# TEKNA SERIES







A complete range of microprocessor based solenoid dosing pumps, constant and proportional flow rates, pH/ORP controllers on board and clock time controls.

All series can be foot or wall mounted. Liquid ends available in PVC, PP, PVDF. The pump has an IP65 protection degree and is double isolated with a class 2 electrical protection. Flow rates up to 70 l/h and back pressure up to 20 bar.

Versatile installation as TEKNA series pumps allow for 3 fixing possibilities:

- · wall mounting with only one fixing point;
- · wall mounting with 2 or 4 fixing points;
- base mounting (on tank or existing wall mounting bracket with optional bracket).

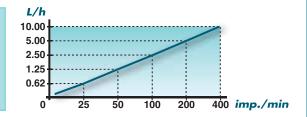




The TEKNA series working at unprecedented 400 strokes/minute, allows a uniform dosing over a wide adjustement range.

It covers a wide range of performances with only a few models, providing simplicity in after sales service and parts requirements.

Flow rate in I	/h at:		
400 imp/min	200 imp/min	100 imp/min	50 imp/min
25	12,5	6,25	3,13
11	5,5	2,75	1,37
5,3	2,65	1,32	0,67
2	1	0,5	0,25
	400 imp/min 25 11	25 12,5 11 5,5	400 imp/min         200 imp/min         100 imp/min           25         12,5         6,25           11         5,5         2,75           5,3         2,65         1,32



All SEKO pumps are tested using modern technologies. Their reliability is assured through the use of high quality materials, intensive laboratory and life stress tests.

Every pump, is operated 12 hours at maximum speed before the final test.

Test Certificate with pressure/flow rate diagram made under customers' specification is available on demand.



# TEKNA AXL



The dosing pumps series TEKNA AXL require only the electrical power supply to work.

Manual adjustable Flow rate by knob on the front of the pump by changing the number of

strokes per minute from 0 to 400.

### Dual flow range scale

TEKNA AXL dosing pump is made with a dual flow rate range scale. By a simple switch is possible to **reduce of 1/10** the maximum dosing pump pulse frequency.

The operator pratically have at one's disposal two types of dosing pumps: one dosing up to 400 strokes/min the other dosing up to 40 strokes/min.

The **selector** positioned on frontal panel permits easy frequency range.

Frontal panel.

### of 2 gauges leds:

л

Power supply and dosing signal led.

Level

Pre-alarm and end of product signal led.

**ON/OFF** Switch and knob for flow rate percentage regulation.

**Switch** to reduce dosing frequency up to 90 % decreasing number of strokes/min from 400 to 40.





Pumps have **level control** input connector inside the easy removable terminal box, designed for fast installation.

PUMP TYPE	FUNCTION	MODEL	POWER SUPPLY	HEAD TYPE
A	XL	602	A	SP
ANALOGIC TEKNA series	Dual flow range scale with level control input	See technical data <b>Table 1</b> on page 9	See technical data <b>Table 2</b> on page 9	See technical data <b>Table 3</b> on page 9



# TEKNA DCL



he dosing pumps series TEKNA DCL require only the electrical power supply to work, with liquid crystal display and 4-key tactile keypad.

Flow rate regulation value, regulation mode (frequency or percentage) and alarm signals are all indicated on the pump LCD display.

Flow rate is adjustable, changing the number of strokes per minute (**F**) from 1 to 400 or changing the percentage of flow rate (**P**) from 0 to 100%.

The pump adapts automatically his parameters  $\mathbf{F}$  (Frequency) and  $\mathbf{P}$  (Percentage).

**Example:** regulating pump dosing percentage (P) at 50% of max flow rate, the pump electronic circuit, will change automatically (F) to 200 strokes/min that amount at 50% of max dosing frequency.



The pump primes itself pressing frequency keys at the same time. This operation will not change regulation parameters.



Pumps have **level control** input connector inside the easy removable terminal box designed for fast installation.

PUMP TYPE	FUNCTION	MODEL	POWER SUPPLY	HEAD TYPE
D	<b>CL</b>	602	A	SP
DIGITAL TEKNA series	Continous with level control input	See technical data <b>Table 1</b> on page 9	See technical data <b>Table 2</b> on page 9	See technical data <b>Table 3</b> on page 9

# TEKNA DPG



TEKNA DPG series is a proportional metering pump that combines the constant function described above and all proportional functions into the same pump, with liquid crystal display and 6-key tactile keypad.

