

Operating instructions



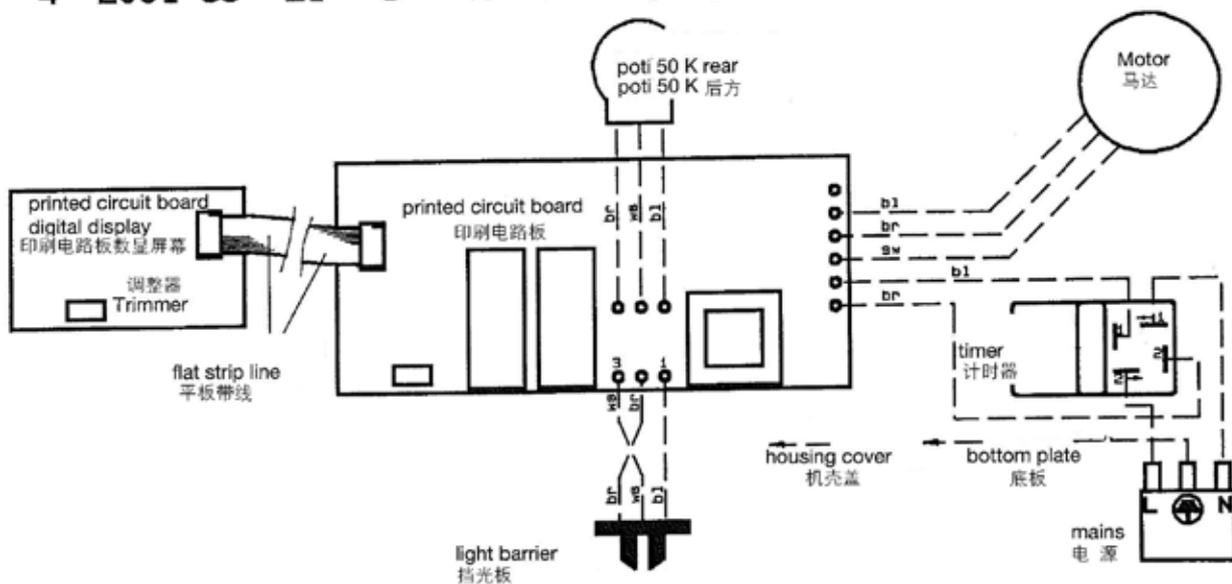
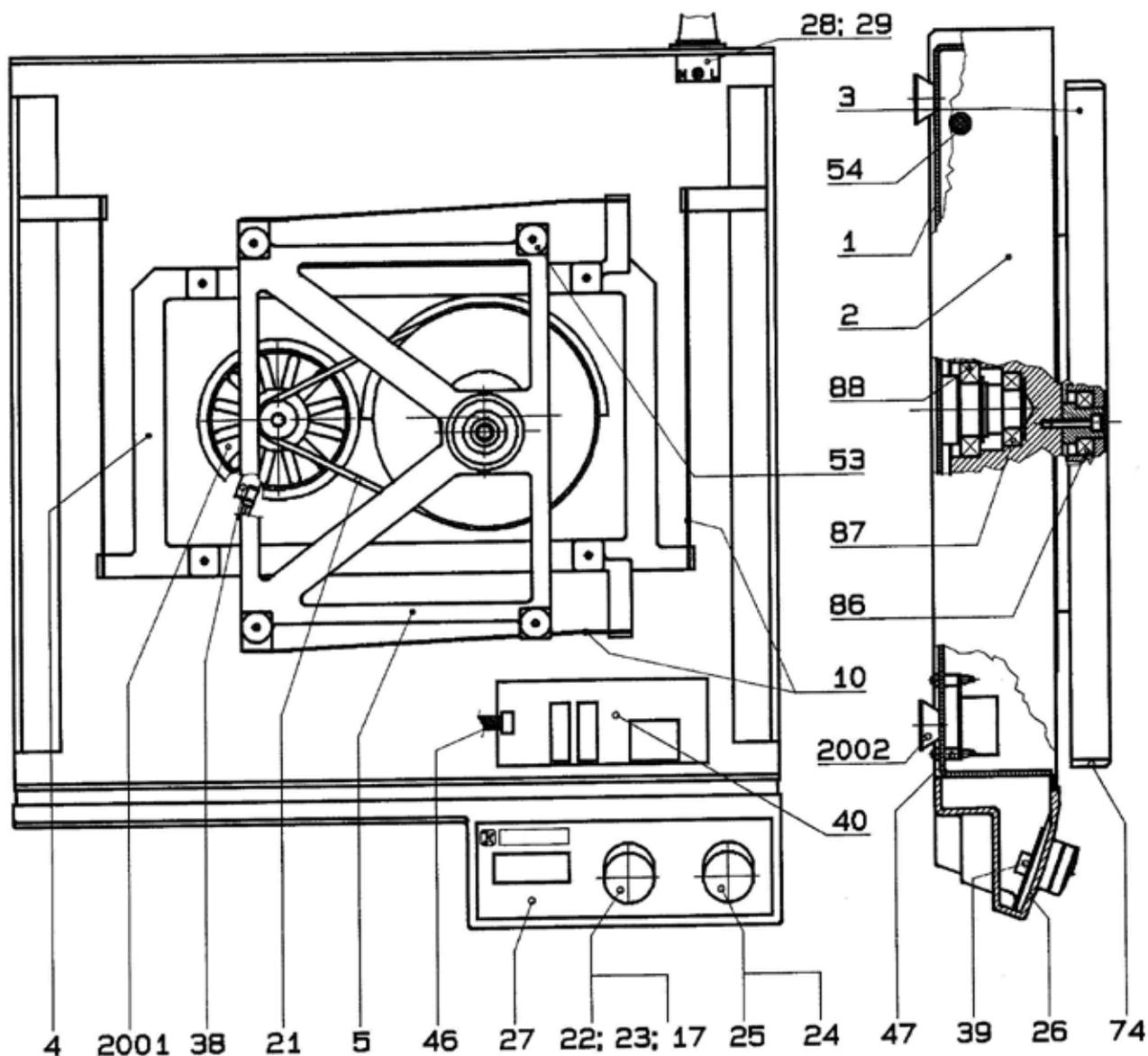
使用说明

