

Tapflo HVS Quattro Drum Unloading System



Description

Simplify the **unloading of highly viscous liquids** with our High Viscosity System Quattro-type (HVS Quattro). It is designed for **high-volume applications** where **multiple drums** (typically four) are stored on pallets. The HVS Quattro allows you to switch between the drums easily, thanks to our **revolutionary articulated arm**. Experience an impressive **product removal rate of up to 99%** which will reduce your production costs.

Our HVS Quattro drum unloading solution incorporates a **sanitary double diaphragm pump** with built-in lifting and lowering functions, designed for the swift and efficient unloading of 200-liter drums. This **mobile** system ensures the rapid extraction of contents, such as **double-concentrated tomato paste, from a drum in less than two minutes**, highlighting its exceptional speed and effectiveness in real-world applications.

Key Features

- **Easy unloading of 4 drums stored on a pallet** one by one, with a convenient exchanging of the drums thanks to the included **articulated arm**.
- **Quick unloading of the drums: up to 400 Liters per minute**, depending on the liquid properties and discharge pressure.
- **99% product extraction: product savings** thanks to the applied scraping lid / follower plate.
- **High process safety and time-saving benefits:** brought by the control system.

Savings & Efficiency Benefits

Maximize Your Savings: Achieve a **99% product extraction rate**, significantly reducing product wastage and resulting in production cost savings over time. Our system is designed for rapid drum unloading. It is capable of pumping **up to 400 Liters per minute**, depending on the liquid's properties and discharge pressure.

Time Efficiency: Our automated unloading system **saves valuable operator time**, enabling them to concentrate on other important tasks. Once the pump is positioned inside the drum and initiated, it **operates autonomously**, stopping automatically once the drum is empty. During this process, operators can focus responsibilities, or prepare another drum by opening and securing the lining bag.

Operating Principle

Our system is conveniently mounted on a **mobile 4-wheel frame**, allowing **easy transportation** to the drum storage area. Once positioned, pallets can be effortlessly delivered using a forklift truck or manual pallet truck. Thanks to our system's sturdy support structure, precise **pallet placement is easy**, enabling a swift start to the process.

The next step involves utilizing the **articulated arm**, equipped with the pump, to securely position the scrapping lid on the top of the **drum to be unloaded first**. After the pump is properly situated, it can be initiated by simply pressing the **START button** on the control panel. The pump will automatically **descend until it reaches the bottom of the drum**, at which point it will halt. Alternatively, it can be manually controlled by the operator when opting for **manual operation mode**.

The final phase of unloading the drum entails **removing the lid from an empty drum**. To facilitate this task with speed and efficiency, the system provides compressed air between the lid and the drum.

Typical Applications

Food & Beverage	Tomato paste (concentrate), double concentrated tomato paste, tomato puree, tomato pulp, fruit and vegetable concentrate, fruit pulp or base, sauce concentrate, glucose syrup, maltose syrup, corn syrup, high-fructose corn syrup (HFCS) or glucose-fructose syrup (GFS), oat syrup, caramel, peanut butter, almond paste, mayonnaise, nougat paste, chocolate, fudge, cream, beverage base.
Cosmetics & Pharmaceutical	Cosmetic and pharma Vaseline, ointment, cream & lotion, semi-solid wax/paraffin, glycerine, oil, lip gloss, mascara, facial cleanser, facial mask.
General Industrial	Grease, including heavy duty Lithium-based NLGI class 3 grease, ink, paint, resin, coating and sealing compounds.

Suitable Drums & Containers

In today's industry, the use of containers like drums and IBCs has become exceptionally commonplace. These versatile vessels are very often used to **transporting highly viscous liquids** such as pulps or concentrates, which are always stored in drums lined with as aseptic bag.

Straight Drums: Among these container options, the **200-liter straight steel drum** takes centre stage as the most common and available one. Usually you have the flexibility to use an individual drum delivery, arranged on a compact pallet, or you can choose the convenience of **4 drums positioned on a single pallet**.

Conical Drums: In specific industries, conical drums become more and more common, thanks to their **space-saving capabilities** by nesting together when they're empty, making them a practical choice for a variety of applications, particularly in **high-volume production scenarios**.

Customized Drum Solutions: Regardless of the type of drum you use, our High Viscosity System (HVS) can be easily adapted to meet your needs. Our HVS is purpose-built for drum unloading systems that handle viscous liquids. It includes a specialized **scraping lid (follower plate)** designed to extract every last drop of product from the drum and bag. For straight drums, we offer a lid equipped with a versatile **lip seal**, ensuring thorough scraping while effortlessly adjusting to any changes in the drum's shape, including wall damage, all while providing a cost-effective solution.

When it comes to conical drums, our solution is an **inflatable seal** integrated with our pneumatic control system. This seal **adjusts its size**, providing high scraping efficiency as it reaches the lower regions of the drum.

IBC, Goodpack, and Bag-in-Box® Options: Our HVS systems can also be configured to unload IBC containers, Goodpack multimodal containers, or Bag-in-Box® containers. This versatility ensures you have a **flexible solution** at your disposal for a wide range of transport and storage needs. Get in touch with us, and we'll be more than happy to provide a tailored solution that perfectly aligns with your specific requirements.

Control System

Our HVS Quattro system is operated through an **integrated control panel**, providing a **user-friendly** interface. Within the control system, operators can easily switch between **automatic and manual modes**. The panel offers convenient pushbuttons for precise pump positioning (**RAISE or LOWER**) and pump control (**START or STOP**). Additionally, it enables control of the pumping speed. Each control panel is equipped with the main system switch (ON/OFF) and a safety pushbutton (E-STOP) for added security and peace of mind.