#### **PULSE CONTROL**

The pumps will accept dry contact inputs and dose proportionally to the input pulse frequency.

The pumps manage the input pulses in various ways:

1:n PULSE STEP-UP

It's a multiplying proportional mode. By entering a value, in the range 1 and 9999, for parameter n, the step-up ratio is set,i.e. step-up with: n=100, 1 pulse = 100 pump strokes • n = 250, 1 pulse = 250 pump strokes.

External Pacing is obtained by setting n=1.

# n:1 PULSE STEP-DOWN

It's a dividing proportional mode. By entering a value, in the range 1 and 9999, for parameter n, the step-down ratio is set, i.e. step-down with:

n=500, 500 pulses = 1 pump stroke n=25, 25 pulses = 1 pump stroke. External Pacing is obtained by setting n=1.

### Memory MEMORY

External pulses or manual START arriving whilst the pump is delivering a previous set of n or c strokes can be registered and worked off. The storage capacity is of 65535 external pulses or manual START.

When the memory is not empty the memory icon flashes. When the memory is full the red led on the front panel is ON and the alarm relay is activated (if available).

0/4 - 20

20- 0/4

# PROPORTIONALITY TO 0/4-20 mA ANALOG SIGNAL

Analog signal can be used to control the stroking rate proportionally to a 0/4-20 mA signal. Direct (stroke rate increase proportionally to 0/4-20 mA signal) or inverse (stroke rate increases proportionally to 0/4-20 mA signal decrease), response is selectable Maximum or Minimum stroke frequency can be set.

#### LEVEL CONTROL

Two inputs for an early warning alarm and a lack of chemical alarm. An alarm relay may be provided as an optional. The alarm conditions are easily visible through the Level icon on the display, the red Alarm led flashing (early warning) or constantly lit (lack of chemical); the alarm (upon request) relay is activated.

PUMP TYPE	FUNCTION	MODEL	POWER SUPPLY	HEAD TYPE
D	PG	602	A	SP
DIGITAL TEKNA series	Proportional	See technical data <b>Table 1</b> on page 9	See technical data <b>Table 2</b> on page 9	See technical data <b>Table 3</b> on page 9



# TEKNA DPZ



With liquid crystal display and 5-key tactile keypad.

TEKNA DPZ accept dry contact inputs and dose proportionally to the input pulse frequency.

The pumps manage the input in two ways:



External pulses arriving whilst the pump is delivering a previous set of n strokes can be registred and worked off.

The storage capacity is 65535 external pulses. When the memory is not empty the memory icon flashes.

When the memory is full the red led on the front panel is ON and the alarm relay is activated (if available).

n:1 MODE

It's a multiplying proportional mode. By entering a value, in the range 1 and 9999, for parameter n, the step-up ratio is set, i.e. step-up with:

n = 100, 1 pulse = 100 pump strokes n = 250, 1 pulse = 250 pump strokes.

In this mode, the dosage rate with n can be adjusted by varying the percent value on display. This double adjustment feature enables our pumps to adapt to water meters with any pulse/liter ratio.

:n 1:n MODE

It's a dividing proportional mode. By entering a value, in the range 1 and 9999, for parameter n, the step-down ratio is set, i.e. step-down with:

n=500, 500 pulses=1 pump stroke n = 25, 25 pulses=1 pump strokes.

In this mode the pump stroke rate is adapted to the time period between two subsequent pulses.

Level LEVEL CONTROL

Two inputs for an early warning alarm and a lock of chemical alarm.

An alarm relay may be provided as an optional.

The alarm conditions are easily visible through the level icon on the display, the red alarm led flashing (early warning) or constantly lit (lack of chemical); the alarm relay is activated (if available).

PUMP TYPE	FUNCTION	MODEL	POWER SUPPLY	HEAD TYPE
D	PZ	602 (•)	A	SP
DIGITAL TEKNA series	Proportional to external digital signals	See technical data <b>Table 1</b> on page 9	See technical data <b>Table 2</b> on page 9	See technical data <b>Table 3</b> on page 9

Proportional eletronic metering pumps with control instrument build-in

# **TEKNA DPR**



Seko group has completed his innovatory TEKNA metering pumps with the new DPR version uniting the great versatility of these pumps and the high quality of control and measure meters. Developed by SEKO after

many years of planning and realizations in the industrial instrumentation field.



