

Model HVD Piston Type Solenoid Valve



Product Description

- Model HVD piston type solenoid valve is a twice open-type solenoid valve to be suitable to one-way flow.
- Model HVD piston type solenoid valve is used on the liquid, air suction and hot vapor pipes of the refrigeration, cold storage and air conditioning facilities.

- The coil of varies voltages is available for Model HVD piston type solenoid valve with a universal valve body.
- Model HVD piston type solenoid valve could be supplied in whole or in split, that means valve body and coil could be supplied separately.

Features

- The proprietary coil has perfect waterproof performance (IP65).
- Using new material (L) has performance in high and low temperature application.
- The 24W high-power solenoid coil has high capability to open the valve.

- The high flow rate is assured by a big piston stroke.
- Various AC and DC solenoid coils are available for choice.
- 1-5/8 inch is the maximum welded connection size.

Technical Parameters

Applicable Refrigerants	HFC or HFC (Customer specified)
Applicable Medium Temperature	-30°C ~ +105°C
Application Ambient Temperature of Solenoid	-40°C ~ +65°C
Standard Voltage of Solenoid	AC 380V/AC 220V/50Hz (Customer design is available)
Allowable Voltage Fluctuation for Solenoid	+10% ~ -15%
Connection of Solenoid	Standard 3-wire insert connector

Model	Size	ΔP(bar)			Max Working Pressure(bar)	Kv(m³/h)
		Weld Connection	Min	MOPD LiquidMOP		
HVD8-3T	3/8ODF	0.05		31	45	0.6
HVD10-4T	1/2ODF	0.05		31	45	1.4
HVD10-5T	5/8ODF	0.05		31	45	1.9
HVD15-6T	3/4ODF	0.05		31	45	2.6
HVD15-7T	7/8 ODF	0.05		31	45	2.8
HVD25-9T	1-1/8ODF	0.2		31	45	10
HVD32-11T	1-3/8ODF	0.2		31	45	16
HVD40-13T	1-5/8ODF	0.2		31	45	25

- 1) Kv value: The flow rate (m³/h) of water of density 1t/m³ passing through the solenoid valve with the pressure differential of 100 kPa.
2) The MOPD of gaseous medium is about 1 bar higher than that of liquid.

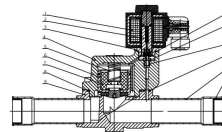
Model	KWNominal Refrigerating Capacity kW											
	Liquid					Air Suction			Hot Vapor			
	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A
HVD8-3T	16.10	14.80	11.20	16.08	1.80	1.30	1.60	2.32	7.40	5.90	6.00	11.18
HVD10-4T	28.18	25.90	19.60	28.14	3.15	2.28	2.80	4.06	12.95	10.33	10.50	19.57
HVD10-5T	38.24	35.15	26.60	38.19	4.28	3.09	3.80	5.51	17.58	14.01	14.25	26.55
HVD15-6T	52.33	48.10	36.40	52.26	5.85	4.23	5.20	7.54	24.05	19.18	19.50	36.34
HVD15-7T	56.35	51.80	39.20	56.28	6.30	4.55	5.60	8.12	25.90	20.65	21.00	39.13
HVD25-9T	201.25	185.00	140.00	201.00	22.50	16.25	20.00	29.00	92.50	73.75	75.00	139.75
HVD32-11T	322.00	296.00	224.00	321.60	36.00	26.00	32.00	46.40	148.00	118.00	120.00	223.60
HVD40-13T	503.13	462.50	350.00	502.50	56.25	40.63	50.00	72.50	231.25	184.38	187.50	349.38

The working condition the nominal refrigerating capacity of liquid and air suction is as follows:
 tc = -10°C (Evaporation Temperature: tc = -10°C;
 tl = +25°C (Liquid Temperature before Valve: tl = +25°C;
 ΔPa = 15kPa (Pressure Drop after Solenoid Valve: ΔP = 15kPa)

The working condition the nominal refrigerating capacity of hot vapor is as follows:
 Condensation Temperature: tc = +40°C;
 Pressure Drop after Solenoid Valve: ΔP = 0.8Bar;
 Hot Vapor Temperature: th = +65°C;
 Liquid Refrigerant Overcooling: Δtsat = 4K

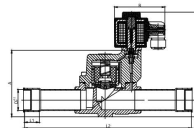
Structure

- | | |
|-----------------|-------------------------|
| 1.solenoid coil | 8.PTFE gasket |
| 2.core iron | 9.valve body |
| 3.valve seat | 10.dust cap |
| 4.bonnet | 11.pipe |
| 5.spring | 12.O-ring |
| 6.piston | 13.valve element |
| 7.piston core | 14.valve element gasket |
| | 15.seal ring |



Overall Dimension

Model	Overall Dimension						
	A	B	D	L1	L2	H1	H2
HVD25-9T	103	85	Φ28.7	20	246.5	26.5	139
HVD32-11T	110	85	Φ35.2	25	281.0	28	145
HVD40-13T	119	85	Φ41.5	29	316.0	32	150



Model HVP Piston Type Solenoid Valve



Product Description

- Model HVP piston type solenoid valve is a twice open-type solenoid valve to be suitable to one-way flow.
- Model HVP piston type solenoid valve is used on the liquid, air suction and not vapor pipes of the refrigeration, cold storage and air conditioning facilities.
- The coil of varies voltages is available for Model HVP piston type solenoid valve

- with a universal valve body.
- Model HVP piston type solenoid valve could be supplied in whole or in split, that means valve body and coil could be supplied separately.

Features

- The proprietary coil has perfect waterproof performance (IP65).
- Using new material, it has performance in high and low temperature application.
- The 24W high-power solenoid coil has high capability to open the valve.
- The high flow rate is assured by a big piston stroke.
- Various AC and DC solenoid coils are available for choice.
- 2-1/8 inch is the maximum welded connection size.

Technical Parameters

Applicable Refrigerants	HCFC or HFC (Customer specified)
Applicable Medium Temperature	-30°C ~ +105°C
Application Ambient Temperature of Solenoid	-40°C ~ +65°C
Standard Voltage of Solenoid	AC 380V/AC 220V/50Hz (Customer design is available)
Allowable Voltage Fluctuation for Solenoid	+10% ~ -15%
Connection of Solenoid	Standard 3-wire insert connector

Model Selection	Size	ΔP(bar)			Max Working Pressure(bar)	Kv(m³/h)
		Weld Connection	Min	MOPD Liquid/MOP		
HVP25	1-1/8 ODF	0.2		31	45	10
HVP32	1-3/8 ODF	0.2		31	45	16
HVP40	1-5/8 ODF	0.2		31	45	25
HVP54	2-1/8 ODF	0.2		31	45	28

- 1) Kv value: The flow rate (m³/h) of water of density 10/m³ passing through the solenoid valve with the pressure differential of 100 KPa.
- 2) The MOPD of gaseous medium is about 1 bar higher than that of liquid.

