# Blue-White Industries, Ltd.

# METERING PUMPS | FLOWMETERS

QUALITY · PERFORMANCE · STYLE



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### BLUE-WHITE<sup>®</sup> has been a Leading Manufacturer of Top Quality Flowmeters, Metering Pumps and Water Treatment Accessories for Close to Six Decades.

At Blue-White we pride OUISELVES on innovative engineering, quality materials of construction and excellent customer service. Our worldwide network of factory authorized representatives, distributors, dealers and warranty centers look forward to serving you. This catalog is designed to familiarize you with Blue-White's extensive product lines. If you don't see the product that meets your system requirements please contact the factory. Blue-White is pleased to provide price quotation for custom calibrations and feed rates; alternate materials of construction, and private labeling to volume purchasers. In addition to the products shown on these pages, Blue-White manufactures an extensive line of products for larger system requirements, including Industrial and Municipal installations.

### CHERN-FEED® METERING PUMPS When you need a Tough, Accurate, Dependable Metering Pump insist on CHEM-FEED®

**CHEM-FEED®** injectors combine high quality materials of construction and smart engineering with flexibility and value.

Because we manufacture most of the components in our own plant, including the all ball bearing gear motor, we can offer CHEM-FEED<sup>®</sup> metering pumps with a wide range of configuration, material, voltage and feed rate options.

All CHEM-FEED<sup>®</sup> metering pumps feature Blue-White's exclusive heavy duty cartridge valve head. The thoughtful design of this pump head begins with bullet cartridge valves constructed of tough PVDF plastic. Each valve has two ceramic ball checks and is double sealed with high grade Aflas o-rings. The double ball valve pump head design ensures enhanced priming capabilities, and it is exceptional for purging air and gas.

Because CHEM-FEED® has earned the reputation as the BEST small metering pump in the business, other manufacturers may try to confuse you by using the name CHEM-FEED®. Only Blue-White manufactures the genuine CHEM-FEED® metering pump.

> Don't Settle for Imitations – Insist on CHEM-FEED® Metering Pumps!

### **CHEM-FEED® BENEFITS**

**CHEM-FEED**<sup>®</sup>

C-1500N

**CHEM-FEED**®

C-1100E

**CHEM-FEED®** 

C-600P

CHEM-E

EED

- Superior, efficient pump head design.
- Double Ball inlet and outlet valves which are completely interchangeable.
- PVDF valve body and fittings, ceramic ball checks, FKM and TFE/P o-rings.
- > All ball bearing gear motor plus permanent lubrication.
- Quick Adjusting Output Mechanisms.
- Efficient, Dependable Design.
- > Each Unit Factory Tested.
- Backed by an excellent limited warranty.

### CHEM-FEED® APPLICATIONS

- Water treatment and
- conditioning.

  Soap, wax and detergent
- injection.Wastewater treatment.
- > Biocide feed.
- Rural water systems.
   Cooling tower & boiler treatment.
- Fertilizer and nutrient injection.
- Pool chlorination & PH control.

### **CHEM-FEED® OPTIONS**

There are a wide range of feed/output rate options, voltage options and configuration options. In addition, the factory is pleased to quote on custom material and color options as well as, private labeling and packaging for volume purchasers.

3

# CHEM-FEED<sup>®</sup> C-600P Simple. Proven. Performance.

### **CHEM-FEED° C-600P BENEFITS**

- Easy access, side mounted mechanical output rate adjustment.
   Double-ball inlet and outlet cartridge type ceramic
- PODF valves.
   PVDF valve body and fitting, ceramic balls, FKM and
- PYDF valve body and fitting, ceramic balls, FKM and TFE/P o-rings.
   Superior pump head design of precision molded
- polypropylene
- PTFE coated EP diaphragm.
- All ball bearing, permanently lubricated gear motor for smooth, powerful operation.
- Polypropylene injection check valve with FKM and TFE/P o-rings and spring loaded ceramic ball seal.
- PVDF suction (foot) valve with FKM and TFE/P o-rings, ceramic check ball and removable polypropylene filter screen.
- Includes 3/8" OD suction and discharge tubing, and all mounting hardware.
- Efficient, dependable design each unit is factory tested.
- Private labeling for volume purchasers.

### C-600P ORDERING GUIDELINES

### STANDARD MODEL with Stroke Adjustment

MODEL	MAX OUTPUT @ 0 PSI							
NUMBER	GPD	GPH	LPH	OZ/MIN	PSI			
C-614P-(*)VAC	24	1.0	3.8	2.7	125			
C-630P-(*)VAC	58	2.4	9.3	5.2	125			
C-645P-(*)VAC	91	3.8	14.9	8.1	80			
C-660P-(*)VAC	110	4.6	17.4	9.8	60			
C-6125P-(*)VAC	237	9.9	37.0	21.1	30			
C-6250P-(*)VAC	389	16.2	61.4	34.6	10			

**VOLTAGE OPTIONS** 

(\*)Replace: 115=115V/60Hz, 220=220V/50Hz, 230=230V/60Hz, 24=24V/60Hz

Note: 220V/50Hz units deliver approx. 20% less output



α. Working Pressure125 psig (8.6 bar) α. Fluid Temperature130° F (54° C)
bient temp range
x. viscosity
x. suction lift
put accuracy
(water 0 psi, 5' suction lift)
ndown ratio
perage draw115V/60Hzstarting .74 / running .45
230V/60Hzstarting .36 / running .21
220V/50Hz starting .31 / running .19
24V/60Hz starting 3.4 / running 2.0
12VDC
ensions
roximate shipping wt8 lb. (3.6 kg)

# CHEM-FEED<sup>®</sup> C-600HV

Max

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### **CHEM-FEED® C-600HV BENEFITS**

- > Acrylic pump head.
- > Ethylene-propylene diaphragm.
- Ethylene-propylene O-ring seals.
- > 1/2" ID barbed tubing connections.

### **CHEM-FEED® C-600HV APPLICATIONS**

- > Low pressure and open atmosphere metering.
- Plating chemicals.
- > Water and wastewater treatment.

### **C-600HV ORDERING GUIDELINES**

STANDARD MODEL with Stroke Adjustment							
MODEL		MAX OUTI	PUT @ 0 PS	i -	MAX		
NUMBER	GPD	GPH	LPH	OZ/MIN	PSI		
C-660HV-(*)VAC	189	7.8	29.5	16.8	20		
C-6125HV-(*)VAC	398	16.5	62.4	35.3	10		
C-6250HV-(*)VAC	791	32.9	124.5	70.3	5		
VOLTAGE OPTIONS							

(\*)Replace: 115=115V/60Hz, 220=220V/50Hz, 230=230V/60Hz, 24=24V/60Hz Note: 220V/50Hz units deliver approx. 20% less output. 12V DC and 24V DC models also available.

### **C-600HV SPECIFICATIONS**

Approximate shipping wt..8 lb. (3.6 kg)



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NSF CE

C-600HV

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# **CHEM-FEED**<sup>®</sup> **C**-1500N Quality. Performance. Options.

### Blue-White's CHEM-FEED® C-1500N Metering Pumps are well suited to a variety of water and wastewater treatment applications.

C-1500N Series injectors feature Blue-White's exclusive Heavy Duty Head with Cartridge Valves constructed of tough PVDF. Each valve has two ceramic checks, and is double sealed. The double ball valve design provides enhanced priming, and is exceptional for purging air and gas. The Heavy Duty Head is nearly maintenance-free, and Bottom and Top Valves are completely interchangeable for quick, easy and economic servicing.

Two distinct C-1500N Models are offered. The STANDARD C-1500N has an easy to adjust dial-type, top mounted mechanical stroke length (output) control. The efficient design allows for minimum stroke length of 5%. DELUXE Models feature stroke length and time interval control. The pump's on time is adjustable from 5-100% of the repeating 5 second time interval. (0.25-5.0). The high frequency of the repeating 5 second time interval, and the extremely accurate mechanical stroke adjustment, result in a higher frequency of small injections per minute.

### **C-1500N SPECIFICATIONS**

Max. Working Pressure 125 psig (8.6 bar) Max. Fluid Temperature 130° F (54° C)
Ambient temp range 14° to 110° F (-10° to 43° C)
Max. viscosity
Max. suction lift 10 ft. Water
Output accuracy+/- 10% of max. (water 0 psi, 5' suction lift)
Turndown ratio
Enclosure Acceptable for outdoor use. NEMA 3R (IP23)
Amperage draw115V/60Hzstarting .74 / running .45
230V/60Hzstarting .36 / running .21
220V/50Hzstarting .31 / running .19
24V/60Hzstarting 3.4 / running 2.0
O-ring sealsFKM and TFE/P (Optional EP)
Dimensions
Approximate shipping wt8 lb. (3.6 kg)

### **C-1500N ORDERING GUIDELINES**

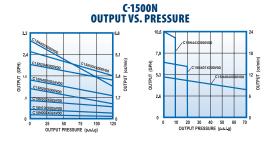
### CTANDARD MODEL with Stroke Adjust

STANDARD MODEL WITH STROKE Adjustment							
MODEL	-	MAX OUT	PUT @ 0 PS	l	Max Strokes	MAX	
NUMBER	GPD	GPH	LPH	OZ/MIN	Per minute	PSI	
C15N0(*)2X026V00	3.4	0.2	0.5	0.3	14	125	
C15N1(*)2X026V00	8.3	0.3	1.3	0.7	30	125	
C15N3(*)2X026V00	16.3	0.6	2.5	1.4	60	125	
C15N2(*)2X000V00	26.6	1.1	4.2	2.4	45	125	
C15N4(*)2X026V00	34.2	1.4	5.4	3.0	125	125	
C15N2(*)4X000V00	49.0	2.0	7.7	4.3	45	125	
C15N3(*)4X000V00	57.7	2.4	9.1	5.1	60	125	
C15N4(*)2X000V00	68.4	2.8	10.8	5.9	125	125	
C15N4(*)4X000V00	119.7	4.9	18.9	10.6	125	70	
C15N4(*)1X000V00	155.9	6.4	24.6	13.8	125	20	
C15N4(**)3X000V00	228.1	9.5	36.0	20.2	125	10	

DELUXE MODEL with	Stroke and Tim	e Interval A	djustment		
MODEL		MAX OUTPUT @ 0	PŠI	Max Strokes	MAX
NUMBER	GPH	LPH	OZ/MIN	Per minute	PSI
C15N4(*)2I026V00	.007-1.4	.027-5.40	.015-3.00	125	125
C15N4(*)2I000V00	.014-2.8	.054-10.8	.030-5.90	125	125
C15N4(*)1I000V00	.032-6.4	.123-24.6	.069-13.8	125	20

**VOLTAGE OPTIONS** 

(\*)Replace: 0=115V/60Hz, 1=220V/50Hz, 2=230V/60Hz, 3=24V/60Hz (\*\*)Replace: 4=115V/60Hz, 5=220V/50Hz, 6=230V/60Hz Note: 220V/50Hz units deliver approximately 20% less output





# CHEM-FEED<sup>®</sup> C-1700N Duplex Head Pump

### The CHEM-FEED® C-1700N Duplex Head Metering Pump features two independently controlled pump heads.

Because of the unique duplex head configuration, motor power is used to maximum efficiency. This is of particular importance for overcoming backpressure. Also, alternating strokes mean double the injections per minute. For example, a 125 RPM delivers 250 injections per minute, or four injections per second. This is of significance for applications requiring a pump approaching a constant, even feed rate, without broad spaces of time between injections.

The C-1700N can be used to inject different amounts of like chemical into separate systems, feed two different chemicals into the same system (blend), or when a single head pump doesn't provide guite enough output.