IKA® HS 501 digital
IKA® KS 501 digital

IKA® HS 501 数显型 振荡器
IKA® KS 501 数显型 振荡器

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•Spare parts diagram & Wiring diagram / 零配件图和接线图



•List of spare parts / 零配件清单

Ident-No. of Instrument 24 760 00

Item	Designation	Item	Designation
1	bottom plate	29	instrument fuse
2	housing cover	38	fork light barrier
3	shaking table	39	PCB light barrier
4	frame 1	40	PCB mains
5	frame 2	46	flat strip line
10	leaf spring	47	distance holder
17	intermediate sheet metal	53	washer
21	poly-V-belt	54	washer
22	operating knob poti.	74	edge protection
23	potentiometer	86	grooved ball bearing 6004 2Z
24	timer	87	grooved ball bearing 6005 2Z
25	operating knob timer	88	grooved ball bearing 6008 2Z
26	front part	2001	drive compl.
27	identification plate	2002	base compl.
28	built-in plug		

仪器ID: 24 760 00

序号	名称	序号	名称
1	底板	29	仪器保险丝
2	机壳盖	38	交叉式挡光板
3	振荡台	39	PCB 挡光板
4	机架 1	40	PCB 电源
5	机架 2	46	平板带线
10	片簧	47	距离支架
17	金属间片	53	垫片
21	聚-V形带	54	垫片
22	操作旋钮电位计	74	边缘保护
23	电位计	86	深沟球轴承 6004 2Z
24	计时器	87	深沟球轴承 6005 2Z
25	操作旋钮计时器	88	深沟球轴承 6008 2Z
26	仪器前板	2001	马达组件
27	标识牌	2002	底座组件
28	内置插头		

•Guarantee / 保修

You have acquired an Original **IKA**[®]-Laboratory Instrument which meets the highest requirements of quality and design.

In accordance with the **IKA**[®]-terms of warranty, this instrument is guaranteed for a period of 24 months.

