

- Available as wall bracket or stand-alone version with drip tray
- Minimum costs for installation and startup
- Optimal adaption to process parameters thanks to modular system
- Wide range of applications



Economic and environmentally responsible use of liquid chemicals demands defined, safe and functional metering. Thanks to a universal modular system the metering consoles provide multiple possibilities to meet the specific metering requirements.

By combining the comprehensive EMP pump range with the corresponding accessories and containers almost any metering task can be realized.

**Examples of wall brackets**

**2 EMP KKS pumps,  
1 metering line**



**2 EMP II pumps,  
2 metering lines**



**1 EMP III pump**



**2 EMP III pumps  
1 metering line, OGM**



**Examples of stand-alone versions**

**2 EMP KKS pumps  
2 metering lines**



**2 EMP II pumps  
2 metering lines, 2 OGM**



**2 EMP III pumps  
2 metering lines**



### Technical data:

	EMP KKS				EMP II								EMP III		
Metering capacity [l/h]	0,2	0,5	0,9	1,4	1,4	2,5	4,8	4,3	7,2	7,2	11,2	24	16	25	54
Metering back pressure[bar]	10				10	4	10	6	10	5	2	10			
Metering accuracy:	< +/- 3%														
Suction height [mWs]:	2														
Ambient temperature [°C]:	+ 5 to + 40														
Power supply [V / Hz]:	230 / 50														
Safety type:	IP 65											IP 55			
Weight [kg] wall bracket with 2 pumps:	approx. 10				approx. 10				approx. 12				approx. 21		
Weight [kg] stand bracket with 2 pumps:	approx. 20				approx. 20				approx. 22				approx. 31		

### Wall bracket consisting of:

#### Version with one pump

- 1 wall bracket PP
- Dimensions with EMP KKS/II (h \* w \* d):  
800 x 600 x 304 mm
- Dimensions with EMP III: 800 x 600 x 363 mm
- 1 diaphragm metering pump
- 1 pump bracket
- 1 terminal box
- 2 manual diaphragm non-return valves

Assembly of components, piping and wiring on the unit included

#### Version with two pumps

- 1 wall bracket PP
- Dimensions with EMP KKS/II (h \* w \* d):  
800 x 600 x 304 mm
- Dimensions with EMP III: 800 x 600 x 363 mm
- 2 diaphragm metering pumps
- 2 pump brackets
- 1 terminal box
- 3 manual diaphragm non-return valves (4 valves on the version with 2 metering lines)

Assembly of components, piping and wiring on the unit included

### Stand-alone version consisting of:

#### Version with one pump

- 1 stand bracket with drip tray PP / VA
- Dimensions: 1750 x 660 x 550 mm (h \* w \* d)
- 1 Wall bracket PP (mounted on stand bracket)
- Dimensions with EMP KKS/II (h \* w \* d):  
800 x 600 x 304 mm
- Dimensions with EMP III: 800 x 600 x 363 mm
- 1 diaphragm metering pump
- 1 pump bracket
- 1 terminal box
- 2 manual diaphragm non-return valves

Assembly of components, piping and wiring on the unit included

#### Version with two pumps

- 1 stand bracket with drip tray PP / VA
- Dimensions: 1750 x 660 x 550 mm (h \* w \* d)
- 1 Wall bracket PP (mounted on stand bracket)
- Dimensions with EMP KKS/II (h \* w \* d):  
800 x 600 x 304 mm
- Dimensions with EMP III: 800 x 600 x 363 mm
- 2 diaphragm metering pumps
- 2 pump brackets
- 1 terminal box
- 3 manual diaphragm non-return valves (4 valves on the version with 2 metering lines)

Assembly of components, piping and wiring on the unit included

**Available as an option:**

- Container PE (40, 75, 140, 200 l/h) and accessories (e.g. sump, stirring tool,...)
- Suction pipe with level control (evaluation in the pump)
- Multifunction valve (overflow, pressure maintenance, venting and drainage)
- Degassing valve (only for EMP II)
- Oval gear meter for volumetric measurement of the rate of flow (evaluation in the pump)
- Metering hose
- Metering valve
- Drip tray PP für wall bracket

See also chapter EMP KKS, EMP II, EMP III, metering container of “Metering Technology“ or chapter oval gear meter of “Measuring and Controlling”.

