

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

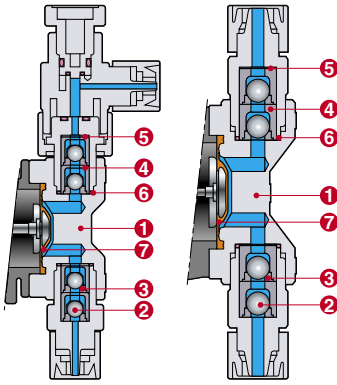
The precision ball, seat and guide assembly ensure tight sealing to prevent loss of prime.

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

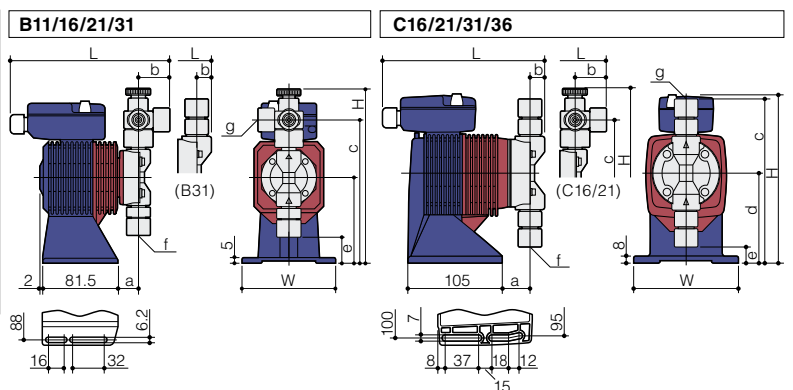
Model		B11	B16	B21	B31	C16	C21	C31	C36
Max. capacity	L/hr	2.28	3.9	5.7	12	4.8	7.8	16.2	24
	mL/min	38	65	95	200	80	130	270	400
	mL/shot	0.11	0.18	0.26	0.56	0.23	0.37	0.76	1.13
Max. discharge pressure	MPa	1.0	0.7	0.4	0.2	1.0	0.7	0.35	0.2
Stroke rate		0 - 360 spm				0 - 353 spm			
Power supply		AC220 - 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	Note	
ES-C16	116	(194)	(196.5)	(27)	(37)	(160)	100	(36)	4 X 6
ES-C21									
ES-C31									
ES-C36									

Note: ES-B31TC is 10 x 12



www.iwakipumps.jp

IWAKI CO.,LTD. 6-6 Kanda-Sudacho 2-chome Chiyoda-ku Tokyo 101-8558 Japan TEL : (81)3 3254 2935 FAX : 3 3252 8892

EUROPE / U.S.A.

European office : IWAKI Europe GmbH
 Austria : IWAKI (Austria) GmbH
 Belgium : IWAKI Belgium N.V.
 Denmark : IWAKI Nordic A/S
 Finland : IWAKI Suomi Oy
 France : IWAKI France S.A.
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 Sweden : IWAKI Sverige AB
 Switzerland : IWAKI (Schweiz) AG
 U.K. : IWAKI Pumps (UK) Ltd.
 U.S.A. : IWAKI America Inc.

TEL: (49)2154 9254 0
 TEL: (41)26 674 93 00
 TEL: (32)13 67 02 00
 TEL: (45)48 24 2345
 TEL: (358)9 2745810
 TEL: (33)1 69 63 33 70
 TEL: (49)2154 9254 50
 TEL: (31)297 241121
 TEL: (39)02 990 3931
 TEL: (47)66 81 16 60
 TEL: (34)943 630030
 TEL: (46)8 511 72900
 TEL: (41)26 674 93 00
 TEL: (44)1743 231363
 TEL: (1)508 429 1440

FAX: 2154 9254 48
 FAX: 26 674 93 02
 FAX: 13 67 20 30
 FAX: 48 24 2346
 FAX: 9 2742715
 FAX: 1 64 49 92 73
 FAX: 2154 9254 55
 FAX: 297 273902
 FAX: 02 990 42888
 FAX: 66 81 16 61
 FAX: 943 628799
 FAX: 8 511 72922
 FAX: 26 674 93 02
 FAX: 1743 366507
 FAX: 508 429 1386

ASIA / OCEANIA

Australia : IWAKI Pumps Australia Pty Ltd.
 China :
 Hong Kong : IWAKI Pumps Co., Ltd.
 Shanghai : IWAKI Pumps (Shanghai) Co., Ltd.
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TEL: (61)2 9899 2411
 TEL: (852)2607 1168
 TEL: (86)21 6272 7502
 TEL: (86)10 6442 7713
 TEL: (86)20 8435 0603
 TEL: (62)21 6906606
 TEL: (82)2 2630 4800
 TEL: (60)3 7803 8807
 TEL: (63)2 888 0245
 TEL: (65)6316 2028
 TEL: (886)2 8227 6900
 TEL: (66)2 322 2471
 TEL: (84)613 933456

FAX: 2 9899 2421
 FAX: 2607 1000
 FAX: 21 6272 6929
 FAX: 10 6442 7712
 FAX: 20 8435 9181
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 FAX: 2 2630 4801
 FAX: 3 7803 4800
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 FAX: 6316 3221
 FAX: 2 8227 6818
 FAX: 3 322 2477
 FAX: 613 933399

⚠ 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.