Diaphragm Pump EMP IV
Type 01400 – 02100

- **Single phase motor with winding protection, standard**
- **PP plastic material for pump head and valves, standard**
- **Plastic external housing, metal internal housing**
- **High delivery capacity at low number of strokes**
- **Electronics with display and mode switch for simple pre-selection of menu**
- **Safety diaphragm as a standard feature, signalling of fractures in diaphragm as a standard feature of electronic version**
- **Evaluation unit for signalling of fractures in diaphragm, standard feature of electronic version**
- **Selectable error signal relay, standard feature of electronic version**
- **Mechanical stroke adjustment**
- **Empty signal report and level pre-warning**
- **Empty signal and stroke signal output**
- **Pulse control**
- **Pulse multiplication and division**
- **Pulse storage**
- **Stroke frequency regulation**
- **Standard signal drive**
- **External metering stop**
- **Single stroke control**
- **Metering regulator (readjustment of metering output) in combination with an oval gear meter**

The ELADOS® EMP IV series of metering pumps is based on the building block principle. Devices of this series comprise the drive unit, the gear, the metering pump head and the electronics. Different electronic control variants guarantee that the pump may be adapted to any processing sequence for proportional or quantity metering. The scope of delivery is rounded off by practical accessories, so forming a complete range of equipment for all metering applications.

Diaphragm Pump EMP IV
Type 01400 – 02100

Technical Data:

Mechanical Data:

Pump capacity [l/h]:	140	210
Metering back-pressure* [bar]:	10	8
Delivering capacity per stroke [cm³]:	19.4	29.2
Reproductivity:	<± 3 %	
Suction height:	2 mWs, suction height with clean, slightly wet valves	
Metering frequency max:	122 1/min	
Pressure valve:	without spring	
Suction valve:	without spring	
Ambient temp. max.:	40 °C	

Materials:

Housing:	thermoplastic polyester
Pump head:	polypropylene **(PP)** **optional:** PVDF or stainless steel 1.4571
Diaphragm:	PTFE - EPDM compound diaphragm
Seals:	FPM, **optional** EPDM, PTFE or Kalrez
Valve balls:	ceramics **optional:** PTFE or stainless steel 1.4401
Weight:	approx. 25 kg
Colour:	blue RAL 5007

Electrical Data:

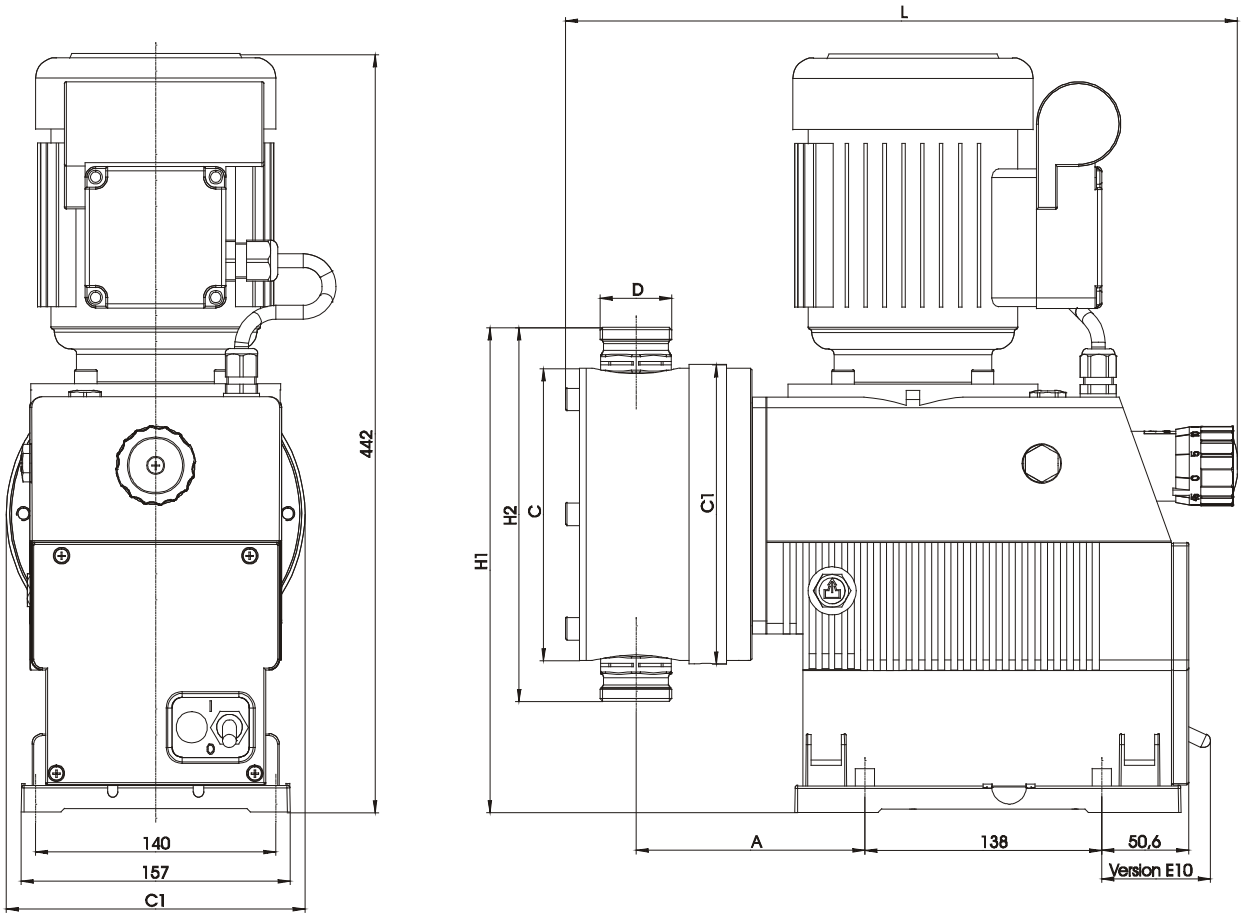
Connection:	230 V / 50 Hz 400 V / 50/60 Hz (only with E 00)
Note:	At a mains frequency of 60 Hz delivery capacity increases by 20 % and back-pressure decreases by 20 %.
Current consumption:	2.3 A (50 Hz)
Power output:	0.37 kW (50 Hz)
Safety type:	IP 55
Insulation class:	F

All values at 50 Hz. All data refer to water temperature of 20 °C according to the instructions of the technical manual, subject to!

Notice: To guarantee the newest state of our products, we reserve the rights for single technical changes.

