

41<sup>st</sup> Anniversary  
Edition

**AquFlow**

The Gold Standard in Metering Pump Technology

# AquFlow

## Metering Pumps & Systems

### The Legendary Brand in Metering Pumps

Offering the widest range  
of material selection as well  
as flow rates up to 6,625 LPH  
(Simplex), 13,250 LPH (Duplex)





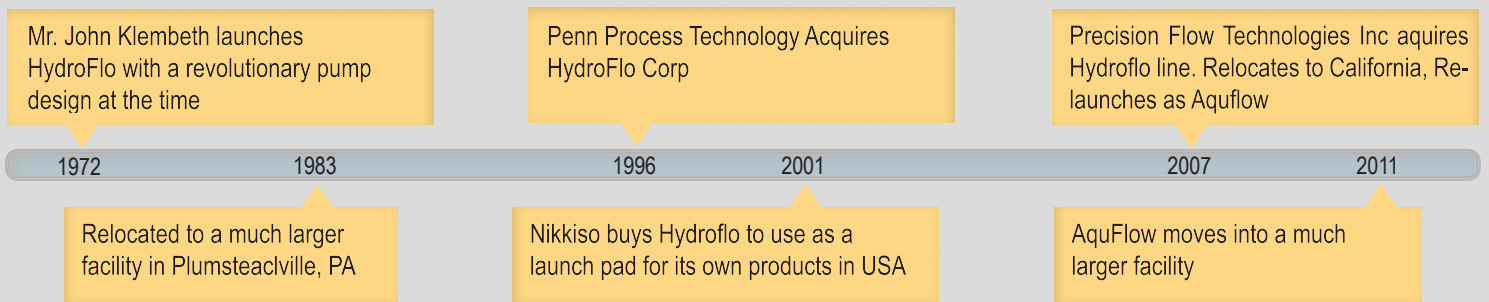
## COMPANY PROFILE

Originally founded in 1972 as Hydroflo to manufacture premium chemical metering pumps, this company was acquired by Precision Flow in 2007 and relaunched as Aquflow. With continued development and refinement we currently have the most extensive range of flow capacities, pressure and corrosion resistant materials of construction under one brand. Over the last 40 years we have gained a well-deserved reputation for making high quality pumps that outlast and outperform most competitive models.



The pumps are made in a State of the Art facility in Irvine, California, USA. The manufacturing process we have in place emphasizes flexibility and agility to accommodate market requirements rapidly. Hence our fast deliveries delight customers who may have their process down for the lack of a pump. Aquflow test and qualification equipment ensures that our pumps comply with the highest standards of the industry such as API 675. Our location near major ports help us ship the products expeditiously and cost effectively throughout the world.

## HISTORY TIMELINE

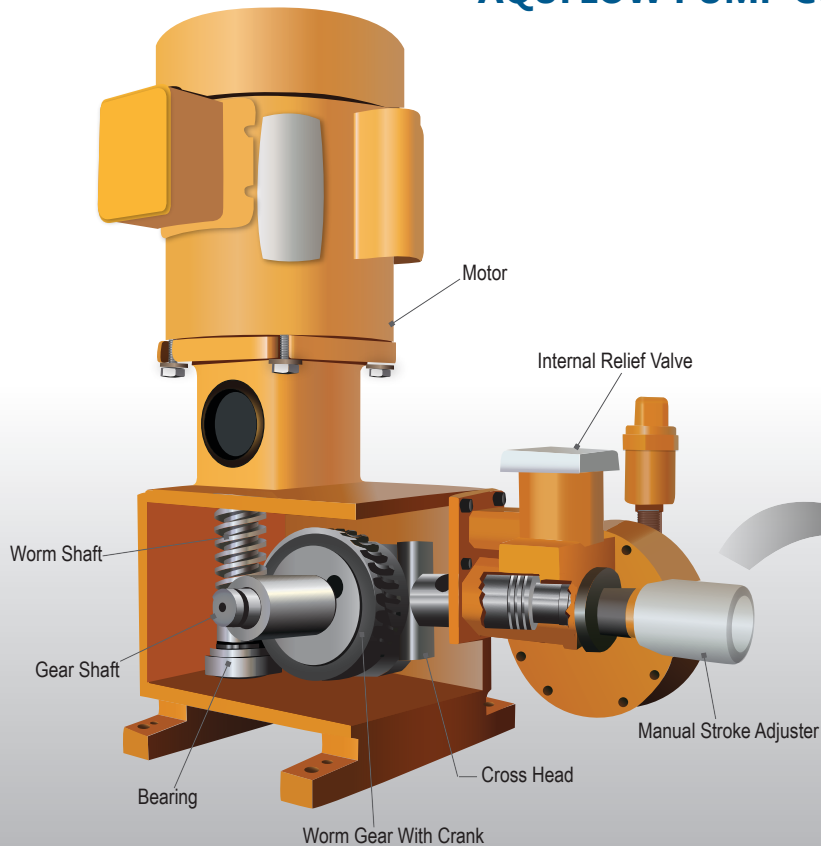


WHO WE ARE	HOW IT BENEFITS OUR CUSTOMERS
USA based midsized manufacturer	Expect us to be lean, agile and flexible to survive
Privately Owned Company	We answer to our customers, not shareholders
Industry Veterans with a Passion for Pumps	We take personal pride in every pump we build
40 years of handling the most difficult chemicals	We have ready solutions for most problems
WHAT WE MAKE	HOW IT BENEFITS OUR CUSTOMERS
Extensive range of hydraulic diaphragm pumps	All dosing pump sizes and pressures in one place
Efficiently designed hydraulic oil channels	Quick Start Up, No Air locking, Accurate & Dependable
Robust Durable design perfected over 4 decades	Pumps that run for decades with minimal maintenance
Ability to adjust flow while pump is running	Overall ease and simplicity of Installation and Operation
All replaceable and service parts located intuitively	Quick & Easy to Maintain and Service

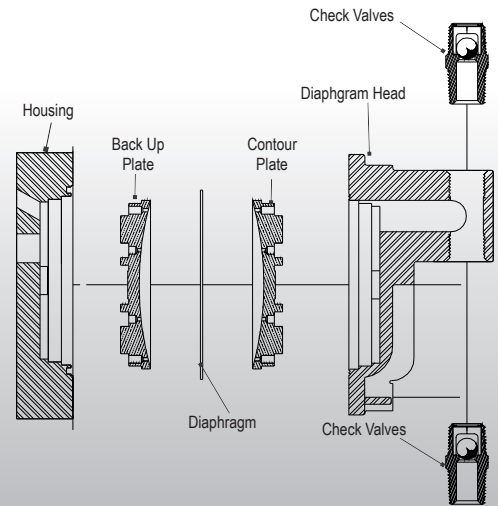
### API - 675

This standard is written by the American Petroleum Institute for controlled volume (metering/dosing) pumps. It requires the hydraulically balanced diaphragm pumps to meet certain minimum requirements for life, uninterrupted operation, servicability, accuracy and repeatability among other things. **All AquFlow hydraulic diaphragm pumps comply with these standards.** Documentation and test reports in accordance with the standards can be furnished for an additional charge when requested in advance.

# AQUFLOW PUMP CUTAWAY



## LIQUID END CROSS SECTION



## HYDRAULICALLY BALANCED DIAPHRAGM - MORE ACCURATE, LONGER LASTING, MINIMUM MAINTENANCE

There are several metering pump designs that are available today. Hydraulic diaphragm is the most evolved version which offers several advantages over other types. Following are some points to consider while choosing between different types based on your application.

### Piston Plunger

- Metallic piston in contact with process fluid
- Piston/Plunger packing exposed to process fluid
- Contamination with grease/lubricant

### Solenoid Diaphragm

- Unbalanced diaphragm stem failure
- Works only for light duty low pressure applications
- Low durability design

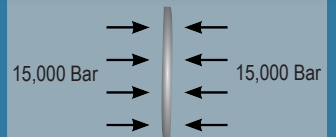
### Mechanical Diaphragm

- Unbalanced diaphragm - frequent replacements
- Not suitable for high pressure
- Less accurate due to rolling diaphragm

### Other Hydraulic Diaphragm Advantages

- Run by hydraulic oil which is non compressible
- Balanced pressure on both sides to increase life
- Virtually maintenance free for years
- Built in safety features - Internal relief valve