Model	KvNominal Refrigerating Capacity kW											
	Liquid					Air Suction			Hot Vapor			
	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A
HVP25	201.25	185.00	140.00	201.00	22.50	16.25	20.00	29.00	92.50	73.75	75.00	139.75
HVP32	322.00	296.00	224.00	321.60	36.00	26.00	32.00	46.40	148.00	118.00	120.00	223.60
HVP40	503.13	462.50	350.00	502.50	56.25	40.63	50.00	72.50	231.25	184.38	187.50	349.38
HVP54	563.50	518.00	392.00	562.80	63.00	45.50	56.00	81.20	259.00	206.50	210.00	391.30

The working condition the nominal refrigerating capacity of liquid and air

suction is as follows:

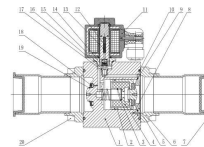
- tc = +40°C Condensation Temperature; te = -40°C;
- ts = -10°C Evaporation Temperature; ts = -10°C;
- t1 = +25°C Liquid Temperature before Valve; t1 = +25°C;
- ΔP = 15KPa Pressure Drop after Solenoid Valve; P = 15KPa

The working condition the nominal refrigerating capacity of hot vapor is as follows:

- tc = +40°C Condensation Temperature; te = -40°C;
- ΔP = 0.8bar Pressure Drop after Solenoid Valve; P = 0.8bar;
- ts = +65°C Hot Vapor Temperature; ts = +65°C;
- Δts = 4K Liquid Refrigerant Overcooling; ts = 4K

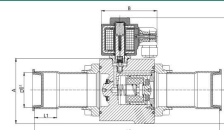
Structure

1. valve body
2. piston
3. spring
4. piston core
5. sealing seat
6. flange assembly
7. dust cap
8. dowel pin
9. O-ring
10. PTFE gasket
11. solenoid coil(24W)
12. core iron
13. reset spring
14. valve seat
15. seal ring
16. flange element
17. valve element gasket
18. filter assembly
19. retainer ring
20. screw



Overall Dimension

Model	Overall Dimension						
	A	B	D	L1	L2	H1	H2
HVP25	100	85	Φ28.7	20	281.5	51.5	111
HVP32	100	85	Φ35.2	25	281.5	51.5	111
HVP40	100	85	Φ41.5	29	281.5	51.5	111
HVP54	100	85	Φ54.2	34	281.5	51.5	111



Model HV solenoid valve



Product Description

- Model HV solenoid valve is a one-step on/off or two-step on/off solenoid valve, which is applicable to one-way flow.
- Model HV solenoid valve is used on the piping of liquid, suction gas or hot air on the freezing, cold storage and air conditioner units.
- The valve seat and seals of Model HV solenoid valve have excellent sealing performance.

- Model HV solenoid valve can be supplied with coils of varied voltage.
- Model HV solenoid valve can be supplied in assembly or in separate components, that is, the valve body and the coil can be supplied separately.

Features

- Only NC type solenoid valve is available.
- Coils of various power supply are available for choice.
- For 9W solenoid, MOFP is up to 3.1 MPa.
- For clamping type solenoid valve, it is simple and just need one screwdriver in installation.

- It is suitable to various application in freezing, cold storage and air conditioner units.
- The sealed coil has a long service life and could be used in adverse circumstances.
- Certification : ISO 9001 • QS (XX-015-00246) • CE UL

Technical Parameters

Applicable Refrigerants	HFCs, HFC and related medium viscosity $\leq 2^\circ \text{E}$ lubricant oil
Applicable Medium Temperature	$-30^\circ \text{C} \rightarrow +105^\circ \text{C}$
Application Ambient Temperature of Solenoid	$-40^\circ \text{C} \rightarrow +65^\circ \text{C}$
Standard Voltage of Solenoid	AC380V, 220V, 110V, 24V/50, 60Hz, DC12V
Allowable Voltage Fluctuation for Solenoid	$\pm 10\% \sim 15\%$
Connection of Solenoid	Standard 3-wire insert connector

Structure	Model	Connection		$\Delta P(\text{bar})$		Max Working Pressure(bar)	Kv(m ³ /h)			
		Spec	Type	Min.	MOFP Liquid MOFP					
Direct Operated	HV3-2	1/4	SAE	0.0			0.2			
	HV3-2T		ODF							
	HV3-3		SAE							
Servo-Operated	HV3-3T	3/8	ODF	0.05	31 (close)	45	0.27			
	HV3-3		SAE							
	HV3-3T		ODF							
	HV3-3T	ODF	1/2				0.05	31 (close)	45	0.8
	HV3-3	SAE								
	HV3-3T	ODF								
	HV3-3T	ODF	5/8				0.05	31 (close)	45	2.2
	HV3-3	SAE								
	HV3-3T	ODF								
	HV3-3T	ODF	3/4				0.2	31 (close)	45	2.6
	HV3-3	SAE								
	HV3-3T	ODF								
	HV3-3T	ODF	7/8				0.2	31 (close)	45	5.7
	HV3-3	SAE								
	HV3-3T	ODF	1-1/8				0.2	31 (close)	45	10

- 1) Kv value: The flow rate (m³/h) of water of density 1t/m³ passing through the solenoid valve with the pressure differential of 100 KPa.
- 2) The MOFP of gaseous medium is about 1 bar higher than that of liquid.

