



# NS211(DC) -- Service and Installation --

Rev.3/17/2022

## DESCRIPTION

The NS211 Series Solenoid Valves are 2-way, normally closed, piloted, general-purpose valves specifically designed for drinking water and other food products. All stainless steel or Nylon-6 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 positions. A spring-loaded plunger assures positive shutoff. The S4 solenoid coil is rated at 10 watts.

## OPERATION

NS211 Valves are normally closed (N.C.) and open when electrically energized.

## SPECIFICATIONS

Use NS211 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	32° - 125° F	Fluid	32° - 295° F
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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 multipoised and may be mounted in any position. Flow must be in 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 a clearance for solenoid removal.
5. Wire in accordance with applicable local and national electrical codes.

## 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 solenoid, taking care to note the exact order of placement and quantity parts.

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

### PARTS

The charts which follow cover replaceable coil part numbers, Repair and Rebuild kits for most NS211 valves.

When ordering parts/kits, specify 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 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
NS211YF16CPCG4	KS211AF15G4-NSF	K211G415-NSF
NS211YF16CPDG4	KS211AF15G4-NSF	K211G415-NSF
NS211YF16CPEG5	KS211AF15G5-NSF	K211G515-NSF
NS211YF16C7CG4	KS211AF15G4-NSF	K211G415-NSF
NS211YF16C7DG4	KS211AF15G4-NSF	K211G415-NSF
NS211YF16C7EG5	KS211AF15G5-NSF	K211G515-NSF

### COIL CHART

Valve	Voltage	DIN Coil	Conduit Coil
NS211YF16CPCG4	24V DC	HS4YN16	HS4GN16A24
NS211YF16CPDG4	24V DC	HS4YN16	HS4GN16A24
NS211YF16CPEG5	24V DC	HS4YN16	HS4GN16A24
NS211YF16C7CG4	24V DC	HS4YN16	HS4GN16A24
NS211YF16C7DG4	24V DC	HS4YN16	HS4GN16A24
NS211YF16C7EG5	24V DC	HS4YN16	HS4GN16A24

## CLEANING

It is recommended that NS211 Series Valves be cleaned on a routine basis by qualified personnel. Valves should be cleaned where media or service conditions may determine life of the valve.

1. Using rated voltage, apply power to the valve being evaluated.
2. Remove power, while the valve is closing, check for sluggish operation. Once closed (power off), examine the valve Outlet Port or downstream components for valve leakage.
3. If either condition is present, refer to steps 1-8 in section "SERVICE DISASSEMBLY" for instructions on how to disassemble the valve.
4. Using an NSF rated/material compatible cleaning agent. Clean any detectable foreign material from the valve internal surfaces while inspecting components for signs of wear.
5. If no component wear is present, use steps 9-12 to reassemble the cleaned valve.
6. Any worn components should be replaced using the valve's specific kit part numbers provided above.

## SERVICE Disassembly

### WARNING

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

1. Unscrew the hex nut (1). Remove with lockwasher (2).
2. Lift off the coil (3) from the plunger tube.
3. Do not damage the solenoid assembly.
4. Use a 1" spanner to remove solenoid base nut and 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 (11) to prevent loss of internal parts.
6. Remove return spring (5) plunger assembly (7),
7. Remove four bonnet bolts (10) and separate the valve bonnet (11) from the valve body (14).
8. Check seat disc (8) snap ring (6) and diaphragm assembly (12) for damage or wear.
9. Replace O-rings (9 & 13), diaphragm assembly (12), seat disc (8) and other parts as necessary.
10. Re-assemble in reverse order from above taking care to properly re-install the seat disc (8).
11. Tighten tube base nut (4) to 18 to 24 in/lbs and bonnet bolts (10) to 40 to 45 in/lbs.
12. Re-connect electrical and test for proper operation.

### TROUBLE-SHOOTING

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

Buzzing or chattering can be caused by low voltage or dirt or chips between top of plunger and tube head. Check voltage--clean plunger and interior of tube and base assembly.

