PRODUCT INFORMATION

iSTEP S
STEPPER MOTOR PUMP

INSPIRED. SOLUTIONS. FOR CUSTOMERS.

STEPPER MOTOR PUMP
FOR DEMANDING METERING REQUIREMENTS

iSTEP - THE STEPPER MOTOR PUMP

The iSTEP S stepper motor pump by **sera**combines an intelligent drive concept with the accuracy of a diaphragm dosing pump and sets standards with regard to reproducibility and reliability. By means of the variable frequency control and a power range of 0.02..50 l/h at 10..3bar, the application possibilities are almost unlimited. It is intuitive to use, long lasting and is particularly suitable for demanding dosing tasks.

SCOPE OF APPLICATION

- Chlorine dosing for the treatment of drinking water
- Flocculating agent dosing in wastewater treatment
- Dosing of flocculant aids
- CIP Use

INPUTS & OUTPUTS

- 3 inputs programmable as
  - 3x digital inputs
  - 2x analogue inputs 0/4...20mA
- 2 digital outputs
- 1 analogue output for 0/4...20mA signal
- All inputs and outputs can be freely parameterised

OVERVIEW OF ADVANTAGES

- Extremely high performance range with only one pump
- Adjustment range 1:1000, thereby optimally adaptable
- Low-pulsation dosing
- Microprocessor-controlled drive
- Remote execution
- Energy-efficient drive technology (annual energy costs below 100 euro)
- Batch dispensing with recipe storage
- Intuitive menu guidance, including parameterisation
- Pulse transformation and reduction
- Weekday/timer functions with 10 storage spaces
- Low chemical consumption due to high dosing accuracy
- Slow mode operation for viscous media

FUNCTIONS AND MODES OF OPERATION AT A GLANCE

Operating Modes & Messaging	Pro	Pro+
Manual	✓	✓
Pulse	✓	✓
Analogue	✓	✓
Batch	×	✓
Timer	×	✓
Interface	×	✓
Calibration	✓	✓
Slowmode	✓	✓
Suction mode	✓	✓
Diaphragm monitoring	✓	✓
Data logging (SD-Card	×	✓
Error messaging	Error code + color change in the display	Plain text + color change in the display
Clock for data & time	×	✓

Connection & Control	Pro	Pro+
Control elements & Display	4-button control	Removeable handheld with two buttons and clickwheel
	Multilangual display	Display with 8 languages (de, en, es, fr, nl, cs, fi, tr)
	4-color status indicator	4-color status indicator
Control cable	optional	5m control cable (8-pole)
In-/Output connection	✓	✓
Level connection	✓	✓
Flow monitor & measurement connection	×	✓
Profibus / Profinet	×	optional
Inputs	Digital pulse (NO/NC)*	Digital/analogue, free parametrizable
	Digital extern stop (NO/NC)*	Digital/analogue, free parametrizable
	Analogue 4-20mA	Digital, free parametrizable
Outputs	24V	24V
	Ready to run (NO/NC)*	Digital, free parametrizable
	Stroke signal (NO/NC)*	Digital, free parametrizable
		Analogue, free parametrizable
Updateable	USB (Stick)	USB (to host)

*NO/NC (normally open/normally closed)