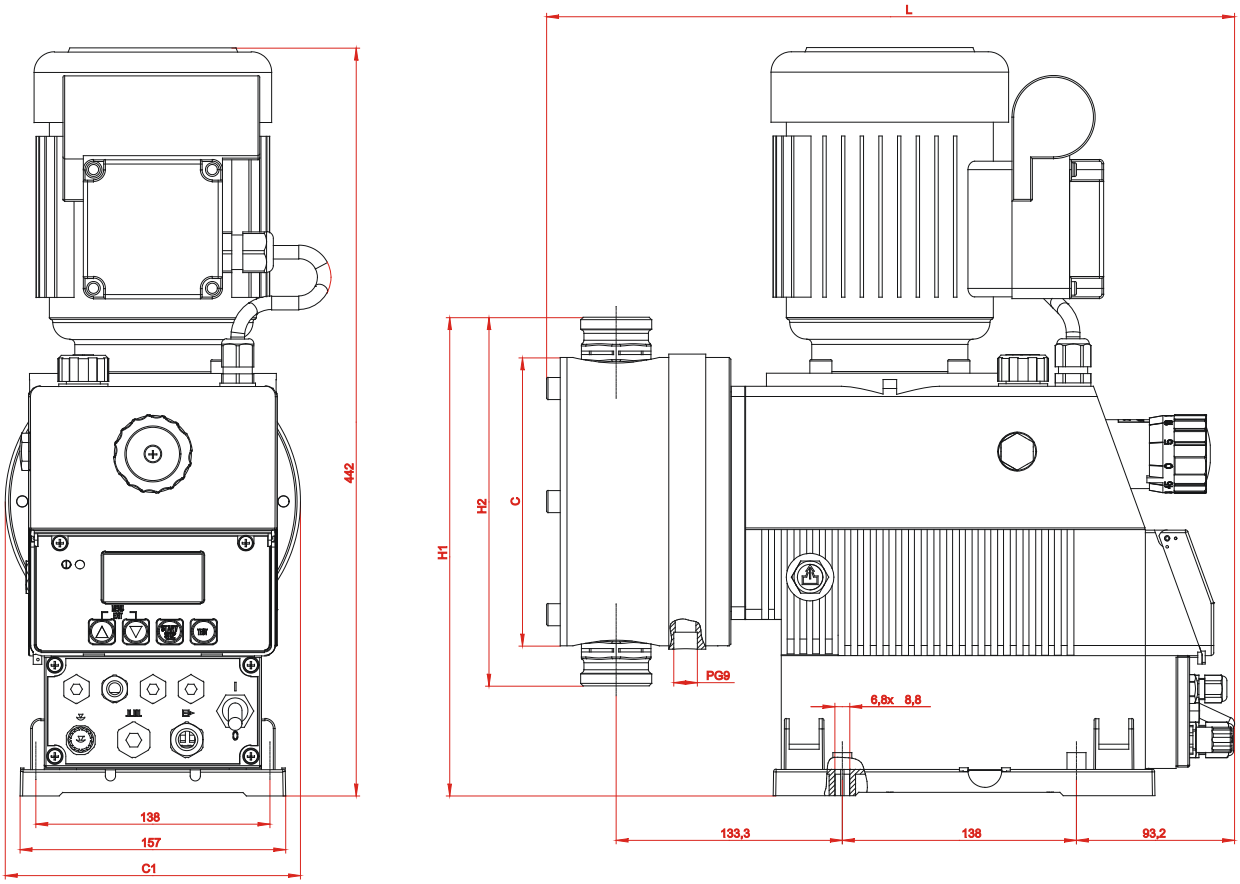
Dimensions:

Version **E 00**



Capacity	Dimensions in mm						
l / h	A	C	C1	L	H1	H2	D
140	133.5	170	174	392	280	216	1¼"
210	133.5	170	174	392	280	216	1¼"

Version **E 60**



Capacity	Dimensions in mm				
l / h	C	C1	L	H1	H2
140	170	174	392	280	216
210	170	174	392	280	216

Pump code – part 1

1. Electrical version (please see legend on page 7)

E 00
E 60

2. Pump capacity 50 Hz [60 Hz]

01400 = 140 l/h [168 l/h]
02100 = 210 l/h [252 l/h]

3. Pump material

PP = PP (standard)
PV = PVDF

4. Metering back pressure (depends on pump capacity)

08 = 8 bar (for 210 l/h) [6.4 bar]
10 = 10 bar (for 140 l/h) [8 bar]

5. Sealing material

EP = EPDM
FP = FPM (standard)
PT = PTFE

6. Valve ball material

KE = ceramics (standard)
PT = PTFE
VA = V4A

7. Valve material

PP = PP (standard)
PV = PVDF

8. Valve spring

99 = without spring (standard)

9. Mains supply

99 = without cable (standard)

