



Dynamic Bulk Systems, Inc. proudly represents the following quality manufacturers:

636-343-4300

Pneumatic Conveying and Dust Collection

schenckprocess
www.schenckprocess.com

- All Types of Pneumatic Conveying
- Conveying & Dust Collection Test Labs
- Pulse Jet Filters; Reverse Air Collectors; H.E. Cyclones
- Rotary Airlocks; Blower Packages; Piping Systems; Diverters
- Engineered Central Vacuum Cleaning Systems

Auburn FilterSense

- Particulate Monitoring and Control Solutions
- TRIBO Dust/Smoke Emission Monitoring
 - Leak Detection; Flow Measurement
 - Baghouse Control and Diagnostics



- Explosion Suppression/Isolation
- Explosion Venting; Testing
- www.bsipd.com

Mechanical Conveying, Gates/Valves, and Packaging



- Material Handling Gates, Diverter Valves
- Heavy Industry "Titan" Gates/Diverters



- DynaClean™ food grade belt conveyor systems
- Manufactured of NSF, FDA and USDA approved materials



- Pipe, Apron, & Long-Run Belt Conveyors; Large Bucket Elevators
- In-Line/Rotary Bagging; Palletizing/Stretch-Wrap Systems



- Carbon Steel, Stainless Steel and Specialty Screw Conveyors
- Drag Conveyors, Bucket Elevators, Belt Conveyors and Systems

Storage, Discharging, Feeding and Screening



- Gyrotory-Reciprocating Motion Screeners/Sifters
- Replacement Screens, Drives, Rebuilds
- Mineral Separators; www.rotex.com



- Flexible Screw Conveyor Systems; Bag Dumps
- Tubular Drag Conveyors; En Masse Drag Conveyors
- Bulk Bag Unloaders/Fillers; Vacuum Pneumatic Conveyors



- Volumetric & Gravimetric Feeders/Systems
- Screw, Weighbelt & Vibratory Feeders
- Mass Flow Meters; Bulk Bag Unloaders



- Bolted & Shop Welded Silos
- Complete Tank Systems; Domes
- Silo & Dome Reclaimer Systems



- Dust Control Load-Out Spouts/Systems
- Airslide Conveyors, Filter Modules
- www.dclinc.com

Air Movement and Accessories



- Centrifugal, Axial & Radial Fans/Blowers
- FRP Fans/Blowers; Fan Silencers & Expansion Joints
- Custom Hi-Temp; Hi-Pressure; Hi-Alloy Fans
- Heavy Duty ID/FD and API Fans
- Special OEM designs; www.nyb.com



- Centrifugal and Axial Fans; Parts; Turnkey Installations; Replacement Wheels for legacy brands
- Alphaair, American Blower, Buffalo Forge, Canadian Blower, Joy Green Fans, Novenco, & Sheldon
- Mining and Tunnel Ventilation Fans; Heaters; Gyrol Fluid Drives



- Hoffman & Lamson Centrifugal Blowers & Exhausters
- Duroflow; Heliflow P.D. Blowers; Quick Shipment



- Blower and Engine Silencers
- Vent Silencers; Air Filters
- www.universalaet.com



- Man/Product Coolers; Panel Fans
- Roof Fans; Cast Alum. Blowers



- Regenerative and Variable Flow Blowers
- Rotron Industrial /Chemical Blowers

Process and Related Equipment



- Magnets (Plates, Grates, Humps, Liquid-Line Traps, Permanent & Electro Suspended)
- Vibratory Feeders & Conveyors (Gentle Handling, Very Low to High Capacity, Lined Trays)
- Xtreme® Food/Pharma Metal Detectors. Drop Thru. Metalarm for Aggregate/Coal/Wood.
- Recycling Equipment (Eddy Current Separators; Sorting Equipment; Drums/Pulleys)
- Quick Ship Magnets, Metal Detectors, Feeders, Conveyors, Vibrators



- Size Reduction Equipment; www.williams crusher.com
- Pulverizers; Crushers; Hammer Mills; Hogs; Shredders; Classifiers



- Batch & Continuous Mixers/Blenders
- 1.5-600 CF; Paddle/Ribbon/Hybrid solid shafts
- Heat/Cool; Pressure/Vacuum/Microwave



