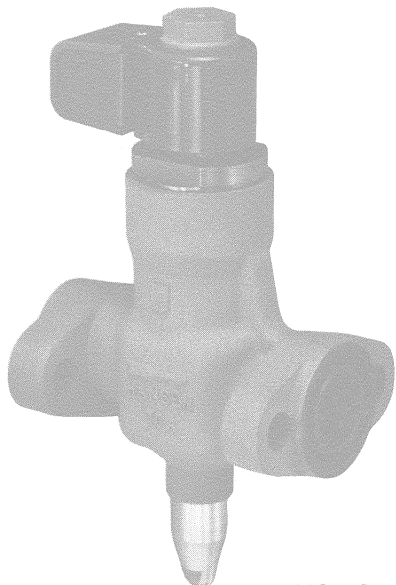


**HANSEN TECHNOLOGIES CORPORATION**



HS7 Solenoid Valve

**INTRODUCTION**

This flanged, 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 R12, R22, R502. 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. (Note: for gravity liquid drain or equalization applications, use Solenoid Valve Type DEVRL having electrically lifted main seat.)

**MAX. RATINGS, AMMONIA†**

	Port Size		
	3/4"	1"	1 1/4"
Liquid, Receiver Pressure (Tons)	200	250	400
Recirculation, 4 to 1 (Tons)	45	60	90
Hot Gas, for 0°F (Tons)	21	26	40
Suction, 2 PSI Drop at 20°F (Tons)	12	15	24
Flow Factor, Cv	8.0	10.0	16.2

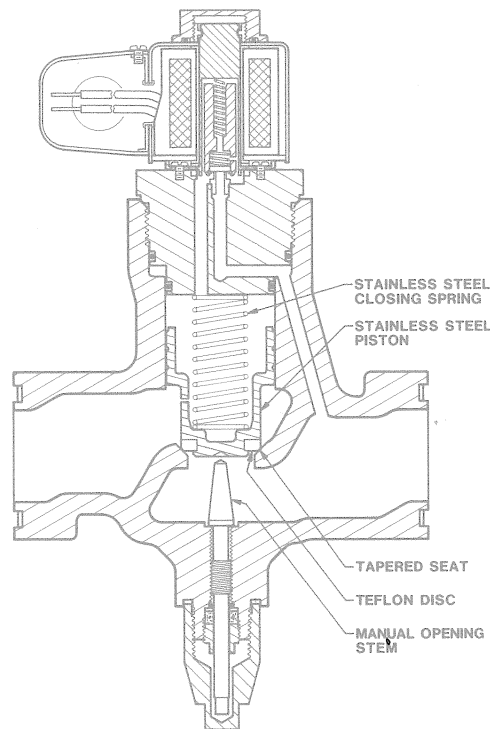
† For flow near maximum ratings, piping should be one size larger than port.

**Specifications, Applications, Service Instructions & Parts**

**HS7 SOLENOID VALVE**  
3/4", 1", 1 1/4" PORT

Flanged  
3/4" thru 1 1/4"  
FPT, SW, WN, ODS  
for refrigerants

**KEY FEATURES**



**ADDITIONAL FEATURES**

- Interchanges with R/S S7A
- Molded Hansen standard coil
- 300 PSI MOPD
- Teflon main & pilot seats
- Manual opening stem
- Available close-coupled strainer
- Heavy duty, pilot-operation
- Vertical or horizontal installation

## MATERIAL SPECIFICATIONS

Body: ductile iron  
 Bonnet-cartridge: steel, zinc plated  
 Piston: stainless steel  
 Plunger: stainless steel  
 Pilot orifice: stainless steel  
 Seats: teflon

## ADVANTAGES

Power saving, low-wattage molded coil; teflon seats; stainless steel trim including piston; spring-closing; double-seal manual lift stem; replaces R/S S7A.

