DISPERMAT®

LABORATORY AND PILOT PLANT

PRODUCT OVERVIEW **2017**

www.vma-getzmann.com

DISPERMAT® for laboratory and pilot plant

DISSOLVER

STIRRER

Product volumes are based on medium viscosity. The actual volume may differ depending on the flow behaviour, the density and the viscosity of the product.

ACCESSORIES

BEAD MILLS

HOMOGENIZER

COIL–COATINGS

VMA–GETZMANN

Research, development, production and service in one factory

Since the foundation of the company the name VMA–Getzmann has been synonymous with the production of high–quality and innovative dispersion systems. The integration of progressive technology with functional design as well as high quality, are characteristic of our products.

Of course our dispersion systems are equipped with integrated safety devices according to EC machinery directive 2006/42/EG.

Quality and precision made in Germany

Working together with the client our specialists optimize the essential process engineering and the most suitable system solution. Our involved development and design team comes with innovative ideas and long-time experience in the dispersion and milling technology.

We produce with the most modern machine tools and therefore we guarantee a high standard of quality. We prove our expertise and reliability by also having an excellent after sales service.

Our experience your advantage

Please visit us in our excellently equipped laboratory and pilot plant for a personal product demonstration with your own products. Our skilled engineers will be pleased to show you the impressing range of services of our patented dispersing and fine grinding systems DISPERMAT® and TORUSMILL®.

We are looking forward to your visit. **+49 2296 – 8030**

For VMA–GETZMANN the professional development and research in the development of new formulations and quality control in laboratories around the world is our assignment. This is where the request to our innovative dispersion systems and to our own quality demand arise.

Know–How and finest **quality** for your products

In addition to our laboratory, we have also an extensively equipped pilot plant for customer trials.

Here we have a variety of the latest production equipment available to upscale with larger quantities.

You are interested in our high quality and innovative dispersion and fine grinding systems for the production area?

Please contact us! We will be pleased to send you our production catalogue.

+49 2296 – 8030
www.vma-getzmann.de

DISPERMAT® LC

The new economy class upto 4 kW

The DISPERMAT® LC is an universal laboratory and pilot plant dissolver which is characterised by its wide power range, making it suitable for small as well as larger product quantities. The newly designed control panel with a stainless steel housing, plastic foil keyboard and with a digital speed indication and an user friendly timer function with digital indication of the pre adjusted as well as the elapsed dispersion time. The quiet high quality motor allows for quiet running even at a high speed.

Starting with the DISPERMAT® LC55 the dissolvers are fitted with a safety device in accordance with the machine directive 2006/42/EG providing highest safety at the workplace. Furthermore the dissolvers DISPERMAT® LC110 up to LC400 are fitted with new extremely robust and high quality stands with electric height adjustment.

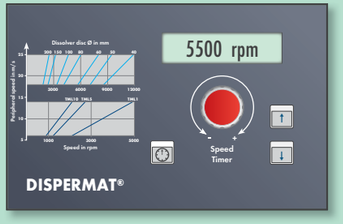
According to the application the DISPERMAT® LC dissolver can be converted into a bead mill, basket mill, vacuum dissolver, homogenizer and dissolver for high viscose products with the adaptable dispersion and milling systems.

The DISPERMAT® LC dissolvers are economic entry-level dissolvers with a high performance range in the proven VMA–GETZMANN quality.

DISPERMAT® LC55 – LC75

DISPERMAT® LC110 – LC220

DISPERMAT® LC300 – LC400



LC – technology

- Adaptive turn sensitive speed adjustment
- Digital speed indication
- Timer function with digital display of the pre–selected time as well as the elapsed time

DISPERMAT® LC30

The DISPERMAT® LC30 dissolver is fitted with easy to use container clamping arms. Starting with the DISPERMAT® LC55 the LC range comes with the comfortable central clamping device ZBS.

DISPERMAT® type	Power kW	Speed rpm	Torque Nm	Product volume litre
LC30	0.3	0 – 20000	0.4	0.05 – 1
LC55	0.55	0 – 20000	0.6	0.05 – 3
LC75	0.75	0 – 20000	0.8	0.05 – 5
LC110-12	1.1	0 – 12000	1.8	0.25 – 10
LC110-6	1.1	0 – 6000	3.6	0.5 – 15
LC220-12	2.2	0 – 12000	3.6	0.25 – 15
LC220-6	2.2	0 – 6000	7.2	0.5 – 20
LC300	3	0 – 6000	10	2 – 30
LC400	4	0 – 6000	13.7	2 – 40

DISPERMAT® CV-PLUS

The established all-rounder for the laboratory.
In a new design with electric height adjustment.

Versatile laboratory dissolver for stirring, dispersing, vacuum dispersing, homogenising and fine grinding.

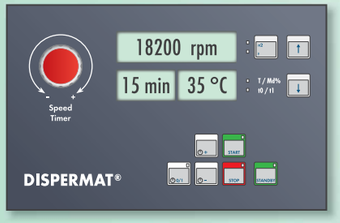
Due to the newly developed stand with electric height adjustment the DISPERMAT® CV3-PLUS is an exceptionally comfortable laboratory dissolver. With the high quality stainless steel control unit the DISPERMAT® CV3-PLUS combines design and functionality in a new way. With the modular accessory systems the DISPERMAT® CV3-PLUS dissolver is suitable for various stirring, dispersing and milling functions.

The sturdy central clamping system offers further comfort. With the clamping arms the dispersion container is centrally located and secured safely under the dissolver shaft. The integrated safety package in accordance with the machine directive 2006/42/EG provides reliable protection during the dispersing process.

High-grade design, certified quality and durable technology characterise this all-rounder for the laboratory.

CV – technology

- **Speed adjustment**
  Infinitely variable speed adjustment from 0 to 20000 rpm.
- **Timer**
  Timer function with display of the pre-selected time as well as the elapsed time. Timer controlled switch over to second speed.
- **Electric height adjustment**
  Control of the comfortable electric height adjustment of the drive motor via the plastic foil keyboard.
- **Safety device**
  The functions of the safety device according to the machine directive 2006/42/EG are pre-selected via the plastic foil keyboard and displayed digitally.



