sera

iSTEP XS
STEPPER MOTOR PUMP

STEPPER MOTOR PUMP
FOR DEMANDING METERING REQUIREMENTS

iSTEP - THE STEPPER MOTOR PUMP

The iSTEP XS 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 0.007..15 l/h at 10..7 bar, 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
- 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 & messages	Pro	Pro+
Manual mode	✓	✓
Impulse operation	✓	✓
Analog operation	✓	✓
Batch operation	✗	✓
Timer	✗	✓
Interface	✗	✓
Calibration	✓	✓
Slowmode	✓	✓
Suction mode	✓	✓
Diaphragm monitoring	✓	✓
Data logging (SD card)	✗	✓
Error message	Error code + color change in the display	Plain text + color change in the display
Real-time clock	✗	✓

Connection & operation	Pro	Pro+
Operating elements and display	4-button operation Multilingual display The operating status is shown in 4 colors	Removable control element with two buttons and clickwheel Display with 8 languages (de, en, es, fr, nl, cs, fi, tr) The operating status is shown in 4 colors
Control cable	optional	5m control cable (8-pole)
Inputs / outputs	✓	✓
Level input	✓	✓
Dosing monitoring	✗	✓
Profibus/Profinet	✗	optional
Inputs	Digital impulse (NO/NC) Digital external stop (NO/NC)) Analog 4-20mA	Digital/analog, freely parameterizable Digital/analog, freely parameterizable Digital, freely parameterizable
Outputs	24V Operational readiness (NO/NC) Stroke signal (NO/NC)	24V Digital, freely parameterizable Digital, freely parameterizable Analog, freely parameterizable
Firmware update	USB (Stick)	USB (PC)

*NO/NC (normally open/normally closed)

ADDITIONAL FEATURES

APPLICABLE INTERNATIONALLY

The CE and TR certifications are proof of the safe use of the iSTEP XS 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.
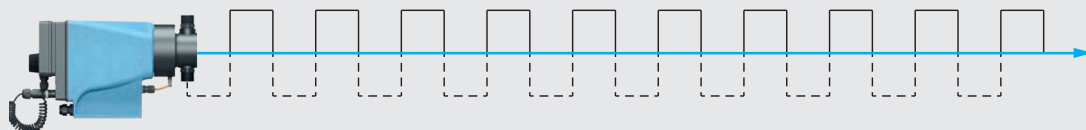
STANDARD

OPTION

OPTION

OPTION

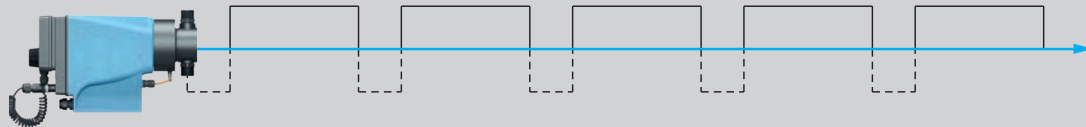## STANDARD AND SLOW MODE OPERATION

The iSTEP XS 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.
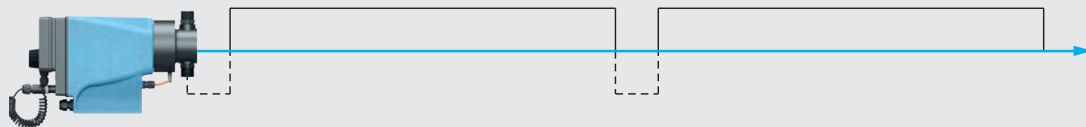
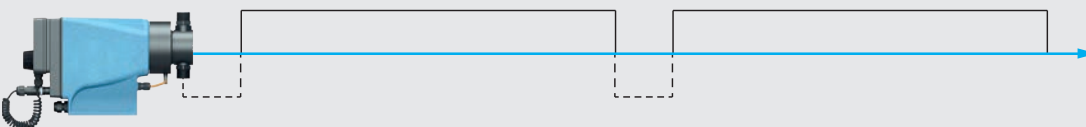| STANDARD OPERATION	
Amount transported 100%	
Amount transported 50%	
Amount transported 20%	

