



The pumps listed on this data sheet represent a cross-section of the large number of possibilities for each pump type. Based on our modular pump design, all pumps can be customised exactly to meet the needs of your application - within days and at standard pricing. Please contact us for details.



SP 110 EC-DB
coreless motor



SP 110 EC-BL
brushless motor

PRODUCT FEATURES

- High efficiency for mobile devices
- Durable design
- Smallest size and low weight
- Low vibration and sound level
- Suitable for any mounting orientation
- Oil-free, maintenance-free, leak-tight

TYPICAL APPLICATIONS

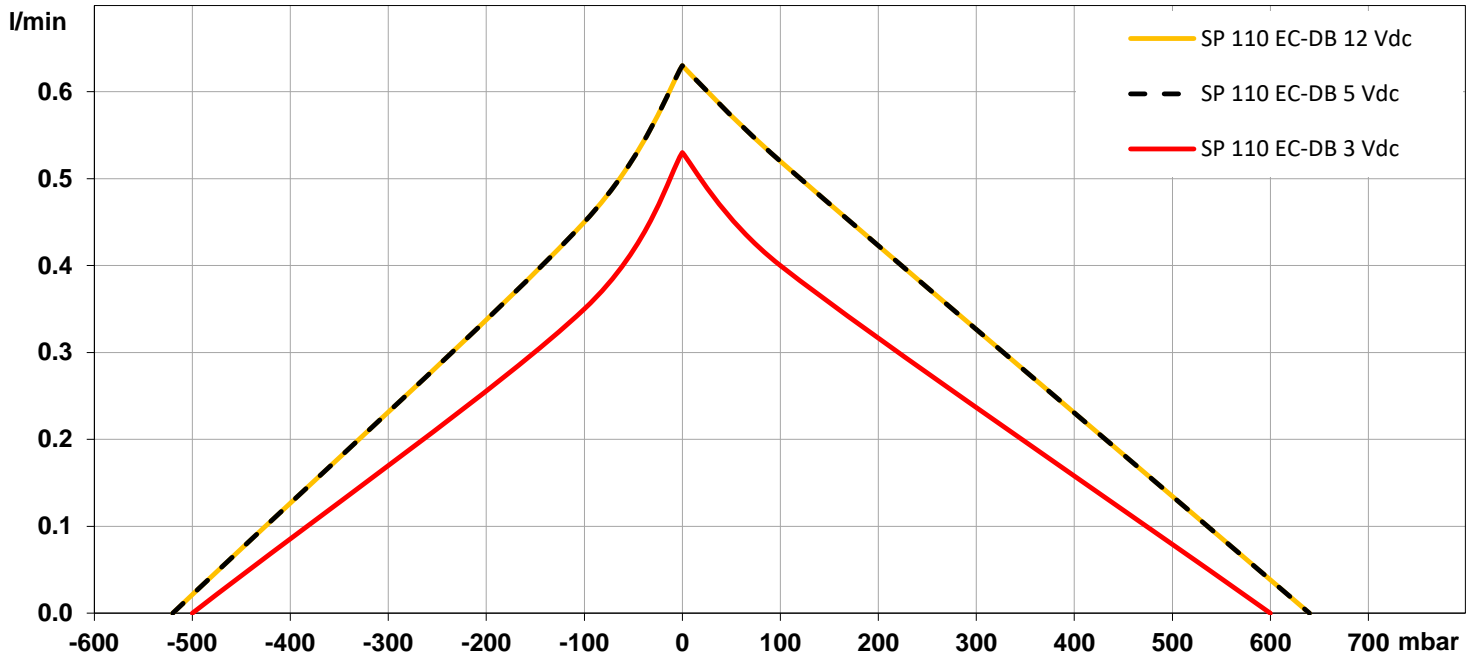
- Exhaust and flue gas analysis
- Respiratory gas analysis
- Personal gas detectors
- Air sampling
- Pipetting
- SMD assembly
- Negative pressure wound therapy



