

**RZR 2020 RZR 2021
RZR 2041**



**Betriebsanleitung
Instruction Manual
Mode d'Emploi
Instrucciones de
Empleo**

D	DEUTSCH	Seite 3 - 13
E	ENGLISH	page 14 - 24
F	FRANCAISE	page 25 - 35
ES	ESPAGNOL	página 36 - 46

Thank you for purchasing a Heidolph Instruments product. This item has been designed, made and inspected in compliance with DIN EN ISO 61010 for long-term and flawless operation.

SUMMARY

SUMMARY	14
STANDARD HARDWARE & OPTIONS	15
GENERAL INFORMATION	16
SAFETY INFORMATION.....	16
SET-UP.....	17
OPERATION AND CONTROLS.....	18
1. DESCRIPTION.....	18
2. Turn item ON.....	19
3. Speed setting.....	19
4. Speed display.....	20
CLEANING & SERVICING	20
DISASSEMBLE & STORAGE.....	20
DISPOSAL.....	211
MALFUNCTION & REMEDY	21
SPECIFICATIONS	22
WARRANTY, LIABILITY & COPYRIGHT	23
QUESTIONS / REPAIR WORK	23
CE-DECLARATION OF CONFORMITY.....	24



Important information



Advise about power cord / mains supply



Caution: mandatory action



Caution: fire- and explosion hazard



Advise about maintenance / repair

STANDARD HARDWARE & OPTIONS







Standard Hardware

product	quantity	P/N	
		230 V / 50 Hz	115 V / 60 Hz
RZR 2020 or	1	501-20200-00	501-20200-01
RZR 2021 or	1	501-20210-00	501-20210-01
RZR 2041	1	501-20410-00	501-20410-01
support rod	1	22-02-14-01-08	22-02-14-01-08
2,5 mm Allen key	1	02-07-01-01-04	02-07-01-01-04
3,0 mm Allen key	1	02-07-01-01-02	02-07-01-01-02
10.5 mm chuck	1	509-02000-00	509-02000-00
T-handle (for chuck)	1	02-07-03-01-02	02-07-03-01-02
Instruction Manual	1	01-005-002-94	01-005-002-94










Accessories & Stirring tools (optional)

product	P/N
stand	570-12000-00
clamp	570-22000-00
protective sheath	509-08000-00
flexible stirrer coupling shaft	509-03000-00
stirring paddle BR 10	509-10000-00
stirring paddle BR 11	509-11000-00
stirring paddle BR 12	509-12000-00
stirring paddle BR 13	509-13000-00
stirring paddle BR 14	509-14000-00
prop-type stirring paddle PR 30	509-30000-00
prop-type stirring paddle PR 31	509-31000-00
prop-type stirring paddle PR 32	509-32000-00
prop-type stirring paddle PR 33	509-33000-00
turbine TR 20	509-20000-00
turbine TR 21	509-21000-00
half moon HR 18	509-18000-00
anchor AR 19	509-19000-00
prop-type stirring paddle PR 39	509-39000-00
enclosure NS 29/32	509-09000-00

GENERAL INFORMATION

-  **Unpack your item carefully.**
Inspect for damage and report such damage or missing parts to your supplier right away.
-  **Read your Instruction Manual carefully.** Take time to save time when working with your product. Make sure that every user has read and understood the Instruction Manual.
-  **Please store the Instruction Manual in a place easily accessible to every user.**
IF ALL ELSE FAILS, READ THESE INSTRUCTIONS !
-  **A so-called EURO-plug (DIN 49441 CEE 7/VII 10/ 16 A 250 V) is standard on all of the products.**
For the Continental US they feature a US-standard plug (NEMA Pub.No.WDI.1961 ASA C 73.1 . 1961 page 8 15A 125V).
-  **For using the item in a country with deviating outlet / plug systems, we recommend to use approved adapters or to have an electrician replace the standard plug with one suit- ing your needs.**
-  **As shipped, the item features a protective ground wire. When replacing the original plug, make sure to reconnect this protective ground wire in the new plug !**

