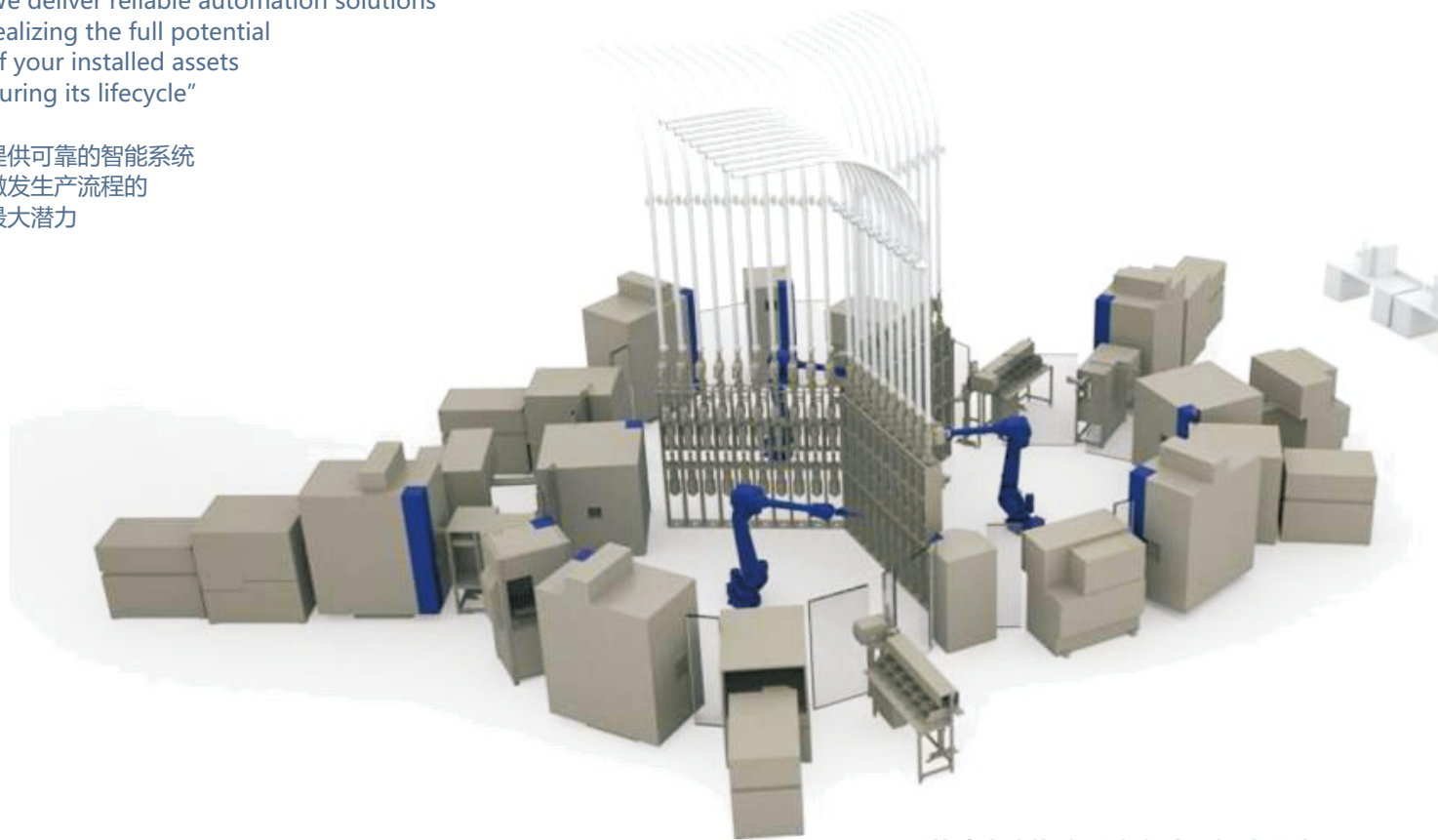


We deliver reliable automation solutions
realizing the full potential
of your installed assets
during its lifecycle”

提供可靠的智能系统
激发生产流程的
最大潜力



艾法史密斯实验室自动化解决方案
FLSmith Lab Automation

艾法史密斯是全球水泥、矿产、冶金行业生产线设备、自动化方案和综合技术服务的领先供应商。致力于持续创造产品价值，以可靠性著称。Krupp、Lafarge、Heidelberg、Nordural和宝钢、首钢、海螺、华银等均有艾法史密斯产品的应用实例。艾法史密斯作为全球性企业，产业和服务网络合理布局于世界各地。14.300多名员工，全面涵盖研发、生产、销售、服务等环节。协同代理商和驻点员工实现对所有服务企业的快速响应。逾130年的运营实践，确保客户应用无忧。


FLSmidth ABON

FLSmidth brings you ABON® technologies in Feeding, Sizing, Crushing...


Autec

Development and manufacturing of on-line analyser equipments for...