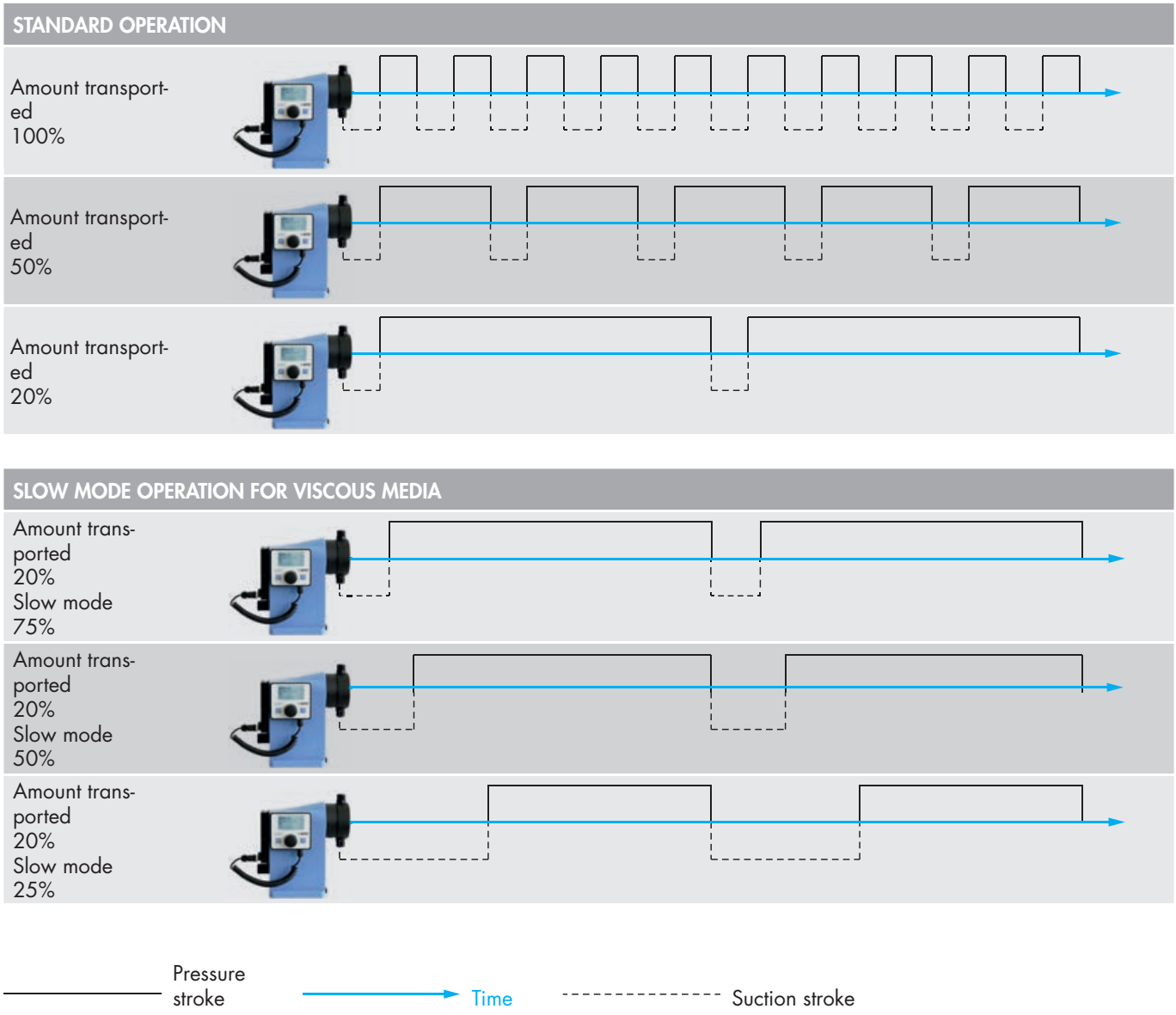
ADDITIONAL FEATURES

APPLICABLE INTERNATIONALLY

The CE and TR certifications are proof of the safe use of the iSTEP S in all relevant markets. Individual power plugs (voltage range 100-240V) ensure smooth operation anywhere in the world, and the display is available with nine menu languages (de, en, es, fr, nl, cz, fi, tr, sv), enabling intuitive operation internationally.

STANDARD AND SLOW MODE OPERATION

The iSTEP allows different speeds of suction and pressure stroke depending on the desired flow amount and suction height. This results in a constant flow rate and, thereby, a gentle and low-pulsation dosing. When transporting viscous media, a slow mode function (in contrast to standard operation) enables a reduction of the maximum suction speed.



ADDITIONAL FEATURES (PRO+)

EASY PARADOSING OF SEVERAL PUMPS BY MEANS OF REMOVABLE CONTROL ELEMENT

The iSTEP S (Pro+) is operated via the detachable control element by means of keys and a click-wheel. It ensures the rapid commissioning of several pumps with the same function. The parameterisation of an iSTEP is saved in the control element. Subsequently, the control element can be connected to other pumps and the stored parameters can be transferred. Operation without a control element is also possible, since there is also an additional status LED as well as a start/stop button directly on the pump.