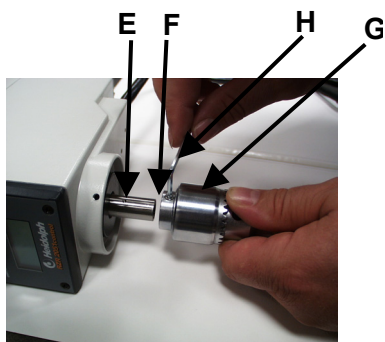
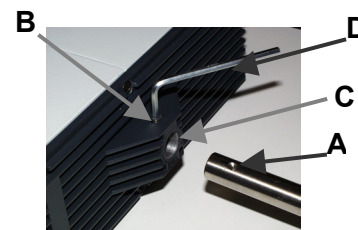
SAFETY INFORMATION

-  **Please comply with all safety and accident-prevention regulations as in force for laboratory work !**
-  **Use extra care when working with flammable substances; refer to safety data sheets.**
-  **When connecting your item with your local power supply, please make sure your item is designed for your local voltage; go by the data plate on the item.**
-  **Turn your power switch OFF whenever the item is not used, or before disconnect- ing the plug.**
-  **Repair work is limited to technicians approved by Heidolph Instruments.**
-  **Use extra care when working in the vicinity of flammable and explosive sub- stances. Motors are of non-sparking type, the item itself however is not explosion- proof.**
-  **Please connect your stirrer with a protective-ground outlet only.**
-  **Please strictly comply with current safety regulations for machines exposing ro- tating shafts.**
-  **Your item needs a solid stand.**

SET-UP

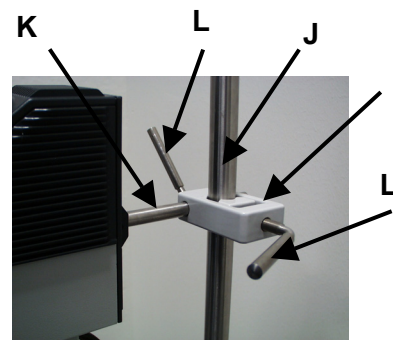
1. Install stand

make sure the indent (A) of the rod is in line with threaded pin (B). Install stand in hole (C) in the rear of the item. Secure (pull tight) threaded pin (B) using Allen key (D).



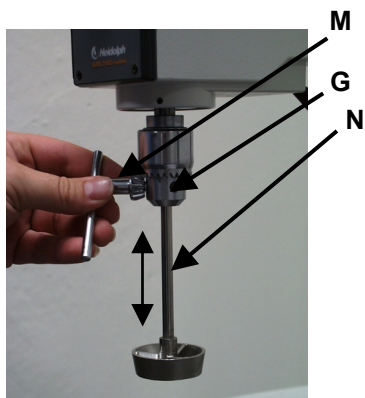
2. Install chuck

make sure the indent (E) in the drive shaft is in line with threaded pin (F) in the chuck. Secure threaded pin (F) with allen key (H) in your hardware bag.



3. Install stirrer on stand

Install clamp (I) on stand (J). Now introduce stirrer attaching rod (K) into clamp (I). Adjust position and secure (pull tight) with two clamp screws (L).

