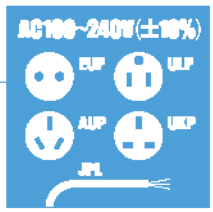
PZ

Manual Setting

Wide Voltage Range Power Supply



There is no need to worry about site power supply voltage or voltage fluctuations since it can be used with AC100 to 240 V (±10%) power supplies. You can also keep it in stock safely since it can be used for a variety of sites and applications.

Adjusting Dial for Easy Operation

Manual adjustment from
15 to 300 pulses per minute

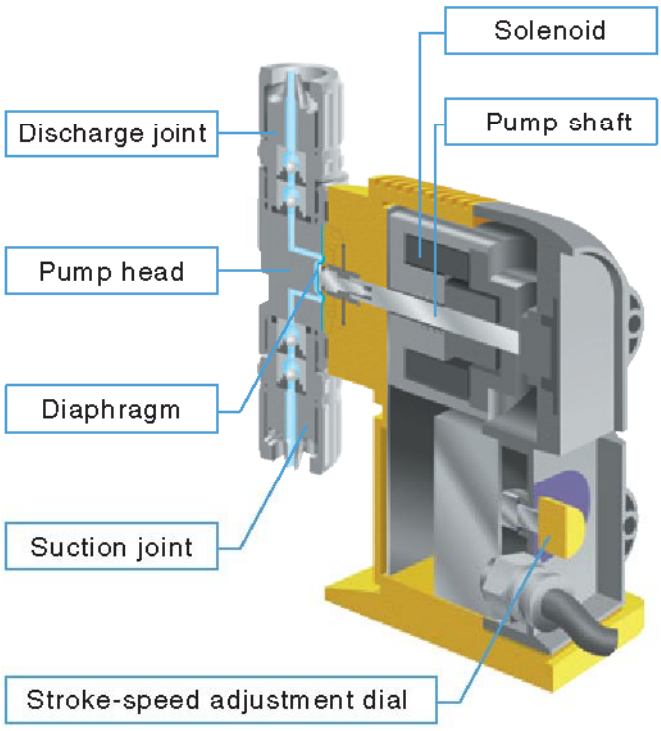
Water- & Dust-proof Specifications

IEC standard: IP65 or equivalent

● Avoid condensation and immersion in water.

Simple Structure

Minimum number of parts allows easy maintenance.



