical compliance	IEC 335
Electrical connection with standard connector	DIN 43650
Maximum permissible viscosity	12 cSt / 2°E
Compatible fluids	Water, air, inert fluids
Coil power rating	8 W

#### Materials

Valve body	Brass UNI EN 12165 - CW617N
Sleeve	300 grade stainless steel
Moving core	400 grade stainless steel
Spring	300 grade stainless steel
Seals	NBR (Nitrile)

## Application

These are valves with special features enabling them to cover a notably wide range of applications; in particular, they are intended for use as shut-off components in the circuits of heating, conditioning, cooling and treatment systems handling water, air and inert fluids.

## Operation

The operation of **850T Series** solenoid valves consists in a movement of the valve element (piston, plunger) between a fully open and a fully closed position, controlled directly or indirectly by a solenoid (electromagnet/coil).

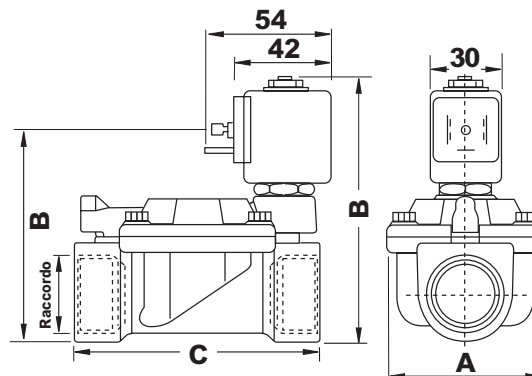
The essential parts of the valve are an electromagnetic coil, a moving core and a valve body. The coil is mounted directly on the guide tube (sleeve) housing the core, sealed and secured permanently to the valve body; the moving magnetic core is free to slide internally of the sleeve and held in position by a thrust spring (or return spring). When the solenoid is energized, the moving core is attracted by the force of the magnetic field and the valve element, which is rigidly associated with the core, opens (or closes) the passage.

These models are operated indirectly, or servo-controlled, and require a minimal differential pressure for their activation. Accordingly, the valve is equipped with a pilot nozzle, driven by the coil, and a diaphragm that closes the main valve port.

When the coil is energized, the core opens the pilot nozzle in such a way that pressure on the top side of the diaphragm can be released and directed toward the outlet of the valve body. This creates a pressure imbalance on the diaphragm, which consequently lifts, thereby allowing the valve to return completely to the normally closed position.

## Overall dimensions (mm)

### 850T



DN	A	B	C
3/8"	40	103	72
1/2"	40	103	72
3/4"	65	105	104
1"	65	112	104
1¼"	98	125	144
1½"	98	125	144

## Specification text

### 850T Series

**850T Series** water/air solenoid valve – WATTS brand – with female connections, size DN 3/8" up to 1½", for use in heating, conditioning, cooling and treatment systems handling water, air and inert fluids. Operating temperature range: -10 to 90 °C. PN25. Available in normally closed (NC) and normally open (NO) versions. Max. differential pressure: 16 bar.

**Compliant with IEC 335-EN 60 529 (DIN40050) standards.**



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