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Powerful 高效挤出机齿轮箱



轨道交通齿轮箱 Railway Gears	挤出机齿轮箱 Extrusion Gears	蜗轮蜗杆齿轮箱 Special Gears	定制齿轮箱 Special Gears	熔体泵 Melt Pumps	联轴器 Couplings	零部件 Components	技术服务 Service
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优质的产品是您从中获益的保证

Quality pays off

亨设尔公司为客户开发高效且安全的动力传动系统方案。这些动力传动系统广泛应用于对可靠性有特殊要求的一些领域，如：汽车，电厂，工程机械等。我们提供的产品，系统完美协调，可以实现在最少维护成本下达到高效而安全的作业。

亨设尔公司于1810年成立，总部位于德国黑森州卡塞尔市。在动力驱动领域，亨设尔凭其高水平的专业技术以及高质量的产品享誉全球。如今在许多国家，带有亨设尔公司标志的机车及卡车依然在使用，这标志着亨设尔产品核心技术遍及整个动力传动行业。

基于此，亨设尔公司研发了挤出机用齿轮箱-公司系列产品中的核心产品。我们开发的齿轮箱，结合现代化先进技术与精细化制造，具有最高的扭矩输出和最高的扭矩系数。

得益于悠久的传统优势，亨设尔公司为您提供专业解决方案。

Henschel develops the optimal solution wherever power is efficiently and safely transmitted. This applies to vehicles, plants and machinery, that require high reliability and availability. We provide perfect harmony within the entire system guaranteeing a safe operation with minimal maintenance and high efficiency.

Henschel was founded in 1810 in Kassel. With a high level expertise in the field of drive technology, Henschel has developed a worldwide reputation excelling in its high quality. In many countries today, locomotives and lorries with the Henschel star are in operation. This is symbolic of a knowhow that is very familiar in the entire power train industry today.

On this base we developed our Extruder gearboxes – the core elements of our range. We develop and deliver modern, state-of-the-art Extruder gearboxes for highest output and strongest torque rates.

Committed to this tradition we develop solutions.

50多年的经验分享，我们一起回顾亨设尔挤出机用齿轮箱的这一悠久而成功的发展过程。

With more than 50 Years of Experience, we look back on a long and successful Tradition of manufacturing Extruder Gearboxes

亨设尔齿轮箱的典型特性：最高功率密度，高效率，高可靠性。亨设尔提供最先进的挤出机用齿轮箱方案，满足市场对输出及生产稳定性的日益增长的需求。其中包含了技术的不断革新和驱动方案的智能化，这是我们的使命。

可靠性

200多年的悠久历史，亨设尔公司凭借其高质量的产品与服务已被客户视为最值得信赖的合作伙伴。根据客户的要求，公司研发的产品具有极高的操作稳定性并可以适应无法预测的变化需求。所有工艺工程的安全性和稳定性是我们与客户合作中的主要特点。

创新性

掌握德国最先进工程技术的亨设尔公司，充分运用行业知识不断扩大其核心市场。专业技术在日常工作中得以运用并不断得到巩固与提升。基于此，我们始终为客户提供创新性解决方案，从而保证我们的传统竞争优势并始终位居行业技术的最前端。

高效性

亨设尔公司不论是其内部员工的作业，工程设计，制造生产还是技术服务方面，如其产品一样具有高效性。最高运转效率，最低维护成本及其高稳定性成就了亨设尔产品的卓越。

Highest power density, efficiency and reliability: these are the characteristics for our gearboxes.

We offer state-of-the-art extruder gearbox solutions, which meet the daily high demands of the end user according to output capacity and reliability. There is a rising demand for innovative and intelligent drive solutions. This is our mission.

Reliable

Henschel services and products have a reputation for over 200 years of being very reliable. We develop systems that have a high operational reliability and are able to cope with unpredictable requirements. Safety and stability in all processes and procedures are a major feature in cooperation with our customers.

Intelligent

Henschel with its German state-of-the-art engineering applies its best knowledge in its core markets. The validity of this knowledge is employed daily to expand and share. Based on this knowledge, we design new solutions, securing our competitive edge.

Efficient

In the operation, engineering, manufacturing and service, we are as efficient as our products. Highest efficiency, low maintenance frequencies and high safety provide excellent products.

双螺杆挤出机用齿轮箱 Twin-Screw Extruder Gearboxes

亨设尔公司一直为异向旋转双螺杆挤出机市场提供领先的驱动解决方案，迄今为止，已有50多年历史。

We have been offering leading drive solutions for counter-rotating twin-shaft extruders for around 50 years.

异向旋转 Counter-rotating

应用领域 Examples of areas of application are:

管材挤出 Pipe Extrusion | 粉末挤出 Profile Extrusion | 造粒 Granulation

DURUMAX®系列产品象征着不断创新的挤出机齿轮箱技术和质量的最高标准。深入研究，开发与测试结合最优的质量控制方法奠定了挤出机齿轮箱的高性能，且结构紧凑。不仅是考虑输出扭矩，同时结合挤出机齿轮箱发展潮流的设计理念，满足用户不断提高的各种需求。

The DURUMAX® series stands for innovative extrusion gear technology at the highest level and with the highest quality. Intensive research, development and testing, as well as optimal quality control are the guarantee for the high performance of the Extruder gear in a compact design. We offer trend setting Extruder gearbox concepts which meet the daily high demands of the end users, not only in terms of output.

