



solutions for  
Stone, Sand and Gravel

[www.sturtevantinc.com](http://www.sturtevantinc.com)

# Dedust Fines without Water

Quarries crush and size rock to produce coarse aggregates and road construction materials which must meet precise specifications. The crushing process produces dust and fines unsuitable for many end customers so dust removal is critical using a wet wash system or a dry air classification system.

## Remove Undesirable Fines From Aggregate

Quarries and aggregate producers use screening or wet wash systems as well as air classification to remove undesirable fines and produce high quality sand for use in asphalt or concrete. Wet wash systems can include dewatering screens, belt presses, hydrocyclones and wash screws. The physical space required for properly sized settling ponds may not exist at a plant site or the cost and time involved in maintaining settling ponds may be excessive. In addition, water and its regulation is increasingly expensive and can be impossible to obtain especially in remote areas. Washing methods can require excessive time, equipment and water, making the process inefficient and uneconomical. An alternative that many producers have successfully implemented for more than 100 years is the Sturtevant Whirlwind® Air Classifier.

### EXAMPLE OF LIMESTONE PERFORMANCE IN WHIRLWIND® 2.5% moisture

Product Size	Feed	Dedusted Product	Fines
-8 mesh	80.8%	78.5%	98.6%
-16 mesh	59.4%	51.2%	96.6%
-30 mesh	46.0%	34.7%	94.8%
-50 mesh	35.8%	22.4%	91.9%
-100 mesh	27.2%	12.8%	85.5%
-200 mesh	18.6%	6.6%	72.4%

#### Advantages:

- mesh fines
- Up to 1200-TPH capacity

## The Sturtevant Whirlwind® Air Classifier

The Sturtevant Whirlwind® Air Classifier is specifically designed to effectively remove fines from aggregates without screening or wet washing. The Whirlwind® will increase your production capacity while maintaining quality standards, reduce maintenance time and improve plant uptime.

The Whirlwind® Air Classifier is engineered for the rigors of aggregate separation and provides our customers with a quality-built product with the long equipment life they demand. The Whirlwind® Air Classifier has capacities up to 1200-tons per hour and offers an exceptional ability to achieve a wide range of separations.

### The Whirlwind's® features allow precise definition of the desired size product while delivering the following benefits:

- **Cost savings:**  
or land restoration
- **Lowest capital cost:** No auxiliary air locks, or system fans
- **Flexibility:** Stationary available
- **Reduction of operating expenses:**  
energy consumption and low maintenance
- **Built to Last:**
- **Handled mixtures:**  
applications
- **Sellable product:** Sell dry animal feed or fillers

# The Sturtevant Advantage

Sturtevant offers a global network of sales and service representatives serving customers and installations worldwide. The company delivers the industry's best service, experience and reliability ensuring customer satisfaction and the competitive advantage they demand.

## Service

- reliable problem solving
- A skilled field service team providing equipment and field inspection of existing installations

## Experience

- Sturtevant has been performing for over 100 years with thousands of installations worldwide.
- Sturtevant employees average over 20 years of service
- More accessories than any other manufacturer

## Reliability

- 4th generation of family management
- Made in the USA with domestic manufacturing
- Over 60% of our sales are repeat customers



