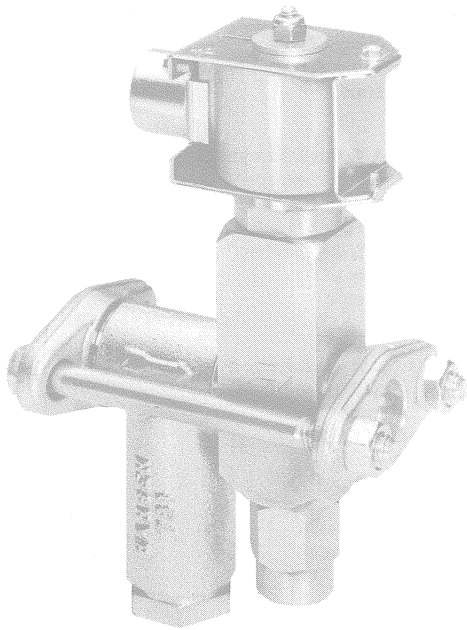


## HANSEN TECHNOLOGIES CORPORATION



HS8 with Strainer

### INTRODUCTION

This flanged, compact, heavy duty, pilot-operated, industrial refrigeration solenoid valve controls the flow of refrigerant. When electrically energized, a slight fluid pressure difference across the valve causes it to open wide; when de-energized, a spring promptly closes the main teflon seat to stop all flow in the arrow direction on the valve body.

### APPLICATIONS

This advanced design valve is ideal as a standard, stock, ammonia liquid line solenoid valve. While primarily for ammonia, this valve is also suitable for R22, R134a, and other approved refrigerants. Most common use is to automatically stop liquid line feed to recirculating liquid overfeed evaporators, to float switch controlled accumulators, and to expansion valves; it is also suitable for hot gas defrost, vessel exhaust, and small tonnage evaporator suction. The stainless steel piston makes it an ideal purge point solenoid valve.

### MAXIMUM RATINGS, AMMONIA

Liquid, Receiver Pressure: 95 Tons (334 kW)  
Recirculation, 3 to 1: 35 Tons (123 kW)  
Hot Gas: 6.0 Tons (21 kW)  
Suction: 2.5 Tons (8.8 kW)  
Flow Factor: Cv = 2.9 (2.5 Kv)

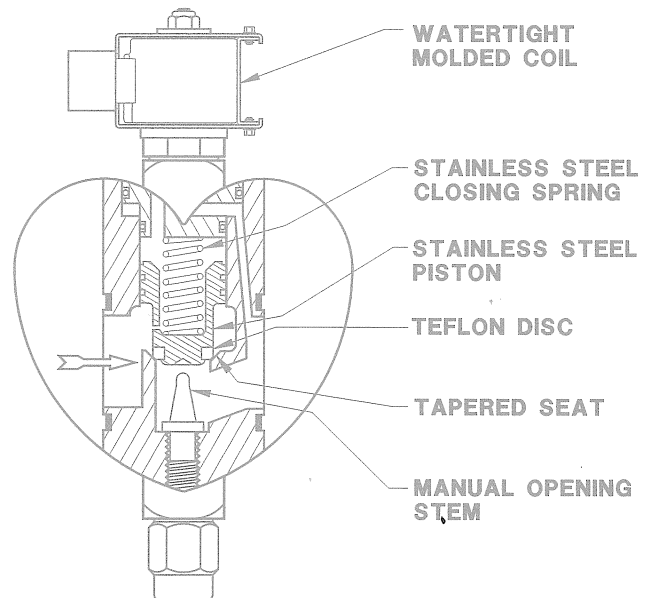
### Specifications, Applications, Service Instructions & Parts

**HS8  
SOLENOID VALVE  
1/2" (13 mm) PORT**

**Flanged  
3/8" thru 3/4"  
FPT, SW, WN, ODS  
for refrigerants**



### KEY FEATURES



### ADDITIONAL FEATURES

Interchanges with R/S S8F  
Molded Hansen standard coil  
300 psig (20.7 bar) MOPD  
Teflon main & pilot seats  
Available close-coupled strainer  
Heavy-duty, pilot-operation  
Vertical or horizontal installation  
Non-asbestos gaskets  
CSA certified

## MATERIAL SPECIFICATIONS

Body: Steel, plated  
 Bonnet-Cartridge: Steel, plated  
 Piston: Stainless steel  
 Plunger: Stainless steel  
 Pilot Orifice: Stainless steel  
 Seats: Teflon  
 MOPD: 300 psig (20.7 bar) A.C. coils only  
 Safe Working Pressure: 400 psig (27 bar)  
 Operating Temperature: -60F to 240F (-50 to 115°C)

## ADVANTAGES

Power saving, low-wattage molded coil; teflon seats; stainless steel trim including piston; spring-closing; double-seal manual lift stem; replaces R/S S8F. One standard molded coil fits all Hansen valves.