DPR Tekna pump is able to work out both as pH measure, control and regulation and as Redox, simply switching a key positioned on the pump.

Using the probe and the buffer solutions, just one unit allow to face most of the needs related to small water treatment plants.



The calibration, got with one key pressing and the possibility to control automatically the probe efficiency make this product an ideal partner during plant installation and maintenance steps.

## Standard distinctive features

- Level detector connection facility (suggested accessory: LEV-4 level detector).
- 4-20 mA Output on the controller reading range.
- Proportional dosing between measure range settled by the user.
- pH Measure range: 0...14; resolution 0.1 or 0.01 settled by user.
- Redox measure range: -999...+999mV; resolution:1 mV.



#### **ALARM**

Alarm icon on the display Combined with the red led indicate the following Tekna DPR alarm situations.

- Chemical product level
- Measure level alarm overmounting
- Negative calibration result
- Uncorrect software running

# **Code ordering system**

PUMP TYPE	FUNCTION	MODEL	POWER SUPPLY	HEAD TYPE
D	PR	602 (*)	A	SP
DIGITAL TEKNA series	Proportional with instruments	See technical data <b>Table 2</b> on page 9	See technical data <b>Table 2</b> on page 9	See technical data <b>Table 3</b> on page 9

(\*) Available 601, 602, 901 and 902 models

# TEKNA DCK



**TEKNA DCK** metering pumps are evidence of a product evolution in terms of materials, design and simplicity of use, with liquid crystal display and 3-key tactile keypad.

The pump can be programmed for a specific quantity of product to be metered each time it starts up (maximum 8 times a day). The quantities can be set to be identical every day of the week. It is possible also to programme the 8 daily working periods so that the quantities are different on each day of the week. This feature makes the TEKNA DCK extremely versatile for all timed applications.



- The **display** showing all informations required by the user both for programming and while the pump is running. This makes it easy for the user to check progress at any time during metering and programming.
- The **possibility of calibrating the output of the pump** enables the user to carry out very precise metering, also on the basis of his own specific requirements.
- The metering pump has a **relay** that **can be activated at the time of each metering event**, with the possibility of making it start earlier (**BEFORE function**) or later (**AFTER function**) the metering time.
- The pump has a **level control** enabling the end of the chemical product to be detected.

  This alarm condition is signalled by the **LEV** icon, which lights up on the display.

PUMP TYPE	FUNCTION	MODEL	POWER SUPPLY	HEAD TYPE
D	CK	602 (*)	A	SP
DIGITAL TEKNA series	Timed by digital clock	See technical data <b>Table 1</b> on page 9	See technical data <b>Table 2</b> on page 9	See technical data <b>Table 3</b> on page 9

<sup>(\*)</sup> Available 601, 602 models

# **Technical data**

	Model	Back Pressure	Flow Rate	Cm³/Stroke	Connections	Stroke/Minute	Weight
		Bar	L/h		In/Out		Kg
	600	20	2	0,08	4/7	400	1,7
		12	2,5	0,10			
	601	10	3	0,13	4/6	400	1,7
		6	3,5	0,15			
		8	5	0,21		400	
	602	5	6	0,25	4/6		1,7
		1	8	0,33			
1		16	6	0,25	4/6	400	3,1
	901	14	7	0,29			
		12	8	0,33			
		10	10	0,42			
	902	6	12	0,50	4/6	400	3,1
		2	14	0,58			
		5	20	0,83			
	903	3	28	1,17	8/12	400	3,2
		1	45	1,88			
		2	45	1,88			
	904	1	60	2,50	8/12	400	3,2
		0	70	2,92			

Data obtained with water at ambient temperature and suction height 1,5 metres. For outdoor installation with direct sun exposure use black delivery tube.