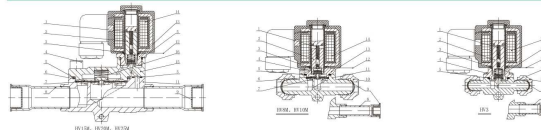
KWh/nominal Refrigerating Capacity kW

Model	Liquid						Air Suction			Hot Vapor		
	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A
HV3-3T	4.03	3.70	2.80	4.02	0.45	0.33	0.40	0.58	1.85	1.48	1.50	2.80
HV3MT	16.10	14.80	11.20	16.08	1.80	1.30	1.60	2.32	7.40	5.90	6.00	11.18
HV10M4T	38.24	35.15	26.60	38.19	4.28	3.09	3.80	5.51	17.58	14.01	14.25	26.55
HV10M5T	52.33	48.10	36.40	52.26	5.85	4.23	5.20	7.54	24.05	19.18	19.50	36.34
HV15M7T	100.63	92.50	70.00	100.50	11.25	8.13	10.00	14.50	46.25	36.88	37.50	69.88
HV20M7T	201.25	185.00	140.00	201.00	22.50	16.25	20.00	29.00	92.50	73.75	75.00	139.75

The working condition the nominal refrigerating capacity of liquid and air suction is as follows:
 $t_c = -10^\circ \text{C}$ Evaporation Temperature; $t_c = -10^\circ \text{C}$ Condensation Temperature; $t_c = +40^\circ \text{C}$ Condensation Temperature; $t_c = +40^\circ \text{C}$ Condensation Temperature; $t_c = +40^\circ \text{C}$ Condensation Temperature; $t_c = +40^\circ \text{C}$ Condensation Temperature;
 $t_l = +25^\circ \text{C}$ Liquid Temperature before Valve; $t_l = +25^\circ \text{C}$ Liquid Temperature before Valve; $t_l = +25^\circ \text{C}$ Liquid Temperature before Valve; $t_l = +25^\circ \text{C}$ Liquid Temperature before Valve;
 $\Delta P = 15 \text{KPa}$ Pressure Drop after Solenoid Valve; $\Delta P = 15 \text{KPa}$ Pressure Drop after Solenoid Valve; $\Delta P = 15 \text{KPa}$ Pressure Drop after Solenoid Valve; $\Delta P = 15 \text{KPa}$ Pressure Drop after Solenoid Valve;

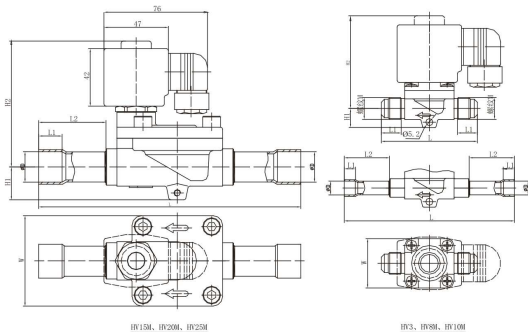
The working condition the nominal refrigerating capacity of hot vapor is as follows:
 $t_c = +40^\circ \text{C}$ Condensation Temperature; $t_c = +40^\circ \text{C}$ Condensation Temperature; $t_c = +40^\circ \text{C}$ Condensation Temperature; $t_c = +40^\circ \text{C}$ Condensation Temperature;
 $t_l = +65^\circ \text{C}$ Hot Vapor Temperature; $t_l = +65^\circ \text{C}$ Hot Vapor Temperature; $t_l = +65^\circ \text{C}$ Hot Vapor Temperature; $t_l = +65^\circ \text{C}$ Hot Vapor Temperature;
 $\Delta t_{\text{sub}} = 4 \text{K}$ Liquid Refrigerant Overcooling; $\Delta t_{\text{sub}} = 4 \text{K}$ Liquid Refrigerant Overcooling; $\Delta t_{\text{sub}} = 4 \text{K}$ Liquid Refrigerant Overcooling; $\Delta t_{\text{sub}} = 4 \text{K}$ Liquid Refrigerant Overcooling;

Structure



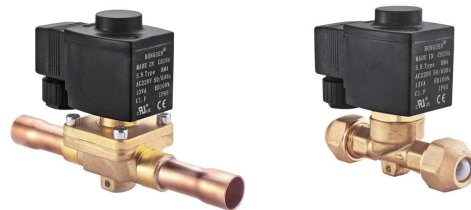
- 1 recovery spring
- 2 iron core (modified PTFE sealing)
- 3 oil-resistance rubber
- 4 fastening screw (pieces)
- 5 PTFE gasket
- 6 valve core (mobile) (modified PTFE composite diaphragm)
- 7 flapper
- 8 copper tube
- 9 dust cap
- 10 connection tube nut
- 11 valve body
- 12 valve cover
- 13 solenoid coils (9W)
- 14 valve cover
- 15 big recovery spring

Overall Dimension



Model	Overall Dimension							
	H1	H2	W	L	L1	L2	ØD	Thread M
HV3-2	14	66	30	78	14.5	—	—	7/16-20UNF
HV3-2T	14	66	30	102	7	27	6.5	—
HV3-3	14	66	30	78	14.5	—	—	5/8-18UNF
HV3-3T	14	66	30	114	8	35	10.1	—
HV8M3	14	67	36	95	16	—	—	5/8-18UNF
HV8M3T	14	67	36	124	8	33	10.1	—
HV8M4	14	67	36	98	17	—	—	3/4-16UNF
HV8M4T	14	67	36	130	10	36	12.8	—
HV10M4	15	77	45	103	18	—	—	3/4-16UNF
HV10M4T	15	77	45	138	10	36	12.8	—
HV10M5	15	77	45	112	20	—	—	7/8-14UNF
HV10M5T	15	77	45	156	14	42	16.1	—
HV15M5	18	88	52	133	19.5	—	—	7/8-14UNF
HV15M5T	18	88	52	165	14	43	16.1	—
HV15M6	18	88	52	133	21	—	—	1-1/16-14UNS
HV15M6T	18	88	52	172	16	46	19.2	—
HV20M7T	24	92	66	191	17	49	22.3	—
HV25M9T	26.5	96	73	246	22	73	28.7	—

Model SV Solenoid Valve



Product Description

- Model SV solenoid valve is a once open-type or twice open-type solenoid valve to be suitable to one-way flow.
- Model SV solenoid valve is used on the liquid, air suction and hot vapor pipes of the refrigeration, cold storage and air conditioning facilities.
- Model SV solenoid valve has perfect sealing on its valve seat and sealing part.
- The coil of varies voltages is available for Model SV solenoid valve with a universal valve body.
- Model SV solenoid valve could be supplied in whole or in split, that means the valve body and coil could be supplied separately.

Features

- The proprietary coil is an entirely sealed design with an effective waterproof performance and a long service life(P65).
- The solenoid coil could be operated properly even under unstable voltage.
- Various AC and DC solenoid coils are available for choice.
- Clip type solenoid coil is convenient in assembly and disassembly.
- It is applicable to various compressors in the refrigeration, cold storage and air conditioning facilities.