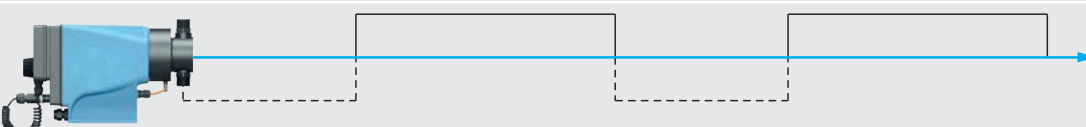| SLOW MODE OPERATION FOR VISCOUS MEDIA	
Amount transported 20% Slow mode 75%	
Amount transported 20% Slow mode 50%	
Amount transported 20% Slow mode 25%	
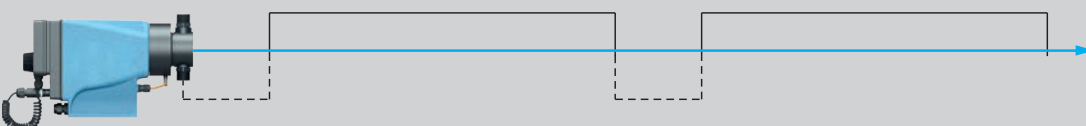
Pressure stroke   Time   Suction stroke

ADDITIONAL FEATURES (PRO+)

## EASY PARADOSING OF SEVERAL PUMPS BY MEANS OF REMOVABLE CONTROL ELEMENT

The iSTEP XS (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 (OPTION)

The Pro+ control electronics of the iSTEP XS (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.