对于挤出生产线，驱动装置作为重要的必不可少的机械部件，保证最高的质量和满足各种工况要求。在这样的背景下，亨设尔公司致力于研发制造具有高质量，高性能的单螺杆挤出机和双螺杆挤出机用驱动装置。

For extrusion lines, the drive unit consists of an essential machine component representing the highest quality and fulfilling all requirements. Under these conditions, Henschel produces high-quality, high-performance single-screw and twin-screw extruder drives.

我们的异向旋转双螺杆挤出机齿轮箱输入端可以直接由电机或通过皮带驱动。多级斜齿轮减速箱将转速降低到所需的速度并建立所需的扭矩。在分配级，扭矩被分配到两根异向旋转的输出轴上。塑化过程中产生的轴向力由安装在止推轴承箱中的推力轴承吸收。

Our counter-rotating gearboxes can be driven directly by a motor or via belt at the input shaft. In the multi-stage helical gearbox the speed is reduced while the required torque is created. In the distribution gearbox this torque is splitted to the two counter-rotating output shafts. The axial forces coming from the extrusion process is absorbed by thrust bearings inside the thrust bearing housing.

设计特点:

Take advantage of the following benefits:

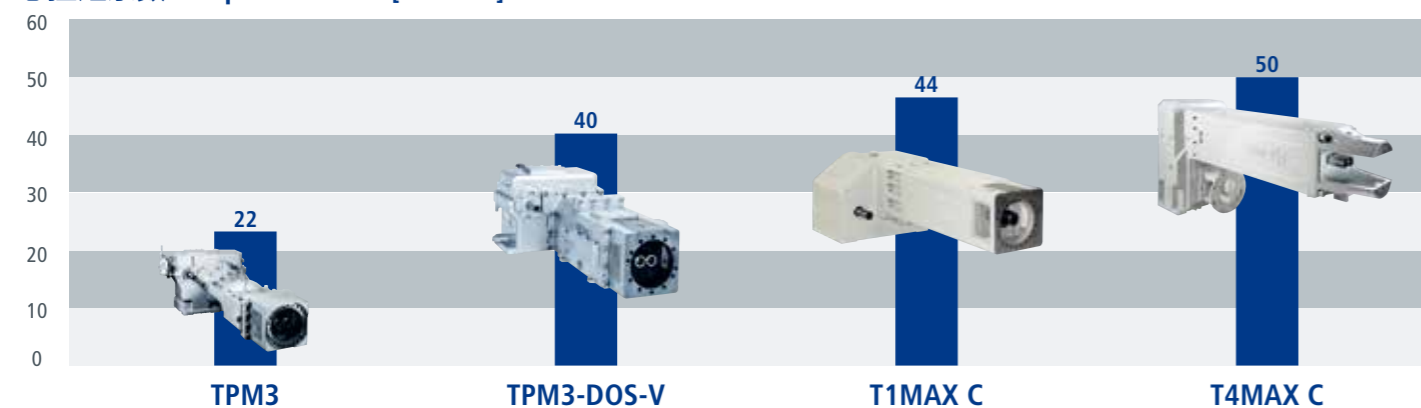
- 结构紧凑，模块化设计，采用表面渗碳硬化钢获得高性能
- 齿面硬化处理，并采用齿面优化磨齿技术加工的斜齿轮，传动平稳，噪音低
- 总齿轮箱效率高达95%以上
- 铸造箱体降低振动
- 优越的高可靠性和可用性
- 卓越的性价比

- Compact and modular design with high performance through the use of case-hardened steel
- Optimal smoothness and quietness by ground helical gears and optimised tooth geometry
- Total efficiency higher than 95%
- Vibration-reduced design through the use of cast iron housings
- Superior high reliability and availability
- Excellent price-performance ratio

我们对每一输出扭矩范围提供优化和供选择的方案。

We have for each output range optimum alternative transmission and drive solutions.

总扭矩系数 Torque factor in [Nm/cm³]



DURUMAX® – TPM3

DURUMAX® TPM3 齿轮箱是世界上首次运用平行3-轴分配设计理念设计的齿轮箱，该齿轮箱于1972年设计制造并向市场推广。平行3-轴分配设计理念经过多年的实践改进，目前已得到广泛的应用。



The DURUMAX® TPM 3 gearbox was the first one designed with the 3-shaft distribution concept and has been in the market from the year of 1972. This design concept has been improved over the years and presently has a wide range of applications.

螺杆直径 Size [Screw Ø]	中心距 Center Distance [mm]	单轴扭矩 Torque/shaft [Nm]
90	75.35	4,216
107	90	8,000

DURUMAX® – TPM 3-DOS-V

基于现代最前沿技术标准，亨设尔公司DURUMAX®TPM 3-DOS-V系列齿轮箱，为挤出机制造商提供了高质量的动力驱动系统，并在激烈的同类产品竞争中赢得了全球性的胜利。我们不断致力于将挤出机齿轮箱设计创新向前推进，把用户的日益增长的产能需求转变为现实。



继 TPM3 系列齿轮箱成功运用，TPM3-DOS-V 系列齿轮箱是亨设尔公司在九十年代初推出的高扭矩齿轮箱，这个系列的齿轮箱额定扭矩比TPM3系列提高了86%。

螺杆直径 Size [Screw Ø]	中心距 Center Distance [mm]	单轴扭矩 Torque/shaft [Nm]
65-77	55 - 61	3,200 - 4,700
90	75.35	7,500 - 7,860
107 - 114	88 - 92.5	12,400 - 13,350
130 - 140	110 - 114	20,300 - 23,160

不同于TPM3系列齿轮箱，TPM3-DOS-V系列齿轮箱的扭矩分配类似于双斜齿齿轮传动，是由两对类似的齿轮副实现的。

The DURUMAX® TPM 3 DOS-V from TS Henschel offers the extruder builder high-end gearbox technology based on latest technical standards, which are globally successful in hard competition to other products. We have forward-looking extruder gearbox concepts for you which convert the daily high requirements of the end user, concerning output into reality.

