

PZD

Digital Setting

Direct Entry of Injection Amount

The injection amount can be set according to three patterns:

[By stroke speed]

Setting range: 1 to 300 strokes/min
(minimum setting increment: 1 stroke/min)



[By discharge volume]

Setting range: 0.1 to (maximum discharge volume of selected model) mL/min
(minimum setting increment: 0.1 mL/min)



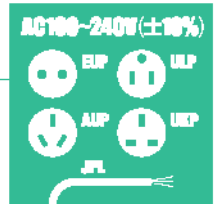
[By percentage]

Setting range: 1 to 100%
(minimum setting increment: 1% (3 strokes/min))



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 ($\pm 10\%$) power supplies. You can also keep it in stock safely since it can be used for a variety of sites and applications.



Simple Key Layout



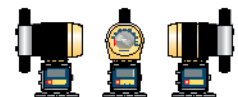
* L-size (300/500) models only

3-directional Pump Head

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



L-size (300/500)



Separate-type Head & Controller

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



L-size (300/500)



* This feature is limited depending on the operating conditions. Consult us for details.

No-Input



Water- & Dust-proof Specifications

IEC standard: IP65 or equivalent

* Avoid condensation and immersion in water.



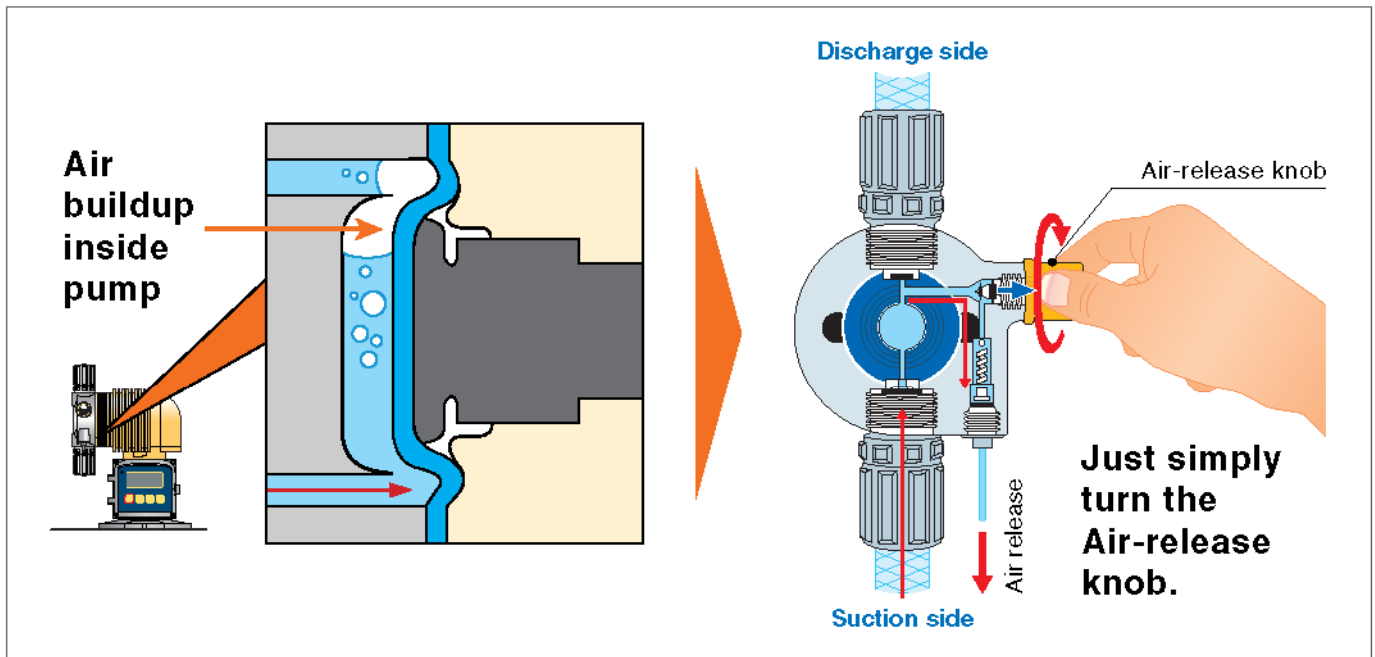
Quick & Easy Calibration

The PZD Series is provided with easy calibration function for accurate pump calibration. Just push the button to automatically discharge 300 strokes' worth of chemical and enter the actual discharge volume that you will be measuring. This is all you need to do for accurate calibration.