### **C-1700N SPECIFICATIONS**

C I/ VON SI ECHICATIONS
Max. Working Pressure 125 psig (8.6 bar)
Max. Fluid Temperature 130° F (54° C)
Ambient temp range 14° to 110° F (-10° to 43° C)
Max. viscosity
Max. suction lift 10 ft. Water
Output accuracy +/- 10% of max. (water 0 psi, 5' suction lift)
Turndown ratio
400:1 Deluxe models with optional Time
Interval controller
Amperage draw 115V/60Hz starting .74 / running .45
230V/60Hz starting .36 / running .21
220V/50Hz starting .31 / running .19
24V/60Hz starting 3.4 / running 2.0
O-ring seals FKM and TFE/P
Dimensions
Approximate shipping wt 11 lb. (5.0 kg)

### **C-1700N ORDERING GUIDELINES**

MODEL	Ν	AAX OUTP	UT @ 0 P:	SI	Max Strokes	MAX
NUMBER	GPD	GPH	LPH	OZ/MIN	Per minute	PSI
C17N0(*)2X000V00	14.2	0.6	2.3	1.3	14	125
C17NO(*)4X000V00	28.9	1.2	4.5	2.6	14	125
C17N2(*)2X000V00	50.2	2.1	7.9	4.4	45	125
C17N3(*)2X000V00	62.3	2.6	9.8	5.5	60	125
C17N2(*)4X000V00	89.7	3.7	14.1	8.0	45	125
C17N3(*)4X000V00	119.0	5.0	18.8	10.6	60	125
C17N4(*)2X000V00	133.8	5.5	21.1	11.9	125	125
C17N4(*)4X000V00	243.3	10.1	38.4	21.6	125	70
C17N4(*)1X000V00	304.2	12.6	48.0	27.0	125	20

**VOLTAGE OPTIONS** (\*)Replace: 0=115V/60Hz, 1=220V/50Hz, 2=230V/60Hz

Note: 220V/50Hz units deliver approximately 20% less output

Please Note: Outputs given are a combined total of both pump heads using pure water at zero gauge pressure All C-1700N are shipped complete with accessory package. Ordering matrix available on request, Order #85000-057

**BENEFITS** 

lost prime

**APPLICATIONS** 

MODEL

NUMBER

FI-100-4V

FI-100S-4V

FI-100-6V

FI-100S-6V

**ORDERING GUIDELINES** 

Tube

Connection

1/4" tubing

1/4" tubing

3/8" tubing

3/8" tubing

stopped motor

plugged injection fitting

• faulty tube or diaphragm

• plugged or dirty footvalve filter

> Glass bobbin for Chlorines and Acids.

**FLOW INDICATOR** 

> Air bubbles indicate chemical has exhausted.

**Diagnostic Tool for Chemical Feed Pumps** 

> Rhythmic rising and falling of the ball indicates positive flow.

> Stationary ball indicates no flow. Possible problems could be:

· chemical has been exhausted for a lengthy period of time

> Stainless Steel bobbin for soaps and waxes (high viscose fluids).

Body

Materia

Acrvlic

Acrylic

Acrylic

Acrylic

0-ring

FKM

FKM

FKM

FKM

Bobbin

Materia

Glass

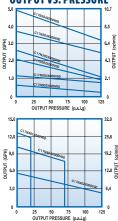
Stainless Steel

Glass

Stainless Steel



### C-1700N **OUTPUT VS. PRESSURE**



# **FOOT VALVE / STRAINER**

### **APPLICATIONS**

- Foot Valve / Strainer (with check valve) is recommended for CHEM-FEED® models C-340A and C-340E.
- > Foot Strainer (no valve) is recommended for FLEXFLO® peristaltic pumps model C-342-6.
- Capacity of strainer is 300 micron.

### **ORDERING GUIDELINES**

MODEL NUMBER	Tube Connection	(OD) Valve	Body Material	0-ring
C-340A	1/4" and 3/8" tubing	Check Valve	PVDF	FKM
C-340E	1/4" and 3/8" tubing	Check Valve	PVDF	EP
C-342-6	1/4" and 3/8" tubing	No Valve, strainer only	Acrylic	FKM



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C-1700N



# **CHEM-FEED**<sup>®</sup> **STAR SYSTEM** Ships Complete



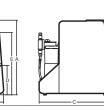
Blue-White's CHEM-FEED<sup>®</sup> STAR SYSTEM is shipped complete with the CHEM-FEED<sup>®</sup> C-1500N metering pump of your choice, STANDARD or DELUXE. The pump is mounted on a sturdy Polyethylene tank, which is offered in three convenient sizes: 7, 15 or 30 gallon capacity. The tank is constructed of Polyethylene and features extra heavy wall thickness for added strength, and includes a U.V. inhibitor for sunlight protection. The tank is rectangular in shape for convenient

placement, and is raised off the floor for easy wash down. An opening at the top of the tank makes adding chemical simple. The multi-position opening can be left open, or can be completely closed, or vented. For an efficient, well-designed metering system, choose The Star System.

### **STAR SYSTEM C-600P BENEFITS**

- The Star System is equipped with the C-1500N model of your choice - Standard or Deluxe.
- All necessary accessories are included.
- > Three Tank capacities to choose from: 7 gallon, 15 gallon, or 30 gallon. The Polyethylene tank has extra heavy wall thickness for stability with U.V. inhibitor for sunlight protection.
- > Lid positions include open, closed, or vent.
- > Convenient rectangular shape.
- > Flooded suction assists in priming.
- > Raised off the floor for easy wash down.

#### STAR SYSTEM



#### STANDARD MODEL with 7, 15, and 30 GALLON Tanks MAX OUTPUT @ 0 PSI Max Strokes MAX GPD GPH LPH 0Z/MIN Per minute PSI MODEL NUMBER

**STAR SYSTEM ORDERING GUIDELINES** 

T15N0(*)2X026V0(*	**)	3.4	0.2	0.5	0.3	14	125
T15N1(*)2X026V0(*	***)	8.3	0.3	1.3	0.7	30	125
T15N3(*)2X026V0(*	***)	16.3	0.6	2.5	1.4	60	125
T15N2(*)2X000V0(*	***)	26.6	1.1	4.2	2.4	45	125
T15N4(*)2X026V0(*	**)	34.2	1.4	5.4	3.0	125	125
T15N2(*)4X000V0(*	**)	49.0	2.0	7.7	4.3	45	125
T15N3(*)4X000V0(*	***)	57.7	2.4	9.1	5.1	60	125
T15N4(*)2X000V0(*	***)	68.4	2.8	10.8	5.9	125	125
T15N4(*)4X000V0(*	**)	119.7	4.9	18.9	10.6	125	70
T15N4(*)1X000V0(*	***)	155.9	6.4	24.6	13.8	125	20
T15N4(**)3X000V0	(***)	228.1	9.5	36.0	20.2	125	10
<b>DELUXE MODELS W</b>	ith 7, 15,	, and 3	0 GAL	LON T	anks		
MODEL		AX OUT				Max Strokes	MAX
NUMBER	GPH	L	PH	0Z	/MIN	Per minute	PSI
T15N4(*)2l026V00	.007-1.4	.027	-5.40	.015	5-3.00	125	125
T15N4(*)2l000V00	.014-2.8	.054	-10.8	.030	)-5.90	125	125
T15N4(*)1I000V00	.032-6.4	.123	-24.6	.069	9-13.8	125	20
<b>VOLTAGE OPTIONS</b>							
(*) Replace: 0=115V/60Hz, 1=220V/50Hz, 2=230V/60Hz							

(\*\*) Replace: 4=115V/60Hz, 5=220V/50Hz, 6=230V/60Hz Note: 220V/50Hz units deliver approximately 20% less output

GALLON OPTIONS (\*\*\*) Replace: 1=7 Gallon, 2=15 Gallon, 3=30 Gallon

STAK 1/	ANKS	ONLY
MODEL	CAP	ACITY
NUMBER	GAL	LITER
STAR 7	7	26.5

STAR 7	7	26.5
STAR 15	15	57
STAR 30	30	113.5

DIMENSIONS = INCH (CM SHIP WT DIM : DIM 'D DIM 'I 19 LB. (9 Kg) 17.5 (44.5) 16.0 (41.0 7.8 (19.7) 17.0 (43.0 7 GALLON TANK 12.0 (30.5) 15 GALLON TANK 22.0 (56.0) 15.5 (38.0) 19.5 (50.0) 78(197) 17.0 (43.0) 28 LB. (13 Ka) 36 LB. (16 Ka) 30 GALLON TANK 27.0 (69.0) 20.0 (51.0) 24.0 (61.0) 7.8 (19.7)

**LEXFLO**<sup>®</sup> **STAR W**<sup>®</sup> Metering System

### Blue-White's STAR III® Metering System features the FLEXFLO® A-100N Series Peristaltic Metering Pump of your choice, combined with a sturdy Polyethylene tank.

The STAR III® tank is available in 7, 15 or 30 gallon capacity. The Polyethylene Tank has UV inhibitors for sunlight protection; and extra heavy wall thickness for stability. A well located opening at the top of the tank allows for easy addition of chemical. The tank lid position can be open, closed or vented. The STAR III<sup>®</sup> tank is a handy rectangular shape, and is raised off the floor for easy wash down.

For a convenient Peristaltic Metering System Package, Get the FLEXFLO® STAR III®.

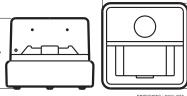
### FLEXFLO® STAR III® BENEFITS

- The Star III<sup>®</sup> is equipped with the FLEXFLO<sup>®</sup> A-100N model of your choice - fixed or variable speed models with standard or digital controls.
- > All necessary accessories are included.
- Three Tank capacities to choose from: 7 gallon, 15 gallon, or 30 gallon. The polyethylene tank has extra heavy wall thickness for stability with U.V. inhibitor for sunlight protection.
- > Lid positions include open, closed, or vent.
- > Convenient rectangular shape.
- Raised off the floor for easy wash down.

Note: Refer to the 85000-045 data sheet or visit blue-white.com for more information.

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DIM 'A DIM 'B DIM 'C SHIP WT. 7 GALLON TANK 18.50 (47) 18.50 (47) 24 LB. (11 Kg) 12.00 (30) 15 GALLON TANK 17.25 (44) 20.00 (51) 20.00 (51) 32 LB. (15 Kg) .(ED). (NSE) C E 27.50 (69) 20.00 (51) 20.00 (51) 38 LB. (18 Kg) 30 GALLON TANK

with 15 Gallon

**STAR III**®

# **CHEM-FEED**<sup>®</sup> C-1100 SERIES Fixed Speed Units

### The Superior CHEM-FEED<sup>®</sup> C-1100 Fixed Speed pumps are offered with three output control options.

**STANDARD X MODELS** feature a quick-adjusting, high accuracy mechanical stroke length control. The efficient design of the pump allows for a minimum stroke length of 5%. Minimum recommended output is 5% of maximum.

**DELUXE C MODELS** feature stroke length and electronic time interval control. The pump's On-time is adjustable from 5-100% of the repeating 5 second time interval. (0.25-5.0 seconds) The high frequency of the repeating 5 second time interval and the extremely accurate mechanical stroke adjustment, result in a higher frequency of small injections per minute. Minimum recommended output is .5% of maximum.

**DIGITAL E MODELS** feature stroke length, electronic user programmable time interval (interval lengths from 1 through 99 seconds are user programmable), and external input signal control. The unit accepts pulse inputs (programmable from 1-9900) which can trigger programmable timed chemical injection batches from 1-99 seconds in duration. Analog signals can be used to remotely vary the interval timer's on-time adjustment.

### **CHEM-FEED® C-1100 BENEFITS**

- > Superior pump head design.
- All ball bearing, permanently lubricated gear motor for smooth, powerful operation.
- Pump head design and material options.
- Efficient, dependable design each unit is factory tested.
- Private labeling for volume purchasers.
- > 3/8" OD x 1/4" ID tubing connections.

### **CHEM-FEED® C-1100 APPLICATIONS**

- Water treatment and conditioning.
- Soap, wax and detergent injection.
- Wastewater treatment.
- Biocide feed.
- Rural water systems.
- Cooling tower & boiler treatment.
- Fertilizer and nutrient injection.
- Pool chlorination & PH control.

