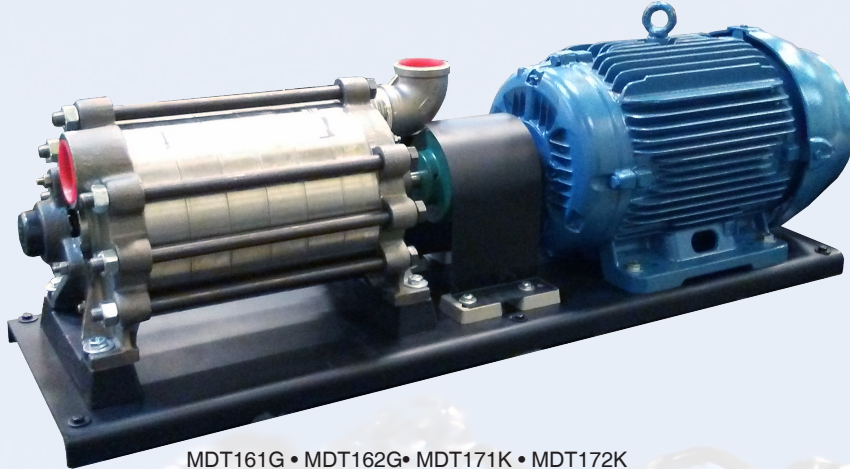


MTH PUMPS

High Head, Low Flow Regenerative Turbine Pumps

For DAF Applications



MDT161G • MDT162G • MDT171K • MDT172K
Series Pumps



MDT31H • MDT41L • MDT51P • MDT51R Series Pumps

MTH DAF Pump Features

- Made in the USA
- Highly Reliable
- Air/Gas Dissolved to 20 to 30 Microns
- All Stainless Cast Construction
- GLSC/GLSC/Viton Hardfaced Seals
- Internal Seal Flush Lines for Extra Seal Life
- Small Footprint Design
- Energy Efficient
- 1/4" NPT Injection/Vent Inlet Port (Available on most models¹)
- Low Cost, High Value
- Single Stage and Multi-stage Configurations

MTH DAF Product Line

DAF Pump Model #	Liquid Flow Rate*		Head (Pressure)			20% Entrained Vapor*		RPM	TEFC Motor HP
	GPM	LPM	Feet	PSI	Meters	GPM	CFM		
MDT31H ¹	5	19	130	56	40	1	0.13	3450	1/2 HP
MDT41L	10	38	130	56	40	2	0.27	3450	1 HP
MDT51P	20	76	130	56	40	4	0.53	3450	3 HP
MDT51R	30	114	130	56	40	6	0.80	3450	5 HP
MDT161G	50	189	130	56	40	10	1.34	1750	5 HP
MDT162G	65	246	130	56	40	13	1.74	1750	7 1/2 HP
MDT171K	80	303	130	56	40	16	2.14	1750	10 HP
MDT172K	100	379	130	56	40	20	2.67	1750	15 HP

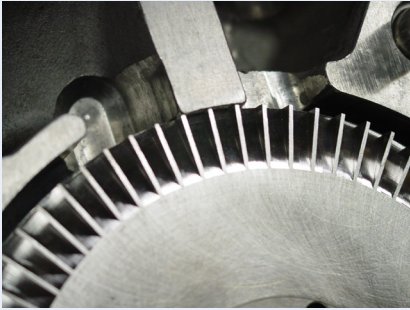
*Deducts 20% Vapor Displacement from original pump performance curve

¹ The MDT31H does not have a built-in injection port. A 3/4" NPT close nipple with a 3/4" NPT tee pipe must be used in front of the inlet for the air inlet.

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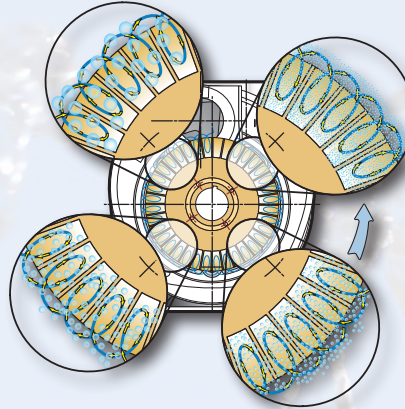
For DAF Applications



MTH Pumps lineup of regenerative-turbine pumps stands as an exceptional choice when it comes to Dissolved Air Flotation (DAF) applications, thanks to their exceptional capacity to accommodate a substantial 20% entrained vapor content. This particular attribute of the pumps plays a pivotal role in generating finely dispersed microbubbles, a key element in the effective separation and removal of particles suspended in liquids.