Technical Parameters

Applicable Refrigerants	H2C, HFC and related medium viscosity $\leq 2^{\circ}$ E-Minorant oil
Applicable Medium Temperature	-30°C ~ +105°C
Application Ambient Temperature of Solenoid	-40°C ~ +65°C
Standard Voltage of Solenoid	AC380V, 220V, 110V, 24V/50, 60Hz, DC12V
Allowable Voltage Fluctuation for Solenoid	-10% ~ +15%
Connection of Solenoid	Standard 3-wire insert connector

Model Selection									
Structure	Model	Connection		-P(bar)		Max Working Pressure(bar)	Kv(m ³ /h)		
		Spec	Type	Minimum	MOPD Liquid/MOP				
Direct Operated	SV20-2	1/4	SAE	0.0	31	45	0.2		
	SV28-2		ODF						
	SV20-3		SAE						
	SV28-3		ODF						
Servo-Operated	SV64-3	3/8	SAE	0.05	31	45	0.8		
	SV68-3		ODF						
	SV64-4	1/2	SAE						
	SV68-4		ODF						
	SV70-5	5/8	SAE						
	SV78-5		ODF						
	SV70-6		SAE						
	SV78-6	3/4	ODF						
	SV98-7		7/8					ODF	0.2

1) Kv value: When the pressure differential is 100 kPa, the flowrate at m³/h of water in density 1 t/m³ flows the solenoid valve.
2) The MOPD of gaseous medium is about 1 bar higher than that of liquid.

Model	R/Nominal Refrigerating Capacity kW											
	Liquid				Air Suction				Hot Vapor			
	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A
SV20	4.03	3.70	2.80	4.02	0.45	0.33	0.40	0.58	1.85	1.48	1.50	2.80
SV28	4.03	3.70	2.80	4.02	0.45	0.33	0.40	0.58	1.85	1.48	1.50	2.80
SV64	16.10	14.80	11.20	16.08	1.80	1.30	1.60	2.32	7.40	5.90	6.00	11.18
SV70	52.33	48.10	36.40	52.26	5.85	4.23	5.20	7.54	24.05	19.18	19.50	36.34
SV78	52.33	48.10	36.40	52.26	5.85	4.23	5.20	7.54	24.05	19.18	19.50	36.34
SV98	114.71	105.45	79.80	114.57	12.83	9.26	11.40	16.53	52.73	42.04	42.75	79.66

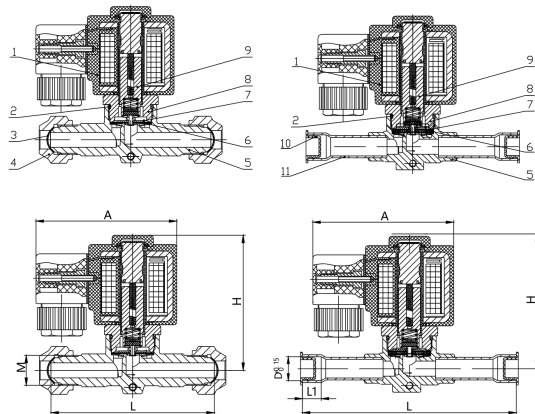
The working condition the nominal refrigerating capacity of liquid and air suction is as follows:

- Evaporation Temperature: t_e = -10°C;
- Liquid Temperature before Valve: t_l = +25°C;
- Pressure Drop after Solenoid Valve: -P = 15kPa

The working condition the nominal refrigerating capacity of hot vapor is as follows:

- Condensation Temperature: t_c = +40°C;
- Pressure Drop after Solenoid Valve: -P = 80kPa;
- Hot Vapor Temperature: t_h = +65°C;
- Liquid Refrigerant Overcooling: -t_{sub} = 4K

Structure							
Model	Overall Dimension						
	A	H	L	L1	ΦD	M	
SV20-2	70	65	58	—	—	7/16-20UNF	
SV28-2	70	65	90	7	6.5	—	
SV20-3	70	65	64	—	—	5/8-18UNF	
SV28-3	70	65	104	8	10.1	—	
SV64-3	70	72	81	—	—	5/8-18UNF	
SV68-3	70	72	108	8	10.1	—	
SV64-4	70	72	85	—	—	3/4-16UNF	
SV68-4	70	72	114	10	12.8	—	
SV70-5	70	75	104	—	—	7/8-14UNF	
SV78-5	70	75	152	14	16.1	—	
SV70-6	70	75	104	—	—	1-1/16-14UNS	
SV78-6	70	75	158	16	19.2	—	
SV98-7	70	78	180	17	22.3	—	



1. solenoid coil 2. O-Ring 3. sealing cap 4. nut 5. valve body 6. plate 7. valve element 8. valve seat 9. core cap 10. dust cap 11. pipe

Model 10 Solenoid Valve



Product Description

- Model 10 solenoid valve is a once open-type or twice open-type solenoid valve to be suitable to one-way flow.
- Model 10 solenoid valve is used on the liquid, air suction and hot vapor pipes of the refrigeration, cold storage and air conditioning facilities.
- Model 10 solenoid valve has perfect sealing on its valve seat and sealing part.
- The coil of varies voltages is available for Model 5V solenoid valve with a universal valve body.
- Model 10 solenoid valve could be supplied in whole or in split, that means the valve body and coil could be supplied separately.

Features

- Only NC type solenoid valve is available.
- Coils of various power supply are available for choice.
- For BW solenoid/MOPD is up to 2.5 MPa.
- For clamping type solenoid valve, it is simple and just need one screwdriver in installation.
- It is suitable to various application in freezing cold storage and air conditioner units.
- The sealed coil has a long service life and could be used in adverse circumstances.

