



CORDIS APPLICATION SPECIFICATIONS DEFINITIONS

Accuracy Requirements

Accuracy is 0.25% of full scale calibration.

Example: Calibrated range of 0 to 100 psig will equate to ± 0.25 psig accuracy.

Application Description

The application description is very important and overall challenges the customer is experiencing with either current product being used and/or system issues. How far the unit is from the actual process, mounting needed, etc. Also any pneumatic schematics or simple hand sketch drawings are always very beneficial and sometimes required in order to get a good handle on the applications and other components used. This type of information will also be used for training purposes. In order to meet the customer expectation, we need as much application information as possible.

Ambient Temperature

Environment in which the unit is placed, in some applications, exceed proportional valve temperature specifications. Few examples would be when the unit is placed inside an enclosure, exposed to drastic temperature fluctuations, direct sunlight, close to an elevated heat source, etc.

Calibrated Range

Min: Within the full scale calibrated range of the unit the customer may have certain test points they are concerned with. This may or may not be the case but should be discussed.

Max: Maximum calibrated range will help choose the sensor and valves required to meet the application requirements.

Command Signal

The command is the signal provided to the unit to achieve the desired set point or percentage of full scale calibration. This is currently with a 0 to 10.00 volt analog signal or a 3.3 volt serial communication and accessed using Putty, which is a free downloaded software (<https://putty.org/>).

Cost Target

This will give us a better idea of the challenges the customer is experiencing compared to the value of the Cordis product to meet their application requirements.

Downstream Sense Requirements

Depending on how far the unit is from the actual process, a downstream sensor may be required. Customer may have their own sensor. If so this will need to be supplied for review to make sure the sensor is compatible with the Cordis unit.

Forward Flow Requirements

Forward flow requirements will help choose the correct valve configuration and maintaining stable pressure for the application.

Media

Pressure sensor within the unit is designed for clean, dry, inert, non-corrosive gases only. See the Operating Instructions for compatible sensor materials.

Media Temperature

Unit temperature specifications are 32 to 120°F. This temperature specification is set around the proportional valves. Lower temperatures are possible but not advised.

Monitor Signal

Monitor signal is simply a feedback from the unit verifying that the matched command signal pressure has been achieved. This can also be used as a trouble shooting measure. Monitor signal is a direct feedback from the internal pressure sensor. So if the unit is commanded to 10 VDC and the monitor signal is reading 9 VDC then the inlet pressure should be verified.

Outlet Pressure State

Dynamic: Dynamic means the unit is controlling pressure while the media is under flow conditions.

Static: Static means the unit is controlling pressure and the media is not moving (constant).

Both: Some applications will require the unit to work in both static and dynamic applications. This could be as simple as filling a volume, holding, and then emptying the volume while maintain a constant pressure.

Example: Dispensing applications

P1/Inlet Pressure

Min: Supply pressure should be 10% above maximum calibrated range. If the inlet falls below the high end of the calibrated range, the unit will not achieve the high end of range. Some applications may have supply pressure variances due to consumption.

Max: Over pressure could damage the sensor especially in the low pressure calibration ranges. Refer to the Operating Instructions for the maximum inlet pressure vs. the calibrated range. This is extremely important when choosing the right valve to make sure crack pressure is not compromised.

Potential

This will help qualify the time and resources spent to meet the customer expectations.

Power Failure Mode

The unit utilizes normally-closed proportional valves. If the power is removed the unit will hold the last commanded signal and hold pressure, as long as there are no inherent leaks on the process side. If the customer requires fail to atmosphere, a third normally-open valve could be placed on the process to vent all downstream pressure upon loss of power.

Process Connections

This information will greatly help during the design process

Process Volume

Application volumes are extremely important. This will affect valve selection, response time, stability, and required resolution for optimized PID settings.

Product Currently in Use

Make & Part No.: Currently used product is always helpful for comparison. This information gives us a better field of competitive landscape as well as future information for training purposes.

Relief Flow Requirement

Applications may require faster or slower relief flow. In this case, flow information will need to be provided to choose the correct valve for the application.

Repeatability

This should not be misinterpreted as accuracy. Some applications rely more on the pressure requirement coming back to the same set pressure every time.

Example: Mapping is a process that is used when the controller will give a set point (command) and record pressure at that set point. This is typically done at two or more points. Regardless of how close the pressure is to be within the accuracy specifications, it is far more important that the device will always come back to the set point time after time. i.e. (using a 0 to 100 psig device) if a command of 9 VDC is given and instead of reading 90.00 psig $\pm 0.25\%$ F.S. it reads 90.50 psig, mapping a control system needs the device to always repeat this setting and the controller will make the appropriate changes to the control signal to meet their requirements.

Response Time

Our specification calls out 25 ms response time for the valve only. Customers may refer to response time in different terms, such as response to time to achieve set pressure. Without knowing all the application details, especially volume, this is an unknown until tested or information is supplied.

Unit Type

Housed: Unit is more for light industrial use.

Card: Unit is an open frame design that allows for more customizable options and high volume OEM applications.