Saginomiya SEV Series

Refrigerant Solenoid Valves

Product Overview

- Normally closed solenoid valves designed for refrigeration, air-conditioning and related fluid-control applications.
- Multiple body sizes and connection styles: flare connections, direct copper-tube connections, and filtered Q50 configurations.
- Suitable for conventional and low-GWP refrigerants, including R22, R134a, R404A, R407C, R410A, R448A and R449A.
- Coils are interchangeable across the valve-body and connection-size range.
- Flare-connection models incorporate a filter; selected Q50 copper-tube models are also supplied with filtration.

General Specifications

Maximum working pressure	4.2 MPa
Fluid temperature	-40 to +125 °C
Ambient temperature	-30 to +50 °C
Valve function	Normally closed
Maximum differential pressure	AC coil: 2.45 MPa | DC coil: 1.96 MPa

Representative SEV direct copper-tube and flare-connection configurations

B type
Flare connection; filter included

D type
Direct copper-tube connection

Q50 / Q300
Q50: filtered tube configuration | Q300: short-tube configuration

Important:
This English document is a reference translation compiled from the supplied technical material. Confirm the exact model, voltage, coil termination and refrigerant compatibility before order placement.

Model Selection Data

Refrigerant code: F

Pressure differential values are shown in MPa. Maximum differential: 2.45 MPa with AC coils and 1.96 MPa with DC coils. Approximate weight includes an AC lead-wire coil.

Refrigeration Model	Connection	Orifice (mm)	Cv	Copper Tube O.D.	Min. ΔP (MPa)	Filter	Approx. Weight (kg)
SEV-303BYF	Flare	3	0.25	3/8"	0	Yes	0.40
SEV-502BYF	Flare	5	0.51	1/4"	0	Yes	0.40
SEV-603BYF	Flare	6	0.80	3/8"	0	Yes	0.40
SEV-1004BYF	Flare	10	1.75	1/2"	0.007	Yes	0.70
SEV-1205BYF	Flare	12	2.90	5/8"	0.007	Yes	1.00
SEV-1506BYF	Flare	15	4.50	3/4"	0.007	Yes	1.40
SEV-303DYF	Copper tube	3	0.25	3/8"	0	No	0.25
SEV-502DYF	Copper tube	5	0.53	1/4"	0	No	0.30
SEV-603DYF	Copper tube	6	0.83	3/8"	0	No	0.35
SEV-1004DYF	Copper tube	10	2.00	1/2"	0.007	No	0.70
SEV-1205DYF	Copper tube	12	3.50	5/8"	0.007	No	0.80
SEV-1506DYF	Copper tube	15	5.30	3/4"	0.007	No	1.00
SEV-502DYFQ50	Copper tube / Q50	5	0.53	1/4"	0	Yes	0.40
SEV-603DYFQ50	Copper tube / Q50	6	0.83	3/8"	0	Yes	0.40
SEV-603DYFQ300	Copper tube / Q300	6	0.83	3/8"	0	No	0.25

Connection Notes

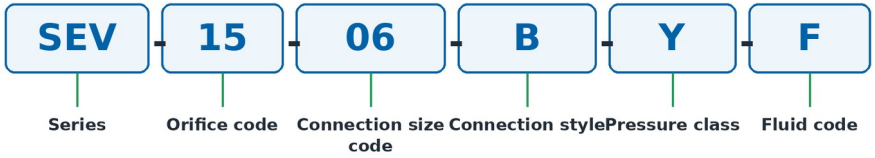
- B models use flare connections and are supplied with filtration.
- D models use direct copper-tube connections.
- Q50 models are filtered copper-tube versions.
- Q300 is the short-tube configuration shown in the dimensional section.

Fluid Codes

F	Refrigerants
A	Air
C	Other media - consult before selection

Ordering Code & Coil Specifications

Specify coil details at order



Example: SEV-1506BYF = 15 mm orifice, 3/4 in flare connection, refrigerant service.

Example: SEV-1506BYF = 15 mm orifice, 3/4 in flare connection, refrigerant service.

Order Definition

- Select the valve-body model and fluid code.
- Specify rated voltage and frequency.
- Specify coil termination: lead wire or DIN.
- Specify required ingress-protection level.
- State refrigerant and operating conditions.

Electrical Coil Data

Supply	Rated Voltage Options	Permissible Range	Holding VA	Inrush VA	Power Consumption	Insulation
AC, 50/60 Hz	24, 100, 110, 200, 220 V; other voltages on request	±10%	15 / 11 (50 / 60 Hz)	45 / 33 (50 / 60 Hz)	7 / 6 W (50 / 60 Hz)	Class B
DC	12, 24 V; other voltages on request	±10%	-	-	10 W	Class B

Coil Construction & Ingress Protection

Coil / Termination	Supply	Protection	Reference Envelope
Lead-wire coil	AC	IP67	Approx. 43 mm wide; 300 mm leads
Lead-wire coil	DC	IP67	Approx. 44 mm wide; 265 mm leads
DIN terminal with mating socket	AC	IP65	Approx. 38.5 mm wide; 64 mm overall height
DIN terminal without mating socket	AC	Protection depends on final assembly	DIN socket is an optional accessory

Interchangeability

The same coil family can be used across all listed body and connection sizes.

