

CAT

Ingenieurbüro
M. Zipperer GmbH



*Our development makes
your success*

Stirring Motors from CAT

- High power output up to 600 Ncm
- Fuzzylogic control
- Soft motor start/stop
- Adjustable safety cut-off function and overtemperature protection
- Programmable maximal motor speed and torque limitation
- Switch off timer (1min - 99 days)
- Simultaneous display of speed and torque

Ingenieurbüro **CAT**

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[The Bulldozer - Pure Power]



R100CT



Dear Madam, dear Sir,

Why laboratory overhead stirrers? The application of an overhead stirrer in the laboratory environment asks for a number of additional requirements, which only can be met by special developments:

- An overhead stirrer must allow to be flexibly and safely fixed to a stand
- Chuck and drive shaft must have an open bore of 10.5 mm minimum to flexibly clamp and adjust the corresponding stirring elements
- The noise development of an overhead stirrer must be much less than that of ordinary brush motors since the units are used for many hours in labs or pilot plant stations.
- Overhead stirrers have to be driven at high torque and extreme low speeds on the one hand but also fast on the other hand.
- Speed control and feed-back speed have to follow very narrow tolerances...
- An overhead stirrer should be easy to operate
- All operating elements should be easily accessible
- It is often required to read the set speed from a display
- Laboratory equipment has to be robust and acid resistant

The most important however is:

Overhead stirrers have to be safe - this means they should be able to switch off at designated speeds and a set torque. Also lab routine nowadays requires that some overhead stirrers may be connected to a PC via an interface to be driven, controlled and monitored from there. The application in extensive lab superstructures often requires that the overhead stirrer is narrow built and will fit in-between various glass apparatus.

All these requirements have been included in the development of our high-efficiency overhead stirrers R100, R80 und R50. Beside these units there are of course some more simple overhead stirrers which are used in schools and for training.

Should you require an overhead stirrer with additional features to the ones shown in this brochure please do not hesitate to contact us. We are well prepared to assist you and find a solution for your application. CAT stands for Consultants for Appropriat Technologies.

Yours,
Manfred Zipperer

Overhead stirrer R100CT

The powerful pilot plant stirrer for heavy duty jobs.

Powerful microprocessor controlled (fuzzy logic) stirrer for optimum performance and accuracy with a maximum torque of 600 Ncm, 240 Watt, hollow shaft and precision chuck of 10.5 mm. The bright back-lit digital display shows all relevant system data (power input, power output and torque) plus simul-



R100SD



R100C

taneous display of set and actual motor speed or time. The display also allows for readout of the absolute or relative torque measurements as well as the power output in watts at the shaft. Speed range 10-500 rpm with soft start and soft stop logic. Ideal for medium and high viscous media (10.000-100.000 mPa-s). Other speed ranges (up to 6000 rpm) on request. Torque limits, maximum and minimum motor speeds are programmable.

The unit is supplied with an RS232-interface for computer control. There is also an analogue input for easy remote speed control and analogue output for recorder as well as a programmable switch-off timer. The R100-series is designed for stirring jobs up to 200 litres (related to water); ideal for medium and high viscous media 1.000 - 100.000 mPa-s.

Overhead stirrer R100CL

Same unit as R100CT but with a speed range from 40-1100 rpm and a higher torque of 250 Ncm; ideal for medium to high viscous media (10.000-100.000 mPa-s).

Overhead Stirrer R100C

The universal laboratory stirring motor for rheometric tests.

Same unit as R100CT but with a low speed range 30-2000 rpm and high torque 150 Ncm. A multi-step safety system carries out a self test of all safety functions and detects and protects against overload as well as overtemperature. We also offer units with other speed ranges. For further information please contact us directly.

Overhead stirrer R100SD

Powerful (low budget) overhead stirrer with 4-digit speed display. The micro-processor controlled speed is steplessly adjustable from 40-2000 rpm. The soft-start and soft-stop logic prevents from splashing of liquid. The unit is equipped with an extra long life high performance brush motor. Max. torque 100 Ncm. Hollow shaft and precision chuck at 10.5 mm. The electronic overload and overheat protection shuts off the unit automatically. Thus no damage to the stirrer occurs. This electronic protection applies for all R100's.





