KDS260

Push-Pull Syringe Pumps. This KDS pump provides simultaneous infusio and withdrawal with opposing syringes on a single drive. The KDS260 is an adaption of the KDS210. The pump has been modified to hold an additional syringe so that as one syringe infuses, while the second syringe withdraws at the same rate. **The Push/Pull mode is designed for one cycle only.**

Note: When not used in push/pull mode, the pump has all the features of KDS210

Features

- Holds up to four syringes, 10 µl to 60 ml each. With large syringes, the full volume may not not be usable.
- Backlit *LCD display*
- Knob locks/unlocks drive block for effortless, drag-free adjustment
- Simple menu-driven setup:
  - select syringe size from displayed table
  - dispense volume
  - dispense flow rate
- Continuous dispense volume display
- Preset volume control and automatic shut-off
- Settings can be reviewed or changed during operation
- Stall detection
- Choice of unit selection
- Last settings stored in permanent memory
- Built-in RS-232C interface for computer "daisy chaining" up to 100 pumps
- TTL interface for foot switch, timer, relay control, outputs for run indicator, valve control
- Independent rate and volume settings for infusion and withdrawal
- Multiple mode selection:
  - Withdrawal for push/pull
- Optional multi-step keypad programmable feature (**KDS260P**)

Specifications

Pump Type:	• Infusion / Withdrawal
Max. No. of Syringes	• Two in each direction
Syringe Size	• 10 ml to 60 ml
Dimensions	• 11 x 9 x 5.5 in. • 28 x 23 x 1414 cm
Weight	• 9 lb (4 kg)
Linear Force	• 40 lb (18 kg)
Advance Per Microstep	• 0.165 micron (1/16 step)
Max Step Rate (1/2 Step)	• 1600/sec
Min Step Rate	• 1 step / 30 sec.
Accuracy	• ± < 1%
Reproducability	• ± 0. 1%
Audible Alarm	• (Optional) **

Flow Rates

Syringe	Minimum	Maximum
10 ml	0.001 ml/h	22.98 ml/min
25 ml	0.001 ml /h	60.68 ml/min
50 ml	0.001 ml/h	105.8 ml/min
100 ml	0.001 ml /h	212.6 ml/min
250 ml	0.001 ml/h	527.6 ml/min
500 ml	0.001 ml /h	1.06 ml/min
1 ml	0.001 ml/h	2.203 ml/min
3 ml	0.001 ml /h	7.36 ml/min
5 ml	0.001 ml/h	14.33 ml/min
10 ml	0.001 ml /h	20.91 ml/min
20 ml	0.001 ml/h	36.19 ml/min
30 ml	0.001 ml /h	46.49 ml/min
60 ml	0.001 ml/h	70.57 ml/min
140 ml	0.001 ml /h	147 ml/min