FLSmidth Buffalo

FLSmidth Buffalo brings you extensive experience in the design,...


CEntry

FLSmidth's CEntry engineers are committed to supplying customers with...


KOCH MVT

FLSmidth offers you the KOCH and MVT brands who design, manufacture,...


Kovako Shipunloaders

FLSmidth provides you with KOVAKO technology in pneumatic ship,...


FLSmidth Krebs

FLSmidth Krebs is a world leader in hydrocyclones, centrifugal slurry,...


Möller

FLSmidth brings you the Möller™ brand specializing in pneumatic,...


Conveyor Engineering

FLSmidth Conveyor Engineering specializes in the design and supply of,...


Dawson Metallurgical Laboratories

FLSmidth brings you the expertise of Dawson Metallurgical,...


Dorr-Oliver Eimco

FLSmidth brings you the expertise and strength of the well-known,...


FFE-Fuller-Traylor

FLSmidth offers the crushing and processing equipment under the FFE,...


Pfaff aqs

Designer and manufacturer of a wide range of products for every stage,...


Pneumapress

FLSmidth brings you Pneumapress® automatic pressure filters which,...


RAHCO

FLSmidth offers you 60 years of experience from the RAHCO brand,...


Raptor

FLSmidth brings you Raptor® Cone Crushers which deliver,...


FLSmidth Maag Gear

FLSmidth MAAG Gear is a world-leading supplier of gears, drive,...


FLSmidth Pfister

FLSmidth Pfister supplies highly accurate and reliable gravimetric,...


FLSmidth Ventomatic

One of the world's leading suppliers of complete plants and single,...


FLSmidth Airlog

Gas analysis solutions for process and emission in the cement,...


Summit Valley

Providing Solutions for Precious Metal Extraction


Vecor

FLSmidth brings you Vecor™ mine shaft systems technologies



1882-1899

FLSmidth gets off to a good start with a landwinning contract only 5...



1900-1969

Technologically, FLSmidth was clearly in the lead. Its first orders...



1970-1999

In the last part of the 20th century FLSmidth retains its market...

FLSmidth is a global leader in line equipment, automation solutions and integrated technical services for the mineral and metallurgical industries. Committed to continuous creation of product value, known for reliability. Krupp, Lafarge, Heidelberg, Nordural, Baosteel, Shougang, Conch, Huarin, etc., have application examples of FLSmidth products. FLSmidth is a global enterprise with a network of industries and service all over the world. More than 14,300 employees, covering the research and development, production, response to all service enterprises. More than 130 years of operational practice to ensure a pleasant application experience for customers.





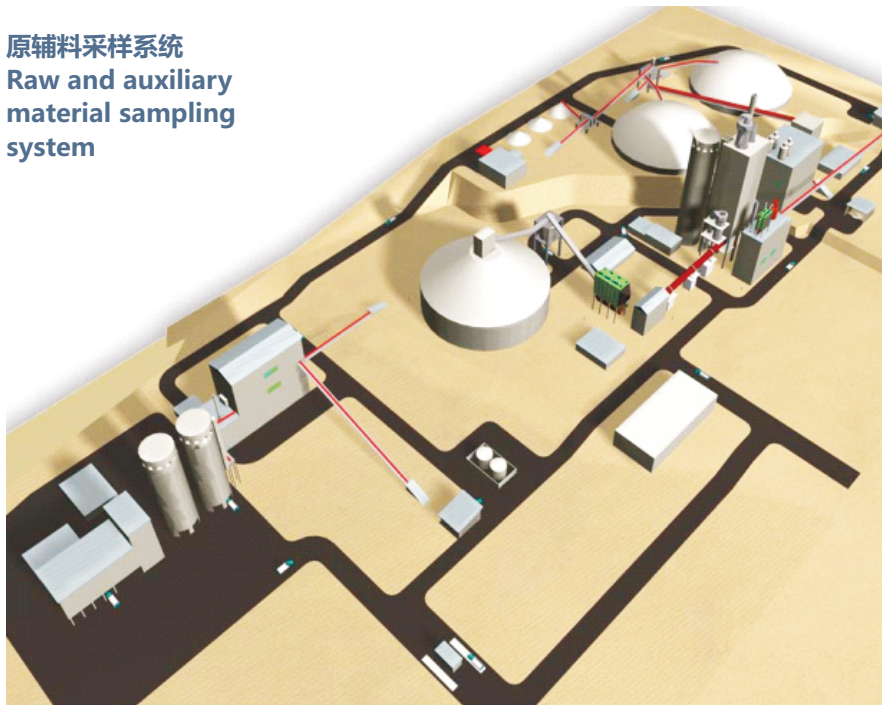
"BIG DIPPER"



FLSmidth Lab Automation's 7 module

艾法史密斯自动化解决方案的“7星”模块

原辅料采样系统
Raw and auxiliary
material sampling
system



全 自 动
AUTOMATIC

采样 sampling

称重 weighting

缩分 division

破碎 crush

干燥 drying

研磨 grinding

存档 on file

压片 pressing



特殊的结构设计, 确保炮弹无损伤, 只需更换炮弹的耐磨环, 并延长管道使用寿命至15年以上.
Special structural design, ensure no damage to the shell, only need to replace the shell wear ring, and extend the service life of the pipe to more than 15years.



