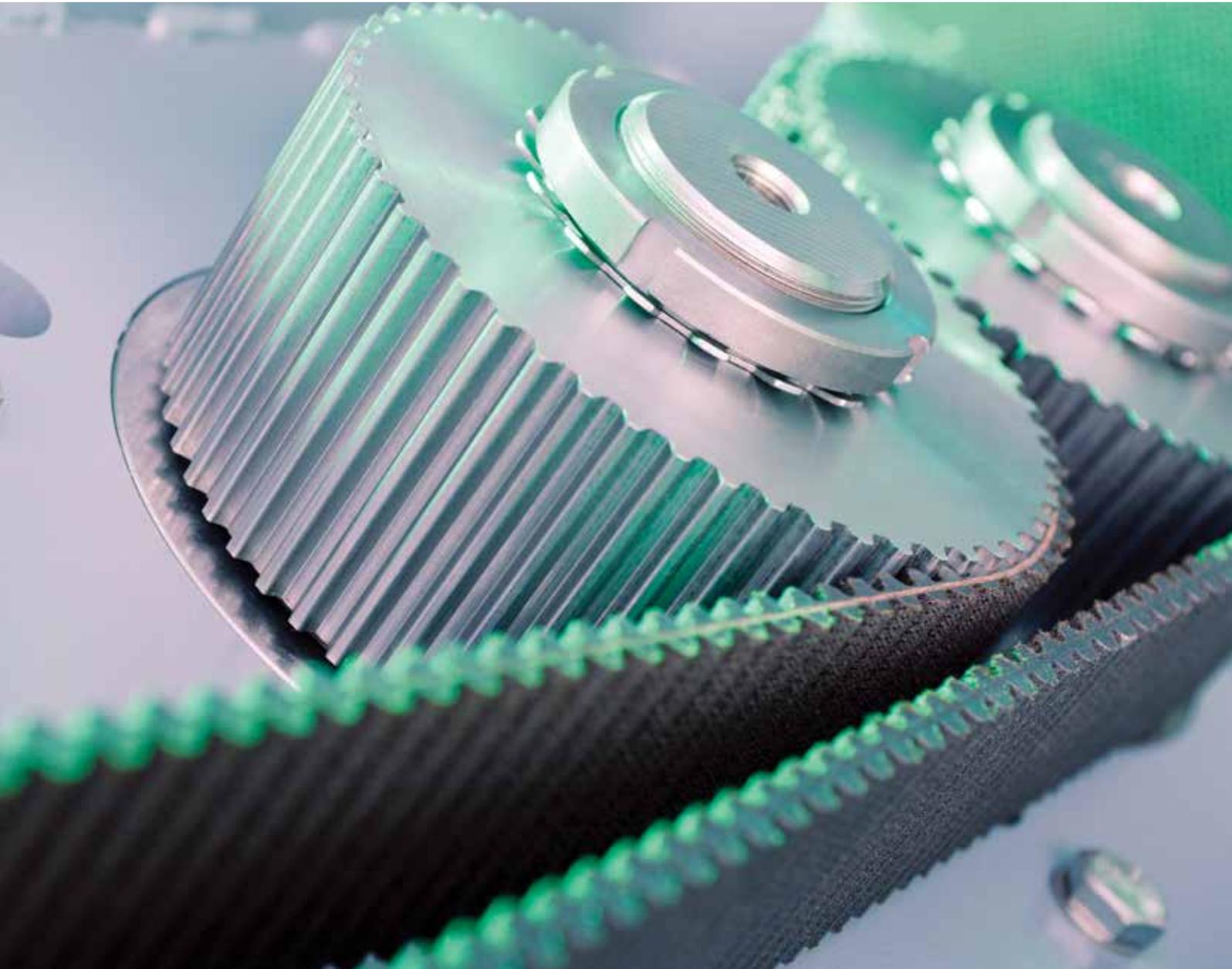


NETZSCH

Proven Excellence.



TORNADO® Rotary Lobe Pumps

The service-friendly rotary lobe pump, constructed according to the principle "full service-in-place"

Pumps & Systems

TORNADO®

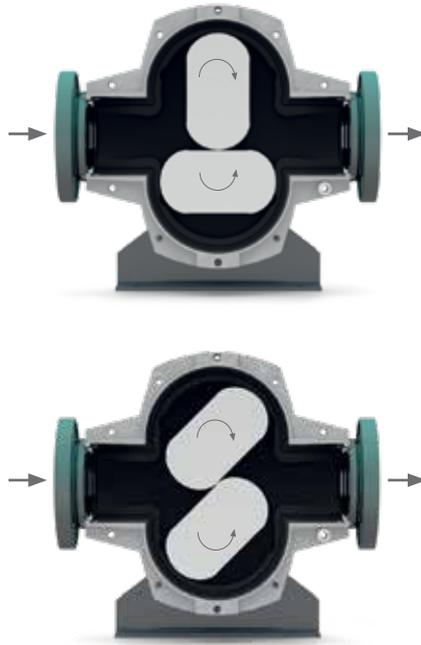
MAXIMUM SERVICE FRIENDLINESS MEETS HIGH PERFORMANCE

NETZSCH TORNADO® self-priming, valveless, positive displacement pumps can be optimally customized to meet specific process and application requirements. They can be used for almost any product for intermittent, continuous or metering applications.

TORNADO® pumps are particularly service and maintenance friendly; all parts that come into contact with the pumped product are directly accessible without dismantling the pipework or disconnecting the drive. Their advantages are small space requirements due to their compact design, high performance and maximized operational reliability, and the physical separation between the pump head and bearing housing.



Pulsation free
pumping



Functioning principle

The TORNADO® rotary lobe pump is a positive displacement pump. The pumping action is generated by the contra-rotation of two rotors within the pump chamber which are synchronized externally. The product enters the pump chamber through the inlet port and is carried around the chamber by the rotors to the outlet port where it is discharged.