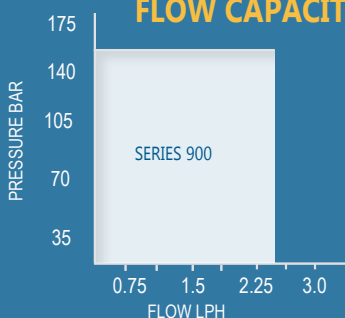
### Hydraulic Balanced Diaphragm



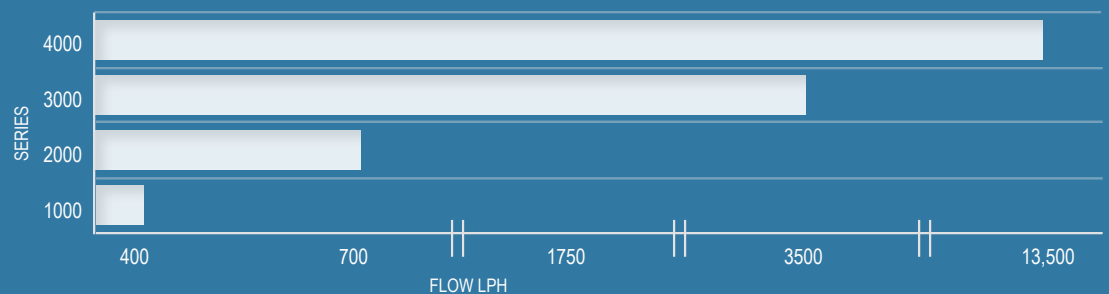
### UnBalanced Diaphragm



## FLOW CAPACITY RANGE - FROM VERY LOW TO VERY HIGH



AquFlow Ultra - LowCapacity Pumps





## Features

- Flow capacities up to 466 LPH (Duplex)
- Pressure Up to 275 Bar
- Unibody Design – Less Parts
- Metering accuracy +/- 1%
- Easy capacity controls – manual/auto
- Built in safety – Internal relief valve
- Available in duplex to double flow capacity
- Ability to handle difficult liquids like slurries, off-gasing, and high viscosities

## Specifications

Flow capacity adjustment – 0-100%  
While the pump is **running** or **stopped**

### Turndown Ratio

Stroke length – 10:1  
Stroke frequency – 10:1  
Combined – 100:1

### Metering Accuracy

Steady state - +/- 1 %  
Linearity - +/- 1 %  
Combined - +/- 1 %

### Maximum process fluid temperature

Custom engineered metallic liquid end: 260C  
Metallic liquid end/PTFE diaphragm: 121C  
Plastic Head: 60C  
Plunger stroke length: 19.05 mm  
Hydraulic oil capacity: 2qts (simplex) 3qts (Duplex)

### Displacement per stroke – by plunger size

9.525 mm - 1.353 ml  
14.29 mm - 3.047 ml  
19.05 mm - 5.419 ml  
22.23 mm - 7.378 ml  
28.58 mm - 12.888 ml  
41.28 mm - 25.461 ml

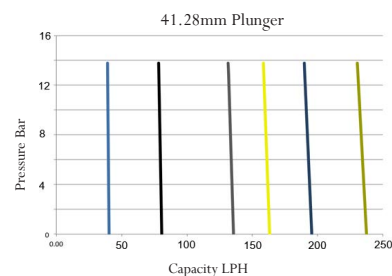
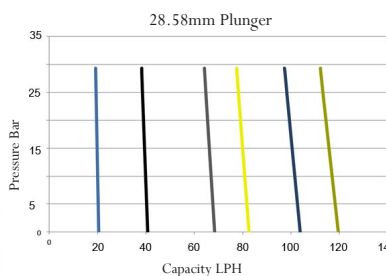
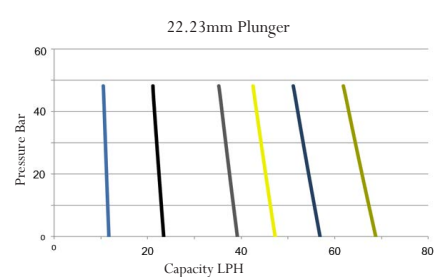
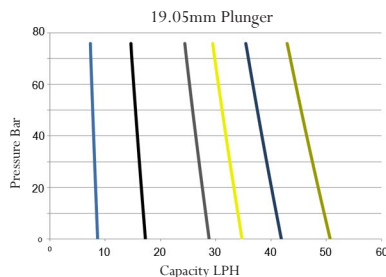
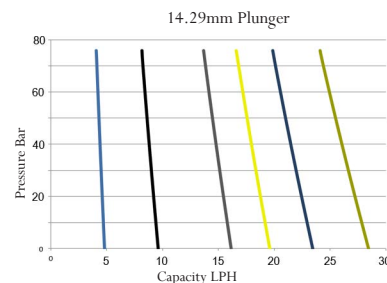
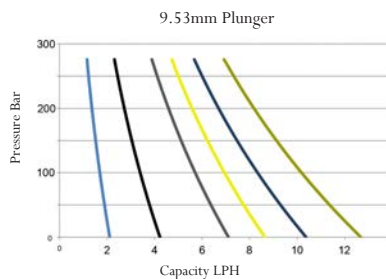
### Liquid End Material Options

316SS, Alloy 20, Hastelloy C,  
PVC, PVDF, and PTFE

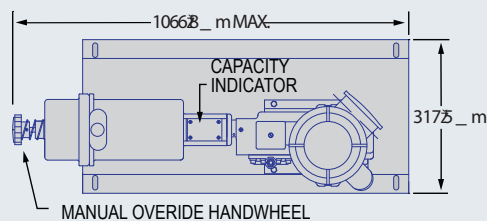
AquFlow Model Number	Capacity (LPH)	Pressure (Bar)	Speed (SPM)	Plunger Diameter	Connection (NPT)
CA4T 3829-0X013	2.1	275	29	9.53 mm	6.35 mm
CA4T 3858-0X013	4.2		58		
CA4T 3897-0X013	7.0		97		
CA4T 3812-0X013	8.5		117		
CA4T 3814-0X013	10.2		140		
CA4T 3817-0X013	12.4		170		
CJ4T 5629-0X014	4.7	75	29	14.29 mm	9.53 mm
CJ4T 5658-0X014	9.5		58		
CJ4T 5697-0X014	15.9		97		
CJ4T 5612-0X014	19.3		117		
CJ4T 5614-0X014	23.1		140		
CJ4T 5617-0X014	28.0		170		
CJ4T 7529-0X014	8.5	75	29	19.05 mm	9.53 mm
CJ4T 7558-0X014	17.1		58		
CJ4T 7597-0X014	28.4		97		
CJ4T 7512-0X014	34.3		117		
CJ4T 7514-0X014	40.9		140		
CJ4T 7517-0X014	49.6		170		
CJ4T 8729-0X014	11.5	48	29	22.23 mm	9.53 mm
CJ4T 8758-0X014	23.0		58		
CJ4T 8797-0X014	38.6		97		
CJ4T 8712-0X014	47.3		117		
CJ4T 8714-0X014	55.6		140		
CJ4T 8717-0X014	67.8		170		
CJ4T 11329-0X014	20.2	48	29	28.58 mm	9.53 mm
CJ4T 11358-0X014	40.1		58		
CJ4T 11397-0X014	67.4		97		
CJ4T 11312-0X014	83.3		117		
CJ4T 11314-0X014	97.3		140		
CJ4T 11317-0X014	117.7		170		
CJ4T 16229-0X018	39.7	13	29	41.28 mm	12.7 mm
CJ4T 16258-0X018	79.5		58		
CJ4T 16297-0X018	133.6		97		
CJ4T 16212-0X018	160.9		117		
CJ4T 16214-0X018	192.3		140		
CJ4T 16217-0X018	233.5		170		

X = 4 FOR 316SS, 5 FOR ALLOY 20, 6 FOR HAST. C, 8 FOR PVC, AND A FOR PVDF

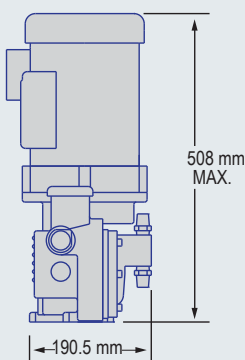
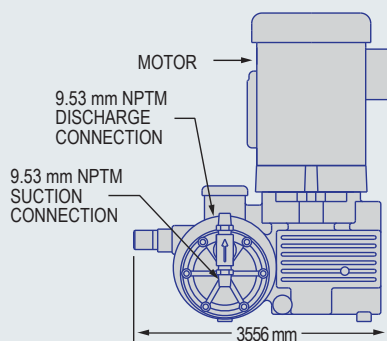
## PERFORMANCE CURVE - TYPICAL



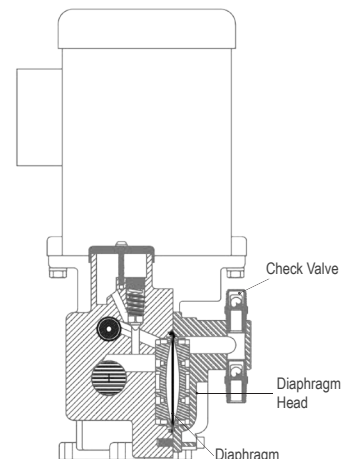
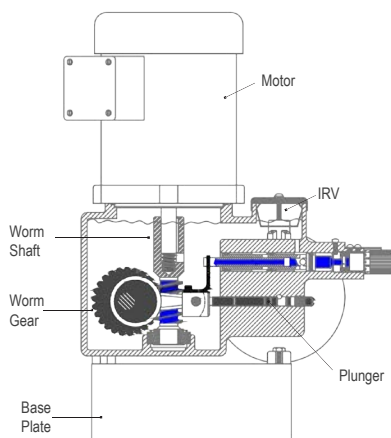
## DIMENSIONS



Series 1000 with ECCA



## CROSS SECTION



### S1000 Options

**Capacity Control Options:** Dual Axis with both stroke length and stroke speed adjustable

**Stroke Length Controls:** Manual - Standard on all pumps

Electric – Electric stepper motor. Capable of 4-20mA input

Pneumatic – Runs on 2 bar air for hazardous environment

**Stroke Speed Controls:** Variable Frequency Drive (VFD) - AC / Variable Speed Drive (SCR) - DC

### Liquid Handling Options

**Tubular:** For liquids with suspended solids/slurries that may clog. Good for high viscosity liquids also.

**Degassing Valve:** Some challenging liquids can cause air locking due to off gassing. Our pump head with degassing valve ensures accurate and consistent pumping by letting out gas bubbles from the pump head.