- **Digital indication**
  Display for speed, torque, Timer, product temperature (PT100) and safety device.
- **Plastic foil keyboard**
  The splash water protected and solvent resistant plastic foil keyboard allows for a particularly comfortable operation.

Flexible. Powerful. Innovative.
Modular dispersion and fine grinding systems for the dissolver DISPERMAT® CV3-PLUS

DISPERMAT® CV3-PLUS

DISPERMAT® CV4-PLUS

DISPERMAT® type	Power kW	Speed rpm	Torque Nm	Product volume litre
CV3-PLUS	0.75	0 – 20000	0.8	0.05 – 5
CV4-PLUS	1.5	0 – 20000	1.5	0.125 – 8

DISPERMAT® CN

The all-rounder with electric height adjustment for laboratory and pilot plant up to 7.5 kW

DISPERMAT® CN10 - CN40

CN – technology

- Variable speed adjustment
- Digital display of speed, torque, timer and product temperature
- Electric height adjustment
- Control for the innovative height adjustment system (Ha, H1, H2)

DISPERMAT® CN50 - CN80
with basket mill TML

DISPERMAT® CN90 - CN100

Laboratory and pilot plant dissolver with high torque and comfortable CN-technology

Due to its electric height adjustable stand the DISPERMAT® CN is an easy to use all-rounder for laboratory and pilot plant operation. The most powerful version with 7.5 kW motor is suitable even for small production applications.

The compact and robust stands contain a safety device according to the EC machine directive 2006/42/EG as standard. The central container clamping system allows for a particularly simple handling.
The container is placed between the clamping arms and it is centrally clamped in place.

Beside the standard control elements the userfriendly CN-technology includes a switchable, digital indication for speed and torque. Furthermore the dispersion time can be digitally preselected. The function of the safety device is also indicated digitally.

Flexible. Powerful. Innovative.

The DISPERMAT® CN dissolver can also be used with the adaptable dispersion and fine grinding systems as a vacuum dissolver, bead mill, basket mill, homogeniser and dissolver for high viscous products.

Our experienced engineers are pleased to provide advice.

DISPERMAT® type	Power kW	Speed rpm	Torque Nm	Product volume litre
CN10	1.1	0 - 11.000	1.8	0.25 - 10
CN20	2.2	0 - 11.000	3.6	0.25 - 15
CN30	1.1	0 - 5.500	3.6	0.5 - 15
CN40	2.2	0 - 5.500	7.2	0.5 - 20
CN50	3	0 - 6000	10	4 - 30
CN60	4	0 - 6000	13.7	4 - 40
CN70	2.2	0 - 3000	15	4 - 45
CN80	4	0 - 3000	26.5	4 - 70
CN90	5.5	0 - 3000	37	10 - 120
CN100	7.5	0 - 3000	50	10 - 150

DISPERMAT® CA

Quiet high-power dissolver for repeatable dispersion results

High-speed dissolver for all modular accessory systems

The DISPERMAT® CA is a compact dispersion instrument with a very user-friendly operation due to its electric height adjustment. The motor is almost silent due to conductive cooling from the motor housing. The fast running motor has high torque even in the lower speed range.

The DISPERMAT® CA instruments are equipped with a safety device as standard.

Innovation made in Germany: The modular dispersion and fine grinding systems

The dissolver DISPERMAT® CA can also be used with the modular dispersion and fine grinding systems as a vacuum dissolver, bead mill, basket mill, homogeniser and dissolver for high viscous products.

C – technology

- **Graphic display**
  indications of speed, torque, power, product temperature, timer , peripheral speed and height of the dispersing tool
- **Repeatability**
  dispersion method: constant speed and constant power input for an optimum repeatability
- **Data recording**
  recording of the process parameters with graphical indication
- **Switch-off parameters**
  Switch-off function for temperature, speed, torque and power
- **Database**
  100 individual PRESET configurations for H1, H2, speed, timer, switch-off parameters etc.
- **Power compensation**
  calibration of the net power
- **Height measurement**
  adjustable working range for different container sizes
- **WINDISP 7©**
  Data interface to WINDISP 7© software for documentation, analyses, research and development and quality control

WINDISP7©

For permanent storage of the experimental date the PC-Software WINDISP 7© is available. Via a bidirectional interface not only the control data can be stored but also additional information such as dispersion temperation can be carried out.

Further functions like data export, comparison of two dispersion curves, marker, data base and so on enable an effective development.

DISPERMAT® type	Power kW	Speed rpm	Torque Nm	Product volume litre
CA20	0.55	0 - 20000	0.5	0.05 - 3
CA40	1.5	0 - 20000	1.5	0.05 - 8
CA60	2.5	0 - 20000	2.5	0.05 - 12

DISPERMAT® AE

Powerful dissolver up to 7.5 kW with extensive process control

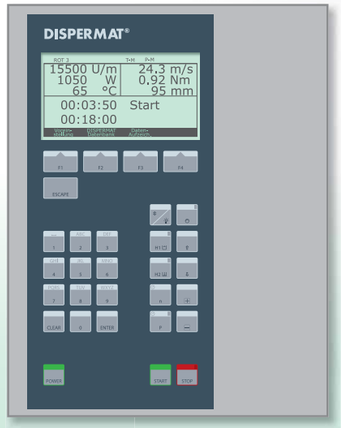
The popular and innovative DISPERMAT® AE dissolvers for laboratory, pilot plant and production are now available with a motor power up to 7.5 kW.

The operator has easy access to all of the machine controls from the control panel mounted conveniently on the machine stand. The electric height adjustment as well as the control panel provides access to the complete control dispersion processes.
Due to its process control the DISPERMAT provides information about dispersion and milling processes.
Process parameters as well as the recorded data can be stored and used again with the software WINDISP 7©.

DISPERMAT® pilot plant and production dissolvers with motors of 3 kW and larger are now equipped with one of the ergonomical stands of the H2S/H3S-series. These functional and robust stands are equipped with an integrated safety device and an electric height adjustment. The stands are available in a table and a floor version.

The central clamping system is height adjustable and allows the application of the versatile adaptable accessories.

