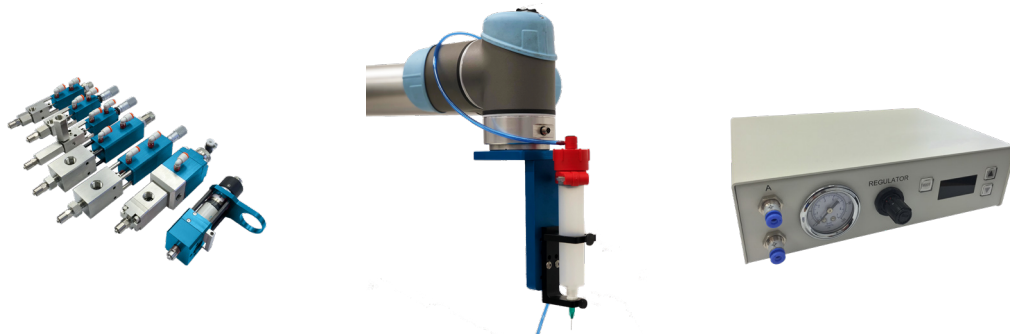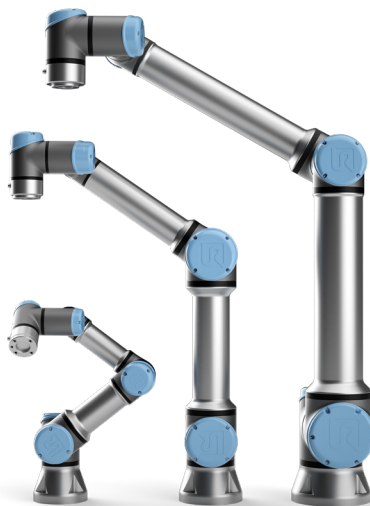# UNIVERSAL ROBOTS
INTEGRATED BY

fancort industries, inc. ™

PRECISION DISPENSING UR+ SOLUTION
TRIAL INSTRUCTIONS

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PRACTICE TRIAL

Introduction

Dispensing bead width & quality are effected by supply pressure, robot speed, needle size, and on/off shot timing.

1. Dwell Timing - Sets the initial wait for dispense.
2. Supply Pressure - Increasing pressure increases flow
3. Needle Size - Increased size increases bead width
4. Robot Speed - Increasing speed reduces width & quality

Trial Setup

We will now run a sample set using the sample material to gain experience with 1-4 (above).

Trial Test I: Varying Initial Dwell Time

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1.) Load syringe with test fluid.
2.) Place dark material surface under robot with Precision Dispense Kit installed.
3.) Install needle size 18G.
3.) Jog robot to start position & about 1/4" above dispense surface
4.) Set control pressure at 10 PSI.
5.) Program start way point to trigger controller on.
6.) Set wait time to 0.25 seconds
7.) Set Set Dispense to be triggered after wait
8.) Jog robot 2" in straight line & program end point to turn off controller.
9.) Set Set Dispense to be triggered off after new point
10.) Set wait time to 0.5 seconds
11.) Set robot speed to 100mm/s .
12.) Run test program 1.
13.) Repeat program with 0.05 seconds and 0.45 seconds.
14.) Review the initial buildup and lack of, tune timing for consistent flow
Your Results should look like:

| 0.05 seconds | 0.25 seconds | 0.45 seconds |
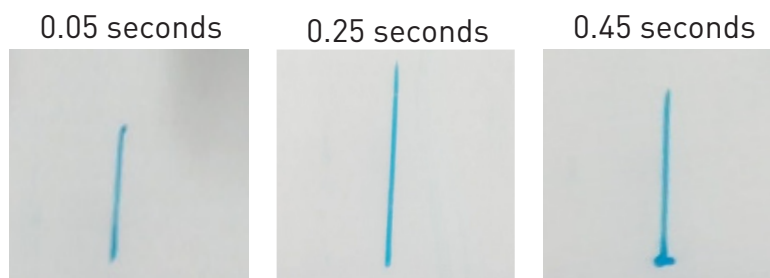
Trial Test II: Varying Needle Size

1.) Continue with previous program
2.) Run test program 1.
3.) Repeat program with needle size 20G and needle size 15G.
Your Results should look like:

18 G	20 G	15G

Trial Test III: Varying Pressure

1.) Continue with previous program
2.) Run test program 1.
3.) Repeat program with 20 PSI and 70 PSI.
Your Results should look like:

6 psi	10 psi	20 psi

Trial Test IV: Varying Robot speed

1.) Continue with previous program
2.) Run test program 1.
3.) Repeat program with robot speed 50 mm/s and robot speed 150mm/s.
Your Results should look like:

| 50 mm/s | 100 mm/s | 150 mm/s |