

Life Is On

eliwellTM
by Schneider Electric

Expansion valves series SXV

Bipolar stepper expansion valves



- › Complete EEV system with drivers and controllers
- › Bi-directional operation for the whole series
- › Wide range of models and sizes available

EEV System

The new stepper electronic bipolar and unipolar expansion valves

- Controlled by XVD / XVD Open / V900 / V910 / RTX600 /VS (body 1 and 2 only) Eliwell drivers and controllers
- Optimise the injection of refrigerant into the evaporator, increasing efficiency of the system
- Improve superheating control in response to different operating conditions
- Compatible with the majority of refrigerant gases on the market
- Continuous control of refrigerant flow
- Bi-directional operation for a simple and flexible use

Bipolar expansion valve SXVB series

The SXVB expansion valve regulates the flow of refrigerant to the evaporator by proportionally modulating its opening and closing, allowing a wide range of capacity variation.

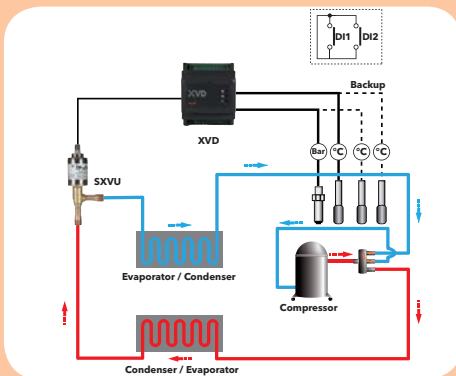
The extremely precise and reliable control of refrigerant flow increases the efficiency of the complete system.

The SXVB valve is controlled by an Eliwell XVD or V900/V910 driver.

The SXVB valve (body 1 and 2) is also controlled by an Eliwell RTX600 /VS controller.

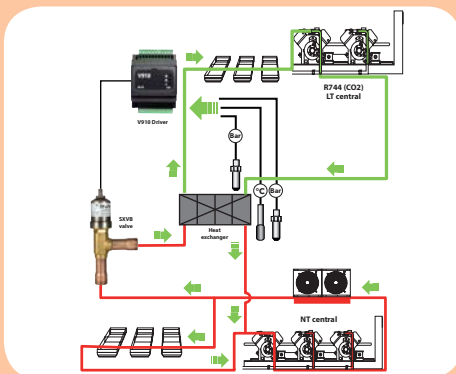
There are four valve bodies and ten orifices to satisfy a capacity range from 10.7 kW (R404) to 257 kW (R410A).

It is typically used in HVAC/R systems that utilize HFC and HFO refrigerant fluids.



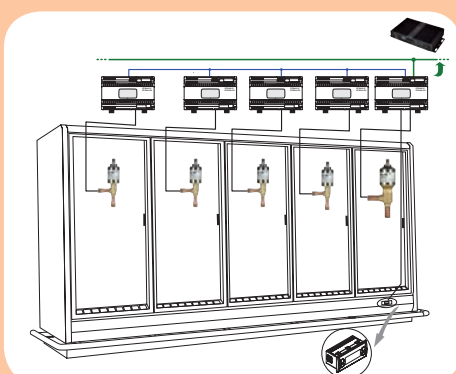
HVAC application example

- Bipolar SXVB valve controlled by an XVD / XVD Open / V910 Eliwell driver
- Optimises the injection of refrigerant into the evaporator, increasing its efficiency
- Improves superheating control in response to different operating conditions
- Compatible with the majority of refrigerant gases on the market
- Continuous control of refrigerant flow



Application example of BT/TN system CR

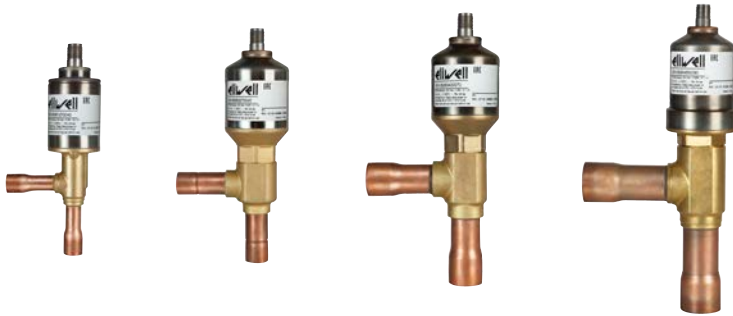
- Bipolar SXVB body4 valve controlled by an XVD / XVD Open / V910 Eliwell driver
- 360° mounting position
- Linear control of refrigerant flow
- Fast response to control the superheating at different operating conditions
- Optimises the injection of refrigerant into the evaporator, increasing its efficiency



