

INDUSTRIAL REMOTE FILTER

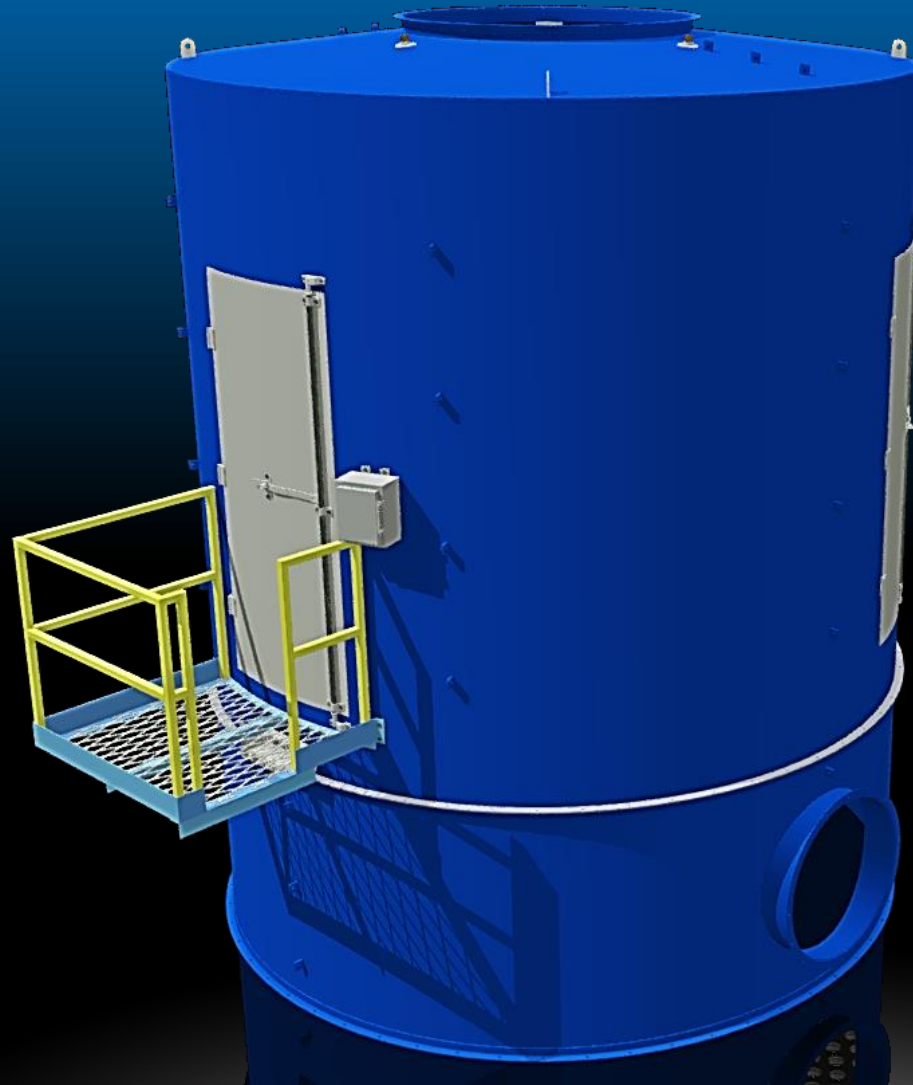
Available from
18 to 630 filter
bags in a single
filter.

Configurable
Outlet Position.

Bottom Plenum
available for ground
level installation.

Mild Steel &
Stainless Steel
Models

Bottom Cone available
for primary filtration
applications.

