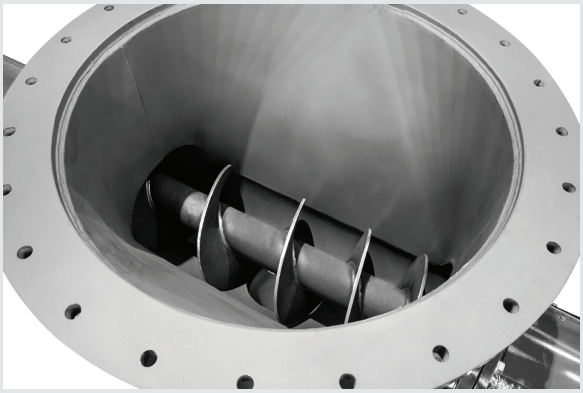
# RotoScrew Pneumatic Injector



## Introduction

Schenck Process RotoScrew range is designed to effectively inject solid materials into processes, either continuously or on a batch basis, to one or multiple points.

This system injects materials with accuracies of 2% by volume or 0.5% by weight depending on the control method employed - volumetric or weight related respectively. Materials can be injected into processes at distances of up to 500 metres, with back pressure of up to 30 bar(g).

The vessel utilises the Original Dome Valve® and the RotoScrew pneumatic injection dispensing unit.

## The original Dome Valve®

Central to the operating efficiency to all Schenck Process pneumatic conveying systems, or as a stand alone valve is the original Dome Valve® which incorporates a unique and highly reliable inflatable sealing arrangement. The original Dome Valve® was developed by Clyde Materials Handling* in 1974 for use with pneumatic conveying systems and as a stand alone product.

## The Operation of a RotoScrew

The RotoScrew machine consists of two pressure vesssels, a rotating screw at the outlet and valves to control the air supply, material flow and vessel pressure. The feeder will be driven through a gearbox by a standard induction motor.

The dispensing vessel is used to provide a constant supply of material to the volumetric feeder. When material is being injected, the dispensing vessel will be pressurised. The lock vessel is used to periodically replenish the dispensing vessel with material. In this way, injection of material to the process can be continually maintained.

The conveying air will enter the screw auger along with the material and will leave the auger along with the other process gases.

## RotoScrew Applications

The RotoScrew system has been widely used in the power, steel and pig-iron industries, in order to continuously inject coal into blast furnaces, reducing the requirements of coke, and allowing fines to be injected straight into the blast furnace. Injection rates usually average at 185kg/ton of hot metal, although some operations have injected up to 210kg/ton of hot metal.

RotoScrew can feed cohesive or irregular and large materials as well as lightly abrasive materials.

*Clyde Materials Handling Ltd was purchased by Schenck Process in 2011 and the original Dome Valve® is part of Schenck Process technologies

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All specifications are subject to change.



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