



ISO 9001

**E-WHA**

# METERING PUMPS

**BUILT-IN AIR CHAMBER  
DIAPHRAGM TYPE**

 **EWS SERIES**



**E-WHA CHEMICAL FEEDER CO., LTD.**



## FEATURES

### LOW-pulsation metering pump

- The built-in air-chamber is preventing pulsation, pipe vibration, leakages and noise.
- Designed to eliminate any damage to pipe and pipe connection.  
No additional installation is required to prevent pulsation.
- Low installation cost due to small hose and pipe connection.

### Complete range

- Wide range of JM/JMD series ensures the optimum solution for the requirements.
- Wide choice of liquid end with various material : PVC, 304ss/316ss/316L stainless steel, PTFE, PVDF etc.
- Optional explosion-proof motor.

### Drain valve installed

- The drain valve installed on the pump head allows for self flushing and easy maintenance and maximum safety.

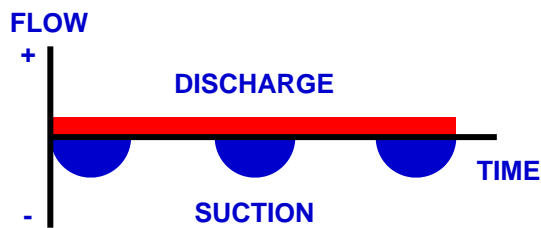
## FEATURES

### Constant discharge flow

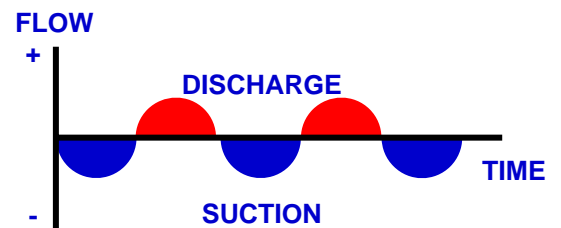
- A stable discharge flow is maintained and hardly affected by the property of liquid or pressure fluctuations.

### Flow shape

- E-WHA LOW-pulsation pump



- Other pulsation pump



### High durability

- The drive unit is oil bath type and a sufficient durability is guaranteed in long and continuous operation .

### Accessories

- Safety valve, back pressure valve, check valve and strainer etc.
- Accessories can optimize the performances of EWS series.

## MAIN TECHNICAL CHARACTERISTICS

- PTFE diaphragm
- Mechanically actuated diaphragm
- Variable eccentric stroke adjustment
- Simplex version(Optional Duplex or Triplex version)
- Max. temperature of service liquid PVC : 40°C , Stainless steel & PTFE 80°C
- Flow adjustment from 0 to100% during operation or paused.
- Flow adjustment accuracy :  $\pm 1.5\%$
- Maximum suction lift : 2.0 m water

## SIMPLE INSTALLATION & MAINTENANCE

- Easy access to main parts
- Lubrication by oil bath
- Base with mounting holes
- No special tools are required.

## APPLICATIONS

**JL and JLD series are applicable to all conventional liquids.**

- Acids : hydrochloric acid, sulphuric acid, nitric acid, hydrofluoric acid etc.
- Bases : caustic soda, ammonia, sodium bicarbonate, trisodium phosphate etc.
- Chlorinated products : hypochlorite solutions, chlorine dioxide etc.
- Cosgulants : aluminum sulphate, ferric chloride etc.
- Other products : hydrazine, amines, potassium permanganate, detergents, fertilizers etc.

