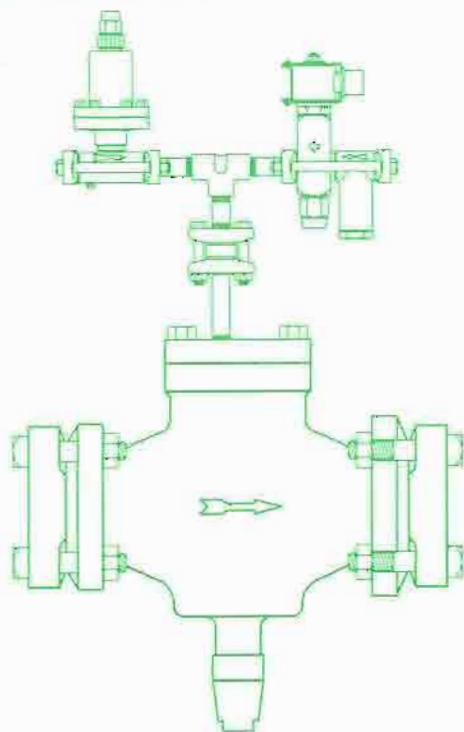


## HANSEN TECHNOLOGIES CORPORATION



HCK5: Gas-Powered Suction Stop Valve

### INTRODUCTION

These heavy-duty, durable, ductile iron or cast steel body, gas-powered suction stop valves are designed to control the flow of refrigerant in large industrial and commercial applications. They remain normally open via a spring and require no pressure drop to operate. A single pilot solenoid valve is required to control a higher pressure refrigerant gas which closes these valves during evaporator defrosting. If an electrical power failure occurs during the hot gas step of a defrost cycle, the auxiliary pressure pilot valve will keep main valve seat closed until pressure inside evaporator is reduced to the pressure setting on the pilot.

### APPLICATIONS

These valves are ideally suited for low temperature applications to positively close, during defrost, the following: suction lines, liquid overfeed and flooded evaporator gas return lines, as well as gravity liquid and gas lines. Because they are gas-powered to close, these valves operate reliably even under viscous oil conditions. They meet the requirements for "suction stop valves having delayed main valve opening" when specified. Their rated suction vapor capacities are equal to Hansen type HCK2/HCK2W and therefore are ideal for retrofitting existing valves in the field. These valves are suitable for ammonia, R22, R134a, and other approved refrigerants.