The significance of MTH's regenerative turbine pumps becomes particularly pronounced in the context of DAF operations, where air is intentionally drawn into the pump inlet alongside the fluid being handled. Upon ingress, the air and fluid mixture undergoes a dynamic transformation within the pump's intricate impeller system. This is where the pump's innovative design truly shines. The impeller's precisely contoured vanes engage in a controlled shearing process, which efficiently breaks down the entrained vapor into a fine mist of microscopic bubbles.

As this air-infused fluid emerges from the pump, it enters the base of a large wastewater tank. Within this tank, the microbubble-laden mixture takes on an essential role. The microbubbles act as buoyant carriers, attaching themselves to suspended particles present in the wastewater. These particles, now enveloped by the microbubbles, experience an upward buoyant force that propels them towards the upper surface of the tank.



Here's where the ingenious design of MTH's regenerative turbine pumps truly shines. The floatation of particles towards the top of the tank results in the formation of a distinct foam layer. This layer comprises a composite of water, vapor, and suspended particles, held together by the microbubbles. This foamy assembly, atop the tank, holds the potential of efficient separation through skimming processes. During this step, the foam is systematically removed, effectively

carrying with it the captured particles and the associated suspended impurities.

The implications of this process are noteworthy. Beyond its role in effective waste material removal, the foam also represents a valuable resource recovery opportunity. The captured particles, often containing valuable constituents, can be subsequently processed and reclaimed for further use. This dual-pronged benefit underscores the economic and environmental advantages of MTH's regenerative-turbine pumps in DAF applications.

In essence, MTH Pumps regenerative-turbine pumps, with their remarkable capacity to handle entrained vapor, serve as instrumental tools in transforming wastewater treatment into a holistic process that not only ensures waste removal but also paves the way for resource recuperation.



Manufacturing MTH Pumps in the USA since 1965, specializing in high-pressure pumps.



MTH PUMPS

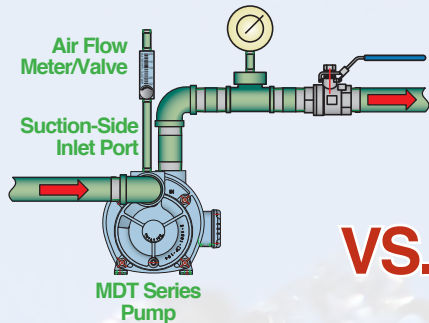
401 West Main Street • Plano, IL 60545-1436
Phone: 630-552-4115 • Fax: 630-552-3688
Email: WATER@MTHPUMPS.COM
<http://WWW.MTHPUMPS.COM>

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High Head, Low Flow Regenerative Turbine Pumps

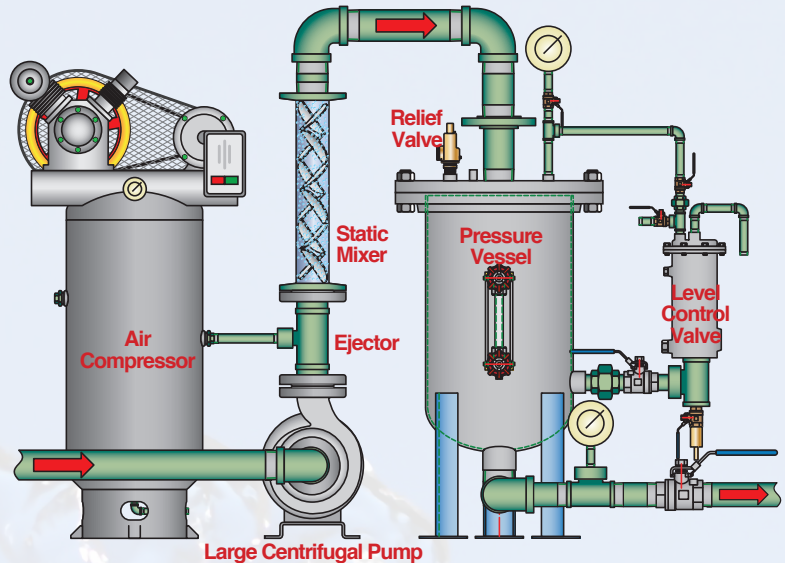
For DAF Applications

**Energy Savings,
Efficient Solutions!**



**Simple and Efficient
MTH DAF Solution**

VS.



Costly and Complicated Typical DAF Setup

The innovative MTH DAF Pumps revolutionize the way we approach wastewater treatment and industrial processes. By streamlining the design and functionality, these pumps offer a remarkably simplified solution that comes with a multitude of benefits. Gone are the days of dealing with cumbersome air compressors, centrifugal pumps, static mixers, relief valves, saturation tanks, and a host of other components that not only complicate the setup but also add to the operational costs and maintenance efforts.

