

Description for part number and Model selection

P T - C P 1 - 5 0 - K A , 2 4 V

① ② ③ ④ ⑤ ⑥ ⑦

① PT=TUBE PUMP

② PUMP HEAD MODEL

(Select from H, C, D, B, E or F type.)
Refer to each page for details.

③ TUBE MATERIAL

P—PHARMED TUBE
S—SILICONE TUBE
N—NORPRENE TUBE

*For tube selection, consult us by referring to the liquid compatibility table.

④ FITTING

1. BARB TYPE
2. CLAMP TYPE
3. OTHERS

⑤ FLOW ml/min

Refer to each page for details.

⑥ CONTROL BRANCH NUMBER

—KA STANDARD TYPE
—F* * * CUSTOM NUMBER

⑦ VOLTAGE=DC 24V

REPLACEMENT TUBE (TUBE PUMP ONLY)



BARB TYPE



CLAMP TYPE

MODEL EXPLANATION

EX. : **F P 1 TUBE Assy**

① ② ③

① PUMP HEAD TYPE : D, E, F

② TUBE MATERIAL : P (PHARMED TUBE)

③ FITTING : 1 (BARB TYPE)
: 2 (CLAMP TYPE) *Applicable for D and E (except 350ml/min) types only.

*B, C and H types are replaced together with the pump head.

Page useful for tube pump selection

1

Tube selection is an important item for the tube pump.

Tubes are selected based on the mechanical strength or chemical resistance. There is, however, no tube which satisfies both factors at present. For the time being, select the tube suitable for the liquid to be used.

[Tube type]

- Silicone tube: silicone rubber
- Pharmed tube: Olefinic system thermoplastic elastomer (Norprene tube)
- Fluran tube: Fluorine elastomer

} For food hygiene law article

2

Selection of drive source is also an important item for the tube pump.

Selecting an optimum drive source from our various geared motors eliminates forcible load in pump operation and greatly improves the pump life.

3

The discharge capacity is the volume of liquid discharged from the outlet of the pump and expressed in the unit of ml/min or cc/min.

4

Back pressure is the pressure reversely applied from the outside to the pump discharge side and expressed in MPa or other units.

5

Head is the maximum height of liquid raised upward from the discharge port of the pump. (Discharge head)

6

Suction height is the height to suck the liquid from the lower place under the pump. This distance, if taken larger, influences the tube and discharge capacity. Install the pump by minimizing this distance and enlarging the head preferably.

7

The tube pump can handle highly viscous liquid. It is, however, necessary to take care since discharge capacity greatly lowers. In addition, overloading on the drive source (motor) is predicted, greatly influencing the life. In such a case, it is necessary to take a measure by selecting a drive source higher by one rank.

8

The tube pump has the structure of check valve operation, by pressing a certain portion of a tube with a roller. It has a function as a check valve. However, its effect is not necessarily perfect depending on discharge pressure or capacity. Please examine to separately install a check valve for such purpose.

9

A care should be taken since temperature characteristics influence discharge capacity. This is because liquid viscosity changes by temperature. Discharge capacity tends to decrease at lower temperature and increase at higher temperature.

10

The life of the pump is determined by the breakage of tube because of use frequency or the life of the drive motor.

11

Pulsating flow is the phenomenon where the liquid coming out of the discharge port stops for a certain time or discharge interval prolongs. Our tube pumps also show this tendency. (We are working through the elimination of pulsation as the theme of development.)

* Contact our sales representatives for other unclear points if any or further information.

