

# Responding to all your process needs by a versatile lineup

## TPL

Hydraulic type

High-precision



Ideal for process lines that require strict control, such as optical film, IT, and high-purity pharmaceutical process lines.

- Having about half the installation space of other conventional TACMINA pumps, compact and easy to install and carry
- The best fluid transfer precision of all our Smoothflow Pumps
- Side-opening system allows replacement of parts and maintenance without removal of pipes.

Specification	Model	TPL1ME				TPL2ME			
		008	014	018	028	028	032	040	056
Max. discharge volume	L/min	0.1	0.3	0.5	1.2	2.6	3.4	5.3	10.5
	L/h	6	18	30	72	156	204	318	630
	US G/h	1.58	4.75	7.92	19	41.18	53.85	83.95	166.32
Max. discharge pressure	MPa	0.5							
	bar	5							
	psi	72.5							
Transferable viscosity		Max. 20mPa·s / Max. 1000mPa·s (for high-viscosity specifications) ★1							
Transferable temperature		15 to 60°C (no freezing allowed)							
Weight (kg)		41		51		93		94	109

★1 As there are cases where a liquid with higher viscosity than the indicated specification value can be transferred, contact your dealer or TACMINA for further information.

## APL/APLS

Direct-driven type

Sanitary



APL



APLS

Ideal for the metered transfer of difficult-to-transfer fluids, such as slurries, and materials used in foodstuffs, cosmetics and toiletries.

- Equipped with a diagonal diaphragm that contributes to the downsizing of the pump without losing its high capacity.
- Can transfer a wide range of viscous liquids, up to a viscosity of 20,000 mPa·s, within a temperature range between 0 to 60°C.
- Compatible with hazard analysis critical point (HACPP) systems.

Conforms to sanitary specifications, and ensures ease of disassembly and cleaning. (APLS)

Specification	Model	APL/APLS					
		1 ★2	3 ★2	5	10	20	35
Max. discharge volume	L/min	1	2.5	5	10	20	35
	L/h	60	150	300	600	1200	2100
	US G/h	15.84	39.6	79.2	158.4	316.8	554.4
Max. discharge pressure	MPa	0.5					
	bar	5					
	psi	72.5					
Transferable viscosity		20,000 mPa·s or less					
Transferable temperature		SUS : 0 to 60°C / PVC : 0 to 40°C (no freezing allowed) ★3					
Weight (kg)	APL	—	—	69	135	—	166
	APLS	55	—	60	115	—	151

★2 for APLS ★3 APLS is SUS type only.

## XPL

Direct-driven type

Compact



Sanitary type

Precise supply of a wide range of fluids ranging from general chemicals to delicate fluids in water treatment processes, device embedding, and key process lines

- Reduced installation space requirements thanks to a compact body.
- Simple disassembly and maintenance.
- Fluid transfer rates from 0.009 L/min to 3 L/min.

Model		XPL					
Specification		001	003	01	03	1	3
Max. discharge volume	L/min	0.009	0.025	0.1★4	0.3	1	3
	L/h	0.54	1.5	6★4	18	60	180
	US G/h	0.14	0.39	1.58★4	4.75	15.84	47.52
Max. discharge pressure	MPa	1.5		1.0		0.5	
	bar	15		10		5	
	psi	217.5		145		72.5	
Transferable viscosity	Standard type	50mPa·s or less					
	High-viscosity type	—		2,000mPa·s or less			—
Transferable temperature		SUS : 0 to 60℃ / PVC : 0 to 40℃ (no freezing allowed)					
Weight (kg)		12.3		16.4		17.4	

★4 0.09 L/min (5.4 L/h) for the high-viscosity type

## BPL

Direct-driven type

Wide Range



Ideal for the high-pump-head transfer of fluids, such as water-treating chemicals and high-molecular-weight coagulants over long distances.

- Compact and lightweight units for easy incorporation into equipment.
- Simple construction to assure reliable cost effectiveness.
- Transfer of fluids at flow rates of 0.05 l/min. to 80 l/min.

Specification		Model	BPL													
		005	01	02	03	06	1	2	3	5	10	20	30	80		
Max. discharge volume	L/min	0.05	0.14	0.2	0.3	0.6	1	2	3	5	10	20	30	80		
	L/h	3	8.4	12	18	36	60	120	180	300	600	1200	1800	4800		
	US G/h	0.79	2.21	3.16	4.75	9.5	15.84	31.68	47.52	79.2	158.4	316.8	475.2	1267		
Max. discharge pressure	MPa	1.0			0.5			0.3			0.5			0.3		
	bar	10			5			3			5			3		
	psi	145			72.5			43.5			72.5			43.5		
Transferable viscosity	Standard type	50mPa·s or less														
	High-viscosity type	—	2,000mPa·s or less*5													
Transferable temperature		PVC:0 to 40°C/SUS:0 to 60°C(no freezing allowed)														
Weight (kg)		15			16			18			25		64	91	101	212

★5 The transferable viscosity is 1,000mPa·s or less for models 1,2,3,5 and 80.

# PL

Direct-driven type

Flexible



Sanitary type

Ideal for the metered injection of difficult-to-transfer chemical liquids and fluids, such as high-temperature, high-viscosity resins and inflammable chemicals.