After the success story of the TPM 3, Henschel introduced the TPM 3 DOS-V series in the early nineties with up to 86 % higher torque ratings than the previous series.

Different from the TPM 3 series the distribution of the torque is done by two similar gear pairs (like a double helical gear).

DURUMAX® – T1MAX C

T1MAX C 型挤出机用齿轮箱是在 TPM3-DOS-V 系列齿轮箱的基础上研发，其平行三轴传动原理在异向旋转挤出机齿轮箱领域广为应用。T1MAX C 系列齿轮箱是最高效和具有最高性能的齿轮箱系列。

DURUMAX® T1MAX C 系列双螺杆挤出机用齿轮箱，为挤出机厂商提供最前沿技术标准设计制造的齿轮箱，额定扭矩比 TPM3-DOS 系列齿轮箱高出19%。

The extruder gearbox T1MAX C is the consistent development of the extruder gearbox series TPM 3 DOS-V with the proved 3-shaft distribution concept, which is world-wide the most popular concept in counter-rotating extrusion. With the T1MAX C we offer the most efficient concept with the highest performance in its category.

The DURUMAX® T1MAX C twin-shaft extruder offers the extruder builder high gearbox technology based on latest technical standards with up to 19 % higher torque ratings compared to the TPM 3 DOS series.



螺杆直径 Size [Screw Ø]	中心距 Center Distance [mm]	单轴扭矩 Torque/shaft [Nm]
92	75.35	8,985
110	90	15,126
125-135	108-110	25,000-29,765
145	122	35,000
177-180	146-150	67,500

DURUMAX® – T4MAX C

DURUMAX® T4MAX C 双螺杆挤出机齿轮箱应用于异向旋转挤出机高端市场。单轴扭矩系数为25 Nm/cm³，是目前市场上输出扭矩最高的异向旋转双螺杆齿轮箱。

典型特点:

- 比 T1MAX C 系列齿轮箱额定扭矩高出20%
- 运行稳定超出平均值

T4MAX C 系列齿轮箱设计理念包括减速级单元和带有串联推力轴承的分配级单元。扭矩分配在分配级齿轮箱单元内实现，通过安装在顶部的小齿轮轴与其他齿轮啮合。

电机直接通过法兰联轴器连接。4-级减速实现所需的螺杆转速并获得所需的扭矩。扭矩被均匀分配在两个轴上。挤出工艺过程中产生的轴向力由推力轴承箱中的推力轴承吸收。

Trend-setting: The DURUMAX® T4MAX C twin-shaft extruder gearbox for the highend-counter-rotating extrusion applications. With a torque factor of 50 Nm/cm³ the strongest counterrotating twin-screw extruder gearbox in the market.

Highlighted Features:

- 20 % higher torque rating compared to the T1MAX C series
- Operation reliability higher-than-average



螺杆直径 Size [Screw Ø]	中心距 Center Distance [mm]	单轴扭矩 Torque/shaft [Nm]
78	65	6,930
93	77	11,500

The technical concept of the T4MAX C series consists of a reduction gearbox and a distribution gearbox with integrated thrust bearings. The split of the torque occurs within the distribution stage by pinion shafts lying on the top of the other. The connection of the motor effects direct by a flange and a coupling. The 4-stage reducer part builds-up the torque at the required screw speed. The torque is distributed equally to the two extruder shafts.

