

oerlikon
balzers

Innovative solutions for large machine parts

大型机械部件的创新解决方案

Efficient, environmentally-friendly, productive:
surface treatment with BALITHERM IONIT
高效，环保，高产：BALITHERM IONIT表面处理

Open a new world of possibilities with BALITHERM IONIT
Contact us today!

BALITHERM IONIT，与您携手开启无限可能的新世界
立刻联系我们吧！

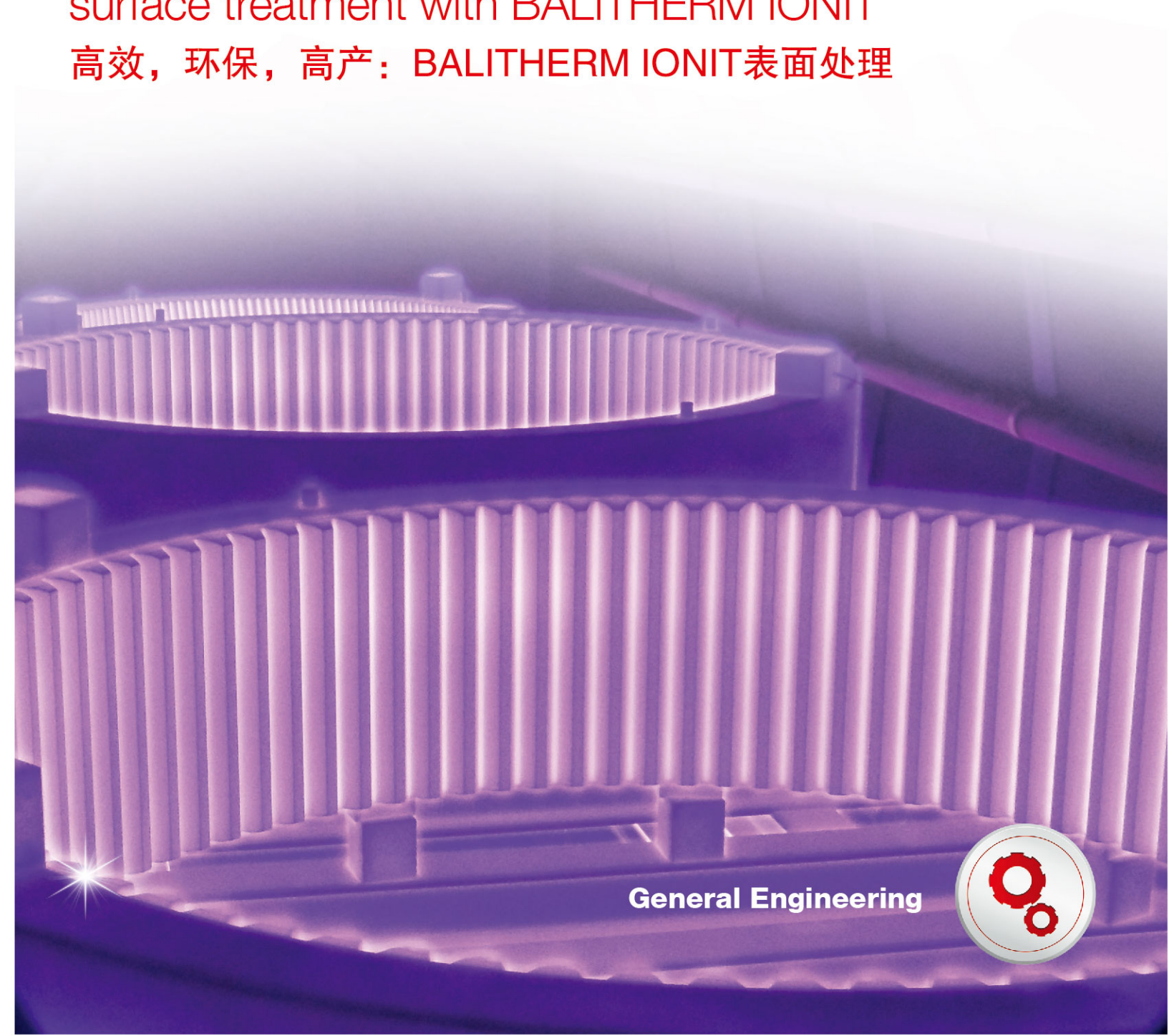
OC Oerlikon Balzers AG | Balzers Technology & Service Centre | Iramali 18 | 9496 Balzers | Liechtenstein
T: +423 388 7500 | F: +423 388 5419 | E: components.balzers@oerlikon.com | www.oerlikon.com/balzers

Oerlikon Balzers Coating (Suzhou) Co., Ltd | No.9 Chang Yang Street | Suzhou Industrial Park 215024 | Jiangsu Province | P.R.China
T: +86 512 67620369 | F: +86 512 67620359 | E: info.balzers.cn@oerlikon.com | www.oerlikon.com/balzers/cn