Features

- Valve free construction
- Self priming
- Suitable for any kind of liquid including product containing gas, solids or fibrous matter
- Suitable for lubricating and non lubricating product
- Pumping product with high or low viscosity
- Handling shear sensitive fluids
- Operating at temperature up to 212°F / 100°C
- Reversible operation
- Can be serviced without disconnecting pipework
- Tolerance of dry running



Patents

The newly developed TORNADO® T2

REVOLUTIONARY IN DESIGN AND CUSTOMER BENEFIT



PROCESS OPTIMIZATION

COMPACTNESS

RELIABLE



OPERATIONAL SAFETY

COST-EFFECTIVENESS

EASE OF SERVICE

MAINTENANCE-FREE

Reliability

“The best maintenance is no maintenance”

We have perfected the rotary lobe pump concept by incorporating the tried, tested and proven NETZSCH core competence in the design and manufacture of engineered rubber solutions for the new TORNADO® T2. During the entire pumping cycle only elastomer and metal component surfaces interface within the pump. Elastomer to elastomer component surface interfaces, which suffer from excess wear and generate heat, are completely eliminated. Having these dissimilar materials for the static and dynamic pump head components, the elastomeric surfaces are subjected to a lower dynamic loading resulting in less plastic deformation and stress which in turn reduces wear and extends operational life. The use of high quality sealed-for-life bearings, selected for their load carrying characteristics and long life, combined with the tooth belt drive result in a drive train that can be considered maintenance-free.

Ease of service

“Full Service-In-Place instead of Maintenance-In-Place”

The innovative design of the TORNADO® T2 provides quick and easy access to the pump chamber, including the inlet and outlet ports, by simply removing the cover plate. This provides improved access for inspection, cleaning, service and replacing parts.

Compactness

“Efficiency in the smallest space”

The innovative design concept of incorporating a timing belt to synchronize and drive the pump requires less space. The smaller overall dimensions and maintenance-in-place represent a cost saving in terms of site use.

Leakage protection

“From GSS¹ to BSS²”

The proven physical separation between pump chamber and bearing housing (GSS) guarantees operational safety (BSS).

¹ GSS = Gearbox Security System

² BSS = Bearing Security System

Environmental awareness

“Green is already our corporate color”

The weight of the TORNADO® T2 has been significantly reduced through the choice of materials and innovative component design. This also means the pump consumes less energy. The reduced power requirement, in parallel with increased pump performance, lowers power consumption and so preserves our environment in a sustainable way. By eliminating the need for oil NETZSCH demonstrates environmental awareness.

Cost-effectiveness

“Saves resources and saves money”

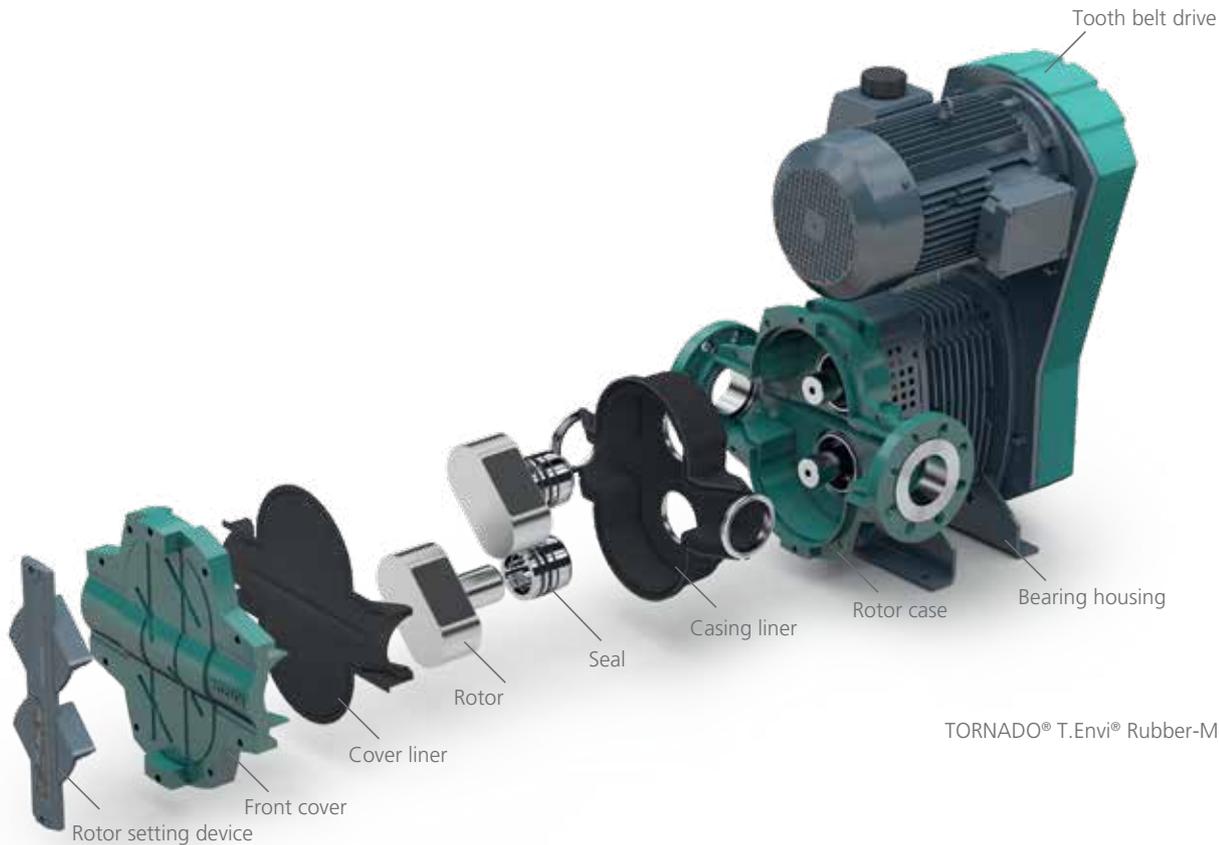
The revolutionary design of the TORNADO® T2 pump head extends the lifetime and improves the performance of the rotors, the elastomer liners and the mechanical seals. By adopting a modular design approach the cost of wear parts is reduced; operating life is extended; and the life cycle costs (LCC) are significantly reduced.

Drive options

A range of drive options are available for your specific application and process requirements. For more information see page 9.