C – technology



- **Graphic display**
  indications of speed, torque, power, product temperature, timer , peripheral speed and height of the dispersing tool
- **Repeatability**
  dispersion method: constant speed and constant power input for an optimum repeatability
- **Data recording**
  recording of the process parameters with graphical indication
- **Switch-off parameters**
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  calibration of the net power
- **Height measurement**
  adjustable working range for different container sizes
- **WINDISP 7©**
  Data interface to WINDISP 7© software for documentation, analyses, research and development and quality control

WINDISP7©


DISPERMAT® AE07 - AE10


DISPERMAT® AE11 - AE12


DISPERMAT® AE01 - AE06

CDS ASC SR TML APS

DISPERMAT® type	Power kW	Speed rpm	Torque Nm	Product volume litre
AE01	0.55	0 - 10000	1	0.25 - 6
AE02	0.55	0 - 6000	1.8	0.5 - 7
AE03	1.1	0 - 10000	2	0.25 - 10
AE04	2.2	0 - 10000	4	0.25 - 15
AE05	1.1	0 - 6000	3.7	0.5 - 15
AE06	2.2	0 - 6000	7.4	0.5 - 20
AE07	3	0 - 6000	10	4 - 30
AE08	4	0 - 6000	13.7	4 - 40
AE09	2.2	0 - 3000	15	4 - 45
AE10	4	0 - 3000	26.5	4 - 70
AE11	5.5	0 - 3000	37	10 - 120
AE12	7.5	0 - 3000	50	10 - 150

DISPERMAT® LC-EX

Explosion proof laboratory dissolver for zone 2 with electric height adjustment for product quantities up to 5 litre

The DISPERMAT LC-Ex dissolvers are designed specifically for laboratory dispersion work in hazardous areas where ATEX approved machines are required.

The new competitive models DISPERMAT® LC-EX are explosion proof laboratory dissolvers according to explosion class Zone 2, II3 IIB T3.
The instruments have integrated control panels and contain all essential explosion proof controls for easy operation of the unit: ON/OFF switch, potentiometer for an infinitely speed adjustment and a switch for operating the electric height adjustment.
Due to the integrated explosion proof safety device consisting of the container clamping system (LC25-EX: container clamping system), the working height monitoring of the dispersion tool and the shaft protection pipe, a safe and comfortable work with the laboratory dissolvers DISPERMAT® LC25-EX, LC55-EX and LC75-EX is assured.

The separate control cabinet with the power electronics is situated outside the hazardous area.

LC-EX – technology

- Electric height adjustment
- Variable speed adjustment
- ON–OFF switch
- Explosion–proof according to ATEX

DISPERMAT® LC25-EX

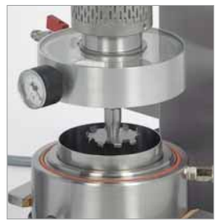
DISPERMAT® LC55-EX – LC75-EX

APS + TML CDS

DISPERMAT® type	Power kW	Speed rpm	Torque Nm	Product volume litre
LC25-EX	0.25	0 – 12000	0.4	0.05 – 1
LC55-EX	0.55	0 – 12000	0.9	0.25 – 3
LC75-EX	0.75	0 – 12000	1.2	0.25 – 5








DISPERMAT® AE-EX

The all-rounder for explosive areas up to zone 0 according to product directive 94/9/EG ATEX

High-grade design stands with powerful drives from 0.55 upto 7.5 kW

Premium design stands with electric height adjustment are setting a new standard in the power range of 0.55 to 7.5 kW.

Functional design and very robust engineering combined with the M-EX and C-EX control technologies makes the DISPERMAT® AE-EX to an all-rounder in explosive areas. These functional and robust stands are equipped with an integrated safety device and an electric height adjustment.

The central clamping system is height adjustable.

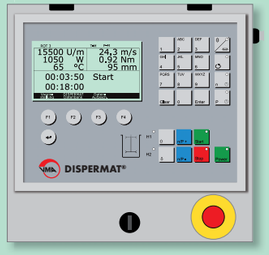
Flexible. Powerful. Innovative.

The addition of the TML, CDS, APS or SR converts the DISPERMAT® AE-EX either into a basket mill, into a vacuum dissolver, into a closed batch bead mill or into a homogenizer.
The ASC converts the DISPERMAT® AE-EX even into a dissolver for very high viscosity and non-flowing substances.

Our experienced engineers are pleased to provide advice.

For every task the suitable process control

The dissolver DISPERMAT® AE-EX is available with C-EX or M-EX control.



- Graphic display with indication of speed, torque, power, product temperature, timer, periphical speed and height of the dispersing tool
- Data recording with graphical indication
- Switch-off function for parameters as temperature, speed, power, etc.
- 100 individual PRESET configurations
- Data interface to WINDISP 7© Software
- Variable speed adjustment
- Digital speed indication
- Explosion-proof according to ATEX
- Electric height adjustment

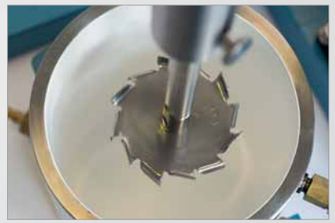
CDS ASC SR TML APS

WINDISP7®

DISPERMAT® AE11-EX - AE12-EX

DISPERMAT® AE07-EX - AE10-EX

DISPERMAT® type	Power kW	Speed rpm	Torque Nm	Product volume litre
AE01-EX	0.55	0 - 10000	1	0.25 - 6
AE02-EX	0.55	0 - 6000	1.8	0.5 - 7
AE03-EX	1.1	0 - 10000	2	0.25 - 10
AE04-EX	2.2	0 - 10000	4	0.25 - 15
AE05-EX	1.1	0 - 6000	3.7	0.5 - 15
AE06-EX	2.2	0 - 6000	7.4	0.5 - 20
AE07-EX	3	0 - 6000	10	4 - 30
AE08-EX	4	0 - 6000	13.7	4 - 40
AE09-EX	2.2	0 - 3000	15	4 - 45
AE10-EX	4	0 - 3000	26.5	4 - 70
AE11-EX	5.5	0 - 3000	37	10 - 120
AE12-EX	7.5	0 - 3000	50	10 - 150



DISPERMAT® VL

Dispersion under vacuum with single- and double walled vacuum containers

The DISPERMAT® VL is a vacuum dissolver for laboratory and pilot plant operation. It is ideal for R&D work as well as for production of larger batches.
The DISPERMAT® VL is very easy to use. The stand has an electric height adjustment; the vacuum container is securely mounted on the base plate by a quick release fixture.
The height of the milling tool can be adjusted also during the dispersion process.

