

*HS2 Solenoid Valve*

## INTRODUCTION

This threaded end industrial refrigeration duty solenoid valve is very simple and compact but rugged in construction. Body is plated steel alloy. The direct lifting stainless steel plunger contains a Teflon seat which closes on a stainless steel orifice. When electrically energized, valve opens wide; when de-energized, flow stops in the direction of the arrow on the valve body. Effective in 2025, the HS2 product line will include Hansen's new robust solenoid operator that features a rugged stainless steel housing and is sealed to the body with a reliable aluminum gasket. For information on the previous version, see the previous revisions of this bulletin.

## APPLICATIONS

This small, direct lifting valve is used primarily as a pilot for various larger gas-powered or liquid powered main valves, as a remote pilot for back pressure regulators or other devices, or as a liquid stop valve for expansion valves, float valves, or as a general purpose pilot line for ammonia, R22, R134a, CO2 and other approved refrigerants or oil.

## ADDITIONAL FEATURES

- Compact, low cost
- Low wattage, Hansen standard coil
- 300 psi (20 bar) MOPD (580 psid MOPD available - contact factory)
- Stainless steel seat orifice
- Removable solenoid tube
- Heavy-duty, direct lift
- CSA Certified
- Non-asbestos gaskets

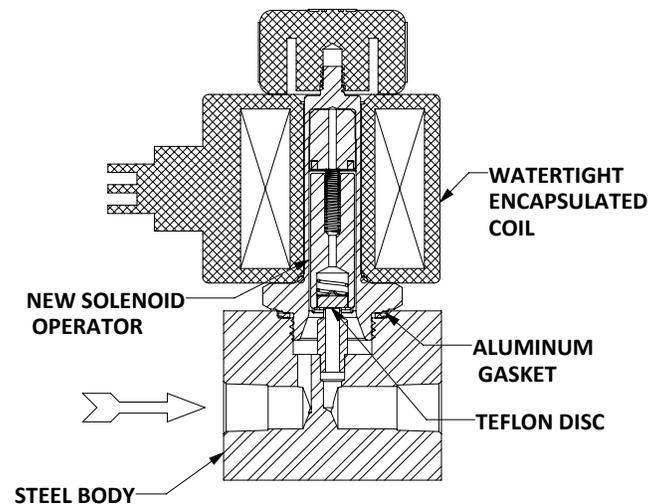
## Specifications, Applications, Service Instructions & Parts

### HS2 SOLENOID VALVE 5/32" (4 mm) PORT

Threaded End  
1/4" thru 1/2" FPT  
(7 mm thru 15 mm)  
1/4" thru 3/4" Flanged  
(7 mm thru 20 mm)  
for refrigerants



## KEY FEATURES



## MATERIAL SPECIFICATIONS

Body: Steel, plated

Solenoid Tube: Stainless steel

Plunger: Stainless steel

Seat Orifice: Stainless steel

Seat: Teflon

Safe Working Pressure: 400 psig (27 bar), threaded only :754 psig (52 bar) available for CO2

Operating Temperature: -60°F to +240°F (-50° to +115°C)

## ADVANTAGES

Power-saving, low-wattage encapsulated coil; Teflon disc seat; stainless steel trim; spring-closing. One standard coil fits all Hansen valves. The valve can be installed in vertical lines. Rugged one piece stainless steel tube and reliable aluminum gasket result in less potential leak paths, suitability for higher pressure ratings, and more resilient to degradation.

## INSTALLATION, THREADED CONNECTION

Match the arrow on the body with the system flow direction. Protect the interior of the valve from dirt during installation. Check mating pipe threads for cleanliness and accuracy before installing. Use a small quantity of pipe dope on pipe threads. Use a flat jaw wrench on the body close to the pipe, being careful not to damage the pipe threads with pipe wrench jaws. Allow 2.25" (57 mm) above the valve for coil removal.