Optimum choice of material

YOUR APPLICATION IS THE DECISIVE FACTOR



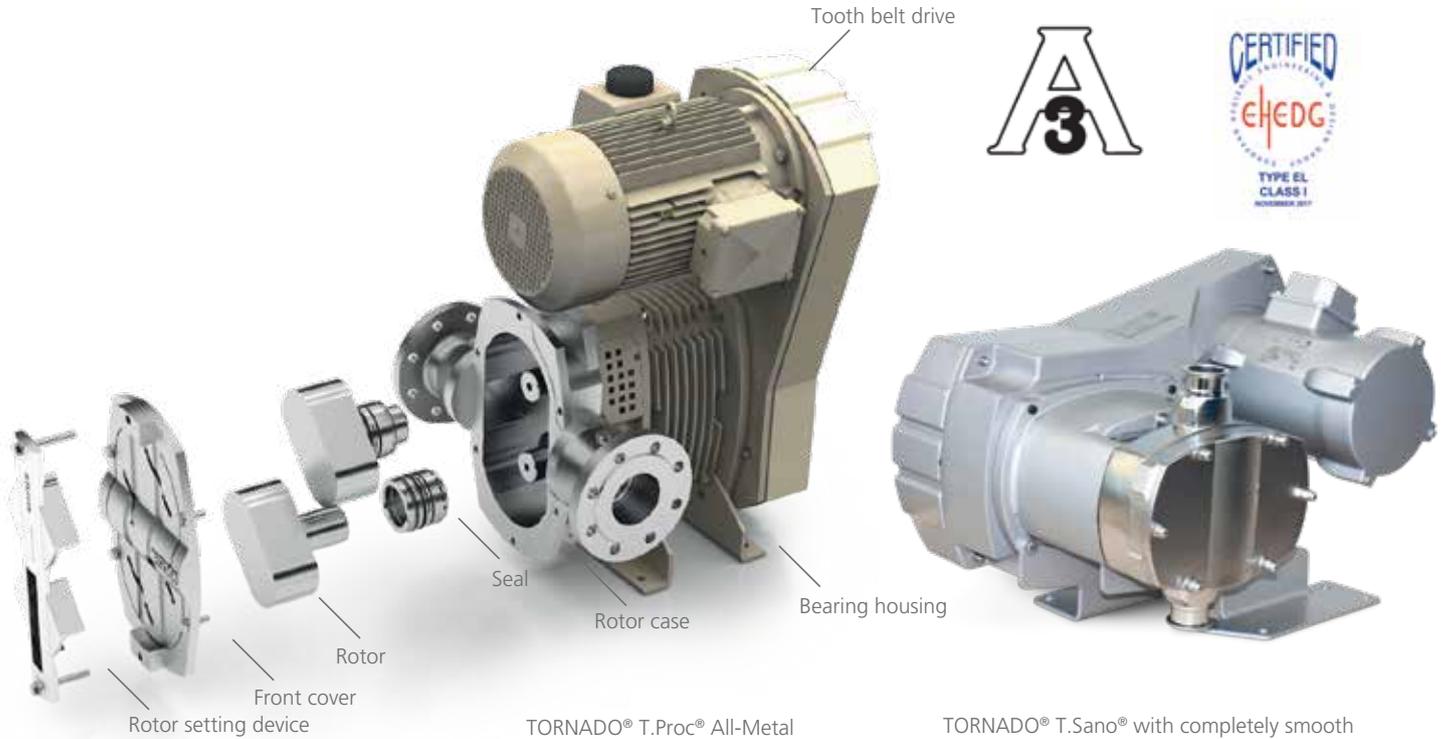
TORNADO® T.Envi® Rubber-Metal Pump

Stability

“The best maintenance is no maintenance”

Plastic deformation and heat generation is reduced by maintaining a uniform elastomeric wall thickness within the pump chamber. Material sections, bearing selection and seal positioning combine to minimize the adverse effects on dimensional changes to pump head geometry due to temperature changes. The design and geometry of the rotors ensures a high level of durability. With the rotor fixing and drive outside of the pump chamber the rotors can have a completely flat continuous front and back face with no dead areas which eliminates the possibility of fibrous material becoming

trapped and compacted. The mechanical seal design and seal face position eliminate dead areas and allow constant circulation of the product around the faces which ensures that the risk of product entrapment and compaction is minimized. TORNADO® T2 all metal pumps can be manufactured from metals offering higher levels of cleanliness, corrosion resistance or abrasion resistance. They can be specified for applications demanding the characteristics of these materials, especially in the low sanitary or chemical markets.



TORNADO® T.Proc® All-Metal

TORNADO® T.Sano® with completely smooth housing for sanitary applications

Ease of service

“Full Service In Place instead of Maintenance In Place”

Servicing a rotary lobe pump has never been so easy and all without the need for any special tools. The rotors can be removed and replaced very easily and quickly because they are not bolted or keyed to the shafts within the pump head but fixed with quick-fit, non-product wetted, taper lock assemblies positioned and accessed outside of the pump head. The geometry of the rotors allows them to be fitted and removed independently. There are no keys dictating a unique rotor position which results in faster, easier and cleaner rotor removal and replacement. For rotor synchronization, a setting device

is included as an integral part of the pump’s front cover design. Benefitting from all these features the service time for the TORNADO® T2 has been reduced to significantly less than half the time required for servicing a conventional rotary lobe pump. The pre-set cartridge mechanical seals are fitted directly into the rotor and mounted on the shafts as one assembly. There are various cartridge mechanical seals available—all of which fit into a common housing allowing for seal upgrades without modification: “Plug and Play”.



Process optimization

“Maximum reliability through design, material and range of mechanical seals”

The revolutionary NETZSCH PRS (Pulsation Reduction System) guarantees an almost pulsation-free discharge that is a benefit in many process applications. Even when used in conjunction with straight bi-lobe rotors, which ensures better solid handling capability and easier maintenance, the NETZSCH PRS provides an almost pulsation-free flow which outperforms the characteristics of complex multi-lobe helical rotors. The pump chamber and mechanical seal design and position eliminates dead areas, where pump product can collect and compact, making either manual or CIP cleaning easier.

Surprisingly simple

THE OIL-FREE SYNCHRONIZATION WITH A TOOTH BELT DRIVE



Single tooth belt drive

Functioning principle

The drive motor transmits power via a double-sided tooth belt which both drives and synchronizes the pump shafts. If required, the drive can be used in conjunction with a frequency converter to achieve a specific flowrate or range of flowrates.

Operational safe and oil free

“A new application of tried and tested drive technology”

An accident causing a complete write-off is inconceivable with this pump. We have replaced the timing gears which have to operate in a managed, maintained environment, with a robust and durable synchronizing tooth belt drive. This gives smoothness of operation, load dampening, reduced energy loss and eliminates the need for oil. There is no more oil filling, draining, changing, leakages, spillage or disposal. Down time is reduced; operation time is increased along with a cleaner, safer working environment. The simple design reduces down-time for service; the result is that the pump is operational in less time.

Environmental awareness

“TORNADO® T2 – the environment friendly pump”

By incorporating a tooth belt drive the pump does not use any oil. There is no chance of any environmental pollution from spillage or leakage. Our customers benefit from low noise levels and reduced heat in the working area around the pump which corresponds with less energy loss.