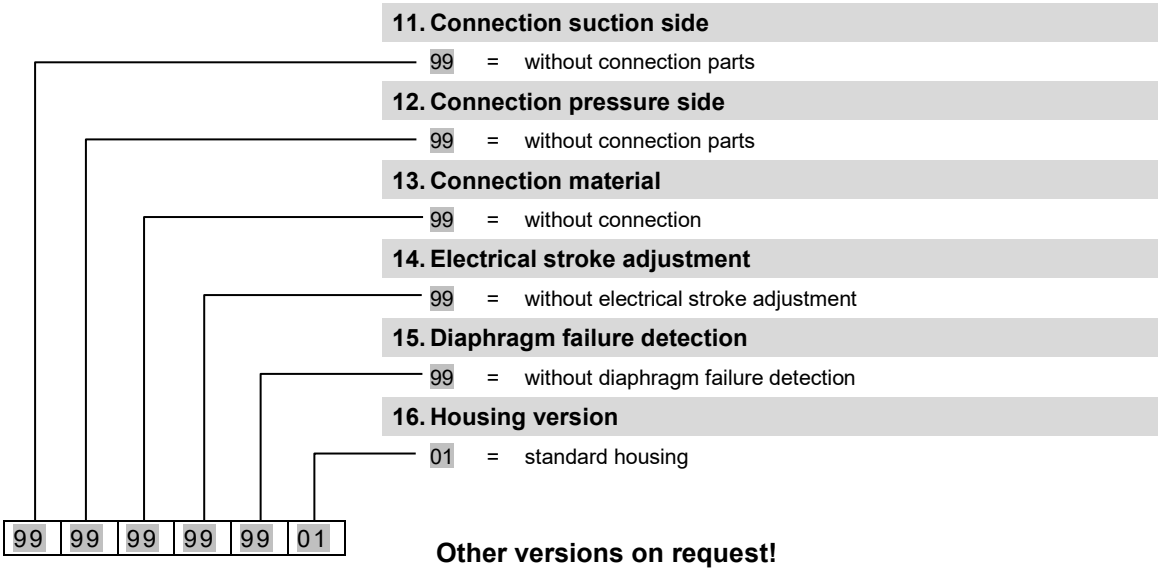
10. Power supply

08 = 230 V / 50/60 Hz
10 = 3PE 400/230 V / 50/60 Hz (only for version E00)

E60	01400	PP	10	FP	KE	PP	99	99	08

Other versions on request!

Pump code – part 2



Example of a complete pump code of a standard pump:

E60	01400	PP	10	FP	KE	PP	99	99	08	-	99	99	99	99	99	01

(Pump code 1) (Pump code 2)

Electrical versions

E 00 Mechanical stroke adjustment

E 60
- On / off switch
- Mechanical stroke adjustment
- 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. liquid level switch) possible
- Registration of operating and consumption data (calculative)
- Calibration function
- Diaphragm failure detection

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 0/4-20 mA or 20-0/4 mA)
- 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 (metering interlock)
- Metering control

Outputs:
- Level monitoring package vessel / malfunction
- Stroke signal

Ordering data – standard pumps:

Article	Pump code	Material-No.
ELADOS® EMP IV E00	**Single-phase power supply 230 V / 50/60 Hz**	
	E00 01400 PP 10 FP KE PP 99 99 08 - 99 99 99 99 99 01	150001
	E00 02100 PP 08 FP KE PP 99 99 08 - 99 99 99 99 99 01	150101
	Three-phase power supply 3PE 400/230 V / 50/60 Hz	
	E00 01400 PP 10 FP KE PP 99 99 10 - 99 99 99 99 99 01	150041
	E00 02100 PP 08 FP KE PP 99 99 10 - 99 99 99 99 99 01	150141
ELADOS® EMP IV E60	**Single-phase power supply 230 V / 50/60 Hz**	
	E60 01400 PP 10 FP KE PP 99 99 08 - 99 99 99 99 99 01	150060
	E60 02100 PP 08 FP KE PP 99 99 08 - 99 99 99 99 99 01	150160

Extent of supply:

Terminal box on motor,
operating instructions
without hose connection material
without connector cable

Connection material see page 17