PROFIBUS- / PROFINET-INTERFACE MODULE (OPTIONAL)

The control electronics of the iSTEP S (Pro+) can be expanded by interface modules for PROFIBUS or PROFINET networks.

The PROFIBUS INTERFACE MODULE has a level input and two connections, with which the iSTEP can be directly integrated into a bus system. The connection / termination directly on the module. Additional distributors are not required.

The PROFINET INTERFACE MODULE offers the possibility of integrating the dosing pump into a ProfiNet network. With two ProfiNet connections, it can be integrated in both ring and tree structures.

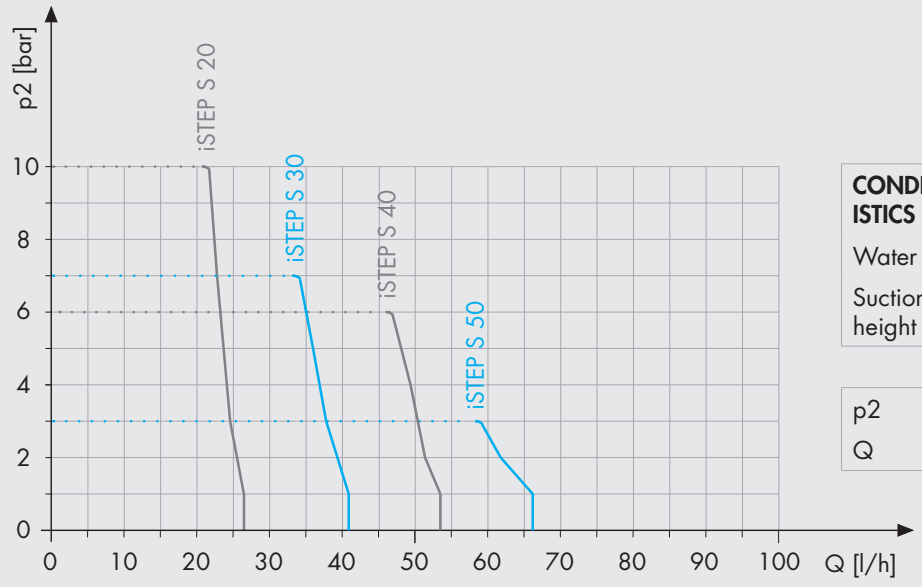
OPERATING CONDITION DISPLAY THROUGH COLOUR CHANGE

The status of the iSTEP S (Pro+) (ready, active, warning, error message) is indicated by a colour change in the display and is thus instantly recognisable. Messages are displayed on the graphic display in plain text and in several languages. The pump comes equipped with a diaphragm monitoring system as standard. Service recommendations are also displayed, thus minimising downtimes.

TECHNICAL DATA / CHARACTERISTICS

PUMP DATA			iSTEP S 20	iSTEP S 30	iSTEP S 40	iSTEP S 50
Permissible pressure p2max. at the pump outlet	bar		10	7	6	3
Nominal capacity QN at p2 max.	l/h	50/60 Hz	20	30	40	50
Capacity min. (1:1000)	l/h	50/60 Hz	0,02	0,03	0,04	0,05
Capacity min. (1:100)*	l/h	50/60 Hz	0,2	0,3	0,4	0,5
Quantity per stroke	ml/stroke	(100%)	1,75	3,33	3,51	4,39
Max. suction height	mWC		3	3	3	3
Min./max. permissible pressure at the pump inlet	bar	$p_{1min/max}$	-0,3/0,5	-0,3/0,5	-0,3/0,5	-0,3/0,5
Recommended DN of the connecting pipes	mm		5	5	5	8
Nominal stroke frequency	1/min	50/60 Hz	190	150	190	190
Weight approx.	kg	plastic	7,3	7,3	7,3	7,4
		stainless steel	7,9	8,5	8,5	8,7
		stainless steel (CIP)	9,0	11,7	11,7	11,8