R80D-PC

Overhead stirrer R80-PC

Long lasting stirrer with electronic feed-back speed control and digital speed display. This overhead stirrer is especially useful for applications where for a short time dynamic viscosity occurs but a still handy tool is requested. The stirrer comes with RS232 interface for control via a PC. The speed is steplessly adjustable from 20 to 700 rpm. The maximum torque is 80 Ncm. Speed as well as torque are shown on the digital display.

Overhead stirrer R80D

Same unit as above but without RS232 interface. Both stirrers are equipped with two independent safeguards against overload. They are self-protected through automatic reduction of power intake.

CAT LabControl for Windows®

CAT LabControl for Windows® offers full control and documentation of parameters such as temperature, speed, switch-off time. This powerful package can be used with CAT equipment providing an RS232 interface.

The control via PC can be put into practice by two means: Sending single commands directly to the unit or controlling the unit with a program which had been written especially for this application. The acquisition of the necessary programming abilities is easy and worthwhile since this will enable you to automate a lot of methods yourself.

Performance data may be collected and be shown clearly arranged in diagrams. The performance data can be stored externally and be called up later on again. The data can also be directly printed.

The self written programs are lodged in a file and therefore the application may be reproduced at any time.

With this powerful software up to 254 units may be operated via an RS232 interface. So e.g. magnetic stirrers (M26, MCS66), micro metering pumps (HPLH series), dispensers (Liquid Processor) can be connected to only one RS232 interface at the computer. By assigning different slave addresses to each unit the computer has individual access to each unit

Furthermore this program will run at almost any computer, since it only needs a minimum of hard and software. (Pentium1, min 4MB RAM, from Win95)



R50D



R18

Overhead stirrer R50 D

Long lasting stirrer with electronic feed-back speed control and digital speed display. This stirrer is well suited for all stirring needs of moderate viscosity in any laboratory, either professional or classroom. The use of the instrument is advantageous where the speed adjustment of stirring processes has to be reproducible -such as when test series have to be carried out one after the other under comparable conditions, and when parallel experiments with several stirrers must be made simultaneously. The speed is steplessly adjustable from 50 to 1600 rpm. The electronic feed-back type of control guarantees exact control and high precision so fluctuations in the viscosity of the media being stirred will not occur. The stirrer has a hollow shaft with a 10,5 mm bore and a heavy chrome plated chuck to avoid corrosion.

Overhead stirrer R50

The economic and powerful stirring motor for every days lab work. Same unit as above but without digital speed display. The R50 stirrers are equipped with

two independent safeguards against overload. They are self-protected through automatic reduction of power intake. A clamping rod is located at the back of the stirrer for attaching the motor to a stand.

Overhead stirrer R18

Convenient and long lasting stirrer with electronic feed-back speed control. Laboratory stirrer for stirring tasks up to 50 litres related to water. Infinitely variable speed from 110-2000 rpm without gear shift. Built-in safety circuit. No blocking; gives indication and protection when overloaded. Ideal unit for the use either in small laboratories or classroom. Ideal for low viscosities (100-1.000 mPa-s).

Suitable accessories:

All stirrers are suitable for stirring rods and stirring elements with 6, 8 and 10 mm shaft diameter. Please order from our price list.

		Stirring Volume (L H ₂ O)	Torque Ncm	Speed	Average Power Intake	Chuck mm	Dimensions W x H x D mm	Weight kg	Remarks
Modell Part No. Powerful Stirring Motors									
R100CT	60314-00	200	600	10-500	220 W	1 - 10,5	78x215x170	5,5	
R100CL	60315-00	200	250	40-1100	220 W	1 - 10,5	78x190x170	5	
R100C	60218-00	200	150	40-2000	220 W	1 - 10,5	78x190x170	5	
R100SD	60313-00	200	100	40-2000	180 W	1 - 10,5	78x190x170	5	
R80D	60310-00	150	80	20-700	100 W	1 - 10,5	65x108x100	2,3	Length of chuck: 55 mm
R80D-PC	60311-00	150	80	20-700	100 W	1 - 10,5	65x108x100	2,7	Length of chuck: 55 mm
Modell Part No. Standard Stirring Motors									
R50D	60216-00	100	50	50-1600	85 W	1 - 10,5	65x108x100	2,1	Length of chuck: 55 mm
R50	60215-00	100	50	50-1600	85 W	1 - 10,5	65x108x100	2,1	Length of chuck: 55 mm
R18	60214-00	50	18	110-2000	85 W	1 - 10,5	65x108x100	2,1	Length of chuck: 55 mm



Handstirrer R1

Handy, battery powered mini-stirrer for mixing liquids of low viscosity in test tubes and other small vessels of up to 500 ml.