# EWS SERIES

**E-WHA**

## MODEL NAME

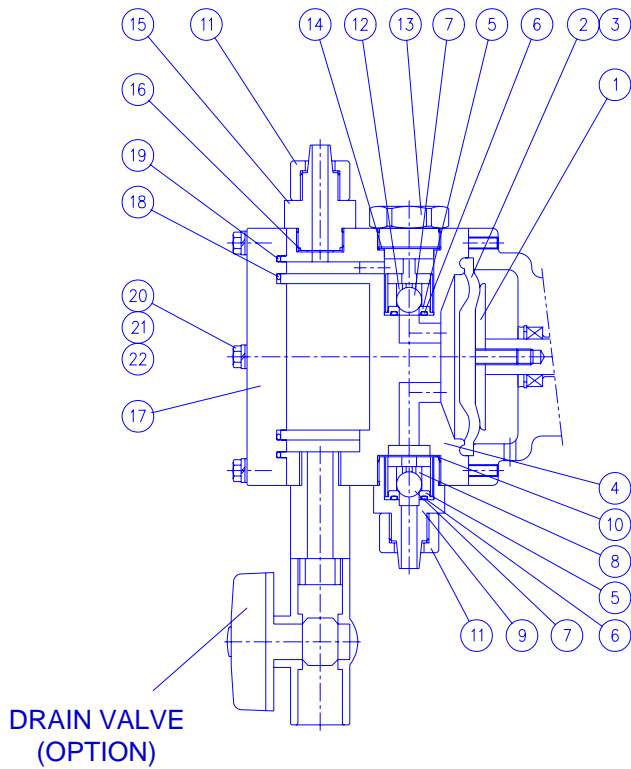
**EWS**   **D**   **3000**   **P**   **C**   **F**   **D**   **23**  
 ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧

- ① ■ SERIES NAME : BUILT-IN AIR CHAMBER, DIAPHRAGM TYPE METERING PUMP
- ② ■ D = DOUBLE HEAD(DUPLEX) NO SPELL = SINGLE HEAD(SIMPLEX)
- ③ ■ MAXIMUM FLOW RATE - 3000=3,000 cc/min. CLAS - 60L=60×1000=60,000 cc/min CLASS
- ④ ■ LIQUID END MATERIAL - P=PVC, S4=SUS304, S6=SUS316, SL=SUS316L, K=PVDF, T=PTFE
- ⑤ ■ MATERIALS OF CHECK BALL - C=CERAMICS, S4=SUS304, S6=SUS316
- ⑥ ■ INLET / OUTLET CONNECTION - F = FLANGE TYPE, H = HOSE TYPE
- ⑦ ■ DRAIN VALVE(OPTION) - D = INSTALLED DRAIN VALVE - NO SPELL = NOT INSTALLED DRAIN VALVE
- ⑧ ■ MOTOR SPECIFICATION - 23 = 3PHASE 220V, 33 = PHASE 380V, 43 = PHASE 440V

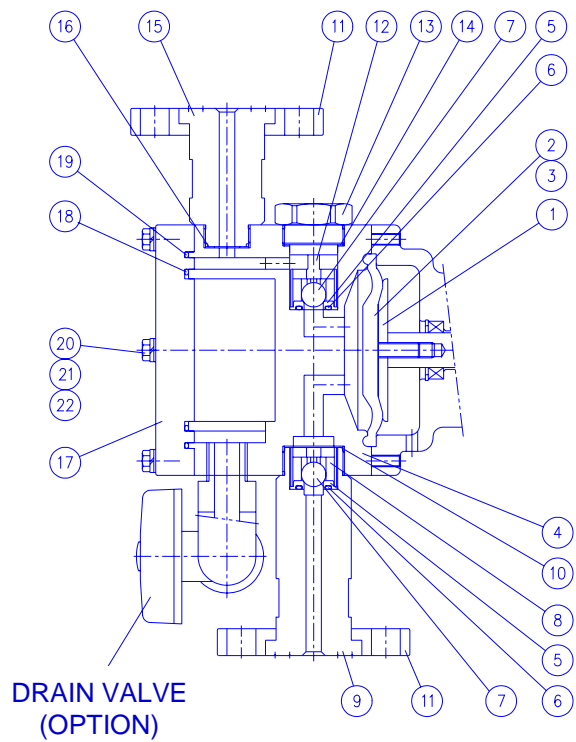
## LIQUID END MATERIAL ( STANDARD )

HEAD \ PARTS	P.V.C	SUS304	SUS316	PTFE	PVDF
DIAPHRAGM	PTFE + EPDM				
CHECK BALL	CERAMICS	SUS304	SUS316	CERAMICS	
BALL SEAT	P.V.C	SUS304	SUS316	PTFE	PVDF
BALL GUIDE	P.V.C	SUS304	SUS316	PTFE	PVDF
O-RING, GASKET	VITON / PTFE			PTFE	PTFE

