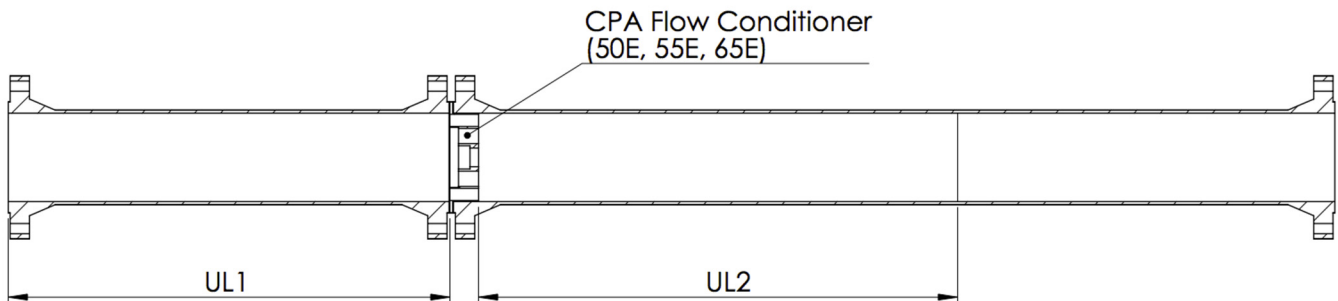


CPA Meter Run Recommendations

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!



CPA 50E/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 50E, 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 TBR/50E/55E AGA3-2000/ISO-5167 Custody Transfer Orifice 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 TBR/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 **8 internal pipe diameters**, and the total overall meter run length is at least **17 internal diameters**.
- UL1 is measured from the last disturbance to the upstream face of the flow conditioner.
- UL2 is measured from the outlet of the flow conditioner to the upstream face of the orifice plate.
- This is independent of fluid type and is recommended for all gas or liquid applications.

CPA 65E Gas/Liquid Flow Meter General Installations

- Canada Pipeline Accessories' minimum recommended meter run length is **10 internal pipe diameters**.
- This is applicable to all flow meters (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 **5 internal diameters** of uninterrupted straight pipe from the **downstream face (outlet)** of the flow conditioner to the flow meter in question.
- 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).
- The 65E is not recommended for AGA3 orifice applications!

CPA 55E Gas/Liquid Flow Meter General Installations

- Canada Pipeline Accessories' minimum recommended meter run length is **10 internal pipe diameters**.
- This is applicable to all flow meters (turbine, vortex, annubar, venturi, non-custody transfer orifice) 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 **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 50E Gas/Liquid Flow Meter General Installation

- Canada Pipeline Accessories' minimum recommended meter run length is **10 internal pipe diameters**.
- This is applicable to all flow meters (turbine, vortex, annubar, venturi, non-custody transfer orifice) 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 **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).