



LAB LIQUID PUMPS METER, DOSE, TRANSFER



METERING, DOSING, AND
TRANSFERRING LIQUIDS.
PRECISE, SAFE AND CLEAN HANDLING
OF NEUTRAL AND AGGRESSIVE LIQUIDS.

LIQUID PUMPS FOR THE LABORATORY

KNF liquid diaphragm pumps are small, quiet, self-priming, maintenance-free, and will operate dry indefinitely without damage. Each includes intuitive control options and a splash-proof housing. Unlike peristaltic pumps, there is no tubing to break or fatigue, therefore flow rates are consistent, and reliable. In addition, all KNF liquid pumps offer premium, chemically-resistant models.

The KNF line of liquid diaphragm pumps includes:

- **SIMDOS® 02 and 10** metering and dosing pumps, offering metering flow rates from 0.03 – 20 mL/min and 1 – 100 mL/min, respectively, and discrete dosing volumes of 0.03 – 999 mL and 1 – 999 mL, respectively. See pages 3 – 6.
- **LIQUIPORT®** easy-to-use transfer pumps, with flow rates ranging from 0.2 – 1.3 L/min and 0.5 – 3.0 L/min. See pages 7 – 8.

Diaphragm liquid pumps are ideal for:

applications that require low shear force, high repeatability and the ability to handle aggressive media.

Fields of Applications:

- Chemistry
- Synthetic organic chemistry
- Pharmacy
- Adhesives and glue
- Polymers & polymer coating
- Food technology research
- Detergents
- Water treatment research
- Biology, microbiology
- Biotechnology
- Fragrances

SIMDOS® 02

FINE METERING AND DOSING LIQUID PUMP



- Simple and intuitive operation
- Easy calibration
- Cycle mode
- Adaptable to fluid characteristics
- Self priming, can run dry
- Various control options
- Splashproof IP65, small footprint

FIELDS OF APPLICATION

- | | |
|--|--|
| <ul style="list-style-type: none"> ■ Chemistry ■ Synthetic organic chemistry ■ Pharmaceutical ■ Adhesives and glue | <ul style="list-style-type: none"> ■ Polymers & polymer coating ■ Food technology research ■ Detergents |
|--|--|

HYDRAULIC DATA

Metering flow rate	Dosing volume	Suction height	Max. pressure
0.03 – 20 mL/min	0.03 mL – 999 mL	6.6 ft. water	85 psig

PUMP TYPE

Code	Pump head	Diaphragm	Valves	Filter (1pc. included)	Tubing (2pc. included)
KT	PP	PTFE covered	FFKM Kalrez®	165212	166329
TT	PVDF	PTFE covered	FFKM Kalrez®	165210	166329
FT	PTFE	PTFE covered	FFKM Kalrez® *	165212	166329
ST	STAINLESS STEEL	PTFE covered	FFKM Kalrez®	165212	166329

* On request FFKM Chemraz®

CONTROL TYPE

S - Version	RC - Version	RC Plus - Version
<ul style="list-style-type: none"> ■ Manual operation 	<ul style="list-style-type: none"> ■ Manual operation ■ Analog control: 0 – 5 V, 0 – 10 V, 0 – 20 mA, 4 – 20 mA, from 1 to 100% ■ Start/Stop through logic control (TTL) 	<ul style="list-style-type: none"> ■ Reset/Prime through logic control (TTL) ■ Output signal fault alarm ■ RC cable for external control included
		<ul style="list-style-type: none"> ■ Same as RC ■ RS 232 port for PC control ■ RS 232 cable with D-Sub 9 connector included

TECHNICAL DATA

- | | |
|--|--|
| <ul style="list-style-type: none"> ■ Main supply 100 – 240 V / 50 – 60 Hz ■ Ambient temperature allowed +5 to +40 °C ■ Liquid temperature allowed +5 to +80 °C ■ Viscosity settings up to 500 cSt** ■ Accuracy +/-2% (nominal value) ■ Repeatability +/-1% ■ Power consumption 10 W | <ul style="list-style-type: none"> ■ Protection class IP65 ■ Dimensions: 150 H x 93 W x 144 D mm ■ Weight: 0.9 kg ■ UNF 1/4" – 28 threaded ports ■ Supplied with 1/8" OD x 1/16" ID tubing; other options available ■ Filter |
|--|--|

** Reduced flow rate above 150 cSt

Model Numbers: FEM 1.02___.18__ Example: FEM 1.02KT.18RCP

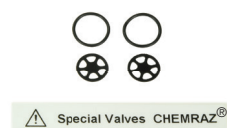
Code: KT, TT, FT, or ST

Control: S, RC, or RCP

See page 9 for a list of all model numbers.