*Sturtevant Whirlwind® Air Classifier*



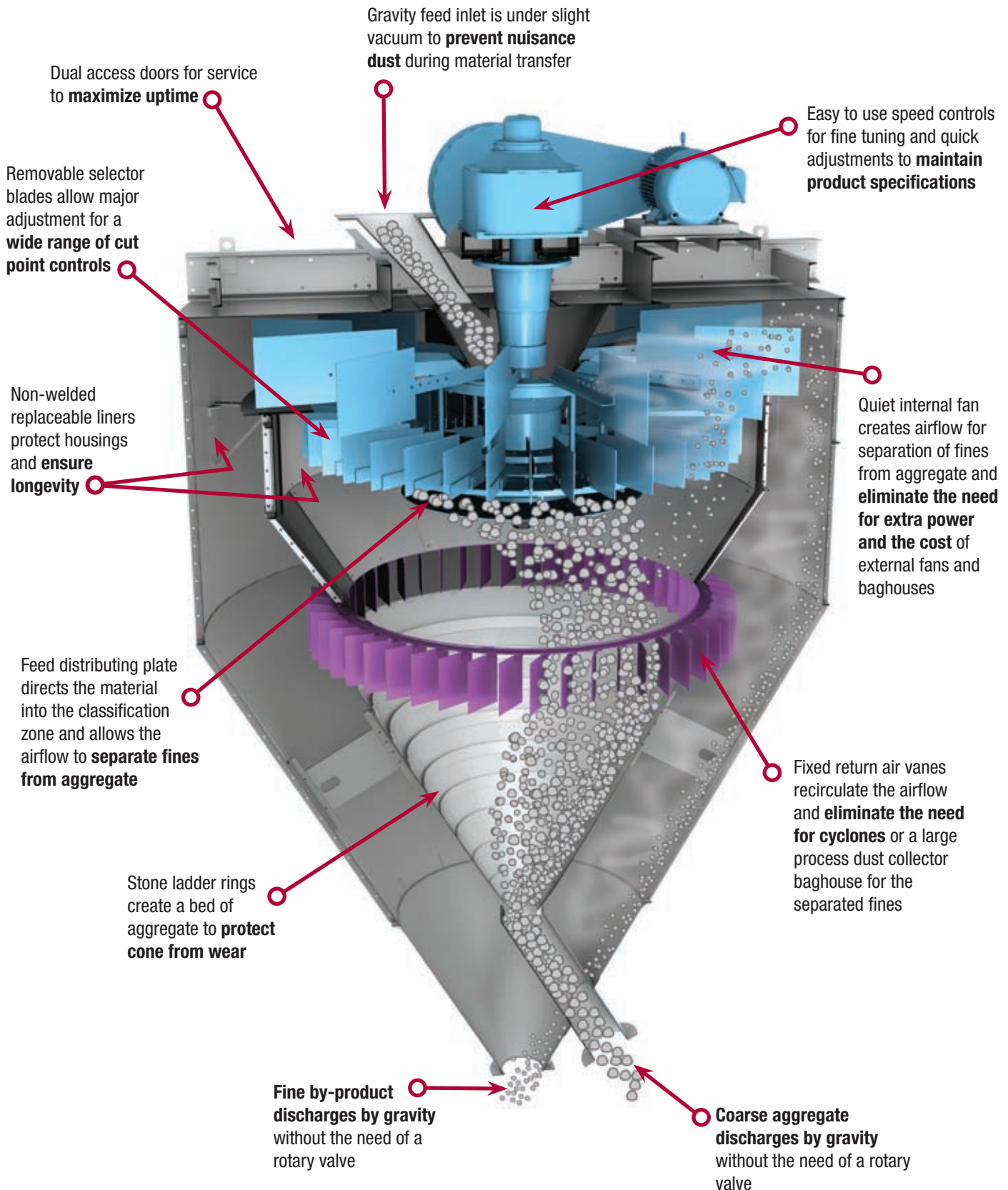
Sturtevant has sold over 5,000 air classifiers making us the world's most trusted supplier of air classification.



# Stationary Whirlwind<sup>®</sup> Air Classifier

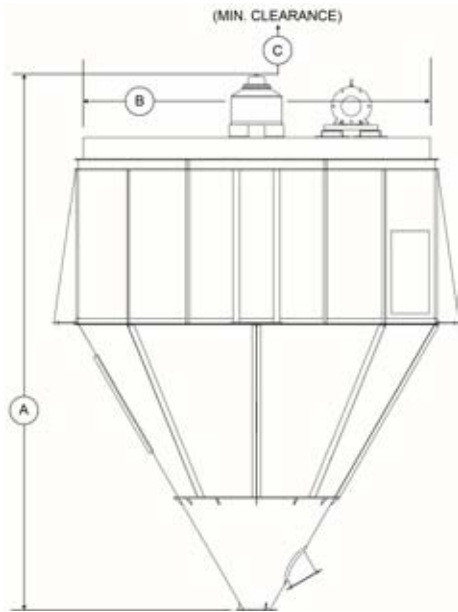
## Benefits:

- Simple construction, low maintenance
- No screens to wear, blind or tear



- Eliminates the need for auxiliary equipment
- Energy efficient, saving time and money

## Benefits:



### WHIRLWIND® AIR CLASSIFIER

Size	Height A (FT)	Height A (MM)	Diameter B (FT)	Diameter B (MM)	Min. Clearance C (FT)	Min. Clearance C (MM)	Approx. Weight (LBS)	Approx. Weight (KG)	HP	Air Flow (CFM)	Feed Rate (tons/hr:min.-max.)
20"	3' 9"	1143	2' 5"	737	1' 9"	533	650	295	5 - 7.5	25 - 50	0.5-1
3'	6' 7"	2007	3' 3"	991	3' 0"	914	1,500	680	7.5 - 10	65 - 125	2-5
4.5'	8' 8"	2642	4' 10"	1473	3' 0"	914	2,400	1089	10 - 15	75 - 150	5-10
6'	10' 9"	3277	6' 4"	1930	3' 8"	1118	6,800	3084	15 - 25	90 - 175	10-20
8'	13' 0"	3962	8' 4"	2540	4' 8"	1422	9,500	4309	20 - 30	150 - 300	20-40
10'	15' 8"	4775	10' 4"	3150	4' 8"	1422	13,000	5897	30 - 40	190 - 375	30-60
12'	19' 1"	5817	12' 4"	3760	5' 6"	1676	18,500	8392	40 - 50	275 - 550	40-90
14'	21' 1"	6426	14' 5"	4394	5' 6"	1676	21,500	9752	50 - 75	400 - 800	50-120
16'	24' 5"	7442	16' 5"	5004	6' 3"	1905	31,000	14061	100 - 150	675 - 1,350	90-200
18'	27' 7"	8407	18' 5"	5613	8' 9"	2667	50,000	22680	250 - 300	1,000 - 2,000	150-300
20'	30' 9"	9373	20' 5"	6223	9' 0"	2743	68,000	30844	350 - 400	1,500 - 3,000	200-400
22'	33' 0"	10058	22' 5"	6833	9' 0"	2743	87,000	39463	450 - 500	2,000 - 4,000	300-600
24'	35' 10"	10922	24' 5"	7442	10' 9"	3277	117,000	53070	600 - 700	2,500 - 5,000	400-900
26'	38' 9"	11811	26' 5"	8052	10' 9"	3277	125,000	56699	600 - 800	3,000 - 6,000	600-1200

Measurements are for general reference only. Please consult dimensional drawings for exact measurements.