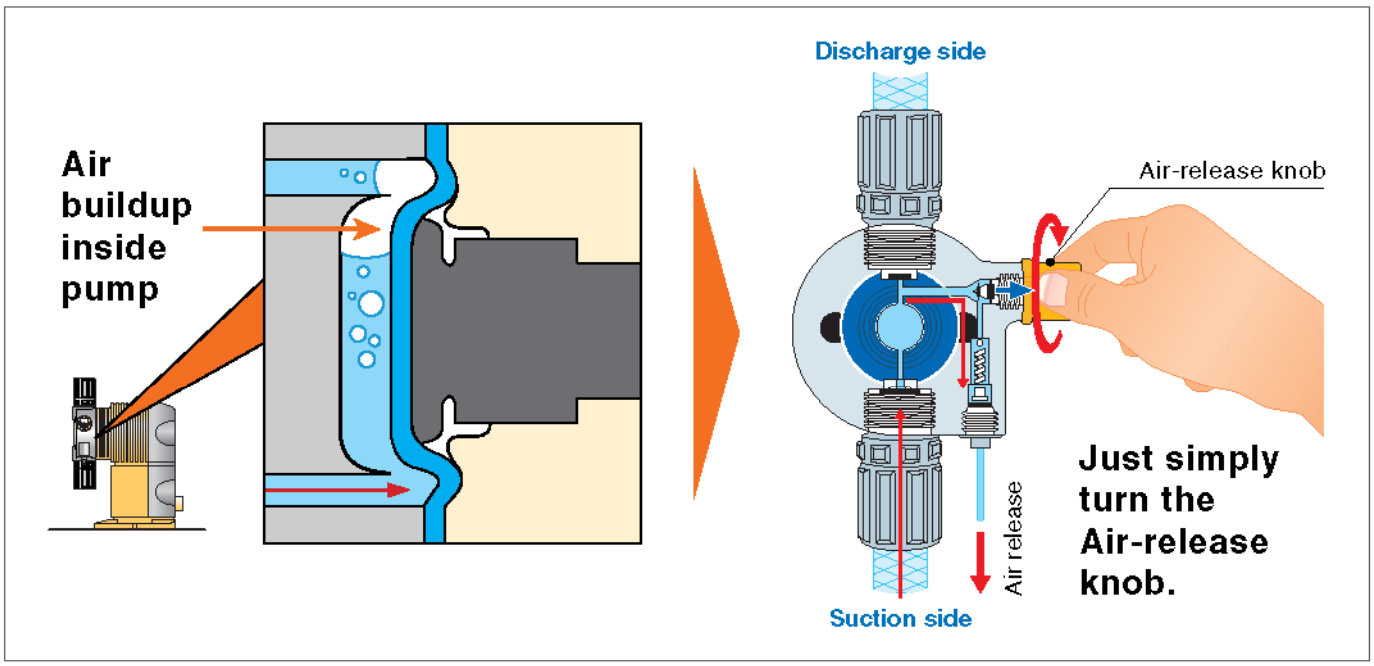
No-Input

S-size only
(30R/60R/100R)

S-size only
(30/60/100)

Simple, Safe, Air Release

"Gas-lock" is the phenomenon that air enters the pump head and prevents chemicals from being discharged. The PZ Series is equipped with Air-release valve as standard. Even if air gets into the pump head, you can simply and safely release the air just by lightly turning the Air-release knob.



✱ Illustration shows the model with Relief Valve.

Extensive Range of Liquid-end Materials

✱ For details, refer to the "Liquid-end Material" table on the following page.

Pump Head

w/ Relief Valve*

VTCE/VTCF
Material: PVC
Application example: Transfer/injection of general chemicals

w/ Relief Valve*

FTCE/FTCF/FTCT
Material: PVDF
Application example: Transfer/injection of special chemicals (e.g. strong and mixed acids)

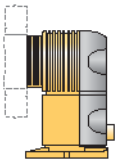
w/ Relief Valve*

VTCE
(for injection of boiler chemicals)
Material: PVC
Application example: Transfer/injection of boiler chemicals

6TCT
Material: Stainless steel (SUS316)
Application example: Transfer/injection of solutions/special chemicals

* For a detailed explanation of the Relief Valve, see "Relief Valve Function" on page 25.

Pump Body



S-size only
(30R/60R/100R/30/60/100)

Anti-siphon Check Valve

VTCE/VTCF

FTCE/FTCF/FTCT

VTCE
(for injection of boiler chemicals)

6TCT

Foot Valve

VTCE/VTCF

FTCE/FTCF/FTCT

VTCE
(for injection of boiler chemicals)

6TCT

Specification: PZ w/ Relief Valve

Specification \ Model		30R						60R					100R				
		VTCE	VTCF	FTCE	FTCF	FTCT	VTCE (for injection of boiler chemicals)	VTCE	VTCF	FTCE	FTCF	FTCT	VTCE	VTCF	FTCE	FTCF	FTCT
Max. discharge volume*1	mL/min	30					28	60					100				
	L/h	1.8					1.68	3.6					6.0				
Max. discharge pressure*1	MPa	0.7*2					1.5	0.7*3					0.4				
	bar	7.0*2					15.0	7.0*3					4.0				
Stroke speed		15 to 300 strokes/min (dial setting)															
Stroke length		Fixed at 1.0 mm															
Connection (hose/tube: ID x OD)	Discharge side	4 x 9 (PVC braided hose) 6 x 8 (PE) 1/4" x 3/8" (PE)		6 x 8 (PE) 1/4" x 3/8" (PE)	6 x 8 (FEP) 1/4" x 3/8" (FEP)		4 x 6 (nylon tube)	6 x 11 (PVC braided hose) 6 x 8 (PE) 1/4" x 3/8" (PE)		6 x 8 (PE) 1/4" x 3/8" (PE)	6 x 8 (FEP) 1/4" x 3/8" (FEP)		6 x 11 (PVC braided hose) 6 x 8 (PE) 1/4" x 3/8" (PE)		6 x 8 (PE) 1/4" x 3/8" (PE)	6 x 8 (FEP) 1/4" x 3/8" (FEP)	
	Suction side						4 x 9 (PVC braided hose)										
	Relief /air-release	4 x 6 (soft PVC hose)															
Max. allowable viscosity		50 mPa·s															
Allowable temperature		Ambient temperature: 0 to 40°C/Transferring liquid: 0 to 40°C (no freezing allowed)															
Ambient humidity		35 to 85% RH															
Environmental protection		IEC standard: IP65 or equivalent (water- and dust-proof)															
Altitude of installation location		Less than 1,000 m															
Noise level		Less than 85 dB															
Operation mode	Manual	Setting stroke speed (15 to 300 strokes/min) w/ manual dial															
Power supply	Rated voltage	AC 100 to 240 V (±10%)															
	No. of phases/Frequency	1-phase/50 or 60 Hz															
	Maximum current	2.0 A															
	Power consumption	Max.: 200 VA/Ave.: 15 W															
Weight		1.7 kg															