**Hydraulic connections:**

	EMP KKS	EMP II	EMP III
<b>Pump (inlet):</b>	6/8, 6/10, 6/12 mm	4/6, 6/8, 6/12 mm	6/12, 10/16 mm
<b>Pump (outlet):</b>	2/4 bzw. 4/6 mm	4/6, 6/8, 6/12 mm	6/12, 10/16 mm
<b>Hand valve outlet:</b>	6/8 mm	6/8 mm	6/12 mm
<b>Multifunction valve:</b>	4/6, 6/8, 6/12 mm	4/6, 6/8, 6/12 mm	6/12, 10/16 mm

**Material:**

Console with EMP KKS / EMP II		Console with EMP III	
<b>Console:</b>	PP	<b>Console:</b>	PP
<b>Support frame for stand-alone console:</b>	1.4301	<b>Support frame for stand-alone console:</b>	1.4301
<b>Pump:</b>		<b>Pump:</b>	
Pump head / suction and pressure valves:	PVDF	Pump head / suction and pressure valves:	PP or PVDF*
Diaphragm:	PTFE coated	Diaphragm:	PTFE coated
Seals:	FPM or EPDM*	Seals:	FPM or EPDM*
Valve balls:	Ceramics	Valve balls:	Ceramics
<b>Diaphragm valves:</b>	PVC / PTFE	<b>Diaphragm valves:</b>	PVC / PTFE
<b>Container:</b>	PE	<b>Container:</b>	PE
<b>Suction pipe:</b>	PVC	<b>Suction pipe:</b>	PVC
<b>Multifunction valve:</b>	PVDF	<b>Multifunction valve:</b>	PP or PVDF*
<b>Degassing valve:</b>	PVDF	--	--
<b>Oval gear meter OGM<sup>PLUS</sup>:</b>	PVC / PVDF	<b>Oval gear meter OGM<sup>PLUS</sup>:</b>	PVC / PEEK
<b>Hose:</b>	PE or PTFE*	<b>Hose:</b>	PVC
<b>Metering valves:</b>	PVC / PVDF	<b>Metering valves:</b>	PP or PVDF*

\* The material compatibilities on the product data sheet are to be observed.

### Ordering key:

#### 1. Description

DOK = metering console

#### 2. Version

WK = wall bracket  
SK = stand-alone

#### 3. Electrical metering pump version

E00 = E00 (only for EMP III)  
E10 = E10  
E60 = E60

#### 4. Pump capacity 50 Hz [60 Hz] pump type

	50 Hz	[60 Hz]	pump type
00002	= 0.2 l/h	[0.24 l/h]	EMP KKS
00005	= 0.5 l/h	[0.6 l/h]	EMP KKS
00009	= 0.9 l/h	[1.1 l/h]	EMP KKS
00014	= 1.4 l/h	[1.7 l/h]	EMP KKS
V3014	= 1.4 l/h	[1.7 l/h]	EMP II
V3025	= 2.5 l/h	[3.0 l/h]	EMP II
00043	= 4.3 l/h	[5.2 l/h]	EMP II
00048	= 4.8 l/h	[5.8 l/h]	EMP II
00072	= 7.2 l/h	[8.6 l/h]	EMP II
00112	= 11.2 l/h	[13 l/h]	EMP II
00240	= 11.2 l/h	[29 l/h]	EMP II
00160	= 16 l/h	[19 l/h]	EMP III
00250	= 25 l/h	[30 l/h]	EMP III
00540	= 54 l/h	[64 l/h]	EMP III

#### 5. Pump head / suction and pressure valve material

PP = PP  
PV = PVDF

#### 6. Seal material

EP = EPDM  
FP = Viton B

#### 7. Number of pumps

1P1 = 1 pump, 1 metering line  
2P1 = 2 pumps redundant on 1 metering line  
2P2 = 2 pumps, 2 metering lines

#### 8. Accessories

MFV = multifunction valve (not for EMP KKS)  
EGV = degassing valve (for EMP II)  
99 = without

#### 9. Flow measurement

OGM = oval gear meter (OGM Plus)  
99 = without

#### 10. Console version

EC = Ecolab  
99 = neutral

DOK WK E60 V3025 PV FP 2P1 MFV OGM EC

Other versions on request.

Example of a configured metering console.