**Double Ball Check Valve:** To make doubly sure you have positive valve shut off.

**Tungsten Carbide Valve Balls:** For abrasive liquids.

### Leak Detection Options

There are two types of leak detection options available with AquFlow pumps.

**Conductive:** Conductivity probe between 2 diaphragms to sense any break/rupture.

**Vacuum:** Uses a vacuum switch between 2 diaphragms to sense rupture/ failure.

### Other Options

**Liquid Connections** – NPT / FLANGE/ TRICLAMP

**Motor Options:** IP54 to IP69 Rated Enclosures, ATEX Rated, IEC Frame.

Power Supply: Single Phase (150/230 V, 110/220 V), 3 Phase ( 203-460 V, 220/380 V) DC  
12, 24, 90, 180, 50 Hz, 60 Hz





## Features

- Flow capacities up to 681 LPH (Duplex)
- Pressure Up to 124 Bar
- Modular design in aluminum housing
- Metering accuracy +/- 1%
- Easy capacity controls – manual/auto
- Built in safety – Internal relief valve
- Available in duplex to double flow capacity
- Ability to handle difficult liquids like slurries, off-gasing, and high viscosities

## Specifications

Flow capacity adjustment – 0-100%  
While the pump is **running** or **stopped**

### Turndown Ratio

Stroke length – 20:1  
Stroke frequency – 20:1  
Combined – 100:1

### Metering Accuracy

Steady state - +/- 1 %  
Linearity - +/- 1%  
Combined - +/- 1%

### Maximum process fluid temperature

Custom engineered metallic liquid end: 260C  
Metallic liquid end/PTFE diaphragm: 121C  
Plastic Head: 60C  
Plunger stroke length: 38.1 mm  
Hydraulic oil capacity: 4 qts (Simplex & Duplex)

### Displacement per stroke – by plunger size

19.05 mm - 11.43 ml  
25.4 mm - 18.57 ml  
31.75 mm - 30.74 ml  
38.1 mm - 34.08 ml

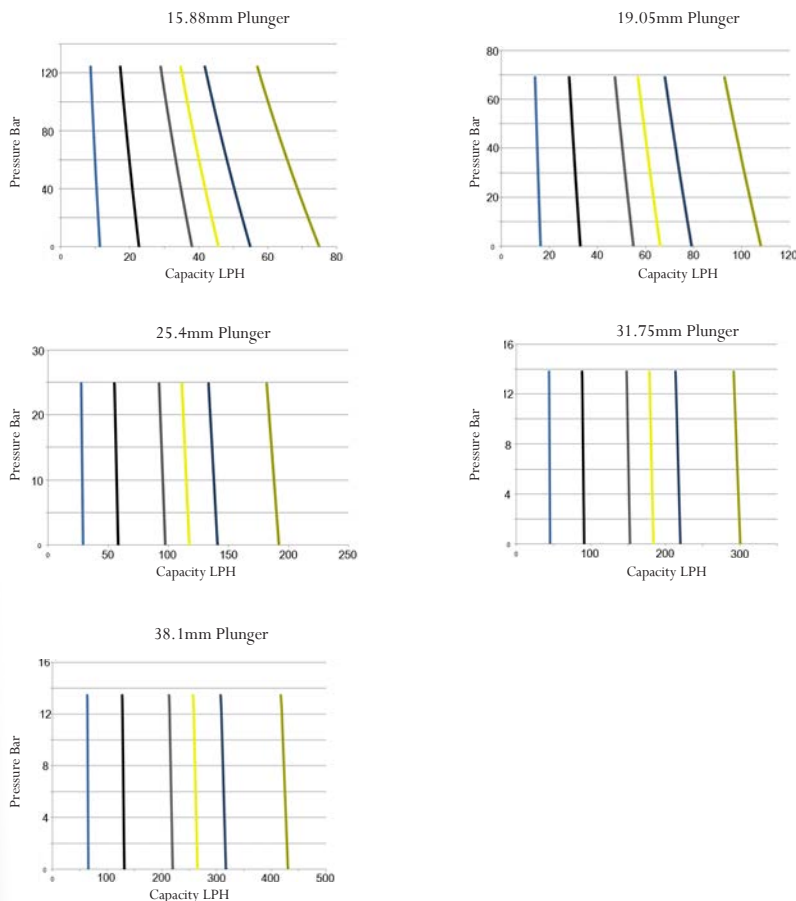
### Liquid End Material Options

316SS, Alloy 20, Hastelloy C,  
PVC, PVDF, and PTFE

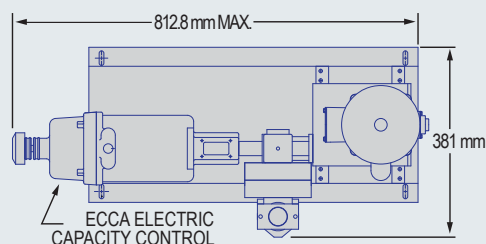
AquFlow Model Number	Capacity (LPH)	Pressure (Bar)	Speed (SPM)	Plunger Diameter	Connection (NPT)
CD3T 0529-0X014	10.6	124	29	15.88 mm	9.53mm M
CD3T 0558-0X014	21.2		58		
CD3T 0597-0X014	36.0		97		
CD3T 0512-0X014	43.2		117		
CD3T 0514-0X014	51.9		140		
CD3T 0519-0X014	70.8		190		
CD3T 0629-0X014	17.8	69	29	19.05 mm	9.53mm M
CD3T 0658-0X014	35.6		58		
CD3T 0697-0X014	59.8		97		
CD3T 0612-0X014	71.9		117		
CD3T 0614-0X014	85.6		140		
CD3T 0619-0X015	117.3		190		
CD3T 0829-0X014	28.8	25	29	25.4 mm	9.53mm M
CD3T 0858-0X014	57.5		58		
CD3T 0897-0X014	96.1		97		
CD3T 0812-0X015	115.8		117		9.53mm F
CD3T 0814-0X015	138.9		140		
CD3T 0819-0X015	189.3		190		
CD3T 1029-0X014	45.4	14	29	31.75 mm	9.53mm M
CD3T 1058-0X014	90.8		58		
CD3T 1097-0X018	151.4		97		
CD3T 1012-0X018	185.5		117		12.7mm F
CD3T 1014-0X018	227.1		140		
CD3T 1019-0X018	302.8		190		
CD3T 1229-0X014	53.0	13	29	38.1 mm	9.53mm M/F
CD3T 1258-0X015	106.0		58		
CD3T 1297-0X018	177.9		97		
CD3T 1212-0X018	212.0		117		12.7mm F
CD3T 1214-0X018	253.6		140		
CD3T 1219-0X018	340.6		190		

X = 4 FOR 316SS, 5 FOR ALLOY 20, 6 FOR HAST. C, 8 FOR PVC, AND A FOR PVDF

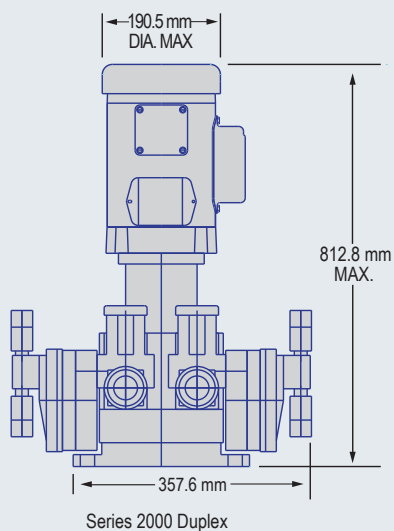
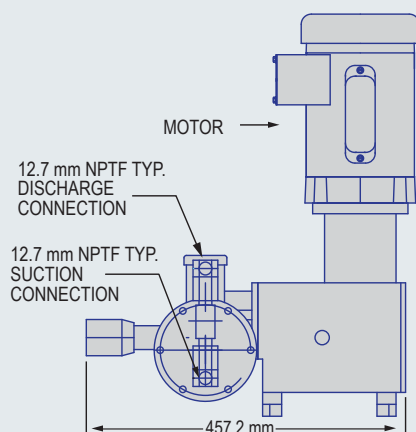
## PERFORMANCE CURVE - TYPICAL



