



Tap water control valve

WHL11 type water hammer relaxation type solenoid valve

- Ideal for water hammer pressure when the valve is closed and water control where abnormal noise is a concern!
- Continuous Dentsu type, latch type

Main uses

It can be used for factory water supply equipment, housing water supply, water saving, watering of green areas in city parks and roads, etc.

(Compliant with Japan Water Works Association standards * 5)

Overview

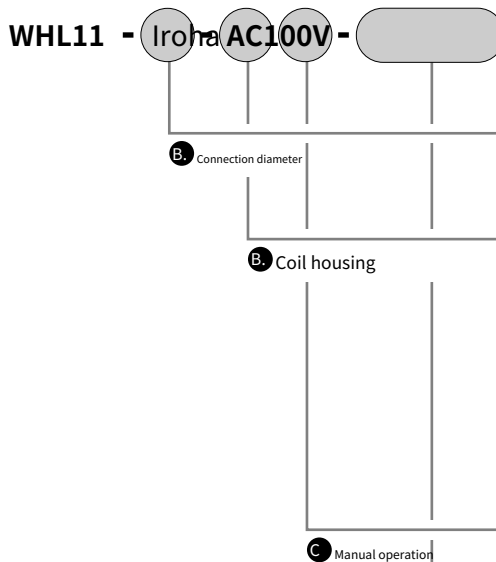
- Low water hammer
(Compared to our general solenoid valve 1/30 or less)
- Good responsiveness with 2-step speed mechanism
(Valve closing time 1 to 2.5 seconds) * 4
- Battery control is possible with a latch coil
- Bypass distribution with manual operation (optional)
Tube can be omitted

Specifications

Item	WHL11-15A-2C- * 1	WHL11-20A-2C- * 1	WHL11-25A-2C- * 1
Fluid used	Tap water / secondary treatment		
Connection diameter	Rc1 / 2.	Rc3 / 4	Rc1.
Orifice.	mm 17.	26	
Cv value	5.2.	9.7.	13.3.
Withstand (Water) pressure	MPa.	1.75.	
Working pressure range.	MPa.	0.03 to 0.7.	
Fluid temperature	°C.	4-60.	
Ambient temperature	°C.	--- 10-60.	
Mounting posture	Carp Piping from horizontal to vertical with the part facing up 3.		
Mass	kg. 1.	1.4.	1.5.
Electrical specifications			
Rated voltage	V.	AC100,200 (50 / 60Hz), DC12 / 24 * 2.	
Power consumption	W.	AC: 4 / 3.2 (50 / 60Hz), DC: 6 * 2.	
Heat resistant class		B (JIS C 4003).	
Temperature rise	°C.	70.	
Leakage current	mA	5 or less / AC100V, 3 or less / AC200V, 1 or less / DC24V, 2 or less / DC12V	

- * 1 Specify the voltage (AC100V, AC200.0V, DC24V, DC12V).
- * 2 The rated voltage and power consumption of the outdoor type (but avoid direct sunlight) will change.
Please refer to the model number display method below.
- * 3 If there is a risk of air mixing, use horizontal piping.
- * 4 It depends on the pressure, flow rate, and piping conditions, but it is a characteristic with a pressure of 0.5MPa and no secondary piping.
- * 5 Compliant with the Japan Water Works Association standard means that it meets the Japan Water Works Association standard, although it has not been certified by the Japan Water Works Association.