## LIQUID END CONSTRUCTION



■ HOSE TYPE ■



■ FLANGE TYPE ■

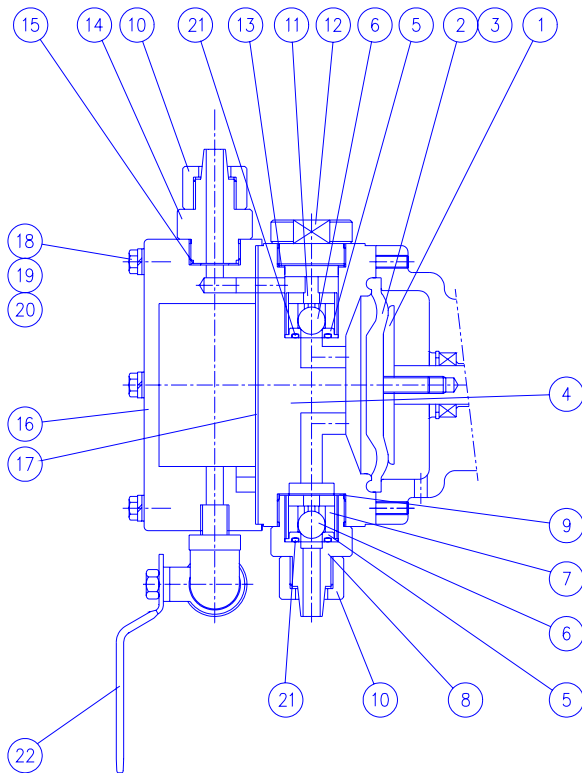
NO.	PARTS NAME	NO.	PARTS NAME	NO.	PARTS NAME	NO.	PARTS NAME
1	PUSH PLATE	2	DIAPHRAGM	3	FRICION SHEET	4	PUMP HEAD
5	BALL SEAT	6	O-RING	7	CHECK BALL	8	SUC. BALL GUIDE
9	SUC. CONNECTOR	10	GASKET	11	UNION NUT/FLANGE	12	DIS. BALL GUIDE
13	HEAD CAP	14	GASKET	15	DIS. CONNECTOR	16	GASKET
17	HEAD COVER	18	O-RING	19	O-RING	20	HEX. BOLT
21	SPRING WASHER	22	PLANE WASHER				

# EWS SERIES

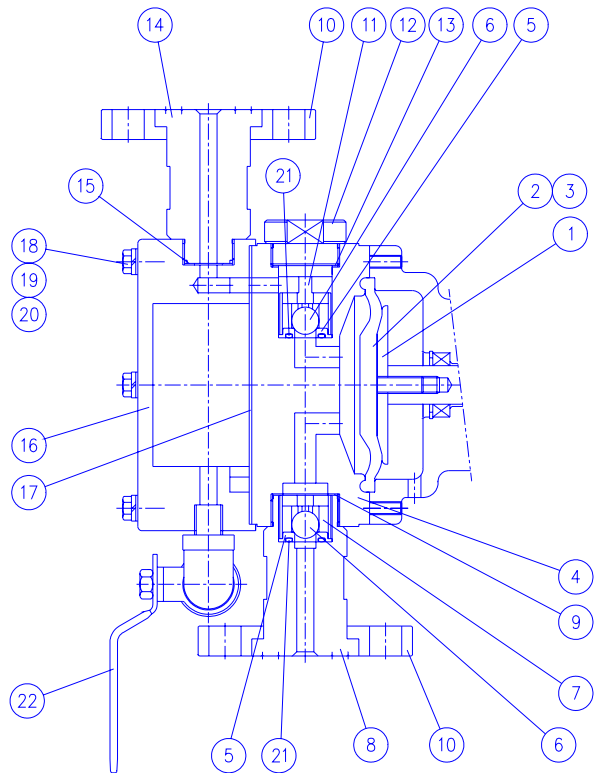


## LIQUID END CONSTRUCTION

APPLICATION MATERIAL : **STAINLESS STEEL**



■ HOSE TYPE ■



■ FLANGE TYPE ■

NO.	PARTS NAME	NO.	PARTS NAME	NO.	PARTS NAME	NO.	PARTS NAME
1	PUSH PLATE	2	DIAPHRAGM	3	FRICION SHEET	4	PUMP HEAD
5	BALL SEAT	6	O-RING	7	CHECK BALL	8	SUC. CONNECTOR
9	GASKET	10	UNION NUT/FLANGE	11	DIS. BALL GUIDE	12	HEAD CAP
13	GASKET	14	DIS. CONNECTOR	15	GASKET	16	HEAD CHAMBER
17	GASKET	18	HEX. BOLT	19	SPRING WASHER	20	PLANE WASHER
21	GASKET	22	DRAIN VALVE				