PROFIBUS   **PROFINET**
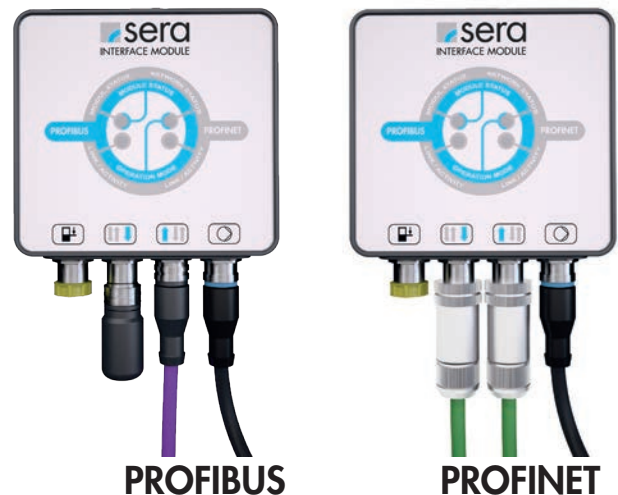
OPERATING CONDITION DISPLAY THROUGH COLOUR CHANGE
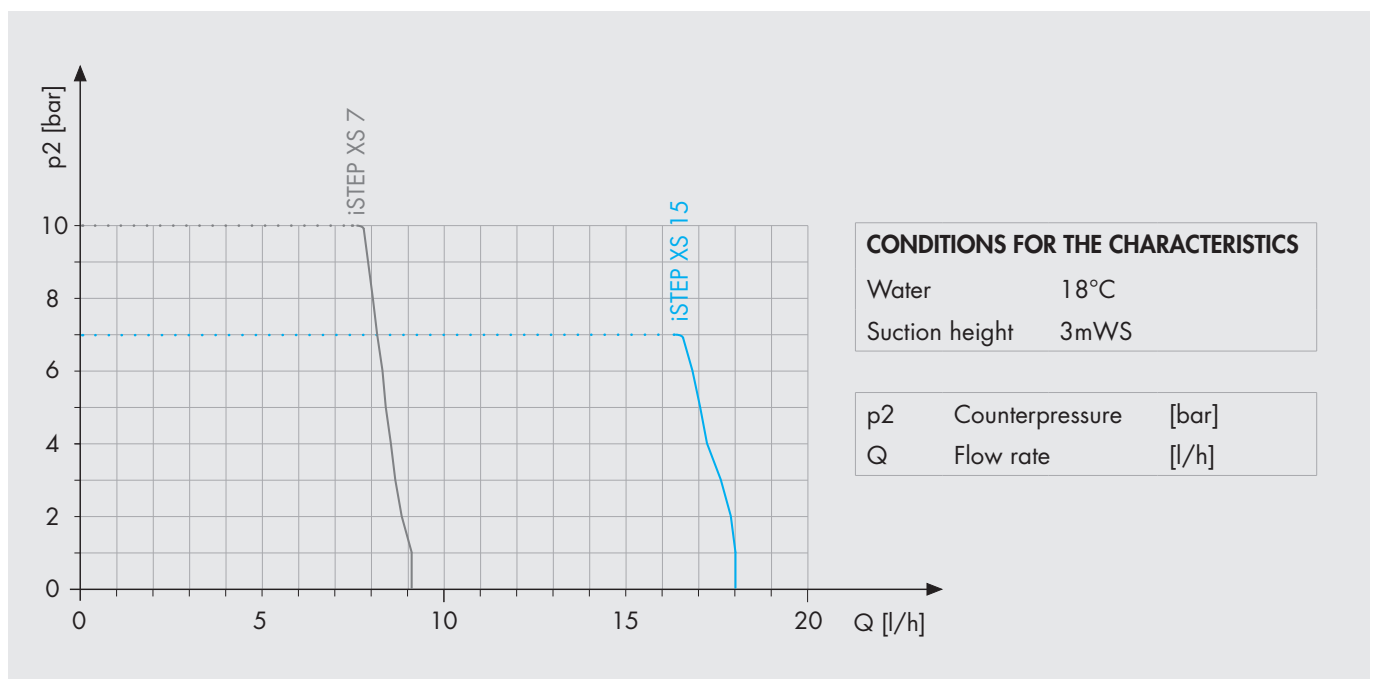
The status of the iSTEP XS (Pro+) (ready, active, warning, error message) is indicated by a colour change in the display and is thus instantly recognisable. Messages are displayed on the graphic display in plain text and in several languages. The pump comes equipped with a diaphragm monitoring system as standard. Service recommendations are also displayed, thus minimising downtimes.
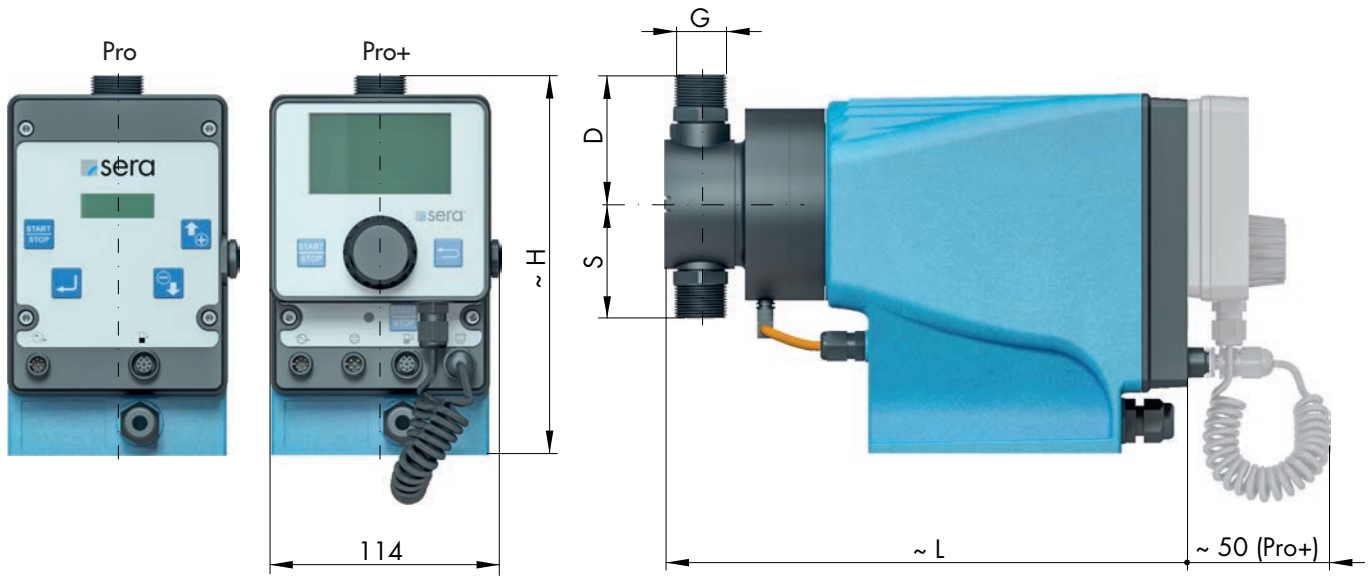
TECHNICAL DATA / CHARACTERISTIC CURVES

PUMP DATA			iSTEP XS 7	iSTEP XS 15
Permissible pressure $p_{2max.}$ at the pump outlet	bar		10	7
Nominal capacity QN at $p_{2max.}$	l/h		7	15
Capacity min. (1:1000)	l/h		0,007	0,015
Quantity per stroke	ml/Stroke	(100%)	0,61	1,47
Max. suction height	mWS		3	3
Min./max. permissible pressure at the pump inlet	bar	$p_{1min/max}$	-0,3/0,5	-0,3/0,5
Recommended nominal diameter DN of the connecting pipes	mm		3	5
Nominal stroke frequency	1/min		190	170
Weight approx.	kg	plastic	3,6	3,6
		stainless steel	4,0	4,0