完全相同的制样程序
Exactly the same preparation
procedure

样品分析结果更精确
More accurate analytical results

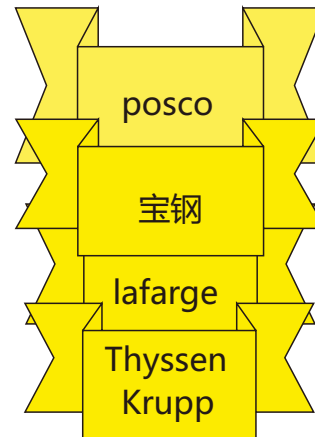
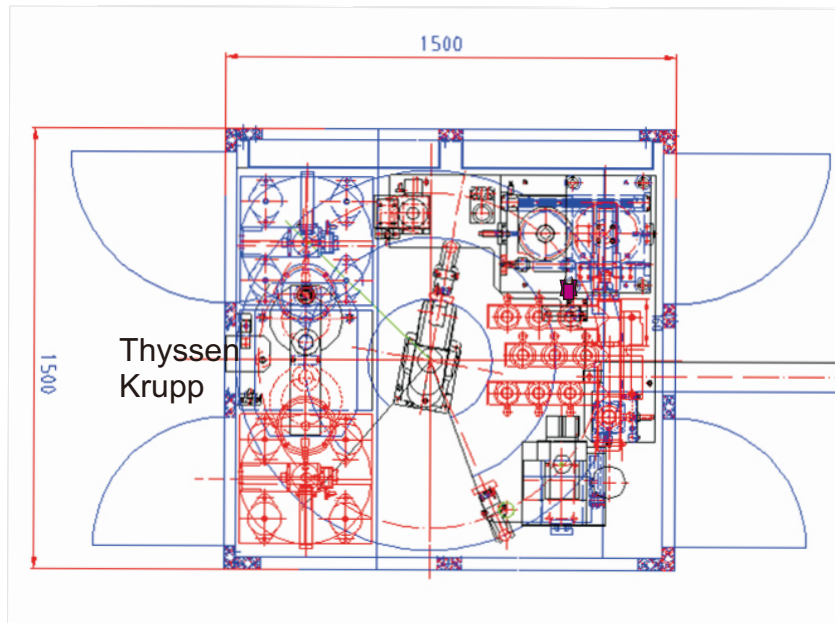
优异的再现性
Absolute reproducibility

采样到检测结果呈现全程可精准计时
Countable reaction time from sample taking
to present the analysis result

降低操作成本
Reduced operation cost

产品质量的持续提高
Continuous improvement of product quality

满足不同制样标准 研磨和压片功能可终端调节—adapt for different standard
大批量检测的首选 分段联动工位可同时处理样品—suitable for mass testing



破碎、磁性颗粒提取、研磨、压制成型一体，采用机械手传递比输送带模式可靠性 > 50%。
Crushing, magnetic particle extraction, grinding, pressing and forming, using
mechanical hand transfer ratio conveyor belt mode reliability > 50%.

全自动渣样机PAL-MPA 参数表DATA

尺寸和重量Dimensions & Weight			
设备尺寸	2340 x 1325 x 1770 mm	Dimension	2340 x 1325 x 1770 mm
净重	1400kg	Weight, net	1400kg
动力电源Elektrical power supply			
电压	3 x 380 - 400 V	Voltage	3 x 380 - 400 V
频率	50 - 60 Hz	Frequency	50 - 60 Hz
电流	6 A	Current	6 A
功率	4.5 kW	Power	4.5 kW
保护	PE	Protection	PE
绝缘等级	B	Insulation class	B
防护等级	IP44	Protection class	IP44
PLC	西门子Simatic S7	Control	Simatic S7西门子S7控制
人机交互	基于PALOS的电脑	HMI	PC based PALOS
渣样Slag			
颗粒尺寸	< 15 mm	Grain size	< 15 mm
个别颗粒最大尺寸	17 mm	Max size one edge	17 mm
适用温度	< 200 °C	Temperature	< 200 °C

全自动渣样机PAL-MPA 参数表DATA

生产能力Throughput

8个以上（一个研磨单元）

up to 8 samples/hour with one Mill

> 3个样品同时在设备内流转

up to 3 samples at the same time into the machine

选配OPTIONS

2台旋转圆盘研磨机以增加产能 2. swinging disc mill for increasing of throughput

压缩空气Compressed air

气源压力	0.6MPA	pressure	min. 6 bar
耗气量	2500 升/个样品制程	Consumption消耗	2500 l/sample cycle
气源质量	干燥，内容最小颗粒≤2 微米	Quality	dry, filtered max. 2μ
除尘	选配	Dedusting	optional available
吸气压力	> 4070毫米汞柱	Suction	4070 mm WC
单位时间用量需求	> 16200升/分钟	Volume	16200 l/min