Simple, Safe, Air Release

"Gas-lock" is the phenomenon that air enters the pump head and prevents chemicals from being discharged. The PZD 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.



★ S-size (30R/60R/100R/30/60/100) only ★ 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	Pump Body	Anti-siphon Check Valve	Foot Valve
<p>VTCE/VTCF Material: PVC Application example: Transfer/injection of general chemicals</p> <p>w/ Relief Valve *</p>	<p>S-size (30R/60R/100R/30/60/100)</p> <p>L-size (300/500)</p>	<p>VTCE/VTCF</p>	<p>VTCE/VTCF</p>
<p>FTCE/FTCF/FTCT Material: PVDF Application example: Transfer/injection of special chemicals (e.g. strong and mixed acids)</p> <p>w/ Relief Valve *</p>		<p>FTCE/FTCF/FTCT</p>	<p>FTCE/FTCF/FTCT</p>
<p>VTCE (for injection of boiler chemicals) Material: PVC Application example: Transfer/injection of boiler chemicals</p> <p>w/ Relief Valve *</p>		<p>VTCE (for injection of boiler chemicals)</p>	<p>VTCE (for injection of boiler chemicals)</p>
<p>6TCT Material: Stainless steel (SUS316-304) Application example: Transfer/injection of solutions/special chemicals</p>		<p>6TCT/STCT</p>	<p>6TCT/STCT</p>
<p>* For a detailed explanation of the Relief Valve, see "Relief Valve Function" on page 25.</p>	<p>* The Relief Valve is not provided on the L-size (300/500).</p>		

Specification: PZD (S-size w/ Relief Valve)

Model		30R					60R					100R				
		VTCE	VTCF	FTCE	FTCF	FTCT	VTCE (for injection of boiler chemicals)	VTCE	VTCF	FTCE	FTCF	FTCT	VTCE	VTCF	FTCE	FTCF
Max. discharge volume*	mL/min	30					28					100				
	L/h	1.8					1.68					6.0				
Max. discharge pressure*	MPa	0.7*2					1.5					0.7*2				
	bar	7.0*2					15.0					7.0				
Stroke speed		1 to 300 strokes/min (digital 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)	6 x 8 (FEP)	6 x 8 (FEP)	4 x 6 (nylon tube)	6 x 11 (PVC braided hose)	6 x 8 (PE)	6 x 8 (FEP)	6 x 8 (PE)	6 x 8 (FEP)	6 x 11 (PVC braided hose)	6 x 8 (PE)	6 x 8 (FEP)	6 x 8 (PE)	6 x 8 (FEP)
	Suction side	1/4" x 3/8" (PE)	1/4" x 3/8" (PE)	1/4" x 3/8" (FEP)	1/4" x 3/8" (FEP)	4 x 9 (PVC braided hose)	1/4" x 3/8" (PE)	1/4" x 3/8" (PE)	1/4" x 3/8" (PE)	1/4" x 3/8" (FEP)	1/4" x 3/8" (FEP)	1/4" x 3/8" (PE)	1/4" x 3/8" (PE)	1/4" x 3/8" (PE)	1/4" x 3/8" (PE)	1/4" x 3/8" (FEP)
	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	Digital settings: 3 patterns [stroke speed (1 to 300 strokes/min, in 1 stroke/min increments), discharge volume (in 0.1 mL/min increments), percentage (1 to 100%, in 1% increments)]														
Rated voltage		AC 100 to 240 V (±10%)														
No. of phases/Frequency		1-phase/50 or 60 Hz														
Power supply	Maximum current	2.0 A					2.5 A					2.5 A				
	Power consumption	Max.: 200 VA/Ave.: 15 W					Max.: 250 VA/Ave.: 16 W					Max.: 250 VA/Ave.: 18 W				
Weight		1.7 kg					1.8 kg					1.8 kg				

*1 Conditions: Clean water, room temperature *2 Though the max. discharge pressure of the 30R/60R 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.

