

ORIFICE SLIDE GATES (CE COMPLIANT)



APPLICATION

Orifice slide gates are used to control gravity flow discharge from storage bins and hoppers where the gate is not closing against a head of material. In the open position, the gate's blade is completely removed from the control opening, making a resistance-free passage for the material stream. Orifice gates are also well-suited for controlling the material lines in vacuum and pressure, dilute-phase conveying applications.

Special stainless steel service inlets are recommended for seal protection when the gate is used on hard or abrasive materials.

MATERIALS OF CONSTRUCTION

The orifice slide gates are constructed of a stainless steel frame with stainless steel-lined orifice and gate blade, and nylon, pressure plate gate seals.

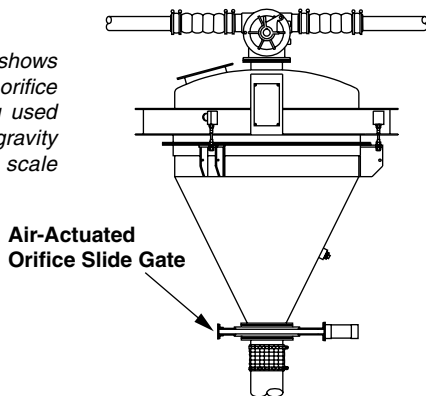
The lined orifice provides additional protection for the gate's seals and is ideal for applications where metals in contact with the material need to be stainless steel. In addition, the gate is designed to prevent material from wedging at the sides of the gate. The closing action clears material away from the sealing areas. This provides positive air/material shut off and reduces valve seizing and binding caused by trapped material.

The standard gate construction will handle applications up to 82°C [180°F].

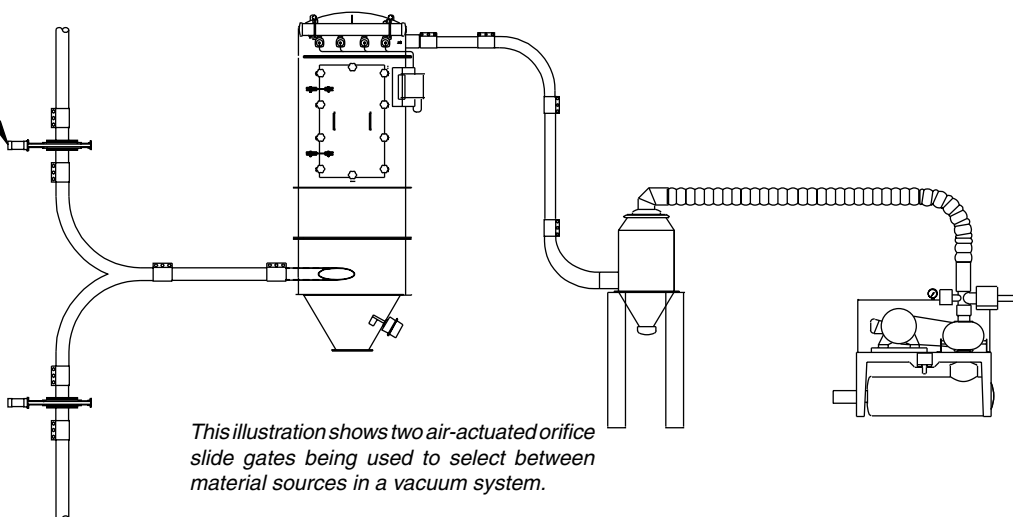
ACTUATORS

The gates are shipped with air-actuated assemblies. The actuator requires 5.5 - 6.9 bar(g) [80-100 psi(g)] (maximum 13.8 bar(g) [200 psi(g)]) of air. Dry, filtered, and lubricated compressed air is recommended. The actuator is air powered in both directions. Control of the air actuator is accomplished through a gate-mounted solenoid. The standard air actuator does not provide for intermediate positioning between open and closed.

This illustration shows an air-actuated orifice slide gate being used to control the gravity discharge of a scale hopper.



Air-Actuated Orifice Slide Gate



This illustration shows two air-actuated orifice slide gates being used to select between material sources in a vacuum system.

SOLENOIDS

Solenoid valves are used to control the air actuator. They require 24 VDC power and are shipped assembled to the gate.

A single solenoid powers the gate in one direction. When the current to the solenoid is interrupted, the valve and blade return to the original position. The standard orifice gate is closed in the absence of power, and open when power is applied. The opposite configuration (power to close and remove power to open) can be accomplished by reversing the air line connections from the solenoid to the actuator.

The single solenoid should be selected in applications where one position (either open or closed) is temporary; or where the gate is required to close or open automatically upon electrical failure.

PROOF SWITCHES

The slide gates can be equipped with single-pole single-throw (SPST) position proof switches. They are mounted and adjusted prior to shipment.

Single-pole single-throw switches provide one set of contacts for each position. SPST switches are adequate for all position information required by the control panel and should be selected unless special requirements exist.

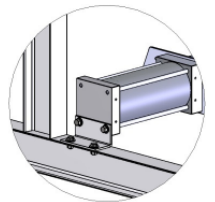
SPECIAL OPTIONS

Coperion K-Tron slide gates can be ordered with different materials of construction, actuators, switches, and/or solenoids on a special order basis. Please check with our Customer Service Department for availability, price, and delivery.