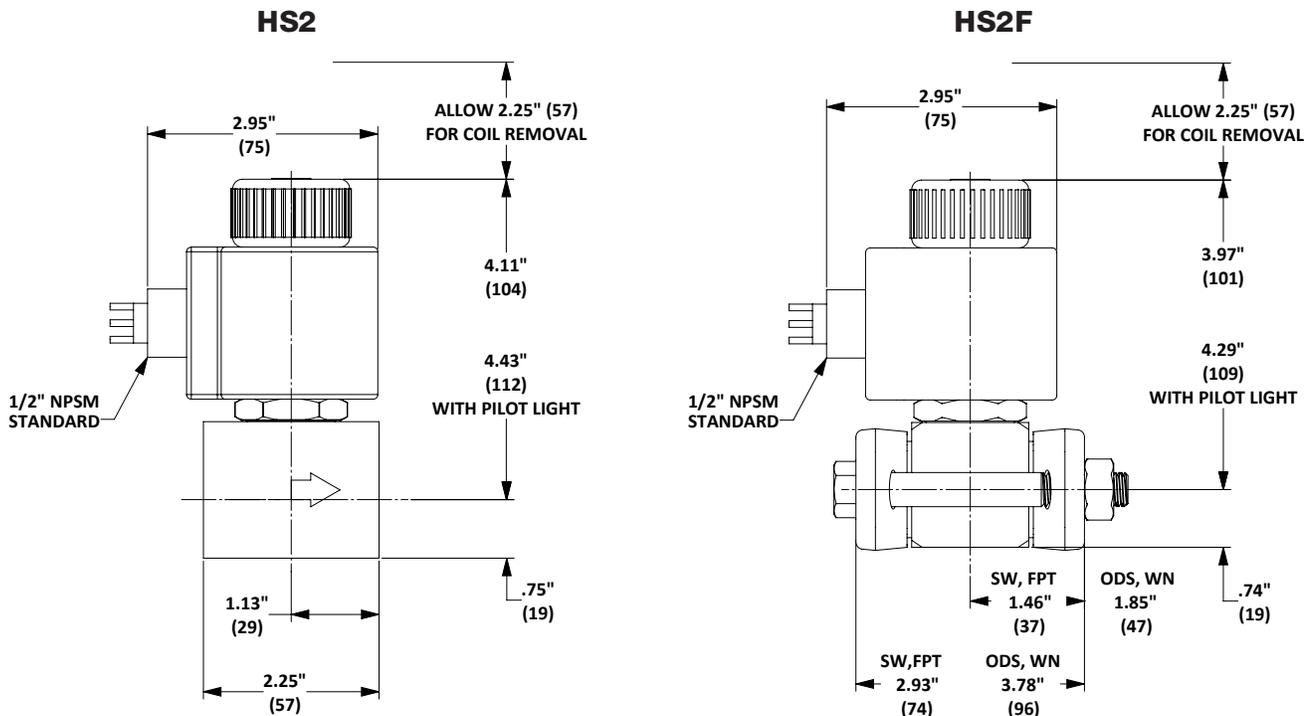
## ELECTRICAL

The coil draws 16 watts and will operate properly between 85% and 110% of the rated voltage (24V coil draws 19 watts). Standard coil connection is a 1/2" fitting (NPSM) for conduit, with two 18" wire leads plus ground wire. Coils with DIN plug or 1/2" NPSM quick disconnect plug are available. Contact the factory. All coils are totally encapsulated and meet NEMA 3R (rainproof) and NEMA 4 (splashproof, approx. IP65) requirements. The coil should only be energized while on the solenoid tube. Otherwise, immediate coil burnout may occur. To avoid bending the solenoid tube, remove the coil from the valve before connecting any electrical conduit. Pilot lights are available.

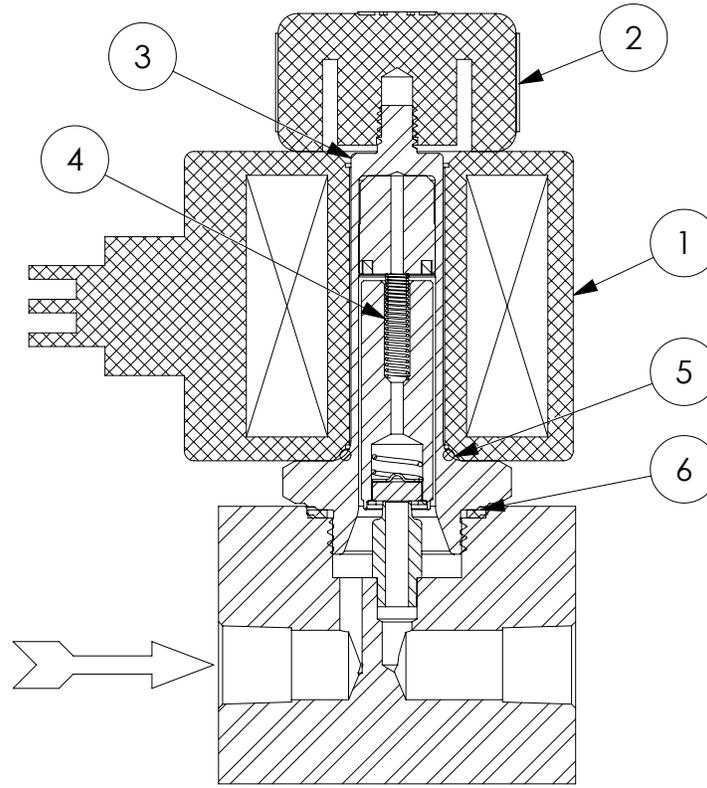
Voltage	Frequency (Hertz)	Inrush Amps	Holding Amps	Resistance at Room Temperature (Ohms)
115 VAC	60	0.73	0.24	56 ± 6
	50	0.93	0.31	
208/230 VAC	60 (208V)	0.32	0.11	226 ± 23
	60 (240V)	0.41	0.14	
	50 (230V)	0.47	0.16	
24 VAC	60	3.42	1.14	2 ± .2
	50	4.56	1.52	
24 VDC	DC	1.20	1.20	20 ± 2