# EWS SERIES

**E-WHA**

## ■ SPECIFICATION (60Hz)

### ■ 60Hz

MODEL		EWS25	EWS50	EWS100	EWS300	EWS500	EWS1000	EWS2000	
FLOWRATE	cc/min.	25	50	150	360	600	1,200	2,000	
PRESSURE	kgf/cm <sup>2</sup>	10	10	10	7	5	5	5	
STROKE RATE	spm	48	95						
CONNECTION	HOSE	Φ6					Φ10		
	FLANGE	KS 10K 15A							
MOTOR		AC 3PHASE 220V, 380V, 440V, 40W E CLASS						60W	

### ■ 50Hz

MODEL		EWS25	EWS50	EWS100	EWS300	EWS500	EWS1000	EWS2000	
FLOWRATE	cc/min.	20	40	125	300	430	1,000	1,800	
PRESSURE	kgf/cm <sup>2</sup>	10	10	10	7	5	5	5	
STROKE RATE	spm	40	80						
CONNECTION	HOSE	Φ6					Φ10		
	FLANGE	KS 10K 15A							
MOTOR		AC 3PHASE 220V, 380V, 440V, 40W E CLASS						60W	

### NOTE

1. All performance curves shown are for water @68°F/20°C and 1.0 S.G..  
The performances are subject to change without notice.
2. Pumping Temperature Limit : PVC 0~40°C, STAINLESS STEEL/PTFE/PVDF 0~80°C
3. Slurry Limit : 100µm(0.1mm), Slurry Conteration Limit 10wt(%)
4. Suction Lift : 2m
5. Standard Painting Color : PANTONE 334C(MUNSELL NO. 2.5BG 5/10)