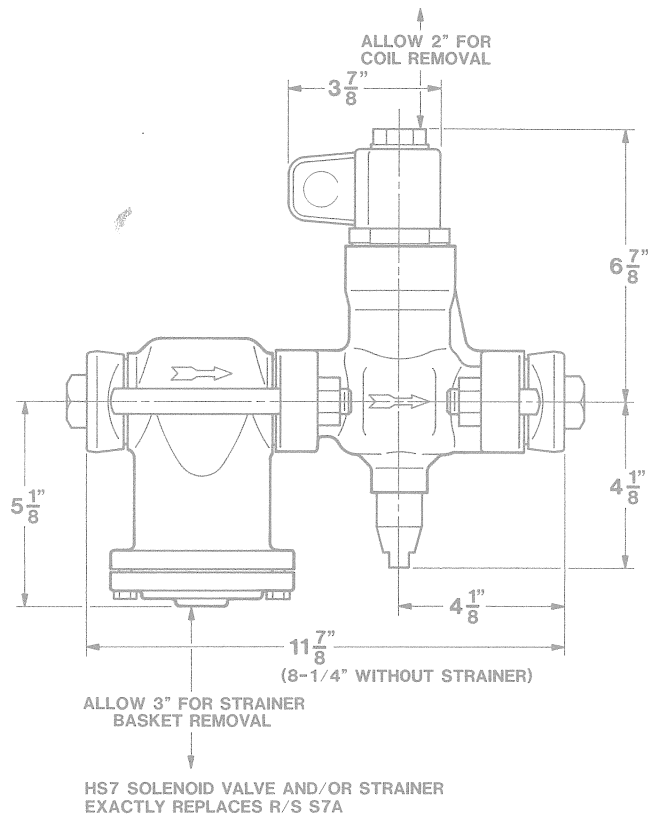
## INSTALLATION

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 after the S7A.

## ELECTRICAL

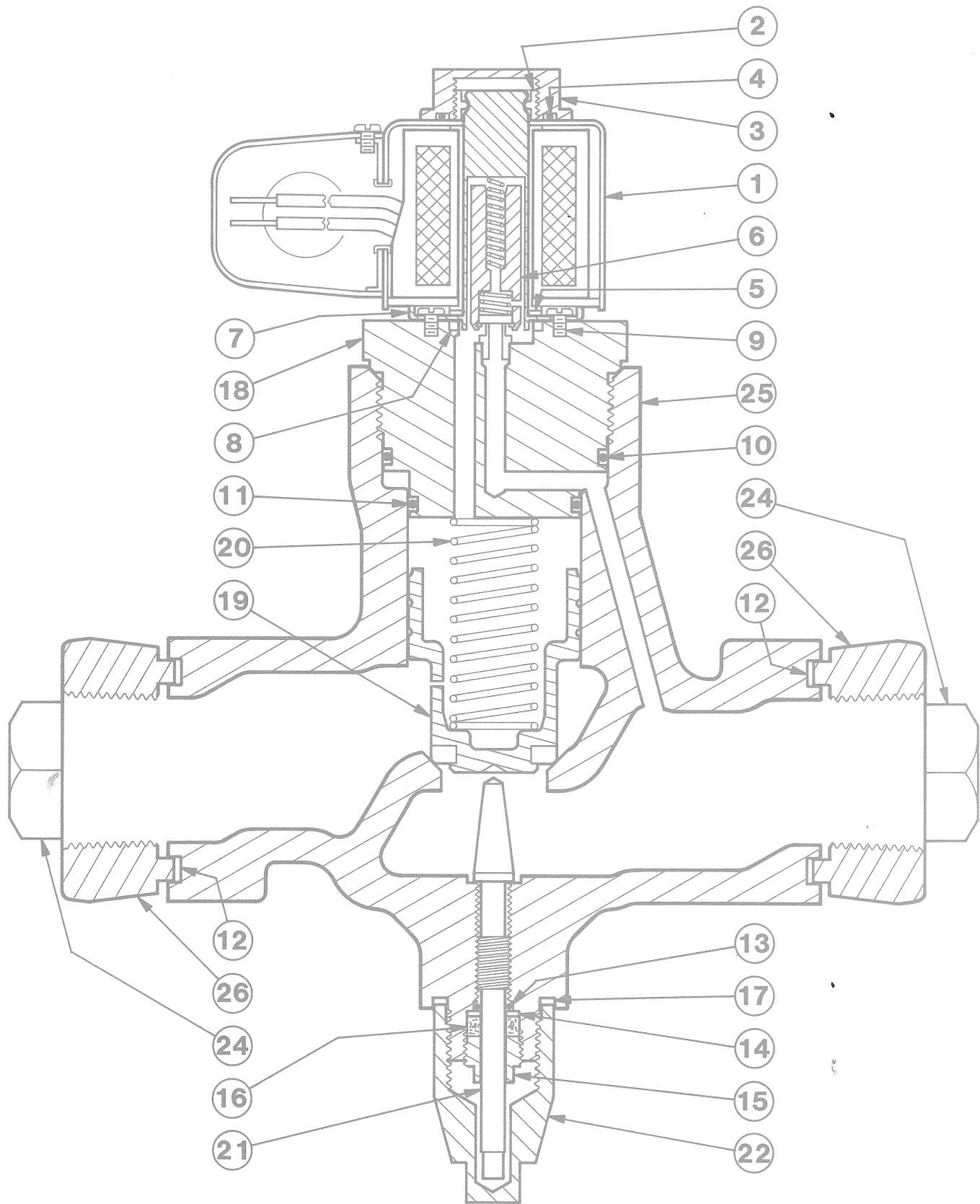
The coil draws 14.5 watts and will operate properly between 85% and 110% of rated voltage. Pilot lights are available.