### **C-1100 FIXED SPEED SPECIFICATIONS**

Max. Working Pressure 150 psig (10.3 bar)
Max. Fluid Temperature 130° F (54° C)
Ambient temp range
Max. viscosity
Max. suction lift 10 ft. Water
Output accuracy+/- 1% full scale repeatability
Turndown ratio
400:1 Deluxe models
4000:1 Digital models
Enclosure Acceptable for outdoor use. NEMA 3R (IP23)
Amperage draw
230V/60Hz start 0.57 / run 0.37
220V/50Hz start 0.49 / run 0.34
O-ring seals FKM and TFE/P (Optional EP)
Dimensions
Approximate shipping wt 10 lb. (4.2 kg)

### **C-1100 FIXED SPEED ORDERING GUIDELINES**

### STANDARD X MODELS with Stroke Adjustment

MODEL		AX OUTP	Max Strokes	MAX		
NUMBER	GPD	GPH	LPH	OZ/MIN	Per minute	PSI
C11X3(*)4X000V00	57.7	2.4	9.1	5.1	60	150
C11X4(*)4X000V00	119.7	4.9	18.9	10.6	125	150
C11X4(*)1X000V00	155.9	6.4	24.6	13.8	125	150
C11X5(*)4X000V00	260.8	10.8	41.1	23.1	250	100
C11X5(*)3X000V00	360.0	15.0	56.8	32.0	250	25

DELUXE C MODE	LS with Stroke and Time Adjustm	ent	
MODEL	MAX OUTPUT AT 0 PSI	Max Strokes	MAX

nute PSI
150
5 150
5 150
) 100
) 25

### DIGITAL E MODELS with Stroke, Pulse, and 4-20mA Adjustment

MODEL		IAX OUTP	Max Strokes	MAX		
NUMBER	GPD	GPH	LPH	OZ/MIN	Per minute	PSI
C11E3(*)4X000V00	57.7	2.4	9.1	5.1	60	150
C11E4(*)4X000V00	119.7	4.9	18.9	10.6	125	150
C11E4(*)1X000V00	155.9	6.4	24.6	13.8	125	150
C11E5(*)4X000V00	260.8	10.8	41.1	23.1	250	100
C11E5(*)3X000V00	360.0	15.0	56.8	32.0	250	25

### **VOLTAGE OPTIONS**

(\*)Replace: 4=115V/60Hz, 5=220V/50Hz, 6=230V/60Hz, 7=240V/50Hz Note: 220V/50Hz units deliver approximately 20% less output



with Stroke Length & Time Interval Control



# **CHEM-FEED**<sup>®</sup> C-1100 SERIES Variable Speed Units

### The CHEM-FEED® C-1100 Variable Speed Units feature Two Output Control Options.

**DELUXE F MODELS** have stroke length and analog speed control. The pump's speed is adjustable from 5-100% of the maximum using a dial knob style controller. The minimum recommended output is .25% of maximum.

**DIGITAL V MODELS** feature stroke length, manual digital percentage and external input signal speed control. The unit accepts pulse inputs from 1-999 Hz and 4-20mA or 0-10Vdc analog input signals. The minimum and maximum speed at the minimum and maximum input values can be programmed using the digital LCD display.



DELUXE F MODEL - VARIABLE SPEED UNIT with Stroke Length & Analog Speed Control



DIGITAL V MODEL - VARIABLE SPEED UNIT with Stroke Length & 4-20mA, 0-10dc, and Pulse Input Speed Control

### **CHEM-FEED® C-1100 BENEFITS**

- > Superior pump head design.
- All ball bearing, permanently lubricated gear motor for smooth, powerful operation.
- Flow verification sensor option available.
- > No special input signal connectors to buy.
- > 1 amp alarm output (digital models).
- Pump head design and material options.
   Efficient, dependable design each unit is factory tested.
- Private labeling for volume purchasers.
- 3/8" OD x 1/4" ID tubing connections.

### **CHEM-FEED® C-1100 APPLICATIONS**

- > Water treatment and conditioning.
- > Soap, wax and detergent injection.
- > Wastewater treatment.
- > Biocide feed.
- > Rural water systems.
- > Cooling tower & boiler treatment.
- > Fertilizer and nutrient injection.
- > Pool chlorination & PH control.

### **C-1100 VARIABLE SPEED SPECIFICATIONS**

Max. Working Pressure Max. Fluid Temperature	
	14° to 110° F (-10° to 43° C)
Max. viscosity	
Max. suction lift	10 ft. Water
Output accuracy	+/- 1% full scale repeatability
Turndown ratio	400:1
Enclosure	Acceptable for outdoor use. NEMA 3R (IP23)
Amperage draw	115V/60Hz start 1.37 / run .35
	230V/60Hz start 0.57 / run .18
	220V/50Hz start 0.49 / run .23
0-ring seals	FKM and TFE/P (Optional EP)
Dimensions	6-1/4" H x 10" W x 9-1/4" D
Approximate shipping wt.	12 lb. (5.4 kg)

### **C-1100 VARIABLE SPEED ORDERING GUIDELINES**

DELUXE F MODELS	with Stroke and Dial Knob S	peed Adjustmen	ıt
MODEL	MAY OUTDUT AT O DO	Max Strokor J	14.4.1

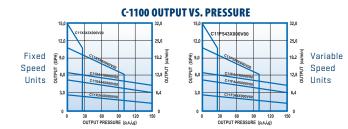
MODEL	M	AX UUTP	UTATUP	21	Max Strokes	MAX
NUMBER	GPD	GPH	LPH	OZ/MIN	Per minute	PSI
C11F3(*)4X000V00	57.7	2.4	9.1	5.1	60	150
C11F4(*)4X000V00	119.7	4.9	18.9	10.6	125	150
C11F4(*)1X000V00	155.9	6.4	24.6	13.8	125	150
C11F5(*)4X000V00	260.8	10.8	41.1	23.1	250	100
C11F5(*)3X000V00	360.0	15.0	56.8	32.0	250	25

### **DIGITAL V MODELS with**

Stroke, Pulse Input and 4-20mA Analog Input Speed Adjustment								
MODEL	N	IAX OUTP	UT AT O P	SI	Max Strokes	MAX		
NUMBER	GPD	GPH	LPH	OZ/MIN	Per minute	PSI		
C11V3(*)4X000V00	57.7	2.4	9.1	5.1	60	150		
C11V4(*)4X000V00	119.7	4.9	18.9	10.6	125	150		
C11V4(*)1X000V00	155.9	6.4	24.6	13.8	125	150		
C11V5(*)4X000V00	260.8	10.8	41.1	23.1	250	100		
C11V5(*)3X000V00	360.0	15.0	56.8	32.0	250	25		

### VOLTAGE OPTIONS

(\*)Replace: 4=115V/60Hz, 5=220V/50Hz, 6=230V/60Hz, 7=240V/50Hz Note: 220V/50Hz units deliver approximately 20% less output



# FLEXFLO<sup>®</sup> PERISTALTIC METERING PUMPS

### When your installation calls for a compact Peristaltic Metering Pump Don't Settle for Less Than the BEST—FLEXFLO®!

### Peristaltic Injectors are well suited to metering chemicals

that could foul heads with conventional check valves. Peristaltic pumps have rollers that compress the tube in a progressive squeezing action.

Blue-White's superior FLEXFLO® peristaltic injectors have an impressive edge over the others. Only FLEXFLO® pumps feature Blue-White's SUPERIOR patented pump tube design! It's easy to install, and doesn't need to be manually advanced.

All FLEXFLO® Peristaltic Pumps are equipped with Blue-White's exclusive patented TUBE FAILURE DETECTION SYSTEM. No other manufacturer can offer this feature.

When you want the Best Compact Peristaltic Injector – Get FLEXFLO®!

### **FLEXFLO® BENEFITS**

- > Self priming, even against line pressure.
- Precise chemical feed up to 124 GPH / 8.45 LPH, with max working pressure of 100 PSI / 6.9 bar.
- Tube Failure Detection System (TFD).
- Compatible with Blue-White's Micro-Flo Verification Sensor.
- > De-gassing design eliminates gas or air accumulation in the head.
- Precise output control to 20:1 turndown by means of dial knob.
- > Preset 60 second recycle time (other time cycles available).
- > Output amount is not affected by changes in back pressure.
- Durable housing of rugged Valox.
- Advanced cooling system.

### FLEXFLO® APPLICATIONS

- Water treatment and conditioning.
- > Proportional chemical injection.
  - Wastewater treatment.
- Biocide feed.
- Rural water systems.
- Cooling tower & boiler treatment.
- Fertilizer and nutrient injection.
   Pool chlorination & PH control.

### **FLEXFLO® OPTIONS**

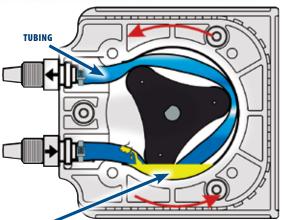
There are a wide range of feed/ output rate options, voltage options, motor options, feature and configuration options. In addition, the factory is pleased to quote on custom material and output options, as well as private labeling and packaging for volume purchasers.

A-100NV

# The Exclusive Patented TUBE FAILURE DETECTION SYSTEM



Blue-White<sup>®</sup> developed The TFD system for peristaltic pumps and is the only manufacturer able to offer the Patented TFD System (U.S. Patent 7,001,153 and 7,284,964). The TFD System is able to detect a wide range of chemicals (i.e. chlorine, acids, soaps, etc.). This exclusive technology was designed to disregard pump compatible fluids; such as water and lubricants. If there is a rupture in the pump tube, and a chemical is detected in the pump head, the pump will automatically shut off and energize a relay, permitting communications with external equipment, such as an alarm or a SCADA system. The chemical must be cleaned from the pump head before the pump will restart. The TFD System is a Standard Feature on Blue-White's FLEXFLO<sup>®</sup> Series Peristaltic Metering Pumps.



NON-COMPATIBLE FLUID IS IMMEDIATELY DETECTED IN THE PUMP HEAD. THE PUMP SHUTS DOWN.

# FLEXFLO<sup>®</sup> A-100NC & A-100NE Peristaltic Fixed Speed Units





<u>FLEXFLO</u><sup>®</sup>A-100NE - FIXED SPEED UNIT with Pulse Input Batching & Time Interval Control

### NORPRENE

Alcohol general Alum, 5% in water Ammonium chloride Ammonium hydroxide Benzyl alcohol Bleach Brine solutions Calcium hypochlorite 20% Ethylene glycol Ferric chloride Ferric nitrate Ferric sulfate Ferrous chloride - 43% in water Ferrous sulfate Formic acid Glucose Hydrochloric acid 33%

Hydrocyanic acid Hydrogen peroxide Hypochlorous acid lodine Lactic acid Magnesium chloride Magnesium sulfate Phosphoric acid Plating solutions Potassium hydroxide Potassium permanganate Propylene glycol Sodium hydroxide 40% Sodium Bisulfite Sodium Hypochlorite 12.5% Sodium sulfide Sulfuric acid 50% Tannic acid

#### **PUMP TUBING MATERIAL SELECTION GUIDE** TYGOTHANE

Cyclohexane Diesel Fuel Fatty acids Gasoline Heptane Hexane Kerosene Lard Mineral spirits 0ils. ASTM reference No.1,2,3 Castor Coconut Fuel Linseed Lubricating Mineral Soap solutions Turpentine

Allyl Alcohol Ethylene bromide Hvdrofluoric acid Hydrobromic acid Isopropyl Alcohol

Toluene

# FKM

### **FLEXFLO® ANALOG MODEL** A-100NC BENEFITS

- Self priming against maximum line pressure.
- Precise chemical feed up to 124 GPH / 8.45 LPH, > with max working pressure of 100 PSI / 6.9 bar.
- Tube Failure Detection System (TFD).
- Compatible with Blue-White's Micro-Flo Verification sensor.
- De-gassing design eliminates gas or air accumulation in the head.
- > Precise output control to 20:1 turndown by means of a dial knob.
- Adjustable 5 second repeating interval timer (0.25 - 5.0 sec) results in a high frequency of small injections per minute.
- Output amount is not affected by changes in back pressure.
- Durable housing of rugged valox.
- > Advanced cooling system.

### **FLEXFLO® DIGITAL MODEL A-100NE BENEFITS**

- > Self priming against maximum line pressure.
- Precise chemical feed up to 124 GPH / 8.45 LPH, with max working pressure of 100 PSI / 6.9 bar.
- De-gassing design eliminates gas or air accumulation in the head.
- Manual output control digital interval timer for > 200:1 turndown ratio.
- > Accepts pulse inputs for time on per one pulse or multiple pulses.
- > Accepts 4-20mA & 0-10Vdc signal for external interval percentage control.
- No special input wiring connectors to buy. Digital interval timer results in a high frequency
- of small injections per minute. Output amount is not effected by changes in
- back pressure.
- Durable housing of rugged valox.
- Advanced cooling system.

### **FLEXFLO® A-100N APPLICATIONS**

- > Water treatment and conditioning.
- Proportional chemical injection.
- > Wastewater treatment.
- Biocide feed.
- > Rural water systems.
- Cooling tower & boiler treatment.
- ≻ Fertilizer and nutrient injection.
- Pool chlorination & PH control.