ACCESSORIES

VALVES KIT	
	ID-Nr.
FFKM Chemraz® special valves for certain chemicals	164984



DIAPHRAGM PRESSURE CONTROL VALVE WITH SUPPORT (when the feeding tank is above the pump or to dose into vacuum)	
	ID-Nr.
Kit JFDV 30 KTZ for SIMDOS® 02 KT	166286
Kit JFDV 30 TTZ for SIMDOS® 02 TT	166287
Kit JFDV 30 FTZ for SIMDOS® 02 FT	166288



FILTER (for protection against influent particulates and fibers)				
Type	Porosity	Material	Connector	ID-Nr.
FS 60 T	70 µm	PVDF	UNF 1/4"-28	165210
FS 60 X	35 µm	PEEK	UNF 1/4"-28	165212



TUBING AND CONNECTORS	
	ID-Nr.
Replacement FEP inlet/outlet tubing , 1/8" OD x 1/16" ID x 1 m with UNF 1/4"-28 connector	166329
Also available in 2 m length	166330
Replacement UNF 1/4"-28 connector set for 1/8" OD tubing (includes 2 ferrules and 2 fittings)	069790
Optional FEP outlet tubing for fine dosing, 1/16" OD x 1/32" ID x 1 m with UNF 1/4"-28 connector†	166335

† 5 mL/min maximum flow rate with this tubing.



MOUNTING PLATE	
	ID-Nr.
For wall mounting	160473



STANDFITTING	
	ID-Nr.
For retort stand	160474



USB-SERIAL CONVERTER (for SIMDOS® RC Plus)	
	ID-Nr.
	166949



FOOTSWITCH	
	ID-Nr.
For impulse start and stop	155872



SIMDOS® 10

METERING AND DOSING LIQUID PUMP



- Simple and intuitive operation
- Easy calibration
- Cycle mode
- Adaptable to fluid characteristics
- Self priming, can run dry
- Various control options
- Splashproof IP65, small footprint

FIELDS OF APPLICATION

- Chemistry
- Synthetic organic chemistry
- Pharmaceutical
- Adhesives and glue
- Polymers & polymer coating
- Food technology research
- Detergents

HYDRAULIC DATA

Metering flow rate	Dosing volume	Suction height	Max. pressure
1 – 100 mL/min	1 – 999 mL	9.8 ft. water	85 psig

PUMP TYPE

Code	Pump head	Diaphragm	Valves	Filter (1pc. included)	Tubing (2pc. included)
KT	PP	PTFE covered	FFKM Kalrez®	165213	160269
TT	PVDF	PTFE covered	FFKM Kalrez®	165211	160269
FT	PTFE	PTFE covered	FFKM Kalrez® *	165213	160271
ST	STAINLESS STEEL	PTFE covered	FFKM Kalrez®	165213	160271

* On request FFKM Chemraz®

CONTROL TYPE

S2 - Version	RC2 - Version	RC Plus 2 - Version
<ul style="list-style-type: none"> ■ Manual operation 	<ul style="list-style-type: none"> ■ Manual operation ■ Analog control: 0 – 5 V, 0 – 10 V, 0 – 20 mA, 4 – 20 mA, from 1 to 100% ■ Start/Stop through logic control (TTL) 	<ul style="list-style-type: none"> ■ Reset/Prime through logic control (TTL) ■ Output signal fault alarm ■ RC cable for external control included
		<ul style="list-style-type: none"> ■ Same as RC2 ■ RS 232 port for PC control ■ RS 232 cable with D-Sub 9 connector included

TECHNICAL DATA

<ul style="list-style-type: none"> ■ Main supply 100 – 240 V / 50 – 60 Hz ■ Allowed ambient temperature +5 to +40 °C ■ Allowed liquid temperature +5 to +80 °C ■ Viscosity settings up to 500 cSt** ■ Accuracy +/-2% (nominal value) ■ Repeatability +/-1% 	<ul style="list-style-type: none"> ■ Power consumption 24 W ■ Protection class IP65 ■ Dimensions: 150 H x 93 W x 144 D mm ■ Weight: 0.9 kg ■ Supplied with 1/4" OD x 1/8" ID x 2 M tubing and compression fittings ■ Filter
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** Reduced flow rate above 150 cSt

Model Numbers: UFEM 1.10___.18__ Example: UFEM 1.10TT.18RC2

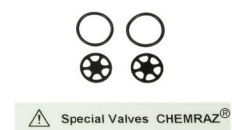
Code: KT, TT, FT, or ST

Control: S2, RC2, or RCP2

See page 9 for a list of all model numbers.

