



# TubeJet® Dust Collector Application Guide

Top or Side Bag Removal

- Rectangular
- Cylindrical
- Low or High Pressure

# Uncertain About Air Quality Compliance?

- **Does CAAA Title V have you stumped?**
- **Is OSHA on your back?**
- **Are you losing valuable product from your process?**
- **Are fugitive PM10 emissions getting you noticed by all the wrong people?**

## Deal with the Company that Invented Dust Collectors

Sly Inc. is the original patentee of the cloth type dust filter. Our experience with dust collection began in 1899. Dealing with a company with more than a century of application, design, and fabrication experience is a distinct advantage to you.



*Snap ring filter bags and pulse pipes are removed and installed without tools on the STJ and CTR models.*



# Four Types of Pulse-Cleaned Dust Collectors

## Top Bag Removal—Rectangular

### TubeJet® STJ Rectangular Collectors Feature Tool-less Bag Changes

Dust collection has never been easier. Filter bag changes require no tools with Sly pulse jet collectors. The TubeJet's unique tool-less pulse pipe connection and rugged snap ring bag assembly make it possible. Large weather-proof doors on the collector's roof allow easy access for inspection and maintenance. Each unit is



shipped complete with factory-installed pulse valves, solenoid valves and a solid state timer.

## Top Bag Removal—Cylindrical

### TubeJet CTR Cylindrical Collectors For High Pressure/High Vacuum Applications

Sly cylindrical collectors are designed for demanding process system use. All-welded construction permits vacuum/pressure ranges of  $\pm 20$ " WG,  $\pm 100$ " WG and  $\pm 17$ " Hg. Explosion containment or ASME code design is available for special applications.



Round walls make interior cleaning easy, as well as eliminating "cold spots" in high heat applications.

## Side Bag Removal—Rectangular

### TubeJet® SBR Rectangular Side Bag Removal Collectors

For applications with limited headroom or requiring relatively few bags. These collectors feature efficient on-line pulse cleaning with access from the side for bag changes. An economical solution for bin venting and low volume applications.



## Side Bag Removal—Cylindrical

### TubeJet CBR Cylindrical Side Bag Removal Collectors For High Pressure/High Vacuum Applications

These collectors have many of the same high pressure/high vacuum capabilities as the CTR style and are designed with access from the side for bag changes.



# On-Line Cleaning Means Steady Pressure Drop

An even pressure drop is maintained by all Sly TubeJet collectors by periodic on-line compressed air cleaning. This low volume air is multiplied by an efficient venturi design which effectively cleans the entire length of the filter bag. Because Sly makes all of its own collectors, we can custom design a variety of valve sizes and venturi combinations to meet any demanding process.

## **BACT, RACT, MACT... We Can Meet Them All**

Compliance with current air quality codes is assured by our standard TubeJet Collector.

Our years of experience have been resourced to engineer the TubeJet with the most current research and technology to meet the most stringent emission requirements.

## **And, Because It's a Sly...Heavy Duty Construction is Standard**

Standard filter housings are designed for positive or negative pressures and protected by two coats of paint. Heavy structural supports, and weatherproof construction are standard. There are no internal moving parts in any Sly TubeJet collector.



## Quality • Reliability • Value TubeJet Specifications

- ✓ **Low cost, easy maintenance** - Tool-less pulse pipe removal can only be installed one way.
- ✓ **Reduced down-time** - Bag changes completely tool-less. Bag provides optimum cloth area with minimum bag quantities.
- ✓ **Quick low cost installation** - Factory installed timer (NEMA 4 enclosure) complete with conduit and wired solenoids.
- ✓ **Trouble free installation** - Factory installed air header and pulse valves complete with tubing.
- ✓ **Reduced initial costs** - Factory applied primer on all internal and external surfaces with finish coat of enamel after assembly.
- ✓ **Easy inspection and maintenance** - Large access doors for ease of inspection and maintenance.
- ✓ **Longer bag life** - Low velocity diffuser inlet to decrease turbulence and initiate product/gas separation.
- ✓ **High filter efficiency** - Snap ring bag provides optimum filter seal. (STJ & CTR)
- ✓ **Dependable product discharge** - Hopper configured with 60° slope.
- ✓ **Steady air flow/low pressure drop** - Multi-pulse adjustable solid state timer allows for fine tuning of cleaning system.
- ✓ **Low compressed air consumption** - Contacts on timer board allow easy addition of pressure switch for "on demand" cleaning regulated by collector pressure drop.
- ✓ **Optimum cleaning/minimum wear** - 11 ga., 12 vertical wire heavy duty galvanized cages with horizontal rings on 8 in. centers with venturi assemblies.
- ✓ **Rugged construction** - Heavy gauge welded construction for operation to ±20" WG, (±100" WG to ±17" Hg optional CBR & CTR)
- ✓ **Easy bag assembly/change** - Cage/venturi assembly equipped with bail for tool-less removal. (STJ & CTR)
- ✓ **Quality, reliability and value** - Total manufacturing and quality control because Sly makes it with pride in our own shop.