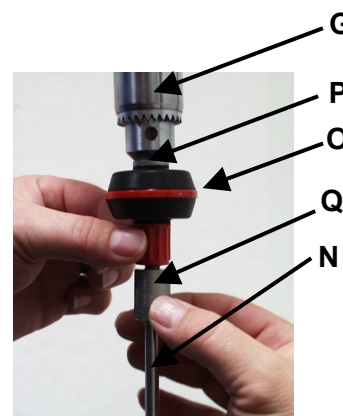


4. Install stirring tool

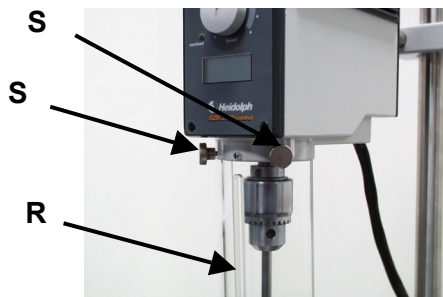
Introduce stirring tool (N) in chuck (G), put in place and secure with T-handle (M). Immersion depth of your stirring tool (N) is adjusted by displacing the tool in or out the open (G) chuck (refer to arrow mark).

5. Install flexible coupling shaft (P/N 509-03000-00)

Hold the flexible coupling shaft (O) in the chuck (G) by its metallic stud (P) and secure with T-handle. At this point introduce stirring tool's (N) shaft end in collet (Q) and pull tight (CW turn).



When using the flexible coupling shaft make sure to install an adequate run-out protection, e.g. our enclosure (P/N 509-09000-00)



6. Install shaft guard (P/N 509-08000-00)

A shaft guard (R) is available as an extra safety protection feature. This guard tube is held by 2 ea. screws (S) located at the top of the stirrer chuck.

This guard, attached to the stirrer housing, is used to protect the user from being hurt by the fast-spinning shaft.

OPERATION AND CONTROLS

1. Description

The HEIDOLPH stirrers RZR 2020, RZR 2021 and RZR 2041 are user-friendly and are specifically designed for laboratory use. They are equipped with a maintenance-free capacitor motor with steplessly variable gear. A straightforward 2-stage gear provides the wide speed range. All the elements are maintenance-free and free of wear and tear to a large extent.

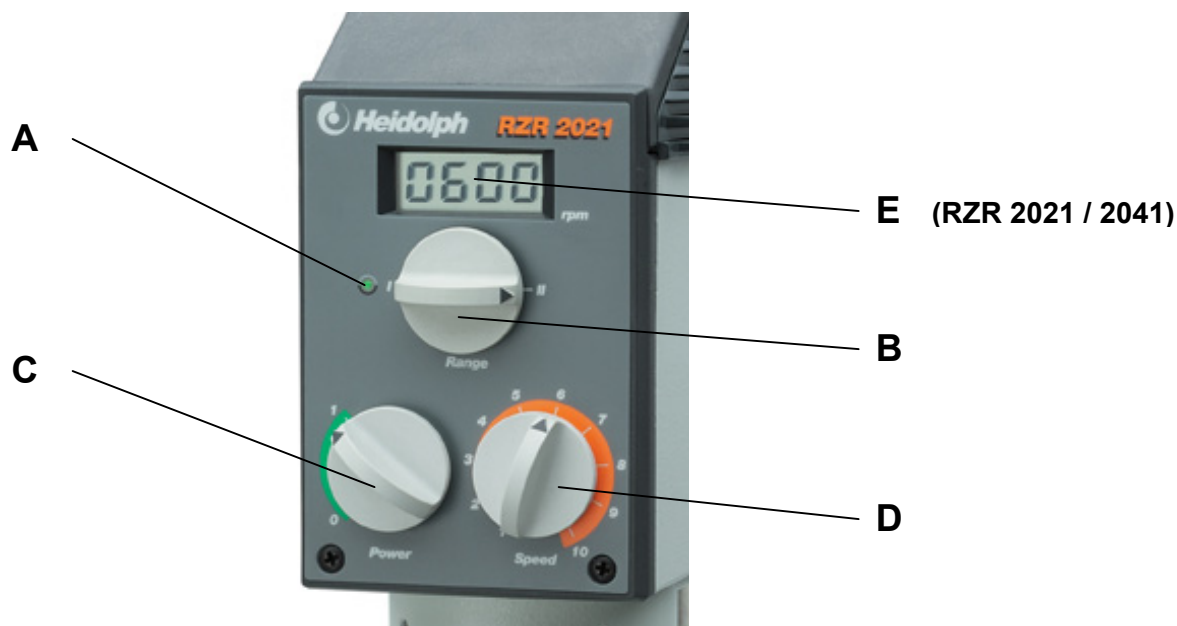
The hollow drive shaft provides great flexibility for fast and easy paddle adjustment.