Technical Parameters

Applicable Refrigerants	HFC, HFC and related medium viscosity $\leq 2^{\circ}$ E lubricant oil
Applicable Medium Temperature	-30°C ~ +105°C
Application Ambient Temperature of Solenoid	-40°C ~ +65°C
Standard Voltage of Solenoid	AC30V, 220V, 110V, 24V/50, 60Hz, DC12V
Allowable Voltage Fluctuation for Solenoid	+10% ~ -15%
Connection of Solenoid	Standard 3-wire insert connector

Model Selection		Connection		-P(bar)		Max Working Pressure(bar)	Kv (m ³ /h)
Structure	Model	Spec	Type	Minimum	MOPD Liquid/MOPD		
Direct Operated	1020-2	1/4	SAE	0.0			0.2
	1028-2		ODF				
	1020-3		SAE				
	1028-3		ODF				
Servo-Operated	1064-3	3/8	SAE	0.05	25	45	0.8
	1068-3		ODF				
	1064-4		SAE				
	1068-4		ODF				
	1070-5	1/2	SAE				
	1078-5		ODF				
	1070-6	5/8	SAE				
	1078-6		ODF				
	1076-6	3/4	SAE				
			ODF				

1) Kv value: When the pressure differential is 100 kPa, the flowrate at m³/h of water in density 1 t/m³ flows the solenoid valve.
2) The MOPD of gaseous medium is about 1 bar higher than that of liquid.

Model	KW/Nominal Refrigerating Capacity kW											
	Liquid				Air Suction				Hot Vapor			
	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A
1020	4.03	3.70	2.80	4.02	0.45	0.33	0.40	0.58	1.85	1.48	1.50	2.80
1028	4.03	3.70	2.80	4.02	0.45	0.33	0.40	0.58	1.85	1.48	1.50	2.80
1064	16.10	14.80	11.20	16.08	1.80	1.30	1.60	2.32	7.40	5.90	6.00	11.18
1068	16.10	14.80	11.20	16.08	1.80	1.30	1.60	2.32	7.40	5.90	6.00	11.18
1070	52.33	48.10	36.40	52.26	5.85	4.23	5.20	7.54	24.05	19.18	19.50	36.34
1078	52.33	48.10	36.40	52.26	5.85	4.23	5.20	7.54	24.05	19.18	19.50	36.34

The working condition the nominal refrigerating capacity of liquid and air suction is as follows:

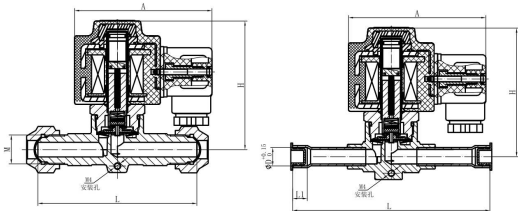
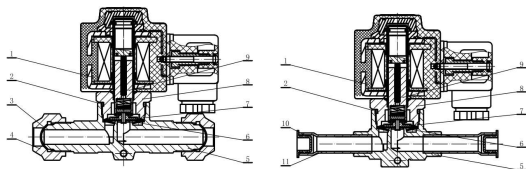
- Evaporation Temperature: te = -10°C;
- Liquid Temperature before Valve: tl = +25°C;
- Pressure Drop after Solenoid Valve: $\Delta P = 15\text{KPa}$

The working condition the nominal refrigerating capacity of hot vapor is as follows:

- Condensation Temperature: tc = +40°C;
- Pressure Drop after Solenoid Valve: $\Delta P = 80\text{KPa}$;
- Hot Vapor Temperature: th = +65°C;
- Liquid Refrigerant Overcooling: $\Delta t_{\text{sub}} = 4\text{K}$

Structure						
Model	Overall Dimension					
	A	H	L	L1	ΦD	M
1020-2	75	64	58	—	—	7/16-20UNF
1028-2	75	64	90	7	6.5	—
1020-3	75	64	64	—	—	5/8-18UNF
1028-3	75	64	104	8	10.1	—
1064-3	75	71	81	—	—	5/8-18UNF
1068-3	75	71	108	8	10.1	—
1064-4	75	71	85	—	—	3/4-18UNF
1068-4	75	71	114	10	12.8	—
1070-5	75	74	104	—	—	7/8-14UNF
1078-5	75	74	152	14	16.1	—
1070-6	75	74	104	—	—	1-1/16-14UNS
1078-6	75	74	158	16	19.2	—

Model HVK normal open solenoid valve



1. solenoid coil 2. O-Ring 3. sealing cap 4. nut 5. valve body 6. plate 7. valve element 8. valve seat 9. core cap 10. dust cap 11. pipe

Product Description

- Model HVK solenoid valve is a one-step on/off or two-step on/off solenoid valve, which is applicable to one-way flow.
- Model HVK solenoid valve is used on the piping of liquid, suction gas or hot air on the freezing, cold storage and air conditioner units.
- The valve seat and seals of Model HVK solenoid valve have excellent sealing performance.
- Model HVK solenoid valve could be supplied with coils of varied voltage.
- Model HVK solenoid valve could be supplied in assembly or in separate components, that is, the valve body and the coil could be supplied separately.

Features

- Only NO type solenoid valve is available.
- Coils of various power supply are available for choice.
- For 26VA solenoid, MOPO is up to 2.1 MPa.
- For clamping type solenoid valve, it is simple and just need one screwdriver in installation.
- It is suitable to various application in freezing, cold storage and air conditioner units.
- The sealed coil has a long service life and could be used in adverse circumstances.
- Certification : ISO 9001 • QS (XX-015-00246) • CE UL

Technical Parameters

Applicable Refrigerants	HFC, HCFC and related medium viscosity s2 E lubricant oil
Applicable Medium Temperature	-30°C~+105°C
Application Ambient Temperature of Solenoid	-40°C~+65°C
Standard Voltage of Solenoid	AC380V, 220V, 110V, 24V/50, 60Hz, DC12V
Allowable Voltage Fluctuation for Solenoid	+10%~-15%
Connection of Solenoid	Standard 3-wire insert connector

Model Selection		Connection		ΔP(bar)		Max Working Pressure(bar)	Kv(m ³ /h)						
Structure	Model	Spec	Type	Min.	MOFO Liquid/KvOP								
Direct Operated	HVK3-2	1/4	SAE	0.0			0.2						
	HVK3-2T		ODF										
	HVK3-3		SAE										
	HVK3-3T		ODF										
Servo Operated	HVK8M3	3/8	SAE	0.05	21 (open)	45	0.8						
	HVK8M3T		ODF										
	HVK8M4		SAE										
	HVK8M4T		ODF										
	HVK10M4	1/2	SAE				0.2			2.2			
	HVK10M4T		ODF										
	HVK10M5	5/8	SAE				0.2			2.6			
	HVK10M5T		ODF										
	HVK13M5		SAE										
	HVK13M5T		ODF										
	HVK15M6	3/4	SAE							0.2			2.6
	HVK15M6T		ODF										
	HVK20M7T	7/8	Ø□ ODF										5.7
	HVK25M9T	1-1/8											

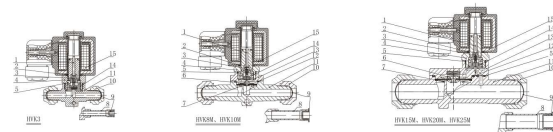
1) Kv value: The flow rate (m³/h) of water of density 1t/m³ passing through the solenoid valve with the pressure differential of 100 KPa.
2) The MOFO of gaseous medium is about 1 bar higher than that of liquid.