减速箱系列 gearbox series	减速箱型号 gearbox size	中心距 center distance a [mm]	传动比 * i Ratio	输出转速 output speed n2 [rpm]	电机功率 motor powerP [kW]	输出扭矩 **T2 output torque [Nm]	总扭矩系数 Df total torque factor [Nm/cm³]	
TPM 2-DOS	TPM 2 52-DOS	44	46	40	7	1600	19	
				30	5			
				20	4			
TPM 3-DOS	TPM 3-65-DOS	55	25	40	20	4400	∞ 29	
				30	15			
				20	10			
	TPM 3-70-DOS	60	25	25	40	28		6200
					30	21		
					20	14		
	TPM 3-90-DOS	75,35	28	28	40	53		12000
					30	40		
					20	27		
	TPM 3-107-DOS	90	31.5	31.5	40	89		20000
					30	67		
					20	45		
TPM 3-130-DOS	110	31.5	31.5	40	169	38000		
				30	127			
				20	85			
TPM 3-DOS-V	TPM 3-63-DOS-V	54	25	40	26	5800	∞ 41	
				30	19			
				20	13			
	TPM 3-68-DOS-V	55	25	25	40	28		6200
					30	21		
					20	14		
	TPM 3-75-DOS-V 1)	61	61	61	40	42		9400
					30	31		
					20	21		
	TPM 3-87-DOS-V	74	28	28	40	68		15200
					30	51		
					20	34		
	TPM 3-92-DOS-V	75,35	28/44	28/44	40	70		15720
					30	53		
					20	35		
	TPM 3-94-DOS-V	76	28	28	40	76		17120
					30	57		
					20	38		
	TPM 3-100-DOS-V	80,8	44	44	40	94		21000
					30	70		
					20	47		
	TPM 3-106-DOS-V	88	31.5	31.5	40	102		23000
					30	77		
					20	51		
TPM 3-110-DOS-V	90	31,5/58	31,5/58	40	111	24800		
				30	83			
				20	55			
TPM 3-114-DOS-V	92.5	31.5	31.5	40	138	30865		
				30	103			
				20	69			
TPM 3-135-DOS-V	110	31.5	31.5	40	210	47125		
				30	157			
				20	105			
TPM 3-140-DOS-V	114	31.5	31.5	40	210	47125		
				30	157			
				20	105			
T1MAX C	T1MAX 88 C 1)	71.5	53	40	69	15400	∞ 44	
				30	51			
				20	34			
	T1MAX 92 C	75,35	35	35	40	80		17970
					30	60		
					20	40		
	T1MAX 108 C 1)	88	60	60	40	126		28350
					30	95		
					20	63		
	T1MAX 110 C	90	35	35	40	135		30252
					30	101		
					20	67		
	T1MAX 125 C	108	58	58	40	223		50000
					30	167		
					20	111		
	T1MAX 135 C 1)	110	60	60	40	258		58000
					30	194		
					20	129		
T1MAX 145 C	122	58	58	40	312	70000		
				30	234			
				20	156			
T1MAX 170 C	146	53	53	40	579	130000		
				30	434			
				20	290			
T1MAX 175 C	150	53	53	40	602	135000		
				30	451			
				20	301			
T4MAX C	T4MAX 78 C 1)	65	54	40	62	13860	50	
				30	46			
				20	31			
	T4MAX 93 C 1)	77	67	67	40	102		23000
					30	77		
					20	51		

以上参数表中列出电机功率及扭矩是按DIN3990标准，齿轮为无疲劳极限设计计算的，并包含KA=1.25的整机运用安全系数，对应于AGMA标准下服务安全系数Fs≥1.56
*如需其他速比，请联系我们当地销售人员 1) 安装形式为立式（其他为卧式）

The torque ratings mentioned are based on a fatigue endurable gear calculation as per DIN 3990 and considers an application factor KA ≥ 1,25 which correspond to a service factor of Fs ≥ 1,56 as per AGMA
* Other speed ratios are applicable, please contact our local sales 1) mounting position vertical (otherwise horizontal)

双螺杆挤出机齿轮箱 Twin-Screw Extruder Gearboxes

亨设尔公司为同向旋转双螺杆挤出机用户提供先进的驱动解决方案,单轴额定扭矩系数可达到 40 Nm/cm³。

Also for co-rotating twin-shaft extruders we are offering leading drive solutions with torque ratings up to 40 Nm/cm³.

同向旋转 Co-rotating

应用领域 Examples of areas of application are:

造粒 Compounding | 直接挤出 Direct Extrusion | 食品及宠物食品挤出 Food and Petfood Extrusion

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For extrusion lines, the drive unit consists of an essential machine component representing the highest quality and fulfilling all requirements. Under these conditions, Henschel produces high-quality, high-performance single-screw and twin-screw extruder gearboxes.

亨设尔提供的同向旋转齿轮箱直接由电机驱动,对于尺寸较小的齿轮箱,电机法兰连接可供选择。单级斜齿减速单元将转速降低到所需的转速,并获得所需的扭矩。输入扭矩通过分配级单元将扭矩分配到两根同向旋转的输出轴上。挤出工艺过程中产生的轴向力由安装在止推轴承箱内的推力轴承吸收。

Our co-rotating gearboxes are driven directly by the motor, for the small gearbox sizes motor flanges are available as an option. In the single-stage helical gearbox the speed is reduced while the required torque is created. This torque transmitted in the distribution gearbox to the two co-rotating output shafts. The axial forces coming from the extrusion process is absorbed by thrust bearings inside the thrust bearing housing.

设计特点:

Take advantage of the following benefits:

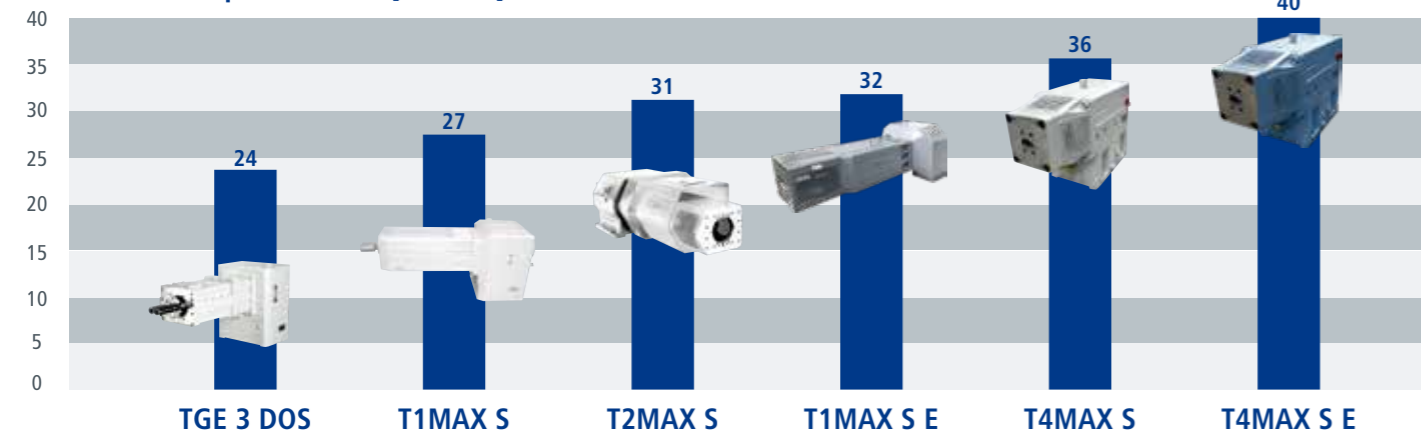
- 结构紧凑,模块化设计,采用表面渗碳硬化钢获得高性能
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总扭矩系数 Torque factor in [Nm/cm³]



DURUMAX® – TGE3-DOS

DURUMAX® – TGE3-DOS系列齿轮箱是运用最广的同向旋转双螺杆挤出机齿轮箱,坚固耐用的设计,单轴扭矩系数为12 Nm/cm³。基于TPM3-DOS-V系列异向旋转双螺杆挤出机用齿轮箱的成功经验,亨设尔公司在1997年成功推出了DURUMAX® TGE3-DOS系列同向旋转挤出机齿轮箱,并拓展到全部规格。



TGE系列齿轮箱的设计包括一个减速级单元和分配级齿轮箱单元。这两个模块通过止推轴承单元连接。类似于TPM3-DOS-V系列齿轮箱的设计,扭矩分配通过两对经齿形优化处理的齿轮副实现(如同双斜齿齿轮箱)。

螺杆直径 Size [Screw Ø]	中心距 Center Distance [mm]	单轴扭矩 Torque/shaft [Nm]
34-37	30-31	340
48-53	40-43	715-900
63-65	51-52	1,224-1,650
70-77	58.5-64	1,910-2,400
90-95	76-78	4,920-5,400
133	110	15,800

With a robust design and a torque factor of 24 Nm/cm³ the most popular co-rotating twin-screw extruder gearbox in the market. Based on the approved TPM 3 DOS-V series of counter rotating twin-shaft extruder gearboxes, Henschel developed the DURUMAX® TGE 3 DOS series for co-rotating extrusion in 1997. The range has been continually extended in all sizes.

The technical concept of the TGE series consists of a reduction gearbox and a distribution gearbox. Both gearbox modules are connected by the thrust bearing housing. Similar to the TPM 3 DOS-V series the distribution of the torque is done by two similar gear pairs (like a double helical gear) with optimized design.

DURUMAX® – T1MAX S / T1MAX S E

T1MAX S系列齿轮箱充分运用了已成熟的3-轴分配设计理念,单轴额定扭矩系数高达16 Nm/cm³。



T1MAX S系列齿轮箱是基于最高效率和最高性能相结合的理念设计的。DURUMAX® T1MAX S系列同向旋转双螺杆挤出机齿轮箱为客户提供高扭矩并具有很高的安全可靠。与TPM3-DOS-V系列齿轮箱类似,扭矩分配通过两对经齿形优化处理的齿轮副实现。

Based on the proven 3-shaft distribution concept the T1MAX S offers torque ratings of up to 32 Nm/cm³.

With the T1MAX S we offer the most efficient concept with the highest performance in its category. The DURUMAX® T1MAX S co-rotating twin-shaft extruder gearbox offers high torque ratings combined with high safeties. Similar to the TPM 3 DOS-V series the distribution of the torque is done by two similar gear pairs (like a double helical gear), here with optimized design.

螺杆直径 Size [Screw Ø]	中心距 Center Distance [mm]	单轴扭矩 Torque/shaft [Nm]
60-65	50-52	1,900-2,200
70-75	58.5-60	2,750
82	68	5,130
90-95	76-78	4,920-6,400

DURUMAX® – T2MAX S

T2MAX S 系列齿轮箱是基于7-轴分配设计理念，单轴额定扭矩系数高达15.5Nm/cm³，性能卓越且运行稳定。

2000年，亨舍尔公司推出了 DURUMAX® T2MAX S 系列同向旋转双螺杆挤出机齿轮箱。基于7-轴分配这一新的设计理念，这个系列齿轮箱具有独特的性能优势，最高的额定扭矩并具有很高的安全系数。

T2MAX-系列齿轮箱的设计包括一个减速级单元和分配级齿轮箱单元。这两个模块通过止推轴承单元连接。扭矩分配通过上下两个齿轮实现。

齿轮箱输入轴直接与电机连接。一级斜齿轮箱减速级，将转速降低到所需的转速并产生所需的扭矩。扭矩通过分配级分配到两根输出轴。挤出工艺过程中产生的轴向力由止推轴承箱中的止推轴承吸收。

Based on an 7-shaft distribution concept the T2MAX S offers torque ratings of up to 31 Nm/cm³ with a unique performance and reliability.

