

**PEV SERIES****PULSE EXPANSION VALVE**

PEV series pulse expansion valves are specially designed for use in refrigeration systems to precisely control the flow of refrigerant into the evaporator. Due to its solenoid valve structure, the flow is regulated by pulse width control (duration of on/off power).

**FEATURES**

- 90 BAR DESIGN FOR R744 REFRIGERANT
- LOWER KV VALUES CAN BE ACHIEVED (PEV0 IS ONLY 0.003M3/H)
- SOLENOID VALVE STRUCTURE, WITH DIRECT SHUT-OFF FUNCTION IN CASE OF SUDDEN POWER FAILURE
- THE VALVE BODY CAN BE REMOVED AND THE BUILT-IN FILTER CAN BE REPLACED FOR EASY CLEANING AND MAINTENANCE

**GENERAL SPECIFICATIONS**

- Applicable for all common HCFC, HFC and HFO refrigerants such as R134a, R22, R404A, R407A/F, R407C, R407H, R410A, R448A, R449A, R449B, R450A, R452A, R513A, R507A and R744 (Co2), but not applicable for R22
- Medium temperature TS min./max.: -60°C to +70°C (Outlet side of Valve)
- Ambient temperature min./max.: -40°C to +55°C
- Max. working pressure: 90 bar
- Min. OPD: 0 bar
- PED declaration, EN60335-2-xx for flammable refrigerants for PEV EN60335-2-xx for flammable refrigerant on going for PEV-S **Electrical Parameters**

# PULSE EXPANSION VALVE



## ELECTRICAL PARAMETERS

- Recommended period of cycle time: 6 seconds
- Regulation range (capacity range): 10%-100%
- Voltage range: -15%~10%
- Insulation class of coil: F
- Protection class: IP 67

## GENERAL CHARACTERISTICS

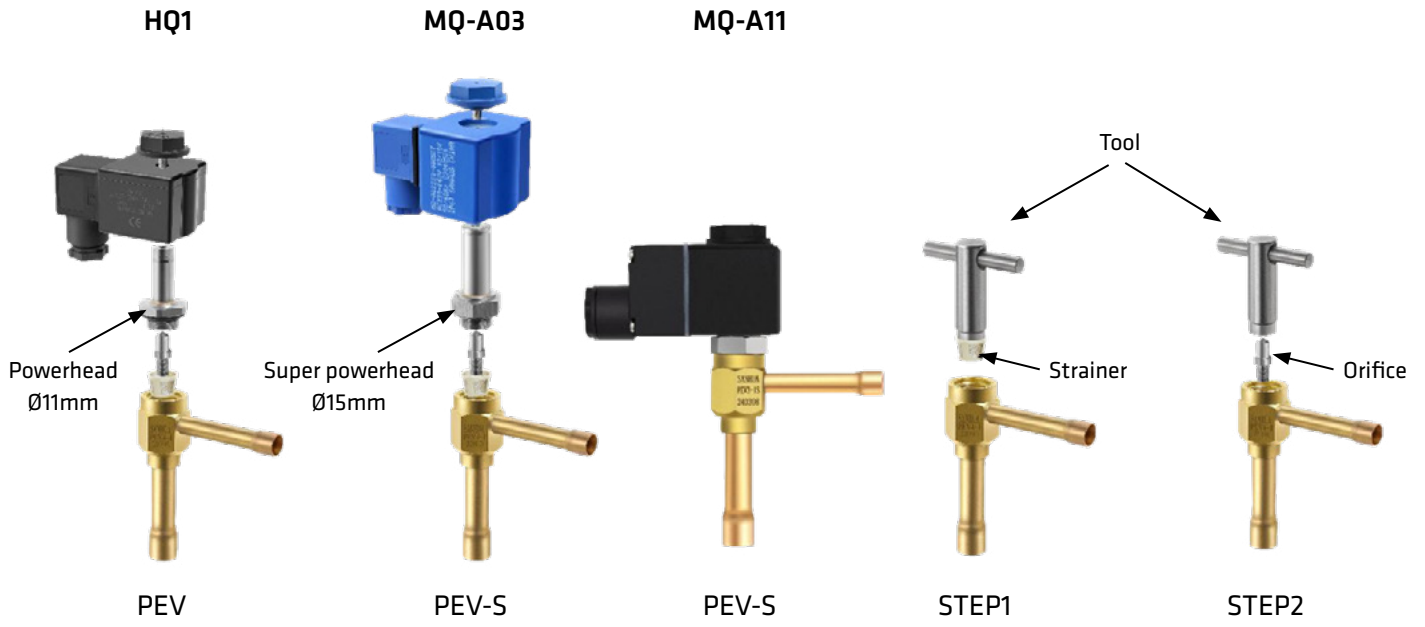
Valve Model	U11 Code Multi-Pack	kV m3/h	MWP [Bar]	MOPD [liquid] <sup>1)</sup>	Dimensions		Weight (g)		
				[Bar]	Øe inlet	Ød outlet			
PEV0-1	10386000502	0.003	90	35	3/8	1/2	185		
PEV0-2	10386001602				10mm	12mm			
PEV1-1	10386000402	0.009			3/8	1/2			
PEV1-2	10386001502				10mm	12mm			
PEV2-1	10386000702	0.016			3/8	1/2			
PEV2-2	10386001402				10mm	12mm			
PEV3-1	10386000102	0.024			3/8	1/2			
PEV3-1S	10386002402				3/8	1/2			
PEV3-2	10386001202				10mm	12mm		218	
PEV3-2S	10386002502				10mm	12mm		185	
PEV3.5-1	10386000802	0.035			30	3/8		1/2	185
PEV3.5-1S	10386002202				35	3/8		1/2	218
PEV3.5-2	10386001302			30	10mm	12mm	185		
PEV3.5-2S	10386002302			35	10mm	12mm	218		
PEV4-1	10386000302	0.046		30	3/8	1/2	185		
PEV4-1S	10386002602			35	3/8	1/2	218		
PEV4-2	10386001102			30	10mm	12mm	185		
PEV4-2S	10386002702			35	10mm	12mm	218		
PEV5-1	10386000602	0.064		25	3/8	1/2	185		
PEV5-1S	10386002802			35	3/8	1/2	218		
PEV5-2	10386001002			25	10mm	12mm	185		
PEV5-2S	10386002902			35	10mm	12mm	218		
PEV6-1	10386000202	0.114		18	3/8	1/2	185		
PEV6-1S	10386002102			35	3/8	1/2	218		
PEV6-2	10386000902		18	10mm	12mm	185			
PEV6-2S	10386003002		35	10mm	12mm	218			

