

IWAKI  
ELECTROMAGNETIC  
METERING  
PUMPS

**ES**



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 provides effective, reliable performance.

**High speed operation**

Up to 360 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**

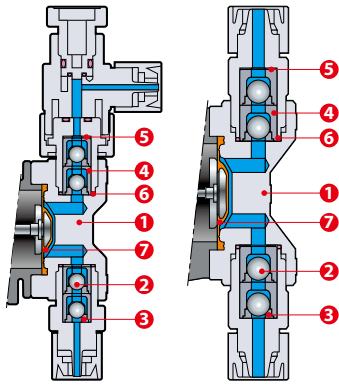
The precision ball, seat and guide assembly ensure tight sealing to prevent loss of prime.

**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 part materials

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

Pump identification

ES - B 16 VC - 230N 1

- 1 Drive unit symbol  
B: 16W  
C: 22W
- 2 Diaphragm effective diameter  
11: 10mm  
16: 15mm  
21: 20mm  
31: 30mm  
36: 35mm
- 3 Wet-end part material symbol  
VC, VH
- 4 Power-supply voltage symbol
- 5 Hose connection (in mm)  
1: 4 X 9  
2: 4 X 6  
3: 6 X 8  
4: 8 X 13  
5: 9 X 12

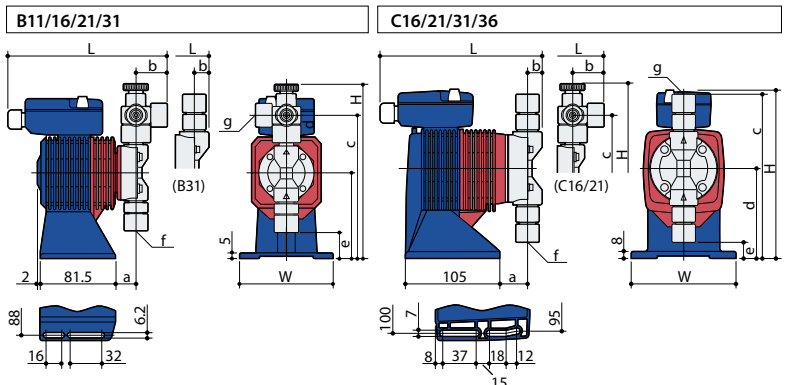
Specifications

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							
Current (Input)		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, ambient temperature, and rated voltage. Actual discharge may increase if operation is conducted at a lower pressure.
  - Set the discharge pressure at 0.17 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 : 0-40°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									4 X 9, 6 X 8
ES-B21									8 X 13, 9 X 12
ES-B31	116	(194)	(196.5)	(27)	(37)	(160)	100	(36)	4 X 6
ES-C16									4 X 9, 6 X 8
ES-C21									8 X 13, 9 X 12
ES-C31	116	(186.5)	(177.5)	(29)	(16)	(182)	100	(18)	8 X 13, 9 X 12
ES-C36									



Optional accessory

Check valve

This has the function of a non-return valve and prevents siphon and overfeed.

CA : Available in PVC.

CB : In-line type to be connected in the middle of a hose; made of PVC.

Model	Connection		Set pressure MPa	Material			Applicable pump
	Inlet mm	Outlet		Body	Spring	O-ring	
CA-1VC	4x6	R3/8 and R1/2	0.17 ±0.04	PVC	Hastelloy C276	FKM	ES-B11, 16, 21
CA-1VE	4x9					EPDM	
CA-2VC	6x8					FKM	ES-C31
CA-2VE	8x13 9x12	EPDM					
CA-2VCL		FKM	ES-B31 ES-C36				
CA-2VEL		EPDM					

Note: Please contact us for the specifications of CB models.

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

IWAKI has global network. Please find your distributor location at

[www.iwakupumps.jp](http://www.iwakupumps.jp)

European office : IWAKI Europe GmbH  
 Germany : IWAKI Europe GmbH  
 Holland : IWAKI Europe GmbH (Netherlands Branch)  
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 Norway : IWAKI Norge AS  
 Sweden : IWAKI Sverige AB  
 U.K. : IWAKI Pumps (UK) Ltd.

TEL: (49)2154 9254 0 FAX: 2154 9254 48  
 TEL: (49)2154 9254 50 FAX: 2154 9254 55  
 TEL: (31)74 2420011 FAX: (49)2154 925448  
 TEL: (39)0444 371115 FAX: 0444 335350  
 TEL: (34)93 37 70 198 FAX: 93 47 40 991  
 TEL: (32)13 67 02 00 FAX: 13 67 20 30  
 TEL: (45)48 24 2345 FAX: 48 24 2346  
 TEL: (358)9 2745810 FAX: 9 2742715  
 TEL: (33)1 69 63 33 70 FAX: 1 64 49 92 73  
 TEL: (47)23 38 49 00 FAX: 23 38 49 01  
 TEL: (46)8 511 72900 FAX: 8 511 72922  
 TEL: (44)1743 231363 FAX: 1743 366507  
 ( ) Country codes

U.S.A. : IWAKI America Inc.  
 Argentina : IWAKI America Inc. (Argentina Branch)  
 Singapore : IWAKI Singapore Pte Ltd.  
 Indonesia : IWAKI Singapore (Indonesia Office)  
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 Thailand : IWAKI Korea Co., Ltd.  
 Taiwan : IWAKI Pumps Taiwan Co., Ltd.  
 Thailand : IWAKI (Thailand) Co., Ltd.  
 Vietnam : IWAKI Pumps Vietnam Co., Ltd.

TEL: (1)508 429 1440 FAX: 508 429 1386  
 TEL: (54)11 4745 4116  
 TEL: (65)6316 2028 FAX: 6316 3221  
 TEL: (62)21 6906606 FAX: 21 6906612  
 TEL: (60)3 7803 8807 FAX: 3 7803 4800  
 TEL: (61)2 9899 2411 FAX: 2 9899 2421  
 TEL: (852)2607 1168 FAX: 2607 1000  
 TEL: (86)20 84350603 FAX: 20 84359181  
 TEL: (86)21 6272 7502 FAX: 21 6272 6929  
 TEL: (82)2 2630 4800 FAX: 2 2630 4801  
 TEL: (886)2 8227 6900 FAX: 2 8227 6818  
 TEL: (66)2 322 2471 FAX: 2 322 2477  
 TEL: (84)613 933456 FAX: 613 933399

Caution for safety use: Before use of pump, read instruction manual carefully to use the product correctly.

Legal attention related to export.

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