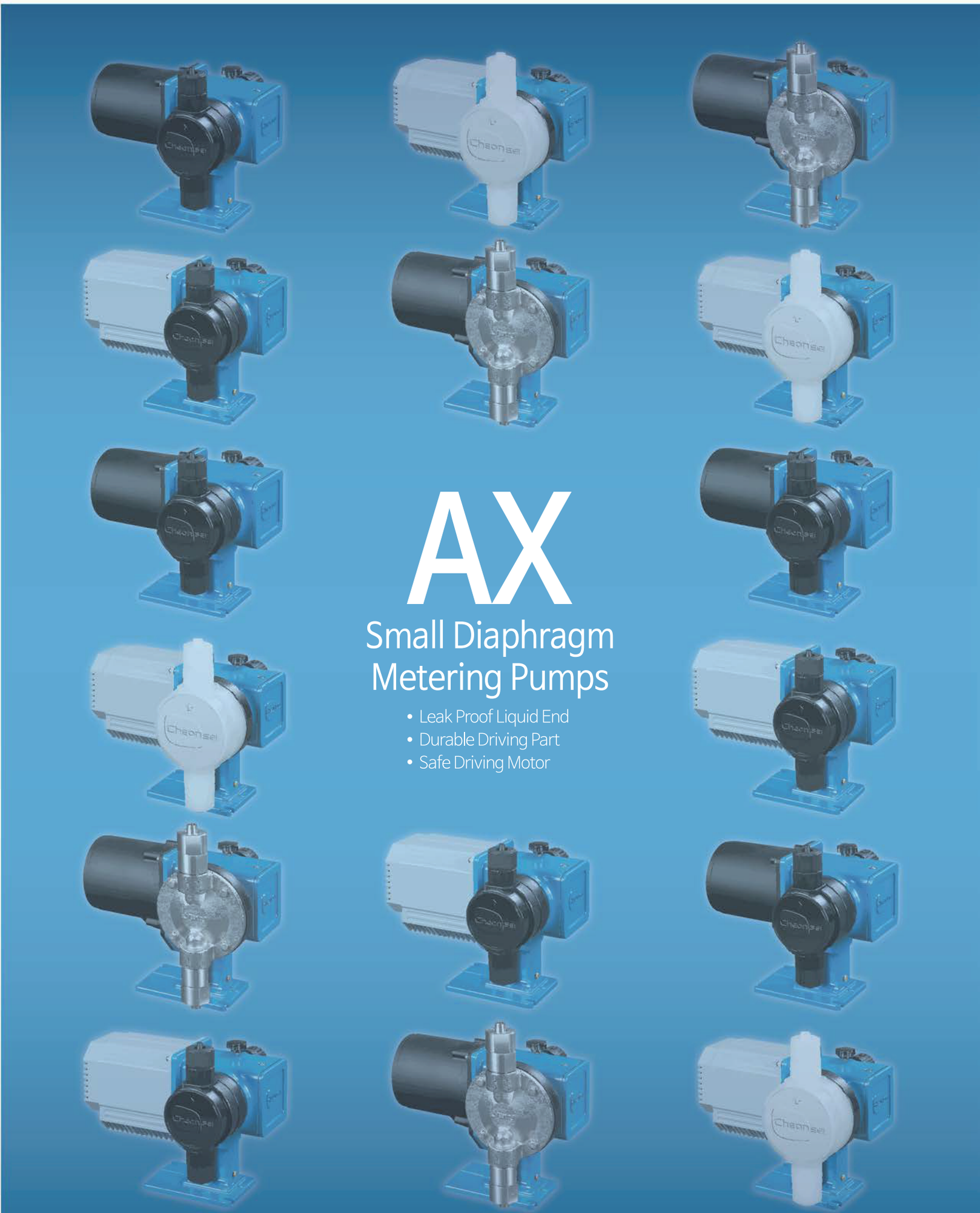
KEMPION

CE SPEC KAB KAB-QC-18 ISO 9001 Certified Company



AX

Small Diaphragm Metering Pumps

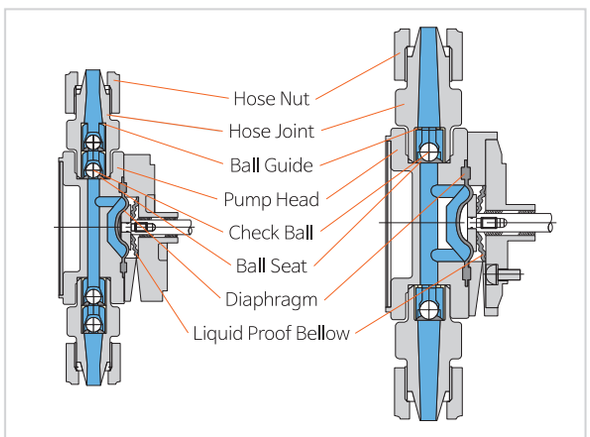
- Leak Proof Liquid End
- Durable Driving Part
- Safe Driving Motor

