

# Laboratorial Syringe Pump

**LONGER**

A Halma company

## ASP100 Series Digital Syringe Pump



- Experience unmatched ease of use with a high-resolution color LCD and an intuitive full-touchscreen interface.
- Delivering liquids with exceptional accuracy and a pulseless flow, perfect for handling small volumes.
- Fine-tune the flow rate in real time, optimizing the pump parameters even while in operation.
- Provided with ready-to-use Labview drivers and demos for streamlined automation and effortless integration with other lab equipment.



| Product Model                | ASP11-1A                                                                                                                                                               | ASP11-1AP               | ASP11-2AP | ASP12-1B                                                                                                  | ASP12-2B |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------|-----------------------------------------------------------------------------------------------------------|----------|
| Work mode                    | Single infuse, multiple infuse                                                                                                                                         |                         |           | Single infuse, multiple infuse, single withdraw, infuse/withdraw(Continuous), withdraw/infuse(Continuous) |          |
| Number of syringes           | 1                                                                                                                                                                      | 1                       | 2         | 1                                                                                                         | 2        |
| Syringe options              | 0.5μL-60mL                                                                                                                                                             |                         |           | 0.5μL-150mL                                                                                               |          |
| Flow rate for reference      | 3.3pL/min-120.0mL/min                                                                                                                                                  | 0.9pL/min-29.5mL/min    |           | 3.3pL/min-226.0mL/min                                                                                     |          |
| Stroke                       | 110mm                                                                                                                                                                  |                         |           | 140mm                                                                                                     |          |
| Pusher advance per microstep | 0.0326μm/microstep                                                                                                                                                     | 0.0088μm/microstep      |           | 0.0326μm/microstep                                                                                        |          |
| Linear speed                 | 0.416μm/min-180mm/min                                                                                                                                                  | 0.1126μm/min-35.4mm/min |           | 0.416μm/min-180mm/min                                                                                     |          |
| Linear speed resolution      | 0.416μm/min                                                                                                                                                            | 0.1126μm/min            |           | 0.416μm/min                                                                                               |          |
| Linear travel accuracy       | ≤±0.35% (When travel≥30% of stroke)                                                                                                                                    |                         |           |                                                                                                           |          |
| Linear travel CV             | CV≤0.03% (When travel≥30% of stroke)                                                                                                                                   |                         |           |                                                                                                           |          |
| Linear force (Max.)          | 320N(Can be set 20%-100%)                                                                                                                                              |                         |           |                                                                                                           |          |
| Built-in syringe             | Common syringe brands and models on the market                                                                                                                         |                         |           |                                                                                                           |          |
| User-defined syringe         | Store 20 user-defined syringes:<br>travel≤110mm, 6.75mm≤OD≤31mm                                                                                                        |                         |           | Store 20 user-defined syringes:<br>travel≤140mm, 6.75mm≤OD≤43mm                                           |          |
| Calibration                  | Improve flow rate/ volume precision and accuracy by calibrating the user-defined syringe                                                                               |                         |           |                                                                                                           |          |
| Display                      | 4.3 inch LCD for parameters and pump status                                                                                                                            |                         |           |                                                                                                           |          |
| Parameter method             | 20 parameter methods can be stored and easily recalled                                                                                                                 |                         |           |                                                                                                           |          |
| Control mode                 | Touchscreen control, external control, communication control, footswitch control, Labview control                                                                      |                         |           |                                                                                                           |          |
| External control             | Two control inputs: switch signals or level signals for start/stop and emergency stop<br>Two status outputs: can be configured as start/stop, direction or fault alarm |                         |           |                                                                                                           |          |
| Communication control        | RS485, Modbus RTU or Longer OEM protocol                                                                                                                               |                         |           |                                                                                                           |          |
| Real-time adjustment         | The flow rate can be adjusted while the pump is running                                                                                                                |                         |           |                                                                                                           |          |
| Audible alert                | Beep sound can indicate keypad clicks, nearing completion of work, work completion, and fault alarm                                                                    |                         |           |                                                                                                           |          |
| Indicator light              | Green-running, Blue-standby, Red-Warning                                                                                                                               |                         |           |                                                                                                           |          |
| Screen lock                  | The touch screen can be locked to prevent misoperation                                                                                                                 |                         |           |                                                                                                           |          |
| Vertical display             | The display will rotate 90 degrees to support vertical operation                                                                                                       |                         |           |                                                                                                           |          |
| Pump status when power up    | Stop                                                                                                                                                                   |                         |           |                                                                                                           |          |
| Fast forward/backward        | Infuse or withdraw at full speed                                                                                                                                       |                         |           |                                                                                                           |          |
| EMC                          | NB CE/UKCA certified                                                                                                                                                   |                         |           |                                                                                                           |          |
| Dimensions (LxWxH)           | 240mm×180mm×137mm                                                                                                                                                      |                         |           | 280mm×212mm×160mm                                                                                         |          |
| Power supply for adapter     | AC 90V-260V                                                                                                                                                            |                         |           | AC 90V-260V                                                                                               |          |
| Power supply for pump        | DC24V/15W                                                                                                                                                              | DC24V/10W               |           | DC24V/15W                                                                                                 |          |
| Temperature                  | 0 - 40℃                                                                                                                                                                |                         |           |                                                                                                           |          |
| Humidity                     | ≤80%RH, No condensation                                                                                                                                                |                         |           |                                                                                                           |          |
| Weight                       | 2.8kg                                                                                                                                                                  | 2.9kg                   | 2.85kg    | 3.65kg                                                                                                    | 3.65kg   |