Versatile combination –
flexible installation –
consistent pumping capacity

Both single and double tooth belt drive arrangements are available providing a wide range of speed reduction ratios.



If required, a shaft extension for direct inline coupling to electric motor or diesel engine drive is available.



Power take off (PTO) shaft extension for drive from truck or tractor; twin shaft extensions are available where reversible operation is required.

Optimum operation

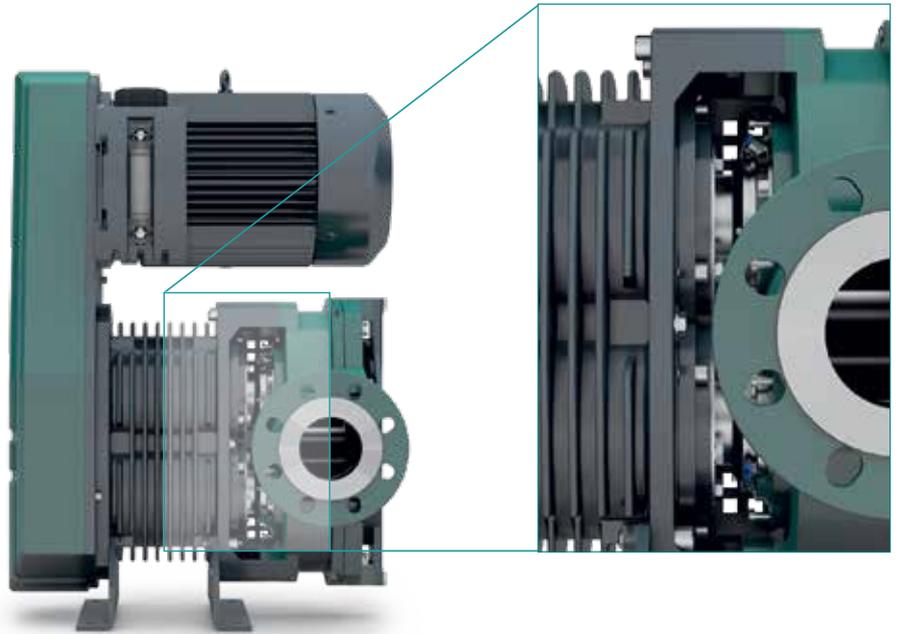
AND PROCESS RELIABILITY AND SAFETY

From GSS¹ to BSS²

- No ingress of the pumped product into the bearing housing in the event of seal failure
- Easy access to seal buffer/quench and barrier/flush connections
- Visual indicator of seal performance

¹ GSS = Gearbox Security System

² BSS = Bearing Security System



Design and position of mechanical seal: cartridge unit integral with rotor

- Uninterrupted and direct flow of product to and around seal faces
- Self draining, no dead areas
- No wear of shafts, since seals are designed as robust cartridge
- Easy assembly and disassembly



Mechanical seal selection for TORNADO® T2

A pump is only as reliable as its seals. Therefore a range of seals and seal materials are available for the new TORNADO® T2. All seals are in a cartridge design and fit into a common housing allowing for seal upgrades without modification. The seals are positioned with the seal faces directly in the flowpath through the pump chamber.

Mechanical seal typically used for industrial and general process applications



Single acting seal / seal faces in SIC or other materials



Single acting seal for buffer or quench liquid



Double acting seal for barrier or flush liquid / seal faces in SIC or other materials

The conventional TORNADO® T1

WITH ITS PROVEN QUALITY

For more than 20 years we have been supplying the classic design NETZSCH TORNADO® T1 rotary lobe pumps. Their extensive use in applications in the Environmental and Energy, Chemical, Pulp and Paper and Oil and Gas sectors for flow rates up to 4,000 gpm / 900 m³/h demonstrate their high performance. Pump size and specification are precisely tailored to suit the characteristics of the pumped product and the operating requirements. Three series with 12 models available provide for flow rates up 4,000 gpm / 900 m³/h at discharge pressures up to 90 psi / 6 bar for both intermittent and continuous operation. For higher discharge pressures customized solutions are available.

Your benefits

- GSS¹ technology for long term reliability
- Maintenance without the need to disconnect the inlet and outlet pipework
- Easy and quick access to the lobes and shaft seals
- Tolerance of running dry

¹ Gearbox Security System



XLB 4/2 Unit with external bearings for higher pressure and S-shaped adapter flanges for added pump protection.



Series TORNADO® XLB

Series TORNADO® XB

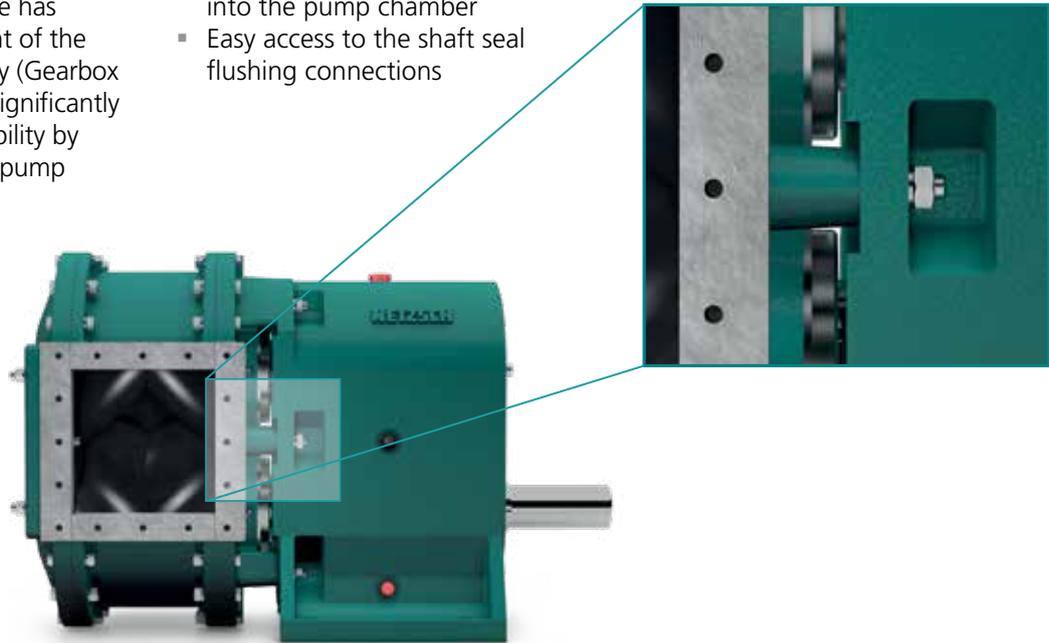
Series TORNADO® MB

NETZSCH GSS technology (GSS = Gearbox Security System) – Long-term reliability

The classic TORNADO® T1 rotary lobe pump is of optimal design for each application based on the knowledge and experience gained by NETZSCH over many decades of development, design, manufacture and supply of positive displacement pumps into all industries. This experience has founded the development of the NETZSCH GSS technology (Gearbox Security System), which significantly extends operational reliability by physically separating the pump chamber and gearbox.