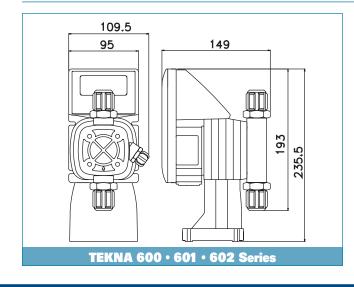
	Power Supply
	A = 230 VAC • 50-60Hz
2	B = 24 VAC • 50-60Hz*
	C = 115 VAC • 50-60Hz

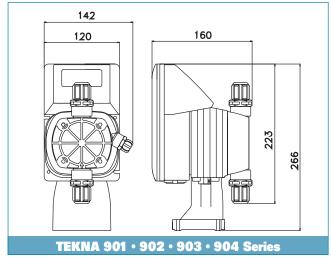
Isolation	Protection	Working			
class	degree	temperature			
F	IP65	-1040 °C			
Pump is supplied with 1,5 m power supply cable and european plug.					

<sup>\*</sup> Please contact us for available products.

		Head type	Pump Head	Connectors	Valve balls	Seals	Diaphragm
		SP	PP	PP	Pyrex	FPM or EPDM	PTFE
3	Liquid contacted	SC	PP	PP	Ceramic	FPM or EPDM	PTFE
	materials	VP	PVC	PVC	Pyrex	FPM or EPDM	PTFE
		VP	PVC	PVC	Ceramic	FPM or EPDM	PTFE
		HC	PVDF	PVDF	Ceramic	FPM or EPDM	PTFE

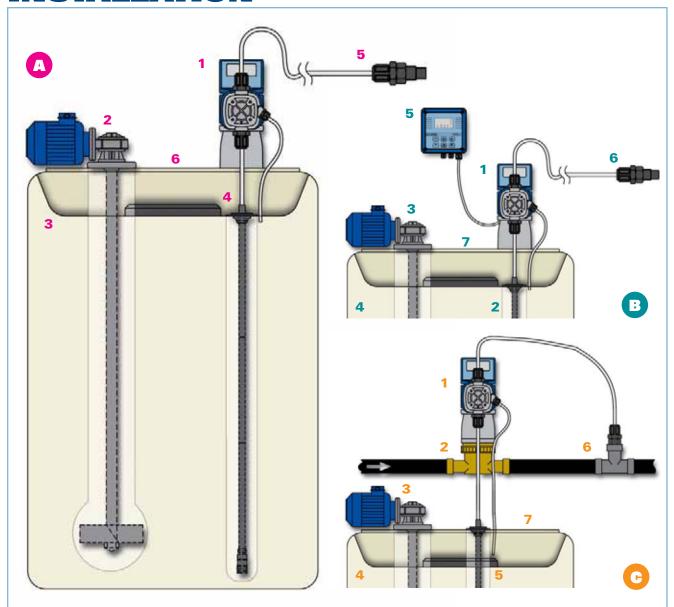
# **Dimensions**





### TEKNA solenoid dosing pumps

# INSTALLATION



- A Installation with dosing unit
- Tekna series dosing pump models: AXL, DCL, DPZ, DPG.
- 2. Electric mixer
- **3.** Polyethylene tank suitable for chemical products.
- **4.** Suction device with or without level control.
- 5. Injection valve.
- 6. PVC reinforcement

- Installation with control instrument
- Tekna series dosing pump models: DPG, DCL, AXL
- 2. Suction device with or without level control.
- 3. Electric mixer.
- **4.** Polyethylene tank suitable for chemical products.
- 5. Control instrument.
- 6. Injection valve.
- 7. PVC reinforcement

- Installation with pulse-emitter water meter
- 1. Tekna series dosing pump models: DPG, DPZ.
- 2. Pulse-sender water meter.
- 3. Electric mixer.
- Polyethylene tank suitable for chemical products.
- **5.** Suction device with or without level control.
- 6. Injection valve.
- 7. PVC reinforcement

### **Mixers**

Electric mixers threephase (singlephase on request) and flange attachment. For tanks SER series.

FAST MIXERS (1400 RPM)					
Body	Shaft length (mm)	Propeller diameter (mm)	Motor (kw)		
	600				
PVC	800	90	0.12		
AISI316	900	90	0,13		
	1100				

SLOW MIXERS (70 RPM)							
Body	Shaft length (mm)	Propeller diameter (mm)	Motor (kw)				
	600	150					
PVC	800	150	0,13				
AISI316	AISI316 900		0,15				
	1100	220					



# Tanks in polyethylene

Our tanks are designed to assemble dosing group with mixers and motor driven pumps or solenoid dosing pumps. All are made of food-safe polyethylene, resistant to almost all chemicals normally encountered.