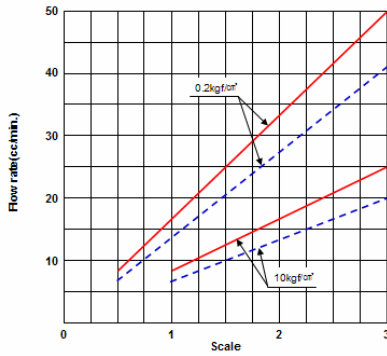
# EWS SERIES

**E-WHA**

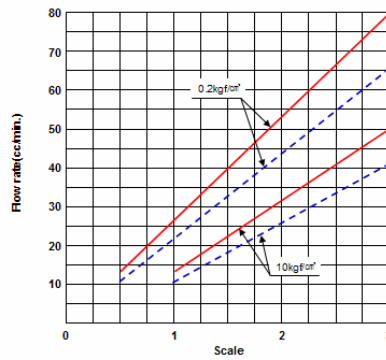
## PERFORMANCE CURVE

— 60Hz  
 - - - 50Hz

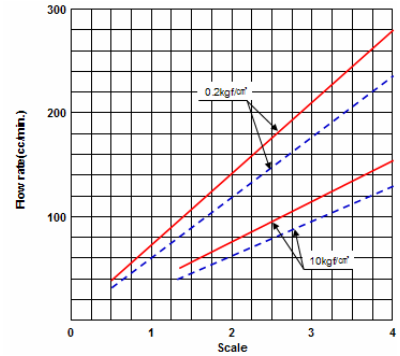
**EWS25**



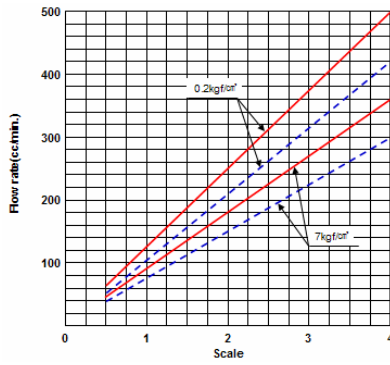
**EWS50**



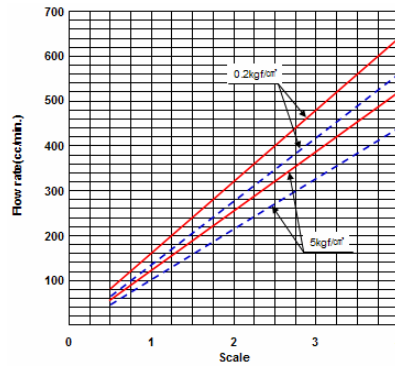
**EWS100**



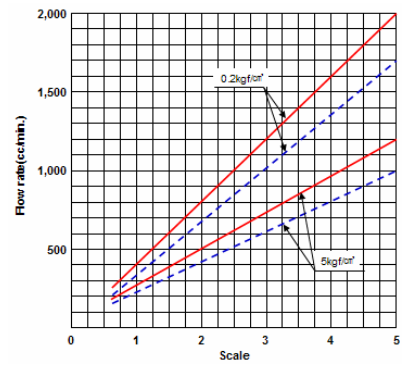
**EWS300**



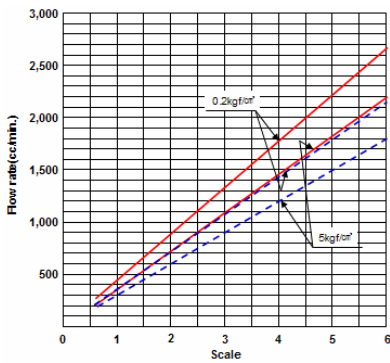
**EWS500**



**EWS1000**



**EWS2000**



### NOTE

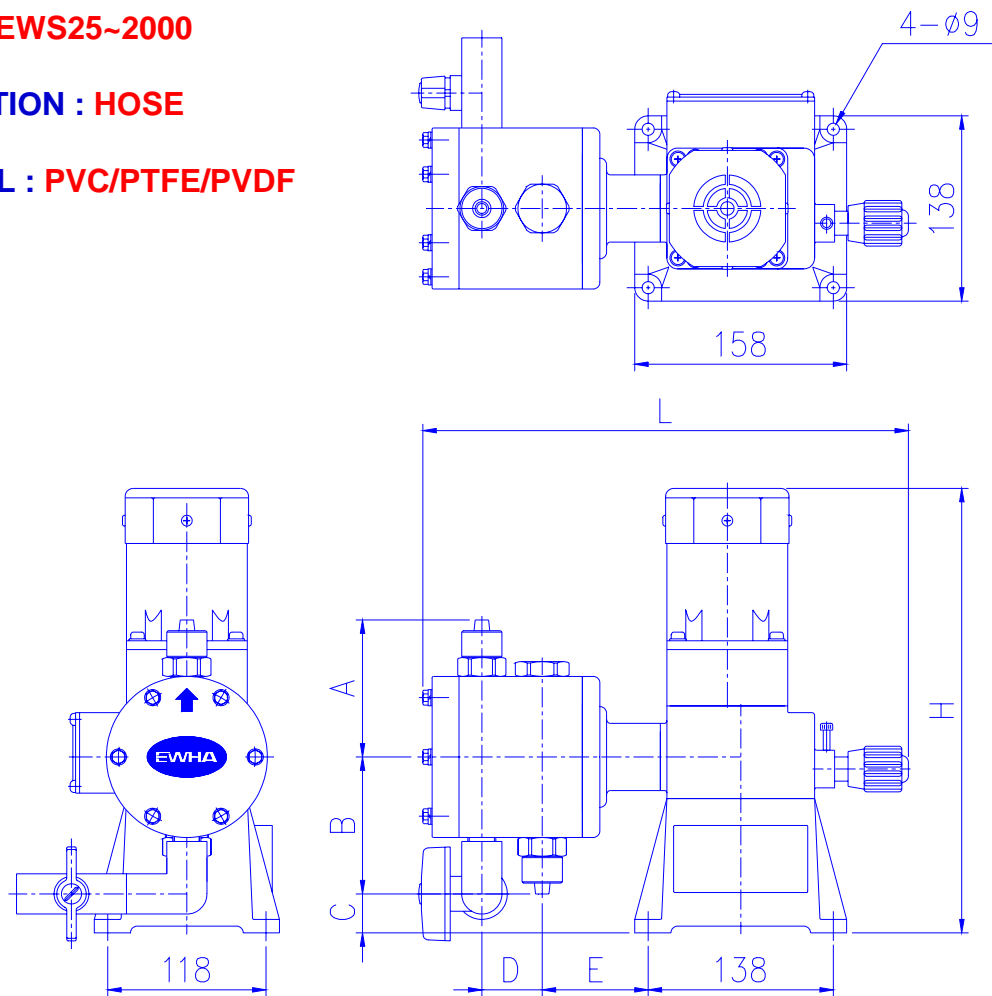
All performance curves shown are for water @68°F/20°C and 1.0 S.G..  
 The performances are subject to change without notice.