Your benefits

- Extended operational reliability
- No ingress of the pumped product into the pump gearbox in the event of a product leaking
- No ingress of pump gearbox oil into the pump chamber
- Easy access to the shaft seal flushing connections



Seals are critical to satisfactory pump performance and the TORNADO® T1 is available with a range of highly engineered sealing solutions designed and selected to extend pump operating life.



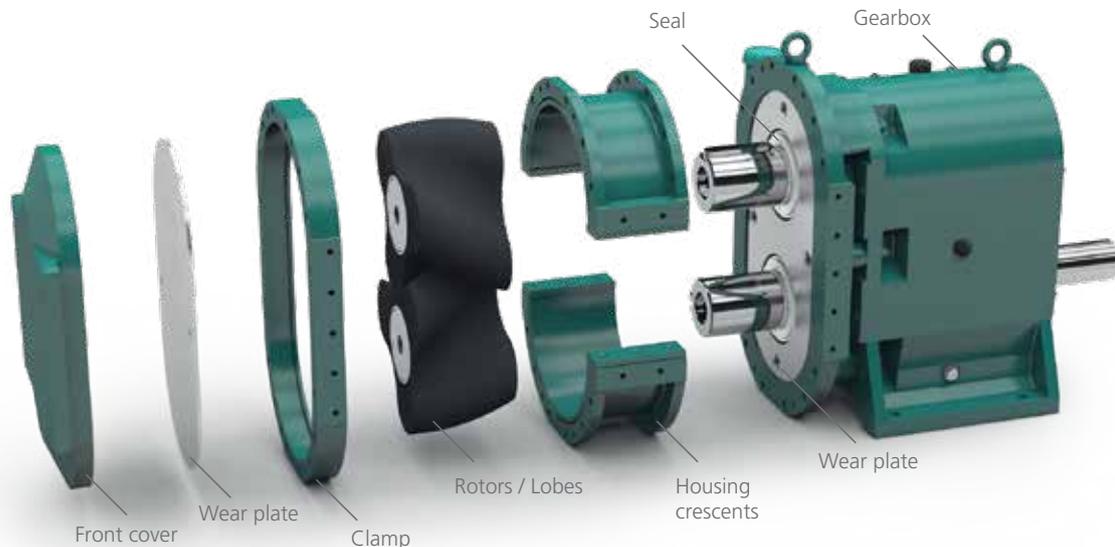
Classic single acting seal with Durofite faces



Single acting seal and double cartridge seal for quench or barrier/flush liquid with SIC faces

The classic TORNADO® T1

THE DESIGN



Front Cover

Rotors, cover seal and product seals can be accessed for inspection, service or replacement by simply removing the front cover. Disassembly of the inlet and outlet pipework and pump housing is not necessary.

Wear Plates

Abrasion and chemically resistant, replaceable wear plates are fitted on both sides of the rotors.

Rotors / Lobes

Straight sided or helical rotors are selected to suit individual application requirements. Rotors / lobes are available as bi-lobe, tri-lobe or four-lobe and a wide range of materials is available.

Housing Crescents

Modular construction allows for the crescents to be simply replaced should wear occur. Pump life time can be further extended with the option of replaceable crescent liners.

Seals

Wide range of product seals and materials are available, which are selected to suit individual application requirements. Seal arrangements include easy access connections for seal quench or flush.

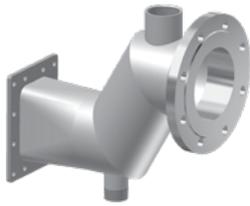
Gearbox

The patented gearbox design includes NETZSCH GSS-Technology separating the pump head from the gear box which eliminates cross contamination between the pump product and gear box lubricant.

Pump inlet and outlet adaptors for connection to installation pipework are available in various designs



Straight adaptor



S-shaped adaptor



Elbow (90° upwards) adaptor

Connection options

Adaptors designed to suit specific installations available on request

The rotors / lobes – low-pulsation, smooth pumping of all product

Rotors / Lobes in different geometries and materials



2 lobe straight



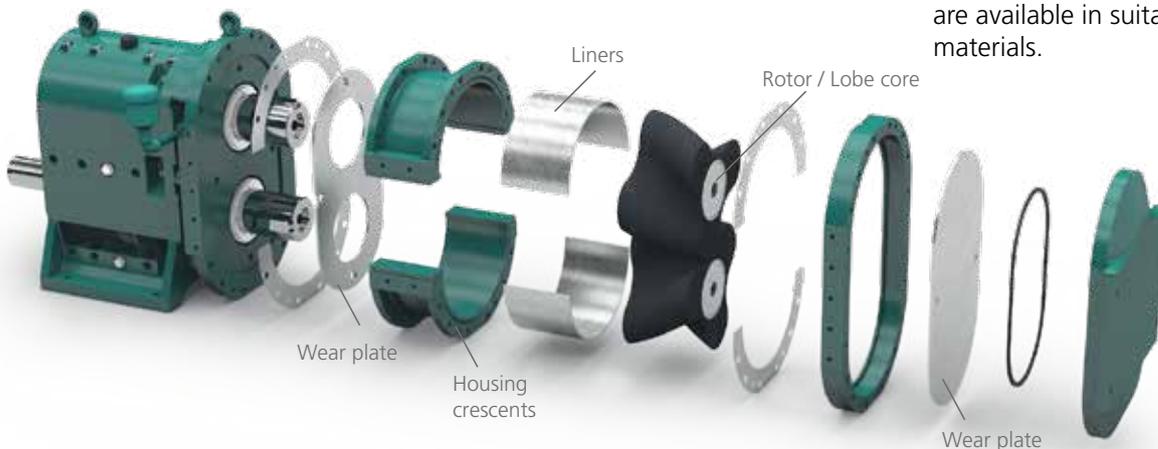
3 lobe helical



4 lobe helical

The rotor geometry and material are selected for the characteristics of the pumped product. Geometries are available for products which are viscous, abrasive or contain solids. Materials tailored to the product characteristics increase the durability of the rotor / lobes and extend service life.