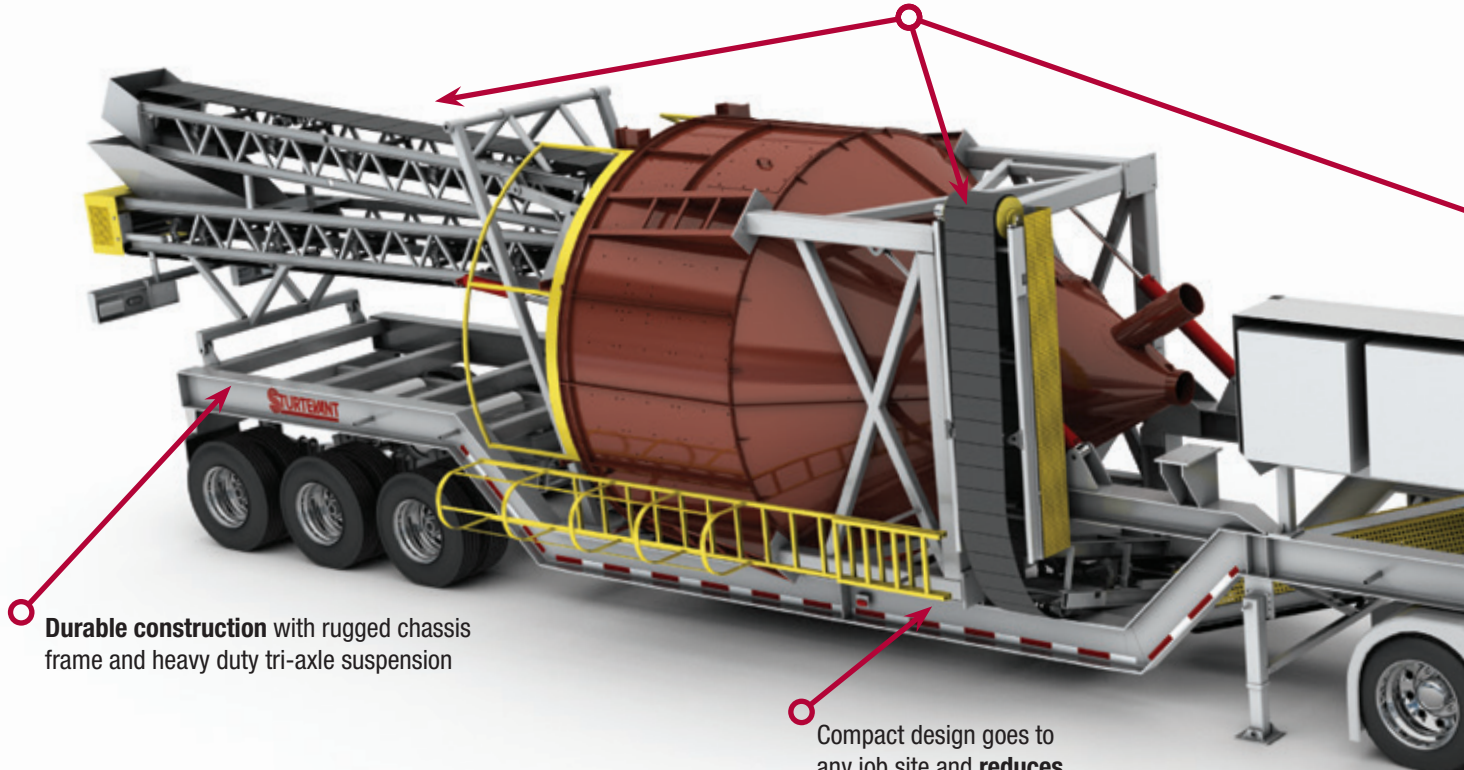
# Mobile Whirlwind® Air Classifier

## Benefits:

- Integral collapsible conveyors
- Fastest setup to process system available

## Travel Mode

Air classifier and three integral conveyors hydraulically fold away for **safe and easy break down and transport**



**Durable construction** with rugged chassis frame and heavy duty tri-axle suspension

Compact design goes to any job site and **reduces transportation costs**

50 HP motor with variable frequency drive for **low energy consumption**

Automatic lubrication system for **low maintenance**

Low feed conveyor height **eliminates the need for intermediate conveyor**

Rugged time-tested gear unit drive mechanism for **long-life operation**

## Operational Mode

Discharge conveyors **maximize productivity** with greater stockpile heights

Fine byproduct discharge conveyor

Dedusted aggregate product conveyor

Dual hydraulic cylinders for **raising and lowering air classifier and conveyors**

Covered conveyors for **safety and dust containment**

- Compact design reduces transport costs
- Reduces cost of shipping manufactured sand

## Benefits:

- Get set-up and operational or tear down for transport in 1 hour or less
- No cranes, boom trucks or loaders needed