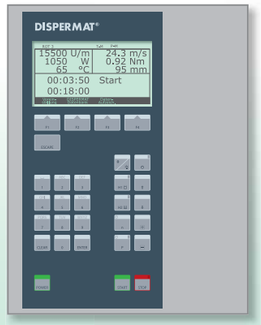
The DISPERMAT® VL is also available in an explosion-proof version according to ATEX.

The single and double wall temperature controlled vacuum containers are made of stainless steel. A viewing glass, lamp, vacuum connection, filling opening and exhaust are all located in the stainless steel vacumm cover.

The DISPERMAT® VL is also available with an optional scraper system.

The DISPERMAT® VL vacuum dissolver is available with different control technologies.

C and C-EX – technology



- Graphic display with indication of speed, torque, power, product temperature, timer, periphical speed and height of the dispersing tool
- Data recording with graphical indication
- Switch-off function for parameters as temperature, speed, power, etc.
- 100 individual PRESET configurations
- Data interface to WINDISP 7© Software

WINDISP7®

M-EX – technology

- Variable speed adjustment
- Digital speed indication
- Explosion-proof according to ATEX
- Electric height adjustment

DISPERMAT® VL5

DISPERMAT® VL75

DISPERMAT® type	Power kW	Speed rpm	Torque Nm	Product volume litre
VL1	2.2	0 - 6000	7.4	0.3 - 0.7
VL2	2.2	0 - 6000	7.4	0.5 - 1.5
VL3	2.2	0 - 6000	7.4	0.8 - 2.2
VL5	2.2	0 - 6000	7.4	1.5 - 4
VL10	4	0 - 6000	13.7	4 - 7
VL15	4	0 - 6000	13.7	5 - 12
VL25	4	0 - 3000	27	10 - 20
VL45	4	0 - 3000	27	15 - 35
VL60	4	0 - 3000	27	20 - 40
VL75	5.5	0 - 3000	37	30 - 60
VL100	7.5	0 - 3000	50	40 - 80

Summary of the most important features:

- height adjustment of the dissolver disc even during vacuum operation
- stand with electric height adjustment
- double wall (temperature controlled) and single wall vacuum containers made of stainless steel
- vacuum cover with viewing glass, LED illumination, filling opening
- options: explosion proof (ATEX), scraper system

DISPERMAT® VE

Dispersion under vacuum with various containers in a vacuum chamber

The DISPERMAT® VE is a special dissolver for laboratory use as well as for dispersing larger product quantities. This DISPERMAT® VE is unique due to the fact that vacuum operation can be executed with any container, not necessarily with a vacuum container.

The product containers can be single or double walled, it is also possible to use thin-walled disposable containers.

The height of the milling tool can be adjusted also during the dispersion process.
The DISPERMAT® VE is also available in an explosion-proof version according to ATEX and with an optional scraper system.

DISPERMAT® type	Power kW	Speed rpm	Torque Nm	Product volume litre
VE10	2.2	0 - 6000	7.4	0.2 - 7
VE50	5.5	0 - 3000	37	5 - 50

DISPERMAT® VE10

DISPERMAT® VE50

C and C-EX – technology

- Graphic display with indication of speed, torque, power, product temperature, timer, periphical speed and height of the dispersing tool
- Data recording with graphical indication
- Switch-off function for parameters as temperature, speed, power, etc.
- 100 individual PRESET configurations
- Data interface to WINDISP 7© Software

M-EX – technology

- Variable speed adjustment
- Digital speed indication
- Explosion-proof according to ATEX
- Electric height adjustment








DISPERMAT® LH

Dissolver with integrated butterfly stirrer for dispersing of non-flowing substances under vacuum

The DISPERMAT® LH vacuum dispersion system consists of a high-speed laboratory dissolver and an integrated three-blade butterfly stirrer. Through the interaction of the two dispersion processes, substances with high viscosity and higher yield point can be mixed. Powder products can also be dispersed into highly viscous and non-flowing substances.

Precisely engineered dispersion tools ensure that the entire substance is incorporated into the dispersion process.

WINDISP7©

For permanent storage of the experimental date the PC-Software WINDISP 7© is available. Via a bidirectional interface not only the control data can be stored but also additional information such as dispersion temperation can be carried out.

Further functions like data export, comparison of two dispersion curves, marker, data base and so on enable an effective development.

C – technology

- **Graphic display**
  indications of speed, torque, power, product temperature, timer , peripheral speed and height of the dispersing tool
- **Repeatability**
  dispersion method: constant speed and constant power input for an optimum repeatability
- **Data recording**
  recording of the process parameters with graphical indication
- **Switch-off parameters**
  Switch-off function for temperature, speed, torque and power
- **Database**
  100 individual PRESET configurations for H1, H2, speed, timer, switch-off parameters etc.
- **Power compensation**
  calibration of the net power
- **Height measurement**
  adjustable working range for different container sizes
- **WINDISP 7©**
  Data interface to WINDISP 7© software for documentation, analyses, research and development and quality control

DISPERMAT® LH10

Areas of application:

- Printing inks
- Fillers
- Putty
- Sealants
- Glues
- Pastes
- Gels and creams

DISPERMAT® type	Power kW	Speed rpm	Torque Nm	Product volume litre
LH10	3	0 - 1500	20	4 - 7
LH20	4	0 - 1500	27	6 - 14

DISPERMAT® R30

Small powerful laboratory stirrer
for product quantities up to 7 litre.

The DISPERMAT® R30 laboratory stirrer is designed for mixing, homogenising and suspending. Due to its high torque it is particularly suitable for high viscosity applications.
Different mixing tools – propeller blades, butterfly stirrers, dissolver discs or three-armed stirring blades – are available depending on the stirring requirement. The bottom plate is made of stainless steel.
The maintenance free AC motor is height adjustable.