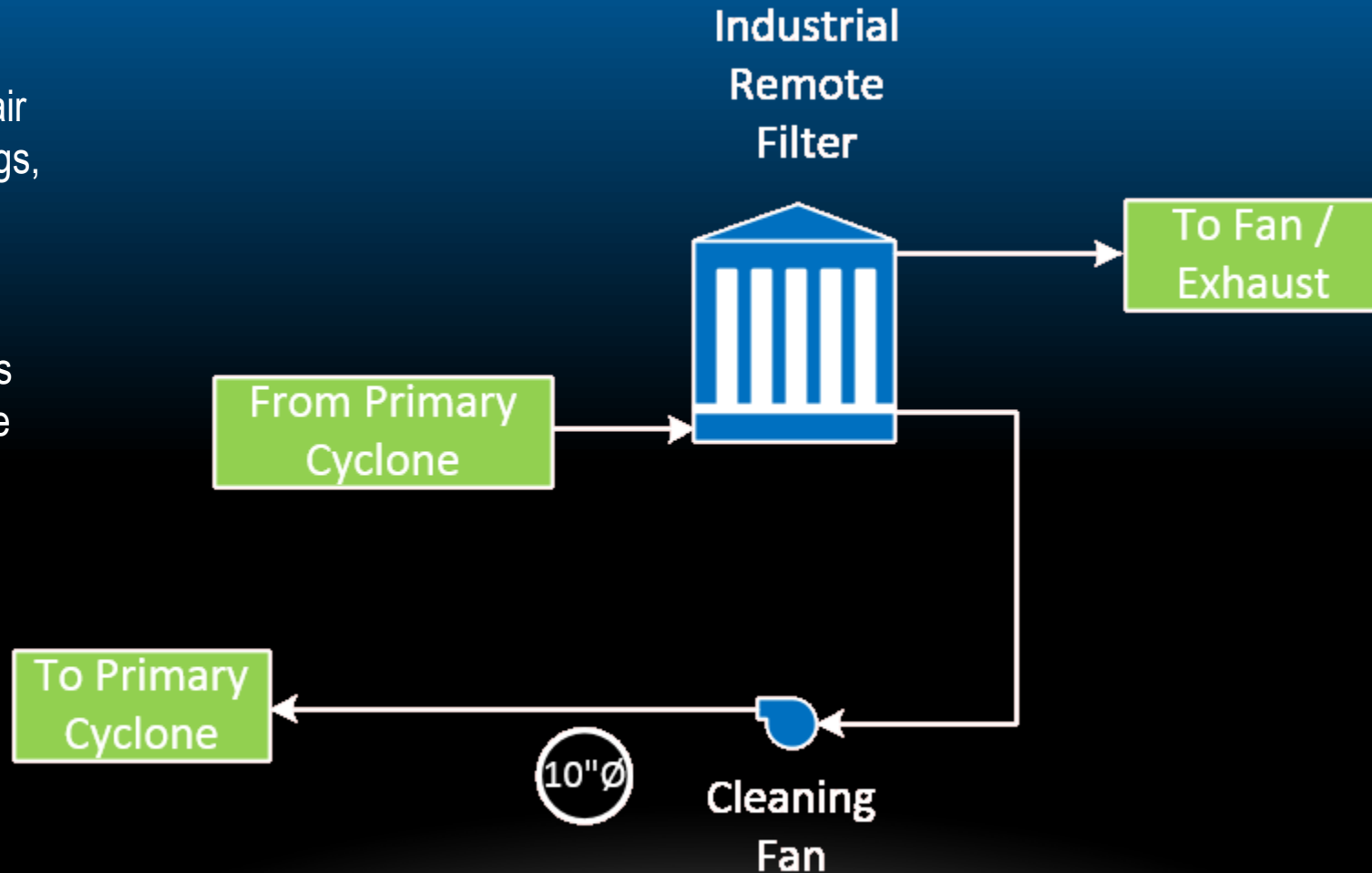


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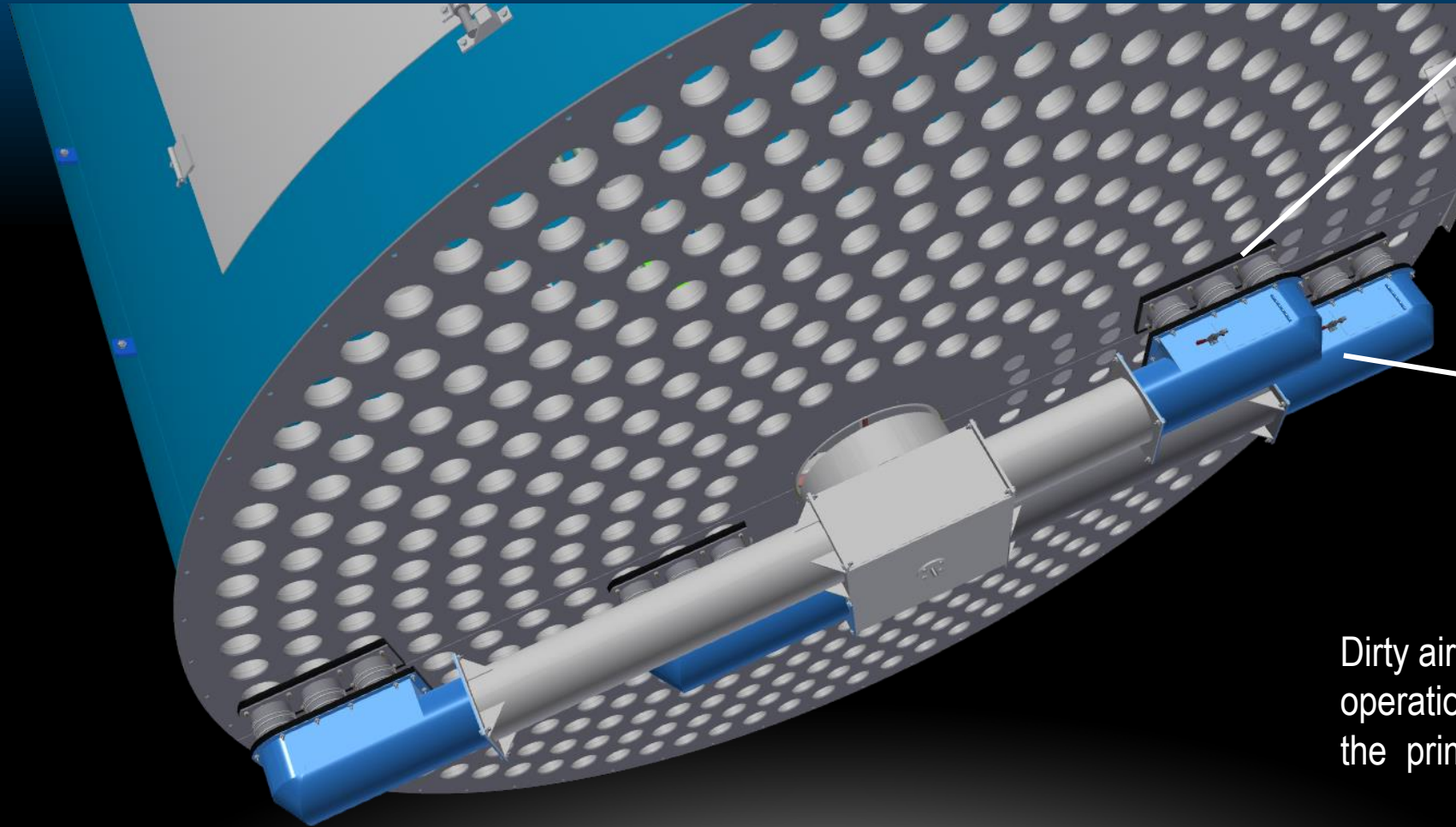
The cleaning fan is used to sequentially reverse the flow of air through the filter bags, thus removing accumulated dust.

This dust laden air is reintroduced into the upstream air flow.



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UHMW Shoe

Cleaning Arm

Dirty air from the bag cleaning operation is recycled back to the primary cyclone.