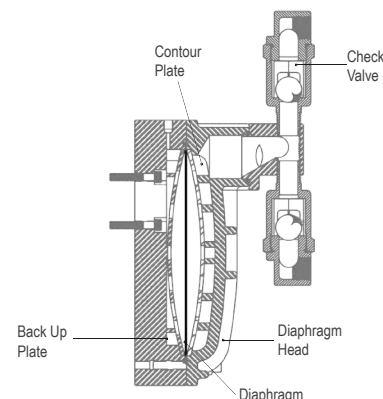
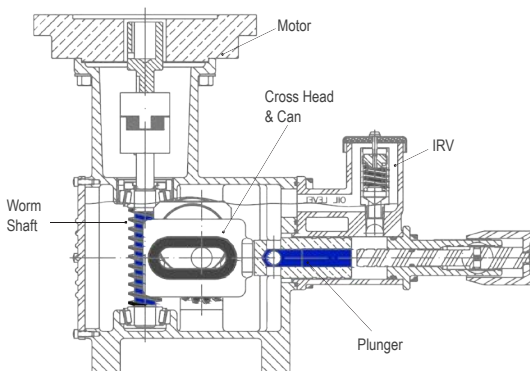
## DIMENSIONS



Series 2000 with ECCA



## CROSS SECTION



### S2000 Options

**Capacity Control Options:** Dual Axis with both stroke length and stroke speed adjustable

**Stroke Length Controls:** Manual - Standard on all pumps  
Electric – Electric stepper motor. Capable of 4-20mA input  
Pneumatic – Runs on 2 bar air for hazardous environment

**Stroke Speed Controls:** Variable Frequency Drive (VFD) - AC / Variable Speed Drive (SCR) - DC

### Liquid Handling Options

**Tubular:** For liquids with suspended solids/slurries that may clog. Good for high viscosity liquids also.

**Degassing Valve:** Some challenging liquids can cause air locking due to off gassing. Our pump head with degassing valve ensures accurate and consistent pumping by letting out gas bubbles from the pump head.

**Double Ball Check Valve:** To make doubly sure you have positive valve shut off.

**Tungsten Carbide Valve Balls:** For abrasive liquids.

### Leak Detection Options

There are two types of leak detection options available with AquFlow pumps.

**Conductive:** Conductivity probe between 2 diaphragms to sense any break/rupture.

**Vacuum:** Uses a vacuum switch between 2 diaphragms to sense rupture/ failure.

### Other Options

**Liquid Connections** – NPT / FLANGE/ TRICLAMP

**Motor Options:** IP54 to IP69 Rated Enclosures, ATEX Rated, IEC Frame  
Power Supply: Single Phase (150/230 V, 110/220 V), 3 Phase ( 203-460 V, 220/380 V) DC  
12, 24, 90, 180, 50 Hz, 60 Hz



## Features

- Flow capacities up to 3,483 LPH (Duplex)
- Pressure Up to 48 Bar
- Modular design in aluminum housing
- Metering accuracy +/- 1%
- Easy capacity controls – manual/auto
- Built in safety – Internal relief valve
- Available in duplex to double flow capacity
- Ability to handle difficult liquids like slurries, off-gasing, and high viscosities

## Specifications

Flow capacity adjustment – 0-100%  
While the pump is **running** or **stopped**

### Turndown Ratio

Stroke length – 40:1  
Stroke frequency – 10:1  
Combined – 100:1

### Metering Accuracy

Steady state - +/- 1 %  
Linearity - +/- 1 %  
Combined - +/- 1 %

### Maximum process fluid temperature

Custom engineered metallic liquid end: 260C  
Metallic liquid end/PTFE diaphragm: 121C  
Plastic Head: 60C  
Plunger stroke length: 76.2 mm  
Hydraulic oil capacity: 12 qts

### Displacement per stroke – by plunger size

25.4 mm - 38.46 ml  
31.75 mm - 60.20 ml  
38.1 mm - 86.70 ml  
44.45 mm - 118.09 ml  
50.8 mm - 154.21 ml  
57.15 mm - 195.04 ml  
63.5 mm - 231.98 ml

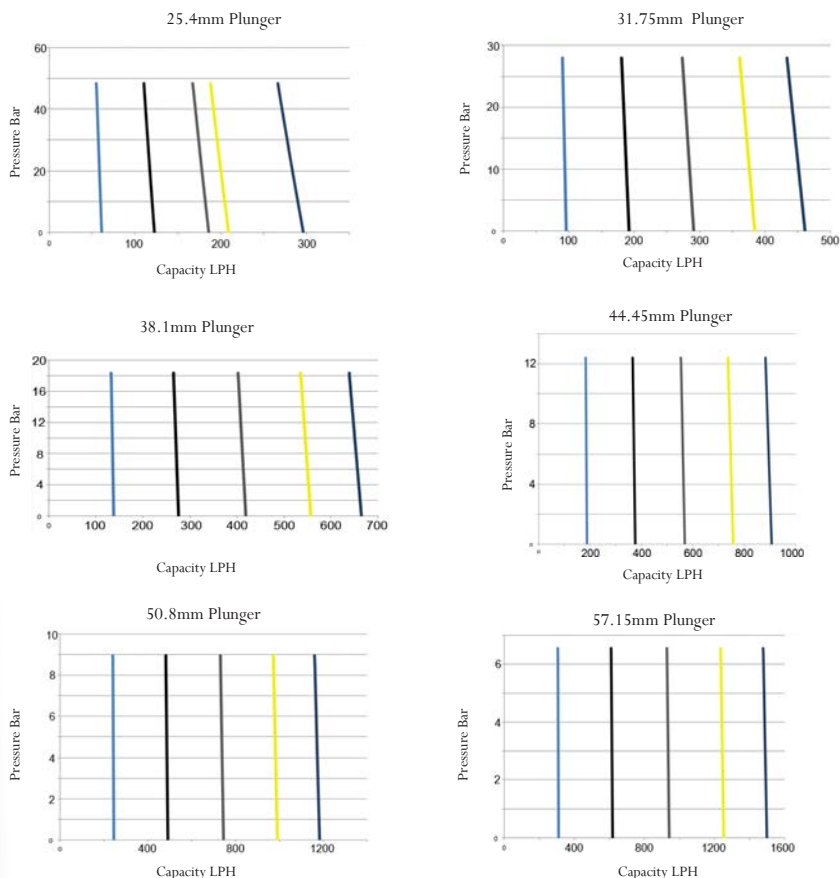
### Liquid End Material Options

316SS, Alloy 20, Hastelloy C,  
PVC, PVDF, and PTFE

AquFlow Model Number	Capacity (LPH)	Pressure (Bar)	Speed (SPM)	Plunger Diameter	Connection (NPT)
CNIT 0844-0X018	60.2	48	44	25.4 mm	12.7 mm
CNIT 0858-0X018	120.7		58		
CNIT 0888-0X018	181.7		88		
CNIT 0812-0X018	242.3		117		
CNIT 0814-0X018	287.7		140		
CNIT 1044-0X018	94.6	28	44	31.75 mm	12.7 mm
CNIT 1058-0X018	189.3		58		
CNIT 1088-0X018	286.5		88		
CNIT 1012-0X018	378.5		117		
CNIT 1014-0X018	454.2		140		
CNIT 1244-0X018	135.9	18	44	38.1 mm	12.7 mm
CNIT 1258-0X018	271.8		58		
CNIT 1288-0X018	412.6		88		
CNIT 1212-0X018	548.9		117		
CNIT 1214-0X01A	654.9		140		
CNIT 1444-0X018	185.1	12	44	44.45 mm	12.7 mm
CNIT 1458-0X018	370.2		58		
CNIT 1488-0X018	560.2		88		
CNIT 1412-0X01A	745.7		117		
CNIT 1414-0X01A	893.4		140		
CNIT 1644-0X018	241.9	9	44	50.8 mm	38.1 mm
CNIT 1658-0X018	484.5		58		
CNIT 1688-0X01A	724.4		88		
CNIT 1612-0X01B	976.6		117		
CNIT 1614-0X01B	1,165.9		140		
CNIT 1844-0X018	305.9	6	44	57.15 mm	38.1 mm
CNIT 1858-0X018	609.5		58		
CNIT 1888-0X01A	927.4		88		
CNIT 1812-0X01B	1,234.0		117		
CNIT 1814-0X01C	1,472.5		140		
CNIT 2044-0X018	359.6	5	44	63.5 mm	38.1 mm
CNIT 2058-0X01A	723.0		58		
CNIT 2088-0X01B	1,101.5		88		
CNIT 2012-0X01C	1,465.0		117		
CNIT 2014-0X01C	1,752.6		140		

X = 4 FOR 316SS, 5 FOR ALLOY 20, 6 FOR HAST. C, 8 FOR PVC, AND 4 FOR PVDF

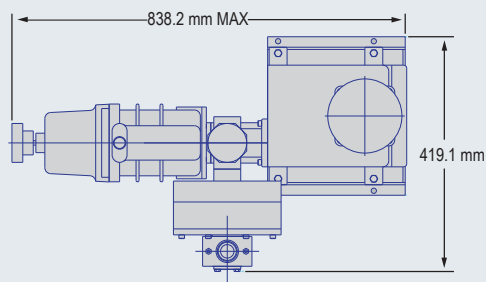
## PERFORMANCE CURVE - TYPICAL



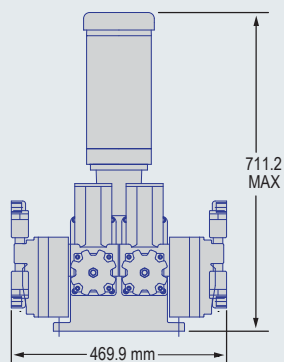
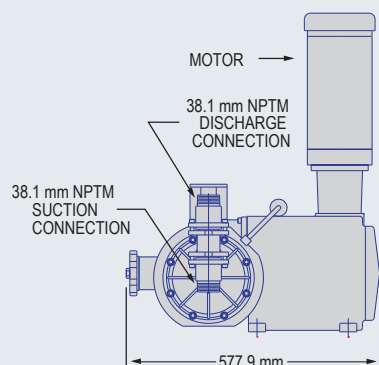
Continued on next page