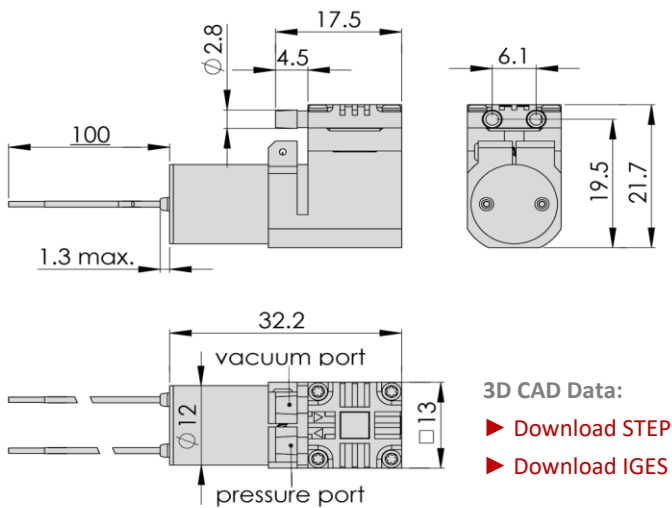
TYPE	SP 110 EC-DB		
Operating Voltage [Vdc]	3	5	12
Art. No.	7s20241	7s20242	7s20243
max. Nominal Current [mA]	110	80	50
PERFORMANCE			
max. Flow [l/min]	0.53	0.63	0.63
max. Pressure [bar]	0.60	0.64	0.64
max. Vacuum [mbar]	-500	-520	-520
MOTOR			
Standard Motor	coreless		
Standard Bearings	ball bearings		
Motor Connection	2 wires		
Optional Motor	n/a		
Optional Bearings	n/a		
MATERIALS			
Standard Pump Head	PPS		
Optional Pump Head	customer specific (upon request)		
Standard Diaphragm	EPDM		
Optional Diaphragm	FKM		
Standard Valves	EPDM		
Optional Valves	FKM		
Standard Gaskets	EPDM		
Optional Gaskets	FKM		
PNEUMATIC CONNECTION			
Standard Connectors	barbed connectors		
Optional Connectors	manifold		
DIMENSIONS + WEIGHT			
Dimensions [mm] W x H x L	13 x 21.7 x 32.2		
Weight [g]	14.5		
OPERATING CONDITIONS			
Storage Temperature [°C]	-10 – +60 (extended temperature ranges on request)		
Ambient Temperature [°C]	-10 – +60 (extended temperature ranges on request)		
Temperature of Media [°C]	0 – +60 (extended temperature ranges on request)		
Acceptable Humidity [%rH]	5 – 80 (non condensing)		



PERFORMANCE DIAGRAM | SP 110 EC-DB



DRAWING | SP 110 EC-DB



All dimensions given in [mm]. Drawing shows standard orientation of pneumatic connectors (3 alternative orientations possible).

You can also download the 3D CAD files from the SP website:

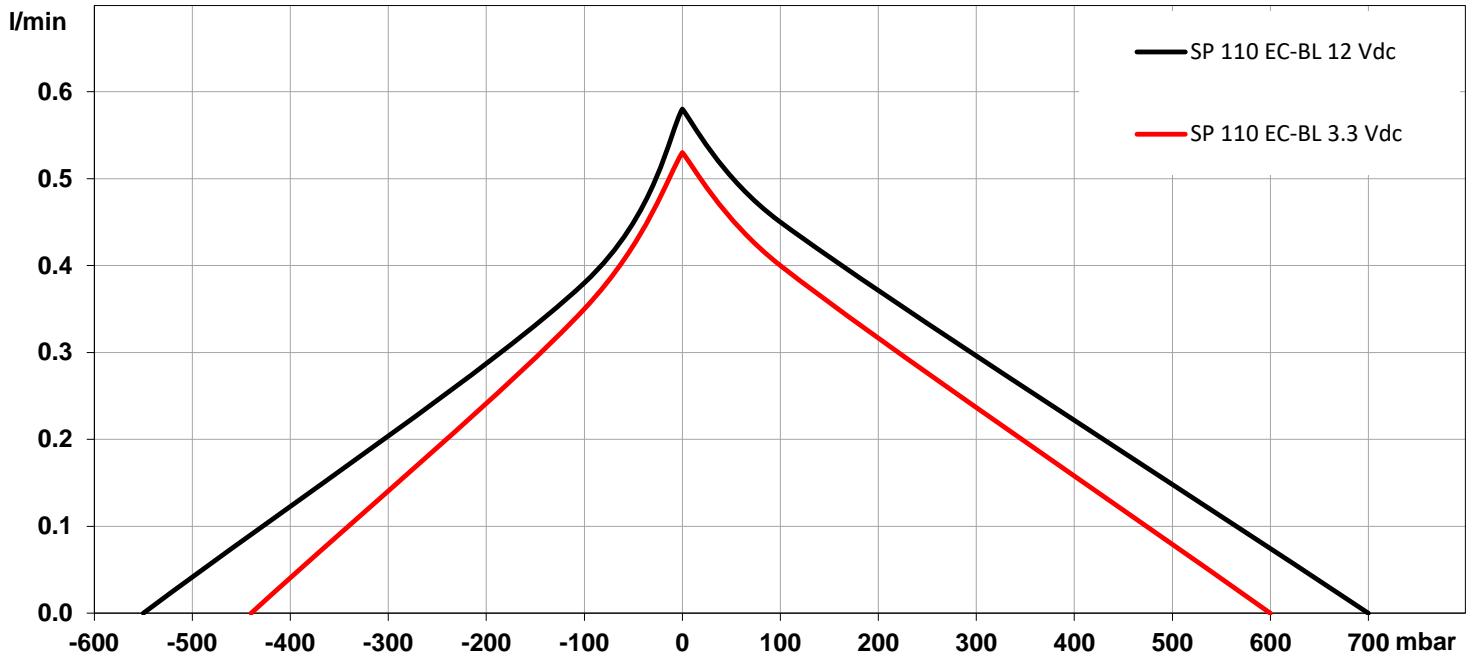
▶ www.schwarzer.com/download



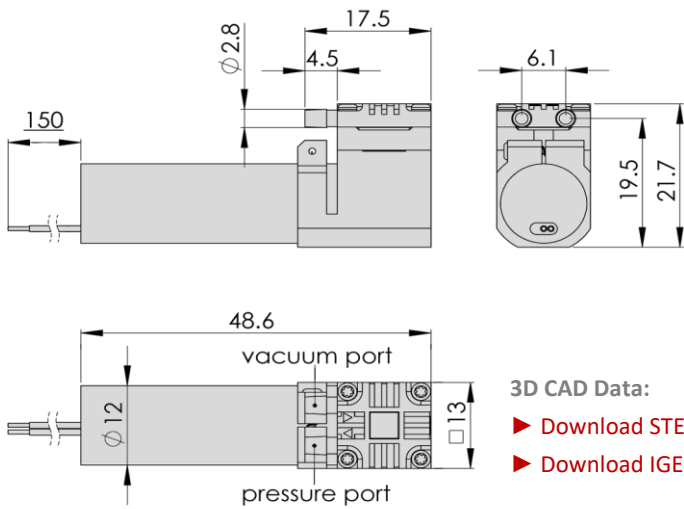
TYPE	SP 110 EC-BL	
Operating Voltage [Vdc]	3.3	12
Art. No.	7s20244	7s20245
max. Nominal Current [mA]	280	80
PERFORMANCE		
max. Flow [l/min]	0.53	0.58
max. Pressure [bar]	0.60	0.70
max. Vacuum [mbar]	-440	-550
MOTOR		
Standard Motor	brushless for analog or PWM control	
Standard Bearings	ball bearings	
Motor Connection	2 wires	
Optional Motor	brushless with additional control input and tachometer output signal (4 wires)	
Optional Bearings	n/a	
MATERIALS		
Standard Pump Head	PPS	
Optional Pump Head	customer specific (upon request)	
Standard Diaphragm	EPDM	
Optional Diaphragm	FKM	
Standard Valves	EPDM	
Optional Valves	FKM	
Standard Gaskets	EPDM	
Optional Gaskets	FKM	
PNEUMATIC CONNECTION		
Standard Connectors	barbed connectors	
Optional Connectors	manifold	
DIMENSIONS + WEIGHT		
Dimensions [mm] W x H x L	13 x 21.7 x 48.6	
Weight [g]	20	
OPERATING CONDITIONS		
Storage Temperature [°C]	-10 – +60 (extended temperature ranges on request)	
Ambient Temperature [°C]	-10 – +60 (extended temperature ranges on request)	
Temperature of Media [°C]	0 – +60 (extended temperature ranges on request)	
Acceptable Humidity [%rH]	5 – 80 (non condensing)	