- Container (Drum, Box, Tote) Dumpers
- Tilters; Bulk Bag Fillers; Portable Bins



- Bulk Solid Samplers (Gravity/Pneumatic)
- "Gustafson" and "Bristol" Samplers



**DYNAMIC
BULK
SYSTEMS®**

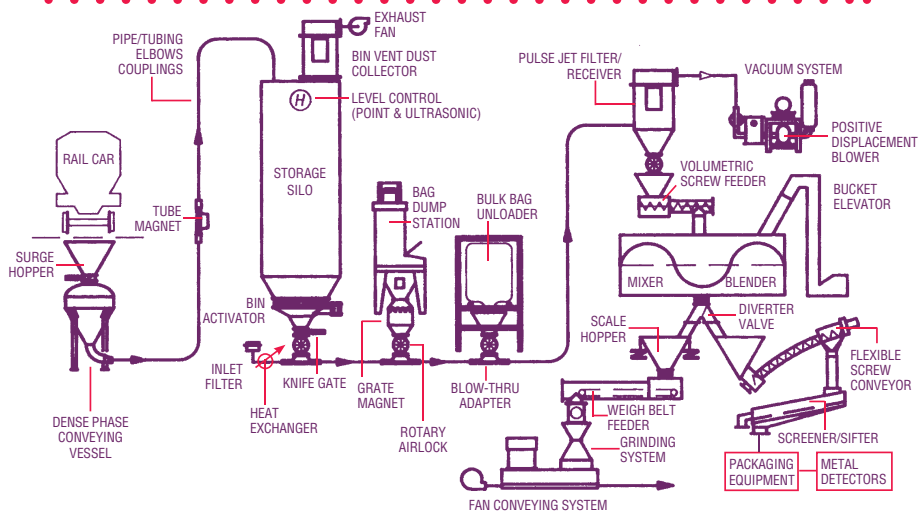
Material Handling Specialists

Specializing in the Application and Sales of Industrial Equipment

- Bulk Material Handling, Conveying and Processing
- Air Pollution Control; Explosion Vents/Suppression
- Air Movement and Accessories; Silencers; Dampers
- Emissions Monitoring; Sampling; Weight Measurement



DYNAMIC BULK SYSTEMS, INC.
CONVEYING DEMONSTRATION SYSTEM
1001 W. BENTONITE DRIVE
ST. LOUIS, MO 63026



Please contact us for more information on our capabilities or products that we offer - Thanks!



Dynamic Bulk Systems
Proud of our past, dedicated to your future

Website:

www.dynamicbulk.com

1111-B Horan Drive
St. Louis, MO 63026
636-343-4300 • 800-314-FANS(3267) • Fax 636-343-4442



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KEY ENGINEERING INFORMATION

PROPERTIES OF AIR			
ALTITUDE (FEET)	PRESSURE (IN. HG. ABS)	TEMPERATURE DEGREES F.	DENSITY LBS/FT. ³
0	29.92	70.0	.0750
500	29.38	68.1	.0740
1000	28.85	66.1	.0730
1500	28.33	64.2	.0719
2000	27.82	62.3	.0709
2500	27.31	60.4	.0698
3000	26.81	58.4	.0687
3500	26.33	56.5	.0676
4000	25.84	54.6	.0666
4500	25.37	52.6	.0657
5000	24.89	50.7	.0648
5500	24.43	48.8	.0638

TUBING DIMENSIONS			
OD	GAUGE	ID	AREA FT ²
16	1.87	.019	
2	14	1.83	.019
	11	1.76	.017
16	2.37	.031	
2.5	14	2.33	.030
	11	2.26	.028
16	2.87	.045	
3	14	2.83	.044
	11	2.26	.042
16	3.87	.082	
4	14	3.83	.081
	11	3.76	.077
16	4.83	.128	
5	14	4.76	.125
16	5.83	.187	
6	11	5.76	.181
8	12	7.79	.331
10	12	9.79	.523
12	12	11.79	.758
14	12	13.79	1.037
16	12	15.79	1.360

