



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.

**Double ball check valves**

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

**Compact size**

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

**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 2 3 4 5

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  
3: 6 X 8  
4: 8 X 13  
5: 9 X 12

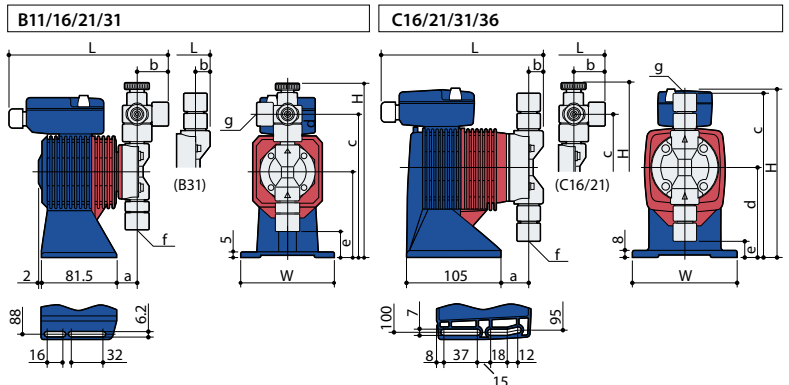
Specifications

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 50mPas. If the viscosity exceeds 50mPas, 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 9, 6 X 8
ES-B16									
ES-B21									
ES-B31									
ES-C16	116	(194)	(196.5)	(27)	(37)	(160)	100	(36)	4 X 9, 6 X 8
ES-C21									
ES-C31									
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	4x9	R3/8 and R1/2	0.17 ±0.04	PVC	Hastelloy C276	FKM	ES-B11, 16, 21
CA-1VE	6x8					EPDM	ES-C16, 21
CA-2VC	8x13 9x12					FKM	ES-C31
CA-2VE						EPDM	ES-B31 ES-C36
CA-2VCL						FKM	
CA-2VEL		EPDM					

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

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

Legal attention related to export.

Our products and/or parts of products fall in the category of goods contained in control list of international regime for export control. Please be reminded that export license could be required when products are exported due to export control regulations of countries.

Actual pumps may differ from the photos. Specifications and dimensions are subject to change without prior notice. For further details please contact us.

