



# INSTALLATION & MAINTENANCE INSTRUCTIONS

## 2/2 PULSE DIAPHRAGM VALVES REMOTE PILOT- OR INTEGRAL SOLENOID PILOT-OPERATED ANGLE TYPE G3"

**ASCO®**

 R353.58  
SCG353.60

### Description

Bulletin R353.58 valves are 2-way quick opening and closing high flow diaphragm type valves designed for remote pilot operation.

Bulletin SCG353.60 valves are of the basically same design but with an integral solenoid pilot valve. The valve body and bonnets are of aluminium construction.

The integral solenoid valve types have an epoxy moulded solenoid of the plug-on socket connector type according to DIN 43650 / ISO 4400. Protection class IP 65 is guaranteed by acc. to the regulations mounted connector. Valves with prefix WP (IP 65) are provided with an plug-on spade connector (Pg11).

### Operation

When the remote pilot valve or the integral solenoid valve opens, pressure above the pilot diaphragm assembly and main diaphragm assembly is released (exhausted). This allow main line pressure to act against the underside of the main diaphragm-assembly, opening the main orifice. When the remote pilot valve or the integral solenoid valve closes, main line pressure bleeds to the top of the pilot diaphragm assembly and main diaphragm assembly. This closes the main orifice.

### Installation

Valves have to be used according to the information stamped on nameplate and coil. Any modification of valves or coils has to be approved by ASCO.

Clean and depressurize pipe line before installing valve.

Valve may be mounted in any position, although upright position always guarantees best performance. Direction of flow is marked with the letters "IN" at the valve inlet.

Connect piping to valve according to markings on nameplate with common fittings.

### Important

Pipe threads according ISO228/1, designated by the letter "G". Pipe connections without thread are possible. Reducing pipe connections may cause faulty operation.

Pipe strain should be avoided by proper support and alignment of piping.

Pressure-tightness will be effected by interposing and compressing an appropriate jointing medium outside the threads.

Warning: when using tape or pipe compound, apply sparingly to male pipe threads only; if applied to valve threads, it may enter the valve and cause operational difficulty. Conical pipe connections have to be tightened carefully to avoid body damage.

When tightening pipe, do not use valves as a lever. Wrenches applied to valve body or piping are to be located as close as possible to connection point.

### Pilot valve for remote pilot valves

Remote pilot valves should be mounted as close as possible to the dust collector valve. Long connection tubings increases the volumina to be release and have influences on the pulse response.

Too large distance may cause operational difficulty. For correct pilot valve, consult ASCO.

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## Electrical power supply

Power supply according to VDE- and CEE-regulations.

### Important:

Turn off electrical power supply before start working.

After finishing work tighten all connection terminals in accordance with regulations.

Valve has to be provided with earth wire.

## Duty Service

Standard catalogue valves are supplied with coils designed for continuous duty services for AC voltage. For DC voltage intermittent duty coils have been chosen. Relative duty time for DC: 30%. Max. energized time for DC: 3 min.

When the solenoid is energized for the max. allowable energized time, the solenoid becomes hot and can be touched by the hand only for an instant. This is a safe operating temperature. Any excessive heating will be indicated by the smoke and odour of burning coil insulation.

## Starting

Before pressurizing the valve check the electrical system by energizing the solenoid. A metallic click signifies the solenoid is operating.

While in service, operate valves at least once a month to ensure proper opening and closing. Periodic cleaning of all solenoid valves is desirable. The time between cleaning will vary, depending on medium and service conditions.

## Improper operation

- Faulty Control Circuit:**  
Check the electric system by energizing the solenoid. A metallic click signifies the solenoid is operating. Absence of the click indicates loss of power supply. Check for loose or blown-out fuses, open circuited or grounded coil, broken lead wires or terminals.  
Check voltage across coil leads. Voltage must be at least 85% of the voltage marked on the coil.
- Burned-out Coil:**  
Check for open circuited coil: If faulty, replace coil.
- Incorrect Pressure:**  
Check valve pressure. Pressure to valve must be within 1-6 bar ü.
- Excessive Leakage or Failure to Open or Close:**  
Disassemble valve and clean all parts. Check for clogged bleed hole or torn diaphragm assembly. Replace parts that are worn or damaged with a complete spare parts kit for best results.

Valve Disassembly and Reassembly  
(Refer to exploded view)

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## Maintenance

Warning: Turn off electrical power supply and depressurize valve before making repairs. It is not necessary to remove the valve from the pipe line for repairs.

- Unscrew pilot bonnet screws and remove pilot valve bonnet and diaphragm spring. (Replace gasket when disassemble pilot adapter).
- Remove diaphragm assembly and body gasket.
- Remove main bonnet screw, main valve bonnet and main diaphragm assembly.
- Reassemble in reverse order of disassembling paying careful attention to exploded view provided for identification and placement of parts.

### Important:

- Replace main diaphragm assembly with head cap of screw facing valve bonnet.
- Be sure that bleed hole in diaphragm is in alignment with cavity in valve body and bonnet. The external contours of the diaphragm assembly, body and bonnet must be in alignment.
- Take care of torque values for bonnet screws (see torque chart).  
Torque bonnet screws in a criss-cross manner.
- After maintenance operate the valve a few times to be sure of proper opening and closing.

## SCG353.60 integral solenoid pilot valves:

- Remove retaining clip and slip coil off solbase subassembly.
- Unscrew solenoid base subassembly and remove bonnet gasket.
- Remove bonnet screw and lift bonnet of main valve bonnet.
- Remove core assembly, core spring and core guide.
- Remove diaphragm seat-assembly and body gasket.
- Continue with disassembly starting with pnt. 3 under Bulletin R353.58.
- Lubricate solenoid base gasket with a high-grade silicone grease, and place into the cavity in the valve bonnet.

## Life Expectancy

ASCO valves are designed for a long life expectancy, however depending on the particular service conditions. If inspection shows any worn or damaged internal valve parts, replace them by using available spare parts kits and coils. Parts marked with asterisk (\*) are supplied in spare parts kits.

When ordering spare parts kits or coils specify valve catalogue number, serial number and voltage.

Valve user has to accept whole responsibility for careful installation according to current regulations.

Consult ASCO, if you have any problems with installation and maintenance.