

Electromagnetic metering pumps

Precise chemical injection at low cost



The ES Series electromagnetic metering pump offers precise chemical injection at an economical cost. Manual or on/off control for simple addition applications. Sophisticated engineering to provide effective, reliable performance.

High speed operation

Up to 360 pump strokes per minute results in high resolution chemical feed, with the elimination of slug-feed effects.

Compact size

Ideal for OEM applications, ES pumps are small, quiet, and lightweight.

Double ball check valves

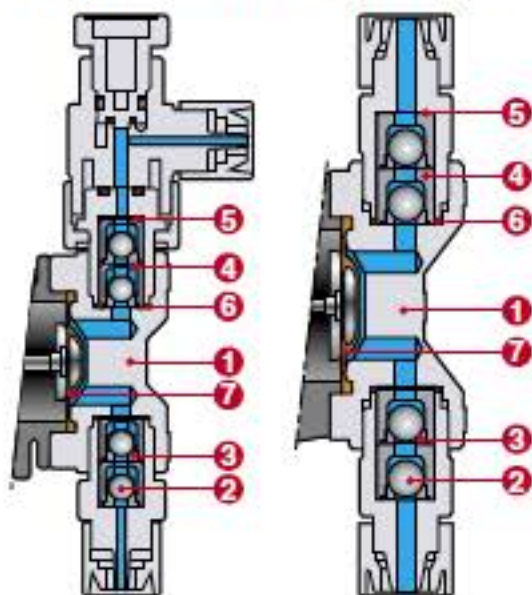
The precision ball, seat and guide assembly ensure tight sealing to prevent loss of prime.

Long lasting diaphragm

PTFE coated EPDM is molded onto a solid core. A retainer plate is used to prevent diaphragm deformation and flow rate variation at higher pressures.

B11/16/21, C16/21

B31, C31/36



Wet-end materials

Material symbol	VC	VH	PC	PH	TC
① Pump head	PVC		GFRPP		PVdF
② Valve	Alumina ceramic	Hastelloy C276	Alumina ceramic	Hastelloy C276	Alumina ceramic
③ Valve seat	FKM	EPDM	FKM	EPDM	FKM
④ Valve guide	PVC		GFRPP		PVdF
⑤ Gasket	PTFE				
⑥ O-ring	FKM	EPDM	FKM	EPDM	FKM
⑦ Diaphragm	PTFE coated EPDM				

Pump identification

ES - B 16 VC - 3 - □□

Drive unit symbol
B: 16W C: 22W

Diaphragm effective diameter
11: 10mm 16: 15mm 21: 20mm 31: 30mm 36: 35mm

Wet-end part material symbol
VC, VH, PC, PH, TC

Power-supply voltage symbol
3: AC230V, 50Hz

Special version code

Specifications

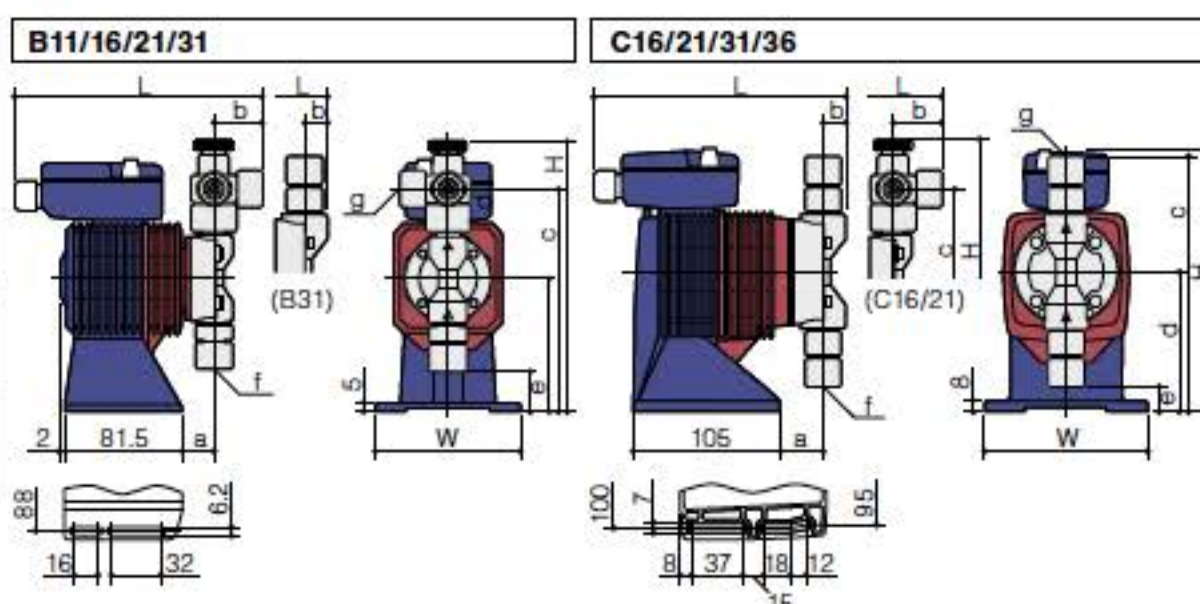
Model	B11	B16	B21	B31	C16	C21	C31	C36
Max. capacity	L/hr	2.28	3.9	5.7	12	4.8	7.8	24
	mL/min	38	65	95	200	80	130	400
	mL/shot	0.11	0.18	0.26	0.56	0.23	0.37	1.13
Max. discharge pressure	MPa	1.0	0.7	0.4	0.2	1.0	0.7	0.35
Stroke rate	0 - 360 spm				0 - 353 spm			
Power supply	AC220 - 240V, single phase, 50Hz / 60Hz							
Average power consumption	16W				22W			
Average current	0.5A				0.6A			
Insulation type, etc.	B type insulation and built-in thermal protector, with a 2.0m power cable, without plug							

- Note:
- The max. discharge value in the table above represents the performance measured with clean water at max. discharge pressure. Actual discharge may increase if operation is conducted at a lower pressure.
 - Set the discharge pressure at 0.12 MPa or higher to prevent over-feeding trouble. (0.05 MPa or higher in the case of B31, C36.) If the pressure is to be lower than these levels, make sure to use a check valve or a back pressure valve, which is supplied as an optional item.
 - Range of liquid temperature: VC/VH: 0-40 °C, PC/PH/TC: 0-60 °C.
 - Range of the ambient temperature: 0-40 °C.
 - Max. viscosity: Up to 50mPa•s. If the viscosity exceeds 50mPa•s, please contact us.

Dimensions in mm

Model	W	H	L	a	b	c	d	e	f & g Tubing
ES-B11	100	(184)	(178)	(25)	(37)	(150)	90	(26)	4 X 6
ES-B16									
ES-B21									
ES-B31	(172)	(159)	(27)	16	-	-	(8)	9 X 12	
ES-C16	116	(194)	(196.5)	(27)	(37)	(160)	100	(36)	4 X 6
ES-C21									
ES-C31									
ES-C36									
	(186.5)	(177.5)	(29)	(16)	(182)	(181.5)	(18)	9 X 12	
	(177)	(28.5)	(16)	(181.5)	(18.5)				

Note: ES-B31TC is 10 x 12



www.iwakupumps.jp

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Caution for safety use: Before use of pump, read instruction manual carefully to use the product correctly. Actual pumps may differ from the photos. Specifications and dimensions are subject to change without prior notice. For further details please contact us.