### WHIRLWIND® MOBILE AIR CLASSIFIER CHASSIS

	Approximate Weight		Length		Width		Height	
	(LBS)	(KG)	(FT)	(M)	(FT)	(M)	(FT)	(M)
Travel Mode	62,000	28,000	61' 9"	18.82	12' 7"	3.83	13' 5"	4.09
Operational Mode	62,000	28,000	71' 9"	21.87	19' 9"	6.02	23'	7.01

### WHIRLWIND® AIR CLASSIFIER

HP	Approximate Weight		Height		Diameater		Air Flow Vent (CFM)	Feed Rate (TPH)
	(LBS)	(KG)	(FT)	(M)	(FT)	(M)		
40 - 50	18,500	8392	19' 1"	5.82	12' 4"	3.76	275 - 550	40-90

Measurements are for general reference only. Please consult dimensional drawings for exact measurements.

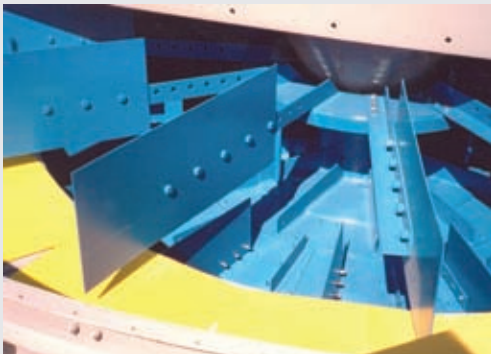
# Whirlwind® Performance

## Benefits:

- Low capital cost
- Low energy consumption



*No auxiliary equipment*



*Easy access and simple maintenance*



*Stone ladder rings for abrasion protection*

### LIMESTONE

3.0% moisture

Product Size	Feed	Dedusted Product	Fines
-8 mesh	83.7%	83.0%	99.0%
-16 mesh	49.5%	47.3%	97.1%
-50 mesh	18.5%	15.3%	95.2%
-100 mesh	13.5%	8.0%	88.0%
-200 mesh	9.5%	4.1%	79.0%

### LIMESTONE

2.5% moisture

Product Size	Feed	Dedusted Product	Fines
-8 mesh	80.8%	78.5%	98.6%
-16 mesh	59.4%	51.2%	96.6%
-30 mesh	46.0%	34.7%	94.8%
-50 mesh	35.8%	22.4%	91.9%
-100 mesh	27.2%	12.8%	85.5%
-200 mesh	18.6%	6.6%	72.4%

### LIMESTONE

1.5% moisture

Product Size	Feed	Dedusted Product	Fines
-8 mesh	80.8%	70.0%	100%
-16 mesh	59.4%	40.2%	99.9%
-30 mesh	46.0%	25.8%	99.9%
-50 mesh	35.8%	16.3%	99.9%
-100 mesh	27.2%	9.3%	96.2%
-200 mesh	18.6%	4.4%	83.0%

### DIABASE ROCK

2.0% moisture

Product Size	Feed	Dedusted Product	Fines
-100 mesh	25.1%	9.3%	78.1%
-200 mesh	19.2%	6.1%	61.1%
-230 mesh	18.4%	5.9%	54.3%



- Built for 75 year service life and longer
- Handles any stone product with ease

## Benefits:

### GABBRO ROCK 0.5% moisture

Product Size	Feed	Dedusted Product	Fines
-50 mesh	18.4%	9.0%	98.5%
-100 mesh	12.8%	3.2%	96.3%
-200 mesh	9.7%	1.0%	83.5%

### ANDESITE ROCK 1.5% moisture

Product Size	Feed	Dedusted Product	Fines
-100 mesh	16.0%	3.7%	64.3%
-200 mesh	10.8%	2.6%	50.0%

### SANDSTONE 2.0% moisture

Product Size	Feed	Dedusted Product	Fines
-4 mesh	95.5%	95.5%	99.6%
-10 mesh	59.5%	51.5%	96.8%
-40 mesh	38.0%	22.8%	93.0%
-80 mesh	33.6%	17.3%	91.6%
-100 mesh	30.4%	13.5%	90.5%
-200 mesh	21.6%	6.1%	74.7%

