Glossary

Max. working pressure

Maximum value of primary side pressure which can satisfy the specifications. Differs according to the pressure specifications.

Min. working pressure

The primary pressure value required to control up to the full scale pressure. Differs according to the pressure specifications.

Proof pressure

Pressure value under which the electro pneumatic regulator will not break even if momentarily applied. The supply side and output side guaranteed values are given separately to limit the withstand pressure of the pressure sensor mounted on the secondary side.

Pressure control range

Indicates the pressure which can be controlled. Depending on the product, residual pressure may be generated. With the EVD, 1% F.S. or less residual pressure is generated when the input signal is 0% F.S.

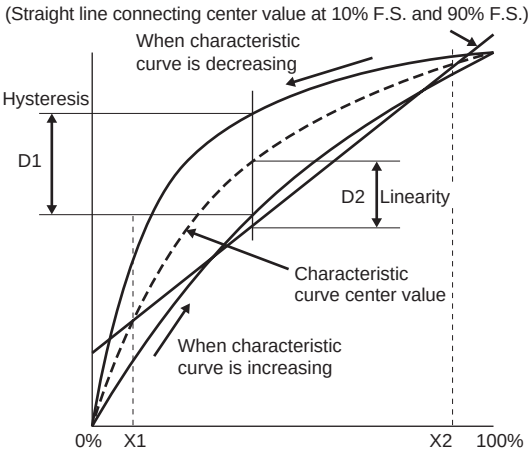
Note: This is different from the guaranteed accuracy range. Refer to the hysteresis and linearity items below.

Hysteresis (measurement circuit 1)

The difference (D1) of the rise curve and lower curve when the input signal is reciprocated once between 0% and 100%, indicated as a percentage of the full scale (F.S.).

(Hysteresis) = Maximum value of D1/FS control pressure x 100 [%]

Note: The scope of warranty will differ according to the product.
For EVD, 10% to 90% F.S. is the scope of warranty.



Linearity (measurement circuit 1)

The input signal (X1)% F.S. and (X2)% F.S. when the input signal is reciprocated once between 0% F.S. and 100% F.S. The difference (D2) from the reference line connecting the % F.S. is indicated as a percentage of the full scale (F.S.). (Linearity) = Maximum value of D2/FS control pressure x 100 [%]

Note: The scope of warranty will differ according to the product.
For EVD, it is X1=10% F.S., X2=90% F.S.

Resolution (measurement circuit 1)

The min. value of the input signal generated when the control pressure changes, indicated as a percentage of the full scale (F.S.). The input signal is pressurized from 0% F.S. to 15% F.S. and held for 10 seconds or longer and the input signal is

The value is indicated as the difference with the input signal obtained, then gradually increased until the control pressure starts to rise again. Conducted in the same way for input signal 50% F.S. and 85% F.S.

Repeatability (measurement circuit 1)

The maximum value of the control pressure variation when the same setting value is repeatedly applied is indicated as a percentage of the full scale (F.S.).

The value is calculated with the variation of the control pressure (D3) when the input signals 0% F.S. and 50% F.S. are repeatedly applied.

(Repeatability) = D3 / FS control pressure x 100 [%]

Temperature characteristics

Indicates the fluctuation of the control pressure according to changes in the ambient temperature (reference temperature 25°C) converted per 1°C.

The characteristics are indicated for the zero point and span width.

Maximum flow rate (measurement circuit 2)

Indicates flow rate possible at control pressure 100% F.S.

Relief characteristics (measurement circuit 3)

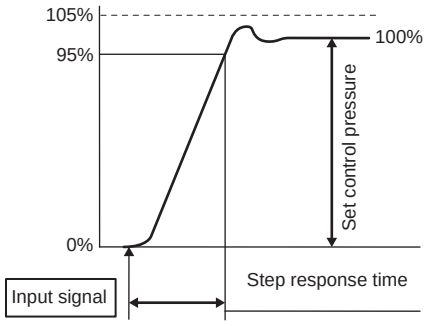
Indicates the relation of the control pressure and exhaust flow rate when back pressure is applied on the secondary side from an external source in the pressure control state.

The relief flow rate when the back pressure is gradually increased is measured.

Step response (measurement circuit 1)

Indicates the time for the control pressure to reach the set pressure in respect to a stepped input signal.