ELECTRICAL DATA		iSTEP XS...
Power consumption	W	45
Voltage	V	100 - 240 AC
Frequency	Hz	50/60
Insulation class	ISO	F
Recommended fuse	(circuit breaker)	C10A
Enclosure		IP65
Certifications		CE, TR

CONDITIONS FOR THE CHARACTERISTICS

Water	18°C
Suction height	3mWS

p2	Counterpressure	[bar]
Q	Flow rate	[l/h]

DIMENSIONS

SUCTION VALVES			iSTEP XS 7	iSTEP XS 15
DN	Nominal weight		3	5
G	Connection thread	PVC, PP-/PVDF-FRP, 1.4571	G3/4	G3/4
S	Double valves	PVC	57	65
S	Double valves	PP-/PVDF-FRP	56	57
S	Double valves	1.4571	57	65
PRESSURE VALVES				
DN	Nominal weight		3	5
G	Connection thread	PVC, PP-/PVDF-FRP, 1.4571	G3/4	G3/4
D	Double valves	PVC	57	65
D	Double valves	PP-/PVDF-FRP	64	65
D	Double valves	1.4571	57	65
TOTAL HEIGHT				
H		PVC	180	188
H		PP-/PVDF-FRP	187	188
H		1.4571	180	188
TOTAL LENGTH				
L		PVC	260	264
L		PP-/PVDF-FRP	260	265
L		1.4571	260	264

(Dimensions in mm)

HEADQUARTER
sera GmbH
sera ProDos GmbH
sera Hydrogen GmbH
Immenhausen, Germany

sera Technology UK Ltd.
Burton upon Trent, Staffordshire, UK

sera Technology Austria GmbH
sera ProDos GmbH
Service Center Süd
St. Marienkirchen (Schärding), Austria

sera Technology Swiss GmbH
Arlesheim (Basel), Switzerland

sera Tecnología Iberia S.L.
Castalla (Alicante), Spain

sera Technology MENA
Dubai, UAE

sera Technology Italia
Milan, Italy

sera Technology SA (PTY) Ltd.
Gauteng, South Africa

WORKING FOR YOU ALL OVER THE WORLD

sera GmbH
sera-Straße 1
34376 Immenhausen
Germany

Tel.: +49 5673 999-02

info@sera-web.com

sera ProDos GmbH
sera-Straße 1
34376 Immenhausen
Germany

Tel.: +49 5673 999-02

sales.prodos@sera-web.com

sera Hydrogen GmbH
sera-Straße 1
34376 Immenhausen
Germany

Tel.: +49 5673 999-04

sales.hydrogen@sera-web.com

sera ProDos GmbH Service Center Süd
Gewerbestraße 5
4774 St. Marienkirchen bei Schärding
Austria

Tel.: +49 5673 999-02

sales.prodos@sera-web.com

sera Technology Austria GmbH
Gewerbestraße 5
4774 St. Marienkirchen bei Schärding
Austria

Tel.: +43 771 131 7770

sales.at@sera-web.com

sera Technology Swiss GmbH
Altenmatteweg 5
4144 Arlesheim
Switzerland

Tel.: +41 615 114 260

sales.ch@sera-web.com

sera Technology UK Ltd.
Unit 5, Granary Wharf Business Park
Wetmore Road, Burton upon Trent
Staffordshire DE14 1DU
United Kingdom

Tel.: +44 1283 753 400

sales.uk@sera-web.com

sera Technology SA (PTY) Ltd.
Unit 3-4, Airborne Park
Cnr Empire & Taljaard Str Bartletts
Boksburg, 1459 Gauteng
South Africa

Tel.: +27 113 975 120

sales.za@sera-web.com

sera Tecnología Iberia S.L.
Calle Cocentaina n°8,
03420 Castalla
(Alicante)
Spain

Tel: +34 666 024 388

sales.es@sera-web.com

sera Technology Italia
Milan
Italy

Tel.: +39 340 81 92 744

sales.it@sera-web.com

sera Technology MENA
Dubai
UAE

Tel.: +971 589 287 559

sales.mena@sera-web.com

www.sera-web.com