The stirrer operates on only one AA battery which provides for amazing long lasting use. Easy to use. No cables - no plugs! One of three different stirring rods are available.

- Plastic (3 mm diameter)
- All stainless steel for small vessels
- All stainless steel with large steel blade for max. stirring performance

Mini-stirrer R2

Convenient multi-purpose stirrer for small mixing needs in any laboratory, either professional or classroom. A small, quiet and problem-free stirrer designed for

long lasting use, comes with clamping bar to be attached to any laboratory stand. The motor is designed for long lasting use and operates at 750 rpm. The unit is fully enclosed and covered by polypropylene to provide protection from chemical spills. Clamping tube and stirring rod are made of stainless steel.

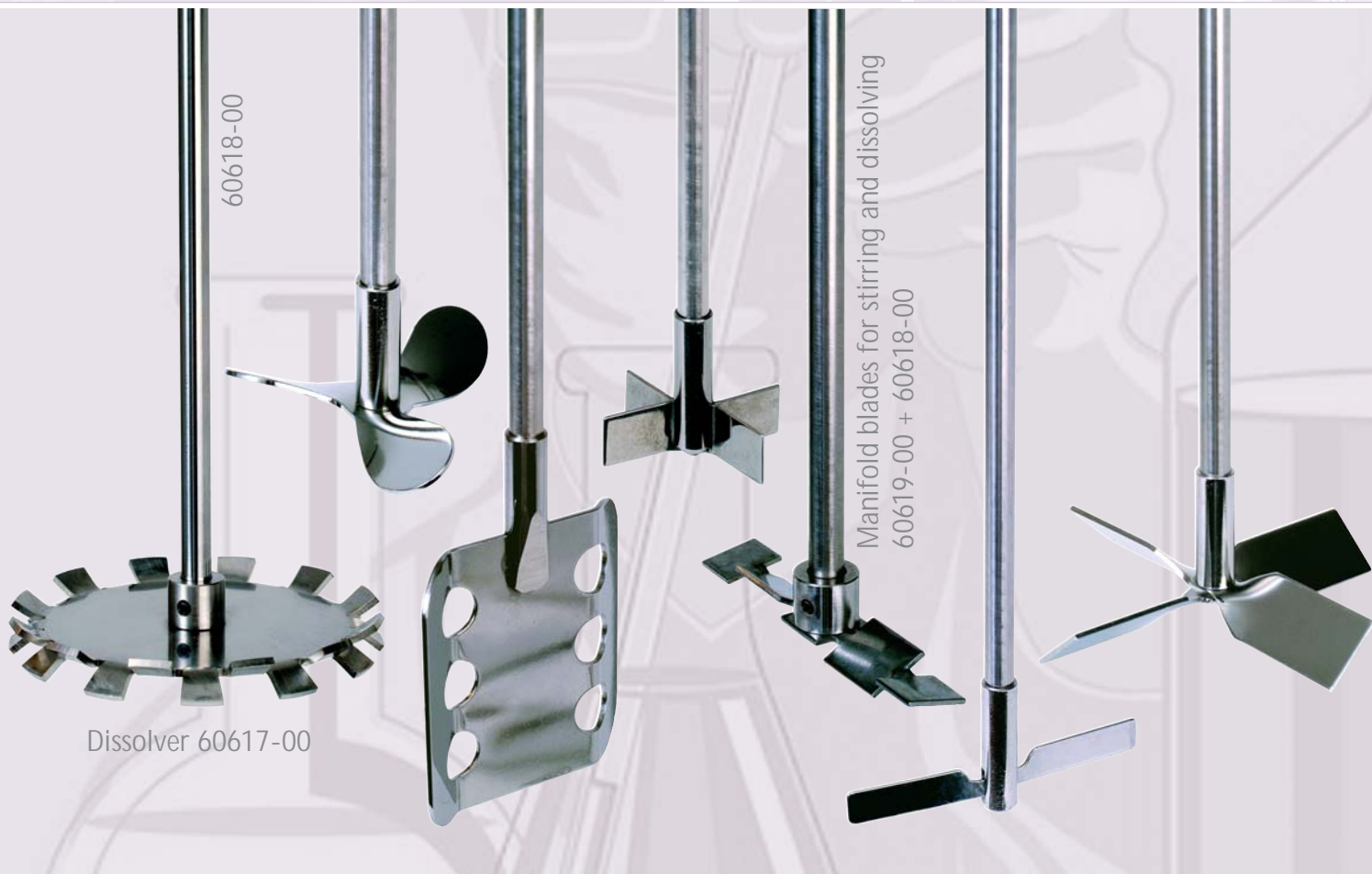
Overhead stirrer R17

Convenient and long lasting small laboratory stirrer with electronic feed-back speed control steplessly adjustable from 100-2000 rpm. Comes with a clamp which can be attached to any laboratory stand.

