








# ELADOS<sup>®</sup> EMP Diaphragm Metering Pumps

**ECOLAB<sup>®</sup>**

Everywhere It Matters.

# ELADOS® EMP Diaphragm Metering Pumps

With our range of diaphragm metering pumps ELADOS® EMP we offer a pump programme which comes up to the high demands of the industrial use. A well-balanced metering performance gradation among excellent metering exactness and optimal chemical resistance guarantees a wide field of usage. The ELADOS® EMP pump program provides all possibilities of your metering processes as from individual required basis types up to demanding electric types.

	Metering quantity [l/h]	Back pressure [bar]		Electrical version	Pressure connection (ID/AD mm)	Suction connection (ID/AD mm)	Electrical connection
<b>EMP-KKS</b>							
Motorised diaphragm piston metering pump ▶Self-priming and -venting ▶Exact metering ▶Quiet working ▶High quality of materials from 0.2 to 1.4 l/h 	0,2	10		E10 E60	2/4, 4/6, 4/6, 4/6	6/8, 6/10, 6/12	230V/ 50Hz**
	0,5	10					
	0,9	10					
	1,4	10					
<b>EMP II</b>							
Motorised diaphragm piston metering pump ▶Self-priming and -venting ▶Exact metering ▶Quiet working from 1.4 to 11.2 l/h 	1,4	10	16	E10 E60	4/6, 6/8, 6/12	4/6, 6/8, 6/12	230V/ 50Hz**
	2,5	10	16				
	4,8	4					
	4,3	10	16				
	7,2	6					
	7,2	10					
	11,2	5					
<b>EMP III</b>							
Motorised diaphragm piston metering pump ▶Self-priming and -venting ▶Exact metering ▶Quiet working ▶Chemical resistant housing from 16 to 120 l/h 	16	10	16	E00 E10 E60	6/12		230V/50Hz, 3/PE 400/230V 50Hz/60Hz** (only for E00)
	25	10	12				
	54	10					
	80	4					
	120	3					
<b>EMP IV</b>							
Motorised diaphragm piston metering pump ▶Self-priming and -venting ▶Exact metering ▶Quiet working ▶Chemical resistant housing from 140 to 750 l/h 	140	10	12	E00 E10	12/21	25/34	230V/50Hz, 3/PE 400/230V 50Hz/60Hz** (only for E00)
	210	8	10		19/27		
	450	6			19/27	30/38	
	630	4			25/34	32/42	
	750	3					
<b>EDPL</b>							
Motorised diaphragm metering pump with integrated frequency converter ▶Powerful asynchronous motor ▶Variable suction and metering speed ▶Suitable for metering of viscous fluids ▶Operation with almost pulsation-free metering is possible from 220 to 670 l/h 	220	10		V60	12/21	19/27	230V/50Hz**
	480	6			25/34	30/38	
	670	4					

At a stroke setting of 100%, all models possess a 2 m suction height with cleaned and moistened valves.

\*\*Special power on request.

All values at 50 Hz. With reservations, all data refer to water with 20°C according to the advice in the technical instructions.

**Electrical version:**

**E 00** only for EMP III and EMP IV, Terminal box on motor, mechanical stroke adjustment  
**E 10** On/off switch, mechanical stroke adjustment  
**E 60** (EMP-KKS, II, III) / **V60** (EDPL) mechanical stroke adjustment / electronic metering rate setting (V60)

- ▶ Back-lit graphic display, 4 operating keys
- ▶ Single stroke control (each stroke is completely executed)
- ▶ Metering monitoring via stroke-signal output or via external metering-monitoring system (e.g. oval gear meter) possible
- ▶ Registration of operating and consumption data
- ▶ Diaphragm failure detection (optional for EMP IV)
- ▶ Calibration function

Selectable operating modes

**Internal mode**

Selection of metering rate/metering frequency via:

- ▶ Strokes/min
- ▶ Percent
- ▶ Liter/h (or. gallon/h)