## INSTALLATION DIMENSIONS



## PARTS LIST

ITEM	DESCRIPTION	QTY	PART NO.
	<b>COIL KIT (110-120V)</b>		<b>70-1008</b>
	<b>COIL KIT (208-240V)</b>		<b>70-1009</b>
	<b>COIL KIT (OTHER VOLTAGES)</b>		<b>FACTORY</b>
	Above kits consist of:		
1a	110-120V Coil	1	18Z7502
1b	208-240V Coil	1	18Z7501
1c	OTHER VOLTAGE COILS	1	FACTORY
2	Split Threaded Retainer	1	32U7397
3	Coil Cap	1	32U7403
4	Coil Cap O-Ring	1	35-0027
5	Split Washer Spacer	1	32U1339
	<b>PLUNGER KIT consists of:</b>		<b>70-1010</b>
6	Plunger	1	32F0031
7	Solenoid Tube	1	32F0034
8	Solenoid Tube Gasket	1	633L1283
9	Tube Screws	4	681X1565
	<b>GASKET KIT consists of:</b>		<b>70-1017</b>
4	Coil Cap O-Ring	1	35-0027
8	Solenoid Tube Gasket	1	633L1283
10	Upper Body O-Ring	1	70-0131
11	Lower Body O-Ring	1	70-0130
12	Flange Gasket	3	70-0132
13	Stem O-Ring	1	70-0010
14	Packing Washer	1	70-0026
15	Stuffing Box Nut	1	70-0019
16	Packing	1	70-0025
17	Seal Cap Gasket	1	70-0008
	<b>BONNET-CARTRIDGE KIT consists of:</b>		<b>70-1018</b>
18	Cartridge Assembly	1	70-0162
	Gasket Kit	1	70-1017
	Plunger Kit	1	70-1010
	<b>PISTON ASSEMBLY KIT, 3/4"</b>		<b>70-1019</b>
	<b>PISTON ASSEMBLY KIT, 1"</b>		<b>70-1020</b>
	<b>PISTON ASSEMBLY KIT, 1 1/4"</b>		<b>70-1021</b>
	Above kit consists of:		
19a	Piston Assembly, 3/4"	1	70-0166
19b	Piston Assembly, 1"	1	70-0163
19c	Piston Assembly, 1 1/4"	1	70-0167
20	Closing Spring	1	70-0155
	Gasket Kit	1	70-1017
	<b>STEM KIT consists of:</b>		<b>70-1022</b>
21	Stem	1	70-0128
	Gasket Kit	1	70-1017
	<b>SEAL CAP KIT consists of:</b>		<b>70-1023</b>
22	Cap	1	70-0165
17	Seal Cap Gasket	1	70-0008
	<b>BOLT AND NUT KIT</b>		
	For HS7 less Strainer (a)		<b>70-1024</b>
	For HS7 with Strainer (b)		<b>70-1025</b>
	Above consists of:		
23	Nut	4 <sup>3</sup>	70-0136
24a	Bolt (less strainer) 3"	4	70-0135
24b	Bolt (with strainer) 3"	2	70-0135
24b	Bolt (with strainer) 6 1/2"	2	70-0134
25	<b>ASSEMBLED BODY REPLACEMENT KIT</b>		<b>70-0164</b>
	Complete Valve less Coil Kit and Flanges		
26	<b>FLANGE KIT</b>		<b>FACTORY</b>
	Includes (2) Flanges and Gaskets. Specify Style and Size		



## SERVICE AND MAINTENANCE

**Failure to open:** wrong coil; low line voltage; controlling switch or thermostat not contacting; coil is burned-out; piston is jammed closed with dirt.

