

Two stage ejector without moving parts & lifting tube using compressed air

An industrial vacuum is an efficient method for handling objects. This technique has been developed to meet industrial automation needs, with applications in parts assembly, transfer, packaging, etc. Among the various techniques, the single stage ejector is very popular due to design durable with no moving parts. However, there are made for a high extraction rate either for high vacuum level.

To solve this problem, the multi-stage ejector has been developed. Nevertheless, this ejector is made of moving parts, degrading their reliability and robustness.

Our technology consists of a 2-stage ejector with no moving parts. Furthermore, this ejector allow to develop a lifting tube.

COMPETITIVE ADVANTAGES

Two-stage ejector:

- Minimize the air consumption
- Reducing energy consumption
- No moving parts
- Without maintenance
- Reliability

Lifting tube:

- No need vacuum pump
- Reducing energy consumption

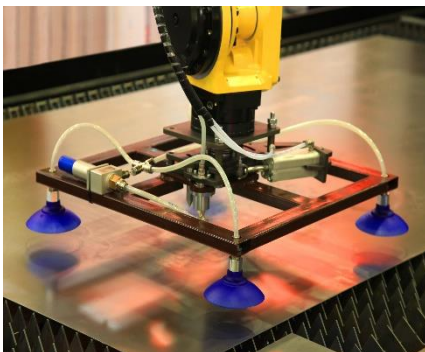
DESCRIPTION*

- The key points of the two-stage ejector:
 - Getting a vacuum to operate reliably in very dusty industrial environments can be challenging (corrugated, MDF boards, wood, uneven and porous surfaces)
 - No moving parts
 - High vacuum flow capacity while maintaining a higher vacuum level
- A technical variant of the ejector allow to develop a lifting tube using compressed air for the aspiration

APPLICATIONS

- Gripping material
- Packaging
- Automation
- Robotics
- Lifting applications

Two-stage ejector typical application



Lifting tube variant



Photo: ©popov48 -AdobeStock

INTELLECTUAL PROPERTY

- Patent pending

DEVELOPMENT STAGE

- Experimental proof of concept



TECHNICAL SPECIFICATIONS

Technical performance	Ejector with doubled vacuum performance compared to corresponding size conventional single-stage ejector
Technical specification	Flap-free vacuum ejector to operate reliably in very dusty industrial environments
Manufacturing process	One-piece system easily realisable by injection-molding, additive manufacturing technologies etc.

LABORATORY



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