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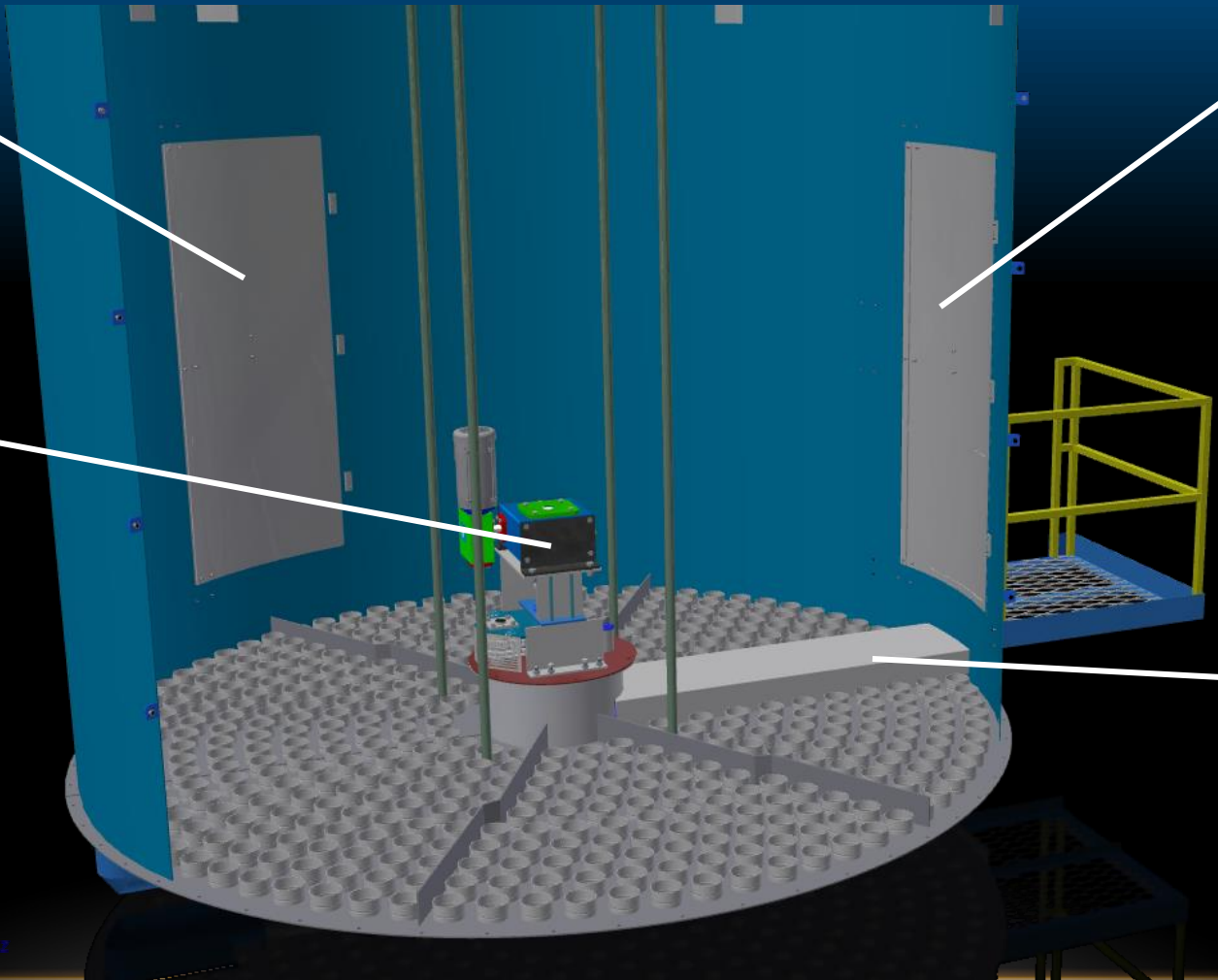
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Bag Access Door