ACCESSORIES

VALVES KIT	
	ID-Nr.
FFKM Chemraz® special valves for certain chemicals	168037



DIAPHRAGM PRESSURE CONTROL VALVE WITH SUPPORT (when the feeding tank is above the pump or to dose into vacuum)	
	ID-Nr.
Kit UFDV 30 KTZ for SIMDOS® 10 KT	167598
Kit UFDV 30 TTZ for SIMDOS® 10 TT	167599
Kit UFDV 30 FTZ for SIMDOS® 10 FT, ST	167600



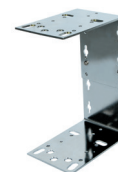
FILTER					
Type	Porosity	Material	Connector	FOR	ID-Nr.
FS 25 T	70 µm	PVDF	for 1/4" OD x 1/8" ID tubing	TT	165211
FS 25 X	35 µm	PEEK	for 1/4" OD x 1/8" ID tubing	FT, KT, ST	165213



PULSATION DAMPER (placed on pump outlet for smoother flow)	
	ID-Nr.
UFPD 10 KT for SIMDOS® 10 KT	167821
UFPD 10 TT for SIMDOS® 10 TT	167822
UFPD 10 FT for SIMDOS® 10 FT, ST	167823



MOUNTING PLATE	
	ID-Nr.
For wall mounting	160473



STANDFITTING	
	ID-Nr.
For retort stand	160474



USB-SERIAL CONVERTER (for SIMDOS® RC Plus 2)	
	ID-Nr.
	166949



FOOTSWITCH	
	ID-Nr.
For impulse start and stop	155872



LIQUIPORT® 100, 1.100, 300, 1.300

LIQUID TRANSFER PUMP



- Simple and intuitive operation
- Self priming, can run dry
- Analog and impulse control (RC)
- Splashproof IP65, small footprint

FIELDS OF APPLICATION

- Chemistry
- Synthetic organic chemistry
- Pharmaceutical
- Adhesives and glue
- Polymers & polymer coating
- Food technology research
- Detergents

HYDRAULIC DATA

Type	Flow rate	Suction height	Max. pressure
LIQUIPORT 100	0.2 – 1.3 L/min	9.8 ft. water	15 psig
LIQUIPORT 1.100	0.2 – 1.3 L/min	9.8 ft. water	85 psig
LIQUIPORT 300	0.5 – 3.0 L/min	9.8 ft. water	15 psig
LIQUIPORT 1.300	0.5 – 3.0 L/min	9.8 ft. water	85 psig

PUMP TYPE

Code	Pump head	Diaphragm	Valves
KT	PP	PTFE covered	FFKM Simriz® *
TT	PVDF	PTFE covered	FFKM Simriz® *
FT	PTFE	PTFE covered	FFKM Simriz® *

* Optional materials available on request

CONTROL TYPE

S - Version	RC - Version
<ul style="list-style-type: none"> ■ Manual operation 	<ul style="list-style-type: none"> ■ Manual operation ■ Analog control: 0 – 10 V for 0 to 100% (others on request) ■ Start/Stop through logic control (TTL) ■ Output signal fault alarm ■ RC cable for external control included

TECHNICAL DATA

- Main supply 100 – 240 V / 50 – 60 Hz
- Ambient temperature allowed +5 to +40 °C
- Liquid temperature allowed +5 to +80 °C
- Maximum viscosity allowed 150 cSt
- Power consumption 12 – 16 W (100, 1.100); 22 – 32 W (300, 1.300)
- Repeatability +/-1%
- Protection class IP65
- Dimensions:
 - 130 H x 99 W x 177 D mm (100, 1.100)
 - 160 H x 104 W x 188 D mm (300, 1.300)
- Weight: 1.0 kg (100, 1.100); 1.5 kg (300, 1.300)
- Equipped with barbed fittings:
 - for 5/16" ID tubing (100, 1.100)
 - for 15/32" ID tubing (300, 1.300)

Model Numbers: NF ____ .18__ Example: NF 1.300FT.18S

Type: 100, 1.100, 300, 1.300

Code: KT, TT, or FT

Control: S, or RC

See page 10 for a list of all model numbers.

