



miccra

原装德国

Labortechnik | Laboratory technology | 实验室仪器

Technikum | Pilot Plants | 中试产品

Prozesstechnik | Process technology | 工业混合分散设备

德国ART产品系列

ABBOTT India Ltd.
Asian Paints
BASF
BASF Coatings
Bayer
CIPLA Ltd.
Charité
Daimler
Degussa Construction Polymers
Degussa Food Ingredients
DKFZ Heidelberg
EADS Germany
Excel Crop Care Ltd.
FERRING Pharma
GE India
Glenmark Pharma
Henkel
HEXAL
Hipp
Jubilant Organosys Ltd.
La Mer Cosmetics
Laverana Cosmetics
LUPIN Laboratories
OSRAM
Pfizer Ltd.
Ratiopharm India Ltd.
Ranbaxy Laboratories
Schwan Stabilo Cosmetics
Schwarz Pharma
USV Ltd.
Virchow Biotech Ltd.
Wacker Chemie
Weleda
...

ART : 均质分散的艺术

作为均质乳化技术领域的专家，自上个世纪开始，ART Prozess- & Labortechnik GmbH & Co. KG 就开始研发和生产强力、高品质、高转速的分散-均质乳化仪器。

我们的目标始终是致力于提供操作简便、优越性价比的仪器来获得可靠的、重复精度高的样品实验结果。

ART的MICCRA-系列分散、均质、乳化、剪切和破碎等处理样品原料的方法都是基于性能更卓越的转子-定子的原理。

模块化构造的MICCRA-系列产品提供了灵活多样的组合：不同功率的主机，多种长度的转轴，加上各式的分散附件，可为个性化的需求提供度身定制。

匀浆主机可以手持操作、也可以安装于立柱、墙壁或三角支撑架上进行操作。

为了确保客户的满意，我们的研发部门加强了与前沿大学及科研机构的合作关系。在不断和客户联系后，我们开发并实际投入使用的解决方案满足了用户的不同特殊需求。

The „ART“ of homogenizing

As a specialist in the homogenizing technology, ART Prozess- & Labortechnik GmbH & Co. KG is developing and manufacturing powerful, high quality and high speed dispersing- and homogenizing instruments since last Century.

Our ambition has always been to offer easy to handle instruments for achieving reliable, reproducible sample results coupled with an unmatched performance to price ratio.

The MICCRA-Series of ART disperses, homogenizes, emulsifies, suspends, cuts up and disrupts sample materials of nearly all kinds, based on the rotor-stator principle, but with higher performance.

The modular construction of the MICCRA-Series allows flexible and multiple combinations of different powerful drives, shafts in several lengths, and all the dispersing accessories, tailored to the individual requirements.

The systems can either be operated as a hand-held, post or wall mounted or a tripod support device. With our goal of ensuring customer satisfaction, we emphasize our own R & D and the cooperation with leading universities and research institutes.

Continually in touch with our customers, we develop and put into practice solutions matching the specific requirements of users.

Kontaktieren Sie uns!
Contact us! 联系我们!

Tel.: +49(0)7631 / 700 99-0
E-Mail: info@miccra.com



基于轻便紧凑的设计，所有的MICCRA系列匀浆主机可以手持操作

By a light and compact design, all lab-drives of the MICCRA-Series can be used as hand-held units.

可连续调节、达39000rpm的高转速主机，可显著地减少处理时间、避免样品产生热应力疲劳

High-Speed-drives with continuously adjustable rpm-rates up to 39,000 rpm, reduce processing times significantly without thermal stressing of the sample material.

强力匀浆主机可适合大容量高粘度的应用，具有超宽的使用范围：从0.1ml到100l。

High power for handling large volumes and high viscosities. Unique application ranges from 0.1 ml up to 100l.

主机使用舒适安全、启动平稳

Comfortable and safe working with smooth start of the drive.

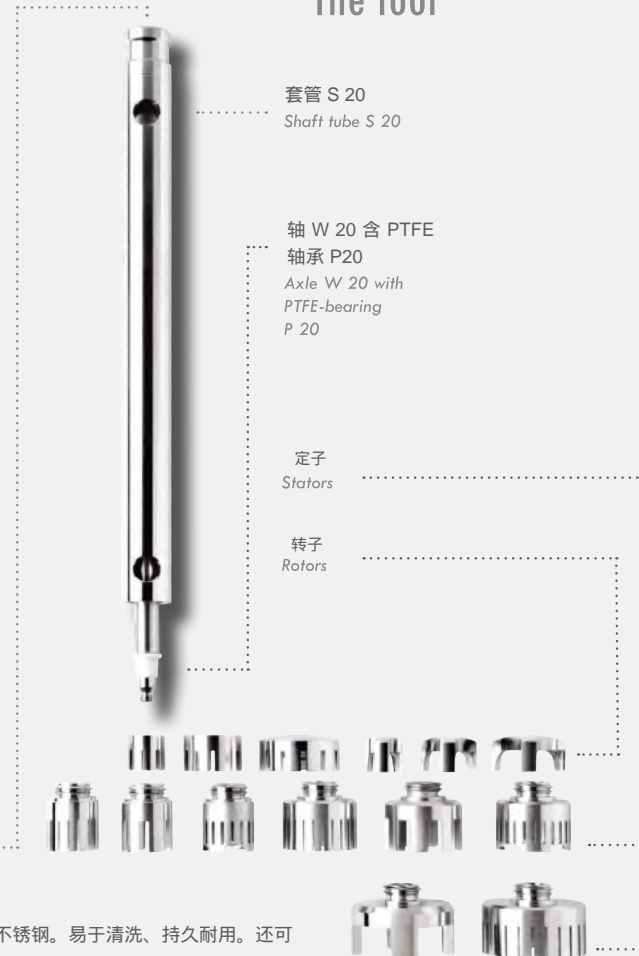
任意主机配合任意刀头使用

Uniform shaft size:
Every drive fits to every tool combination of ART.