### **A-100N FIXED SPEED SPECIFICATIONS**

Max. Working Pressure	100 psig (6.9 bar)
Max. Fluid Temperature	130°F (54°C)
Ambient Temp Range	14° to 110°F(-10° to 43°C)
Max. Viscosity	5,000 Centipoise
Max. Suction Lift	30 ft. Water 0 psig
Duty Cycle	Continuous
Max. Solids	50% by volume
Amperage Draw	115V/60Hz, 230V/60Hz, 220V/50Hz
Injection Fitting O-ring Seal	s FKM and TFE/P (Optional EP)
Dimensions	6-1/4" H x 10" W x 9-1/4" D
Approx. Shipping Weight	10 lb. (4.5 kg)

### A-100N FIXED SPEED ORDERING GUIDELINES

FIXED and VARIABLE SPEED MODELS								
MODEL	Ν	AX OUTPUT	@ ANY PRE	SSURE	MAX			
NUMBER	GPD	GPD GPH LPH ML/MIN						
A1N0(*)(**)-4T	2.3	0.10	0.20	6	100			
A1N1(*)(**)-4T	4.9	0.21	0.44	13	100			
A1N2(*)(**)-4T	8.0	0.33	0.71	21	100			
A1N1(*)(**)-6T	16.0	0.67	1.42	42	100			
A1N2(*)(**)-6T	24.0	1.00	2.13	63	100			
A1N3(*)(**)-6T	30.1	1.25	2.67	79	75			
A1N1(*)(**)-7T	52.5	2.19	4.66	138	50			
A1N3(*)(**)-7T	95.1	3.96	8.45	250	50			
VOLTA CE ODTIONIC								

**VOLTAGE OPTIONS** (\*)Replace: 0=115V/60Hz, 1=220V/50Hz, 2=230V/60Hz Note: 220V/50Hz units deliver approximately 20% less output. MODEL OPTIONS

(\*\*)Replace: C=A100NC, E=A100NE, F=A100NF, V=A100NV

# FLEXFLO<sup>®</sup> A-100NF & A-100NV Peristaltic Variable Speed Units

T I system

TFD

TFD

### **FLEXFLO® ANALOG MODEL A-100NF BENEFITS**

- Self priming against maximum line pressure.
- Precise chemical feed up to 124 GPH / 8.45 LPH, with max working pressure of 100 PSI / 6.9 bar.
- Output amount is not affected by changes in back pressure.
- Tube Failure Detection System (TFD).
- Compatible with Blue-White's Micro-Flo Verification sensor.
- Easy to use dial knob style output control.
- Variable speed results in near continuous chemical injection.
- De-gassing design eliminates gas or air accumulation in the head.
- > Durable housing of rugged Valox.

### FLEXFLO® DIGITAL MODEL A-100NV BENEFITS

- > Self priming against maximum line pressure.
- Precise chemical feed up to 124 GPH / 8.45 LPH, with max working pressure of 100 PSI / 6.9 bar.
- Output amount is not affected by changes in back pressure.
- > Tube Failure Detection System (TFD).
- > 1 amp alarm output relay switch.
- > Compatible with Blue-White's Micro-Flo Verification sensor.
- > Precise output control with digital touch and LCD display.
- > Variable speed results in near continuous chemical injection.
- Accepts 4-20mA, 0-10Vdc, and Pulse inputs for external speed control.
- Easy to read Service and Alarm indicator icons on LCD display.
- > Display motor speed or input signal values on the LCD display.
- > De-gassing design eliminates gas or air accumulation in the head.
- Durable housing of rugged Valox.

### **A-100N VARIABLE SPEED SPECIFICATIONS**

Max. Working Pressure	100 psig (6.9 bar)
Max. Fluid Temperature	130°F (54°C)
Ambient Temp Range	14° to 110°F(-10° to 43°C)
Max. Viscosity	5,000 Centipoise
Max. Suction Lift	30 ft. Water 0 psig
Duty Cycle	Continuous
Max. Solids	50% by volume
Amperage Draw	115V/60Hz, 230V/60Hz, 220V/50Hz
Injection Fitting O-ring Seals	. FKM and TFE/P (Optional EP)
Dimensions	6-1/4" H x 10" W x 9-1/4" D
Approx. Shipping Weight	10 lb. (4.5 kg)

### A-100N VARIABLE SPEED ORDERING GUIDELINES

### FIXED and VARIABLE SPEED MODELS

MODEL	М	AX OUTPUT	@ ANY PRE	SSURE	MAX
NUMBER	GPD	GPH	LPH	ML/MIN	PSI
A1N0(*)(**)-4T	2.3	0.10	0.20	6	100
A1N1(*)(**)-4T	4.9	0.21	0.44	13	100
A1N2(*)(**)-4T	8.0	0.33	0.71	21	100
A1N1(*)(**)-6T	16.0	0.67	1.42	42	100
A1N2(*)(**)-6T	24.0	1.00	2.13	63	100
A1N3(*)(**)-6T	30.1	1.25	2.67	79	75
A1N1(*)(**)-7T	52.5	2.19	4.66	138	50
A1N3(*)(**)-7T	95.1	3.96	8.45	250	50

**VOLTAGE OPTIONS** 

(\*)Replace: 0=115V/60Hz, 1=220V/50Hz, 2=230V/60Hz Note: 220V/50Hz units deliver approximately 20% less output.

MODEL OPTIONS

(\*\*)Replace: C=A100NC, E=A100NE, F=A100NF, V=A100NV

# FLEXFLO<sup>®</sup> A-1600 Simple and Efficient

### FLEXFLO® A-1600 BENEFITS

- Basic design that is efficient and economical.
- No valves to clog in the pump head.
- Self priming against maximum line pressure.
- De-gassing design eliminates gas or air accumulation in the head.
- Patented pump tube design for easy installation and trouble free operation.
- Output amount is not effected by changes in back pressure.
- Clear pump head cover allows viewing of pump operation.
- OEM design modifications.

### FLEXFLO® A-1600 APPLICATIONS

Pool and Spa chlorine and acid injection.

FLEXFLO A-100NV - VARIABLE SPEED UNIT

with 4-20mA, 0-10dc, and

Automatic PH control systems.

### **A-1600 SPECIFICATIONS**



12



(ID) CE (NSF)

(CE (NSF)

TFD system

### **MICRO-FLO** FLOW VERIFICATION SYSTEM Easy Access to Critical Flow Data

### Are you certain the pump is actually pumping?

An empty chemical tank, clogged injection fitting, lost prime, and other problems can prevent a metering pump from actually injecting chemical – even though the pump is in good working order!



RO-FLO

This innovative product is designed to be used with your metering pump to provide accurate Flow Measurement and Accumulated Flow Data. KNOW how much chemical your metering pump is dispensing. The MICRO-FLO may be

installed directly into the pumps discharge tubing, inline in the system after the pump, or conveniently mounted to a panel.

**The Micro-Flo Model FV Flow Verification Sensor** can be connected directly to Blue-White model **A-100NV** and **C-1100V** metering pumps and verify that chemical injection has actually occurred. The pump's sophisticated electronics constantly monitor the sensor. If chemical should fail to inject, the pump will stop and an alarm relay will close, allowing for remote alarm indication or initiation of a back-up injector pump.

For Innovation, Accuracy and Dependable Service, count on Blue-White's MICRO-FLO VERIFICATION METER.

### **MICRO-FLO BENEFITS**

- Model Variations include: Sensor Only; and Panel Mount Display, which includes 6' of Cable.
- > Six Digit LCD, up to Four decimal positions.
- > Displays both Rate of Flow and Accumulated Flow.
- Non-volatile programming and accumulated flow memory.
- User Selectable scale factors include: *Flow units:* Gallons; Liters; Ounces; Milliliters
- Time units: Minutes; Hours; Days > Clear PVC viewing lens or opaque PVDF chemical resistant lens .
- Weather resistant Valox PBT enclosure.
- LCD is not recommended for direct sunlight installation.

### **MICRO-FLO SPECIFICATIONS**

Max. Working Pressure	PVC lens: 130 psig (9 bar) @ 70°F (21°C)
	PVDF lens: 150 psig (10 bar) @ 70°F (21°C)
Max. Fluid Temperature	PVC lens, and connectors: 130°F (54°C) @ 0 PSI
· · · ·	PVDF lens, and connectors: 200°F (93°C) @ 0 PSI
Body, Paddle, Axle Material	PVDF
Connector Material	3/8" Tubing connectors: PVDF
0-ring Seals	FKM
Compression Seal to Pump	PVC
Approx. Shipping Weight	1 lb. (.45 kg)

### **MICRO-FLO ORDERING GUIDELINES**

<b>MODELS with P</b>	VC LENS CAP		
MODEL		OPERATING FLOW RANGE	
NUMBER	GPD	OZ/MIN	ML/MIN
FV-100-6V	11.4 to 114	1 to 10	30 to 300
FV-200-6V	38.0 to 380	3.5 to 35	100 to 1000
FV-300-6V	76.0 to 760	7 to 70	200 to 2000
FV-400-6V	114 to 1440	10 to 100	300 to 3000
FV-500-6V	190 to 1900	17 to 170	500 to 5000
FV-600-6V	266 to 2660	24 to 240	700 to 7000
<b>MODELS</b> with P	VDF LENS CAP		
FV-101-6V	11.4 to 114	1 to 10	30 to 300
FV-201-6V	38.0 to 380	3.5 to 35	100 to 1000
FV-301-6V	76.0 to 760	7 to 70	200 to 2000
FV-401-6V	114 to 1440	10 to 100	300 to 3000
FV-501-6V	190 to 1900	17 to 170	500 to 5000
FV-601-6V	266 to 2660	24 to 240	700 to 7000

MICRO-FLO SENSOR FV-200-6V

**MICRO-FLO** 

SENSOR

Installation Examples

FS-100-3V

TFD

MICRO-FLO SENSOR - FV-200-6V mounted on C-1100V

MICRO-FLO SENSOR - FV-100-6V mounted on A-100NV

# **MODEL PC** Proportional Feed System

### **MODEL PC SYSTEM BENEFITS**

- > The F-2000 digital paddlewheel flowmeter includes circuitry that automatically turns on your metering pump for a preset injection time, from 1 through 999 seconds, per volume of fluid flow measured.
- The simple relay switch (8A 115/230Vac) can be used to control any electrically operated device such as a metering pump, centrifugal pump, solenoid valve, etc.
- > It maintains a constant chemical injection to water flow ratio regardless of changes in the system flow rate or pressure.
- > Setpoint status icon indicates when chemical is being injected.
- > Total number of injections (batches) is recorded and displayed.
- When purchased as a Flowmeter & Pump System Kit, the system is factory wired and tested for easy installation.
- Hundreds of Flowmeter and pump combinations from which to choose.

### **MODEL PC SYSTEM APPLICATIONS**

- Water treatment and conditioning.
- > Wastewater treatment.
- Biocide feed.

- Rural water well systems.
- Cooling tower & boiler treatment.

- Fertilizer and nutrient injection.

### How to Build Your System

### SELECT YOUR F-2000-PC FLOWMETER:

Each F-2000 flowmeter is designed specifically for use on the intended pipe size and operating flow range. Contact the factory for assistance in specifying the correct model for your application.

### THE MODEL F-2000-PC FEATURES THE FOLLOWING OPTIONS:

- > Models with flow ranges from .4 to 8000 gallons per minute.
- > Pipe sizes from 3/8" through 12".
- > Pipe fitting styles include:
  - Injection molded inline units with MPT end connectors. 3/8" 2" pipe. · Machined inline units with FPT end connectors and union adapters.
    - 3/8" 2" pipe.
  - Saddle mount units from 1-1/2" 12" pipe.
  - PVC solvent weld tee fittings from 1" 3"
- Display mounting options include:
  - · On-sensor mounting.
  - Remote panel mounting (1/4 DIN opening)
  - Remote pipe or wall mounting.
- > Power options include 115Vac, 220Vac, 230Vac, 16-24V DC.
- > Calibration unit options:
  - · Gallons, liters, cubic meters, acre feet, imperial gallons, or custom units.

### 2 SELECT YOUR METERING PUMP:

Virtually any metering pump can be used for your Proportional Feed System. For diaphragm pump applications, we recommend the CHEM-FEED® C-1500N Series. For peristaltic pump applications, we recommend the FLEXFLO A-100N Series. Contact the factory for assistance in specifying the best model for your application.

### **OPTION 1: CHEM-FEED® C-1500N DIAPHRAM PUMP**

- Standard Models feature a quick adjusting, high accuracy mechanical stroke length feed control allowing you to easily fine tune your system.
- Superior pump head design.
- > All ball bearing gear motor for smooth, powerful operation.
- > Voltage options 115Vac, 220Vac, 230Vac, 24Vac.
- Pump head configuration and material options.
- Field serviceable.
- > Efficient, dependable design each unit is factory tested.
- > Can be purchased as the Star System<sup>®</sup> Tank System.