Model	KWNominal Refrigerating Capacity kW											
	Liquid					Air Suction					Hot Vapor	
	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A
HVK3-3T	4.03	3.70	2.80	4.02	0.45	0.33	0.40	0.58	1.85	1.48	1.50	2.80
HVK8M3T	16.10	14.80	11.20	16.08	1.80	1.30	1.60	2.32	7.40	5.90	6.00	11.18
HVK10M4T												
HVK10M5T	38.24	35.15	26.60	38.19	4.28	3.09	3.80	5.51	17.58	14.01	14.25	26.55
HVK15M6T	52.33	48.10	36.40	52.26	5.85	4.23	5.20	7.54	24.05	19.18	19.50	36.34
HVK20M7T	100.63	92.50	70.00	100.50	11.25	8.13	10.00	14.50	46.25	36.88	37.50	69.88
HVK25M9T	201.25	185.00	140.00	201.00	22.50	16.25	20.00	29.00	92.50	73.75	75.00	139.75

The working condition the nominal refrigerating capacity of liquid and air suction is as follows:
Evaporation Temperature: te = -10°C;
Liquid Temperature before Valve: tl = 25°C;
Pressure Drop after Solenoid Valve: ΔP = 15KPa

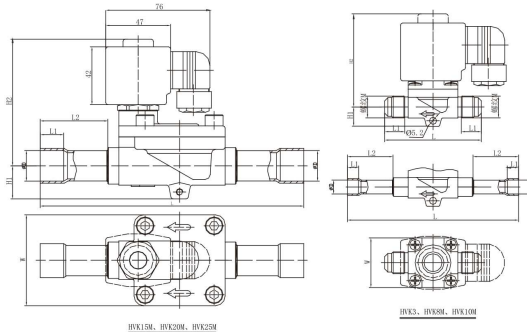
The working condition the nominal refrigerating capacity of hot vapor is as follows:
Condensation Temperature: tc = +40°C;
Pressure Drop after Solenoid Valve: ΔP = 0.8bar;
Hot Vapor Temperature: th = +65°C;
Liquid Refrigerant Overcooling: Δtsub = 4K

Structure



1. drive rod 2. oil-resistance rubber 3. iron core (modified PTFE sealing) 4. valve seat 5. O-Ring 6. valve core (mobile) (modified PTFE composite diaphragm)
7. flapper & copper tube 8. dust cap 9. connection tube nut 11. valve body 12. PTFE gasket 13. valve cover 14. recovery spring 15. solenoid coil

Overall Dimension



Model	Overall Dimension							Thread M
	H1	H2	W	L	L1	L2	DD	
HVK3-2	12	S24	30	58	13	—	—	7/16-20UNF
HVK3-2T	12	S24	30	90	7	27	6.5	—
HVK3-3	12	S24	30	64	16	—	—	5/8-18UNF
HVK3-3T	12	S24	30	104	8	35	10.1	—
HVK8M3	14	67	36	96	16	—	—	5/8-18UNF
HVK8M3T	14	67	36	124	8	33	10.1	—
HVK8M4	14	67	36	96	17	—	—	3/4-16UNF
HVK8M4T	14	67	36	130	10	36	12.8	—
HVK10M4	15	77	45	103	18	—	—	3/4-16UNF
HVK10M4T	15	77	45	138	10	36	12.8	—
HVK10M5	15	77	45	112	20	—	—	7/8-14UNF
HVK10M5T	15	77	45	156	14	42	16.1	—
HVK15M5	18	88	52	133	19.5	—	—	7/8-14UNF
HVK15M5T	18	88	52	165	14	43	16.1	—
HVK15M6	18	88	52	133	21	—	—	1-1/16-14UNS
HVK15M6T	18	88	52	172	16	46	19.2	—
HVK20M7T	24	92	66	191	17	49	22.3	—
HVK25M9T	26.5	96	73	246	22	73	28.7	—

Model HV Unloading Solenoid Valve



Product Description

• Model HV unloading solenoid valve is a direct-operated valve, which is applicable to one direction flow.

• Model HV unloading solenoid valve is used on the compressor of the freezer, cold store and air conditioning unit. It will automatically unload in accordance with the decrease of heat so that it could save the compressor energy and extend the service

life of compressor.

• The valve seat of Model HV unloading solenoid valve is well sealed with perfect sealing performance.

• Both packed and separated Model HV unloading solenoid valves are available and it means the valve body could supplied separately from the solenoid.

Features

• Only NC type solenoid valve is available.

• The max. design temperature is 110°C.

• 10W high power solenoid and max. operating pressure differential (MOPD) is 3.0 MPa.

• It is applicable to various compressors in freezer/cold store and air conditioning

unit.

• The clamped joint solenoid is easy to be mounted or dismantled only with one screwdriver.

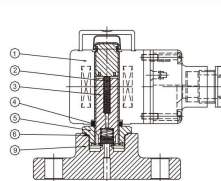
• The sealed solenoid has a long service life and it can be used even in an adverse circumstance.

Technical Parameters

Applicable Refrigerants	HCFC, HFC and related medium viscosity s2 ² E lubricant oil
Applicable Medium Temperature	-30°C ~ +105°C
Application Ambient Temperature of Solenoid	-40°C ~ +65°C
Standard Voltage of Solenoid	AC220V/50HZ
Allowable Voltage Fluctuation for Solenoid	+10%~-15%
Connection of Solenoid	Ip67 with terminal box

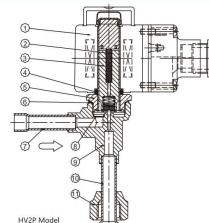
Model	Connection		3/8"Port Pressure Differential to Open Valve		Max Working Pressure(bar)	Kv(m ³ /h)
	Inlet	Outlet	Min	MOPD		
HV3.2B	Flanged Connecto		0.0	31	45bar	0.27
HV2P	3/8 ODF	3/8 SAE	0.0	31	45bar	0.2

Note: Kv: The flow rate (m³/h) of water of density 1 t/m³ passing through the solenoid valve under the pressure differential of 100 KPa.



