

# Welore

Dosing Pumps & Chemical Dosing Systems



# About Us

Swelore has over 35 years of experience in Liquid Applications engineering and has all the capabilities for designing & manufacturing of their wide range of chemical dosing / metering pumps and chemical injection/dosing systems.

Swelore Metering pumps now offer a complete range of models with variety end combinations to cover and handle every specific metering task.

Continuous investment in the advanced modern machinery & state of art technology has made Swelore “the leader in the field of metering pumps and dosing systems”.

## WHY USE SWELORE METERING PUMPS & DOSING SYSTEMS?

Swelore Products & services are advantageous over other because

- A pioneer with over 35 years of experience & service records.
- Having a vast populations of more than 12000 pumps working satisfactorily with Refineries, Petrochemicals, Fertilizer, Oil & Gas, Chemical & other prominent industrial sector in India & abroad.
- Pumps supplied before three decades are still in operation.
- Track record of having executed maximum numbers of project orders during the last 30 years.
- Company & its products are approved with all engineering consultants of India & Abroad.
- Offers complete range of metering pumps & system to suite wide application areas.
- An ISO 9001 accredited company.
- Excellent after sales services through all India Network.

## QUALITY

- Each & every pumps manufactured at Swelore is made under strict quality control norms & with material traceability records.
- Welore series pumps meets API 675 & Hydraulic Institutes standard & requirement assures guaranteed performance for design & safety.
- Each pump is individually tested before dispatch.
- Inspection authorities like : EIL, LLOYDS, DNV, UHDE, PDIL, NTPC, DALAL, H&G have been inspecting Welore pumps regularly.
- All project orders are supplied with necessary contractual documents like GA & CS drawings, material test certificates manufacturing record book, O&M manual etc, in requisite copies.

## FEATURES & BENEFITS

### Capability

- Flow Rate as low as 100 ml./Hr.
- Flow Rate as high as 6000 ltr./Hr. in simplex design.
- Pressure rating upto 500 Kg/Cm<sup>2</sup>.

### Multiplexing

All model can be multiplexed & driven by common drive for high capacity requirement of multi point injection.

### Jacketing

Plunger & Diaphragm pumps can be supplied with heating or cooling jacket arrangement for handling difficult liquids.

### Remote Heads

Remote head pumps can be supplied for Radio active, Toxic, High temp liquids.

### Stroke Adjustment

Micrometric stroke adjustment is supplied as a standard option. Pneumatic & Electro Pneumatic, Electrical & Electronic, Speed Control units are also available for automatic operation of pumps.

### Accuracy

Steady state  $\pm 1\%$

Linearity better than  $\pm 3\%$

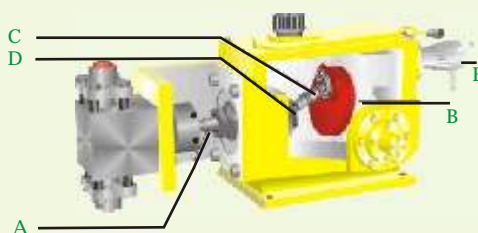
Repeated accuracy better than  $\pm 3\%$

### Long Life

As all the power end components are immersed in oil and run at low speed, Welore pumps have long service life & minimum parts replacement.

## Stroke Adjustment Mechanism

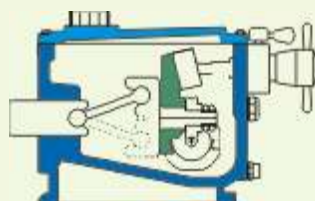
Welore metering pumps use proven welcrank mechanism which is POSITIVE RETURNED plunger mechanism.



- A: Plunger
- B: Worm reduction assembly
- C: Connecting rod
- D: Cross head
- E: Stroke adjustment knob

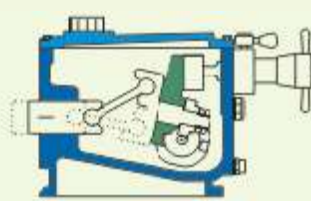
The pump assembly consists of worm reduction gear, eccentric, connecting rod, cross head, plunger, cylinder & valves.

