

# **Bellows Pump Instructions**

## **Description**

The Iwaki America Bellows Pump is a positive displacement metering pump driven by a gear-reduced, fan cooled motor. Motors are thermally protected and are available in 33 or 135 RPM. Standard bellows are available with diameters of 1" 1 ½" or 2".

All non-elastomeric liquid end parts are polypropylene. The valve gaskets and o-rings are available in either EPDM or VITON.

Standard motor housings are ABS to provide protection from corrosive environments.

## **Output Adjustment, Steel Cam Assembly**

To adjust flow rate, loosen the two hex socket set screws on the outside rim of the adjustment Cam body with the hex key provided.

The adjustment cam can then be rotated to a percentage of the rated output. (An easy and accurate adjustment technique is to insert a Phillips screwdriver into the connecting rod/cam screw and turn.) Retighten set screws to secure and lock the cam. Exact rates depend upon particular application, and are best determined in an in-site testing and calibration manner. Reproducible results cannot be obtained below 10% of the maximum stroke length.

## **Output Adjustment, Plastic Cam Assembly**

To adjust flow rate, loosen the three Phillips head screws at the outside edge of the cam's front face.

The adjustment cam can then be rotated to a percentage of rated output. (An easy and ac-curate adjustment technique is to insert a Phillips screwdriver into the connecting rod/cam screw and turn.) Retighten Phillips screws to secure and lock the cam. Exact rates depend upon particular application, and are best determined in an on-site testing and calibration manner. Reproducible results cannot be obtained below 10% of maximum stroke length.

DO NOT RESTRICT FLOW WITH CONTROL VALVES, AS THIS CAUSES PRESSURE BUILD UP WHICH CAN BE HAZARDOUS, AND SHORTEN PUMP LIFE SPAN

### Installation

The ability of the Iwaki America Bellows Pump to self-prime under most conditions is reduced by increased suction lift, decreased stroke length or increased discharge head. To prime pumps with antisiphon springs installed, remove spring from outlet valve until pump primes and then replace spring.

The Bellows Pump will pump directly into a pressurized line. Consult data sheet for pressure ratings. Flow rates are somewhat reduced when pumping into pressure. Avoid higher pressure conditions which can damage pump and reduce life.

Operation with liquids above 120°F. will affect maximum pressure capability and pump life. For operation above. 140°F., consult factory.

Pump should be securely mounted to prevent movement or "walking". Base of pump must be mounted on a shelf or flat surface parallel to the floor. **Do not mount base to a vertical wall or surface.** 

Only use tubing size specified in the data sheet. Flexible or semi-rigid tubing is preferred. Always check the chemical compatibility of all wetted materials to insure maximum perfor-mance, longevity and safety. For specific recommendations, consult factory.

The Bellows Pump is designed to pump a wide variety of liquids. For thicker liquids (greater viscosities), flow rate may be reduced somewhat. Performance may be improved by increasing suction tubing diameter and/or provided flooded suction.