Model	Capacity (I)	Height (cm)	Diameter (cm)
SER 50	50	45.5	40
SER 100	100	64	45
SER 250	250	87	59,5
SER 300	300	95	67
SER 500	500	118.5	76
SER 1000	1000	122	108.5



### **Uncovered Tanks**

Designed to contain our tanks SER series.

Model	Tank	Diameter (cm)	High (cm)	Capacity (L)
T150	SER100	51	75.5	150
T300	SER250	67	87.5	300
T400	SER300	72	99	400
T800	SER500	90	120	800
T1500	SER1000	122	134	1500



### Reinforcement

Tank reinforcement made of PVC (high 20 mm) to be used to install mixers and motor driven pumps or solenoid dosing pumps.

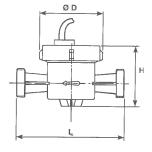
Model	- Tank	Model	- Tank	Model - Tank		Model	- Tank	Model - Tank	
SML 100	SER 100	SML 250	SER 250	SML 300	SER 300	SML 500	SER 500	SML 1000	SER 1000

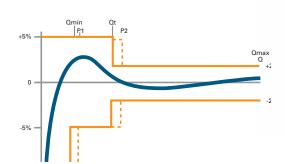


### **Threaded water meters**

The meters wich we offer have high precision and sensitivity according to CEE standard requirements. Their plastic and metallic parts, in particular those in contact with water, comply with current regulations and are subject to extensive checks and controls.

#### **Hidraulic data**





Size	mm	mm		20	25	30	40	50
3126			1/2	3/4	1	1 1/4	1 1/2	2
Max flow (short period)	Q max	m³/h	3	5	7	10	20	30
Nominal flow	m³/h	Qn	1,5	2,5	3,5	5	10	15
Min flow (accuracy ±5%)	Q min	l/h	30	50	70	100	200	450
Transition flow (accuracy ±2%)	Qt	l/h	120	200	280	400	800	3000
Maximum reading	m³		10.000	10.000	100.000	100.000	100.000	100.000

#### **Dimensions**

Size	mm Inch		13	20	25	30	40	50
3126			1/2	3/4	1	1 1/4	1 1/2	2
Length without adapters	L	mm	110	130	160	160	200	300
Length with thread	mm		190	228	260	280	340	472
Width	D	mm	80	80	100	100	110	152
Height	Н	mm	90	90	120	120	130	200
Maximum reading	m³		10.000	10.000	100.000	100.000	100.000	100.000

#### **Models**

Series <b>CB</b>	<b>CB4</b> (4 pulse/l)	CB1 (1 pulse/l)
	Inch	mm
<u>~</u>	1/2	13
<u> </u>	3/4	20
	1	25
CONNECTIONS	1 1/4	30
ŭ	1 1/2	40
	2	40

Single jet water meter, wet dial, roller reading for cold water up to 50  $^{\circ}\text{C}$ 

Series CN	<b>CN4</b> (4 pulse/l)	CN1 (1 pulse/l)
	Inch	mm
<u>~</u>	1/2	13
CONNECTIONS	3/4	20
	1	25
NNC	1 1/4	30
8	1 1/2	40
	2	40

Single jet water meter, wet dial, roller reading for cold water up to 50 °C. For mounting electronic dosing pump.

Inch mm
<u>v</u> 1/2 13
3/4 20
3/4 20 1 25 1 1/4 30
1 1/4 30
1 1/2 40
2 40

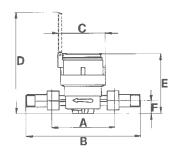
Single jet water meter, wet dial, roller reading for cold water up to 50  $^{\circ}\text{C}$  Without pulse sender.