Maintenance Door

Sweep Arm Drive

Cleaning Air Duct

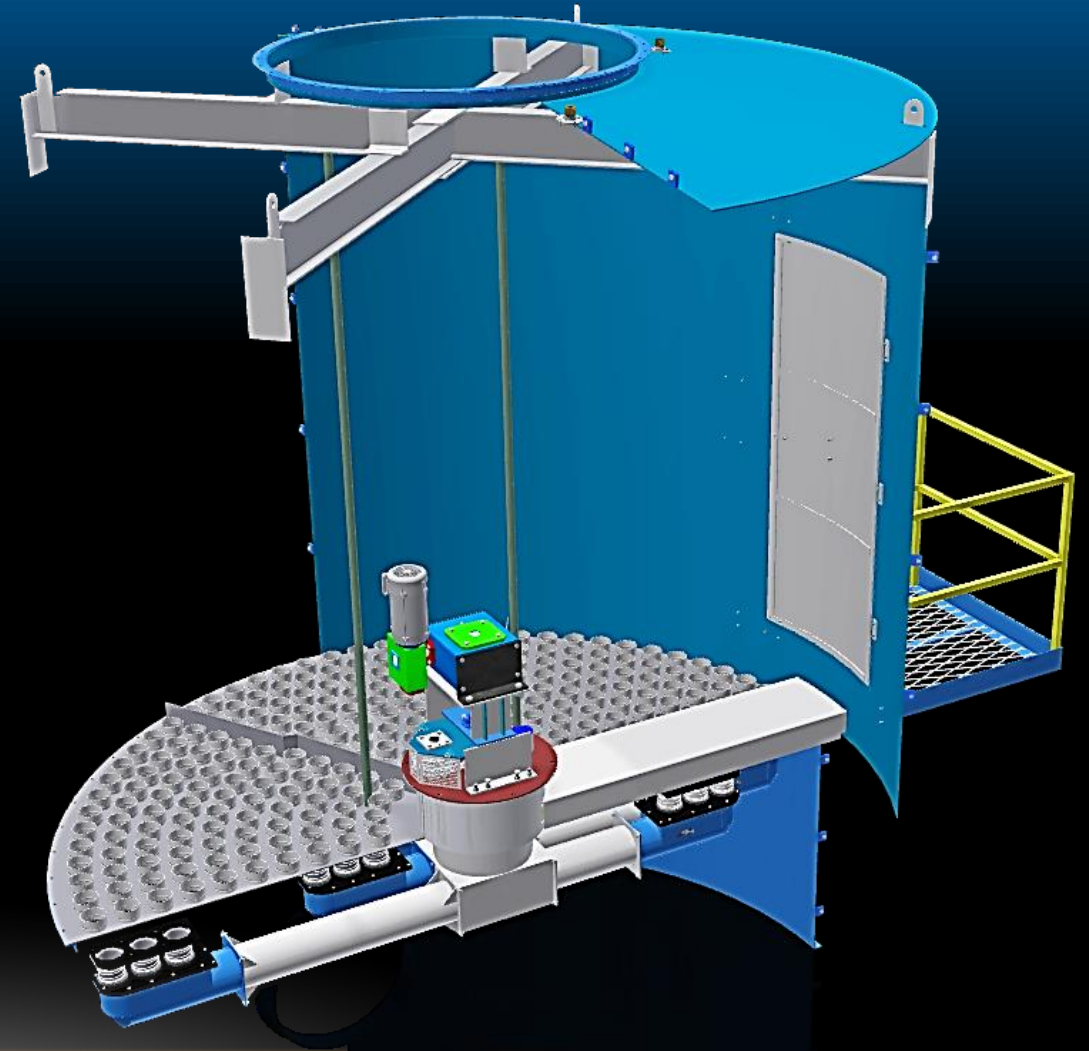


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PRINCIPLE OF OPERATION FOR INDUSTRIAL REMOTE FILTERS:

1. Dust laden air from a primary cyclone is introduced into the remote filter base section. Air and dust travels up through the cell plate and into the bag/cage. A galvanized cage supports a cloth bag and is attached to the top of the cell plate. Air passes through the bag and dust collects on the inside of the filter bag creating a cake. Clean air is discharged out of the top section of the filter to either atmosphere or to a pull-through fan.
2. A vacuum cleaning sweep arm located below the cell plate has air pulling through the cleaning head and will pull dust from inside the cloth bag. The dust is conveyed from the filter to an exterior cleaning fan which blows the dust back to either the primary cyclone or the piping leading to the cyclone. The dust is mixed with other product in the cyclone and discharges out the bottom of the cyclone through an airlock.
3. All filter design applications are based on how much air can be effectively handled by the total cloth area of the filter bags. Example: we could use six cubic feet of air to one square foot of filter bag cloth area provides a 6:1 air-to-cloth ratio. High air-to-cloth ratios means the filter must work harder requiring more energy and bag life is shortened.
4. Each filter bag is 5 inches in diameter and 10 feet tall and has a cloth area of 13.09 square feet. With 150 bags/cages, the total cloth area is 1,964 square feet. With a 6:1 air-to-cloth ratio, the filter can effectively handle 11,784 cubic feet of air per minute (CFM). Filter sizes are based on the quantity of bags, our filters range from 18 to 630.
5. This filter design eliminates the worry about upward can velocity and interstitial velocity and the trapping of dust. Each cleaning head has UHMW shoe to keep a good seal on the cell plate and focus the cleaning air to each bag. The cleaning head shoe, blanks off the airflow into each cell plate hole and then the cleaning air pulls the dust out of the bag.
6. The success of any filter is dependent on the cleaning system. An exterior cleaning fan creates suction air which vacuums each row of bags on a continuous basis. This is accomplished by a revolving vacuum arm which has openings located at the same radius from the center of the cell plate as the filter bag holes. The vacuum arm is driven by a gear box located above the cell plate inside the clean section of the filter.
7. Inspection of the vacuum arms is performed by access through a door in the bottom base section.



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SPECIFICATIONS

Number of Bags	Length of Bags	Outside Diameter of Filter	Cloth Area [5" Ø bag]	Flow rate for Air to Cloth ratios			Upper Can Area
				[CFM]			
	[ft]	[ft-in]	[square ft]	4 to 1	5 to 1	6 to 1	[square ft]
18	10	4'-0"	283	1,131	1,414	1,696	12.57
42	10	5'-0"	660	2,639	3,299	3,958	19.63
72	10	6'-0"	942	3,770	4,712	5,655	28.27
108	10	7'-0"	1,414	5,655	7,069	8,482	38.48
150	10	8'-0"	1,963	7,854	9,817	11,781	50.27
200	10	9'-0"	2,618	10,472	13,090	15,708	63.62
256	10	10'-0"	3,351	13,404	16,755	20,106	78.54
318	10	11'-0"	4,163	16,650	20,813	24,976	95.03
386	10	12'-0"	5,053	20,211	25,264	30,316	113.10
460	10	13'-0"	6,021	24,086	30,107	36,128	132.73
542	10	14'-0"	7,095	28,379	35,474	42,569	153.94
630	10	15'-0"	8,247	32,987	41,233	49,480	176.71



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ABOUT WPI

- Western Pneumatics was founded in 1982 with our focus on high and low pressure pneumatic conveying and aspiration systems.
- Diversification has been a constant as we offer materials handling systems for wood products, environmental, biomass, agricultural and minerals.
- The headquarters in Eugene, Oregon, include the fabrication facilities with CNC machine centers, laser cutting machine, sandblasting and painting .
- An additional fabrication facility is located in Ruston, Louisiana.
- WPI typically offers turnkey systems including design, fabrication and installation.

WPI Corporate Headquarters

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