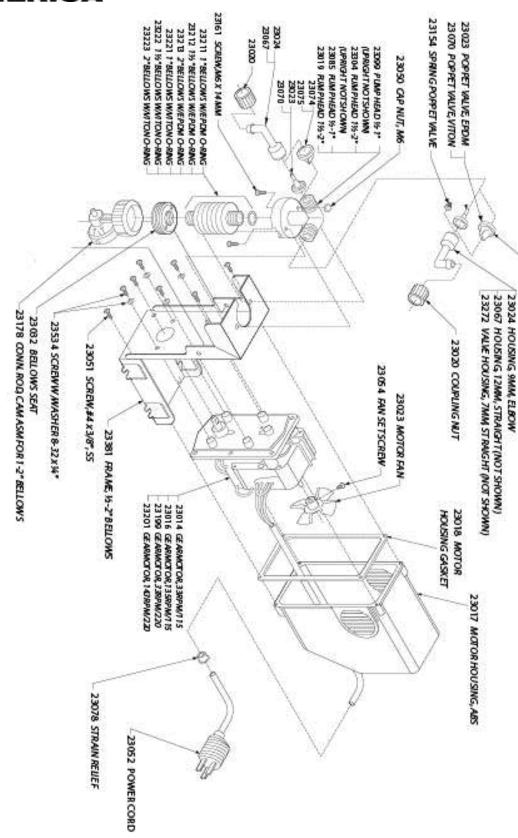
# SIMPLEX

Standard Model (115 VAC)	No. of Bellows	Maximum N Capacity MI/min (gph)	Maximum Pressure PSI	Strokes/ Minute SPM	Self-Prime Lift (dry) Feet (m)	Tubing I.D. Inches (mm)	Maximum Current (Amps)
	1	110 (1.7)	10	33	5 (1.5)	3/8 (9)	1.1
	1	255 (4.0)	5	33	4 (1.2)	3/8 (9)	1.1
	1	380 (6.0)	10	135	5 (1.5)	3/8 (9)	1.1
		2100 (33.3)	5	135	5-1/4 (1.6)	1/2 (12)	1.1

1:1	1.1
3/8 (9)	1/2 (12)
5 (1.5)	5-1/4 (1.6)
33	135
10	5
110 (1.7) x 2	2100 (33.3) x 2
2	2
DP20-10	DP80-30

Standard DP series pumps are supplied with the same bellows size and valve configuration in each head assembly. Custom combinations and pumps with more than 2 bellows are available upon request. Please consult factory. Specifications are subject to change without notice.





23075 DUCKBILL VALVE, EFOM (OFFICIAL)

SIMPLEX EXPLODED VIEW PARTS LIST



## 23052 POWER CORD/115V 2301 7 MOTORHOUSING ABS 23165 BASEPLATE, DUPLEY 23078 STRAIN RELIEF 23018 MOTOR HOUSING GASKET 23054 FAN SET SCREW 23053 MOTOR FAN 23088-1 POLYPRO WASHER 23014 GEARMOTOR, 33.R9M/115 23016 GEARMOTOR 13.5R9M/115 23199 GEARMOTOR, 33.R9M/220 23201 GEARMOTOR 135RPM/220 23169 GEARHOUSING 23534 SCREWW/WASHER 23051 SCREW, #4x3/8"SS 23.094 GEAR/SHAFTASM \*GEARMOTOR INCLUDES 23386 SCREW M4x 8 MOTORFAN 23089 BEARING MOUNT 23090 BEARINGS 23050 CAP NUT, M6 23167 HEAD FRAME 23385 SCREWM4x8 W/LOC MWASHER 23304 PUMPHEAD, 115-2", STRAIGHT 23085 PUMP HBAD 15-1", ANGLED 23019 PUMP HBAD, 135-2", ANGLED 23099 PUMP HBAD 15-17:STRAIGHT or 23161 SCREW, M5 x 14 23 179 COWN ROD/CAM ASSY, 1-2" BELLOWS 23032 BELLOWS SEAT 23024 VALVEHOUSING 9MM, ELBOW 23067 VALVEHOUSING 12MM,STRAIGHT 23272 VALVEHOUSING 7MM, STRAIGHT 23154 SPRING POPPET WALVE 23211 1"BELLOWS W/EPDM O-RING 23212 IN" BELLOWS W/EPDM O-RING 23213 2"BELLOWS W/EPDM O-RING 23221 1"BELLOWS W/VITON O-RING 23222 IN"BELLOWS W/VITON O-RING 23223 2"BELLOWS W/VITON O-RING 23023 POPPET VALVE ASM, EPOM 23070 POPPET VALVE ASM, WTON 23020 COUPLING NUT 29075 DUCKBILL WALVE, VITON 23074 DUCKBILL VALVE, EPOM

DUPLEX EXPLODED VIEW PARTS LIST