*1 Conditions: Clean water, room temperature *2 Though the max. discharge pressure of the 30R models is 1.0 MPa (10.0 bar), the Relief Valve operates when 0.7 MPa (7.0 bar) is exceeded. In applications requiring a discharge pressure of 0.7 MPa (7.0 bar) or more, ask for a model w/out the Relief Valve, and install a separate relief valve for extra safety.
*3 Though the max. discharge pressure of the 60R models is 0.8 MPa (8.0 bar), the Relief Valve operates when 0.7 MPa (7.0 bar) is exceeded. In applications requiring a discharge pressure of 0.7 MPa (7.0 bar) or more, ask for a model w/out the Relief Valve, and install a separate relief valve for extra safety.

Model Code

✱ Not all model combinations are possible. When selecting the pump model, first check "Specification" and "Liquid-end Material".

PZ – 30R – VTCE – 4x9PVC – W – S – JPL

1 Model (discharge volume standard) **2** Liquid-end material **3** Hose standard (size/material) **4** Joint specification **5** Applicable standard **6** Power plug

[for injection of general chemicals]

1 Model	2 Liquid-end material	3 Hose standard		4 Joint specification	5 Applicable standard	6 Power plug
30R : 30 mL/min (w/ Relief Valve)	VTCE	4 x 9	PVC	W : Standard	S : Standard	EUP : Euro plug
60R : 60 mL/min (w/ Relief Valve)	VTCF	6 x 11	PVC		CE : CE marking-compatible	ULP : UL plug
100R : 100 mL/min (w/ Relief Valve)	FTCE	6 x 8	PE/FEP/PTFE			AUP : Australia plug
30 : 30 mL/min	FTCF	1/4" x 3/8"	PE/FEP			UKP : UK plug
60 : 60 mL/min	FTCT					JPL : Japan lead wire
100 : 100 mL/min	6TCT					

[for injection of boiler chemicals]

1 Model	2 Liquid-end material	3 Hose standard		4 Joint specification
30R : 30 mL/min (w/ Relief Valve)	VTCE	4 x 6	PA	BW : Boiler
30 : 30 mL/min				

Accessory

✱ Power cable (2 m) is attached.

Item \ Model	w/ Relief Valve 30R/60R/100R						30/60/100						
	VTCE	VTCF	FTCE	FTCF	FTCT	VTCE (for injection of boiler chemicals)	VTCE	VTCF	FTCE	FTCF	FTCT	6TCT	VTCE (for injection of boiler chemicals)
Hose/Tube*1	3 m					Discharge side : 2 m Suction side : 1 m	3 m						Discharge side : 2 m Suction side : 1 m
Relief /air-release hose*1	1 m (installed)						1 m					—	1 m
Anti-siphon check valve	1 set (R1/2)				1 set (R1/2 or R3/8)	1 set (R1/2)	1 set (R1/2)				1 set (R1/2 or R3/8)		1 set (R1/2)
Foot valve	1 set						1 set						
Ceramic weight	1 set*2		1 set			—	1 set*2		1 set			—	
Hose pump for air-release	—						—					1 set	—
INSULOK for Relief /air-release hose	1 piece						—						
Pump mounting nuts/bolts	2 sets (M5 x 30)												
Operation manual	1 set												

*1 For details on the hose/tube aperture, see "Connection" for the respective model in "Specification" table above. *2 Only when PE tube is selected