### Zero Stroke



When coupled with motor & stroke adjustment knob set at “0” gear assembly & eccentric revolves without producing reciprocating motion of plunger.

### Full or Partial Stroke

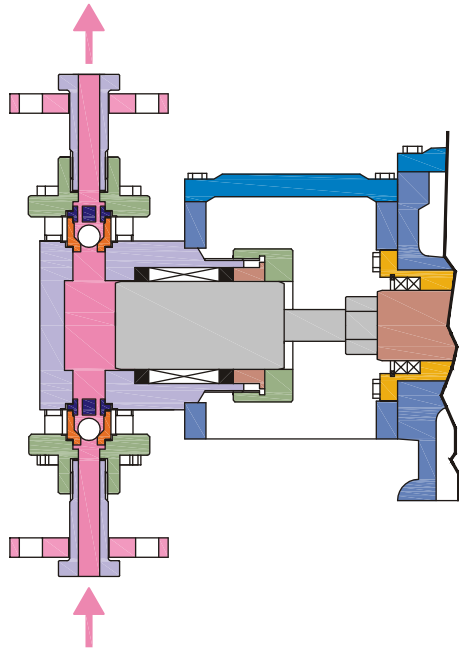


When stroke adjustment knob set at full or partial stroke setting, gear assembly & eccentric revolves in inclined position corresponding to the stroke setting. This produces reciprocating motion with respect to desired stroke length.

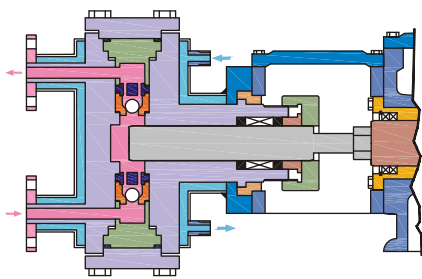
# Liquid End Designs

Swelore offers wide variety of liquid end designs to suite various metering applications.

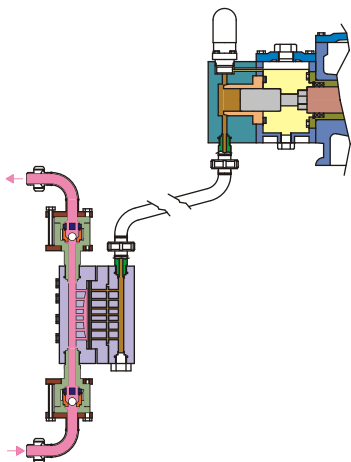
## Plunger Type



Standard plunger design with options of single or double valve & gland flushing arrangement.



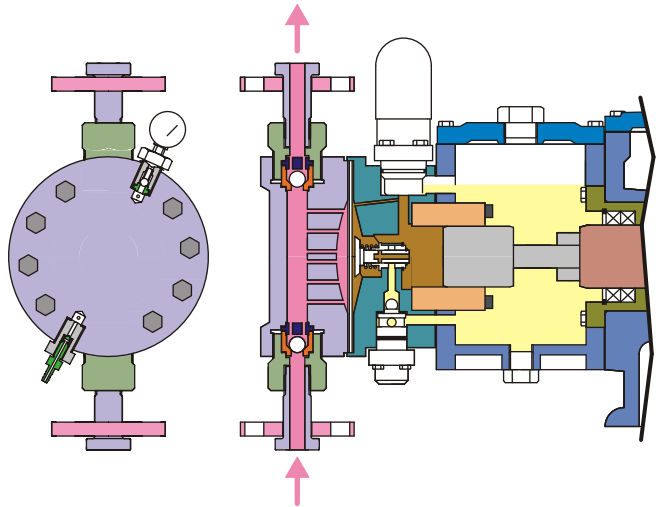
Jacketed plunger head for cooling or heating of pumping liquid.