样品输入仓Sample input magazine

样品杯数量	8	sample cups	8
样品装量	57毫升	sample cups volume	57ml
破碎机Crusher			
颚的材质	锰钢	Material of jaws	Manganese steel
颗粒尺寸	≤15毫米	Grain size	max. 15 mm

全自动渣样机PAL-MPA 参数表DATA

旋转圆盘研磨机Swinging disc mill

研磨速度	500-1800rpm通过变频器可调	Grinding speed	free selectable with frequency converter 500 - 1800 rpm
研磨皿材质	碳化钨	Grinding vessel	Tungsten-carbide
研磨皿容积	100立方厘米	Grinding vessel volume	100 cm ³
样品材质	各种材质, 矿渣, 矿砂, 水泥, 原材料等等	Sample material	various materials, slags, ores cements, raw materials, etc
样品的量	15-100立方厘米	Sample quantity	15 - 100 cm ³
颗粒尺寸	≤ 8毫米	Grain size	8 mm
硬度	≤ 7级莫氏硬度	Hardness	max. 7 Mohs

研磨参数Grinding parameter

研磨程序	16	Ginding programs	16
研磨时间	5 - 600秒可调	Grinding time	5 - 600 sec.
研磨添加剂量	据客户需求	Number of grinding additives	According to actual demand
清洗时间	可调	Cleaning time	Adjustable

全自动渣样机PAL-MPA 参数表DATA

压制成型Pelletizing press

压力范围	10-400千牛	Pressure	10-400KN
样品的量	8 - 12立方厘米	Sample quantity	8 - 12 cm ³
样品材质	各种材质, 矿渣, 矿砂, 水泥, 原材料等等	Sample material	various materials, slags, ores cements, raw materials, etc
颗粒尺寸	< 100 微米	Grain size	< 100 u
硬度	≤ 7级莫氏硬度	Hardness	max. 7 Mohs
清洁	干燥的压缩空气和除尘	Cleaning	dry with compressed air, brushes and dedusting

压制成型过程参数Pelletizing press Processing parameter

压制程序	16	Press programs	16
压力加速时间	5 - 600 秒	Acceleration time	5 - 600 sec.
压力保持时间	5 - 600 秒	Holding time	5 - 600 sec.
压力减速时间	5 - 600 秒	Deceleration time	5 - 600 sec.

选项Options

用于钢环外径为40mm 的压制工具	Press tool for steel rings 40 mm Ø outside
用于钢环外径为51.5 mm的压制工具	Press tool for steel rings 51.5 mm Ø outside



一步完成样品制备

Finish sample preparation in one step

无需除尘系统

Dedusting system not required

铣刀头可快速更换

Fast exchange of quick release milling head

样品加工位顶部、底部和侧面多向风冷

Sample processing bit top, bottom and side
multi - direction air cooling

样品无需液体冷却

Liquid cooling agent not required

四向自动契合锁紧夹持确保各种形状样品 加工的可靠性

4 ways fit lock clamp ensures the reliability of sample
processing of various shapes

铣刀的一个刀角可铣钢样超过500个

One milling cutter shear can prepare samples over 500

全自动铣样机 PAL-MIL 参数表DATA

尺寸和重量Dimensions & Weight

设备尺寸 (宽*长*高)	1204 毫米*1152 毫米*2243 毫米	Machine (W*L*H)	1204 mm*1152 mm*2243 mm
设备尺寸 (重量)	1900公斤	Machine (Weight)	1900kg
配电柜尺寸 (宽*长*高)	800*400*1600	Cabinet:W*L*H	800*400*1600mm
配电柜尺寸 (重量)	250公斤	Cabinet : Weight	250kg

动力power supply

电压	3 x 380 - 400 V	Voltage	3 x 380 - 400 V
频率	50 - 60 Hz	Frequency	50 - 60 Hz
功率	8 kW	Power	8 kW
保护	PE	Protection	PE
气源压力	最低0.6MPA	Pressure	min. 6 bar
耗气量	18000立方分米/样品	Consumption	18000dm3/sample
PLC	西门子Simatic S7	Control	Simatic S7
控制电压	24 V	Control Voltage	24V

备注Remark : 1、其他电压可根据客户要求 Other voltages are available upon request

2、标准配电柜到机器电缆长度：6米，最大长度：45米。

Standard cable supplied with the machine : 6 m Max. Allowed cable length: 45 m.