Specification: PZ

Specification \ Model			30							60						100					
			VTCE	VTCF	FTCE	FTCF	FTCT	6TCT	VTCE (for injection of boiler chemicals)	VTCE	VTCF	FTCE	FTCF	FTCT	6TCT	VTCE	VTCF	FTCE	FTCF	FTCT	6TCT
Max. discharge volume*		mL/min	30					27	28	60					55	100					95
		L/h	1.8					1.6	1.68	3.6					3.3	6.0					5.7
Max. discharge pressure*		MPa	1.0					0.5	1.5	0.8					0.5	0.4					
		bar	10.0					5.0	15.0	8.0					5.0	4.0					
Stroke speed			15 to 300 strokes/min (dial setting)																		
Stroke length			Fixed at 1.0 mm																		
Connection (hose/tube: I.D x O.D)	Discharge side		4 x 9 (PVC braided hose) 6 x 8 (PE) 1/4" x 3/8" (PE)	6 x 8 (PE) 1/4" x 3/8" (PE)	6 x 8 (FEP) 1/4"x3/8" (FEP)	6 x 8 (PTFE)	4 x 6 (nylon tube)		6 x 11 (PVC braided hose) 6 x 8 (PE) 1/4" x 3/8" (PE)	6 x 8 (PE) 1/4" x 3/8" (PE)	6 x 8 (FEP) 1/4"x3/8" (FEP)	6 x 8 (PTFE)			6 x 11 (PVC braided hose) 6 x 8 (PE) 1/4" x 3/8" (PE)	6 x 8 (PE) 1/4" x 3/8" (PE)	6 x 8 (FEP) 1/4"x3/8" (FEP)	6 x 8 (PTFE)		
	Suction side						4 x 9 (PVC braided hose)														
	Air-release		4 x 6 (soft PVC hose)																		
Max. allowable viscosity			50 mPa·s																		
Allowable temperature			Ambient temperature: 0 to 40°C/Transferring liquid: 0 to 40°C (no freezing allowed)																		
Ambient humidity			35 to 85% RH																		
Environmental protection			IEC standard: IP65 or equivalent (water- and dust-proof)																		
Altitude of installation location			Less than 1,000 m																		
Noise level			Less than 85 dB																		
Operation mode	Manual		Setting stroke speed (15 to 300 strokes/min) w/ manual dial																		
Power supply	Rated voltage		AC 100 to 240 V (±10%)																		
	No. of phases/Frequency		1-phase/50 or 60 Hz																		
	Maximum current		2.0 A																		
	Power consumption		Max.: 200 VA/Ave.: 15 W																		
Weight			1.7 kg																		

* Conditions: Clean water, room temperature

Liquid-end Material

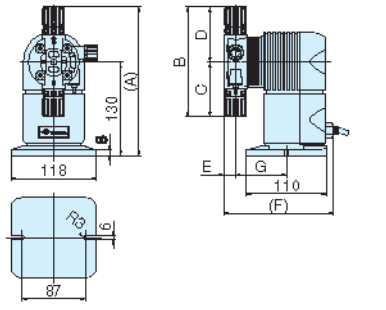
* Also refer to the "Corrosion-resistance Table" on page 26.

Part \ Model	VTCE	VTCF	FTCE	FTCF	FTCT	VTCE (for injection of boiler chemicals)	6TCT
Pump head	PVC		PVDF			PVC	SUS316
Diaphragm	PTFE						
Check ball	Ceramic						
O-ring	EPDM	Fluoro-rubber	EPDM	Fluoro-rubber	Special fluoro-rubber Pafulo®	EPDM	PTFE
Valve seat	EPDM	Special fluoro-rubber	EPDM	Special fluoro-rubber	PTFE	EPDM	—
Joint	PVC		PVDF			PVC	SUS316
Ball stopper	PVC		PVDF	PTFE (valve stopper)		PVC	PTFE (valve stopper)

External Dimension (mm)

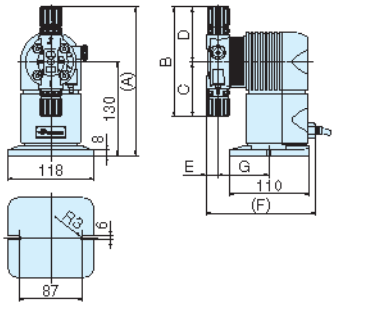
w/ Relief Valve

30R/60R/100R



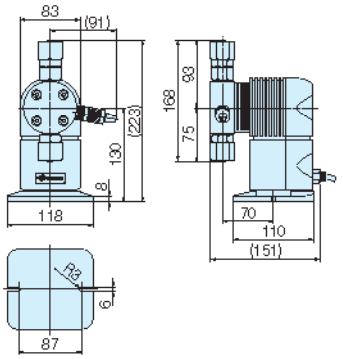
Model	(A)	B	C	D	E	(F)	G
VTCE/VTCF	206	152	76	76	16.5	150.5	70
FTCE/FTCF/FTCT	227.5	195	97.5	97.5	17.5	142	69.5
VTCE(for injection of boiler chemicals)	193	139	76	63	16.5	150.5	70

30/60/100



Model	(A)	B	C	D	E	(F)	G
VTCE/VTCF	206	152	76	76	16.5	150.5	70
FTCE/FTCF/FTCT	227.5	195	97.5	97.5	17.5	142	69.5
VTCE(for injection of boiler chemicals)	193	139	76	63	16.5	150.5	70

30/60/100(6TCT)



* The shape and dimensions differ slightly depending on the liquid-end material and connection type.
● The mounting pitch allows mounting from 87 to 110 mm.

PZ