Application example of canalised CR Supermarket Counter

- Bipolar SXVB valve body 1, 2
- Integrated solution to increase efficiency
- Better control of energy consumption
- Controller RTX600 /VS EO for counters
- KDEPlus terminal
- RS485 supervision network
- Link² network for synchronizing defrost events and lights

Bipolar SXVB



SXVB TECHNICAL SPECIFICATIONS

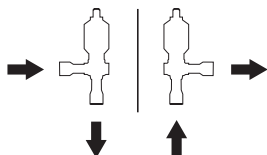
Type of actuator	Bipolar stepper motor		
Type of control	Full Step		
Stroke / Steps for complete closing	Body 1 10.5 mm 415 steps	Body 2, 3 8.2 mm 197 steps	Body 4 12.5 mm 985 steps
Rated conditions (R410A refrigerant gas)	from 4 to 260 kW (R410A) depending on the refrigerant gas and flow direction		
Rated power operating conditions	evaporation temperature = +5 °C condensation temperature = +38 °C sub-cooling = 0 °C superheating = 0 °C		
Adjustment range	10...95%		
Refrigerant gases	HFC, HFO Contact Sales Offices for HC and R744		
MOPD	see cooling capacity table		
Maximum operating pressure	45 bar		
TS temperature	-40 ... +105°C		
Protection	IP 67		
Driver	Eliwell XVD, Eliwell V900, Eliwell V910 Eliwell RTX /VS body 1, 2		
Connections and geometry	braze welded tube, angle		
Operation	Bidirectional		
Sight glass	not available		
Possible mounting	360°		
Motor	Body 1 integrated	Body 2,3 for inspection	Body 4 for inspection
Step angle	Body 1 7.5°± 15%	Body 2,3 15°± 15%	Body 4 7.5°± 15%
Step	Body 1 0.0254 mm	Body 2,3 0.042 mm	Body 4 0.0127 mm
Rated speed	Body 1 35 steps/s max	Body 2,3 20 steps/s max	Body 4 70 steps/s max
Allowed driving	100% Duty Cycle		
Nr. of cycles tested between 10% and 95% of effective stroke	~5 million cycles		
Maximum overstroke steps	Body 1 100 steps	Body 2,3 60 steps	Body 4 150 steps
Rated voltage	24V		
Rated phase current	Body 1 200 (350 inrush) mA	Body 2,3 200 (300 inrush) mA	Body 4 560 mA
Max winding resistance	35 Ω	54 Ω	35 Ω
Holding current	50 mA	50 mA	50 mA
Connection	4-ways M12 4G 3m standard (also available 15m lenght)		

SXVB Capacity and dimensions

COOLING CAPACITY in kW

							Refrigerant cooling capacity (kW**)				
Code	body	Orifice (mm)	ODS connections	MOPD (bar)	Analogue		R134a	R407C	R404A	R507A	R410A
SXVB261150030	1	1.5	3/8"	35	→	Radial	13.2	13.6	10.7	10.7	17.5
				35	↑	Axial	12.6	12.6	10.2	9.7	16.5
1/2"			35	→	Radial	13.2	13.6	10.7	10.7	17.5	
			35	↑	Axial	12.6	12.6	10.2	9.7	16.5	
10mm			35	→	Radial	13.2	13.6	10.7	10.7	17.5	
			35	↑	Axial	12.6	12.6	10.2	9.7	16.5	
12mm			35	→	Radial	13.2	13.6	10.7	10.7	17.5	
			35	↑	Axial	12.6	12.6	10.2	9.7	16.5	
SXVB261200030		2.0	3/8"	35	→	Radial	19.4	21.3	16.5	16.5	27.2
35				↑	Axial	18.4	19.4	15.0	14.6	24.7	
1/2"			35	→	Radial	19.4	21.3	16.5	16.5	27.2	
			35	↑	Axial	18.4	19.4	15.0	14.6	24.7	
10mm			35	→	Radial	19.4	21.3	16.5	16.5	27.2	
			35	↑	Axial	18.4	19.4	15.0	14.6	24.7	
12mm			35	→	Radial	19.4	21.3	16.5	16.5	27.2	
			35	↑	Axial	18.4	19.4	15.0	14.6	24.7	
SXVB261270030		2.7	3/8"	35	→	Radial	24.7	27.2	21.3	21.3	34.4
35				↑	Axial	23.3	24.7	19.4	18.4	31.0	
1/2"			35	→	Radial	24.7	27.2	21.3	21.3	34.4	
			35	↑	Axial	23.3	24.7	19.4	18.4	31.0	
10mm			35	→	Radial	24.7	27.2	21.3	21.3	34.4	
			35	↑	Axial	23.3	24.7	19.4	18.4	31.0	
12mm			35	→	Radial	24.7	27.2	21.3	21.3	34.4	
			35	↑	Axial	23.3	24.7	19.4	18.4	31.0	
SXVB262270040	2	2.7	1/2"	40	→	Radial	27.2	36.9	26.0	25.8	44.6
40				↑	Axial	23.3	35.9	24.1	24.6	42.7	
5/8"			40	→	Radial	27.2	36.9	26.0	25.8	44.6	
			40	↑	Axial	23.3	35.9	24.1	24.6	42.7	
7/8"			40	→	Radial	27.2	36.9	26.0	25.8	44.6	
			40	↑	Axial	23.3	35.9	24.1	24.6	42.7	
12mm			40	→	Radial	27.2	36.9	26.0	25.8	44.6	
			40	↑	Axial	23.3	35.9	24.1	24.6	42.7	
SXVB262320040		3.2	1/2"	40	→	Radial	34.0	50.4	35.5	34.8	60.1
40				↑	Axial	32.0	47.5	33.5	32.7	56.3	
5/8"			40	→	Radial	34.0	50.4	35.5	34.8	60.1	
			40	↑	Axial	32.0	47.5	33.5	32.7	56.3	
7/8"			40	→	Radial	34.0	50.4	35.5	34.8	60.1	
			40	↑	Axial	32.0	47.5	33.5	32.7	56.3	
12mm			40	→	Radial	34.0	50.4	35.5	34.8	60.1	
			40	↑	Axial	32.0	47.5	33.5	32.7	56.3	

