

NETZSCH

The All New NETZSCH TORNADO® T2

Redesigning and Redefining the Rotary Lobe Pump



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Challenging conventional wisdom, NETZSCH took the current state-of-the-art rotary lobe pump design and created a new world standard.

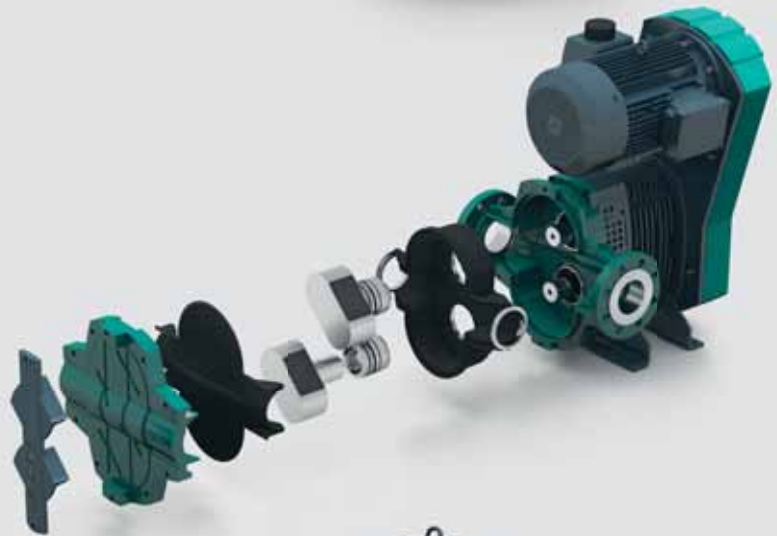
Compactness

With an integrated drive motor, the TORNADO T2 has the smallest installation envelope of any rotary lobe pump in its class. The unique design also does away with the need for a baseplate and alignment.



Full Service in Place (FSIP)

Full “service-in-place” was engineered into the TORNADO T2. It is the only pump to offer full flange-to-flange access. This offers maintenance personnel more room to access pump internals including mechanical seals, rotors, liners, pump head and belt drive without the need to disassemble piping.



Revolutionary Timing and Drive

The TORNADO T2 pump employs a single, synchronous toothed timing belt, eliminating the maintenance-intensive and costly gearbox in conventional rotary lobe pumps. Smoother and quiet in operation, the toothed timing belt is lighter, requires no oil and reduces the risk of catastrophic failure.

Available in single and double belt arrangements for different reduction ratios.



Redesigning and Refining the Rotary Lobe Pump

In redesigning and redefining the rotary lobe pump, NETZSCH design engineers carefully considered customer needs relating to reliability, maintenance, performance and total cost of pump ownership.

Enhanced Process Optimization

At the heart of the TORNADO T2 is a remarkable and innovative material combination: a rubber casing with metal rotors, with the lobes running inside a metal housing with an elastomer lining.

Combining the wear resistance and simple metal-rotor / rubber-stator construction of a progressing cavity pump with traditional rotary lobe pump technology is a design breakthrough that creates the advantage of durability along with simplicity and ease of maintenance.

With rotor retention outside the pump chamber, the TORNADO T2 provides enhanced process optimization. The clever housing geometry of the TORNADO T2 allows gentle material handling, with no dead areas and low risk of fiber build up.



Outstanding Seal Technology

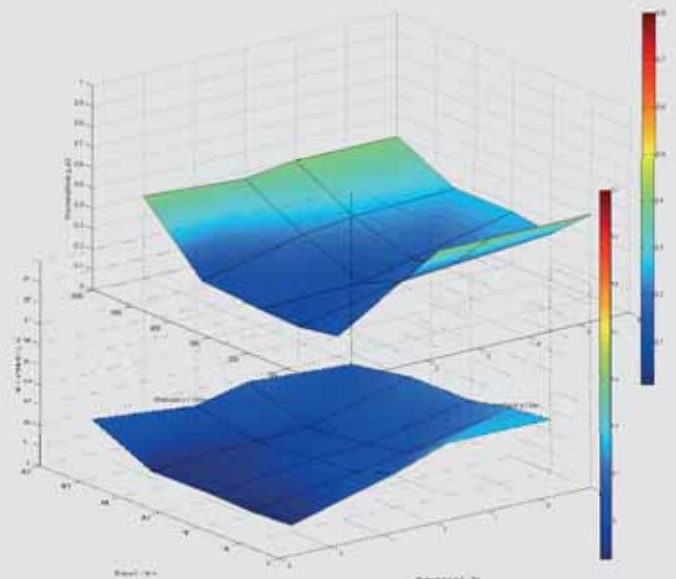
The TORNADO T2 employs a cartridge seal design that is front loading and integrated with the rotor, providing for reduced downtime and fast replacement. With the seal ring interface positioned in the flow path through the pump head, there is improved seal life, reduced product entrapment / compaction and easier cleanability / drainability.



Advanced Pump Technology

The TORNADO T2 features a unique Pulsation Reduction System (PRS) that meets customer demands for shear sensitive product conveyance and reduced downstream pulsation. The PRS employs channels molded into the rubber walls of the pumping element, dampening pulsation by releasing the energy of the bi-lobes.