主机
The drive



刀头
The tool



套管 S 20
Shaft tube S 20

轴 W 20 含 PTFE
轴承 P20
Axle W 20 with
PTFE-bearing
P 20

定子
Stators

转子
Rotors

高精度的刀头、最可靠的实验结果、最高的剪切速度

High precision tools for highest reliable results at highest peripheral speeds.

任意主机配合任意刀头使用

Due to a uniform shaft size, every tool combination fits to every drive within the MICCRA-series.

灵活的模块设计可实现：少投入，多收益。由不同转子、定子组合的刀头，无需大的付出，就可以覆盖所有应用。

Flexible modular system for high economy and small subsequent costs. By combination of different rotors and stators the tool can be adapted to nearly each range of application w.o. large expenditure.

快速拆换系统：所有元件、转子和定子只需轻轻松开，就可实现快速更换

Quick-Change-System: All elements, rotors and stators can be exchanged with a flick of the wrist in no time at all.

所有MICCRA系列刀头使用高品质的316L 不锈钢。易于清洗、持久耐用。还可根据需求，选用titanium钛、Hastelloy哈氏合金、Inconel英科乃尔等材料。

All tools of the MICCRA-Series are made of high-quality AISI 316L stainless steel. Easy to clean and long-lasting.

Upon request our tools are also available in titanium, Hastelloy, Inconel as well as other materials.

MICCRA

匀浆主机

Dispersing and homogenizing drives



MICCRA D-1

经济型匀浆主机MICCRA D-1 是一种小型的手持匀浆器。试样范围介于0.1到500ml。是特别为生物-基因技术的微量处理而开发。

这是一款经济型匀浆器，价格低廉，带“软触摸”外壳。比市场上其他同类产品更强力、速度更高。

The economy drive MICCRA D-1 is a small hand-held dispersing and homogenizing device for volumes from 0.1 up to 500 ml. It was especially developed for volumes treated in the bio- and gene technology.

It's an economic drive for a small price with a „soft-touch“ housing. More powerful and high-speed than comparable systems on the market.

MICCRA D-1



输入功率 | Power input:

145 Watt

输出功率 | Power output:

95 Watt

处理量 | Volume range:

0,1 - 500 ml

转速范围 | Speed range:

14.000 - 34.000 rpm

速度调节 | Speed adjustment:

是 | Yes

电子稳定装置 | Electronic stabilizer:

否 | No

重量 | Weight:

900 g

机身尺寸 | Dimensions:

直径 | Diameter 50 x 245 mm

保护等级 | Protection system/safety class:

IP 20 / II

保修期 | Warranty:

1+1年 | 1+1 years



MICCRA D-9

轻巧，紧凑，结实和超高转速。就是这款不同凡响的匀浆器。适合所有实验室的通用实验。从农业技术到细胞生物。

超宽的使用范围：从0.1到20,00ml；并能得到绝好的实验结果。

Light, compact, strong and extremely high speed.

These are the topics of this extraordinary drive which fits to all common laboratory applications from the agrarian technology to cell biology.

A unique volume range from 0.1 up to 20.000 ml can be handled with this unit and its unequalled results.

输入功率 Power input:
输出功率 Power output:
处理量 Volume range:
转速范围 Speed range:
速度调节 Speed adjustment:
电子稳定装置 Electronic stabilizer:
重量 Weight:
机身尺寸 Dimensions:
保护等级 Protection system/safety class:
过载保护 Overload protection:
安全开关 Safety switch:
平稳启动 Smooth start:
保修期 Warranty:

850 Watt
495 Watt
0,1 - 20.000 ml
10.000 - 39.000 rpm
是 | YES
否 | NO
1,4 kg
66 x 66x 232 mm
IP 20 / II
热感应器 Thermal sensor
是 | YES
是 | YES
1+4年 | 1+4 years

MICCRA D-9

MICCRA D-15

机身尺寸虽然小，却拥有真正强大动力的匀浆器。

作为MICCRA D-13的成功升级版。配备了性能稳定的一体化电子元件，加上功率为1,520瓦的强力马达，可以进行大容量的处理，即使粘度不断增加也可以保持恒定的转速。

Despite its small size, this drive is a real high power unit.

The successor of the MICCRA D-13, with its integrated constant electronics and its more powerful 1520 Watt motor works out large volumes, keeping a constant speed even with increasing viscosities.

输入功率 Power input:
输出功率 Power output:
处理量 Volume range:
转速范围 Speed range:
速度调节 Speed adjustment:
电子稳定装置 Electronic stabilizer:
重量 Weight:
机身尺寸 Dimensions:
保护等级 Protection system/safety class:
过载保护 Overload protection:
安全开关 Safety switch:
平稳启动 Smooth start:
保修期 Warranty:

1.520 Watt
900 Watt
0,1 - 100.000 ml
8.800 - 33.600 rpm
是 | YES
是 | YES
2 kg
70 x 70 x 270 mm
IP 20 / II
热感应器 Thermal sensor
是 | YES
是 | YES
1+4年 | 1+4 years

MICCRA D-15



Pico

分散匀浆刀头—批次

Dispersing and homogenizing tools - BATCH mode

5 - 14 mm

定子直径

Stator diameter

0,1 - 500 ml

处理量 (取决于使用的容器)

Volume range (depending on vessel to be used)

推荐的主机 | Recommended drives

Miccra D-1

Miccra D-9

我们的“PICO”生物技术匀浆刀头特别适用于生物和基因技术所需要的微量样品处理，尤其是“PCR(聚合酶链式反应)”诊断。

无论是提取“RNA(核糖核酸)”还是为其他分析程序所进行的组织纤维剪切。“PICO”系列匀浆刀头都可以加快并简化您的工作，更重要的是不会在样品处理过程中产生热。

同样，对细胞解释和生化酶的研究也能提供可靠的帮助。配合高转速的MICCRA D-1 和D-9 分散主机，您就可以在数秒内获得高质量的处理结果。这已经被无数的实验室所证实。



Our „PICO“ biotech tool range applies particularly for smaller sample quantities in the bio and gene-technological sample preparation, especially in PCR diagnostics. Whether you would like to extract RNA or cut up fabric for other analysis procedures.