Chuck for stirring elements of 4 mm diameter.

We offer a special designed stirring paddle in stainless steel which can be ordered together with the stirrer.

Modell	Part No.	Stirring Volume (L H ₂ O)	Torque Ncm	Speed	Power Intake Watt	Chuck mm	Dimensions W x H x D mm	Weight kg	Remarks
Overhead Stirrers									
R17	60213-00	5	4	100-2000	40	4	64x64x120	1,2	Support rod: 180x10 mm
R2	60212-00	2		750 fix	4	3	85x60	0,26	Support rod: 135x8 mm
R1	60211-00	0,5		ca. 3000		3	28x140	0,18	1,5V Batteries AA



Dissolver 60617-00

Manifold blades for stirring and dissolving
60619-00 + 60618-00

Part No.	Blade Stirrer	Length including blade	Diameter of rod	Diameter of blade
8B009403		300 mm	8 mm	70 mm
8B009404		400 mm	8 mm	70 mm
8B009405		500 mm	8 mm	70 mm
8B009406		300 mm	10 mm	70 mm
8B009407		400 mm	10 mm	70 mm
8B009408		500 mm	10 mm	70 mm
8B009503		300 mm	8 mm	70 mm
8B009504		400 mm	8 mm	70 mm
8B009505		500 mm	8 mm	90/15 mm
8B009506		300 mm	10 mm	90/15 mm
8B009507		400 mm	10 mm	90/15 mm
8B009508		500 mm	10 mm	90/15 mm

Part No. Centrifugal Stirrer

8B009209		300 mm	8 mm	90/15 mm
8B009210		400 mm	8 mm	90/15 mm
8B009211		500 mm	8 mm	90/15 mm
8B009212		300 mm	10 mm	90/15 mm
8B009213		400 mm	10 mm	90/15 mm
8B009214		500 mm	10 mm	90/15 mm

Part No. Propeller Stirrer

8B009100		300 mm	6 mm	50 mm
8B009101		400 mm	6 mm	50 mm
8B009102		500 mm	6 mm	50 mm
8B009103		300 mm	8 mm	50 mm
8B009104		400 mm	8 mm	50 mm
8B009105		500 mm	8 mm	50 mm
8B009106		300 mm	6 mm	70 mm
8B009107		400 mm	6 mm	70 mm
8B009108		500 mm	6 mm	70 mm
8B009109		300 mm	8 mm	70 mm

Part No.	Propeller Stirrer	Length including blade	Diameter of rod	Diameter of blade
8B009110		400 mm	8 mm	70 mm
8B009111		500 mm	8 mm	70 mm
8B009112		300 mm	10 mm	100 mm
8B009113		400 mm	10 mm	100 mm
8B009114		500 mm	10 mm	100 mm
8B009000		300 mm	6 mm	50 mm
8B009001		400 mm	6 mm	50 mm
8B009002		500 mm	6 mm	50 mm
8B009003		300 mm	8 mm	50 mm
8B009004		400 mm	8 mm	50 mm
8B009005		500 mm	8 mm	50 mm
8B009703		300 mm	8 mm	50 mm
8B009704		400 mm	8 mm	50 mm
8B009705		500 mm	8 mm	50 mm
8B009603		300 mm	8 mm	50 mm
8B009604		400 mm	8 mm	50 mm
8B009605		500 mm	8 mm	50 mm

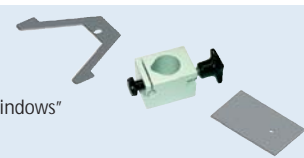
Part No.

- 60619-00 Stirring blade
- 60618-00 Stirring shaft \varnothing 8x350
- 60617-00 Dissolver \varnothing 100



Part No.

- 60494-00 U-Stand
- 60495-00 Special clamp for R100
- 60709-00 Software "LabControl for Windows"
PC-connecting cable
- 60491-00 Pedestal Stand



Product Overview