With darker blue indicating optimal performance, the NETZSCH PRS / Bi-lobe design (upper graph, right) covers 80% of operating conditions with the same performance as quad lobe pumps (lower graph, right).



The Classic TORNADO® T1 with its Proven Quality

NETZSCH



Series TORNADO® XLB

Series TORNADO® XB

Series TORNADO® MB

Our Product

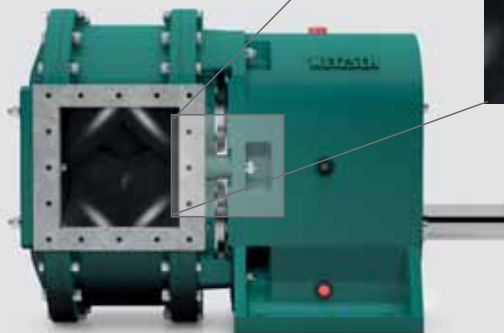
For more than a decade NETZSCH has been supplying the classic TORNADO T1 rotary lobe pump. Their extensive use in applications in the Environmental and Energy, Chemical, Pulp and Paper and Oil and Gas sectors for flow rates up to 4400 gpm / 1,000 m³/h demonstrates their high performance and reliability.

Pump sizes and specifications are precisely tailored to suit the characteristics of the pumped media and operating requirements.

Your benefits

- Gearbox Security System (GSS) technology for long-term reliability.
- In the event of seal failure, pumped substances cannot enter the gearbox
- Pump gearbox oil cannot enter the pump chamber
- Quick and easy access to the lobes, shaft seals, and flushing connections
- Maintenance without the need to disconnect inlet and outlet pipework.
- Dry running capability

Gearbox Security System (GSS)



Hydraulic Coverage

NETZSCH TORNADO Rotary Lobe Pumps - Operating parameters

Range	Model	Flowrate at nominal speed range (theoretical)		Speed (nominal) recommended range	Discharge pressure (max.) continuous / intermittent		Flange Connections	
		approx gpm	approx m ³ /h	rpm	psi	bar	in	mm
T1	MB-1	5 to 62	1 to 14	100 to 500	90/120	6/8	2.5	65
T1	MB-2	18 to 88	4 to 20	100 to 500	90/120	6/8	3	80
T2	08/45	35 to 172	8 to 39	100 to 500	120/150	8/10	3	80
T2	06/70	53 to 255	12 to 58	100 to 500	90/120	6/8	4	100
T2	08/100	70 to 361	16 to 82	100 to 500	120/15	8/10	5	125
T2	06/140	106 to 524	24 to 119	100 to 500	90/120	6/8	5	125
T1	XLB-2	132 to 664	30 to 151	100 to 500	60/90	4/6	6	150
T1	XLB-3	189 to 942	43 to 214	100 to 500	60/90	4/6	6	150
T1	XLB-4	264 to 1329	60 to 302	100 to 500	60/90	4/6	8	200
T1	XLB-6/2	532 to 2658	121 to 604	100 to 500	60/75	4/5	10	250
T1	XLB-8/2	976 to 3982	181 to 905	100 to 500	45/75	3/5	10	250

The NETZSCH Engineering Team - Unified in a Common Purpose

NETZSCH is focused on helping customers solve their most challenging issues. Developing and fielding new pump technologies that improve industrial and water-related processes is central to our work.

This ethic of continuous improvement is evident in the TORNADO T1 line of pumps, with “evolutionary engineering” enhancements that make a proven performer ever more capable.

We also take pride in making leaps of “revolutionary engineering” – as evidenced in the TORNADO T2. Totally redefining and redesigning the rotary lobe pump is aligned with our common purpose of offering deep applications expertise and leading innovation with products, systems and services that enable the smarter use of pumps.

For over a century, NETZSCH’s well-known pump products have served industrial processing, water and wastewater markets. With over 2,500 people, we have strong, long-standing relationships with customers who know us for our powerful combination of innovative solutions and applications expertise. Working in true partnership with our customers and end users, we listen, learn and adapt to local markets, delivering solutions with more impact than ever before.

Additional information
Brochure NPA 081

TORNADO® T2

Models 08/45, 06/70, 08/100 and 06/140

T.Agri, T.Envir and T.Proc

- Elastomer/metal pump head
- Elastomer vs. metal throughout the pump cycle
- Replaceable liners
- DIN/ANSI integral flanged connections
- Front loading seals mounted directly in flowpath
- Type A single and single quench
- Flowrates 35 to 525 gpm / 8 to 119 m³/hr
- Pressures to 145 psi / 10 bar
- Temperature up to 212°F / 100°C

T.Proc and T.Sano

- Metal Pump Head
- DIN/ANSI integral flanged connections
- Front loading seals mounted directly in flowpath
- Type I single, single quench and double flush
- Flowrates 35 to 525 gpm / 8 to 119 m³/hr
- Pressures to 145 psi / 10 bar
- Temperature up to 212°F / 100°C
- CIP'able for visual cleanliness



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