## DIMENSIONS



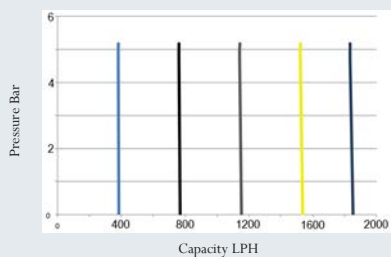
Series 3000 with ECCA



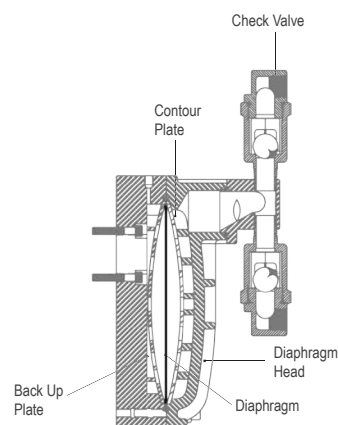
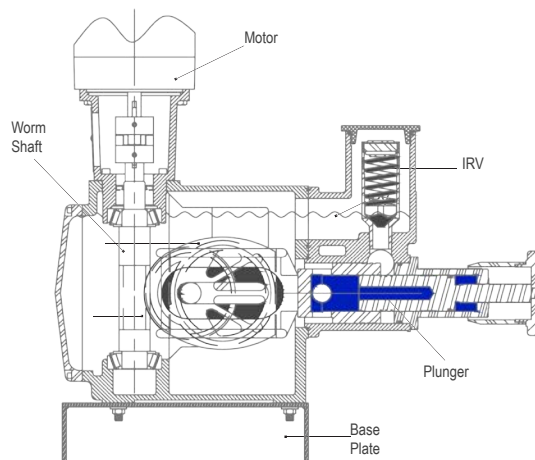
Series 3000 Duplex

Continued from page 8

63.5mm Plunger



## CROSS SECTION



### S3000 Options

**Capacity Control Options:** Dual Axis with both stroke length and stroke speed adjustable

**Stroke Length Controls:** Manual - Standard on all pumps  
Electric – Electric stepper motor. Capable of 4-20mA input  
Pneumatic – Runs on 2 bar air for hazardous environment

**Stroke Speed Controls:** Variable Frequency Drive (VFD) - AC / Variable Speed Drive (SCR) - DC

### Liquid Handling Options

**Tubular:** For liquids with suspended solids/slurries that may clog. Good for high viscosity liquids also.

**Degassing Valve:** Some challenging liquids can cause air locking due to off gassing. Our pump head with degassing valve ensures accurate and consistent pumping by letting out gas bubbles from the pump head.

**Double Ball Check Valve:** To make doubly sure you have positive valve shut off.

**Tungsten Carbide Valve Balls:** For abrasive liquids.

### Leak Detection Options

There are two types of leak detection options available with AquFlow pumps.

**Conductive:** Conductivity probe between 2 diaphragms to sense any break/rupture.

**Vacuum:** Uses a vacuum switch between 2 diaphragms to sense rupture/ failure.

### Other Options

**Liquid Connections** – NPT / FLANGE/ TRICLAMP

**Motor Options:** IP54 to IP69 Rated Enclosures, ATEX Rated, IEC Frame.

Power Supply: Single Phase (150/230 V, 110/220 V), 3 Phase ( 203-460 V, 220/380 V) DC 12, 24, 90, 180, 50 Hz, 60 Hz



## Features

- Flow capacities up to 13,363 LPH (Duplex)
- Pressure Up to 241 Bar
- Modular design in aluminum housing
- Metering accuracy +/- 1%
- Easy capacity controls – manual/auto
- Built in safety – Internal relief valve
- Available in duplex to double flow capacity
- Ability to handle difficult liquids like slurries, off-gasing, and high viscosities

## Specifications

Flow capacity adjustment – 0-100%  
While the pump is **running** or **stopped**

### Turndown Ratio

Stroke length – 50:1  
Stroke frequency – 10:1  
Combined – 100:1

### Metering Accuracy

Steady state - +/- 1 %  
Linearity - +/- 1 %  
Combined - +/- 1 %

### Maximum process fluid temperature

Custom engineered metallic liquid end: 260C  
Metallic liquid end/PTFE diaphragm: 121C  
Plastic Head: 60C  
Plunger stroke length: 101.85 mm  
Hydraulic oil capacity: 52 qts

### Displacement per stroke – by plunger size

22.23 mm - 37.19 ml  
28.58 mm - 62.29 ml  
39.69 mm - 125.29 ml  
63.50 mm - 321.77 ml  
76.20 mm - 462.12 ml  
101.60 mm - 824.99 ml

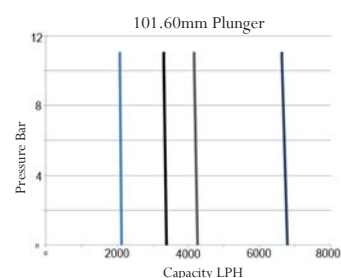
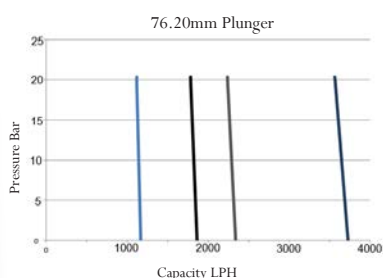
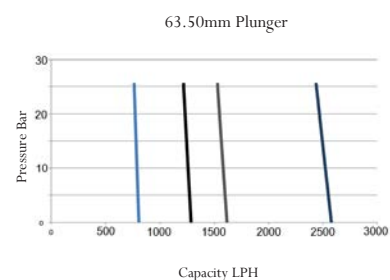
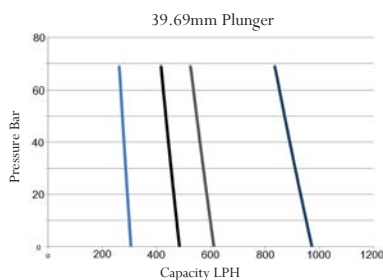
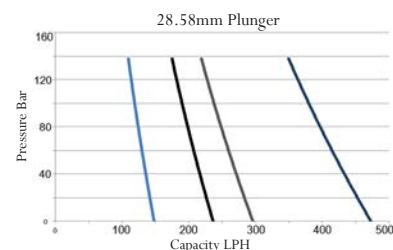
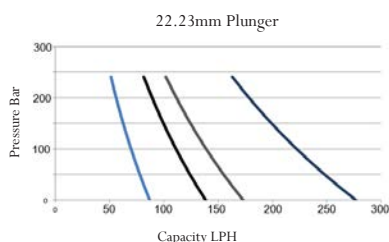
### Liquid End Material Options

316SS, Alloy 20, Hastelloy C,  
PVC, PVDF, and PTFE

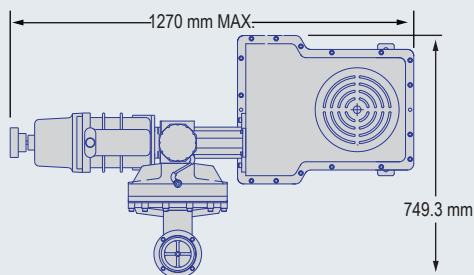
AquFlow Model Number	Capacity LPH	Pressure (Bar)	Speed (SPM)	Plunger Diameter	Connection (NPT)
GNIT 0744-0X01A GNIT 0770-0X01A GNIT 0788-0X01A GNIT 0714-0X01A	85.5 136.3 170.3 272.5	241	44 70 88 40	22.23 mm	31.75 mm
GNIT 0944-0X01A GNIT 0970-0X01A GNIT 0988-0X01A GNIT 0914-0X01A	145.7 232.8 291.5 465.6	138	44 70 88 140	28.58 mm	31.75 mm
GNIT 1344-0X01A GNIT 1370-0X01A GNIT 1388-0X01A GNIT 1314-0X01A	300.9 477.0 601.9 957.7	69	44 70 88 140	39.69 mm	63.50 mm
GNIT 2044-0X01F GNIT 2070-0X01F GNIT 2088-0X01F GNIT 2014-0X01F	794.9 1,268.1 1,593.7 2,540.0	26	44 70 88 140	63.50 mm	63.50 mm
GNIT 2444-0X01A GNIT 2470-0X01A GNIT 2488-0X01A GNIT 2414-0X01A	1,150.8 1,835.9 2,305.3 3,671.8	20	44 70 88 140	76.20 mm	101.60 mm
GNIT 3244-0X01A GNIT 3270-0X01A GNIT 3288-0X01A GNIT 3214-0X01A	2,097.1 3,338.7 4,198.0 6,681.2	11	44 70 88 140	101.60 mm	101.60 mm