<sup>1)</sup>MOPD at rated voltage

**PULSE EXPANSION VALVE**



**PEVX-YS = WITH SUPER POWER HEAD + SUPER COIL TO INCREASE THE MOPD**



PEV can be equipped with higher power coil and realize higher MOPD by changing powerhead

**PULSE EXPANSION VALVE**



**DIMENSIONS**

Condition 1: Tc/Te/Sc/SH: 45°C/-10°C/2K/6K 0°C/-20°C/2K/6K for R744

Strainer and orifice can be changed and maintained through tools provided by Sanhua

Valve Model	Maximal Cooling Capacity [kW]							
	R134a	R404A	R407F	R448A	R449A	R450A	R452A	R513A
PEV0	0.26	0.23	0.36	0.32	0.32	0.22	0.24	0.21
PEV1	0.75	0.66	1.06	0.95	0.93	0.65	0.69	0.62
PEV2	1.32	1.16	1.86	1.66	1.63	1.15	1.22	1.08
PEV3	2.34	2.06	3.30	2.94	2.88	2.04	2.16	1.92
PEV3.5	2.96	2.61	4.18	3.73	3.66	2.58	2.74	2.44
PEV4	3.91	3.44	5.52	4.92	4.83	3.41	3.61	3.22
PEV5	5.44	4.80	7.69	6.86	6.72	4.74	5.03	4.48
PEV6	9.33	8.22	13.18	11.75	11.52	8.13	8.62	7.68

Valve Model	Maximal Cooling Capacity [kW]							
	R454B	R454C	R455A	R1234yf	R1234ze	R290	R410A	R744
PEV0	0.46	0.28	0.30	0.18	0.20	0.35	0.40	0.54
PEV1	1.34	0.81	0.88	0.53	0.58	1.01	1.15	1.57
PEV2	2.36	1.43	1.55	0.92	1.02	1.76	2.02	2.75
PEV3	4.18	2.53	2.75	1.64	1.80	3.13	3.58	4.88
PEV3.5	5.30	3.20	3.48	2.08	2.29	3.96	4.54	6.18
PEV4	6.99	4.23	4.59	2.74	3.02	5.23	6.00	8.16
PEV5	9.74	5.89	6.40	3.82	4.21	7.29	8.35	11.36
PEV6	16.69	10.09	10.97	6.54	7.21	12.49	14.31	19.48

