S211 – G4/G5 (AC) -- Service and Installation --

10/27/2023 Rev.1

DESCRIPTION
The S211 Series Solenoid Valves are 2-way, normally closed, piloted, general-purpose valves. All stainless steel, brass, or Nylon construction with synthetic seating and sealing materials make them suitable for use with a variety of liquids, oils, and gases. Valves may be mounted in any position. A spring-loaded plunger assures positive shutoff. The S4 solenoid coil is rated at 10 watts.

OPERATION
S211 Valves are normally closed (N.C.) and open when electrically energized.

SPECIFICATIONS
Use S211 Valves within the specified operating ranges as indicated on the nameplate and in the complete Catalog Number. (min./max. psi, voltage, hz, maximum media temperature at F ambient, Cv factor, etc.).

OPERATING TEMPERATURES

Ambient	Elastomer	Fluid
32º - 125º F	EPR	32º - 295º F
32º - 125º F	Nitrile	32º - 180º F
32º - 125º F	FKM	32º - 230º F

NYLON OPERATING TEMPERATURES

Ambient	Elastomer	Fluid
32º - 125º F	EPR	32º - 180º F
32º - 125º F	Nitrile	32º - 180º F
32º - 125º F	FKM	32º - 180º F

For other applications, consult the factory.

INSTALLATION
Check valve specifications to make sure of proper application.
1. Clear all lines of foreign matter.
2. Valves are multi-poised and may be mounted in any position. Media flow must be in the direction indicated on the valve body. If sediment is a problem, install a fine mesh strainer having adequate capacity ahead of the valve.
3. Do not use the solenoid housing as a handle. Apply thread seal to the male threads only.
4. Provide clearance for solenoid removal.
5. Wire in accordance with applicable local and national electrical codes. Apply rated voltage.

MAINTENANCE

COIL REPLACEMENT
Turn off the electrical power supply to the solenoid before disconnecting the coil lead wires.
Incorrect coil reassembly can cause coil burnout. At all times, take care not to nick, dent, or damage the plunger tube.

It is not necessary to remove the valve from the pipeline. Follow Steps 1, 2, and 3 under **VALVE DISASSEMBLY**. Disassemble the solenoid, taking care to note the exact order of placement and quantity of parts.

Incorrect reassembly can cause coil burnout. At all times, take care not to nick, dent, or damage the plunger tube.

PARTS
The charts that follow cover replaceable coil part numbers and Repair/Rebuild kits for most S211 valves.

When ordering parts/kits, specify the Catalog Number, Serial Number, and Part Name. If your valve's Catalog Number is not listed, obtain the complete Serial Number, and consult the factory.

REBUILD KIT
The Rebuild Kit contains a plunger/spring/seat disc assembly, plunger tube assembly, O-rings, and an adapter ring.

REPAIR KIT
The Repair Kit contains a seat disc, diaphragm assembly, and O-rings.

REBUILD & REPAIR KIT CHART

Valve	Rebuild Kits	Repair Kits
S211GF__C__G4	KS211C-G4	R211C-G4
S211GF__C__G5	KS211C-G5	R211C-G5
S211GF__N__G4	KS211N-G4	R211N-G4
S211GF__N__G5	KS211N-G5	R211N-G5
S211GF__V__G4	KS211V-G4	R211V-G4
S211GF__V__G5	KS211V-G5	R211V-G5
S211GF__E__G4	KS211E-G4	R211E-G4
S211GF__E__G5	KS211E-G5	R211E-G5
S211GF__J__G4	KS211J-G4	R211J-G4
S211GF__J__G5	KS211J-G5	R211J-G5
S211GF__L__G4	KS211L-G4	R211L-G4
S211GF__L__G5	KS211L-G5	R211L-G5