Range of pump head wetted materials broadens application coverage



For handling chemically corrosive or otherwise aggressive product the TORNADO® T1 pump housing, wear plates, liners and rotor / lobe cores are available in suitably resistant materials.

It's the combination that counts

The ideal pump for your application, available with the accessories that protect your process:
Accessories to increase the operational safety of both pump and plant and to prevent downtimes

Dry running protector

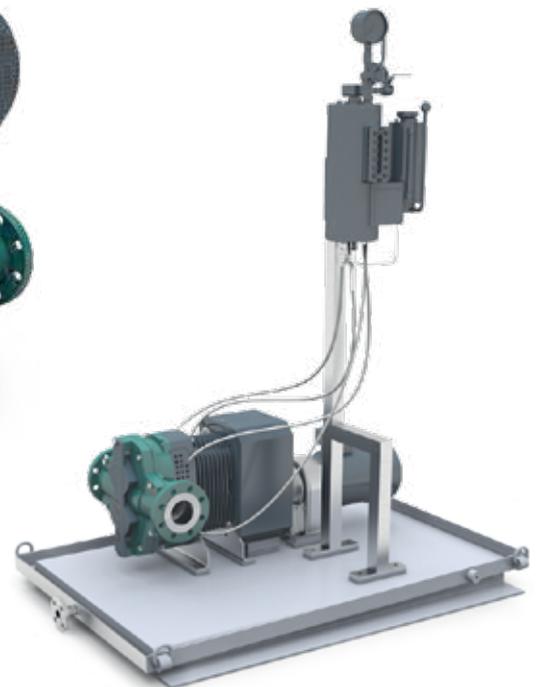
The dry running protection units (STP) for use with the TORNADO® rotary lobe pumps operate by monitoring the temperature between rotor and rotor case during normal operation. Should the operating temperature rise over a predetermined set point due to an increase in friction caused by dry running the unit will shut down the pump, thus preventing any damage to the rotor case liner and rotor. The unit controller can be set for two different switch temperatures, for example the first set temperature could be used for the normally pumped product and the second for a different product temperature like, for example, a cleaning fluid.

Quench pot for single mechanical seals

A quench pot is necessary when the shaft seals need to be operated with a quench, but it is not required that the seal is continuously flushed. The provision of a quench pot would be recommended to prevent dry running of the seals or crystallization of the pumped product.

Pressurized flush for double mechanical seals

A double mechanical seal must be used in conjunction with a system providing a pressurized flush, barrier fluid or thermo-syphon system. The barrier fluid is required to lubricate the seals, cool the seals and seal area and flush contaminants from the seal chamber. The barrier liquid should be compatible with the pumped product, lubricating and have a high specific heat capacity. The pressure of the barrier should be 30 psi / 2 bar above the pressure acting on the inboard seal from the pump chamber and flow rate of the barrier fluid must also be controlled.



Additional accessories

available on request

Frequency converter

For varying speed and flowrates a frequency converter is available.



Over pressure protection

Bypass line with relief valve for over pressure protection.



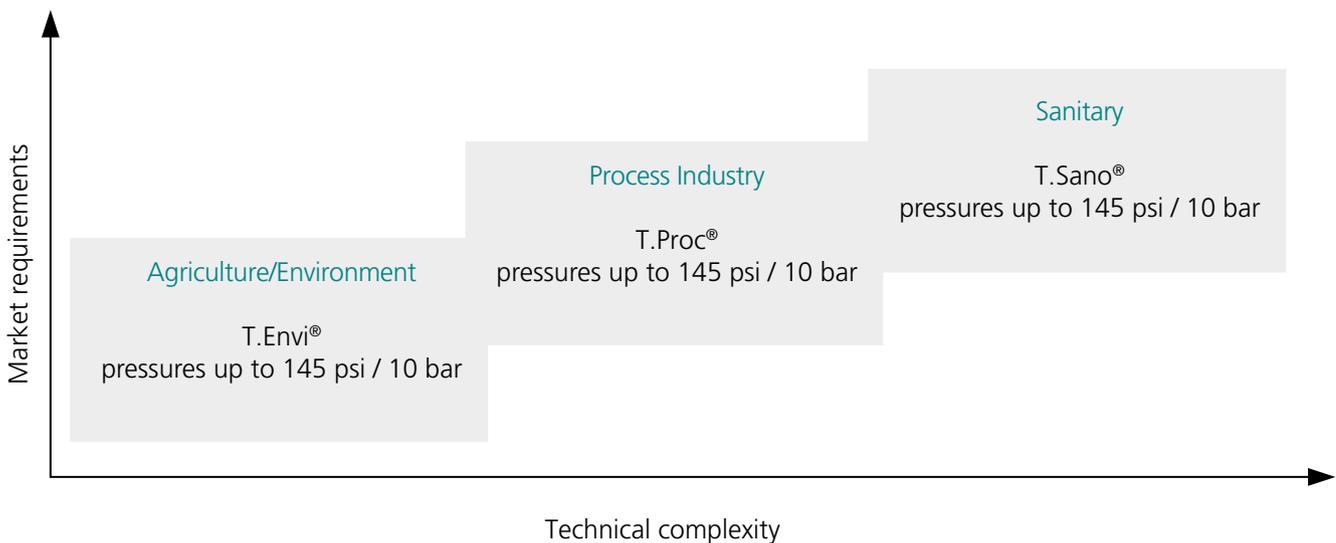
Mobile Versions

TORNADO® units used with various drives are also used for mobile versions.



Our product philosophy – your benefit: the best pump for your application

The TORNADO® rotary lobe pump is available in three series with each series offering features and specifications meeting specific market needs.



