Solenoid Maintenance Instructions

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Series 200 & 220

Series 200-SS

Series 300
½”- 1 ¼”

Series 300
1 ½” - 2”

This Manual covers most typical ISIMET Solenoids. If information is needed for any other ISIMET Solenoid, please contact an ISIMET Service Representative.

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ISIMET – General Service Solenoids

200 Series (Brass) 200-SS Series (Stainless Steel) 220 Series (Lead Free Brass)

Servicing Procedures (Service should only be performed by a qualified service technician.)

Series 200, 200-SS and 220 (2 psi differential)
General Service valves are standard for many *ISIMET* domestic water and Compressed Air applications in sizes 1/2" – 3/4" – 1" – 1 ¼" - 1 ½" – 2" for 200 or 200-SS Series Valves and ¾" – 1" – 1 ¼" – 1 ½" for 220 Series Valves.

Solenoids require periodic servicing to prevent failure of the valve. Piping systems should be purged of foreign materials and debris prior to placing the valve in service. *ISIMET* recommends that the solenoids receive periodic, routine service. Debris that has lodged on the piston, in the solenoid valve orifice or diaphragm will prevent the proper operation of the valve. *ISIMET* recommends that wye-strainers be installed in-line directly upstream from each solenoid. These strainers should be cleaned by removal of the drain plug and flushing of the piping, and/or removal of the screen for thorough cleaning.

Sediment build-up due to hard water conditions will cause the piston to be locked in place, causing valve and coil failure. Locking in the open position will prevent proper closure of the valve. A partially diluted Vinegar compound will aid in removal of sediments build-up.

If sediment build-up locks the piston in the closed position and when energized, the coil is unable to pull open the valves, then coil failure due to overstress will occur. There is a risk that this coil failure will also cause other component failure including damage to the transformer or circuit board.

CAUTION: These solenoids are not recommended in operating environments containing excessive corrosive agents.
WARNING: Do NOT apply power to coil unless firmly seated on valve body.

ISIMET – General Service Solenoids with 12-vdc Latching Coils

200 Series (Brass) 200-SS Series (Stainless Steel) 220 Series (Lead Free Brass)

Servicing Procedures (Service should only be performed by a qualified service technician.)

Series 200, 200-SS and 220 (2 psi differential) with 12-vdc Latching Coils are Intended for use with ISIMET Latching PCBs. These valves are intended for use for domestic water where amperage loads exceed Controller's rating or where harsh environments are present or for special applications in sizes 1/2" – 3/4" – 1" – 1 ¼" - 1 ½" – 2" for 200 or 200-SS Series Valves and ¾" – 1" – 1 ¼" – 1 ½" for 220 Series Valves.

Solenoids require periodic servicing to prevent failure of the valve. Piping systems should be purged of foreign materials and debris prior to placing the valve in service. *ISIMET* recommends that the solenoids receive periodic, routine service. Debris that has lodged on the piston, in the solenoid valve orifice, or diaphragm will prevent the proper operation of the valve. *ISIMET* recommends that wye-strainers be installed in-line directly upstream from each solenoid. These strainers should be cleaned by removal of the drain plug and flushing of the piping, and/or removal of the screen for thorough cleaning.

Sediment build-up due to hard water conditions will cause the piston to be locked in place, causing valve failure. Locking in the open position will prevent proper closure of the valve. A partially diluted Vinegar compound will aid in removal of sediments build-up.

If sediment build-up locks the piston in the closed position, the coil will be unable to open the solenoid when it is latched. If sediment build-up locks the piston in the open position, the coil will be unable to close the solenoid when it is unlatched.

CAUTION: These solenoids are preferred over other General Service Brass Solenoids where operating environments contains excessive corrosive agents.