The shapely control panel made of stainless steel contains all controls: the potentiometer for speed adjustment, ON/OFF switch, switch for the motor height adjustment and the digital speed display. Due to the integrated power electronics a separate control cabinet is not necessary.

DISPERMAT® type	Power kW	Speed rpm	Torque Nm	Product volume litre
R30	0.3	0 – 4000	2	0.5 – 7

R – technology

- Variable speed adjustment
- Digital speed indication
- Electric height adjustment
- ON–OFF switch

DISPERMAT® R11

Stirrer for laboratory and pilot
plant with the comfortable
CN – technology

CN – technology

- Variable speed adjustment
- Digital display of speed, torque, timer and product temperature
- Electric height adjustment
- Control for the innovative height adjustment system (Ha, H1, H2)

The DISPERMAT® R is a particularly powerful laboratory and pilot plant stirrer. The compact drive unit not only contains the strong three phase motor and separately driven low noise ventilation, but also has the power electronics built into the motor. The height can be adjusted electrically by means of the decently designed H2L compact stand.

DISPERMAT® R models are fitted with the safety device as a standard. The central clamping system – part of the safety device – makes it safe and simple to hold the dispersion container securely in position. The container is placed on the laboratory bench between the clamping arms and is automatically centered as the arms are tightened.

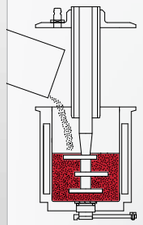
DISPERMAT® type	Power kW	Speed rpm	Torque Nm	Product volume litre
R11	1.1	0 – 2000	10	0.5 – 20

Flexible. Powerful. Innovative.

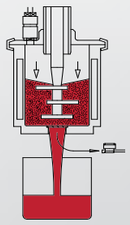
APS Milling System

Optional: Nano, ceramic , pressure and vacuum version

In combination with an APS milling system the laboratory DISPERMAT® dissolver changes into a closed, discontinuously operating bead mill. The system is easily adapted to the corresponding dissolver via the dissolver shaft or the adapter flange. The DISPERMAT® can be used as a dissolver as well as a bead mill.



The sliding cover is lowered to seal the milling container. The millbase is then dispersed.



On completion of the dispersion process, the sieve sealing plug is removed and the millbase is discharged from the milling container with the assistance of compressed air, leaving the beads behind.

APS system type	Product volume ml	Container capacity, ml	Milling beads approx, ml	Recommended DISPERMAT® Dissolver type
APS 30	8 – 12	30	12	LC30 – LC110-12 | CV-PLUS | CN10 – CN20 | CA | AE01 | LC25-EX – LC75-EX | AE01-EX
APS 50	10 – 20	50	20	LC30 – LC110-12 | CV-PLUS | CN10 – CN20 | CA | AE01 | LC25-EX – LC75-EX | AE01-EX
APS 125	30 – 50	125	50	LC30 – LC220-6 | CV-PLUS | CN10 – CN40 | CA | AE01 – AE06 | LC25-EX – LC75-EX | AE01-EX – AE06-EX
APS 250	50 – 100	250	100	LC30 – LC220-6 | CV-PLUS | CN10 – CN40 | CA | AE01 – AE06 | LC25-EX – LC75-EX | AE01-EX – AE06-EX
APS 500	100 – 200	500	200	LC55 – LC400 | CV-PLUS | CN10 – CN60 | CA | AE01 – AE08 | LC55-EX – LC75-EX | AE01-EX – AE08-EX
APS 1000	200 – 500	1000	400	LC75 – LC400 | CV-PLUS | CN10 – CN80 | CA40 – CA60 | AE01 – AE10 | LC75-EX | AE01-EX – AE10-EX
APS 3000	500 – 1500	3000	1200	LC220-12 – LC400 | CN20, CN40 – CN100 | AE04, AE06 – AE12 | AE04-EX, AE06-EX – AE12-EX
APS 5000	1500 – 2000	5000	2000	LC300 – LC400 | CN50 – CN100 | AE06 – AE12 | AE06-EX – AE12-EX
APS 7000	2000 – 3500	7000	2800	CN80 – CN100 | AE10 – AE12 | AE10-EX – AE12-EX

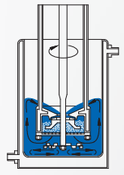
Modular Dispersing and Grinding Systems.

TML Basket Milling System

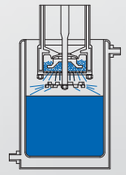
Optional: Nano, ceramic and vacuum version

The addition of the TML converts the DISPERMAT® into a closed basket milling system. Basket mills are extremely efficient grinding systems where a grinding basket is lowered into the millbase for dispersion. The rotating milling tool agitates the beads inside the basket which disperses the millbase.

The dissolver disc, the basket and the patented pumping wheel generate effective circulation of the millbase, helping to provide excellent dispersion results in a short period of time.



Intense circulation of the product is generated with the dissolver disc and integrated pump wheel.



When the milling process is complete, the grinding basket is raised. Any product remaining in the basket is centrifuged out by briefly running the milling and dissolver disc.

TML system type	Product volume litre	Container capacity litre	Milling chamber ml	Recommended DISPERMAT® Dissolver type
TML 05	0.25 – 0.4	0.5	43	LC55 – LC110-12, LC220-12 | CV-PLUS | CN10 – CN20 | CA AE01, AE03 – AE04 | LC55-EX – LC75-EX | AE01-EX, AE03-EX – AE04-EX
TML 1	0.5 – 3	1, 2, 3, 5	65	LC110-12 – LC220-6 | CV4-PLUS | CN10 – CN40 | CA40 – CA60 AE02 – AE06 | AE02-EX – AE06-EX
TML 5	2.5 – 12	5, 7, 10, 15	185	LC220-12 – LC400 | CN20 – CN100 | AE04 – AE12 | AE04-EX – AE012-EX
TML 10	3.5 – 25	7, 10, 20, 30	390	LC400 | CN60 – CN100 | AE08 – AE12 | AE08-EX – AE012-EX
TML 50	15 – 50	30, 50, 70	2100	CN90 – CN100 | AE11 – AE12 | AE11-EX – AE012-EX

Flexible. Powerful. Innovative.

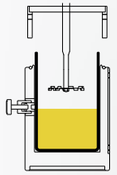
Modular Dispersing and Grinding Systems.

