







# **Description**

T-Valve is a LoRaWAN water valve used in residential or commercial buildings. 3/4" and 1" versions available.

–10,5 cm –

# **Product features**

- Remote water supply control
- Water temperature
- Environment temperature
- Wired Flood Sensor (optional)
- Housing tampering detection
- Magnetic tampering detection
- Buttons for manual control
- LEDs for valve and device status indication
- Buzzer

# **Applications**

- Smart Buildings
- Smart home
- Residential buildings
- Commercial buildings
- Environment monitoring

# **Device specifications**

### Mechanical specifications

WEIGHT	550gr
DIMENSIONS	105x117x90,8mm
ENCLOSURE	PC/ABS; Valve PPE/PS
Value Considerations	

#### **Valve Specifications**

VALVE TYPE	Solenoid valve
FITTINGS SIZES	DN20 or DN25
OPERATING PRESSURE	5-8 bar
MEDIA TEMPERATURE	1-75°C
VALVE RESPOND TIME	open ≤ 0.15s; close ≤ 2s



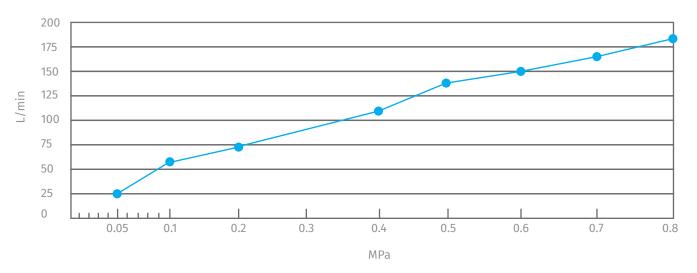
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#### PRESSURE/FLOWRATE RATIO

Pressure (MPa)	0,05	0,1	0,2	0,4	0,5	0,6	0,7	0,8	
Flowrate (L/min)	25	55	72	115	135	150	165	180	



CEALING TEST (STATIS DESCRIPE)	
LEAKAGE UPON LOW WATER	0,05MPa ≤ 0,1mL/min
LEAKAGE UPON HIGH WATER	1,2Mpa zero leakage
LOW WATER PRESSURE CLOSING	At water pressure 0,05MPa solenoid valve can be closed manually
HIGH WATER PRESSURE CLOSING	At water pressure 0,8MPa, solenoid valve can be closed normally
Performance test	

#### SEALING TEST (STATIC PRESSURE)

COLD WATER	High pressure	1,2MPa
	Low pressure	0,02MPa
HOT WATER	High pressure	0,8MPa
	Low pressure	0,02MPa

Service life	≥ 1,000,000 cycles
Operating conditions	
TEMPERATURE	0-60°C
HUMIDITY	35%-90% RH (non-condensing)
PERMISSIBLE LIMITING WATER	≤ 1,2MPa
Storage conditions	
STORAGE TEMPERATURE	-5-+80°C (no freezing state)
STORAGE HUMIDITY	25%-95% RH (non-condensing)

## Operating conditions

TEMPERATURE	0-60°C
HUMIDITY	35%-90% RH (non-condensing)



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#### Power supply

BATTERY TYPE	LiSOCl2 ER26500 3.6V 9000mAh
OPERATING VOLTAGE	3.6VDC
EXPECTED BATTERY LIFE	Up to 10 years (depending on configuration and environment)
EXTERNAL POWER SUPPLY	Optional

#### Radio/Wireless

LoRaWAN® 1.0.1
LoRaWAN® End-to-End encryption (AES-CTR)
Class A End-device
OTAA, ADR, Adaptive Channels setup
EU863 – 870; Other LoRaWAN regional settings available upon request
130dB
14dB

#### Conformity

CE	2014/35/EU Low Voltage Directive 2014/30/EU EMC Directive	EN 60950-1:2006/ A11:2009 / A1:2010 / A12:2011 / A2:2013 EN 301489-1 V2.1.1; EN 301489-3 V2.1.1
		EN 300220-1 V3.1.1; EN 300220-2 V3.1.1

#### **ROHS**

DRINKING WATER	ACS	CARSO - L. S. E. H. L. File reference 17 ACC LY 591
CERTIFICATION	KTW	
	NSF/ANSI/CAN	61-2018, Drinking water system components - Health Effects
	NSF/ANSI	372-2016, Drinking water system component - Lead content
	USA California Health and Safety Code 11687	Reduction of Lead in Drinking Water Act

USA S.3874 — 111th Congress (2009-2010)

Reduction of Lead in Drinking Water Act
Reduction of Lead in Drinking Water Act

### Communication protocol

UPLINK/DOWNLINK AVAILABLE REQUESTS

Open/Close Valve

Reduced acccess mode configuration

Temperature water Temperature environment

Configure keepalive period
Enable/Disable flood sensor

Request full device information in next transmission

Flood detection status

Flood detection wire status (functional or cut/broken)

Box tampering status Magnetic tampering status Hardware/Firmware version

Battery voltage LEDs control Buzzer control

Confiugurable modes and duration Confiugurable modes and duration

E.g. open the valve for 10 minutes every 50 minutes



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# **Sensors**

### Temperature

RESOLUTION	0,1°C
ACCURACY	±1°C

### Wired flood sensor

FEATURES	Two-wire connection Short-circuit detection Missing sensor detection		
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## Magnetic tampering sensor

Plastic enclosure open/close sensor