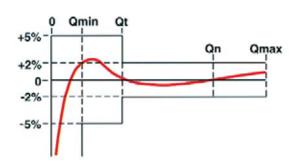
Series <b>HB</b>	<b>HB4</b> (4 pulse/l)	<b>HB1</b> (1 pulse/l)
	Inch	mm
<u>~</u>	1/2	13
CONNECTIONS	3/4	20
	1	25
NNO	1 1/4	30
8	1 1/2	40
	2	40

Single jet water meter, wet dial, roller reading for hot water up to 90  $^{\circ}\text{C}$ 

# Threaded Water Meters (Dry-dial magnetic coupling)

#### **Hidraulic data**







Size	mm		13	20	25	30	40
3126	Inch		1/2	3/4	1	1 1/4	1 1/2
Max flow (short period)	Q max	m³/h	3	5	7	10	20
Nominal flow	m³/h	Qn	1,5	2,5	3,5	5	10
Min flow (accuracy ±5%)	Q min	l/h	30	50	70	100	200
Transition flow (accuracy ±2%)	Qt	l/h	120	200	280	400	800
Maximum reading	m³		100.000	100.000	100.000	100.000	100.000
Size	mm		13	20	25	30	40

Size			13	20	25	30	40
Jizc	Inch		1/2	3/4	1	1 1/4	1 1/2
Length without adapters	L	mm	110	130	160	160	200
Length with thread	mm		190	228	260	280	340
Width	D	mm	80	80	100	100	110
Height	Н	mm	108	108	128	128	142

Series DR	<b>DRI</b> (1 pulsel)		
	Inch	mm	
SNS	1/2	13	
CTIONS	3/4	20	
CONNEC	1	25	
00	1 1/4	30	
	1 1/2	40	

Single jet water meter, wet dial, roller reading for cold water up to 50 °C.

# Flanged Water Meters (Dry-dial magnetic coupling)

### **Hidraulic data**

Size	DN		50	65	80	100	150
3120	Inch		2	2 1/2	3	4	6
Max flow (short period)	Qmax	m³/h	30	50	80	120	300
Flow rate with 0.1 bar							
loss charge	m³/h		20	55	65	120	300
Nominal flow	Qn	m³/h	15	25	40	60	150
Min flow (accuracy ± 5%)	Qmin	m³/h	1.2	3	3.2	4.8	12
Transition flow (accuracy ± 2%)	Qt	m³/h	4.5	7.5	12	18	45

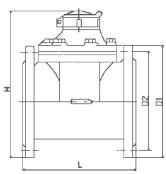
#### **Dimensions**

Size	DN		50	65	80	100	150
3126	Inch		2	2 1/2	3	4	6
Length	L	mm	200	200	200	250	300
Width	D1	mm	165	185	200	220	285
Height	Н	mm	247	258	265	272	302
Flange holes	Ø	mm	18	18	18	18	22
	n°		4	4	4	8	8
	D2	mm	125	145	160	180	240

Series <b>WE</b>	W€ 25	W€ 50	W€ 100
pulse/L	25	50	100
	50	50	50
Connections	65	65	65
DN (mm)	80	80	80
	100	100	-
	WE 250	WE 500	WE 1000
pulse/L	250	500	1000
Connections	150	150	150

Water meters, with reading, for cold water up to 40°.





# <u>Accessories</u>

### **Suction Devices**

A suction filter is provided to protect pump valves from undesired substances that should compromise the flow rate. Suction devices can also be supplied with integral level controls. These allow the use of alarms, and protect against the system running dry.

- Easy to install
- Standard FPM seals (EPDM upon request)
- Made of PCV with clear PVC suction tubing
- All suction devices are provided with a foot filter
- All suction devices are provided with a non return valve



Tube 4x6	Tube 8x12	Foot Filter	No LEV	1 LEV	2 LEV	No return valve	Tank suitability
•	•	•	•	•	•	•	SER 50
•	•	•	•	•	•	•	SER 100
•	•	•	•	•	•	•	SER 250
•	•	•	•	•	•	•	SER 300
•	•	•	•	•	•	•	SER 500 and 1000

### **HY Series adjustables valves**

Material:		PVC
Max Flow rate:		50 l/h
Max pressure:		10 bar
Connections:	1/2" g.m., 8x12 tul	oe, 4x6 tube
Diaphragm: FPM	(standard) or EPDM (up	on request)
Maximum tempera	nture of liquid:	35 °C



### **Injection valves**

Material:	PVC
Max flow rate:	50 l/h
Connection IN:	1/2" g.m., 8x12 tube, 4x6 tube
Connection OUT:	1/2" g.m
Max working pressu	ıre: 10 bar
Seals: FPI	M (standard) or EPDM (on request)
Max temperature:	35 °C



### **Bleed valve**

Gas inside the pump casing could compromise the correct functioning of the dosing pump. The bleed valve is used to automatically eliminate any gas that has built up inside the pump casing. The bleed valve is fitted directly on the delivery side of the dosing pump.