DIN Option

When a DIN connection is required, specify whether the mating socket is included.

Frequency

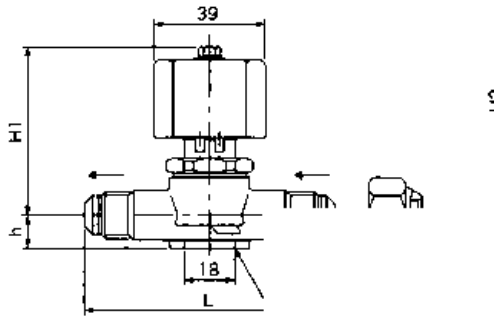
AC performance values are stated separately for 50 Hz and 60 Hz.

Overall Dimensions

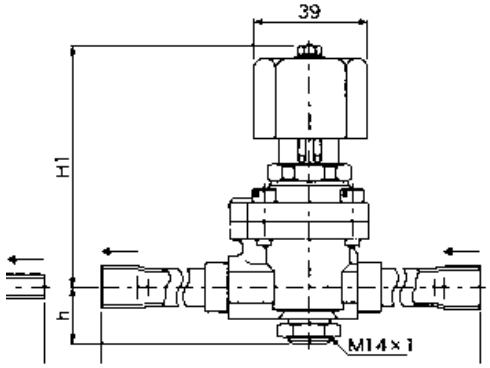
All dimensions in mm

Dimension definitions: L = overall connection length; H1 = AC lead-wire configuration; H2 = DC lead-wire configuration; H3 = DIN configuration; h = body centerline height.

Model	L	H1	H2	H3	h
SEV-303BYF	85	58	79	64	11.5
SEV-502BYF	85	58	79	64	11.5
SEV-603BYF	85	58	79	64	11.5
SEV-1004BYF	105	85	106	91	20.5
SEV-1205BYF	115	88	109	94	22
SEV-1506BYF	135	95	116	101	25
SEV-303DYF	150	58	79	64	10.3
SEV-502DYF	270	58	79	64	10.3
SEV-603DYF	270	58	79	64	10.3
SEV-1004DYF	160	85	106	91	20.5
SEV-1205DYF	180	88	109	94	22
SEV-1506DYF	190	95	116	101	25
SEV-502DYFQ50	270	58	79	63	10.3
SEV-603DYFQ50	270	58	79	63	10.3
SEV-603DYFQ300	138	58	79	63	10.3



Typical flare-connection body (B type)



Typical direct copper-tube body (D type)

Flow direction follows the arrow shown on the valve body. Dimensional drawings are representative; use the table for model-specific values.

Accessories & Ordering Checklist

Customer reference

Standard / Optional Accessories

Flare union nuts	Standard for corresponding B-type flare connections.
Mounting bracket - small bodies	Applicable to 303BY, 502BY, 603BY, 303DY, 502DY, 603DY, 502DYFQ50, 603DYFQ50 and 603DYFQ300.
Mounting bracket - 1004 body	Standard accessory for 1004BY and 1004DY.
Mounting bracket - 1205 / 1506 bodies	Optional accessory for 1205BY, 1506BY, 1205DY and 1506DY.
DIN mating plug	Optional. Specify clearly when ordering.

DIN Plug Reference

- Cable gland: PG9
- Plug body length: approximately 30.5 mm
- Overall plug height: approximately 42 mm
- Seal/gasket diameter: approximately 30 mm
- Fixing screw length: approximately 33 mm

Order Checklist

01. Complete valve model (for example: SEV-603DYFQ50)
02. Refrigerant or controlled medium
03. Rated voltage and frequency
04. AC or DC coil
05. Lead-wire or DIN termination
06. Required ingress protection
07. Whether the DIN mating plug is required
08. Whether an optional mounting bracket is required
09. Operating pressure and pressure differential
10. Quantity and requested delivery schedule

Application Notes

- Confirm material and refrigerant compatibility for media not explicitly listed.
- Select the coil according to supply voltage, frequency and termination style.
- Observe the flow-direction arrow on the valve body.
- Do not use the maximum working pressure as a substitute for the allowable operating differential pressure.
- Final model and accessory content should be confirmed against the purchase order.

Document control:
English technical reference prepared from the supplied SEV-series information. No agency or authorization status is implied. Manufacturer specifications may change without notice.