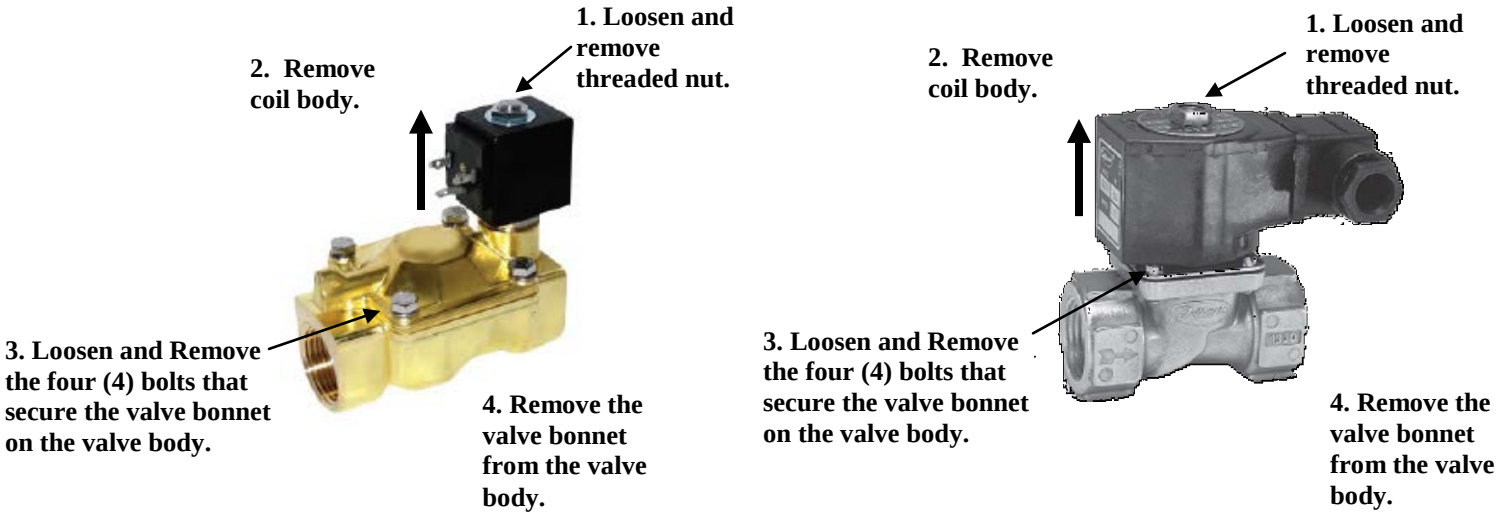
ISIMET – Fuel Gas Specific Solenoids

Servicing Procedures (Service should only be performed by a qualified service technician.)

Series 300 - fuel gas. Aluminum construction valves are standard for all *ISIMET* natural gas applications in sizes 1/2" – 3/4" – 1" – 1 ¼" - 1 ½" – 2" valves.

Solenoids require periodic servicing to prevent failure of the valve. *ISIMET* recommends that the solenoids receive periodic, routine service. Debris that has lodged on the piston, in the solenoid valve orifice or diaphragm will prevent the proper operation of the valve. These valves are rated for low-pressure systems and typically not intended to operate at pressures in excess of 5 oz.

If re-testing of the piping system is required per local jurisdiction, then care should be taken not to over-pressure the valve. Pressurizing the solenoid from upstream at pressures in excess of 15 psi will force the diaphragm to lodge inside the throat of the valve body. Refer to Figure below. The diaphragm will remain in this position even when the coil is energized. This will cause excessive stress on the coil and eventual failure. There is a risk that this coil failure will also cause other component failure including damage to the transformer or circuit board.



Note: It is not necessary to remove the wiring connector from the coil.

Disassembling the Solenoid Valve for servicing. (Most standard units)

Separate the bonnet and piston springs (2).
(Springs may not be able to be removed from some pistons)
Keep the piston and diaphragm or plunger in tack.
Examine the internal core of the valve body, piston, diaphragm, or Plunger.
Remove any debris, metal shavings or oil. Thoroughly clean all parts.
Re-assemble the valve. Make sure piston, diaphragm, plunger and all springs are in place when re-assembling. Tighten all bonnet bolts.
Pressure test the reassembled solenoid.
Reassemble the coil, firmly tighten coil retaining hardware. Energize the coil to verify that the solenoid opens when energized and closes when de-energized.
Power should be turned off to solenoids when utilities are not in service.
***ISIMET* recommends that a maintenance log be maintained for each solenoid and encourages that maintenance reports be faxed to ISIMET upon completion of periodic inspection / service.**

Replacement Parts for 200, 200-SS and 220 Series Solenoids:

Wiring Connectors:
#SCC-100 – Conduit
#SCC-101 – Cable

Solenoid Coils:
#SC-100 – 24vac
#SC-101 – 120vac
#SC-201 – 12vdc

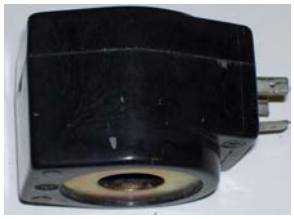
Coil Retaining Hardware:
#SP-130
For sizes ½" thru 2"
Includes nut & washer

Armature Assembly:
#SP-210
For sizes ½" thru 2"

Solenoid Repair Kits:
#SK-20X
Kit includes:
Diaphragm, Piston & Springs
(Note: O-Ring is not provided in all kits)

Replacement Parts for 300 Series Solenoids:

Wiring Connectors:
#SCC-300 – Conduit
#SCC-301 – Cable



Solenoid Coils:
#SC-300 – 24vac
#SC-301 – 120vac
#SC-307 – 24vac EP
#SC-308 – 120vac EP

Coil Retaining Hardware:
#SP-330
For sizes ½" thru 2"
Includes nut

Solenoid Repair Kits:
#SK-30X

Kit includes:
Diaphragm or Plunger, Piston, O-Ring and Springs.

Refer to Images below.

½" – ¾" Solenoids

1" – 1 ¼" Solenoids

1 ½" – 2" Solenoids

"X" Indicator Chart: 1 = 1/2" 2 = 3/4" 3 = 1" 4 = 1 ¼" 5 = 1 ½" 6 = 2"