TORNADO® T.Envi®

THE ROBUST PUMP FOR AGRICULTURE AND

NETZSCH TORNADO® Rotary Lobe Pumps T.Envi® – Operating Parameters

Range	Model	Flowrate at nominal speed range (theo)		Speed (nominal) rec. range	Flowrate at max. speed (theo)	Speed max.
		approx. gpm	approx. m³/h	rpm	gpm / m³/h	rpm
T1	MB-1	12 to 62	3 to 14	100 to 500	99 / 23	800
T1	MB-2	18 to 88	4 to 20	100 to 500	142 / 32	800
T1	XB-1	34 to 168	8 to 39	100 to 500	185 / 42	550
T2	08/45	34 to 168	8 to 39	100 to 500	201 / 46	600
T1	XB-2	50 to 251	11 to 57	100 to 500	276 / 63	550
T2	06/70	50 to 251	11 to 57	100 to 500	301 / 68	600
T1	XB-3	67 to 334	15 to 76	100 to 500	368 / 83	550
T2	08/100	72 to 362	16 to 82	100 to 500	434 / 99	600
T1	XLB-1	94 to 470	21 to 107	100 to 500	517 / 117	550
T1	XLB-1/2	94 to 470	21 to 107	100 to 500	517 / 117	550
T1	XB-4	100 to 502	23 to 114	100 to 500	502 / 114	500
T2	06/140	104 to 522	24 to 119	100 to 500	626 / 142	600
T1	XLB-2	133 to 664	30 to 151	100 to 500	731 / 166	550
T1	XLB-2/2	133 to 664	30 to 151	100 to 500	731 / 166	550
T2	08/200	151 to 756	34 to 172	100 to 500	907 / 206	600
T2	06/300	210 to 1,050	48 to 238	100 to 500	1,050 / 239	500
T1	XLB-3	188 to 940	43 to 214	100 to 500	1,034 / 235	550
T1	XLB-3/2	188 to 940	43 to 214	100 to 500	1,034 / 235	550
T1	XLB-4	266 to 1,329	60 to 302	100 to 500	1,462 / 332	550
T1	XLB-4/2	266 to 1,329	60 to 302	100 to 500	1,462 / 332	550
T1	XLB-5	320 to 2,000	73 to 454	100 to 500	2,250 / 511	550
T1	XLB-5/2	320 to 2,000	73 to 454	100 to 500	2,250 / 511	550
T1	XLB-6/2	532 to 2,658	121 to 604	100 to 500	2,658 / 604	500
T1	XLB-8/2	797 to 3,986	181 to 905	100 to 500	3,986 / 905	500

ENVIRONMENTAL TECHNOLOGY

Discharge pressure (max.) continuous / intermitant		Displacement (theo)		ANSI Flange connections	Pump head materials (wetted)
psi	bar	gal/100 rpm	l/100 rpm		material *
90 / 120	6 / 8	12	47	2-1/2 "	metal / elastomer
90 / 120	6 / 8	18	67	3 "	metal / elastomer
90 / 120	6 / 8	34	127	4 "	metal / elastomer
120 / 145	8 / 10	34	127	3 "	metal / elastomer
90 / 120	6 / 8	50	190	6 "	metal / elastomer
90 / 120	6 / 8	50	190	4 "	metal / elastomer
75 / 90	4 / 6	67	253	6 "	metal / elastomer
120 / 145	8 / 10	72	274	6 "	metal / elastomer
90 / 120	6 / 8	94	356	6 "	metal / elastomer
120 / 145	8 / 10	94	356	6 "	metal / elastomer
60 / 90	4 / 6	100	380	6 "	metal / elastomer
90 / 120	6 / 8	104	395	6 "	metal / elastomer
75 / 90	5 / 6	133	503	6 "	metal / elastomer
120 / 145	8 / 10	133	503	6 "	metal / elastomer
120 / 145	8 / 10	151	572	6 "	metal / elastomer
90 / 120	6 / 8	210	795	8 "	metal / elastomer
60 / 90	4 / 6	188	712	6 "	metal / elastomer
120 / 145	8 / 10	188	712	6 "	metal / elastomer
60 / 90	4 / 6	266	1,006	8 "	metal / elastomer
120 / 145	8 / 10	266	1,006	8 "	metal / elastomer
45 / 60	3 / 4	400	1,514	10 "	metal / elastomer
75 / 90	5 / 6	400	1,514	10 "	metal / elastomer
60 / 75	4 / 5	532	2,012	10 "	metal / elastomer
45 / 75	3 / 5	797	3,018	10 "	metal / elastomer

* Various materials are available

TORNADO® T.Proc®

GREATEST

NETZSCH TORNADO® Rotary Lobe Pumps T.Proc® – Operating Parameters

Range	Model	Flowrate at nominal speed range (theo)		Speed (nominal) rec. range	Flowrate at max. speed (theo)	Speed max. rpm
		appr. gpm	appr. m ³ / h	rpm	gpm / m ³ / h	
T2	08/8	6 to 30	1 to 7	100 to 500	49 / 11	800
T2	06/12	9 to 46	2 to 11	100 to 500	74 / 17	800
T1	MB-1	12 to 62	3 to 14	100 to 500	99 / 23	800
T1	MB-2	18 to 88	4 to 20	100 to 500	142 / 32	800
T1	XB-1	34 to 188	8 to 38	100 to 500	185 / 42	550
T2	08/45	34 to 168	8 to 38	100 to 500	201 / 46	600
T1	XB-2	50 to 251	11 to 57	100 to 500	276 / 63	550
T2	06/70	50 to 251	11 to 57	100 to 500	301 / 68	600
T1	XB-3	67 to 334	15 to 76	100 to 500	368 / 83	550
T2	08/100	72 to 362	16 to 82	100 to 500	434 / 99	600
T1	XLB-1	94 to 470	21 to 107	100 to 500	517 / 117	550
T1	XLB-1/2	94 to 470	21 to 107	100 to 500	517 / 117	550
T1	XB-4	100 to 502	23 to 114	100 to 500	502 / 114	500
T2	06/140	104 to 522	24 to 119	100 to 500	626 / 142	600
T1	XLB-2	133 to 644	30 to 151	100 to 500	731 / 166	550
T1	XLB-2/2	133 to 644	30 to 151	100 to 500	731 / 166	550
T2	08/200	151 to 756	34 to 172	150 to 500	907 / 206	600
T2	06/300	210 to 1,050	48 to 239	100 to 500	1,050 / 239	500
T1	XLB-3	188 to 940	43 to 214	100 to 500	1,034 / 235	550
T1	XLB-3/2	188 to 940	43 to 214	100 to 500	1,034 / 235	550
T1	XLB-4	266 to 1,329	60 to 302	100 to 500	1,462 / 332	550
T1	XLB-4/2	266 to 1,329	60 to 302	100 to 500	1,462 / 332	550
T1	XLB-5	320 to 2,000	73 to 454	100 to 500	2,250 / 511	550
T1	XLB-5/2	320 to 2,000	73 to 454	100 to 500	2,250 / 511	550
T1	XLB-6/2	532 to 2,658	121 to 604	100 to 500	2,658 / 604	500
T1	XLB-8/2	797 to 3,986	181 to 905	100 to 500	3,986 / 905	500