1.1 Overload protection



The RZR 2020, RZR 2021 and RZR 2041 are equipped with a thermal overload protection feature to prevent damage to the stirrer caused by overloading or blocking. In such cases the motor shuts itself off automatically. Once this mechanism has been triggered, the stirrer must be allowed to cool down before being restarted via the ON/OFF switch (C). If the motor shuts itself off due to overloading, this is indicated by a red pilot lamp (A).

1.2 Stirring shaft protection


A protective device made of plexi-glass (PMMA) is available as an optional accessory to protect the user from injury. It is fastened to the housing and protects the operator from injuries resulting from splashes or from unintentional contact with the rotating shaft.



2. Turn item ON

-  **Make sure that the voltage of the instrument is the same as the mains supply. The instrument's voltage is specified on the serial plate underneath the instrument**
-  **Make sure that the speed control knob (D) is turned all the way to the left.**

Only plug the instrument into a grounded (earthed) electrical outlet. The on/off switch (C) is used to turn the instrument on and off. The green pilot lamp (A) should light up when the instrument is operational.

-  **Always use the mains rotary switch (C) to switch off the mixer. Do not pull out the plug. The friction ball of the friction gear is disengaged by using the mains rotary switch (C), which prevents any knocking noises when starting the mixer.**


3. Speed setting

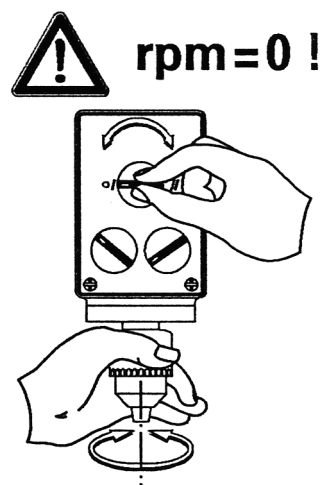
Set the desired speed range using the selection switch (B).

The stirrer has two speed ranges:

Range I: 40 - 400 rpm


Range II: 200 - 2000 rpm.

-  **Only change the speed range when the instrument is switched off, so as not to damage the gear. It is advisable to turn the chuck slightly whilst selecting another speed range. Only operate the instrument when the marker is exactly on I or II -(no intermediate settings).**



The selection switch (D) is used to select the desired speed within range I or II.

The scales are numbered from 1 to 10 and only serve as a guide. The speeds pertaining to the two ranges are specified separately on the side of the stirrer RZR 2020.

-  **When changing over from speed I to speed II, the stirrer speed increases fivefold. (from 40 - 400 rpm to 200 - 2000 rpm). As this gives rise to splashing (especially in conjunction with open containers), the instrument must be switched off before the operator can switch from speed range I to speed range II.**

If the operator attempts to switch from range I to range II or vice versa **whilst the instrument is in operation**, the motor shuts off and the red pilot lamp (A) lights up.



An integrated safety feature ensures that it is only possible to switch from range I to II or vice versa under the following conditions:

Procedure:

- Switch stirrer off via the ON/OFF switch (C).
- Turn speed control knob (D) all the way to the left.
- Set speed range from I to II (or vice versa) with switch (B). Switch instrument back on with ON/OFF switch (C).
- Set desired speed via speed control knob (D).

4. Speed display

RZR 2021 and RZR 2041 are equipped with a digital display (E) for reading the mixer speed.

CLEANING & SERVICING

Cleaning: wipe housing clean with a damp cloth (add some sort of mild liquid soap).



