

Everything you need to know about I/P Converters

An I/P Converter offers a reliable and accurate way of converting electric signals into pneumatic pressure. Here, [MGA Controls](#) outlines the purpose of a “current to pressure” transducer and the **I/P converter functions**.

What is an I/P Converter

So, **what is an I/P converter?** Working on the same operating principle as a proportional valve, I/P Converters are complex circuits which allow adjustable flow volumes. An I/P Converter is also known as a “current to pressure transducer” as it provides flow/speed controls and directional control functions in a single valve.

Otherwise known as an I/P Transducer, an I/P Converter eliminates the need for any external power supply by translating electric currents into pneumatic output. By doing so, the converter maximises machine efficiency and controls pneumatic components, including valves, actuators and dampers.

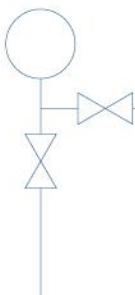
[I/P Converters](#) are beneficial in circuits that require multiple speeds, allowing them to operate efficiently in applications such as machine cycles. Commonly, I/P Converters are chosen depending on the operation field and are usually available in both reverse and direct acting models.

How an I/P Converter works

Pneumatic assisted control valves often require a converter to change an electrical signal into a pneumatic one, thereby delivering an adjustable downstream flow rate. **How an I/P converter works** is it translates a current input signal, usually between 4-20mA, into a pneumatic output, usually between 3 – 15psig, which in turn proportionally controls the opening or closing of a valve. Operating according to the ‘force balance principle’, the operating principle of a current to pressure transducer consists of a coil suspended in a magnetic field on a flexible mount. A flapper valve is positioned at the lower end of the coil and operates against a precision nozzle to create backpressure.

An **I/P converter’s function** is to deliver a proportional downstream flow of liquid or gas, based on the rate of electrical current that is received into the electrical circuit. I/P Converters are often used in natural gas applications where there is fluctuating inlet pressures, but where constant and precise downstream pressure is critical. Watson Smith I/P Converters can be supplied as safe area, intrinsically safe or triple certified ATEX for use in a variety of potentially explosive atmospheres.

MGA Controls stock I/P Converters from leading manufacturers Watson Smith. For more information on our complete range of products, please visit our [online store](#) or alternatively call our technical team today on **01704 898980**.



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