The tools of the PICO biotech- series will accelerate and simplify your work without large sample heating up.

They are also reliable aids for cell explanations and enzyme studies. Combined with the high numbers of revolutions of the drives MICCRA D-1 and D-9 you will receive excellent results within seconds, which have been confirmed to us by numerous laboratories.

刀头类型 Tool type

定子类型 Stator type

定子外径 Outer diameter of stator

转子类型 Rotor type

转子外径 Outer diameter of rotor

最大剪切速度 Max. peripheral speed

刀头长度 Tool length

最小浸入深度 Max./min. insertion depth

处理量 (水) Treatable Volume (acc. to H2O)

DS-5/K 1



小容量匀浆刀头

Dispersing tool for small volumes

刺钉刀头 spike head

5 mm

剪切转子 Cutting rotor

3,6 mm

7,3 m/s

115 mm

30 mm / 3 mm

0,1 - 20 ml

DS-8/P



小容量匀浆刀头

Dispersing tool for small volumes

刺钉刀头 spike head

8 mm

剪切转子 Cutting rotor

5,6 mm

11,4 m/s

155 mm

80 mm / 20 mm

1 - 100 ml

DS-14/P



小容量匀浆刀头

Dispersing tool for small volumes

刺钉刀头 spike head

14 mm

剪切转子 Cutting rotor

10,6 mm

21,6 m/s

200 mm

125 mm / 30 mm

10 - 500 ml

Vario

分散匀浆刀头—批次

Dispersing and homogenizing tools - BATCH mode

在科学，研发与生产方面的应用多种多样。我们的“快速更换系统”，让产品装拆变得非常简单。

模块化的系统，节约成本，节约工作面积。最新研发的转子技术，处理效果更优。

The application range in science, research and production is various. Due to our „quick-change-system“, the disassembly and change are very easy.

The modular system results in cost savings and frees up working space. Due to newly developed rotors even better results are achieved, even by a cutback of our tool diversity.

20 mm

定子直径

Stator diameter

20 - 5.000 ml

处理量（取决于使用的容器）

Volume range (depending on vessel to be used)

推荐主机 | Recommended drives

Micra D-3/PA

Micra D-9

Micra D-15

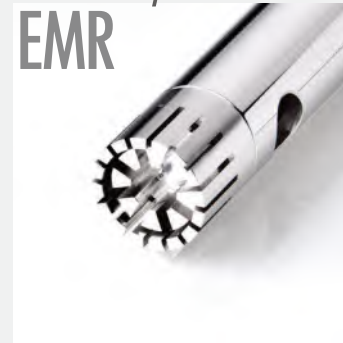
DS-20/PG SMIR



DS-20/PF SMIR



DS-20/PF EMR



DS-20/ZKS SMIR



刀头类型 Tool type

多合一刀头，适合糊状、纤维、液体

All-in-one tool for pasty, fibrous and liquid components

多合一刀头，适合糊状、纤维、液体

All-in-one tool for pasty, fibrous and liquid components

乳化刀头

Emulsifying tool

二合一刀头，可剪切纤维材料

2 in 1 tool with cutter for fibrous materials

定子类型 Stator type

粗的 coarse

精细 fine

精细 fine

刺钉刀头 spike head

定子外径 Outer diameter of stator

20 mm

20 mm

20 mm

20 mm

转子类型 Rotor type

剪切-混合-转子 Cutting-Mixing-rotor

剪切-混合-转子 Cutting-Mixing-rotor

乳化转子 Emulsifying rotor

剪切-混合-转子 Cutting-Mixing-rotor

转子外径 Outer diameter of rotor

15 mm

15 mm

15 mm

15 mm

最大剪切速度 Max. peripheral speed

30,6 m/s

30,6 m/s

30,6 m/s

30,6 m/s

刀头长度 Tool length

250 mm

250mm

250mm

250 mm

最小浸入深度 Max./min. insertion depth

200 mm / 40 mm

200mm / 40mm

200mm / 40mm

200 mm / 40 mm

处理量（水） Treatable Volume (acc. to H2O)

20 - 5.000 ml

20 - 3.000ml

20 - 3.000ml

20 - 3.000 ml

Vario

分散匀浆刀头—批次

Dispersing and homogenizing tools - BATCH mode

高度抛光的标准AISI 316L SS 刀头更加持久耐用。所有的元件都可快速地拆装，卓越的表面处理使得所有元件的清洗变得简便。

所有的刀头可选用 XL (327mm长) 和XLL(420mm长)。

Highly polished standard AISI 316L SS dispersing tools ensure a long life . All elements can be assembled and disassembled quickly, and the excellent surface quality guarantees you a simple cleaning of the components.

All tools are also available in XL (tool length 327 mms) and XXL version (420 mms).

