

# CycleFlo™

## Solenoid Pump Controllers

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### Features and Benefits

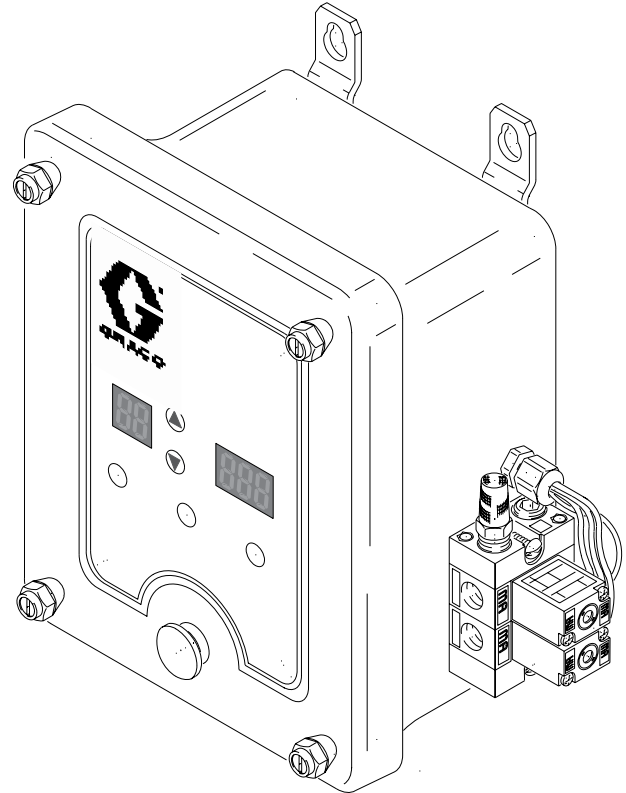
- Total fluid control when used with Husky remote air valve diaphragm pumps
- Automates processes
- Controls flow rates and batch rates with  $\pm 5\%$  accuracy at a fraction of the cost of elaborate pump metering systems
- Controls dispenses from 23 cps up to 10,000 gallons per batch
- Flow rate control independent of fluid pressure
- Presets range from 10 to 200 cycles per minute
- Fully pneumatic hookups from CycleFlo Controller to Husky remote diaphragm pump
- 32 programmable presets for cycle count
- Operates in manual and remote modes
- Not intrinsically safe for hazardous areas

### Typical Application

- Waste neutralization
- Inline chemical injection
- Measured flow
- Storage to production transfer
- Bulk transfer
- Filtration

### Typical Fluids Handled

- Caustics and acids
- Recovered waste materials
- Process chemicals
- Coatings and inks
- Soaps and sanitary chemicals



*CycleFlo*  
195264 and 196706

# CycleFlo II

## Solenoid Pump Controllers

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### Features and Benefits

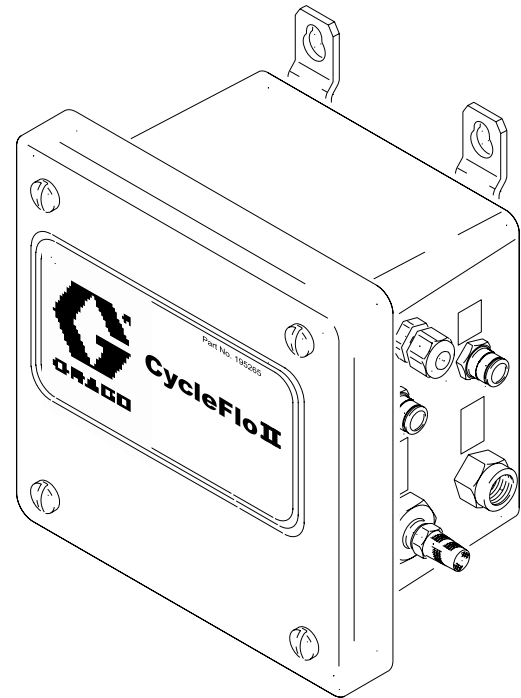
- Total fluid control when used with Husky remote air valve diaphragm pumps
- Automates processes
- Controls flow rates and batch rates with  $\pm 5\%$  accuracy at a fraction of the cost of elaborate pump metering systems
- Flow rate control independent of fluid pressure
- Fully pneumatic hookups from CycleFlo II Controller to Husky remote diaphragm pump
- Continually operates pump at a designed cycle speed, while electric signal is activated

### Typical Application

- Waste neutralization
- Inline chemical injection
- Measured flow
- Storage to production transfer
- Bulk transfer
- Filtration

### Typical Fluids Handled

- Caustics and acids
- Recovered waste materials
- Process chemicals
- Coatings and inks
- Soaps and sanitary chemicals



