

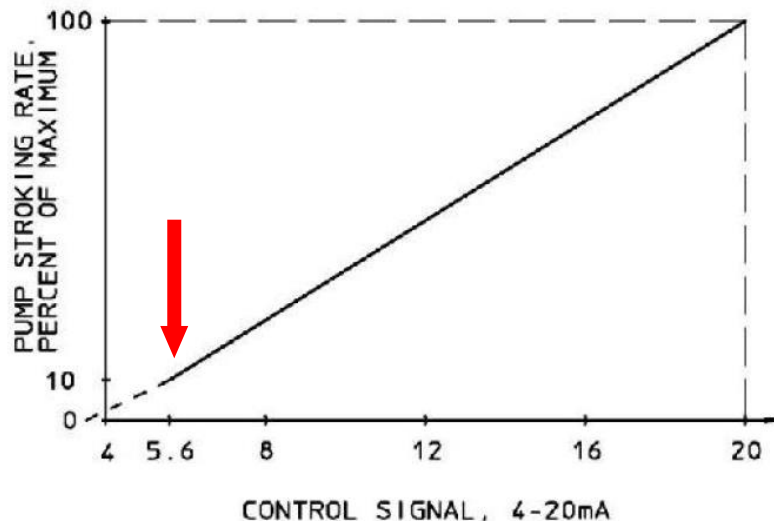
**Topic – Pulsatron Series MP, HV and E+, 4-20 mA Input Functionality****Purpose:**

This bulletin is written to explain how the Pulsatron MP, HV and E+ models responds to an external 4-20mA input signal. It will also explain the differences between the two models, especially how they respond to a low signal.

The E+ model is used for basic 4-20mA control while the MP provides a higher degree of control.

**How the HV and E+ responds to a 4-20mA input signal:**

When supplied with a 20 mA signal the pump will stroke at maximum rate of 125 spm. As the current decreases, the stroke rate will fall linearly (see chart below) until it reaches 5.6 mA. Below that the accuracy falls.

**10 to 1 turn down ratio explained:**

The 10:1 ratio translates to 10% to 100% of the 16mA range. Therefore 10% of 16mA = 1.6mA. This translates to 5.6 mA to 20 mA range. In this range the stroke rate is fairly linear. If the input falls below the 10% mark of 5.6mA (see chart), the stroke rate loses accuracy. So, it is possible for the pump to still stroke with a 4mA or lower input.

**4mA override for HV and E+ model:**

If your process requires the pump to not stroke at 4mA or less, we recommend using the External Stop input. This action will stop the pump from stroking regardless of the 4-20mA signal.

# Pulsafeeder Technical Bulletin

## Series MP 4-20mA functional advantages verses the Series HV and E+

The first advantage for the MP is that 4-20mA signal can be calibrated.

The second advantage for the MP is it has a 1,000 to 1 vs. 100 to 1 turn down ratio. Due to its greater gradation, the MP will stop pumping with a 4mA signal.

The MP's 4-20mA can also be programed to 20-4mA control because it is fully scalable. You can also create a custom scale (see charts below).