### **OPTION 2: FLEXFLO® A-100N PERISTALTIC PUMP**

- > Self priming, even against line pressure.
- > No valves in the pump head to clog or clean.
- Great for slurries.
- Patented Tube Failure Detection System (TFD).
- > De-gassing design eliminates gas or air accumulation in the pump head.
- > Output amount is not effected by changes in back pressure.
- > Voltage options: 115Vac, 220Vac, 230Vac.
- Can be purchased as the Star III<sup>®</sup> Tank System.

### **13** CONTACT THE FACTORY:

Our sales staff can assist you in selecting the exact flowmeter and pump models to meet your application requirements. The flowmeter and pump will be pre-wired and factory tested to ensure a high quality, no-hassle installation.

### **OPTION 2 - A-100N PERISTALTIC PUMP SYSTEM**

**OPTION 1 - C-1500N DIAPHRAGM PUMP SYSTEM** 

F-2000 FLOWMETER MODEL NUMBER: PCS11MP2GM2-7

C-1500N PUMP MODEL NUMBER: C15N402Z000V00

(Model Shown: Star-7. Tank sold separately)

F-2000 FLOWMETER MODEL NUMBER: PCP120K8GM1-ZW A-100N PUMP MODEL NUMBER: A1N10A-6T

(Model Shown: Star3-30. Tank sold separately)

# **ACRYLIC** VARIABLE AREA FLOWMETERS The F-400 SERIES of In-Line Units

## **F-400N**

### **F-400N BENEFITS**

- > Tough machined acrylic meter body, highly polished to a clear finish.
- Direct reading permanent scale.
- > White back reflector for easy reading.
- > Sturdy adapters with high grade FKM o-ring seals.
- > Standard models #316 stainless steel float guide rods. (Optional K-series hastelloy C-276).
- Standard models #316 stainless steel, PVDF, PTFE float. (Optional K-series hastelloy C-276, PVDF, PTFE).
- > Acceptable in direct sunlight applications.
- > Available OEM options: Private labeling, custom calibrations, custom materials.

### **F-400N SPECIFICATIONS**

PIPE SIZES

**FLOW RATES** 

0.025 to 5 GPM 0.1 to 20 LPM

0.2 to 20 SCFM

0.4 to 34 M3HR

DIMENSIONS

Height: 8-3/16"

Width: 1-1/4"

1/4", 3/8" and 1/2" F/NPT

Max. Working Pressure ...... 150 psig (10.3 bar) @ 70° F (21° C) Max. Fluid Temperature..... Polypropylene adapters: 150° F (65° C) @ 0 PSI Full scale accuracy. +/-5%0-ring seals. ..FKM (optional EP) Approximate shipping wt... 1/2 lb. (.23 kg) NIST certificates optional 400N

### F-400N

LPI

F-420N



			EMP		TUF	_
	270'F (132'C)					
	230'F (110'C) 190'F (88'C)					
TEMPERATURE	150'F (65'C)	POL				
TEN	110'F (43'C)		PROP	LENE	UNITS	
	70°F (21°C)				-w/TS	-
	(11.0)				0 11 (nsia)	

### F-420N

### **F-420N BENEFITS**

- Tough machined acrylic meter body, highly polished to a clear finish.
- Direct reading permanent scale.
- > White back reflector for easy reading.
- > Sturdy adapters with high grade FKM o-ring seals. > Standard models #316 stainless steel float guide rods. (Optional K-series hastelloy C-276).
- Acceptable in direct sunlight applications.
- > Available OEM options: Private labeling, custom calibrations, custom materials.

### **F-420N SPECIFICATIONS**

Max. Working Pressure ...... 130 psig (8.9 bar) @ 70° F (21° C) Max. Fluid Temperature..... 130° F (54° C) @ 0 PSI .. +/- 5% Full scale accuracy. Meter body material . Machined acrylic O-ring seals.....FKM (optional EP) Approximate shipping wt... 2 lb. (.91 kg) 0-ring seals. NIST certificates optional F-420N

**PIPE SIZES** 1" and 1-1/2" M/NPT

**FLOW RATES** 5 to 50 USGPM 20 to 200 LPM

DIMENSIONS Height: 12" Width: 2"

TEMPERATURE VS. PRESSURE						
270'F (132'C)						
230'F (110'C) 190'F (88'C)						
150°F (65°C)						
110°F (43°C)						
70'F (21'C)						
, i		IO E STATIC PI			20	1

### **F-410N BENEFITS**

**F-410N** 

- > Tough machined acrylic meter body, highly polished to a clear finish.
- Direct reading permanent scale.
- > White back reflector for easy reading.
- Sturdy adapters with high grade FKM o-ring seals.
- Standard models #316 stainless steel float guide rods. > (Optional K-series hastelloy C-276).
- Standard models #316 stainless steel or PVC float. (Optional K-series hastelloy C-276 or PVC).
- Acceptable in direct sunlight applications. > Available OEM options: Private labeling, custom calibrations, custom materials.

### **F-410N SPECIFICATIONS**

#### Max. Working Pressure ...... 150 psig (10.3 bar) @ 70° F (21° C) Max. Fluid Temperature...... 316 SS and Hastelloy Floats: 150° F (65° C) @ 0 PSI

ШE

110°E (4

70°F (21°

PVC floats:120° F (49° C) @ 0 PSI Full scale accuracy. +/- 5% Meter body material ...... Machined acrylic

O-ring seals Approximate shipping wt... 2 lb. (.91 kg) NIST certificates optional

### **PIPE SIZES**

3/4" and 1" F/NPT **FLOW RATES** 1 to 20 USGPM 4 to 80 LPM

4 to 80 SCFM 8 to 140 M3HR DIMENSIONS

### F-430N

### **F-430N BENEFITS**

- Tough machined acrylic meter body, highly polished to a clear finish.
- Direct reading permanent scale. ≻
- White back reflector for easy reading. >
- Sturdy adapters with high grade FKM o-ring seals. Standard models #316 stainless steel float guide rods. > (Optional K-series hastelloy C-276).
- Acceptable in direct sunlight applications.
- > Available OEM options: Private labeling, custom calibrations, custom materials.
- Optional Polypropylene and CPVC Adapters available.

230°F (110

190°E /8

150°E (65

110°E (4

70°F (21°C)

30 60 90 STATIC PRESSURE (p.s.i.g

12

### **F-430N SPECIFICATIONS**

Max. Working Pressure ...... 130 psig (8.9 bar) @ 70° F (21° C) Max. Fluid Temperature..... 130° F (54° C) @ 0 PSI ......+/- 5% ......Machined acrylic Full scale accuracy. Meter body material ... O-ring seals. ..FKM (optional EP) F-430N Approximate shipping wt...6 lb. (2.7 kg) NIST certificates optional TEMPERATURE **VS. PRESSURE PIPE SIZES** 270°F (132

### 1-1/2" M/NPT and 2" F/NPT

**FLOW RATES** 4 to 100 USGPM 15 to 375 LPM

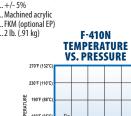
### DIMENSIONS

Height: 14" Width: 3"



**F-410N** 





120

Height: 11" Width: 1-3/4"

# F-550 SERIES Machined Panel Mount Meter



**F-550 BENEFITS** 

- Durable, highly polished, one piece machined meter body.
  - #316 Stainless Steel floats and float guides.
- > Sturdy adapters with FKM O-ring seals. EP O-rings optional.
- > Bulkhead nuts attach directly to inside panel.
- > Separate mounting screws are not required.
- Optional Adjustable Flow Control Valve (F-550A ≻ only) easy to disassemble. No special tool required, ALL FIELD REPLACEABLE.
- Acceptable in direct sunlight applications.

### **F-550 SPECIFICATIONS**

	250 psig (17.2 Bar) @70°F (21°C)
Temperature	200°F (93°C) @ 0 pressure
Full Scale Accuracy	±5%
Meter Body Material	Machined acrylic
Adapter Material	Polypropylené
0-rings	FKM (Optional EP)
Float Material	
Approximate Shipping	Wt., 2 lbs. (.907 kg.)

### **F-550 ORDERING GUIDELINES**

with NON-ADIJISTARI F & ADJISTARI F Valves

WILLI NON-AD	JUSTABLE & ADU	JINDLE VO	ives	
MODEL	CALIBRATIO	N A	DAPTER	FLOAT
NUMBER	GPM	LPM	SIZE	MATERIAL
F-55250L(*)	0.025 to 0.250	0.1 to 1	1/4" M/NP	F #316 SS
F-55375L(*)	0.1 to 1	0.4 to 4	3/8" M/NP1	#316 SS
F-55375L(*)-B	RB 0.1 to 1	0.4 to 4	1/2" BARB	#316 SS
F-55376L(*)	0.2 to 2	0.75 to 7.5	3/8" M/NP1	#316 SS
SSF-55376L(*)	-BRB 0.2 to 2	0.75 to 7.5	1/2" BARB	#316 SS
F-55500L(*)	0.5 to 5	2 to 20	1/2" M/NP1	#316 SS
F-55500L(*)-B	RB 0.5 to 5	2 to 20	1/2" BARB	#316 SS
F-55750L(*)	1 to 10	4 to 40	3/4" M/NP1	#316 SS
F-55005L	1 to 5	3 to 18	1" M/NPT	PTFE
F-55010L(*)	1 to 10	4 to 40	1" M/NPT	#316 SS
F-55015L(*)	1 to 15	5 to 60	1" M/NPT	#316 SS
F-55200L(*)	2 to 20	7.5 to 75	1" M/NPT	#316 SS
MODEL OPTIO	NS			

F-55250L (1/4") 7-1/4' 2-1/2 11/16 5-5/8' 1-1/4' 9/16" F-55375L (3/8" 8-3/8' 2-3/4 1-11/32" 6-1/2' 1-1/2" 1-1/16 F-55376L (3/8" 8-3/8 2-3/4 1-11/32 6-1/2 1-1/2 1-1/16 F-55500L (1/2") 8-3/8 2-3/4 6-1/2 1-1/2 1-11/32 7/8' 1-1/16" F-55750L (3/4") 9' 3-3/4 1-1/2 6-1/2" 1-3/4" F-55200L (1") 10-5/8' 4" 1-3/4 2" 12-1/64" 8' **F-550 ADJUSTABLE DIMENSIONS** Model Number A R D F F ( F-55250LA (1/4") 7-1/4' 3-7/16 5-5/8' 2-7/16 1-11/32" F-55375LA (3/8" 1-11/32" 8-3/8' 4-1/2' 6-1/2' 3-1/4' 1-3/4" F-55376LA (3/8" 8-3/8' 4-1/2 1-11/32 6-1/2 3-1/4 1-3/4 3-1/4" F-55500LA (1/2") 1-3/4' 4-1/2 1-11/32 6-1/2 8-3/8

(

1-1/2"

1-3/4"

Note: Mount Hole Dimensions are the same as the Model Non-Adjustable

5-1/2

5-1/4'

**9**"

10-5/8"

Blue-White

F-300

LPM

350

300

250

200

150

100

GPM

100

80

60

40

20

1.5"105

**Read Float at** 

So. Gr. 1.

FLOW

Now with IMPROVED

ACCURACY

**F-550 NON-ADJUSTABLE DIMENSIONS** 

В

Α

Model Number

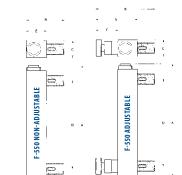
F-55750LA (3/4"

F-55200LA (1")

**PIPE SIZES** 1/4", 3/8, 1/2", 3/4" and 1" M/NPT

**FLOW RATES** 0.025 to 20 GPM 0.1 to 75 LPM

0.1 to 45 SCFM



D

6-1/2"

8"

Ε

3-1/4"

3-1/2"

Blue-White

U-300

LPM

350

300

250

200

150

100

FLOW

GPM

100

60

Mount Hole

1-5/16'

1-7/16'

(\*) To order with Flow Adjustment Valve add the letter "A" after the "1" in the model number Model #F-55005L is not available with Adjustment Valve. For optional hastelloy internals, add letter "K" to model number

F-550

Series

1/2" Barb Hose

### 1/2" BARB FITTINGS for the F-550

**F-300 IMPROVEMENTS** 

spot" installations.

> NSF Listing in Progress.

**I.P.S. PIPE SIZES** 

1", 1-1/4", 1-1/2", 2",

2-1/2", 3", 4", 6", 8"

**FLOW RATES** 

20 to 7200 LPM

5 to 1900 U.S. GPM

No more Float "Bounce".