Flow



Rated cooling capacities refer to:

- Evaporation temperature $T_{\text{evap}} = +5^{\circ}\text{C}$
- Condensation temperature $T_{\text{cond}} = +38^{\circ}\text{C}$
- Sub-cooling 0°C ,
- Superheating 0°C

SXVB Capacity and dimensions

COOLING CAPACITY in kW

							Refrigerant cooling capacity (kW**)				
Code	body	Orifice (mm)	ODS connections	MOPD (bar)	Analogue		R134a	R407C	R404A	R507A	R410A
SXVB263360070	3	3.6	7/8"	35	→	Radial	48.5	70.3	49.5	49.5	84.2
				35	↑	Axial	36.6	66.3	46.3	46.1	78.2
SXVB263360090			1 1/8"	35	→	Radial	48.5	70.3	49.5	49.5	84.2
				35	↑	Axial	36.6	66.3	46.3	46.1	78.2
SXVB263400070		4.0	7/8"	30	→	Radial	58.4	85.1	59.5	58.8	102.0
				30	↑	Axial	45.5	80.2	55.4	54.7	95.0
SXVB263400090			1 1/8"	30	→	Radial	58.4	85.1	59.5	58.8	102.0
				30	↑	Axial	45.5	80.2	55.4	54.7	95.0
SXVB263440070		4.4	7/8"	25	→	Radial	71.3	103.0	72.3	72.0	122.8
				25	↑	Axial	54.5	96.0	67.3	66.5	113.9
SXVB263440090			1 1/8"	25	→	Radial	71.3	103.0	72.3	72.0	122.8
				25	↑	Axial	54.5	96.0	67.3	66.5	113.9
SXVB264560070	4	5.6	7/8"	30	→	Radial	104.0	131.2	102.0	101.0	166.3
				30	↑	Axial	104.0	131.2	102.0	101.0	166.3
SXVB264560090			1 1/8"	30	→	Radial	104.0	131.2	102.0	101.0	166.3
				30	↑	Axial	104.0	131.2	102.0	101.0	166.3
SXVB264560110			1 3/8"	30	→	Radial	104.0	131.2	102.0	101.0	166.3
				30	↑	Axial	104.0	131.2	102.0	101.0	166.3
SXVB26456M280			28mm	30	→	Radial	104.0	131.2	102.0	101.0	166.3
				30	↑	Axial	104.0	131.2	102.0	101.0	166.3
SXVB264650070		6.5	7/8"	30	→	Radial	132.7	167.3	129.7	127.7	211.9
				30	↑	Axial	132.7	167.3	129.7	127.7	211.9
SXVB264650090			1 1/8"	30	→	Radial	132.7	167.3	129.7	127.7	211.9
				30	↑	Axial	132.7	167.3	129.7	127.7	211.9
SXVB264650110			1 3/8"	30	→	Radial	132.7	167.3	129.7	127.7	211.9
				30	↑	Axial	132.7	167.3	129.7	127.7	211.9
SXVB26465M280			28mm	30	→	Radial	132.7	167.3	129.7	127.7	211.9
				30	↑	Axial	132.7	167.3	129.7	127.7	211.9
SXVB264750070		7.5	7/8"	30	→	Radial	159.4	203.0	156.4	155.4	257.4
				30	↑	Axial	159.4	203.0	156.4	155.4	257.4
SXVB264750090			1 1/8"	30	→	Radial	159.4	203.0	156.4	155.4	257.4
				30	↑	Axial	159.4	203.0	156.4	155.4	257.4
SXVB264750110			1 3/8"	30	→	Radial	159.4	203.0	156.4	155.4	257.4
				30	↑	Axial	159.4	203.0	156.4	155.4	257.4
SXVB26475M280			28mm	30	→	Radial	159.4	203.0	156.4	155.4	257.4
				30	↑	Axial	159.4	203.0	156.4	155.4	257.4