全自动铣样机 PAL-MIL 参数表DATA

可制备的样品 Processable samples			
形状	圆形（圆柱或圆锥）椭圆形，长方形等。与样品厚度无关	Form	Round, oval, rectangular, double thickness
宽度和直径尺寸	30-50毫米	Width & φ	30-50mm
厚度	8-45毫米	High	8-45mm
尾柄长度	<10毫米	Pin length	max. 10 mm
材质	铁、碳钢、高级钢和不锈钢。	Material	iron, carbon steel, high-grade and stainless steel
硬度	最大58洛氏硬度	Hardness	max. 58 HR
温度	0° -200° C	Temperature	0° -200° C
样品夹具可夹范围	30-50毫米	clamping range	30-50mm

全自动铣样机 PAL-MIL 参数表DATA

可调整参数Adjustable parameters

铣刀刀头转速：0-1200 rpm	Number of revolutions of milling head 0-1200 rpm
铣刀进刀速度：0-14 m/sec	Speed of feeding 0-14 m/sec
每次铣样深度	Stripping depth per cycle
铣样次数	Number of cycles
空气冷却	Duration of additional air cooling
每个铣刀刀头预设铣样次数	Number of samples per milling head

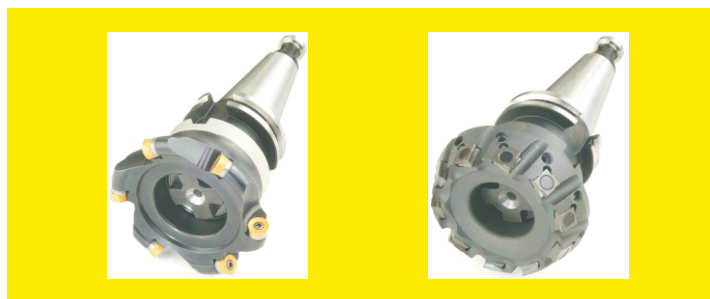
样品制备的经验数据Experiences values for preparing samples

用于直读分析的碳钢样品Carbon steel samples for OE-analysis

制备时间	<30秒	preparation time	max30sec
------	------	------------------	----------

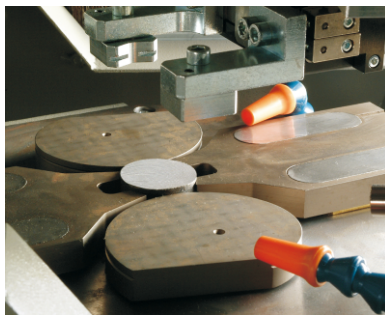
用于直读分析的铸铁样品Iron samples for OE-analysis:

制备时间	<35秒	preparation time	max35sec
------	------	------------------	----------

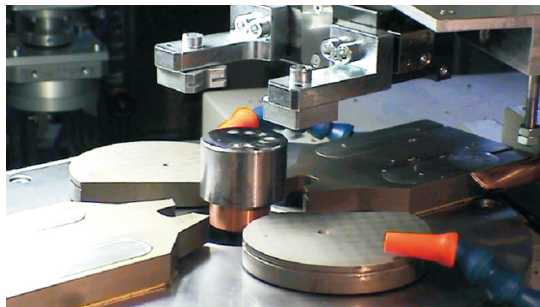


一套铣刀至少可铣2000个钢样
A set of milling cutter can mill at least 2000 steel samples

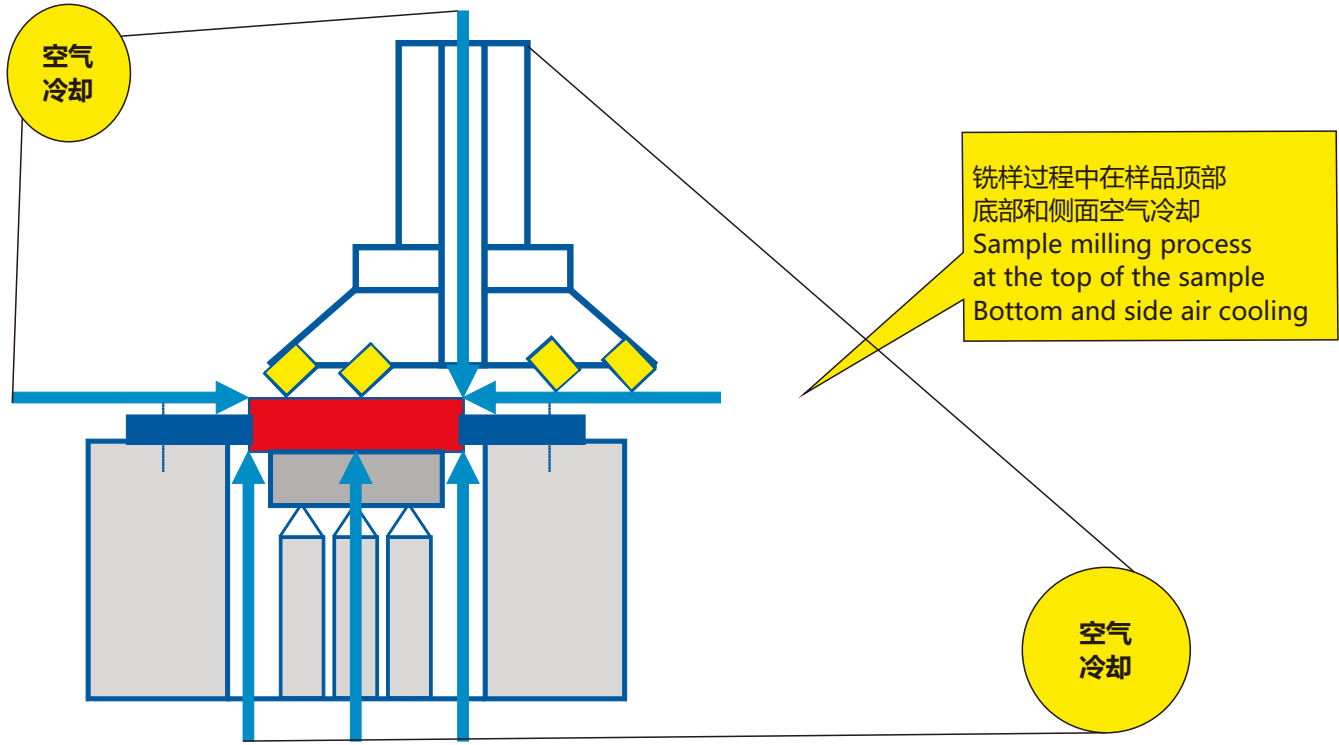
四向自动契合锁紧夹持 4 ways fit lock clamp



连续打开夹紧
壹万次以上
误差不超过**0.5%**



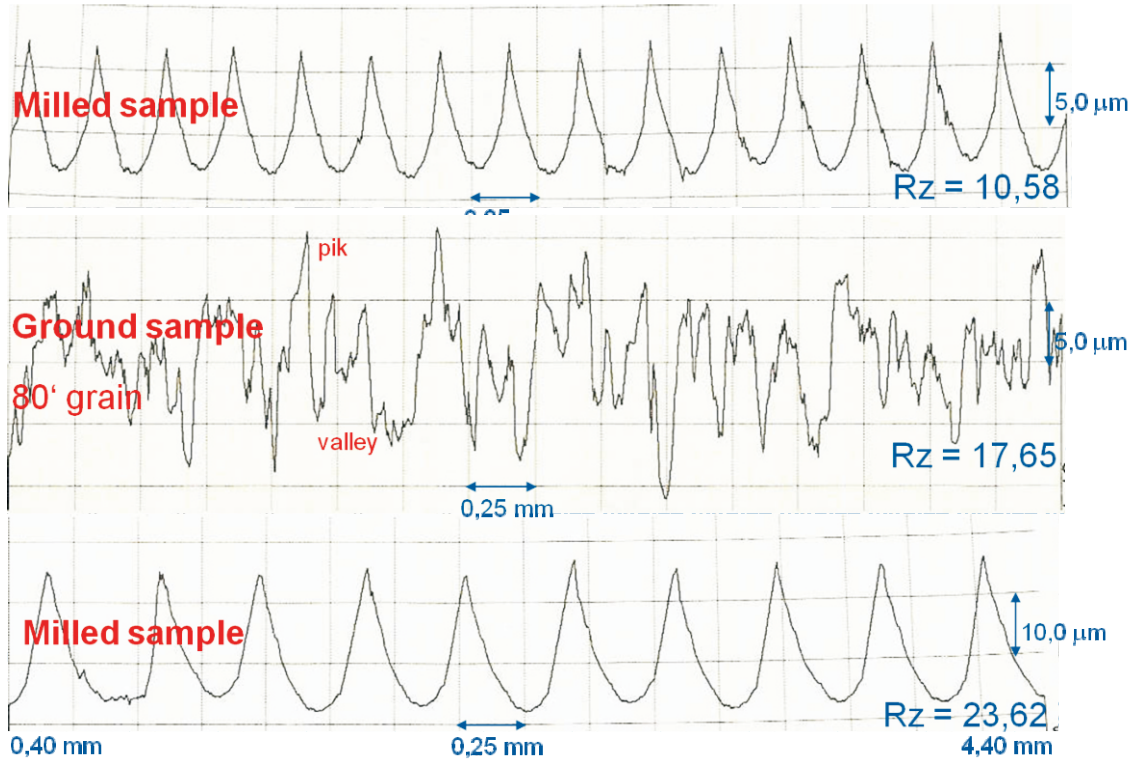
The error
of opening
and clamping
more than
10,000 times
is less than
0.5%