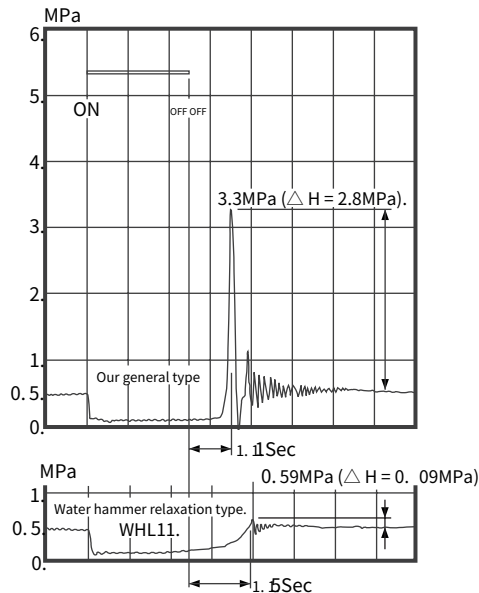
Model number display Method.



Symbol	Contents
B. Connection diameter	Galiber
15A.	Rc1 / 2.
20A.	Rc3 / 4
25A.	Rc1.
B. Coil housing	Le housing
2C.	Grommet lead wire (standard)
2CS.	Grommet lead wire with surge killer.
2G.	With DIN terminal box (Pg11)
2HS.	With DIN terminal box Lamp with surge killer (Pg11).
2CG.	Conduit (CTC19)
2CH.	Conduit (G1 / 2)
3T.	With T shaped terminal box (G1 / 2)
3RS.	With F shaped terminal box Lamp with surge killer (G1 / 2).
7A *	Open frame coil (AC: 2.5W, DC: 3W).
7L *	Latch type (DC6V coil 1.4W for battery control).
C. Manual operation.	
No symbol.	non (standard)
A.	Yes
N. Voltage	
AC100V.	Coil housing model number is 2C.
AC200V.	2CS, 2G, 2HS, 2CG, 2CH,
DC12V.	3T, For 3RS.
DC24V.	
AC100V.	Coil housing model number is 7A.
AC200V.	In the case of
AC24V.	
DC24V.	
DC6V.	When the coil housing model number is 7L (latch type).

Water hammer

Water hammer data (peak ratio = 0.09 / 2.8. 1/31)



Note) The above data is pressure, piping conditions, flow rate, electromagnetic. It depends on the valve etc.

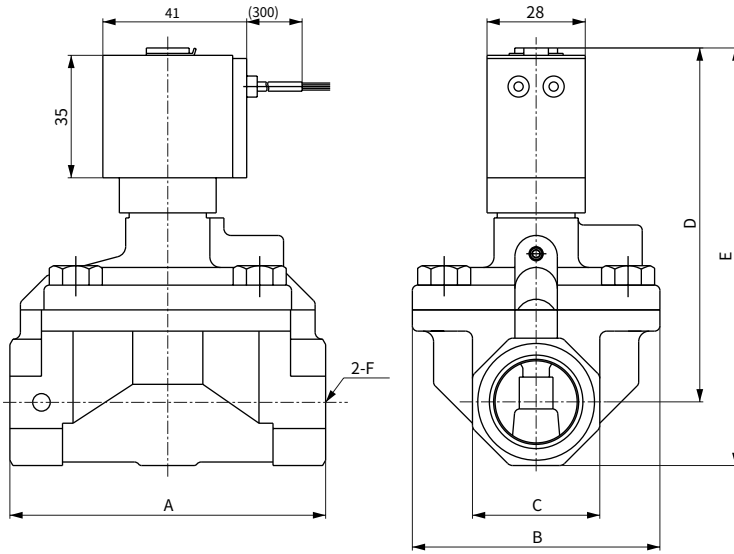
* Marks are outdoor specifications suitable for urban greening and sprinkling fields (However, avoid direct sunlight.)

WHL11 Series

External dimensions

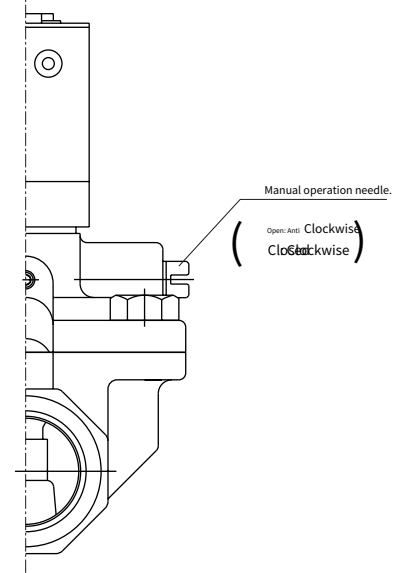
15.
WHL11-20A -2C
25

- Grommet lead wire.



