

# LIQUID PUMPS AND METERING PUMPS

for neutral and  
aggressive liquids



**KIP**  
LAB

[www.knflab.com](http://www.knflab.com)

First class pumps for first class science



# STEPDOS® Chemically-resistant Diaphragm Metering Pumps

processor controlled



### Technical features:

- Precise dosing, even for extremely small amounts
- Low maintenance
- Self-priming and dry run-proof
- Low-pulsation metering stroke motion

| Flow rate<br>(ml/min) <sup>1)</sup> | Pressure head<br>(mWg) | Suction head<br>(mWg) | Motor<br>100-230V/50-60Hz<br>operating current (A)/<br>power P <sub>1</sub> (W) | Protection class | Connections | Weight<br>(kg) | Pump type<br>(see techn. variants)<br><br>Order No. |
|-------------------------------------|------------------------|-----------------------|---|------------------|-------------|----------------|---|
| 0.03-30                             | 60                     | 4                     | 0.23-0.11 / 25  | IP 65            | UNF 1/4"-28 | 1.5            | FEM 03 KT.18 S                                      |
| 0.03-30                             | 60                     | 4                     | 0.23-0.11 / 25  | IP 65            | UNF 1/4"-28 | 1.5            | FEM 03 TT.18 S                                      |
| 0.03-30                             | 60                     | 4                     | 0.23-0.11 / 25  | IP 65            | UNF 1/4"-28 | 1.5            | FEM 03 FT.18 S                                      |
| 0.03-30                             | 60                     | 4                     | 0.23-0.11 / 25  | IP 65            | UNF 1/4"-28 | 1.5            | FEM 03 ST.18 S                                      |
| 0.03-30                             | 60                     | 4                     | 0.23-0.11 / 25  | IP 65            | UNF 1/4"-28 | 1.5            | FEM 03 KT.18 RC                                     |
| 0.03-30                             | 60                     | 4                     | 0.23-0.11 / 25  | IP 65            | UNF 1/4"-28 | 1.5            | FEM 03 TT.18 RC                                     |
| 0.03-30                             | 60                     | 4                     | 0.23-0.11 / 25  | IP 65            | UNF 1/4"-28 | 1.5            | FEM 03 FT.18 RC                                     |
| 0.03-30                             | 60                     | 4                     | 0.23-0.11 / 25  | IP 65            | UNF 1/4"-28 | 1.5            | FEM 03 ST.18 RC                                     |
| 0.08-80                             | 20                     | 3                     | 0.30-0.13 / 30  | IP 65            | DN 4/6 mm   | 1.5            | FEM 08 KT.18 S                                      |
| 0.08-80                             | 20                     | 3                     | 0.30-0.13 / 30  | IP 65            | DN 4/6 mm   | 1.5            | FEM 08 TT.18 S                                      |
| 0.08-80                             | 20                     | 3                     | 0.30-0.13 / 30  | IP 65            | NPT 1/8"    | 1.5            | FEM 08 FT.18 S                                      |
| 0.08-80                             | 20                     | 3                     | 0.30-0.13 / 30  | IP 65            | NPT 1/8"    | 1.5            | FEM 08 ST.18 S                                      |
| 0.08-80                             | 20                     | 3                     | 0.30-0.13 / 30  | IP 65            | DN 4/6 mm   | 1.5            | FEM 08 KT.18 RC                                     |
| 0.08-80                             | 20                     | 3                     | 0.30-0.13 / 30  | IP 65            | DN 4/6 mm   | 1.5            | FEM 08 TT.18 RC                                     |
| 0.08-80                             | 20                     | 3                     | 0.30-0.13 / 30  | IP 65            | NPT 1/8"    | 1.5            | FEM 08 FT.18 RC                                     |
| 0.08-80                             | 20                     | 3                     | 0.30-0.13 / 30  | IP 65            | NPT 1/8"    | 1.5            | FEM 08 ST.18 RC                                     |

<sup>1)</sup> Water at 20°C and zero pressure head

### Technical variants:

| Code      | Comment   |
|-----------|---|
| <b>S</b>  | Manual operation via key pad:<br><b>Run mode:</b> continuous metering<br><b>Dispense mode:</b> metering according to volume and time  |
| <b>RC</b> | The RC version features all functions of the S version. In addition, it can be controlled externally, via analog or digital signals. (The software and a control cable are included.) |

### Material in contact with the pumped media

| Code      | Pump head                   | Diaphragm   | Valves |
|-----------|-----------------------------|-------------|--------|
| <b>KT</b> | PP                          | PTFE-coated | FFPM   |
| <b>TT</b> | PVDF                        | PTFE-coated | FFPM   |
| <b>FT</b> | PTFE                        | PTFE-coated | FFPM   |
| <b>ST</b> | Stainless steel<br>(1.4435) | PTFE-coated | FFPM   |

## Overview of technical features:

### Dimensional stability diaphragm

- Nearly no loss of capacity between atmospheric pressure and maximum pressure
- Consistently high metering precision during continual operations