> Same great design and styling.

> 1-1/2" and 2" pipe sizes now have

Shorter pipe runs required for "tight

improved accuracy of +/- 5% to meet

tougher Health Department requirements.



## **F-300 SERIES** Machined Acrylic Flowmeters

Bulkhead Nut (Attached directly to inside panel)

### **F-300 BENEFITS**

F-550A with **Integral Flow** 

Adjustment Valve

- > Well suited for closed pipe installation.
- Easy to read dual scale (GPM/LPM), screen printed on both sides of the meter body.
- Horizontal or Vertical pipe installation. One piece machined acrylic meter body.
- > Corrosion resistant internal parts.
- > Calibrated pitot tube.
- ≻
- Ships with gasket seal and mounting clamps. > Calibrated for use on PVC or Copper Pipe.
- Low Flow units offered.

### **F-300 SPECIFICATIONS**

Max. Working Pressure ...... 150 psig (10.3 bar) @ 70°F (21°C) Max. Fluid Temperature..... 190°F (88°C) @ 0 pressure Full Scale Accuracy. .±5% Meter Body Material Acrylic Connection Type.. . Saɗdle Float Material #316 SS or PTFE (low flow units) Gaskett Material . Neoprene Max. Pressure Drop. ....0 psi

Approx. Shipping Weight... 1" to 4" Pipe: 1 lbs. (.454 kg.); 6" to 8" Pipe: 2 lbs. (.907 kg.)

### F-300



# **POLYSULFONE** VARIABLE AREA FLOWMETERS F-440 SERIES Compact Size. Big Performance.

### **F-440 BENEFITS**

- Now with Adjustable Flow Indicating Marker.
- Increased meter body wall thickness.
- > Enginneered with large half union connections.
- > Oversized o-rings for Superior seal.
- > All wetted parts are now PVDF or Polypropylene. Tough Polysulfone meter body resists high temperatures and pressures.\*
- Compact size for tight installation spaces.
- > 2" scale length (approximate).
- > Direct reading permanent scale.
- > In-line or Panel mount configurations available.
- > Optional Integral Flow Adjustment Valve.
- Available OEM options: Private labeling, custom calibrations, custom materials.
- Standard models have #316 Stainless Steel, PTFE or PVC float. (Optional K-series Hastelloy C-276 or PVC).
- Not recommended for direct sunlight.
- Solarmeter<sup>®</sup> units available with in-line Brass adapters. Contact factory for more information.

### **F-440 SPECIFICATIONS**

Blue-Whit

E 450

F-45750L-12 IN-LINE UNIT

L PM

Max. Working Pressure ...... 175 psig (10.3 bar) @ 70°F (21°C) Max. Fluid Temperature Standard Models.....

- Solarmeter<sup>®</sup> Models...... 240°F (115°C) @ 0 PSI Full Scale Accuracy .. +/-4% Meter Body Material. .Polysulfone Adapter Material .... . Polysulfone O-Ring Material .FKM
- .212°F (100°C) @ 0 PSI

F .50

LPN

GPM

F-45750LE-12 PANEL MOUNT

Approx. Shipping Weight.... 1/2lb. (.23 kg)

### **F-440 ORDERING GUIDELINES**

MODEL	Pipe Size	DUAL SCA		Float
NUMBER	M/NPT	GPM	LPM	Material
F-44250(*)-6	3/8"	.025 to .250	0.1 to 1.0	PVDF
F-44250(*)-8	1/2"	.025 to .250	0.1 to 1.0	PVDF
F-44375(*)-6	3/8"	0.1 to 1.0	0.4 to 4.0	316 SS
F-44375(*)-8	1/2"	0.1 to 1.0	0.4 to 4.0	316 SS
F-44376(*)-6	3/8"	0.2 to 2.0	0.8 to 8.0	316 SS
F-44376(*)-8	1/2"	0.2 to 2.0	0.8 to 8.0	316 SS
F-44500(*)-6	3/8"	0.5 to 5.0	1.8 to 18.0	316 SS
F-44500(*)-8	1/2"	0.5 to 5.0	1.8 to 18.0	316 SS
F-44750(*)-8	1/2"	1.0 to 10.0	5.0 to 37.5	316 SS
F-44750(*)-12	3/4"	1.0 to 10.0	5.0 to 37.5	316 SS
		GPH	LPH	
F-44330(*)-6	3/8"	3.0 to 30.0	10 to 110	PTFE
F-44330(*)-8	1/2"	3.0 to 30.0	10 to 110	PTFE
F-44560(*)-6	3/8"	5.0 to 60.0	20 to 220	316 SS
F-44560(*)-8	1/2"	5.0 to 60.0	20 to 220	316 SS

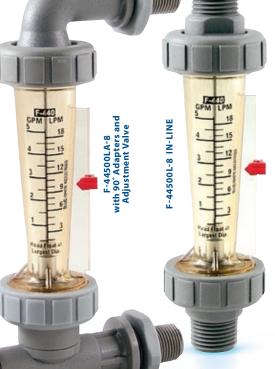
**MODEL Variations** 

\*L = In-Line Model is listed \*LE = Panel Mount Model \*LA = Adjustable Model

\*LK = In-Line K-Series - specially equipped units for liquid (highly corrosive) \*LKE = Panel Mount K-Series

Standard Models: 3/8" F/NPT: 1/2", 3/4" M/NPT Solarmeter<sup>®</sup> Models: 3/8" F/NPT, 1/2" or 3/4" M/NPT, and 1/2" or 3/4" SWEAT in-line fittings

0.025 to 10 U.S. GPM 0.1 to 37.5 LPM 3 to 60 GPH 10 to 220 LPH



# **F-450N SERIES** Performance and Versatility

### **F-450N BENEFITS**

- > Now with Adjustable Flow Indicating Marker.
- Increased meter body wall thickness.
- Enginneered with large half union connections.
- Oversized o-rings for Superior seal.
- All wetted parts are now PVDF or Polypropylene. Tough Polysulfone meter body resists high temperatures and pressures.\*
- 4" approximate scale length for easy reading.
- > Direct reading permanent scale.
- > In-line or Panel mount configurations available.
- > Optional integral flow adjustment valve.
- Standard models have #316 Stainless Steel or PTFE float. (Optional K-series Hastelloy C-276 or PTFE).
- Available OEM options: Private labeling, custom calibrations, custom materials.
- > Not recommended for direct sunlight.
  - Solarmeter® units available with in-line Brass adapters. Contact factory for additional information.

### **F-450N SPECIFICATIONS**

Max. Working Pressure ...... 175 psig (10.3 bar) @ 70°F (21°C)

Max. Fluid Temperature	
Standard Models	. 212°F (100°C) @ 0 PSI
Solarmeter <sup>®</sup> Models	. 240°F (115°C) @ 0 PSI
Full Scale Accuracy	+/-4%
Meter Body Material	. Polysulfone
Adapter Material	. Polysulfone
0-Ring Material	.FKM (Optional EP)
Max. Pressure Drop	. 2 psi
Approx. Shipping Weight	. 1/2lb. (.23 kg)

### **F-450N ORDERING GUIDELINES**

STANDARD LI				
MODEL NUMBER	Pipe Size	GPM	LE RANGE	Float Materia
F-45375(*)-6		.1 to 1	.4 to 4	PTFE
F-45375(*)-8		.1 to 1	.4 to 4	PTFE
F-45376(*)-6		.2 to 2	1 to 7.5	316 55
F-45376(*)-8		.2 to 2	1 to 7.5	316 55
F-45500(*)-6		.5 to 5	2 to 20	316 55
F-45500(*)-8		.5 to 5	2 to 20	316 SS
F-45500(*)-12	3/4" M/NPT	.5 to 5	2 to 20	316 SS
F-45750(*)-12	3/4" M/NPT	1 to 10	4 to 40	316 SS
STANDARD AI	R MODELS			
MODEL	Pipe	DUAL SCA	LE RANGE	Float
NUMBER	Size	GPM	LPM	Materia
F-45376G-6	3/8" F/NPT	1 to 12	2 to 20	316 SS
F-45376G-8	1/2" M/NPT	1 to 12	2 to 20	316 SS
F-45750G-12	3/4" M/NPT	4 to 48	8 to 80	316 SS
MODEL Variatio	ons			
*L = In-Line Mo	odel is listed	*LK = In	-Line K-Series - s	pecially
*LE = Panel Mo			uipped units for	liquid
*LA = Adjustab	le Model		ghly corrosive)	
			anel Mount K-Se	
		*LKA = A	diustable K-Seri	es

Standard Models: 3/8" F/NPT; 1/2", 3/4" M/NPT Solarmeter® Models: 1/2", 3/4" M/NPT; 1/2", 3/4" SWEAT in-line only.

#### **FLOW RATES** 0.1 to 10 U.S. GPM

4 to 40 I PM 1 to 48 SCFM 2 to 80 M3/Hr

**PIPE SIZES** 

≻

\*LKA = Adjustable K-Series **PIPE SIZES** 

**FLOW RATES** 

# F-460 & F-461 SERIES For Ultra Pure & Corrosive Environments

### F-460 & F-461 BENEFITS

- Polysulfone meter body with precisely engineered float guide ribs.
- No metal in the fluid path.
- Direct reading permanent scale.
- Ideal for corrosive environments\* such as Deionized Water or other applications where an all plastic meter is desirable.
- Available OEM options: Private labeling, special calibrations and ≻ alternate materials.
- Not recommended for direct sunlight.

### F-460 & F-461 SPECIFICATIONS

Max. Working Pressure ...... 150 psig (10.3 bar) @ 70°F (21°C) Max. Fluid Temperature...... PVDF adapters: 210°F (98°C) @ 0 PSI, PVC adapters:130°F (54°C) @ 0 PSI Full Scale Accuracy ...... +/- 2-1/2%

**F-461 PIPE SIZES** 

1" FNPT and 1" Socket Fusion

**F-461 FLOW RATES** 

**F-461 DIMENSIONS** 

1 to 35 U.S. GPM 4 to 130 LPM

Height: 15" Width: 2-3/4"

Meter Body Materia	IPolysulfone
Float Material	PTÉE
O-ring Seals	FKM

Max. Pressure Drop ...... 2 psi

Approx. Shipping Weight.... F-460 = 1 lb. (.45 kg), F-461 = 3 lb. (1.4 kg)

### **F-460 PIPE SIZES**

1/2" and 3/4" F/NPT 1/2" and 3/4" Socket Fusion

**F-460 FLOW RATES** 0.1 to 5.0 U.S. GPM 0.4 to 20 LPM

**F-460 DIMENSIONS** Height: 10

- Width: 1-3/4" Optional
- Butt Fusion & Socket Fusion Fittings

Available for F-460, F-461, and F-462 Polypropylene or PVDF Butt Fusion & Socket Fusion Fittings for ULTRA PURE APPLICATIONS

### F-462 with Rib Guided Float High Capacity. Top Performance.

STANDARD F-462 LIQUID MODELS with 2" F/NPT Adapters

GPM

2 to 20

5 to 50

8 to 80

STANDARD F-462 LIQUID MODELS with 2"Socket Fusion Adapters DUAL SCALE RANGE

GPM

2 to 20

5 to 50

8 to 80

2 to 20

5 to 50

8 to 80

STANDARD F-462 LIQUID MODELS with 63mm Butt Fusion Adapters DUAL SCALE RANGE GPM LPM

DUAL SCALE RANGE

LPM

8 to 80

20 to 200

30 to 300

LPM

8 to 80

20 to 200

30 to 300

8 to 80

Float

Material

PTFF

PTFE

PTFE

Float

Material

PTFE

PTFF

PTFE

PTFF

PTFE

PTFE

Float

Material

PTFE

PTFE

PTFF

PTFE

PTFE

PTFF

Adapte

Material

Polysulfone

Polysulfone

Polysulfone

Adapter

Material

Polypropylene

PVDF

PVDF

Adapter Material

Polypropylene

PVDF

PVDF

PVDF

20 to 200 Polypropylene

30 to 300 Polypropylene 8 to 80 PVDF

**F-462 ORDERING GUIDELINES** 

Pipe

Size

Pipe

Size

2" S.F.

2" S.F.

2" S.F.

2" S.F.

2" S.F.

2" S.F.

Pipe Size

F-462200LX-32H 2" F/NPT

F-462500LX-32H 2" F/NPT

F-462800LX-32H 2" F/NPT

NUMBER

MODEL

MODEL NUMBER

NUMBER

F-462200LX-33G

F-462500LX-33G

F-462800LX-33G

F-4622001 X-33K

F-462500LX-33K

F-462800LX-33K

### **F-462 BENEFITS**

F-461

> Polysulfone meter body with precisely engineered float guide ribs. No metal in the fluid path.