ACCESSORIES

MOUNTING PLATE	
	ID-Nr.
For wall mounting	160473



STANDFITTING	
	ID-Nr.
For retort stand	160474



FOOTSWITCH	
	ID-Nr.
For impulse start and stop	155872



PRODUCT LISTINGS AND SPECIFICATIONS

Model	Specifications				Materials of Construction			Control
	Metering	Dosing	Suction Height	Pressure	Head	Diaphragm	Valves	
SIMDOS® 02								
FEM 1.02KT.18S	0.03 – 20 mL/min	0.03 – 999 mL	6.6 ft. water	85 psig	PP	PTFE	FFKM¹	S
FEM 1.02TT.18S	0.03 – 20 mL/min	0.03 – 999 mL	6.6 ft. water	85 psig	PVDF	PTFE	FFKM¹	S
FEM 1.02FT.18S	0.03 – 20 mL/min	0.03 – 999 mL	6.6 ft. water	85 psig	PTFE	PTFE	FFKM¹	S
FEM 1.02ST.18S	0.03 – 20 mL/min	0.03 – 999 mL	6.6 ft. water	85 psig	SS	PTFE	FFKM¹	S
FEM 1.02KT.18RC	0.03 – 20 mL/min	0.03 – 999 mL	6.6 ft. water	85 psig	PP	PTFE	FFKM¹	RC
FEM 1.02TT.18RC	0.03 – 20 mL/min	0.03 – 999 mL	6.6 ft. water	85 psig	PVDF	PTFE	FFKM¹	RC
FEM 1.02FT.18RC	0.03 – 20 mL/min	0.03 – 999 mL	6.6 ft. water	85 psig	PTFE	PTFE	FFKM¹	RC
FEM 1.02ST.18RC	0.03 – 20 mL/min	0.03 – 999 mL	6.6 ft. water	85 psig	SS	PTFE	FFKM¹	RC
FEM 1.02KT.18RCP	0.03 – 20 mL/min	0.03 – 999 mL	6.6 ft. water	85 psig	PP	PTFE	FFKM¹	RCP
FEM 1.02TT.18RCP	0.03 – 20 mL/min	0.03 – 999 mL	6.6 ft. water	85 psig	PVDF	PTFE	FFKM¹	RCP
FEM 1.02FT.18RCP	0.03 – 20 mL/min	0.03 – 999 mL	6.6 ft. water	85 psig	PTFE	PTFE	FFKM¹	RCP
FEM 1.02ST.18RCP	0.03 – 20 mL/min	0.03 – 999 mL	6.6 ft. water	85 psig	SS	PTFE	FFKM¹	RCP
SIMDOS® 10								
UFEM 1.10KT.18S2	1 – 100 mL/min	1 – 999 mL	9.8 ft. water	85 psig	PP	PTFE	FFKM¹	S
UFEM 1.10TT.18S2	1 – 100 mL/min	1 – 999 mL	9.8 ft. water	85 psig	PVDF	PTFE	FFKM¹	S
UFEM 1.10FT.18S2	1 – 100 mL/min	1 – 999 mL	9.8 ft. water	85 psig	PTFE	PTFE	FFKM¹	S
UFEM 1.10ST.18S2	1 – 100 mL/min	1 – 999 mL	9.8 ft. water	85 psig	SS	PTFE	FFKM¹	S
UFEM 1.10KT.18RC2	1 – 100 mL/min	1 – 999 mL	9.8 ft. water	85 psig	PP	PTFE	FFKM¹	RC
UFEM 1.10TT.18RC2	1 – 100 mL/min	1 – 999 mL	9.8 ft. water	85 psig	PVDF	PTFE	FFKM¹	RC
UFEM 1.10FT.18RC2	1 – 100 mL/min	1 – 999 mL	9.8 ft. water	85 psig	PTFE	PTFE	FFKM¹	RC
UFEM 1.10ST.18RC2	1 – 100 mL/min	1 – 999 mL	9.8 ft. water	85 psig	SS	PTFE	FFKM¹	RC
UFEM 1.10KT.18RCP2	1 – 100 mL/min	1 – 999 mL	9.8 ft. water	85 psig	PP	PTFE	FFKM¹	RCP
UFEM 1.10TT.18RCP2	1 – 100 mL/min	1 – 999 mL	9.8 ft. water	85 psig	PVDF	PTFE	FFKM¹	RCP
UFEM 1.10FT.18RCP2	1 – 100 mL/min	1 – 999 mL	9.8 ft. water	85 psig	PTFE	PTFE	FFKM¹	RCP
UFEM 1.10ST.18RCP2	1 – 100 mL/min	1 – 999 mL	9.8 ft. water	85 psig	SS	PTFE	FFKM¹	RCP

For more information, see pages 3 – 4 for SIMDOS® 02 and pages 5 – 6 for SIMDOS® 10.