HV3.2B Model

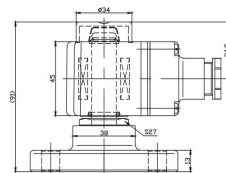
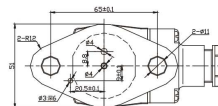
- 1.solenoid(10W)
- 2.return spring
- 3.iron core(modified PTFE sealing and imported stainless magnet steel)
- 4.O-ring
- 5.valve seat
- 6.sealing



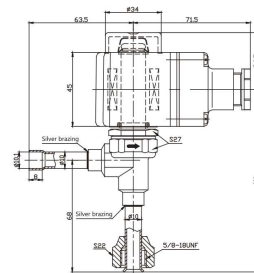
HV2P Model

- 7.suction tube
- 8.filter
- 9.valve body
- 10.outlet tube
- 11.tube nut

Overall Dimension

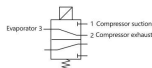


HV3.2B Model



HV2P Model

Model HVS(R) defrosting solenoid valve



Product Description

- Model HVS(R) is a solenoid valve specially designed for defrosting in refrigeration system.
- Switch the flow channel by electromagnetically controlling the position of the internal piston.
- When the solenoid coil is powered off: Port 2 will be closed, Port 3 will be connected to Port 1, the evaporator connects to the suction side of the

- compressor realize the refrigeration cycle.
- When the solenoid coil is powered on: Port 1 will be closed, Port 2 will be connected to Port 3, hot gas goes through the evaporator in order to realize the defrosting.
- This valve can Only be connected to the compressor exhaust integrated pipe, **DON'T** connect it to the exhaust main pipe.

Features

- Specially designed for industrial application;
- Large diameter, compact design, light weight
- Highly integrated piston structure, all internal parts can be cleaned internally

- by unscrewing the bonnet screw;
- Refined design to achieve internal leakage under 300ml/min

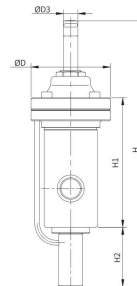
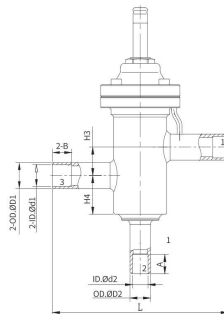
Technical Parameters

Applicable refrigerants	HFC/C/HFC
Environment temperature	-35~+65°C
Medium temperature	-35~+105°C
Rated voltage	220V ±10% ±15% / 50HZ
Coil connection	3-wire plug-in standard connector

Model Selection

Model	Max.OP1(bar)	Max.OP2(bar)	Min. OPD(bar)	Kv Value(m ³ /h)	
HVS(R)-27-22	30	21	2.5	Hot gas	7.1
				Liquid	8.3
				Hot gas	9.6
HVS(R)-34-27	30	21	2.5	Liquid	13.7
				Hot gas	12.7
				Liquid	20.2
HVS(R)-43-34	30	21	2.5	Hot gas	12.7
				Liquid	20.2
				Hot gas	20.2

Dimensions



Model	Size													
	H	H1	H2	H3	H4	L	φ	φ1	φ2	φ3	φ4	φ5	φ6	φ7
HVS(R)-27-22	275	134	61.5	29.5	40	382	82	26.9	21.3	15	22.5	36.2	20	20
HVS(R)-34-27	315	162	72.5	35	47	327	102.5	33.7	26.9	15	28.9	22.5	25	20
HVS(R)-43-34	351	188	80	47	59	145	131	42.4	33.7	15	35.3	26.9	25	25
HVS(R)-46-42	351	188	80	47	59	145	131	48.3	42.4	15	42.3	35.3	25	25

Model HVDF Piston Type Solenoid Valve



Product Description

- Model HVDF piston type solenoid valve is a twice open-type solenoid valve to be suitable to one-way flow.
- Model HVDF piston type solenoid valve is used on the liquid, air suction and hot vapor pipes of the refrigeration, cold storage and air conditioning facilities.

- The coil of various voltages is available for Model HVDF piston type solenoid valve with universal valve body.
- Model HVDF piston type solenoid valve could be supplied in split, that means valve body and coil could be supplied separately.

Features

- The proprietary coil has perfect waterproof performance (IP67).
- Using new material, it has performance in high and low temperature application.
- The 24W high-power solenoid coil has high capability to open the valve.

- The high flow rate is assured by a big piston stroke.
- Various AC and DC solenoid coils are available for choice.
- 1-5/8 inch is the maximum welded connection size.

Technical Parameters

Applicable Refrigerants	HCFC or HFC (Customer specified)
Applicable Medium Temperature	-30°C → +105°C
Application Ambient Temperature of Solenoid	-40°C → +65°C
Standard Voltage of Solenoid	AC 380V/AC 220V/50Hz (Customer design is available)
Allowable Voltage Fluctuation for Solenoid	+10% → -15%
Connection of Solenoid	Standard 3-wire insert connector

Model Selection

Model	Size	ΔP(bar)		Max Working Pressure(bar)	Kv(m³/h)
		MOPO	Liquid/MOP		
HVDF25-9	Ø28.2 ODF	0.2	31	45	10
HVDF25-11	Ø33.7 ODF	0.2	31	45	10
HVDF32-13	Ø42.4 ODF	0.2	31	45	16
HVDF40-15	Ø48.3 ODF	0.2	31	45	25
HVDF50-19	Ø59.3 ODF	0.2	31	45	28

- 1) Kv value: The flow rate (m³/h) of water of density 1g/cm³ passing through the solenoid valve with the pressure differential of 100 KPa.
2) The MOPO of gaseous medium is about 1 bar higher than that of liquid.