CDS Vacuum Dispersion System

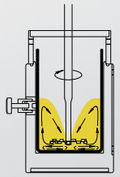
Optional: Single or double walled container holder

The CDS dispersion system enables the dispersion process to be carried out in single walled containers, in a closed system under vacuum. The single walled containers are placed into the container holder and secured in place.

The liquid and powder components are added and the glass cover lowered into place. The actual dispersion process can then be carried out under vacuum.



The single walled container is placed in the single or double walled container holder and the liquid and powder components are added.

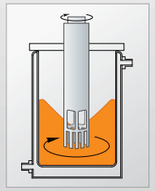


After pre-mixing, the dispersion starts under vacuum. The dispersion process can be continuously monitored through the glass cover.

CDS system type	Product volume litre	Container capacity, litre	Container size Ø x height, mm	Recommended DISPERMAT® Dissolver type
CDS 250	0.2	0.25	65 x 85	LC30 – LC220-6 | CV-PLUS | CN10 – CN40 | CA | AE01 – AE06 | LC25-EX – LC75-EX | AE01-EX – AE06-EX
CDS 500	0.4	0.5	80 x 100	LC30 – LC220-6 | CV-PLUS | CN10 – CN40 | CA | AE01 – AE06 | LC25-EX – LC75-EX | AE01-EX – AE06-EX
CDS 1000	0.8	1	100 x 130	LC30 – LC220-6 | CV-PLUS | CN10 – CN40 | CA | AE01 – AE06 | LC25-EX – LC75-EX | AE01-EX – AE06-EX
CDS 2000	1.6	2	120 x 180	LC110-6 – LC220-6 | CV4-PLUS | CN10 – CN40 | CA | AE01 – AE06 | LC75-EX | AE01-EX – AE06-EX
CDS 3000	2.4	3	140 x 200	LC110-12 – LC400 | CV4-PLUS | CN10 – CN80 | CA | AE01 – AE10 | AE01-EX – AE10-EX
CDS 5000	4	5	180 x 200	LC110-12 – LC400 | CN | CA | AE | AE-EX
CDS 10000	8	10	240 x 240	LC110-12 – LC400 | CN | CA40 – CA60 | AE | AE-EX
CDS 20000	16	20	280 x 280	LC110-12 – LC400 | CN | CA60 | AE03 – AE12 | AE03-EX – AE12-EX
CDS 25000	20	25	320 x 320	LC220-6 – LC400 | CN40 – CN100 | AE06 – AE12 | AE06-EX – AE12-EX

SR Rotor–Stator Dispersion System

The SR rotor-stator system is a dispersion system for batch processing low viscosity products. The bearing free stator is an ideal flow breaker. It prevents rotation of the product and provides input of mechanical energy in a very concentrated area.



SR system type	Product volume litre	Recommended DISPERMAT® Dissolver type
SR 06-01	0.1 – 5	LC30
SR 03-01	0.1 – 5	LC55 – LC75 | CV3-PLUS
SR 04-01	0.1 – 10	LC110-12 – LC400 | CV4-PLUS | CN10 – CN60 CA | AE01 – AE06 | AE01-EX – AE06-EX
SR 05-01	0.1 – 10	CN70 – CN80 | AE07 – AE10 AE07-EX – AE10-EX

ASC Scraper System for high viscosity products

In order to guarantee a perfect dispersion even with very high viscosity and non-flowing substances, very often a scraper system is absolutely essential. With the scraper system ASC the scraper arm is not guided in a circle within the container as usual but the firmly clamped container is rotating and the scraper arm stands still. The handling is very easy: the scraper system ASC is simply pushed into the stand and fixed with the central container clamping system.

ASC system type	Product volume litre	Recommended DISPERMAT® Dissolver type
ASC 500	0.35	LC110-12 – LC220-6 CV4-PLUS CN10 – CN40 CA AE01 – AE06 AE01-EX – AE06-EX
ASC 1000	0.7	
ASC 2000	1.4	
ASC 3000	2.1	
ASC 5000	3.5	

Dispersion tools

Lightweight stainless steel dispersion impellers with 5 mm hole:
20, 25, 30, 40, 50, 60 mm Ø

Heavy duty stainless steel dispersion impellers with 5 mm hole:
30, 40, 50, 60 mm Ø

Heavy duty stainless steel dispersion impellers with hub and external screw 5 mm:
70, 80, 90 mm Ø

Heavy duty stainless steel dispersion impellers with hub and female thread M8:
70, 80, 90, 100, 125, 150 mm Ø

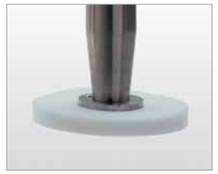
Heavy duty stainless steel dispersion impellers with 16 mm hole:
175, 200, 225, 250, 280, 300, 325, 350, 400, 450 mm Ø

Lightweight stainless steel propeller blades with 5 mm hole:
50, 70, 100 mm Ø

Heavy duty stainless steel propeller blades female thread M8:
40, 55, 80, 90, 105, 125 mm Ø

Stainless steel Butterfly tool with female thread M8 for container sizes (litre):
0.125, 0.25, 0.5, 1, 2, 3, 5

Milling tool, hard casted steel, with external screw 5 mm:
MICRO 28 mm Ø
MINI 40 mm Ø
MC25 60 mm Ø

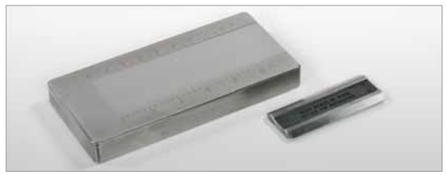


Teflon single milling impeller:
20, 30, 45, 60, 75, 90 mm Ø

Polyamide double milling impeller:
28, 32, 45, 60, 70, 80, 100, 130, 150 mm Ø

Ceramic double milling impeller:
32, 45, 60, 70, 100 mm Ø

Triple milling impellers, available in stainless steel, polyamide or ceramic.