천세산업 (주)

〈Shaded Pole Motor Type〉

• Leak Proof Liquid End

· Use Special engineering plastic of high strength
· Superior chemical resistance
  - PFC(strengthened PP resin) : General corrosion resistance
  - FTC(fluoride resin) : Special corrosion resistance
· Perfect sealing by Diaphragm assembled with O-ring
· Block chemical to pass through the Driving Part by Bellows



• Easy Dial Setting

· Discharge capacity can be easily adjusted by a dial

• Safe Driving Motor

· Built-in thermal protector protects the motor in case of overload by carelessness
· Two types of motor by usage
  - Shaded Pole Motor
  - Totally Enclosed Self Cooling Motor

〈Totally Enclosed Self Cooling Motor〉

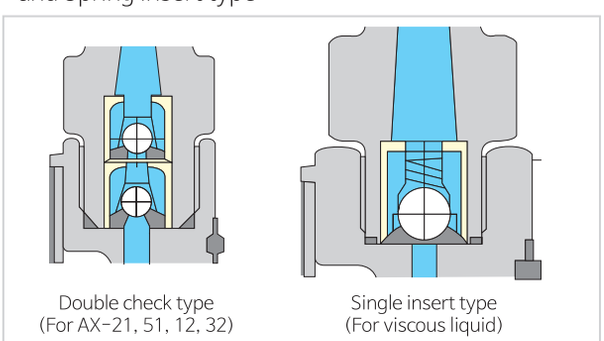
AX

Small Diaphragm Metering Pumps

The AX-Series is a reciprocating diaphragm metering pump constructed of top-quality chemical-resistant liquid-end materials and a highly-rigid body. Applications include injection of boiler compounds, chlorine disinfectants and food additives in the scientific, water treatment and waste-water treatment fields.

• Precise Valve Construction

· Maximize precision by double Check Ball type and Spring insert type

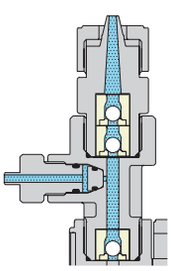


Double check type
(For AX-21, 51, 12, 32)

Single insert type
(For viscous liquid)

• Gas Locking Prevention

· Structure of Liquid End which minimizes dead space
· Air Relief Valve for liquid which generates gas
(Only for AX-21~32)



• Accessories

· High performance accessories with corrosion resistance material same as Liquid End
- Anti-siphon Check Valve
- Flange connections, Tees, Elbows and so on.

• Durable Driving Part

· Frame(aluminum die casting) and Planetary Gear (wear-resistant materials) for semi-permanent durability

Model Code

❶		❷		❸a	❸b	❸c		❹a	❹b	❹c		❺
AX	1	–	12	–	P	F	C	–	H	W	S	–	K

❶ Head Number

1 : Single
2 : Duplex
3 : Triplex

❷ Model No. for capacity

①②=1 0 0 ml/min(60Hz)

① is the figure on the left and ② is the no. of zero following. For duplex and triplex, this refers to the capacity of each head.

❸ Liquid-end materials

(a) Pump head
P : PP F : PVDF
S : SS304 6 : SS316
X : Special

(b) Ball Seat
F : FKM E : EPDM
T : PTFE X : Special

(c) Check ball
C : Ceramic S : SS304
6 : SS316 X : Special

❹ Specification

(a) Joint type
H : Hose F : Flange
X : Special

(b) Viscosity limit
W : Standard (Less than 50cp)
V : High Viscosity (50 to 1,000cp)

(c) Others
S : Standard A : Air relief valve
B : Boiler specifications
C : A+B type F : Relief Valve
G : F+B type X : Special

Notice
1. Please note that the combination of liquid-end materials is not unlimited. Refer to the standard liquid-end parts material list table for each model.
2. The diaphragm material is PTFE for all models.