NO METALS

in the Fluid

PATH

e-Whit

F-460

F-460

Blue-White

F-461

GPM

LPN

75

70

65 60

55

50

40

- > Direct reading permanent scale. Ideal for corrosive environments\*
- such as Deionized Water or other applications where an all plastic meter is desirable.
- Available OEM options: Private labeling, special calibrations and alternate materials.
- Not recommended for direct sunlight.

### **F-462 SPECIFICATIONS**

Max. Working Pressure	150 psig (10.3 bar) @ 70°F (21°C)
Max. Fluid Temperature	
Full Scale Accuracy	+/- 2-1/2%
Meter Body Material	Polysulfone
Float Material	PTÉE
O-ring Seals	FKM (Optional EP)
Max. Pressure Drop	2 psi
Approx. Shipping Weight	5 İb. (2.27 kg)

PIPE SIZES	DIMENSIONS
2" F/NPT, 2" Socket Fusion,	Height: 18-7/8"
63mm Butt Fusion	Width: 4-5/8"

**FLOW RATES** 



#### F-462200LX-34G 63mm B.F. 2 to 20 F-462500LX-34G 63mm B.F. 5 to 50 20 to 200 Polypropylene E-462800LX-34G 63mm B F 8 to 80 30 to 300 Polypropylene F-462200LX-34K 63mm B.F. 2 to 20 8 to 80 F-462500LX-34K 63mm B.F. 5 to 50 20 to 200 F-462800LX-34K 63mm B.F. 8 to 80 30 to 300

### MODEL Variations

Polycarbonate shield = add the letter "C" to the end of the model number. PVC Union Nuts = replace "X" with "P

#### F-460 & F-461 ORDERING GUIDELINES \_\_\_\_ .

STANDARD F-460	LIQUIDI	MODELS with F/N	IPT Adapters
NODEL	Pipe	DUAL SCAL	E RANGE
NUMBER	Size	GPM	LPM
-46010LX-08(*)	1/2"	0.1 to 1.2	0.4 to 4.4
-46010LX-12(*)	3/4"	0.1 to 1.2	0.4 to 4.4
-46020LX-08(*)	1/2"	0.2 to 2.0	0.8 to 8.0
-46020LX-12(*)	3/4"	0.2 to 2.0	0.8 to 8.0
-46030LX-08(*)	1/2"	0.3 to 3.0	1.0 to 11
-46030LX-12(*)	3/4"	0.3 to 3.0	1.0 to 11
-46050LX-08(*)	1/2"	0.5 to 5.0	2.0 to 20
-46050LX-12(*)	3/4"	0.5 to 5.0	2.0 to 20
STANDARD F-461		MODELS with F/N	IPT Adapters
NODEL	Pipe	DUAL SCAL	
		6014	

NUMBER	Size	GPM	LPM
F-461100LX-16(*)	1"	1 to 10	to 40
F-461200LX-16(*)	1"	2 to 20	5 to 75
F-461300LX-16(*)	1"	3 to 35	12 to 130

### **MODEL Variations**

\*P = PVC Adapter \*K = PVDF Adapter

PVC Union Nuts = replace "X" with "P"





# F-451 SERIES Quality. Versatility.

**PIPE SIZES** 

### **F-451 BENEFITS**

- > A Heat and Chemical resistant meter body of injection molded Polysulfone.\*
- > Floats are #316 S.S. or PTFE, depending on calibration.
- > Many calibrations are offered in GPM, LPM, SCFM and M<sup>3</sup>/hr.
- > Permanent, easy to read screen printed scales.
- > 1" F/NPT Polysulfone adapters, or 1-1/2" PVC adapters (depending on model ordered).
- > FKM O-ring Seals, Optional EP.
- > Accuracy ± 3%.

- > May be ordered with 90° elbow adapters.
- > Available with 1" brass sweat or brass F/NPT adapters.
- Available with Polycarbonate Protective Shield.
- > Not recommended for direct sunlight applications.

### **F-451 ORDERING GUIDELINES**

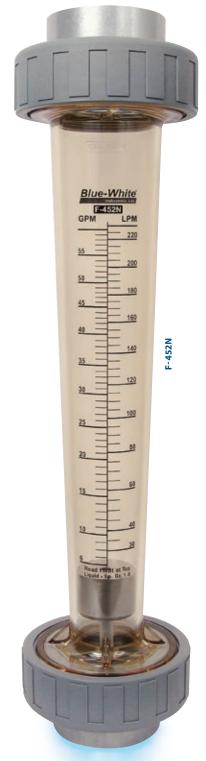
I TJI VNDEI			9	
MODEL	CALIBF	ATION	ADAPTER	1", 1-1/2" F/NPT
NUMBER	GPM	LPM	SIZE	Brass: 1" F/NPT or Sweat
F-451006LHN	0.5 to 6	to 22	1" F/NPT	<b>FLOW RATES</b>
F-451001LHN	1.0 to 10	4 to 40	1" F/NPT	0.5 to 40 GPM
F-451002LHN	2.0 to 20	7.5 to 75	1" F/NPT	2 to 155 LPM
F-451003LHN	3.0 to 30	12 to 115	1" F/NPT	4 to 80 SCFM
F-451004LHN	4.0 to 40	15 to 155	1" F/NPT	7 to 140 M <sup>3</sup> /hr
1-1/2" F/NPT PVC				DIMENSIONS
MODEL	CALIBF	ATION	ADAPTER	Height: 14-1/2"
NUMBER	GPM	LPM	SIZE	
F-451006LHN-24	0 5 to 6	to 22	1-1/2" F/NPT	Width: 3-5/16"

MODEL	CALIBRATION		ADAPTER	
NUMBER	GPM	LPM	SIZE	
F-451006LHN-24	0.5 to 6	to 22	1-1/2" F/NPT	
F-451001LHN-24	1.0 to 10	4 to 40	1-1/2" F/NPT	
F-451002LHN-24	2.0 to 20	7.5 to 75	1-1/2" F/NPT	
F-451003LHN-24	3.0 to 30	12 to 115	1-1/2" F/NPT	
F-451004LHN-24	4.0 to 40	15 to 155	1-1/2" F/NPT	
Models calibrate	d for Air			

Models calibrated for Air						
MODEL	CALIBI	ADAPTER				
NUMBER	GPM	LPM	SIZE			
F-451001GHN	4 to 40	7 to 70	1" F/NPT			
F-451001GHN-24	4 to 40	7 to 70	1-1/2" F/NPT			
F-451002GHN	8 to 80	14 to 140	1" F/NPT			
F-451002GHN-24	8 to 80	14 to 140	1-1/2" F/NPT			

### **F-451 SPECIFICATIONS**

Max. Working Pressure	. 150 psi (10 Bar) @ 70°F (21°C)
Max. Fluid Temperature	Polysulfone adapters: 212°F
	(100°C) @ 0 PSI.
	PVC adapters:130°F (54°C) @ 0 PSI
Full Scale Accuracy	. ± 3%
Meter Body Material	
Adapter Material	. 1" Polysulfone & 1 1/2" PVC
0-Rings	FKM (Optional EP)
Float Material	.#316 SS, Hastelloy C or PTFE,
	depending on calibration.
Max. Pressure Drop	. 2 psi
Approx. Shipping Weight	. 3 lbs. (1.36 kg.)



# F-452N SERIES High Capacity.

### **F-452N BENEFITS**

- One piece Polysulfone meter body resists high temperatures and pressures.\*
- 316 Stainless Steel or Hastelloy rod guided float.
- Direct reading permanent scale.
- > Adapters and unions engineered for maximum protection from misalignment and vibration.
- > Optional Polycarbonate Protective Shield.
- > Available OEM options: Private labeling, custom calibrations and custom materials.
- > Not recommended for direct sunlight.

### **F-452N SPECIFICATIONS**

Max. Working Pressure	150 psig (10.3 bar) @ 70° F (21° C)
Max. Fluid Temperature	200°F (93°C) @ 0 PSI
Full Scale Accuracy	+/-2%
Meter Body Material	Polysulfone
Union Nuts	. Glass fiber reinforced Nylon
Guide Rod Material	316 Stainless Steel
	Options: Hastelloy C-276
0-Ring Material	FKM (Optional EP)
Max. Pressure Drop	2 psi
Approx Shipping Weight	

арр npp **PIPE SIZES** 

#### DIMENSIONS Height: 18-7/8"

2" F/NPT **FLOW RATES** 

2 to 175 U.S. GPM 8 to 675 LPM 4 to 240 SCEM 7 to 400 M<sup>3</sup>/hr

MODEL NUMBER	DUAL SCALE RANGE GPM LPM		ADAPTER SIZE		
F-452020LHN	2 to 20	8 to 78	2" F/NPT		
F-452060LHN	6 to 60	30 to 230	2" F/NPT		
F-452080LHN	8 to 80	40 to 300	2" F/NPT		
F-452100LHN	6 to 100	20 to 380	2" F/NPT		
F-452130LHN	20 to 130	80 to 500	2" F/NPT		
F-452175LHN	25 to 175	100 to 675	2" F/NPT		
Models calibrat	ed for Air				
MODEL	DUAL SCA	LE RANGE	ADAPTER		
NUMBER	SCFM	M3/hr	SIZE		

E-452 ORDERING GUIDELINES

MODEL	DUAL SCALE RANGE		ADAPTER
NUMBER	SCFM	M3/hr	SIZE
F-452040GHN	4 to 40	7 to 67	2" F/NPT
F-452250GHN	40 to 240	70 to 400	2" F/NPT

Width: 4-5/8"

# BW DIGI-METER®

**PADDLEWHEEL FLOWMETERS** The BW DIGI-METER® is the meter of choice when your application requires an Innovative, Accurate and Versatile Digital Flowmeter.

## BW Spigi-METER F-1000 Paddlewheel Flowmeter

### Blue-White's carefully engineered BW DIGI-METER® F-1000 Series include premier features and provide outstanding performance.

Three versions of the BW DIGI-METER® F-1000 are offered. The F-1000RB Unit is a rate meter only; the F-1000TB Unit is a flow totalizer; and the F-1000RT Unit is both a Rate Meter and Flow Totalizer, BW DIGI-METERS are available with a number of configuration and mounting style options. If you don't see the unit that meets your requirements here, please contact our courteous and knowledgeable staff for assistance.

### **F-1000 BENEFITS**

- > Easy to read six digit LCD, up to four decimal positions.
- > Tamper proof.
- Battery operated (2 AAA batteries included).
- > Three model variations:
  - **RB** = RATE ONLY
    - **TB** = TOTAL ONLY
  - RT = RATE & TOTALIZER
- Total reset function can be disabled.
- Display update time: Rate 1.5 sec., Total 0.5 sec.
- > Factory calibrated nothing to program.
- > Custom calibration units available. Contact the factory.
- Weather resistant ABS enclosure. NEMA 4X
- > Calibration Units: GPM, LPM, m3/min, oz/min, GPH,LPH.
- LCD is not recommended for direct sunlight applications.

### **F-1000 SPECIFICATIONS**

### with Saddle Mount Body

Max. Working Pressure	300 psig (20 bar) @ 70° F (21° C)
Max. Fluid Temperature	200° F (93° C) @ 0 PSI (all PVDF saddle fittings)
-	140° F (60° C) @ 0 PSI (all PVC saddle fittings)
Note: Temperature rating of F-10	00 only. Actual pipe rating may vary.
Full scale accuracy	+/-2%
Saddle material	PVDF (1-1/2", 2", 3", 50mm, 63mm, 90mm sizes)
	PVC (all other sizes)
Sensor/Paddle/Axle material.	PVDF
O-ring seals	FKM (Optional EP)
Max. pressure drop	O psi (no significant drop)

### Approximate shipping wt......2 lb. (.91 kg) with Solvent TEE Body

Max. Working Pressure	
316 SS Tee fittings	300 psig (20 bar) @ 70° F (21° C)
PVC Tee fittings	200 psig (13.8 bar) @ 70° F (21° C)
Max. Fluid Temperature	
316 SS Tee fittings	200° F (93° C) @ 0 PSI
PVC Tee fittings	140° F (60° C) @ 0 PSI
Full scale accuracy	+/-2%
Tee material options	316 Stainless Steel, PVC
Body, Paddle, Axle material	PVDF
0-ring seals	FKM (Optional EP)
Max. pressure drop	0 psi (no significant drop)
Approximate shipping wt.	