- Highly durable, ideal for demanding use in processes.
- Simple mechanism, ensuring easy replacement of parts and maintenance.
- Specifications can be flexibly changed to suit liquid types and applications, such as the attachment of heat insulation and cooling jackets, and the separation of liquid end part.
- Cleaning-in-place (CIP) compatible (sanitary type only).

Model		PL									
Specification		01	03	06	08*6	1	2	3P	6	14	
Max. discharge volume	L/min	0.24	0.72	1.44	2	2.4	3.6	6	13.2	28	
	L/h	14.4	43.2	86.4	120	144	216	360	792	1680	
	US G/h	3.8	11.4	22.8	31.68	38.01	57.02	95.04	209.08	443.52	
Max. discharge pressure	MPa	1					0.5	0.7	0.5		
	bar	10					5	7	5		
	psi	145					72.5	101.5	72.5		
Transferable viscosity	Standard type	50mPa·s or less							100mPa·s or less	50mPa·s or less	
	High-viscosity type	2000mPa·s or less					1000mPa·s or less	3000mPa·s or less	—		
Transferable temperature		PVC : 0 to 40°C / SUS·PVDF : 0 to 60°C (no freezing allowed) *7									
Weight (kg)	D type	21				27		75	77	166	
	W type	24				30		79	81	171	

\*6 D type is PVC type only. \*7 W type PVDF · SUS is 0 to 80°C.

# PL

Hydraulic type

High Pressure



Sanitary type  
(with horizontally mounted motor)

Ideal for the high-pressure and metered injection of highly volatile chemicals, such as emulsions, latex and slurry.

- Hydraulic mechanism that supports high-pressure injection.
- Relief mechanism for preventing pump failures and accidents caused by excessive pressure.
- High-pressure injection for slurry and highly viscous fluids

Model		PL													
Specification		01	02	06	08	08P	1	1P	3	4P	8	8P	15	15P	
Max. discharge volume	L/min	0.23	0.47	1.2	1.6		3.3		6.4	7.8	15.8		31		
	L/h	13.8	28.2	72	96		198		384	468	948		1860		
	US G/h	3.64	7.44	19	25.34		52.27		101.37	123.55	250.27		491.04		
Max. discharge pressure	MPa*8	2.5		1.5	1.6	2.5	1.6	2.5	1.2	2.5	1	2	0.8	1.5	
	bar	25		15	16	25	16	25	12	25	10	20	8	15	
	psi	362.5		217.5	232	362.5	232	362.5	174	362.5	145	290	116	217.6	
Transferable viscosity		50mPa·s or less													
Transferable temperature		PVC : 0 to 40℃ / SUS·PVDF : 0 to 80℃ (no freezing allowed)													
Weight (kg)	M type	28			77			81			201			226 241	
	MW type	29			81 83			85			206			231 246	

\*8 Applies to the SUS type.

# PL

Plunger type

High Pressure



Ideal for high-accuracy, high-pressure injection

- Capable of high-accuracy, high-pressure injection that is unaffected by pressure fluctuations.
- Excellent durability with a robust construction.

Model		PL													
Specification		0005	001	002	006	01	02	04	08	1	3	4P	8P	15P	
Max. discharge volume	L/min	0.011	0.024	0.056	0.14	0.28	0.56	0.84	1.64	3.4	6.6	7.8	15.8	31	
	L/h	0.66	1.44	3.36	8.4	16.8	33.6	50.4	98.4	204	396	468	948	1860	
	US G/h	0.17	0.38	0.88	2.21	4.43	8.87	13.3	25.97	53.85	104.54	123.55	250.27	491.04	
Max. discharge pressure	MPa	3					2	10	5	2.5	1.2	4	2	1.5	
	bar	30					20	100	50	25	12	40	20	15	
	psi	435					290	1450	725	362.5	174	580	290	217.5	
Transferable viscosity		50mPa·s or less													
Transferable temperature		0 to 80°C (no freezing allowed)													
Weight (kg)	Flange	20				22	—		71		—		191	246	
	Union	19				21	63		—		186		—	—	

# Q

Direct-driven type

Trace Amount



Usable for precision transferral of trace amounts of chemicals in laboratory processes such as addition, mixing, and reactions.

- Highly precise fluid transfers starting at as little as 0.1 mL/min.
- Equipped with a power cord to eliminate electrical work.
- Intuitive control panel to set the flow rate

Model		Q · Q1 · QT			
Specification		100	60	30	10
Max. discharge volume	L/min	0.1	0.06	0.03	0.01
	L/h	6	3.6	1.8	0.6
	US G/h	1.6	0.95	0.47	0.15
Max. discharge pressure	MPa	0.3	0.6	1	2
	bar	3	6	10	20
	psi	43.5	87	145	290
	Transferable viscosity	200mPa·s or less		100mPa·s or less	
Transferable temperature		0 to 40°C (no freezing allowed)			
Weight (kg)		2.5			

\* The above performance specifications are examples for typical models. For details, see the catalog of each model. \* The weight is for the stainless steel type (Excluding Q).

\* The PL is for duplex models. For details on triplex models, contact your dealer or TACMINA.