In the event of any claim under guarantee, please contact your laboratory dealer.

感谢您采购**IKA**[®]公司高品质的产品。

根据**IKA**[®]公司规定本机保修两年。

保修期内若有任何问题请联系您的供货商。

• Scheduled Use

By using different attachments, the **IKA**[®]-shakers HS 501 digital and KS 501 digital are suitable for mixing liquids in bottles, flasks, separating funnels, test tubes and dishes with a maximum shaking weight of 15 kg.

The HS 501 digital produces a to and fro shaking motion and the KS 501 digital an orbital one.

• Unpacking

Please unpack the instrument carefully and look out for any damage. It is important to recognize a transportation damage already when unpacking. If this is the case, an immediate factual report is required (mail, rail or forwarding agency).

• Setting-up the Instrument

Please take care for the instrument to stand unobstructed. Attention has to be paid to the ambient conditions (temperature and humidity) listed in Technical Data. Any direct exposure to the sun should be avoided.

Safety Warning:

The instrument has to be placed upon a sturdy laboratory table with level surface and with no other objects on it.

The instrument must not be operated in rooms with explosion hazards.

• Starting-up

Before starting the instrument, please check the conformity between the voltage indicated on the ID-plate and your mains voltage. If they do not agree, the instrument must not be operated. The instrument has to be connected to an earthed socket.

The shaking intensity is selected on the front side potentiometer "Mot".

Attention:

As the instrument is starting with the set speed, we recommend to set the potentiometer "Mot" to the left-hand stop (minimum speed) before starting it.

The instrument is switched on by turning the timer rotary knob clockwise. Position **I** is for permanent operation. The duration of operation can be set infinitely variably from 0 - 56 minutes. The timer rotary knob can be reset any time, yet it may not exceed position **0**.

By turning the timer rotary knob to position **0**, the **instrument is switched off**.

•Attachments

Attention:

In shaking operations additional dynamic forces occur, and the instrument might start traveling on the table if the centre of gravity is unfavourably placed or if the bearing weight is too high. Single shaking vessels have to be placed into the centre, and several shaking vessels should be uniformly placed. Load limitations in the event of high shaking frequencies can be taken from the following diagrams.

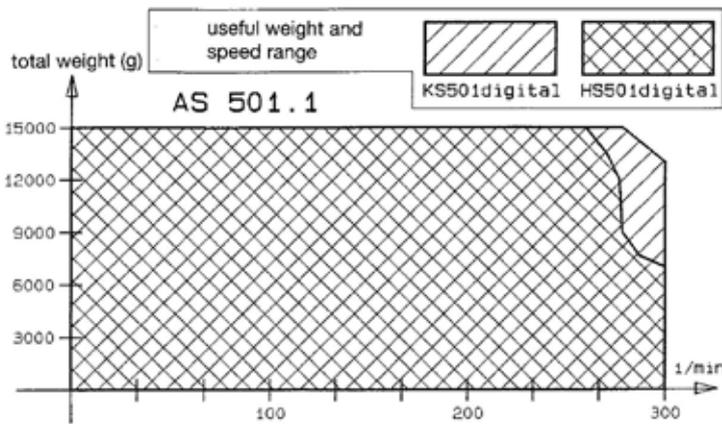
Universal Attachment AS 501.1



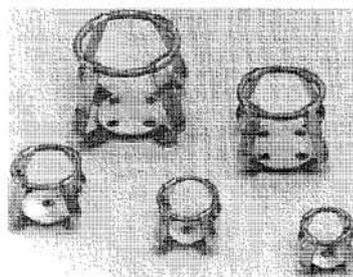
Consisting of:

1 basic holder	AS 1.10
6 supporting bars	AS 1.11
12 clamping devices	AS 1.6

The basic holder is placed upon the shaking table and fastened with the lateral quick-action vises.