15.
WHL11-20A - □ A
25

- With manual operation.

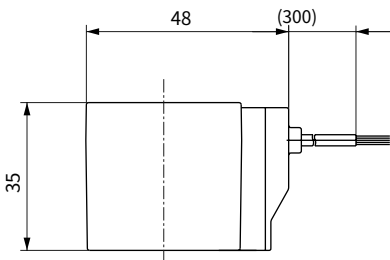


	A	B	C	D	E	F
WHL11-15A.	71.	66.	29.	95.	110.	Rc1 / 2.
WHL11-20A.	90.	70.	36.	101.	119.	Rc3 / 4
WHL11-25A	90	70	44	101	one two Three	Rc1

Coil housing shape

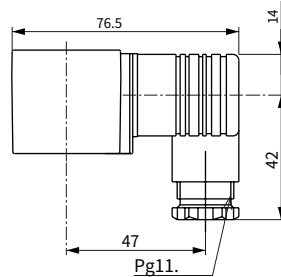
15.
WHL11-20A -2CS
25

- Grommet lead wire with surge killer.



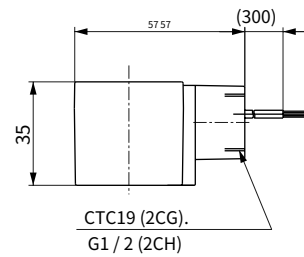
15.
WHL11-20A - 2G.
25

- With DIN terminal box (Pg11)



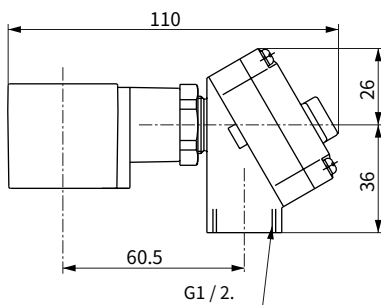
15.2CG
WHL11-20A - 2CH
twenty five

- Conduct (CTC19 / G1 / 2)



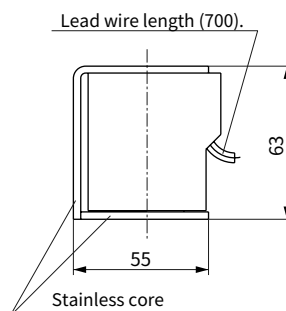
15. 3T.
WHL11-20A - 3RS
25

- With T-shaped terminal box.