Model	Specifications			Materials of Construction			Control
	Transfer	Suction Height	Pressure	Head	Diaphragm	Valves	
LIQUIPORT®							
NF 100KT.18S	0.2 – 1.3 L/min	9.8 ft. water	15 psig	PP	PTFE	FFKM ²	S
NF 100TT.18S	0.2 – 1.3 L/min	9.8 ft. water	15 psig	PVDF	PTFE	FFKM ²	S
NF 100FT.18S	0.2 – 1.3 L/min	9.8 ft. water	15 psig	PTFE	PTFE	FFKM ²	S
NF 1.100KT.18S	0.2 – 1.3 L/min	9.8 ft. water	85 psig	PP	PTFE	FFKM ²	S
NF 1.100TT.18S	0.2 – 1.3 L/min	9.8 ft. water	85 psig	PVDF	PTFE	FFKM ²	S
NF 1.100FT.18S	0.2 – 1.3 L/min	9.8 ft. water	85 psig	PTFE	PTFE	FFKM ²	S
NF 300KT.18S	0.5 – 3.0 L/min	9.8 ft. water	15 psig	PP	PTFE	FFKM ²	S
NF 300TT.18S	0.5 – 3.0 L/min	9.8 ft. water	15 psig	PVDF	PTFE	FFKM ²	S
NF 300FT.18S	0.5 – 3.0 L/min	9.8 ft. water	15 psig	PTFE	PTFE	FFKM ²	S
NF 1.300KT.18S	0.5 – 3.0 L/min	9.8 ft. water	85 psig	PP	PTFE	FFKM ²	S
NF 1.300TT.18S	0.5 – 3.0 L/min	9.8 ft. water	85 psig	PVDF	PTFE	FFKM ²	S
NF 1.300FT.18S	0.5 – 3.0 L/min	9.8 ft. water	85 psig	PTFE	PTFE	FFKM ²	S
NF 100KT.18RC	0.2 – 1.3 L/min	9.8 ft. water	15 psig	PP	PTFE	FFKM ²	RC
NF 100TT.18RC	0.2 – 1.3 L/min	9.8 ft. water	15 psig	PVDF	PTFE	FFKM ²	RC
NF 100FT.18RC	0.2 – 1.3 L/min	9.8 ft. water	15 psig	PTFE	PTFE	FFKM ²	RC
NF 1.100KT.18RC	0.2 – 1.3 L/min	9.8 ft. water	85 psig	PP	PTFE	FFKM ²	RC
NF 1.100TT.18RC	0.2 – 1.3 L/min	9.8 ft. water	85 psig	PVDF	PTFE	FFKM ²	RC
NF 1.100FT.18RC	0.2 – 1.3 L/min	9.8 ft. water	85 psig	PTFE	PTFE	FFKM ²	RC
NF 300KT.18RC	0.5 – 3.0 L/min	9.8 ft. water	15 psig	PP	PTFE	FFKM ²	RC
NF 300TT.18RC	0.5 – 3.0 L/min	9.8 ft. water	15 psig	PVDF	PTFE	FFKM ²	RC
NF 300FT.18RC	0.5 – 3.0 L/min	9.8 ft. water	15 psig	PTFE	PTFE	FFKM ²	RC
NF 1.300KT.18RC	0.5 – 3.0 L/min	9.8 ft. water	85 psig	PP	PTFE	FFKM ²	RC
NF 1.300TT.18RC	0.5 – 3.0 L/min	9.8 ft. water	85 psig	PVDF	PTFE	FFKM ²	RC
NF 1.300FT.18RC	0.5 – 3.0 L/min	9.8 ft. water	85 psig	PTFE	PTFE	FFKM ²	RC

For more information, see pages 7 – 8 for LIQUIPORT® pumps.

¹ FFKM Kalrez®

² FFKM Simriz®

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SIMDOS® is a registered trademark of KNF Flodos AG.

Simriz® is a registered trademark of Carl Freudenberg KG Corporation.

Tygon® is a registered trademark of Saint-Gobain.

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