ELECTRICAL DATA		iSTEP S...
Power consumption	W	75
Voltage	V	110 - 240 AC
Frequency	Hz	50/60
Insulation class	ISO	F
Recommended fuse	(circuit breaker)	C10A
Enclosure		IP65

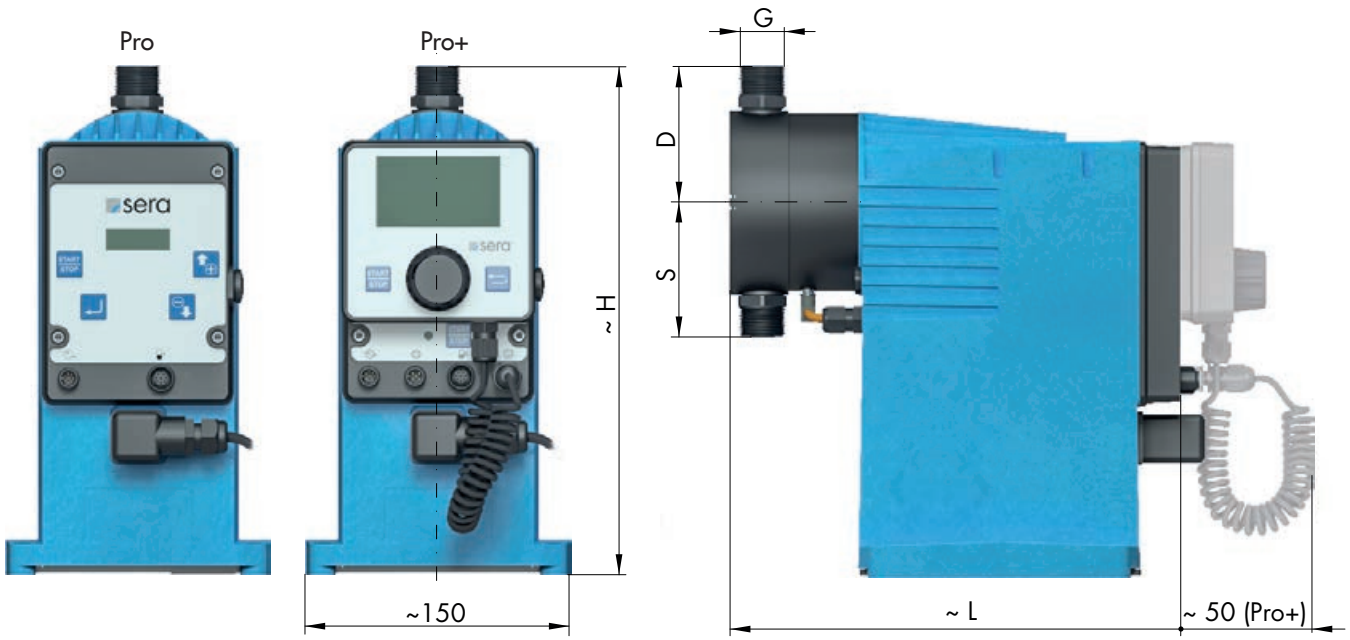


CONDITIONS FOR THE CHARACTERISTICS

Water	18 °C
Suction height	3mWS

p2	Counter pressure	[bar]
Q	Flow rate	[l/h]