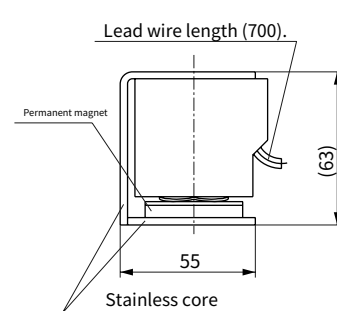
15.
WHL11-20A -7A.
25

- Open frame coil

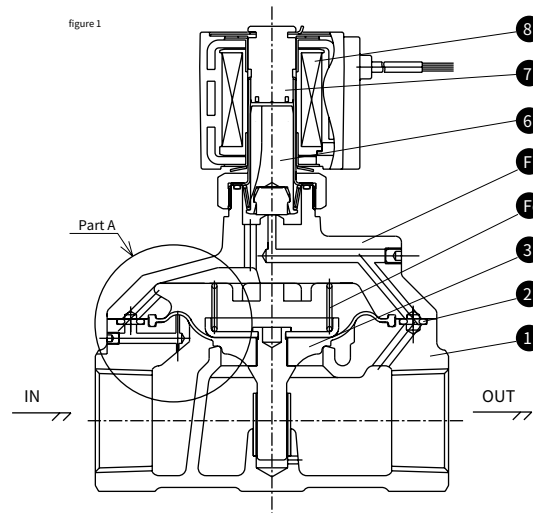


15.
WHL11-20A -7L.
25

- Latch type



Internal structure and parts list



Part number	Part name	Material	Quality	Part number	Part name	Material	Quality
1	body	CAC406	Bronze casting	Five	Staffing	CAC406	Bronze casting
2	O ring	NBR	Nitrile rubber	6	Plunger	SUS405	stainless
3	Diaphragm assembly	EPDM, SUS304	Ethylene propylene rubber, stainless steel	7	Core assembly	SUS405, C3604	Stainless steel, brass (nut part)
Four	spring	SUS304	stainless	8	coil	B Seed mold	

Low water hammer mechanism explanation

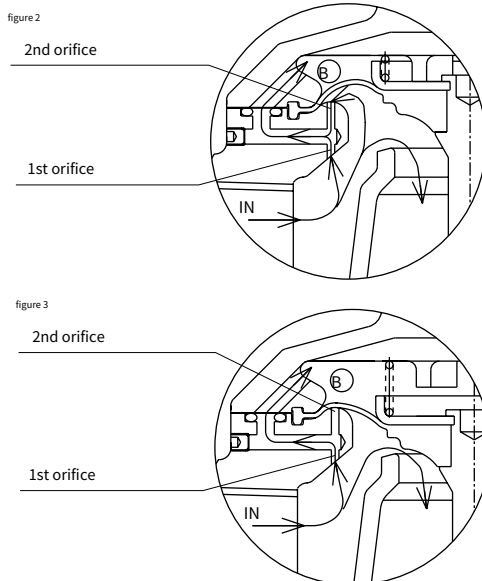


Fig. 2 and Fig. 3 are enlarged views of Fig. 1A.

When the energization of the coil is stopped, the plunger returns and the valve closing operation starts.

Immediately after the valve closing operation starts (see Fig. 2), the water flowing in from the IN side flows as shown by the arrow. This time B The diaphragm assembly moves quickly in the valve closing direction because water flows into the chamber through the first and second orifices.

Then, when the valve opening becomes relatively small (see FIG. 3), the diaphragm assembly closes the second orifice. B Since water flows into the chamber through the first orifice, the valve closing operation of the diaphragm assembly is slowed down and the water hammer at the completion of the valve closing operation is suppressed to a low level. In addition, a series of valve closing operations (two-step speed, fast → slow) has shortened the valve closing operation compared to our conventional products.



Notes

(1) Use this solenoid valve for industrial water (water that is about the size of secondary treated water with little contamination). For agricultural water, sewage, seawater, water mixed with foreign substances, etc.

Please avoid using.

(2) Be sure to add the rated voltage at the end of the solenoid valve coil. Ten Make sure that voltage is applied.

③ If there is a risk that the coil will be temporarily submerged, the continuous energization type is coil housing model number 7. A (Open frame coil), latch type is 7L Use (latch type coil). (Cannot be used in a submerged state at all times.) Do not allow the other coils to get wet.

④ If there is a risk that the solenoid valve will freeze in winter, take anti-freezing measures. (Example: Store the solenoid valve in a box and wrap it with heat tape, etc.) ⑤ To prevent solid foreign matter such as dust from flowing into the solenoid valve, place it on the solenoid valve inlet side. 80 ~ 120 Install a mesh strainer.

⑥ When opening the solenoid valve with a manually operated needle 0.5 ~ 3 rotate(0.1 MP a that's all)

, 3 ~ Five rotate(0.1 MP a Please let me (below).

⑦ Avoid direct sunlight.

⑧ Before using the product, be sure to fully understand the precautions in the instruction manual before using the product.