PERFORMANCE DIAGRAM | SP 110 EC-BL



DRAWING | SP 110 EC-BL



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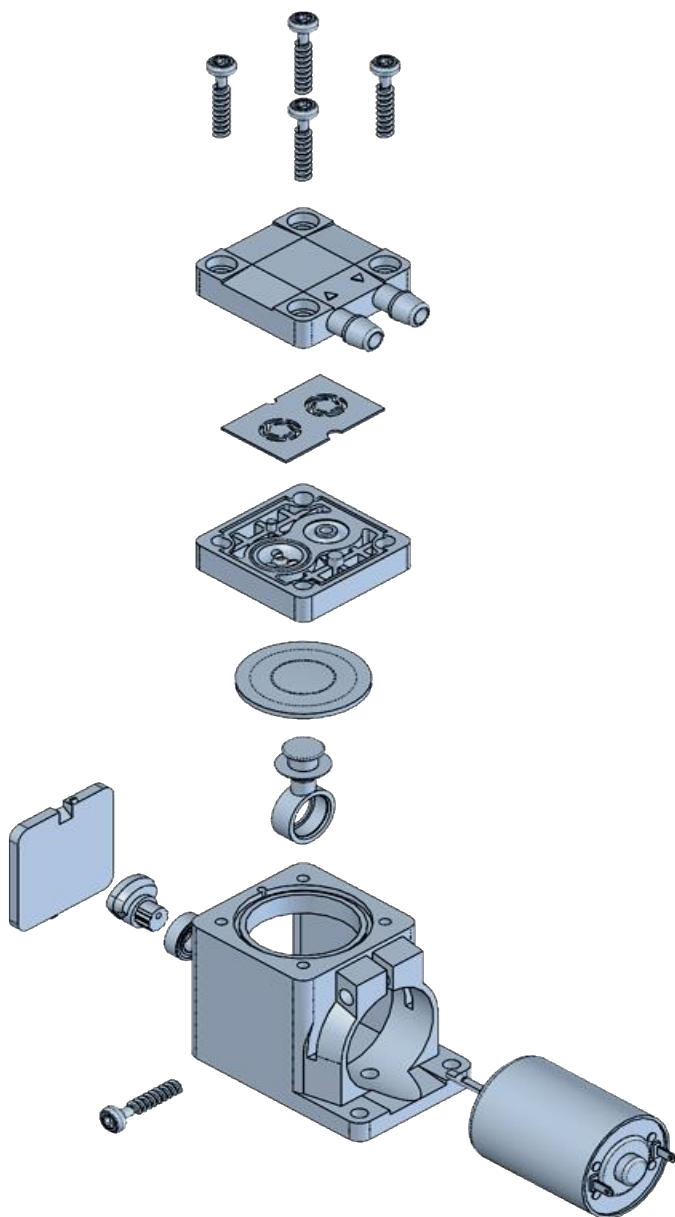
DISCLAIMER

Flow values are subject to the standard conditions specified in DIN 1343. The use of other materials may cause deviations in performance values. The technical data shown on this data sheet represents the typical mean values achieved by the products in our standard testing procedure. All data provided is for information only and does not represent production values. Standard products are subject to change without notice.

08.05.2025

CUSTOMISING

The pumps in this data sheet represent our standard types. All pumps can be customised exactly to your specific requirements in all parameters.



Pump heads

Different materials available

Connectors

Barbed fittings, internal threads and manifold mounting available. Selectable port direction.

Valves

Different designs and materials available.

Flow channels

Pressure- or vacuum-optimised.

Diaphragm

Application-specific designs. Free choice of materials, geometry, hardness, etc.

Connection rods

Available in different lengths.

Eccentric

Stroke and bearing selectable.

Housings

With individual mounting options and installation positions.

Drives

Iron core, coreless, shaded pole and brushless motors with choice of operating voltages and individual wiring.