Grind-gages:

Grind-gage 25	0 – 25 µ (Micro)
Grind-gage 50	0 – 50 µ (Micro)
Grind-gage 100	0 – 100 µ (Micro)

Single and double wall dispersion containers

Single wall dispersion containers

Container volume	Inside Ø x height
Stainless steel single wall dispersion containers	
125 ml	5 x 7 cm
250 ml	6.5 x 8.5 cm
500 ml	8 x 11 cm
1 litre	10 x 13 cm
2 litres	12 x 18 cm
3 litres	14 x 20 cm
5 litres	18 x 20 cm
Stainless steel single wall dispersion containers with carrying shackle	
10 litres	24 x 26 cm
15 litres	27 x 30 cm
Stainless steel single wall dispersion containers with carrying handles	
20 litres	27 x 37.5 cm
25 litres	30 x 37.5 cm
30 litres	30 x 44 cm
50 litres	34 x 55 cm
Stainless steel single wall dispersion containers with wheels, carrying handles and drain valve (industrial design)	
75 litres	44.2 x 69 cm
100 litres	49.2 x 71.9 cm
150 litres	59.2 x 77 cm
250 litres	69.2 x 87 cm

Double wall dispersion containers

Container volume	Inside Ø x height
Stainless steel double wall dispersion containers	
30 ml	3 x 4 cm
50 ml	4 x 5 cm
125 ml	5 x 7 cm
250 ml	6.5 x 8.5 cm
500 ml	8 x 11 cm
1 litre	10 x 13 cm
2 litres	12 x 18 cm
3 litres	14 x 20 cm
5 litres	18 x 20 cm

Double wall dispersion containers

[industrial design]

Container volume	Inside Ø x height
Stainless steel double wall dispersion containers with carrying handles, optional ball valve or flap valve, without lock. Wheels are also optionally available (industrial design)	
10 litres	22 x 26.5 cm
15 litres	25.5 x 30.5 cm
20 litres	28 x 33.5 cm
25 litres	30 x 36 cm
35 litres	33.5 x 40 cm
50 litres	38 x 45 cm
Stainless steel double wall dispersion containers with carrying handles, wheels and drain valve (industrial design)	
75 litres	44.2 x 69 cm
100 litres	49.2 x 71.9 cm
150 litres	59.2 x 77 cm
250 litres	69.2 x 87 cm

Furthermore we manufacture customized single and double walled containers made of stainless steel.

DISPERMAT® SL-B

Fine grinding batch sizes from 150 to 750 ml
with the compact DISPERMAT® SL-B bead mill

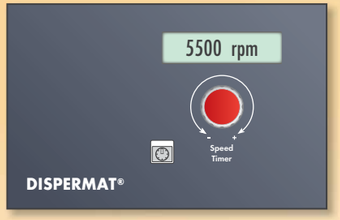
DISPERMAT® SL-B: Compact horizontal laboratory bead mill

The new DISPERMAT® SL-B horizontal bead mill is based on the proven SL bead mill technology.
It is designed with an integrated millbase circulation system which means there are no external pumps to clean.
The speed is infinitely adjustable via a controller located in a separate stainless steel housing. There is a clear digital display showing speed and timer functions.
The product temperature is shown on the temperature gauge located on the milling chamber.

Milling beads 0.8 mm and larger can be used.
The millbase is pumped through the horizontal milling chamber by a specially designed screw pump which is connected to the milling rotor. The DISPERMAT® SL-B can be used for both the single pass milling method and for the circulation milling method. With either method, an extremely high product yield is achieved due to any millbase remaining inside the milling chamber at the end of the process being pressed out by an integrated press out device. That is why the DISPERMAT® SL-B bead mill is ideally suited to research, development and quality management requirements.

The bead mill DISPERMAT® SL-B is supplied with VITON (FKM – rubber) O-rings as standard. Alternatively EPDM (ethylene propylene) O-rings can be fitted at no extra charge. If VITON or EPDM is not compatible with the products being milled, O-rings made from one of the following perfluoroelastomeres are recommended: KALREZ®, CHEMRAZ®, PERLAST®.

LC – technology



- Adaptive turn sensitive speed adjustment
- Digital speed indication
- Timer function with digital display of the pre–selected time as well as the elapsed time

DISPERMAT® type	Power kW	Speed rpm	Milling chamber litre	Product volume litre
SL-B	1.1	0 – 6000	0.125	0.15 – 0.75

Fine grinding with the compact SL-B bead mill

- Easy and fast development of products
- Milling chamber made of wear resistant, high-alloy stainless steel, milling rotor made of hardened nitrided steel
- Millbase separation with screen
- Shaft sealing with mechanical seal
- Barrier pressure system with integrated cooling
- Low dead volume
- Extremely high product yield allows the dispersion of even the smallest quantities
- Optimum temperature control due to guided cooling water system and large heat exchange surfaces
- Connection for cooling water with two convenient quick lock self sealing couplings
- Suitable for all commonly used milling beads, glass, zirconium oxide etc. from 0.8 mm diameter
- User friendly and safe handling
- Easy cleaning enables quick product changes
- Choice of single pass milling and multi pass milling
- Dispersion of flowing and non-flowing products
- High mechanical power input enables processing of difficult to disperse products

DISPERMAT® SL

Horizontal bead mills for fine grinding for laboratory and pilot plant

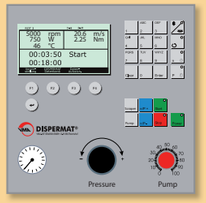
Fine grinding in pass and circulation procedure with milling beads of 0,1 mm.

DISPERMAT® SL laboratory and pilot plant mills are closed, horizontal bead mills with high output and extremely low dead volumes in the mill base inlet and outlet pipes.
During the dispersion process, the product is fed through the horizontal milling chamber and continuously dispersed.
The DISPERMAT® SL bead mill can be used for the pass as well as for the re-circulation process. After dispersion, the integrated air pressure system presses the remaining mill base out of the milling chamber which allows an complete recovery of the dispersed material.

Due to minimised dead volumes even the smallest quantities can be dispersed with high yield. Thus, the DISPERMAT® SL is an ideal tool for research, development and quality control. Also, larger quantities can be processed within a very short period of time. In order to minimise the product loss, the mill base is transported directly from the supply vessel into the milling chamber. The dispersed product passes through the mill base separation (dynamic gap) and is recovered either in a vessel (pass method) or flows back into the supply vessel (re-circulation method).