COIL CHART

Valve	Voltage	DIN Coil	Conduit Coil
S211GF02____	120V 50/60	HS3YN02	HS3GN02A24
S211GF03____	208 50/60	HS3YN03	HS3GN03A24
S211GF04____	240V 50/60	HS3YN04	HS3GN04A24
S211GF24____	24V 50/60	HS3YN24	HS3GN24A24

Cleaning

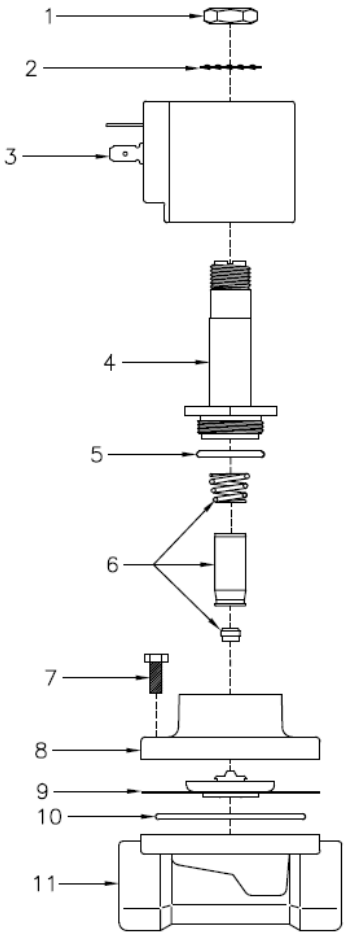
Cleaning fluid must be compatible with all valve components. It is recommended that S211 Series Valves be cleaned on a routine basis by qualified personnel. Valves should be cleaned where flow media or service conditions may determine the life of the valve. If excessive leakage occurs or if the operation is sluggish, the unit must be cleaned.

SERVICE DISASSEMBLY AND KIT INSTALLATION

WARNING

Disassembly, reassembly, or internal adjustment without factory testing may result in hazardous conditions. If the valve does not operate properly after following the INSTALLATION and MAINTENANCE instructions, the complete valve must be replaced by a trained and experienced service person.

1. Disconnect electrical connections and remove retaining nut (1). Remove with lock washer (2).
2. Lift off coil (3) from the plunger tube.
3. Do not damage the solenoid assembly.
4. Use a 1" deep socket to remove plunger tube (4). Do not nick, dent, or damage plunger tube (4) or valve seating surfaces.
5. Carefully hold plunger tube (4) in position when removing from valve bonnet (8) to prevent loss of internal parts.
6. Remove plunger/spring assembly (6),
7. Remove four bonnet bolts (7) and separate valve bonnet (8) from valve body (11).
8. Check seat disc (6) and diaphragm assembly (9) for damage or wear.
9. Replace O-rings (5 & 10), diaphragm assembly (9), seat disc (6), and other parts as necessary. Consult the "REBUILD & REPAIR KIT CHART" for the correct kit part number.
10. Re-assemble in reverse order from above taking care to properly re-install the seat disc (6).
11. Brass/SS - Tighten plunger tube (4) to 50 in/lbs and bonnet bolts (7) to 75 in/lbs. Nylon - Tighten plunger tube (4) to 30 in/lbs and bonnet bolts (7) to 20 in/lbs.
12. Re-connect electrical and test for proper operation.



Special Note – Older units may require a GCV Spanner Nut Tool (106198E) or spanner wrench to remove the plunger tube base nut. Consult your distributor or call GCV customer service for assistance.

TROUBLESHOOTING

If the valve fails to open, check the voltage against the rating on the nameplate, check the voltage at solenoid lead connections, and check the control circuit and solenoid coil for burnout. If the valve fails to close, check the condition of the synthetic seat insert. Also, check for a damaged spring. The valve must be free of dirt to ensure tight shutoff. If media contaminants are a problem, install a fine mesh strainer to ensure proper closing and trouble-free operation.

Buzzing can be caused by low voltage or contaminants between the top of the plunger and the tube head. Check voltage--clean the plunger/interior of the tube assembly.