PRESSURE LOSS INCHES OF WATER PER 100 FT.							
Tubing OD	Velocity FPM						
	4000	4400	4800	5200	5600	6000	
2	1.880	13.25	15.88	18.74	21.81	25.11	28.63
2.5	2.380	9.94	11.91	14.05	16.36	18.83	21.47
3	2.880	7.88	9.44	11.14	12.96	14.92	17.02
4	3.880	5.47	6.56	7.74	9.01	10.38	11.83
5	4.851	4.17	5.00	5.89	6.86	7.90	9.01
6	5.851	3.32	3.98	4.69	5.46	6.29	7.17
8	7.791	2.34	2.80	3.31	3.85	4.43	5.05
10	9.791	1.77	2.12	2.50	2.91	3.35	3.82
12	11.791	1.41	1.69	1.99	2.32	2.67	3.05
14	13.791	1.17	1.40	1.65	1.92	2.21	2.52
16	15.791	0.99	1.18	1.40	1.63	1.87	2.13

MATERIAL HANDLING PROPERTIES		
MATERIAL	PICK-UP VELOCITY (FT/MIN)	BULK DENSITY (LB/FT ³)
Alumina	3,600	60
Bentonite	3,600	50
Bran	4,200	12
Calcium carbonate	3,900	40
Clay	3,600	30
Coffee beans	3,000	42
Coke (petroleum)	4,500	35
Corn grits	4,200	40
Corn (shelled)	3,300	45
Diatomaceous earth	3,600	10
Flour (wheat)	3,600	36
Lime (hydrate)	2,400	25
Lime (pebble)	4,200	55
Malt (barley)	3,300	32
Oat (whole)	4,200	26
Nylon (flake)	4,200	35
Paper (chopped)	4,500	20
Polyethylene pellets	4,200	35
Polyvinylchloride (pellets)	4,200	35
Polyvinylchloride (powder)	3,600	30
Rice	4,800	42
Rubber pellets	5,900	40
Salt (table)	5,400	80
Sand	6,000	100
Soda ash (light)	3,900	35
Starch	3,300	40
Sugar (granulated)	3,600	50
Trisodium phosphate	4,500	65
Wheat	3,300	48
Wood flour	4,000	20

PIPE DIMENSIONS				
DIA.	SCHED.	OD	ID	AREA FT ²
5	2.375	2.245	.027	
2	10	2.375	2.157	.025
	40	2.375	2.067	.023
5	2.875	2.709	.040	
2.5	10	2.875	2.635	.038
	40	2.875	2.469	.033
5	3.500	3.334	.061	
3	10	3.500	3.260	.058
	40	3.500	3.068	.051
5	4.500	4.334	.102	
4	10	4.500	4.260	.099
	40	4.500	4.026	.088
5	5.563	5.345	.156	
5	10	5.563	5.295	.153
	40	5.563	5.047	.139
5	6.625	6.407	.224	
6	10	6.625	6.357	.220
	40	6.625	6.065	.201

CONVERSION FACTORS	
DENSITY 1 lb./cf. = 16.02 kg./cu. mtr. 1 lb./cf. = .00058 lb. cu. in.	PRESSURE 1 in. water = 0.036 lb./sq. in. 1 in. Hg. = 0.4912 lb./sq. in. 1 in. Hg. = 13.596 in. water 1 atm. = 14.7 lb. per sq. in. 1 atm. = 760 mm. of Hg. 1 atm. = 29.921 in. of Hg. 1 lb./sq. in. = 27.7 in. water 1 lb./sq. in. = 2.036 in. Hg.
LENGTH 1 in. = 2.54 cm. 1 ft. = 30.48 cm. 1 meter = 3.281 ft.	VOLUME 1 cu. ft. = 7.4805 gal. 1 gal. = 0.1337 cu. ft. 1 liter = 0.2642 gal.

BASIC FAN LAWS	
Fan efficiencies remain constant for symmetrical design. When one or more conditions change, the other conditions vary according to certain fan laws for the established fan size, system of ductwork and air density.	
When fan speed is varied:	
1. Fan's air-delivery will vary directly as the RPM ratio.	
$CFM_2 = \frac{RPM_2}{RPM_1} \times CFM_1$	
2. Developed fan pressures will vary as the RPM ratio squared.	
$SP_2 = \left(\frac{RPM_2}{RPM_1}\right)^2 \times SP_1$	
3. Horsepower absorbed by fan will vary as the RPM ratio cubed.	
$HP_2 = \left(\frac{RPM_2}{RPM_1}\right)^3 \times HP_1$	

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