**CycleFlo**  
**195265**

# CycleFlo and CycleFlo II

## Solenoid Pump Controllers

### Ordering Information

195264 CycleFlo Pneumatic pump controller, 120V

196706 CycleFlo Pneumatic pump controller, 240V

195265 CycleFlo II Pneumatic pump controller, 120V

309003 CycleFlo Instruction Manual

309004 CycleFlo II Instruction Manual

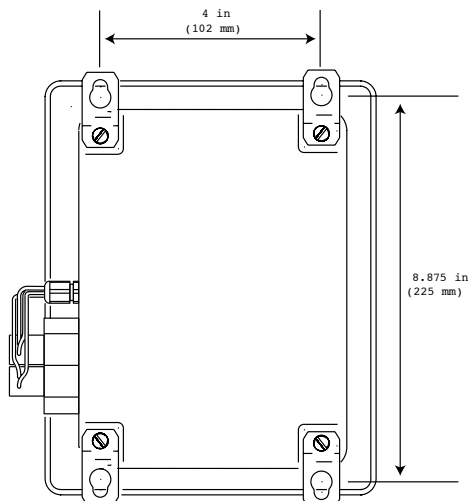
### Pump Selector

Highlighted areas indicate the different sizes of remote pumps and available materials of construction for seats, balls and diaphragms that can be used with the CycleFlo and CycleFlo II controller.

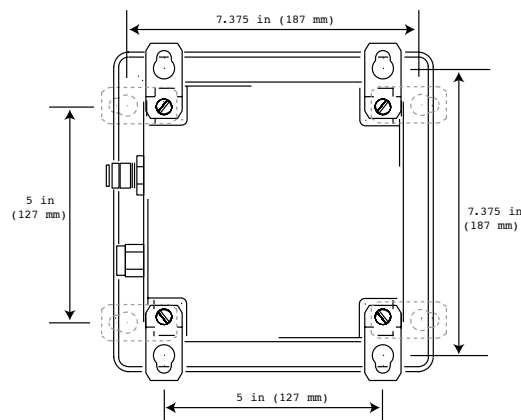
PUMP SIZE (AIR MOTOR TYPE AND MATERIAL)	WETTED PARTS	SEATS	BALLS	DIAPHRAGM
2 = 1/4" (6.35 mm) Remote: polypropylene center section	1 = Acetal (npt)	0 = Seat with ball	1 = PTFE	1 = PTFE
4 = 1/2" (12.7 mm) Remote: polypropylene center section	2 = Poly (npt)	2 = Acetal	2 = Acetal	5 = TPE
4 = 3/4" (19.05 mm) Remote: polypropylene center section	3 = Aluminum (npt)	3 = Stainless Steel	3 = Stainless Steel	6 = Santoprene
8 = 1" (25.4 mm) Remote: aluminum center section	4 = Stainless Steel (npt)	4 = Hardened SST	4 = Hardened SST	7 = Buna N
S = 1" (25.4 mm) Remote: stainless steel center section	5 = PVDF (npt)	5 = TPE	5 = TPE	8 = Fluoroelastomer
C = 1-1/2" (38.1 mm) Remote: aluminum center section	6 = Ductile Iron (npt)	6 = Santoprene	6 = Santoprene	G = Geolast
U = 1-1/2" (38.1 mm) Remote: stainless steel center section	A = Acetal * (bsp)	7 = Buna N	7 = Buna N	
G = 2" (50.8 mm) Remote: aluminum center section	B = Poly * (bsp)	8 = Fluoroelastomer	8 = Fluoroelastomer	
W = 2" (50.8 mm) Remote: stainless steel center section	C = Aluminum (bsp)	9 = Polypropylene	9 = Polypropylene	
	D = Stainless Steel (bsp)	A = PVDF	A = PVDF	
	E = PVDF (bsp)	G = Geolast	G = Geolast	
	F = Ductile Iron (bsp)	B = SST with viton seal		
	H = 2 npt Alum Extended	C = Santoprene with viton seal		
	G = 2 bsp Alum Extended	D = Urethane Duckbill		
	* = BSP plastic in 1/2" (12.7mm) pumps			

### Mounting Dimensions

CycleFlo



CycleFlo II



# CycleFlo and CycleFlo II

## Solenoid Pump Controllers

### How To Determine The Best Remote Pump:

1. Configure the best seat, ball and diaphragm combination, as well as fluid wetted parts, based on material compatibility and application requirements.
  - If the material is a mild acid, the choice could be a DX2911.
2. Determine dispense time and volume accuracy.
  - In two minutes, 50 gallons need to be dispensed  $\pm 5\%$  accuracy
3. Use the displacement volume chart below to choose the pump size with an outlet volume/cycle that is most closely divisible into your required flow.
  - Husky 1590 produces .5 gal/cycle
  - Husky 2150 produces 1.03 gal/cycle

#### DISPLACEMENT VOLUME CHART

Volume/cycle	Husky 205	Husky 515	Husky 716	Husky 1040	Husky 1590	Husky 2150
	1/4 in	1/2 in	3/4 in	1 in	1-1/2 in	2 in
Cubic centimeters (cc)	46	150	150	570	1960	3000
Liters	0.05	0.15	0.15	0.57	1.96	3.9
Grams (assumes s.g =1.0)	46	150	150	570	1960	3900
Kilograms (kg)	0.05	0.15	0.15	0.57	1.96	3.9
Gallons	0.01	0.04	0.04	0.15	0.50	1.03
Quarts	0.05	0.16	0.16	0.6	2.0	4.12
Pints	0.1	0.32	0.32	1.2	4.0	8.24
Ounces	1.54	5.12	5.12	19.2	64.0	131.84
Cubic inch	2.77	9.24	9.24	34.65	115.5	237.93