❺ Motor type

K : Shaded pole motor
Z : Totally enclosed non-ventilated motor
X : Special

Specifications

Specifications			AX1-21	AX1-51	AX1-12	AX1-32	AX1-52	AX1-13
Max. capacity (mL/min)		50Hz	20	40	90	300	460	1040
		60Hz	25	50	110	360	550	1250
Max. discharge pressure(bar)			15	15	10	5	3	3
Stroke number (SPM)		50Hz	57	114	114	114	114	114
		60Hz	68	136	136	136	136	136
Stroke Length(mm)			3	3	3	6	6	6
Connection	PVC Hose	HWS	∅6x∅11	∅6x∅11	∅6x∅11	∅6x∅11	∅12x∅18	∅12x∅18
		HVS	∅12x∅18	∅12x∅18	∅12x∅18	∅12x∅18	∅12x∅18	∅12x∅18
	PTFE Hose	HWS	∅10x∅12	∅10x∅12	∅10x∅12	∅10x∅12	∅10x∅12	∅10x∅12
	Flange	FWS	KS 10K 15A	KS 10K 15A	KS 10K 15A	KS 10K 15A	KS 10K 15A	KS 10K 15A
Motor(W)	Totally enclosed non-ventilated motor		25	25	25	25	25	37
	Shaded pole motor		6	14	14	14	14	20
Weight(kg) (PFC-HWS-Z)			3.4	3.4	3.4	3.4	3.8	4.1
Painting			Munsell No. 0.6PB 4.8/10.6 Acrylic paint					

Note) 1. The max. capacity is that at max. discharge pressure.
2. This pump is designed for indoor use. Be sure to use a pump cover if installing out doors.
3. Never use this pump to transfer liquids containing slurry. (In such a case please consult CHEON-SEI.)
4. Please note that AX-13 model is not available for duplex and triplex head.
5. The above specifications can be changed without prior notice.

Standard Liquid End Material Table

Type	Head	Diaphragm	Check Ball	Ball Seat	Ball Guide	Joint	O-ring	Hose
PFC	PP	PTFE	CERAMIC	FKM	PP	PP	FKM	PVC
PEC	PP	PTFE	CERAMIC	EPDM	PP	PP	EPDM	PVC
FTC	PVDF	PTFE	CERAMIC	PTFE	PVDF	PVDF	FEP(+SIL)	PTFE
STS	SS304	PTFE	SS304	PTFE	PVDF	SS304	FEP(+SIL)	PTFE
6T6	SS316	PTFE	SS316	PTFE	PVDF	SS316	FEP(+SIL)	PTFE

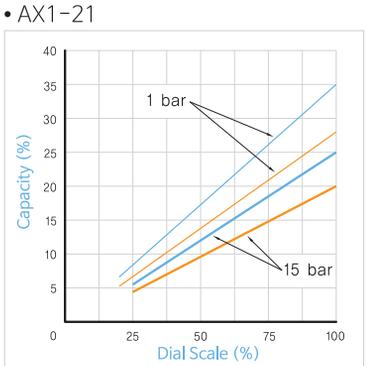
Accessories List

Part Name	Hose Type	Flange Type
Hose	3m	-
Strainer Foot Valve	1 Set	-
Anti-Siphon Check Valve	1 Set	-
Mounting Bolts(With nut M5x0.8x20)	3 Set	3 Set
Hexagonal L-Wrench (M5 Subtense 2.5)	1	1
Instruction Manual	1	1