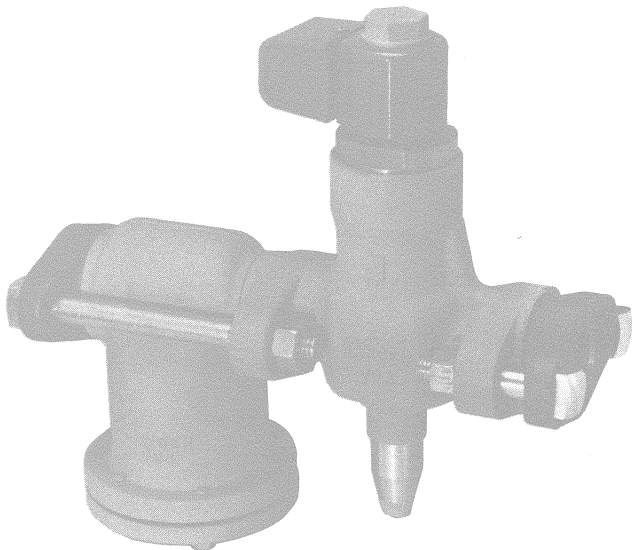
**Failure to close:** controlling switch or thermostat not opening contacts; piston is jammed upward by dirt; damage or dirt at main valve seat or pilot valve seat; manual opening stem is turned in.

Before opening the valve for service, be sure it is isolated from the system and all refrigerant is removed. Disconnect the electrical coil. Remove the coil by unscrewing the coil cap and prying off the split threaded retainer. Use a large wrench to unscrew the bonnet-cartridge proceeding slowly to detect ammonia 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 bonnet-cartridge O-rings if necessary, using refrigerant oil or grease.

To check pilot section of valve, remove four solenoid tube screws and pry off the solenoid tube from the bonnet-cartridge. Check face of teflon seat in plunger, plunger spring, and pilot seat orifice in 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 tube to bonnet-cartridge with the four tube screws. Reassemble bonnet-cartridge to valve body, using 75 foot-pounds torque to tighten secondary, metal, knife edge seal. Carefully check the valve for leaks before restoring to service.

## SAFE OPERATION

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 should not be removed from valves unless system has been evacuated to zero pressure as shown by a pressure gauge. See also Safety Precautions in current List Price Bulletin.



HS7 with Strainer

## WARRANTY

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

## ORDERING INFORMATION, HS7 SOLENOID VALVE

Port Size	Flange Styles & Sizes		
	Connections Available		
	FPT, SW, WN		ODS
	STD	ALSO	STD
3/4"	3/4"	1", 1 1/4"	7/8"
1"	1"	3/4", 1 1/4"	1 1/8"
1 1/4"	1 1/4"	3/4", 1"	1 3/8"

FPT: Internal NPT (USA standard taper pipe thread)

SW: Socket Weld (insert fillet weld)

WN: Weld Neck (for butt welding)

ODS: Outside Diameter Sweat

Standard molded solenoid is included for 60 Hz 208/230, 120 or 24 volts; other voltages offered. Pilot lights are available.

**TO ORDER:** Specify type number, connection style and size, volts, and strainer if required.

## TYPICAL SPECIFICATIONS

"Refrigerant solenoid valves shall have molded, water-tight coils, teflon seats, steel or ductile iron bodies, stainless steel pistons, spring closing pilot and main valve seats, and be suitable for a working pressure of 300 PSIG, as manufactured by Hansen Technologies Corporation or approved equal."

## OTHER PRODUCTS

Threaded Hand Shut-Off Valves: 1/4" to 1 1/4"

Welding Steel Valves: 1/4" to 14"

Expansion Valves (Regulators): 1/4" to 6"

Refrigerant Solenoid Valves

Back Pressure Regulators

Refrigerant Check Valves

Refrigerant Float Switches

Refrigerant Pumps

AUTO-PURGERS

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