WEIGHT CONSIDERATIONS

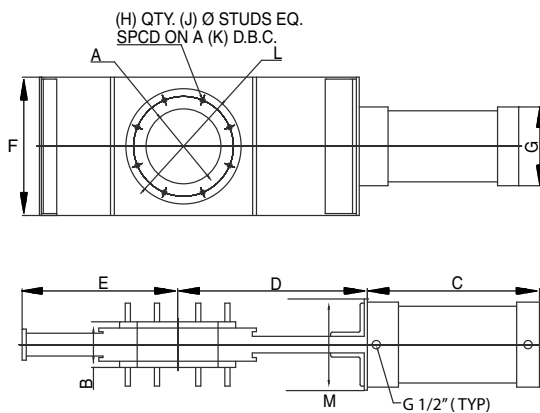
- Avoid supporting excess weight, or hanging excess weight from Orifice gate products.
- As a general rule, weights greater than 90 kg [200 lb] should not be supported by and hung from the gate.
- Large gates 250 mm [10 in] and larger require support of the actuators to assure proper blade alignment.

The recommended method of support for equipment, shown right, should be at the rear of the actuator. Support of the actuator may be accomplished several ways with the primary purpose of maintaining the parallel alignment of the blade and actuator. Support should be substantial enough to carry a minimum of 135 kg [300 lb].

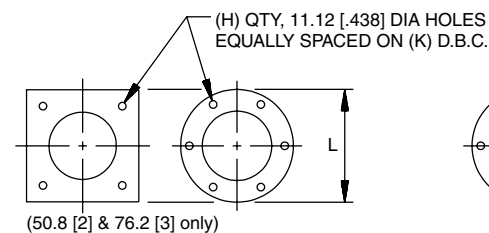


Special consideration may need to be made for equipment attached to vibrating bin bottoms.

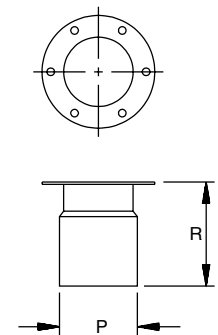
AIR-ACTUATED ORIFICE SLIDE GATE



TUBE ADAPTERS



PIPE ADAPTERS



Size / N See NOTE	B* mm [in]	C mm [in]	D mm [in]	E mm [in]	F mm [in]	G mm [in]	H	J Metric Thread	J Imperial Thread	K mm [in]	L mm [in]	M mm [in]	P mm [in]	Q mm [in]	R mm [in]
50.8 [2]	54.0 [2.13]	171.5 [6.75]	190.5 [7.5]	152.4 [6]	181.0 [7.13]	85.7 [3.38]	4	M8-1.25 x 30	5/16-18 NC x 1.125	98.4 [3.88]	120.7 [4.75]	101.6 [4]	60.32 [2.375]	76.2 [3]	127 [5]
76.2 [3]	54.0 [2.13]	215.9 [8.5]	228.6 [9]	200.0 [7.88]	206.4 [8.13]	104.8 [4.13]	4	M8-1.25 x 30	5/16-18 NC x 1.125	127.0 [5]	146.1 [5.75]	114.3 [4.5]	88.9 [3.5]	76.2 [3]	127 [5]
101.6 [4]	60.3 [2.38]	241.3 [9.5]	276.2 [10.88]	235.0 [9.25]	231.8 [9.13]	130.2 [5.13]	6	M8-1.25 x 25	5/16-18 NC x 1	139.7 [5.5]	171.5 [6.75]	146.0 [5.75]	114.3 [4.5]	76.2 [3]	152.4 [6]
127 [5]	60.3 [2.38]	266.7 [10.5]	320.7 [12.63]	276.2 [10.88]	257.2 [10.13]	130.2 [5.13]	8	M8-1.25 x 25	5/16-18 NC x 1	165.1 [6.5]	190.5 [7.5]	146.0 [5.75]	141.3 [5.563]	101.6 [4]	152.4 [6]
152.4 [6]	60.3 [2.38]	298.5 [11.75]	355.6 [14]	314.3 [12.38]	282.6 [11.13]	139.7 [5.5]	8	M8-1.25 x 25	5/16-18 NC x 1	190.5 [7.5]	215.9 [8.5]	146.0 [5.75]	168.2 [6.625]	101.6 [4]	152.4 [6]
203.2 [8]	60.3 [2.38]	349.3 [13.75]	431.8 [17]	390.5 [15.38]	333.4 [13.13]	139.7 [5.5]	8	M8-1.25 x 25	5/16-18 NC x 1	241.3 [9.5]	266.7 [10.5]	146.0 [5.75]	219.0 [8.625]	152.4 [6]	152.4 [6]
254 [10]	66.7 [2.63]	425.5 [16.75]	511.2 [20.13]	466.7 [18.38]	387.1 [15.24]	165.1 [6.5]	8	M8-1.25 x 30	5/16-18 NC x 1.125	292.1 [11.5]	317.5 [12.5]	190.5 [7.5]	273.0 [10.75]	152.4 [6]	152.4 [6]
304.8 [12]	66.7 [2.63]	476.3 [18.75]	587.4 [23.13]	542.9 [21.38]	441.3 [17.38]	165.1 [6.5]	12	M8-1.25 x 30	5/16-18 NC x 1.125	350.8 [13.81]	381.0 [15]	190.5 [7.5]	323.8 [12.75]	152.4 [6]	152.4 [6]
355.6 [14]	66.7 [2.63]	527.1 [20.75]	676.3 [26.63]	619.1 [24.38]	492.1 [19.38]	165.1 [6.5]	12	M10-1.5 x 30	3/8-16 NC x 1.125	406.4 [16]	431.8 [17]	190.5 [7.5]	[N/A]	152.4 [6]	[N/A]

NOTE: Dim. A = Size minus 6 [.25]

* Add 5 [.188] when special service inlets are used.