30 mm

定子直径

Stator diameter

500 - 10.000 ml

处理量 (取决于使用的容器)

Volume range (depending on vessel to be used)

推荐主机 | Recommended drives

Micra D-3/PA

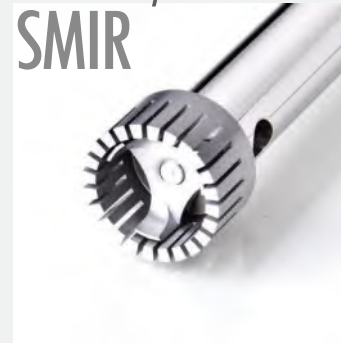
Micra D-9

Micra D-15

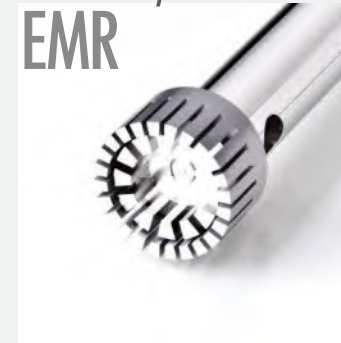
DS-30/PG SMIR



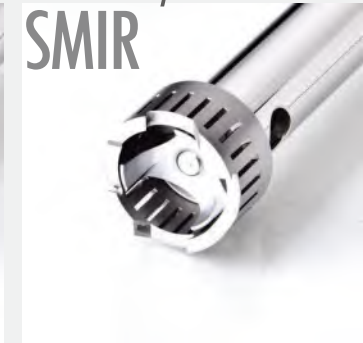
DS-30/PF SMIR



DS-30/PF EMR



DS-30/ZKS SMIR



刀头类型 Tool type

定子类型 Stator type

定子外径 Outer diameter of stator

转子类型 Rotor type

转子外径 Outer diameter of rotor

最大剪切速度 Max. peripheral speed

刀头长度 Tool length

最小浸入深度 Max./min. insertion depth

处理量 (水) Treatable Volume (acc. to H₂O)

多合一刀头，适合糊状、纤维、液体

All-in-one tool for pasty, fibrous and liquid components

粗的 coarse

30 mm

剪切-混合-转子 Cutting-Mixing-rotor

23 mm

47 m/s

250 mm

200 mm / 40 mm

500 - 10.000 ml

多合一刀头，适合糊状、纤维、液体

All-in-one tool for pasty, fibrous and liquid components

精细 fine

30 mm

剪切-混合-转子 Cutting-Mixing-rotor

23 mm

47 m/s

250mm

200mm / 40mm

500 - 8.000ml

乳化刀头

Emulsifying tool

精细 fine

30 mm

乳化转子 Emulsifying rotor

23 mm

47 m/s

250 mm

200 mm / 40 mm

500 - 7.000 ml

二合一刀头，可剪切纤维材料

2 in 1 tool with cutter for fibrous materials

刺钉刀头 spike head

30 mm

剪切-混合-转子 Cutting-Mixing-rotor

23 mm

47 m/s

250 mm

200 mm / 40 mm

500 - 8.000 ml

Vario

分散匀浆刀头—批次

Dispersing and homogenizing tools - BATCH mode



40 mm

定子直径

Stator diameter

1.000 - 20.000 ml

处理量（取决于使用的容器）

Volume range

推荐主机 | Recommended drives

Micra D-15

DS-40/PG SMIR



DS-40/PF SMIR



DS-40/PF EMR



刀头类型 Tool type

多合一刀头，适合糊状、纤维、液体

All-in-one tool for pasty, fibrous and liquid components

多合一刀头，适合糊状、纤维、液体

All-in-one tool for pasty, fibrous and liquid components

乳化刀头

Emulsifying tool

定子类型 Stator type

定子外径 Outer diameter of stator

转子类型 Rotor type

转子外径 Outer diameter of rotor

最大剪切速度 Max. peripheral speed

刀头长度 Tool length

最小浸入深度 Max./min. insertion depth

处理量（水） Treatable Volume (acc. to H₂O)

粗的 coarse

40 mm

剪切-混合-转子 Cutting-Mixing-rotor

31 mm

54,5 m/s

250 mm

200 mm / 40 mm

1.000 - 20.000 ml

精细 fine

40 mm

剪切-混合-转子 Cutting-Mixing-rotor

31 mm

54,5 m/s

250 mm

200 mm / 40 mm

1.000 - 12.000 ml

精细 fine

40 mm

乳化转子 Emulsifying rotor

31 mm

54,5 m/s

250 mm

200 mm / 40 mm

1.000 - 10.000 ml

VarioFlex

分散匀浆刀头—批次

Dispersing and homogenizing tools - BATCH mode

2 in 1

刀头套装

Tool set

250 ml - 20 l

处理量

Volume range

经济的“2/p-bundle”包括一粗一细定子，一个转子。

通过快速更换系统，把粗定子换成细定子就可获得期望的精细度，无需大投入。

Our economic „2/P-bundles“ consist of a coarse and a fine stator each, as well as a rotor.

The desired end fineness is achieved by changing the stator from coarse to fine without large expenditure by the „quick-change-system“.

DS-20/2P SMIR



DS-30/2P SMIR



刀头类型 Tool type

多合一刀头，适合糊状、纤维、液体

多合一刀头，适合糊状、纤维、液体

All-in-one tool for pasty, fibrous and liquid components

All-in-one tool for pasty, fibrous and liquid components

定子类型 Stator type

1 x 精细, 1x 粗 1 x fine, 1 x coarse

1 x 精细, 1x 粗 1 x fine, 1 x coarse

定子外径 Outer diameter of stator

20 mm

30 mm

转子类型 Rotor type

剪切-混合-转子 Cutting-Mixing-rotor

剪切-混合-转子 Cutting-Mixing-rotor

转子外径 Outer diameter of rotor

15 mm

23mm

最大剪切速度 Max. peripheral speed

30,6 m/s

47 m/s

刀头长度 Tool length

250 mm

250mm

最小浸入深度 Max./min. insertion depth

200 mm / 40 mm

200mm / 40mm

处理量 (水) Treatable Volume (acc. to H2O)

