Hello this is mechanical simulation software, automation studio. So if you find the package you type in, automation studio and you will find this as it is a UHI licence at your learning centre but if not you can get it when logging into MYUHI.

For the assessment you must draw this pneumatics circuit and then you must write a short report on the headings. Build the circuit and modify the flow control valve which restricts the flow. So here we have a piston that goes in and out, a valve that controls the piston. When the piston goes out it hits the trip which activates this valve over here, which will in turn knock this piston over which is a single acting spring return and here we have another push button valve.

Here is the software, when it opens up there should be a blank sheet to work on, a library is down here, and we are using pneumatic components. Click on the arrow beside pneumatic it drops down to get different categories. If you just click once on pneumatic then it will show a sample of commonly used components. If we take this component for example, which is a compressor, and this is a motor. If we study the symbol of the component, then we can understand the purpose of it. So the arrow shows air is going out and the arrow shows the air going in which is a motor, rotary motion out. Also the arrow is not filled in but if you go to hydraulic to see the arrow is filled in black indicating that oil is the fluid in the system. You can also use a pressure source rather than compressor. But we will start with a compressor, we should get some of the components from here so you should drag and drop them in. We can swap to a pressure source, we need a few exhausts, we need two of these and line them up. There is only one connection point, so it is a single acting piston, so this needs to be swapped for a double acting piston which has two connection, then connect them up. Then we need a shuttle valve, pressure gauge, take a proximity sensor and place it on the end of the piston rod, call it “B”. We need one when it is fully out, so click on the piston, and we have to force it to a hundred percent, there the piston is out, and we can add the proximity sensor to the end of the rod. Then we must put the piston back in. Pick a 5/2 valve, five ports and two positions. Pick a normally open (NO) not normally closed (NC) spring return valve.

Just need a push button like here. After selecting a component, hold ctrl, click on component and drag. This will duplicate the component so acts like copy and paste. This function works in other software packages. We are nearly done, just have to connect this wall part, go to sensors, mechanical contacts and we need to spin this round. Then move it up against it, double click on it and find “A”. It can now be seen that it is connected.

Once we have all our connections, we can press run. Air is coming up here holding this piston back, then we push this valve across the piston will go out and cause the roller valve to be actuated, to put the single acting piston out. Or we can actuate using the push button.

Now we can adjust the diameter, to make it go slower on the way back. One restrictor does the outward stroke and one does the inward stroke.

Thank you for listening.