## Metering pumps

### EMP KKS

Motor-driven diaphragm piston pump with self-venting function.  
Metering capacities: 0.2 / 0.5 / 0.9 / 1.4 l/h



#### Description / Order

Please see chapter **Metering Technology / EMP KKS**

### EMP II

Motor-driven diaphragm metering pump  
Metering capacities: 1.4 / 2.5 / 4.3 / 4.8 / 7.2 / 11.2 / 24 l/h



#### Description / Order

Please see chapter **Metering Technology / EMP II**

### EMP III

Motor-driven diaphragm metering pump  
Metering capacities: 16 / 25 / 54 l/h



#### Description / Order

Please see chapter **Metering Technology / EMP III (a)**

**Metering container**



**Technical data:**

Material: LLD-PE nature (low level density PE) on the container  
 Level scale: Supporting for stirring tool or hand mixer  
 Equipment: Aperture for sampling probe and level monitoring  
 Screw cap with EPDM seal  
 Outlet screw connection R 3/4"

**Dimensions:**

Volume [L]	Height [mm]	External Ø [mm]	Cap Ø [mm]
40	490	460	220
75	630	460	220
140	660	600	220
200	880	600	220

**Description / Order**

Please see chapter **Metering Technology / Metering container**

**Suction pipes**

**Suction pipes EMP KKS**

Suction pipe Ø 32 with reserve and empty signal report incl. connecting cable 5 m with plug, return connection  
 Lengths: 475 / 725 / 975 / 1125 mm



**Description / Order**  
 Please see chapter **Metering Technology / EMP KKS**

**Suction pipes EMP II**

Suction pipe Ø 16 with reserve and empty signal report incl. connecting cable 5 m with plug,  
 Lengths: 540 / 750 / 970 / 1125 mm



**Suction pipes EMP II / EMP III**

Suction pipe Ø 32 with reserve and empty signal report incl. connecting cable 5 m with plug,  
 Lengths: 475, 725, 975, 1125 mm

**Description / Order**  
 Please see chapter **Metering Technology / EMP II/III**

**Multifunction valve**

This safety-relevant component serves the purpose of protecting the piping system and the metering pump and permits safe and reliable commissioning and maintenance of the system.

The multiple function valve combines all of the following functions: **overflow, pressure maintenance, venting and drainage**



**Description / Order**

Please see chapter **Metering Technology / EMP II/III**

**Degassing Control Degas<sup>PLUS</sup>**

The Degas<sup>PLUS</sup> is a combination of a degassing valve (EGV) and a connection cable with plug. Directly mountable on the pump metering valve, Degas<sup>PLUS</sup> in combination with a pump of the EMP II E60 series ensures an automatic degassing when metering an aerogenic medium. It is controlled by the pump software.



**Description / Order**

Please see chapter **Metering Technology / EMP II**

Pos.	Designation
1	Degassing Valve
2	Connection cable

**Oval gear meter**

The OGM<sup>PLUS</sup> is used for volumetric measurement of the rate of flow of pure and cleaned liquids (max. 1000 mPas). The fact that this is a volumetric meter means that surging and discontinuous ("intermittent") flows can also be measured. This meter is therefore also extremely suitable for measurement of the volumetric flow of EMP diaphragm pumps.



**Description / Order**

Please see chapter **Measuring and Controlling**



**Suction and pressure lines**



**Suction line EMP KKS**  
PVC-Duo-hose 6/10 mm  
(suction and return line EMP-KKS)

See chapter **Metering Technology / EMP KKS**



**Metering line EMP KKS**  
Hose PE 2/4 mm  
Hose PE 4/6 mm  
Hose PTFE 2/4 mm  
Hose PTFE 4/6 mm

See chapter **Metering Technology / EMP KKS**



**Suction and pressure lines EMP II**  
Hose PE 4/6 mm  
Hose PE 6/8 mm  
Hose PTFE 4/6 mm  
Hose PTFE 6/8 mm

See chapter **Metering Technology / EMP II**



PVC- fabric 6/12 mm



**Suction and pressure lines EMP III**  
Hose PE 6/8 mm  
Hose PTFE 6/8 mm

See chapt. **Metering Technology / EMP III (a)**



PVC-fabric 6/12 mm

**Metering valve**



**Metering valve EMP KKS / EMP II**  
Spring-loaded ball valve with Elastomer ring on the outlet (prevents crystallisation, applicable for chloric products )  
connection thread G3/8", screw-in thread G1/4" or G1/2"



**Metering valve EMP III (a)**  
Federbelastetes Kugelventil mit Dosierrohr, connection thread G5/8", screw-in thread G1/2"



Spring-loaded ball valve with metering pipe, connection thread G3/8", screw-in thread G1/4" or G1/2"

**Description / Order**  
See chapter **Metering Technology / EMP KKS/II**

**Description / Order**  
See chapter **Metering Technology / EMP III (a)**