In the year 2000, Henschel introduced the DURUMAX® T2MAX S co-rotating twin-shaft extruder gearbox. Based on this new concept, it has offered unique, highest torque ratings combined with high safeties. The technical concept of the T2MAX-Series consists of a reduction gear and a distribution gear. Both gearbox modules are



螺杆直径 Size [Screw Ø]	中心距 Center Distance [mm]	单轴扭矩 Torque/shaft [Nm]
70	58.5	3,200
103	84	8,400
133	110	20,500

connected by the thrust bearing housing. The distribution of the torque is done by two vertical placed gear pairs. The gearbox is driven by a motor directly at the input shaft. In the one-stage helical gearbox the speed is reduced while the required torque is created. This torque is transmitted in the distribution gearbox to the two co-rotating output shafts. The axial forces coming from the extrusion process is absorbed by thrust bearings inside the thrust bearing housing.

DURUMAX® – T4MAX S / T4MAX S E

T4MAX S 系列齿轮箱是基于4-轴分配设计理念，单轴额定扭矩系数高达20Nm/cm³。

DURUMAX® T4MAX S 系列同向旋转双螺杆挤出机齿轮箱具有很高的扭矩系数和安全系数。

典型特性:

- 结构设计紧凑，减速级和分配级设计在同一个箱体内部
- 扭矩分配通过上下两个齿轮实现
- 很高的稳定性

Based on a 4-shaft distribution concept the T4MAX S offers trendsetting torque ratings of up to 40 Nm/cm³.

The DURUMAX® T4MAX S co-rotating twin-shaft extruder gearbox reaches high torque factors in combination with high safety factors for co-rotation extrusion.

Highlighted Features:

- Compact design: the reduction and a distribution gear is combined in one housing
- The distribution of the torque is done by two vertical placed gear pairs
- Superior high reliability



螺杆直径 Size [Screw Ø]	中心距 Center Distance [mm]	单轴扭矩 Torque/shaft [Nm]
26-27	22-23	120-190
33	26.9	350
43	35	770

减速箱系列 gearbox series	减速箱型号 gearbox size	中心距 center distance a [mm]	传动比 * i Ratio	输出转速 output speed n2 [rpm]	电机功率 motor power P [kW]	输出扭矩 **T2 output torque [Nm]	总扭矩系数 Df total torque factor [Nm/cm³]	
TGE 3-DOS-L	TPM 3-65-DOS	42/43	1.67	900	146	1490	20	
			2.5	600	98			
			5	300	49			
	TPM 3-70-DOS	52	52	1.67	900	255		2600
				2.5	600	170		
				5	300	85		
	TPM 3-90-DOS	60	60	1.67	900	393		4000
				2.5	600	262		
				5	300	131		
	TPM 3-107-DOS	76	76	1.67	900	844		8600
				2.5	600	563		
				5	300	281		
TPM 3-130-DOS	78	78	1.67	900	891	9080		
			2.5	600	594			
			5	300	297			
TGE 3-DOS-LX	TGE 3-50-DOS-LX	42/43	1.67	900	165	1680	22	
			2.5	600	110			
			5	300	55			
	TGE 3-65-DOS-LX	52	52	1.67	900	307		3130
				2.5	600	205		
				5	300	102		
	TGE 3-75-DOS-LX	60	60	1.67	900	461		4700
				2.5	600	308		
				5	300	154		
	TGE 3-95-DOS-LX	78	78	1.67	900	1021		10400
				2.5	600	681		
				5	300	340		
TGE 3-DOS	TGE 3-34-DOS	30	1.67	900	63	640	24	
			2.5	600	42			
			5	300	21			
	TGE 3-37-DOS	31	31	1.67	900	70		710
				2.5	600	46		
				5	300	23		
	TGE 3-40-DOS	33,4	33,4	1.67	900	87		890
				2.5	600	58		
				5	300	29		
	TGE 3-48-DOS	40	40	1.67	900	150		1530
				2.5	600	100		
				5	300	50		
TGE 3-50-DOS	42	42	1.67	900	175	1780		
			2.5	600	116			
			5	300	58			
TGE 3-53-DOS	43	43	1.67	900	187	1900		
			2.5	600	124			
			5	300	62			
TGE 3-63-DOS	51,75	51,75	1.67	900	326	3320		
			2.5	600	217			
			5	300	109			
TGE 3-65-DOS	52	52	1.67	900	324	3300		
			2.5	600	216			
			5	300	108			
TGE 3-70-DOS	58,5	58,5	1.67	900	471	4800		
			2.5	600	314			
			5	300	157			
TGE 3-72-DOS	59.5	59.5	1.67	900	491	5000		
			2.5	600	327			
			5	300	164			
TGE 3-75-DOS	60	60	1.67	900	510	5200		
			2.5	600	340			
			5	300	170			
TGE 3-85-DOS	70	70	1.67	900	805	8200		
			2.5	600	537			
			5	300	268			
TGE 3-95-DOS	78	78	1.67	900	1117	11380		
			2.5	600	745			
			5	300	372			
TGE 3-130-DOS	110	110	1.67	900	3141	32000		
			2.5	600	2094			
			5	300	1047			

以上参数表中列出电机功率及扭矩是按DIN3990标准，齿轮为无疲劳极限设计计算的，并包含KA=1.25的整机运用安全系数，对应于AGMA标准下服务安全系数Fs≥1.56
* 以上参数表中列出的速比为参考速比，请联系我们在当地的销售人员了解实际现有速比。 ** 电机功率按电机转速为1500 rpm 计算