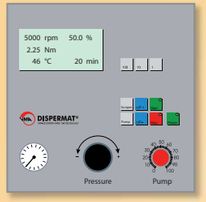
- Quick and cost-effective of new formulations due to exact repeatability of dispersions.
- Quick and reliable transfer of laboratory development into production because of quantitative knowledge of the required mechanical power input.
- Quality control and assurance of production.
- Efficient control of incoming raw materials by measuring product properties relevant for the application.
- One-pass-procedure and continuous pass procedure
- Circulation procedure with integrated pumping- and stirring system
- Dispersion of flowing and non-flowing products
- High mechanical power input permits processing of difficult to disperse products.

Available control technologies for bead mills DISPERMAT® SL



C and C-EX – technology

- Graphic display with indication of speed, torque, power, temperature and timer
- Data recording with graphical indication
- Switch-off function for parameters as temperature, speed, power, etc.
- 100 individual PRESET configurations
- Data interface to WINDISP 7© Software



M – technology

- Graphic display with indications of speed, torque, product temperature, timer and speed in % of max. speed

M-EX – technology

- Variable speed adjustment
- Digital speed indication
- Explosion-proof according to ATEX

DISPERMAT® type	Power kW	Speed rpm	Milling chamber litre	Product volume litre
SL5	1.1	0 - 6000	0.05	0.05 - 0.75
SL12	1.1	0 - 6000	0.125	0.15 - 0.75
SL25	2.2	0 - 6000	0.25	0.3 -2.5
SL50	3	0 - 6000	0.5	0.5 - 10
SL100	3	0 - 3000	1	1 - 20
SL200	4	0 - 3000	2	2 - 50

Options:

- Nano: DISPERMAT® SL-NANO for 0,1 mm grinding beads
- Stainless steel: complete body made of stainless steel
- Milling chamber and Milling rotors: Stainless steel, Hard metal, ceramic (zirconium oxide or silicium carbide)
- Explosion-proof according to ATEX
- Customized version on demand

DISPERMAT® SL in stainless steel with C - technology

DISPERMAT® SL-NANO

DISPERMAT® SL with M - technology

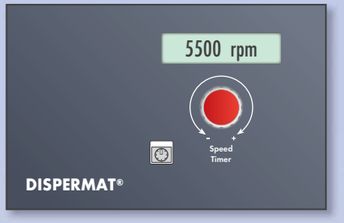
DISPERMAT® SL with M-EX - technology

DISPERMAT® SL with C-EX - technology

DISPERMAT® AS-B

The new rotor–stator dispersion systems with LC – technology

LC – technology



- Adaptive turn sensitive speed adjustment
- Digital speed indication
- Timer function with digital display of the pre–selected time as well as the elapsed time

DISPERMAT® type	Power kW	Speed rpm	Peripheral speed of the rotor meter/second	Flow rate H2O litre/min
AS-B	1.1	0 – 6000	25	10.6

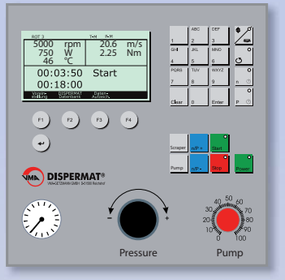
Compact rotor–stator dispersion system

The new very compact horizontal homogenizer DISPERMAT® AS-B is based on the proven AS technology. The speed is infinitely adjustable due to the control which is fitted in a separate stainless steel housing.
Torque and timer functions are displayed digitally.

DISPERMAT® AS-C

Rotor–stator dispersion systems with extensive process control

C – technology



- Graphic display with indication of speed, torque, power, product temperature, timer and peripheral speed
- Data recording with graphical indication
- Switch–off function for parameters as temperature, speed, power, etc.
- 100 individual PRESET configurations
- Data interface to WINDISP 7© Software

DISPERMAT® type	Power kW	Speed rpm	Peripheral speed of the rotor meter/second	Flow rate H2O litre/min
AS-C	1.1	0 – 6000	25	10.6

Homogenizer for one-pass- or circulation procedure with easily changeable rotor- stator system
Optional: explosion proofness according to ATEX.

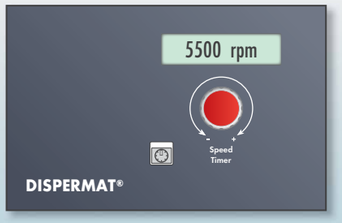
The DISPERMAT® AS rotor and stator consists of coaxially intertwined rings designed with narrow radial slots. The rotor runs at high speed across the stator. The substance to be dispersed is fed into the centre of the rotor-stator system and centrifugally accelerated by the motion of the rotor. As it passes through the rotor-stator dispersion head, the substance is dramatically accelerated both tangentially and radially. The high frequency shearing force and turbulent flow conditions ensure optimum dispersion and emulsifying action producing very fine droplets with a large effective surface area (e.g. oil/water or water/oil emulsions).

- Mechanical seal with integrated pressure system
- Pass-through or circulation methods
- All parts which are in contact with the product are made of stainless steel
- Dispersion under pressure and vacuum
- Simple handling
- Easily changed rotor-stator systems
- Particularly easy cleaning
- Optional: explosion proofness according to ATEX.

DISPERMAT® CC

Coil–Coatings testing device for up to 64000 shears per minute

LC – technology



- Adaptive turn sensitive speed adjustment
- Digital speed indication
- Timer function with digital display of the pre–selected time as well as the elapsed time

During the coating of steel or aluminium strips in high speed coil coating machines the liquid coatings (varnishes) are stressed to an extremely high degree. Therefore it is absolutely essential to test the mechanical hardness of these varnishes in the laboratory first. During the test the coating is poured into a small container and subjected to very high shear conditions (up to 64000 rpm). These conditions are created by the contrarotating high speed propellers.

After the test the coating is applied to a test panel and baked at different temperatures. The subsequent testing of the surface shows whether the coating meets the required quality standards.

DISPERMAT® type	Power kW	Speed rpm	Shearing actions per minute	Product volume litre
CC	0.15	0 – 16000	64000	0.1 – 0.5

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Subject to technical modifications