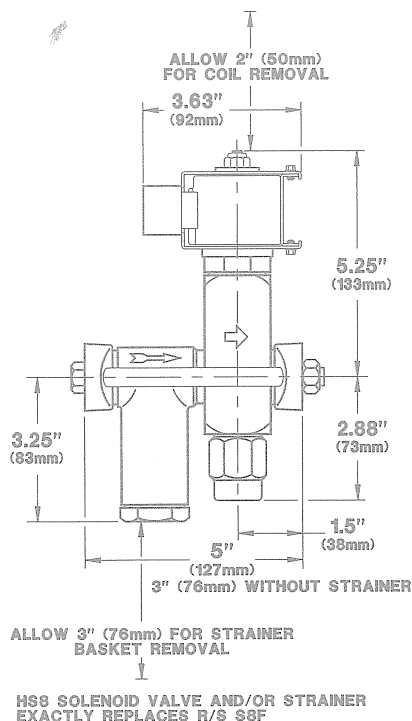
## INSTALLATION

Protect interior of valve from dirt during installation; normally use close-coupled inlet strainer. Allow 2" above valve for coil removal and 3" below strainer for screen removal. Match arrow on body with system flow direction. If a pressure reversal can occur, as during hot gas defrost with liquid recirculation, use a check valve on the outlet side of the HS8.

## ELECTRICAL

The coil draws 16 watts and will operate properly between 85% and 110% of rated voltage (24V coil draws 19 watts). Standard coil connection is a 1/2" fitting (NPSM). Coils with DIN plug or junction box are available; contact factory. Coils have a standard zinc plated, steel, housing which meets NEMA 3R (rainproof) and NEMA 4 (splashproof) requirements; junction box is considered NEMA 1. Coil should only be energized while on solenoid tube; otherwise immediate coil burnout may occur. To avoid bending the solenoid tube, remove coil from valve before connecting. Pilot lights are available.