**PULSE EXPANSION VALVE**



Condition 2:  $T_c/T_e/S_c/S_H$ : 45°C/-35°C/2K/6K  
 -10°C/-40°C/2K/6K for R744

Valve Model	Maximal Cooling Capacity [kW]							
	R134a	R404A	R407F	R448A	R449A	R450A	R452A	R513A
PEV0	0.24	0.21	0.35	0.31	0.30	0.21	0.22	0.19
PEV1	0.71	0.61	1.02	0.90	0.88	0.60	0.63	0.57
PEV2	1.24	1.07	1.80	1.58	1.55	1.06	1.11	1.00
PEV3	2.20	1.90	3.18	2.80	2.74	1.87	1.97	1.76
PEV3.5	2.79	2.40	4.04	3.55	3.47	2.37	2.50	2.24
PEV4	3.68	3.17	5.33	4.69	4.58	3.13	3.30	2.95
PEV5	5.12	4.42	7.42	6.53	6.38	4.36	4.60	4.11
PEV6	8.78	7.58	12.71	11.19	10.94	7.47	7.88	7.05

Valve Model	Maximal Cooling Capacity [kW]							
	R454B	R454C	R455A	R1234yf	R1234ze	R290	R410A	R744
PEV0	0.47	0.26	0.28	0.16	0.18	0.33	0.40	0.62
PEV1	1.35	0.75	0.81	0.47	0.53	0.96	1.15	1.81
PEV2	2.38	1.32	1.43	0.82	0.93	1.69	2.02	3.17
PEV3	4.21	2.33	2.53	1.46	1.64	2.99	3.58	5.63
PEV3.5	5.34	2.96	3.21	1.85	2.08	3.80	4.54	7.13
PEV4	7.05	3.90	4.24	2.44	2.75	5.01	5.99	9.41
PEV5	9.82	5.44	5.91	3.40	3.82	6.98	8.35	13.11
PEV6	16.83	9.32	10.12	5.83	6.56	11.96	14.30	22.47

**PULSE EXPANSION VALVE**



**COIL MODEL**

Model	U11 Code Multi-Pack	Rated Voltage	Frequency	Power	Insulation Class	Ingress Protection	Weight (g)	Certification
HQ1F11	10780001202	AC220~230V	50HZ	7W	F	IP 67	185.9	TUV / UL
HQ1D17	10780001302	AC120V	50HZ	6W				TUV / UL
HQ1D80	10780001602	AC120V	60Hz	6w				TUV / UL
HQ1K17	10780001402	AC24V	50HZ	6W				TUV / UL
HQ1K80	10780001502	AC24V	60Hz	6w				TUV / UL
MQ-A0322F-007001	10820030702	AC220-230V	50Hz	13.5W		220	TUV	
MQ-A0322F-007002	10820030602	AC220-230V	60Hz	16.5W		210	TUV	
MQ-A0322F-007003	10820030502	AC220-230V	60HZ	16.5W		IP 65	211	UL
MQ-A03024-007001	10820030402	AC24V	50Hz	13.5W		225	TUV	
MQ-A1122F-007001	10820030302	AC220-230V	50Hz	13.5W		260	TUV	
MQ-A1122F-007002	10820030202	AC220-230V	60Hz	16.5W		IP 67	260	TUV
MQ-A1122F-007003	10820030102	AC220-230V	60Hz	16.5W		225	UL	
MQ-A11024-007001	10820030002	AC24V	50Hz	13.5W		225	TUV	