样品无需液体冷却

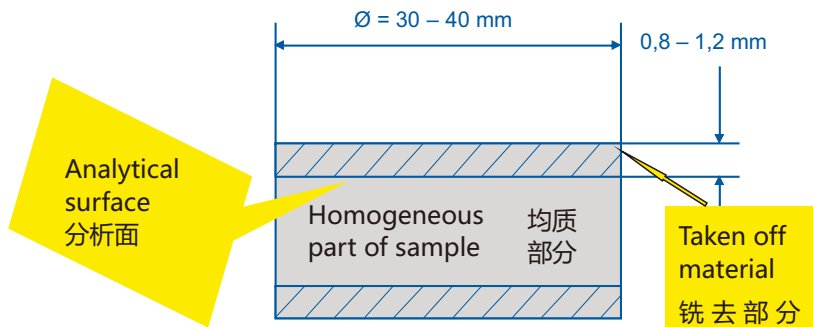
Liquid cooling agent not required

与全自动磨样机、其他品牌铣样机加工样品的表面粗糙度比较



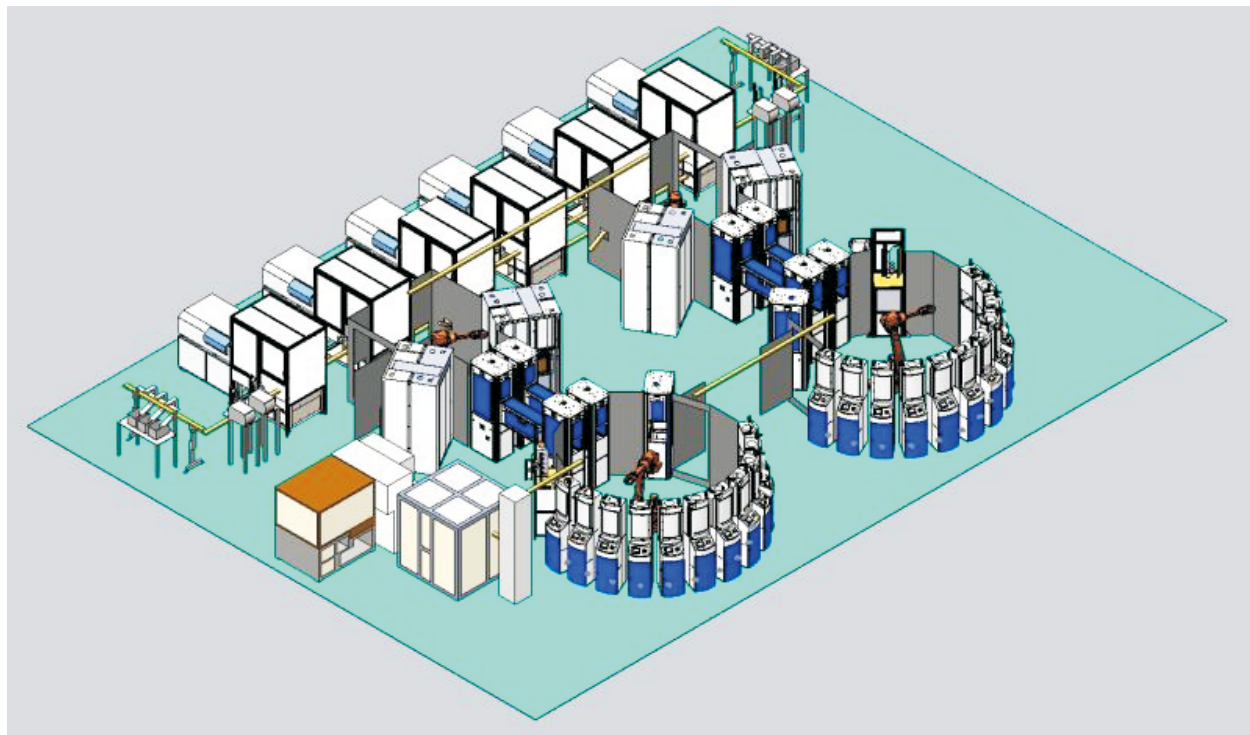
日照钢铁样品加工尺寸 RIZHAO Steel & Iron samples processing size

Steel samples: 钢样		4.Square samples 方样	
1.Lollypop 球拍样		Length 长	36+-1mm
Diameter 直径	40+-1mm	Width 宽	35+-1mm
Thickness 厚度	20+-1mm	Height 高	33+-1mm
Pin length 尾柄长度	<10mm	Pin samples 棒样	
2.Conical samples 圆锥样		Diameter 直径	4-7 mm
Diameter1 直径1	38+-1mm	Length 长度	120 mm +/- 10 mm
Diameter2 直径2	32+-1mm	Iron samples: 铁样	
Height 高度		Lollypop 球拍样	
40mm		Diameter 直径	40+-1mm
3.Double thickness sample 厚薄样		Thickness 厚度	20+-1mm
Height1 高1	12mm	Pin length 尾柄长度	<10mm
Width 1 宽1	32mm	Standard samples Steel and Iron 钢样铁样的标准样	
Length1 长1	35mm		
Height2 高2	4mm		
Width 2 宽2	32mm	Height	8-48mm
Length2 长2	25mm	Diameter	30-48mm