Customisation Options

We produce our control panels in-house, giving you the **freedom to tailor each Drum Unloading System** to your precise requirements. Our specialized team of automation engineers is keen to adjust the controls to align with your processes, all upon your request.

This flexibility enables the HVS Quattro System to be **integrated** with other equipment in your production line, such as **filling machines**. Our engineers collaborate closely with you to ensure seamless integration of the HVS into your overall production workflow.

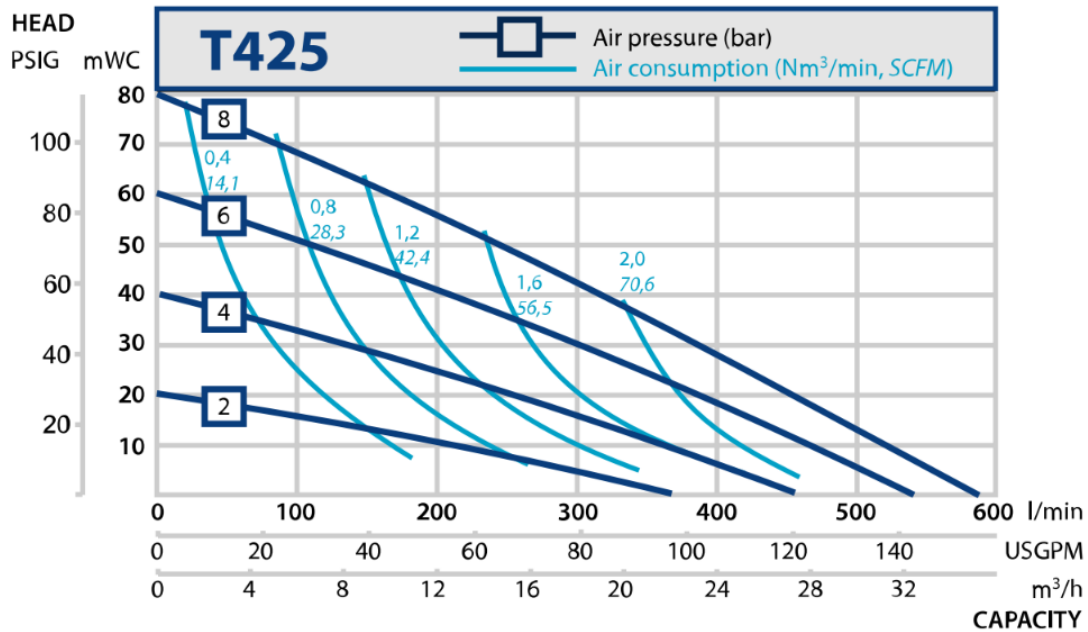
Pump & System Technical Data

Technical Data	T425 Pump Size
Max Capacity, l/min	590
Volume / Stroke, ml	2300
Max Discharge Pressure, Bar	8
Max Air Pressure, Bar	8
Max Solids Passage, ø mm	15
Max Temperature, EPDM, °C	90
Max Temperature, NBR, °C	90
Max Temperature, PTFE, °C	110
Weight, Kg	200

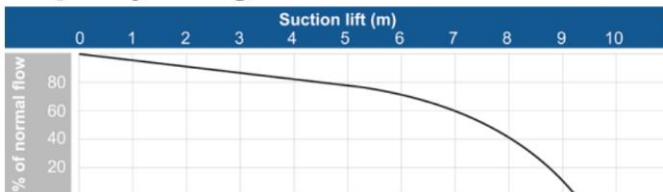
Component	Material Options
Wetted Metal Components	Stainless Steel AISI 316L, Electro-Polished
Liquid Contact Surface Roughness	<1.6 Ra (Std.), <0.8 & <0.5 Ra (On Request)
Centre Block (Not Wetted)	PP, Conduction PP, Aluminium
Diaphragms	PTFE, PTFE with white back, EPDM, white EPDM, NBR white, NBR (non FDA)
Valve Balls	PTFE, AISI 316, Ceramic, SiC, EPDM (non FDA, NBR (non FDA)
Air Valve	Brass (std.), stainless steel AISI 316L or PET with NBR (std.), EPDM or FKM O-rings
Housing Stud Bolts	A4-80
Diaphragm Shaft	Stainless Steel AISI 304L

Capacity Details

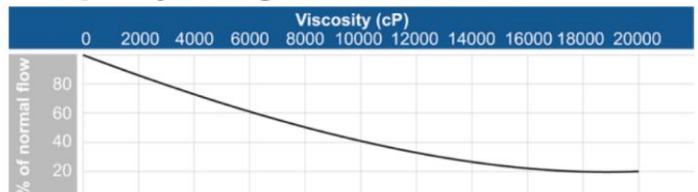
The performance curves are based on water at 20°C. Other circumstances might change the performance. See below how the capacity will change at different viscosities and suction lifts. Recommended flow is half of the max flow, e.g. recommended flow for a T425 is 300 l/min.



Capacity changes at different suction lifts



Capacity changes at different viscosities



Related Products & Variants

HVS System with Inflatable Seal Follower Plate for Efficient Single Drum Unloading



HVS System with Lip Sealed Follower Plate for Efficient Single Drum Unloading



HVS Flexi System with Lip Sealed Follower Plate for Low Volume Applications