**External mode**

- ▶ Pulse mode (actuation via pulses)
  - Pulse multiplication (one incoming pulse = n metering strokes)
  - Pulse division (n incoming pulses = 1 metering stroke)
- ▶ Standard signal mode (actuation via external standard signal 0/4-20mA or 20-0/4mA)
- ▶ Charge mode (a previously selected quantity is metered, with initiation via an external initiation pulse)

**Inputs:**

- ▶ Level monitoring, package vessel (reserve and empty signal)
- ▶ Pulse
- ▶ Standard signal
- ▶ Enable

**Outputs:**

- ▶ Level monitoring package vessel
- ▶ Stroke signal
- ▶ Malfunction

- Calibration function
- Consumption data capture
- Metering monitoring

**E 60<sup>PLUS</sup>** (E60 + Dongle Box) / **V 60<sup>PLUS</sup>** (V60 + Dongle Platine), like E 60 / V60, but additional metering rate control and automatic readjustment of pump output (only in combination with external flow monitoring system, e.g. oval gear meter)

- ▶ Automatic calibration function with oval gear meter
- ▶ Consumption data monitoring with oval gear meter

- Consumption data monitoring
- Metering volume control

**Pump material:**

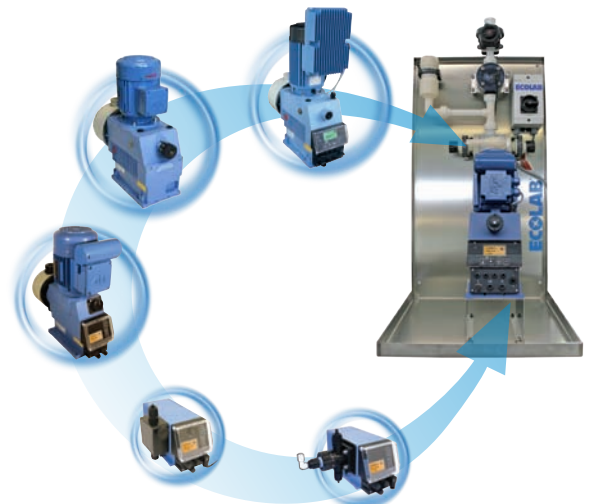
PP = Polypropylen, PV = PVDF (Polyvinylidenfluorid);  
VA = stainless steel 1.4571

**Valve ball material:**

GL = Glas; VA = stainless steel 1.4401; KE = ceramics;  
PT = PTFE (Teflon)

**Sealing material:**

FP = FPM (Viton B); EP = EPDM;  
KA = FFPM (Kalrez); PT = PTFE (Teflon)



# From ready for connection and premounted metering stations up to the complete program of accessories:



## Metering station

- ▲ Sound processing and safe metering process
- ▲ High-quality materials
- ▲ Resistant against chemicals
- ▲ Including container mounting
- ▲ Safe handling of chemicals



## DEGAS<sup>PLUS</sup> Automatic degassing valve

- ▲ No more problems with degassing fluids
- ▲ Direct control and setting via pump software (ELADOS<sup>®</sup> EMP E60)
- ▲ Plug & play in connection with ELADOS<sup>®</sup> EMP E60



## Oval gear meter

- ▲ Intelligent and exact quantity metering
- ▲ Resistant against chemicals
- ▲ Independent of changing viscosity
- ▲ Different measuring ranges
- ▲ Adjustable pulse rate
- ▲ Integrated evaluation electronics incl. calibration function with Plug & Flow for ELADOS<sup>®</sup> EMP E60 / E60<sup>PLUS</sup>



## Multi-function valve

- ▲ Maximum process reliability
- ▲ Simple installation
- ▲ Easy operation
- ▲ **4 in 1** for cost saving (pressure control function, pressure relief function, manual degassing function, drain function)



## Suction lance

- ▲ In different versions and lengths
- ▲ With reserve and empty signal
- ▲ Incl. ball non-return valve
- ▲ Suction strainer
- ▲ Zero-potential empty signal contact (empty = contact interrupted)



## Metering valves for different connections

e.g., metering valve with hose valve for chloric products



## Contact water meter

- ▲ Low losses pressure
- ▲ Pulse information even for the smallest flow
- ▲ For different fitting positions