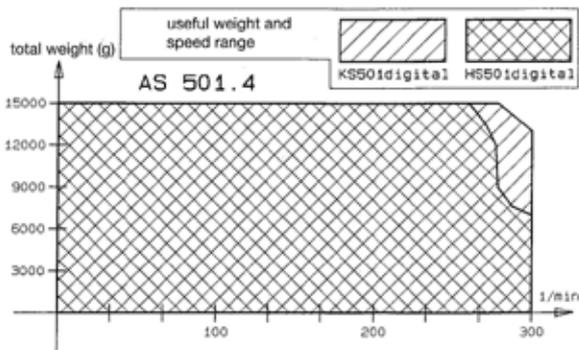


Fixing Clip Support AS 501.4



The support can hold:

110 fixing clips	AS 2.1
for 25 ml flasks or	
55 fixing clips	AS 2.2
for 50 ml flasks or	
35 fixing clips	AS 2.3
for 100 ml flasks or	
16 fixing clips	AS 2.4
for 250 ml flasks or	
12 fixing clips	AS 2.5
for 500 ml flasks	
8 fixing clips	AS 2.6
for 1000 ml flasks.	



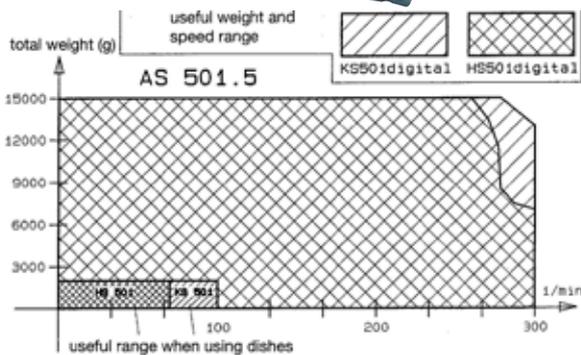
*Attention: In case of max. assembly overhang of glass ware is possible. Danger of broken glass.

The plate which can be equipped with clips of different size, is placed on the shaking table and fastened with the lateral quick-action vises.

Dish Attachment AS 501.5



The dish attachment made of the environmentally friendly polystyrole, is simply slipped on the shaking table and pulled up for removal.

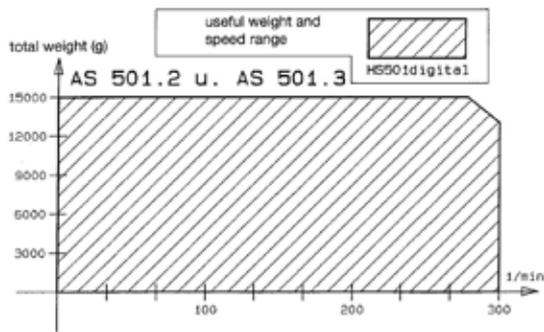


Separating Funnel Attachments AS 501.2 and AS 501.3



AS 501.2 for
 12 x 50 ml
 10 x 100 ml
 6 x 250 ml

AS 501.3 for
 4x 500 ml
 3x 1000 ml
 2x 2000 ml



The attachments are placed on the shaking table and fastened with the lateral quick-action vises.

Separating funnel attachments are only suitable for HS 501 digital.

•Maintenance and Cleaning

The instrument requires no maintenance. Only the ball bearings are subjected to a natural wear. If the instrument needs to be repaired, it may only be opened by a qualified technician. If the instrument does not seem to function, please check the fuses first: Disconnect mains plug of instrument and open fuse holder. For safety data see Technical Data/Mains Connection.

The surfaces of the instrument may be cleaned with:

- water with a tenside containing detergent
- isopropyl alcohol (e.g. if very soiled) with the exception of the polystyrole attachments.

Please submit for repair only instruments that have been cleaned and are free from substances dangerous to health.

When ordering spare parts, please indicate type of instrument, serial number and ordering number of the spare part.

•Technical Data

Mains voltage		230 V or 115 V
mains frequency		50/60Hz
mains connection		GEE-instrument plug with fuses: 230 V = 2 x 0,5 A; 115 V = 2 x 1 A
protection class (DIN 40 050)		IP 21
permissible duration of operation		100%
timer		0-56 min/co
power input		70 watts
power output		19 watts
speed		0-300 1/min
speed display		digital
shaking motion	HS 501	to and fro
	KS 501	orbital
max. load incl. attachment		15 kg
permissible ambient temperature		+5°C - +50°C
relative humidity		max. 80%
dimensions W x D x H		505 x 585 x 120 mm
weight (without attachment)		24 kg

Subject to technical changes!