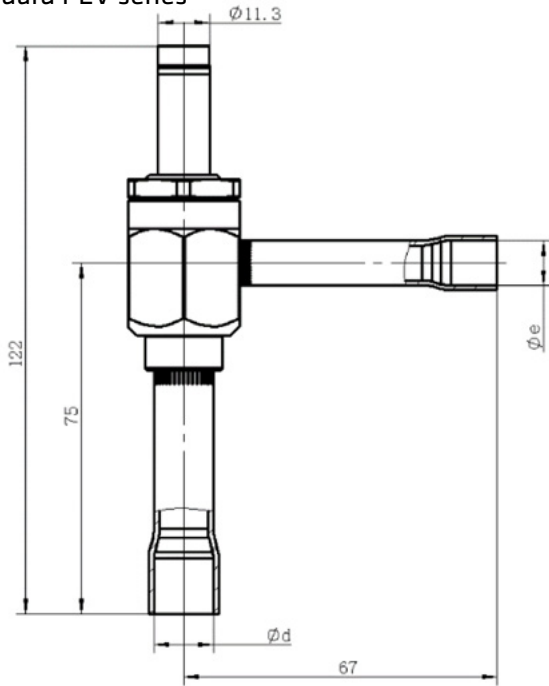
**PULSE EXPANSION VALVE**



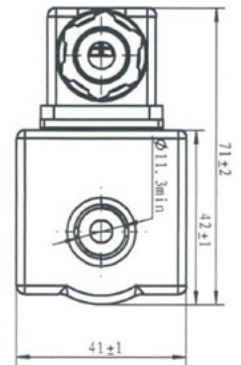
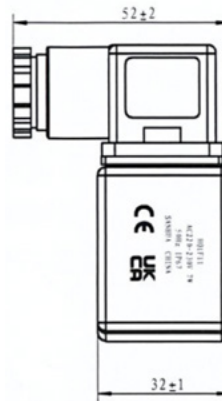
**DIMENSIONS**

(unit is mm)

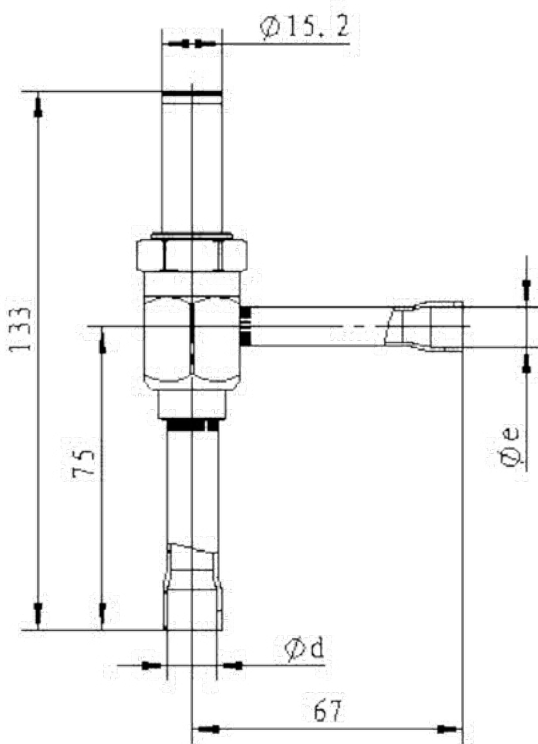
Standard PEV series



**HQ1 Coil**

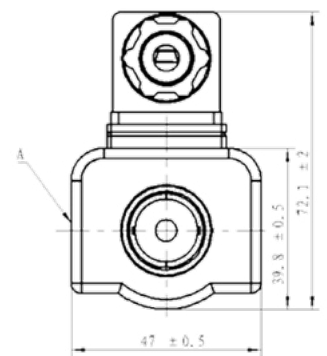
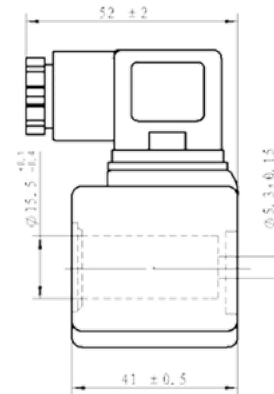


Super Powerhead

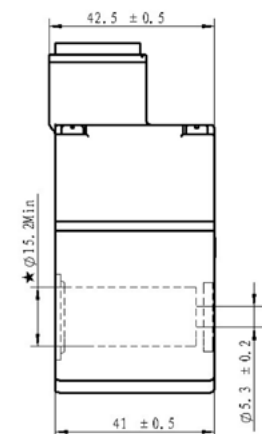
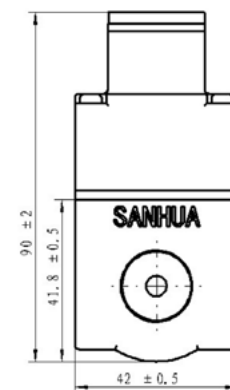


**PEV-S series**

**MQ-A03 Coil**



**MQ-A11 Coil**



**PULSE EXPANSION VALVE**



**SPAREPARTS**

Model	PEV-K01	PEV-K02	PEV-K03	PEV-K04	PEV-K05	PEV-K06
U11 code	20386002302	20386002402	20386002702	20386002502	20386002602	20386004702
picture						

**ACCESSORY**

Product	Description	U11 code
Solenoid valve tester	Permanent magnet for PEV (for installation and testing purpose)	10108000102