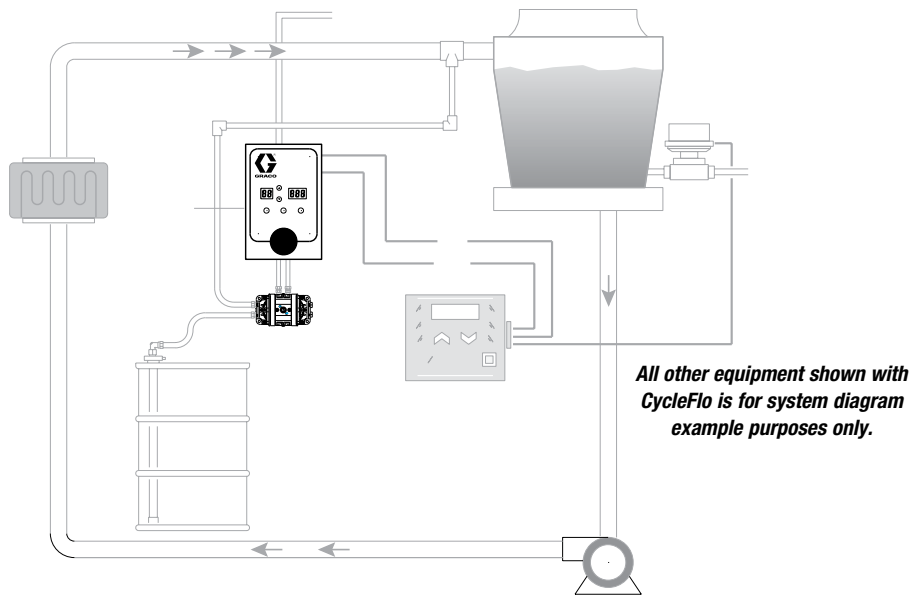
4. Determine the number of cycles required. Calculate the dispense time by dividing required flow by outlet volume per cycle.
  - Husky 1590 = 50 gal/0.5 gal/cycle = 100 cycles
  - Husky 2150 = 50 gal/1.03 gal/cycle = 48.55 cycles
5. Determine if cycle output is within the dispense accuracy required.
  - Husky 2150 requires 48.55 cycles to pump 50 gallons. Only full cycles are possible, so either 48 or 49 cycles can be counted. At the 48 cycle count, dispense would be 49.44 gallons. At the 49 cycle count, dispense would be 50.47 gallons.
  - Husky 1590 requires 100 cycles to pump 50 gallons. No partial cycles required.
6. After determining the best size, use the pump ordering matrix to decide which remote center section is most suitable for the application – DC2911 (aluminum center section) or DU5911 (stainless steel center section).
  - Since a mild acid is being pumped, DC2911, an aluminum center section would be the best choice.

# CycleFlo and CycleFlo II

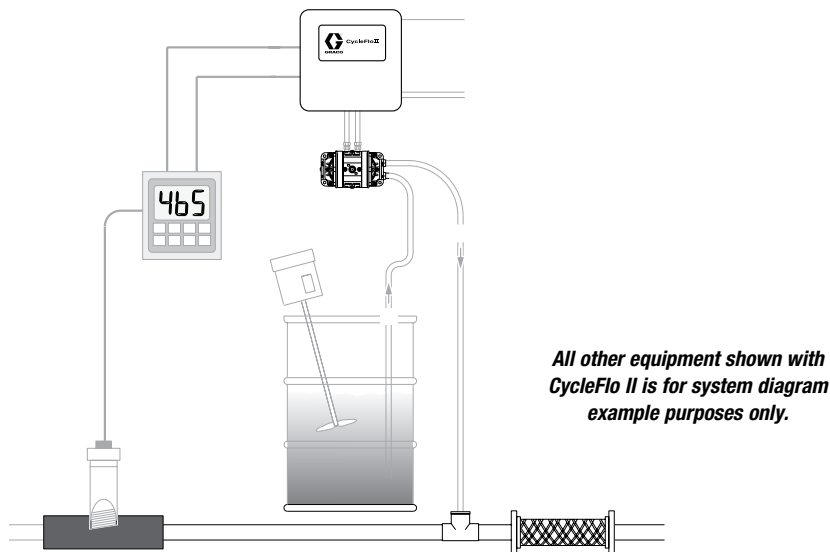
## Solenoid Pump Controllers

### Typical Installations

#### CycleFlo – Circulation Flowrate Control \*



#### CycleFlo II – Batch Process\*



\*For pump sizes larger than the Husky 205, a third airline and shut off device is required.  
Refer to part number 115605 for the CycleFlo and part number 115606 for the CycleFlo II.