Note

To avoid damage to the surface finish, avoid using chlorine bleach, chlorine-based detergents, abrasive substances, ammonia, rags or cleaning agents containing metal particles.

The item is maintenance-free. Repair work is limited to technicians approved or appointed by Heidolph Instruments. Please call your local Heidolph Instruments Dealer or a Heidolph Instruments Field Representative (also refer to page 23)

DISASSEMBLE & STORAGE

Disassemble (refer to page 17, „set-up“)

Turn the item OFF and pull power plug.

To disassemble the item easily, remove all flasks, containers or other appliances in the vicinity of the stirrer.

Open chuck with T-handle and remove stirring tool.

Unlock clamp and remove stirrer head from head clamp.

With 2,5 mm Allen key loosen threaded pin and remove chuck. With the 3 mm Allen key loosen and remove stand rod.

Forward & Store

1. We recommend to store the item and its components in its original box, or a similar container that offers adequate protection against damage in transit. Tape the box securely.
2. Store the item in a dry place.



2. Caution

Do not jolt or shake the item during transport.

DISPOSAL

For disposal, please comply with your local or national regulations.
Split by metal, plastic, etc.
Packing material to be treated as described above (material split).

MALFUNCTION & REMEDY

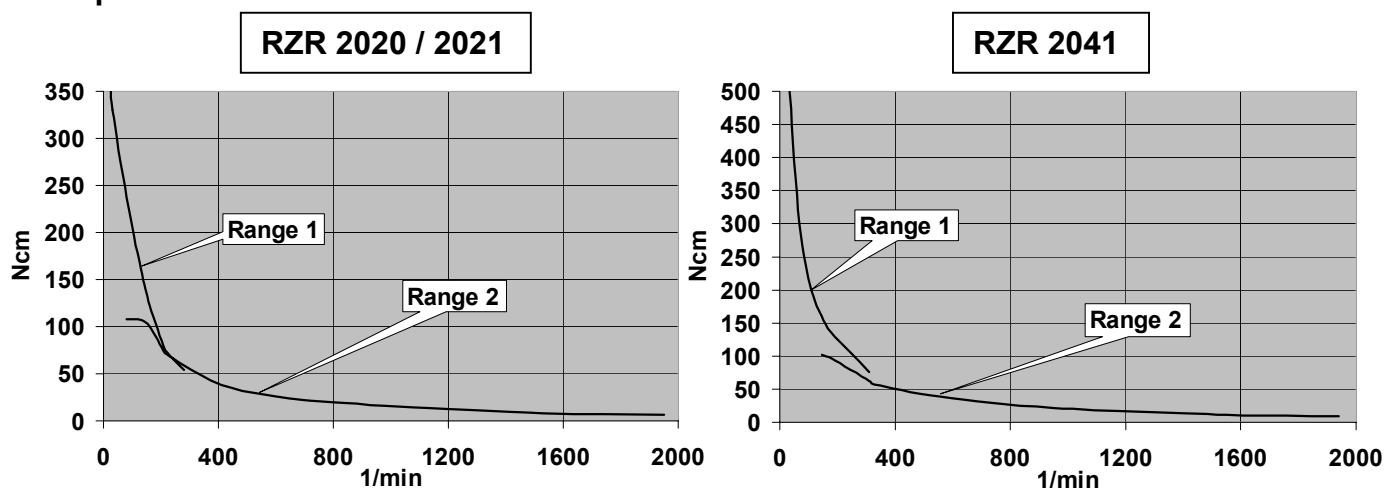
1. pilot lamp dim
 - check power supply and power cord
2. won't stir:
 - safety installation intervened, refer to display reading (refer to 5 „safety installations“)
3. LED (A) illuminates red:
 - The mixer motor stops during the attempt to switch the device from area I to II or vice versa **during operation** and the warning light (A) illuminates red. (Compare with 3. "Speed setting")
4. When switching from area I to II or vice versa, switch gets stuck or is difficult to move: In order to aid the process, it is advantageous to use a slight twisting motion on the chuck while switching. After this, only operate the device if the indicator of the rotary switch is precisely in position I or II (meaning not an intermediate position). (Compare with 3. "Speed setting")

In case of a malfunction and you cannot correct with above instructions, contact your authorized Heidolph Instruments Dealer.