100 - 3.000 ml 精细定子 stator fine
100 - 5.000 ml 粗定子 stator coarse

250 - 8.000 ml 精细定子 stator fine
250 - 10.000 ml 粗定子 stator coarse

推荐主机 | Recommended drives

Micra D-3/PA

Micra D-9

Micra D-15

刀头类型 Tool type

定子类型 Stator type

定子外径 Outer diameter of stator

转子类型 Rotor type

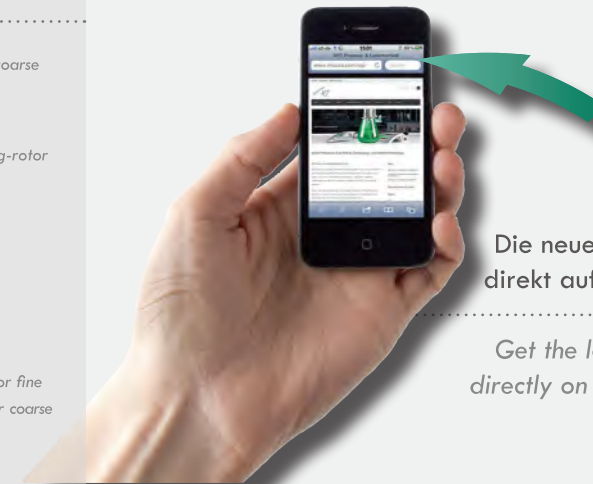
转子外径 Outer diameter of rotor

最大剪切速度 Max. peripheral speed

刀头长度 Tool length

最小浸入深度 Max./min. insertion depth

处理量 (水) Treatable Volume (acc. to H2O)



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directly on your smartphone!

VarioMax

高速混合刀头

High-speed mixing tools

40 mm

定子直径

Stator diameter

1 | - 100 |

处理量

Volume range

推荐主机 | Recommended drives
Micra D-15

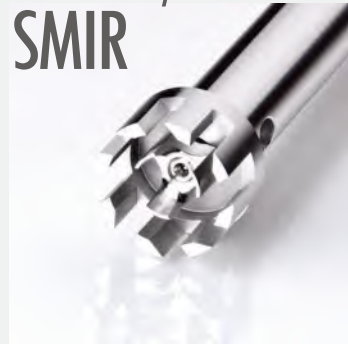
处理大容量的“VARIOMax”系列刀头，混合量可多达100l。

在这个时候，配合D-15 使用，即使粘度上升，还可以保持恒定速度。

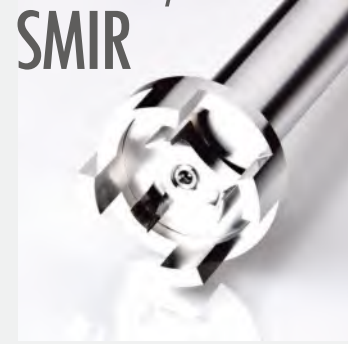
.....
With our VARIOMax - line for large volumes, you are able to mix volumes up to 100 l easily.

Our standard lab-drive MICCRA D-15 provides, on this occasion, constant speeds even with increasing viscosity.

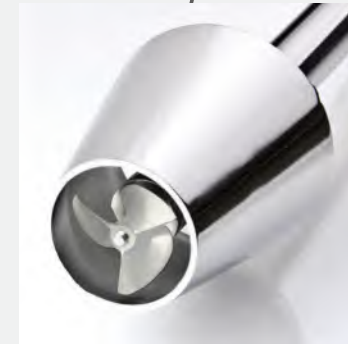
RW-30/PG SMIR



RW-40/PG SMIR



LSM-70/3



刀头类型 Tool type

定子类型 Stator type

定子外径 Outer diameter of stator

转子类型 Rotor type

转子外径 Outer diameter of rotor

最大剪切速度 Max. peripheral speed

刀头长度 Tool length

最大/小浸入深度 Max./min. insertion depth

处理量 (水) Treatable Volume

(bez. auf H2O) | (acc. to H2O)

高速混合/搅拌刀头

High speed mixing-/stirring tool

粗 coarse

30 mm

剪切-混合-转子 Cutting-Mixing-rotor

15 mm

30,6 m/s

250 mm

200 mm / 40 mm

1.000 - 20.000 ml

高速混合/搅拌刀头

High speed mixing-/stirring tool

粗 coarse

40 mm

剪切-混合-转子 Cutting-Mixing-rotor

23 mm

41 m/s

250mm

200mm / 40mm

5.000 - 50.000 ml

急流混合刀头

Jet stream mixer

篮 basket

70/44 mm

涡轮螺旋桨 turbo propeller

33 mm

58 m/s

420 mm

300 mm / 100 mm

10.000 - 100.000 ml

DFK

分散匀浆工作腔系统—在线式

Dispersing and homogenizing system - InLine mode

20-40 mm

定子直径

Stator diameter

5 - 45 l/min

腔体容量

Flow capacity



DFK 1.0

这是一款为短时间连续工作提供的灵活解决方法。我们标准的实验室匀浆器 MICCRA D-15 或者 MICCRA D-9 主机即可实现。

The flexible solution for short-term operation. Our standard laboratory homogenizers MICCRA D-15 or MICCRA D-9 provide the needed drive for your work.



DFK 1.4

这是一款适用于实验室或中试实验的连续工作的循环腔系统。与高端主机 MICCRA D-27 的连接，您将获得独一无二的纳米级结果。

The flow chamber system made for continuous operation in lab and pilot plant scale. Firmly connected with our MICCRA D-27 high-end drive, you will achieve unique product results up to nanometer range.