The torque ratings mentioned are based on a fatigue endurable gear calculation as per DIN 3990 and considers an application factor KA ≥ 1,25 which correspond to a service factor of Fs ≥ 1,56 as per AGMA
* The speed ratios mentioned are for reference, please contact our local sales to ask the existing ratio ** calculated base on 1500rpm input speed

减速箱系列 gearbox series	减速箱型号 gearbox size	中心距 center distance a [mm]	传动比 * i Ratio	输出转速 output speed n2 [rpm]	电机功率 motor power P [kW]	输出扭矩 **T2 output torque [Nm]	总扭矩系数 Df total torque factor [Nm/cm ²]	
T1MAX S	T1MAX 53 S	43	1.67	900	202	2060	27	
			2.5	600	135			
			5	300	67			
	T1MAX 65 S	52	1.67	900	363	3700		
			2.5	600	242			
			5	300	121			
	T1MAX 70 S	58,5	1.67	900	536	5460		
			2.5	600	357			
			5	300	179			
	T1MAX 75 S	60	1.67	900	542	5520		
			2.5	600	361			
			5	300	181			
T1MAX 90 S	76	1.67	900	1121	11420			
		2.5	600	747				
		5	300	374				
T1MAX 95 S	78	1.67	900	1257	12800			
		2.5	600	838				
		5	300	419				
T1MAX 110 S	90	1.67	900	1961	19980			
		2.5	600	1308				
		5	300	654				
T2MAX S	T2MAX 103 S	84	1.67	900	1649	16800	31	
			2.5	600	1099			
			5	300	550			
T2MAX 133 S	110	1.67	900	4025	41000			
		2.5	600	2683				
		5	300	1342				
T1MAX S E	T1MAX 70 S E	58,5	1.25	1200	840	6420		32
			1.67	900	630			
			2.5	600	420			
T4MAX S	T4MAX 26 S	22	1.25	1200	50	380		36
			1.67	900	37			
			2.5	600	25			
	T4MAX 33 S	26.9	1.25	1200	92	700		
			1.67	900	69			
			2.5	600	46			
T4MAX 43 S	35	1.25	1200	202	1540			
		1.67	900	151				
		2.5	600	101				

以上参数表中列出电机功率及扭矩是按DIN3990标准，齿轮为无疲劳极限设计计算的，并包含KA=1.25的整机运用安全系数，对应于AGMA标准下服务安全系数Fs≥1.56
* 以上参数表中列出的速比为参考速比，请联系我们在当地的销售人员了解实际现有速比。 ** 电机功率按电机转速为1500 rpm 计算

The torque ratings mentioned are based on a fatigue endurable gear calculation as per DIN 3990 and considers an application factor KA ≥ 1,25 which correspond to a service factor of Fs ≥ 1,56 as per AGMA
* The speed ratios mentioned are for reference, please contact our local sales to ask the existing ratio ** calculated base on 1500rpm input speed



单螺杆挤出机齿轮箱 Single-Screw Extruder Gearboxes

按挤出机制造商要求专门定制

Developed especially for the requirements and interests of extrusion.

运用领域 Examples of areas of application are:

管材挤出 Pipe Extrusion | 型材挤出 Profile Extrusion | 片材挤出 Film Extrusion | 宠物食物挤出 Pet Food

单螺杆挤出机齿轮箱在挤出机行业起着突出的作用，运用领域广泛，涵盖了不同客户的个性化定制需求。

DURUMAX® -S1 和 S2 系列齿轮箱专门设计来满足挤出机厂商的需求。

设计特点:

- 标准化的模块设计，根据客户的不同需求可以灵活调整。
- 功率损耗和维护费用很低，运行成本维持在很低的水平。
- 精细制造，低摩擦轴承以及齿轮间摩擦降低保证了最高的传动效率。
- 结合最新的最前沿的开发技术，齿轮设计采用优化处理，结合实际运用所需的安全系数确保齿轮箱具有最长的使用寿命。

Single-shaft extruder gearboxes play an outstanding role in extrusion techniques, covering a wide range of individual customer requirements. The DURUMAX®-S1 and S2 have been developed especially to meet the requirements of extrusion.

An overview of your advantages:

- A standardised modular design allows flexible adjustments in regards to the customers needs.
- The operating expenses are maintained at a low level by economical power consumption and maintenance demands. Low friction bearings and low friction in tooth contact due to best manufacturing technologies ensures highest efficiency.
- The combination of the latest state-of-the-art technology, gears designed with optimised safety factors as well as field-experienced application factors for external impacts guarantee maximum longevity.

DURUMAX® – S

DURUMAX®-S 单螺杆挤出机齿轮箱广泛应用于塑料成型，食品及宠物饲料挤出。

产品特性:

- 最新的齿轮箱设计技术，可以有1, 2, 3级传动
- 直接或V-带轮驱动
- 速比: i= 6 或 25
- 集成润滑油箱实现飞溅，应对紧急断电情况下的润滑
- 强制润滑系统增强润滑
- 垂直和水平集成冷却装置
- 润滑有管道布置在齿轮箱内部，按需要连接外部润滑系统。
- 料筒及螺杆连接按用户要求设计

The DURUMAX®-S single-screw extruder gearbox is used in plastics processing, food and feed industry.