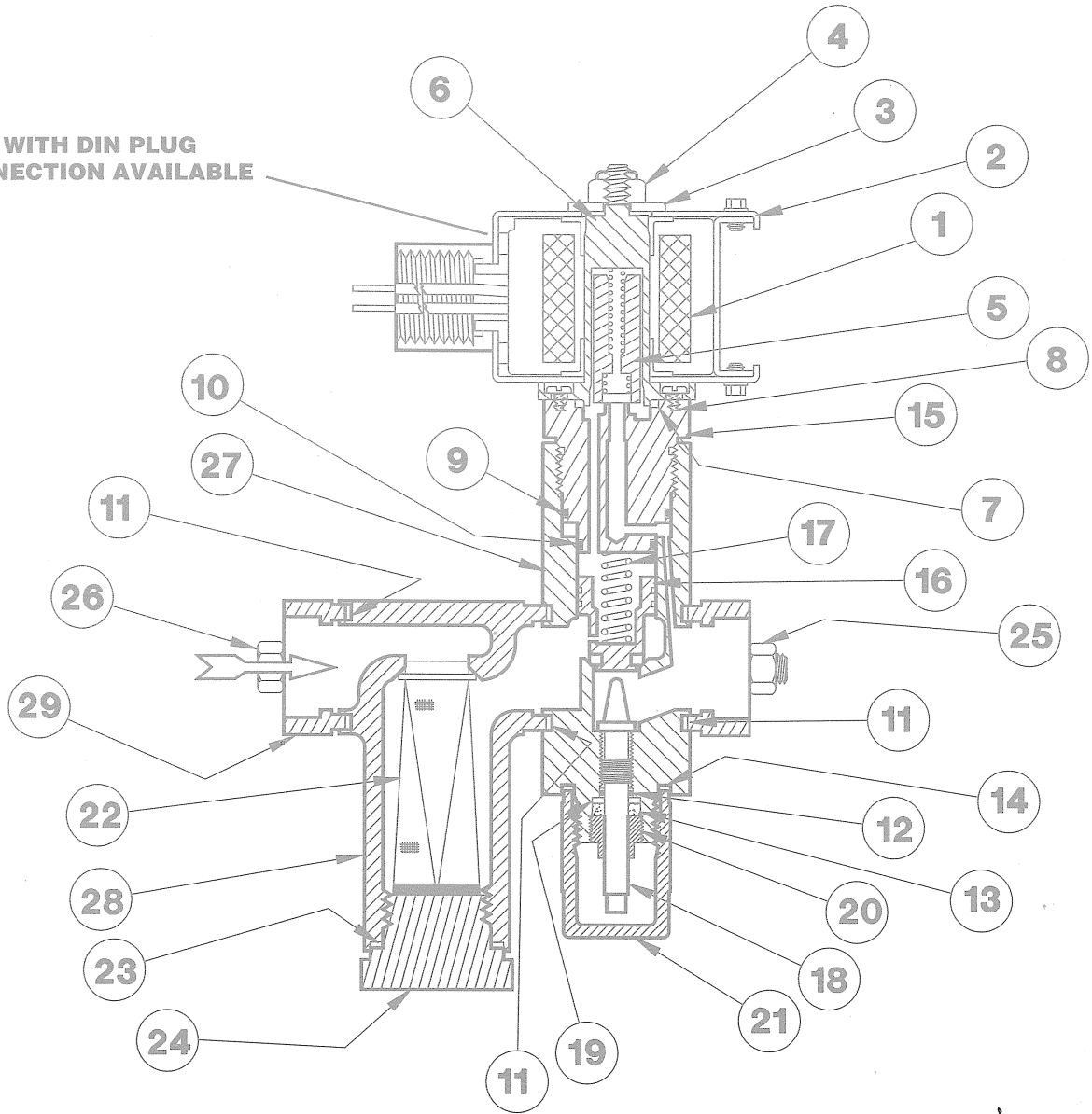
## INSTALLATION DIMENSIONS



## PARTS LIST

ITEM	DESCRIPTION	QTY	PART NO
	<b>Coil Kit (115V) 1/2" Fitting</b>		<b>70-1057</b>
	<b>Coil Kit (208/230V) 1/2" Fitting</b>		<b>70-1056</b>
	<b>Coil Kit (24V) 1/2" Fitting</b>		<b>70-1058</b>
	<b>Coil Kit (Other Voltages)</b>		<b>FACTORY</b>
	Above Kits Consist of:		
1a	Bare Coil, 115V 50/60Hz, wire leads	1	70-0271
1b	Bare Coil, 208/230V 50/60Hz, wire leads	1	70-0286
1c	Bare Coil, 24V 50/60Hz, wire leads	1	70-0284
1d	Other Voltage Coils	1	FACTORY
2	Coil Housing Assembly Kit	1	70-1060
3	Coil Washer	1	70-0289
4	Coil Nut	1	70-0281
	<b>Solenoid Tube/Plunger Kit*</b>		<b>70-1059</b>
	Above Kit Consists of:		
5	Plunger	1	70-0295
6	Solenoid Tube	1	70-0298
7	Solenoid Tube Gasket	1	70-0301
8	Tube Screws	4	70-0297
3	Coil Washer	1	70-0289
4	Coil Nut	1	70-0281
	<b>Gasket Kit Consists of:</b>		<b>70-1005</b>
7	Solenoid Tube Gasket	1	70-0301
9	Upper Body O-ring	1	70-0009
10	Lower Body O-ring	1	70-0011
11	Flange Gasket	3	70-0065
12	Stem O-ring	1	70-0010
13	Packing	1	70-0025
14	Seal Cap Gasket	1	70-0008
19	Packing Washer	1	70-0026
20	Packing Nut	1	70-0019
	<b>Bonnet-Cartridge Kit</b>		<b>70-1001</b>
	Above Kit Consists of:		
15	Cartridge Assembly	1	70-0144
	Gasket Kit	1	70-1005
	Solenoid Tube/Plunger Kit	1	70-1059
	<b>Piston Assembly Kit</b>		<b>70-1002</b>
	Above Kit Consists of:		
16	Piston Assembly	1	70-0145
17	Closing Spring	1	70-0018
	Gasket Kit	1	70-1005
	<b>Stem Kit Consists of:</b>		<b>70-1003</b>
18	Stem	1	70-0004
	Gasket Kit	1	70-1005
	<b>Seal Cap Kit Consists of:</b>		<b>70-1004</b>
21	Seal Cap	1	70-0007
14	Seal Cap Gasket	1	70-0008
	<b>Strainer Screen Kit Consists of:</b>		<b>78-1001</b>
22	Screen Assembly	1	78-0005
23	Strainer Cap Gasket	1	78-0016
	<b>Bolt and Nut Kit</b>		
	For HS8 less Strainer (a)		70-1006
	For HS8 with Strainer (b)		70-1007
	Consists of:		
25	Nut (7/16" - 14)	2	70-0055
26a	Bolt, 3/4" (7/16" - 14)	2	70-0073
26b	Bolt, 5/2" (7/16" - 14)	2	70-0076
24	Strainer Cap	1	78-0002
27	<b>Assembled Body Replacement Kit</b>		<b>HS8(10)</b>
	Complete Valve less Coil Kit and Flanges		
28	<b>Assembled Strainer Replacement Kit</b>		<b>78-1002</b>
29	<b>Flange Kit (FPT,SW,WN,ODS)</b>		<b>FACTORY</b>
	Includes (2) Flanges only. Specify Style and Size		

