

# Wallace & Tiernan® Gas Feed Systems Series 55-400 Remote Vacuum Switchover

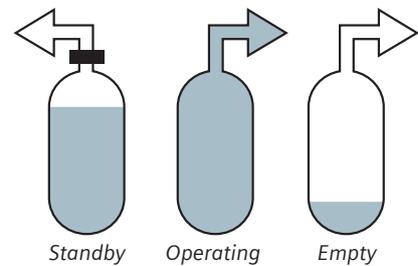
The Series 55-400 remote vacuum switchover unit is designed to provide unattended automatic switchover to a fresh gas supply when the on-line supply is exhausted. This remote-mounted unit provides for vacuum manifold of multiple gas containers for high capacity feedrates up to 4000 ppd (1800 kgs/day) of chlorine or its equivalent. The unit is installed in the vacuum gas feed line between separate banks of vacuum regulating valves and the gas control unit of a new or existing gas feed disinfection system.

## Features

- Non-isolating switchover allows gas to continue to be withdrawn from the depleted supply after switchover to ensure that the supply containers are completely emptied. Manual by-pass valves are not required.
- Switchover is automatic, initiated by an increase in the vacuum level. Operator attention is required only for replacing the empty containers and resetting the switchover unit.
- A manual release button allows operator to initiate switchover for service or calibration requirements.
- Easy to read icons provide positive indication of operating status. The operator can tell at a glance whether the bank of containers is in the standby status, operating or empty. Each bank has a separate icon.
- Suitable for high capacity use with chlorine or sulfur dioxide up to 4000 ppd, (1800 kgs/day) or ammonia up to 1900 ppd (860 kgs/day).
- Optional status contact available for remote indication of switchover.

## Key Benefits

- Wall or panel mounted for operator convenience.
- Switchover is automatic
- Each bank has a separate icon.



## Product Sheet

## Technical Data

### Operational temperature

10 to 130°F (-12 to 55°C)

### Operational vacuum

10 - 115" water (H<sub>2</sub>O)

### Switchover vacuum level

105 - 115" water (H<sub>2</sub>O), nominal

### Maximum flow rate

4000 lbs./day (1800 kgs/day) chlorine

4000 lbs./day (1800 kgs/day)

sulfur dioxide 1900 lbs./day

(860 kgs/day) ammonia

### Connections

1" NPT for both gas inlets and for gas outlet

### Dimensions

8" (203) W x 6.5" (165) L x 7" (178) H

(See WT.055.400.100.UA.CN & WT.055.400.200.UA.CN)

### Weight

4.5 lbs (2 kgs)

### Remote Status Contact (Optional)

Switch Rating: 24-240 VAC, 1.2 amps

6-foot 2-conductor cable supplied

## Operation

The remote switchover unit is designed to control and indicate the flow of gas under vacuum from two separate banks of gas storage cylinders. It provides a means of initially isolating one bank of cylinders, and then, at the achievement of a certain vacuum level in the gas vacuum feed line, opening this isolated bank of cylinders to allow gas feed from them. The unit is designed to be installed with, or into an existing, gas feed water disinfection systems.

Most gas disinfection systems utilize some form of gas storage cylinders for the on-site storage of the disinfection chemical. These cylinders are usually in the form of 150 or

2000 pound (68 to 900 kgs) (one ton) containers. The gas storage systems are commonly arranged in two "banks" of cylinders. Each bank typically consists of from one to six or more cylinders manifolded together. Each cylinder may have its own standard vacuum regulator (all vacuum piping) or several cylinders may be manifolded into a single and/or standard vacuum regulator (cylinder manifold under pressure).

Since these types of disinfection systems usually operate unattended for extended periods of time, there is a requirement for a means to draw from one bank of cylinders until they are empty and then automatically switch to the other bank. While the system is drawing from the second bank, the empty first bank can be replaced with full cylinders—allowing uninterrupted operation of the disinfection system.

The remote switchover device functions by sensing the gas feed vacuum level. In operation of the gas feed system, as the first bank of cylinders near the empty condition, the vacuum level in the gas supply line between the vacuum regulator(s) and the gas feed equipment rises from the nominal value of 20" to 40" H<sub>2</sub>O. When the gas feed vacuum level reaches the set point of the switchover device, the device will trip.

On tripping, the unit opens the gas flow to both the first and second banks of cylinders. It is important to note that upon switchover, the device does not isolate the empty bank of cylinders from the system. This allows the removal of any residual gas in the empty cylinders and prevents the return of partially empty cylinders. Because of this, the device is classified as a non-isolating switchover device.

Once the empty containers have been replaced and the individual vacuum regulators are set in the operating position, the remote vacuum switchover unit is then placed in the standby mode for the new bank of containers. This simply requires that the operating knob be rotated into the standby position as indicated by the status icon. Gas does not feed from this new supply bank until after the on-line supply is depleted and switchover has occurred.

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