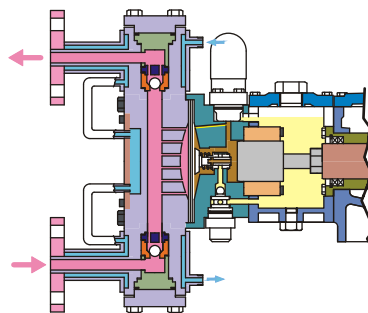
Remote head diaphragm for handling hazardous, toxic & radio active liquids.

Note : Other options of liquid end designs are also available to suite any application

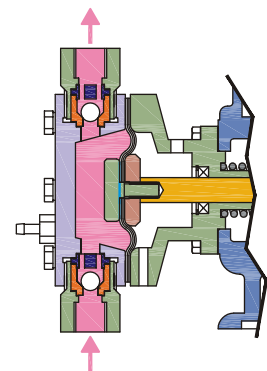
## Diaphragm Type



Hydraulically flexed single & double diaphragm for handling liquid without leakages. Option of diaphragm rupture indicating device is also available.



Complete jacketed single or double diaphragm for the liquids requiring mandatory heating or cooling.



Mechanical Diaphragm with Diaphragm Rupture Indication.

■ Pumping Chamber

■ Process Fluid

■ Pressurized Hydraulic Oil

■ Hydraulic Chamber

■ Hydraulic oil

■ Steam of Brine

## Standard Material of Liquid Ends

### PLUNGER

Material Code	Liquid End Cylinder	Plunger	Valve Assembly	Plunger Seal
MO1	SS316/CF8M	SS 316	SS 316	PTFE Braided
MO5	SS304/CF8	SS 304	SS 304	PTFE Braided
MO3	ALLOY - 20	ALLOY - 20	ALLOY - 20	PTFE Braided
PO1	-	-	-	-
PO2	-	-	-	-

### DIAPHRAGM

Material Code	Liquid End Cylinder	Diaphragm	Valve Assembly	Plunger Seal
MO1	SS316/CF8M	P.T.F.E	SS 316	Glandless
MO5	SS304/CF8	P.T.F.E	SS 304	Glandless
MO3	ALLOY - 20	P.T.F.E	ALLOY - 20	Glandless
PO1	PP	P.T.F.E	PP / PVC	Glandless
PO2	PTFE/PTFE LINED	P.T.F.E	PTFE	Glandless

Note : Option of other materials like Hastalloy- C, Titanium, PVDF etc. are available on request.

## Accessories

### Safety Valve :

Release pressure & provides better safety in discharge line.

### Strainer / Filter:

Filters suction liquid & Ensures foreign particle free entry to pump chamber.

### Back Pressure Regulator :

Provides artificial pressure on pump discharge to avoid syphoning of liquid.

### Calibration Pot :

Allows periodic verifications of pump flow rate.

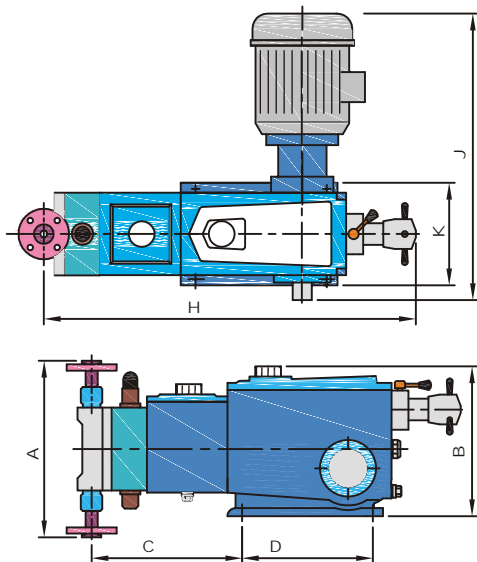
### Pulsation Dampeners :

Minimises pressure & flow pulsations in pump discharge line. Available designs are

- Vessel Type
- Diaphragm Type
- Bladder Type

Swelore offers a widest range of all the metering pump system components for different metering applications.