安全、
灵活、
高效。

“ MICCRA DFK Lab ” 清洗简便快速，是实验室处理少量样品的高效循环腔体系统。

基于优越的模块化设计，所有批次系列的转子/定子元件都可应用于循环系统。由于不同凡响的高转速，样品的精细度可达40nm（取决于样品的特性和应用）。

迄今为止，这样的小系统从来没有其它系统可达到这样的效果。

Safe, flexible, efficient.

The MICCRA DFK Lab is an easy and quick to clean, efficient flow chamber system for your lab and small scale production purposes.

As a result of the modular construction, all known rotor/stator-components from the batch-series are uncompromisingly available for this chamber also.

Due to the significant higher circumferential speeds, end-finenesses up to 40 nm can be achieved according to product features and application.

As yet, this was not possible with such small systems.

推荐主机 | Recommended drives

Miccra D-9 短时间工作 | (short-time operation)

Miccra D-15 短时间工作 | (short-time operation)

Miccra D-27 连续式工作 | (continuous operation)



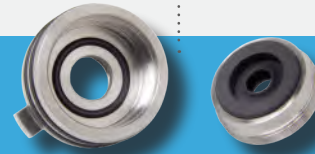
Aufbaubeispiel DFK 1.0 mit MICCRA D-15

DFK

分散匀浆工作腔系统—在线式
Dispersing and homogenizing tools - InLine mode

20-40 mm
定子直径
Stator diameter

5 - 45 l/min
腔体容量
Flow capacity



“DFK”工作腔系统可以在实验室或中试实验处理在线/循环的大容量。
高质的不锈钢坚固构件和耐磨密封材料确保了其在工业领域的各项应用。

- 化学/物理特性改变的流动能力
- 研究领域处理小样时的成本节约
- 处方的创建
- 由实验室转向将来的大量生产

The DFK system allows you the processing of larger volumes in InLine-/
flowthrough-procedure in lab and pilot plant scale.

The solid construction method made of high-quality stainless steel and the highly
resistant sealing materials guarantee a versatile application in all industrial
branches to:

- chemically and/or physically change of media capable of flow
- carry out smaller and therefore cost-saving attempts in the
field of research
- create e.g. new recipes,
- transfer the gained insights in the lab scale to your future
production sizes (scale up)

2 密封类型

可选择单一的机械密封和经FDA认证的唇
式密封。

专利的悬盒结构使得唇式密封易于清洗，
利于用户更换。维修工作省钱省时。

2 sealing types

You have the choice between a single
mechanical seal and a lip seal with FDA
approval.

The patent pending cartridge construction
provides easy cleaning of the lip seal and
may even be replaced by the user itself, if
necessary. Therefore, you save costs and
time for repair work.



灵活组合不同尺寸的定子/转子

Flexible use of different rotor / stator
configurations and sizes



创新的盒式密封结构可以快速更换
唇式密封

Revolutionary sealing system in cartridge
construction allows quick and easy repla-
cement of the sealing lips



简便的清洗和维护

Easy cleaning and maintenance



经高度抛光的刀头元件。

Standard high-polished tool components

附件如：不同容量的不锈钢杯（1, 3或5升），有单层和双层结构；软管接头，
垫圈和三通阀等都是现货。如需其他容量或尺寸请咨询。

Accessories such as stainless steel containers with different volumes
(1, 3 or 5 liters) in single or double-walled construction, hose nipples,
fittings and three way valves etc. are standardly available. Further
volumes/sizes available upon request.

DFK 1.0

在线循环工作腔

InLine operated flow chamber

20-30 mm

定子直径

Stator diameter

5 - 26 l/min

腔体容量

Flow capacity

短时连续工作的理想方案

DFK 1.0 循环系统是快速、效益的产品开发成为可能。同样，所有批次系列的模块化转子/定子元件都可应用到这里。

- 这是第一次，可使用 MICCRA 实验室系列的批次式结构。
- 可灵活地利用快速夹把各类管、垫圈、容器（单层、双层、密闭、敞开式）、阀连接到系统，用小量样品实验来模拟生产。
- 还可利用机械系统来获得纳米级样品的精细度。所积累的知识可应用到未来的中试或批量生产。

The ideal solution for short-time operation

The DFK 1.0 flow chamber system is the entry to a fast and cost-effective product development. Again, you have the possibility of being able to use the batch series of our known modular rotor / stator components without compromise

Its usefulness as e.g. a product developer lies in the following facts..

- ... That for the first time, you can fall back on a system which is absolutely the same structure as it is in the batch operation of the MICCRA laboratory series.
- ... That you can flexibly attach pipes, fittings, tanks (whether single or double-walled, closed, open), valves of any kind via Tri-Camp connections to the system and simulate your production more or less on a small scale.
- ... That you even can achieve product endfinenesses with a mechanical system, which lie in the nanometer range.

And at a cost that is unmatched. The gained knowledge can then be adopted into the next larger scale in pilot plant or production.



技术参数 Technical Data

DFK 1.0

刀头套件	Tool set	20 mm	30 mm
循环量(水) :	Flow capacity (ref. to H ₂ O):	15 l/min	26 l/min
最大剪切速度 :	Max. peripheral speed:	30 m/s	41 m/s
转子直径 :	Rotor diameter:	15 mm	23 mm
定子直径 :	Stator diameter:	20 mm	30 mm
摩氏硬度 :	Mohs-Hardness:	最大 6	最大 6
最大压力 :	Max. pressure:	8 bar	8 bar
真空度 :	Reachable vacuum:	1 mbar	1 mbar
杀菌/除污 :	Sterilization/Decontamination:	在线清洗	在线清洗

DFK 1.4

在线循环工作腔
InLine operated flow chamber

20-40 mm

定子直径
Stator diameter

5 - 45 l/min

循环量
Flow capacity

产品优化

DFK 1.4是小样研发循环系统的终极方案。基于MICCRA D-27的主机拥有2.7KW的动力和36000转/分钟的转速，可更高效地获得更高质量的样品。

- 试验结果是可随时重复获得，并可延伸到接下来的更大处理量。
- 混合和样品的细化是不同转子/定子优化组合得到的。
- 由于循环腔和马达驱动之间是无轴承的转动轴，使得系统非常的顺畅，也特别易于清洗和维护。

Product optimization

The inline flow chamber system DFK 1.4 is the high-end solution for continuous operation in research, development and small production scale. Based on the MICCRA D-27, the powerful 2.7 kW induction motor with speeds up to 36,000 1/min, product results with a much higher quality and efficiency are possible.