欧瑞康巴尔查斯涂层（苏州）有限公司 | 长阳街9号苏州工业园区 | 215024 | 江苏省 | 中国
电话: +86 512 67620369 | 传真: +86 512 67620359 | 邮箱: info.balzers.cn@oerlikon.com

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General Engineering



Improved performance: The surface hardening solution for large machine parts

改善性能：大型机械部件的表面硬化解决方案

The surface treatment of high performance machine components is a critical process step. Oerlikon Balzers has the solution: The advanced low temperature heat treatment process IONIT. The low temperature heat treatment process creates a wear resistant and durable surface on large components, like annular and ring gears for wind turbines, marine gear units, or large parts found in the high performance machine components. The surface treatment is a very important process step. Oerlikon Balzers' solution is: the advanced low temperature heat treatment process IONIT. The low temperature heat treatment process provides a durable surface, for example: wind turbine annular gears and gear rings, ship gears or large parts of heavy machinery.

heavy-machinery sector. No harmful chemicals or gases are used in the IONIT process. This means that IONIT is the environmentally-friendly and efficient alternative to conventional nitriding methods. Take advantage of the many benefits offered by Oerlikon Balzers, a worldwide technological leader in the field of wear protection solutions.

件。在IONIT工艺中，不会使用有害的化学物质或是有害气体。这意味着，IONIT是环保、高效的解决方案，是相对于传统渗氮工艺的替代产品。欧瑞康巴尔查斯—防磨损解决方案的全球技术领先者—为您提供一系列益处。

Plasma-aided diffusion process

等离子辅助扩散工艺

Creates very hard, wear-resistant component surfaces
创造了坚硬、耐磨的零部件表面

High corrosion resistance and thermal stability, first-class tribological properties
强耐腐蚀性、热稳定性以及顶级的摩擦性能

Protection against micropitting, high tooth root strength and flank load-bearing capacity
抗微腐蚀、齿根强度高及侧面承载力大

Low process temperature

工艺温度低

Low to non-existent component warpage yields improved sliding properties and less noise development
零部件不易弯曲，改善滑动性能、减少噪音的产生

No hard fine processing required
无需后续复杂的精加工

Environmentally-friendly technology

环保技术

No poisonous gases or chemicals are used
不使用有毒气体和化学物质

Excellent alternative for hard chrome-plating
极佳的镀铬解决方案

Increased component service life due to the wear resistant IONIT surfaces

IONIT耐磨的表面，延长了零部件的使用寿命

Reduced component processing costs through significantly higher surface quality that requires notably less rework

明显提高的表面质量降低了零部件的工艺成本，减少返工

Decreased machine downtimes and corrective maintenance costs through low-maintenance IONIT surfaces

低维护要求的IONIT表面，减少机械停工时间和维修保养成本

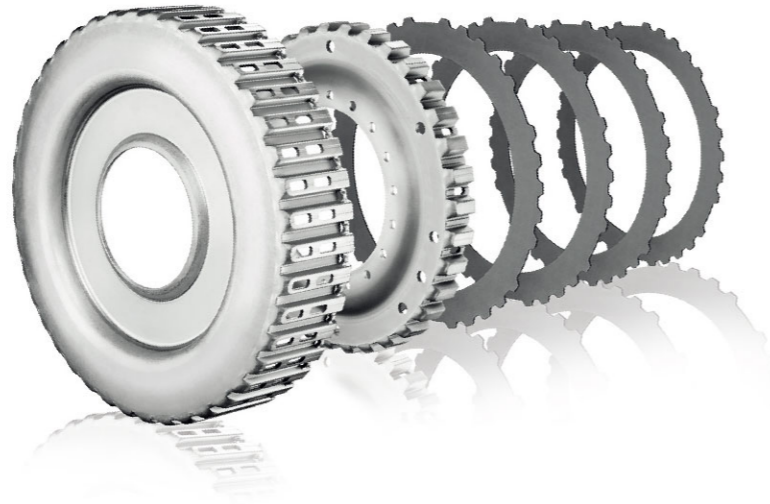
BALITHERM® IONIT: An environmentally-friendly technology to maximise the performance and reliability of large components