X = 4 FOR 316SS, 5 FOR ALLOY 20, 6 FOR HAST. C, 8 FOR PVC, AND 4 FOR PVDF

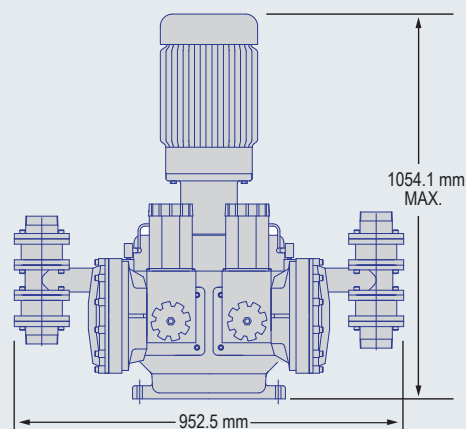
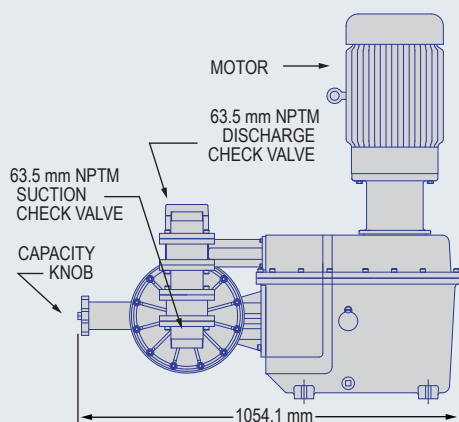
## PERFORMANCE CURVE - TYPICAL



## DIMENSIONS

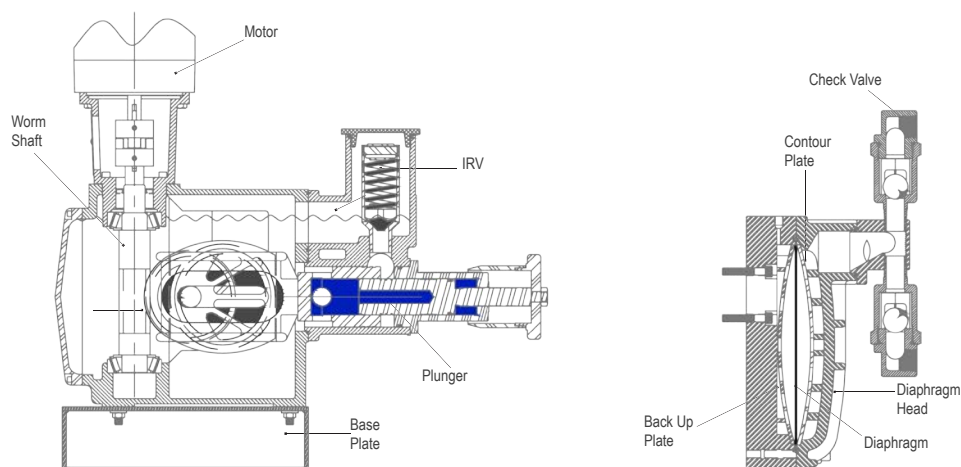


Series 4000 with ECCA



Series 4000 Duplex

## CROSS SECTION



### S4000 Options

**Capacity Control Options:** Dual Axis with both stroke length and stroke speed adjustable

**Stroke Length Controls:** Manual - Standard on all pumps  
Electric – Electric stepper motor. Capable of 4-20mA input  
Pneumatic – Runs on 2 bar air for hazardous environment

**Stroke Speed Controls:** Variable Frequency Drive (VFD) - AC / Variable Speed Drive (SCR) - DC

### Liquid Handling Options

**Tubular:** For liquids with suspended solids/slurries that may clog. Good for high viscosity liquids also.

**Degassing Valve:** Some challenging liquids can cause air locking due to off gassing. Our pump head with degassing valve ensures accurate and consistent pumping by letting out gas bubbles from the pump head.

**Double Ball Check Valve:** To make doubly sure you have positive valve shut off.

**Tungsten Carbide Valve Balls:** For abrasive liquids.

### Leak Detection Options

There are two types of leak detection options available with AquFlow pumps.

**Conductive:** Conductivity probe between 2 diaphragms to sense any break/rupture.

**Vacuum:** Uses a vacuum switch between 2 diaphragms to sense rupture/ failure.

### Other Options

**Liquid Connections** – NPT / FLANGE/ TRICLAMP

**Motor Options:** IP54 to IP69 Rated Enclosures, ATEX Rated, IEC Frame.  
Power Supply: Single Phase (150/230 V, 110/220 V), 3 Phase ( 203-460 V, 220/380 V) DC  
12, 24, 90, 180, 50 Hz, 60 Hz.





## Features

- Flow capacities up to 24.6 LPH (Duplex)
- Pressure Up to 200 Bar
- Modular design in aluminum housing
- Metering accuracy +/- 1%
- Easy capacity controls – manual/auto
- Built in safety – Internal relief valve
- Available in duplex to double flow capacity
- Ability to handle difficult liquids like slurries, off-gassing, and high viscosities

## Specifications

Flow capacity adjustment – 0-100%  
While the pump is **running** or **stopped**

### Turndown Ratio

Stroke length – 10:1  
Stroke frequency – 10:1  
Combined – 100:1

### Metering Accuracy

Steady state - +/- 1 %  
Linearity - +/- 1%  
Combined - +/- 1%

### Maximum process fluid temperature

Custom engineered metallic liquid end: 260C  
Metallic liquid end/PTFE diaphragm: 121C  
Plastic Head: 60C  
Plunger stroke length: 19.15 mm  
Hydraulic Oil Type F capacity: 1 qts  
Gear Oil capacity: 1 qts

### Displacement per stroke – by plunger size

4.76 mm - 0.33 ml  
6.35 mm - 0.60 ml  
9.53 mm - 1.35 ml

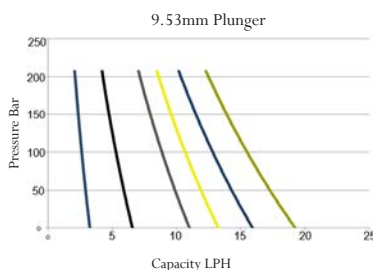
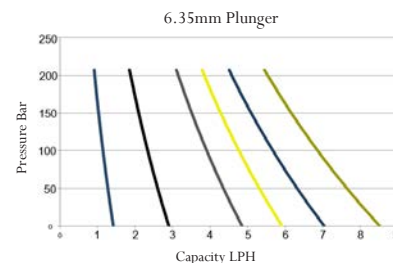
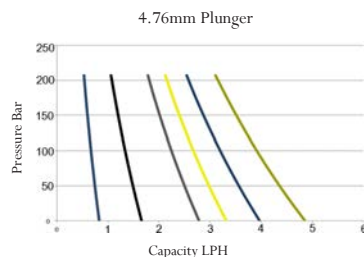
### Liquid End Material Options

316SS, Alloy 20, Hastelloy C,  
PVC, PVDF, and PTFE

AquFlow Model Number	Capacity LPH	Pressure (Bar)	Speed (SPM)	Plunger Diameter	Connection (NPT)
DM3T 1929-0X013	0.53	200	29	4.76 mm	6.35 mm
DM3T 1958-0X013	1.06		58		
DM3T 1997-0X013	1.78		97		
DM3T 1912-0X013	2.12		117		
DM3T 1914-0X013	2.54		140		
DM3T 1917-0X013	3.10		170		
DM3T 2529-0X013	0.91	200	29	6.35 mm	6.35 mm
DM3T 2558-0X013	1.85		58		
DM3T 2597-0X013	3.10		97		
DM3T 2512-0X013	3.79		117		
DM3T 2514-0X013	4.50		140		
DM3T 2517-0X013	5.45		170		
DM3T 3829-0X013	2.08	200	29	9.53 mm	6.35 mm
DM3T 3858-0X013	4.20		58		
DM3T 3897-0X013	7.04		97		
DM3T 3812-0X013	8.48		117		
DM3T 3814-0X013	10.18		140		
DM3T 3817-0X013	12.30		170		

X = 4 FOR 316SS, 5 FOR ALLOY 20, 6 FOR HAST. C, 8 FOR PVC, AND A FOR PVDF

## PERFORMANCE CURVE - TYPICAL



### ULTRA LOW FLOW SERIES

Designed Specifically For Low Flow Applications  
IN Oil & Gas, Pharma, Cosmetics, Food &  
Other Industrial Applications.

Lowest Flow Hydraulic Diaphragm Metering  
Pump On the Market Made In Compliance API  
675.

## AQUFLOW PUMPS B 998 5 A CHCF HC 8F J 9H< 9A

We choose motors according to the specifications requested by our customers. For our European customers, we provide the following motor options to choose from:

**No Motor:** We can provide pump-only without a motor. Customers procure their own motors.

**Pump w/IEC Adapters:** These pumps have the IEC frame and shaft adapters on them, ready for any IEC Motor.

**IEC Frame Motors:** We can purchase and mount IEC frame motors with most of the standard enclosure options such as IP54, IP55, etc.