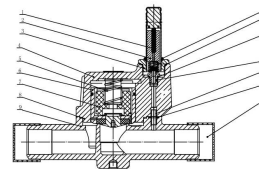
Model	Kv/Nominal Refrigerating Capacity kW											
	Liquid					Air Suction					Hot Vapor	
	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A
HVDF25-9	201.25	185.00	140.00	201.00	22.50	16.25	20.00	29.00	92.50	73.75	75.00	139.75
HVDF25-11	201.25	185.00	140.00	201.00	22.50	16.25	20.00	29.00	92.50	73.75	75.00	139.75
HVDF32-13	322.00	296.00	224.00	321.60	36.00	26.00	32.00	46.00	148.00	118.00	120.00	223.60
HVDF40-15	503.13	462.50	350.00	502.50	56.25	40.63	50.00	72.50	231.25	184.38	187.50	349.38
HVDF50-19	563.50	518.00	392.00	562.80	63.00	45.50	56.00	81.20	259.00	206.50	210.00	391.30

The working condition the nominal refrigerating capacity of liquid and air suction is as follows:
Evaporation Temperature: $t_e = -10^\circ\text{C}$;
Liquid Temperature before Valve: $t_l = +25^\circ\text{C}$;
Pressure Drop after Solenoid Valve: $\Delta P = 15\text{KPa}$

The working condition the nominal refrigerating capacity of hot vapor is as follows:
Condensation Temperature: $t_c = +40^\circ\text{C}$;
Pressure Drop after Solenoid Valve: $\Delta P = 0.8\text{bar}$;
Hot Vapor Temperature: $t_h = +65^\circ\text{C}$;
Liquid Refrigerant Overcooling: $\Delta t_{\text{sub}} = 4\text{K}$

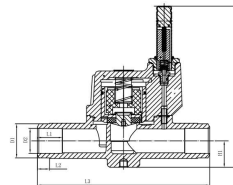
Structure

1. reset spring
2. core iron
3. valve seat
4. bonnet
5. reset spring
6. piston
7. piston core
8. PTFE gasket
9. valve body
10. dust cap
11. O-ring
12. Hollow pin
13. valve element
14. valve element gasket
15. seal ring
16. O-ring



Overall Dimension

Model	Overall Dimension							
	D1	D2	L1	L2	L3	H1	H2	
HVDF25-9	28.2	24.4	25	12	170	26	159	
HVDF25-11	33.7	26	25	12	170	26	159	
HVDF32-13	42.4	33	25	12	194	29.5	169	
HVDF40-15	48.3	29.5	25	12	208	33	176	
HVDF50-19	59.3	51	25	12	207	38	199	



Model HVPF Piston Type Solenoid Valve



Product Description

- Model HVPF piston type solenoid valve is a twice open type solenoid valve to be suitable to one-way flow.
- Model HVPF piston type solenoid valve is used on the liquid, air suction and hot vapor pipes of the refrigeration, cold storage and air conditioning facilities.
- The coil of varies voltages is available for Model HVPF piston type solenoid valve with universal valve body.
- Model HVPF piston type solenoid valve could be supplied in split, that means valve body and coil could be supplied separately.

Features

- The proprietary coil has perfect waterproof performance (IP68).
- Using new material it has performance in high and low temperature application.
- The 24W high-power solenoid coil has high capability to open the valve.
- The high flow rate is assured by a big piston stroke.
- Various AC and DC solenoid coils are available for choice.
- 2-1/8 inch is the maximum welded connection size.

Technical Parameters

Applicable Refrigerants	HCFC or HFC (Customer specified)
Applicable Medium Temperature	-30°C ~ +105°C
Application Ambient Temperature of Solenoid	-40°C ~ +65°C
Standard Voltage of Solenoid	AC 380V/AC 220V/50Hz (Customer design is available)
Allowable Voltage Fluctuation for Solenoid	+10% ~ -15%
Connection of Solenoid	Standard 3-wire insert connector

Model Selection	Size		ΔP(bar)		Max Working Pressure(bar)	Kv(m³/h)
	Weld Connection	Min.	MOPD	Liquid/MOP		
HVPF32	Ø38 ODF	0.2		31	45	10
HVPF40	Ø42 ODF	0.2		31	45	16
HVPF45	Ø48.3 ODF	0.2		31	45	25
HVPF54	Ø54.5 ODF	0.2		31	45	28
HVPF60	Ø60.3 ODF	0.2		31	45	30

- 1) Kv value: The flow rate (m³/h) of water of density 1g/cm³ passing through the solenoid valve with the pressure differential of 100 kPa.
2) The MOPD of gaseous medium is about 1 bar higher than that of liquid.

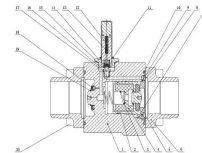
Model	Nominal Refrigerating Capacity kW											
	Liquid				Air Suction				Hot Vapor			
	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A	R22/R407C	R134a	R404A/R507	R410A
HVPF32	201.25	185.00	140.00	201.00	22.50	16.25	20.00	29.00	92.50	73.75	75.00	139.75
HVPF40	322.00	296.00	224.00	321.60	36.00	26.00	32.00	46.40	148.00	118.00	120.00	223.60
HVPF45	503.13	462.50	350.00	502.50	56.25	40.63	50.00	72.50	231.25	184.38	187.50	349.38
HVPF54	563.50	518.00	392.00	562.80	63.00	45.50	56.00	81.20	259.00	206.50	210.00	391.30
HVPF60	603.75	555.00	420.00	603.00	67.50	48.75	60.00	87.00	277.50	221.25	225.00	419.25

The working condition the nominal refrigerating capacity of liquid and air suction is as follows:
Evaporation Temperature: $t_e = -10^\circ\text{C}$;
Liquid Temperature before Valve: $t_l = +25^\circ\text{C}$;
Pressure Drop after Solenoid Valve: $-P = 15\text{KPa}$

The working condition the nominal refrigerating capacity of hot vapor is as follows:
Condensation Temperature: $t_c = +40^\circ\text{C}$;
Pressure Drop after Solenoid Valve: $-P = 0.8\text{Bar}$;
Hot Vapor Temperature: $t_h = +65^\circ\text{C}$;
Liquid Refrigerant Overcooling: $-t_{sub} = 4\text{K}$

Structure

- valve body
- piston
- spring
- piston core
- sealing seat
- Flange assembly
- dowel pin
- snap ring
- O-ring
- PTFE gasket
- O-ring
- core iron
- reset spring
- valve seat
- seal ring
- valve element
- valve element gasket
- filter assembly
- retainer ring
- screw



Overall Dimension

Model	Overall Dimension							
	D1	D2	L1	L2	L3	H1	H2	
HVPF32	35	26	25	10	174.5	51.5	155.5	
HVPF40	42	33	25	10	174.5	51.5	155.5	
HVPF45	48.3	39.5	25	10	174.5	51.5	155.5	
HVPF54	54.5	45	25	10	174.5	51.5	155.5	
HVPF60	60.3	50	25	10	174.5	51.5	155.5	

