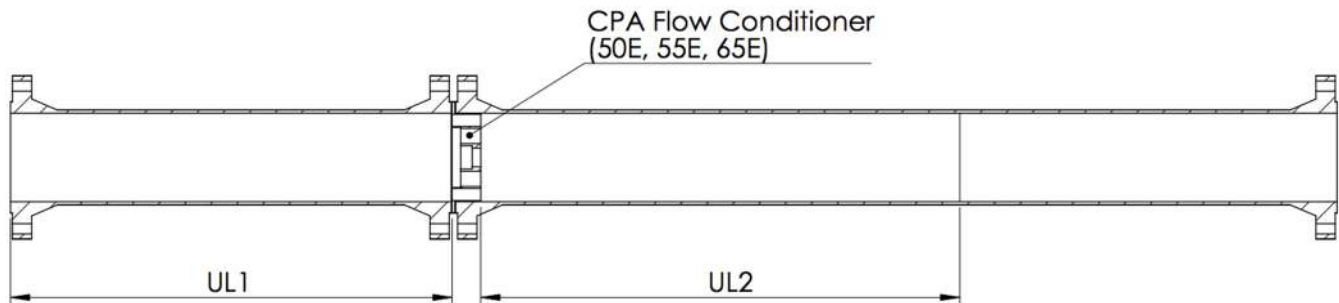


CPA Meter Run Recommendations

Dimensions are minimums; any combination of UL1 & UL2 longer than listed is acceptable. For more information or to discuss meter run lengths, please contact CPA! Please note that the longer dimensions are not applicable to 2" CPA Flow Conditioners which must use the 13D recommendation only.



CPA 50E/55E Gas Flow Meter Installations

- Canada Pipeline Accessories' minimum general recommended meter run length is **13 internal pipe diameters**.
- This is applicable to all flow meters (orifice, turbine, ultrasonic, vortex, annubar, venturi) as these distances were determined independently of any specific meter type.
- For UL1, CPA recommends a minimum of **5 internal diameters** of uninterrupted straight pipe as measured from the **upstream face (inlet)** of the flow conditioner.
- For UL2, CPA recommends a minimum of **8 internal diameters** of uninterrupted straight pipe from the **downstream face (outlet)** of the flow conditioner to the flow meter in question.
- For orifice meters, UL2 is measured to the upstream face of the orifice plate.
- For turbine, ultrasonic or any other flanged meters, UL2 is measured to the flange connection at the flow meter inlet.
- For venturi meters, UL2 is measured to venturi inlet or upstream tap (a venturi calibration is recommended to maximize performance of the flow meter)

CPA 50E/65E Liquid Flow Meter Installations

- Canada Pipeline Accessories' minimum recommended meter run length is **10 internal pipe diameters** for liquid applications.
- For the CPA 50E, this is applicable to all flow meters (turbine, ultrasonic, vortex, annubar, venturi) as these distances were determined independently of any specific meter type. For the CPA 65E, this is recommended for turbine or ultrasonic measurement only.
- For UL1, CPA recommends a minimum of **5 internal diameters** of uninterrupted straight pipe as measured from the **upstream face (inlet)** of the flow conditioner.
- For UL2, CPA recommends a minimum of **5 internal diameters** of uninterrupted straight pipe from the **downstream face (outlet)** of the flow conditioner to the flow meter in question.
- For orifice meters, UL2 is measured to the upstream face of the orifice plate.
- For turbine, ultrasonic or any other flanged meters, UL2 is measured to the flange connection at the flow meter inlet.
- For venturi meters, UL2 is measured to venturi inlet or upstream tap (a venturi calibration is recommended to maximize performance of the flow meter)

CPA 55E/65E Ultrasonic Flow Meter Installations, Gas or Liquid

- Canada Pipeline Accessories' minimum general recommended meter run length is **10 internal pipe diameters** when using the **CPA 55E and 65E** in ultrasonic applications.
- For UL1, CPA recommends a minimum of **5 internal diameters** of uninterrupted straight pipe as measured from the **upstream face (inlet)** of the flow conditioner.
- For UL2, CPA recommends a minimum of **5 internal diameters** of uninterrupted straight pipe from the **downstream face (outlet)** of the flow conditioner to the upstream flange of the ultrasonic meter.

CPA 50E/55E AGA3-2000/ISO-5167 Installations, Gas or Liquid

- For all AGA3-2000/ISO-5167 custody transfer orifice measurement applications, CPA recommends a minimum meter run length of 13D or 17D for the CPA 50E and 13D for the CPA 55E.
- For 13D installations, a minimum UL1 upstream length of **5 internal diameters** and a minimum UL2 downstream length of **8 internal diameters** is required.
- For 17D installations, any combination of UL1 and UL2 is acceptable as long as UL2 is a minimum of **7 internal pipe diameters**, and the total overall meter run length is at least **17 internal diameters**.
- This is independent of fluid type and is recommended for all gas or liquid applications.