The technical concept for the drive provides the following characteristics:

- Modern gearbox design available with 1, 2 or 3 stages
- Direct or V-belt drive
- Ratios of i = 6 to 25
- Splash lubrication with integrated oil reservoir for emergency running properties
- Pressure-feed lubrication system for increased requirements



螺杆直径 Size [Screw Ø]	扭矩 Center Distance [Nm]
60	7,230
75	8,780
85	10,300
90	13,760
120	31,260
150	34,655

- Cooling of vertical and horizontal models by integrated cooling pipes for the most applications, external lubrication system on demand
- Cylinder and screw connections according to customer requirements

TA 型油冷却器润滑系统

TA Oil Cooling and Lubrication Units

TA 型油冷却器润滑系统运用广泛

Tailor made oil cooling and lubrication units for every application.

我们的定制油冷却与润滑单元优化了亨设尔DURUMAX®系列挤出机用齿轮箱系统润滑环境,保证了齿轮箱在各种负载下高效的散热。

单螺杆挤出机齿轮箱采用飞溅润滑。充足的润滑油确保齿轮和轴承的润滑需求。齿轮箱的油位计用于观察油位。如果实际功耗大于飞溅润滑散热极限,可以安装水冷却盘管对润滑油进行冷却。应对特殊应用,齿轮箱可以外接外部冷却润滑系统。

双螺杆挤出机齿轮箱配备飞溅/压力混合润滑系统。电动或者机械泵确保所有齿轮和轴承被充分润滑。对于中小型齿轮箱,齿轮箱箱体可以用作油箱。

TPM2-DOS和TPM3系列齿轮箱标准配置包含润滑油泵及过滤系统。其他系列的齿轮箱的润滑系统不是标准配置,可以作为选配项。量身定制的油润滑系统可以确保我们DURUMAX®系列齿轮箱处于最佳润滑状态下工作,在各种工况下有效散热。



Our tailor made oil cooling and lubrication units ensure optimum lubrication of our DURUMAX® gearboxes and a efficient heat elimination in every range of performance.

Single-screw extruder gearboxes are designed for splash lubrication. The quantity of oil ensures that all gears and bearings are lubricated. An oil level indicator shows the fill level. For the case that the nominal power exceeds the thermal limit power, an integrated water cooling coil could be installed. For special applications an external cooling and lubrication unit could be applied.

Twin-shaft extruder gearboxes are equipped with a combined splash- and pressure lubrication. An electrical or mechanical oil pump ensures that all gears and bearings are sufficiently lubricated. In the small and middle power range the gearbox housing is used as an oil reservoir.

The series TPM 2 DOS and TPM 3 are by default equipped with an oil pump and filter. For the other series the cooling unit is not included by default, but could be ordered optionally. Our tailor made oil cooling and lubrication units ensure optimum lubrication of our DURUMAX® gearboxes and a efficient heat elimination in every range of performance.

产品特性Features:

- 按每一运用要求,可以配置优化设计的冷却润滑装置
- For every application is an optimal dimensioned oil cooling and lubrication unit available
- 标准的元器件包括 Wide range of standard units consisting of:
 - 电动油泵 electrical driven oil-pump
 - 热交换器 heat-exchanger
 - 压力开关 pressure switch
 - 油过滤器 oil-filter
- 每一个油冷却润滑系统可以通过以下方式单独调节(选配)
Option- each unit can be adjusted individually e.g. with:
 - 带有显示装置的可切换式双油过滤器 switchable double oil filter with impurification display
 - 温度计, 压力计 thermometer, manometer
 - 冷却水温控阀 thermostat valve for cooling water flow



建立在稳定持久的技术热情之上的亨设尔服务。 Service from Henschel –based on a passion for reliability and technological durability.

我们保证我们的机器设备在工业领域实现最高的可用性。

We are authorised to implement the highest availability of machinery and equipment in our industry.

经验丰富并遍及全球的亨设尔技术服务团队,为运用于整个工业领域的设备提供检修,零部件更换服务。从设备清洗到整修更新,我们为客户提供完善的服务,有效地减少停机时间。

亨设尔公司提供一站式服务。从单个零件到整体部件,我们为客户提供一切所需,甚至包括来自其他生产商的部件和系统。

我们的技术服务定位于全球,根据要求我们及时做出响应,为了减少长途运输及运转流程时间,全球协调资源,为客户在最短时间内提供现场系统维修服务。

我们同样也非常乐意对一些非常少有的部件提供维修以及修复服务,甚至是不完整的部件。归功于公司的悠久传统。您或许会感到非常惊讶,我们至今仍然可以查询到一个多世纪前的解决方案,因为我们将这些技术信息与整体构造背景一起记录在案并留有存档。

The experienced and globally networked Henschel Service team inspects, replaces and repairs components and systems used in numerous industrial applications. We organise complete service chains, from cleaning to refurbishing. Each customer is given a personalised service package for effective minimisation of downtimes.

Henschel Service is a one-stop supplier. From individual items to components, we have what you're looking for, even components and systems from other manufacturers.

We define service as world-wide mobility and speed. We will repair your components and systems on site as required. That eliminates long transport and transfer processes. The workflow is transparent at all times.

We are also happy to repair and restore rare and individual one-off pieces, even if they are no longer complete. We owe that to our Henschel tradition. And you might be amazed at how much we can still learn from solutions of over a century ago, because we keep them in our archive, together with all of their constructional backgrounds.