The results are reproducible at any time and a scale-up to the next higher volume areas is possible.

To mixing and size reduction effects is to optimize a wide variety of rotor / stator combinations.

Thanks to a bearingless drive shaft between the flow chamber and motor drive the system is characterized by its remarkable smoothness, and is particularly easy to clean and maintain.

Thus, the ideal combination between MICCRA D-27 and the DFK 1.4 By flow chamber system as an ideal equipment for their crossover products.



技术参数 Technical Data DFK 1.4

刀头套件	Tool set	20 mm	30 mm	40 mm
循环量(水):	Flow capacity (ref. to H2O):	10 l/min	26 l/min	45 l/min
最大剪切速度:	Max. peripheral speed:	30 m/s	41 m/s	46 m/s
转子直径:	Rotor diameter:	15 mm	23 mm	36.3 mm
定子直径:	Stator diameter:	20 mm	30 mm	40 mm
摩氏硬度:	Mohs-Hardness:	最大 6	最大 6	最大 6
最大压力:	Max. pressure:	16 bar	16 bar	16 bar
真空度:	Reachable vacuum:	1 mbar	1 mbar	1 mbar
杀菌/除污:	Sterilization/Decontamination:	在线清洗*	在线清洗*	在线清洗*

*根据需求 / on request

MICCRA D-27

高端匀浆器

High-end homogenizer

2,7 kW

异步马达

asynchronous motor

36.000 rpm

速度范围

Speed range



MICCRA D-27 匀浆器

MICCRA D-27 homogenizer

DFK 1.4 在线循环腔

DFK 1.4 InLine operated flow chamber

新的高端匀浆器，为研发领域更高需要而制造。

2.7KW动力，不锈钢三相异步马达，转速高达36000转/分钟，把样品推向纳米级，却只有63分贝的低噪音。

专利的独一无二悬盒式密封系统（与DFK循环腔连接），可工作于高压与真空状态，特别便利的维护设计。是实验室和中试实验在线工作的方案。

The new high-end homogenizer, built for the highest requirements in research and development.

Its powerful 2.7 kW stainless steel three-phase asynchronous motor with up to 36,000 rpm delivers product results up to nanoscale, at a surprisingly low noise rate (63 dB(A)).

The patent-pending, unique cartridge sealing system (in connection with the DFK-flow chamber) withstands also pressure and vacuum applications easily and is particularly hassle-free to maintain.*

The perfect solution for the continuous operation in laboratory and pilot plant, hands down.



HFU-27 高频转换器

HFU-27 high frequency converter

MICCRA D-27

高端匀浆器

High-end homogenizer

2,7 kW

异步马达

asynchronous motor

36.000 rpm

速度范围

Speed range

技术参数 Technical Data

MICCRA D-27 匀浆器主机 MICCRA D-27 homogenizing drive

马达类型：
电压：
电流：
扭矩：
功率：
频率：
速度调节：
速度范围：
外壳类型：
驱动类型：
安全等级：
冷却类型：
密封气体：
密封类型：
尺寸：
重量：

Motor type:
Voltage:
Electricity:
Torque:
Power:
Frequency:
Speed regulation:
Speed range:
Housing type:
Drive type:
Safety type:
Cooling type:
Sealing air:
Sealing type:
Dimensions:
Weight:

三相异步马达
185V 3~
最大 10.6A
最大 200Ncm
最大 2700W
50 - 400 Hz (600 Hz)
变频器
3000 - 24000 rpm (可选择 36000rpm)
不锈钢
S1 (连续工作)
IP 54
一体化循环水冷
一体化压缩空气
终身油脂主轴滚珠轴承
112 x 112 x 442mm (宽x高x长)
9.5Kg

three phase asynchronous
185V 3~
max. 10,6 A
max. 200 Ncm
max. 2700 W
50 - 400 Hz (600 Hz)
via frequency converter
3.000 - 24.000 rpm. (optional up to 36.000 rpm)
Stainless steel
S1 (continuous operation)
IP 54
integrated water cooling circuit
integrated compressed air supply
lubricated-for-life spindle ball bearing
112 x 112 x 442mm (WxHxD)
9.5kg

HFU-27 变频器

“HFU-27”变频器专为 MICCRA D-27 异步马达设计。

紧凑耐用，可固定装置。带一体化数字显示，短路检测。使用一体化的电源供应 PFC

HFU-27 high frequency converter

High frequency converter for MICCRA D-27 asynchronous drive

Compact and resistant table and / or mounted device with integrated digital display and short circuit monitoring. Use in the public mainsupply by integrated PFC (Power Factor Correction).

