

Title (en)  
ELECTROMAGNETIC-PNEUMATIC CURRENT TO PRESSURE TRANSDUCER

Publication  
**EP 0084214 A3 19840125 (EN)**

Application  
**EP 82305204 A 19820930**

Priority  
US 30907081 A 19811006

Abstract (en)  
[origin: EP0084214A2] The present invention entails a current to pressure (I/P) transducer for converting an electric signal to a proportional pressure signal over a given span. Essentially the I/P transducer comprises a housing having a membrane with magnetic and metal properties extending across and over a seat area. An air supply inlet is provided within said housing as well as a pneumatic output port. Typically, at least a portion of the inlet air supply is directed between the seat and membrane and out the output port. The pressure of the fluid passing from the output port becomes the produced proportional pressure signal of the I/P transducer. Wire windings are disposed within the housing about a core, and two poles of opposite polarity are disposed on opposite sides of the membrane. An input current signal directed through the wire windings results in a magnetic force acting on the magnetic membrane and effectively loading the membrane. The resulting magnetic force acting on the membrane directly affects the pressure of the pneumatic output signal since the loading of the membrane acts to restrict flow between the seat and membrane. By appropriately adjusting the I/P transducer and particularly the fluid flow therethrough, the output fluid pressure signal is maintained proportional to an input current signal directed through the wire windings.

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**F15B 5/00**

IPC 8 full level  
**G01D 5/42** (2006.01); **F15B 5/00** (2006.01); **G05D 16/20** (2006.01)

CPC (source: EP)  
**F15B 5/003** (2013.01)

Citation (search report)

- [X] GB 762876 A 19561205 - FRANCE ETAT
- [X] FR 2163246 A5 19730720 - BOSCH
- [A] PROCEEDINGS OF THE NATIONAL CONFERENCE ON FLUID POWER, vol. 27, 25th-27th September 1973, Chicago, USA

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