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

PZD - 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)

30R : 30 mL/min (w/ Relief Valve)
60R : 60 mL/min (w/ Relief Valve)
100R : 100 mL/min (w/ Relief Valve)
30 : 30 mL/min
60 : 60 mL/min
100 : 100 mL/min
300 : 300 mL/min
500 : 500 mL/min

VTCE	4 x 9 PVC	W : Standard	S : Standard	EUP : Euro plug
VTCF	6 x 11 PVC		CE : CE marking-compatible	ULP : UL plug
FTCE	12 x 18 PVC			AUP : Australia plug
FTCF	6 x 8 PE/FEP/PTFE			UKP : UK plug
FTCT	9 x 12 PE			JPL : Japan lead wire
6TCT	1/4" x 3/8" PE/FEP			NON : No Cable
STCT	3/8" x 1/2" PE			
	12 x 15 PTFE			

(for injection of boiler chemicals)

30R : 30 mL/min (w/ Relief Valve)
30 : 30 mL/min

VTCE	4 x 6 PA	BW : Boiler
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Accessory

* When "NON" is selected for 6 Power plug, the power cable (2 m) is not provided.

Item	Model		S-size w/ Relief Valve					S-size					L-size											
	30R/60R/100R															30/60/100					300/500			
	VTCE	VTCF	FTCE	FTCF	FTCT	VTCE (for injection of boiler chemicals)	VTCE	VTCF	FTCE	FTCF	FTCT	6TCT	VTCE (for injection of boiler chemicals)	VTCE	VTCF	FTCT	STCT							
Hose/Tube**	3 m					Discharge side : 2 m Suction side : 1 m	3 m					Discharge side : 2 m Suction side : 1 m	3 m											
Relief /air-release hose**	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)	1 set (R1/2)	1 set (R1/2 or R3/8)		1 set (R1/2)		—								
Foot valve	1 set						1 set					—	1 set											
Ceramic weight	1 set*2		1 set		—	1 set*2		1 set		—	—	1 set*2		—		—								
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: PZD (S-size/L-size)