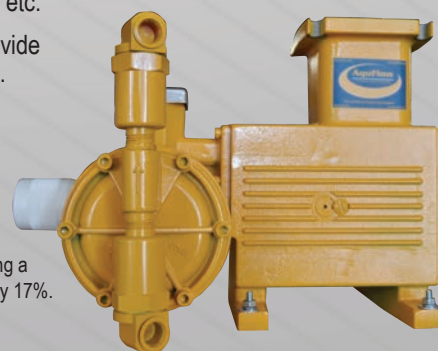
**IEC ATEX/IECEx Flameproof Motors:** We provide these motor options for use in hazardous areas.

### Hydraulic or Pneumatic Motor Drives:

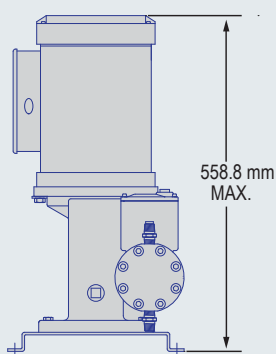
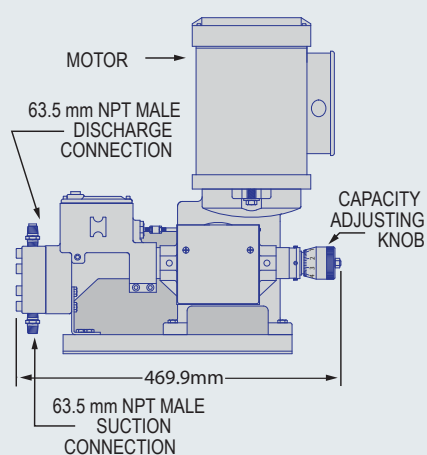
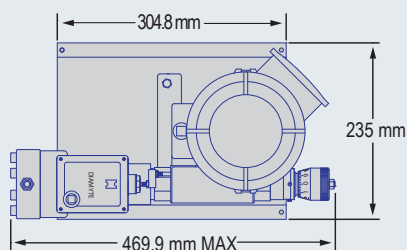
We have these non-electric motor options.

**Voltages:** 200, 230, 380, 400, 460, 690 V AC  
in 50 Hz or 60 Hz.

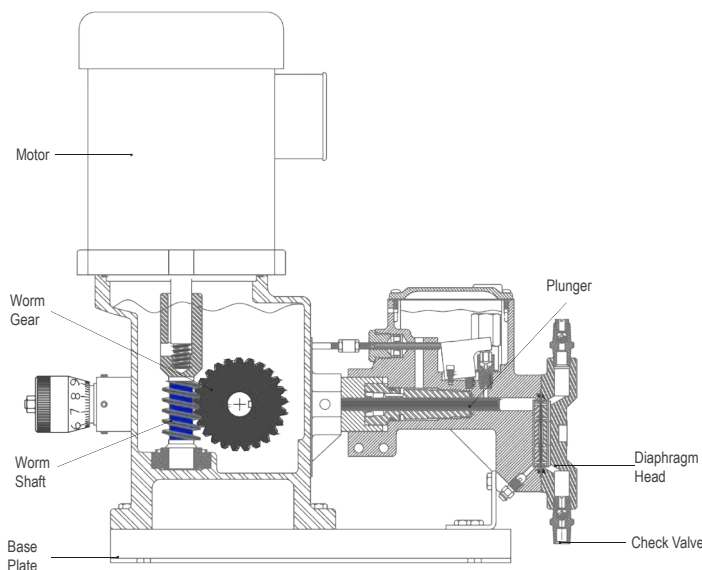
NOTE: All performance data including flow capacities are listed in this catalog based on 60 Hz speeds. If you are using a 50 Hz motor, please de-rate the capacities by approximately 17%.



## DIMENSIONS



## CROSS SECTION



### S900 Options

**Capacity Control Options:** Dual Axis with both stroke length and stroke speed adjustable

**Stroke Length Controls:** Manual - Standard on all pumps

Electric – Electric stepper motor. Capable of 4-20mA input

Pneumatic – Runs on 2 bar air for hazardous environment

**Stroke Speed Controls:** Variable Frequency Drive (VFD) - AC / Variable Speed Drive (SCR) - DC

### Liquid Handling Options

**Degassing Valve:** Some challenging liquids can cause air locking due to off gassing. Our pump head with degassing valve ensures accurate and consistent pumping by letting out gas bubbles from the pump head.

**Double Ball Check Valve:** To make doubly sure you have positive valve shut off.

**Tungsten Carbide Valve Balls:** For abrasive liquids.

### Leak Detection Options

There are two types of leak detection options available with AquFlow pumps.

**Conductive:** Conductivity probe between 2 diaphragms to sense any break/rupture.

**Vacuum:** Uses a vacuum switch between 2 diaphragms to sense rupture/ failure.

### Other Options

**Liquid Connections** – NPT / FLANGE/ TRICLAMP

**Motor Options:** IP54 to IP69 Rated Enclosures, ATEX Rated, IEC Frame.

Power Supply: Single Phase (150/230 V, 110/220 V), 3 Phase ( 203-460 V, 220/380 V) DC 12, 24, 90, 180, 50 Hz, 60 Hz.

## AQUFLOW - MARKETS & APPLICATIONS

### WATER AND WASTEWATER TREATMENT

Sodium / Calcium hypochlorite for disinfection  
Sulfuric acid and sodium silicate  
Alum or sodium aluminate as a coagulant aid  
Injection of phosphate for red water control  
Lime slurries in softening and pH control  
Injection of polymers for primary coagulation  
Activated carbon slurries for taste and odor control  
Bromine for disinfection  
Sulfuric acid - to stop delignification of cooling tower lumber  
Ammonium sulphate or aqua ammonia - chloramines  
Copper sulfate for algae control in cooling tower  
Fluorine compounds for dental cavity control  
Sodium hypochlorite - caustic and cyanide removal  
Lime slurries for pH control (corrosion control)  
Ferric chloride and alum injection for coagulation  
Copper sulfate injection for algae control  
Activated carbon/diatomaceous earth slurries - odor control  
Caustic soda for metal removal, pH control  
Anionic and cationic polymer injection for phosphate removal

### AGRICULTURE

Fertigation - Adding Fertilizers  
Chemigation - Pesticide, Insecticide to protect crop  
Fumigation - for crop protection  
Acid Pumping - pH balance for water  
Chlorine - Disinfection of water

### OIL & GAS

Injecting Corrosion Inhibitors  
Adjust pH of sour gas or crude oil to reduce corrosion  
Injecting sludge inhibitors for fuel oils  
Pumping additives for bacteria control  
Caustic soda to crude oils or soured gasoline for rerun  
Chemical desalting of crude (crude oil emulsions)  
Metal deactivators (antioxidants) to eliminate gum  
Antiknock additives and alcohol to gasoline  
Metering acid for polymerization, etc.  
Introducing lubricants to gas lines  
Anti-icing additives for Jet fuels  
Gasoline color additives

### CHEMICAL PROCESSING

Ethers  
Aromatics (Toluene, Paraxylene, Benzene, Orthoxylene)  
Ethylene Glycols - plastics, textiles, paints, adhesives, etc.  
Vinyl Monomers  
Methanol, used in MTBE  
Sodium Tetraborate solutions  
Alumina catalyst solution

**FOOD & DAIRY** - Flavors, Additives, Preservatives, Colors

**PET FOOD** - Preservatives, Additives, Flavors, Hormones

**SOFT DRINKS, BEVERAGES** - Water Purification, Additives, Flavors

**BREWERIES, DISTILLARIES** - Water, Additives, Aging Chemicals etc.

**PAINTS & DYES** - Dyes, Pigments, Inks etc.

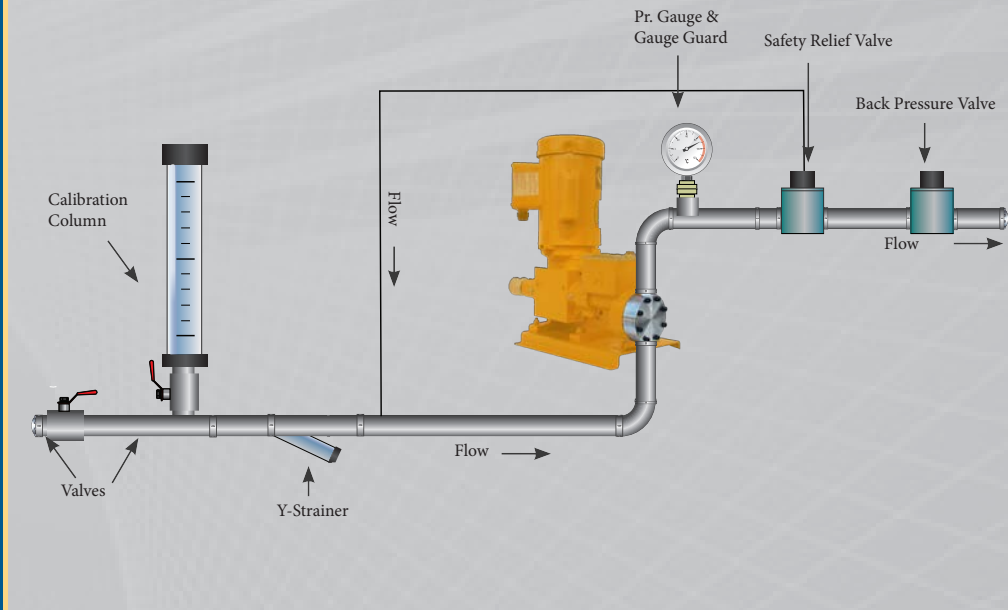
**MINING** - pH control of the ore, dust control, neutralizing, extraction etc.