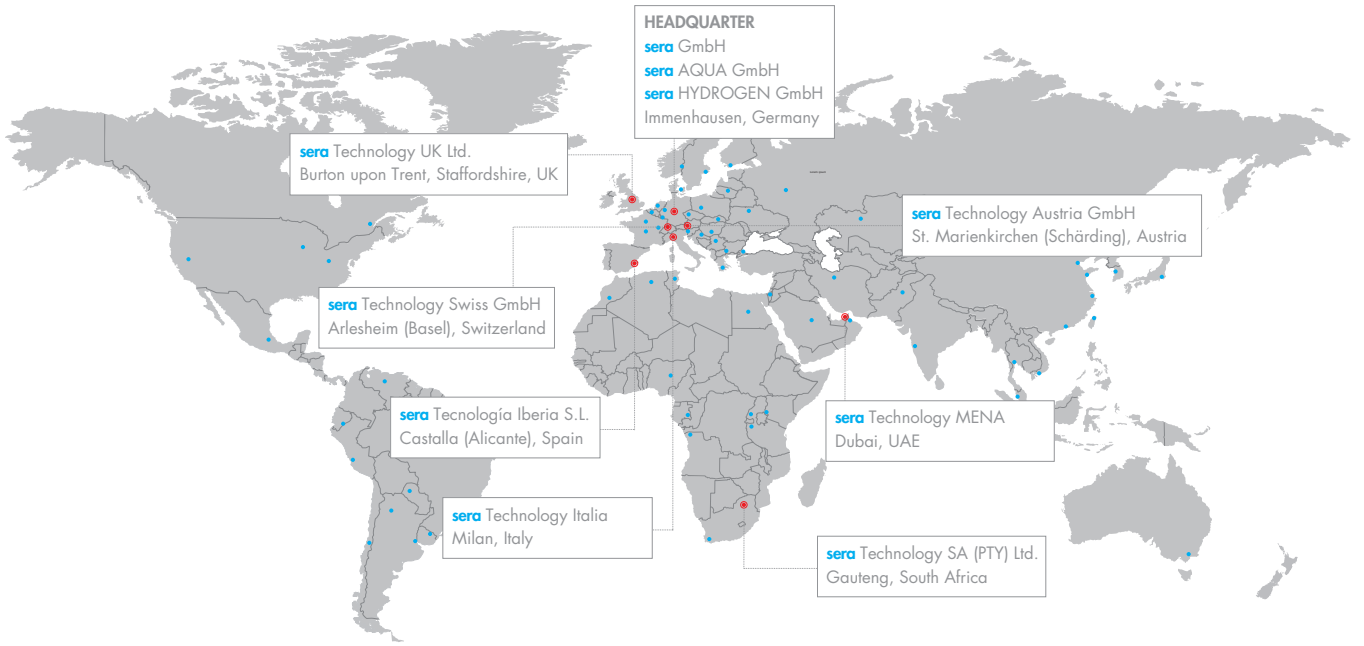
MEASUREMENT



SUCTION VALVES			iSTEP S 20	iSTEP S 30	iSTEP S 40	iSTEP S 50
DN	Nominal weight		5	5	5	8
G	Connection thread	PVC, PP-/PVDF-FRP, 1.4571	G3/4	G3/4	G3/4	G3/4
G	Connection thread	1.4435	Rd28x1/8"	Rd28x1/8"	Rd28x1/8"	Rd28x1/8"
S	Double valves	PVC	65	72	72	75,1
S	Double valves	PP-/PVDF-FRP	56,6	69,6	69,6	76,1
S	Double valves	1.4571	65	72	72	75,5
S	Double valves	1.4435	122,5	122,5	122,5	122,5
PRESSURE VALVES						
DN	Nominal weight		5	5	5	8
G	Connection thread	PVC, PP-/PVDF-FRP, 1.4571	G3/4	G3/4	G3/4	G3/4
G	Connection thread	1.4435	Rd28x1/8"	Rd28x1/8"	Rd28x1/8"	Rd28x1/8"
D	Double valves	PVC	65	72	72	75,1
D	Double valves	PP-/PVDF-FRP	64,6	69,6	69,6	76,1
D	Double valves	1.4571	65	72	72	75,5
D	Double valves	1.4435	122,5	122,5	122,5	122,5
TOTAL HEIGHT						
H		PVC	275	282	282	285
H		PP-/PVDF-FRP	275	280	280	286
H		1.4571	275	282	282	286
H		1.4435	333	333	333	333
TOTAL LENGTH						
L		PVC	270	275	275	275
L		PP-/PVDF-FRP	270	270	270	270
L		1.4571	270	275	275	275
L		1.4435	295	295	295	295

(Dimensions in mm)

FOLLOW US



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