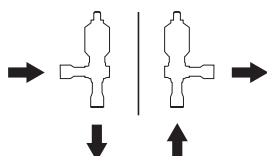
**Rated cooling capacities refer to:

* Evaporation temperature $T_{\text{evap}} = +5^{\circ}\text{C}$, Condensation temperature $T_{\text{cond}} = +38^{\circ}\text{C}$

* Sub-cooling 0°C , Superheating 0°C

Contact Technical Support for more refrigerants cooling capacity.

Flow

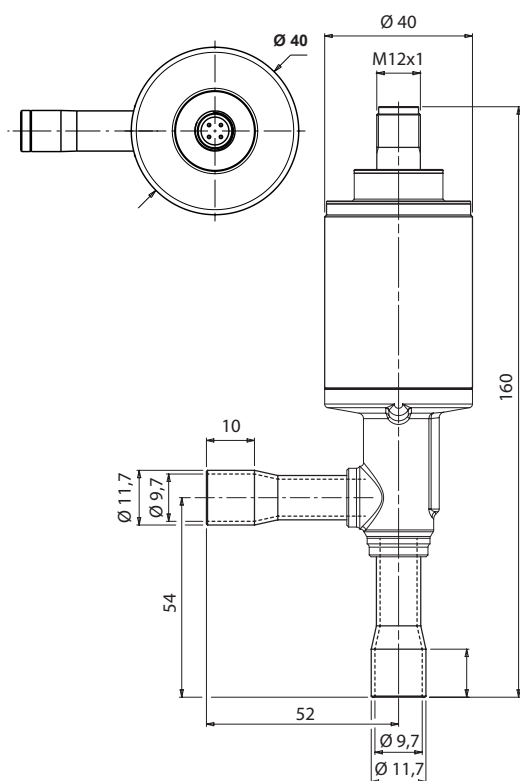


Rated cooling capacities refer to:

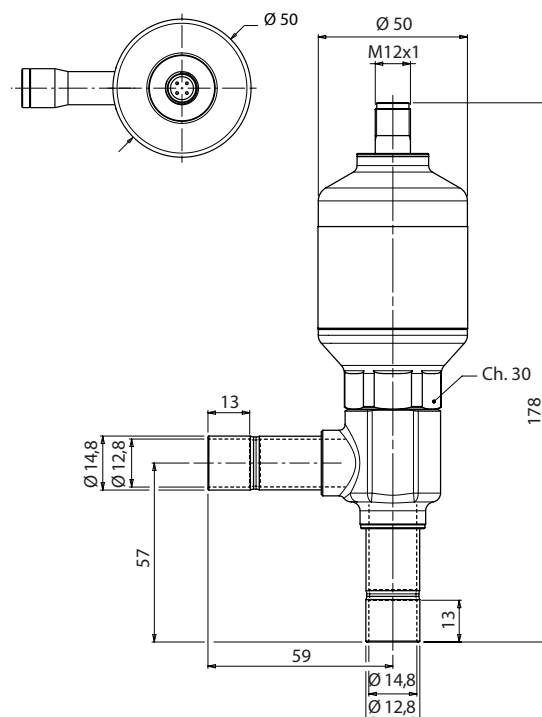
- Evaporation temperature $T_{\text{evap}} = +5^{\circ}\text{C}$
- Condensation temperature $T_{\text{cond}} = +38^{\circ}\text{C}$
- Sub-cooling 0°C ,
- Superheating 0°C