### Stepper motor with sinus compensation

- Uniform output over the entire stroke motion

### Calibration function

- For precise metering under the given conditions of use

### Integrated solenoid valve

- No dripping and no flowing back, even after long idling

### Small dead volume

- Good suction
- Low danger of carry-over

### Lateral connections

- The hoses are easy to screw on

### IP 65 Housing

- Protected against splash



# LIQUIPORT®

## Chemically-resistant Diaphragm Liquid Pumps

adjustable flow rate  
(manual or external)

### Technical features:

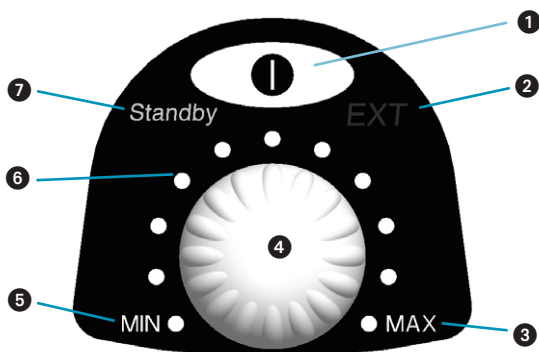
- Low maintenance
- Self priming
- Dry running
- Versions for external control (RC)

| Flow rate (l/min) <sup>1)</sup> | Pressure head (mWg) | Suction head (mWg) | Motor 100-240V/50-60Hz power P <sub>1</sub> (W) | Protection class | Connections for tube ID | Weight (kg) | Pump type <sup>2)</sup><br>Order No. |
|---------------------------------|---------------------|--------------------|---|------------------|-------------------------|-------------|--------------------------------------|
| 0.2-1.3                         | 10                  | 3                  | 12  | IP 65            | 8 mm                    | 1.0         | NF 100 KT.18 S                       |
| 0.2-1.3                         | 10                  | 3                  | 12  | IP 65            | 8 mm                    | 1.0         | NF 100 TT.18 S                       |
| 0.2-1.3                         | 10                  | 3                  | 12  | IP 65            | 8 mm                    | 1.0         | NF 100 FT.18 S                       |
| 0.2-1.3                         | 60                  | 3                  | 18  | IP 65            | 8 mm                    | 1.0         | NF 1.100 KT.18 S                     |
| 0.2-1.3                         | 60                  | 3                  | 18  | IP 65            | 8 mm                    | 1.0         | NF 1.100 TT.18 S                     |
| 0.2-1.3                         | 60                  | 3                  | 18  | IP 65            | 8 mm                    | 1.0         | NF 1.100 FT.18 S                     |
| 0.2-1.3                         | 10                  | 3                  | 12  | IP 65            | 8 mm                    | 1.0         | NF 100 KT.18 RC                      |
| 0.2-1.3                         | 10                  | 3                  | 12  | IP 65            | 8 mm                    | 1.0         | NF 100 TT.18 RC                      |
| 0.2-1.3                         | 10                  | 3                  | 12  | IP 65            | 8 mm                    | 1.0         | NF 100 FT.18 RC                      |
| 0.2-1.3                         | 60                  | 3                  | 18  | IP 65            | 8 mm                    | 1.0         | NF 1.100 KT.18 RC                    |
| 0.2-1.3                         | 60                  | 3                  | 18  | IP 65            | 8 mm                    | 1.0         | NF 1.100 TT.18 RC                    |
| 0.2-1.3                         | 60                  | 3                  | 18  | IP 65            | 8 mm                    | 1.0         | NF 1.100 FT.18 RC                    |
|                                 |                     |                    |   |                  |                         |             |                                      |
| 0.5-3.0                         | 10                  | 3                  | 24  | IP 65            | 12 mm                   | 1.5         | NF 300 KT.18 S                       |
| 0.5-3.0                         | 10                  | 3                  | 24  | IP 65            | 12 mm                   | 1.5         | NF 300 TT.18 S                       |
| 0.5-3.0                         | 10                  | 3                  | 24  | IP 65            | 12 mm                   | 1.5         | NF 300 FT.18 S                       |
| 0.5-3.0                         | 60                  | 3                  | 24  | IP 65            | 12 mm                   | 1.5         | NF 1.300 KT.18 S                     |
| 0.5-3.0                         | 60                  | 3                  | 24  | IP 65            | 12 mm                   | 1.5         | NF 1.300 TT.18 S                     |
| 0.5-3.0                         | 60                  | 3                  | 24  | IP 65            | 12 mm                   | 1.5         | NF 1.300 FT.18 S                     |
| 0.5-3.0                         | 10                  | 3                  | 24  | IP 65            | 12 mm                   | 1.5         | NF 300 KT.18 RC                      |
| 0.5-3.0                         | 10                  | 3                  | 24  | IP 65            | 12 mm                   | 1.5         | NF 300 TT.18 RC                      |
| 0.5-3.0                         | 10                  | 3                  | 24  | IP 65            | 12 mm                   | 1.5         | NF 300 FT.18 RC                      |
| 0.5-3.0                         | 60                  | 3                  | 24  | IP 65            | 12 mm                   | 1.5         | NF 1.300 KT.18 RC                    |
| 0.5-3.0                         | 60                  | 3                  | 24  | IP 65            | 12 mm                   | 1.5         | NF 1.300 TT.18 RC                    |
| 0.5-3.0                         | 60                  | 3                  | 24  | IP 65            | 12 mm                   | 1.5         | NF 1.300 FT.18 RC                    |