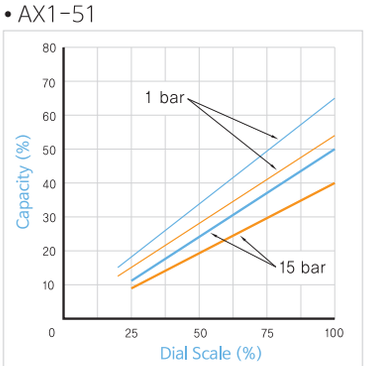
Performance Curve

60Hz 50Hz CONDITIONS : ROOM TEMP, CLEAN WATER, SUCTION HEAD-5m

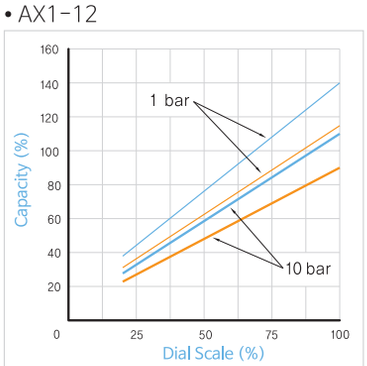
• AX1-21



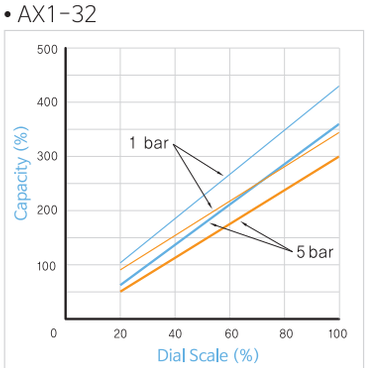
• AX1-51



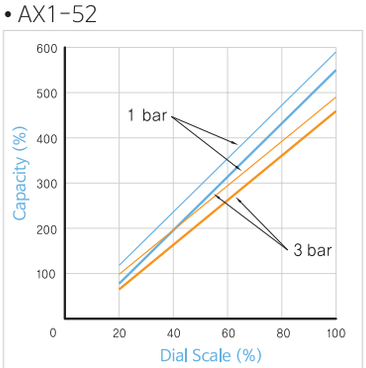
• AX1-12



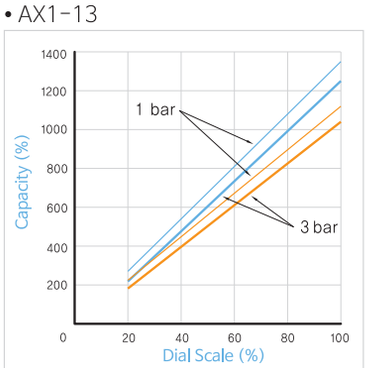
• AX1-32



• AX1-52



• AX1-13



Note) 1. In case of Multiplex Head, the quantity on the accessories list will be multiplied by the head number. (except for hose pump, L-Wrench, Manual)
2. For Air Relief Valve type, the hose(0.5m) for Air Relief Valve will be provided.

Application of Multiplex Head

- Freely available according to chemical types and discharge capacity
- Extra precise control is possible if it is double Head combined by large and small capacity
- 1 pump can have function of 2 ~ 3 pumps
- Inserting 2 ~ 3 chemicals in one point with ratio control is possible

Pulseless Pump(Triplex)

Two Liquid Injection Pump(Duplex)

When Placing Order

In order to provide the most suitable pump, please provide the following information.

1. Specification of liquid

- Liquid name
- Ingredients
- Concentration(%) a)Normal b)Range of variation
- Temperature(℃) a)Normal b)Range of variation
- Viscosity(mPas) a)Normal b)Range of variation
- Specific gravity

2. Conditions of installation

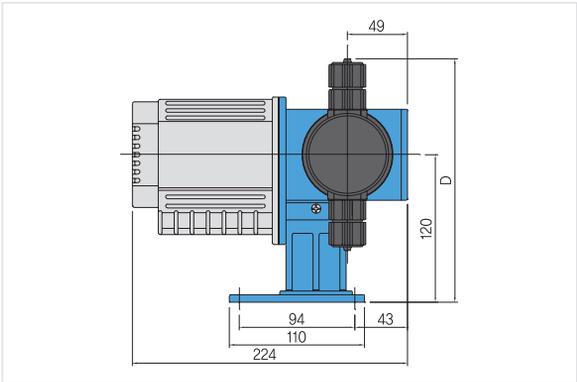
- Purpose of use
- Liquid capacity(ml/min) a)Normal b)Maximum
- Suction side piping a)Pipe dia b)Piping length c)Height d) Other
- Discharge side piping a)Pipe dia b)Piping length c)Height d) Other
- Power source a)Voltage(V) b)Frequency(Hz) c)Other
- Ambient temperature(℃) a)Normal b)Maximum
- Installation location a)Indoor b)Outdoor
- Mounting method
- Operating condition a)Continuous operation b)Intermittent operation

3. Other

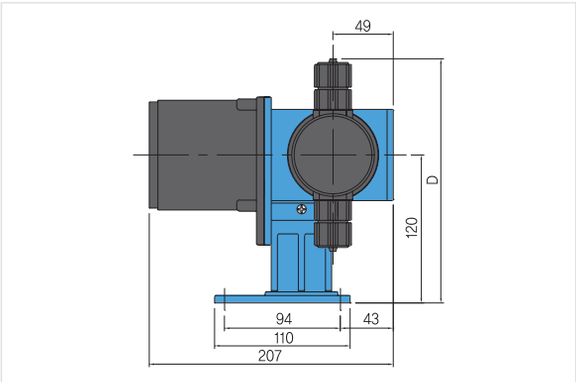
- Desired delivery date and place
- Any other requirement