*Two TubeJet collectors vent sand handling operations at this foundry. Each collector is rated for 60,000 ACFM.*

*This TubeJet collector is entrusted with all particulate collection, including gold, that comes from this gold producer's refining furnace. Reclamation of valuable materials is often a goal of our customers.*





*Limestone crusher and slurry mixer at a major coal-burning utility are ventilated by this TubeJet collector handling 10,000 ACFM .*



*We can handle the big jobs, too! This 35,000 CFM TubeJet collector was shipped in three sections: walk-in plenum, filter housing, and trough hopper.*



*Two TubeJet collectors handle carbide dust and blast machine dust at this manufacturer. Unit at left handles 20,000 CFM; at right 60,000 CFM.*



*Two TubeJet collectors remove limestone dust from a utility scrubber dumping station. Each collector handles 11,000 ACFM.*

# The Highest Quality Filter Bags Available

Sly filter bags are made of the highest quality fabrics and finishes available worldwide. Our in-house filter bag design and fabrication guarantees compliance with your most stringent requirements due to our precise manufacturing standards and quality control.



## Durable Cage and Venturi

The Sly TubeJet cage is constructed of 11 gauge galvanized wire. Standard design uses 12 vertical wires with horizontal rings on eight inch spacing. An integral venturi and bail handle

are supplied with STJ and CTR models for easy removal. The 12 wire design extends bag life by providing extra support. Coated cages and special materials of construction are available.

Also available are special venturi/cage assemblies designed to suit the most demanding applications.

## Filter Properties

Filter Media	Tensile-Strength	Abrasion Resistance	Organic Acids	Resistance-Alkalies	Supports Combustion	Oxidizing Agents	Organic Solvents	Recommended Max. Operating Temp. °F Continuous
Copolymer Acrylic	Average	Average	Very Good	Fair	Yes	Good	Very Good	240
Du Pont Nomex®	Very Good	Very Good	Poor	Very Good	No	Poor	Very Good	375
Fiberglass	Excellent	Poor	Good	Good	No	Excellent	Very Good	500
Homopolymer Acrylic	Average	Average	Very Good	Fair	Yes	Good	Very Good	280
P-84	Very Good	Good	Very Good	Fair	No	Very Good	Excellent	500
Phillips Ryton®	Very Good	Average	Excellent	Excellent	No	Poor	Excellent	360
Polyester	Excellent	Excellent	Good	Fair	Yes	Good	Good	275
Polypropylene	Excellent	Good	Excellent	Excellent	Yes	Good	Excellent	190
Teflon	Average	Below Average	Excellent	Excellent	No	Excellent	Excellent	450

\*Various fabric finishes are available to suit application.

## What We Need to Know to Recommend the Correct Filter System

- Gas volume
- Process description
- Particulate size (microns)
- Temperature
- Nature of dust
- Particle bulk density

## Glossary of Terms

### Air-to-Cloth Ratio/Filtering Velocity

The air volume (CFM) divided by gross cloth area (sq. ft.):

$$\frac{\text{cu.ft./min.}}{\text{Sq.Ft.}} = \text{Air-to-Cloth Ratio/FPM}$$

### Grain loading

A dust weight unit: 7000 grains equal one pound.

$$\frac{7000 \text{ grains} \times \text{lbs./min.}}{\text{cfm}} = \text{grains/cu. ft.}$$

### Cloth Weight

Filter fabric is expressed in ounces per square yard.

### Temperature/Dew Point

Temperature/Dew Point is the temperature at which the condensation of water vapor begins for a given humidity and temperature. This corresponds to complete saturation (100% relative humidity – the temperature at which the air can hold no more water vapor). Maintenance of equipment above process gas dewpoint insures efficient operation of dust collection equipment.

# Sly's Approach to Air Pollution Control:

- conservative design
- flexible engineering
- controlled manufacturing
- comprehensive field services

Many companies make air pollution control equipment, but none have been doing it as long as Sly.

Nearly a century has passed since our original patent for cloth dust filters. Over the years, we've learned plenty about the application and fabrication of dust collectors and scrubbers. Here are the main points:

**"In the pollution control business, conservative application of technology is best."**

Equipment misapplication has no place in the pollution control business. Not only is improper equipment apt to fall short of collection requirements, it is oftentimes more expensive to operate than the proper machinery. For example, incorrect sizing and improper media choice can easily lead to excessive maintenance and costly downtime.

When you deal with Sly, we have your best long term interests in mind.

**"We believe in fitting the equipment to the customer's needs, not the customer to the equipment's capabilities."**

Unlike many equipment suppliers, we refuse to mass-produce product and then hope for a good fit. We have maintained flexibility in our engineering techniques which permits us to manufacture each order to fit the task at hand, while maintaining a price to you that is comparable to mass-produced equipment.

In many cases it costs no more to get the very best equipment for the job.

This approach earns us the respect and repeat business of many sophisticated buyers of pollution control equipment. These people,

many of whom buy dozens of collectors or scrubbers every few years, have always represented a large portion of our customer base.

**"We build our own equipment...for some very good reasons."**

Part of the reason Sly can custom-make a collector for you while keeping a competitive price is just that: we **are** the manufacturer. Unlike the majority of our competitors, we **don't** job out our production. We do our own engineering, metal fabrication, painting, assembly, quality control, and laboratory R&D. This way we control every step of the process, allowing us great flexibility to build the best collector or scrubber for your individual needs. We have a strong commitment to shipping dates and routinely guarantee ship dates when requested.

**"Our obligation to the customer doesn't end when the equipment is shipped."**

Sly's staff engineers can promptly assist you in troubleshooting or with other field service problems should they arise at your facility. This commitment to total customer support helps guarantee superior value for your investment.

**"We're a private company, and intend to stay that way."**

The corporate restructurings and short term goals of today's business scene aren't for us. Sly is owned and operated by descendants of the founding family. We are in the business for the long run, and will maintain the professionalism and continuity required to contribute to the long term success of your business.



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