# EWS SERIES

**E-WHA**

## DIMENSIONAL OUTLINE

- MODEL : **EWS25~2000**
- CONNECTION : **HOSE**
- MATERIAL : **PVC/PTFE/PVDF**



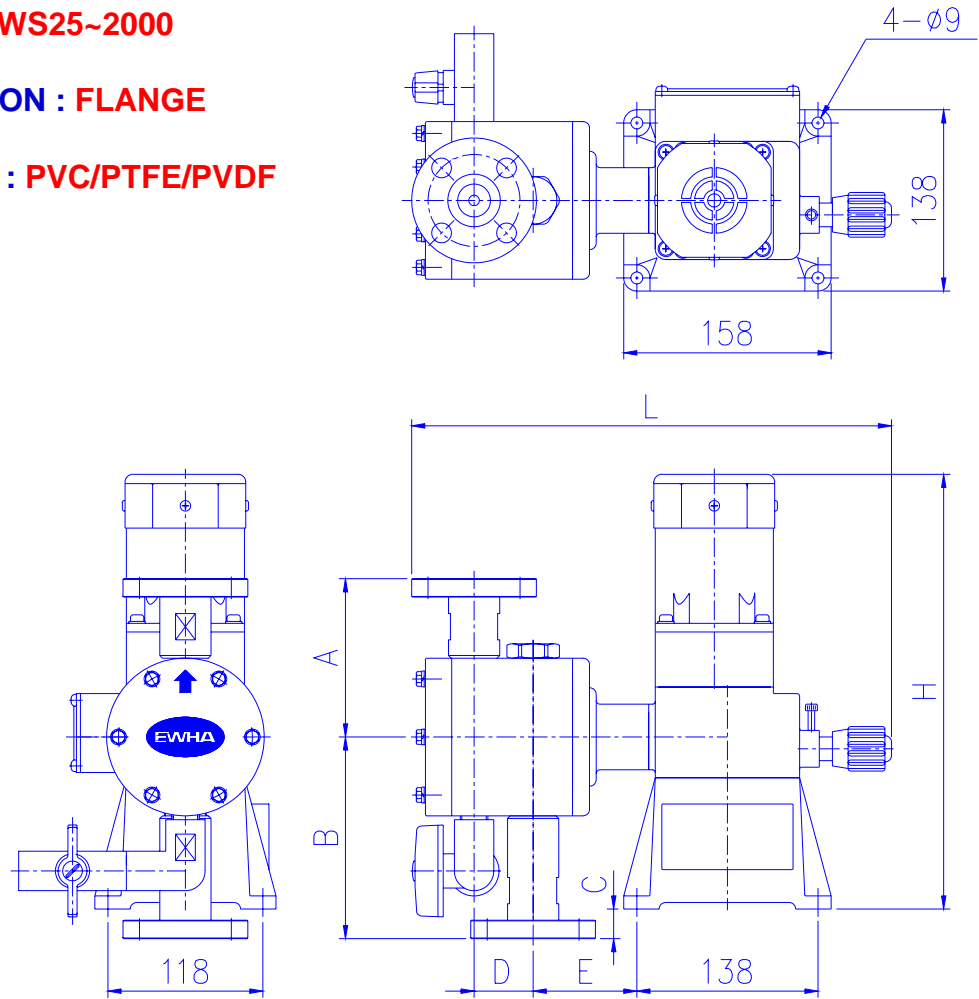
MODEL	A	B	C	D	E	L	H
EWS25~100	74	74	57	40	74.5	353	314
EWS300	84	84	47	40	80	358	314
EWS500	84	84	47	40	79	358	314
EWS1000	102	102	29	45	79	362	331
EWS2000	107	107	24	45	80	363	331