Model		30						60						100						300				500			
		VTCE	VTCF	FTCE	FTCF	FTCT	6TCT (for injection of boiler chemicals)	VTCE	VTCF	FTCE	FTCF	FTCT	6TCT	VTCE	VTCF	FTCE	FTCF	FTCT	6TCT	VTCE	VTCF	FTCT	STCT	VTCE	VTCF	FTCT	STCT
Max. discharge volume*	mL/min	30			27	28	60			55			100			95			360	330	540	510					
	L/h	1.8			1.62	1.68	3.6			3.3			6.0			5.7			21.6	19.8	32.4	30.6					
Max. discharge pressure*	MPa	1.0			0.5	1.5	1.0			0.5			0.7			0.5			0.3		0.2						
	bar	10.0			5.0	15.0	10.0			5.0			7.0			5.0			3.0		2.0						
Stroke speed	1 to 300 strokes/min (digital setting)																										
Stroke length	Fixed at 1.0 mm												0.3 to 1.5 mm (manual dial)														
Connection (hose/tube: IDxOD)	Discharge side	4 x 9 (PVC braided hose) 6 x 8 (PE)	6 x 8 (PE) 1/4" x 3/8"	6 x 8 (FEP) 1/4" x 3/8"	6 x 8 (PTFE) 1/4" x 3/8"	4 x 6 (nylon tube) 4 x 9 (PVC braided hose)	6 x 11 (PVC braided hose) 6 x 8 (PE)	6 x 8 (PE) 1/4" x 3/8"	6 x 8 (FEP) 1/4" x 3/8"	6 x 8 (PTFE) 1/4" x 3/8"	6 x 11 (PVC braided hose) 6 x 8 (PE)	6 x 8 (PE) 1/4" x 3/8"	6 x 8 (PE) 1/4" x 3/8"	6 x 8 (FEP) 1/4" x 3/8"	6 x 8 (PTFE) 1/4" x 3/8"	12 x 18 (PVC braided hose) 9 x 12 (PE)	12 x 15 (PTFE) 3/8" x 1/2"	12 x 18 (PVC braided hose) 9 x 12 (PE)	12 x 15 (PTFE) 3/8" x 1/2"	12 x 15 (PTFE)							
	Suction side	1/4" x 3/8" (PE)	1/4" x 3/8" (PE)	1/4" x 3/8" (FEP)	1/4" x 3/8" (PTFE)	1/4" x 3/8" (PE)	1/4" x 3/8" (PE)	1/4" x 3/8" (PE)	1/4" x 3/8" (FEP)	1/4" x 3/8" (PTFE)	1/4" x 3/8" (PE)	1/4" x 3/8" (PE)	1/4" x 3/8" (PE)	1/4" x 3/8" (FEP)	1/4" x 3/8" (PTFE)	3/8" x 1/2" (PE)	3/8" x 1/2" (PE)	3/8" x 1/2" (PE)	3/8" x 1/2" (PE)	3/8" x 1/2" (PE)							
	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	Digital settings: 3 patterns [stroke speed (1 to 300 strokes/min, in 1 stroke/min increments), discharge volume (in 0.1 mL/min increments), percentage (1 to 100%, in 1% increments)]																									
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						2.5 A						2.5 A						3.0 A							
Power consumption	Max.: 200 VA/Ave.: 15 W						Max.: 250 VA/Ave.: 18 W						Max.: 250 VA/Ave.: 18 W						Max.: 500 VA/Ave.: 30 W								
Weight	1.7 kg			1.8 kg			1.8 kg			1.9 kg			1.8 kg			1.9 kg			4.0 kg		42kg/60kg		4.0 kg		42kg/60kg		

* 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 (S-size)	STCT (L-size)	
Pump head		PVC			PVDF			PVC	SUS316	SUS304
Diaphragm		PTFE								
Check ball		Ceramic								
O-ring		EPDM	Fluoro-rubber	EPDM	Fluoro-rubber	Special fluoro-rubber Pafulo®	EPDM	PTFE	PTFE	
Valve seat		EPDM	Special fluoro-rubber	EPDM	Special fluoro-rubber	PTFE	EPDM	—	—	
Joint		PVC			PVDF			PVC	SUS316	SUS304
Ball stopper		PVC			PVDF			PTFE (valve stopper)	PVC	PTFE (valve stopper)

* PTFE for L-size (300/500)

External Dimension (mm)

S-size w/ Relief Valve 30R/60R/100R							S-size 30/60/100							S-size 30/60/100(6TCT)							L-size 300/500							
Model	(A)	B	C	D	E	(F)	Model	(A)	B	C	D	E	(F)	Model	(A)	B	C	D	E	(F)	Model	(A)	B	C	D	E	(F)	G
VTCE/VTCF	216	162	76	76	16.5	183.5	VTCE/VTCF	216	162	76	76	16.5	183.5	VTCE/VTCF	216	162	76	76	16.5	183.5	VTCE/VTCF	243	176	88	88	24.5	180	85.5
FTCE/FTCF/FTCT	237.5	195	97.5	97.5	17.5	184.5	FTCE/FTCF/FTCT	237.5	195	97.5	97.5	17.5	184.5	FTCE/FTCF/FTCT	237.5	195	97.5	97.5	17.5	184.5	FTCE/STCT	255.5	183	82.5	100.5	22	174.5	83
VTCE (for injection of boiler chemicals)	203	139	76	63	16.5	183.5	VTCE (for injection of boiler chemicals)	203	139	76	63	16.5	183.5	VTCE (for injection of boiler chemicals)	203	139	76	63	16.5	183.5								

* 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.