



# CONFIGURATIONS

## BIAS-90

### CONFIGURATION INFORMATION

The Bias-90 configuration is only recommended for installations where space is limited and does not allow installation in a lateral-45 configuration, or where the concentration of CO<sub>2</sub> or another gas is higher than can be measured accurately over more than 10". A Bias-90 configuration use two FlarePhase 250 transducers, inserted into the pipe with tips angled at 90°, so they are facing each other, usually measuring at an angle of 30° from the direction of the flow.

The working principle is entirely the same with time-of-flight calculations being used to measure gas velocity and it provides the same accurate and reliable measurements as the lateral-45 configuration. Bias-90 can also be installed as dual-path, i.e., two pairs of transducers in a bias-90 configuration, measuring the same flow and connected to the same FGM 160 flow computer, for redundancy purposes and to ensure there is no loss of measurement.

### WHY BIAS-90?

#### Limited Space Availability

Due to multiple pipes running parallel to each other on a pipe rack, there may not be enough space available for transducers to be installed in a lateral-45 configuration.

Since the transducers are mounted on top of the pipe, they don't take up any lateral space and only require one side of the pipe to have space available for them to be installed.

#### Difficult Gas Compositions

The Bias-90 configuration allows for much more flexibility when it come to the distance between the transducers. This allows us to reduce the measurement path when measuring high attenuation gases.

With process conditions containing concentrations of CO<sub>2</sub> above 40% and pipe sizes of over 12", it is possible to provide reliable and consistent measurement using a Bias-90 configuration.

#### Compatibility with existing infrastructure

We are often contacted by operators of old or malfunctioning equipment, or meters unable to cope with the challenging process conditions and gas combinations that are eventually presented. In such cases, a Fluenta Bias-90 solution may be used to upgrade the flare metering capabilities without the need for costly, lengthy pipe modifications.

The Bias-90 configuration contains intrusive transducers, as opposed to the non-intrusive transducers of lateral-45. This comes with its own challenges but Fluenta's range of nano-coatings for transducers protects them from corrosion, abrasion and contamination and minimizes the detrimental effects of long-term exposure.

#### FlarePhase in Bias-90

From Q3, 2024, we will be also be accepting RFQs for Bias-90 installations with process concentrations of CO<sub>2</sub> up to 100%, using our latest FlarePhase technology in a Bias-90 configuration.