| Product Model |                 | ASP11-1A                  | ASP11-1AP                 | ASP11-2AP                 | ASP12-1B                  | ASP12-2B                  |
|---------------|-----------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Syringe       | Syringe ID (mm) | Flow rate for reference   |                           |                           |                           |                           |
| 0.5μL         | 0.10            | 0.0033nL/min-0.0014mL/min | 0.0009nL/min-0.0003mL/min | 0.0033nL/min-0.0014mL/min | 0.0033nL/min-0.0014mL/min | 0.0033nL/min-0.0014mL/min |
| 5μL           | 0.35            | 0.040nL/min-0.0173mL/min  | 0.0108nL/min-0.0034mL/min | 0.040nL/min-0.0173mL/min  | 0.040nL/min-0.0173mL/min  | 0.040nL/min-0.0173mL/min  |
| 10μL          | 0.50            | 0.0816nL/min-0.0353mL/min | 0.0221nL/min-0.0069mL/min | 0.0816nL/min-0.0353mL/min | 0.0816nL/min-0.0353mL/min | 0.0816nL/min-0.0353mL/min |
| 25μL          | 0.80            | 0.2090nL/min-0.0904mL/min | 0.0566nL/min-0.0178mL/min | 0.2090nL/min-0.0904mL/min | 0.2090nL/min-0.0904mL/min | 0.2090nL/min-0.0904mL/min |
| 50μL          | 1.10            | 0.3951nL/min-0.1710mL/min | 0.1070nL/min-0.0336mL/min | 0.3951nL/min-0.1710mL/min | 0.3951nL/min-0.1710mL/min | 0.3951nL/min-0.1710mL/min |
| 100μL         | 1.60            | 0.8360nL/min-0.3617mL/min | 0.2263nL/min-0.0711mL/min | 0.8360nL/min-0.3617mL/min | 0.8360nL/min-0.3617mL/min | 0.8360nL/min-0.3617mL/min |
| 250μL         | 2.30            | 1.7275nL/min-0.7475mL/min | 0.4676nL/min-0.1470mL/min | 1.7275nL/min-0.7475mL/min | 1.7275nL/min-0.7475mL/min | 1.7275nL/min-0.7475mL/min |
| 500μL         | 3.25            | 3.4493nL/min-1.4925mL/min | 0.9336nL/min-0.2935mL/min | 3.4493nL/min-1.4925mL/min | 3.4493nL/min-1.4925mL/min | 3.4493nL/min-1.4925mL/min |
| 1mL           | 4.72            | 7.2752nL/min-3.1479mL/min | 1.9692nL/min-0.6191mL/min | 7.2752nL/min-3.1479mL/min | 7.2752nL/min-3.1479mL/min | 7.2752nL/min-3.1479mL/min |
| 5mL           | 13.10           | 56.041nL/min-24.248mL/min | 15.169nL/min-4.7689mL/min | 56.041nL/min-24.248mL/min | 56.041nL/min-24.248mL/min | 56.041nL/min-24.248mL/min |
| 10mL          | 16.60           | 89.987nL/min-38.937mL/min | 24.357nL/min-7.6575mL/min | 89.987nL/min-38.937mL/min | 89.987nL/min-38.937mL/min | 89.987nL/min-38.937mL/min |
| 20mL          | 19.00           | 117.89nL/min-51.009mL/min | 31.909nL/min-10.032mL/min | 117.89nL/min-51.009mL/min | 117.89nL/min-51.009mL/min | 117.89nL/min-51.009mL/min |
| 30mL          | 23.00           | 172.75nL/min-74.748mL/min | 46.759nL/min-14.700mL/min | 172.75nL/min-74.748mL/min | 172.75nL/min-74.748mL/min | 172.75nL/min-74.748mL/min |
| 60mL          | 29.14           | 277.30nL/min-119.98mL/min | 75.056nL/min-23.597mL/min | 277.30nL/min-119.98mL/min | 277.30nL/min-119.98mL/min | 277.30nL/min-119.98mL/min |
| 100mL         | 31.00           | -                         | -                         | 313.82nL/min-135.79mL/min | 313.82nL/min-135.79mL/min | 313.82nL/min-135.79mL/min |
| 150mL         | 40.00           | -                         | -                         | 522.50nL/min-226.08mL/min | 522.50nL/min-226.08mL/min | 522.50nL/min-226.08mL/min |