<sup>1)</sup> Water at 20°C and zero pressure head

<sup>2)</sup> Material version, see table on the left. Pump version, Code: **S** = manual operating, **RC** = manual operating and external control

### Operation of Pump (manual operating)



| Position | Description          | Function  |
|----------|----------------------|---|
| 1        | <b>ON/OFF button</b> | Turns the pump on and off   |
| 2        | <b>EXT</b>           | Lights up when analog signal is being used (RC-Version)                           |
| 3        | <b>MAX</b>           | Maximum flow rate   |
| 4        | <b>Knob</b>          | Adjusts the flow from 10% to 100%   |
| 5        | <b>MIN</b>           | Minimum flow rate   |
| 6        | <b>LED</b>           | Indicates the flow rate   |
| 7        | <b>Standby</b>       | „Standby“ lights up green, as soon as the pump is plugged in. Pump is not running |



# SIMDOS® Chemically-resistant Diaphragm Dosing Pumps

Dosing simplified  
(manual or external)

#### Technical features:

- Intuitive operation
- Adaptable to fluid characteristics
- Quick and Easy calibration
- Analog and impulse control (RC)
- Volume dosing function (1 - 1000 ml)
- Interval function without loss at the data
- Low maintenance
- Self priming
- Dry running
- Chemically-resistant versions

| Flow rate (ml/min) | Pressure head (mWg) | Suction head (mWg) | Motor 100-240V/50-60Hz power P <sub>1</sub> (W) | Protection class | Connections for tube (ID/OD) | Weight (kg) | Pump type <sup>1)</sup><br>Order No. |
|--------------------|---------------------|--------------------|---|------------------|------------------------------|-------------|--------------------------------------|
| 1-100              | 60                  | 3                  | 10  | IP 65            | 4/6 mm                       | 0,9         | FEM 1.10 KT.18 S                     |
| 1-100              | 60                  | 3                  | 10  | IP 65            | 4/6 mm                       | 0,9         | FEM 1.10 TT.18 S                     |
| 1-100              | 60                  | 3                  | 10  | IP 65            | 4/6 mm                       | 0,9         | FEM 1.10 FT.18 S                     |
| 1-100              | 60                  | 3                  | 10  | IP 65            | 4/6 mm                       | 0,9         | FEM 1.10 KT.18 RC                    |
| 1-100              | 60                  | 3                  | 10  | IP 65            | 4/6 mm                       | 0,9         | FEM 1.10 TT.18 RC                    |
| 1-100              | 60                  | 3                  | 10  | IP 65            | 4/6 mm                       | 0,9         | FEM 1.10 FT.18 RC                    |

<sup>1)</sup> Material version, see table. Pump version, Code: **S** = manual operating, **RC** = manual operating and external control (see table).

#### Technical variants:

| Code      | Comment   |
|-----------|---|
| <b>S</b>  | <ul style="list-style-type: none"> <li>■ Manual operation</li> </ul>  |
| <b>RC</b> | <ul style="list-style-type: none"> <li>■ Manual operation</li> <li>■ Analog control: 0 -10 V, 0 -20 mA, 4 -20 mA from 0 to 100%</li> <li>■ Start / Stop through logic control (TTL)</li> <li>■ Reset / Prime through logic control (TTL)</li> <li>■ Output signal fault alarm</li> <li>■ Cable for external control included</li> </ul> |

#### Material in contact with the pumped media

| Code      | Pump head | Diaphragm   | Valves |
|-----------|-----------|-------------|--------|
| <b>KT</b> | PP        | PTFE-coated | FFKM   |
| <b>TT</b> | PVDF      | PTFE-coated | FFKM   |
| <b>FT</b> | PTFE      | PTFE-coated | FFKM   |

#### Technical datas:

- Allowed ambient temperature: + 5 up to + 40 °C
- Allowed liquid temperature: + 5 up to + 80 °C
- Maximum viscosity allowed: 150 cSt  
(reduced performance up to 500 cSt)
- Repeatability: ± 1 %
- Dimensions in mm (H x W x D) : 140 x 87 x 130

**You find the delivery range in the KNF laboratory catalogue  
Please visit the KNF web site: [www.knf.com](http://www.knf.com)**

Your distributor:

**KNF FLODOS AG, Wassermatte 2, CH-6210 Sursee, Tel. ++41(0)41 925 00 25  
Fax ++41(0)41 925 00 35, [www.knf-flodos.ch](http://www.knf-flodos.ch), E-Mail: [info@knf-flodos.ch](mailto:info@knf-flodos.ch)**