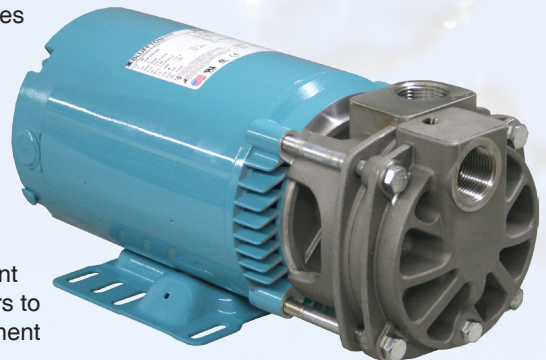
One of the standout advantages of the MTH DAF Pumps is their capacity to significantly reduce energy consumption. The traditional components they replace often require substantial amounts of energy to operate efficiently. However, with the MTH DAF Pumps, these power-hungry elements become obsolete. This leads to substantial energy savings over the long term, contributing not only to reduced operational expenses but also to a smaller environmental footprint.

Furthermore, the elimination of multiple components translates into considerably lower start-up costs for any project employing the MTH DAF Pumps. The financial burden associated with procuring, installing, and maintaining the myriad components in a traditional system can be daunting. With MTH DAF Pumps, these expenses are greatly minimized, making it a more cost-effective option right from the outset.

The beauty of the MTH DAF Pump's design lies in its simplicity. Instead of an intricate array of equipment, a single air line equipped with an air flow meter is all that's required to generate the fine micro-bubbles essential for the Dissolved Air Flotation (DAF) process. This elegant solution not only reduces complexity but also enhances operational efficiency and reliability. The straightforward setup and user-friendly interface make implementation and management hassle-free, allowing operators to focus on optimizing the treatment

process itself rather than dealing with convoluted machinery.

In conclusion, MTH DAF Pumps represent a paradigm shift in the realm of wastewater treatment and industrial processes. By streamlining the components, reducing energy consumption, and slashing start-up costs, they offer a simpler, more economical, and environmentally conscious solution. This innovative approach, centered around the use of a single air line and air flow meter, not only ensures the generation of the fine micro-bubbles required for the DAF process but also promises enhanced efficiency and reliability in the long run.



MTH PUMPS

High Head, Low Flow Regenerative Turbine Pumps

For DAF Applications

Typical Markets & Applications

A Dissolved Air Flotation (DAF) system is a water treatment process that clarifies wastewater by removing suspended matter such as oil or solids. DAF systems are commonly used in various industries and applications for wastewater treatment. Here's a list of some applications that utilize DAF systems:

1. Industrial Wastewater Treatment:

- Food and Beverage Industry
- Pulp and Paper Industry
- Chemical Manufacturing
- Textile Industry
- Pharmaceutical Industry
- Oil Refineries

2. Municipal Wastewater Treatment:

- Municipal Sewage Treatment Plants
- Pre-treatment for Biological Treatment

3. Agricultural Wastewater Treatment:

- Dairy Farms
- Poultry Processing Plants

4. Mining Industry:

- Coal Mining
- Metal Mining

5. Oil and Gas Industry:

- Produced Water Treatment
- Refinery Wastewater Treatment
- Frac Water Treatment

6. Power Plants:

- Cooling Water Treatment
- Boiler Blowdown Water Treatment

7. Textile Industry:

- Dyeing and Finishing Wastewater Treatment

8. Food Processing Industry:

- Meat and Poultry Processing
- Vegetable and Fruit Processing
- Confectionary and Candy Manufacturing

9. Pulp and Paper Industry:

- Pulp Mill Effluent Treatment

10. Chemical Industry:

- Specialty Chemical Manufacturing

11. Leachate Treatment:

- Landfill Leachate Treatment

12. Automotive Industry:

- Automotive Parts Manufacturing
- Automotive Paint Processing

13. Pharmaceutical Industry:

- Active Pharmaceutical Ingredient (API) Manufacturing

14. Electronics Industry:

- Printed Circuit Board Manufacturing

15. Dairy Industry:

- Cheese Production
- Milk Processing
- Yogurt Production

16. Brewing Industry:

- Beer Production
- Juice Processing

17. Cosmetics Industry:

- Cosmetic Manufacturing

18. Plating and Coating Industry:

- Metal Plating
- Metal Finishing

19. Winery Industry:

- Wine Production

20. Laundry Facilities:

- Commercial Laundry Wastewater Treatment

21. Recycling Plants:

- Plastic Recycling
- Glass Recycling
- Paper Recycling

22. Fish Processing Industry:

- Fish Canneries

23. Printing Manufacturing:

- Ink Removal from Wastewater

These are just some examples of the many applications where DAF systems are used for wastewater treatment and clarification. The versatility of DAF systems makes them suitable for a wide range of industries that generate wastewater containing suspended solids, oils, greases, and other contaminants.



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