输入 (AC) :
输出 (AC) :
输出功率 :
模式 :
额定电流 :
高峰电流 :
安全等级 :
环境温度 :
配置 :
操作类型 :
外形尺寸 :
重量 :

Input (AC):
Output (AC):
Power output:
Modulation:
Nominal current:
Peak current:
Safety type:
Ambient temp.:
Equipment:
Operation type
Dimensions:
Weight:

1 x 115 bis 1x230V 50/60Hz
3x 0 bis 220V
3,8kVA (3,8kW)
Puls-Weiten-Modulation
10A
28A
IP 20
5 bis 40°C
配连接线 . Stecker-Satz
S1 (连续工作)
120x275x220mm (HxBxT)
4,9 kg

1 x 115 to 1x230V 50/60Hz
3x 0 to 220V
3,8kVA (3,8kW)
Pulse width modulation
10A
28A
IP 20
5 to 40°C
delivery with connector set
S1 (continuous operation)
120x275x220mm (HxWxD)
4.9 kgs

马达连接 :
USB接口 :
电源供应 :

Motor connection:
USB connection:
Power supply:

6线引出端子
是
On-/off 开关
LCD状态显示，可显示工作数据
如：参数、速度、设置值、负
载、有效驱动、错误信息等

6-pin lead-out terminal
yes
On-/off switch on front
LCD status display for
displaying operational
data such as:
parameters, speed
setpoint / actual, load
indicator, active drive,
error messages

控制 :

Controls:

LED状态显示：
准备、有效负载检测、工作按
键、驱动选择和参数

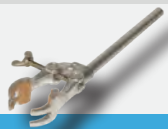
LED status indicator:
Ready, active load detector,
keypad for operation,
drive selection and
parameterization

接口 : 4x数字输出, 1x模拟输出 (5V), 9x数字输入 (10V), 1x脉冲输出 - 速度

Interfaces: 4x digital-output, 1x analog-output (5V), 9x digital-input, 2x analog-input (10V), 1x pulse output - speed

附件

Accessories



万能夹 UK80
Universal clamp UK80

用于固定直径小于80 mm的容器
含夹头 KM20

for fixing of vessels up to diameter 80 mm,
incl. boss head KM20.



链条夹 KK1000
Chain clamp KK1000

用于固定圆柱形的容器
含夹头 KM20

for fixing of cylindrical vessels
incl. boss head KM20.



支架 PS300/A2
Plate stand PS300/A2

适用于固定操作
不锈钢,尺寸:300x210mm
含两根支架

For stationary work
stainless-steel,
surface dimensions: 300x210mm
incl. 2 rods



H型支架 HS400
H-type stand HS400

适用于固定操作
不锈钢结构

for stationary work
stainless steel- construction



刀头夹 WA20
Tool fitting WA20

单独的夹持装置, PTFE 直径
20mm, 带落地锥形插座 (NS29)

Tool fitting, resp. holding device,
PTFE for dispersing with diameter 20 mm,
with adapter for ground taper socket NS 29



反应釜适配器 RDA20
Reactor lid adapter RDA20

用于适配刀头夹 (WA20)
如 B ü CHI反应釜

for adapting of tool fitting WA20
on reactor lids such as BÜCHI-
reactors



夹头 KM20
Boss head KM20

用于把附件和主机固定在支架
上 重载型

for fixing of accessories and units on
plate stand, heavy duty version



拆卸工具 OW
Opening tool OW

用于以下匀浆刀头
(OW1) 用于 (EMR20, 30, 40)
(OW2) 用于 (SMIR 20)
(OW3) 用于 (SMIR 30, 40)

for dispersing tools
OW1 for EMR20, 30, 40
OW2 for SMIR 20
OW3 for SMIR 30, 40



计时器 ZU1
Timer ZU1

用于精确调节样品处理时间, 精确
到1秒。
有可连接4台仪器

for a precise adjustment of process
time down to 1 sec.
Up to 4 devices connectable



带挡板玻璃容器
Baffled glasses

是一种特别厚实的玻璃器皿.适用于
快速,高强度并安全地样品制备.可提
供各种规格.

Special heavy duty glassware for a
quick, intense and safe sample pre-
paration. Different sizes available

以下情形，敬请查询单独宣传册：

Please also ask for our separate brochures for the following ranges:

量身定制的解决方案

Custom solutions

无论您的应用有多么特殊，也许我们就有适合您的解决方案。

请咨询ART的专员提供量身定制的解决方案

How special your application may be, we might have the right solution for you.

Just ask our skilled professionals for custom solutions made by ART.

中试设备

Pilot plants

如需批次处理 50-500l, 或在线处理 10吨/小时，请选用“Micra Pi”系列中试设备

可从实验室无缝过渡到批量生产

Handle volumes of 50-500 l easily in batch, and flow rates up to 10t / h inline-operation with our „Micra Pi“ pilot plant series.

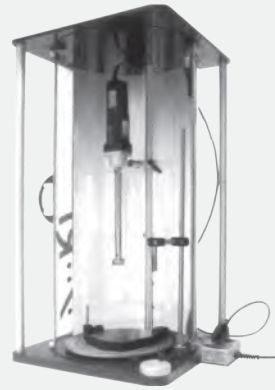
The seamless transition from lab to production scale.

工业技术

Process technology

“Micra Pro”系列工业设备可为量产提供专业及量身定制的混合/乳化解决方案

Our „Micra Pro“ series offers professional and custom-made solutions in terms of production scale mixing and dispersing.



安全箱
Safety cabin



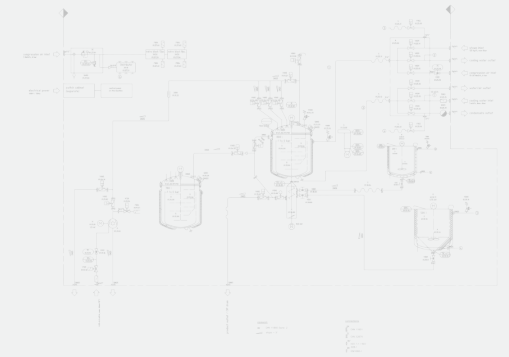
批次式中试设备
Batch operated pilot plant



在线式中试设备
Inline operated pilot plant



批次式/在线式工业设备
Inline/batch operated production plant



miccra