**COIL WITH DIN PLUG  
CONNECTION AVAILABLE**



\* Beginning in 1993, a new interchangeable, threaded top, solenoid tube will be used on all solenoid valves.

## 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; piston or plunger is jammed closed with dirt.

**Failure to close:** controlling switch or thermostat not opening contacts; manual opening stem is turned in; piston or plunger is jammed upward by dirt; damage or dirt at main valve seat or pilot valve seat.

Before opening the valve for service, be sure it is isolated from the system and all refrigerant is removed. Disconnect electrical power from coil. Remove the coil by first unscrewing the coil nut and removing the washer. Use a large wrench to unscrew the bonnet-cartridge proceeding cautiously to detect refrigerant still remaining inside the valve. Remove closing spring and piston. Check for dirt on piston or seat. Polish with fine emery cloth and replace or else install new parts. Check and replace upper and lower body O-rings if necessary, using refrigerant oil or grease.

To check pilot section of valve, loosen four solenoid tube screws, break seal between solenoid tube and bonnet-cartridge; being careful to avoid any refrigerant which may remain. Check face of teflon seat in plunger, plunger spring, and pilot seat orifice on bonnet-cartridge. Clean, polish or replace parts as necessary. Pilot seat is integral with bonnet-cartridge. Install new solenoid tube gasket and oil lightly. Reassemble bonnet-cartridge to valve body, using 75 foot-pounds (102 newton-meters) torque to tighten secondary, metal, knife edge seal. Carefully check the valve for leaks before restoring to service.

## CAUTION

Hansen valves are only for refrigeration systems. These instructions must be read completely 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. Bonnets, solenoid tubes, etc. should not be removed from valves unless system has been evacuated to zero pressure. Must also see safety precautions in current List Price Bulletin and Safety Precautions sheet supplied with product. Escaping refrigerant might cause personal injury, particularly to the eyes and lungs.

## WARRANTY

Hansen valves are warranted against defects in workmanship and materials for a period of one year F.O.B. our plant. No consequential damages or field labor is included.

## ORDERING INFORMATION, HS8 SOLENOID VALVE

FLANGE CONNECTION STYLE & SIZES		
FPT, SW, WN		ODS
STD	ALSO	STD
1/2"	3/4", 3/8"	5/8"

FPT: Female Pipe Thread (American National Standard)  
SW: Socket Weld to accommodate American and API pipe  
WN: Weld Neck to match American pipe  
ODS: Outside Diameter Sweat, for American copper tubes

Standard molded solenoid coil is included for 115V, 208/230V, or 24V; 50/60Hz; other voltages offered. Standard coil connection is a 1/2" fitting (NPSM). Coils with DIN plug or junction box are available; contact factory. Pilot lights are available.

**TO ORDER:** Specify type, connection style and size, volts, and strainer if required. Unless otherwise specified, standard coil with 1/2" fitting will be supplied.

## TYPICAL SPECIFICATIONS

"Refrigerant solenoid valves shall have molded, watertight coils, teflon seats, steel or ductile iron bodies, stainless steel pistons, spring closing pilot and main valve seats, and must be suitable for a safe working pressure of 400 psig (27 bar), as manufactured by Hansen Technologies Corporation or approved equal."

## OTHER PRODUCTS

Gauge, Purge, and Needle Valves: 1/4", 3/8"  
Threaded Valves: 3/8" to 1 1/4"  
Socket Weld Valves: 1/2" to 2 1/2"  
Welding Steel Valves: 2" to 14"  
Expansion Valves (Regulators): 3/8" to 4"  
Refrigerant Solenoid Valves  
Back Pressure Regulators  
Refrigerant Check Valves  
Gas-Powered Valves  
Refrigerant Float Switches  
SEE-LEVEL® Liquid Indicators  
Float Regulators (High Side)  
Refrigerant Liquid Pumps  
Vari-Level® Adjustable Level Controls  
Techni-Level® Transducer Probes  
AUTO-PURGER®s  
Frost Master® Defrost Controllers

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