BALITHERM® IONIT: 一种环保技术，并且最大程度的发挥大型零部件性能及稳定性

Additional application recommendations

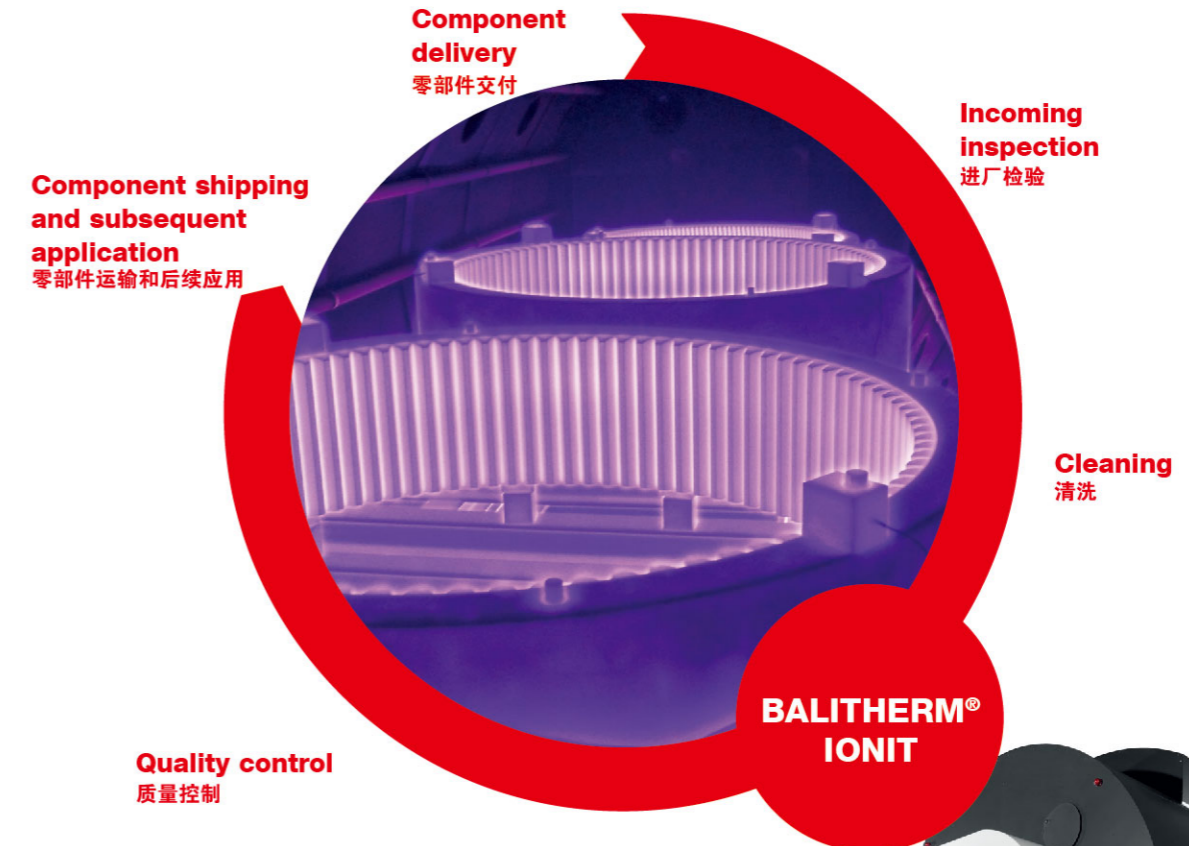
其他推荐应用

Drive technology, aerospace technology, wind energy, medical technology, clamping/bearing technology, fluid technology and automotive technology; e.g. components such as differentials, gearboxes and couplings
传动技术、航空航天技术、风能、医疗技术、夹具/轴承技术、流体技术和汽车技术，例如：差速器、齿轮箱及离合器的零部件



The decisive advantage for more efficiency: the service process

决定性的优势进一步提高效率：服务流程



Huge components are treated in our INAURA systems. They provide a loading capacity of 10 x 3 metres and 40 tonnes. The fully automated process ensures a stable and controlled wear-protection coating procedure. The combination of hydrogen, nitrogen and electricity means that IONIT operates entirely without the use of poisonous gases and chemicals.

巨型零部件在INAURA设备中进行处理。

装载容量达到10 x 3米和40吨。

全自动化工艺保证了稳定、可控的防磨损涂层工艺过程。

IONIT工艺结合了氢气、氮气和电流，这也意味着它是在完全没有有害气体和化学物质的加入下生产的。



Top notch material properties!

顶尖的材料性能!

Material group 材料组别	Materials 材料	Material number 料号	ASTM / SAE / AISI	Hardness [HV 0.1] 硬度	Hardness [HRC] 硬度	max. NCD [mm]
Grey cast iron 灰铸铁	EN-JS2070	0.7070	100-70-03	> 800	> 64	0.3
Tempered steel, alloyed 回火钢、合金	40NiCrMo6	1.6565	4340	800 - 900	64 - 67	0.8
	34CrNiMo6	1.6582	4337	800 - 900	64 - 67	0.7
	42CrMo4	1.7225	4140	800 - 900	64 - 67	0.8
Nitriding steel 渗氮钢	30CrMoV9	1.7707	4340	800 - 950	64 - 68	0.7
	31CrMoV9	1.8519	-	800 - 950	64 - 68	0.7

Complete list available on request.

如果需要可提供完整表格。

The values for the materials shown are guide values. 材料特征数值为参考值。