MAT	MATERIALS	
Valve body	Diaphragm	Connections
PP	PTFE	4/6
PP	PTFE	8/12
PVDF	PTFE	4/6
PVDF	PTFE	8/12



# **Backpressure valves Series ST** ajustables

The precision of electronic pumps is affected by fluctuations in pressure at the intake, especially between 0 and 1 bar. The backpressure valve keeps a constant pressure inside the pipeline during the dosage. In addition, dosing with a backpressure avoids siphoning from occurring in the pump.

Max pressure: 10 bar - Min pressure: 0,5 bar - Max flow rate: 500 l/h

- PVC body, PTFE diaphragm, FPM seals, 4/6 and 8/12 tube connections
- PVC body, PTFE diaphragm, EPDM seals, 4/6 and 8/12 tube connections
- PVDF body, PTFE diaphragm, FPM seals, 3/4" DIN8063 connections



### **Multifunction valve**

Multifunction valve acts as:

- A back pressure valve An anti-siphoning valve
- A safety valve A priming valve
- A delivery drain valve (for maintenance)

MATE	Connections		
Valve body	Diaphragm	Connections	
PP			
PVC	PTFE	4/6 (*)	
PVDF			



(\*) 5 bar type, supplied with 8/12 tube connections

Safety valve with pressure selection:	5(*), 10, 15 bar
Back pressure valve with pressure:	1.5 bar
Maximum temperature of liquid:	40°

Multifunction valve is fitted directly on the delivery valve on the dosing pump.

# **Priming-Aid**

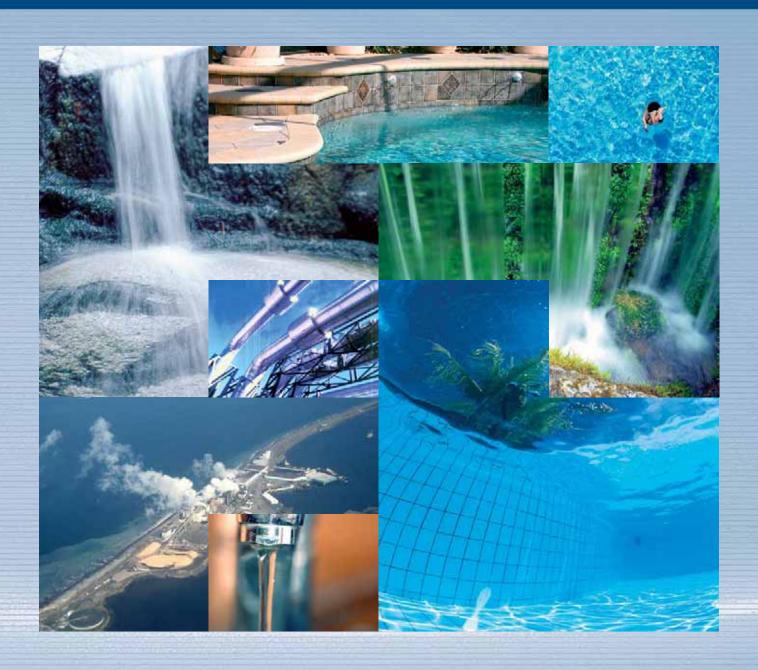
Priming problems may occur on dosing pumps with a low flow rate, and also in case of excessive suction heights in relation to the pump's capacity. This accessory is able to resolve these problems.

Where possible it is fitted at the same height as the pump's intake valve and a short distance from it.



MATERIALS		Connections	Model	
Body	Seals	Connections	Model	
PVC	FPM	4/6 - 8/12	300 ml	

Maximum temperature of liquid: 40°







SEKO do Brasil **BRAZIL** • SEKO China **CHINA** • SEKO France **FRANCE** • SEKO Deutschland **GERMANY** • SEKO Italia **ITALY** OOO SEKO **RUSSIA** • SEKO Asia Pacific **SINGAPORE** SEKO Southern Africa **SOUTH AFRICA** • SEKO Iberica **SPAIN** SEKO UK **UNITED KINGDOM** • SEKO Dosing Systems **USA**