Tube — Liquid compatibility table

Chemical correspondence table of tubes adopted on TSUKASA tube pumps

CRITERION: ◎EXCELLENT ○GOOD △NOT RECOMMENDED ×UNUSABLE

USE OF CHEMICAL LIQUID	CHEMICAL LIQUID NAME	SILICONE	PHARMED	NORPRENE	FLURAN
DISINFECTING, CLEANING, PAINT PEELING, WATER REMOVER FOR FUEL	ISOPROPYL ALCOHOL	×	△	△	◎
POISONOUS CHEMICAL SOLVENT	ETHYL ALCOHOL	△	△	△	×
SAME AS ABOVE	ETHER	×	△	△	×
ANTIFREEZING SOLUTION	ETHYLENE GLYCOL	◎	◎	◎	◎
HOME CLEANING, MEDICINE	AMMONIA WATER, 30% (w)	×	◎	◎	×
DAMPPROOFING, SNOW MELTING AGENT, BEAN CURD SOLIDIFICATION, FOOD ADDITIVE	LIQUID CALCIUM CHLORIDE, 30% (w)	◎	◎	◎	◎
BEAN CURD BITTERN, FERTILIZER	LIQUID MAGNESIUM CHLORIDE, 35% (w)	◎	◎	◎	◎
HIGHLY POISONOUS, CHEMICAL FERTILIZER	METHYL CHLORIDE	×	△	△	×
BLEACHING, STERILIZING, FOOD ADDITIVE	HYDROGEN PEROXIDE SOLUTION, 90%	△	○	○	◎
FERTILIZER	AMMONIUM PERSULFATE SOLUTION, 30%	◎	◎	◎	◎
DETERGENT, RINSE, BEAUTY TREATMENT, SCALE REMOVING	CITRIC ACID SOLUTION, 10-20% (w)	◎	◎	◎	◎
PHOTO	DEVELOPING FLUID	○	○	○	◎
PAINT, MANICURE, FOOD ADDITIVE	ETHYL ACETATE	×	○	○	×
DYES MORDANT, FOOD PRESERVATION	SODIUM ACETATE SOLUTION, 55% (w)	◎	◎	◎	◎
ADHESIVE	VINYL ACETATE	×	○	○	×
BLEACHING AGENT	POTASSIUM HYPOCHLORITE, 70% (w)	◎	◎	◎	◎
DISINFECTING, STERILIZING, FOOD ADDITIVE	SODIUM HYPOCHLORITE, 12.2% (w)	×	◎	◎	◎
FIRE EXTINGUISHING COMPOSITIONS, COOKING, KITCHEN, BATHING, MEDICAL TREATMENT, GARDENING	SODIUM BICARBONATE, 7% (w)	◎	◎	◎	◎
MEDICAL TREATMENT, FOOD ADDITIVE	TARTARIC ACID SOLUTION, 56% (w)	◎	◎	◎	◎
GREASE, COMPOSITE OIL, ANTIFOAMING AGENT, COSMETICS, COMMODITY	SILICONE OILS	×	△	△	◎
DETERGENT, GREASE REMOVING, FOOD ADDITIVE	SODIUM HYDROXIDE, 30-40% (w)	◎	◎	◎	◎
PLASTIC, RUBBER, ADDITIVE FOR PAINT	CALCIUM CARBONATE DILUTION, 25%	◎	◎	◎	◎
BLEACHING, BEAUTY, FOOD ADDITIVE, MEDICAL TREATMENT, BUILDING MATERIAL, DIESEL EXHAUST EMISSION	UREA SOLUTION, 20% (w)	◎	◎	◎	◎
MAKE-UP, KITCHEN, DETERGENT	BLEACH SOLUTION, 22% (w)	×	◎	◎	◎
PLATING PROCESS	PLATING SOLUTION	×	◎	◎	◎
INK MATERIAL, REDUCING AGENT, MORDANT, PRESERVATIVE, MEDICINE	FERROUS SULPHATES SOLUTION, 5% (w)	◎	◎	◎	◎
FUEL, DETERGENT	KEROSENE	×	×	×	◎
FUEL	GASOLINE	×	×	×	◎
HIGHLY POISONOUS, SOLVENT, CHEMICAL FERTILIZER	BENZENE	×	×	×	×
HIGHLY POISONOUS, ADHESIVE, PRESERVATIVE, PAINT MATERIAL	FORMALDEHYDE, 37% (w)	△	×	×	×
MACHINING	CUTTING OIL FOR MACHINING	×	×	×	◎

* The list shows a part of liquid medicines. Many of liquid medicines actually used are composed of the mixture of multiple items. Damage to the tube may be enlarged further in such cases. Anyhow, verification tests will be necessary using actual liquids.
Pharmed tube, Norprene tube and Fluran are brand names of Saint Gobain.