SPECIFICATIONS

power dissipation (nom. load)	RZR 2020 / 2021 P = 50 watts
power dissipation (nom. load)	RZR 2041 P = 70 watts
power rating, motor,	RZR 2020 / 2021 P = 27 watts
power rating, motor,	RZR 2041 P = 37 watts
dimensions (in mm) RZR 2020 / 2021	82 wide; 206 high; 176 deep
dimensions (in mm) RZR 2041	82 wide; 211 high; 176 deep
weight RZR 2020 / 2021	3 kg
weight RZR 2041	3.8 kg
operating temperature	0 – 40 °C
storage temperature	- 20 to + 80 °C
relative humidity	95 % (avoid reaching dewpoint)
protection class	IP 40
Torque	refer to graphs below
speed range	40 – 2000 rpm range 1: 40 – 400 rpm range 2: 200 – 2000 rpm
stirrer coupling	10,5 mm chuck, drive shaft features bore to hold tool shafts of up to 10 mm dia.
stirrer attaching system	13 mm dia. Rod (stand)
motor protector	thermal circuit breaker disconnects motor in an over-load situation - permanent cut-off - pilot lamp (green); RESET with ON/OFF key
pilot light, „item ON“	pilot lamp (green)
shaft guard	fits shaft guard (optional)
BCI/TVI suppression	complies with EN 50081
operational mode	100% continuous
display (RZR 2021 und RZR 2041)	4-digit LCD, 8 mm high characters
measuring range, display	40 – 2000 rpm
Resolution	1 rpm
Display accuracy	+/- 0,1% of final value
Measuring principle	hall sensor with ring magnet (5 pairs of poles)

Torque



WARRANTY, LIABILITY & COPYRIGHT

Warranty

Heidolph Instruments guarantees warranty that the present product shall be free from defects in material (except wear parts) and workmanship for 3 years from the date shipped off the manufacturer's warehouse.

Transit damage is excluded from this warranty.

To obtain such warranty service, contact Heidolph Instruments (Tel.: +49 - 9122 - 9920-68) or your local Heidolph Instruments Dealer. If defects in material or workmanship are found, your item will be repaired or replaced at no charge.

Misuse, abuse, neglect or improper installation are not covered by this warranty guarantee..

Alterations to the present warranty guarantee need Heidolph Instruments' consent in writing.

Exclusion Clause

Heidolph Instruments cannot be held liable for damage from improper use or misuse. Remedy for consequential damage is excluded.

Copyright

Copyright in pictures and wording of the present Instruction Manual is held by Heidolph Instruments.

QUESTIONS / REPAIR WORK

If any **aspect** of installation, operation or maintenance remains unanswered in the present Manual, please contact the following address:

For repair services please call Heidolph Instruments (phone: +49 - 9122 - 9920-68) or your local, authorized Heidolph Instruments Dealer.



Note

You will receive approval for sending your defective item to the following address:

Heidolph Instruments GmbH & Co. KG

Lab Equipment Sales

Walpersdorfer Str. 12

D-91126 Schwabach / Germany

Tel.: +49 – 9122 - 9920-68

Fax: +49 – 9122 - 9920-65

E-Mail: sales@heidolph.de

01-005-002-94-1 04/2004

© Heidolph Instruments GmbH & Co. KG

Technische Änderungen sind ohne vorherige Ankündigung vorbehalten.

Technical changes reserved. Publication not mandatory.

Sous réserve de modifications techniques sans notification préalable.

Nos reservamos el derecho de introducir modificaciones técnicas sin previo aviso.