Overall Dimensions

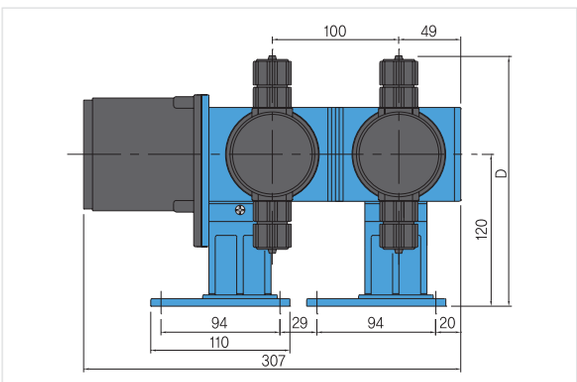
• AX1 (SHADED MOTOR)



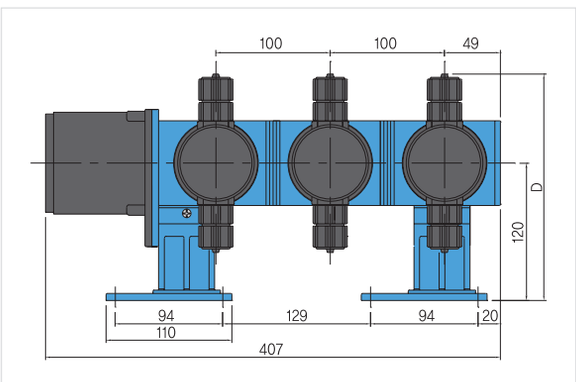
• AX1



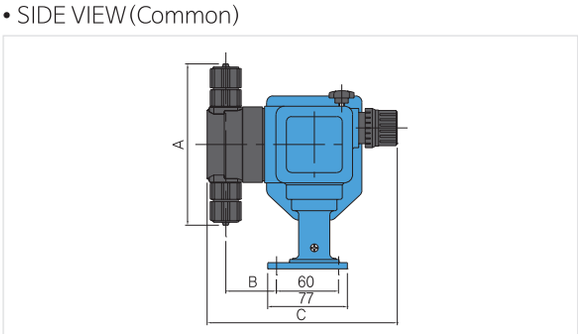
• AX2



• AX3

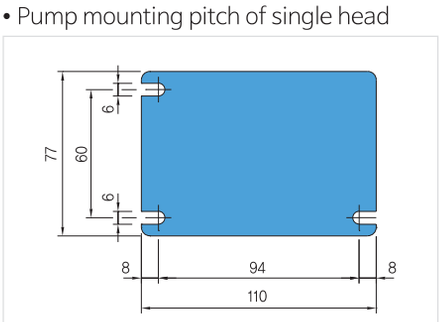


• SIDE VIEW (Common)

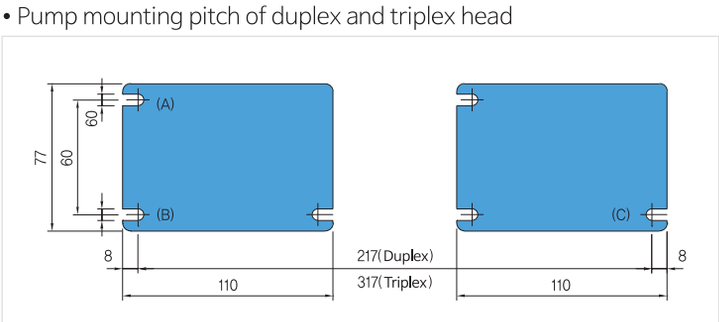


Size	A	B	C	D
AX□-21,51,12	156	49.5	184	198
AX□-32	156	49.5	186	198
AX□-52	198	54.5	193	219
AX□-13	204	54	192	222

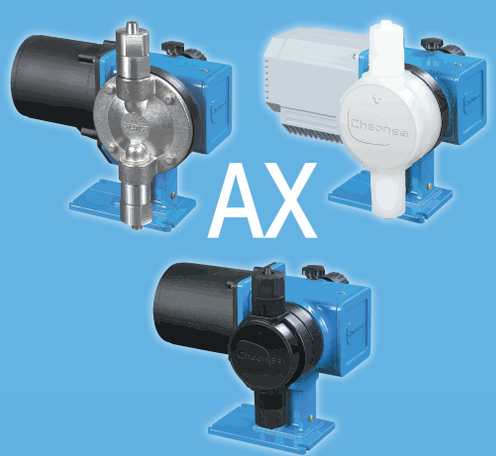
• Pump mounting pitch of single head



• Pump mounting pitch of duplex and triplex head



Note) 1. The measurement above is based on Liquid End P□□.
2. Point (A), (B), (C) are to be anchored.



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