## Overall Dimension



## Dimension

Model	1125	1750	2250	3000	5000	
B	238	285	325	430	565	
D	195	270	350	458	610	
J	450	477	590	662	1130	
K	152	190	252	306	442	
A	255	305	365	442	650	
Plunger	C	190	212	266	286	400
H	516	638	792	933	1288	
A	328	360	510	570	760	
Diaphragm	C	240	278	349	366	487
H	566	705	875	1013	1375	

Note : Due to our program of continuous product improvement, features & specifications provided in this catalogue are subject to change.

## Capacity Table

Plunger Dia.	SPM	Capacity L/H	Disch. Press (Kg/Cm <sup>2</sup> )	Connection size
Model 1125				
	36	2		
8	100	5	239	
	150	8		
12	100	10	106	
	150	15		
16	100	20	60	½" X ½" F
	150	30		
25	100	50	24	
	150	75		
36	100	100	12	
	150	150		
50	100	200	4	¾" X ¾" F
	150	300		
Model 1750				
16	100	25	112	
	150	40		½" X ½" F
25	100	60	45	
	150	95		
48	100	200	12	
	150	300		¾" X ¾" F
56	100	325	9	
	150	475		
70	100	500	5	1" X 1" F
	150	750		
Model 2250				
20	100	60	99	½" X ½" F
	150	100		
36	100	200	30	
	150	300		¾" X ¾" F
56	100	500	13	
	150	750		
70	100	800	8	1" X 1" F
	150	1250		
80	100	1000	6	
	150	1600		1-1/2" X 1-1/2" F
85	100	1200	5	
	150	1800		
Model 3000				
16	100	50	350	
	150	80		½" X ½" F
22	100	100	197	
	150	200		
33	100	200	87	
	150	350		¾" X ¾" F
52	100	500	33	
	150	850		
60	100	750	26	1" X 1" F
	150	1150		
70	100	1000	19	1-1/2" X 1-1/2" F
	150	1500		
100	100	2000	10	
	150	3000		2" X 2" F
110	100	2500	6	
	150	3800		
Model 5000				
40	100	500	131	1" X 1" F
	150	800		
56	100	1000	67	1-1/2" X 1-1/2" F
	150	1500		
80	100	2000	32	
	150	3200		
95	100	3000	23	
	150	5000		2" X 2" F
108	100	4000	18	
	150	---		
130	100	5000	12	
	150	---		

Note : Above performance is based on 90% volumetric efficiency when handling water. Discharge pressure is based on max plunger thrust. Please consult us for final selection.

# Chemical Dosing Systems

Tailor made chemical dosing/injection systems supplied by Swelore are self-contained, ready to operate units, which only require to be connected to your chemical supply line & injection points. Swelore chemical dosing/injection systems are designed to meet individual customer requirements. These systems are complete with Dosing Pumps, Piping, Storage Vessels and all instrumentation required for optimum and trouble free operations. These systems are supplied duly mounted on single skid with platform, ladders, etc. as per customer requirements.

Swelore dosing systems are built conforming to applicable National and International Standards.



# Typical Pumps



Diaphragm pump for molten sulphur service



Plunger pump with Pneumatic actuator



Swel series Mechanical diaphragm & plunger pumps

# Triplex Pumps

Manufactured by associate M/s. Hiro Nisha Systems Pvt. Ltd.



## Triplex Pump Capability

- Flow rate up to 60 m<sup>3</sup>/hr.
- Pressure rating up to 1000 Kg/cm<sup>2</sup>
- API 674 compliance

Manufactured by :



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