## INSTALLATION DIMENSIONS

INCHES (MM)



## PARTS LIST



ITEM	DESCRIPTION	QTY.	KIT NO
1a	Coil Kit (115V) 1/2" Fitting w/leads	1	70-1085
1b	Coil Kit (208/230V) 1/2" Fitting w/leads	1	70-1086
1c	Coil Kit (24V) 1/2" Fitting w/leads	1	70-1087
	<b>Coil Kit (Other Voltages)</b>		<b>FACTORY</b>
	Above kit consists of:		
1	Bare Coil	1	N/A
2	Coil Knob	1	70-0579
5	Coil O-Ring	1	70-0340
	<b>Solenoid Tube/Plunger Kit</b>	<b>1</b>	<b>70-1182</b>
	Above kit consists of:		
3	Solenoid Tube	1	
4	Plunger	1	
5	Coil O-Ring	1	
6	Solenoid Tube Gasket	1	

## SERVICE AND MAINTENANCE

**Failure to open:** Wrong voltage coil; low line voltage; controlling switch or thermostat not contacting; coil is burned-out; inlet/outlet pressure differential too high; plunger jammed closed with dirt.

**Failure to close:** Controlling switch or thermostat not opening contacts; dirt under seat; eroded seat parts; plunger jammed upward by dirt.

Effective July 1, 2025, Hansen will discontinue the sale of solenoid tube and plunger kits, as well as other service kits for the old solenoid operator. Instead, Hansen recommends a full valve replacement when service parts are needed for the old module or to convert to the new module version. Please note that the new tube and plunger kit can NOT be used on old solenoid module body.

Before opening the valve for service, be sure it is isolated from the system and all refrigerant is removed. Disconnect electrical power from the coil. Remove the coil by unscrewing the coil knob. Use a 1-1/4" wrench or deep well socket on the solenoid tube hex to loosen the solenoid tube sufficiently and break seal, proceeding cautiously to avoid any refrigerant still remaining inside. Remove the tube to separate the solenoid tube from the body.

Check face of Teflon seat in plunger, plunger spring, gasket mating surfaces, and seat orifice in body. Clean, polish, or replace parts as necessary. Always replace the solenoid tube when replacing the plunger. The seat orifice is integral with the body.

When replacing the aluminum gasket, it is common for the aluminum gasket to stick to the base or tube during removal. In this case, take care to not scratch or damage the mating parts of the body or tube when removing.

Reassemble the solenoid tube to the body by torquing the hex tube to the body. Factory torque is 75 ft-lbs (102 Nm). Take care not to over-torque the tube. Carefully check the valve for leaks before restoring to service.

## CAUTION

Hansen valves are for refrigeration systems only. These instructions must be completely read and understood before selecting, using, or servicing these valves. Only knowledgeable, trained refrigeration mechanics should install, operate, or service these valves. Stated temperature and pressure limits should not be exceeded. Solenoid tubes should not be removed from valves unless the system has been evacuated to zero pressure. See also the Safety Precautions in the current List Price and the Safety Precautions Sheet supplied with product. Escaping refrigerant might cause personal injury, particularly to the eyes and lungs.

## WARRANTY

Hansen valves are guaranteed against defective materials or workmanship for one year FOB factory. No consequential damages or field labor is included.

## ORDERING INFORMATION

MODEL	CONNECTIONS INCHES (MILLIMETERS)	
	STD	ALSO
HS2	1/2" (15) FPT	1/4" (7), 3/8" (10) FPT
HS2F	1/2" (15) FPT	1/4" (7), 3/8" (10) FPT 1/2" (15), 3/4" (20) SW,WN

FPT: Female Pipe Thread (American National Standard)  
SW: Socket Weld to accommodate American and API pipe  
WN: Weld Neck to match American Schedule 40 pipe

Standard molded solenoid coil is included for 50/60Hz 208/230, 115, or 24 volts; other voltages offered. Standard coil connection is a 1/2" fitting (NPSM). Coils with DIN plug or 1/2" NPSM quick disconnect plug are available; specify when ordering. Pilot lights are available.

## OPTIONAL BEACON PILOT LIGHTS

PILOT LIGHT KIT		
COLOR	OLD VERSION PN	NEW VERSION PN
RED	70-1100	70-1175
AMBER	70-1101	70-1176
GREEN	70-1102	70-1177



Pilot Light Kit includes Beacon pilot light, knob and o-ring. A/C Coils Only.

## TO ORDER:

Specify type, connection type and size, and volts. Unless otherwise specified, standard coil with 1/2" connection will be supplied.

Note: Finished valve part numbers with the new solenoid operator are the same as the older version, but kit part numbers will be different.

## TYPICAL SPECIFICATIONS

"Refrigerant direct operating solenoid valves shall have encapsulated, watertight coils, Teflon seat, steel bodies, spring closing plunger, and be suitable for a safe working pressure of 400 psig (27 bar), model HS2 (HS2F) as manufactured by Hansen Technologies Corporation or approved equal.



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