比对数据	磨样(Grinding)	铣样 (Milling)
全自动设备Automatic machine	Cup wheel	PFAFF PAL-MIL
样品加工能力Sample quantity	100/wheel(磨轮)	2000/cuttings (刀片)
耗材成本Consumables cost	0,55€/sample(样品)	0,11€/sample (样品)
制备时间Preparation time	105 sec.(秒)	33 sec. (秒) (以铣屑1毫米计)
样品流动时间Service time	7.2 sec/sample(秒/样品)	1.8 sec/sample (秒/样品)
PAL-MIL for cast iron samples after 7 months of operation		

日照钢铁快分实验室实例



PALOS

可视化系统控制中枢
Visual system control center

与分析仪，系统控制器，实验室和厂级网络通讯
data communication between analyser,
system controller, laboratory and plant computers

样品注册
Samples registering

参数设置
Parameter setting

动态监视
Dynamic monitoring

过程模拟
Process simulation

数据管理
Data administration

远程诊断维护
Remote diagnostic maintenance

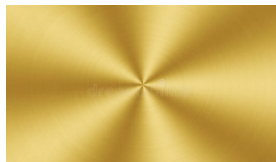
专业profession、专用dedicated、专有exclusive

FLSmidth 快分系统的优势特点

- OEM 解决方案设计有弹性，可满足客户定制化需求。
- 世界范围内大量的安装调试实力和应用，专业的技术工程人员可以保证安装调试快速完成，满足用户需求。
- 系统的稳定性和可靠性高，故障率低。（系统在日均1500样的繁重工作下，系统稳定度超过98.5%）
- 几十年的项目和研发积累，专业技术人员可快速处理解决各类故障，降低系统使用风险。
- 同分析仪器行业的领军者-赛默飞的强强联手，使得所设计的快分系统充分考虑了样品分析数据的可靠性和稳定性。
- 灵活的应用模块可兼容客户的需求与技术改进。
- 可为未来智能化数字化保留接口。
- 系统设备设计使用寿命均在15年以上。

上海立润机电设备有限公司，一家专注于实验室分析应用的专业公司。其作为赛默飞光电直读光谱仪和X射线荧光光谱仪及全自动分析系统产品在华东地区的独家授权代理，同赛默飞紧密合作，年销售额达伍仟万人民币以上。公司拥有多名光谱分析应用专家，为用户排忧解难，提供优质的售前售后服务。

FLSmidth公司总结了前几年在中国钢铁行业市场策略的失误，通过长达一年多的考察、调研、交流和谈判，于2019年6月，最终选择了上海立润机电设备有限公司作为其在中国钢铁行业快分系统的唯一指定授权经销商，利用上海立润机电现有的优势-拥有多名专业的仪器分析应用专家、仪器维修维护专家及几十年钢铁行业实验室分析领域的丰富经验积累，为用户提供实验室快分系统售前售后服务的整体解决方案。上海立润机电现拥有多名5年以上FLSmidth实验室自动化系统工作经验、受过FLSmidth系统专业培训的优秀软硬件工程师。同时FLSmidth欧洲总部将持续的有计划的为上海立润培训技术人员，以达到对用户服务的保质保量、快速响应、进一步减低用户系统运行成本。通过上述措施，上海立润可以提供一系列客户需要的保质保量的个性化服务，例如24小时驻场服务等。同时，FLSmidth公司提供全球的服务响应，以快速解决本地工程师无法解决的疑难杂症。



 PEPPERL+FUCHS
倍加福

FESTO


we identify more

TURCK

ThermoFisher
SCIENTIFIC

SIEMENS
Ingenuity for life

 SCHMERSAL
Safe solutions for your industry

ABB


ZEBRA

 INOSOFT
next generation hmi

 Malvern
Panalytical

 FINK & PARTNER GmbH
通过质量管理确保质量

HORIBA
Explore the future

SCHUNK  Superior Clamping and Gripping

TECHNOLOGY GROUP
mk[®]

Nederman

BALLUFF



Sample Processing and Analysis

FLSmidth spol.s.r.o
Ripska 4a
62700 Brno
Czech Republic
Tel: +420 548 425 111
Fax:+420 548 217 675
E-mail:BRNO-Sales@flsmidth.com



上海立润机电设备有限公司 Shanghai Lirun Electromechanical Equipments CO.,LTD

上海市杨浦区杨树浦路1062号滨江国际广场2号楼609室
Room 609, Building 2, Binjiang International Plaza,
1062# Yangshupu Road, Yangpu District, Shanghai
Tel: +86(21) 61426822
Fax: +86(21) 61426825
www.lirunchina.com