•正确使用

IKA® HS 501数显型振荡器和KS 501数显型振荡器可配置不同类型的夹具，适用于烧瓶，长颈瓶、试管和培养皿等容器中液体的振荡，最大承载可达15kg。

HS 501数显型振荡器的振荡方式为往复运动，KS 501数显型振荡器的振荡方式为圆周运动。

•开箱

请小心拆除包装并检查仪器。

如果发现任何破损，请填写破损报告并立即通知货运公司。

•安装

请将仪器置于平坦畅通的位置。

请确保在“技术参数”中规定的使用环境(温度，湿度等)下使用。

请避免阳光直照！

安全提示：

请将仪器置于平坦畅通的实验台上。

请勿在存在爆炸危险的室内操作该仪器。

•开机

检查电源电压是否与铭牌电压相符，插座是否接地良好。若满足上述条件，则可插上电源进行操作；否则可能引发安全问题或者损坏仪器。

通过仪器前板的电位器“Mot”可选择**振荡速度**。

注意：

由于仪器开启时总是会以设定速度运行，因此启动前请将电位器“Mot”调至左边停止位置（最小速度）。

顺时针旋转时间旋钮可**开启仪器**。将旋钮调至**I**位置，仪器连续运转。仪器为无级调速，定时范围为0-56分钟。通过时间旋钮可随时重置运行时间，但旋转位置不能超过**O**位置。

旋转时间旋钮至**O**位置，仪器关闭。

• 夹具

注意:

若放置重心偏移或负载过重，则在振荡过程中产生的额外动力因素会导致仪器在桌面移动。因此，单个振荡容器必须置于振荡台中心，多个振荡容器则应均匀地放置于振荡台。高频振荡情况下允许的负载范围请参考如下图表。

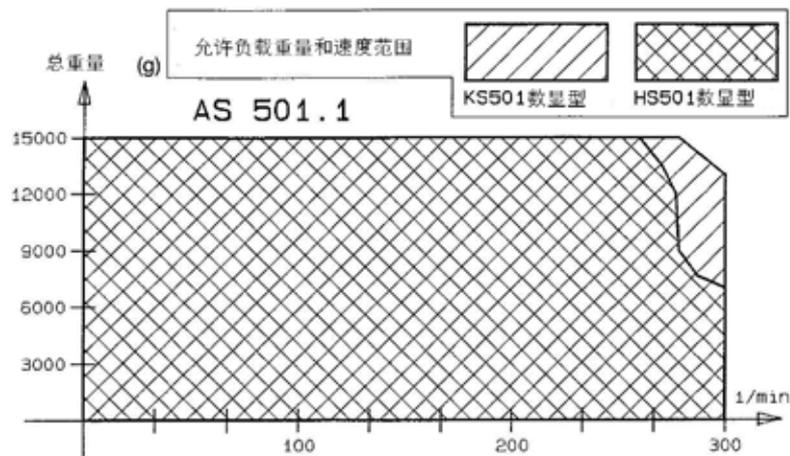
通用型夹具 AS 501.1



包括:

1 夹具座	AS 1.10
6 固定棒	AS 1.11
12 夹具座	AS 1.6

夹具座置于振荡台上，以侧边快速夹钳固定。



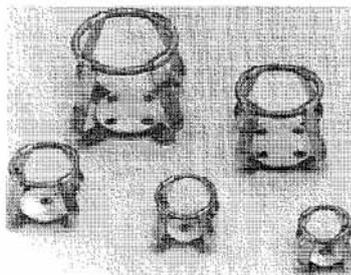
固定夹摇板 AS 501.4

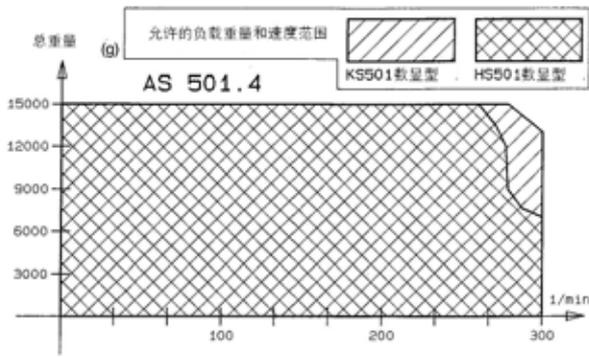


该摇板适用于:

容器固定夹数量和容量:

AS 2.1	110	25 ml
AS 2.2	55	50 ml
AS 2.3	35	100 ml
AS 2.4	16	250 ml
AS 2.5	12	500 ml
AS 2.6	8	1000 ml





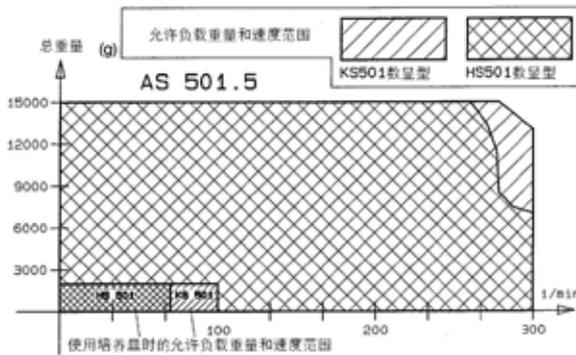
*注意：玻璃器皿过大的情况下可使其悬于摇板。请注意玻璃破碎的危险！

AS 501.4 摇板可与不同大小的容器固定夹配合使用。置于振荡台，由侧边快速夹钳固定。

培养皿夹具 AS 501.5



AS 501.5 培养皿摇板由环保型聚苯乙烯材料所制，易于下滑到振荡台也易于上拉移除。



分液漏斗夹具 AS 501.2 和 AS 501.3

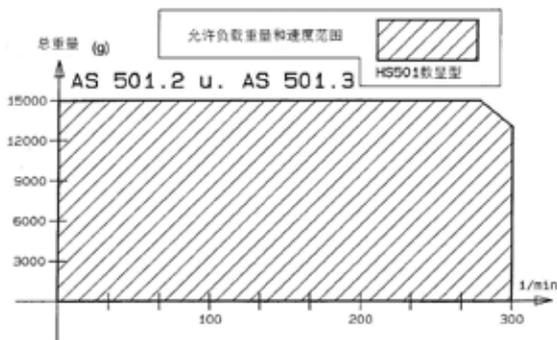


AS 501.2 数量和容量：

12 x	50 ml
10 x	100 ml
6 x	250 ml

AS 501.3 数量和容量：

4x	500 ml
3x	1000 ml
2x	2000 ml



夹具置于振荡台上，以侧边快速夹钳固定。

分液漏斗夹具仅适用于HS501数显型。

●清洁维护

仪器无需特别维护。只会发生轴承的自然磨损。若需维修，请仅由合格技术员打开仪器进行维修。若发现仪器运转发生故障，请首先检查保险丝：使电源断开并打开保险丝座。相关安全参数请参考“技术参数”中的“电源连接”。

请仅用如下试剂清洁仪器表面：

- a) 含活性剂的水溶液
- b) 异丙醇(如果非常脏的情况下)。注： 使用聚苯乙烯材料夹具的除外。

在送检仪器之前，请先清洁并确保仪器内无任何对人体健康有危害的物料残留。

订购零部件时，请说明机器类型和零部件序号和订货号。

●技术参数

电源电压		230 V or 115 V
电源频率		50/60Hz
电源连接		带保险丝的GEE测试插头： 230 V = 2 x 0,5 A; 115 V = 2 x 1 A
保护等级 (DIN 40 050)		IP 21
工作制式		100%
定时		0-56 min
马达输入功率		70 W
马达输出功率		19 W
速度		0-300 1/min
转速显示		数字显示
振荡方式	HS 501	往复振荡
	KS 501	圆周振荡
最大承重 (含夹具)		15 kg
允许环境温度		+5°C - +50°C
相对湿度		最大 80%
外形尺寸 W x D x H		505 x 585 x 120 mm
重量 (不含夹具)		24 kg

若有技术变更，请恕不另行通知!

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