### with Molded In-Line Body

Max. Working Pressure .... Max. Fluid Temperature ..200° F (93° C) @ 0 PSI Full scale accuracy... ...+/-2% Meter body material ..Polysulfone Sensor/Paddle/Axle material .... PVDF ..FKM (Optional EP) 0-ring seals... Max. pressure drop ... ....8 psi (varies per model) Approximate shipping wt. ...2 b. (.91 kg)

### with Machined In-Line Body

....300 psig (20 bar) @ 70° F (21° C) ....200° F (93° C) @ 0 PSI Max. Working Pressure ..... Max. Fluid Temperature.. .....+/- 2% Full scale accuracy...... Sensor/Paddle/Axle material .... PVDF ..FKM (Optional EP) O-ring seals.... Max. pressure drop ..8 psi (varies per model) Approximate shipping wt. .....5 lb. (2.31 kg)

**BW DIGI-METER®** F-1000 **OLVENT TEE BODY** 

**PIPE SIZES** 1" 1-1/2" 2" 3



**BW DIGI-METER® F-1000** 

WITH SADDLE MOUNT

**PIPE SIZES** 

1-1/2", 2", 2-1/2", 3", 4", 6", 8", 10", 12"

**BW DIGI-METER®** F-1000 WITH MOLDED IN-LINE BODY **PIPE SIZES** 1/4", 3/8", 1/2", 3/4", 1", 2" M/NPT



## BW COLOR F-2000 Paddlewheel Flowmeter

### The thoughtfully engineered BW DIGI-METER® F-2000 combine innovative features and benefits, and the finest materials of construction to provide an accurate and versatile Digital Flowmeter.

If you don't see the unit that matches your requirements listed here, please contact our courteous and knowledgeable staff for assistance

### FOUR MODEL VARIATIONS

- **RT** = Rate and Totalizer. Transformer or battery operated.
- **AO** = 4-20mA, 0-10 VDC analog output, flow rate & totalizer. Transformer operated.
- **PC** = Batch processing, flow rate alarm, proportional chemical metering, flow rate and totalizer. Transformer operated.
- **AP** = Analog output, batch processing, flow rate alarm, proportional chemical metering, flow rate and totalizer. Transformer operated.

### **F-2000 BENEFITS**

- > Easy to read 8 digit LCD, up to 4 decimal positions.
- Flow rate and Total flow display.
- AC/DC transformer or battery operated (RT models only).
   4 AA batteries.
- > Factory programmed with calibration certificate.
- > Field programmable via front panel touch pad.
- > Front panel security lockout.
- > Total reset function can be disabled.
- Weather resistant ABS enclosure. NEMA 4X. Note: LCD is not recommended for direct sunlight applications.
- > Panel mounting option available.
- > Custom calibration units available. Contact the factory.

#### BW DIGI-METER® F-2000 WITH MOLDED IN-LINE BODY PIPE SIZES 3/8", 1/2", 3/4", 1", 1-1/2", 2"

() BLUE-MATE' MOUSTRALE

F-2000



### F-2000 SPECIFICATIONS

### with Saddle Mount & Solvent TEE Body

mitti baaare moante a	
Max. Working Pressure	.300 psig (20 bar) @ 70°F (21°C)
Max. Fluid Temperature	.200°F (93°C) @ 0 PSI
	(all PVDF saddle fittings)
	.140°F (60°C) @ 0 PSI
	(all PVC saddles and TEE fittings)
Note: Temperatures rating of F-10	00 only. Actual pipe rating may vary.
Full Scale Accuracy	.+/-2%
Sensor/Paddle/Axle Material	.PVDF
O-ring Seals	.FKM
Max. Pressure Drop	.0 psi (no significant pressure drop)
Approx. Shipping Weight	.4lb. (1.8 kg)

### with Molded In-Line Body

### with Machined In-Line Body

BW DIGI-METER\* F-2000 WITH SOLVENT TEE BODY PIPE SIZES 1", 1-1/2", 2", 3"

BW DIGI-METER® F-2000 WITH MACHINED IN-LINE BODY PIPE SIZES 3/8", 1/2", 3/4", 1", 1-1/2", 2" F/NPT

# BW COLORIANETER F-2000 Flow Monitoring System

### BW DIGI-METER® F-2000 Series electronic insertion style flowmeters, are well suited for monitoring flow in municipal water and wastewater applications.

The clamp on saddle fitting and insertion sensor is quickly installed on IPS (ASTM-D-1785) pipe sizes from 1-1/2" through 12" and metric (DIN 8062) pipe sizes from 50mm through 315mm. The electronic display and communication enclosure can be mounted directly to the sensor, or remotely mounted to a pipe or panel.

Standard F-2000 models display flow rate and accumulated total flow, and include an NPN open collector output for communication with data loggers, SCADA systems, and other external devices. For additional information and assistance, please contact the factory.





BW DIGIMETER® F-2000 FLOW MONITORING SYSTEM

# BW COLORIANETER F-2000 with Digital Hall Effect Output Signal

### **F-2000 BENEFITS**

- > TTL/CMOS compatible, current sinking output signal.
- > Optional AC sine wave output sensor available.
- One mile signal range without boosters.
- > NEMA 4X rated.

### **F-2000 SPECIFICATIONS**

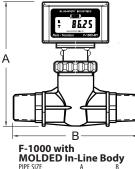
Max. Working Pressure .......300 psig (20 bar) @ 70°F (21°C) Max. Fluid Temperature.......300 [93°C) @ 0 FSI (In-Line Polypro and PVDF saddles) 140°F (60°C) @ 0 PSI (PVC saddles and TEE fittings) Note: Temperatures rating of F-2000 only. Actual pipe rating may vary. Power Requirements .......FH: 6-24 VDC, AC/DC tranformer sold separately. FC: None Full Scale Accuracy ........+/- 1% Sensor/Paddle/Axle Material PVDF O-ring Seals ..........FKM (Optional EP) Approx. Shipping Weight.....2 lb. (0.9 kg)

SADDLE FITTING

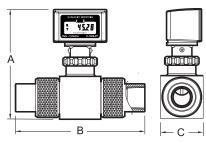
MOLDED FITTING

MACHINED FITTING

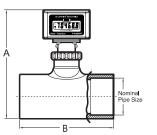
# BW COLOR F-1000 & F-2000 Dimensions



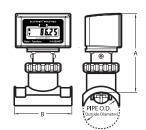
MOLDED	In-Line	Body
PIPE SIZE	A	В
3/8" MPT	5-3/8"	4-3/4"
1/2" MPT	5-3/8"	5-1/8"
3/4" MPT	5-3/8"	5-1/4"
1" MPT	5-3/8"	5-5/8"
1-1/2" MPT	6-1/8"	6-1/2"
2" MPT	6-3/8"	6-3/4"



F-1000 with MACHINED In-Line Body			
PIPE SIZE	A	В	C
3/8" FPT	6-3/8"	7-1/2"	2-1/2"
1/2" FPT	6-3/8"	7-1/2"	2-1/2"
3/4" FPT	6-3/8"	7-1/2"	2-1/2"
1" FPT	6-3/8"	7-1/2"	2-1/2"
1-1/2" FPT	6-5/8"	9-1/2"	2-1/2"
2" FPT	7"	11-1/2"	3"



F-1000 with SOLVENT TEE Body			
PIPE SIZE	A	B	
1"	6"	4"	
1-1/2"	6-5/8"	4-1/2"	
2"	7-1/8"	4-3/4"	
3"	8"	5-1/2"	



F-1000 with SADDLE MOUNT Body			
PIPE SIZE (mm)	A	B	
150(050)	4-5/16"	3-3/16"	
200(063)	4-5/16"	3-3/16"	
300(090)	4-5/16"	3-3/16"	
400(110)	4-5/16"	3-3/16"	
600(160)	4-1/4"	3-3/16"	
800(200)	4-1/4"	3-3/16"	
1000(250)	4-1/4"	4-1/2"	
1200(315)	4-1/4"	4-1/2"	

# BW DIGI-METER F-1000 & F-2000 Installation Options



Blue-White F-1000 and F-2000 Flowmeter model numbers include a pipe fitting as part of the complete model number. Although it is possible to purchase the pipe fittings separately, it is not necessary.

### **MOLDED IN-LINE**

- > One piece injection molded construction.
- Male pipe thread In-line installation.
- Polypropylene fittings for standard applications.
- > PVDF material for highly corrosive applications.

### **MOLDED IN-LINE SPECIFICATIONS**

Note: Temperature rating of pipe fitting only. Actual pipe rating may vary.

PIPE SIZES: 3/8", 1/2", 3/4", 1", 1-1/2", 2" M/NPT



### MACHINED IN-LINE FEATURES

- > Machined from solid bar and sheet stock.
- Union and F/NPT pipe adapter connections for easy installation.
- > Internal gland o-ring adapter seals provide greater protection against installation misalignment and vibration.

**TEE Fittings** 

- > Polypropylene fittings for standard applications.
- > PVDF material for highly corrosive applications.

### **MACHINED IN-LINE SPECIFICATIONS**

Note: Temperature rating of pipe fitting only. Actual pipe rating may vary.

PIPE SIZES: 3/8", 1/2", 3/4",1", 1-1/2", 2" F/NPT



**Saddle Fittings** 

### **SADDLE FEATURES**

- 1-1/2" thru 3" (50mm thru 90mm) injection molded PVDF.
- 4" thru 12" (110mm thru 315mm) machined from
- solid PVC sheet stock.
- Installs on existing pipe no other fittings are required. > No added pressure drop to system.

### SADDLE SPECIFICATIONS

Max. PSI	300 psiq (20 bar) @ 70° F (21° C)
	200° F (93° C) @ 0 PSI (PVDF)
	140° F (60° C) @ 0 PSI (PVC)

Note: Temperature rating of pipe fitting only. Actual pipe rating may vary.

I.P.S. PIPE SIZES: 1-1/2", 2", 2-1/2", 3", 4", 6", 8", 10", 12" METRIC PIPE SIZES: 50, 63, 90, 110, 160, 200, 250, 315MM

### **TEE FEATURES**

> Easy to install. > No added pressure drop to system.

### **TEE SPECIFICATIONS**

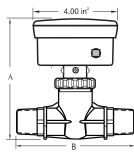
Max. PSI

316 SS TEE... PVC TEE .... 

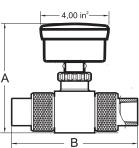
Max. Temp 316 SS TEE......200° F (93° C) @ 0 PSI PVC TEE ......140° F (60° C) @ 0 PSI

PIPE SIZES: 1", 1-1/2", 2", 3"

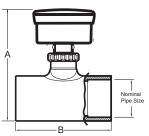




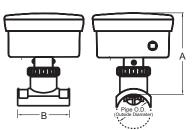
F-2000 with MOLDED In-Line Body			
PIPE SIZE	A	B	
3/8" MPT	5-7/8"	4-3/4"	
1/2" MPT	5-7/8"	5-1/8"	
3/4" MPT	6"	5-1/4"	
1" MPT	6"	5-5/8"	
1-1/2" MPT	6-1/2"	7"	
2" MPT	6-3/4"	7"	



F-2000 with MACHINED In-Line Body			
PIPE SIZE	A	В	
3/8" FPT	6-3/8"	7-1/2"	
1/2" FPT	6-3/8"	7-1/2"	
3/4" FPT	6-3/8"	7-1/2"	
1" FPT	6-3/8"	7-1/2"	
1-1/2" FPT	6-5/8"	9-1/2"	
2" FPT	7-1/8"	11-1/2"	



F-2000 with SOLVENT TEE Body		
PIPE SIZE	A	B
1"	6"	4"
1-1/2"	6-5/8"	4-1/2"
2"	7-1/8"	4-3/4"



F-2000 with SADDLE MOUNT Body			
PIPE SIZE (mm)	A	B	
150(050)	4-1/2"	3-3/16"	
200(063)	4-1/2"	3-3/16"	
300(090)	4-1/2"	3-3/16"	
400(110)	4-1/2"	3-3/16"	
600(160)	4-3/8"	3-3/16"	
800(200)	4-3/8"	3-3/16"	
1000(250)	4-3/8"	4-1/2"	
1200(315)	4-1/2"	4-1/2"	



5300 BUSINESS DRIVE HUNTINGTON BEACH, CA 92649 USA Phone: 714-893-8529 Fax: 714-894-9492 E-mail: sales@blue-white.com www.blue-white.com AUTHORIZED REPRESENTATIVE