SXVB dimensions

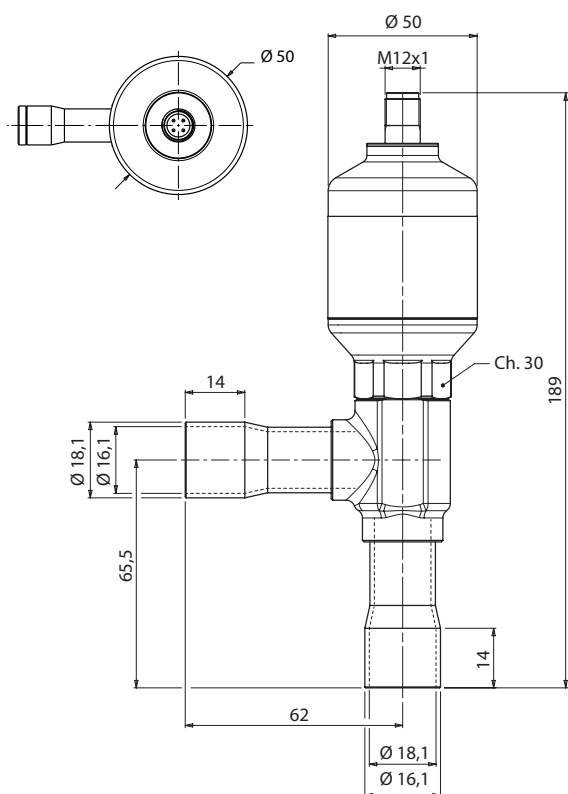
BODY 1 - EXAMPLE MODEL SXVB261150030



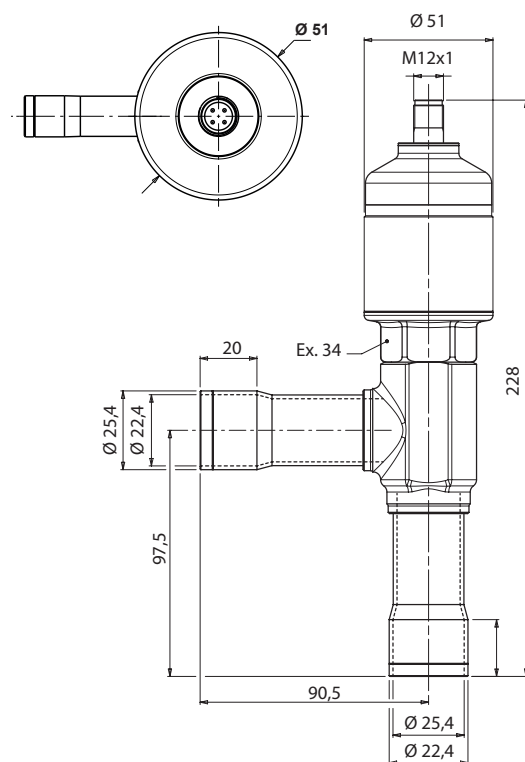
BODY 2 - EXAMPLE MODEL SXVB262270040



BODY 3 - EXAMPLE MODEL SXVB263360050



BODY 4 - EXAMPLE MODEL SXVB264560070



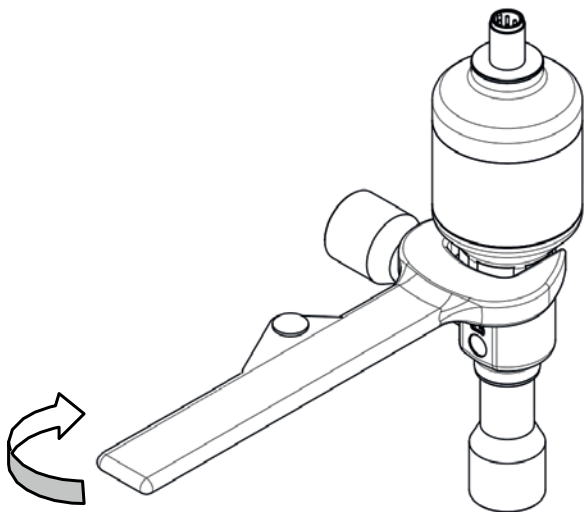
SXVB connector and cable

TORQUE VALUE BODY 2, 3, 4

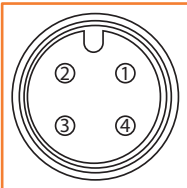
Tightening torque

→ Min = 31.5 Nm

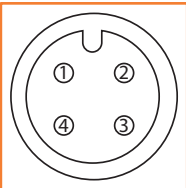
→ Max = 35 Nm



CONNECTORS



VALVE
CONNECTOR



CABLE
CONNECTOR

no.	colour
1	Brown
2	White
3	Blue
4	Black

SXVB CABLE

Code	cable
SXVB2624VC300	3m CABLE
SXVB2624VC015	15m CABLE

Life Is On



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