**PAPER** - pH balance of pulp, colors, coatings etc.

**FIREPROOFING** - Building Structures

**BOILER FEED**

## TYPICAL AQUFLOW PUMP INSTALLATION



## AQUFLOW HYDRAULIC METERING PUMP MODEL CODE

### AAA: AQUFLOW PUMP SERIES IDENTIFIER

Series 900 - DM4 (Standard), DL4, DL3, etc.  
Series 1000 - CJ4 (Standard), CA4, CJ3, etc.  
Series 2000 - CD3 (Standard), CR3, CQ3, CL3, etc.  
Series 3000 - CNI (Standard), KBI, HFI, CMI etc.  
Series 4000 - GNI (Standard), GMI etc

### B: MAIN PUMPING ELEMENT

T = Single PTFE Disc Diaphragm  
W = Double PTFE Disc Diaphragm  
A = Single Hypalon Tube  
B = Single Viton Tube

### CC/CCC: PLUNGER DIAMETER

Series 1000	Series 3000
38 = 9.53 mm	08 = 25.40 mm
56 = 14.29 mm	10 = 31.75 mm
75 = 19.05 mm	12 = 38.10 mm
87 = 22.23 mm	14 = 44.45 mm
113 = 28.58 mm	16 = 50.80 mm
162 = 41.28 mm	18 = 57.15 mm
	20 = 63.50 mm

Series 2000	Series 4000
05 = 15.88 mm	07 = 22.23 mm
06 = 19.05 mm	08 = 25.40 mm
08 = 25.40 mm	09 = 28.58 mm
10 = 31.75 mm	13 = 39.69 mm
12 = 38.10 mm	20 = 63.50 mm
	24 = 76.20 mm
	32 = 101.6 mm

### H: LIQUID CONNECTION

Blank = NPT F = Flange X = Other

### DD: STROKES PER MINUTE

29 = 29 SPM  
44 = 44 SPM  
58 = 58 SPM  
88 = 88 SPM  
97 = 97 SPM  
12 = 117 SPM  
14 = 140 SPM  
17 = 170 SPM  
19 = 190 SPM

### EE: Liquid End Material

04 = 316 Stainless Steel  
05 = Alloy 20  
06 = Hastelloy C  
08 = PVC  
0A = Kynar (PVDF)

### FF: Configuration Code

01 = Simplex Manual Adjustment  
02 = Duplex Manual Adjustment  
03 = Simplex Pneumatic Adjustment  
04 = Duplex Pneumatic Adjustment  
05 = Simplex Electronic (4-20mA)  
06 = Duplex Electronic (4-20mA)

### G: Valve Ball Size

3 = 6.35mm 8 = 22.2mm D = 50.8mm  
4 = 9.53mm 9 = 25.4mm E = 57.2mm  
5 = 12.7mm A = 31.8mm F = 63.5mm  
6 = 15.9mm B = 38.1mm G = 76.2mm  
7 = 19.1mm C = 44.5mm H = 101.6mm



## Cheminjector Systems



### CUSTOMIZED RELIABILITY - COMPLETE CHEMICAL FEED SYSTEMS

#### EVERYTHING YOU NEED FOR ACCURATE CHEMICAL DELIVERY IN YOUR PROCESS

- Tell us your chemical dispensing requirements. We will build a system customized for you.
- We will also provide you with system automation to match your needs and other systems.
- A complete turnkey system that can perform dependably and durably with minimal down time.

#### FROM CHEMICAL TANK TO INJECTION QUILL – COMPATIBLE ACCESSORIES

- We have pre-matched every component that goes in the system. No incompatibility issues.
- Tested components and controls to ensure optimal performance.
- One responsive team. Comfort in knowing you can call one team known for its responsiveness.

#### AVAILABILITY OF ALL SERVICE PARTS UNDER ONE ROOF

- We maintain adequate inventory of critical service parts to ensure minimal down time
- Our vendors also support us with similar availabilities for outsourced parts
- Since we maintain complete records for all CI systems built we can always get right parts.

#### SKID MOUNTED, MOBILE STATIONS, SITE MOUNTED, VEHICLE MOUNTED OPTIONS

- While most assemblies are skid mounted which is then placed at the site there are some systems that are too big for skid mounting. For such systems we provide on site assembly.
- Where mobility is important we have built mobile systems mounted on carts / trailers or even mounted it directly on a vehicle for covering long distances.

### STANDARD RANGE OF CHEMINJECTOR PACKAGES

#### CHEMINJECTOR BASIC ASSEMBLY

- Essential Accessories like Back Pressure Valve, Pressure Relief Valve, Inlet and Discharge Valves, Connecting piping mounted on a simple skid along with the pump and motor.

#### CHEMINJECTOR STANDARD SYSTEM

- In addition to the Basic Assembly components we add Calibration Column, Inlet Strainer, Pressure Gauge with Isolator, Control Panel with On / Off Switch.

#### CHEMINJECTOR AUTO SYSTEM

- This includes automation controls which can be communicated with a 4-20mA signal from a computer or a SCADA. Capacity is adjusted with either a VFD or ECCA (Stroke Adjuster).

#### CHEMINJECTOR AUTO PLUS SYSTEM

- This also includes a feedback loop from a flow meter to ensure the accurate delivery of the chemical. This system also comes with an optional memory for record keeping.

#### CHEMINJECTOR AUTO PLUS REMOTE CONTROL SYSTEM

- As the name suggests this system has the additional capability to be controlled remotely using a radio signal or over the internet using a computer, tablet or a smart phone.

## AQUFLOW WARRANTY – INDUSTRY LEADING UP TO 5 YEARS!

For Hydraulic diaphragm metering pumps Manufactured in the USA!

AquFlow has been manufacturing premium quality hydraulic diaphragm metering pumps for over 40 years since 1972. We have refined the design and perfected the performance over that period to earn a reputation as a maker of long lasting durable pumps that never quit. We have numerous testimonials from our customers who had made the change from competitive pumps to AquFlow never to buy another brand again.

It is with this confidence and AquFlow offers a limited warranty for all its hydraulic diaphragm metering pumps that are manufactured in Irvine, California, USA up to 5 years on all prequalified applications. This is designed to assure the customer that when they buy AquFlow pump they will have one area of their operations that they do not need to worry about anymore. We stand by them every step of the way to ensure the pump delivers performance as and when they expect it to keep their process going and productivity up throughout the life of these pumps.

## AQUFLOW PUMPS WORK BEST WITH AQUFLOW ACCESSORIES:

### Calibration Columns

Help calibrate the pump accurately  
0 - 10 liters in PVC, Stainless Steel, etc.

### Back Pressure Valves

Maintain steady shut off pressure for valves  
9.5 mm to 50.8 mm in PVC, Stainless Steel, Alloy 20, PVDF, Hast. C

### Safety Relief Valves

For additional layer of safety from over pressurization  
9.5 mm to 50.8 mm in PVC, Stainless Steel, Alloy 20, PVDF, Hast. C

### Pressure Gauge with Isolator

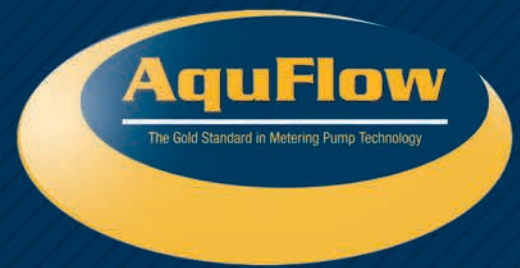
To visually see the functioning of the pump

### Pulsation Dampeners

To get a pulse less steady flow  
0 - 10 liters in PVC, Stainless Steel, Alloy 20, PVDF Hast. C

### Strainers

To keep the debris away from check valves



## The Most Complete Line of Metering Pumps

S 900 - 0 to 0.05 LPH, up to 11 LPH,  
0 to 276 Bar

S 1000 - 0 to 234 LPH, 0 to 276 Bar

S 2000 - 0 to 424 LPH, 0 to 124 Bar

S 3000 - 0 to 1,825 LPH, 0 to 48 Bar

S 4000 - 0 to 13,362 LPH, 0 to 241 Bar

## Corrosion Resistant Materials

316 Stainless Steel, Alloy 20, Hastelloy C  
PVC, PVDF, PTFE

## ChemInjector Chemical Systems

Complete Customized chemical system  
Uninterrupted Consistent Chemical Delivery  
Perfectly matched Accessories  
Controls that are user friendly and digitized  
All Components proven to work well together  
Easy to operate, maintain and service  
No downtime with parts availability

Distributed By:

AquFlow  
1642 McGaw Avenue  
Irvine, CA 92614  
USA

Ph: 949-757-1753  
Fax: 949-757-1687  
Email: [sales@aquflow.com](mailto:sales@aquflow.com)  
Website: [www.aquflow.com](http://www.aquflow.com)