### Specifications, Applications, Service Instructions & Parts

**HCK5, HCK5W  
GAS-POWERED  
SUCTION STOP VALVES**  
1 1/4" thru 6" PORT  
(32 thru 150 mm)

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



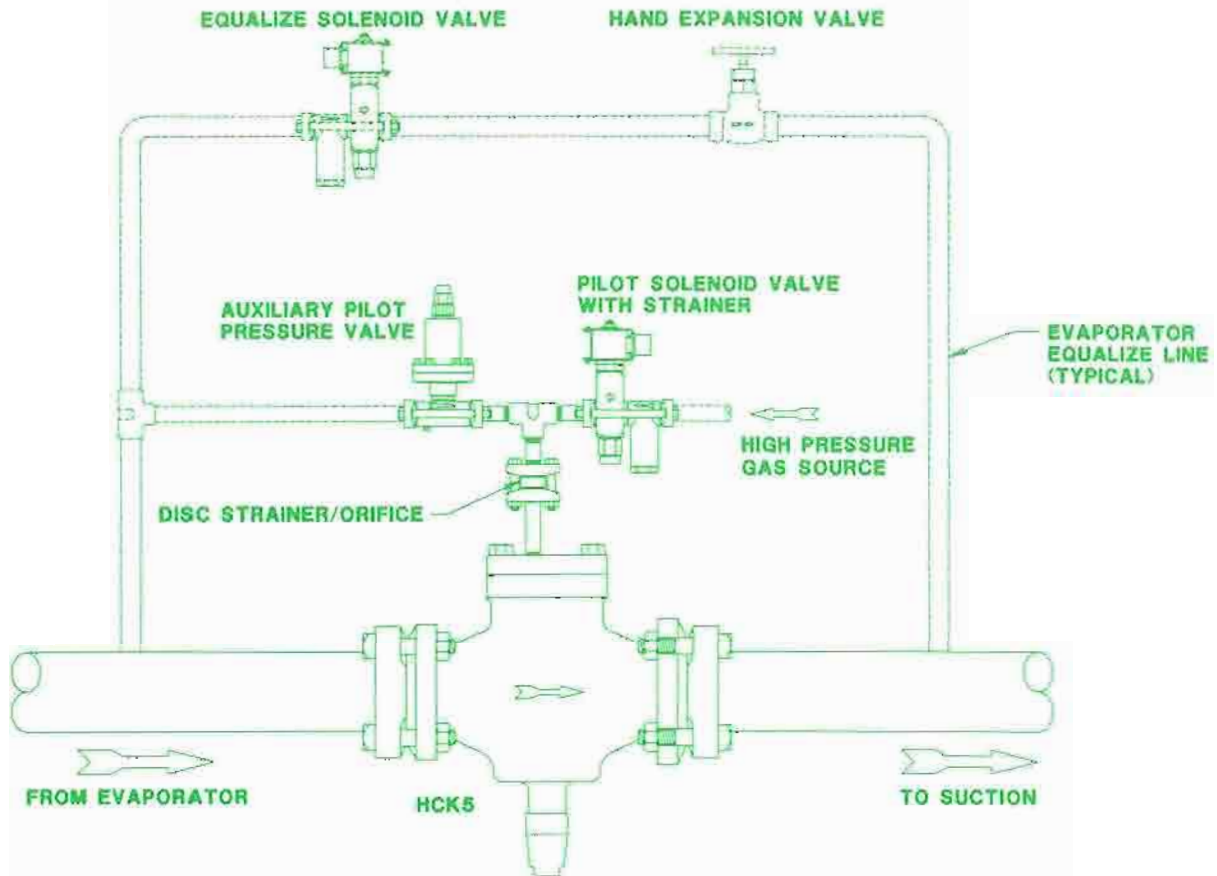
### ADVANTAGES

Unique spool type piston/seats are more resistant to dirt than typical full skirted piston designs. The ductile iron body (5" & 6" are cast steel) is much stronger and tougher than grey iron or "semi-steel" iron. Protective pilot line disc strainers are included. Manual opening stems on both the main and pilot solenoid valves are standard for positive opening during servicing or trouble shooting systems. Flange-to-flange dimension and flange patterns are the same as R/S CK-2 and CK-5; these valves can be "dropped-in" without main line piping changes (except 1 1/4").

### KEY FEATURES

- Strong cast steel or ductile iron body
- Delayed opening in case of power failure
- Standard solenoid coil; no special coil required
- Adjustable opening pressure setting
- No pressure drop required to open
- Tough ductile iron piston
- Easy to install and insulate
- Teflon® piston seal ring
- Durable metal-to-metal seating
- Pilot line strainer and disc strainer/orifice
- 400 psig Safe Working Pressure
- Pilot valve assembly included for all sizes
- Dimensionally replaces R/S type CK-2 and CK-5

## TYPICAL APPLICATION



### OPERATION

These HCK5 valves are held normally open by means of a spring. When a high pressure refrigerant gas is introduced to the valve through the pilot line inlet, the piston/seat is forced down, compressing the spring and seating the piston/seat firmly on the valve body taper seat. While the HCK5 is designed to withstand the shock of quick closing, if the noise or system or piping shock is excessive, a lower controlled pilot gas pressure may be advisable.

For opening, the high pressure gas source is interrupted and the defrosted evaporator pressure is reduced via an equalize solenoid valve. Once evaporator pressure is reduced sufficiently (below auxiliary pressure pilot valve setting—typically 10 psig) the remaining high pressure gas is bled-off thru the bleed hole in piston/seat to the outlet side of the valve. The upstream pressure plus the spring causes the valve to open wide.

If power to the pilot solenoid valve is inadvertently interrupted, as during an electrical power failure, the main valve piston/seat will still remain closed for a period of time. This is accomplished by the auxiliary pressure pilot valve utilizing evaporator pressure to continue to supply an adequate amount of pilot pressure to the top of the piston/seat. Eventually, the evaporator defrost pressure will be reduced by temperature and via the constant bleed thru the orifice in the piston/seat; at which time the valve will open wide. This main valve opening consequently occurs at a lower pressure than defrost pressure.

### ORDERING INFORMATION

PORT SIZE (mm)	FLANGE CONNECTION STYLES & SIZE		
	SW, WN, FPT		ODS
	STD	ALSO	STD
1½" (32)	1½"	1", ¾"	1⅞"
1½" (40)	1½"	2"	1⅞"
2" (50)	2"	1½"	2⅞"
2½" (65)	2½"	3"	2⅞"
3" (80)	3"	--	3⅞"
4" (100)	4"	--	4⅞"
5"* (125)	5" BW	--	--
6"* (150)	6" BW	--	--

\* 5" & 6" are integral butt weld only, Type HCK5W.

**TO ORDER:** Specify type HCK5, port size, flange connection style and size. For pilot valve assembly: specify flange connection style and size: ½" FPT standard, SW or WN available; voltages: 115V, 230V, 24V; 50/60Hz. Unless otherwise specified standard coil with ½" fitting for conduit will be supplied with pilot valve. Also available, DIN plug coil for grounded cord connection or coil with junction box.

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