### GRANITE 1.0% moisture

Product Size	Feed	Dedusted Product	Fines
-120 mesh	26.5%	8.3%	82.8%
-200 mesh	18.5%	3.8%	66.1%
-230 mesh	16.5%	2.7%	59.5%



*Feed capacities up to 1200 TPH*



*Remove 100, 200, 230 or 325 mesh fines*



## Company History

Sturtevant was founded in the state of Maine in 1883 by Thomas L. Sturtevant, who recognized the need to limit human exposure to harmful fumes and acids common to the fertilizer industry. He designed the Mechanical Den and Excavator, a machine which revolutionized the batch processing of super-phosphate.

During the late 1800's Laurance H. Sturtevant, a son of the founder, and Thomas J. Sturtevant, T.L.'s nephew, joined the Company. T.J. Sturtevant, an M.I.T. graduate, was an engineer and inventor whose genius, coupled with the design, and application talents of the other Sturtevants, provided the company with its initial thrust.

In the early 1900's, designs were made for crushing, grinding, blending, mixing and related material handling equipment. Venturing into the automotive field in 1904, T.J. designed the first automatic transmission. Other diversifications included a Bale Pulper for the paper industry and stainless steel control valves for industrial purposes.

In 1920, the company took over the Newaygo Screen Company. In redesigning those products, Sturtevant added to its line a vibrating type of screen for the fertilizer industry. During the 1930's, the Sturtevant Air Separator represented a cutting edge technology, developing the predominant method of making cement. In the 1940's, the firm participated in the WWII effort by servicing Navy yards and the chemical industry. The post war era created massive demand for cement in the construction industry, to which Sturtevant responded. In the 1950's, Sturtevant introduced an ultra-fine grinder, the Micronizer®, and developed pulverizers that introduced a new concept of fine grinding by impact.

For decades the Company continued to innovate and advance technology while remaining a family institution. The tradition of family management has continued from its inception to the present and is currently in its fifth generation.

To this day, Sturtevant continues to lead the way in unique applications-based systems to meet the demands of a developing market. The company delivers **Service, Experience and Reliability** that ensure customer satisfaction and the competitive advantage that its customers demand.



*The early years of engineering and innovation.*



*The Sturtevant's designed the first automatic transmission automobile in 1904. US Patent #766551 was the first of several patents on their gearshift mechanism.*

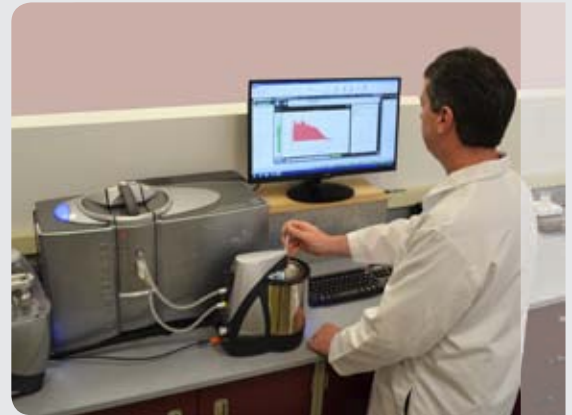




## Put Sturtevant to the Test

Don't just take our word for it, let us prove how you can separate fines from your aggregates and reach your desired goal. Customers regularly send in their aggregate and visit Sturtevant to witness separation tests in our laboratory and testing facility.

Sturtevant's fully equipped laboratory and test facility in Hanover, MA can test separate aggregates and analyze the aggregate size distribution. Customers will benefit from hands-on experience, equipment operator training and technical presentations. Contact us to arrange a test date and experience our service and reliability.



*Particle size analysis*



*Sturtevant's test facility*



## Field Services

- Sturtevant's services include the installation and start-up of new equipment.
- Sturtevant's services include field inspection to evaluate your machine's performance.
- Sturtevant's services include providing operator training.







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