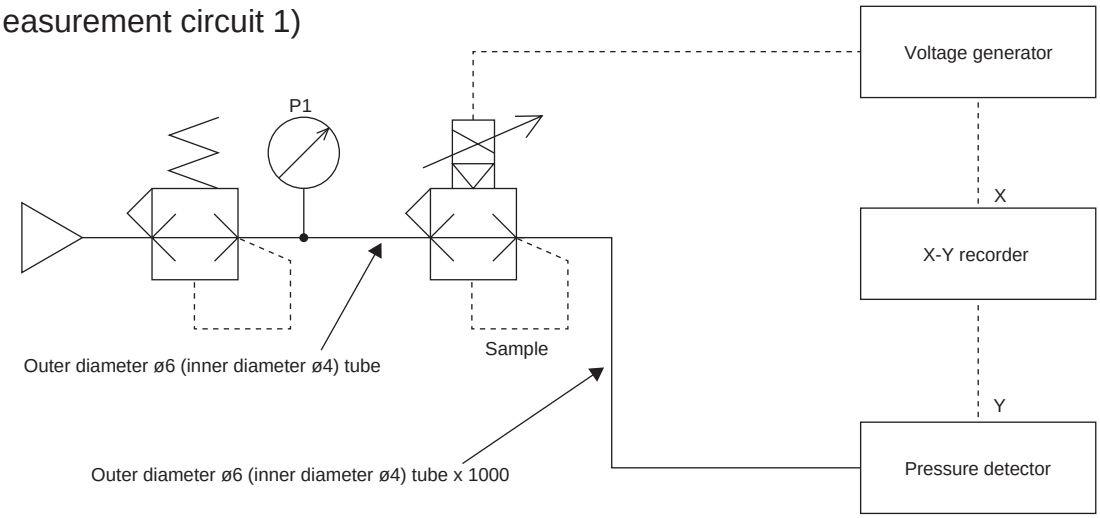
Measures the time for the control pressure to reach the setting value ±5% F.S. range after the input signal is applied.



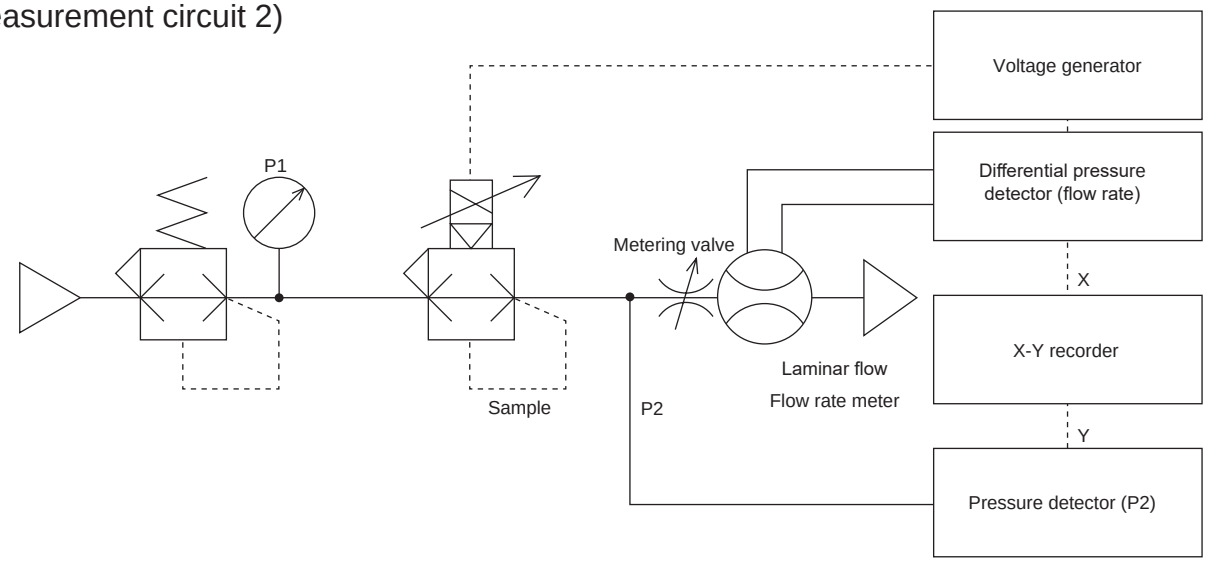
(Response time) = Time to reach within ±5% of final value

CKD measurement circuit

(Measurement circuit 1)



(Measurement circuit 2)



(Measurement circuit 3)