# EWS SERIES

**E-WHA**

## DIMENSIONAL OUTLINE

- MODEL : **EWS25~2000**
- CONNECTION : **FLANGE**
- MATERIAL : **PVC/PTFE/PVDF**



MODEL	A	B	B'	C	C'	D	E	L	H
EWS25~100	95	97	126	34	5	40	74.5	356	314
EWS300	105	107	135	24	-5	40	80	362	314
EWS500	105	107	135	24	-5	40	79	361	314
EWS1000	120	120	153	11	-23	45	79	366	331
EWS2000	125	125	158	6	-28	45	80	367	331

# EWS SERIES

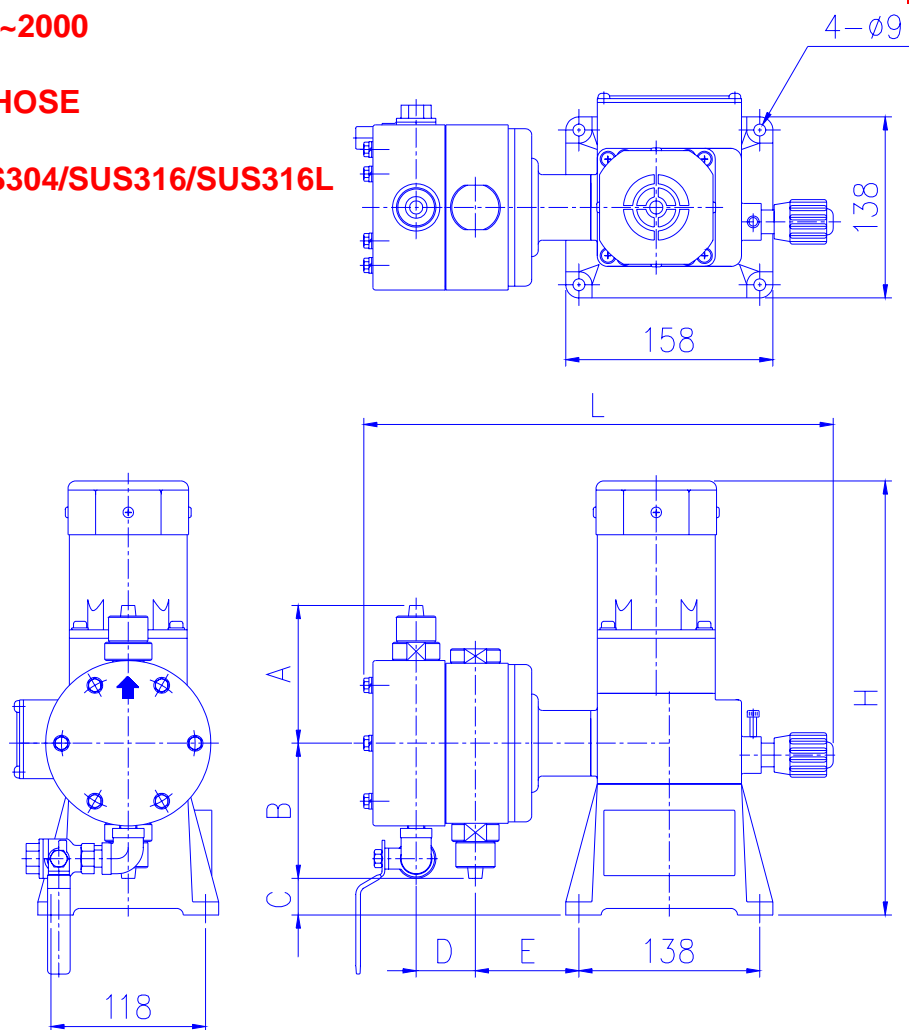
**E-WHA**

## DIMENSIONAL OUTLINE

■ MODEL : **EWS25~2000**

■ CONNECTION : **HOSE**

■ MATERIAL : **SUS304/SUS316/SUS316L**



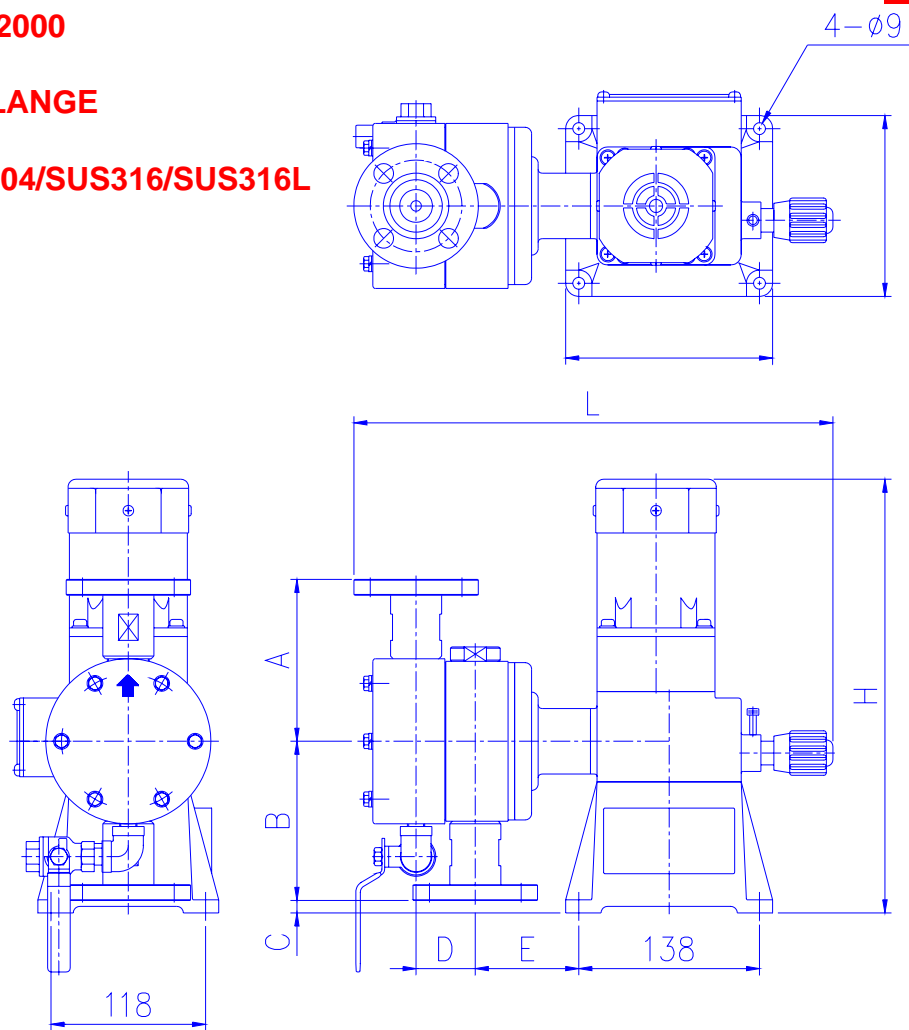
MODEL	A	B	C	D	E	L	H
EWS25~100	77	75	56	40	74.5	346	314
EWS300	87	85	46	40	75	346	314
EWS500	87	85	46	40	74	345	314
EWS1000	105	103	28	45	79	358	331
EWS2000	110	108	23	45	80	359	331

# EWS SERIES

**E-WHA**

## DIMENSIONAL OUTLINE

- MODEL : **EWS25~2000**
- CONNECTION : **FLANGE**
- MATERIAL : **SUS304/SUS316/SUS316L**



MODEL	A	B	C	D	E	L	H
EWS25~00	98	98	33	40	74.5	356	314
EWS300	108	108	23	40	75	357	314
EWS500	108	108	23	40	74	356	314
EWS1000	123	121	10	45	79	366	331
EWS2000	128	126	5	45	80	367	331



## **E-WHA CHEMICAL FEEDER CO., LTD.**

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