NUMBER OF VERSIONS FOR THE PROCESS INDUSTRY

Discharge pressure (max.) continuous / intermitant		Displacement (theo)		ANSI Flange connections	Pump head materials (wetted)
psi	bar	gal / 100 rpm	l / 100 rpm		material *
120 / 145	8 / 10	6	23	1-1/4"	all metal
90 / 120	6 / 8	9	35	2"	all metal
90 / 120	6 / 8	12	47	2-1/2"	metal / elastomer
90 / 120	6 / 8	18	67	3"	metal / elastomer
90 / 120	6 / 8	34	127	4"	metal / elastomer
120 / 145	8 / 10	34	127	3"	metal / elastomer or all metal
90 / 120	6 / 8	50	190	6"	metal / elastomer
90 / 120	6 / 8	50	190	4"	metal / elastomer or all metal
75 / 90	5 / 6	67	253	6"	metal / elastomer
120 / 145	8 / 10	72	274	6"	metal / elastomer or all metal
90 / 120	6 / 8	94	356	6"	metal / elastomer
120 / 145	8 / 10	94	356	6"	metal / elastomer
60 / 90	4 / 6	100	380	6"	metal / elastomer
90 / 120	6 / 8	104	395	6"	metal / elastomer or all metal
75 / 90	5 / 6	133	503	6"	metal / elastomer
120 / 145	8 / 10	133	503	6"	metal / elastomer
120 / 145	8 / 10	151	572	6"	metal / elastomer
90 / 120	6 / 8	210	795	8"	metal / elastomer
60 / 90	4 / 6	188	712	6"	metal / elastomer
120 / 145	8 / 10	188	712	6"	metal / elastomer
60 / 90	4 / 6	266	1,006	8"	metal / elastomer
120 / 145	8 / 10	266	1,006	8"	metal / elastomer
45 / 60	3 / 4	400	1,514	10"	metal / elastomer
75 / 90	5 / 6	400	1,514	10"	metal / elastomer
60 / 75	4 / 5	532	2,012	10"	metal / elastomer
45 / 75	3 / 5	797	3,018	10"	metal / elastomer

* Various materials are available

TORNADO® T.Sano®

FOR STRICT SANITARY PROCESSES IN THE

NETZSCH TORNADO® Rotary Lobe Pumps T.Sano® – Operating Parameters

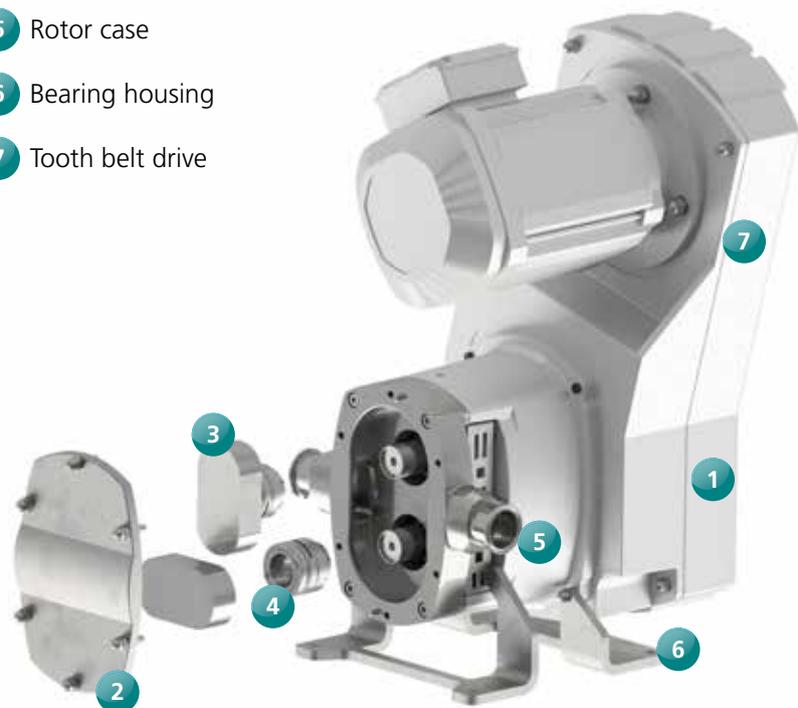
Range	Model	Flowrate at max. speed (theo)	Speed max.	Discharge pressure (max.) continuous / intermitant		Displacement (theo)	
		gpm / m ³ /h	rpm	psi	bar	gal/100 rpm	l/100 rpm
T2	08 / 8	49 / 11	800	120 / 145	8 / 10	6	23
T2	06 / 12	74 / 17	800	90 / 120	6 / 8	9	35
T2	08 / 20	117 / 27	800	120 / 145	8 / 10	14	53
T2	06 / 30	186 / 40	800	90 / 120	6 / 8	23	87
T2	08 / 45	201 / 46	600	120 / 145	8 / 10	34	127
T2	06 / 70	301 / 68	600	90 / 120	6 / 8	50	190
T2	08 / 100	434 / 99	600	120 / 145	8 / 10	72	274
T2	06 / 140	626 / 142	600	90 / 120	6 / 8	104	395



FOOD AND COSMETICS INDUSTRY

Flange Connections (tri-clamp)	Pump head materials (wetted)
Tri Clamp	material
1-1/4"	all stainless steel
2"	all stainless steel
2-1/2"	all stainless steel
3"	all stainless steel
3"	all stainless steel
4"	all stainless steel
6"	all stainless steel
6"	all stainless steel

- 1 Rotor setting device (inside belt cover)
- 2 Front cover
- 3 Rotor / Lobe
- 4 Seal
- 5 Rotor case
- 6 Bearing housing
- 7 Tooth belt drive





The NETZSCH Group is an owner-managed, international technology company with headquarters in Germany. The Business Units Analyzing & Testing, Grinding & Dispersing and Pumps & Systems represent customized solutions at the highest level. More than 4,000 employees in 36 countries and a worldwide sales and service network ensure customer proximity and competent service.

Our performance standards are high. We promise our customers Proven Excellence – exceptional performance in everything we do, proven time and again since 1873.

The NETZSCH Business Unit Pumps & Systems offers NEMO® progressing cavity pumps, TORNADO® rotary lobe pumps, NOTOS® screw pumps, PERIPRO™ peristaltic pumps, macerators/grinders, metering technology and equipment custom built for challenging solutions for different applications globally.

Proven Excellence ■

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